NEWSLETTER AND JOURNAL

THE GAUGE ONE MODEL RAILWAY ASSOCIATION

ISSUE 229

SPRING 2011

THE OFFICIAL JOURNAL OF THE GAUGE ONE MODEL RAILWAY ASSOCIATION
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The Gauge One Model Railway Association

Newsletter and Journal

No. 229 Spring 2011

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FROM THE CHAIRMAN

"My problem is to deal with short-term problems, while progressing long-term goals". Couldn't have put it better myself. Those were the words of the French President on TV last night, and it hints at both time pressures and balancing individual interests with the big picture. That's what your Committee is doing all the time.

I would like you all to know that I welcome any direct approach, from members or groups, with any demands, opinions or information – by phone, email or letter. The more we know, the better we can deal both with short-term issues and long-term planning.

By the time you see the Committee again at the AGM, it will be clear that the average age has fallen somewhat. This is nothing to do with ageism, but results from the comparative youth of the volunteers who continue to come forward to fill significant gaps. I am greatly encouraged by this development, which will bring new ideas and energy to our tasks, and new aspects to our deliberations.

Happy Gauge One to you all
Chris Ludlow

On the Cover

At Robert Houghton's GTG in Summer 2008, Robert sits with his favourite straw hat with Graham Shutter watching Peter Howland's Duchess pass. Photo Martin Hulse

Officers and Committee

President: J F Dobson
Vice Presidents: Mrs I A Price, Messrs. R E Hines, P F Howland, R Scott, R S G Moger, A Hall-Patch
Chairman: Chris Ludlow, 55 rue Nationale, 83310 Cogolin, France. richebourg5@wanadoo.fr
Secretary Andrew Pullen, PO Box 5039, Warminster, BA12 2AX - 01985 851221- g1mra.sec@gmail.com
Technical Secretary: R P Gamble, 16 Brightwell Avenue, Tottenhoe, Dunstable, Beds, LU6 1QT - bob.p.gamble@gmail.com
Membership Secretary: Mick Mumford, G1MRA, PO Box 581, Earls Barton, Northampton, NN6 0YW -mick@g1mra.orangehome.co.uk
Treasurer: Robert Cant, 9 High Street, Great Eversden, Cambridge, CB23 1HN - taliesin2@hotmail.co.uk
Events Officer: G Hammond, 1 Sycamore Avenue, Hatfield, Herts AL10 8LZ - geoffrey.hammond@ntlworld.com
Editor Bill Read, 20 Chapel Rise, Upper Marham, Kings Lynn, Norfolk PE33 9PH - g1mra.editor@gmail.com
Print Production & Publicity: P Trinder, 19 Silverdale, Coldwaltham, West Sussex, RH20 1LJ -g1mra.newsletter@mac.com
Trade Liason & Advertising: R Carter, 143 Hillcroft Crescent, Oxhey, Herts, WD19 4PA - bob.gauge1@tiscali.co.uk
Ordinary Members:
John Lovell, Orchard House, 37 Sandleigh Road, Leigh on Sea, Essex SS9 1JT
Martin Hulse, Lyncroft, High Park Avenue, East Horsley, Surrey, KT24 5DE - martinhulse@g1mra.freeserve.co.uk
Peter Wood 7 Mossgiel Avenue, Ainsdale, Southport, Lancs PR8 2RE

G1MRA website: www.gaugeone.org

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Colourwise, 1 Unifax, Woods Way, Goring-by-Sea, West Sussex, BN12 4OY

Membership Secretary
Mick Mumford
G1MRA, PO Box 581, Earls Barton,
Northampton, NN6 0YW
E-Mail: *mick@g1mra.orangehome.co.uk*

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A joining fee of £8.00 (£10.00 overseas) is payable by all new members.

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Overseas members outside Europe may request their Newsletters by Airmail at a supplementary cost of £10.00 per annum.

Membership Coordinators

All Membership enquiries (including application forms) should be sent to the Membership Secretary, except for the countries below where members should use the applicable Membership Coordinator for all membership enquiries and payment of subscriptions.

Australia – Tony Cotton, 13 Goldingham St, Taperoo 5017, South Australia
locowork@arcom.com.au

Canada – David Morgan-Kirby, 10 Porter St, Stittsville, Ontario, K2S 1P8.
gaugeonelines@yahoo.com

France – Garry Randoll, 3, Rue des Juifs, 80120 Dominois
garry.randoll249@orange.fr

Germany – Joachim Wolf, Keltenweg 10, Bad Krozingen, D-79189
g1mra.d@googlemail.com

Netherlands – Fred van der Lubbe, Nicolaas Beetslaan 6, 1985 HH Driehuis
fred.van.der.lubbe@planet.nl

New Zealand – TBA

Switzerland – Christian Schmutz, Hauptstrasse 72, Ch-4153 Reinach BL
csc@csc-schmutz.ch

US of A – Jim Curry, PO Box 93, Warren, ME 04864
jjc@structureguard.com

All other overseas members are requested to pay their subscriptions in Pounds Sterling by means of a Sterling cheque drawn on an UK Bank, direct to the UK Membership Secretary.

EDITORIAL

We are delighted to tell you that Bill Read has stepped into the breach as our Editor. Martin will revert to looking after getting the new ARMIG book into production as well as the other books in our library. Peter will continue with the layout/production of the Newsletter, and will assist Bill with any technical matters connected with the job.

Happy reading and steaming!
Martin Hulse & Peter Trinder

It's strange how things in life come around. When I was a young kid, the first career I can remember wanting was to be a journalist - not sure why, I hated writing! Perhaps it was watching TV journalists doing their stuff on the evening news from exotic places. Then aeroplanes happened, which led to exotic places without having to write too much. I'm writing these words the day after having been co-opted onto the G1MRA Committee as your next NL&J Editor. To be fair, it is my own fault, as I stuck my head over the parapet just before Christmas and enquired as to what might be involved. Ten minutes after that phone call, the Chairman was on the phone to make sure I didn't get away!

I've been interested in model trains ever since my parents gave me (or was it my father) a Triang 'Nellie' for my 3rd birthday. Around the time of my 5th birthday (Triang Jinty set with the car transporters!) Dad took me on the last round trip from Cranleigh to Guildford before our branch line closed. One of the founders of G1MRA, Ken Herring, was President of the Cranleigh Model Engineers, who held an exhibition in the Village Hall every three years which became my introduction to Gauge One. I eventually joined G1MRA at the Ally Pally Model Engineer Show in late 1991, being signed up by Monty Wigglesworth and Barry Applegate.

I eventually joined a Local Group, which was probably the best thing anyone can do, especially if, like me, you can't have your own track. Apart from finding somewhere to run your trains, there are friendships to be made and advice to be gained. There must be loads of members out there who maybe live in an area where there is already an established Local Group but who haven't yet joined in because they don't know what goes on within such a Group. While I'm not planning any great changes to the NL&J, I would like to get more information from the various Local Groups into each issue. Several Groups produce their own Newsletters, which could be the starting point for a couple of 'Local Groups Activities' pages, so please send in the information to the editorial address in the sidebar. Perhaps the Groups who have received G1MRA funding for rolling stock could send in an annual report for the benefit of the wider membership of the events at which the stock has been used, for example.

I have some hard acts to follow, but my particular thanks go to Martin Hulse for his recent Editorship and help with getting me started and to Peter Trinder on the production side of things.

Bill Read

FROM THE SECRETARY

By the time you read this, Spring will have hopefully sprung and a whole new vista of Gauge One running will be opening up for the sunny months ahead. But as I write this the persistent grey clouds are still with us. I have been spending the last few days demolishing my garden railway ready for a move westwards in a few weeks' time.

The track that everyone complained about for its rough appearance and rougher running has been a feature of our garden for 23 years. Over that time it has given me much pleasure. Taking it to pieces is both a sad and a pleasant experience. Sad because it held many happy memories and pleasant because the track can be re-used somewhere new. The condition of the rail and sectional plastic track base is amazing when considering the exposure to the elements it has received. Plans are already to hand for the rebuilding in the new location. So no wonder I am looking forward to the months ahead!

Meanwhile your committee has met for the first time. The most important consequence of this meeting is that we have now filled the two vacant seats. Bill Read is going to join us as Newsletter Editor following Nick Rudoe's resignation last November. Many will know Bill and his son James who seem to get to every event on the G1MRA calendar! How Bill manages this with his busy career is a mystery.

I am also delighted to welcome Rob Cant to the committee as Treasurer. His level-headed conscientious attitude will win him many friends. At the moment both members have been co-opted but we are all hopeful they will agree to stand for election at the next AGM.

Another excellent decision at our committee meeting was that I should write a brief summation of activities so that the wider membership should know what is being discussed and perhaps add their thoughts to the debate. Clearly the minutiæ will not be of interest and occasionally there will be topics that need further debate before being widely shared. However, the aim is to be more open and encouraging for a two-way flow of thoughts and ideas.

So at the committee meeting on 29th January 2011 the following were discussed by your committee.

- New venues for Spring Meeting and AGM for 2012 – New venues under consideration, ideas welcomed.
- Re-energising the G1MRA website – working party to be set up.
- Prospects for the new 'starter' loco – ARMIG – special events to promote being considered.
- Conflict of committee members' interests – guidelines agreed.
- Delivery of NL&J to overseas members – see Martin Hulse's notes in this NL&J.
- Membership survey - a major review of members' expectations to be undertaken.
- Local Group funding from central funds – criteria to be developed and published.

And finally, it has been the procedure for the Secretary to look after the diary of events at the back of each Newsletter & Journal. Starting with this issue Peter Wood has kindly agreed to take on this responsibility. Please advise Peter of your national and international events which are open to all members and their invited guests. Peter's contact details can be found on Page 5 of this issue.

Best wishes Andrew Pullen

MEMBERSHIP

What a difference a day makes or should I say 3 month's. There I was sat at the keyboard on a wet and windy day in November compiling my report and here I am today with a blue sky and the sun shining. I don't like to be too optimistic but I have a funny feeling that we might be getting an early Spring – let's hope !!

While on the subject of weather I hope you haven't suffered at all with the extremes we have been having over the last few months throughout the world especially in Australia, I can't begin to imagine what it must be like to have to go through one of those experiences.

Now down to business. As you all know we encourage members to set up standing orders because it makes the administration that much easier to handle, but I must thank those members who haven't so far for their prompt payment of cheques, postal orders and cash and using the payment slip which came with the reminder form last Autumn. As I said in my last report it does make a difference in the processing having a name and a membership number. Just to remind those members who as yet haven't paid their subs which were due on March 31st this is your last chance before being made A9 and it will also be the last NL&J you will receive – so please hurry up we don't want to lose you.

At the moment the membership stands at 2450. This year we have had 54 new members so far and compared with this time last year it was 34, so this is good news but it will all depend on how many will have paid their subs by the end of March as to whether we are still maintaining a slow but steady growth – so come on guy's let me have those £15's.

In more recent times there have been problems with members not receiving their NL&J and in particular those who are not resident in the UK. When you do get your copy can you please make sure I have your correct address recorded on the database. The way it works is that I supply Peter Trinder with the label information which goes on the envelope of your NL&J and if I haven't got it correct then we can have problems with the postal people throughout the various countries of the world.

So PLEASE take time to check this and let me know if it is not correct because it is in your own interest.

Just to finish on a more light hearted note I hope your Christmas list came up to your expectations, a new steam or electric loco perhaps or was it 'I hope you like your present dear', by the way we must get that lounge decorated this year !!

May I wish you all very good running sessions this year wherever you may be in the world.

All the best for now.

Mick Mumford

Newsletter Editor

Bill Read, 20 Chapel Rise, Upper Marham, Kings Lynn, Norfolk PE33 9PH
01760444106
E-mail: g1mra.editor@gmail.com

Production

Peter Trinder
G1MRA, 19 Silverdale
Coldwaltham
West Sussex, RH20 1LJ
E-Mail: *peter.trinder@coldwaltham.net*

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Deadlines

Deadlines for contributions to be with the editors are 15 February, 15 May, 15 August and 15 November.

Contributions

The Newsletter and Journal contains contributions from G1MRA members. Members are asked to provide articles and pictures on any topic that they consider will be of interest to other members. The Editor reserves the right to edit or refuse contributions.

Copy

Send copy by post or e-mail to the Editor at the address above. Copy preferably should be in any of the popular word processing formats or typed. Photographs are always welcome, and should be in digital format. Computer files may be sent on CD or by e-mail. Material will be returned after use only if requested.

Members' Advertisements

Members' personal advertisements are free. They should be sent to The Production Editor (see page 73).

Trade Advertisements

Trade advertisements are welcomed. Rates per issue for black and white are £25 quarter page, £40 half page and £75 full page. Colour is available: Full page, internal £140, Full page inside & rear covers £155, Half page internal £70, Half page inside and rear covers subject to two advertisers participating £80, Quarter page internal £35. All prices per issue. Terms are payment in advance, so both advertisement copy and payment is required by the deadline. Where time permits assistance will be given in creating advertisements. Additional charges are made for services which are purchased, such as scanning pictures or art-work.
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DELIVERING YOUR NEWSLETTER & JOURNAL OUTSIDE THE UK

By Martin Hulse – Acting Editor

Our recent G1MRA committee meeting discussed NL&J delivery in response to comments from members about how long the NL&J takes to get to some of our members who live outside the UK. We decided there are several things that need to be reviewed, and we ought to keep our members informed. As Acting Editor I have written this brief note of explanation.

For members outside the UK we stopped using Royal Mail some years ago, and instead use the services of a consolidator, because they offer faster delivery at lower prices.

The consolidator takes our NL&J envelopes, merges them with other post going to the same country(s), sends the bundles that result by air freight, and puts the bundles into the local postal service in the country. The consolidator offers two levels of service, 'Priority' and 'Economy', at different prices. Where two levels of local service are available the 'Priority' items may be faster. For NL&J 228 we used 'Priority' for all Western European addresses, and divided the rest into 'Priority' where the member had paid for an Airmail service, and 'Economy' for the rest.

We have estimated time scales for delivery from our consolidator for each country. These can be summarized as Western Europe can take up to eleven days, North America two weeks, long haul three weeks. 'Priority' can be a bit faster. Our offer to members from now on will say the choice for non UK members is 'Priority' for extra money not 'Airmail'. In my view 'Priority' is most appropriate for a faster delivery outside Western Europe, but it is difficult to be sure how much faster it will achieve.

Inside a country the postal delivery service can have significant variations. Some are temporary and due to weather. Our consolidator recently advised that Queensland in Australia has many postal districts where delivery is suspended by the recent flooding. The USA postal service recently declared 'force majeure' due to heavy snow disrupting many transport routes. The delivery of NL&J 228 will have been affected by both of these.

Having the correct address is important. In many countries there is a preferred order and format of address lines. The USA advises that an incorrect postcode can delay or prevent delivery. In France your surname should be in capital letters. As postal services become more mechanised having your correct address becomes more important. Our Membership Secretary will try set up your address correctly, but it would be a great help to him if all members would check their address in the G1MRA membership list.

I reviewed the delivery information that members supplied for NL&J 227 and found that USA deliveries were within the expected timescales, but those to the Netherlands and Switzerland were significantly late. We used a different consolidator for NL&J 228 – most of those members who let us know when they received 228 have proved that actual delivery times are within what we have been told to expect. But again we had a problem in the Netherlands with significant late deliveries, six members not receiving their copies after four weeks and no explanation that we can find – we are considering trying a different method for 229 in the Netherlands because of this, at probably a higher cost. Your G1MRA committee will continue to review NL&J delivery and your view will be welcome, I would be pleased to receive any delivery reports (by email please) so that I can add to our view of how our deliveries are really happening.

The letter from the Swiss group in this NL&J asks whether a slight increase in membership fee could provide an improvement in postal deliveries outside the UK. The simple answer is probably not. Sending the NL&J by Royal Mail Airmail (with the blue sticker) would add at least £14 per year, effectively doubling the current subscription and more than a slight increase. As I noted above, the delivery estimates using our current consolidator are faster and cheaper than Royal Mail Airmail. What we do for 229 in the Netherlands will provide some more information on how much faster the NL&J can be delivered in Europe if we pay more. Postage costs are going to need further review – all the postal services are increasing prices this year. Many years ago G1MRA decided to have the same subscription level wherever you live in the world (with an airmail supplement) but then we had few members outside UK compared to today. The size and therefore the weight of the NL&J is increasing, and we have in recent years added a calendar to our Autumn package. So your committee is going to consider the impact of all these factors on rising postal costs.

One thing that I would like every member to do please is **check your address is correct** and advise our Membership Secretary if it needs changing. If you've thrown your envelope away by the time you read this then check your entry in the membership list. Every country has a preferred address format and simple things such as having the postcode the wrong side of the post town may cause delays, especially when mail is machine sorted.

Martin Hulse – Acting Editor

CHANGES TO AGM MINUTES

In consultation with Past Chairman Michael Wrottesley, and in consideration of the unfortunate exchanges at the 2010 AGM, it has been decided to amend the minutes slightly in order to better reflect the factual substance of the exchanges. Thus, under "Nominations to the Committee", the words between "Unfortunately the comments…" and "… resume his seat" will be replaced by the following:

"The comments prompted Dick Moger to defend the nomination. The Chairman considered the manner of his intervention inappropriate and called order."

This revised wording will be included in the minutes for which approval will be sought at the AGM in November.

PORTSTEWART TRAM

by Richard Donovan

Readers of this journal will, I am sure, remember Don Plant's article (Issue 225 Spring 2010) in which he described the New Zealand bush "Lokey" built for the Model Engineers Convention at Nelson in January 2010. Liz and I had the good fortune to be able to attend this event having great fun in glorious sun whilst the UK suffered under a blanket of snow. Like Don I wished to take part in the competition to build a Gauge 1 locomotive but mine would have to be small enough to carry in hand luggage and I did not want to be burdened with auxiliary equipment such as blower and batteries. A few months before we had visited the Crich Tramway Museum in Derbyshire, UK which amongst its wonderful collection has the Beyer-Peacock ex-Sydney tram locomotive and a good book shop where I purchased vol.1 of "A History of the British Steam Tram". This amazing book is full of interesting photographs, drawings and details from many tram builders including Kitson of Leeds. Way back in 1973 I had ridden on the footplate of the last active Kitson steam tram at Ferrymead, Christchurch, New Zealand and so thought how appropriate to bring another to New Zealand. The enclosed bodywork and skirts could hide a wealth of mechanical sins without spoiling the overall appearance. Strangely Christchurch tramways are built to 4' 8½" gauge and not 3' 6" gauge as for the rest of the country and a model of the Christchurch tram would be very small indeed. Further investigation revealed the survival of two more locomotives both from the 3' gauge Portstewart Tramway in Northern Ireland. This line ran from the local railway station to the town's seaside promenade and was just under 2 miles long. Opened in 1882 it eventually closed in 1926 and was operated by 3 Kitson steam trams. The survivors are No 1 at the "Street Life Museum" in Hull, Humberside, England and No 2 at the "Ulster Folk and Transport Museum", Cultra, Belfast, Northern Ireland where both are cosmetically restored. A 3' gauge prototype on 45 mm track gives a scale of 15 mm to the foot and a model of just the right size.

Originally designed with twin single acting cylinders, one slide valve and slip eccentric valve gear, I encountered considerable problems with condensation and failure to revolve over dead centres and so a total redesign was necessary. A search of the scrap box produced some brass gears with which I could achieve a 4:1 ratio reduction and a single double acting oscillating engine was constructed with reversing valve block on top. This worked well, although a slightly higher ratio might be better as the prototype was governed to a top speed of 10 miles per hour. I used silicon "O" rings on piston and gland with the minimum of nip (approximately 0.002"). Excess friction seems to cause death to little oscillators and for the same reason the spring loading for the cylinder is adjusted to only just hold it to the port face at 40 p.s.i. A simple displacement lubricator feeds to the input side of the reversing block.

The boiler is a simple externally fired pot-type. I considered adding a couple of water tubes or rows of protruding rivets to "catch more heat" but this has not proved necessary. It is provided with safety valve, "Goodall" type filling valve and regulator along the top with a water level test valve at ⅔ height on the back head. The latter doubles as a blow down/drain valve if the loco is stood on end. Firing is with methylated spirits with a trough type wick burner, the flames and hot gases being enclosed in a shield which envelopes the boiler, keeping the latter hot and ones fingers cool(ish). The first shield was constructed with a narrow space around the burner which whilst correct for a forced draught loco type boiler was a total failure with natural draughting. It would not ignite let alone raise steam. A second shield was made with generous clearance and now 30 p.s.i. is obtained in 5 minutes from lighting up.

The body is soldered up in brass and simply drops onto the chassis located by pegs fore and aft. The regulator control on the roof has a dog on its underside engaging the regulator handle so that the loco can be operated with the body either on or off. The reversing valve is accessed through the front windows whilst for refilling with fuel and water, the body must be removed. The operating procedure is as follows:-

Lift off body.

With small syringe remove condensate and fill lubricator leaving a generous air space for steam to enter and initiate the condensation process.

Open the water level valve and syringe in water (approx. 80 ml.) via the Goodall valve until water appears at the overflow. Close valve.

Syringe 30ml meths into fuel tank and apply flame under burner.

After about 5 minutes 30 p.s.i. will show on the gauge and the regulator can be cracked open. Ease loco along until the cylinder is cleared of condensate.

Syringe a further 10 ml of meths into the tank and replace the body.

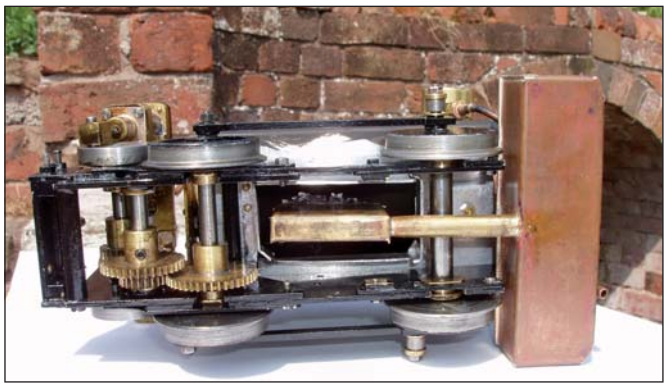
The loco will run for about 15 minutes before the fuel is exhausted at which point about 20 ml of water remains in the boiler. It has pulled 3 large bogie coaches which is much more than the prototype and I am building correct stock for it at present, a 4 wheel luggage van and a 4 wheel "toast rack" trailer car.

A short note on the livery might be of interest. The tramway was taken over by the Belfast and Northern Counties Railway (B.N.C.R) who in turn were bought out by the Midland Railway, subsequently becoming part of the London, Midland and Scottish (L.M.S.). I was going to paint the loco Midland red until a friend informed me this was quite incorrect. The Irish retained considerable autonomy and the locos remained in the B.N.C.R. livery of "invisible green" until closure. I mixed green and black paint together and ended up with a black finish, which under certain light has a distinct greenish hue. Quite a pleasing and distinctly Irish result!

We thoroughly enjoyed our visit to Nelson and taking part in the Les Moore Challenge which was very light hearted and

entertaining. The tram behaved quite well both there and on the tracks of Neil Houghton and Geoff Hallam who were both kind enough to entertain us royally during our New Zealand trip. I now delight in telling people it has travelled over 25,000 miles without needing an overhaul which is not bad with wheels only 1⅛" diameter.

Since our return I have constructed two prototype pieces of stock for it to pull. The original rolling stock on the line in 1882 consisted of three vehicles, a double deck 4 wheeled car(1st class in the lower cabin and 3rd class on the open upper deck), a toast rack single decker and a closed luggage van which also carried passengers, especially during inclement weather. I could only find basic dimensions and one very fuzzy photograph showing the double decker so have not attempted construction of this car but had better luck with the other two.



The van is very similar to a standard railway covered wagon but is equipped with windows and steps. The body was constructed of ⅛" plywood scored to represent the vertical planking whilst the aluminium roof was covered with old roller blind material to simulate a fabric surface. The prototype axleboxes had coil springs and mine were fabricated in brass with pieces of screwed rod to simulate the springs. They were silver soldered together in a row of four before sawing apart and filing to final shape. Pairs were made up into separate units, one end being rigidly screwed to the van floor whilst the other rocks on a centre beam to give equalised three-point suspension.

The toast rack trailer was much more complicated and I thought wooden construction would be far too flimsy. The chassis frame was fabricated from ¼"×⅛" steel bar, the basic rectangle being silver soldered so that all other parts could be soft soldered without disturbing the fundamental shape. The axleboxes were the same as the van but the equalisation had to be arranged differently. The pair on one side were riveted and soldered to the frame whilst on the other side they were mounted on a separate beam, which can rock on a centre pivot. The body consists of a steel floor pan to which all other parts are soft soldered and through which four screws pass for fixing to the chassis. The 12 roof pillars are 4 mm square brass tubing and when soldered up to the floor and roof the structure is quite rigid. The six seats were made from 1×2 mm steel banding/stapling material given to me a few years ago by Colin Rose. Neither of us could think of a use for it up to now but it was far too good to throw away. Short lengths were bent around an MDF former to produce the end frames and the cross slats soldered on. The seat backs should swing over for reversing direction but I soldered them on for increased rigidity and mounted three sets facing each way. Floor segments made from ⅛" plywood were glued between the seats after the metal work was painted and this gives thickness to the floor and looks like wood because it is! Unfortunately the livery was the same invisible green as the locomotive but nevertheless I am quite pleased with the overall appearance even if the livery is a little drab.

Just along the coast from Portstewart at Portrush was the Giant's Causeway tramway which had four vertical boilered engines painted in garish red and cream so perhaps I should build one of these to keep the Kitson company.

One day maybe.

MISSING OR DAMAGED COPIES OF THE NEWSLETTER

Members seem uncertain whom they should contact if they have received a damaged copy of the Newsletter or if it seems to have gone missing in the mail.

Please contact the Membership Secretary, Mick Mumford, for a replacement.

LINING HINTS

by Richard Donovan

For the last month I have been struggling with the process of lining a locomotive. The engine in question, a Caledonian Class 60 4-6-0 of 1916 vintage, was started by my father many years ago and I have periodically worked on it ever since. 2011 will be the year it finally takes to the tracks - I hope. I will not get involved in the usual debate concerning the shade of blue used by the Caledonian but suffice to say I have used the sky blue from Phoenix paints.

Photo 1 About 20 years ago my local Model Engineering Club had a talk and demonstration on the subject of painting by Bob Moore, after which he gave us drawings of his lining tool with the advice to make one for ourselves. (He now produces them commercially). My example is basically a small paint cup held on an adjustable handle with a small length of hypodermic needle tube at the business end. Various guides for following edges or templates are illustrated together with a small paint mixing pot made from a brass off cut. The odd-shaped tool at the bottom was made by soldering a shortened metal hypodermic needle to a scrap brass handle in order to access an awkward area too constricted for the standard pen. These pens use needle 0.018" outside diameter, the smallest I have come across. Bigger ones are easily made for wider lines but generally too big for Gauge 1. Paint from a new tinlet of Humbrol can be used neat although a small amount (one drop maximum) of lighter fuel will help the flow. Over thinning is disastrous as the paint will spread and blob instead of producing a thin line. Lots of practice on a previously painted scrap metal sheet is needed before embarking on the model itself. I only applied one line to an area at a time, allowing it a couple of days to dry before applying the next. By doing this a mistake can be wiped off and redone without destroying the previous work. Small blemishes can be removed with a wooden tooth pick (moistened with white spirit if required) after giving the paint a few minutes to harden.

Photo 2 This shows my method for boiler bands. Strips of cardboard (from a Weetabix packet) are taped around the barrel over which guide bands are applied giving a small clearance to prevent the paint wicking underneath. The bands are made from steel strip used for packing case binding, the ends being bent to 90° and drilled for the 8 B.A. tensioning screws. I soldered and tapped a piece of brass to one end, which made them much easier to manipulate than if using a separate nut. When tight the band makes a very positive guide for the lining pen and can be adjusted very accurately for each line and I found this the easiest part of the lining process, much to my surprise.

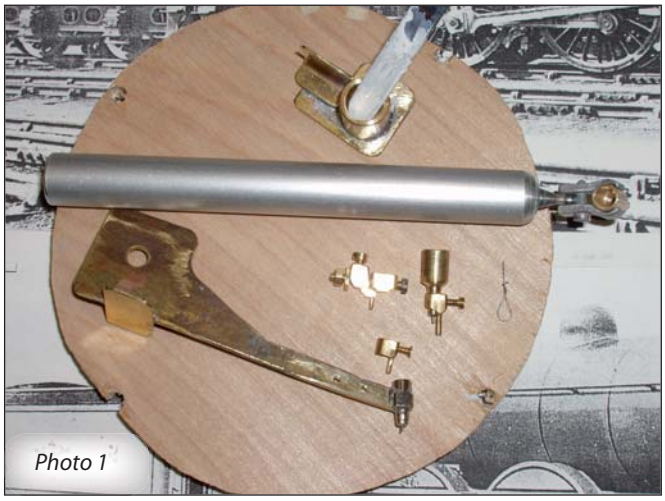


Photo 1

Photo 3 This shows a small jig for holding wheel sets, an idea gleaned from Christopher Vine's excellent book. Made from steel strip and bar, I found this very useful, rotating the wheels with one hand while the pen is guided with the other. Also in the photo is the small template used for lining the boss. This was located over the crank pin and under the centre screw on the jig. None of my work is perfect but it gives the right impression especially at 10 foot distance and 100 miles per hour!

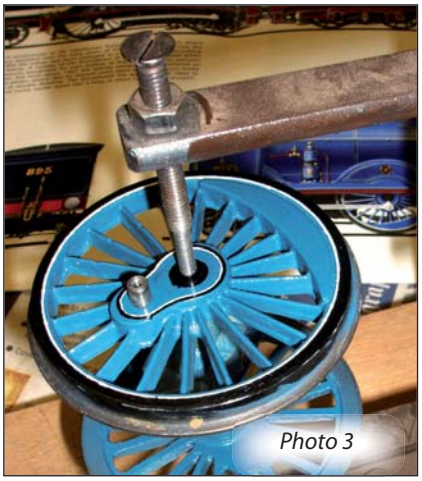


Photo 3

Further reading:

"How (not) to paint a locomotive",
by Christopher Vine.

"The Finishing Touch",
Phoenix Precision Paints.

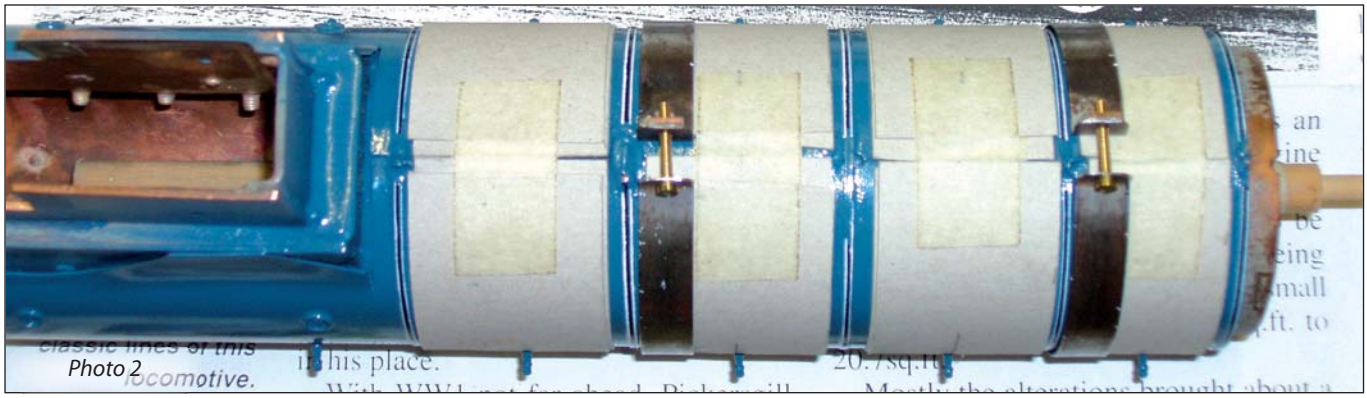


Photo 2

MEMORIES OF GIMRA AT BLUEBELL'S 50TH ANNIVERSARY

by Adam Houghton

It was my pleasure and privilege to run some of my locos at the above 3 day Special Event on 6-8 August at Sheffield Park East Sussex. The Kent Groups well renowned Invicta Track (now in its 14th year) was requested to lay on the show on behalf of the Association. The Track was duly loaded up into a van by local members at Roger Vincent's premises where it is kept for its 52nd outing under the skilled management of Jeff Brazier and John Shute. Peter Trinder had some months earlier made contact with the Bluebell Railway organisers to arrange the Association's invitation and Jeff had surveyed the proposed site at the end of a large locomotive shed. The main problem was for the site to be flat across the full scale track, which was accomplished by the Bluebell organisers generously putting down decking on which we erected the Invicta portable layout. The Invicta track was assembled by members in the shadow of some huge full scale locomotives awaiting repair. Indeed at the start of the day around 9am one could feel rather drowned out by the noise of the full sized locos moving on and of the maintenance pits with drain cocks open at the entrance of the shed. The Bluebell had some 8 locos in steam each day which ran a service of 2 trains up and 2 trains down every hour throughout the day. We were not the only model railway putting on a show in support; the Uckfield Model Railway Club were exhibiting in the adjoining machine shop with a scenic 00 layout "Nether Hall & Fletching" and an "N"gauge layout helped by Tom Creelman. There was also a 10¼ inch steam hauled track running a shuttle service out of the assembly shops. The Romney Hythe & Dymchurch ran a loco with train on a track laid behind the sheds at Horsted Keynes, and there was a 7¼ inch layout at Kingscote.

The Bluebell Railway is a busy single track branchline with token operation of some 8 miles including ½ mile Sharpthorne tunnel running through unspoilt countryside from Sheffield Park Station at the southerly end with an up hill 4 mile section to Horsted Keynes Station and a further section of 4 miles to Kingscote Station at the northerly end. Bluebell has acquired with the co-operation of Sainsburys sufficient land further north for a main line connection at East Grinstead, and built a small station there with a track laid along the old track bed to a cutting filled with domestic rubbish by the Council. Network Rail are co-operating at Bluebell's expense in providing wagons hauled by a Class 66 to carry this waste away to an official dump in Bedfordshire. There is about 1000 feet to dig out with 2 JCBs before break through where Bluebell have laid a track of approximately 1 mile north of Kingscote.

So amongst all this full scale excitement at Bluebell what had the Association to offer the not inconsiderable public looking round Sheffield Park. The branchline working restricts speeds to 20 to 30 mph with relatively light loads, which is fine for the small tank engines but leaves the larger more powerful locos champing at the bit. On the Invicta Track we could demonstrate mainline working with express locos pulling long passenger trains at speed or long heavy freight trains. Roger Vincent with his superb A3 Flying Scotsman (Aster) in BR colours pulled some 15 coaches and I managed a similar load with my coal fired (Roger Marsh) Brighton Atlantic No.424; the latter was a popular runner at Bluebell as the full size of this very loco was being built in a dedicated shed just 200 yards away from the GIMRA stand to be in BR colours I understand and carry its Southern name Beachy Head with BR No. 32424. The Atlantic Project, as it is called at Bluebell started with them obtaining an Ivatt Atlantic wide boiler that had been used as a stationary boiler and was still in good condition; so far the frames have been machined and assembled and the cylinders, steam chests, connecting rods and wheels machined; they aim to complete the loco in 2016. The original loco was scrapped at Eastleigh in 1958.

Such was the smooth performance of much of the running on the Invicta Track that some of the public thought the locos were electric powered rather than steam. However there was room for electrical running by our President Emeritus who ran his battery powered GWR County Tank that he could watch gently circuiting the from the sitting position once he had set the loco in motion.

Fortunately the Invicta stand was well supported by members on the publicity table as well as the track allowing time to take advantage of free rides up the line. I was very lucky to get on a packed 2 coach train re-enacting the first steam run on the newly preserved Bluebell line 50 years ago to the day pulled by their same first loco Stepney (a William Stroudley "Terrier"tank loco Brighton- built in 1875) lately sufficiently refurbished to pull the train up to Horsted Keynes, after a short ceremony on the departure platform overseen by Bernard Holden, the founder director now aged 102 in a wheel chair wearing a top hat for the occasion.

On another occasion early one morning I was wondering around the servicing pits watching locos being prepared for the days work and happened to be standing by the Battle of Britain Class Sir Archibald Sinclair, when I was suddenly shocked by the ear-splitting sound of steam blasting beneath the loco for some 5 minutes; I enquired of the not unattractive young lady dressed in grease hat and overalls in sole charge on the footplate of this magnificent loco as to the reason for the blow down to be told that it was to blow out scale in the boiler. I think she had been preparing the loco since 6am or so and for a late breakfast she grasped a beef burger passed up to her by a friend with quite the grimiest hand I had ever seen!

At the end of 3 days I was left with the firm impression that irrespective of your age or gender there was ample interest and commitment in securing and enjoying our industrial heritage in whatever scale and the "Special Event" confirmed remarkable achievement and expansion over the last 50 years. It was a perfect end on the last day to witness the Bluebell's beautifully maintained SE&CR Class C in green livery with shining brass dome and safety valve cover glinting in the late afternoon sun chuff away from Sheffield Park Station up the hill, the semaphore signal dropping to danger after the train passed, before returning to the task with several other G1MRA members of packing up ones own locos and stock and dismantling and loading up the Invicta track with the usual routine efficiency.

25 YEARS AGO

Compiled by Martin Hulse

Newsletter 129 dated April 1986 was 70 pages long, including 12 pages of advertisements.
Francis Dobson, then G1MRA Chairman, and now our President, wrote :-

It is with much regret that I have to record the death of our Secretary, Stanley Roberts, on 8th January 1986, aged 63, as the result of a heart attack. Stan had been a Gauge One enthusiast for a very long time, over forty years, and a member of the Association since its inception.

Apart from wartime service in the Royal Air Force, the whole of his working life had been spent with the RNLI, commencing as office boy in the London City Branch, and later in the Head Office in Victoria, eventually becoming manager of the printing department, which produced a great variety of printed paper work and posters to further the cause of the RNLI.

In 1973 the RNLI. decided to move to Poole, Dorset. This occasioned a major upheaval for Stan and Ella and their family, entailing removal from Ealing, West London, to Broadstone, near Poole.

The Association was founded in 1947, and Stan became Secretary at the second AGM on 18.6.49, succeeding Tony Hobson. He remained Secretary for five years, until the seventh AGM in 1954, when he was succeeded by John van Riemsdijk. In 1957 John resigned owing to his impending marriage, and Stan was elected to succeed him, and has been Secretary of the Association ever since. So that out of the 38 years of the Association's existence, Stan was Secretary for 33 years.

When the Association was founded, it set out to publish a quarterly printed Journal. However, after two issues this venture foundered as it was uneconomic, and so to fill the gap and to replace the rather random circulars which had been issued up to that time, Stan started the Newsletter. No.1 was a single foolscap sheet issued in November 1949, the next four issues were similar and at monthly intervals. Issuing a single sheet to 120 or so members was not too onerous! Thereafter the frequency decreased, and the size tended to increase, although it was many years before it attained its present size.

Stan was always conscious that for many members the Newsletter is the Association, and he willingly tackled with the assistance of Ella and their family the extra burden as the membership increased and more contributions flowed in. When Stan retired in 1983, he was able to acquire some redundant printing equipment from the RNLI, and since then the Newsletter has been printed at his home.

Apart from the Newsletter, of course, there have been the usual Secretarial duties to attend to, and in these Stan has been helped for many years by Ella, and to them both the Association owes an enormous debt of gratitude.

Stan's modelling interests were principally the Southern Railway, the line he knew as a boy. He built a Southern Electric main line set which appeared at early exhibitions. He also acquired at an early date a live steam Bassett-Lowke 'Urie' King Arthur which was improved and re-boilered and many reports of early Get-Togethers start with 'First away was the Secretary with his Urie King Arthur and train of Southern coaches.'

He was of course actively involved in the Association's exhibition efforts, particularly at Model Railway Club Exhibitions, and had built quite a lot of the track and pointwork the Association now possesses, starting with the original circle of 6'8" (2.1m) radius track, built on the edge of the bath in his flat of the time.

Having known Stan personally for thirty five years, I have many memories of him, all of them happy. Get-Togethers on sunny summer afternoons, Get-Togethers in persistent downpours, building exhibition layouts in many and varied circumstances. But chiefly we shall remember Stan for his friendliness and ever-ready help to the newcomer. He was the one at Exhibitions, when everyone else was much occupied with many things to be done, who had the time to chat to passers-by and answer their enquiries. That is the side of him we shall remember, and much miss. After so many years of friendship and devoted service to the Association it will be a long time before his niche can, if ever, be filled.

Francis Dobson

There were many other tributes to Stan and Francis included some extracts.

The most apposite is perhaps :-

I remember so clearly my first meeting with Stan. I had taken my two boys to a Model Railway Exhibition in London, and to our delight there was a Gauge 1 layout being operated. We expressed an interest, and dear Stan stepped forward and enrolled us on the spot in the Association. I can see it now, as if it had only happened yesterday.

Robert Houghton

I have decided to dedicate this 25 years ago to Stan's memory, and particularly his contribution in developing the Newsletter and Journal. He would have wanted me to say that NL129 contained all the usual other contributions from members around the world which make the NL&J what it is.

Stan seen here by the 1 in name board with Ella on his right at the Manchester Model Railway Club show in 1955

AN ARMIG 'GUINEA PIG'

by Steve Robertson

PART ONE: FROM WOKING TO COMPRESSED AIR

I was attracted to Gauge 1 from an encounter with the Invicta layout at Alexandra Palace in January 2009. I joined G1MRA in the Spring of 2010 with no model engineering experience at all and set about building my first locos. A new shed was erected, equipped with Chinese lathe and mill, books and parts purchased, and the learning process began...

WOKING 27TH NOVEMBER 2010

I attended my first G1MRA event in November 2010 and thoroughly enjoyed chatting to the traders and exhibitors, including those who had already contributed much to my progress and knowledge with my existing projects. I couldn't help but notice that one stand in particular was surrounded

Having worked my way to the front (holding a baby is always a good way of making progress in a crowd!) I was intrigued to see and hear Dick Moger showing off the new 'ARMIG' model of Wainwright's H class.

Here was a design that promised to be easy for the 'newbie' with many ready-made parts available from the trade (including what I consider to be 'tricky bits', such as crank axle) and with the cost of chassis kit, boiler and superstructure etch coming in at less than the cost of your average RTR coach. I already had two loco projects on the go but here was the chance to try a design that was aimed firmly at people of my experience level and generation.

'Generation'... what's age got to do with it? Well, if you are under 40 at the moment there's a good chance that you encountered only very rudimentary metalwork at school and instead spent your time studying 'Media Studies' and 'Religious Education'. I had never seen a lathe before visiting an exhibition in 2009 and had absolutely no idea how to use one. Whilst I am gradually learning, and building a Dee and Britannia in the process, I recognised that ARMIG was aimed, to some extent at least, squarely at someone for whom assembling a kit of parts was within the comfort zone. It's the 'Project' for the 21st century. A low-cost, un-daunting entry point into Gauge 1. And an ideal winter-project for me.

So I left Woking with levels of enthusiasm for Gauge 1 at an all-time high, and with a draft copy of the ARMIG book tucked under my arm, in return for a commitment to provide those that had prepared it with some feedback.

DECEMBER 2010

I read and re-read the book and familiarised myself with the parts supplied by 'Just the Ticket'. The frames are a natural starting point for any loco project and these frames are joggled to give clearance for the bogie, as per the prototype. I understand that these will generally be provided by the trade pre-formed. The alternative is to build a simple jig to form them to the correct shape, or borrow or make use of someone else's jig! I opted for the latter, mainly because I discovered to my good fortune that Dick Moger still had his jig, was only 20 minutes away by car, and was happy to bend the frames for me.

JANUARY 2011

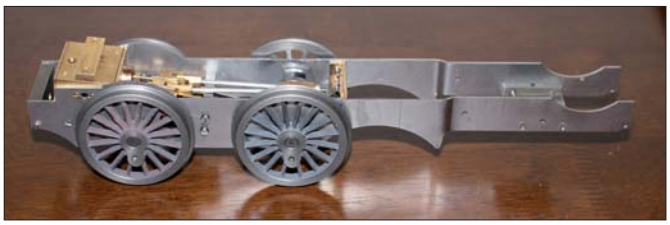
The chassis kit also features an innovative twin-cylinder unit (that has already been described in the journal and was provided ready-assembled), along with other parts including the wheel bearings, con-rods, valve gear and eccentrics, wheelsets and axles including crank axle.

The only items to make for the chassis at this stage were frame spacers – one for the mid-frame and one to support the bogie. The book suggests you make these by bending suitably-shaped pieces of brass sheet. I'm not embarrassed to admit that my attempts to accurately bend sheet brass usually end in disaster. So I cheated. I milled the bogie support from steel bar and joined some ¼" × ¼" angle to a piece of flat brass sheet to make the mid-frame stretcher.

Once the spacers are made, the chassis goes together very quickly. Many of the holes in my frames needed to be countersunk which was a simple-enough task. The wheels, beautifully turned by Walsall Model Industries, are like most Gauge 1 wheels – elegant and aesthetically pleasing. More importantly, and in common with the finished Walsall Britannia wheels, they are provided on square-ended axles. No messing around with quartering! They are held with a hex fixing (pictured).

The axle was provided ready-set at the correct angle with eccentrics in place (see Winter 2010/11 NL&J No. 228 page 36 for more detail on the axle). All there was to do was connect the big end of the con-rod to the axle and the little end to the cross-heads. The valves are actuated via rods driven directly from the eccentrics, have split straps, and are easy to connect up at the axle end and slightly more-fiddly at the cylinder end.

I found that the parts supplied by JTT were very accurately made and well finished. Any issues I had (e.g. wheel bearings supplied were initially the incorrect size) were typically resolved with a new part arriving on the doormat within a day or two. Superb service from Roger Melton and can't



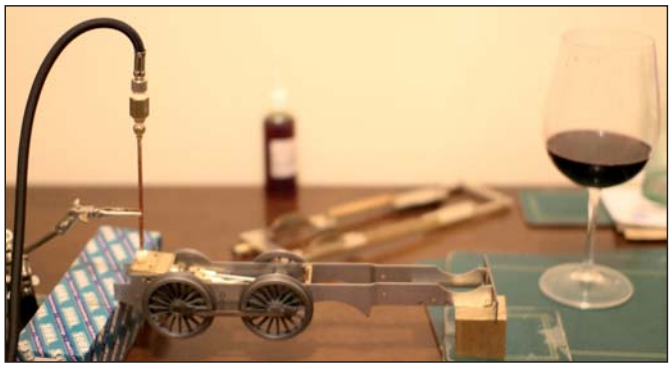
ask for more than that. It should be noted that the suppliers were 'guinea pigs' as much as I and the other trial builders and should be congratulated for their contribution and time.

The JTT kit was pretty comprehensive but there were some gaps at this point which included bogie frames and coupling rods. I got in touch with Malcolm High at Model Engineers Laser who (amongst other ARMIG bits) had prepared a kit for the bogie, laser-cut coupling rods and a buffer beam kit. These aligned perfectly with the JTT parts. By this time, Peter Marshall at Wagon & Carriage Works was producing a nickel silver version of the superstructure and I ordered this too.

The superstructure from W&CW needs some modification but this is well-explained in the book. The base plate for the superstructure has a lot of material cut away, but once some supporting ¼" × ¼" angle is attached it is suitably-stiffened and very much fit-for purpose. I used some 10BA bolts to hold it all together when soldering the angle and front buffer beam.

Setting up the chassis (assuming you have an axle/eccentric made by the trade) is a case of removing the exhaust plugs in the side of the cylinder block and setting the equal travel through adjustment of the rod from the eccentric straps. I initially did this in a rather dark kitchen... what I later discovered is that you should do it under a bright light because it is important to get it right. The book describes the process well.

Anyway, suffice to say I didn't get it right on the first attempt. I first had to get my mitts on a compressor and picked up a discounted airbrush compressor at the 2011 Ally Pally model engineering show. I then turned up a piece of hex so that I had a ⅛" BSP male thread on one end and a 3/16"× 40tpi on the other. I was ready to try my first live steam model on air. I squirted plenty of oil into the cylinder block, connected up the compressor and tried it out. Search for 'ARMIG ON AIR ATTEMPT 1' on www.youtube.com to see the result. It did run, but with tight spots and obvious issues with the timing. The next day I adjusted the timing, thought I had it set much better and tried again. Search Youtube for 'ARMIG ON AIR ATTEMPT 2'. This was much better, but I had to run it with the wheels slightly loose as they were catching on the bearings.



FEBRUARY 2011

At this point I was offered help again by Dick Moger. So ARMIG 05 (the number stamped on the JTT cylinder block) paid a visit to its creator. The bright spotlights in the workshop revealed that my attempt at setting the equal travel of the valves was way out. Dick also discovered that the fit of the con-rod at the little-end was tight on one of the cylinders. Both issues were duly addressed and we ventured out into the shed. With a curious chocolate Labrador as our witness and spectator the chassis was connected to a compressor. It instantly sprang to life and ran vigorously in forward gear. Reverse gear was tried with the same result. Success and smiles all round!

So at mid-February I am now working towards a steam test. I have made the lubricator (which is a generous size) and silver-soldered it together, likewise the steam dryer coil (which connects boiler off-take to cylinder) and there remain a few fittings to be made before steam test, just a couple of banjo fittings. In the meantime I will get the chassis running on air with the coupling rods fitted and iron out any tight spots that remain (the wheel bearings still need to be filed-down slightly as they are a little too-proud of the frames at present.) It has since run on air – pictured here connected up with superstructure in the background, along with lubricant for both engine and builder – both of which assist the process immensely.

I look forward to writing 'Part 2' of this in the summer, hopefully having finished and run the complete engine numerous times. For now, I must finish by giving sincere thanks to Dick Moger, Bob Gamble, Roger Melton, Peter Marshall and Malcolm High for the book and the assistance, support and the opportunity to trial-build such a superb design. I'm sure many hundreds of these will be built in due course and it's been a privilege to build No. 5!

ARMIG PROGRESS AND WORKSHOP

by Dick Moger

For those keeping in touch with this project (small p!) here is a short update: You will remember that this is an attempt at producing a 'starter' locomotive in Gauge 1 that can be largely assembled from commercial parts that will appeal to newcomers to G1MRA as well as to model engineers who would like to try their hand at something different.

A single cylinder version (HD1) was tried first, which has been running successfully for over three years, but has been supplemented by a twin cylinder version that will have a wider appeal.

Thanks to the enormous skills and energies of Bob Gamble and Martin Hulse, it was possible to produce a dozen draft copies of a book that we hope to finalise in print in time for the Spring meeting.

At the AGM in November, this draft copy was circulated to an informal 'Trial group' for testing, comment and actual assembly of locomotives. There are some dozen names on this trial group and they represent the full range of interests that we expect the book to appeal to. Some are relative beginners to live steam, while others are highly experienced model engineers.

The numbers are finally made up by members of the G1MRA trade who expressed interest in this project.

To some members of this trial group, the sole interest is in the twin inside cylinder arrangement which has many applications within our hobby due to its compact nature and low profile. This allows twin cylinders to be used in small spaces where previously only a single cylinder would have been deemed practical. At least two of the projects currently underway are a Metro tank and a small 0-6-0T.

The book itself covers the design of a South East and Chatham 0-4-4T 'H' class.

These were a very numerous class that lasted from Edwardian times to the end of steam and a preserved locomotive No 263 is shortly to return to steam on the Bluebell railway.

Most of the 0-4-4Ts of that era were dimensionally very similar, with 5' 3" to 5' 6" wheels on a 7' 6" wheelbase being almost a standard.

As stated, the draft copy of the book was distributed at the AGM and some early production parts were made available by the trade. Despite the disruption that our ever extending 'winter solstice' celebrations cause, progress has been good and two examples of the twin cylinder (HD2) version are currently running under steam with several more reaching the rolling chassis stage.

As you would expect from something as ambitious as this, a certain amount of to-ing and fro-ing ensued until the various components of the trial group were able to make progress with the available commercial parts. I am particularly indebted to Stan Holwill for his efforts here and we hope that this will reflect in the final standard that will be achieved.

Steve Roberts is a relative newcomer to the hobby, but has still made excellent progress. He is bringing his chassis up to Hawk's Nest for testing as I write this. A few days ago, Bob Gamble phoned me up to say that (despite having to convert my drawings to CAD and moving house at the same time!) his chassis is now rolling on air. These are both largely assembled from the first batch of commercially produced parts.

Bob described the process as "Somewhat spooky". Despite all the disruptions, he had finally managed put the bits together without any great expectations of success, only to find that it ran first time both backwards and forwards! Mind you, he is the current Technical Secretary.

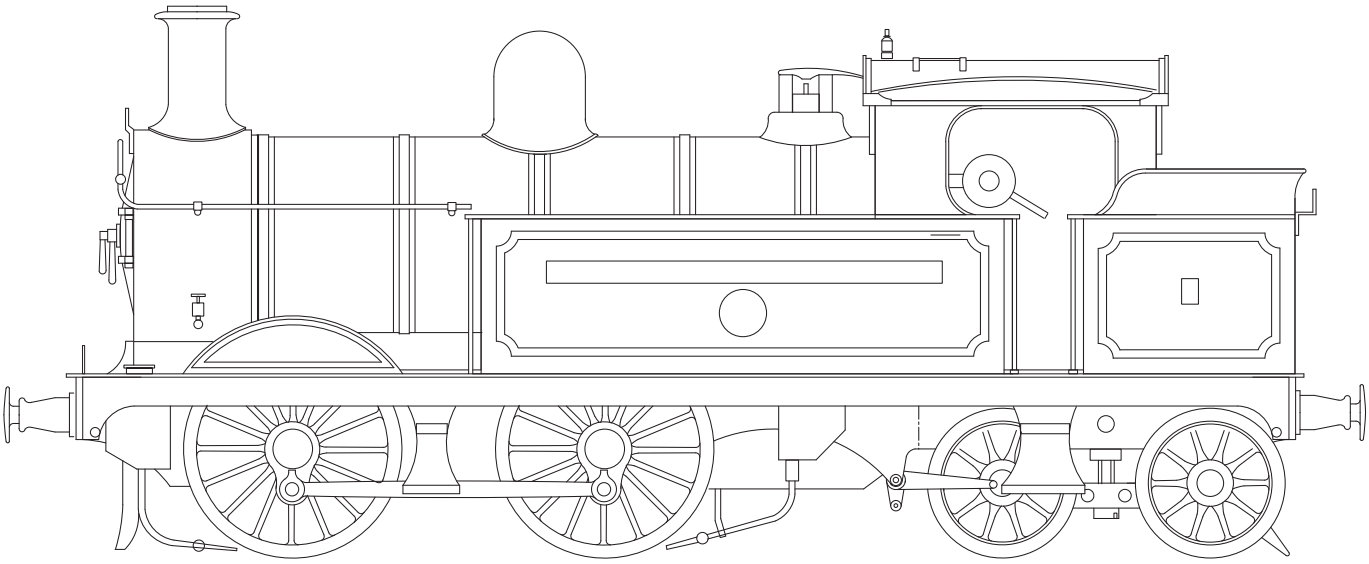
So far progress is very much up to expectations, though we have yet to achieve the final objective of a pure nut and bolt assembly for the rest of the loco.

To help us get closer to this objective and to spread the lessons learnt from this trial group, we are holding a Workshop at the Sutton MEC on Saturday the 28th May from 10:30 am. I am grateful to Stan Holwill (again!) and Paul Harding for enabling this to happen. This will be very much a 'hands on' exercise with no preaching from the front. A running track, a compressor and suitable refreshments will be available on site.

Priority of place will be given to those who have already started on the project, but since the accommodation is reasonably generous, any of you with an interest in this should contact me. (01233 71 3212 or rmhawksnest@aol.com)

We are also hoping for a trade presence.

If this format proves both useful and effective, it may well be repeated in other parts of the UK. I look forward to hearing from you.



ARMIG side elevation from the ARMIG book - see advert on page 39

STOP THAT WOBBLING!

by Markus Neeser

After a long and almost complete workshop absence for a year followed by some home renovation work, I finally found some spare time I could dedicate to G1 and decided to have a go at several minor projects that had accumulated over the past few years. I wanted to finish some of these before continuing with the MR Johnson single wheeler featured in the "I could never do that" series of articles.

One of these smaller projects is described in this article. I had been collecting some British Pullman coaches made by J&M over the years, mainly because Pullman trains were operated by many railway companies so they can be used with almost any British locomotive. Another advantage of the J&M Pullman is that they are quite robust and sturdy whilst still looking the part. But one thing I never really liked about them was their tendency to wobble from side to side while running, mainly caused by the not very well supporting bogies. Visitors were often asking "why are these coaches wobbling?" to which I did not really have an answer. Another personal dislike was the design with the pendulum axle (see photo 1) which ensures that all four wheels are properly riding on the rails but it also makes it unnecessary difficult to put the coaches on the track.

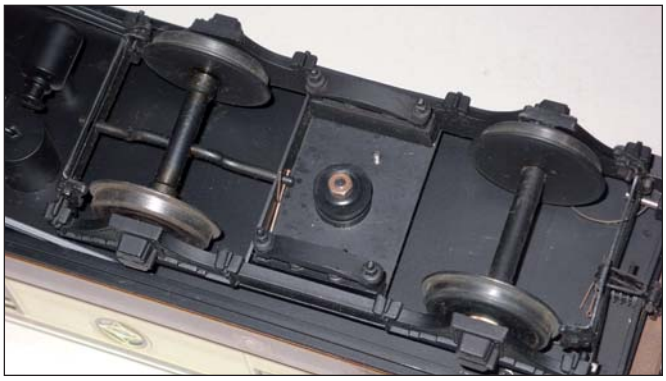


Photo1: The original J&M bogie design.

Generally speaking, the looser the bogies were attached to the coach body, the wobblier the coaches ran. The worst example was wobbling that much that it could be easily seen from a distance of ten yards and in real life even the toughest passenger would have pulled the emergency stop, provided he could have got at it at all!

As my coaches obviously came from different batches (one even has a "Steam Age" label on it) and different pre-owners, the way the bogies were attached to the coach floors was differing a little bit. Some had the bogies attached with quite loose fitting plastic washers with no spring at all, and some came with a short spiral spring of about 10mm diameter sitting between two stepped washers. Some pre-owners might have changed the bogie attaching method over time, so I did not really have a precise idea how the original design looked.

The second reason for the bogie overhaul was that some of the plain axle bearings had worn badly since the coaches must have made quite some miles over the past years. Some of the brass bearings were worn out by far more than a millimetre.

Therefore I made a decision to modify the bogies towards better riding and started to modify the first coach as a test. The basic idea for the new bogie design came from David Jenkinson's book Carriage Modelling Made Easy where further details can be found on page 69ff. His basic idea was to join the two bogie side frames with a kind of flexible spacer in between which allows the bogie to twist and warp on uneven track. Since I had made very good experience with such bogies on the tender of the MR Johnson single wheeler, I wanted to go the same way and used a phosphor bronze sheet spacer as the centre spacer, which can be seen on photo 2.

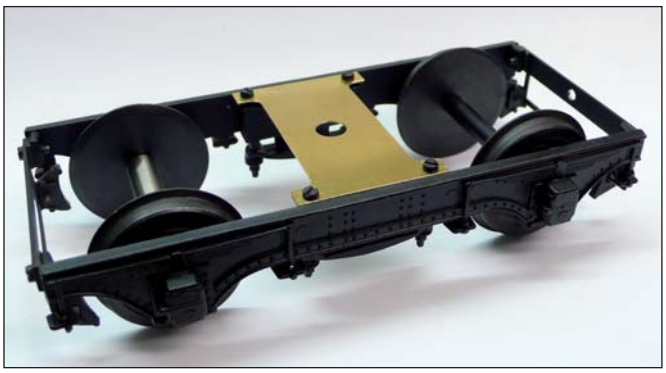


Photo 2: Modified bogie less the central bearing.

DISASSEMBLY OF THE ORIGINAL BOGIES

First the original bogies have to be dismantled. This starts with disconnecting the wire for the illumination from the central stretcher and with removing the bogies from the coach bodies after removing the 4BA nut from the pivoting screw. All screws joining the central stretcher with the cast bogie sides are removed and stored away safely as the screws are reused afterwards. Next the split cotter pin must be removed so that the pendulum axle can be detached. This is followed by removing the two stretchers / brake assemblies at both ends of the bogie.

Once the pendulum axle is removed, one of the wheels must be removed. This is done by gripping the wheels using a thick rag to protect the fingers and by twisting the wheels in opposite direction until one gets loose. Depending on how well the wheels are fitted, this may take quite some effort. One wheel will stay on the axle and is afterwards removed by pressing out the axle using a pin driver and hammer or using a little bench hand press if you should have one at hand. The wheels are put aside for later reuse but the axle can be put in the scrap bin as it is too short.

PRODUCTION OF THE NEW COMPONENTS

Next the new components for the modified bogie have to be fabricated. For better understanding, a drawing with the required components is enclosed to this article.

The new bearings, by the way, are all made from polyamide 6.6 (PA6) which is also known under its brand name "Nylon". I decided using this material instead of brass because it makes very robust and long lasting plain bearings. Unfortunately it is not roughly the same to machine as other plastics. But since some of the brass bearings on my coaches were really

badly worn, I decided to bite the bullet and ordered some PA6 from a local supplier of technical plastics. A sharp turning tool with a large positive cutting angle, as used for machining aluminium, gives the best results but machining the bearing still was a little pain and gives an idea why this material is so suitable for plain bearings. What don't we all do for our hobby!

Some of the readers may ask at this point why I did not opt for ball bearings instead of ordinary plain bearings. Well, there are two answers to this question: first I consider plain bearings to be more robust than ball bearings for garden railway purposes and second, I am of the opinion that a rake of coaches should not be running too freely as our engines generally perform better and more realistic with a moderate load on the drawbar, giving a good draught and nice exhaust beat. And as long as an unsprung engine like a 'Schools' can pull seven J&M coaches without slipping, the load can not be too heavy anyway. But if your preference is a prototypically long train of very heavy coaches, then I would decide on using ball races instead. The ball races in this case could be pressed into little plastic cups which are in turn pressed into the cast bogie frames.

After the bearings are turned, the phosphor bronze spacers have to be made. Due to their function of holding together the bogie frames exactly parallel, they should me made absolutely square or the bogies will inevitably be misaligned, resulting in increased friction. Therefore I decided to mill the stretchers instead of simply marking and cutting them.

Milling the spacers is a little bit challenging in regards of how to fix the blanks to the milling table. Here's my simple 'quick & dirty' solution: the required number of blanks (with about 3mm oversize all around) is well deburred, then thoroughly degreased with acetone and glued together using Loctite 480. This forms a solid block which in turn is glued on a piece of scrap brass bar. The whole assembly is pressed together for an hour or so using a clamp, allowing the glue to fully cure. A damp/moist environment helps accelerating this as instant adhesives use the air's humidity to cure. Afterwards the assembly is chucked in the vice of your mill and milled to shape. Due to the fact that the pieces of bronze sheet are only glued together, the cuts taken should not be too deep, 0.5 mm proved to be on the safe side. Photo 3 shows the milling process nearing the end.

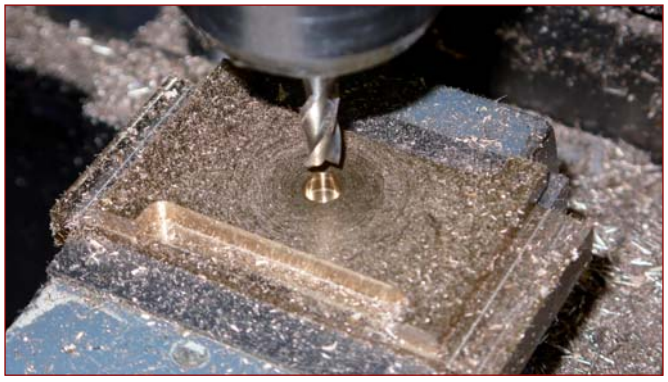


Photo 3: Milling a pack of 10 stretchers in one go.

Whilst still clamped in the vice, all the attaching holes as well as the central pivoting hole are drilled.

A probably better way to clamp the blanks would have been to drill the central hole first and then to clamp down a stack of blanks with a pressure plate which has the same shape as the stretcher, except that it is a little bit smaller to give place to the milling cutter. This would help avoiding the usage of super glue and cleaning afterwards.

Once all machining operations are completed, the block is removed from the vice and all the phosphor bronze stretchers are separated one by one using a Stanley knife. The blade is carefully inserted into the gap between two stretchers at one corner, splitting off stretcher by stretcher. This sounds much more delicate than it actually is. Once separated, the stretchers will look like shown on photo 4 (before cleaning) and photo 5 (after washing off the glue remains with acetone in an old jam jar). Careful deburring with a scraper will make the sharp edges dull and prevents from cutting the fingers.

If desired, the stretchers can now be chemically blackened now but this is not really required as they will not be visible when the bogies are fitted to the coach bodies.

Photo 4: The stretchers, separated after milling and still with glue on them.

Photo 5: The same stretchers after removing the glue with acetone.

As you will have already noted, there are two different versions of stretchers shown on the enclosed drawing: a waisted one and a rectangular version. The idea behind this was to test if there is any difference in flexibility and running characteristics using the different stretchers on neglected tracks. Well, I can say that the waisting does increase the flexibility a little bit, but certainly not very much. Most of the flexibility comes from reasonably tightened screws, allowing the rubber spacers between the components to do their job. However, after testing the two versions I decided using the waisted version on the remaining coaches.

PREPARATION OF THE CAST BOGIE SIDES

First the old brass bearings need to be removed from the cast bogie frames into which they are pressed in very firmly. In case of my coaches the original bearings sat very well in the bogie frames so I could not just remove them using a pair of pliers. So the bearings had to be drilled out using a drill slightly smaller than the outside diameter of the bearing is. I used an Ø6mm drill for this with good success. Afterwards the holes are reamed with an Ø6.35mm (¼") reamer to prepare the bogie sides to take up the new flanged plastic bearings. Make sure the bogie frame is chucked exactly horizontally in the vice and drill and ream both holes in one go if possible. This ensures that the two axle bearings are parallel. If you have to rechuck the bogie side after drilling and reaming the first hole, then a piece of tight fitting ¼" brass rod is pushed into the finished hole and used to align the frame before drilling the second bearing hole: the bogie frame is correctly chucked when the brass rod is positioned exactly vertically. An engineer's angle helps checking this.

TURNING THE NEW AXLE

The bores of the removed wheels differ unavoidably by some 0.01 mm in diameter. This means that the press fits of the axles must be made to match the corresponding wheels.

My recommendation is that you start with measuring the diameter of the larger wheel bore which is about ¼" or 6.35mm, but I have found diameters ranging between 6.35 and 6.42 mm. Then take a 71mm long piece of suitable round steel bar. I use 1.4305 type free cutting stainless steel rod but I reckon that any other steel will do. The end of the axle with the shouldered journal is preferably made first.

Start turning the 6.35mm journal (or whatever diameter is required to match the wheel bore) but make the journal diameter about 0.02mm (1/1000 of an inch) larger to get a proper press fit. Next turn down the outer 9mm of the axle to a diameter of ⅛" or 3.18mm and polish this section as is will be running in the bearing later on.

After finishing the first axle end, the axle is flipped over and turned to length followed by machining the second end. Again produce a press fit for the wheel with the ⅛" bore. First measure the exact diameter, then also turn a press fit on the inner 6mm of the journal (where the wheel is pressed on) and polish the outer 9mm only with finest grade sanding paper. The drawing at the end will illustrate this better than my words do.

The wheels are then pressed on. The application of some high strength Loctite 603 on the wheel bore and the axle journals will help if the press fit should be a little bit too loose. To ensure a wobble free fit, the axle is preferably held in a bench drill chuck while the wheel rests on the drilling table or a vice. Then gently press in the axle in one go. This ensures that the wheels are pressed on exactly perpendicular. Repeat the same procedure with the other wheel and the new axle is finished.

BOGIE REASSEMBLY

Before the bogie can be reassembled, the plastic axle bearings must be pressed into the bogie sides. After pressing in the bearings, the bores of the bearings are opened to 3.4mm diameter. A sharp drill is fine for this, but a reamer is better. Before opening the bore make sure that the bogie frame is safely held in the vice and that the holes are drilled exactly parallel to the attaching flange cast to the bogie stretcher.

Now stick the two axles into one of the bogie frames and put the other frame over the axle ends. Do not forget to lubricate the axle journals with a drop of oil. Then fit the bogie stretcher using the formerly removed 8 BA screws. I purchased new 8BA × 5/16" flathead screws at the AGM and replaced the old screws with new ones. The screws are screwed in the threaded pocket holes in the dummy spring packet castings and depending on the depths of the pocket holes, the screws may have to be shortened a little bit. Do not forget to put four of the rubber washers between the bogie flange and the stretcher. Tighten the screws until the rubber washers are well secured but do not squeeze them too much as they must still be able to flex a little bit.

The rubber spacers by the way are cut from an old tube of a bike or a similar material. A sharp Stanley knife will give good service. The holes for the screws can be easily punched with a piece of sharpened tube with a suitable inner diameter.

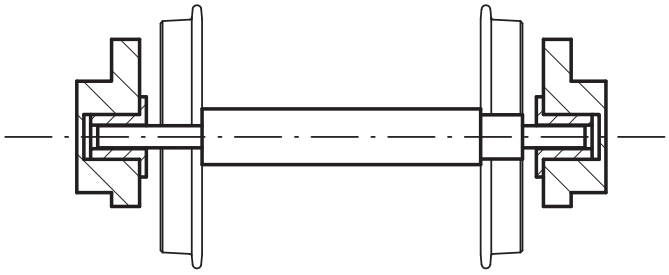


Figure 1: Cross section through the remade axle.

Next refit the stretchers at the bogie ends. Again do not forget to fit another four of the rubber washers between the bogies sides and the stretchers. Tighten the screws but again leave room for the bogie to flex. Apply some Loctite (I use the 222 type) to prevent the screws from getting loose or fit 8 BA nut (which should be secured with Loctite anyway).

Now take a piece of G1 track and test if the bogie runs freely. If not then loosen the four screws holding the central stretcher a little bit and adjust the stretcher and the bogie frames in such way that the bogie runs smoothly and freely. Afterwards tighten the screws. Eventually you will have to repeat this procedure once or twice until the bogie will be running in the desired way as the frame castings are not completely identical. A well adjusted bogie will run on a piece of track almost as smoothly as if it would have been fitted with ball races.

Now test if the bogie can flex enough. When fitted to the coach, it should be possible to run one wheel over a 2mm high obstacle (glue a piece of brass scrap on the rail) while the other three wheels will stay on the rails. If one of the other three wheels comes off the rails, then the bogie does not flex enough. In this case the screws are probably tightened too much. Loosen up a little bit and retest.

Photo 6: One wheel in the air, the others on the rail…

DIFFERENT J&M BOGIE BOLSTER VERSIONS

Figure 2 shows how the bogies are attaches to the coach bodies. Between the plastic washer and the 4BA retaining nut I have added a snugly fitting pressure spring (see photo 7) which presses the bogie with about 5N (about one pound force) to the coach floor while still allowing the bogie to rotate freely around the pivoting pin but keeps it from uncontrolled rotation around the pivoting screw.

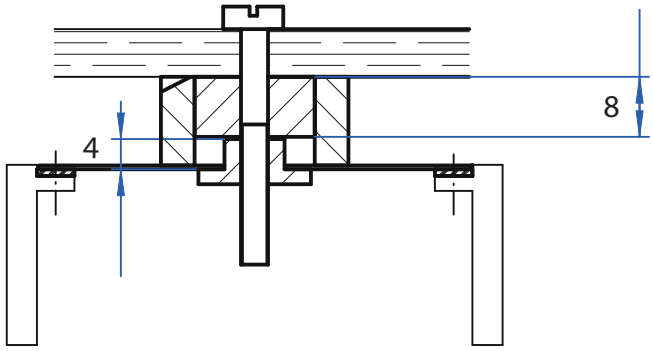


Figure 2: Cross section through the pivoting pin of the first coach's bogie.

When I was modifying the second coach, I quickly found out that the bolsters on the coaches were obviously not of the same height. A quick test with the calliper showed that they were changed from 8mm to 10mm height (or vice-versa) over time. Figure 3 shows the second bolster type I found.

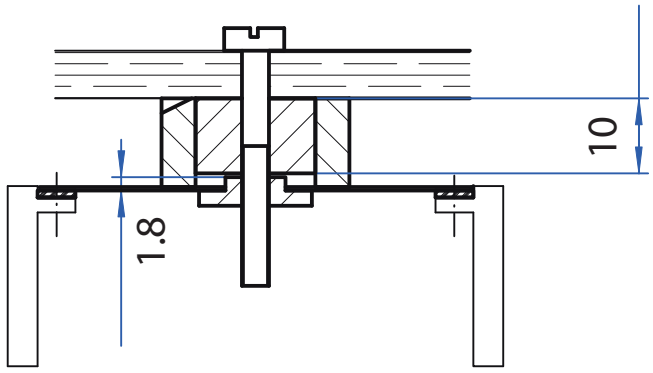


Figure 3:...and the cross section through the pivoting pin of the second coach's bogie.

This is why the drawing of the used components shows two versions of the central bogie bearing which feature a different height of the washer recess. I have not come around a third version so far but I would not be amazed much if there should be one. Simply check your coach before starting the lathe.

Photo 7 finally shows one of the modified bogies fitted to the coach body. The pressure spring on the pivoting pin, placed between the central bogie bearing and the 4BA nut, can be clearly seen.

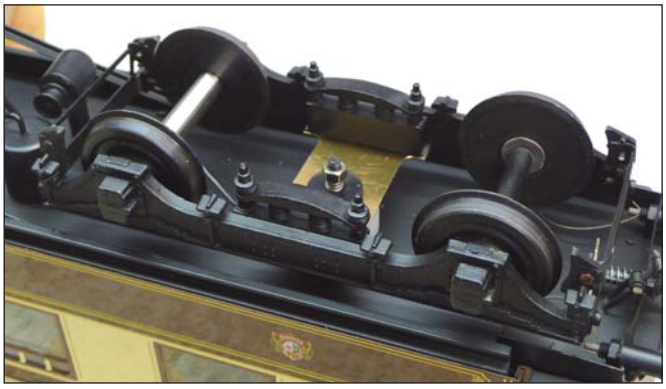


Photo 7: The modified bogie fitted to the coach body

Well, that's the whole story about the bogie modification. I hope you may make some use of these lines in case you should have plans to modify your J&M bogies. The method can probably be used for other bogies as well as long as the dimensions are adapted. Your reward will be a visually much more convincing running coach with the advantage of less noise produced by the coach body as the rubber spacers between the stretcher and the bogie sides will also act as dampers.

In the next newsletter I hope to be able to report some progress with the 'I could never do that' series which has been held up a little bit. Rest assured that I do not have in mind to stop the series before the engine is completed, especially as there are already some matching coaches waiting for this engine.

REFERENCES

Jenkinson, David. Carriage Modelling Made Easy. Didcot: Wild Swan Publications Ltd, 1996. ISBN 1 874103 32 1

A BR1F TENDER

by Bill Read

I was very excited at the announcement at the beginning of 2010 that Aster were to produce the BR Standard Class 5MT. However, for sensible economic reasons, the same tender as had been used with the Aster BR 9F was to be used with the new locomotive. Only three of the class of 171 locomotives had used the BR1G tender, which rather limited the options for selecting which engine to model, especially when the livery variations were taken into account.

Being from the Guildford area originally, a Southern Region locomotive was desired. Twenty Standard Fives were initially built specifically for the Southern Region, but due to the fact that there weren't any water troughs on the Southern, higher capacity tenders were to be fitted, but with the usual water scoops omitted. The first batch of ten locomotives were built at Derby and fitted with BR1B tenders, the second batch were built at Doncaster and fitted with BR1F tenders. My first choice was to model 73089 'Maid of Astolat' as both my wife and I were born in Guildford (allegedly Astolat was the Athurian legendary name for Guildford), but I noticed that the top front steps on the Aster model were more or less in line with the top of the frames, as per a loco built at Doncaster (those on Derby-built locos were set slightly lower). That meant a loco from the second batch. There were four Elaines in Arthurian legend, one of whom was the Maid of Astolat, so 73119 'Elaine' became my choice. That meant a BR1F tender. Fortunately the chassis for all the BR1 tenders were the same, so a new body would probably suffice.

I was chatting to Malcolm High of Model Engineers Laser and mentioned I wanted to have a new tender body. "I could scale down my 5" gauge tender for you, if you're interested" he said. An exchange of drawings ensued, delayed only by waiting for my kit to arrive so I could check the dimensions of the chassis. A week or so after the go ahead, the laser-cut parts arrived in the post.

The supplied parts were soldered together in an afternoon at one sitting with a gas soldering torch, thanks to the way the parts interlocked. I did not use the new floor as it was made thick enough that it could be used as the floor of a gas tank. With some careful thought as to the positioning of the internal bulkhead it has proved possible to use the original Aster water tank with a frame of ¼" angle sitting on top (held in place with silicone sealant) to fill the gap between the top of the tank and the underside of the top deck. As luck would have it, the meths tank fitted exactly into the remaining space. I made an additional section to extend the top deck forwards, with side extensions forward to hold the meths tank in place laterally and a piece of brass to represent the rear of the coal space. Brass bar was turned up to represent the dome over the water scoop (even though the scoop wasn't fitted to the Southern engines) and the water filler. A new water treatment filler cap will be turned up, as will a half-cylinder which covered the top of the float of the water level indicator, both will be fitted to the top deck. A rectangle was cut out of the top deck for filling the water tank. A piece needed to be cut out of the rectangle and soldered back on to the top so that both legs of the ladder could be soldered onto the top deck. The whole tender tank is attached to the chassis with the two Aster screws at the front and the screw that holds the bottom of the ladder in place.

One of the features that Malcolm has provided is 600-odd laser cut 0.5mm holes for dummy rivets to be fitted. At least it means that the rows of rivets will be straight! I sourced the 0.5x2mm brass rivets from Modellingtimbers.co.uk - don't drop them on the carpet!

I have written these notes in response to Geoff Calver's article in NL&J No228 (Thanks Geoff!). There is plenty of scope for adding detail - knowing when to stop can be a problem! Cab doors still need to be worked out and the lockers on the front need to be added. Plates for the locomotive and tender are from Guilplates.

This is an interesting project that has provided a variation on a theme. The photos show 73119 lined up next to Dennis Edwards' 73089 fitted with the Cromford Designs' BR1B tender body described in No 228 for comparison. I'll provide another photo when its finished.

MAJOR-GENERAL ROBERT HOUGHTON

Our treasured President for 45 years, who set standards in team spirit, optimism and behaviour

Robert, who died in January at the age of 98, was deeply admired and will be fondly remembered by all members who had any contact with him. Whether hosting his get-togethers at Vert House, or making his stirring speeches at our AGM, he was, as a senior member said "the sort of person you wished would carry on for ever".

Robert Houghton was born in 1912 and joined the Royal Marines in 1930. In the Second World War, he was awarded the Military Cross for his bravery during a raid on Dieppe in 1942, which he led as second in command of the new formed 40 Commando RM. He was unfortunately taken prisoner-of-war, and was handcuffed for 411 days. In 1948, at the withdrawal of British troops from Palestine, he was in command of 40 Commando and sent to Haifa, the task being to keep the port open. In this charged situation, he managed to keep the peace among 37,000 Arab evacuees and other refugees, for which he was awarded an OBE for outstanding leadership and distinguished service. His tours of duty subsequently took him to Malta, Libya, Turkey, Greece, Sardinia and Cyprus. He was appointed Major-General in 1961, his final tour being as Major-General Royal Marines, Portsmouth. In 1964, he retired, having been appointed CB. Not stopping there, of course, he was appointed President of the 40 Commando Association, served as General Secretary of the Royal United Kingdom Benificent Association, and became Deputy Lieutenant of East Sussex.

Robert's early interest in railways was shared with his brother, Jack, who bought a clockwork locomotive and track for one pound. In the attic of a local bank in Dawlish, where his father was manager, they laid out the railway and, on Jack's departure, Robert took it over, but it was eventually packed up. At Haileybury school, he met a like-minded friend, and subsequently somehow managed occasionally to get the set out of the box and run it on the carpet from time to time.

Career interests (the minor events mentioned above!) took priority until the arrival of a family. In one of their homes (Robert was moved around frequently according to his tours) at Deal, the enlarged railway was installed in the basement, a hole having to be cut in a 12-inch thick wall to pass from one room to the next. A Bassett-Lowke low-pressure Mogul had been acquired and was run on special occasions between other trains, which were all clockwork. The favourite thing was to wind up all of the clockwork locos, then watch them make their lively way around the circuits according to a strict time-table. At his first own home in Woking, he and his sons laid a track directly on the lawn. Every time the grass was cut, the track had to be taken up and put back down again.

"Enlightenment" came at the Model Railway Club exhibition in the Central Hall at Westminster in 1959. Robert and sons Adam and Neil were astonished to see Gauge 1 displayed in its full glory. Robert beckoned to Stan Roberts (our Secretary at the time and for many years) and joined G1MRA on the spot! So began Robert's long involvement with his (and our) beloved Association, and his introduction to the world of get-togethers, with wonderful trains, friendly people and access to advice and support. At that time, of course, it was not possible simply to buy all that was needed to create and run a railway. Much ingenuity was needed in transforming available materials into models and tracks. There was less of everything, including members, of which there were around a hundred.

The President at that time was Lord Northesk, a man who had grand plans for Gauge 1, but less than total success in implementing them. When Northesk died, Stan Roberts asked Robert if he would like to take on the President's role, and he of course agreed. Little could he have imagined the scale of the growth of the body he would continue to preside over for the next 45 years. And, of course, Robert participated in full in many of the Association's activities. He could be seen in photos of the time, naturally at the AGM, and also sharing the running at IMREX and at many get-togethers. Robert loved the friendly nature of G1MRA. One typical incident he remembered was when the three Houghtons turned up on the Sunday instead of the Saturday for Edward Griffiths' get-together. They were welcomed all the same, with tea, cakes and a guided tour of the railway, and a steam run by Edward with his Bassett-Lowke 'Flying Scotsman' newly re-furbished by Freddie Wrighton.

Robert's own line, at his home Vert House, was built in 1968 by Adam and Neill with most of the points made by Robert. There, he enjoyed the presence of most of our notable members, including Freddie Wrighton, the master locomotive builder, who was always around to sort out problems or run his impeccable new creations. Robert's favourite locos were perhaps his Wrighton Midland Compound and GCR "Sir Sam Fay", even though, from his youth in Devon, he had a strong affection for GWR types. His trademark brown teapot, by the way, dated from his time at Woking, when he bought a low-pressure Märklin Pacific with a particularly sensitive boiler filler cap – the teapot provided the necessary precision and control in filling the boiler with the correct amount of water!

Many members have happy memories of Robert. Bob Hines remembers meetings of the Royal Marine Association fetes at Vert House, to which a handful of G1MRA "runners" were invited as entertainment. But it was a moot point as to who was entertaining whom when the Royal Marines Band paraded and played in the adjacent field! Having built and serviced various locos, Roger Marsh came to lunches at Vert House. The usual order of events was to play trains, then have coffee around eleven, at which point, Robert would disappear to pick fresh produce from his extensive vegetable patch. For dessert, he often prepared "Haileybury pudding", a reminder of schooldays. Roy Scott remembers Robert as always "a modest, kind and generous gentleman", and "putting youngsters to shame by ducking and diving under tracks well into his 90's". Robert told Francis Dobson that he'd been president of fifteen organisations in his time, and that G1MRA had given him the least trouble and the most pleasure.

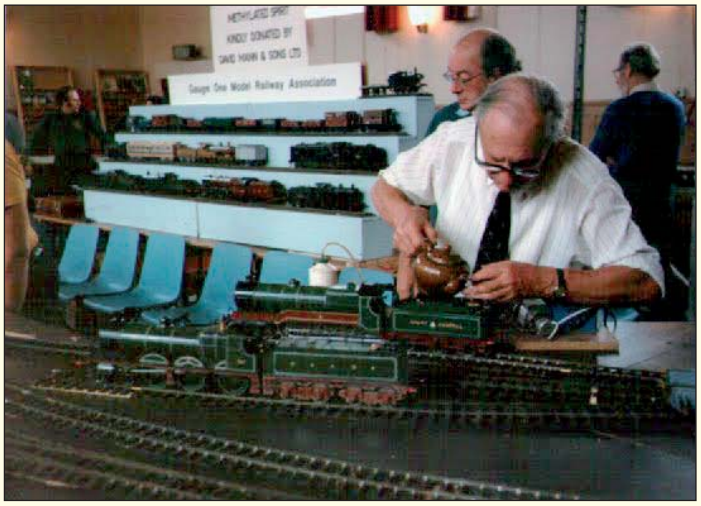
A "character" in the most full sense of the word, Robert was nevertheless approachable, convivial and benevolent. We salute his memory and mourn his passing. His contribution to G1MRA will act as an inspiration and model to us.

Chris Ludlow

Robert Houghton Memories

Robert's Get Together at Vert House in 1985. Note the large gathering which was usual for these events.

In deep discusion with Bob Hines at the Fosse.



Robert always had his Brown Teapot handy when steaming his locos.

Robert running his GWR King with Adam's assistance in June 2002.

Robert, Neill, and Adam, in 1959.

Robert with Ed Griffiths at the AGM in November 1978.

1

BEYOND THE FRONTIER OF G1 MODELLING: ATTILIO MARI'S FS E626

by Robi from Italy

Three years ago, while I was happily running my favourite Aster Hobby DB BR44 hauling 40 freight cars, a man asked me how heavy the rake was. He wanted to test his loco with a big load. That was the first time I met Attilio and, in the same time, I crossed the G1 modelling border. His astonishing creation made me amazed! It's unbelievable the degree of detail Attilio has included in 1:32 scale, so I let the images speak for themselves. I think Attilio Mari is the best G1 modeller in the world and his masterpieces of art can draw inspiration to any one of us.

Now, after watching the images, I wish to explain Attilio's philosophy of modelling. He wants his models to replicate every special feature of the real thing in a well balanced way.

His replicas must contain:

1) the building technology of the real locomotive;

2) the original materials;

3) the machining and assembly sequence of the "real thing";

4) properly working main mechanisms;

5) a good number of non essential components with the appearance of the real ones, giving a better visual impression and a sensation of completeness.

Being generated by those guidelines, the E626 has an impressive realism, with opening doors and compartments, full working suspensions, real bogie movements with inclined planes and volute springs, real rivets and real microscopic bolts, working brakes and lights, full interior details, and working pantographs.

Some statistics: Attilio spent 13860 hours building 20 locomotives (E626 100 to E626 119), just 4483 hours for the pilot model. Each locomotive has 9280 parts, as you can see in the table.

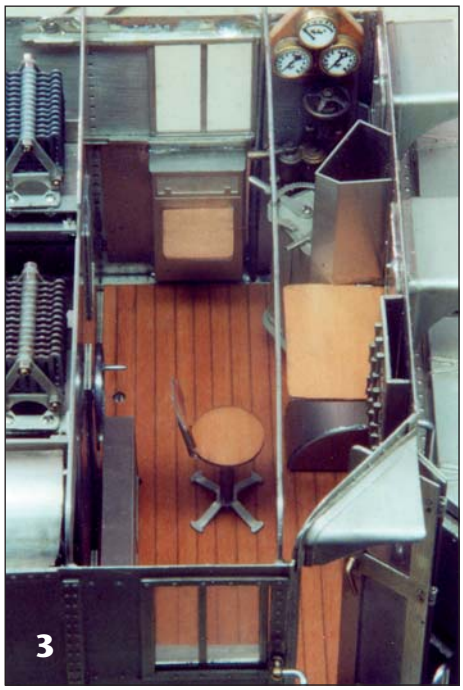
Subassembly	Pieces	Rivets	Screws	Nuts	Washers	Total
Frame and bogies	1416	1582	943	969	66	4976
Body & equipments	2347	493	411	659	18	3928
Pantographs	236	22	52	64	2	376
Total	3999	2097	1406	1692	86	9280

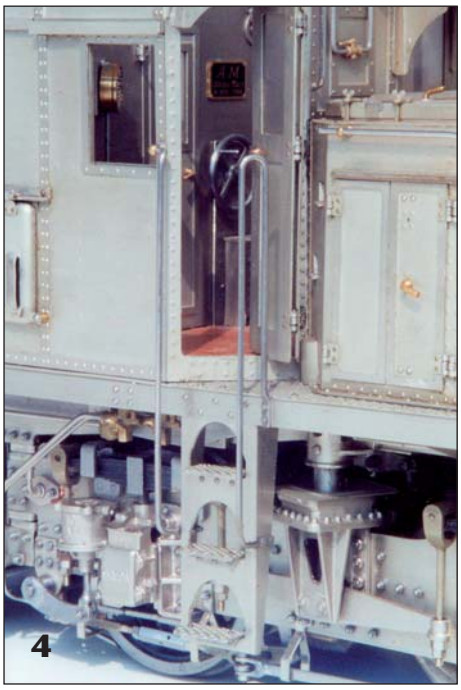
Can you imagine how I felt running Attilio's E626 double headed by my r/c? I'm very proud to be called friend by Attilio, because the Man is even greater than the Modeller himself!

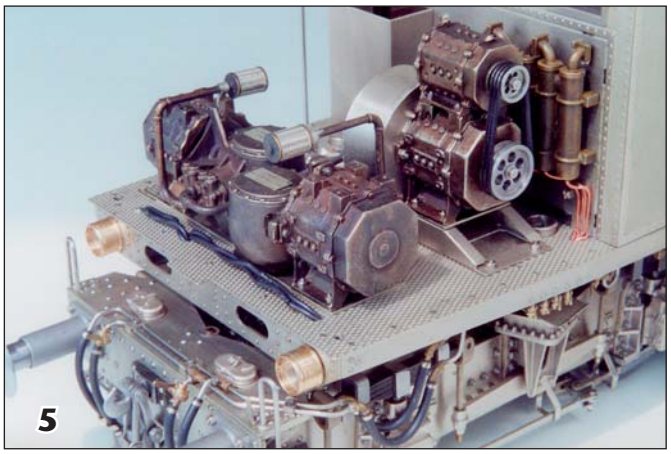
Attilio has modelled other Italian electric locomotives: 3000V D.C. E424, E428; 3000V A.C. 15-16.7Hz 3-phase E550, E330, E432; 10000V A.C. 45Hz 3-phase E472. (If you're interested in other images of masterpieces and some deeper explanations, let the editor know and I'll try to write some more pages).

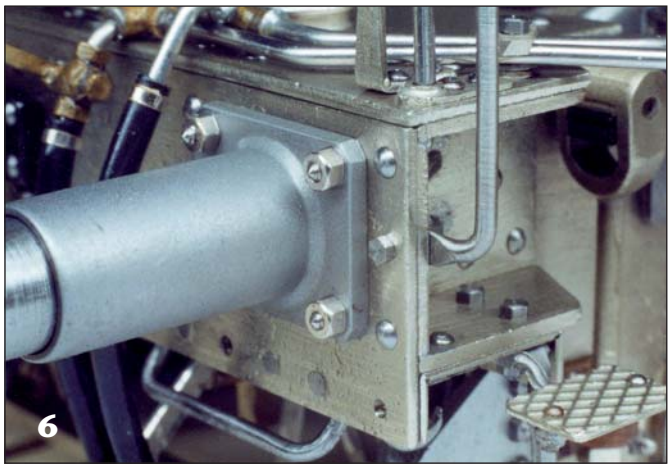
Just two words about the "real thing": FS E626 was the first Italian 3000V D.C. locomotive class designed in 1924 and it was built between 1927 to 1939 in four series (E626 100 to 109 belong to the third series). The locomotives were so successful that Ferrovie dello Stato (FS) adopted the 3000V D.C. system for all the new lines and this system is still in use today. The mechanics of E626 was a unique case in the worldwide railways history: one body and three bogies, but the central bogie is the main frame of the locomotives.

Note for the rivet counters: you can count every rivet





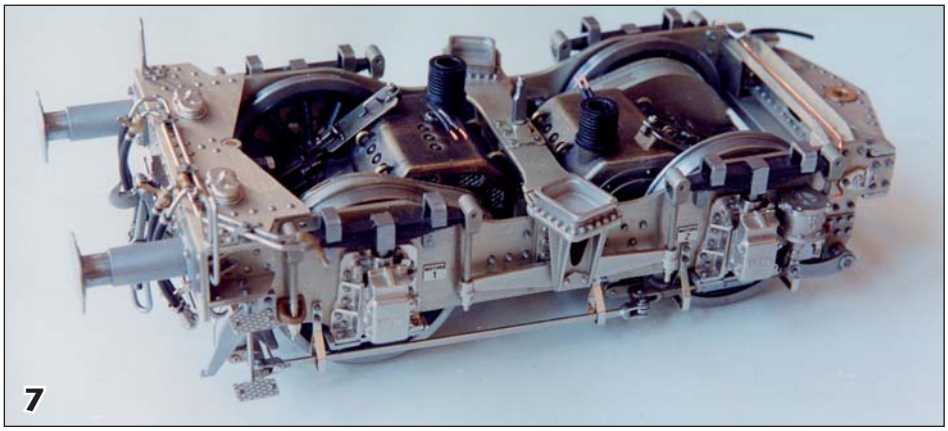




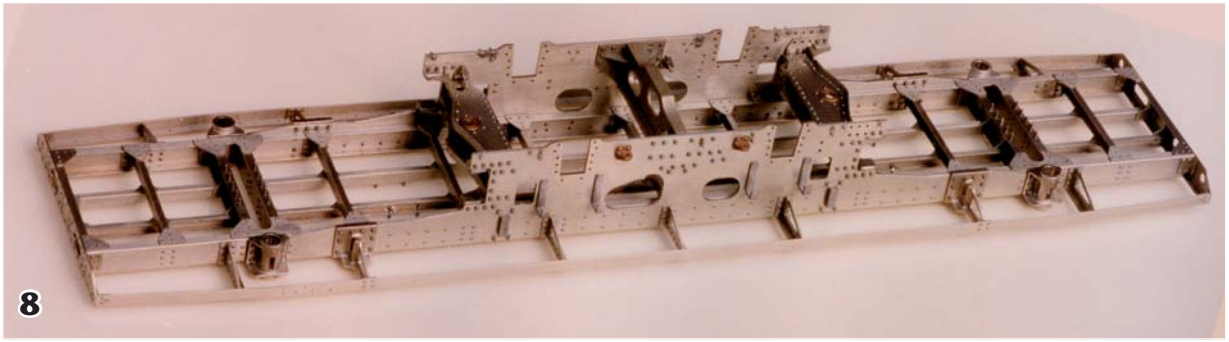
and bolt and they are all in the right place in the model, be sure. I did it. But I want to point out some "imperfections" that in no way can decrease the value of this masterpiece. As a matter of fact nobody sees them, because the locomotive seems real.

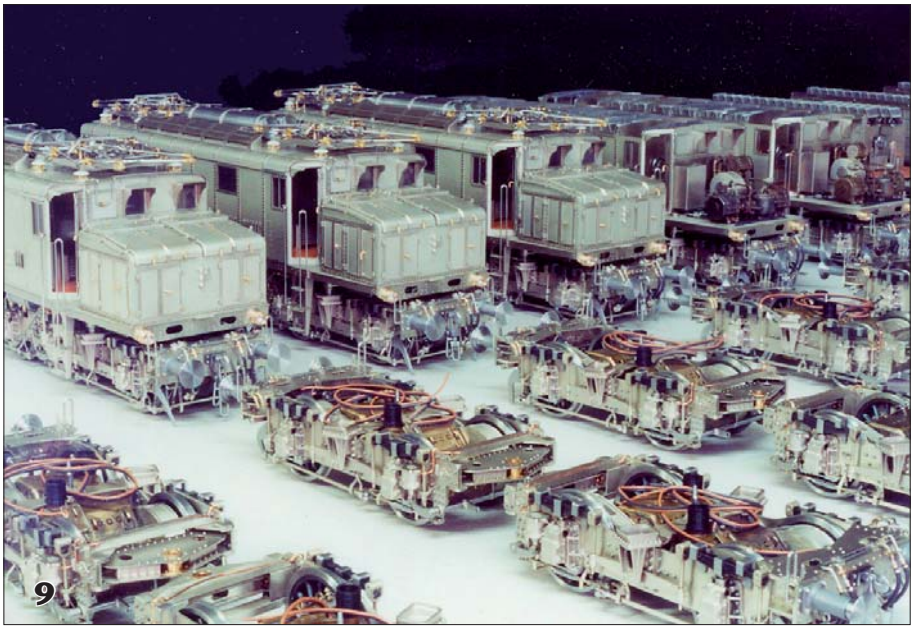
Sin number 1: the bolts fixing the handrail of the steps are 0.8 mm instead 0.4 mm! 100% error.

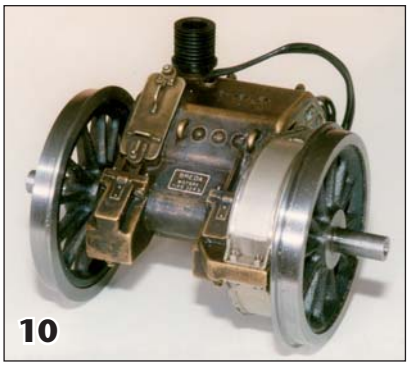
Sin number 2: traction motors are fixed to the driving axle by 2 bearings, divided in 2 half parts. They are jointed by 8 round head screws, but in the real locomotives the half parts of bearings are jointed by 8 square headed bolts and hexagonal nuts!

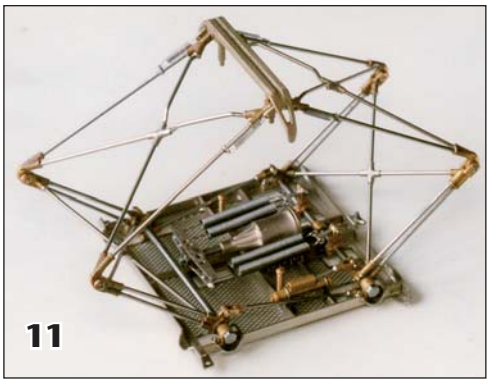


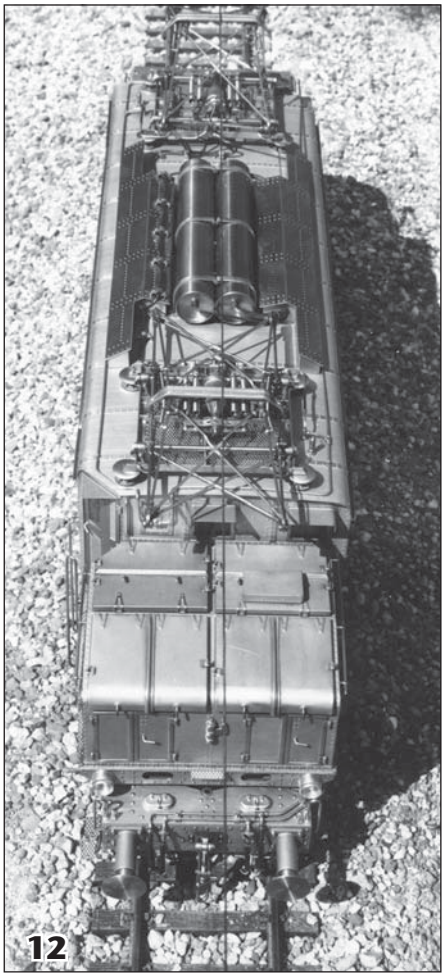
Captions
1: E626 left side in Attilio Mari's garden.
2: Internal corridor of E626
3: The cab of E626
4: The door of the cab
5: Compressors.
6: The buffer.
7: The bogie.
8: Main frame.











9: Attilio Mari's locomotive factory.
10: Driving axle with motor.
11: The pantograph.

12: E626 roof
13: The real thing in Savona Fornaci.

BIG GAS

by Alan Norridge

In a previous NL&J I wrote of my experience in running a simple fail safe gas fired Southern Pacific S-12 switcher made by Accucraft. Now I will go to the other end of the Southern Pacific roster and describe my experiences with a 4-8-8-2 AC-11 Cab Forward freight locomotive.

Cab Forward was produced by Baldwin for the Southern Pacific between 1909 and 1944, 63 AC-11s being made in 1942, my locomotive 4274 was the last AC-11, all subsequent locos being AC-12. 4274 was also the last Cab Forward to run over Donner Pass for a railfan excursion. My Cab Forward is also made by Accucraft to 1/32 scale.

Running the Cab Forward the first thing to be aware of is its size and weight. The length over couplers is 51 inches and the loco plus tender weighs 36.5 lbs. Because of its weight and size it is only practical to transport the loco and tender separately. It is best to carry the loco in a box at all times as it is easy to break the smaller details when lifting by hand. The tender can be carried by hand without any problems. It is also a good idea to use a railer to get all those wheels on the track. The next thing is to connect the loco to the tender and join the water and gas pipes. I do not find these very user friendly connectors - knurled nuts which clamp the pipes over pipe spigots and can be stiff to screw on even though I lightly oil the outside of the pipes to make this easier. I radius the inside diameter of the nuts and slightly increase the bore to stop them acting as pipe cutters on the rubber and plastic pipes. Even doing all this it is still possible to cut the pipes if the nuts are done up too tight. Having connected the loco and tender fill the gas tank in the tender, the large gas tank will take a whole 400ml can of butane, it takes several minutes for the tank to fill. Fill the displacement lubricator found in the cab - access is by lifting the hinged cab roof, and fill the water tank in the tender, this takes about a litre of water. Add water to the boiler as necessary using the water gauge to determine the level. The boiler can be filled using the water in the tender and the hand pump or more easily when the boiler is cold remove the filler plug in the cab and use a syringe. I always oil my locos before setting out to a GTG, if you do not do this then lightly oil the motion.

Now you are ready to light the gas burners, there are 2 of them situated side by side in the boiler. This is done in the same way as all centre flue gas fired locos and will take several attempts even on a hot day. With the Cab Forward the tender prevents you from looking down the boiler to see if both burners are alight so do this with an angled mirror - you should see 2 circles of bright blue light showing both burners are burning correctly. I would not recommend ever looking directly down the boiler to see if the burners are alight as it is the quickest way to get a singe. If one burner has not lit then the other burner will not light it so turn the gas off to extinguish the burner and start again. With both burners alight steam will be raised in about 10 mins. When the pressure reaches 50-70psi open all 4 drain cocks, crack open the regulator and wait for steam to issue from the drain cocks. Close the drain cocks, put the loco in forward or reverse depending on the way you wish to travel, open the regulator and move off. One note of caution, the small levers that operate the drain cocks will foul any points that the engine runs over so if you run the engine with the drain cocks open close the drain cocks before reaching any points. Collect your train and start your run.

The loco will run for about an hour on a full gas tank, but water must be added after no more than 20mins using the axle pump. To make sure the axle pump works first prime the system with the bypass open and then close it to pump water into the boiler. Note with the bypass open you cannot see water returning to the tender because the return pipe is out of sight under the top plate of the tender. Keep an eye on the water level in the tender to make sure your axle pump is working, early Accucraft axle pumps often did not work. The pump on my Accucraft Daylight did not work and is being modified at this moment. When running these large

Trevor Goodman's and my Cab Forwards running at Rushford Barn last April.

gas fired locos I have observed that their performance falls off as the loco gets hot and as the gas is used. This can usually be corrected by increasing the gas supply to the burners and adding warm water to the tender water tank. The water in the water tank surrounds the gas tank.

I have had a couple of problems with the loco, first a problem common to all gas fired locos, blocked jets. Access to the jets on the Cab Forward is not easy, the jets are in the cab which has to be removed to gain access to them. Then the fun starts, the pipe work in the cab is laid out to make removal of the jet block extremely difficult and a lot of wiggling about is necessary both to remove the block and to replace it. I have put mesh filters in the jets to try and prevent blockages. I will have to see how successful this is. Other people put the tips off cotton buds in the back of their jets to solve the same problem. I had both jets block at a GTG last year at Rushford Barns and Geoff suggested I try and unblock them using a syringe on the gas feed pipe to create a vacuum in the line and let air pressure do the rest. I was very pleased when this worked and I was able to continue running. The other problem I had was the front truck kept derailing on anti-clockwise bends. I could find no reason for this, the truck had plenty of clearance all round, the back to backs were ok so I was a bit stuck. The Accucraft design of pivot makes for a very sloppy truck as it is a pivot screw holding the truck against a light spring and screwing into a captive nut. Side play is obtained by the screw sliding in a curved slot in the truck. While removing the pivot screw the captive nut broke free and it is very difficult to reach, it took me about a month to finally free the screw using a variety of tweezers, bent wire and screwdrivers used as wedges. On contacting Accucraft they informed me that they had produced an upgrade kit for the pivot which comprised of a bolt-on plate with a threaded boss in the centre and some replacement detail. They sent me the kit by return post. Before fitting the truck to the new assembly, at the suggestion of Gordon Watson in Australia, I added control springs to the truck and on fitting the truck pivoted more positively than before. I have yet to try it on the track.

That concludes a brief report on my experience running a large gas fired loco. I am often asked which I like best, gas firing or meths. I prefer meths but have several gas fired locos because that is how many main line American G1 locos are made. I have no experience of coal so cannot comment on its use except that it smells great. I think that if gas is to be developed as a fuel source then a multi tube boiler with a ceramic hearth should be considered along the lines of that used by Chris Harnett, Les Bull and others. Concerning boilers my best running loco for control and length of run is my Aster Mikado fitted with a "B" type boiler containing 5 boiler tubes and not a super heater in sight. Perhaps I have started another discussion!

The photos show Trevor Goodman's and my Cab Forwards running at Rushford Barn last April. We wonder if this is a G1MRA first, two Cab Forwards running on the same track at the same time in the UK.

The use of warm water to improve the pressure in a gas tank is a possible risk that needs to be thought about carefully. The pressure curves show a steep rise in gas pressure for modest rises in temperature. G1MRA advice has been for some time to only use butane gas, test your gas tank as a pressure vessel and don't warm gas tanks above 60ºC. - Ed

THOUGHTS AND IDEAS BEHIND THE CONSTRUCTION AND DESIGN OF THE KROGEN LAYOUT.

PROLOGUE

Long time ago I promised our former editor, Nick Rudoe, to write an article about how we designed and build the layout here at Hotel Krogen, Denmark, and what type of construction methods we have used in the process. He thought that since it had evolved without influence from the known English layouts, it was in many ways very different from the typical layout, and hence a refreshing new thing to see in G1MRA. I was a bit worried about writing about our construction since it was a new method, and it had yet to see the test of time and weather. It is now three winters since we made it, it still looks OK and we have so far not seen any distortions in the track, so I can therefore recommend this building method.

This is not a recipe on how to make a track, since I believe that you can make a layout in various ways. We decided to use wood, since we have an extensive (wood) workshop in connection to the Hotel, and know this material quite well. Our layout is not yet complete, we still need to make a few things as listed later in this article, but the present basic layout is working very well and most of the needed materials for the future have been purchased, so in a year or two we will have most of the final layout done. Though it will some years before the plants and bushes have grown to the planned size. You are never done!

If you are interested in the railway here at Krogen, you are invited to look at our website (in Danish sorry) and see photos from the layout, GTGs and various projects.

www.havebane.dk

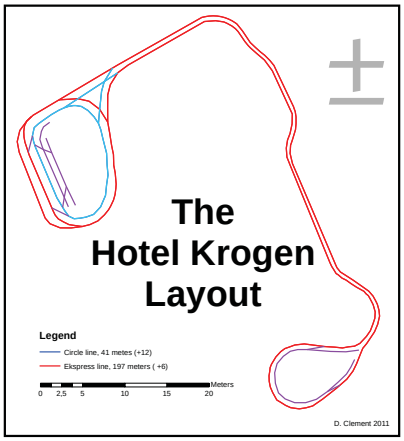
HOW IT ALL BEGAN

In 1984 my dad and I went to London. We visited the famous London Toy Museum. At the back there was a G1 track. When we first saw it we discussed what it was we were looking at. None of us had seen at layout of this kind before. There was just rails on sleepers, no houses or scenery as you "always" see on the smaller scale layouts. It honestly looked like something that wasn't quite finished, and we both thought that this was the case and moved on. Just before we were going to leave the museum we – for some reason -went back to see the track once more. Meantime things had changed. Someone had put up a locomotive and some coaches, and not long after a gentleman turned up with a suitcase. Out of this he drew a wonderful locomotive, a tin can, and some tools. Shortly after the man started to shovel small sugar sized coal lumps from the tin can into the firebox of the engine. Soon after he lit it, and put a fan on top of the chimney. We walked silently around watching the process with disbelief. Was he really going to make that small engine run on coal? And was it a REAL steam engine? After two long (but exciting) waiting hours the engine was finally hot and ready and after some initial "condensation runs" a rake of coaches was hooked on. We were both truly amazed by the sound, smell, and power of this locomotive. We now understood that this layout was made for live steam locomotives. The engines were the cardinal point of focus not houses and scenery. This beautiful simplicity of things somehow appealed to us since it was a more "pure" way of running that anything we had ever seen. A fantastic hobby with focus on mechanical aspects. (You have probably already now guessed it: my dad is an engineer)

Years after we discussed where you could get engines of this kind. There were some boxes on display in the museum with some sort of "advanced Meccano kit" (naturally Aster kit on display). But no one (we knew) in Denmark could tell us where to buy these (this was before the internet and Google). Years later we were in London again, but by then the Toy Museum had closed, and so the trail of small steam locomotives died. On my fathers 60th birthday he got a small Gauge 0 live steam Mamod locomotive. Later in 2004 he brought a Aster Mikado and 40 meters of American track. And in 2005 he built the first layout at an unused corner of the garden behind the house. All work was done by himself during a period of 2 months.

In the following year I regularly came by Krogen on the Sundays, and we had much fun running steam trains. Especially two secondhand engines, an Aster Mogul and an Aster Schools which were very rewarding to work with. And we learned a lot from our mistakes (remember G1 in Denmark is very new, so we had no one to ask) - we have had all the usual things:- "track fire", "speeding out of control", "alcohol leaks" "derailments" etc.). But both engines are made to be used and can take a rough handling.

But after 2 years we got fed up with "just running around and around", and we began discussing if we ought to make a real layout. None of us are really "into gardens", and garden work has all my life been some kind of a horrible job. But the hotel has its own garden, so why not use it for something useful? And as we talked over a glass of whisky one late evening, we quickly agreed that a bigger layout would give us a better use



of the garden! My father had by this time joined G1MRA, and we now had something to look at in the quarterly NL&J. Ideas flowered! We discussed the new layout most of that that winter, made several plans, contacted various G1MRA members and in March we had a made our own "Garden Rail Manifest", and a rough layout plan.

KROGEN RAILWAY MANIFESTO

There has to be a circle, where you can start up the engine and trim it securely, before sending it out (on a long journey) to the rest of the track.

Working height in the circle ought to be about 85 cm, so you can easily work/walk with the engine (this was pointed out by fellow member Ulli Holtmann from Germany).

The track must follow the perimeter of the garden, so you don't make a "closed area", and hereby limit your access to areas of the garden.

You should be able to run all kinds of G1 models, hence a minimum radius of 3 meter is required.

You should be able to do manoeuvres on the track. For instance change running direction without interventions like "the hand of God" etc.

The track should be level, or almost to ensure smooth running.

There should be 2 tracks with opposite directions, and since this is continental Europe a right hand design was chosen. No parallel running!

THE LAYOUT

The layout plan shows the present layout, but it will in short time be expanded with a "gradient line" and a startup area with the classic turntable. Moreover 1 cutting, 1 tunnel and 1 or 2 bridges need to be made.

MATERIALS

- 32 boards 9 mm waterproof plywood, all in all about 384 plywood strips (for the 2 laminated side stringers)
- 26 boards 19 mm waterproof plywood (for decking)
- 2 boards 22 mm waterproof plywood (ribs between stringers)
- 25 kg Cascosinol 1711 (glue for the laminate side stringers)
- 111 × 3" × 3" impregnated (ca. 268 meter) vertical posts
- 35 galvanized 3"× 3"× 70 cm steel rods (for reinforcing vertical posts at key spots)
- 5000 pieces 30 × 4 mm Screws (for side stringers)
- 1500 pieces 50 × 5 mm stainless screws (decking)
- 2500 pieces brass nails (for the track)
- 22 litre Flügger wood paint (Stringers)
- 15 litre Hempel epoxypaint (decking)
- 4 litre normal wood glue
- 2 m^3 gravel (for posts)

Extras

- 1 × 25 meter wooden fence (to protect/shield the layout from spectators/children)

Tools etc.:-

- Toolshop with bandsaw and tablesaw
- 75 wood clamps of different seize

Various handtools.

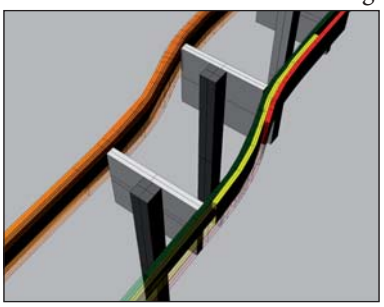
- Leveling device (Leica), spirit level, several straightedges
- Power earth drill
- 1 spring steel 5 × 25 mm × 6 meter (flexible straightedge for putting down track)

Track, points etc.

- 350 meters Peco SL800 code 200
- 19 points, Peco
- 3 Diamond Crossing. Hübner
- 2 Double Slip Points, Marcway
- 2 Custom Radius Curved Points, Marcway

WHAT IS THE DIFFERENCE BETWEEN THE KROGEN LAYOUT AND OTHER LAYOUTS (THAT I KNOW OF)?

One thing: the Krogen layout is one continuous coherent structure. It is not made up of small elements that are joined together at each post. The whole layout is one massive laminate construction measuring 45 × 60 meters. Compare



it to a huge solid table you have put up in your garden! This gives a lot of issues regarding expansion of wood, so a part of the structure is designed with a floating base, and expansion zones, so it moves freely, as temperature and moisture changes. The reason for this approach is that it gives an unusual strong structure (you can walk on it), and it is relatively cheap and not labour intensive compared to many of the other methods previous described here in the NL&J.

THE COST EFFECTIVE DESIGN

To get the most out of our plywood we decided to make a laminate construction. It consists of 2 laminated sides with a plywood topdeck (see 3 D drawing,). No felt is used, since water is easily trapped under the flat surface, and this will cause any wood to rot/deteriorate fast in our humid climate (ask David Leech). So our design has no "water traps". We only have free surfaces where the water can evaporate.

Sides are made from 3 × 9 mm plywood strips that are glued together with a special glue. The plywood is made from normal plywood boards (122 × 244 cm) so you get 12 strips from each sheet of plywood, hence one board gives about 5 meters of track. To ensure a firm hold the sides are held together with screws as well (see photos). There is a long photo list showing the whole building process here:
`http://www.havebane.dk/?Fakta_om_banen:Byggeri_2008-9`

There is one important issue in the process: the glue. We consulted several companies and they all told us that our demands for a glue that could withstand 25 years of Danish weather would not be feasible with the specifications for a normal glue. Even the normal tough "acid hardening types" would give up after 10 years, and epoxy would not have enough penetration, so pockets of water will start the decaying process. All of those we spoke with said at the end of our talk the same thing (with a very low voice): "you have to buy a special kind

Aksel busy constructing the track.

of glue. One that is not used very much by "normal people" any more. You have to order a paraformaldehyde, phenol and resorcinol based glue. Please notice that it is highly carcinogenic and toxic – so please take precautions". We ordered the glue (Cascosinol 1711, made by Akzo Nobel). It is awful to work with, since you have to change gloves every 10 mins but a superb glue! One more important thing about Cascosinol 1711: it contains a fungicide, hence the glued wood is very resistant against fungal attacks (it simply doesn't rot), and since we have used "plenty", when the stringers were put together the surplus ran out through the top and bottom. The top was after treatment totally covered in hardened glue, which was "straightened out" using a metal grinder (it is very hard); thus the end grain has been completely encapsulated in glue. This might give the end grain some protection.

The top deck is cut individually using a small bandsaw.

The good thing about the laminated construction is that it "levels out" errors in curves, so you end up with some very smooth curves. When you glue the first 2 strips together you get an elastic structure, that produces some natural curves, and you can trim the post bearings accordingly. When you add the last strip the structure gets very stiff. We produced about 4-10 metres a day (one side only), but the overlapping structure of the laminate made it easy to continue from where you were last. So the labour required to prepare a working session is quite light.

We have used 2 types of paint. Sides have been painted with a normal outdoor mineral spirits based paint. Hence the water easily runs of the vertical sides, no extreme paint is required here. The top decks is another matter, and here we – tested – the same mineral spirits based paint, and it turned out to be a big disappointment, since the water penetrated the membrane after few days of rain. We therefore decided to use a marine grade Epoxy instead. Please notice that you can buy "marine grade" epoxy paint in the marine stores that is only one component (and that is NOT a real epoxy paint) To ensure you get the right stuff (very unhealthy for sure) you have to order a professional paint. (Here in Denmark those things are banned, unless you have the right certificates, though private "hobbyists" don't need the certificate and are allowed to order!?) I highly recommend Hemples Hempathane Enamel 55109-13 + curing agent 95370. But please use the recommended primer before you start! (see below). The epoxy covers the deck and end grain of the topdeck plywood.

Finally when the decking is laid the track work is quite easy. We made good use of a 6 meter long springy steel rod, that was given 6 spacers and then attached to the outside of the structure.

Then you simply hold your track firmly up against the steel rod, hammer it, and you have a silky-smooth track (see photo). We have had lots of questions regarding the smoothness, and this is the secret

AFTER THOUGHTS

If I had to do anything different today I would focus on 3 issues:-

1) I would have made my radius larger than 3 meters. Go for as large a radius as possible! Your running will be much smoother! (this is always difficult, since it requires a big garden). I have seen Chris Ludlow's beautiful track in Maffliers and big curves are the best (so sad that it now is gone).

2) Priming. We used the wrong primer before the epoxy paint. When we remade the station area (again) last year we used another primer before the epoxy, and this looks to be much more resistant.

3) Plywood. We have used normal waterproof plywood for the whole construction. Today I would have used moulding plywood instead as decking material. There are too big differences in the batches of plywood, and a few sections have errors in the surface.

RUNNING IN DENMARK

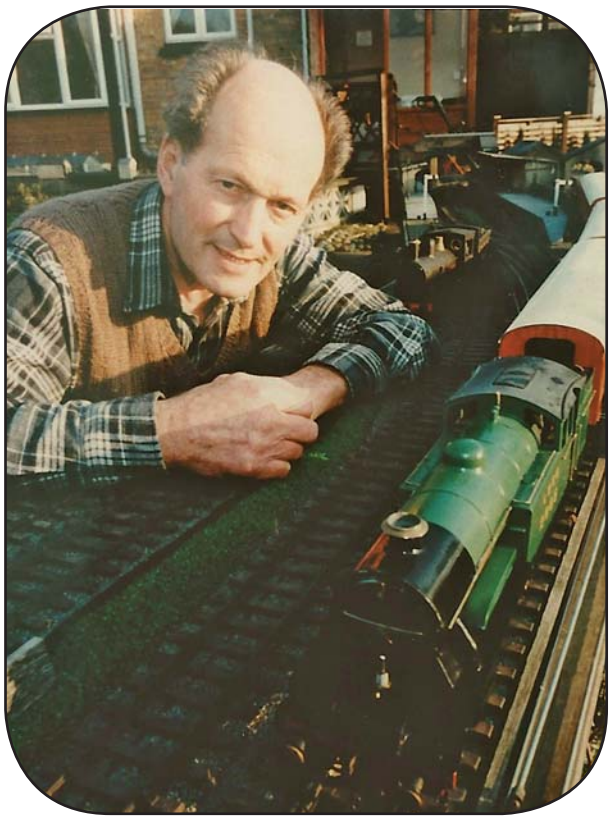
If you are interested in coming by and using the layout, you are very welcome. We are not that many, so new faces are always refreshing. But please send an e-mail to **Krogen@krogen.dk** in advance, since we are not always home.

Please see our invitation to come to Krogen in May (details on page 52)

DAVID GEORGE KEATLEY - 1924-2011

G1MRA Member 557

David began his career at Joseph Lucas where he learnt a lot about car electrics standing him in good stead in later life. He served for a time in the Royal Tank Corps as an electrician. He restored vintage cars as a hobby. For a time he had his own business as an Automobile Electrician. He scratch built a caravan in which he took his wife on their honeymoon. He later built a more refined caravan in which, with his wife Pauline, they drove all the way up to the North Cape of Norway as a retirement holiday. He started work with Adams & Oliver (the Rolls Royce & Bentley specialists in Warboys) in 1961 & worked there until he retired. During his career with them he helped restore many beautiful cars and it was this line of work that gave him first choice on many lovely Rolls Royces. The third one he bought was Gussie, coming in it with his wife to G1MRA meetings.



He also bought and restored a steam road roller and then a diesel road roller. He began railway modelling in 1985 when he retired. Once he had built his track he bought his first loco, desperate to run something. Everything else, locos, rolling stock and scenery was scratch built. Point switching was very efficiently operated from signal boxes. His model church had a recording of his local parish church bells. He had a model working water mill.

Visitors to his line were fascinated by 'Victoria', a model LNER steam rail car; this had the mechanics taken from an old video recorder. 'Victoria' ran on a separate line, battery driven, and worked automatically from one station to another and back again stopping at an intermediate halt for a space. Just before moving off a bell would ring – all controlled by wooden ramps and cams that actuated electro mechanical timers.

Those of us who went to his GTG's were mindful of the bottom end of his line which sank every winter despite his efforts - the downhill effect was interesting! Two years ago, Pauline and he 'downsized' to a bungalow to be near their son. A new line was up and running in no time and like its predecessor opened for public viewing to raise money for their local church and other good causes.

Malcolm Cherry

David's LNER steam railcar.

2010 FALL STEAM UPS IN THE CENTRAL USA

by Ernie Noa

In the hope for warmer weather we get together to "Steam" after Labor Day. Early September we meet at Larry Herget's house in Desoto Missouri. His steam up runs from Friday afternoon until Sunday afternoon (10th to 12th September, 2010). He has an outdoor track 186 feet long and indoor portable track set up in the garage in case of bad weather. This year we had a few inches of rain so the outdoor track was usable but the ground was muddy with foot traffic. Just some background, Larry is the retired former owner of Ozark Miniatures and we continue to see his detail casting on almost any scratch built model railroad item here in the USA. He has a talent for turning out excellent running gauge one locomotives. They are simple and sturdy machines that anyone would want to own. Five G1MRA members were in attended at his steam up— John Garrett, Pete Olson, Wayne Sorenson, John Garrett and Ernie Noa. See photo in NL&J 228.

The ladies also have a great time shopping and socializing.

From left to right: Chris Metz, Mary Gathman, Yolanda Bowyer, Sue Garrett, Carol Herget, and Cindy Noa.

Here is Larry Herget, and Carol his wife.

Also in attendance were Jim Sanders, Skip MacEwen, Al Bowyer, and Leroy McCormack.

The following week end we had a steam up at the Monticello Railroad Museum during their Railroad Days celebration. This year was the augural run of Southern engine #401. Restoration was completed the week before. This was a 15 year endeavor to restore it including a new boiler. The dedication was held on Saturday 18 of September 2010. My

Restored Southern Engine 401. Check there web site http://www.mrym.org/401.html for a pictorial history of the restoration.

Portable layout with decorations

portable track which has three sections with scenery was set up in the car shed. Steve Jarvis a G1MRA member was also in attendance for this even, but unfortunately I do not have a good photo of him.

THE FALL STEAM UP AT THE NOA'S HOUSE OCTOBER 29 TO 31.

Our home is on a country road in Monticello Illinois. Monticello is a small community in Piatt Count between Decatur and Champaign. The twin cities of Champaign and Urbana are the home the University of Illinois. We are lucky to have the Monticello Railway museum just a few miles from our home.

Guests begin arriving on Tuesday the week of the steam up. By Thursday most everyone has arrived in the evening. My dual gauge portable track is set up in the garage. Steamers can run Gauge One and O Gauge trains inside. The track outside has two lines one of which is dual gauge. There is a cross over between the two outside lines with restriction on the outside line to just 1/32 trains. This year the outside RR was upgraded so that the south curve has a wide deck with an extra storage track that starts on the west side straight area.

The weather was very favorable, just a little on the cool side in the mornings, with one morning going down to 25 degrees Fahrenheit (-3.8 C). There is a short walk to the shop and the indoor track from the outdoor track.

The annual highlight is the arrival of Al Bowler in his motor home. It is the size of a full size over the road bus with dual wheels at the rear. There is no place for him to park, since our drive is curved and on a steep incline, so we use the neighbors level gravel drive way which is in a wooded area next to our lot. This maneuver has been done in the dark and in the rain. This year it was a pleasure as Al arrived in the daylight on a sunny day.

We have room for three couples and the rest stay at a local motels or as in the case of Al, bring their own home with them. Some are close enough to stay at home.

Friday: 25 degrees F on Friday in the morning, but by 10 am it was above freezing. There was some difficulty running due to ice on the rails.

Saturday and Sunday were perfect days for running. The mornings were just below freezing with the afternoon temps in the 60s F.

Al Bowler, Pete Olson and John Garret with an Aster Mikado on the outside line.

One of the highlights of the weekend is the locomotives repairs. Bruce Gathman bought four engines that needed a fix. Here is a list of his repairs:

Accucraft Mogul gas jet was cleaned; fixed main packing glands; another Accucraft Mogul had a leak in the steam line in the smoke box. He fixed main packing glands and retimed a round house chassis.

Bruce, with Lou Metz and Richard Snyder in assistance.

Jim Sanders also came ready to do some repairs. He changed a Sandy River from a Futaba radio to Spectrum and set up its operation. He re-strung a die cast shovel that had all the cable rigging messed up by the house cleaners. Then we re-machined the throttle needle in order to get it to close off properly in a Ruby; A C-19 Accucraft transfer crank through the frame was loose and affecting the valve timing. Jim tightened that up and it ran smoothly.

The highlight of the weekend was the running of Pete Olson's steam powered ditcher. Links to this video are at **http://www.youtube.com/watch?v=mVej9CEJ220&feature=feedu** and **http://www.youtube.com/watch?v=luWkX4xVKSg&feature=feedu**

We had 34 attendees plus family friends; boiled 13.5 gallons of distilled water and on the last day we made a crank handle for a drill press.

You can see some videos, by going to my YouTube channel Ernietrainz.

HOW TO BEAT THE WINTER BLUES (& HOPE SHE DOESN'T FIND OUT!) OR DON'T CROSS THE COUNTY BORDER

by John Lovell

After receiving a dividend of around 1.5% on my hard-earned savings, having a complete knee replacement, being on the wrong side of 70 and suffering a terrible cold, dull winter, I felt time was fast running out - I needed cheering up!

Our new editor, Bill Read, sent me an e-mail 'ordering' - sorry, 'requesting' help in producing the next NL&J by way of an article (The team must really have been scraping the barrel).

My G1MRA group is the South East Essex Group, which Cliff Barker formed about ten years ago. In past winters we have only missed one or two of our weekly meetings that we hold at my place or at Cliff's. This winter we have met for a chat but not steamed locos and I have spent too much time looking at websites - after having the knee replacement you're not supposed to stand, sit or lay about so the workshop was out.

It was in this period that I saw a rather nice LMS Jubilee for sale in darkest Norfolk. The problem was finding the excuse to go missing for 4-5 hours with the car.

The problem was solved when we were invited to run 16mm/O Gauge at another member's house instead of at Cliff's or my place. So by co-opting Roger Pickford as my Satnav we escaped from Essex and crossed the border to deepest Norfolk, well, just east of the A14. I'm sure we hardly touched an 'A' road, but Roger cut the Google mileage down by about 15 miles with an ETA not much more than the predicted time.

We were looking for a barn and found it disguised as a house! We inspected the loco, plus a nice coal-fired green one (albeit LNER - but I do have some teaks for it!!)

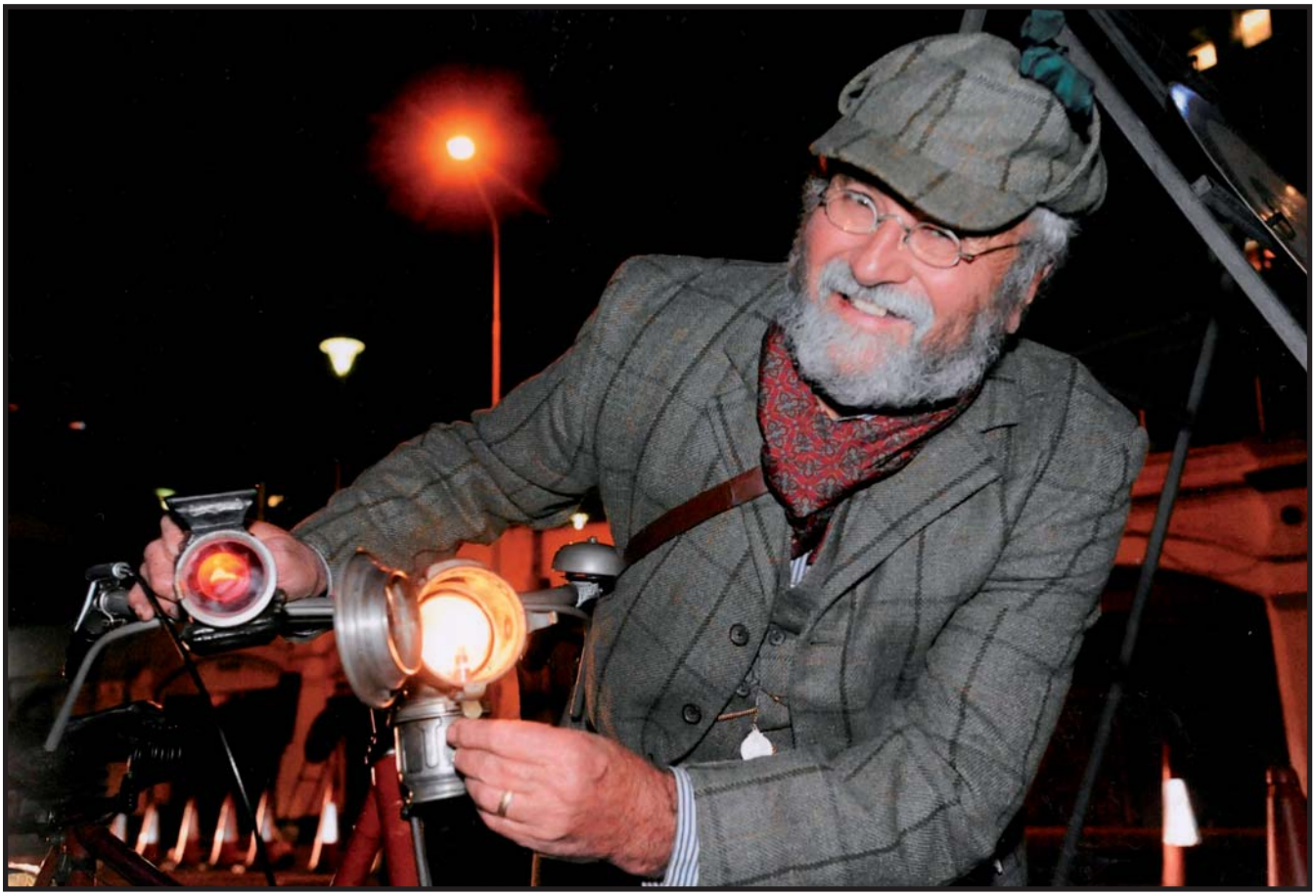
The day was very windy, wet and cold. Also, the garden was a bit muddy so we retired to the village pub for a lunch and a pint before returning to Essex before my passport expired. Knowing the vendor I tested the locos two days later on my track and they were perfect!

Having bought two more engines the problem arises as to where to store them. I'm told that a North London MES member stores his locos behind the bath panel (She'll never look there!). Anyway, I managed to sell two of my other locos - problem solved.

So long as I stick to Black-Red or Green engines I can get away from the 'all seeing eye' - "No Dear, it's not a new loco, I've just put some more wheels on it and fitted a smoke unit".

Cliff likes to call our Group the S.A.D.M.E.N. which is something to do with the Somerset & Dorset. We are not all Sadmen around here - just in the winter. I am a Midland/LMS man, apart from the one Green LNER one.

Come on, write an article or letter - it's your NL&J and it makes the Editor's job a lot easier!



'Lighting the Way' or What to do when its too dark to run the railway - or as my wife says "It's not a hobby, but an obsession!!" Note the acetylene & oil lamp. The locos have five - am I turning into a pyromaniac??

LORNA DOONE – A RADIO CONTROLLED BATTERY ELECTRIC GWR 4-2-2 LOCOMOTIVE

by Dick Comber

THE ORIGINAL

Apart from being a romantic fictional character Lorna Doone was an elegant GWR express 4-2-2 locomotive, number 3047 of the 3001 class, built in 1894-5. These locomotives were very successful for a while but eventually gave way to four coupled locos when trains became too heavy for them.

PHOTOGRAPHS AND DRAWINGS

There are photographs of locomotives of this class in numerous books, especially those by Fryer and Williams (see the references). Madame Tussauds had a full sized model of No. 3041 "The Queen" made for exhibition at Windsor (GWR) station and there are photos of it on the internet (from Greywall). Tony Hall-Patch took some photos of the loco in 2007, apparently after it had been repainted. There are drawings of this class of loco in J.H. Russell's and F.J. Roche's books. Roche's drawing of No. 3009 has under-slung springs on the loco's trailing wheels but Maskelyne's drawing of Lorna Doone in Russell's book shows over-hung springs, and this was enlarged to 10mm scale. Roche's book has more drawings of the tender. Nigel Digby had a coloured drawing of 3035 "Beaufort" in the magazine British Railway Modelling.

Tony Hall-Patch has a live steam G1 model of "Achilles". There was a monochrome photograph of it in NL&J issue 200 and a colour photograph of the re-painted loco in NL&J issue 220.

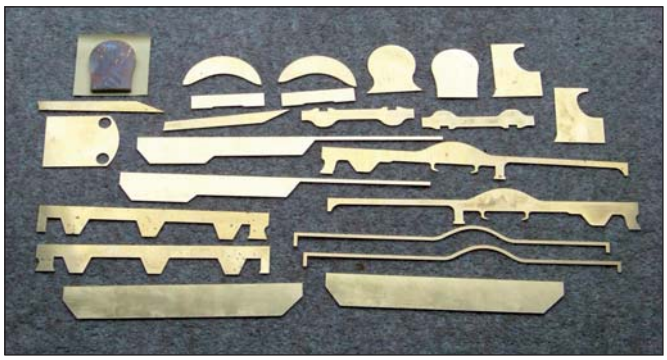
THE MODEL

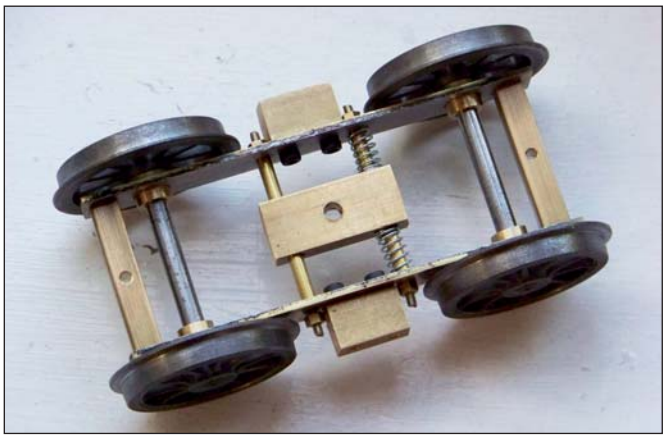
A set of wheel castings with reduced size bogie wheels (to avoid fouling) came from Mark Wood. These were machined by Walsall Model Industries (WMI). Some members will be familiar with the Triang / Hornby 4mm scale model of Lord of the Isles or more recently Lorna Doone and others which have part of the frame cut away to prevent the bogie wheels from fouling it.

From hand drawings, Sciss Ltd. cut numerous pieces of brass sheet by water jet. Some were 0.5mm thick, some 1.0mm and one was 5mm thick. Unfortunately, more recently Sciss have asked for CAD drawings which leaves us CAD illiterates with a problem.

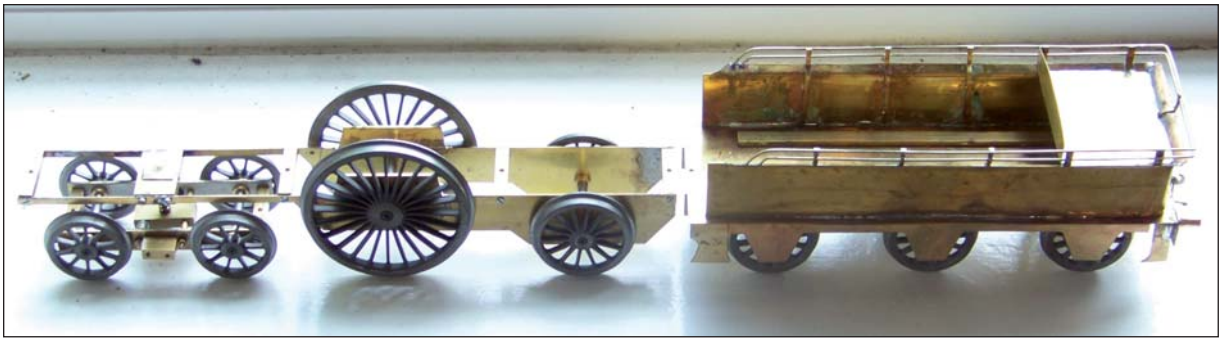
THE LOCO CHASSIS

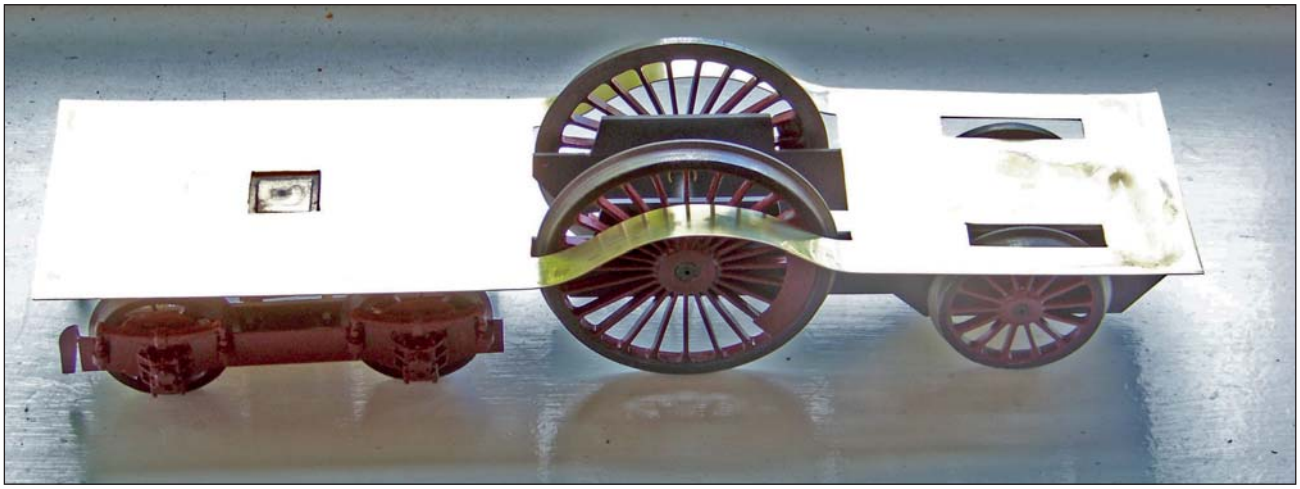
The bogie was based on the Dee bogie, so there is no need for its construction to be described except that it has dummy outside frames mounted on brass blocks. These blocks are held to the frame with socket screws so that they can be tightened from the inside where a normal screwdriver would be inaccessible.





Brass axleguards from WMI and guard irons cut from thin brass were soldered to the outer bogie frame. The bogie was painted at this stage because much of it would be inaccessible after final assembly. For the main frame two pieces of 1mm thick brass cut by Sciss were temporarily soldered together and holes were drilled for the wheel bearings and WMI frame spacers. The driving wheels are on a ¼" axle and all the other wheels are on 3/16" axles. Thin brass dummy driving wheel balance weights had





dummy rivets raised using a Graskop riveting machine and they were glued to the wheels with epoxy.

A brass block was screwed and soldered between the inner frames for the bogie. An M4 screw goes up through a central hole in the bogie into an M4 nut soldered to the underside of the block, and a piece of brass soldered on the top of the hole limits the screw's travel. There is a spring on the screw, and later a brass tubing sleeve was fitted on it. The inner frames were primed and spray painted satin black and the wheels were painted Indian Red (Railmatch) except for the rims which were painted black.

The running plate was cut from a piece of 24 s.w.g brass which came from Just the Ticket. It rises 14mm at the position of the driving wheel. Pieces were cut out to accommodate the square piece for the bogie, the driving wheels, motor and trailing wheels. Putting the curve in the running plate was easier than expected. When the valances were soldered to the plate it was a case of clamp a bit, solder the clamped bit, let it cool, clamp the next bit and so on. There are 4mm wide strips on the outside of the main valances which follow the shape, and these were soldered to the valances.

The flat heads of three countersunk brass screws were soldered to the underside of the running plate and the screws go through the holes in the chassis spacers. Nuts on the screws hold the running plate to the chassis.

THE LOCO BODY

Neil Butcher kindly rolled up a boiler from brass sheet and a firebox was shaped from 0.5mm thick nickel silver sheet; the 5mm thick piece of brass cut by Sciss was trimmed to clear the motor and ended up as a "U" shape with the inside curve to fit the boiler. It was screwed to another piece of brass that fits inside the front of the firebox. The boiler and firebox were then joined using this intermediate piece.

The boiler/smokebox/firebox unit was fixed to the running plate after the splashers had been made. Parts of the boiler and firebox that would be behind the splashers had to be removed to clear the driving wheels, and this required accuracy. Paper was glued to the boiler and firebox and lines were drawn on the paper to mark the cutting limits. Repeatedly removing a little metal and checking meant that too much was not removed. This procedure can be compared with Markus Neeser's description of removing material for a 4-2-2 model in NL&J issue 225. Although Lorna Doone is an electric model overscale wheel thicknesses are still a problem!

The smokebox consists of a piece of 1⅞" copper tube which was squared off by putting masking tape accurately on the ends and sanding them down using a sanding disc in an electric drill in a vice. It was then soldered over the front of the boiler. The front smokebox plate was fitted and a second vertical plate was soldered underneath the rear of the smokebox; both curve outwards at the bottom. A metal sheet was soldered to the outside of the smokebox; this extends down to the running plate, matching that curve.

The tops of the splashers were fitted. There are shiny brass strips around the edges of the splashers at both the top and the bottom. These were represented by pieces of round brass rod. There is also a shiny brass strip round the boiler where it joins the smokebox and this was represented in the same way.

The vertical pieces of the cab were fitted. The front of the cab curves forwards at the bottom so the cab sides also have this curve. A roof was cut from nickel silver sheet, curved and soldered to the upright parts and a rain strip was fitted.

The buffer beam had holes drilled for the buffers (Sciss should have been asked to cut the holes!) and an elongated hole was made for the coupling. The front frame spacer prevents the coupling from being sprung so the coupling was cut short and soldered to the beam. Pieces of brass were bent up and fitted in the cab over the trailing wheels. Sandboxes made up from brass sheet sit on 3mm thick plates which have tapered edges. Handles were fitted on the tops and the boxes were soldered to the running plate with low temperature solder.

The cab handrails were fitted, strips of brass going round the cab edges. A vacuum pipe was made from brass rod wrapped round with 24 swg tinned copper wire and the two spectacle rings

(made by Neil) were soldered to the front of the cab.

Neil made a superb shiny brass dome which fits on to a short piece of ½" K&S brass tubing soldered to the boiler. The dome has a tapped 8BA hole in the top and a piece of 2mm diameter brass rod with a thread cut on it was shaped to form a little "bump".

The Maskelyne drawing does not show any clack valves with associated pipes. Tony Hall Patch's model of Achilles does not have any. Photographs of other locos of the same class show different arrangements, so it is not clear what No. 3047 had. The Historical Model Railway Society (HMRS) could not be sure but pointed out that some locos had them re-positioned to underneath the boiler.

For the driving and trailing wheel springs brass axleguards from WMI were trimmed as necessary. Dummy whistles were made from 3mm diameter brass rod using an electric drill as a poor man's substitute for a lathe. 1mm holes for tapping 12BA were drilled in them. They screw on to rods with threaded ends and the rods were soldered to a little brass block that in turn was soldered to the cab. The safety valve bonnet, made by WMI, had a piece of brass rod soldered into the hole in the middle and this had four pieces of rod soldered into its top to represent the tops of the safety valves. A 6BA screw holds the bonnet on to the firebox.

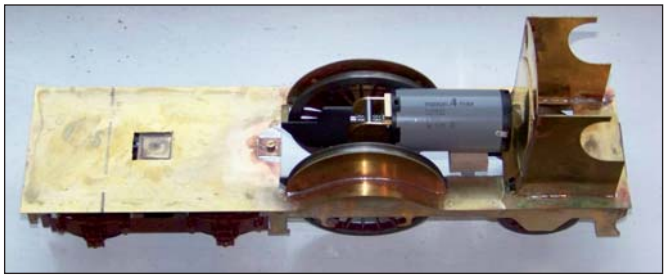
The white metal smokebox door was primed and a piece of nickel silver wire was glued round the perimeter. The white metal chimney (from WMI) was glued in position with epoxy. A reversing handle was made up using threaded rods and was fitted so the handle itself is in the correct position. Three lamp brackets were soldered to the front of the running plate and one was fitted on the top of the front of the smokebox.

A fall plate was made using chequer plate from Metalsmith with thin brass tubing and nickel silver wire for the hinge.

TENDER

The two pieces of brass for the inner frame were trimmed because they extended downwards too much between the wheels. Pieces were sawn off and the edges were filed smooth. This was another example of having to do something that could have been done by Sciss – not enough advance thinking! They were then soldered together and a paper pattern was glued on them. Holes were drilled for the bearings (8mm) and the frame spacers (2.4mm) and the holes for the frame spacers were countersunk using a 4mm drill.

The tender's running plate was cut from 24 s.w.g brass sheet and slots were cut in it to accommodate the wheel flanges. Pieces of brass "U" channel were soldered over the slots. The running plate was screwed to the two end frame spacers. Since the tender has rounded rear corners the sides and back were made from one long piece of brass sheet, and before it was folded the four handrail holes were drilled in the rear corners. After folding, the piece was soldered to the running plate. A curved piece cut from brass tubing was soldered to the back, making the flared piece.



The tender requires a flat plate over the rear part behind the coal section and there is a vertical plate with a curved top which (in the original) prevents coal from getting on to the rear section. One piece of brass with a right angled bend did both jobs. Again being wise after the event Sciss could have cut this piece and it could have included the flared piece.

The coal rails were then fitted around the top of the body using 0.048" diameter nickel silver wire.

The outer frames which carry the dummy axleboxes were cut by Sciss, but these included the vertical parts of the front and rear steps, which are actually further from the centre than the outer frames. (Yet another mistake in the original Sciss order!) The steps were cut off, and the outer frames were soldered to the body. Later the steps were soldered in the correct positions.

The buffer beam with its vacuum pipe was made in the same way as for the loco. The water filler consists of a 15mm high "box" with a rounded back end; this was made up from brass sheet and soldered in place. Steps were soldered on to each side and the rear vertical handrails were fitted. Half round beading was applied along the top edge of the tender. The brake standard was soldered in place after drilling a hole for it. White metal axleguards were glued on to the outer tender frames with epoxy. A hole was made in the floor of the tender towards the front to allow a BEC plug to come up through it.

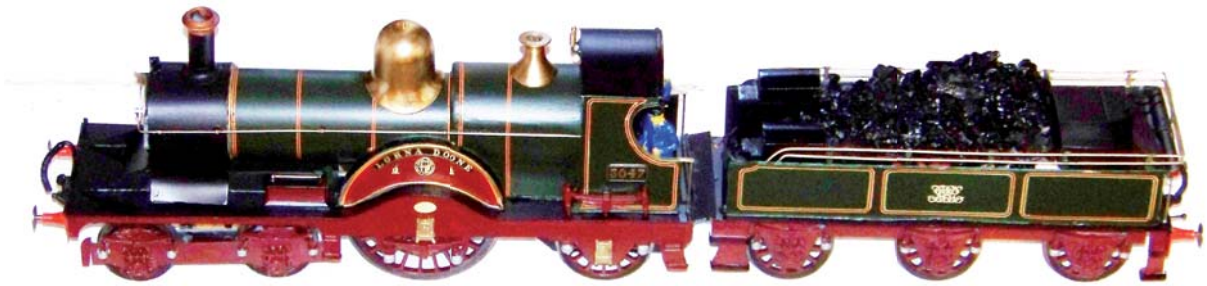
An insert with a coal load on top was made from plywood to cover the speed controller and receiver and two toolboxes were made from wood.

Small pieces of brass together with 6 and 8BA screws were used to couple the tender to the loco.

PAINTING AND DECORATING

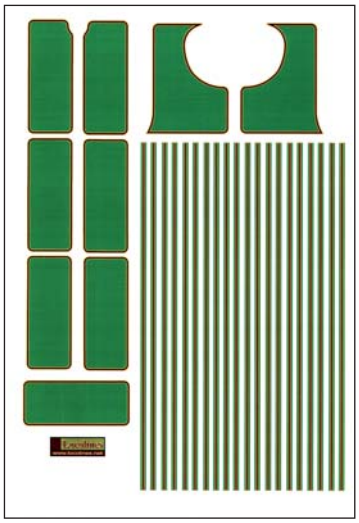
The wheels and parts of the frames were painted before they became inaccessible. The bodywork was cleaned with white spirit and subsequently handled with gloves. All the parts that were not due to be painted were masked with tape and sprayed with Halfords grey aerosol primer. Then after more masking Halfords satin black and Railmatch GWR green aerosol paints were sprayed on. But Indian Red (Railmatch) and copper and silver (Humbrol) parts had to be brush painted.

There is much doubt about the correct colours and lining, which must have changed during the life of the loco. Information in the Historical Model Railway Society's second edition of "The Great Western Way" is probably the nearest one can get. The book by Williams has several monochrome photographs of these locos, but none shows any single orange lining below the running plate, either because they were no longer there when the photographs were taken or because the type of film used did not show them. At the same time there were hints in several of the photos that the orange lines at the tops of the splashers were present. The Tussaud's 1:1 model apparently did not at first have the fine lining which seems to have appeared after a re-paint. These lines are so narrow that in 10mm scale they would be 0.1mm wide. At least for the time being the single orange lines were not applied, except at the tops of the driving wheel splashers, where wider



lines appeared to be present, and 0.5mm Trimline was used there. The HMRS book suggests that the framing below the running plate, although originally Indian (or some other) red was later painted black.

Locolines produced a set of waterslide transfers for the lining. The lining transfers for the tender and cab sides had solid green centres which were not quite the right colour so they were carefully cut out using a new scalpel blade, a metal ruler and a cutting board. Again, as claimed by Locolines, the transfers are fortunately surprisingly tough when wet – they needed to be! When dry, some of the cab-side transfers lifted in places but were re-fixed with PVA. DJB Engineering supplied the GWR Insignia transfers for the tender and these were applied and varnished with water-based B&Q acrylic varnish. Front buffer beam numbers came from Fox transfers.



Guilplates supplied excellent name, number and works plates and the insignia on the splashers. These were glued in place with epoxy. A driver and fireman (from Neil Butcher) were painted and glued to the footplate with epoxy. The loco and the tender were sprayed with two coats of Railmatch satin varnish.

The buffers were fitted after all the painting had been done, and the buffer nuts were fixed with Nutlock. A dummy lamp was fitted to the top of the smokebox front using a squashed metal tube to go over the bracket.

ELECTRICS

The motor (20 watt)/gearbox unit came from ABC Gearboxes. It rests on a piece of wood screwed to the adjacent chassis spacer and flex from it goes up through a hole in the floor of the tender. A brass tube glued underneath the chassis carries the flex from the motor to the tender. A battery consisting of 8 AA Eneloop NiMH cells had a 3 amp overload cut-out fitted. A 2.4GHz receiver and an Mtroniks Viperloco speed controller fit in the tender underneath the coal.

ON THE TRACK

On its first outing the driving wheels slipped on some parts of the track and the loco would only pull one coach, so back in the workshop lead was added in the region of the driving wheels and ⅛" was removed from the vertical bogie spring. On its second outing the loco pulled a clerestory bogie coach and two four wheeled coaches but the loco's bogie came off the track more than once. Also, some of the time the leading tender wheels were being lifted off the track. Back in the workshop the vertical bogie bolt was changed for one that was ⅛" or so longer and a new long spring was fitted and the part of the loco/tender coupling that was on the loco was lowered by approximately 2mm so that the leading tender wheels were no longer being lifted. On its third outing the driving wheels were again not gripping the rails, but this time the bogie was intermittently lifting the driving wheels. It was then realised that the centre brass bogie plate was frequently catching on the threads of the bolt so back in the workshop a brass tubing sleeve was fitted over the bolt and the hole in the bogie plate was enlarged to accommodate the sleeve. On a short piece of track in the workshop the bogie spring was again lifting the driving wheels so a shorter one was fitted. On the fourth outing the bogie again left the track, and this was put down to the bogie bolt possibly not being quite long enough. However, the running plate was seen to be higher at the front than the back (I don't know how I managed to do that!) and it was necessary to know exactly by how much so the amount by which the trailing wheels' bearings would have to be lowered could be calculated. In the workshop with the body removed the top of the chassis was 48mm above rail height at the front but only 42mm above rail height at the back. From the centre of the driving wheels to the front of the chassis is 173mm, and the distance between the centre of the driving and trailing wheels is 91.5mm. So the trailing wheels' bearings would have to be lowered by 3 × 91.5/173mm = 1.6mm. The limits of the holes to be enlarged were marked with masking tape and the holes were elongated downwards by filing and the first side showed a drop of 1.63mm. The second side showed a drop of 1.60mm. The bearings were then soldered in their new positions. The main bogie bolt was replaced with a slightly longer one. It seemed that the length of the spring was critical – very slightly too long and the driving wheels were lifted off the track, seriously reducing adhesion. On its next outing Lorna behaved very well, but like the originals she will not pull a long train.

CONCLUSIONS

Although the model looks very pretty in photographs, there are several things not quite right with it. After all, it was made (except for the dome and safety valve cover) by an amateur. As building progressed a list of things was complied that would have been different had more forethought been used. In particular many of the parts cut by Sciss Ltd. would have been different, but what a good job they did!

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Locolines (Transfers) - www.locolines.net - tel: 07881 488272 roy@locolines.net

SUCTION FAN BLADES – DESIGN AND SENSE OF ROTATION

by Michael Füg

This article was inspired by a discussion on the G1MRA Yahoo group. Spirit fired locomotives require a draft, which is usually provided by an electrically powered suction fan during start-up. There are three basic types of suction fan blades (see fig 1): straight [a], backward inclined forward curved [b], and forward inclined backward curved [c].

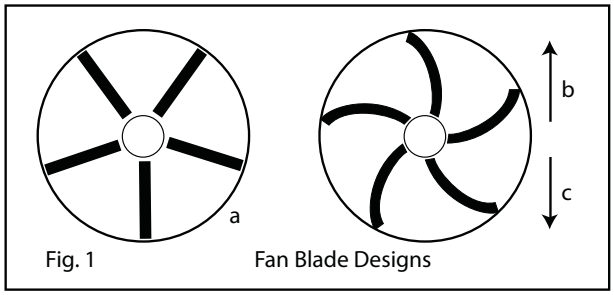


Fig. 1 Fan Blade Designs

Obviously, by simply reversing the sense of rotation a forward curved blade becomes a backward curved one, and vice versa.

Straight blades are popular with homemade suction fans because they are easy to manufacture. More sophisticated designs from companies like Aster or Accucraft feature curved blades.

The key question now is: what is the proper sense of rotation? It doesn't matter with straight blades, but what about the curved ones?

Industrial fans seem to be made with any conceivable combination of fan blade design and direction of rotation (each for a special field of application), so this doesn't help much.

When the question finally came up on the Yahoo group, I decided to make my own tests.

Since I once used to work as an instrumentation engineer, I have collected quite some measuring instruments over the years. One of them is a surplus differential pressure gauge from an industrial air filter unit with a very low range of 5 hPa (Pa = Pascal, 1 hPa =100 Pa = 1 mbar = 0,015 psi). By attaching the 'minus' chamber to my suction fan (photo 3), I would be able to measure the pressure drop against ambient pressure which constitutes a slight vacuum. The bigger the drop the more suction or draft the fan creates. However, it is not the vacuum that makes the fire roar, but the ensuing air flow through the firebox. I was also interested in how the air would react to the vacuum, so eventually I ended up by


Photo 1


Photo 2

building a makeshift wind tunnel (see photo 1): a yachtsman's anemometer (intended to measure wind force) is sandwiched between two plastic tubes (remains from a household vacuum cleaner, see photo 2). The tunnel is covered with cardboard at one end; a hole punched into the cardboard provides a snug fit for the fan. A piece of aluminum profile serves as a sturdy backbone. Silicone sealant and self-adhesive tape hold everything together.

The "contestants" were the three fans I happen to own (see photo 3, from left to right):

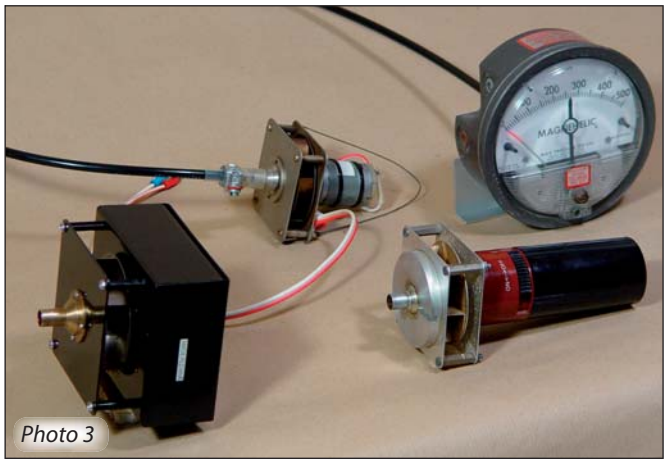


Photo 3

a. an Accucraft fan, that came with this manufacturer's GS4 model, and runs on 2 D cells,
b. an early Aster model, that I once "upgraded" with a 12V motor to be able to power it from a controller of an obsolete HO train set,
c. a home made device with straight blades that started its life as a barbecue blower; power is provided by a single D cell.

So, my only 'off-the-shelf' model was the Accucraft fan. Interestingly, as delivered it was wired so the concave sides of the blades were in front [b]. To be able to reverse directions, I replaced the on/off switch with a DPDT- switch.

OBJECTIVE OF MY TESTS - I WANTED TO FIND OUT:

What's the difference between running the fan blades with the convex sides in front or the concave sides in front?

How does the vacuum translate into air flow?

TEST CONDITIONS:

The fans were connected alternatingly to the pressure gauge and the wind tunnel.

The test results are listed in the chart.

Pressure drop is shown in hPa, air flow is represented by air velocity in m/s.

"Home made" denotes my scratchbuilt fan with straight blades [a].

"Aster1" denotes the Aster fan running at a voltage level I normally apply when heating up a loco.

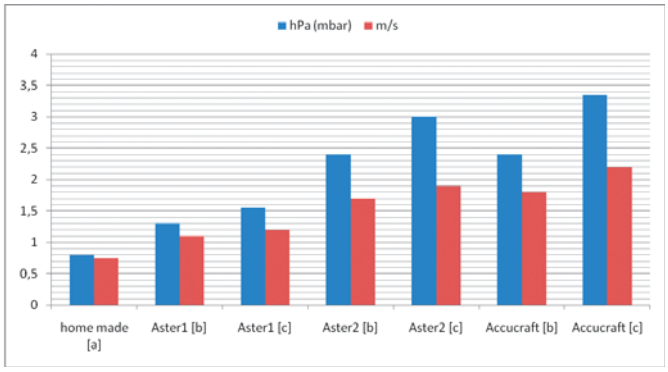
"Aster2" denotes the Aster fan running at a higher voltage to deliver the same suction as the "off-the shelf"-Accucraft model.

Index [b] denotes a sense of rotation where the concave side is in front, while index [c] denotes a sense of rotation where the convex side is in front (refer to fig. 1).

CONCLUSION 1:

Curved blades work more efficiently when they rotate so the convex side is in front – test results for [c] were always higher than the ones for [b].

19% - 39% more pressure drop is created and the ensuing air flow is increased by 9%- 22%. Neglecting the finer details of gas dynamics, the air flow should roughly be proportional to the square root of the pressure drop. Taking into account the crudeness of my set-up and some measurement errors



(the anemometer is a cheap device operating at its lower limit), the results nevertheless show the basic physics behind.

CONCLUSION 2:

That much draft is not compulsory (maybe for really big boilers).

While my simple home made fan was bottom of the league, it has never failed to successfully heat up locos up to mid-size class like e.g. a LNER A3 or a USRA Mikado. The same holds true for my Aster fan, which I normally operate at voltage levels much lower than the ones used here for the comparison with the Accucraft model.

With too much draft I once managed to suck the fire out of the small firebox of my Stirling Single!

ARMIG - NEW from G1MRA BOOKS

A scale working live steam model in Gauge 1 that involves little engineering and is very simple to run. Up to now our traditional approach has been from the angle of the model engineer and, although this has been included, the primary aim of ARMIG is to encourage the 'starter' with limited facilities and time.

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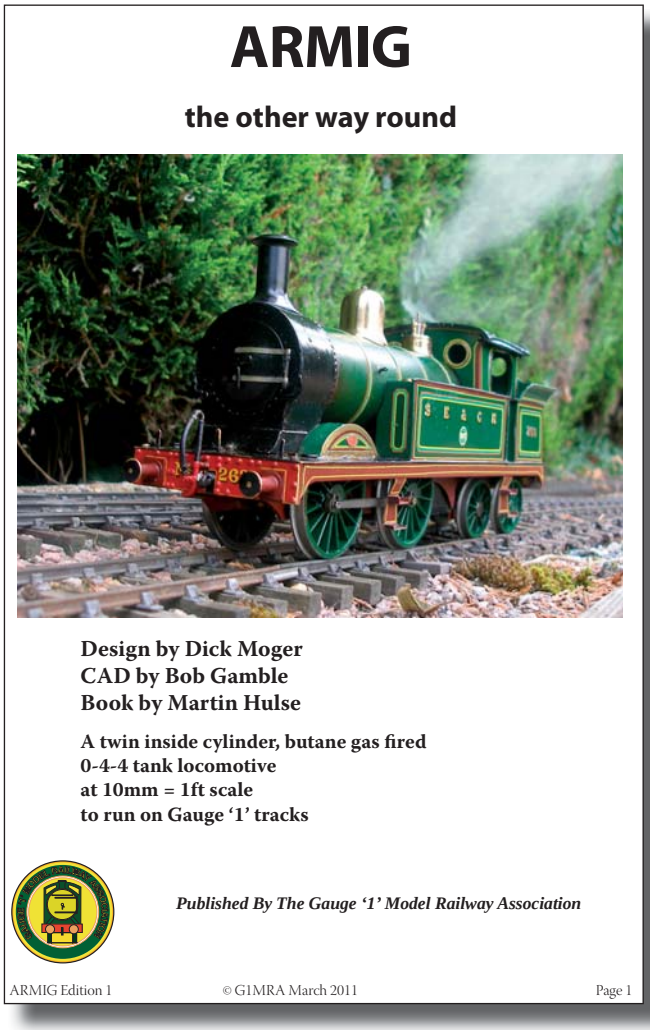


G1MRCo BRITANNIA AUTOMATIC DRAWBAR COUPLING PIN.

by Paul C East

I have really enjoyed the experience of ordering and receiving my G1M Britannia. It is a superb locomotive and a pleasure to own. Coming from the larger gauges (I am currently building a 5 inch gauge A4) I can appreciate the engineering that has go into this design. I have been a G1MRA member for many years but now my local model engineering club, the Chichester & District Society of Model Engineers, has a large new table top railway with 32mm and 45mm track I have been tempted into running a G1 locomotive. However my fingers don't seem to scale down to fit in a G1 cab and I find it a bit of a fiddle in the confines of the compact Britannia cab to fit the drawbar pin through the cab floor. To this end I have made a new automatic drawbar coupling pin that can be pushed up from under the tender to release the loco drawbar. It is equally easy to couple up to the loco by pushing up the pin and inserting the drawbar in the slot on the front of the tender, the button is gently released and with a small movement of the loco the pin can be seen through the cab floor to drop down with a little audible click as it goes through the drawbar hole.

Six parts are required to replace the existing pin:

3mm dia.× ⅝ inch steel pin (⅛ inch dia. can be used but check it is an easy fit in the drawbar.)

1/32 inch thick brass ⅜ x 1 ¼ inches.

A 5BA screw (overall length ⅝ inch including hex head).

5BA nut

Two 3mm diameter extension springs (5mm long when relaxed, excluding hooks on each end) from approx 0.3mm spring wire (12 thou).

The springs have to be small and flexible; they can be cut from longer springs by snipping off the required 5mm and turning the last coil through 90Deg. to stand upright from each end of the coil. (An extension spring is opposite to a compression spring and it resists being stretched.)

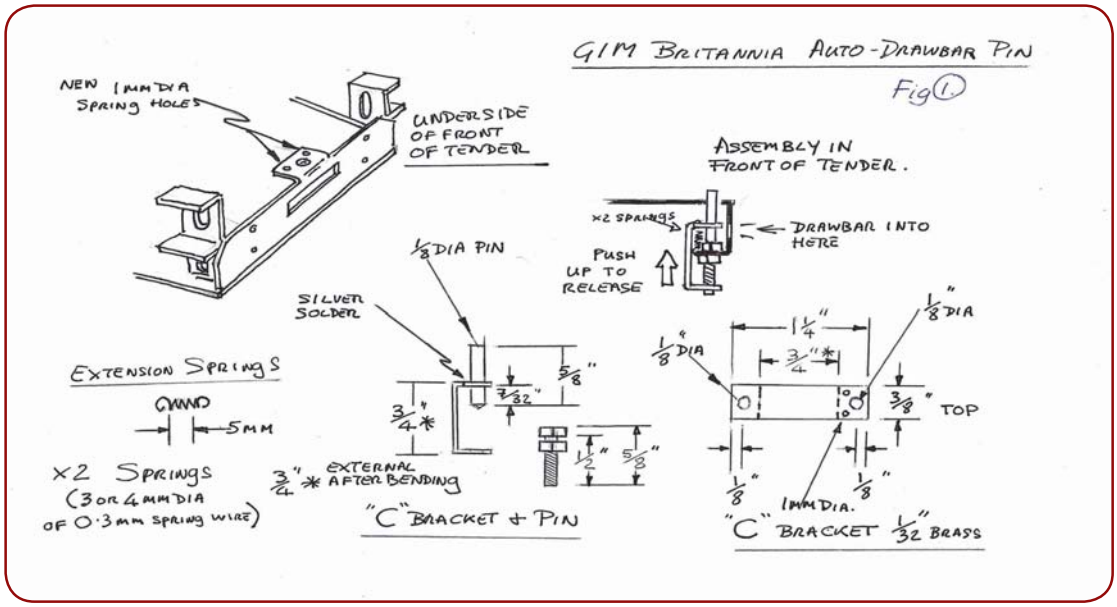
The automatic drawbar coupling pin relies on a ⅝" long 3mm dia.pin inserted from beneath the tender into the existing ⅛" dia. hole in the tender floor. This pin is attached using silver solder to a "C" shaped brass bracket that has its lower end guided by a 5BA bolt beneath the tender. (See figure 1.)

Under the tender front buffer-beam is an existing small bracket that is designed to take the lower end of the original drawbar pin. With the tender held upside-down drill two 1mm holes, one in each rear corner of this bracket behind the ⅛" hole. These 1mm holes take the lower ends of the two springs. The upper ends of the springs are attached to similar holes in the top of the "C" shaped brass bracket. In operation push your forefinger under the tender in front of the tender steps and locate the bottom of the "C" shaped bracket just above the flexible meths pipe to the burner. Press upwards and release the drawbar.

To make this device the brass bracket is first cut to ⅜ x 1¼inches and drilled while still flat with two ⅛" holes(top hole 3mm if 3mm pin used) and two 1mm holes as shown in figure 1. The bracket is then bent to a "C" shape so that the outer dimension across the open "C" is 0.75". The two larger holes should be checked for alignment by threading onto a suitable rod and the bracket should slide freely. This bracket is then silver soldered onto the ⅝" long ⅛" (3mm dia.) pin. Note 7/32" of the pin protrudes below the mouth of the "C" like an upper tooth in your mouth. Assemble the two springs onto the top of the "C" bracket so they hang down each side of the bracket using the 1mm holes. Insert the 5BA bolt into the existing bracket under the tender buffer-beam and loosely

Coupling pin open.

Coupling pin closed.



thread the 5BA nut on one or two turns. Insert the outer end of the ⅛" (3mm dia.) pin above the "C" bracket into the drawbar pin hole in the tender floor. This operation is carried out from under the tender floor. Pull the "C" bracket down and thread its lower hole onto the threaded end of the loose 5BA nut & bolt below the tender bracket. Tighten the 5BA nut until the whole "C" bracket will slide up and down on the pin in the tender floor and the 5BA bolt. Assemble the two lower ends of the springs onto the two 1mm holes made in the original tender bracket using long nose pliers. Gently push the bottom of the "C" bracket up with your fingers and ensure the drawbar can be captured and released by the newly made automatic coupling pin. All should work smoothly and the drawbar must not break free until the "C" bracket is pressed upwards. Also ensure the "C" bracket can never reach the end of the 5BA bolt and fall off it. Close the mouth of the "C" bracket up if this happens.

If you have a lathe you can refine the design a little by putting a blunt point on the bottom end of the ⅝" long pin and a dimple in the top of the 5BA hex headed bolt for the pin to centralize in. The dimple can be made using a Slocombe centre drill. Don't overdo this as the point can get in the way of the drawbar when you insert it into the tender.

This device can easily be used on other locomotives with poor access to the drawbar pin but the dimensions may have to be changed. The two pictures show a mock-up of the device on a false tender front in the open and closed position. In addition to this modification on my Britannia I have replaced the drawbar with one that is 3/16" (4.75mm) longer to enable it to negotiate smaller radius reverse curves such as found on points or turnouts. (The automatic drawbar coupling pin will work with the existing drawbar however). The Britannia can now handle 8ft radius (2.4m rad.) curves with ease. I found removing the drawbar from the locomotive to replace it with a longer one was difficult. I suspected that some form of Loctite was used on the bolt on the locomotive. Rather than snap the bolt with excessive force a small flame such as from a cigarette lighter or mini torch was used to cook the head of the bolt with the engine on one side and after cooling the bolt unscrewed easily. A spot of Loctite (Nutlock this time) can be used to ensure the bolt does not loosen in the future. Ensure a little oil is put back on the spring on the drawbar at the loco end, or replace the spring if the temper in it has been lost during this heating activity. You can also sparingly lubricate the new auto coupling pin and springs in the tender. If you lengthen the drawbar the high pressure black flexible hose connection may need to be longer. This can be done with a longer copper pipe under the tender, a longer flexible hose or more simply by making a longer brass nipple to replace the existing one that connects to the loco. Having a lathe I chose the latter and made a new nipple 5mm longer than the original one. The pipe clamp can be carefully prised open with a small bradawl or screwdriver to remove the old nipple. Put the original hex nut over the new nipple and push it back into the flexible pipe, leave 5mm extra protruding from the flexible pipe. Re-clamp the pipe clip with pincer type pliers to restore its original shape. The two clear plastic tubes can be eased off their respective pipes at both ends just enough to make an allowance for the extra distance between the loco and tender or new 5mm longer plastic soft walled fuel pipe can be used. I now no longer dread uncoupling the loco from the tender when this activity is needed as coupling up is easy.

Heading for Bournemouth West. Bill Read's photo of his Class 5 'Elaine' piloting Bulleid 'Fighter Pilot'at John Judson's Get-Together last summer.

FIRE AT THE WHITE HORSE WORKS

Or 10,000 reasons for unplugging a 100w soldering iron at night.

by Peter Spoerer

It is all Dave Walker's fault really, but that is another story.

FIRE!

I was awoken early one cold November morning by a phone call from a neighbour, "Is smoke suppose to be coming from your workshop?". I moved faster than Superman down to my workshop to see smoke streaming out from the top of the main doorway. The door opened to reveal a wall of billowing dark grey acrid smoke. Almost instantly the tool cupboards at the back of the workshop burst into flames; I had just fed the fire with oxygen by opening the door! I realised I only had seconds to save my workshop. I grabbed a CO2 fire extinguisher and gave a long cool blast at the heart of the flames. The fire went out, only to break out again as soon as I took my hand off the trigger! I ran outside, grabbed a bucket, and dunked it into a water butt, and successfully put the fire out ten bucket loads later. The worst two minutes of my life had just passed. I then called the fire brigade to check the place over. Fortunately only my personal workshop was affected, my Model Engineering stock of radio controlled locos and equipment was stored in a separate building. This was two days before the G1MRA AGM.

FRIENDS

My wife returned from work, and friends came around to help me sift through the ashes and try to assess the levels of damage and to see what could be saved. It was horrendous. The actual fire was focused in one spot, my soldering area. The smoke and heat generated had destroyed the entire workshop and everything in it. I realised that it was my fault. The previous evening I had left turned on a 100w soldering iron. First we thought that it would all clean up quite easily, but then we noticed that everything in the workshop was coated in a black sticky corrosive tar, which was eating into every metal surface as we watched. Worst still, anything made from plastic above waist height, had melted. My entire 1/32nd toy car collection looked like heaps of plasticine on a hot day. Fortunately all my G1 Locos, and my rolling stock are not kept in the workshop. The support of my friends at this trying time was much appreciated.

INSURANCE

Now this can be a tricky one, there are lots of pitfalls in this procedure. This article is really to help and inform all G1MRA members should they find themselves in this unfortunate position. I called my house insurance company. They appointed an independent assessor who contacted me by email, and made an appointment for a visit. I was told not to touch anything until she came. This took a week. The assessment was very interesting. First she read the insurance policy. Then she visited the burned out workshop. Lastly she inspected every room in the house, and added up the replacement value of everything we own, including the contents of every shed and out building. My Gauge 1 collection was also added on. This was to calculate to see if we were adequately insured, or under insured, and took all day. Fortunately we were well within our insurance limits. Had we been under insured by say 25%, then they would have reduced any payout by 25%. This is not the end of the story however. The payout is divided into three parts. Building work, Cleaning work, and Contents. The assessor granted me £600.00 for cleaning. I later learned that this was not really enough! I had to get a quote from a builder to rebuild the workshop, including a complete rewiring, and I had to write a list of every item I had lost in the fire. That took another week. I emailed the quotes to the insurance company, and I am happy to say they accepted everything.

CORRECT PROCEDURES

I was told that the things I did right were to have had fire extinguishers, and fire alarms in my workshop, to have 'had a go' and put the fire out myself, and to have called the fire brigade afterwards to check everything was fully out. The quotes I supplied for both the rebuilding and tools were detailed accurate and reasonable. Subsequently they paid out quickly and in full.

REBUILDING

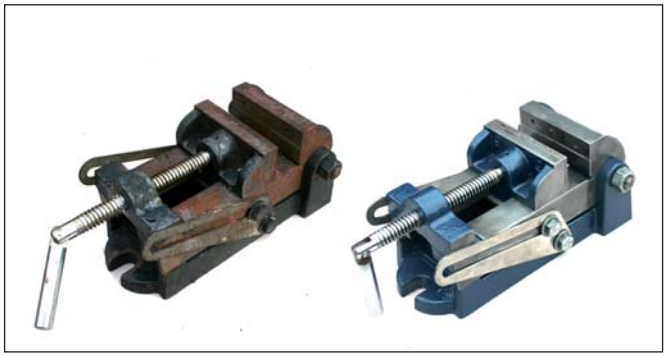
After stripping out the smoke damaged contents of the workshop, the builders started their gruesome task. They ripped out all the ceilings and parts of the back wall where the fire started, along with all the wall mounted tool cupboards. The building was completely rewired, and here I made a change. I took a suggestion from Dave Walker, and had fitted a master isolation switch by the door. Now when I leave the workshop, instead of turning off the lights, I switch off the main isolator, and everything in the workshop is turned off. No more overnight soldering iron fires! While the builders did their work, I set to with a paid assistant sorting and cleaning tools and machines.

CLEANING UP TOOLS

To see your treasured tools in melted heaps covered in rust and muck is soul destroying. I saved what I could save, and threw away with great regret, that which I could not save. My hands were ingrained with black grime for weeks on end. Worst still this was December 2010, the coldest winter in East Anglia for a hundred years. On two days the temperature plummeted to –13C. Snow stayed on the ground all month. This was an extremely depressing experience. Friends came and helped me out, and G1MRA member Bram Hengeveld even flew over from the continent! First we used paraffin with oil to soak all tools and machine parts in, then we scrubbed them with hot water and Brillo pads. Brillo pads are very good indeed at removing rust. After that we used wire brushes and degreasing agents, finishing off with WD 40. If the items needed painting, such as parts for the lathe and milling machines etc., they were cleaned again with white spirit. It was a great opportunity to completely redecorate all my machine tools! Cream and black was my chosen colour scheme. On a happy note I had a big cheque from the insurance company to go and buy some nice new

After the fire...

After the rebuild with Sue assisting the final refurbishment...



Before and after cleaning the vice.

Some of the fire damage.

tools with! They wanted to buy all the new tools for me, but I persuaded them to let me buy them myself. Instead of hand tools cluttering my workshop, I wanted to have some of those beautiful brightly coloured tool chests with lots of smooth sliding drawers to store everything in. I decided that this was going to be a wonderful opportunity for me to develop my workshop and introduce some new ideas.

Peter in his new workshop..

COMPLETION

The last job the builders did was to repaint the floor. A G1MRA friend Richard Hill gave me some large tins of floor paint, so I now have a sparkling new workshop fit for a king. How long it will all stay this way we shall have to see! Now I had to move everything back in again! I had a very large collection of special nuts and bolts etc., all trapped in melted plastic boxes. My wife Sue helped me transfer them all into new ones with the help of a powerful magnet for steel items, and a modified teaspoon for the brass. The magnet was very useful for cleaning rust from small steel screws. I sprayed them with WD40 while held on the end of the magnet, and they could be wiped clean in a rag still held in the magnetic field. From fire to completion it took exactly ten weeks to rebuild my workshop. Still to be fitted is a radio linked fire alarm system, so any smoke in the workshop will set off an alarm in the house, and via versa.

The Master switch by the exit.

THANKS

I would like to take this opportunity to thank everyone who took time out to come and help me during this very traumatic time. G1MRA is a really wonderful club. I would also like to thank all my customers who had to wait patiently for their locos and radio equipment, as all my time during this period was spent getting my personal workshop up and running again. Thanks also to my insurance company who paid out promptly the tidy sum of £10,000 to put everything right again. And why was it all Dave Walker's fault I hear you ask? Well I visited Dave's workshop last year with my sales team. He showed us how brilliant he was at soldering tender sides with a 100w soldering iron. Next day we all bought one at a garden railway show. End of story.

THE STORY ABOUT A YOUNG MAN AND HIS TRAIN

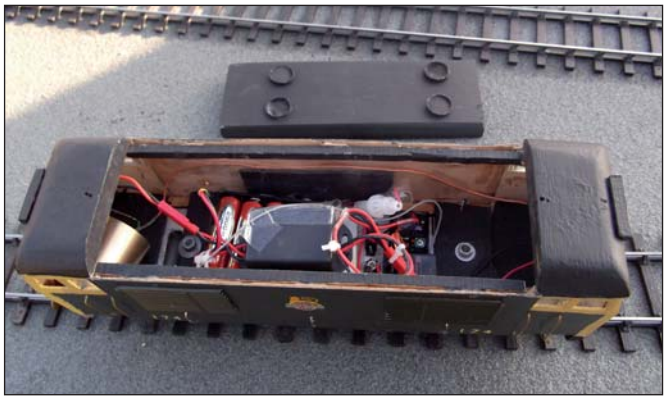
by Tom Alexander

It all started one day with a trip to what I now know as my local Gauge One track. While I was there I saw a few trains go round and thought nothing of it. I did a few more trips with my girlfriend's father and then a G1MRA member asked me if I would like a go at driving his loco. I jumped at the chance. It was an electric Black 5 and the second I got it going and was pulling freight I wanted a train of my own. For my 17th birthday my girlfriend's father got me my very first Gauge One train from eBay for £25. It turned out to be a Hymek look alike, an engine I have never seen before in my life, as I was still fairly new to Gauge One.

A few months later, after many hours of working on her fitting new motors, chassis, bogies, motor controller, radio electrics and doing a few test runs on the Ruddington track, I came to buying something to go behind it. I had seen the Gauge One Model Railway Company were selling 14 ton petrol tankers and after a few months saving up I got 3 at the 2009 Loughborough show in the BP livery, only to be out-done by my girlfriend's father who got the other 2 liveries in batches of 3 Esso and Shell. Now, with a little pleading, I can run all 3 sets at the local track. The Hymek is fitted with a full radio control set up from Peter Spoerer including 2 Fos motors, Viper speed control and fully working lights with a spectrum 2.4 GHz Dx5e to control it all. I am soon going to fit it with a 2-tone BR horn to give some sound and also get her named and numbered to D7017 (17 for my 17th birthday). I'm still not too sure what colours to paint her so all ideas are welcome.

Glueing the Hymek's underframe

Early on, the loco would only pull a maximum of 6 wagons due to having the wrong battery set installed. It took us 2 years to realise that so at the last Anglia Roads meet of 2010, Peter brought a new battery pack and 2 spare batteries to go inside the loco. Now it's pulling up to 20 mixed freight wagons with ease and I am over the moon as I can now join in a lot more, doing some heavy shunting and not just pulling one or two wagons.



The Hymek's works.

While I was starting to get in to Gauge One I opened up a YouTube page called the Gauge One Channel (www.youtube.com/user/Gauge1channel) where I'm always uploading videos of my train and any events I get to, as it gives me something to do when I'm not running. I would like to thank The East Anglia Group for letting me come down and run my loco.

Hymek bogie.

TRIBUTE TO PETER MCCABE

Peter McCabe came to model locomotive building after a forty year career as a professional engineer. He therefore brought to his hobby a wealth of design experience as well as the inventive nature of a man whose employers had gained a considerable number of patents as a result of his work. As Rafe Shirley has said "The man was a volcano of ideas".

Many members will know that Peter started his locomotive building in Gauge '0'. His design work on gas firing coupled to suitable boilers, oscillating engines, conjugated valve gear and steam turbines were all initiated in this gauge, in which we know he built more than twenty locomotives. Peter started with an etched kit for a GER D-16 Class 'Claude Hamilton'. This was of course designed to be electrically driven but, not having built a locomotive before Peter saw it as a short cut to getting the dimensions and plate work correct while he designed the live steam engine, boiler and firing. However, always wanting to improve on what had been done before, Peter went for direct drive with two double acting oscillators in the 'Claude' thereby getting good torque and self starting. He then built a Midland Railway Johnson Single 'Princess of Wales', again using the two double acting oscillators, but this time geared to cope with the large drivers. Interacting with Tom Cooper, Peter's design became the 'Osmotor'. Robert Houghton, our past President, has often allowed me to run his Gauge '1' Tom Cooper 'Austerity Saddle Tank' and it has excellent low speed torque, handling long freight trains at scale speeds. I often think there would be many more Osmotors about if only Tom had chosen a more attractive prototype.

Even at this early stage Peter seems to have become committed to gas firing and spent some time experimenting with different combinations of burner and boiler. He liked the ability to adjust the fire in relation to the load and also the type of burner which drew in its own air at the jet (the oddly named 'closed system') so that the smoke box need not be airtight but could draw in cool air from below, thereby causing exhaust steam to condense and show a good plume at the chimney on all but the hottest summer day.

Perhaps feeling that oscillators were not prototypical Peter's next technical challenge was the Royal Scot 'King's Dragoon Guardsman'. The oscillators described above were all radio controlled and Peter wanted that for the Scot with just two conventional cylinders and piston valves. Initially he drew out a valve system with two slip eccentrics rocking a conjugation bar set across the frames (Gauge '0' Guild Gazette Spring 1984 and GIMRA Newsletter 224). The ends of the bar were connected to the two valve stems but working Walschaert's gear was provided for show and maybe even emergency!

This was the late 1970s and Peter's daughter Rosemarie had just started her first employment with a publisher. Quite by chance she was sent to the Science Museum to talk to a senior curator in an effort to persuade the museum to help with a book on steam locomotives. Initially the response was negative but as she turned to leave she saw a model locomotive displayed in the curator's office. "Oh, my father makes those but his are a little smaller", said Rosemarie. Not only was help with the book agreed but Peter was himself introduced to that curator - John van Riemsdijk. Discussions about the valve gear for the Scot soon ensued.

Now, like E. J. Cooke, Peter did not believe 'notching up' provided any benefit in Gauge '0' but JvR suggested that retarding the timing would help the loco start a heavy load. That is, the periods of valve events should be constant, but their happenings with respect to the piston position should be variable; so Peter added a system of gears between the frames whereby the timing from the eccentrics could be adjusted by radio control. Plans were moving forward nicely until JvR and some of Peter's friends at Guildford MES said (we hope in jest because Peter had by now won their Brotherton Shield so many times) "You do remember that Scots have three cylinders!"

Things were getting sticky but accepting the challenge Peter drew an extra link on his conjugation bar to work the middle cylinder. Alas the link provided movement 180 degrees out of the required phase. Not to be beaten, Peter got the correct phase by changing to a slide valve with its outside admission for the middle cylinder! The 'King's Dragoon Guardsman' won the Chairman's Cup from the Gauge '0' Guild but I often wonder if the judges knew quite how subtle it is. Later there were two other Scots, at least one a 'rebuilt' - since Peter of course wanted 'Royal Engineer'- and a four cylinder 'Nelson'. But I think all have more conventional valve gear.

Sometime between the Scot and a very elegant prize winning Stirling Single with Stephenson's link motion came the initial experiments on the 'turbine job', perhaps Peter wanted a break from valve gear? The first turbine runs were made in 1983 using a 4-4-0 chassis and under-flue boiler. Performance was poor at first and other locomotives were built in the interim. However the turbine itself was proved and Peter persisted with development. 'Princess Class' 6202 was built with internal firing and by the mid '90s it successfully hauled six coaches and screamed like a banshee. But didn't the full size version?

Now although the friendship with JvR had started about twenty years before, Peter seems to have remained a Gauge '0' man until now. Although the Guild is much larger in total than GIMRA only a very small proportion of the membership build and run live steam locomotives. Peter loved to meet and exchange ideas with this small group, but the attraction of GIMRA and its high proportion of steam men is clear, particularly to a man who was always trying out new ideas and generously publishing them to get comments from his fellows.

I believe Peter started in Gauge '1' with the A3 'Grand Parade' and then came 'Evening Star' (and another Brotherton Shield). To most of us starting with such prototypes would be unwise but by now this was of no concern and it was just a matter of scaling up the firing requirements. Butane gas continued to be the preferred fuel, particularly with the new ceramic burners, but the use of coal was so much easier in Gauge '1' that Peter built two or more coal fired models. He also repeated what he had done with the 'Claude' kit using 'Old Originals' parts as a basis for live steam versions of a 2-4-0 Crewe Goods and 2-2-2 Crewe Passenger 'Sunbeam'. These two early prototypes are complemented by a charming live steam 'Puffing Billy' complete with all the delicate working valve linkages.

In more recent years Peter built a Gauge '1' version of the LMS 'Turbomotive' 6202 (Newsletter 216), a three cylinder 'Rebuilt Merchant Navy' and then began to experiment with compounding. Although Clarry Edwards had built a very successful Webb compound in Gauge '0', compounding was a new venture for Peter and again he exchanged some thoughts with JvR, who by now had retired to France having designed compounds for Aster. Peter chose the three cylinder Midland Compound No. 1000 as his prototype (Newsletters 201 and 210). He fitted it with a 'simpling' valve, controlled from the cab, which could bypass the compounding and allow the loco to be run as a simple three cylinder engine. In the second article, reporting experiments with changes to cylinder sizes and valve events, Peter expresses disappointment with compound running. While suitable for the race track, at scale speeds the loco is far more controllable in 'simple' mode. Members will be familiar with the acerbic response from JvR and his defence of his Aster compounds. These Asters are four cylinder locos and as a driver one can certainly feel and hear the compounding kick in as the cylinders warm up, but I would defend Peter's view that compounds run better at speed. My Aster does not have a 'simpling' valve so that I cannot switch between modes and make direct comparison at different speeds. Let us hope one of our skilled engineers feels he has the time to explore the subject and write about it, at least for two and three-cylinder models.

There is no doubt that Peter made a major contribution to the hobby in both Gauges. We are fortunate that he took that early retirement and thereby had both the skill and time to explore his ideas without too much commercial pressure. Not only did his experience enable him to identify problems with recalcitrant locos, but he was extremely generous with his time in helping others correct them. He also wrote copiously about his designs and was never afraid to include the failures thereby saving others from similar pitfalls. Annemarie, Rosemarie, Andrew and their families are not the only ones who will miss him.

Mike Lucas

NARROW GAUGE ONE

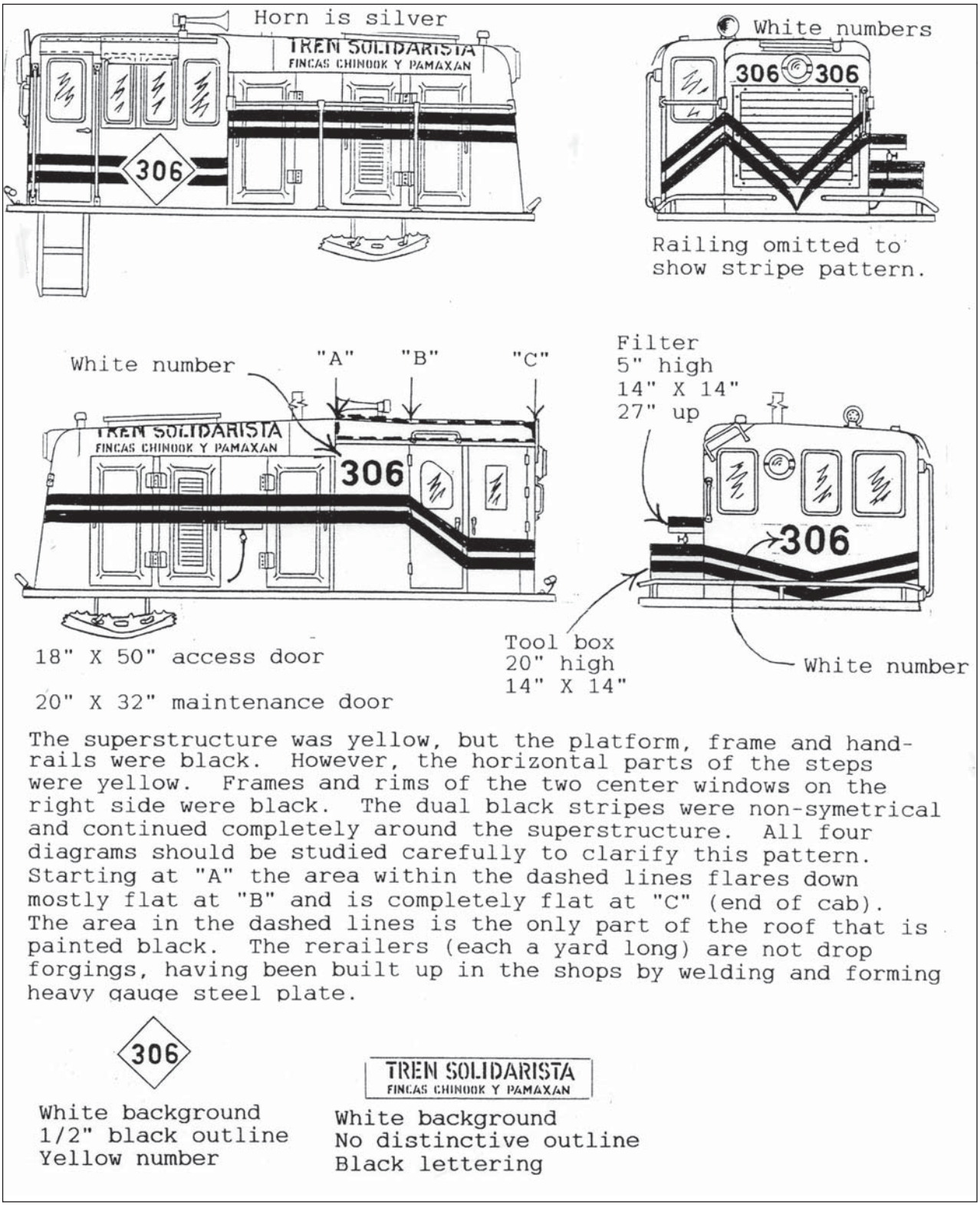
by Peter Bird

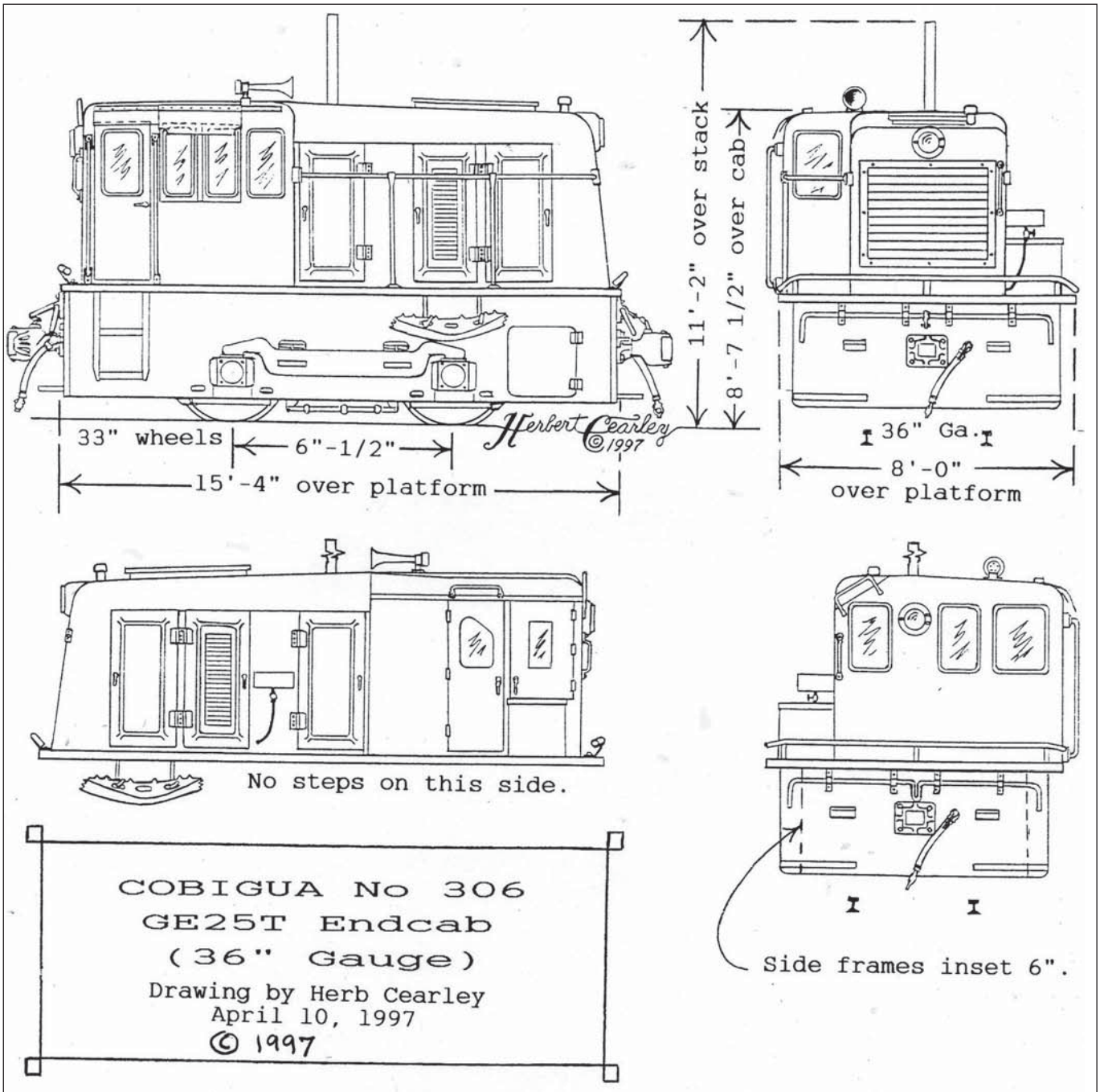
DRAWINGS.

In this edition I bring you the final two drawings from the Guatemala series. They are both of the same locomotive, the first showing its dimensions, the second showing its paint scheme.

Please remember, I have permission from Herbert Cearley, the draughtsman and copyrite holder, to publish these drawings in our NL&J, for members use only.

Given that these are the last to be published, I thought it would be of interest to some members if I gave you a kind of potted history of the Guatemalan Railways, as food for thought of a distant model.





COBIGUA No 306
GE25T Endcab
(36" Gauge)

Drawing by Herb Cearley
April 10, 1997
© 1997

This locomotive was used on the Chinook and Pamaxan plantations in Guatemala where an accident resulted in the left side of the cab being rebuilt flush with the side of the hood. It was built by General Electric in February 1955 and had construction number 32237. It was classified B50/50-GE 733 and was powered by a six cylinder, 150 hp Cummings HBI-600 diesel engine. Maximum speed permissible was 20 mph. Prior to suspension of service by Fegua (Guatemalan Government Railways) in 1996, locomotives 306, 307 and 309 were transferred to the government for disposition. Sale of all railway assets was set for May 15, 1997. This drawing is based on my field measurements and GE dimensions. Corrections or additions are welcome and should be sent to me at: 6751 E. 9th St. Long Beach, CA 90815.

RAILWAYS OF GUATEMALA

The first rails were laid in 1877 at San José connecting it with Escuintla, operations starting in 1880. Track was extended to Guatemala City in 1884. The line north to Barrios was completed in 1908.

The line was soon purchased by an American Company, United Fruit, whose president, Minor C Keith, a man with ambition to build an international railway incorporated the Guatemalan Railway in 1912 into the IRCA (International Railways Of Central America), which included the Salvador Central Railway of El Salvador, and a previously owned railway in Guatemala, which ran From the Mexican border town of Ayutla, west to Mixtan.

Incidentally, the diamond shown on the livery drawing, having the loco no of 306, is from the IRCA logo which consisted of a red diamond with a piece of track, from bottom to top, tapering (in perspective), all over-printed in yellow characters, IRCA.

The Guatemalan section of the International Railways of Central America, prospered until 1957, when an antitrust suit of 1954 caused the company to divest some of its interests. This was followed by the opening of a parallel highway in 1959, which put great pressure on the company, ultimately causing the company to default in 1968.

The Guatemalan government took over the railway, and renamed it FEGUA, Ferrocarriles de Guatemala.

Deterioration of the system continued until 1996, when all service trains were discontinued.

A railway tourist company, Trains Unlimited, continued to operate the railway, with nostalgic trips for rail fans, until in October 1997 a fifty year concession was awarded to RDC, the Railroad Development Corporation, to rehabilitate the line and restart services.

Their ability to do this was setback in 1998 by hurricane Mitch, so the first train to operate again, this time under RDC management was on April 15th, 1999, from Guatemala City to El Chile cement plant. In 1999 the rest of the line to Puerto Barrios, (200 miles) was also put into operation, though lines to Ciudad Tecún Umán (on the Mexican border), Anguiatu (in El Salvador) and Puerto San Jose are still waiting attention.

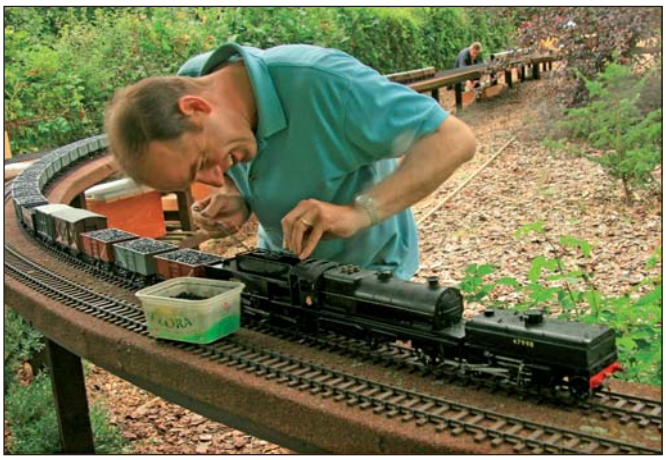
In practice, the permanent way is owned by RDC 497 miles in total, and trains operated by a subsidiary company FVG (Ferrovias Guatemala).

FVG own 15 locos and 200 freight cars, transporting, steel, cement, paper and bananas.

However problems once again surfaced when FVG were accused by Guatemalan Authorities of misappropriating an infrastructure grant from the US government. The trains stopped rolling, as the legal machine started to roll.

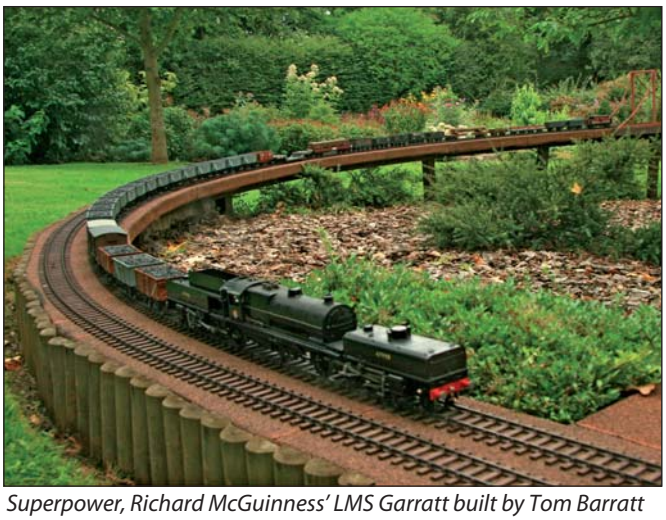
A CHILTERNS MISCELLANY

"This is how you wind it up." Geoff Calver gives the lowdown to Garth Bridgwood on the Aster Standard Class 5 which Geoff has just built and delivered.



Richard McGuinness is enjoying firing his Barratt Garratt on Steve Edwards' line.

Steve Edwards' lovely GCR "Immingham".
All photos by David Pinniger.



Superpower, Richard McGuinness' LMS Garratt built by Tom Barratt on heavy freight train at Steve Edward's.

M7 at Sansend

YORKSHIRE GROUP NEWS

by Peter Vincent

Our second public exhibition, at the Bakewell Agriculture and Business Centre, Haddon Road, Bakewell, Derbyshire DE45 1AH, approaches rapidly. The venue has plenty of on-site parking and refreshments are available at the adjacent cafeteria.

This year's Gauge 1 North promises to be a more varied event than last year. We are delighted to announce that the G1MRA Anglia Group have kindly allowed "Anglia Roads" to be the centre-piece of this year's exhibition. There is sufficient space at the venue to allow all the extension pieces to be on show. We are also pleased that Steve Harrod will be present with "Worcester Road MPD", a fine-scale model of the diesel depot in Hereford. Our own exhibition layout "Moordale" will be the third track on show. The station area on "Moordale" has been extended, allowing access for a four coach train with run-around facility, and electric points and some working signals have also been added. We are also actively seeking the attendance of at least one more fine-scale exhibitor. One of the great successes last year was the array of demonstrations throughout the day, and this format will be repeated this year. On the trader front, we currently have firm commitments from 20 traders, with promises of attendance from several more. (See www.gauge1north.org.uk for the latest information.) Anyone wishing to help or run an engine at the show should contact Alan Bullock, or e-mail secretary@gauge1north.org.uk for more details.

The Yorkshire Group is very pleased that the G1MRA Committee has given its whole-hearted support for this year's show, but G1MRA members should be aware that as Gauge 1 North is an independent public show, no concessions to G1MRA members will be made, and that only pre-booked runners will be allowed. However, for those members who wish to make a weekend of the event, two local tracks will be available for running on Sunday 17th July. Ask for details, which will be available at the entrance desk or contact the secretary by e-mail.

YORKSHIRE GROUP AT THE NATIONAL RAILWAY MUSEUM

The Yorkshire Group is pursuing opportunities for Gauge 1 running sessions at the National Railway Museum in York. The first of these will be in September 2011 (see the entry on the G1MRA Diary page) over two consecutive weekends. Museum staff are currently determining the dates for this special event which the Yorkshire Group are supporting. Unfortunately, as we go to press, the exact dates have yet to be finalised. As soon as the dates are confirmed, they will be put on the Gauge 1 North website at www.gauge1north.org.uk/exhibitions. Anyone wishing to run should register their interest with Grahame Platt or e-mail secretary@gauge1north.org.uk. The current plan is to have live steam and electric operation on both weekends, so a good number of runners will be required.

CLASS 77 G1 MODEL

by John Perkin

John's research notes on the Class 77 appeared in NL&J 228 on pages 62/63. Details of his model were held over to this issue - Ed.

I scratch-built an "O" gauge model which was lined by a friend and has since been sold on E-Bay.

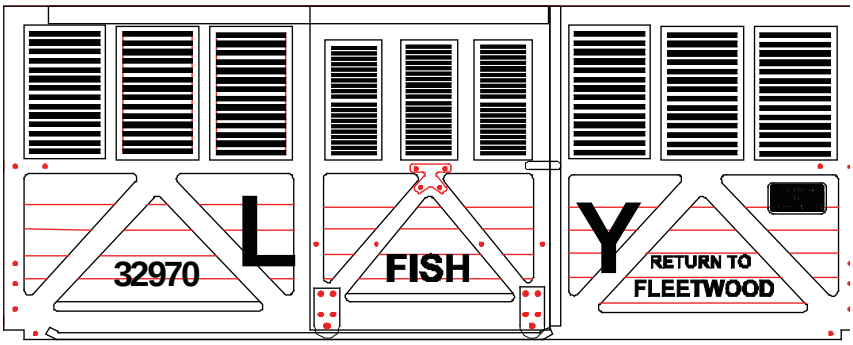
This is my first model in G1 / 1:32 scale built to the drawing from the Skinley series also used for the earlier "O" gauge model. Construction was very similar to my earlier EM1 / Class 76 in three box sections for the two cabs and central body. Some modellers licence was required in the shape of the cabs and roofs to use my preferred medium of plastikard. I decided to spray the model in the "electric blue" livery as my recent models have been either black or green. The roof is sprayed in light cream, the buffer beams and stocks are painted in insignia red, and the insulators and electric cables on the roof in mid-brown. The LGB silver pantographs for my earlier Class 76 will also be used for this model. It will be motorised later with two U.S.Trains Co-Co motor bogies.

Scratchbuilt plastikard Gauge 1 model of Class 77 27006 "Pandora". Photo John Perkin

Scene at the N London SME's G1 track in May 2007: on the left is a NER Class Z Atlantic (built by Tom Barratt with added detail and painted by Chris Dean). It is spirit fired. On the right is a Barrett Engineering Great Northern Railway Class C1 Atlantic. The coal-fired kit was assembled and the loco painted by Chris Dean. The carriage behind this loco is a GNR twelve-wheeled brake composite (built by the late Fred Newman). Photo: Chris Dean

A PRESS TOOL FOR WAGON STRAPPING

by Keith Bucklitch



As some of you will know, I have been investigating ways of scratch-building a fleet of Lancashire & Yorkshire Railway fish vans. The construction of the van bodies is detailed elsewhere, but in this article, I want to concentrate upon making the ironwork for the vans.

There is not a lot of external ironwork on these vans, mostly consisting of some reinforcing strapping at the corners, the roller covers for the sliding doors and a particularly prominent cruciate brace centrally placed on each door.

In pondering how to make these, firstly, I milled out the cruciate braces from 0.010" styrene. This is OK, but slow. In order not to break too many expensive 1mm carbide milling cutters, I wanted to investigate other methods of making these distinctive pieces of ironwork. Thoughts of printing them in black ink onto thin card, followed by cutting them out with scissors were quickly dispersed, as this would still require the edges to be touched up with black pen. Not a problem I suppose if one was building only a couple of vans, but a batch of ten or more was a different matter.

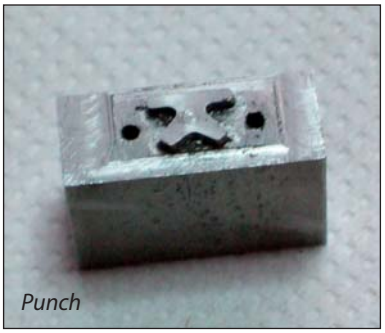
Looking through my stock of various sheet materials, I came across a piece of what I believe is used by lithographic printers. It appears to be very thin (0.010") aluminium. I thought, this would be ideal for both the cruciate piece and the corner strapping. Thin strips can easily be cut by running a 'Stanley' knife along a straight edge a couple of times, but how to make the cruciform pieces?

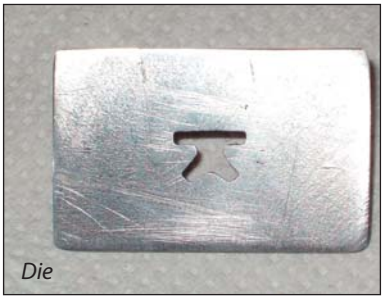
I had acquired the lithograph sheet material from the late Colin Binnie some years ago probably with the intention of using if for wagon strapping at the time. Thinking about Colin reminded me that he had written an article published in Model Railways magazine, March 1972, entitled 'Production Methods for Modellers – Simple Press Tools for the Home Workshop'. Colin described making a punch and die to press complex shapes from thin material.

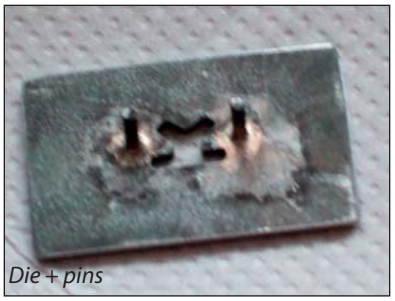
I already had made a drawing of the cruciate brace in order to mill them in styrene on the CNC machine, so it was a simple matter to change the program so as to mill out a 'die' in 1/16" steel to the required shape. At the same time, I also milled two 1.5mm diameter holes to be used later for guide pins.

The next task was to make the punch. Again, using my CAM software, this time, I milled the outside of the profile using the same master drawing. The punch was milled from a piece of mild steel bar about 1"×½"

A small amount of fettling with a file ensured that the punch and die were a close fit, then using the die as a jig, the holes for the guide pins were drilled in the punch.


Punch


Die


Die + pins

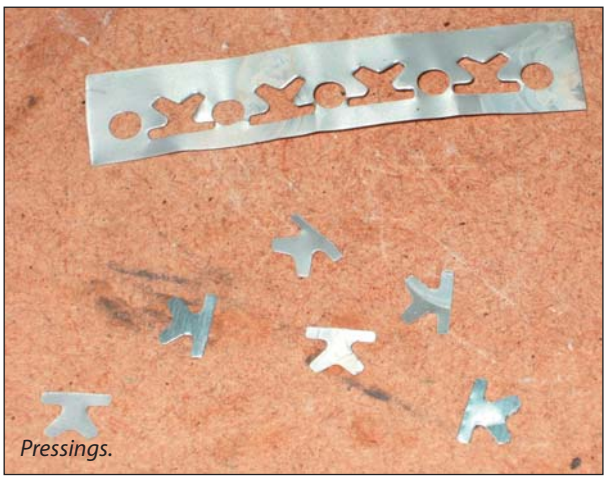
Guide pins made from 1/16" silver steel were hard soldered into the die and the tool cleaned up after pickling.

In use, a thin strip of material just wide enough to fit between the pins is laid on the die. The punch is placed in position then the assembly placed in the vice and the jaws tightened.

It very quickly produced a batch of pressings. This picture shows the pressings and the source strip of material.

The round holes in the source material are sprocket holes that were originally in place on the edges, presumably to feed the material through some form of printer.

Colin Binnie recommended that the punch be hardened if any quantity of pressings is required, so I need to investigate how to do so using some Kasenit powder. It is simpler to make a new die if required. In the meantime, it will produce enough pressings to keep me supplied for several months. I now need to make another press for the roller covers, for which I require four per van


Pressings.

ADDITIONAL MEETING INFORMATION

Vintage Tinplate Group Meeting

4 June 2011

Annual Show at Wythall Village Hall, near Alvechurch. 10am – 4pm. 24ft 3-track vintage layout and supporting sales stands.

Directions: at M42 J3 take A435 north for 1½ miles; at island take third exit. Hall is on right 100 yds.
Contact: Dave Orchard - 01527 874988.

International GTG at the Hotel Krogen Layout

Saturday May 7th 2011

Running from 10 – 17, separate time slots for different scale. (30 min. or 45 min.)

Refreshments and food will be available (Danish pancakes, Champagne, Wine, Beer)

Registration Contact: David Clement Phone: + 45 98 12 17 05 (Hotel Krogen) Mobile: + 45 30 22 33 02 (private)

E-mail: krogen@krogen.dk

Please state what type of locomotive(s) you are bringing with you (scale), and if you are bringing any rolling stock, and if you are interested in accommodation.

How to get to the Krogen Layout, Denmark

Information about direct flights to Aalborg Airport (AAL):

From London Gatwick with Norwegian. Cheap flights on Tuesday, Thursday and Sunday, about £20-30.

From Amsterdam Schipol with KLM. Flights on Monday Tuesday, Thursday and Friday.

From Copenhagen. Flights 2-3 times every hour all week, takes 30-40 min., lots of cheap flights all week, from £30.

The airport is approximately 7.5km away from the hotel. We can arrange to come and pickup guests.

The alternative is a taxi (about £14-20)

RaILS club in the New Forest

We will be having an open day on the Sunday the 17th July to which G1MRA members are invited, please contact chris.harnet@ntlworld.com or peter.armstrong@talktalk.net for further details.

THE NORTH LONDON CLUB'S NEW TRACK

The North London Club members have been busy in this cold winter working on their new track layout. They sent in these photos to prove that they have been hard at it. Even our recent Editor's disguise doesn't fool us!

THE SUSSEX GROUP 2010 REPORT

by Roy Scott and Dick Comber

The year commenced as usual with a general meeting for all members who can make it to Ferring Village Hall which was well attended on February 6th 2010. Members bring along for display any items of interest that they have been working on during the winter months and plans and fixtures plus other matters for the oncoming season are discussed. A range of dates for our running sessions was called for by Martin Hughes and the bones for the main part of our garden meetings was set out. Thanks are due to Heather Moroney for providing biscuits, teas and coffee for all 27 members who attended.

This year's report on our garden meetings, as usual between April and October, is a joint effort by Dick Comber and myself Roy Scott. Dick provided the notes for the early part and then due to his wifes illness he was not able to attend any further of our fixtures from mid season onwards. Regrettably due to my lack of mobility and now stability my travelling has been reduced to venues only near at hand.

The running season kicked off on April 11th with a fine dry day at Bill Whiting's line at Havant and as expected produced some new models. First in steam was Richard Plumb's new Tilbury tank, at this time unpainted as it is well to have a few test runs before adding paint and "decorations". Richard Brownfield's new coal fired H2 Beachy Head behaved very well as did Neil Butcher's recently finished and painted City of Exeter. Peter McCabe had his not-so-new and gas fired of course rebuilt Merchant Navy. The following Sunday saw us at Martin Hughes' Walnut Tree Line, another fine and warm day which always helps to make the running go well, a touch of damp makes for good steam effects but not happy drivers. Neil Butcher had a nice run with this lovely GWR Railmotor, Brian Scamell his rebuilt Merchant Navy likewise. Ray Spooner believes in safety in numbers so always comes with several locos just in case of trouble with one but all was well; his Aster Pannier, his old faithful ran well followed by his Chinese made 2-6-4 tank and also his Britannia. Bob Corfield's Caley loco's bogie came adrift and the loco derailed happily landing only in the soft turf with little harm.

Not quite so fine on April 25th as the day started with a light drizzle and a lot of spray on the roads to Bill Dorset's at Bognor but it cleared before mid day turned into an excellent running day. There were many good runs, Ken Browne with his Coronation Scot, Ian Firth-Scott with LNER Mogul, Bryan Brooke's Q1 and with his help my City of Truro performed well. Martin Hughes has an elegant set with his train of six Caley coaches and his finely painted C.R. 4-4-0 at the head, a joy to watch. May 2nd was not so good at Bryan Brookes as it rained most of the day and I and most visitors sat drinking tea in Bryans large garage chatting and admiring his large collection of locos and stock. Just a couple of brave and undaunted members had a go and of course got wet. You cannot keep a devoted member such as Ray Spooner down, so his electric Terrier had a spell. Ray with his waterproofs, his transmitter encased in a plastic bag to keep it dry was an excellent example of GIMRA Spirit. Ken Browne also braved the conditions by giving his Jumbo a run light.

May 16th we were local for me at Ray Spooner's Ford line at Littlehampton, still not much sign of Summer but at least dry. Tony Wooton's very smart SE&CR Wainwright 0-6-0 loco ran well, he is steadily becoming more familiar with this his first steamer, he has long admired the Bluebell Railway full size example. I ran what I call my when-everything-else-fails loco, a 4-4-0 Tank pot boiler made for me by Harold Denyer based on an original of Norfolk's M&GNJR B Class. It never fails, just purrs around with a light goods train for near on thirty minutes. It must be at least 30 years old, the paint is a little folorn but it still runs well. May 23rd, at last it felt like the first day of summer and we all had a good day at Bognor followed by another fine day on the 30th at Goring with a large attendance and the appearance of some American outline Diesel (electric power) units with matching stock, it looked as if we were on the other side of the Atlantic.

Our first meeting in June was at Whitesmith at Robert Houghton's home, the first time I had missed this popular venue for about 30 years but it is now sadly rather outside my driving ability. However reports I had were that it was very well attended and the running as always excellent. Further meetings during June were at Martin Hughes' Walnut Tree Line, Ray Spooner's Ford Railway, then back to Bill Dorsett at Bognor and finally for the month my New Highdown Railway at Ferring. Thanks to the help of Ian F.S. and my grandson Justin we had a good day and the weather was fine and warm and the line survived heavy traffic. July started well, on the 4th a visit to Neil Butcher's Findhorn Line. I like the two circuits format, I had a good run and that was how it went for all. Back to Bill Whiting the following weekend and then on the 18th to John and Heather Moroney and the Wellsworth Lakes Line. My son Nick transported me and grandson Justin who kept an eye to my loco when it was my turn. I have no notes but I recollect that Dick Comber's GWR 4-2-2 (electric power) was finally running well after some earlier outings which had been by way of a proving and tweaking nature. On the 25th July back at Bill Dorsett's and a fine run by Bill Whiting's newly painted Duchess and a Royal Scot he had built for John Moroney. Ray Spooner had his breakdown train in action, not new but I had not seen it out for an airing for some time.

Into August and at Martin Hughes Line it was fine at first but did try and drizzle but came to nothing. Neil Butcher's American Rock Island Diesel set now refitted by Neil with spur gears replacing the original worm gears was now running perfectly. This Unit was in action again the following week at Bryan Brooke's line at Goring with Martin's Norfolk and Western coaches. Martin then ran his coach set with his N.& W. 611 steamer and newly fitted R/C. In addition Bryan produced his three loco Pennsylvania diesel unit which had a run without the matching coach set which was apparently stuck in Customs at Heathrow. To break this big showing of North American locos and stock I had a run with a British outline loco, I think it was my B12 but did not take note, and Tony Wooton ran his smart new M.R. 4-4-0 ex John Lawrence works in the I.O.W. The next meet was at Ray Spooner's Ford line and all I have noted was that I ran my Jumbo, not an Aster but built before the Aster version by Harold Denyer for me. The last event in August was at Bill Dorsett's Nyetimber Line

at Bognor. It was a fine and quite warm day with a goodly crowd on hand. I have no notes but know I ran my LMS 0–6–0 4F Project with the help of one of our new members from the Chichester M.E. Club; like a good old trooper it was no trouble. Moving into September, a further meeting at Martin Hughes and Bill Dorsett's which I could not make but on the 16th we had another run on my new Highdown Railway which went off very well with fine weather and a pretty good number attending. Again my thanks to Ian Firth Scott and grandson Justin for their most valued help and assistance. The final meet in September was at Bill Whiting's line at Havant which regrettably I was not able to get to this year but I understand he has made an extension to the line which I just hope I may be able to see next season. Only one garden meeting in October which was at Ray Spooner's Ford Railway at Littlehampton which I was not able to get to but sure it would have been successful as usual. This was the early end of our 2010 outdoor running fixtures which was perhaps well planned as the following Sundays of October were not dry, but we had had a good season with only a modest amount of poor weather conditions.

Our one particular sadness of 2010 was the passing in August of my good friend and our member Peter McCabe, our gas man. As he pointed out, in the occasional gas fire it was the eyebrows rather the track that was in danger. Peter was an expert builder and apart from one, an Aster Pannier, all his locos were from the McCabe Works. "Hot Toddy" his hot air engine was one of my favourites for its oddity value if nothing else but it ran well of course. I had known Peter for well over 30 years. I met him for the first time at one of the early Sandown Park Shows when he was in the basement model railway section with some of his fine Gauge 0 Live steamers working the Guildford Club G0 railway. A sad loss of course to his wife and family and also to his friends as his advice and help, in particular on gas firing was much valued.

Roy Scott and Dick Comber

Richard Brownfield's H2 LBSC Atlantic

Black Five

Ken Browne's LNWR and coaches.

Brian Scamell's Merchant Navy Class

Bryan Brooke's Pennsy unit.

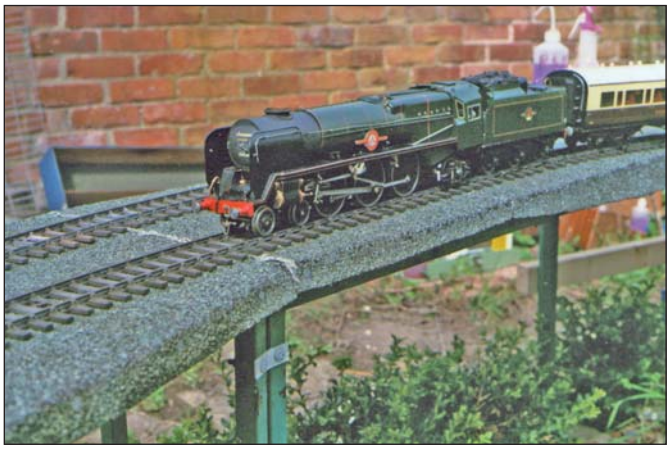
Tony Wooton's Midland 4-4-0

GWR Castle

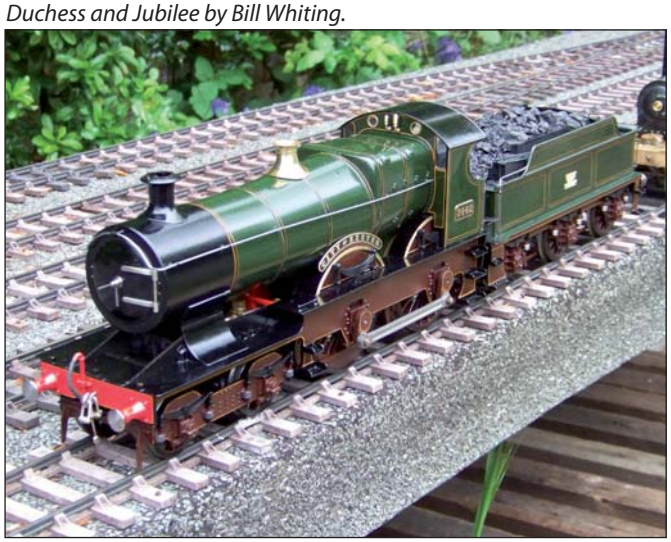
Bob Corfield's Battle of Britain

Jersey Lily GCR Atlantic.

Duchess and Jubilee by Bill Whiting.



Peter McCabe's Merchant Navy.



Neil Butcher's City of Exeter

GWR Railmotor by Neil Butcher

Flying Horse by Peter McCabe

Neil Butcher's Rock Island diesel

LETTERS

Dear Martin,

Here in Switzerland, there are now 85 of us. Our numbers continue to grow, which reflects the major interest here in G1MRA membership. We are all enthusiastic members of the association and our membership means a lot to us: it has a unifying effect, it brings us together on many occasions and it is a good bond for our local activities. Every three months, we look forward to receiving the new NL&J, which always contains such a wealth of interesting information. However, NL&J 227 (the autumn 2010 issue) only reached our members after a delay of anything between 3 to 6 weeks. This is quite regrettable for many of us here in Switzerland!

Therefore we would like to ask the committee to consider whether a slight increase in the membership fee might substantially improve the reliability of postal deliveries to destinations outside the UK.

Sincere regards
For the Swiss Group Markus Neeser, Heinrich Schartner, Christian Schmutz and Charles Simon (Switzerland)

The subject of NL&J deliveries outside the UK is being reviewed by your committee. You will find my note of explanation in this NL&J. Your views, as always, are welcome. - Ed

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Dear Mr Hulse

I have enclosed an article which was in the Bygones edition of the Grimsby Evening Telegraph, I thought it might be of interest to our members.

I have noticed that a D Holmes in the deceased column has passed away, on looking up the names in the members list I found that there are two D Holmes. I thought it would be helpful to other readers if the deceased persons membership number was published alongside the name

I find the News Letter and Journal of great interest and I thank you and all concerned for a first class publication.

Yours Sincerely.
David Holmes. 4299
Louth

Thanks for your kind comments about the NL&J. I can't publish the cutting you enclose without having copyright permission from the Grimsby Telegraph, which previous experiences with newspapers suggest is unlikely to be given without a charge. Fortunately they have a website at www.thisisgrimsby.co.uk which hopefully will be updated by the time members read this NL&J to include their article in their special publication dated 10 Jan 2011 on page 18 about 'Pivotal role of Railways' that you enclosed. Just to clarify for other members, copyright permission is needed for anything you submit to be published in the G1MRA NL&J which has been published elsewhere, which is why we normally restrict contributions to G1MRA members work. I've asked our Membership Secretary to note your comment about including member's number with the deceased list of membership entries.

Dear Editor

Running at Sandsend near Whitby, UK.

May I advise all members on the running schedule for the year here at Sandsend? All members are welcome.

On Sunday, 19th June, I plan to start at 1030hrs. I will provide a fork lunch and tea but bring your own alcohol if you like a drink at noon. Please advise two weeks in advance if coming so that food quantity is known. Telephone No is 01947 893388.

On the third Saturday of each month to November inclusive, after lunch, I plan to "run and/or natter". No need to telephone but if coming from far it is worth a check that I am still vertical. A small contribution to the tea table is welcome but by no means necessary. The exceptions are April (Loughborough), June(see above) and July (Bakewell).

It only takes me about 5 minutes to clear the lower track for action so, if visiting the area, telephone and come to run anytime.

Yours truly,
Ralph Bagnall-Wild
Whitby

Dear Editor

Oh dear! Peter Bird's letter in NLJ 228 reminds me of a Jewish Rabbi who said to me that there was a current tendency for too much "lust for certainty".

Since the 1980's I have often heard G1MRA referred to as a "broad church". I suppose, legally, we might be in difficulties trying to change the name of G1MRA or divide it into three sections. We are all different and interpret our HOBBY according to our own eccentricities. So let us be careful in trying to get G1MRA "made to measure" and avoid the bespoke tailoring of our HOBBY. There is plenty of room for all of us, whatever our approach. So let us keep it as a friendly association, accepting the peculiarities and oddities of other members. May we continue having fun without slipping into fundamentalism. I love you all!

I remain,

Yours as a convinced middle of the road hard-line liberal!!!
Malcolm Cherry (873)
Bury St. Edmunds

Dear Editor

WHAT'S IN A GAUGE?

Reading Peter Bird's letter on railway modelling in NL&J Nº 228 reminded me of some animated discussions I have had with Chris Ludlow since my predilections took me into the realms of the 3½" and 5" gauges. Therefore, mindful of the supplementary law of thermodynamics which states that "the heat of the argument is directly proportional to the distance from the point", I feel prompted to have a ramble around the questions raised by Peter and to respond to his invitation for some thoughts.

My major premise is that we all share a love of railways with individual emphases causing us to lean in sometimes similar and sometimes different directions. From opening the red box and revealing a Trix-Twin circle of track with a three-rail, 0-4-0 loco with brush holders sticking out of the side to a Fulgurex, finely crafted, brass model of the Nord, Chapelon Pacific, 3.1192 (HO and G1), I have always been fascinated by miniature representations of the real thing. Whether marvelling at the technological wizardry of Z-scale (although rather bemused by its minimal proportions) or standing on the platform at Sheffield Park, it is the lure of the railway, its motive power and its rolling stock with which we are all smitten, captured in whatever gauges lie between the two extremes.

I have used the two words with which we are concerned: model and miniature and in some senses it doesn't matter how we define our activities so long as we enjoy them.

However, it is interesting to try and tease out the threads of our thoughts and feelings because this whole enterprise is a two-hemisphere activity - left side of brain for the logic, right side for the feelings. So, where does Gauge 1 lie in relation to Z and full-size? My intuition tells me that it sits at the summit of railway modelling and that beyond it lies something else. Intuition, however, arguably lurks somewhere below both upper hemispheres of the brain and, therefore, needs to be given some substance.

There are several strands to the various arguments and the two words at the heart of our questions are to some extent polymorphous: model and miniature. For example, "model engineering" leads us into a linguistic quagmire when reminded of LBSC's insistence that his efforts were directed toward miniature steam locomotives, not models. The two words are not conterminous but they quite obviously overlap and intertwine which is why, in discussion, the supplementary law of thermodynamics becomes manifest. I take from my own experience three examples, HO, G1 and 5" gauge.

In total agreement with Chris L. the spectacle of G1 is compelling. Moving from my HO loft to John Butler's G1 railway at the tail end of the '90s, I saw French G1s, powered by methylated spirits moving with a heavy, realistic feel and was smitten. My focus was on the locos and the rolling stock, set in a lovely garden under a sunny sky with a glass of red. What could be better? I was looking, watching, enjoying the sights and sounds - but not the smell. The smell returned me to earlier years with sons and their Mamods. The right smell can be done but I have an enduring image of G1-ers grappling with their small, coal fires, on their knees at Simon Duhamel's track and so a somewhat compromised railway scene - in Chris's terms when criticising 5" gauge, "bl**dy humans get in the way". This is also echoed by a past chairman of G1MRA who was always telling people to "leave it alone and let it run by itself". 5" gauge locos do not run by themselves, they are built to be driven. They are wonderful to look at on their own (do you remember the glass cases in the basement of the Science Museum?) but not a splendid sight with humans behind, sitting astride trolleys or, worse still, sitting on top of carriages. Their allure lies predominantly in driving and, for those with the skills, the construction. (Way beyond 5" gauge, of course, comes the delight of, say, the RH&DR where stations and paraphernalia are real, albeit scaled down). These illustrations, I feel, lend support to my own view that G1 is at the height of railway modelling - for looking at - and, therefore, coming under Peter Bird's Category Nº 1.

However, this would only reflect the view that G1MRA should concern itself with the spectacle aspect of the hobby which is much more difficult in the garden than it is in the loft. Up there I have lights, remote operated turntable, engine sheds, a station, a tunnel - and so on and all at "ground level", no raised track anywhere. Some of these features can be achieved out of doors but the convenience of a raised track and the lurking humans can never fully replicate the prototype. What of the great pleasures and satisfaction of building, modifying, maintaining and successfully running a G1 loco and rolling stock? These values obtain in the other modelling scales, scratch or kit built N, OO/HO, O, although where the dividing line is drawn between "model making" and "model engineering" is a bit tricky. Maybe this is a defining characteristic of G1 and why it lies on the cusp of the two. If this analysis is valid then we are firmly into Peter Bird's Category Nº 2.

With sharp focus and the sheer joy of running a loco with or without coaches or wagons there is room for Category Nº3. Satisfaction of a purchase or completion of a build whether kit or scratch as the object of a run is a deeply felt experience with all its attendant pleasures. Running trains can be just simply enjoyable.

Mentioning "sharp focus", may I be allowed a few words of apology for my slightly shifted gaze?

In the mid '70s I was fortunate enough to become involved with a great enthusiast's 10.25" gauge railway. He had an ex-Greenline coach with the rear seats removed into which we used to load a mass of portable track. This was taken to fêtes and galas with the passengers hauled by a "Terrier" called "Crowborough". It was at the controls of this loco that I learned to drive a real (miniature) steam engine and appreciated the demands and satisfactions of regulator, gauge-glass, fire-box, injector and so on whilst in motion. Many of these challenges are catered for in G1 locos but not the hands-on, burnt fingers joy of being driver and fireman "on" the footplate, the smell of a coal fire and hot oil and the feeling of being moved by ones own actions. Sharp focus because looking at 5" gauge from outside one can be troubled by the juxtaposition of adjacent humans. But the locos themselves are truly LBSC's miniatures and driving them is as close as many of us will ever get to the real thing. They are, arguably, the real thing which leads us back to the crux of Peter Bird's questions: the core of model railways and the core of miniature locomotives. For me G1s are large models and 5" gauge are miniatures.

There is room for us all and I should want to argue that all three of Peter Bird's categories lie within the realm of G1MRA and that there is no need to try and establish a selection. Members will naturally gravitate toward fellow members with similar leanings and if we want to focus on a paradigm for the Association's activities then this must surely be the summer gatherings. These allow and cater for all aspects of the collective enthusiasm on tracks which are either just that or those with more accent placed on railway accoutrements. Any association is surely an enabling organisation within certain parameters not one which constrains excessively. Up at the 5" gauge track our focus is on driving miniature steam locomotives. Up in the loft my focus is on railway modelling. G1 encompasses elements of both with all the advantages and all the constraints. You pay your money and you make your choice and enjoy the privilege of being able so to do.

John Wood

Dear Editor

In the past few years we have had letters and articles in the NL&J regarding the firing of Gauge 1 locos by coal, meths and gas. The meths articles mainly relating to the type, height and performance of wicks.

I have just acquired a John Barrett built loco which is fired by a vapourising burner. I have written to John regarding instructions for this type of burner and at the same time I was wondering if there are any members who have experience in the do's and dont's of this type of burner.

I have Gauge '0' Bassett-Lowke engines with vapourising burners but these rely on a small pilot light to vapourise the spirit. I can't see without dismantling the burner any sign of a wick.

Having been to various exhibitions and Get Togethers I don't seem to have spotted a loco fired in this way. Any hints

or tips or maybe an article in the NL&J would be appreciated.

Regards
John Lovell (2085)

We know that Ralph Bagnall-Wild has a City of Truro with a Barrett vaporising burner that he lights by placing a tray of meths underneath the burner. Perhaps he would like to comment? Ed

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Dear Editor,

In Charles Bednarik's article on "Steam Across the Pacific" (Newsletter 228), the railwayman standing beside the Japanese engine D51200 appears to holding a furled pink ladies' sun umbrella.

Is this an aid to operating a steam engine which is peculiar to Japan, or it also used here in Britain, but the enginemen have so far managed to keep it a secret?

Regards,
Ian Russell (3136)
Dorking

On my visit to Japan nearly everyone carried a brolly and we knew why, it rained all the time! PT

Dear Editor,

My thanks to Richard Nixon for his information in issue 228 of the Journal, in my search for the other engines (electrically powered from a centre rail) and rolling stock from the Gauge 1 garden layout in Pine Grove, Brookmans Park. He is quite right in that we bought the house there in 1986 from Mr Wylie's niece and her husband, when our engines and rolling stock came as a bonus with the house. I also remember Pat Clarke's layout on the edge of Brookmans Park, which had some of the other Gauge 1 material from Pine Grove. When I went to see the Vintage Tinplate Trains Group layout at Tewin in January this year, Robin Saxton recalled visiting Pat Clarke, and he produced an article about his layout from the Model Railway Constructor of 1968.

I took both my engines to Tewin, where Peter O'Kane kindly worked his magic on them. It was a stirring sight to see the engines running smoothly round the track there, the first time either of them had turned a wheel for perhaps 50 years!

Regards,
Malcolm Holliday (4280)
St Albans

Dear Editor

I was glad that Richard Nixon in his letter in NL & J 228 recalled that the previous occupant of Malcolm Holliday's house was an early Gauge One member, Mr Wylie. Members will be interested to know we have several photographs of his

gauge one railway in the Association archive. I included two on page 21 of my Pictorial History of GIMRA but here are two more. Note the line was centre third electric but engines puffing were achieved in the photographs by inserting cotton and wool in their chimneys!

Michael Wrottesley- (251) London

Dear Editor

I welcome our new Chairman with his understanding of the multiple interests of the Members and recognition of their knowledge and talents that are available for the promotion of the Association.

During my term as a Committee member, between 2000 and 2005, two surveys were carried out. The first resulted in the location of each member within the U.K. being presented on a map. It revealed 50% of the members resided in the south east and the rest were scattered., for the second our Secretary promoted a survey of running tracks. This was poorly supported. Are we too shy to acknowledge our hobby or afraid to disclose our investment and worried about our security? It may be enlightening to have an all embracing survey, as we have for Traders, but perhaps nearly impossible for Members.

In 2000 the Committee saw the need to promote Gauge One. with the investment in our portable exhibition layout Dobson Bridge. Since then we have been more openly on show to the railway model public by attending exhibitions. Many more Area Groups have portable layouts with Association support. There is a steady increase in membership. Most layouts, portable and garden railways are constructed for live steam running, tail chasing, waist high test tracks with minimal scenery.

Issues of health and safety are an ever increasing concern to promoters of indoor venues. Perhaps an all electric layout using modern technology and remote control with convincing scenery would appeal to a new generation of members.

Peter Badcock – (735.)
Hemel Hempstead

TRADE NEWS

INTRODUCTION

As our economy trundles along in the doldrums, many of our traders have hit lean times and are reporting a drop in orders. So please do your best to support them through this difficult period. For Peter Spoerer Model Engineers things have been particularly trying, following a disastrous fire in Peter's workshop – see Peter's article elsewhere in this issue. As a result he has been unable to develop much in the way of new products this quarter, and products advertised in the last G1MRA Newsletter, like the card wagon kits and Britannia radio control kits, he was unable to put into production and bring to the market place. Peter has asked me to thank readers for the patience they have shown during this particularly difficult time. Production of both wagon kits and Britannia radio control kits has now resumed, and both products are available from stock.

Featured below is some interesting new radio control equipment from Brian Jones, and a gas fired, Stanier 8F loco from Robin Spicer - a new Gauge 1 supplier. This appears to be a fine looking engine, and a useful addition to the stable of ready to run locos available to us. There's sure to be some speculation on its birthright, however, and on issues surrounding the development of locos in China!

Bob Carter

G.W.R./B.R. HALL CLASS LOCO

Latest addition to the Tower Models range will be a Hall Class locomotive, supplied fully assembled and in basic factory painted green or black livery. The Hall will feature compensated driving axles, sprung buffers and screw link couplings. As always, a very high level of detail is featured including the backhead and substantial amount of underframe detail. The powerful 12 volt motor makes the locomotive suitable for indoor or outdoor use and it is possible to fit radio control if required. The standard factory paint finish is plain green so lining, numbering and nameplates are required to complete the locomotive.

In factory painted green the Hall costs £1600.00. Tower Models can also supply the Hall fully finished in the GWR or BR lined liveries, with the customer's choice of name and shed plate for a total of £1950.00. The Hall is also offered with optional light or medium weathering for an additional £60.00. The Tower Models painting and lining service takes approximately 3 months to complete through their own workshops.

Delivery of the Gauge 1 Hall is expected mid to late 2011. Advance orders are already being taken now, for immediate delivery upon release. This can be useful in regard to the fully finished models, as it saves time in getting the relevant plates made to order.

For contact details see Tower's advertisement in this issue.

RADIO CONTROLLED ROYAL SCOT LOCO

John Riley of Finescale Brass has reminded me that in addition to the ready to run versions of the new Royal Scot loco, he is now also able to offer locos fully fitted with radio control. Either Spectrum/Viper or Train Engineer Revolution systems can be specified at £2,255 or £2,385 respectively.

John also advises that he has now received the final delivery of the 1/32 black petrol tankers.

See Finescale Brass adverisement in this issue for picture and contact details

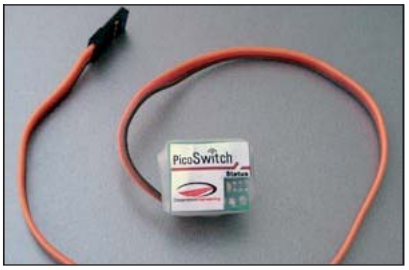
SPEKTRUM AR600 6CH. 2.4GHZ RECEIVER

Now being stocked by Brian Jones is the AR600, a 2.4GHz, six channel, single module, full range radio receiver from Spektrum. The AR600 uses the same hard plastic case as the 5 channel AR500, but whereas the AR500 has two Aileron connectors, the AR600 only has one. The other becomes the sixth or 'AUXilary' channel connector. Just the ticket for those with a Spektrum DX6i set who want another control. Whilst 'Aux' is just a switch operation, the amount of movement is adjustable, by on screen settings at the transmitter. With a DX6i these settings can be stored in the transmitter memories.

The new receiver has all the same facilities as its five-channel brother i.e. low battery voltage detection and indication, programmable fail-safe etc. As it uses the same case as the AR500, it's the same size i.e. 30mm x 21.5mm x 12.5mm, and the voltage range is also 3.5 to 9.6v. It likewise also has two antennae, one 152mm long and the other 30mm. As it's a full range receiver it's quite useful in metal locos where the signal can be attenuated (reduced) by the metal bodywork. This helps prevent loss of control when the loco is farthest away from the transmitter, which can happen with short range 2.4GHz equipment. The current price of the AR600 at the time of writing is £42.99, but may have changed by the time this gets into print.

PICOSWITCH R/C SWITCH

Brian is now also selling a useful little R/C device called a Picoswitch.



Designed in the USA by Dimension Engineering, Picoswitch is a radio-controlled switch which is fitted with a miniature relay. The actual switching, therefore, is done by the relay's contacts, like a manual switch, but under radio control from your transmitter. As these contacts can switch up to 1 amp, it makes it ideal for almost any low current, non-inductive, switching applications such as operating trigger inputs on sound cards, or turning lights on and off, or remote triggering of a camera. Brian says that this type of device was once quite commonly available from several UK suppliers, but one by one they have gradually disappeared from the market. So, it is very handy to find that there is now such a device available.

The price is also a reasonable £13.99 plus £2.50 post and packing (by recorded delivery).

NEW PROGRAMME SOFTWARE FOR THE FX4U DIESEL LOCO SOUNDCARD

Brian has produced all new program software for his FX4U sound card for diesel locos. Called simply RESt© - Radio controlled Engine Sound technology, it enables the engine sound of diesel locos to be set at any speed by radio control, to reproduce the effect of a loco working hard, but moving slowly, or coasting at speed, with the engine ticking over.

You can also just rev the engine whilst standing still, if you want.

At present the REST© option is just available for the Class 37 diesel, but in due course will be made available for other diesel sounds in Brian's sound library, notably the Class 66 and Class 158 Sprinter DMU. TheFX-4U uses digitised recordings of real locomotives, which Brian says is the only way that a model loco can be made to sound just like the real thing, rather than a vague simulation. The basic 2-watt FX4U is still available at £90, with a radio control horn option for a further £9. The new REST© option also includes R/C two tone horns and costs a further £24 on top of the basic price i.e. £114. A 2-watt 66mm or 75mm diameter speaker is also included in the price with each version. With all these features, at least a 3 channel proportional system is required: one for traction control, one for horn sound, and one for the engine sound. A 2.4GHz aircraft set is ideal for this purpose, as it has a ratchet throttle channel which is just perfect for the REST© option.

BUDGET PRICED 2.4GHZ R/C COMBO

Brian is now supplying a new budget price 2.4GHZ system for those just entering radio control. This is theT5 2.4GHz combo for use with his Macfive controller. Until the advent of the T5, Brian had considered other so called budget systems wanting The T5, he feels is different: it is electronically 'rock solid', and comes with an excellent, clear, concise instruction booklet, written in plain English!

The T5 is a 5 channel transmitter and a six channel receiver. The latter is called the R6M and is also available as a separate item. Brian emphasizes that this is a 'no frills' package. So don't expect lots of bells and whistles. Accordingly, it is just a 'park fly' system, for around 50 metres range, i.e. not full range. This could be shorter still with metal bodied locos, but with careful receiver installation, this should not normally be a problem. On test, Brian found that his metal-bodied Class 37 diesel, could still receive a signal from over 70 feet away, with an aluminium-framed conservatory in between! You also don't get a low battery warning on either the transmitter or the receiver. The R6M receiver is housed in a thin film plastic case, and is not polarised, so the instructions must be read carefully to make sure plugs are being inserted correctly. The transmitter, which only needs four AA cells, does have a digital LCD readout of its battery voltage, and the fifth channel on the transmitter is a switch, which can be set for slow action movement. This setting is housed under an opaque front panel along with the four channel reversing switches for the joysticks. The throttle stick has a ratchet, whilst the other three movements are sprung 'return to centre', like most 2.4GHz aircraft sets. The transmitter is well made, with a good case and aerial, all of which feels very robust. It is a simple straightforward system.

Whilst you may have to make one or two compromises, for example on range, other than that it is an excellent system, ideal for those working to a tight budget.

See Brian Jones advertisement in this issue for details

STRAIGHT TRACK TEMPLATE

Cliff Barker tells me that along with the existing radius templates, he is now able to provide a straight template for perfect straight track laying. This measures 915mm (1 yard) × 45mm in laser cut 3mm aluminium, and is also available to those G1MRA members who dabble in "Gauge 3", 915mm × 63.5mm.

Priced at £9 and £11 respectively.

EXTENDED RANGE OF READY MADE TURNOUTS

Cliff's range of Ready Made turnouts has now been extended to offer a wider choice, especially to those who require sharper radii for exhibition layouts where space is at a premium.

Left hand, Right hand, or Y radii of 2000mm (6' 7"), 3250mm (10' 8"), and 5000mm (16' 5") all available with the latest code 180 rail in either brass or stainless steel, and with the fine interlocking sleeper unit.

These come with a choice of either lost wax frog unit and lost wax blade unit, or 'built up' type with machined blades and lost wax brass or nickel silver tiebar.

Prices from £65.

10-20 CELL FAST AUTOCHARGER

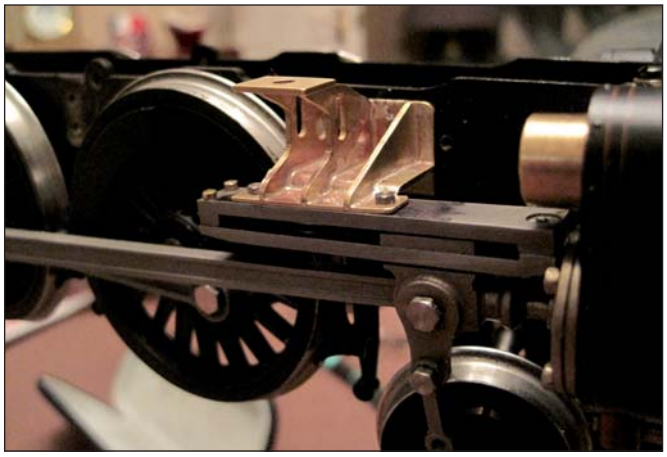
Strictly on a first come first served basis, Cliff has a limited supply of super quality 10 to 20 cell fully automatic chargers. Output is 41 volt, fast charge at 1.8 amp, top off charge at 250ma then a 60ma trickle charge. These are fitted with a 2.1mm charge plug and are made in Norway, and are very good quality.

Priced at £25.

For contact details see Peter Spoerer's advertisement

SLIDE BAR KITS FOR G1MRC BRITANNIA

To enhance your Gauge 1 MRC Britannia, Model Engineers Laser can now provide motion and slide bar brackets in



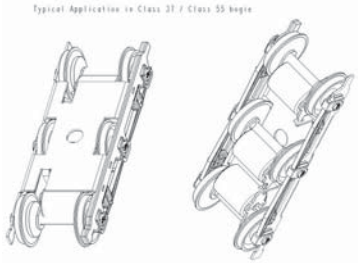
1/32nd scale. These are easy build kits that can be either silver soldered or soft soldered together. They appear to be very realistic. Model Engineers Laser is also offering a full range of BR1 standard tender kits from A to G.

See MEL advertisement in this issue for contact details.

12V FOSMOTOR

The standard FosMotor has been on the market now for four years

with a 4v - 6v motor. Peter Spoerer Model Engineers can now offer this little nose hung motor and gear box in a twelve volt version, The



FosMotor 12V. The 34mm diameter wheel sets are made from polished blackened steel with three small holes in the discs, and are to G1MRA standards. The 12v motor has wires already attached to the terminals, and is supplied with a traction bracket. The motor pinion, and wheel spur gears are arranged exactly like the real thing in a real motor bogie, and are made from extremely tough and durable plastic. The motor and wheelsets fit inside a motor bogie, and are nose hung just like the prototype. The problem of motors sticking up into the body space disappears, and there are no chains and sprockets to worry about. One, two, or three FosMotor 12V's can be fitted in any one bogie. Peter says that if four FosMotor 12's are employed in a large Gauge 1 diesel loco such as a class 37 etc., the performance is quite spectacular! Under radio controlled test conditions a very heavy train of coaches was easily be pulled at express speeds around the tight radiuses of a G1MRA portable track.

One FosMotor 12V, £29.50. Set of four FosMotor 12Vs £110.00 Add 10% for P&P.

See advertisement in this issue for contact details

GAS FIRED STANIER 8F

I have received details from Robin Spicer of a gas fired Stanier 8F which he will be importing for sale here. The loco has been developed by the Chinese firm Bowande. The loco features an axle pump and hand pump in the tender, lubricator housed in the cab, and will run for 45-50 minutes on one gas fill-up. It is to be offered in either BR unlined black livery or maroon. Robin reckons that Bowande have learnt a lot from their first release, which was the BR standard 4MT, and have improved the gas burner, wheel casting quality, and the fitting of the wheels to the axles.

Robin's main business has been importing Baby Grand pianos from China, and this is a new venture for him to fill in during the spring and summer months, when piano sales are a little on the quiet side! Initially, at least, he plans to market the locos on E-bay and is expecting to have stock available around the time you receive this newsletter. Price is expected to be £2,795 + postage.

Contact Robin Spicer, 21 Ardmore Road, Lower Parkstone, Poole, Dorset, BH14 8SA
E-mail: steampiano@aol.com
Robin's e-bay i.d. is gaugeonesteam

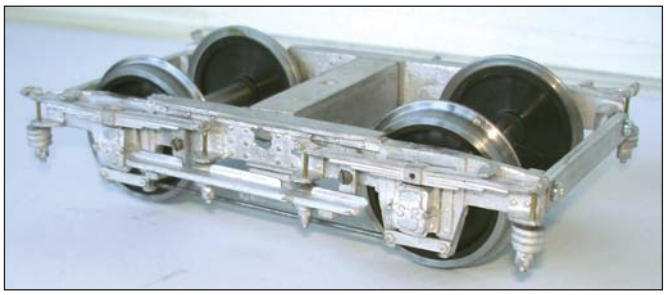
S.R. BOGIE BRAKE VAN (QUEEN MARY) KIT

Following on from the popular BR Brake Van kit launch last year, Tenmille have now produced a further kit this time for the S.R. Bogie Brake Van (Queen Mary). As with the BR brake van, the kit consists of precision laser cut wood parts (wood being the authentic material) with a planking effect on the body panels, and locating tags for easier assembly. The detail fittings consist of brass, with bolt head detail included where applicable, and no soldering required. The kit is also supplied with turned brass/steel sprung buffers and couplings. Bogies and wheels are not included in the kit but are available separately from the Tenmille accessory range. There are two specifications of bogies available – white-metal compensated order code AG140W, and brass with sprung axle-boxes order code AG140B. Tenmille suggest checking their advert before ordering.

The price for the kit is - £82 inc. VAT.

S.R. BOGIE KIT

With the launch of the new S.R Bogie Brake Van Tenmille have made some improvements to their S.R. bogie kit AG140W. This includes stronger side frame castings and easier assembly. The kit includes bearings and screws. The kit is £40 inc. VAT per pair.



Available from Tenmille Products, Ash Cottage, Offton Road, Ringshall, Suffolk, IP14 2QA
Tel: 01473 657957
E-mail: trains@tenmille.com

LOCAL GROUPS - CONTACTS & NOTES

In addition to the fixtures shown at the back of this Newsletter, each of the local groups below organises its own events.

Please contact the members listed below for details of the local group's programme. (Advise changes to peter.trinder@coldwaltham.net)

Bristol Group of some 25 members with about 10 tracks in the area meets on most Saturdays and a few weekdays from Easter to late September. New members welcome. Contact: Martin Veasey 01225 460367

Chiltern Group is a friendly group with the majority of members situated between Luton, St Albans, Chesham and Aylesbury. Between us we have a number of tracks and have regular running days during the month. If you are interested in joining then call Bob or Garth for meeting dates and times.
Contacts: Bob Gamble 01582 696820 or Garth Bridgwood 01442 214441

Cornwall Group meets generally on the fourth Sunday of each month (phone beforehand) and also on every Thursday from mid afternoon. Meetings generally held at Nick Wilder's, phone to check. Visitors welcome. Contact: Nick Wilder 01726 61502

Cotswold Group We are a small group, please contact me, Robin Mosedale, 01285 862 440, or e-mail robin@mosedale.mail1.co.uk

Dutch Connection: A number of GTG's at member's homes in the Netherlands are organised each summer; contact Fred van der Lubbe +31 (0) 255515236 Email: fred.van.der.lubbe@planet.nl

Essex Group meet every Thursday between 10 a.m. to 1 p.m. at various local tracks. Contact Cliff Barker 01702 217422 or John Lovell (Boiler Testing) 01702 476707

East Anglia Group meets on the last Sunday of every month. Contacts: Richard Hill 01359 251499 or Geoff Calver 01638 721238

East Dorset and New Forest Group. Meetings held on the second Saturday of the month all year.
Contacts: John Bareham 01425 280411 (jdb8512@talktalk.net) or Peter Armstrong 01425 276587

East Midlands Group. For running days, see http://G1eastmids.club.officelive.com Contacts: John Squire 01400 272270 (squmus@btinternet.com) or Terry Geeson 01400 281893 (terry.geeson@radius-systems.co.uk)

Hants & Sussex Group meets on Sundays and or Tuesdays. Contacts: Bill Whiting 02392 483030 or Martin Hughes 02380 402103

Isle of Man Group meets every two months. Visitors to the Island should phone ahead and bring a loco.
Contact: John Messenger 01624 628081

Lincoln and Humber: Regular programme of events, runnings and visits. Contact: Phil Sheard 01472 291934 (day) -01472 697334 (eve)

Mid-Kent Group - Details of the 2009/10 programme can now be found on the G1 Website, Local Groups, Mid Kent - if no access to computer - Contact: Frank Norton 01843 - 842120 - email: mayandfrank@btinternet.com

Midland Group Contact: Phil Shrimpton 07935 248 355 or Jeff Towe 02476 733845

Northampton District Group Contact: Paul Barford 01604 457558

North London SME Gauge One Group - Meets and holds running days with barbecue every Wednesday between 11am and 4pm throughout the year at Colney Heath near Hatfield. Contact: Malcolm Read 020 8723 1606 or Nick Rudoe 020 8446 0338

North Norfolk Steamers - We have regular running days organised throughout the year on local outdoor tracks.
Contact: Mervyn Myhill 01263 860559.

North West Group Fixed meetings are second Saturday from April to October but we have a lot of ad hoc meetings. Meetings arranged for visiting GIMRA members – Contact: John Lindars 01942 816902 See our details on the G1MRA web site.

North West Kent Group meets regularly on the second Friday of the month from September to May.
Contacts: Barry Applegate 01732 351013 or Tony Riley 0208 3010105

Oxford Group Contacts: K Wilkes (electric) 01993 842016. For steam contact Robin Mosedale of the Cotswold Group.

Peterborough Group - Regular meetings. Contact: Peter Bird 07747 824113

Salisbury and Stonehenge Group meets second Monday of each month in Bulford Free Church Hall.
Contact: Richard Boast 01980 652921

Scottish Group - Running at Martin Ford's line near Aberdeen every 6th Sunday. Contact: Stephen Millward 01542 841237

Scottish Group (Central) Contact: Les White 01236 761872

Surrey Group meets on the fourth Tuesday of most months, and on a few other dates. Contact: Alan England 01932 400282

Yorkshire Group normally meets every second and last Sunday in the month from April to September at various venues in the region. For a full running list please contact: Peter Vincent 01246 590259 or email: pvincent@eggconnect.net

Vintage Tinplate Group operate about 12 working vintage train layouts per year at Model Railway Shows, Toy Fairs, Exhibitions, Fetes, in the Greater Midlands area. A newsletter is issued quarterly between Journals. Contact: Dave Orchard 01527 874988 or Craig King 01622 851807

Australian Group: *Your Membership co-ordinator's address has changed* - Email is: locowork@arcom.com.au

Danish Group: Meets first Sunday of month. 13.00 - 17.00 at the "Hotel Krogen layout" Dining at 2 times through the year. (March and November) Contact: David Clement Email: don@clement.dk

German Connection Contact: Joachim Wolf +49 (0)761/290539 Email: g1mra.d@googlemail.com

Great Lakes Group, Canada have a comprehensive and varied calendar of two-day get-togethers, Friday pm/evening steam up every other week for the Ottawa area at David's, and Dick Abbott has regular steam ups for Toronto area members.
Contact: David Morgan-Kirby (613) 836 6455 inside Canada

New England Group (US) Monthly get togethers April-November at various members houses. Contact: Don Jackson 207-633-4335 email: scotia77@myfairpoint.net

New Zealand Group Members have frequent, informal GTGs, both live steam and electric (track & battery). Aiming for 'open to all' GTGs bi-monthly. Contact: Bert Wettenschwiler +64-9-828 4321 Email: wettebe@xtra.co.nz

Pacific Coast Live Steamers (Central Division) meets once a month March to November, on a rotating basis, at various members' homes. Track times are usually 1100 until dark or hunger overtakes. Single dish lunches are provided. Some beverages are available, but it's best to bring what pleases one's individual palate. Guest steam powered locomotives are always welcome.
Contact: Tony Dixon 1-925-454-1245 Email: tony@mfcomputing.com

Seattle Live Steamers meet fourth Saturday of each month at members' homes, 10am-5pm (coast time). A pot luck goodies table is provided, each member brings something. We also meet on the second Saturday of each month at Boeing Field, Georgetown.
Contact – Peter Comley, 253-862-6748, sales@svrronline.com

Swiss Group: Contact: Christian Schmutz +41 61 711 82 04 Website at :- www.g1mra.ch - Email: csc@csc-schmutz.ch

MEMBERS' ITEMS FOR SALE

MEMBERS ARE STRONGLY RECOMMENDED TO TAKE THEIR OWN PRECAUTIONS BEFORE PARTING WITH MONEY IN RESPONSE TO ANY ADVERTISEMENT

Aster USRA Light Mikado 2-8-2 locomotive and tender. Black, silver s'box, unlettered. Fully built up by North Jersey Gauge 1 incl. axle pump and detailing kit. Pristine and never run. Includes wooden carrying case. £2700
Aster 2-4-0 LNWR 'Jumbo' No. 790 Hardwicke. In original Aster kit box, never built up. £2650
North American freight stock: 5 × J&M Boxcars as follows : 2 × Spruce Falls, 1 × Pennsy, 1 × RS&P, 1 × ATSF.
3 x USRA 50T. drop door Gondolas. All in UP yellow by Iron Horse from Precision Scale. ..... All 8 cars for £800

Neil Rose - (957) - 01672 515100 Email: neil.rose1923@sky.com

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Marklin G1 KPEV 0-8-0 tender locomotive numbered 4958 with smoke - ..... £380 ONO
LSWR/SR/BR B4 0-4-0T - £300.00, or body only £150
SR/BR Queen Mary Bogie Brake Van with G Scale bogies - £100.00, or body only - £80.00
GER/LNER/BR J69 0-6-0T £350
GER/LNER/BR/Toby J70 - £300.00, or body only - ... £150
Please send me an E-Mail request if you require digital images of any of the items.
Items may be collected from Taunton, Thame or Petersfield by arrangement, otherwise P&P will be at cost.

John Perkin - (4054) 26 Haines Park, Trull Road, Taunton, TA1 4RG
Email:- johnbperkin@yahoo.co.uk

Aster Pannier tank No. 8763, BR black livery. Factory built, unsteamed, mint condition. Complete with box etc. ..... £1,675 o.n.o.

Martin Ford - (533) - 01224 790052

A rare opportunity to buy a Dave Brutnell built locomotive. A fully detailed LMS 7F 0-8-0 in plain black. Pictures available by email or post. ..... £5250 (possible exchange for a Martin Sheridan loco)

Derek Pollard (413) - 01473 311384
Email: derek@dpol.co.uk

Aster T3 0-6-0T Bavarian Green, excellent steamer. and four Marklin 4 wheel coaches. Prefer to sell as set. Any fair and reasonable offer considered.

Frank Wear - (352) - 705 812 0900 Ontario Canada, or wearmore@cogeco.ca

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Five locomotives built by Peter McCabe and one by Aster. The McCabe locomotives are gas fired using car tyre valves for filling the gas tank. (see Newsletter 185, p26).
4-6-2 A3 "Grand Parade" BR Green No. 60090, 2cyl. £3950
4-6-2 Crewe Turbomotive LMS No. 6202..... £2750
4-4-0 Midland Compound No. 1000, 3cyl. £2500
4-4-0 SR Schools "Charterhouse" E903, 3cyl..... £2000
0-6-2 Brecon and Merthyr Tank No.35, 2cyl. £1000

0-6-0 Aster GWR Pannier Tank No.6752 (meths fired). £1300
Complete with box and instructions.

These locos can be seen by appointment at Godalming and for further details in the first instance please call or email
Mike Lucas -(1080) - 01825-872294
Email: millbankcottage@googlemail.com

Aster Bulleid 'Sir Winston Churchill' £3500
Aster Bulleid 'Spitfire' £3500
Both brand new. Built by John Lawrence

Keith Cousins - (717) - 01908 230445 Mo: 07738 460250

Aster Schools 'Winchester', factory built model, mint condition having never been fired. All original factory packaging and outer box. An absolutely pristine as-new collector's item..... £2200 ono.

Phil Flint - (3811) - Tel: 01590 645567
Email: flints@onetel.net

LNER J20 GER D81 built by Tom Barratt. Painted & lined in GER Grey, drain cocks. Up to date boiler certificate. £898

Patrick O'Donnell - (3786) - 01279 412943
Email: pulbah44@yahoo.co.uk

Aster Beyer Garratt 4-8-4 + 4-8-4
Only Test Steamed - Perfect condition as new €12,000
Available Pictures By Request

G Domenichelli - (882) - Email: gicosan@Libero.it

Aster Pannier Tank for sale, in first class condition. Green GW livery. Latest type crankshaft, asking price which will include delivery £1600

Ivor Scott, - (673) - Email: imscott@aon.at

WANTED

CLASS 76 1500 V DC ELECTRIC LOCO
I would like to obtain an etched body kit for above class locomotive.

Alan Daines - (4374) - 01303 263007

A MR 242T engine with 3 coaches (4 and 6 wheels) were for sale on the second hand stall at the AGM last November. If these items are still for sale please contact…

John Osborne - (1638) - 07732 672 861

Looking for an Aster 232 U1. Prefer an unbuilt kit, but would be interested in finished models as well.
Also looking for Aster JNR Coaches, any condition.

David Clement - (4171) - Phone: +45 3022 3302
Email: don@clement.dk

Wanted - Tinplate tender for Sir Sam Fay. Any restorable condition acceptable.

Richard Hill - (1001) - 01359 251499
richardnhill@btinternet.com

Narrow Gauge and Industrial Railway Review, individual copies, runs or bound sets. Also any books or material relative to narrow gauge, mining or industrial workings, especially military lines.

Ieuan Lewis - (925) - 020 8295 3266
or Ieuan.lewis@gmail.com

WANTED Unbuilt, complete, Barrett Engineering Atlantic kit

Derek Pollard (413) - 01473 311384 Email: derek@dpol.co.uk

Wanted - Scale Drawings for G1 Duchess electric or steam. Also Fixed 90° machine table for Alexander Toolmaster Milling Machine.

Fred Hodson - (3055) - 01942 513161 - 07815 610087

Wanted : Aster Black 9F, kit or built locomotive.

Tony Whibley - (2047) - 01580 762004

Members' SMALL ADS for Gauge One items are free. Send them to Peter Trinder, 19 Silverdale, Coldwaltham, West Sussex, RH20 1LJ or by e-mail: peter.trinder@coldwaltham.net by the press closing date. Please quote your membership number with your advertisement copy.

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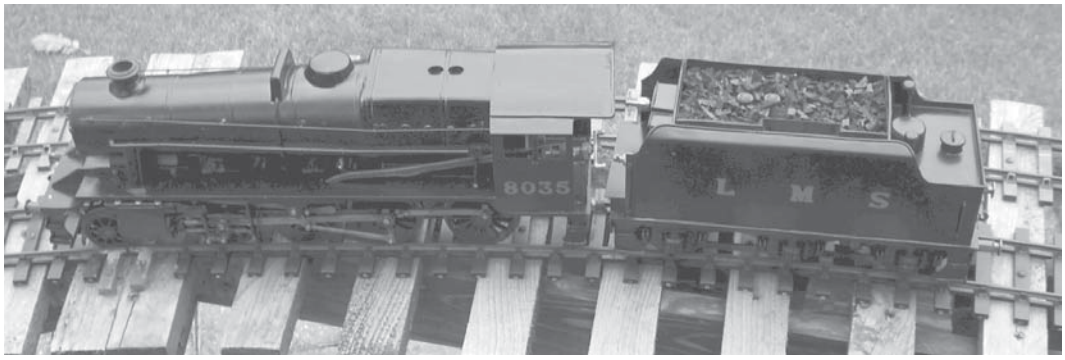

See You At Harrogate

ARMIG (Parts are tabbed and slotted for a fast construction)

Main Frames (Pair)	£12.48	Rear Bogie Kit	£3.31	Wheel Quartering Jig	£3.49
Stretcher set (Main & Bogie)	£5.39	Rods (Pair)	£5.37	Front and Rear Buffer Beam (each)	£2.65

LMS 8F

Main Frames	£21.59	Front Bogie Support Plate	£3.12	Smoke Box Support Frame	£6.49
Stretchers	£4.44	Rods Set	£11.48	Cab Kit	£19.07
Motion Stretchers	£5.14	Crosshead kit	£8.49	Running Boards	£24.49
Front Bogie Stretcher	£3.77	Motion Work	£8.74	Tender Frames & Beams	£16.05

Britannia in 10mm or 1/32

Main Frames (pair)	£25.53	Smoke Box Support	£7.61	Motion Rods (Pair)	£6.69
Rear Frame Kit	£7.05	Cab Kit	£46.76	Radius Rod etc. (Pair)	£9.12
Front Bogie Kit	£5.49	Left Hand Motion Brkt	£13.04	Tender Chassis Kit	£15.59
Front Buffer Beam Kit	£3.79	Right Hand Motion Brkt	£13.04	Tender Body Kit (BR1A)	£48.86
Bogie Bolster Kit	£5.18	Slide Bar Brackets(Pair)	£16.37		
Main Stretchers	£7.92	Rear Pony truck kit	£30.68	**Jigs**:-	
Other Stretchers	£9.55	Cylinder Mounting Plate (Pr)	£18.05	Rods Jig	£3.44
Motion Parts	£12.77	Event Plate (Pair)	£12.43	Cylinder Setting Jig	£4.37
Crosshead Kit (pair)	£6.64	Rods Kit (Pair)	£12.85	Drawings	£25
Slide Bar Kit (Pair)	£6.32	Equaliser Beams (Pair)	£4.02	Boiler	TBA

Princess Of Wales

Loco Main Frames (In & Out)	£31.85	Tender Chassis incl Bogies	£26.16	Cab Kit	£27.81
Front Bogie and Beams	£9.55	Tender Body Kit	£75.84	Running Boards and Splashers	£45.58

The following parts are now available:-

Dee		**Project**		**Patriot**	
Complete plate work kit. Smoke box now available separately.	£135	Complete plate work kit.	£142	Main Frames and Front Bogie	£25.66
GWR 14xx		**Girton**		Tender Kit (Includes frames)	£74.13
Chassis Kit	£56.03	Loco Frames Kit	£42.24	Cab Kit	£18.26
Cab kit in brass	£65.21	Tender Kit including frames	£77.05	Running Boards & Valance	£65.12
Dot and Dianna from LBSC		Cab Kit	£18.87	**Netta from LBSC**	
Main Frames, Rods, Valve Rods, Bogie.	£53.13	Valance and Running Boards	£25.53	Main & Tender Frames + Rods	£45.89
Tender Body Kit in Brass plus Frames	£104.93	**Ruby (**From N&J 208)		**H R Castle**	
Evening Star		Plate work kit	£62.33	Main & Tender Frames + Rods	£29.18
Frames, Stretchers, Rods and valve gear.	£121.65	**Wagons**		**Ball Races for Wagon Wheels**	
Motion Bracket Kit (L & R)	£26.08	9' Basic Chassis.	£18.00	3/8 x 1/8 x 5/32 Shielded (each)	£1.50
Cab Kit	£55.24	You provide the wheels, axle boxes and buffers.)		4 off above ball races	£5.00
Tender Kit including Frames	£64.41	Salt Van Body	£37.00	**Green Arrow by Martin Evans**	
Merchant Navy		Saxa Art Work	£4.00	Frames, Bogie Rods and stretchers	£61.8
Frames, Motion Bracket, Rods.	£77.70	7 Plank (Bottom Door)	£23.00	Tender Kit (Includes frames)	£94.02
Rear Bogie Kit	£32.46	5 Plank (End Door)	£23.00	MDA Ballast Wagon Body	£59.35

Prices now include VAT. P&P at cost.

All parts available individually. Boilers available for most models. Other parts coming on line all the time. Other gauges up to 10 ¼" also supplied.
Over 7,000 parts available. Gauge 1 Black Five and LNER B1 coming soon in kit form at a very reasonable price.
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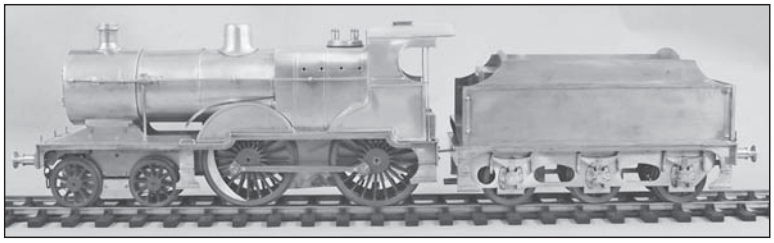
GAUGE 1 ETCHED BRASS KITS in 10mm SCALE

COACHES, WAGONS,
TRACKSIDE ACCESSORIES

LIVE STEAM STARTERS KITS

PRODUCTION STARTING APRIL 2011 OVER 12 MONTHS

LNER 0-6-0 J38 £1000



LMS 4-4-0 '2P' £1250

Designed to be assembled with nuts & bolts using sealants and adhesive to keep fluids in place. All parts can be soft soldered if skills permit. Some 10A tapping is required on the 2P for neatness. The copper boilers are silver soldered together and have been tested to 200PSI. The J38 is single cylinder whilst 2P is twin. Both have fully 'O' ring sealed cylinders & valve chests. Both are spirit fired and have a handpump in the tender.

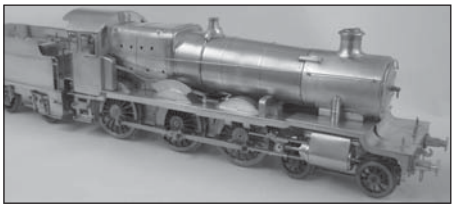
MODEL MAKERS KITS

Production started in September 2010 and all are available by instalment over twelve months.

These 4-6-0 kits are in our normal Model Makers series where all machining is done, the boiler and some important subassemblies are ready silver soldered, leaving the builder with etched brass forming, soft soldering and general fitting work. Spirit fired, they will have working outside cylinders, inside, slip eccentric driven slide valves.

GW HALL

GW LADY



GW MANOR

LOCOMOTIVE	CLASS	DEPOSIT	12 INSTALMENTS	TOTAL
GWR 2-6-2 LARGE PRAIRIE	51XX	£142	£126	£1654
GWR 2-6-0 MOGUL(s)	43 & 93XX	£165	£139	£1833
GWR 4-6-0 MANOR	78XX	£158	£140	£1838
GWR 4-6-0 GRANGE	68XX	£159	£142	£1863
GWR 4-6-0 HALLs	4900-6958	£175	£142	£1879
GWR 4-6-0 LADY square frame	29XX	£173	£143	£1889
GWR 4-6-0 SAINT curved frame	29XX	£171	£144	£1899
GWR 2-8-0 EXPRESS GOODS	47XX	£177	£143	£1889
LMS 4-6-0 ROYAL SCOT	6100	batch full		

Most of the above GW locos ran with 3500gal tenders at some point in their lives.
If you would prefer the 4000g tender please add £2 to the instalment value.
If you would like your kit posting, please add £13 per instalment.

Prices shown include VAT at 20% but exclude P&P

More information is available from our **WEBSITE**,
Or a **LEAFLET** detailing an individual loco (free),
Or a **CATALOGUE** of all our kits. Please send payment of £3:60 (10 x 1st class stamps) with your address to :-

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gaugeonelines@yahoo.com

Paul Forsyth Tel. 01604 494995

78 Laburnum Crescent, Northampton NN3 2LF

Original Drawings for Gauge One Spirit Fired Locomotives

Single Inside Cylinder Locos:-

C.R. McIntosh 4-6-0 918 class £17.00
G.C.R. Robinson 2-6-4T Coal Tank £17.00
G.C.R. Robinson 4-6-2T 'Empire Maid' £17.00
G.C.R. Robinson 4-4-0 Director Class with equalised suspension £17.00
M.R. Johnson 'Belpaire' 4-4-0 with Bogie Tender £17.00
M.R. Johnson 0-4-4T with equalised suspension & vertical handpump £18.50
S.E. & C.R. Wainwright Class C 0-6-0 Tender Loco £18.50
N.B.R. B Class 0-6-0 Tender (J35) £18.50
C.R. Pickersgill 113 Class 4-4-0 Tender Loco £18.50

Twin Outside Cylinder Locos, fully sprung: -

G.C.R. Robinson 4-4-2 Atlantic – 'Jersey Lillie' £17.00
L.T.S.R. 4-4-2T Tilbury Tank, with side tank hand pump £18.50
Highland Railway Castle Class 4-6-0, with axle & hand pumps, bogie tender £21.00
BR Peppercorn K1 2-6-0, Slip eccentric inside valve gear, dummy outside gear tender hand pump etc £21.00
L.M.S. Fowler Class 4 Compound 4-4-0 (as 2 cylinder simple) £21.00
L.B.S.C. (Southern) Marsh J1 Tank 'Abergavenny' 4-6-2T £21.00
L.M.S 'Patriot' 4-6-0 Parallel boiler £21.00

Twin Inside Cylinder Locos:-

NEW G.C.R. 9J 0-6-0 Tender Loco 'Pom Pom' £21.00
N.E.R. Worsdell Class R1 4-4-0 Tender Loco £21.00
L.N.W.R. 4-6-2T 'Prince of Wales' Tank, with vertical hand pump in cab £21.00
G.C.R. Robinson 'Glenalmond' 4-6-0 (LNER B8) £21.00

(All drawings plus £2.00 post & packing per complete order.) Cheques made payable to J. P. Forsyth please.

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Early or Late 14xx
£625.00

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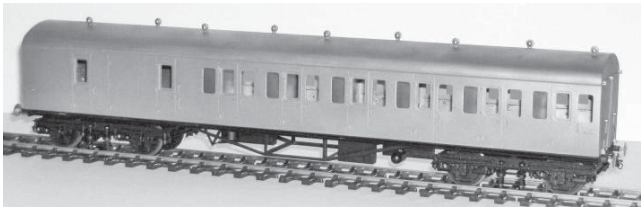
G.W.R./B.R A30 Autocoach

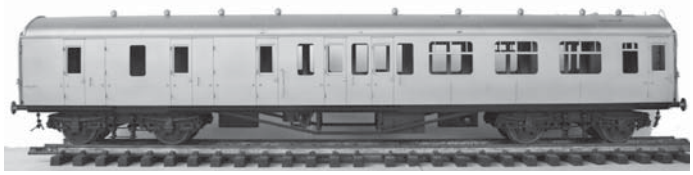


G.W.R. / B.R. Dia E147 'B' set

B.R. Mk 1 BSK (Brake Second Corridor)

NEW B.R. Mk1 BG (Full Brake)
ALSO NOW AVAILABLE B.R. Mk1 RMB

TOWER BRASS UNPAINTED BRASS COACHES WITH FACTORY PAINTED BLACK CHASSIS. £425.00 EACH ANY 4 OR MORE £400.00 EACH.



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Brass with a factory painted black chassis £500.00 each, any 4 or more £475.00 each.
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(above pictures are of D127 and E162)

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GWR 'B' set coach

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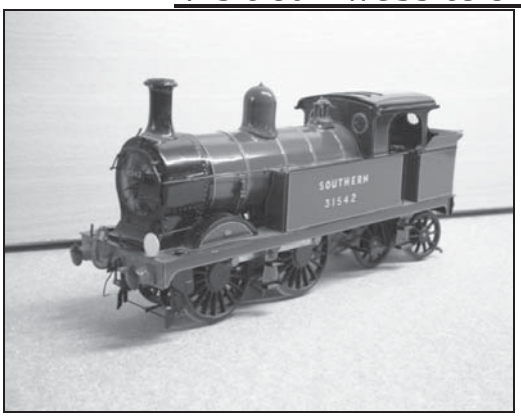
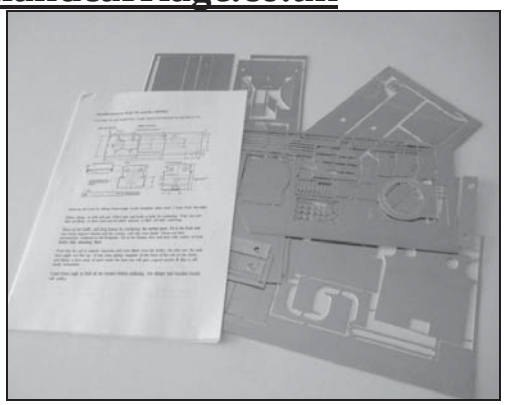


SR/BR H Class 0-4-4T



Brass etchings for ARMIG

G1-009 Nickel silver body etchings for GIMRA ARMIG Live Steam Project £75 (+ £8 p&p)
G1-010 Brass body etchings for GIMRA ARMIG Live Steam Project £65 (+£8 p&p)

W & C Works Kits in Gauge One (10mm) Scale

9F 2-10-0 £750, Britannia with BR1 tender £750, 'H' Class 0-4-4T £270, Y6 0-4-0T £180,
BR Class 08 0-6-0 Shunter £385, Class 20 £290, Class 37/0 & 37/4 £345 each,
Classes 40, 45, 47 & 50 £385 each, Class 52 £305, BR Mk1 GUV £225, BR CCT £125,
LBSC 8T Goods Van £90, LBSC Ballast Wagon £76, Met Railway Brake Van £95,
LNWR 50' Full Brake £225 ** **white metal and lost wax castings available** **

Send £1.50 in postage stamps for the Gauge One Kit catalogue

Current Gauge One R-T-R Includes:

LIVE STEAM: LNER 'Jersey Lily' 4-4-2 and tender £1995, Aster SR 4-6-2 £3395
LNER R1 (LNER D20) 4-4-0 and tender £1495, Aster BR 2-10-0 9F and tender £3650
Aster BR52 'Kriegslok' 2-10-0 £2850, Aster BR78 4-6-4 £1375, Jupiter 2-6-2 £1145,
Aster GWR 4-6-0 'King' and tender £4350, M7 0-4-4T gas fired £1695, Aster Black Mikado £2450,
ELECTRIC: GWR 0-6-0T Pannier £650, SR Q Class 0-6-0 £825, BR/SR M7 Class 0-4-4T £695
H Class 0-4-4T £695, BR Class 33 Bo-Bo with R/C £995, DB Wismar 4W Railcar £295
Aster Climax £1195, LMS 2F 0-6-0T £595, MTH Railking 4-6-4 'Hudson' £495
Marklin 0-4-0 Kof diesel £225, rebuilt Merchant Navy 4-6-2 and tender £1695, BR Britannia 4-6-2 £1695
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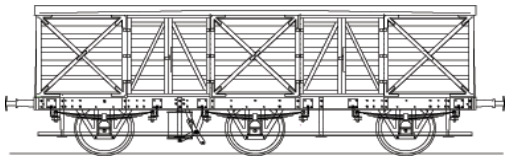
48 page booklet tracing the development and history of the famous Gauge One layout of
Victor B. Harrison containing many previously unpublished pictures £3.95 or £4.50 inc postage

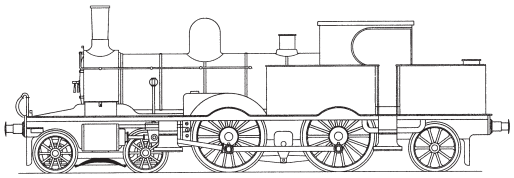
G.W.R. 6 Wheel Siphon C Dia 02



1/32 Scale Etched Kit in 0.022" Nickel Silver
2-door, single arc roof
Fixed "W" Irons or Cleminson Bogie
Wheels, Buffers, Couplings, Vac Pipes
and Axleboxes extra
all with detailed instructions

Price £95 for the Etches

LSWR Adams Radial Tank



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Adams Radial Tank Kit to build an electric driven model.

Etched in 0.028" Brass or Nickel Silver
Wheels, Motor and Fittings etc extra

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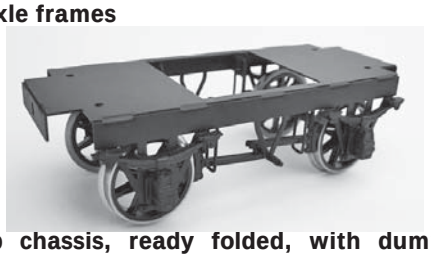
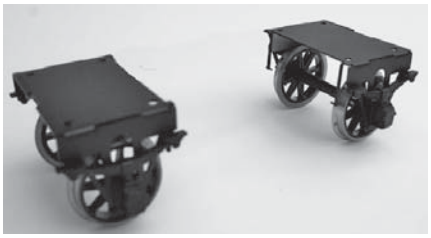


9ft w/b chassis, ready folded, with dummy leaf springs and sprung axle boxes. Kit £19.90 (wheels not included) Brake gear set £6.20

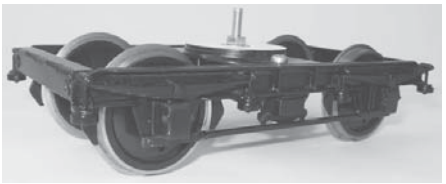
NEW!! Complete resin chassis with steel axle guard inserts. Chassis kit with axle boxes & leaf springs £19.00; Buffer set £6.20; Brake gear and draw hooks £8.90 Wheels extra



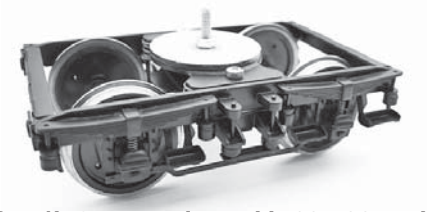
Single axle frames to suit any wheelbase, ready folded, dummy leaf spring and sprung axle boxes. Kit £17.00 (pair) Wheels extra

Coach Bogies

Strong steel frame, individually sprung wheels and bolster, detailed sides in resin and metal



9ft w/b LMS welded Bogie. As kit £27.75 each



7ft w/b GWR Bogie. As kit £35.00 each

Also available: 8ft SECR Bogie, as kit £33.50 and 8ft Fox Bogie, as kit £27.25 Bogie kits do not include wheels, but these can be supplied if required

Full details and price list from:
Peter Korzilius Tel: 01935 872960
e-mail: peter.korzilius@googlemail.com

TRADE ADVERTISING RATES

COLOUR ADVERTS

Full page, internal	£140.00
Full page, inside and rear covers	£155.00
Half page, internal	£70.00
Half page, inside and rear covers subject to two advertisers participating	£80.00
Qtr page, internal	£35.00

BLACK AND WHITE ADVERTS

Full page	£75.00
Half page	£40.00
Quarter page	£25.00

All prices are per issue.

Send your trade advertisements to the Advertising Manager:- Bob Carter, 143 Hillcroft Crescent, Oxhey, Herts, WD19 4PA - Email: bob.gauge1@tiscali.co.uk

USA advertisers can make payment via Jim Curry, (see bottom of sidebar on page 4).

Deadline for next issue is 15th May 2011.

Advertisers' Index

G1MRA DIARY

Please note that this diary contains national meetings, details of which are compiled by Peter Wood (see below). All submissions should be sent to him by the press deadlines indicated below. For Local Group meetings contact your organiser as listed on the Groups page.

April

16 **G1MRA Spring Meeting at Burleigh Community College, Thorpe Hill, Loughborough, Leicestershire, LE11 4SQ. Contact: Geoff Hammond**

17 GCR (Nottingham). The Heritage Centre, Mere Way, Ruddington. Indoor Track, refreshments + lots to see. Contact: Jim Brake.

30 Gauge 1 layout at Hereford SME. Broomy Hill Hereford (adjacent to Water Works Museum). From 11.00am. Other gauges welcome. Contact: Richard Donovan.

May

1 Richard Donovan, Burghill, Hereford from 11.00am. Camping and Caravans in adjacent field. Contact: Richard Donovan - 01432 760881

1 GTG in Valmondois, France - 1.30-7pm - Contact: Simon Duhamel

7 International Steam-up at Hotel Krogen, near Aalborg, Denmark. Very extensive track, Refreshments. Cheap UK flights available. Accommodation possible. Contact: David Clements

7 Gauge One get together and Open day, Welling & District M.E.S. Falconwood, Kent. 10 am-5 pm. Contact: John Shute

7 Get Together - Bob Symes - East Horsley, Surrey - 2pm to 6pm

13-15 Harrogate Model Engineering and Modelling Exhibition. Contact: Steve Foster

15 *Copy deadline for NL&J 230*

21 Bromsgrove Society of Model Engineers, Avoncroft Museum of Buildings, Stoke Heath, Bromsgrove. Contact: Andrew Mould - 0121 453 5733

21 Harlington M.E. Open Day – 10.30 - Contact: Dave Brutnell 01784 482248.

28 Get Together: Southport from 11.30 am. Contact: Peter Wood 01704 576122

29 Southport MEC running session. Contact: Peter Wood

June

4 Vintage Tinplate Group Annual Show at Wythall (old) Village Hall, near Alvechurch. 10am — 4pm. Contact: Dave Orchard - 01527 874988. See directions on page 57

19 Get Together – John Judson – Little Bardfield, Essex – 11.00 – Picnics welcome

25 Adam Houghton, Staplehurst Kent. From 12.00 noon. Picnics welcomed. Contact: Adam Houghton

July

2 Get Together – Peter Howland – Woking, Surrey – 14.00 (No parking restrictions on Saturdays).

9 Bromsgrove Society of Model Engineers, Avoncroft Museum of Buildings, Stoke Heath, Bromsgrove. Contact: Andrew Mould - 0121 453 5733

9 Cliff Barker's S&D Railway at Southend-on-Sea Essex. 10.30-18.00. Fish & Chip lunch £3.50 available. Live steam and battery electrics. G3 shunting track also available. Contact: Cliff Barker

9-10 Wessex Weekend:-
Saturday - Richard Harwood, Castle Cary from 2.00 pm.
Sunday – Bob Lock, Milbourne Port. From 12 noon.

13-17 National Summer Steamup. Sacramento CA. USA. Contact: TBA

16 Gauge One North G1MRA Yorkshire Group's second exhibition at the Bakewell Agriculture and Business Centre, Haddon Road, Bakewell, Derbyshire, DE45 1AH. Full details: www.gauge1north.org.uk or contact Alan Bullock.

August

6-7 Woodvale International Rally, RAF Woodvale, Nr. Southport.L37 7AD. North West Group Portable Track. Contact: Tom Wallbank

13 Get Together: The Gatehouse, Hindolveston, E. Dereham, Norfolk NR20 5DG Contact: Mervyn Myhill - 11am

15 *Copy deadline for NL&J 231*

27 Harlington M.E. Open Day – 10.30 - Contact: Dave Brutnell 01784 482248

September

17 Bromsgrove Society of Model Engineers, Avoncroft Museum of Buildings, Stoke Heath, Bromsgrove. Contact: Andrew Mould - 0121 453 5733

24-25 Staplehurst Railway Club, Staplehurst Village Hall. Contact: Adam Houghton

☛ National Railway Museum, York. Four running days over two consecutive weekends in September. Contact: Grahame Platt (Yorkshire Group) 01924 387413 to register interest. Dates to follow

October

8 Gauge One get together and Open day, Welling & District M.E.S. Falconwood, Kent. 10-5pm. Contact: John Shute

15-19 Midlands Model Engineering. Contact: Jeff Towe

30 "Anglia Roads" layout at East Anglian Railway Museum, Chappel & Wakes Colne, Colchester. From 10.00 am. Contact: Keith Tomlinson 01787 223672 or 01206 869933

November

15 *Copy deadline for NL&J 232*

Please advise additions or changes to Peter Wood on 01704 576122 or by email: peterwood-gimra.nw@talktalk.net

READING EXHIBITION 2011

The Original Larger Scale Model Railway Show

SATURDAY 7th MAY 2011

AT THE RIVERMEAD LEISURE CENTRE READING RG1 8EQ

Opening times: 10:00am – 4:30pm

Two Gauge 1 layouts.

ALSRM Bring & Buy will include Gauge 1 items from a recent estate.

Confirmed Gauge 1 traders include: Bachmann Europe, Ceynix Railway Trees, Cromford Designs, Finescale Brass UK Ltd, Helmsman Electronics, Just Bases n Cases, Ken's Profiles, Parkwood Arts, Roxey Mouldings, Slater's Plastikard, Squires Model and Craft Tools, TMS Models, Walsall Model Industries. See www.alsrm.org.uk

Many more layouts and trade stands in S Scale to 5" gauge, demonstrators and society stands.
Check website for a full listing of all the attractions.

ADMISSION: ADULTS **£8.00**, ACCOMPANIED CHILDREN AND PARTNERS **FREE**,
Members of ALSRM Free, Discounted admission for G1MRA Members £7
Onsite refreshment facilities, car parking and disabled access.

GET-TOGETHERS AT MEMBERS' HOMES

Get-togethers are primarily intended as meetings of members for the purpose of running their models. Wives, partners and children are very welcome, but it is important that the tots are kept under reasonable control. Accidents to Gauge 1 trains can be expensive, and we don't want them caused by excited children chasing after trains and getting in the way of drivers.

Dependent on the wishes of the hosts, Get Togethers can start as early as 10.30am but do finish by **7pm**. At each Get Together, the Secretary or another member of the Committee will agree what arrangements for running are necessary. A Track Steward will be appointed to collect the names of members wishing to run and to allocate running. Drivers are expected to be able to control their trains at all times, and may wish to have a co-driver to save too much chasing about. Spectators are urged to allow drivers access to the running lines.

Drivers are asked to remember the following points:-

1. Most of the layouts we visit consist of a 'running line' with a number of passing loops. If you wish to stop and service your engine, always pull into a loop.
2. **Do not stop on the running line.** If you have to stop in an emergency, make sure that the following driver is aware of your action.
3. When entering or leaving passing loops, make sure the points are reset to the main line.
4. Always ask the owner's permission before borrowing other people's rolling stock for your train.
5. When your run is finished, leave your train in a siding, where possible, and not in a running loop or on the mainline – consult the Track Steward.
6. Ensure your methylated spirit containers or gas canisters are clearly marked.

Spectators should never step over the line while a train is passing. As far as possible, not step over stationary trains. On elevated tracks, not lean on the base where elbows and sleeves might cause a derailment. Give the driver room when he has to control his train.

NOTE: Get Togethers are private events and members and their guests attend them at their own risk. No liability shall attach either to the Association or to individual members for damages arising out of any accident to members or their guests however caused.

FINESCALEBRASS

FineScaleBrass (UK) Ltd are pleased to announce a limited edition Ready to Run model in Gauge 1 1/32nd scale of the LMS/BR rebuilt Royal Scot. Finished in either Factory BR green or black, this all brass model is available in a limited run of just 60 pieces. Each piece to be individually numbered, complete with a certificate of authenticity. Available now in limited numbers. Complete with wooden presentation box.

Ready to run, this model has the following features:-

- All brass construction, hand built from our own manufactured components, extra detailed fine scale, steel ball bearings, all axles.
- Multi-stage helical gearbox with 12V motor, sprung buffers, couplings & all axles
- Opening filler cap, smoke box door & cab doors, hand punched rivets & correct wheel profiles
- Available with 4000 Gallon Stanier tender riveted or welded.

Factory finish £1600.00 including VAT AT 20% & FedEx insured UK mainland delivery

Fully finished £1950.00 including VAT AT 20% & FedEx insured UK mainland delivery

To include name, number, shed & tender plates, hand lining, detailed backhead, cab glazing, wheel edges blackened, real coal load. This model can be finished to your individual loco details. Shipped in a wooden storage/presentation box.

The model can be radio controlled using either Spectrum/Viper or the new Train Engineer Revolution at additional cost.

For details of this and our other models please visit our website www.finescalebrass.co.uk, our showroom Unit 5, Matrix Court, LEEDS, LS11 5WB or contact us 01132761759, email John@finescalebrass.co.uk