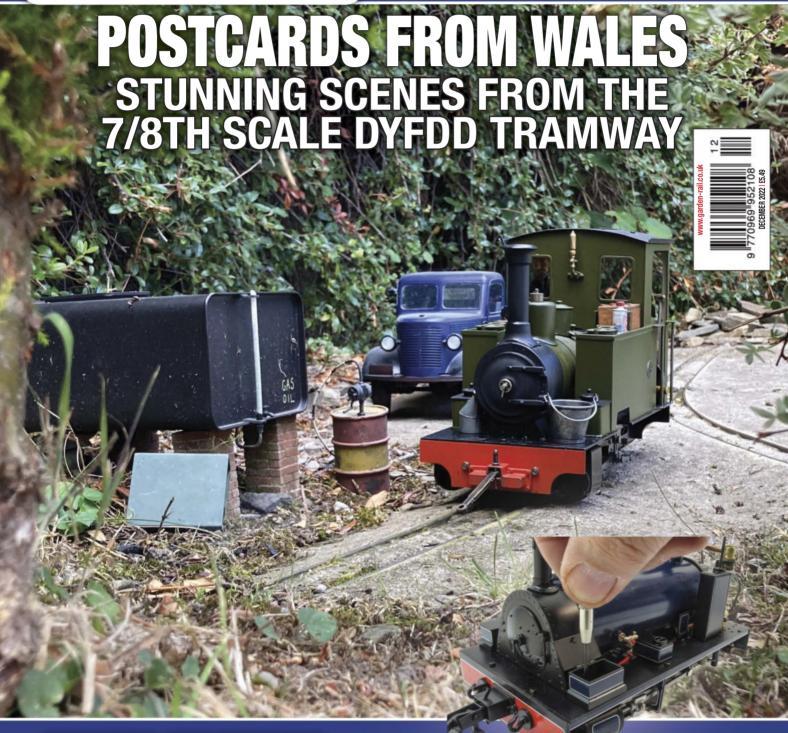


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VIEW FROM THE END OF THE PLATFORM



Incorporating GARDEN RAILWAY WORLD Issue 340 December 2022

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SEASON'S GREETINGS

Ince this is the December issue of Garden Rail, I feel that I ought to wish you all Merry Christmas, even though you'll be reading this in November and I'm writing these words before Halloween.

However, our lead layout does relate to the festive season in a small way. As a child, one of my favourite toys was a collection of Playpeople. Somewhere in the loft, there are still several sets of cowboys, knights and many other characters.

What I wasn't able to enjoy, because I am old and the stuff appeared long after I moved on to more adult pursuits, was the Playmobil railway range. How I would have enjoyed finding a G-scale set under the tree for my little figures!

Mind you, even if I had found a set there, it wouldn't have been a patch on the layout James Day and friends assemble to exhibitions. A visual delight that will appeal to children of all ages, the clever addition of a slot car track only adds to the fun.

Grown-up Phil has since bought a bit of Playmobil. The range has quite a following among garden railway enthusiasts, despite being out of production for over a decade. I still see questions being asked on social media by those looking to acquire a starter set of some kind being answered with 'Playmobil'. Only then does someone point out that these sets are now collectors items, and good ones much valued.

Obviously, I wish the firm would see sense and re-introduce the range. My visits to the London Toy Fair always included a hopeful trip to the stand. And to date, I've always come away disappointed. Maybe one day, there will be the potential for a new box to appear under the Christmas tree...



At the recent G1MRA 75th birthday celebrations, we spent a bit of time on the lineside, watching the trains go by. You can enjoy the video here: youtu.be/vfwkDpHQLQI

IT'S NOT SCALEXTRIC by James Day

IT'S TIME TO POWER UP 4 by Dave Sketchly

POSTCARDS FROM THE DYFRDWY TRAMWAY by James Hilton

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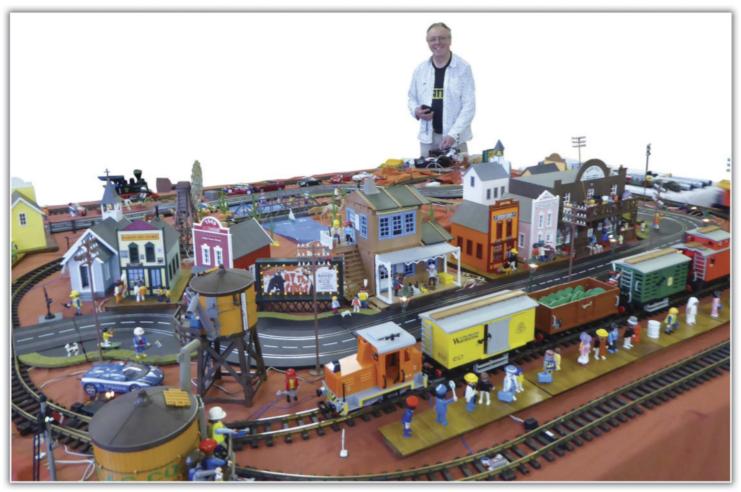
91403 James (with moving eyes)

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It's Not Scalextric

James Day was a big fan of Tri-ang's Minic Motorway, and has managed to recreate the same excitement in G scale.

guess everyone has 'their thing' with model railways – a combination of scale, gauge, period and geography. For me, its much simpler than that, as firstly, I am not really a modeller. My preferences have always been towards the vintage scene and 'my thing' is combining toy trains with slot cars.

The inspiration for this probably goes back to all those Tri-ang catalogues that my dad bought in the early 60s. No idea why he bought them, as we were strictly Hornby Dublo, but they sowed the seed in me of an idea that grew and grew.

I am no slot car racer either. My interest in slot cars is purely to use them as roadways, which was the vision of a man called Derek Brand, who invented Playcraft Highways. Whilst that product was unsuccessful in the UK, it became Aurora Model Motoring in the United States and also led to the introduction of Minic Motorways, Faller AMS, etc.

But, it isn't just model trains and slot car roadways: Tri-ang sold the concept of a complete miniature world with Model Land buildings, Arkitex tower blocks and Countryside Series trees too.

So, that became my goal, and that is exactly what we did across the country from 1988 for the next 16 years. By the time I stopped exhibiting Minic, we had bought tooling to get the essential rubber insulating strip for the track produced. We refined the control modules needed to stop the cars at crossings and crossroads. Also, others had joined the Minic scene, exhibiting similar things to us, as well as some amazingly different layouts! I had also got a taste of running Playcraft Highways with Playcraft Railways and Tyco US-1 Trucking with American HO trains, so it was time to move on...

One day in 2016, a chum sent me a link to a YouTube video showing a guy in Germany running his LGB trains with Carrera slot cars in his garden. It was brilliant! The effect was only slightly spoiled by him using 1/32nd scale cars, whereas G Scale is roughly 1/22nd (ish). This was another

light bulb moment – I was inspired!

I already had some LGB, but, more importantly, I had Playmobil trains too. I also knew how to automate effectively with the LGB system, so all we needed now were some 1/24th Scale cars and roadway!

At this point, I really must mention some of the people who have helped and contributed, as they were essential to get this project moving. Firstly, there is 'Mr Doodlebug' – a skilled engineer who took on the building of two stunningly beautiful, strong and highly successful level crossings that combined LGB track with Carrera 1/24th scale slot car track. Next has to be 'Competent John', who has made so many brilliant control modules for me over the years, several of which are used on this layout. Finally, 'Brixham', who has been with me all the way on this vision, as he was on many of my other projects since the early 90s. He has also provided many of the buildings and walkways that give this layout so much character.

So, whilst we now had large scale trains



The Wig Wags are flashing and ringing away to tell the drivers to pull up while the train passes on one of our home-built crossings.

and cars that interacted as we wanted, we hadn't yet fully decided how to turn this into a miniature world. I think the idea we settled on came from several things. Firstly, we always use terracotta coloured cloths to cover the tables at shows, this looked quite like a desert. Secondly, I tested the layout with my Playmobil 'Wild West' style 0-4-0 and it looked so good! Thirdly, I had been playing around with US Style 'Wig Wags' and crossing bells with the Tyco Trucking layout and realised that something similar would add a lot of charm and interest here. So, the Wild West look was chosen and off we went.

Slot cars are all about speed these days, so we tried to find 1/24th scale cars that were relatively demure and un-pimped. This was not easy, and we ended up with a fair few World Rally Cars, but as I like them, I can live with that. However, getting them to run as a roadway and at realistically slow speeds meant that a few modifications were needed. For a start, any traction magnets that enhanced grip had to be removed, as these cause the cars to 'bog down' and prevent slow running. Several cars had four-wheel-drive and this just does not agree with the sort of tight curves we have, making a horrible grinding noise as the car corners, so that had to be disabled. Finally, we had to deal with cars 'pulling in' on tight inside bends. This issue was known back in 1961 when Minic was launched and to get around it, they introduced pavements that gave vehicles a helpful nudge. We bought Carrera borders to solve our problem, but grassed over the red and white edges to make them look less racy.

Like our cars, the trains are fully analogue. All switching and route changing is triggered by magnets mounted under the locos. These trigger LGB reeds mounted in the track at appropriate places. The reeds



Our orange diesel dates from the Radio Control period of Playmobil, when the track was plastic rather than metal. We've re-fitted it with an older motor so it picks up from the rails

and magnets can make the trains dwell in the station, change over each lap, stop the cars from crashing, trigger the Wig Wags and bells, and last but not least, activate the Model Sounds 'Master Blaster' speaker in the Saloon Bar to give some entirely appropriate Honky-Tonk Piano music.

The locomotives and stock that we run are all Playmobil products, and most are from the track powered series that was made from 1980 until around 1997. The two steam locos, the yellow passenger cars and the plain red caboose date from a set only sold in the United States in 1988.

The orange diesel loco is a later Playmobil model from the Radio Control era, enhanced by the fitting of an earlier track powered motor block. One of the steam locos has been fitted with coupling and connecting rods from the RC era too, whilst the 'Combination Car' running on the back of the freight train is something that I made up out of leftover bits for the sake of variety.

The cars are mainly by a company called Auto-Art. One is by Carrera, two are built from plastic construction kits on a 3D-printed chassis and one is a very highspec club racing car now enjoying a quiet retirement. Three of the cars we have were also sold as models in the Minic Motorways range, leading me to refer to the layout as 'Tri-ang Minic for the Myopic' - which still amuses me, even if no one else



We might operate during the day, but working headlights on trains always appeal to the crowd. is laughing!

Lighting in the trains and cars is largely by diodes and around the layout the lighting is from a mixture of bulbs and diodes, with distribution by our own homemade ring tag terminal blocks. All wiring (of which there is a fair bit due to all the features) has to be 'table top' due to the nature of the layout. A lot is ganged alongside the tracks by LGB cable clips, but luckily some of it just disappears under the buildings, etc. Underneath the layout, there are five transformers powering everything.

The railway isolation is all done via the

LGB 'EPL' system with half-wave electromagnetic point motors driving attached switch blocks. Power to the isolated sections passes through an LGB Dwell Timer that can be adjusted to suit. Finally, there is a starter signal that the public can control with one of John's modules, which also controls movement. We can switch most of these features on and off too, including the music, which can cause feelings to run high at some exhibitions!

Using some more of John's magic, the public can drive the trains, up to a maximum speed that we can pre-determine. They can stop it at will and love doing this

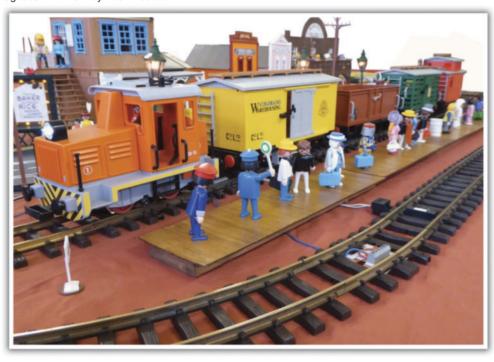


Looking along the road, you can see how well it integrates with the Playmobil models.

on the crossings, presumably hoping to cause a crash, but it rarely does! (Note that I didn't say never). The public also soon work out that the control that they have been given does not allow them to reverse. The crossing bells are old Faller units, each activated by wipers running over drums powered by Faller Synchronous motors. The flashing Wig Wag units at each crossing are by 'Lemax', who may be more familiar to you as the makers of lighted Christmas novelties.

On the slot car track, the crossings are isolated by having the power to the inside contact rail on the approach to each crossing switched off by one of John's modules. We have arranged the reeds that activate this in such a way that it deliberately looks perilous, with cars stopping at the very last moment and starting as soon as the train is clear. So train length and train and car speeds must be taken into account when setting up. The crossings themselves are always kept live to allow cars to escape from a train bearing down on them.

Geometry is key in any combined tabletop train and slot car system. It is believed that Derek Brand took a 9" Atlas HO Snap Track straight as the baseline when he designed Playcraft Highways. We had to work it out for ourselves. LGB and Carrera both feature 30 Degree curves, which helped a lot and, although the rail and road straights are different lengths, LGB



A handmade platform hides some of the wiring, but we don't worry too much that it can be seen. There's no time to hide it, and anyway, the public don't mind. Some are even interested to know how

produce a nice array of short rails to get us out of trouble. Overall, the systems nested together quite well. Like all our layouts, this one is entirely 'loose lay at the show'. True Table Top Toy Trains and Cars, just as Tri-ang intended all those years ago.

So, that is how it works and goes together, but what about the look? All of the figures and a lot of the accessories are from Playmobil. Some I bought to populate the seats on my trains and others were 'inherited' when my daughter grew out of them.

Piko buildings are most in evidence and they really have that Wild West look. This is a busy town, with a general store, liquor store, toy shop, music shop and, of course, The Sherriff's office. The saloon bar dominates the high street, enticing people

1:22.5

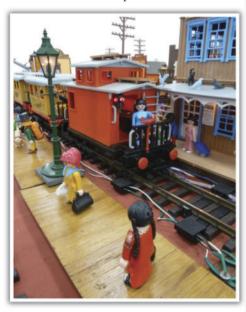
in with the music, but why are all those women posing on the balcony? Education hasn't been forgotten and neither has religion – there is a school that is well attended, and far from the madding crowd is the small Congregational church with its gleaming crucifix.

The station is a bustling place with passenger and freight trains coming and going all the time, nicely illuminated by gas lamps and with water available for thirsty engines. I can't see a cinema anywhere nearby, but there are two huge illuminated billboards advertising films, one starring the rather alluring Jane Russell.

As the train leaves the station, it crosses the road, passes some cattle and then heads into the desert, where cactus grow, buffalo roam and there is even a camel to be seen! There is a wind pump too, although why they can't get water from the rock-bordered stream where people are swimming and mermaids can sometimes be seen, is lost on me. There are some small hills here too, right by the crossings, both of which seem to have bells hidden inside them.

All too soon the train crosses the road again, passes more hills and swings round past the school into the station to be greeted by the welcoming sound of the music from the saloon bar. Fancy a beer or maybe a shot of whiskey?

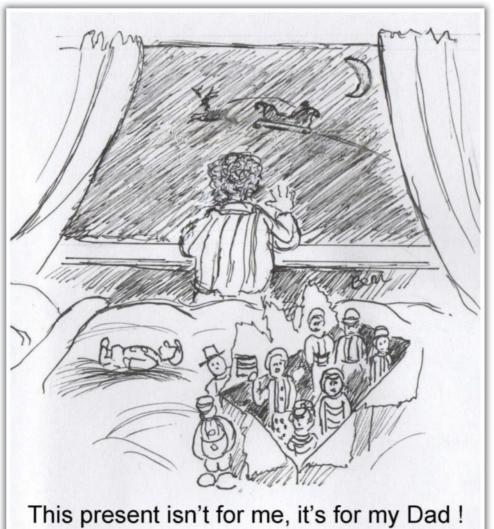
Thanks to Doug Passell who took the lovely pictures that accompany this article and thanks to both him and Rod Hannah, who help with the massive 20-person hour set up that this layout needs. The pictures were taken on the 18th and 19th of May at the annual Slot Car Festival at the British Motor Museum at Gaydon where, unbelievably, we were awarded second prize in the Scenic Track competition!



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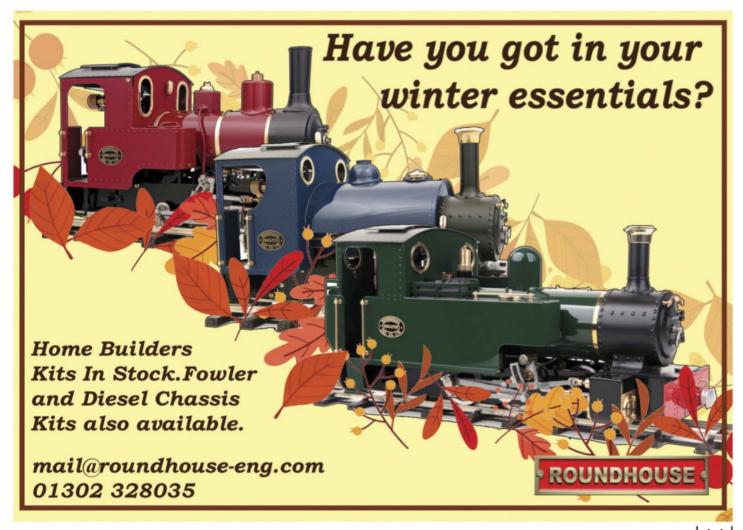
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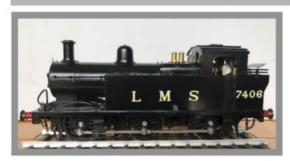
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ALL SCALES



It's time to Power Up

Dave Sketchily was confused by the complexity of batteries but after a little research, he is confused no more.

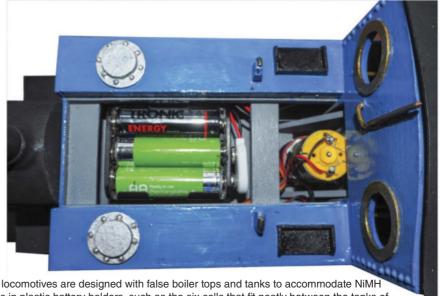
f you are interested, there is a lot of information out there about fast charging and cycling of batteries. The internet abounds with tales of exploding LiPo batteries and worse. Fortunately, for us railway modellers, it is not as complex as it seems. This is not a technical manual, but the story of my journey into high-tech batteries, and right back again!

It all started when Editor Phil was kind enough to send me a model boat hull. My best friend Dave, had taken up model boats and it was a good chance for us to meet up at the boating lake on Sunday mornings and grumble. Even my doctor agrees that old men meeting up to grumble is important therapy and good for their health. Well, I built the boat and installed an old Dyson vacuum cleaner motor powered with the same 6 NiMH (Nickel Manganese Hydride cells), which normally power 'Abigail' the Blanc Misseron locomotive. It went really well but something was wrong, the boat kept stopping and starting, what could it be?

After changing every other component, I finally found that the battery holder had melted, and would disconnect the

batteries until the plastic cooled. I felt the batteries; they were very hot, not what I was expecting from boring NiMH cells. In high performance applications, such as the speedboat, I discovered that it was the internal resistance of the battery pack that was causing them to heat up and melt the battery holder. The solution would be

to change the motor to one with a higher resistance or to change the batteries to one with a lower resistance, foolishly I chose to change to batteries with a lower internal resistance and hence an ability to deliver more current without heating up and melting anything. This meant an investment in LiPo (Lithium Polymer) cells, and



My locomotives are designed with false boiler tops and tanks to accommodate NiMH cells in plastic battery holders, such as the six cells that fit neatly between the tanks of the Blanc Misseron.

a specialist charger, it was a bit of a roller coaster ride.

It seems that all batteries are dangerous, as anyone who has dropped a spanner across the terminal of a car battery will testify - the spanner disintegrates in a shower of sparks, or worse, welds itself to the terminals and sets the car alight. The danger is not just that of external fires caused by short circuits but the internal resistance of the battery.

Back in the 70s, I was taught that when you charge a battery, the small energetic electrons that make up an electric current, migrate through the chemical separating the metal electrodes called the electrolyte to the positive electrode labelled + and the protons, which are bigger and heavier, migrate to the negative electrode labelled -.

When you connect the negative to the positive electrode through a motor or some other resistance, the electrons rush through the wire trying to re-unite with the protons, which balance things out by ambling their way across the battery to the negative electrode. The big heavy, but rather lazy, protons heat up the battery a bit while the energetic electrodes drive the motor or heat up the wires a lot. The lower the resistance in the connection from the positive to the negative electrode the faster the electrons rush down the wire (the current), but also the positive protons may even get a bit of hurry on. Apparently, according to quantum theory, this is all rubbish, but as I approach my 70th birthday, I couldn't care less as it works for me.

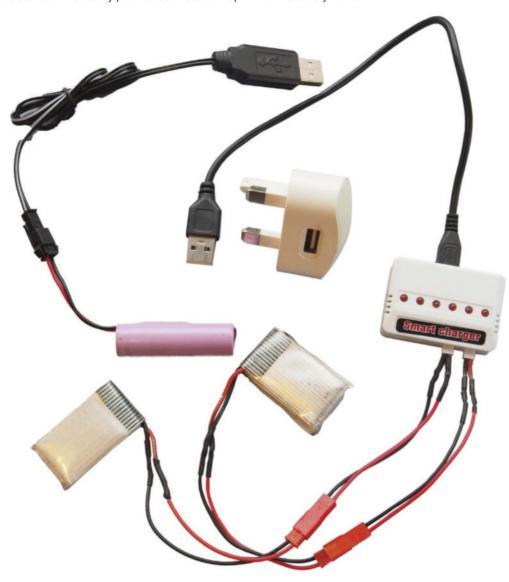
According to a survey by the Peckforton Light Railway (www.riksrailway.blogspot. com/2022/05/battery-powered-locos-survey-interim.html), "The majority of us garden rail enthusiasts (55.8%) use NiMH battery packs" and "Nearly half of us (49.2%) have never needed to recharge our locos during a running session. Further in the survey suggest that most people simply have a spare battery.

For many years, I was very happy with NiMH batteries bought from the supermarket or Pound Shop. These are no more than rechargeable replacements for AA-size torch batteries, but I was always aware they are only 1.2 volts each compared to 1.5 volts for dry cells. I was happy to remove the cells for storage and charging since one of my favourite locos had been wrecked by leaving batteries inside, although storage for 15 years in a damp loft may have been a bit excessive.

It seems that the complex advice we are offered by the battery experts refers to the fast charging and fast discharging required for high-performance activities such as



Some of a huge selection of ready-made, plastic battery boxes kept to fit various locomotives. The problem with these is that in a high-performance application such as the speedboat, the internal resistance of the battery pack causes heat build-up to melt the battery holder.



A single LiPo cell is equivalent in size to an AA-sized NiMH cell but actually has a much higher voltage of 3.7V. These cells are ideal to replace the 3 NiMH cells used on small locomotives. The flat LiPo cells were a set for a quadcopter, and the mauve-coloured cells are for my grandsons' cars. Single LiPo cells came with USB chargers, which I have retained for use on holiday.



I was warned that these larger batteries are made up of stacks of smaller 3.7 Volt cells, which if accidentally reverse-charged, would catch light. The solution is a balance charger costing about £26.00.

racing cars, model aeroplanes and boats. As far as I know, there are no racing events in the world of 16mm scale narrow gauge trains, although maybe the G-Scale guys are a bit more adventurous, so our models have no need of exceptional performance as they amble around our picturesque lines.

Most of my locomotives are designed with false boiler tops and tanks to accommodate NiMH cells. I don't believe, however, that NiMH cells are intrinsically safe. An example is that of my Big Boy train chassis, which has the batteries in parallel i.e. all facing in the same direction between the terminals on the chassis. Loading the batteries in series while distracted, which is normal (loading in series being normal that is, not being distracted), resulted in a short circuit and very hot and very ruined batteries. Any short circuit with any battery will result in burnt-out wiring and damaged batteries or worse, it just happens more quickly with LiPos. In line connections seem inevitable with these tiny connectors, so I invested in heat shrink tubing to insulate the joint. The tubing is shrunk with a hot air gun.

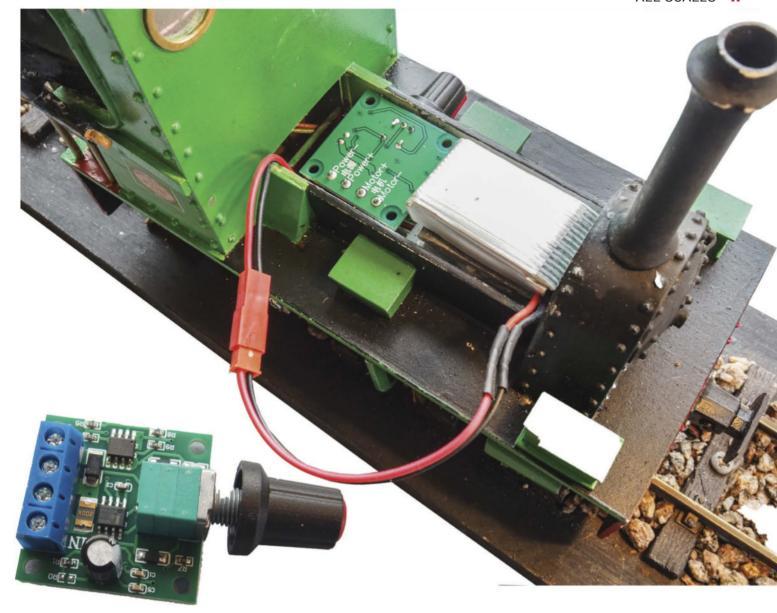
A single LiPo cell is equivalent in size to an AA-size NiMH cell, but actually has a much higher voltage of 3.7V. These single LiPo cells are ideal to replace the 3 NiMH cells used on small locomotives. The single cell LiPo's came with USB chargers, which I have retained for use on holiday in my grandson's model cars.



The charger came with a bewildering array of cables, but the output is to a robust Deans connector shown here, with adaptors for a range of other connectors.



The set up is simple. Plug in the balance cable and then the battery. Step through the battery types, step through the charging current, it seems to set itself and there is no need to be ambitious, railways modellers don't need fast charging. Step through the voltage of the pack, the charger then checks what you have entered and rejects anything which is impractical or dangerous.



A 3.7 Volt LiPo cell is an excellent fit, but made 'Penelope' the Gas Works Peckett a bit too fast. Fortunately, there was sufficient space to fit a low-cost (£3.55) PWM Motor Speed Controller Module.

All was fine with the little USB chargers as long as I stuck to one cell, but bigger locomotives would require larger batteries between 7.2 Volts, which is the equivalent of six NiMH cells and 10.8 Volts, that is the equivalent of 9 NiMH cells for the IP Jessie shunter. I was warned that these larger batteries are made up of stacks of smaller 3.7V cells, which if accidentally reverse charged, would catch light. The solution I was told would be a balance charger costing about £30.00. DON'T PANIC! After all, £30.00 is not really a lot of money, about the same as it costs me to build a small locomotive.

The first thing I noticed when I unpacked the charger is that it is capable of charging all the different types of batteries that I have, including lead acid, NIMH, 7,4Volt LiPo, 11,1 Volt Lipo and 3.7 Volt LiPo's. The charger came with a bewildering array of cables; the charger itself can be powered from a car battery or from a

transformer, which is supplied. The output is to a robust Deans connector (a red T-connector with exposed male terminals, designed for high current use) with adaptors for a range of other connectors. I made up an adaptor to the red "LiPo" connectors, which I use for the 3.7 volt Lipo batteries.

The set up is simple. Plug in balance cable, the balance plug sizes are matched to the number of cells in the battery and to the balance sockets on the charger. Plug in the battery and the step through the battery types, step through the charging current, it seems to set itself but there is no need to be ambitious, railways modellers don't need fast charging. Step through the voltage of the pack, the charger then checks what you have entered and rejects anything that is impractical or dangerous.

(Editor: Dave's charger is a Haisito model, available from Amazon among other places. I have a Turnigy Accucell 6, which looks suspiciously like Dave's, except it's

in a classier black box, rather than silver. It works in the same way.)

With so many batteries of different types, I need to keep a tally on what is going on so I have set up a charging station to ensure that I always have freshly charged batteries available.

As I sit on my rustic park bench outside the Sheep Shrearers' Arms, I sip at my pint of fine Auld Phagbutt and realise that this journey into new technology has also taken me back to those good old days. The new high-tech charger can charge just about any battery pack you can think of, including those old motorbike 6V lead acid cells that were used in locomotives back in the 1980s. This has enabled me to re-install the original batteries into some of my locomotives and relive those good old days when I could grow long hair and wear mauve bell bottom trousers, with no comment from Pauline....



Postcards from the Dyfrdwy Tramway

James Hilton takes us back to his atmospheric line.

√he Dyfrdwy Tramway is a little-known 18" narrow gauge slate railway in the Berwyns, just west of Llangollen near the village of Glyndyfrdwy. The history of the line has featured in the June issue of Garden Rail and I have written a complete backstory for the tramway, which explains and justifies my various locomotive and rolling stock projects.

As with all garden railways, I see it very much as a 'real' railway. It lives, it evolves and it weathers with the seasons. Even without a train, it can be enjoyed. That said, as winter approaches, there are a few maintenance jobs I need to tend to, including some new retaining walls and renewed fencing. Over the winter, I hope to add some more lineside details including a water tower and crane, but in the meantime, I hope you enjoy a few more photographs...





After a long hot summer, and then autumnal heavy rain, the tramway has suffered from subsidence and a few areas where the line is undermined. This winter will see some more permanent maintenance but here the Simplex 40S with a short work train is delivering some waste from the slab quarry to sure up the section above the wharf.



The Dyfrdwy Tramway's ex-War Department Andrew Barclay sits on the wharf with the Deeside Slate Company's Bedford lorry. The foreground spur and 'gas oil' tank show signs of progress as internal combustion has arrived on the tramway, soon to see the Barclay retired (and sadly scrapped).



Check This Out

Adding convincing checkrails with Andrew Rawlins.

y elevated 7/8ths scale 'Llwynog Gan Bryn' garden railway is based on a typical Welsh slate quarry tramway. The main viewing and operating area is shouldered by, and liberally scattered with, loose Welsh slate, geologically representing its locality.

However, I feel that my running line, again ballasted with loose slate, doesn't quite look right running through the garden, which has an almost 'East Asian' tropical theme; architectural planting of differing varieties of Acanthus, bamboo, Fatsia japonica's, ferns, grasses, Japanese cedars, and assorted palms. I wanted my running line to fit in better with its surroundings, away from the main 'quarry' area so to speak.

For a number of years, I have been fascinated with the Darjeeling Himalayan Railway; so much so that I now want my running line to vaguely imitate the DHR, to fit in (for me anyway) more aesthetically with the structural planting of our garden.

Two Worlds Divided

The running lines leave my quarry at one end over a lift out MVL bridge and at the



The checkrail is soldered to a series of screw heads. You'll need a powerful iron to do this. A small gas-powered torch will do the job. Try the sort that chefs use to brown the top of puddings.

other end, the line simply continues its run into the garden. It is at this end that I needed to create a scenic break, to separate the slate from a granite style ballast and on an elevated railway with narrow top boards, I thought hard how to achieve this as I believed that a simple change just wouldn't look right.

After much musing, I built a very short slate tunnel/portal to hopefully separate the two styles of ballast. I didn't want to construct anything too Large and heavy, my railway, as I said, is elevated on Filcris recycled plastic, and although sturdy, the large pieces of blue slate that I used to construct this are extremely weighty. Having completed this feature, my intention had been to make the transition between slate and granite beneath this portal. I soon realised this just wouldn't work, as the length of the portal was, well, just not long enough! I then had the idea to put in a road crossing immediately after the portal, giving the two styles of ballasted track-work greater separation.

Darjeeling Inspired Guard

Watching films of the DHR twisting through the Himalayan hillsides, it was plainly evident the line's checkrails are numerous and essential on the tight curves. Although not necessarily needed, if I was going to recreate a running line with the aesthetics of the DHR, checkrails were going to be a feature on my winding curves.

For a while, I fiddled around with a length of Peco SM45 rail, musing how to create a convincing checkrail. It was apparent that without some form of chair, I wouldn't be able to support the third rail.

Also evident was the stumbling block that if I were to use SM45 code 250 rail, without removing some of the existing moulded chair and bolt details, I would not be able to get the third rail close enough to the running rail, without it sitting higher than the outer rail.

I had a spare length of code 200 SM32 laying about, so stripped the rail from the sleepers and offered this up to my deeper code 250. I found the smaller SM32 rail would clear the chair bolt detail...progress! Now how to hold the rail in place?

On my indoor O gauge shelf railway, the rail ends at the edge of the board are secured in place by soldering the bottom of the rails to flat head screws, set at the right height to just sit the rail on it. My plan was to transfer this method to my railway in the garden, driving screws into the recycled plastic road bed at a set distance from the



At the start and finish of the checkrail, it's important to angle the rail ends. Cut a notch in the head, and foot of the rail to make it easier to bend neatly.



Shuttering made from lengths of wood in place before the mortar mix is poured for the crossing.

TRACKWORK

running line and at a suitable height, in order that the smaller code 200 rail could be offered up to the running rail, emulating a gap matching the Peco point checkrail distance, allowing stock to run without binding. The rail was duly teased into a curve and soldered to the screw heads.

A second checkrail was added to my proposed crossing section and once again soldered in place. The crossing was shuttered-off using wood mouldings from my local DIY store at rail height, then filled in with a mortar mix and levelled. The flangeways between the two rails were then cleared of excess mortar using the pointy end of a plasterer's trowel. A piece of rolling stock with the deepest wheel flanges, repeatedly run across the crossing before the mix set, ensuring there would be no fouling on the infill.

Horticultural Grit

With the crossing set, the line extending away from it into the garden was duly ballasted with fine horticultural grit. Once tamped into place, flange-ways were once again cut into the ballast using a wagon hand-propelled back and forth.

The ballast was then secured in place by wetting it with a plant mister, then dropping neat Bostik 'cementone SBR' latex bonding fluid onto the ballast, allowing it to completely soak through. When all was fully dry, a day or so later, I infilled the flange-way between the check and running rail with a mortar mix, once again clearing the excess, allowing wheel clearance before the mix set. Finally, clumps of carpet moss were then pressed into the ballast to imitate that overgrown trackside look. Hopefully, the moss will quickly take to the ballast as it has done in other areas on the slate, and continue its slow spread.

I must stress that this is an experimental process of adding a cosmetic guard rail, and I am hoping that the SBR secured ballast and mortar will not only support and strengthen the checkrail but also protect the now completely covered soldered joints. I suppose as with anything in the real world and open to the elements - only time will tell!

So, there you have it - with a little bit of thought, I have created a credible looking checkrail, that will also serve to give my running line that 'Darjeeling-esque' look. ■

Garden Rail Resource

MVL Bridges www.mvlbridges.co.uk

Please mention **Garden Rai**l nen contacting suppliers.



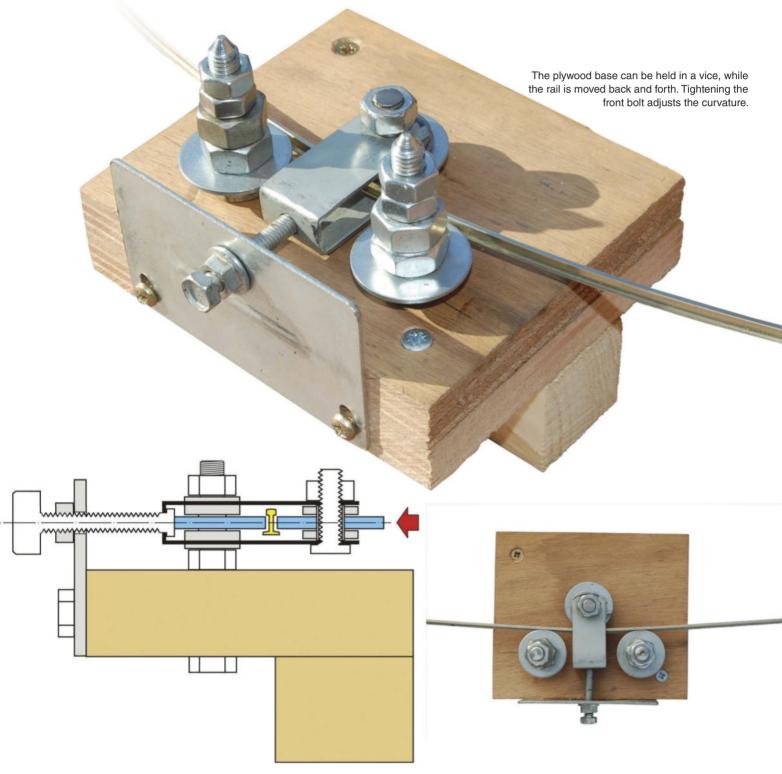
With the horticultural grit fixed in place, along with some moss, the finished track looks very realistic, and hopefully will survive the winter.



While the checkrail will keep the trains on track, perhaps I need a fence to keep the livestock out?

Make your own rail bender

Denis Hardouin has provided us with details of a simple rail bending device made from materials available from a DIY store. We'll let the pictures do the talking.



A plan showing the side view. None of the dimensions are critical, you can make the device up from bits and pieces you have around the workshop. Those pots of old washers will finally come in handy!

The advantage of a toll like this is that the rail will curve, but not twist, making tracklaying easier and more accurate.



Building Bridges and Making Tracks

If you saw our display at the National Garden Railway Show this year, you'll have been impressed with the 3ft long bridge. Mark Thatcher tells the story of its construction.

don't think I can recall a single supplier with a more eclectic mix of kits like Rannoch Sidings.

I reviewed its transfer wagon in GR334 and working tipper wagon in last months' issue, but this bridge kit takes things to a completely different level.

If Rannoch produced LEGO kits, this truss bridge would be its equivalent of LE-GO's Taj Mahal kit; still one of the largest sets available, with 5923 pieces.

The part count of this bridge kit does not quite make that number, but still, with around 480 pieces, I could see this would be a very detailed and time-consuming kit to build.

Rannoch suggests 24 hours is around the norm, although as I painted as I went along, as it would be a tough ask to do otherwise, it was closer to a 30-hour build for me - but worth every minute.

What's in the kit?

To be honest, when cracking open the box, I felt somewhat overwhelmed by the array of parts that confronted me, but as soon as I got into the groove, I could soon easily get to grips with the building process, by following the step-by-step instructions, spread across eight video segments on YouTube. As well as the larger parts that make up the main sides and deck of the bridge, there were a plethora of X girder support pieces to form an internal layer between the two bridge sides, some more X supports to make up the three optional overhead trusses, and probably around 200 individual rivet plates and overlay pieces, which cleverly hide any of the visible tabs, as this kit utilises the tab and slot method to attach parts together.

This kit is suitable for 32mm or 45mm track, and is scaled to accept one standard three-foot length of PECO 32mm track.

The material used is MDF, so clearly a good deal of waterproofing would be required if the bridge was left outside, but, frankly, I would treat this as I would one of my finer model buildings, setting it in place for a running session, and storing it away carefully afterwards.

Let the games commence!

There are four main parts of this build, and I think it is helpful for me to break them down for you. They are the two main bridge sides, in a three-layer sandwich, the bridge deck, the three optional overhead trusses and the two piers that the bridge locates onto.

Starting with the sides, this is probably the most testing part of the kit for two reasons. All need to be built up on a flat surface, such as a glass table, although I did not have one to hand and ended up using my occasional table in the lounge as



There are too many parts to create a kit shot, in fact, all the parts barely fitted on my sofa!

this was the only one that would accommodate the length of the bridge. Each side is basically a three-layer sandwich, where you join two inner pieces together to create the 3ft span, then carefully glue in the X frame risers to create the depth on the sides, before adding another identical layer to the first layer to create one finished side.

Wonky bridge

Now – this is the tricky bit! As explained in the video, it is essential to file a little off the locating tabs on these middle X sections, otherwise, you will inevitably use too much force whilst seating these into place, damaging them. This is a time-consuming process and quite repetitive, If you have not filed enough of the tabs down when trying to add the upper layer and you get a sticky part, you may have to remove the top layer and start again.

This whole process just takes time, care and a deft hand, but don't be tempted to use a lump hammer to 'ease' these parts into place! On the other hand, it is also essential to ensure all the tabs are located properly into the top and bottom layers of the sides, as if not, you will end up with a wonky bridge, which you don't want. After the two side sections were completed, I elected to spray paint these in red oxide primer before moving to the next stage.

The bridge deck

The deck of the bridge is much easier to assemble and, once you have mastered the sides, the build gets much easier. Similar to the sides, the deck comes in two sections, which you join together. To begin with, the resultant three-foot-long section is a little delicate, but as soon as you add the fifteen lateral arched cross beams to the underside of the deck, the whole structure becomes far more stable and rigid.

On the subject of the overall rigidity, initially, I had my doubts as to how solid



All the parts are cleverly marked and these marks are all covered by overlays later on in the build



The inside of the top layer of the bridge and the bottom two layers have been sprayed before attaching them together.

the final bridge would be, but, in Rannoch's usual style, one of its shorter videos allayed my fears. In that video, a micrometer, which measures any movement, was mounted to the middle of the bridge, then started to add weights to the deck. It stopped at 19.75kg, as they had run out of weights, but even with this load, the bridge only showed a 0.75mm downward deviation, and returned to normal after the weights were removed.

One side of the deck even includes a pedestrian walkway and handrail, which was to be my Achilles heel later on in the build. I elected to paint the deck in satin black as a contrast to the red oxide sides. It was then time to adjoin the two sides to the deck and to marvel at how big the resulting structure would be!

A useful jig

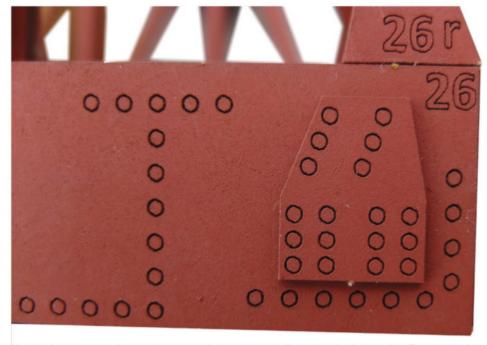
It was a very simple job to fit the deck as the slot in sides of the bridge accommodate tabs, but it is also mission-critical to get the sides perpendicular to the deck. Fortunately, Rannoch has thought of this too, providing two square sections of MDF with two tabs at the bottom and two hooks at the top of each jig. The hooks hook over the inner top section of each side of the bridge, and the tabs locate into two slots in the deck. So, after getting the angle roughly right, you just drop in one jig onto the deck, around a quarter of the distance from each end, and leave it in position whilst the glue dries. This is another good example of the 'no stone unturned' approach used by this manufacturer.

A bit like Bingo!

As there are a lot of visible tabs when the layers of the sides and deck were mounted together, it is now time to hide them all. Again, another brilliantly executed stage of the kit. On each of the sides there is an engraved number which is visible at the bottom of each upright girder. These are matched to the corresponding number on a separate upright overlay. So just find the two matching numbers and away you go. A bit like Bingo!

However, this can be a time consuming process, as there are a total of 13 of these to add to each face of each side, by my maths that is 52 upright overlays to add! TIP: Sort these strips into four piles (1-13, 14-26 and so on), or if you have space sort them all out in order, which will take the pain out of locating each one in a massive pile of bits.





Here is the corresponding overlay to match the number indicated on the bridge side. The overlay is glued in place and covers the number up.

The overlay action does not stop there, however, as each upright added in the stage above also has another number scribed on the base of it, which matches the rivet plates that will be added next. The numbers grow here too as there are 24 rivet plates to add to each side. So, that's another 96 parts to add, making a total of 148 overlays for the bridge sides. I think you can now begin to see the full magnitude of the level of components and detail provided in this kit. If you think of this kit a bit like a 3D version of a painting by numbers set, you won't be far wrong!

A double six

This was by far the most exciting of the sub-assemblies in this kit for me. When

you add the top line of rivet plates to the inside of the bridge sides, you have an alternative. If you don't wish to add these parts (with small square holes in), then, in order to increase the loading gauge of the bridge, they can be dispensed with and replaced with overlays without the holes. Although, as these trusses add so much character, and further rigidity, to the whole ensemble, it would be criminal not to use them.

With these top trusses added, the loading gauge of the bridge will be around 185mm, enough for most Roundhouse or Accucraft models, but, of course, it becomes unlimited without these fitted. However, I thought I would roll the dice with these and fit the appropriate rivet



Test fitting of the first truss in place. They all proved to be a tolerance fit.

plates with the slots in them, which the tabs on the trusses drop into. And guess what? They turned out to be a perfect tolerance fit due to the very accurate nature of this kit! I may have rolled a double six here, but really should not be surprised. So now, if I have a loco with a particularly tall chimney, I can just pop these trusses out to accommodate it.

There is a third configuration that I particularly like too. You can remove the two outermost trusses, leaving the central one in place, which I think looks most attractive and has the advantage that you can more easily see your locos and rolling stock as they trundle across the bridge.

Pier Pressure

Perhaps I have been judged by my peers in the past, but now you may judge me by my own piers! Again, I am running out of superlatives with this kit, but these piers have been ingeniously designed with two tabs on each pier, which locate into corresponding slots in the underside of the bridge deck, making it very easy to detach the components from each other. And, if you are so inclined, these bridges can be combined and you simply discard the top layer of each pier, which also has a similar locating tab, and just use the lower sections to join multiple bridge sections together. I have to say, these piers are great standalone kits in themselves.

My mistake here, and my only mistake during this build, was failing to realise the piers are handed, as there are two small lengths of extra walkway for you to add, to extend this from the bridge across onto the piers. It was a schoolboy error as I had one set of locating pips for these on the wrong side of one of the piers. It was an easy workaround though. Thank goodness of Perfect Putty from Deluxe Materials is all that I will say on this matter.

Finally, two nameplates are provided to disguise the last visible central join on the sides of the model, but, I dispensed with these and printed my own 3D nameplates to make this bridge more relevant to my current location.

Attention to detail

I should mention that if you paint lazily with wasteful rattle cans like I do, I went through one spray can of black and another two of red oxide primer, 25g (half a large bottle of Superglue) and plenty of exterior-grade wood glue too. That equated to adding around £25 to the build costs. It is something to be aware of, but unavoidable with this behemoth of a kit.

I believe it is my job to present you with honest and trustworthy reviews of everything I build. Hopefully, that is why Garden Rail still accepts my inane ramblings. But of course, I have my favourite kit of the decade. In the first decade, it was the fully-functional Lacey Green Windmill from Garden Railway Specialists (formerly British Outline Buildings). In this decade, it has to be the wonderful church from Modeltown. This build was a two-part article with the rather naff title of "something to a spire to"! featured in the June and July 2022 issues. Well, I have to add this kit to my firm list of favourites. It is in my all-time top three in fact!

I did start this article comparing it to a fine LEGO kit, and later on, to a painting by numbers kit. I am hesitant to use

the phrase 'exhibition model' as that is a very subjective term. Yes, it takes time to build, but more time = more fun. Yes, it is repetitive in places, there is no getting away from that. Let's say it will take you 25 hours to build. At £125.00, that is a fiver an hour. I can just about buy a pint of wallop for that. But, building this I don't need to, with the added benefit that I am not cooking my liver either.

Don't expect to be able to knock this kit out over a weekend. I think this would make an ideal winter's project, as when the nights draw in once again, you can retire to your own modelling space and really enjoy seeing this wonderful kit coming together. Take your time with it and make the building experience last. You won't regret it.

Anyhow, having spent a good few hours building bridges, I think now it is time for me to make tracks, and to that end, I'll write to you again soon!

Garden Rail Resource

Rannoch Sidings Email: jerry.irwin@homecall.co.uk For construction videos search YouTube for jerryirwin41

Truss girder bridge – suitable for either 32mm or 45mm track - £125.00 including P&P

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Building a live steam locomotive – Part 3

Our locomotive is running on air, but now we need to make it run on steam!

hile seeing the Peckett chassis turn over on air is fantastic, the point of this is to build a steam locomotive, and for that, we'll need a source of fuel. In our scale, Butane gas is normally preferred, and before the coal-firing fans get excitied, there really isn't space in the cab to swing a shovel, so I need to fit the gas tank and connect it to the burner.

I'm a little nervous about this stage. After all, the whole point of this stuff is that it's flammable. Worse, it's invisible, so spotting

any leaks isn't easy. Some washing up liquid on the joints if I smell anything will be the only option. I'll be extra careful with the spanners though.

Fortunately, all the really difficult work is carried out by competent people at the factory. While I'm sure home-building a gas tank is possible, it's not something I fancy having a go at any time soon, so the nicely assembled unit is welcome.

Another job that defeats most amateurs is painting the body to top-notch standards.

We've already seen how most of this kit is provided ready painted, and this continues for the bodywork. Care must be taken not to scratch the paintwork, but the finish of both the body colour and lining has been impeccable all the way through this project, so a little effort is worth it.

All of this is for nothing though, unless the locomotive steams, so read on to see how I get to the stage of setting fire to things....



Packet number 10, and we find the smokebox, chimney and other bits that make this look like a locomotive.



A couple of pieces of insulating sheet are included. Both need holes cutting in them, one (shown here) for the chimney and the other for the smokebox door handle. A sharp knife works well, but I suspect a hole punch might be even neater.



Inside the smokebox, the insulation is sandwiched between the body and a metal liner, retained by a brass nut on the bottom of the chimney. When doing this, make sure the lamp iron on the front of the chimney is at the front.



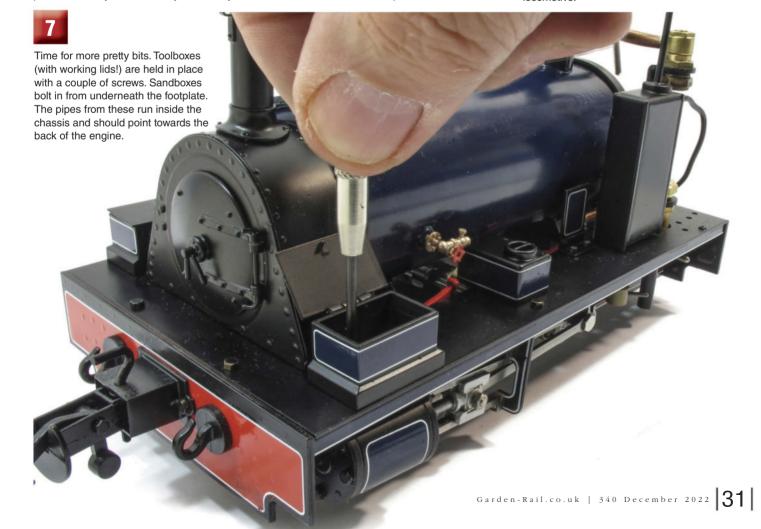
A pair of rare earth magnets keep the smokebox door closed. Before fitting, work out which way around gives the strongest grip between the two. Something to do with aligning the magnetic poles, as I dimly recall from my school days.



The exhaust pipe screws into the valve block and should point up the chimney, which requires a slight s-bend to be formed. Anneal the copper before bending it by heating it up until the colour changes, and leaving the metal to cool. I'm using a small gas torch, but if you have a gas cooker, the flames from that are perfect.



Six bolts hold the smokebox in place. Take care to ensure it's seated snugly against the boiler, as it will be bolted to the tank front later and you'll want all the holes to line up. Then step back and enjoy the model starting to look like a steam locomotive.



CONSTRUCTION

1:19



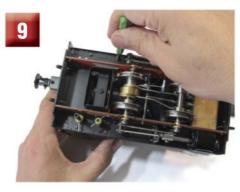
Now for the big AND pretty parts. Both cab and tank are supplied assembled and pre-painted. All the modeller has to do, is unwrap them from the protective tissue paper, then carefully remove the sponge from inside the cab.



On the cab front, a decorative whistle is fitted, held in place with a nut on the back.



Don't forget to anneal the pipe as we'll need to adjust it once in the model. This does mean that nozzle and connection to the tank must then be assembled with care to avoid bending the now very flexible pipe too much.



Attaching the cab is a simple matter of four bolts and two screws. Find a way to support the model upside down while you do this, a foam, Peco loco cradle works surprisingly well, but a cushion or pillow would do. The model is nice and clean at this point, so no damage will be done to your soft furnishings.



The gas tank is, of course, as it's a pressure vessel, supplied ready built, we just need to add the pipework and ancillaries.



Two bolts retain the tank, and the nozzle just pushes into the burner. Take care to route the pipe, so it doesn't get in the way when operating the regulator, but avoid any tight bends that risk splitting the metal.





With the cab in place, I tweak the position of the pressure gauge. Accurrent normally has this pointing out of the cab window, but I prefer it in a more realistic, but admittedly, harder to read position.





A pair of small O-rings are fitted to the control valve, along with the knurled knob. It can then be screwed into the tank body.



An unexpectedly fiddly job is bolting the cab steps in place. The trick seems to be to test the bolts in the steps before fitting them, so any paint is cleared out of the holes. A long nut runner is helpful, in what is now a very crowded cab.



Moving to the tank, dummy valves are bolted under the lip, but before fitting, open out the holes on top with a 1.1mm drill bit to remove any paint. One of the last jobs is fitting some decorative pipes, and it's a lot easier if they slot straight in. The metal the valves are cast in is quite soft, so be careful with it.



The tank cap needs its legs adjusting to fit through the relevant holes, and is retained with a cap bolt. Gripping this isn't easy, but a pin vice works. I still have to touch up the paint though.



Two domes are provided. This is the Australian-style version with a couple of visible safety valves.



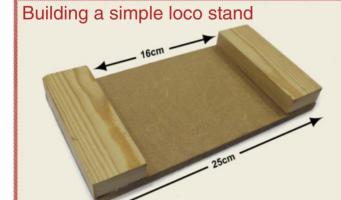
An alternative is the British-style dome. Both are held in place with a couple of bolts, so you can swap them over later if you fancy ringing the changes.



I've plumped for the British version, and with that, the locomotive is complete enough for test firing. A few pretty bits remain to be fitted, as well as the cab roof, which is better out of the way at this stage.



A separate manual is included with the loco, and it's well worth a read if you've not fired a model steam locomotive before. The first job is to fill the gas tank. That way, the liquid gas will have time to warm up a little while you do the other jobs.



Rather than chasing a model around the line, test steaming is better carried out on a stand or rolling road. Nothing complex is required, I've used an off-cut of MDF, plus a couple of bits of 2 by 1 wood.



All we are aiming to do is support the loco under the bufferbeams, with the wheels in the air. This allows it to run properly, while the driver examines the model for leaks.

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CONSTRUCTION



Next, some lubrication. 3 in 1 oil will do the job. Be sparing, there's no need to drown the chassis as any excess can attract dirt into precisely those places you really don't want it.



This is a very complete set as a pair of heatproof glove and a couple of syringes are included in the box. They will do the job, but most modellers will eventually find different tools that suit them - such as my preference for a water syringe with a plastic pipe on the end.



Steam oil next. This is a mucky job, but using a syringe makes life a little easier. Fill the tank to about 5mm from the top, and leave the cap off for a few minutes to let the thick oil sink to the bottom, releasing any trapped air.



With the loco on a stand, the gas is turned up so it can be heard, but isn't roaring away. You'll learn the correct level as your experience with the locomotive grows. Steam locos aren't like electric ones, you learn how to get the best from each one over time. Open the smokebox door and light the gas.



Finally, water. The model is fitted with a Goodall valve, so if you have a suitable filler, water can be squirted straight in, essential if you want to top up during a run. Not owning one yet, I undo the valve and fill the boiler with a syringe. Once full, I pull some back out so there will be some air at the top of the boiler.



All set up on the kitchen worktop (it was raining outside), after a few minutes, the pressure built, steam came out of the safety valve and I opened the regulator. As recommended, the first run is in reverse to clear condensate from the cylinders. A few gentle prods of the wheels, and it runs! Cue a very happy, and slightly relieved, Phil!



After a celebratory cup of tea and slice of cake, just to let the locomotive cool down, work resumes with attaching the decorative pipes and cab handrails. These drop in place, secured with a smear of epoxy glue. Mine look a little agricultural, so more time needs to be spent lining things up later.



Finally, the cab roof, which swings out of the way in the traditional Accucraft style, clips into place, and the model is finished!

Garden Rail Resource

Accucraft UK Ltd PO Box 394, Hereford, Herefordshire, HR1 9QN www.accucraft.uk.com

Please mention Garden Rail when contacting suppliers.

Conclusion

In the first part of this series, we asked 'Can I turn these parts into a locomotive that runs as well as the ready to run versions?' - and the answer seems to be - Yes.

It seems that a non-engineer can really build a working live steam locomotive. The most specialised tools used are some small nut-runners and spanners. Nothing that wouldn't justify a place in a modellers toolkit anyway. Apart from that, tweezers, small pliers, screwdrivers and a gas torch complete the set. I've used more specialised equipment assembling locomotive kits in the smaller scales.

I think it's fair to say that a kit like this needs to be approached with the right attitude. If all you want is a steam locomotive, buy the ready to run model. There's very little saving in price and you can just take it out of the box, ready to fire up.

What building a kit provides is a fund of knowledge and understanding. I know what every single part of this model does, and how it does it. More to the point, this is my model, and for that reason will always be special to me. OK, the factory might make a slightly neater job in one or two places, but I bet they don't enjoy the sense of satisfaction I have.

What's next? Well, the model hasn't taken to the rails yet, so I need to get out and about with it to readers' lines. It will be interesting to see how it gets on. Being a kit, it's also customisable. Looking at other models, I've seen a couple fitted with radio-controlled regulators, and that seems like a good idea. If anyone has any other suggestions, drop me a line and I'll see what we can do. In the meantime, I feel the need to go and play...



16mm scale – 32mm gauge track

A new ready-to-use track system? The Editor takes a look at Cliff Barker's latest product.

There's nothing more fundamental to a model railway than track. However, in 32mm gauge, the options have always been a bit limited. There's a myriad of plastic toy track of course, but if you want metal rails a steam locomotive won't melt, then you'll either be saying hello to Peco, or buying in components to build your own.

Now though, Cliff Barker, well known for his Gauge 1 and 3 tracks, has brought out a range for the 32mm gauge modeller.

Based on Code 180 bullhead rail in either stainless steel, brass or nickel silver, Cliff explains on his website, that while most narrow gauge systems used flat bottom rail, it's difficult to curve without a rail bending tool. The stainless steel is a good deal less shiny than nickel, much more realistic, an appearance that will be enhanced (we are told) by slight rusting once it's been outside for a while.

The rail sits within moulded sleeper and chair units made from dark brown plastic

chosen for its high stability when exposed to ultraviolet light. We're assured that these will survive many years outdoors.

Rail chairs are modelled on those found on the Penrhyn Quarry Railway, which employed bullhead track. Many of these were later sold to the Ffestiniog Railway, and then sold back to Penrhyn. These two-bolt chairs include some really nice fine detail including the "W P & Co" manufacturers initials and 1887 as the date of manufacture. Sleepers show realistic grain detail, visible, but not over emphasised.

The rail is correctly inclined inwards very slightly, again, as found on the prototype. Smoother running should be the result, with the top of the rail more closely aligning with the conning of the wheels.

For really tight curves, 32.4mm gauge track is also available.

To fix the track down, there's no need to drill holes in the sleepers, as discreet loops are moulded in the corners between web and every other sleeper. If used to screw the

track down, they will be covered by ballast and therefore invisible.

Bending the track by hand, it takes a curve smoothly and retains the shape on gentle bends. It feels like a quality product, there is a range of matching pointwork and a variety of different fishplates to enable the modeller to build a layout. And, yes, it is compatible with Peco SM32.

If you prefer to assemble your own track, all the components are available separately.

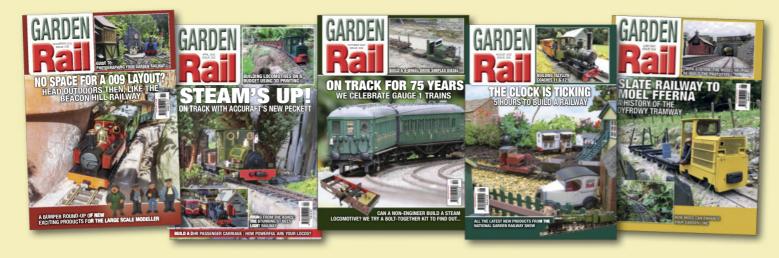
This is an impressive product – finescale and perfectly robust enough for use on a garden railway. A perfect combination.

Garden Rail Resource

Cliff Barker

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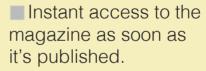
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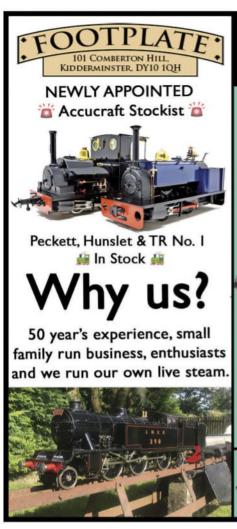


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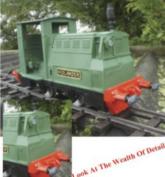
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PIKO AMERICA

G scale Festive railway models Due in the shops in November, Piko's latest Christmas-themed rolling stock, made in Germany.

The North Pole Express Mogul Locomotive features a 5-pole motor and numerous molded-on details including lights, brake cylinders, and working smoke stack. Separately applied is the tank piping, cowcatchers, handrails and ladders. The interior is detailed, and includes an engineer figure

DCC is installed and digital sound made by Soundtraxx and operating directional lighting. On analogue operation, nearly all the sound features are available too.

The refer wagon is decorated with a colourful Christmas design, that will be unique to the 2022 season. Moulded on detail includes ladders and doors with factory-applied brake wheel, roof walkway, and stirrup steps.

Last, but not least, the caboose is also a unique design for this year, and includes separately fitted brake wheel, brake cylinder, undercarriage piping, roof smoke jack, roof walkway, ladder and stirrup steps.

Mogul Locomotive: \$749.99 Reefer: \$129.99 Caboose: \$124.99





BOOT LANE WORKS

16mm scale George England style locomotive kit -'Dragonfly'

Released at Elsecar, this locomotive kit is Boot Lane's interpretation of the Ffestiniog Railways George England 0-4-0T in its original form.

'Dragonfly' is assembled from 3D-printed filament and resin parts, laser-cut acrylic and utilises the firm's adaption of the Binnie Engineering 29mm wheel, for the driving wheelsets. Each model includes a tender kit and all necessary metal stock, nuts, screws & washers required. Power is provided by a 3-6 volt motor, driving nylon gears. Also included is a micro slide switch (with a corresponding laser-cut hole in the footplate) and a selection of resin-printed detail

There is adequate room in the boiler & tanks for four "AA" batteries or a 3.7V Lipo battery and a Locoremote or other RC units.

Dimensions

Length (over buffers): 335mm Width (across cylinders): 82mm

Height (from railhead to chimney top): 120mm

Rigid Wheelbase: 72mm 32mm gauge only

Price: £155



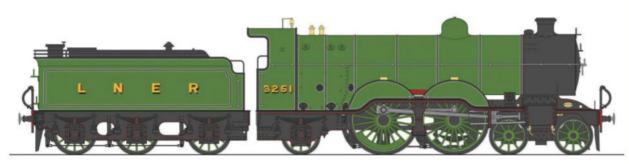
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ACCUCRAFT UK

Gauge 1 GNR C1 Atlantic and LB&SCR H2 Atlantic locomotives

The Great Northern Railway C1 Atlantic 4-4-2s were developed from the smaller boilers C2 Atlantics, the 'Klondykes', and built at Doncaster between 1902 and 1908. The class was immediately successful, hauling heavy East Coast express trains, but was subjected to various experiments by both its designer, H.A.Ivatt and his successor, Nigel Gresley, including the replacement of





slide valves with piston valves, four cylinder simple and compound types, and even the trialfitting of a booster. The class was equipped or retro-fitted with super-heated boilers, many by the LNER after the grouping, and lasted a long time in both front line and secondary service, 17 of the class making it onto British Railways' books at the Nationalisation. One example, No. 251, the doyen of the class, was preserved and is now part of the National Collection.

The story of the London, Brighton & South Coast Atlantics is intertwined with that of the GNR C1s. The Brighton's CME was Douglas Marsh, who had worked under Henry Ivatt at the Great Northern. A motive power shortage on the LB&SCR led Marsh to ask Ivatt for a set of C1 drawings, a request that was readily granted, from which he developed the H1 Class Atlantics. Marsh's successor, Lawson Billinton, went on to build a further six Atlantics, classified H2, to a slightly revised design and it was these locomotives that survived long enough to last into BR ownership, No. 32424 Beachy Head becoming something of a celebrity on railtours until its withdrawal in 1958. The loss of all the Brighton Atlantics was mourned by Southern enthusiasts and the survival of a pair of GNR C1 boilers proved to be the spur to get a replica built at the Bluebell Railway, a locomotive now nearing completion.

Prices, and specifications for these 1:32 scale models will be released soon.



Accucraft UK Ltd. PO Box 394, Hereford, Herefordshire, HR19QN www.accucraft.uk.com

PRODUCT NEWS

ALD PRINT

Gauges 1 and 3 Class 25 kits

Built between 1958 and 1967 as a result of modernisation plan of 1955. A total of 327 Class 25 Locomotives we built. Designed to handle both passenger and freight traffic, they were widely used over the BR network.

Reliable and adaptable, the Type 2s were among the most successful designs to emerge from the 1955 programme and were in many respects, the unsung heroes of the dieselisation for the railway industry. Withdrawn from service by the end of the 80s due to a decline in freight traffic, a significant number survive in preservation.

ALD's Gauge 1 kit is made up of laser-cut metal parts, CNC shaped styrene and 3D-printed roof, cab ends and fuel tanks. Bogies, wheels and motors are included.

The Gauge 3 model is similar, although the modeller has to supply bogies, for which ALD recommends Appletree Railways versions.

Prices

Gauge 1 - £650 Gauge 3 - £700





ALD Models 279 Sharrow Vale Road, Sheffield, South Yorkshire S11 8ZF www.aldmodels.co.uk

TENMILLE PRODUCTS

Gauge 116T Toad brake van kit

The GWR 16T Toad has been offered by Tenmille for years, but this is its first offering in 1:32 scale. The 10mm scale version remains available as well, and you can order the model in both four and six wheel versions.

A laser-cut plywood kit, with brass and white metal detail, sprung brass axleboxes, wheels and buffers. The modeller has to supply glue, paint and transfers, although the latter are available from the firm for £8 a sheet.

Tenmille plans to offer many more of the current range in 1:32 over the coming weeks as the firm recognises the demand in the market, but will continue to develop further kits in 10mm scale.

Price: £126

Working Buckeye coupling for Gauge 1

Launched at the G1MRA 75th birthday exhibition, the buckeye is a new product whose key benefit is that it fits to a standard hook, meaning no modifications are required to hooks or bufferbeams. Also, when dropped down, it exposes the hook for use with chains.

Price: £12.50 per pair

Tenmille Products www.tenmille.com





SADDLETANK BOOKS

Gn15 Hunslet kit

One for younger modellers, a card kit of 'Alice' the Quarry Hunslet, designed to fit on top of a Hornby 0-4-0 locomotive. The resulting model can then run on OO gauge track.

Based on artist Pauline Hazelwood's designs for her books of stories, 'Alice' tells the tale of the real locomotive now based at the Bala Lake Railways, the model is charming and needs only scissors and glue to assemble, although some adult supervision would be a good idea. Perhaps an ideal way to introduce a youngster to model making? **Price:** £5.99

Saddletank Books www.saddletankbooks.com



KIPPO MODELS

Gauge 3 Mk 1 coach body kits

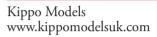
Starting with a clear pre-curved plastic panel, which provides the main strength of the body and also doubles as the glazing, 1mm thick resin panels are attached to provide surface detail, including door hinges, door stops, rain strips and window holes. Where appropriate, seats are included.

The top of the coach sides are supported by a 2x10mm aluminium bar, ensuring this is rigid enough to form a base for the single-piece resin roof panel.

Solebars and floors are moulded in a single piece. The modeller will have to supply buffers, couplings, roof vents and bogies. Appletree Railway bogies are recommended.

Price: £175





PRODUCT NEWS



SIXTEEN MILLS

Gauge 1 Lockett & Marychurch 6T coal wagon kit

Little is known about this delightfully compact mid 19th century end door coal wagon. Built by Gloster Wagon Co and used at Carr's Bwllfa Colliery in South Wales. A very short wagon with a mere 4'-9" wheelbase makes it ideal for small layouts. Laser-cut buffers are fitted to one end only, as per the prototype. These incorporate a foot step on top and the buffer bases are 3D engraved to produce the profile of the original cast iron bases.

Price: £40

Contractors Side Tipper kit

These were often known as Manchester Ship Canal wagons, and were used by railway, canal and dam building contractors to remove earth and rock. They could be tipped to one side only. Some quarries also used them to carry overburden away and even haul product. They were often hauled over rough track by horses, or on better-laid track by small locos.

This G1 kit is similar to Sixteen Mills Swanscombe cement works wagon kit that had later fitted bufferbeams and self-contained buffers, while this new kit is of the more commonly seen dumb buffer type. It also incorporates the newly-developed 3D-engraved heavily grained gnarled wood effect for the sides and ends of the heavy timber chassis.

It's currently available in Gauge 1, and possibly for G3 and O gauge in the future. If you are interested, get in touch via the website.

Price: £40



Sixteen Mills 45 Millbank, Llandegfan, Anglesey, Wales LL59 5RD www.sixteenmills.co.uk

PETER SPOERER

Duplo Wheel Bricks

Spotted at the G1MRA birthday, possibly the best new idea the Editor has seen for years.

Each Duplo brick is fitted with a 45mm gauge, 30mm diameter pair of wheels, set to G1MRA standards. A Lego brick version is also available, although those shown will connect with both Lego and Duplo bricks

To quote the packing, "The Duplo Brick G1 adaptor is a wonderful way of introducing the younger members of your family to Gauge 1 model railways. Construct your own wagon from Duplo with this great little adaptor brick and wheel set, and run it on G1 tracks with Grandad!"

Price: £3.50 each

Peter Spoerer Model Engineers White Horse Works, Fakenham Road, Morton, NR9 5SP Tel: 07340 219656





Letters are welcomed on any aspect of large scale railway modelling. Please email the Editor: phil.parker@warnersgroup.co.uk or post to The Editor, Garden Rail Magazine, Warners Group Publications, West Street, Bourne, Lincolnshire, PE10 9PH

MAMOD MEMORIES

My garden railway had a similar start as the Editor, a Mamod kit arrived with no instructions, but I did manage to get it constructed.

The major issues were speed and fuel dropping from the burner, which in turn would melt plastic sleepers, it would only run on a flat surface track on the driveway.

I will modify the locomotive, which will possibly include a tray underneath the burner, or, I may convert it to gas fired, which may give me some speed control. This project will have to wait a short while as I have my hands full building a fowler 3.5 inch 2.6.4 tank.



THE WOODY BAY GARDEN RAILWAY

As the winter months now see the Woody Bay Garden Railway at rest until the Spring, let's take a look back at what a momentous year we've had as honoured guests of the Lynton & Barnstaple Railway.

Most members of the Association of 16mm Narrow Gauge Modellers will have by now learned, either through the grape vine or the Association's lavish quarterly magazine, that a team of high-spirited North Devon and Somerset lads have been working away for half of the year in providing the L&BR's Woody Bay station with a permanent 16mm:1ft scale, 32mm gauge, outdoor garden railway. This is a permanent asset for the railway, which, after the eventual laying of track, immediately showed promise of becoming a great feature for entertaining their visitors with the very first live steam trains we ran.

Looking back at the season's penultimate big event of the Autumn Gala weekend (Christmas specials still to come!) at which 'Lyd' from

the Ffestiniog Railway joined both 'Lyn' and 'Axe' on their home territory, I'll describe the scene. The usual large marquee protected collections, displays and heritage delights, while the pomp of sweeping, dashing and regimental customary of 'Queen Victoria' and her entourage mingled with her subjects as she wandered from several veteran and classic cars to scaled-down traction engines, and finished up actually smiling as she was whisked past our layout on the adjacent ride-on railway waving elegantly like a right Royal should. And there we were with our own contribution of a 32' x 11' scenic garden railway in full swing. And loving every minute of it. New builds 'Lyn', 'Lyd' and centenarian 'Axe' took it in turns to deliver visitors to the Gala from Killington Lane, and the picnic tabled yard behind the station building thronged with picnickers tapping their feet to a solo artist singing her (or his, on Sunday) heart out.

Since the end of July, our WBGR has been a regular Saturday feature, run usually by just three of our 'Two Moors' 16mm group team. With an eclectic mix of locos and stock to be seen, the most important image, of course, was that of L&B hardware circling the layout. On September 24th, the L&B's GM Stuart Nelhams did us the great honour of declaring the layout open, by cutting ribbons with a pair of ceremonial golden garden shears to allow an Accucraft 'Lyn' to enter our 'Woody Gate' station. With cheering and clapping the beautiful machine then continued around, and this signalled the rest of the gathering to join in with whatever tractive power they'd decided to bring and show off. A very exclusive and highly-creative layered cake by Annelise Harris was then cut and, wiping cream and jam from our lips, we relaxed into the rest of the day, and the next, just enjoying the atmosphere that is Woody Bay at its best.

The idea of a permanent layout at one of North Devon's most popular tourist attractions has been on the cards for years, but never quite made the finishing line of organisation, installation and celebration. Maybe we were lucky to be able to offer just the right chemistry and logistics in our proposals. Our Two Moors Group manages the layout on the L&BR's behalf, leaving them to worry about their own much larger railway to develop. The layout is their property, and we just take good care of it, provide scenic interest and make sure it gets used on as near a weekly basis as we can.

The layout will now be a very useful accompaniment to the new tea room, just a few steps away, as both were completed virtually at the same time. Gone is the drafty marquee and in its place a fabulous new build, modern on the inside but externally hinting the architectural charm of Woody Bay. (The Cornish pasties are also a bit good!)

When April returns in '23, we shall be back again on Saturdays behind Woody Gate Station's roof top keeping the travellers transfixed with our shiny potboilers and whirring battery units. Why not drop by sometime next year, and soak up some of the atmosphere of it all. But don't forget, there is a real railway here as well! It might only take you on a mile journey, but every passenger's support means it will be able, in time, to extend its charm much farther towards the next two goals - Challacombe, and

For a full account of our layout please visit www.twomoorsgroup.org, or the Youtube channel showing our 'belt and buckle' logo.







Date: 26 November, 2022 Event: Steam in Beds

Venue: Eaton Bray Village Hall, Church Lane, Eaton Bray,

Nr Dunstable, LU6 2DJ Times: 10am to 4pm Web: www.bag16mm.org.uk

Date: 9/10 December, 2022 Event: Steam at Rowington

Venue: Rowington Village Hall, Rowington Green,

Warwick, CV35 7BU

Times: Friday 2pm to 7pm, Saturday 10am to 4pm **Web:** www.johnsuttonmodels.co.uk

Date: 11 March, 2023 Event: Narrow Gauge North

Venue: Pudsey Civic Hall, Dawsons Corner, Pudsey, Leeds, LS28 5TA

Times: 10:30am to 4:30pm

Web: www.narrowgaugenorth.org.uk

Date: 11/12 March, 2023

Event: Midlands Garden Rail Show

Venue: Warwickshire Event Centre, The Fosse, Radford Semele,

Leamington Spa, CV31 1FE **Times:** 10am to 4pm

Web: www.warwickshireeventcentre.co.uk

Date: 15 April, 2023 **Event:** National Garden Railway Show

Venue: East of England Arena, Peterborough, PE2 6HE

Times: 10am to 5pm

Web: www.nationalgardenrailwayshow.org.uk

Date: 13 May, 2023

Event: Llangollen Garden Railway Festival

Venue: Pafiliwn Llangollen Pavilion, Abbey Road, Llangollen, LL20

Times: 10am to 4:30pm Web: www.lgrf.co.uk



The Festival of British Railway Modelling

Date: 11th - 12th February 2023

Venue: Doncaster Racecourse, Leger Way, Doncaster, DN2 6BB Times: 9am - 5pm Web: www.world-of-railways.co.uk

All events are published in good faith.

Please check with the organisers before travelling a significant distance as Garden Rail can't be responsible for changes or cancellations. Please be aware that travel restrictions issued by the Government may also impact

To submit and event for publication, please e-mail phil.parker@warnersgroup.co.uk

ARTICLE SUBMISSION NOTES

Garden Rail welcomes articles submitted via posted disc, email, Dropbox (or other large file sending systems online). Please ensure that your name, e-mail address, telephone number

sending systems online). Please ensure that your name, e-mail address, telephone number and postal address for payment on publication are included. Send to: phil.parker@warnersgroup.co.uk or to the contact address on the Contents page.

Articles should be submitted in MS Word or other word processing format. Please do not use fancy formatting or embed photos in the piece, these should be sent separately at the highest resolution possible and in JPEG format. Printed photos of a historic nature will be accepted. Captions for all photos should be included as part of the submission. You must own copyright to any material submitted and not have submitted it to other publications.

MNEXT MONTH

On sale December 15th

Tony Wright visits a magnificent O gauge line with full-length express trains sweeping through the scenery.





Inspired by a caricature of the Editor, Dave Skertchly delves into the controversial world of custom-made figures and tries to make one himself.

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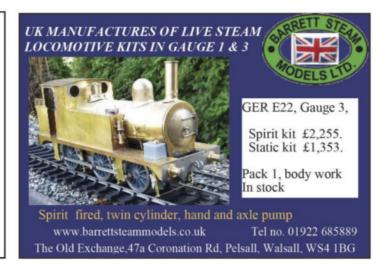
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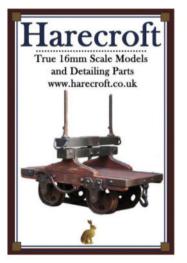
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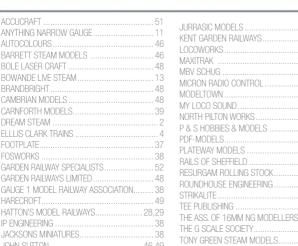
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Seen at the show

This year, the Gauge 1 Association celebrates its 75th birthday, holding a big event at Bicester Heritage Centre.







Accucraft brought together gauge one models from its past, including this absolute beast, a 1:32scale American 'Big Boy' locomotive. At just over 50 inches long, you'd need a large layout to do it justice.

Thomas the Tank made an appearance in the form of props from the TV series, which were, of course, gauge 1 models. The locos are super accurate reproductions, but Lower Tidmouth station is a real item seen on screen.



As well as G1 layouts, several other scales were represented, including 16mm scale, 32mm gauge, Mwch Grumlyn. The Editor was very taken with several locomotives running, and is twisting some arms for future articles.







If it's a birthday, there should be cake. Very sensibly, there was one for each day. Sunday's was distributed and tested on behalf of readers. You will be pleased to know it was delicious.

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NEW AVAILABLE - 1:19 PECKETT KITS



Our recent 1:19 scale 'Cranmore' Peckett 0-4-0ST is now available as an easy to assemble kit. Built by Peckett & Sons of Bristol, the type had its origins in an 0-4-0 saddle tank version of the special 7×10" cylinder design, Works No.1030 of 1904 *Gamecock* which would be later be referred to as a 'Cranmore Class'.

The model is gauge-adjustable (32mm and 45mm), gas-fired and fitted with a water top up valve, water gauge with blow-down valve, lubricator and pressure gauge; constructed of stainless steel and etched brass with a copper boiler, the model will, as usual, be covered by our two-year warranty.

The UK RRP is £1595.00 (subject to the usual provisos) and they are now available. In response to customer requests, we will be supplying the model with two domes, the factory original (ogee) pattern and the simpler Australian type. The locomotive is fitted Accucraft chopper couplings. Available in five liveries, full details can be found on the Accucraft UK website.





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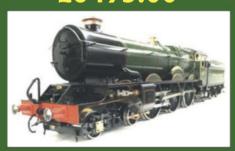
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