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VIEW FROM THE END **OF THE PLATFORM**



Incorporating GARDEN RAILWAY WORLD Issue 349 September 2023

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ON MY WORKBECH

Tust occasionally, I get to indulge in a little modelling for myself, and recently, there have been a couple of large-scale projects you might find interesting.

The first, a Gauge 1 Slater's kit for a Midland Railway 10T box van. Bought part-built, always a slightly risky venture, at the York model railway show, it was a bargain, as long as all the bits were in the box.

Luckily, they were, and the build was an interesting exercise as I've assembled this model in both 4 and 7mm scales in the past. The biggest difference was with the etched brake gear, which includes prototypical double arms. On the OO model, these are moulded in plastic as a single arm, but in 1:32, you get greater realism. Aside from a few issues

trying to spin the nuts up on the back of the couplings, easily solved using a sharp knife to carve away some of the underfloor detail, it went together nicely.

The only question is how heavy it should be. No one seems to have a standard, but the roof is only tacked on to allow a lead to be added if required.

Off the tracks, there is a Pola G scale Lanz Bulldog tractor. The kit is unusual in that it arrives both pre-painted and pre-weathered. At the time, I was looking for a simple sticking things together job, and so it proved to be. With a little care, the steering can even be made to work.

All I need now is a suitable wagon for it to ride on. Anyone care to suggest a kit?



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The Bottom Hill Light Railway

We head just south of Oslo to visit Tom Lynga and his line.

ottom Hill Light Railway lives in Norway. Locally, it is known as Kullebunden Hagejernbane, but I think you might find that tricky to pronounce, so we will stick with its English name.

I bought my very first locomotive, a Silver Lady from Roundhouse and a coach from Brandbright, in 2011. These turned out to be very good choices. Since I didn't have my own line at the time, my first run was in a garden railway at one of my good friends.

In 2013, I started to build my own garden railway. I had to do a lot of heavy work, digging narrow ditches, 25cm deep and 25cm wide, then filled in up to 5cm with small stones. This proved to be a good and stable set of foundations, which would

repay my efforts in the future. And I had to bring a lot of big stones from a neighbour to make the rockery for the flowers and plants I wanted to have along the line.

Next, came a lot of concrete and rebar to fix the Leca blocks. For those not familiar with them, they are lightweight aggregate concrete blocks, which I formed into a U-shape that was perfect to lay the tracks in. In the concrete, I put small wooden pieces to fasten the tracks to and I used some pillars of impregnated wood to attach chipboard to form the wider area for the station and village. The ground is basically clay, and beneath the clay are a lot of big stones,= from the time my house was built.

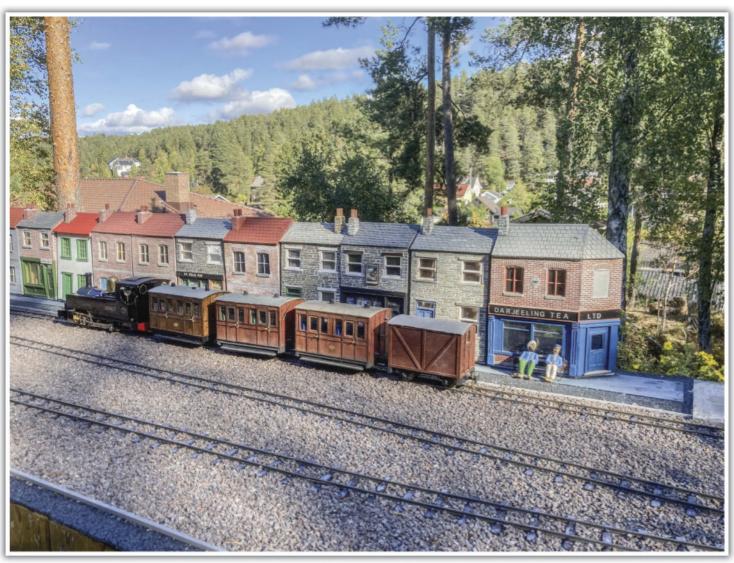
My grand plan was to create two small villages with a station, a yard, turntable,

locomotive shed, water tower, signal box, and some businesses.

I used the first spring, summer and autumn to build the trackbed and finally the tracks, offering a total run of about 60 metres. The entire layout covers an area 17 x 4 metres.

That first year, I only had a few buildings, so I planned to buy and build a lot more during the winter. My aim was to recreate a typical small English village, with a narrow gauge railway.

Of course, there would be a brewery, since I love beers, and have a small brewing machine myself. This is from Pola, and it has its own brewery tram, and wagons to transport the grain. In addition, I have a few tank wagons from Swift Sixteen. The



Customers at the Darjeeling Tea shop relax in the sunshine as Russell passes by.

tram is Clarence, from Roundhouse.

I love building models - houses, industrial buildings, coaches, vans. To find out how a steam locomotive works, I also built Billy from a Roundhouse kit.

During the winter, I built a lot and received many heavy boxes from Garden Railway Specialists. My rolling stock, vans and coaches are from different dealers and manufacturers in England, but also from a very good one more locally, Garden Livingsteam, by Kristian Svendsen. He is the retailer in Norway of all the products from Roundhouse and Brandbright.

I also scratch-built flat wagons, workers wagons and coaches.

In 2015, I invited my good friends to come along and test drive my new garden railway.

We had a great time, but I had to make some changes with tight curves, and a steeper than expected gradient. I spent the rest of the year creating the garden, with big stones around the line so I could plant flowers and creeping plants.



An overall view of the line.

After a few years with this layout, I decided to rebuild, and this is the layout you see in the photographs. I chose to make it higher from the ground, to save my back crawling around on the low-level track, and created a bigger station area. The rebuild started in 2020, during the lockdown period.

I finished this in spring 2022 and invited my friends again to test the line. This time, everything worked well.

The village, with all the houses, has become larger. The trackbed is more realistic as I've ballasted it with cracked stones, 2-3mm diameter, which I found at a stone crusher company about 50km from my home. I chose special colour stones, more brown than grey.

Next, I found all my telegraph poles, and installed them along the line. The poles are made of soft plastic. Each has been modified and painted.

The villages are both made with chipboard, and walls of impregnated wood, which makes it possible to store the buildings underneath, access being via small openings, and some doors in the side.

A new addition is an area for the production of slate and other stone products. The sort of place where small Hunslets can operate, with different industrial wagons. An unsuccessful coach build has found a new home in the yard as an office for the workers, all I need is to find an old excavator to complete the scene.

In the years from 2011 to 2022, I have added several locomotives from Roundhouse to my fleet, both steam and some small diesels. I like the small ones, with only two axles, and I prefer the black colour. Last year, I fell in love with the Darjeeling toy train in Himalaya and now have a tram, NDM6 and a Darjeeling B-class in blue. These have been detailed with correct decals and signs.

To give them something to pull, I scratch-built a few wagons based on pictures I found online. A lot of videos from the Himalayas on YouTube provide inspiration. I'm currently building coaches for my B-class and NDM6, and look forward to summer, when I can test run them.

When I build my wagons or coaches, I always try to put some heavy scrap made of lead or steel in them. This reduces derailments and the locomotives run smoother. My hopper wagons each weigh 1.3k each, and my Davenport can handle five at a time.

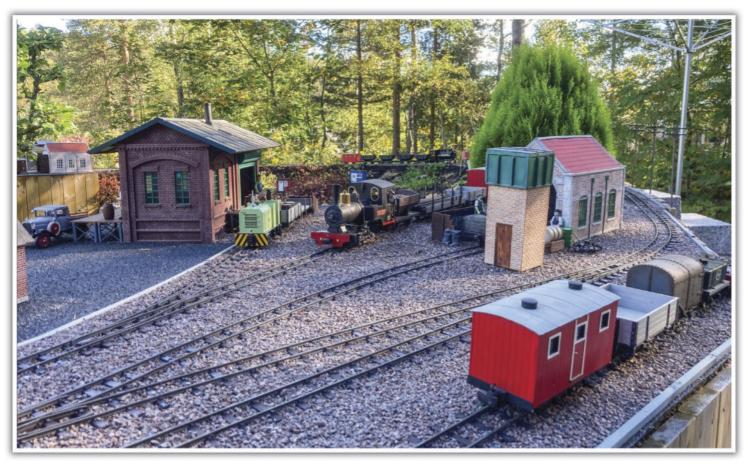
Future plans include painting the walls around the line and installing a fence along



My friends taking photos on one of our running sessions.



And this is what they are taking photos of. A fine collection of mine and visiting engines.



A busy day in the yard.



Lila passes through the town.

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it. I need to fix the ballast with water resistant carpenters wood glue, build some more buildings, make small roads and a small old castle, and buy more small plants and trees. Then there is detail to be added to the shops, like advertising signs, plus more people and pets waiting on the platform by the station.

I found out that small cottages or sheds are very decorative among the flowers and plants around the line. I will make some more, with fresh colours, like red, blue, and yellow, scratch-built from 3mm plastic sheet and stirring sticks.

Finally, I must recommend using scrap materials. Use a few boxes to put things like stirring sticks and small pieces of clear plastic, often found in packaging, small bits of wood and so on. To me, this is a fun part of our hobby.



My Darjeeling diesel shunting the yard.

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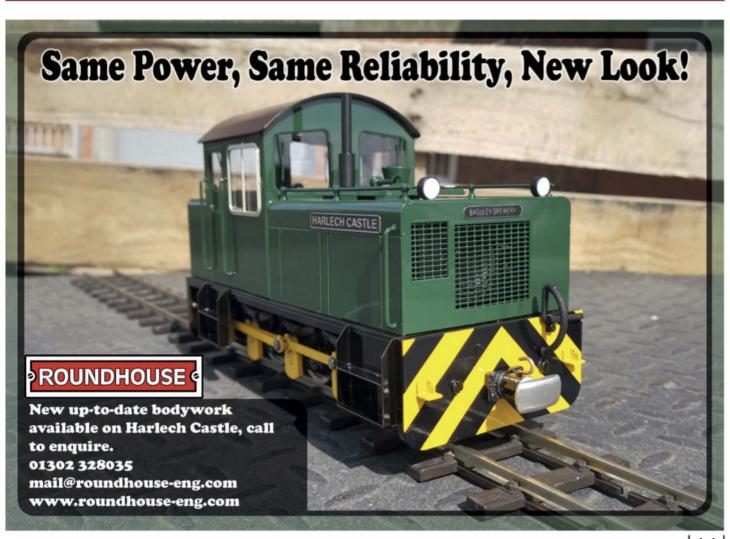
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Putting your best foot forward – Part one

Mark Thatcher builds Boot Lane Works' 'Nancy' loco kit.



e are very fortunate to be living in this day and age, where there are so many new tools and techniques to enhance our hobby. Back in the day, there were very few loco kits, and those that were around were often very rudimentary. Nowadays, wood laser cutting and 3D printing techniques easily allow you to produce components that have accurate dimensions, time after time. And this 'new tech' does not cost the earth either. I now have a print farm of four 3D printers, with the last two costing only £175 each! So, now what we are seeing are more manufacturers adopting these production processes.

I mention this as this 32mm or 45mm gauge 2-4-0 loco (you select which gauge at point of purchase), 'Nancy', from Boot Lane Works, is the true embodiment of this new world. I would call this a very good mixed media kit insofar as some of the loco's body, the smokebox and boiler are 3D-printed, most of the body has been accurately cut from clear acrylic sheet, whereas the chimney, safety valve, tank tops, fire door, chimney and smoke box are resin printed. You also will get 3D-printed connecting rods and coupling rods, inserts for the resin wheels, and an assortment of brass rods and screws, plus an ON/OFF switch, but sadly no single AA battery box

or wire to wire it all up. These you will have to source yourself.

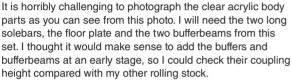
The model is inspired by the Rye & Camber Bagnall tank engine, 'Victoria'.

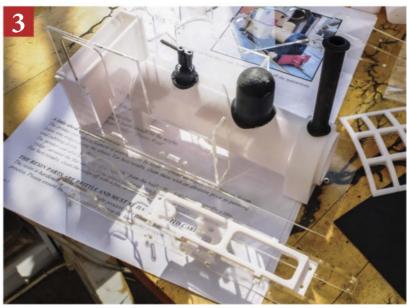
In part one of this article, I am going to concentrate on creating a working chassis, next month I aim to complete the body, marrying it to the chassis and have some line trials. I have made a few mistakes along the way with the chassis, but have highlighted these in the notes, so, hopefully, you do not follow suit!



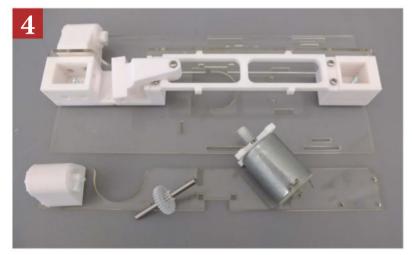
Here are the majority of the printed components on display. The nature of the 3D printing process means that there will be surface layers as the print head traverses the print surface. If time and care is taken when these components are being prepared and rubbed down, this will pay you dividends in the long run and allow a good surface finish for your final paint scheme. For now, I will only be using the motor mount, the coupling and connecting rods, the buffers and slide bars as these are all needed in the chassis build.



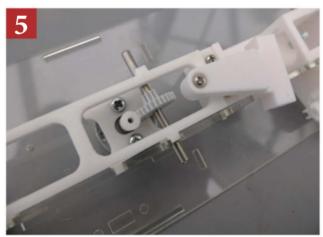




I know I should be concentrating on the chassis build in this article, but my impatience did get the better of me as I wanted to get a feel for how the body will look. I like to do mock-builds at an early stage for two reasons. I like to get an idea for the overall shape and feel of the kit, and it often gives me ideas as to what I may embellish further down the line. For example, I think adding boiler bands would add value to the boiler. Note the black parts are the resin-printed parts.



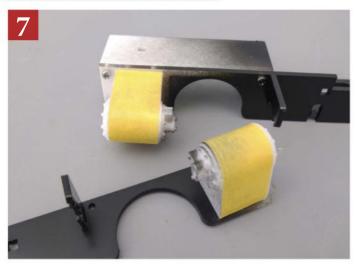
The main components for the chassis assembly. You need to add the cylinder blocks to the chassis first, as once this is all built up, you will not be able to access the two screws that attach these to the solebars. The cylinder blocks are usefully labelled left and right. There is a little wiggle room with these. They are meant to slope up very slightly, which seems in line with the pictures in the instructions. The worm gear is already pressed onto the gear axle rod, which helps things along nicely. The two screws you see protruding from the two white blocks of the chassis will eventually have two nuts on them, and this is how you can remove the chassis from the body to access the single AA battery.



A motor mount is provided to mate the motor with the bed of the chassis. I did fully tighten this first, but needed to loosen it up and adjust it when I first applied power to the motor so it would run. I leave a little slack in the motor mount first to allow the gears to settle into their natural position before nipping the motor mount screws up. Also, don't over tighten the leading swinging bogie as it will need a little play to ride the track. At this stage, I did not know if the bogie would be heavy enough to stay on the track, but there is a little room to add a little lead weight to this later should you need to.



Here is the first stage of the chassis complete as an unpainted test build. I then disassembled this and painted the bed, solebars and cylinder blocks in Halfords satin black.



After disassembly, I roughly masked up the covers of the cylinder blocks, as while at this stage, I had not made up my mind as to the colourway of the loco's body, if I went for a lighter colour, then spraying this over black may not be the greatest of my ideas!



The painted components are now ready to be reassembled. The red I use for the bufferbeams and buffers is just a standard red spray paint from Plastikote. Painting everything at this stage has its pros and cons. It is quicker and you'll get a nice clean edge where the different colours abut each other, but you will need to be more careful not to damage the paintwork from here on in.



The centre section of the chassis is painted in a similar way to the other components, before I finally could add the gear and the two brass bushes that separate it from the acrylic solebars that it locates into. Note the two supporting brackets that have been added to the right of the cylinder blocks are for the slide rod assembly, which will be added shortly.



Adding the wheels to the axles was definitely a dumb idea at this stage, and my first real mistake. They are 29mm Binnie wheels as supplied, by the way. You need to add four crank pins to the driven wheels and counterbalance weights to the opposing side of these wheels, and while you can just about wiggle these into position when they are fitted onto the axles, it is much easier to add pins and balance weights to the wheels firstly, using a vice to squeeze them into position, and then roughly position the wheels onto the axles in order to make the wheel quartering process much easier. But at least here you can see the general wheel arrangement before they were removed and my mistake was rectified.

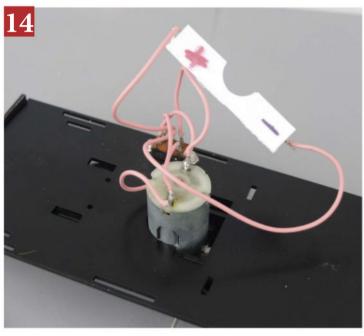


As my model is gauged to 32mm, there is not a great deal of room between the wheels themselves and solebars. Also, don't forget to slide on the brass bushes before you drop the wheels onto the axles. The brass axle bushes fit perfectly over these and they simply push into place into the locating lugs on the solebars.



With the rolling chassis complete, next it was time to get the wheels to spin. You will get the motor, a three-pole switch (with middle being off), but no wiring, battery box, or schematic wiring diagram. Now, this would have been useful to me as electronics is the one disaster waiting for me to make it happen. Also, my soldering skills have been quoted by some in Garden Rail as being more akin to brazing!

John Candy created a useful wiring diagram to help me out (and hopefully you too) if you are as hopeless as I am with wiring and soldering!



Here is John's effort with the electrics. He also provided the 3D-printed battery box for this project, although a standard AA battery box should suffice. Whichever way you choose to go with this, both should slide into the recess in the hollowed-out boiler, although you will need to remove the body to replenish the batteries when they are spent. Note also there is a cut-out hole provided in the loco's chassis to locate the battery switch, which is secured by the provided screws and nuts.



This is merely a test run to fit the coupling and connecting rods after quartering the wheels. The 'slop' you can see in the holes in the connecting rods (where the screw protrudes from them) is present as I have not yet added the provided spacers that push out over the protruding screws. However, I needed to open out the inner diameter on these with a small drill, yet thought the overall result was all still a bit tight, so subsequently dispensed with these and used 2mm hollow brass rod as a bearing material, which yielded much smoother running results.

Conclusion

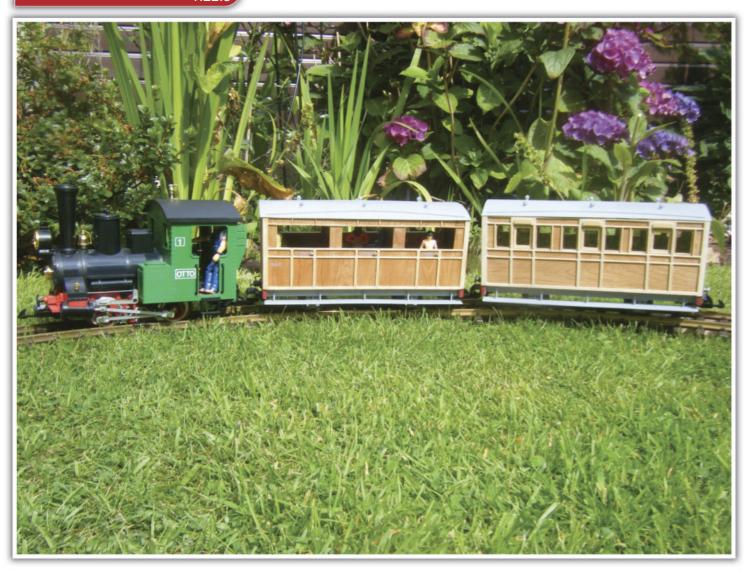
In the next enthralling episode, I need to thoroughly prepare the printed 3D components, find a way to make the body detachable from the chassis, create some boiler bands and paint the body to finish. I have to say that, despite a couple of small niggles with the chassis, I am most impressed by what you get for 130 of your hard-earned pounds. I also will feel more in my comfort zone creating the body, as my confidence levels are certainly higher in this respect. So, see you next month for the concluding episode of 'Nancy'!

Garden Rail Resource

Boot Lane Works 6 Finham Brook, Didcot, Oxon, OX11 7YE www.bootlane.org.uk

Nancy 2-4-0 Rye & Camber Bagnall tank engine - £130.00

Please mention Garden Rail when contacting suppliers.



Scratch-building G scale coaches

Graham Lomax adds some self-designed rolling stock to his fleet.

aving built two IP Engineering Freelance Coaches, I thought of building a simple coach. This would follow the same construction methods as the IP ones. I was pleased with how the IP coaches had built up, as being laser-cut, this ensured squareness. I was given some off-cuts of 3mm birch-faced plywood.

A simple drawing was made and construction started. Using the IP coaches as a guide, a floor, sides, and ends were cut out using a Stanley knife. I only use simple hand tools, as my workbench is what was a breakfast bar in the kitchen extension, and my wife dearly wants it back.

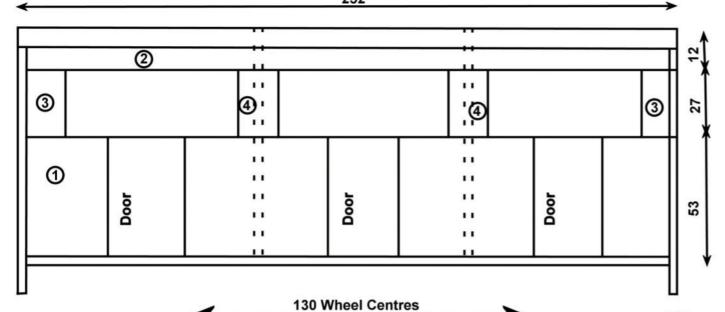
The sides were made in six pieces (see drawing) and glued together, making sure all was square. One side was assembled to the floor and ends, and internal partitions and seats made and fitted. The interior was coated in Deluxe Materials Sand'n'Seal, it was at this point I noticed the sealer had brought the grain pattern up. I was going to paint the exterior to match the IP's, but the finish looked like varnished wood, so it was

The seats were painted and the other side added. I now had a strong box construction that was square (one of my worries), careful cutting and clamping while the glue had dried, was the result.

Detail on the outside was added from the thin ply left over from the IP coaches frets. I purchased cast axleboxes and centre buffers from IP, wheels were Bachmann I had to hand.

A solebar was made from two thickness of 3mm ply. The axleboxes were screwed in place with tiny screws and the wheels added. A roof was made from thin gauge sheet metal, obtained as off-cuts from a local fabrication workshop. This was detailed and painted.

LGB couplings were fitted using homemade Plastikard housings. The exterior was given two coats of Sand'n'Sealer, transfers were added and then passengers. Foot-



boards were made from 1.5mm ply and supported with 25mm long, 2mm diameter, round head steel nails. This is how IP do theirs, so I copied the idea. Door handles were made from the same nails.

I was pleased with how this coach had turned out and the pleasure of making to my own design. I decided to make another, this would be a closed three-compartment, again with varnished finish. Construction was similar to the first, only the sides were cut out in one piece.

Three large openings were cut for the windows, and small pieces added to make the number of widows required. Contact adhesive was used, backed up with brushedon superglue. I had run out of detailing strips, so a large sheet of 1.5mm plywood was purchased. This was cut into various widths and lengths and then added piece by piece to the exterior.

For the solebars, this time a length of 12mm x 3mm stripwood was used, making sure they were parallel, a problem I encountered with the first. This ensured the axleboxes would be true, and good running would take place. Axleboxes and buffers were from IP, and again Bachmann wheels. Sheet metal was again used for the roof. Windows were added from clear sheet and passengers added. A little time was spent adjusting the axleboxes before I was happy with the running.

These two coaches now run sweetly without any extra weight. They match the IP coaches, and are an extra to my stable.

Whether I would build another remains to be seen. I started scratch-building in G scale by making a bogie wagon from items I had when the first lockdown started. I then built a further three wagons and modified



Fitting out the interior before attaching the final side.



Looking underneath, you can see the LGB coupling fittings made from Plastikard.

a couple of toys to run on 45mm track. Over the last few years, my rolling stock has increased by 10 items.

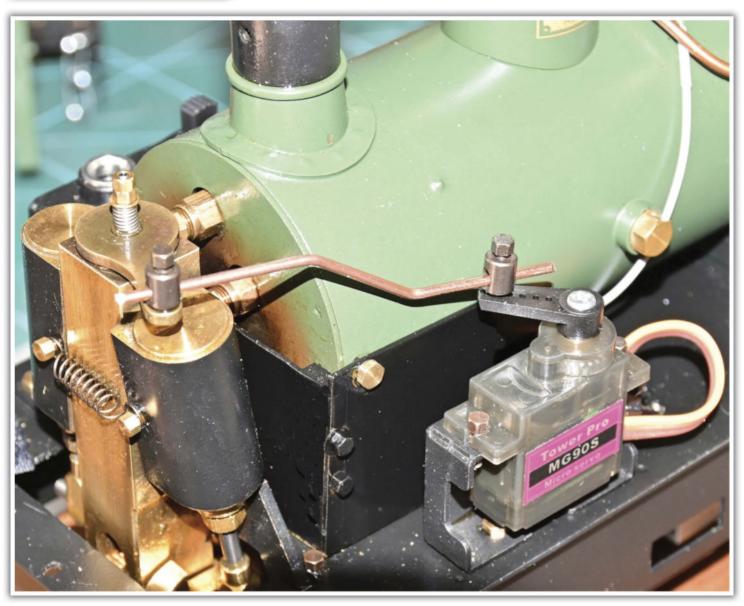
I have wondered, since building these coaches, if manufacturers such as IP could use faced plywood as I did. This could be for the sides and ends and would eliminate the need for painting, as the detail fret would be glued over the faced ply as mine is. Painting can be tricky and can ruin a model, my first IP was given several coats

before I was happy with the results. The cost of using faced ply would be more, but would give a different result.

Garden Rail Resource

IP Engineering Carousell, Spilsby Road, New Leake, Lincolnshire, PE22 8JT www.ipenginnering.com

Please mention Garden Rail when contacting suppliers.



A Heat Shield for a Regner 102 Tram

Mike Wakefield solves a minor problem with his steam tram.

y decision to purchase a Regner 102 Tram ('Paul') kit early in 2021, was based both on its aesthetic appearance, it's modelled on the Henschel & Sohn Tram Nr 102 from 1891, now stored in the Technoseum in Manheim, and because the photos on Regner's website seemed to show they were using tried and tested parts from their Easyline range.

However, when the kit arrived, I realised that, although the twin oscillating cylinders and the metal chassis frames were pretty standard, considerable changes had been made to the horizontal boiler. It was positioned nearer the rear of the loco, the smokebox was shorter by some 8mm, the air hole in the smokebox saddle had been omitted, and the steam pipe routed through the burner tube was a superheater. The smokebox 'door' (for lack of a better word) had the steam input and exhaust pipes passing through it, and there was also a horizontal slot towards the bottom.

Assembly of the kit was quite easy, assisted by the clear instructions in both German and English (my thanks to Chris Cairns and Graham Austin for these), and the build quickly resulted in a successful test with compressed air and then under steam. I was surprised the burner didn't come with an air control ring, so I used one of Regner's clip-on ones that I had in my spares box.

Live running soon followed. The tram performed well, the burner lit easily and the superheater meant much cleaner running, with less waste oil and water splattered everywhere compared with my other Regner locos.

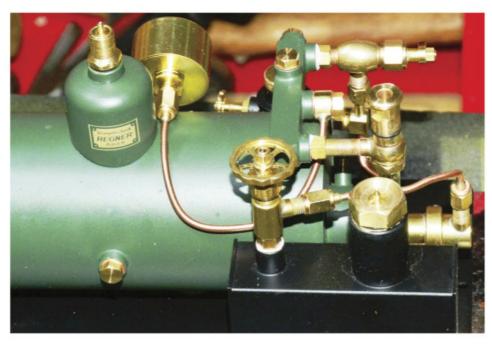
The further back location of the boiler meant it overlapped the gas tank, which became quite warm after a run. The gas tank's warmth made it virtually impossible to refill until the loco was left to cool down. In the instruction manual, Regner even suggested you consider buying a second loco to run while the first one cools. If only I was that rich!

I ran the tram quite frequently, until some weeks back, I was steaming it at a public garden railway show. There was a lot of background noise, which prevented me from being able to hear the burner sound when I went to light it, so it took me a couple of seconds to realise the flame hadn't popped back as it should. Instead, it was burning in the smokebox with a flame coming out of the slot in the smokebox door and onto the cylinders. I quickly turned off the gas, removed the gas jet and cleared a partial blockage.

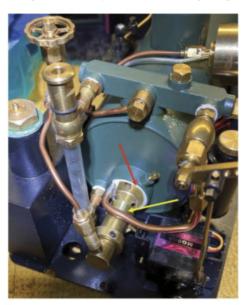
When reassembled, the burner popped back as normal. However, it made me realise how vulnerable the cylinders are, being positioned just ahead of a smokebox door with a slot in it.

When I got home, I removed the tram's bodywork to get a closer look at the smokebox, and was disappointed to find the bottom two-thirds of the door seriously discoloured. As the smokebox is shallower than ones on other Easyline locos, it's probably going to get hotter, so I believed the discolouration was caused by waste steam oil from the cylinders splashing and then burning on the hot metal of the door. Fortunately, the cylinders themselves looked OK, but the Regner-supplied copper heat shield, over the spring nearest the smoke box appeared far too small to do much good. I had also heard from other tram owners that they'd had to replace the spring after it failed, presumably from excess heat.

Although my 'Paul' was running reliably, having the oscillating cylinders immediately in front of the smokebox door, especially one with a horizontal slot in it, did make me worry. It was just too easy for hot gases to damage the cylinder springs despite Regners tiny heat shield. I felt a more substantial version was required between the smokebox door and the cylinders. It would need to be far enough away from the door to still allow combustion air to enter through the horizontal slot, but not too close to the oscillating cylinders so as



The gas tank overlaps the boiler, causing it to get hot.



The air control ring (yellow arrow) and PTFE tape around the burner (red arrow).

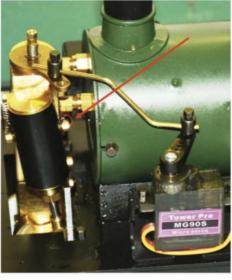
to restrict them. It also needed to shield the nearby radio control servo and on/off switch from heat damage. Careful measurements were called for.

The sketch on the next page shows my design of the heat shield, made from 1mm thick brass sheet. The front sheet has a strip of 2mm thick brass silver soldered down each vertical edge. These strips ensure the front shield stands 2mm away from the smokebox door, so leaving a gap for the combustion air to pass down and into the slot in the smokebox door.

The side sheets are attached to the front piece with M2 bolts, which screw into two holes drilled and tapped into the side of the 2mm strip. The shield side sheets are secured in place by holes drilled through to align with the existing smokebox door



The slot in the smokebox door when the loco



The tiny Regner supplied cylinder spring heat

CONSTRUCTION

securing bolt holes, into which 10mm M2 bolts are screwed. The side shields support the front shield and also protect the radio control servo and on/off switch from heat.

I anticipated my shield might cause some other issues that I hadn't foreseen, but to my surprise, everything worked just as before. The loco ran just as reliably as ever, the burner popped-back first time and I didn't even need to adjust the air control ring. The discolouring of the smoke box door didn't get any worse.

To create a more scientific test, I could run two trams side-by-side, one with the heat shield and one without, and see if the one without the shield develops cylinder trouble first. In the real world, however, that's not going to happen. Instead, I will continue to enjoy running my tram, with the shield fitted, and just see what happens. Only time will tell.

As for the discolouration of the smokebox door, I believe that to be purely cosmetic, so I might paint the boiler black instead of its current light green. That way, any discolouration will be a lot harder to see.

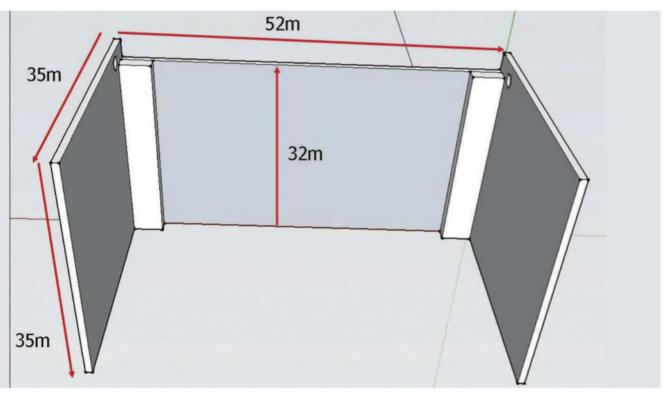
Garden Rail Resource

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The scorched smokebox door.



My design for a heat sheild. Dimensions are in millimetres, not metres, as my CAD package has rendered them!

DIARY DATES

Date: 25-28 August, 2023

Event: Aylsham Minor Running Weekend

Venue: Bure Valley Railway, Aylsham Station, Norwich Road,

Aylsham, Norfolk, NR11 6BW Times: 10am to 4:30pm Web: www.bvrw.co.uk

Date: 5 August, 2023

Event: The Big Model and Hobby Show

Venue: Formby High School, Freshfield Road, Formby, L37 3HW

Times: 10am to 4:30pm

Web: www.modelandhobbyshow.com

Date: 30 September, 2023

Event: Yorkshire Garden Railway Show

Venue: Barrow Hill Roundhouse Railway Centre, Campbell Drive,

Barrow Hill, Chesterfield, Derbyshire, S43 2PR

Times: 10am to 4pm

Web: www.yorkshire.16mm.org.uk/Yorkshire16mmShowhomepage.

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

Date: 28 October, 2023

Event: Exeter Garden Railway Show

Venue: The Matford Centre, Matford Park Road, Marsh Barton Ind Estate, Exeter, EX2 8FD

Times: 10:30am to 4:30pm

Web: www.exetergardenrailwayshow.com

Date: 12-15 October, 2023

Event: Midlands Model Engineering Exhibition

Venue: Warwickshire Event Centre, A425, Southam Road,

Leamington Spa, CV31 1FE Times: 10am to 4:30pm

Web: www.midlandsmodelengineering.co.uk

Date: 9 December, 2023 **Event**: Steam At Rowington

Venue: Rowington Village Hall, Rowington Village Hall,

Rowington Green, Warwickshire, CV35 7DB

Times: 10am to 4pm

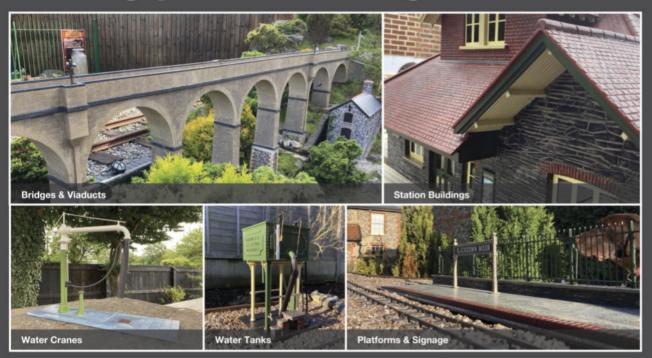
Web: www.johnsuttonmodels.co.uk

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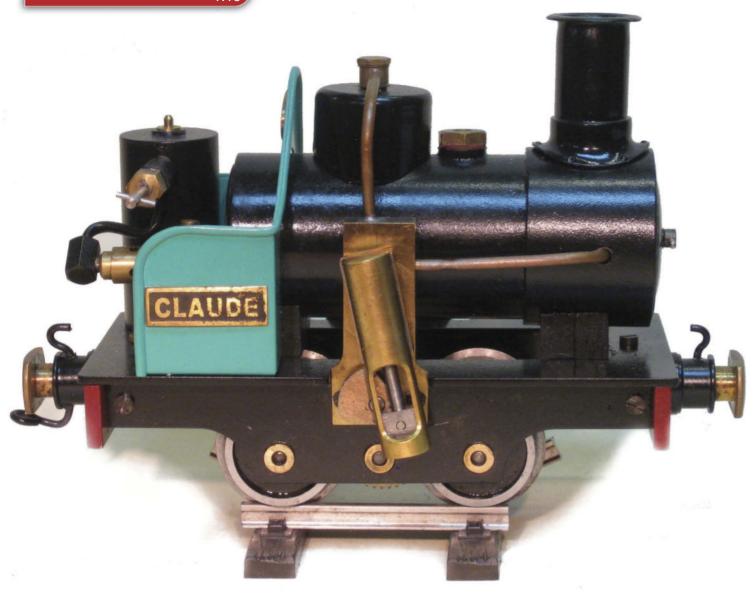


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Crackers

Tony Bird explains how and why he ended up making a number of these simple steam locomotives.

racker is a very small 0-4-0 gauge O model live locomotive, designed in the Netherlands in 1996 by Ernest Glaser, and six free drawings are available on the internet at: home.iae.nl/ users/summer/16mmngm/Articles_htms/ Cracker.htm

The design was based on a full-size locomotive made by the John F. Byer Machine Company, and a commercial model based on the Byer locomotive had been made by Michael O'Rourke in California. His company, Berkeley Locomotive Works, made about 130 of them from 1994 onwards, selling them worldwide.

I started making a Cracker in 2008, after finding the drawings online. I was looking for a design of a boiler and burner that I might copy that would be suitable for use on a very small 32mm gauge, 16mm scale model steam locomotive that I was building.

What I couldn't find was any information on how well a Cracker boiler performed, so the only way to find out was to make one. Cracker is a very simple model, having, except for a cab, nothing it doesn't need to work. One single oscillating cylinder also acts as a safety valve. There is no regulator, the only way of adjusting its speed is by either: varying its load, adjusting its burner, or both. It was a very quick model to build, taking just over three weeks, a lot of it was purchased:

wheels, gears, couplings, and water filler valve, along with the usual gas jet and gas filler valve.

The model was named 'Claude' and was first run on the track of the Cardiff Model Engineering Society in Heath Park.

A video showing these models can be viewed at: youtu.be/RKbZ6QTk4eg

Claude's performance was impressive; it kept going very quickly until its water ran out; having done four circuits of the track, a total of about 600ft, its boiler and burner performing really well.

The only real difficulty encountered was lighting the blow lamp burner, which was almost impossible via the chimney. I had to remove the gas tank and burner from the footplate, light the burner and replace it in the boiler. Hardly ideal.

As I had a couple of feet of 35mm copper tubing, and the Cracker boiler had used very little, I decided to make another Cracker using a poker burner of my own design. I later found out that Felix Heufke was having similar problems and had converted to a poker burner. Also, I didn't like the look of the gas tank on the footplate, so I extended the frames of the new model by 10mm so the tank could then be put under the footplate between them. This allowed a driver to stand on the footplate. After this, it all got a bit OTT.

The original Cracker design, if reasonably well made, will perform very well, except for the burner issue mentioned, there aren't any good reasons to alter anything. However, like many others, I like to play with, add and alter things.

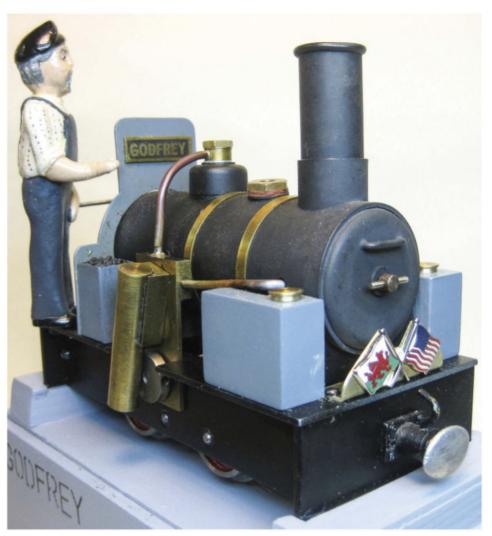
The second Cracker built was 'Dougie', which had a full cab and was fitted with a safety valve, regulator, lubricator and pressure gauge.

As there was still quite a lot of the 35mm copper pipe left, several more Crackers were made. The third model being named 'Jane', which had a Heywood look, and it was back to the basic design, albeit with a poker burner and frame-mounted gas tank. This Cracker was the first to have full-depth frames and no separate smokebox; which continued to be the case with most of the subsequent models made. Most of the later Cracker models were made to this simpler design.

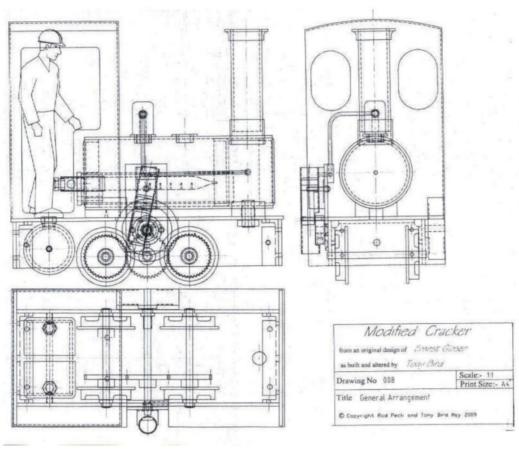
The next model made was to a more complex design, Cracker 'Digby', which had a gauge glass, a safety valve, regulator and lubricator. These additions, other than being able to control the speed, did not affect the overall performance of the model, but it was nowhere near as exciting to operate!

A wing tank named 'Godfrey' was similar to 'Jane', the crossed Welsh and American flags signify that it has run in the USA.

At this point in time, some younger members of the Cardiff Model Engineering Society expressed an interest in building a number of Crackers. To this end, a prototype 'Donald' was built and some drawings were made.



'Godfrey'



'Donald' was the first model built with the steam pipe not connected to the boiler by a banjo fitting. Being one of the BP&FP (Blunt pencil and fag packet) brigade, at best and someone with a kind heart might describe my attempt at drawing as dimensioned sketches. Thankfully, a friend, Rod Peck, converted them into sensible drawings.

Having now made six Crackers, I had run out of 35mm OD copper tubing for the boilers. Sourcing short lengths of 35mm tube locally proved to be difficult, but one shop offered me a three-metre length at a very competitive price, as it had been ordered in error sometime before. So, there was now enough copper for 20 or more Cracker boiler tubes and end caps!

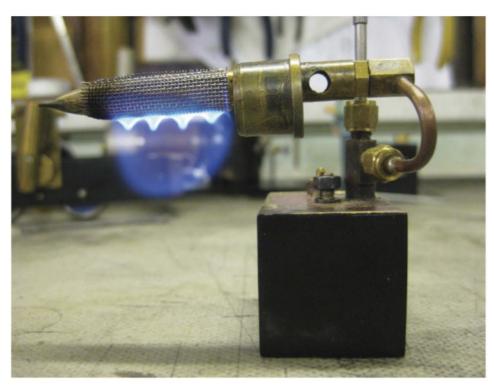
A start was made making a batch of five Crackers. The boilers were first to be made and while this was going on, a seventh Cracker was constructed with a small modification. This modification was the fitting of wooden bufferbeams, though internally fired and insulated from the footplate, holding a Cracker could be quite hot, especially as the small boiler had to be topped up frequently.

Cracker 'Beryl' was a sort of pre-production prototype. 'Beryl' was also fitted with an experimental aluminium piston rather than the usual stainless steel; this has proved to work well, its lightweight making the engine even smoother running, though aluminium was not used again until it had proved its longevity in service.

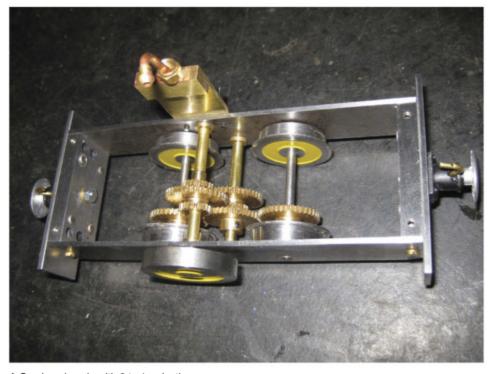
Up until now, the types of poker burners used in Crackers had been various: slots, small holes, large holes with or without mesh. They all worked very well but the easiest to make and would light well, was a four-large hole version covered with mesh and used inverted. All subsequent Crackers had this type of burner.

The lads only worked on their models for a few hours one evening a week and had started, as mentioned, on the boilers, followed by the frames and after about six months they were very nearly finished. All of the models worked really well, but I had been very pessimistic about the quality of their work and had them make more components than were needed. These 'spares' spawned two more Crackers, one of which was fairly conventional except for having a tram body.

Having made the tram Cracker, there remained a set of frames, bufferbeams, boiler, a pair of cylinders and a few other bits and pieces. Well, they had to be made



The Cracker burner.



A Cracker chassis with 8 to 1 reduction gears.

into a twin cylinder version didn't they! But what sort? A cylinder either side would be the obvious answer. I have always liked Shays though never made one, and still haven't.

So, after considerable thought, I designed what I am sure Lima would have done had they made a single truck Shay, which became known as 'Crackershay'. A way of mounting two cylinders on the same side of the model was contrived. Instead of having fly cranks, the cylinders drove gear wheels that meshed together, with the crank pins set 180 degrees apart and, as the gears rotate in opposite directions, the cylinders swing in unison or even together! The boiler was off-set Shay style; the model had a wooden cab with a stove pipe chimney, headlight, bell, air cylinder, tender and the buckeye couplings setting the model off. The model has a safety valve and it is so far the only Cracker made that has a reversing throttle lever. 'Crackershay's' boiler easily supplies

enough steam for its two cylinders, but, as the boiler is the same size as the others, it doesn't run that long between topping up.

The next Cracker was 'Edward'. We are fortunate in having an old-style hardware shop about 150 metres from our home, I buy bits and pieces from them for modelling and they know what I buy isn't often used for its intended purpose. On a visit, they offered me two 35mm copper 'T' fittings that they had found in a drawer, so Edward's boiler would be made as a 'T' just like the original Byer locomotive that Cracker had been loosely based on.

With its 'T' shaped boiler and its extra water capacity, 'Edward' runs at least three times longer than Crackers with usual boilers. Like 'Crackershay', 'Edward's' boiler is off-set and has a gauge glass, safety valve, regulator and lubricator and with the now-proved success of 'Beryl's' aluminium piston, its piston is aluminium. And it is the only Cracker as yet with a wood-clad boiler. There is also an exhaust oil separator in the model's single-wing tank.

A number of Crackers were made for sale, which at least used up most of the 35mm copper pipe bought. All these Crackers except for one were to Cracker 'Donald's' basic design. The exception was also to the basic design but had an eight-to-one gear reduction rather than the usual four-to-one ratio used. Its yellow paint job made it very distinctive, it later had a cab fitted

I do not know of Ernst Glaser and Felix Heufke's intentions in designing Cracker, but I think a good guess would be that it was designed as a simple locomotive using the minimum amount of parts that was quick to build. If this was the case, I think they succeeded. Also, wherever Crackers are run they seem to bring smiles to faces.

Cracker, when run in, will pull five or six light wagons. Its speed is the fast end of slow, the lack of regulator doesn't worry it at all and the cylinder/safety valve works well. With the boiler testing regulations as they are now, I would now fit a safety valve.

Cracker wouldn't be a bad first loco. They are inexpensive to build, and, with so few parts, a result would be seen quite quickly.

I was involved in making 20-plus Crackers; I haven't made one for some years but if I can be of any help to anyone interested in making a Cracker, please contact me via the Editor.



The Cracker tram, made from spare parts.



'Crackershav



Power in seconds, without tools

Alan Macfarlane wants to be up and running quickly.

e all like to run trains in the gardenand we all like the set up time to be quick and easy. What follows is a quick, easy way to do it with no tools being needed. I have a selection of track-powered locomotives and enjoy running them. For this article, I'll explain a simple system for supplying power to the track and running track powered locomotives.

The basic requirement for running a track-powered locomotive is voltage on the track. The higher the track voltage, the faster the locomotive will run. The running direction is controlled by which rail is Positive (+V) and which is Negative (-V). When the +V is on the right side rail and -V on the left side rail, the locomotive will travel in one direction. Then, when the +V is on the left side rail and -V is on the right rail, the locomotive will travel in the opposite direction.

A locomotive running on its own will needs just a small current (amps), as the load is small. If we add a load to the locomotive, it will need more current to run at the same speed. Once the train starts to climb a hill, the load will also increase. When using simple track-powered locomotives, volts give the locomotive speed and the amps indicate the load being pulled.

To be safe, we only use low voltages to the tracks. If we used the mains voltage of 240V on the tracks it would stop the rabbits, moles and other animals from causing damage, but it would also kill you too! So, let's just keep the track at 24VDC, which is safe for us all. We have two defined parts of the system; part one is the mains (240V) part, which is the dangerous bit. Part two is the low voltage (24V) side, which is the side we control and send to the track. Putting in the



A simple electronic controller.

mains 240V supply needs to be done by a qualified electrician. Working with the low voltage track power is safe for us to do. On the track side, the owner can and will do all the work. After all, this is part of the railway hobby isn't it?

To get power to the track, we transform the mains 240V AC down to low voltage then we rectify it to a DC voltage. We control this in both Voltage and which of the rails will be +V and which will be -V.

The mains power (240V) to the socket is the part only a qualified electrician should install. They will use the correct type of waterproof socket, with the correct cable and circuit breaker protection to make it safe for us to use.

Once we have a socket installed, in and round the garden railway area, it can be used for lights, your new fountain and the lawn mower. This may be a way to get the domestic authorities to sanction the project. We offer more than just tips on railways...

To keep everyone safe, we need to check anything is in good condition before we plug it into the 240V mains socket. This is not just for our railway equipment, but we should do this check before plugging anything into the sockets. We may not know we do this, but we look at it visually before we plug it in. What follows is a rough list of what to look at before plugging anything in and switching it on. Ask yourself:

- Is it damaged?
- Is the cable cracked, burnt, or frayed?
- Is the plug correctly fitted?
- Is the manufacturer's recommended fuse fitted?
- Has it been in or dropped into water?
- Has it been modified (on the mains

If in doubt about any of these, the equipment should be checked by a qualified electrician.

Most of us start with a simple controller. All you do is turn the knob one way, and the loco will move in one direction. Turn the knob more, and the locomotive will run faster. Turn the opposite direction, and the locomotive travels the other way. Often, on these controllers, the connections are not designed to be connected and removed regularly. On inside railways, the controller is often fixed to one place and just left there between running sessions. This leads to the connections being undisturbed.

On a garden railway, it is often connected up for the days running, then disconnected again at the end. Unless the cable end is very robust, the screwing and



4mm sockets. You simply solder the wire to the bottom.



The sockets connected to my track.

unscrewing will mean a new cable connection is needed every couple of runs. This is just generally a hassle all round. The time it takes to do the repair is often long, and it will need tools. You will need to find the right cable, the correct size screwdriver, and then the ends are to be remade, so cable cutters will be needed. This is not the hassle you want at the beginning of a running session. It is not a calming start to an afternoon running is it?

We have said the voltage from the controller is low, 24V DC, the power in amps is also low, less than 10A or so. As such, the use of electrical test leads that just plug-in are appropriate. The use of the small (4mm) test sockets are ideal. With these test sockets installed, we have a railway that is truly plug'n'play. To run, you just plug-in and you can start to run

quick and easy. I like quick and easy, it gives more running time.

What is needed to be done to allow you to control your trains with test leads? You need to find the place where it is easy and accessible to fit two 4mm sockets permanently to the track. The cable from the sockets to the track will not be disturbed. so is now fixed. The red and black cables go to the second circuit the main line is supplied by cable, which are underneath the sockets.

At the controller end, you also fit two sockets. Fitting the sockets may mean modifying the controller a little, but only on the low-voltage side. You do this only once, so take your time and do it so the sockets are easy to get to. Between the controller and the track, you buy or make two cables with a 4mm plug on each end.

ELECTRICALS

ALL SCALES

These test leads are available made up with flexible cable, which makes one less job to do. If you buy them, you can colour-code them for even easier set-up. With colour coding the cables, you will get the locomotives going the correct direction every time. When I did a search online for 4mm test plug and sockets, it produced 2,570,000 results. That's plenty of options and choice.

Once the work is done, we have our railway ready to run. I keep my controllers, cables, fuses holder and spare fuses in one plastic box. This allows me to carry it all out to the track in one go. I also have a test meter in the box, but that's just me being a long-in-the-tooth maintenance man. Now you have the parts, it is a setting up process only, literally plug'n'play.

At the start of a running session, it is simple and quick. Just pick up the railway power box, plug the controller and, and run some trains. If I put the kettle on, then start to get the track power box out, I have power to the track before the kettle boils. Yes, that quick.

I feed all my track from one location. The use of rail clamps on the joints make

secondary feeders unnecessary. If your track needs or has secondary feeds, these secondary feed cables are all brought back to one point and this is the point where the feed sockets are located. As every layout is different, where you place the 4mm feeding sockets, for convenience, operation and looks, is your choice. The mains-powered equipment is only there when running track-powered locomotives. If it starts to rain, it is only seconds to unplug and put away into the dry.

By this method, all mains voltage equipment is removed and stored in a safe, dry place when not in use. This eliminates the need for weather-proofing and worries about the controllers getting damp, corroded, or just wet.

The construction of a box or building to house and protect the mains controller has now been made irrelevant. It also makes hunting for screwdrivers (which always seem to vanish when you want one) obsolete, thankfully!

I have used this method for many years and it makes impromptu running quick and hassle-free. My ethos is I want to run trains, not maintain the railway.



Sockets fitted to my controller.



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Lights, Camera, Action!

Dave Skertchly delves into the production values of video films taken of our model railways.

ailways have always fascinated filmmakers. Among the first dozen films ever shown in the Cinema was "L'arrivée d'un train en gare de La Ciotat" or in English "The Arrival of a Train at La Ciotat Station". It was directed and produced by pioneers Auguste and Louis Lumière. Its first public showing took place in January 1896. The film is associated with a well-known legend in the world of cinema. The story goes that, when the film was first shown, the audience was so frightened by the moving image of a life-sized train coming directly at them that people screamed and ran to the back of the room.

We all love our model railways and we also love and admire our friend's railways. Nowadays, we have friends all over the world and we can share our railways using video and social media. It is easy to pick up a smartphone and take some video, but hold on, we may have spent hundreds of hours and thousands of pounds on our railway, surely a few minutes to present it at its best is well worthwhile?

Over the 130 years of cinema history, a set of basic rules have evolved to produce a film that is easy to watch. By following these simple rules, the film you produce will enable the viewers to enjoy

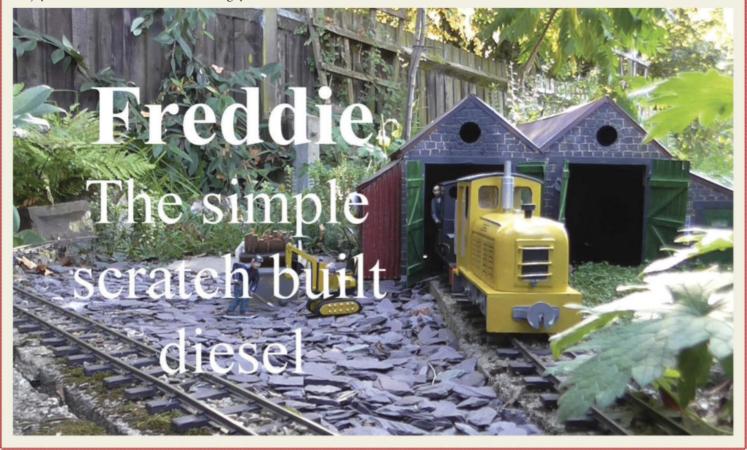
your railway and not be distracted by the filmmaking.

Just as in model railways, the world of cinema and TV has legions of experts, pundits, rule makers and rule breakers, and there are as many opinions as there are experts. WW1 fighter ace Harry Day (not Douglas Bader as is often thought) is given credit for a famous quote; 'rules are for the obeyance of fools, and the guidance of wise men', and so it is with model railways and the cinema. As they say, it's best to start at the beginning, so let's start with shooting the film.

First, let's look at the video formats. Most film and video is shot in landscape,

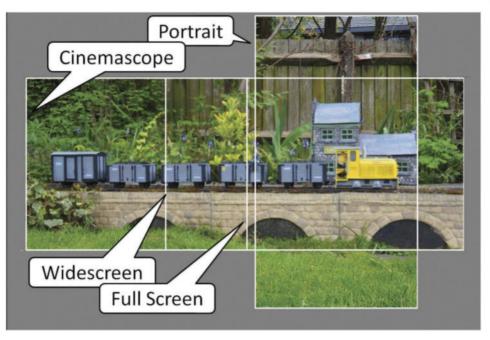
Take a look

Enjoy the fruits of Dave's video shooting: youtu.be/d1Th4A80HU0



that is a letterbox-shape, short and fat, rather than in 'portrait', which looks tall and thin. No format is wrong, it is a matter of artistic choice, but landscape is the most conventional. There are a whole range of cameras to choose from, I prefer a battered old camcorder, but most of us will prefer a mobile phone. If you use a smartphone, you don't have much choice of format, it will be widescreen or portrait depending upon which way up it is held. Conventionally, turn the device on its side and shoot in widescreen. Another trick is to mount the camera on some kind of tripod so it can be held at the level of the trains. If you promise to keep a secret, I will show you what our Editor does. He uses a rather unique flat tripod mount called a Miggo Splat which is the closest thing I have ever found to a flat tripod. Its costs about £7 from online suppliers. I spotted him using it at the National Garden Railway Show, but that's our secret, OK.

Once the camera is positioned, just set it recording and then get the train to run past the camera. We can cut out the long blank bits at the start and end at the editing stage. For any film, it is conventional to have a minimum of three shots in a



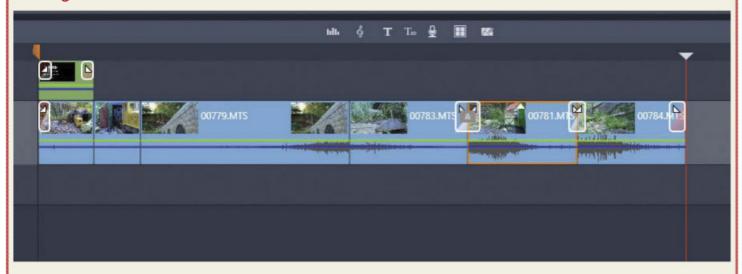
There are lots of different screen formats from which to choose. It is obvious from this diagram that the Landscape or letter box-shaped formats are best for our railways. By turning a Smartphone on its side, we will shoot in widescreen.

sequence, a long shot sets the scene, the mid shot arouses interest and the closeup reveals the message of the sequence, so take a mixture at each position. Once edited, they are called establish, develop and reveal. To this sequence, I suggest

adding a scenic shot at the beginning, since we all like to see what your railway is really like, including the cats if you can manage it!

Now is the time to introduce the concept of crossing the line. It is

Editing a video



A video editor is in essence a simple piece of software in which the individual shots can be loaded onto a timeline. The shots can then be cut to length to remove the boring bits and their position in the sequence changed to match the various cinematic rules. Dave takes us through a simple video edit using footage of his railway: youtu.be/7NkrsS_APj8

important in dialogue that the characters face in a consistent direction facing each other, otherwise the conversation will get confused. The camera is positioned to one side of an imaginary line between the actors, and the camera must not cross the line. For our railway films, we

have a real line and a similar effect. If the train moves from left to right, it looks as though it is going somewhere, and when moving right to left it looks as though it is returning, strange but true. Mix the two up and it looks confusing, but if you are going to edit the film, don't worry, we

can sort the sequence by putting all the left to rights together and all the right to lefts together later.

Now we come to a thorny question camera movement. In conventional theory, we keep the camera still and allow the subject to move in front of the





camera. This is an ancient rule since the early cameras were hand-cranked and were difficult to move. Back in the 70s, news cameramen in Vietnam started to break this rule by leaving their cameras running, but this is model railways not news. When the camera does move there are three modes, the pan/tilt, the zoom and the track. In the pan, or tilt, which is a vertical pan, the camera is twisted so the scene appears to move on the screen. Pans need to be smooth or they can become very distracting, and, if every shot pans it has been known for viewers with a delicate stomach to feel sick.

The zoom is where an adjustable lens appears to move the camera towards or away from the subject; again overuse can make the viewer queasy.

The tracking shot is something we all like to attempt. It is difficult walking with the camera and keeping the train in shot; you would need to be very skilled to stop the camera from waving around resulting in more queasiness from your viewers. You can, of course, use a semi-professional piece of kit such as an Osmo, but that needs money, not something I have much of on my meagre pension.

A safety note here, if you are walking

along tracking the train and looking at the screen, make sure you have a minder, I walked straight into the pond, that was OK, but explaining just how I got duckweed in my socks involved a long and rather difficult conversation with Pauline.

A video editor is, in essence, a simple piece of software in which the individual shots can be loaded onto a timeline. The shots can then be cut to length to remove the boring bits, and their position in the sequence changed to match the various cinematic 'rules'. Titles and transitions can be added, but not too many because we want to see the railway not flashy editing. It is difficult to explain in text how to use a video editor, so I've recorded a little film demonstrating it.

The first shot in my film is a long shot with a simple title followed by a mid-shot in the yard at Lost'n'Bodge Works. In the third shot, the outbound train enters from the lower left and exits to the right. In the fourth shot, the train again enters from the left and exits from the right. To separate this from the return trip, I have added a cross fade. In the fifth shot, I added some artistic license, the returning train enters from the right and leaves on the right, but again I have used a dissolve to hide the potential jump in the final

sequence. In the final shot, the train enters on the right and leaves on the left and fades out. The film can be viewed on YouTube, just follow the links in the box.

As I sit on my rustic Park Bench outside the Sheep Shearer's arms, I sip at my pint of fine Auld Phagbutt and flip through the Facebook posts on my iPhone, hoping to come across another charming video of a model railway. So many friends and so much pleasure, cheers!

If you have a video of your railway online, why not send a link to the Editor, and we'll share it on our social media.

A classic sequence in a film comprises a scenic shot, a long shot, a mid shot and a close-up. Once edited, these terms become establish, develop and reveal.



From the works

Trade information on new products for the garden railway modeller... If you are a trader with any new product, then contact phil.parker@warnersgroup.co.uk Please mention Garden Rail when contacting suppliers



ACCUCRAFT

1:20.3 scale Shav

Accucraft has shared an image of a production sample of the forthcoming 13T Shay from the US, and is now taking pre-orders in anticipation that the batch will be delivered in the autumn.

The model will be gauge-adjustable for 32mm and 45mm and will come with two types of stack, as typically supplied by Lima when built. Supplied in either black or green and now planished iron. Planished or 'Russian' iron was popular among 19th Century locomotive builders, particularly in the USA. The name is applied to sheet iron with a very highly polished or glazed surface, used for protecting the lagging of engines and boilers and for other uses where a non-corroding black iron finished surface is desired.

Specifications:

- 1:20.3 Scale 45 mm Gauge/32mm Gauge (adjustable)
- 48 in. (1.2 M) Mini. Radius
- Length: 16.8 in. (427 mm)
- Width: 4.5 in. (116 mm)
- Height: 6.6 in. (168 mm)
- Two truck, two cylinders with simulated Stephenson valve gear
- Two Safety valves
- Lubricator
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- Blowdown valve
- Hand-operated pump in bunker
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RTR: £2145 Kit: £.1995

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Prices.

16mm: £1 7/8th: £1.50

Red Star Packet Steam Co. www.facebook.com/RedStarSPC

BOOT LANE WORKS

16mm scale Baguley loco kit 'Minty'

Inspired by Leighton Buzzard's 'Rishra', built in 1921 and shipped to Calcutta, where it shunted coal wagons at a pumping station in Barrackpore, then left abandoned in undergrowth, before rescue in 1963 and repatriation to the UK in 1971.

Released with the less experienced modeller in mind and almost entirely screw and nut construction, this tiny 16mm model is, we are told, the first of Boot Lane's 'Sweetie' range of smaller locomotive kits.

A subtle variation on the Boot Lane wheel inserts, allow for a scale 15in driving wheels, while the firebox and other parts have been resin printed for greater added detail. The kit comes complete with wheels, motor (3-6V), gears and all detailing shown on the model.

There is plenty of space in the boiler & tanks to enable the modeller to fit batteries &

RC if desired (electronics not included).



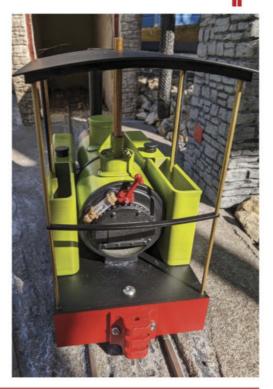
Length (over buffers): 172mm Width (across cylinders): 72mm Height (from railhead): 118mm

Price: £95

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www.bootlane.org.uk





TRENARREN MODELS

1:12th scale Churchwater Farm kits

Inspired by the work of Brian Clarke, in particular, his faux history of a slate tramway, this range, intended for 32mm gauge only, is modelled in 1:12th scale representing the 15" gauge that Brian wrote about and drew so beautifully.

The rolling stock consists of top-quality pressure cast resin, whitemetal pedestal bearings and Talisman cast brass couplers, the kits are supplied complete with Binnie wheels.

The stock, as envisioned by Brian, was pretty chunky, the models reflect this and have been designed to accept more substantial aftermarket wheelsets if preferred.

Prices

Donkey Wagon: £48 Explosives Wagon: £56 Bulkhead Flat: £30

Trenarren Models 2 Brynglas Walk, Tywyn, Gwynedd, LL360BB

www.trenarrenmodelsonline.co.uk



Bulkhead Flat: £30



Donkey Wagon: £48



Explosives Wagon: £56

TENMILLE

Gauge 1 SR Scenery Van kit

In the 1920s and 1930s, theatre productions were often toured around the country, together with any specialist scenery and props. Although similar in construction to other SR vans, this vehicle was designed with a high-arched steel roof and end doors to allow as much height clearance inside as possible for such scenery.

Three vans were built with securing rings and strengthened floors to transport elephants for Billy Smarts circus. An example is preserved on the Bluebell Railway.

Tenmille's laser-cut plywood kit includes resin, brass and white metal detail, sprung resin and steel-head

Bogies, wheels and transfers will be required to complete the model.

Prices

Kit: £116 Bogies: £48 Wheels: £28

Tenmille www.tenmille.com





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

GAUGE QUESTION

I have noted that the construction headers on each article show the scale that the items are built to, would it be possible to include the track gauge info with the scale as the gauge is occasionally not shown or hidden in the articles text? I use 45mm track and there are various scales that use this gauge i.e. Gauge 1, 7/8, 1:22.3, etc.

Len Price

Editor: Good point Len. We'll have a look and see if the gauge can be incorporated into the header.

WANTED: AIRBRUSHING ARTICLE

In your editorial for GR, you ask for suggestions for future articles. I'd like to see something on painting models - especially using an airbrush having recently invested in one and not yet plucking up the courage to give it a try.

Rik Bennett

Editor: I won't claim to be much good with an airbrush, so I wonder if there are any readers who would be willing to write something for us?

BATTERY POWER?

Over the last seven or eight years, I've really enjoyed building model railways, starting like many of you with a Hornby OO package, which I mounted on a 1200 x 600mm 9mm thick plywood baseboard, an interesting double oval layout with various buildings and turn-outs, etc.

My local friend Trevor Smith and I both decided to move up to G scale on 45mm track. He built a larger garden rail layout and preferred to run live steam with radio control while I built a smaller 'dog bone' layout for my scratch-built models with electric motors, inexpensive model car three-channel radio control with electronic speed controllers, which gave me direction, speed control. I then developed a simple automatic coupling and de-coupling system using 'chopper style' couplings and a miniature servo, which made running the railway more enjoyable.

Together, Trevor and I built another 45mm track on the patio of his villa in Lanzarote. Sadly, both his Lanzarote layout and my layout were built on exterior grade ply, with a roofing felt covering for effect and weather protection, which delaminated in about three years and had to be demolished.

I decided to build another layout on a 1200 x 600mm sheet of 25mm thick insulation board, Celotex or Kingspan, much lighter and easily portable, so it could be used both indoors and in my garden. Because of the size restriction, I changed to O scale 32mm track using the 3D-printed track designs, plus Wi-Fi control from Locoremote. I experienced a lack of traction with my lightweight 2WD locos on the plastic track, even with extra lead ballast so moved on to 4WD powered chassis units from Swift Sixteen, PDF Models, IP Eng and Boot Lane Works, and found them all very good.

By now, some of you may have gathered that most of my enjoyment is building semi-scale, scratch-built trains and railside buildings, mostly using 2.5 and 4.5mm thick soft plastic sheet available FOC as off-cuts from a local sign-making company.

As I still have my original OO models, track and buildings, I'm now wondering if I could convert them to battery-powered, radio or WiFi-controlled models, by either changing the motors to 3-4v or use an 11.1v LiPo battery. I would be very interested if any readers have successfully tried these options as I could then include a narrow gauge track on my new portable layout, or is it just not worth the effort involved and use mains power or even a 12v car battery when I'm running trains in the garden?

Gordon Pryor







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The GRS/Bowande Jurassic Class Pecketts

Rob Golding heads to Jurassic World.

aving first reviewed GRS's Quarry Hunslet, and then the Accucraft Cranmore Class 0-4-0ST Peckett, it is now time to complete my 'small live steam loco trilogy' with GRS's new Jurassic Class Pecketts. However, unlike the Jurassic World film trilogy, is part three as strong as the previous installments? Let's find out...

In 1903, Kaye & Co purchased a small 0-6-0ST for its Southam Cement Works railway, linking the chalk pits with the main works. Kaye was impressed with three similar Peckett & Sons locomotives that already worked at the neighbouring Nelson & Co. Ltd Works at Stockton near Rugby.

The first loco to arrive at Southam was named 'Jurassic', and, due to its success, the company purchased five similar locomotives over the next 20 years. All the locomotives carried geological names, these being 'Neozoic', 'Liassic', 'Triassic', 'Mesozoic' and finally a second 'Liassic' (technically a rebuild).

The full and complicated history of these lovely little locos is well documented in the Oakwood Press book Warwickshire Line and Cement Works Railways by Sydney A. Leleux.

This loco class (which Peckett & Sons referred to as the Jurassic Class in its catalogues up to 1938) is thankfully not extinct – with four in preservation. 'Jurassic 'can be found at the Lincolnshire Coast Light Railway near Skegness, 'Liassic' and 'Triassic' can be found at the Statfold Barn Railway and Bala Lake Railway respectively (the

former in pristine working order). Lastly 'Mesozoic', which is in fact 'Neozoic' due to a frame-swapping rebuild in 1943 (I said it was complicated!), is in a dismantled state at a private site in Herefordshire.

Having studied the wealth of information and photographs available about the locos, it was time to open the two sturdy and well-packaged boxes that arrived from GRS, via my good friend Dave Pinniger who had already had a play with them. One box contained a 32mm gauge 'Jurassic' and the other box a 45mm gauge 'Liassic', produced by Bowande for GRS.

Having already seen the engineering samples earlier in the year, I already knew how good these locomotives looked and the excellence of the satin paintwork and



This top down photo reveals the cab controls and slimline gas tank in the back of the cab.

lining. Bowande has captured the prototype expertly, and despite the model being a tiny bit larger in scale to the original works drawings (to accommodate the 45mm gauge versions), this is not noticeable. What is important is the proportions and the detailing, and I am pleased to say it is all modelled beautifully.

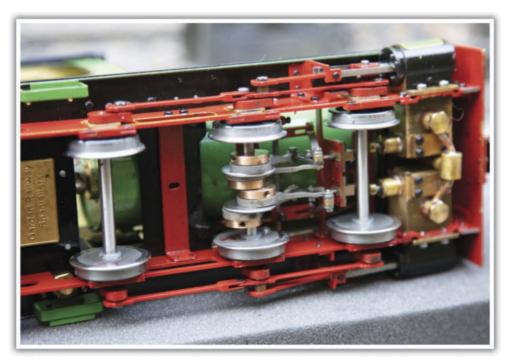
There are differences between the 'Jurassic' and 'Liassic' models - and not just in livery details. As can be studied in my photographs, 'Liassic' has a smaller smokebox door and sandboxes mounted on the front of the saddle tank. 'Jurassic' has sandboxes on the running boards and a larger smokebox door. The attention to detail in the modelling of these locomotives really is fantastic. Just look at the opening cap that hides the filler valve. On 'Jurassic', it opens towards the chimney, and on 'Liassic', it opens towards the cab - just like on the prototype! My favourite livery is the dark green 'Jurassic' with black frames and black and white lining. The livery on the sample 'Liassic' is more ornate (or 'poncy' and a friend humorously stated), in apple green with red frames lined in yellow and black. However, the finish on both models is superb – and the inside of the cab is also finished in cream. Four liveries are available from GRS.

Having dribbled over these models for a while, I did start to notice a few personal niggles with the presentation of the loco. Firstly, the cab side works plates all have the

same works numbers - therefore these will need to be changed if you want to model one of the specific engines. The brass parts (like the whistle and the safety valve cover) are all painted a brass colour. I assume these parts are made from brass – so it would have been nice to have left these unpainted. Lastly, the dummy safety valve that forms part of the cover is missing its springs. Once this was noticed, it really stood out. However, after talking to GRS about this, they have

sourced some suitable springs, and these will be available by the time you read this.

Finally, I should mention the chopper couplings that come as standard on these models. While these are not prototypical, they are also mounted 10mm too low on the bufferbeams to couple to 'standard' 16mm scale chopper couplings with a centre height of 25mm above the top of the rail (like Accucraft rolling stock). While they do almost couple up, the height difference (of



Between the frames - the inner valve gear of the 45mm 'Liassic'.

10mm) will cause running problems. Again, GRS has addressed this issue, and will be providing alternate bufferbeams where its chopper coupling can be mounted at the correct height. In my opinion, I would remove the chopper couplings altogether and replace them with a nice hook and chain type coupling – far more prototypical and functional.

Moving on to the mechanics and functionality of the model - there is no doubt that this product is very well made. When handling these little dinosaurs, you can really appreciate the craftsmanship that has gone into the construction.

As with their previous Quarry Hunslets, GRS gives you a lot of loco for your money.

The chassis is fully sprung, crucial with such a long wheelbase, and there is full Stephenson valve gear that makes the whole thing go. Inside the cab, you will find a nice large but slimline gas tank, water gauge glass, small pressure gauge, dead leg lubricator and a water filler valve located in the correct place on the boiler. The cab roof is held on with strong magnets, which is great, and I also noted pre-drilled holes ready to mount RC gear should you wish this to be fitted (see later).

Prepping the locomotive for a run is much like any other live steam locomotive. After filling the gas tank with Butane, I filled the boiler with water. Usually, for a first run. I remove the water filler valve and fill the boiler completely, then remove 30ml with a syringe. This is so I know there is adequate space in the boiler to make steam. I did this with these Pecketts, using a large screwdriver to unscrew the filler valve. When running, I would then use a squirty bottle to keep the boiler topped up via the filler valve - keeping an eye on the level of the gauge glass.

Lastly, the lubricator was filled with 460 steam oil, as stated in the clear and concise owner manual supplied with each model. I found that the lubricator is somewhat fiddly, as there is a very small screw cap that is difficult to re-fit after filling the lubricator. This was solved by holding the cap with a pair of long-nosed pliers while screwing it back onto the lubricator. Otherwise, I found the cap would drop behind the lubricator and down into the footplate and be a fiddle to retrieve. I feel the cap could have done with a long 'T' handle extruding from it as it would be something to grip - but I appreciate this would then stand out in the cab.

The tiny lubricator drain screw is situated under the footplate near the rear wheels. Again, this is very fiddly to undo, and I



A view of the opening smokebox door, and water filler cap. On 'Liassic', the filler cap opens towards the cab to clear the nice little lubricator casting mounted on the chimney.

found that when first draining the lubricator, old steam oil would leak all over the rear driving wheels and down the frames making quite a mess. This issue can be solved by leaving the drain screw done up and sucking out old steam oil and water with a small syringe, which is what I do with most of my engines now, regardless of a lubricator drain or not.

The gas burner was lit via the smokebox and ignited with no issue at all. The control valve is excellent, possibly the best I have ever come across on a commercial model. Here, I noticed that on the 'Jurassic' model, the larger smokebox door would not fully open due to the hook on the coupling another reason to remove those choppers! 'Liassic's' smaller smokebox door cleared the coupling hook completely.

The safety valve lifted at 40psi within about seven minutes, and it was time for a run. I ran the 32mm gauge 'Jurassic' at home on my Bayfields Light Railway, and the 45mm gauge 'Liassic' at my local model engineering club in Guildford.

At first, both were run light engine, so I could get a feel for them. While a bit lively at first, both models eventually settled down once I masted control of the gas regulator. Giving just enough gas to keep the pressure in the boiler up, but not to have the burner roaring away like an angry Tyrannosaurus and constantly blowing off the safety valve.

I ran both 'Jurassic' and 'Liassic' with my reasonably heavy 'maintenance train' of Swift Sixteen wagons and I achieved a 30-minute run with each on one fill of gas and a few top-ups of water. 'Jurassic', being manual control, coped with my tight radius curves and gentle incline at Bayfields - and managed to self-start while coming to a pause near the quarry. Clever girl!

'Liassic' performed very well indeed for my colleagues at GMES, and during subsequent runs ran even better. Another friend at GMES has also ran his 32mm gauge 'Liassic' (in lined dark green) and this steamed faultlessly on its first steaming during an open day.

Back at home, I ran 'Jurassic' once more on a train consisting of one Ashover Light Railway coach and a WDLR 'D-wagon' - giving a real flavour of the Lincolnshire Coast Light Railway at Bayfields.

As with most of my own loco fleet, my personal preference would be to fit radio control, as I like to be able to drive an engine and have control over it. As mentioned, these Pecketts are ready to have RC fitted. You may choose to fit this yourself, but the option is available to have either a Fosworks transmitter for an additional £375, or a traditional transmitter for an additional £350 (and that includes transmitter, receiver, batteries and labour of fitting).

To sum up, I have had a great time playing with these little locos and I wish to thank Matt at GRS for giving me the opportunity. I am very pleased to report that, overall, these little engines I received for review run as well as they look. And, having also seen other people's models run, combined with GRS's excellent customer service and steam testing of each locomotive, Matt and his team are onto another winner with their new Jurassic Class Pecketts.

My trilogy ends on a high, with another beautifully presented and superbly engineered product. A reliable, live steam prototype, fully lined and realised at a fair price? GRS has found a way... (another Jurassic Park reference... sorry).

I would like to thank GRS for the chance to review its new Jurassic Class Pecketts, and my review is based on the two examples I was provided with. I have no connection with GRS, other than a regular customer. Thanks also to David Pinniger and the lads from GMES for your input and 'banter'...

Garden Rail Resource

Garden Railway Specialists 6 Summerleys Rd, Princes Risborough HP27 9DT www.grsuk.com

Price

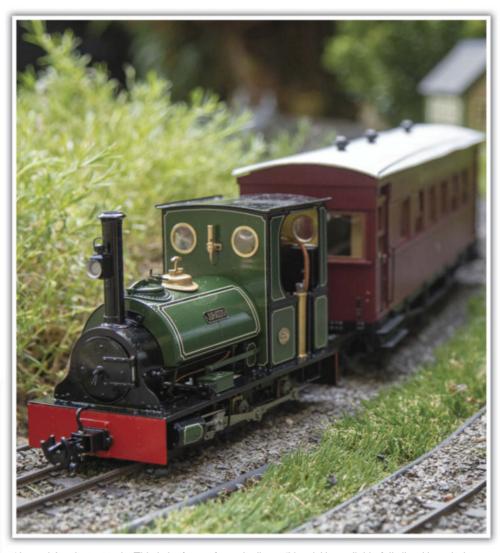
Manual locos: £1995

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Please mention Garden Rail when contacting suppliers.



A study of 'Jurassic' - time to take in all that lovely detail. Note also the small pressure gauge and uncluttered cab



'Jurassic' on its test train. This is by far my favourite livery. 'Liassic' is available fully lined in a dark green, and also in apple green. Lastly, there is a version of 'Jurassic' in a strange teal green that is not to my taste.



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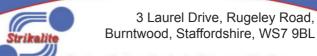
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Readers' Models



My garden railway had a spring clean, thanks to my good friends Jordan and Dan. They thought it would take two hours, but after the jet-washing and other stuff, it took four hours, but, my goodness, what an amazing result. Mark Thatcher.

Last month, Andy Christie wrote about his plans to hold an open garden day. Well, the event took place and what a fine selection of rolling stock there was to see. I'm sure that anyone who doesn't share our hobby would be tempted to take it up when they saw the trains running that day.





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