





Despite hard work and poor maintenance, the Peckett locomotives were tough and long-lasting. Many Peckett locomotives survive to this day often seen working on today's heritage railways.



R3868

Crawshay Brothers, Peckett W4 Class, 0-4-0ST, 490/1890 - Era 2









R3765

Bloxham & Whiston Ironstone Co. Ltd, Peckett B2 Class, 0-6-0ST, 1456/1918 - 1



The oldest known surviving Fox Walker locomotive is 'Karlskoga', an 0-6-0ST locomotive of 1873 and the first locomotive of the Nora Bergslags Railway in Sweden.



R3869

Dowlais Ironworks, Peckett W4 Class, 0-4-0ST, 33 'Lady Cornelia' - Era 2





R3766

NCB, Peckett B2 Class, 0-6-0ST, 1426/1916 - Era 6





For more information please visit your local Hornby stockist or go to:

www.hornby.com



www.facebook.com /officialhornby



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www.instagram.com /officialhornby



www.youtube.com /hornbyhobbiesltd

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# **MODEL RAIL**

# brought to you by



**Richard Foster** I've escaped the 21st Century thanks to C.J. Sansom's wonderful Shardlake books set in Tudor England.



**George Dent** Technology may be helping us all to work remotely, but I've been beset with IT problems this month!



**Chris Leigh** I'm building Savernake Low Level station for the third time, but using shortcuts made possible by modern technology.



**Chris Gadsby** Since I'm of the generation which has grown up with technology, I couldn't imagine life without it!



Chris Nevard

Our ace snapper is building a name for himself on the folk music circuit. Is there no end to his talents?



**Peter Marriott** 

Peter is our jet-setting scenic guru. Knows what products are available and how to get the very best from them.



**Dave Lowery** 

Professional modelmaker Dave works on top secret projects for train builders and model manufacturers.



Paul A. Lunn Paul is full of ideas for

innovative and exciting layout designs with almost endless possibilities.



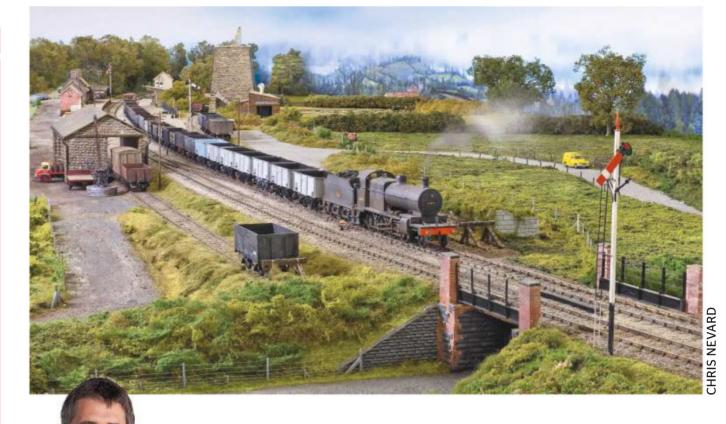
**Ben Ando** 

Ben is a seriously talented modeller and 'N' gauge expert. He's also started making his own RTR models.

Get in touch: E-mail the magazine at modelrail@bauermedia.co.uk or call 01733 468000

### Life's better with Model Rail

Here's why: Starting as a supplement in RAIL magazine, Model Rail went 'standalone' in 1997. Each issue we bring you easyto-follow modelling projects that you can complete without breaking the bank, inspirational photographs of the best model railways and thorough, unbiased reviews so you can make the most informed choices when spending your money. Don't forget our own model ranges see pages 108-111.



Is there a word more divisive than 'technology'? You see the people who really embrace it as they bristle with phones, tablets, laptops and headphones, their speech littered with talk of '4G' and 'streaming'; me, I'm firmly in the other camp, vying with Chris

Leigh to be the last human on the planet who doesn't own a mobile phone. A 'gig' is watching people play guitars – and don't get me started on those stupid electronic handbrakes...

You can call me a Luddite in almost every respect, except when it comes to model railways. For me, Digital Command Control is a revelation and I'm constantly amazed by the ideas and inventiveness that people and organisations in this hobby show to harness modern technology.

DCC has transformed my 'Gedney' layout. Having a single line with trains that pass once required lots of isolating sections and multiple controllers. Not any more. I became a DCC convert thanks to Julian Birley and his 'Evercreech New' layout (MR159). Julian showed me how to bank a coal train and get the banker to drop off. This was prototypical railway operation that's nigh on impossible with analogue control.

That's why I welcome 'technology' in model railways – it's as close as you can get to real railway operation and you don't need to be an electronics whizz to get the best from it. And, more importantly, it makes running a railway fun.

Surely having fun is why we get into this hobby in the first place?

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Richard Foster Editor

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Or you can **call** Jane Skinner on 01733 395155

Model Rail is also on Facebook: www.facebook.com/modelrail

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Martin Finney's 'P4' re-creation of Semley.

News
The latest news in railway modelling from the manufacturers.

Show & Tell
The place to share your projects with the Model Rail community.

News Real
Ideas and inspiration for modelling
projects courtesy of the real railway.

According to Chris...
This month, Chris discusses the perils of not sticking to your original plan.

Modelling lives
Music producer Michael Birch explains
how modelling provides a break from his work.



# Inspiration

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Mark Knowles has filled his purpose-built
outbuilding with a bustling modern main line.

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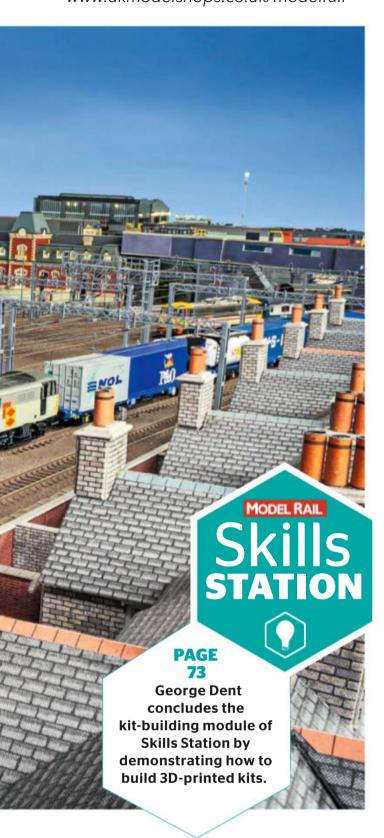
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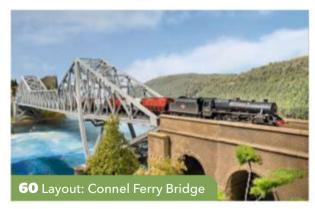
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see p20

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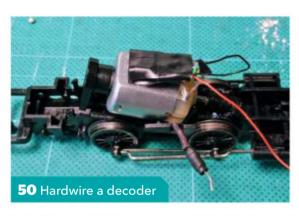


# Workbench

- Bring your layout to life
  Chris Gadsby demonstrates easy ways
  to add lights and sounds on your layout.
- Tackle wiring woes
  Chris Leigh found a problematic point and set about fixing the issue.
- Install a Twistlock motor
  Richard Foster tests Peco's new
  easy-to-fit point motor.
- Build a control panel
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  the process of making a control panel.
- Hardwire a decoder
  Got a model you want to upgrade with a decoder? Chris Gadsby shows you how.
- Change a model's CVs
  Chris Gadsby shows you how easy it can be to tweak a model's performance.
- Tidy your wiring
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  you how he got his layout in order.
- Make grass tufts
  Peter Marriott demonstrates a cheap
  way of making your own grass tufts.
- Detail security fencing
  It lines the railway, and now Peter
  Marriott shows you how to detail fencing.











# Opening the box

The latest happenings from the world of model railways

# The Big Picture

If all the technology in this issue leaves you feeling breathless, why not take a moment to enjoy the tranquillity of a more peaceful time? This is legendary locomotive builder Martin Finney's 'P4' re-creation of Semley, roughly halfway between Salisbury and Templecombe on the South Western Main Line, as it was in the glory days of the London & South Western Railway. This outstanding piece of modelling, from a time when the internet would have seemed like something out of an H.G. Wells novel, will appear in full in Model Rail later this year.

Photography: CHRIS NEVARD





# SAY HELLO TO EFE RAIL

achmann Europe has taken the Exclusive First Editions brand in a completely new direction. Since it acquired EFE in 2016, Bachmann has added new models to the famous range of 1:76 scale die-cast buses, but the most radical change, the launch of EFE Rail, was unveiled on August 4.

EFE Rail unites models produced by other manufacturers and resurrected DJModels products with one of the most requested products from the old EFE range: a motorised version of EFE's 1:76 scale London Underground Tube stock. The new 1938 Tube Stock features a coreless motor, PluX22 DCC socket, NEM coupler pockets and interior lighting.

DJModels' long-proposed 'N' gauge Class 17 has finally been brought to fruition and it's joined by the old DJModels Hunslet 'Austerity' O-6-OST, which has received a new motor and Next18 DCC decoder socket. The final ex-DJM product to reappear is the 'N' gauge 'Mermaid' ballast wagon.

The final items in the initial EFE Rail release programme are Heljan's 'OO' gauge 'Hymek' and Kernow Model Rail Centre's JIA and PBA 'Tiger' bogie china clay hoppers. All EFE Rail products are available through Bachmann Europe stockists.

# EFE RAIL 1938 TUBE STOCK What's planned?

◆ E99939: DMCs 10292 and 11292, T 012370 and NDMC 12134, London Transport red

**Price?** £349.95

When's it due? December 2020



# EFE RAIL HUNSLET 'AUSTERITY' 0-6-0ST What's planned?

- ◆ E85001: No. 68075, BR black late emblem
- ◆ E85002: No. 68043, BR black late emblem
- ◆ E85003: No. 19, NCB blue/yellow
- ◆ E85004: *Amazon*, NCB green
- ◆ E85005: No. 195, LMR blue
- ◆ E85006: No. 92 Waggoner, Army green

Price? £149.95-£169.95 When's it due? Imminently!



# EFE RAIL CLASS 17 Bo-Bo What's planned?

- E84501/502503: D8585/D8594/D8560, BR green
- ◆ E84504: 8601, BR green yellow ends
- ◆ E84505: 8512, BR blue
- ◆ E84506: D8523, BR blue, red bufferbeams
- ◆ E84507: D8568, Ribble Cement grey
- ◆ E84508/509, D8511/D8600, BR green (weathered)
- ◆ E84510/511: D8606/D8507, BR blue (weathered)

Price? £119.95-£129.95
When's it due? Imminently!



Keep up to date with Model Rail News online.



# **COLOUR CONTAINERS**

or www.accurascale.co.uk



# In Brief

Accurascale has produced additional packs of containers to suit its 'OO' gauge PFA wagon. There are two container triple packs: one in British Gypsum white and the other in British Gypsum blue. Price: £19.96 Availability: Accurascale stockists



## OO EFE RAIL 'HYMEK' B-B **GAUGE** What's planned?

- ◆ E84001: D7005, BR two-tone green
- ◆ E84002: D7021, BR two-tone green (weathered)
- ◆ E84003: 7016, BR blue yellow ends
- ◆ E84004: D7056, BR blue **Price?** £159.95-£179.95 When's it due? Imminently!

# EFE RAIL 'MERMAID' BALLAST WAGON What's planned?

- ◆ E87512: BR Departmental black
- ◆ E87513: BR Departmental green
- ◆ E87514: BR Engineers 'Dutch'
- E87515: BR Departmental red

Price? £33.95

When's it due? October 2020

# EFE RAIL NACCO JIA HOPPER What's planned?

- ◆ E87000/001: Imerys blue
- ◆ E87002/003: Imerys blue (weathered light)

◆ E87004/005: Imerys blue (weathered - heavy)

**Price?** £47.95-£49.95

When's it due? Imminently!



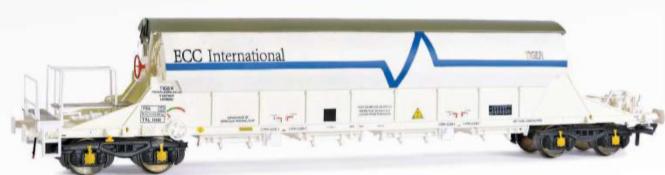
## OO EFE RAIL PBA 'TIGER' HOPPER What's planned?

- ◆ E87010-E87013: ECC International white
- ◆ E87014-E87017: ECC International white

(weathered)

Price? £49.95-£54.95

When's it due? Imminently!



### **CLEANER CLAMOUR**

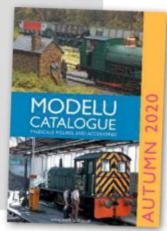
Levels of demand have forced Gaugemaster to commission a second run of Minitrix's 'N' gauge track cleaners. The first Anglicised model was fitted with UK couplings and offered in Network Rail yellow livery. The new model will be finished in BR Railfreight brown.

Product code: GM2420102 **Price:** £35.95 **Availability:** Gaugemaster **Tel:** 01903 884488 Web: www. gaugemasterretail.com

#### **MODELU CATALOGUE**

ModelU has published its first catalogue, which not only includes the 3D-printed figures for which it has become well known but also a new range of gutters and pipework for miniature buildings, and ten types of chimney. It also offers crew packs to suit steam locomotives for Western, Midland, Eastern and Southern Region

models that includes a driver, fireman and head and tail lamps with lenses to fit. Price: £8.00 **Availability:** www.modelu 3d.co.uk



# **NEW LIVERIES PROPOSED FOR 'PENDOLINO'**

Revolution Trains has proposed a further run of its 'N' gauge Class 390 'Pendolino' to take advantage of the new liveries that have appeared on the EMUs since the model.

produced by Rapido, was launched in 2018. The proposed new liveries, for nine and 11-car sets, are: Virgin's 'Flowing Silk', DfT plain pale grey, full Avanti livery or revised Avanti

livery with turquoise driving cars but plain intermediate vehicles. To register expressions of interest, go to www.revolutiontrains.com before September 30 2020.

# WORK FOR CHIRK

apol has unveiled plans to produce a range of four-wheel London Brighton & South Coast Railway coaches to complement its 'O' gauge 'Terrier'... and that they will be made at its Chirk factory.

The range comprises a Brake Third, Third, Second, First and a Composite to William Stroudley's design that were built by the LBSCR between 1870 and 1890. The first batch will comprise all five coach types but in their 'suburban' form with oil lights without buffers; future releases are planned to include gas lighting and Westinghouse brakes, as well as the 'main line' version with buffers and three-link couplings.

Dapol promises a high specification, including die-cast compensated chassis and optional lighting bar (a version of which can be DCC-controlled). All vehicles will initially be offered in LBSCR mahogany finish. Prices to start from £110.00 and the models are expected to arrive in stock by the end of the year.

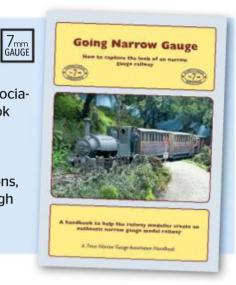
# THAT NARROW GAUGE LOOK

The 7mm Narrow Gauge Association has produced a new book designed to help more modellers achieve what it calls "that elusive narrow gauge look". It has enlisted well known modellers, including Gordon Gravett, to share their techniques, as well as including information on UK and overseas narrow gauge railways. Although

primarily aimed at 7mm:Ift scale narrow gauge modelling, the association says that its A4, 68-page book includes techniques that will be applicable to other scales.

Price: £11.00 (inc P&P)

Availability: 7mmNGA Publications,
5 Link Hill, Storrington, Pulborough RH20 4LS Web: www.7mm
nga.org.uk/sales/publications



# In Brief

# IWATA BOOST FOR BEGINNER KITS

Iwata has made changes to its Modeller Airbrush Kits, adding a new LifeColor Essential Paints set with each kit.

All Z-MODEL base kits now include: Iwata Revolution BR Airbrush (with an option to upgrade); LifeColor Essential Basic & Primary Colours (set 1); Medea Airbrush Cleaner 4oz (118ml); Premi Air Foaming Cleaner (150ml) aerosol; Premi Air Liquid Reamer Cleaner (150ml) aerosol; LifeColor Thinner (22ml) and an Iwata Compressor. Price: From £220.00 Availability: www. airbrushes.com



# Peter's Picks

Our scenic expert chooses the most exciting new products to appear on the market.

## 1 NOCH GRASS FLOCKING TEMPLATES

These simple pieces of cardboard with random shaped holes in them are a good way to provide textural and colour variations in larger areas of static grass.

They can be used by either painting adhesive on the landscape then loosely holding the template over the wet adhesive and applying static grass fibres through the holes onto the wet glue or by spraying adhesive (such as extra hold hairspray) onto the landscape while the template



is positioned on the land. Simply remove the template and apply grass fibres.

Product code: 60139 Price: £12.00 Availability: Gaugemaster

Tel: 01903 884488 Web: www.gaugemasterretail.com

## **2 NOCH GRASS GLUE**

Noch has developed a new glue that's designed to be used with its static grasses. It can be spread much more thinly than PVA-based glues and has a longer drying time, which means that you can take a bit longer to plant static grass, making the process a little less hurried! It dries transparent and the 750g tub offers good value for money.



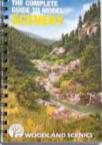
**Product code:** 61130 (250g);

61131 (750g)

Price: From £8.50 (250g) Availability: Gaugemaster Tel: 01903 884488 Web: www.gaugemasterretail.com

# 3 WOODLAND SCENICS PUBLISHES THE COMPLETE GUIDE TO MODEL SCENERY

Want to get the best from Woodland Scenics' extensive range of innovative scenery products? Then you need The Complete Guide to Model Scenery. This 268-page volume combines The Scenery Manual and The Sub Terrain Manual into one book but



also includes the Field, Just Plug, and Water Systems too. I have already picked up some new tips from it and I know I will be dipping in and out of it in the future! Product code: C1208

Price: £20.75 Availability: Bachmann stockists

## **4 WW SCENICS PRO GRASS DETAIL APPLICATOR**

WW Scenics' expanding range of electrostatic grass applicators now includes this tool, which is specially designed for working in confined areas, such as behind buildings or around signals.

You can also use it to add splashes of colour to larger areas of scenery. The Detailer's two push-on interchangeable heads enable you to apply fibres up to 6mm long. It's powered by a 9V AA battery and measures 31cm long. It's



yet another useful tool for planting static grass fibres! Product code: 02-0620-WWS001 Price: £74.99 Availability: WW Scenics

Tel: 01792 815841
Web: www.wwscenics.com

Keep up to date with Model Rail News online.



ncoming Updates on exciting new ready-to-run model projects

# **OO CAVALEX STANDARD** LGAUGE WAGON TEA BOGIE TANK

#### What's planned?

- ◆ Railfreight grey
- Railfreight grey, weathered

Total grey

Price? From £42.50

What stage is it at? Revised engineering prototype When's it due? 2020/2021

# N REVOLUTION TRAINS PCV 'CEMFLO' **CEMENT WAGON**

### What's planned?

- Blue Circle pre-TOPS number
- Blue Circle post-TOPS number

Price: 'Early bird' offer £79.50 (triple pack) What stage is it at? Decorated samples When's it due? Late 2020



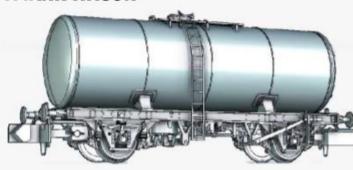
# | REVOLUTION TRAINS CLASS A TANK WAGON

GAUGE What's planned?

- Esso original livery
- Esso revised livery
- Mobil livery
- Staveley Chemicals livery
- Unbranded

Price: £19.95 What stage is it at? CAD completed

When's it due? 2020/2021



# N | REVOLUTION CLASS 92 Co-Co

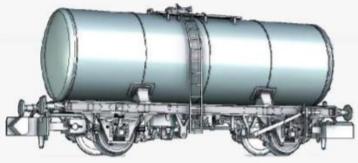
GAUGE What's planned?

- 92001 Victor Hugo, EWS maroon
- 92003 Beethoven, RfD grey
- 92009 Marco Polo, DB red
- 92018 Caledonian Sleeper teal
- 92032 IMechE, GBRf blue
- ◆ 92036 RFD grey with EWS logo
- Unnumbered in RFD grey

**Price?** From £175.00

What stage is it at? Decorated samples

When's it due? Late 2020





# In Brief

#### 'N' GAUGE '50s'



The Class 50 Alliance's GBRf-liveried Class 50s will now be available ready-torun in 'N' gauge, thanks to Kernow Model Rail Centre. It has commissioned a limited edition twin pack of 50007 and 50049, which is due in stock in mid-2021.

# **ON TAPE**

Price: From £249.99

Flake King Flex Fine Masking Tapes are now available in 1mm, 2mm, 3mm and 6mm widths, presented in a tin for easy storage. Both green and orange sets contain the four widths, making them useful no matter the size of the project.

**Price:** £18.98 **Availability:** www.airbrushes.com

# **RUST YOU CAN TRUST**

Flake King has released a Corroded Metal FX Pump Kit to complement the recent launch of its Corroded Metal FX products. The kit allows you to apply heavy Vintage Iron and Corroded Copper powders directly to wet paint or a clear coat on your models. Simply spray the Corrosion Activator directly to the surface and wait for the rust to form naturally.

The Corroded Metal FX Pump Kit contains all you need to apply rust to any item.

Price: £26.50 **Availability:** www.airbrushes.com

# LONG LIVE THE 'KING'



A ready-to-run 'N' gauge GWR 'King' was one of the projects which appeared to have died when DJModels went into receivership on June 6 2019. However, KR Models has stepped in to bring 'N' gaugers

a model of the pride of the Great Western's fleet.

KR Models is completing the CAD design work and is seeking expressions of interest for the proposed model. It proposes GWR and BR liveries

and the expected RRP is £150.00. It's hoped that the 'King' will be in stock towards the end of 2021, depending on the level of interest. To register your interest, go to www.krmodels.co.uk/ collections/n-gauge



# Rolling stock releases Locomotives and rolling stock arriving soon

OO ACCURASCALE HUO HOPPERS

Accurascale has produced further runs of its 24½t HUO coal hopper in grey livery. There are four triple packs available, with each of the 12 wagons having its own running number. Product code: ACC1008-HUO-Q

Price: £69.95 each Availability: Accurascale stockists or www.accurascale.co.uk



# **Show & Tell**

The place to share your projects with the Model Rail community.

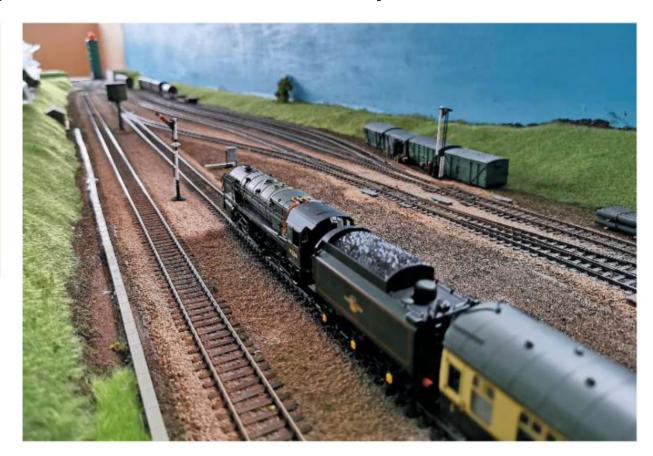
# LOCKDOWN LAYOUTS

We asked you to send us images of the projects that you have started since the start of the lockdown and were blown away - not only by the number of responses but also the quality of the modelling. We haven't got space to show them all, but here is a selection of some of the projects you sent us.

# **Loughborough in motion**

This is my layout 'Loughborough South Junction' which has been under construction since lockdown began. I've based it on the Great Central Railway at Loughborough in the preservation era and there is still a lot to do, but at least I've got trains moving!

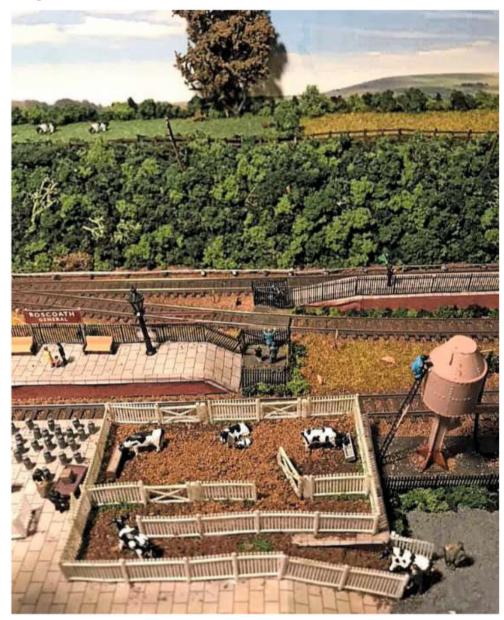
**Michael Sutton** 



# **Finishing touches**

This 'N' gauge layout 'Roscoath General Station' came to life on March 24 towards the start of lockdown and I've almost finished it - it just needs the final few details adding.

#### **Wayne Sharrocks**



# **World of whimsy**

I'm probably one of the few people who would like lockdown to continue for a bit longer, purely so that I can get this finished! I've created this Emett diorama and just need to finish the scenery at the front, so a little bit more time before going back to normal would be good!

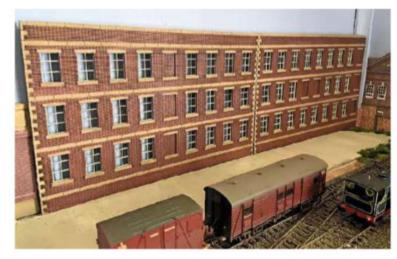
### Stephen Solomon



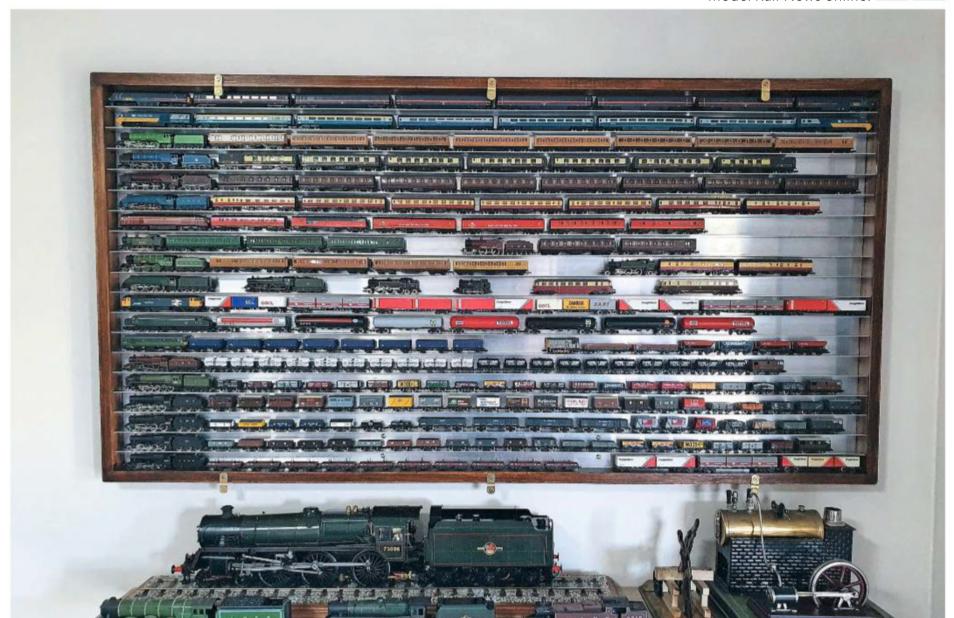
# **Continuing the façade**

I've been building two JSModels low-relief factory backs for my layout 'Peartree Green Dock'. There are still the small details to add such as guttering and a downpipe between the two buildings to hide the join.

#### **Mark Miller**







# **Enthralling 'N' gauge**

I've just finished building and populating this 4ft by 2ft display for the entire collection of my 'N' gauge trains. The shelves are made from 32mm aluminium angled pieces with a Tasmanian oak frame. On the bench is a Hornby *Flying Scotsman*, which was the first locomotive I got when I began modelling at age 13, and a Gauge 1 live steam BR '5MT' I received for my birthday last year. On the right is a stationary steam engine which belonged to my grandfather in 1915, and was made by Bing Toys.

#### **Rick van Dyk**

# **Depot groundworks**

My fictitious Network Rail layout 'Sutton Bridge Junction Department' is still very much in the early stages, but I've fitted a decoder to the DVT so that I can get things moving and measure the areas to fit pits in the depot.

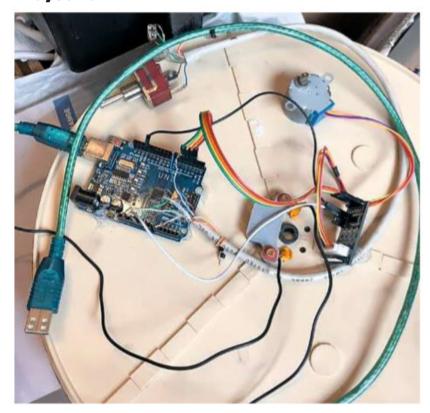
#### **Rory Capell**



# **Technology takes a turn**

I've been wiring up the Peco turntable with a stepper motor. I've got the speed up and speed down sorted and now I need to finish indexing each line so that the motor knows where to stop. I've been using the Arduino programmer, which makes life a lot easier.

#### **Andy Sollis**



# News Real what's happening on Britain's railways...

#### **▶** Summer of '69'

There's some serious
1:1 scale kit-bashing going
on at Electromotive Diesel's
workshops at Longport,
near Stoke-on-Trent. EMD is
creating 16 Class 69s for
GBRf by fitting EMD engines
and more environmentally
friendly and efficient
emissions and control
equipment to Class 56s. It's
understood that 69001 and

created from 56031 and 56311, with 69001 nearing completion. It's hoped that the 'new' locomotives will start to enter service later this year. BOTH: CLIFF BEETON

69002 have been





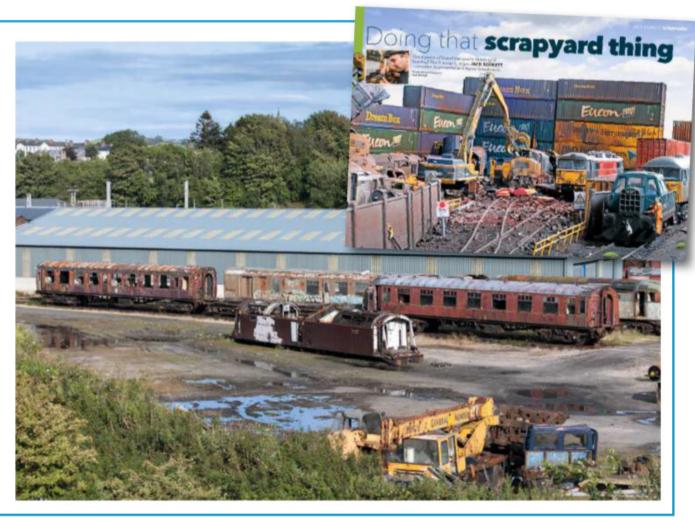
#### ■ Reasons aplenty for a '20'

Here's proof that you can always find an excuse to include a Class 20 on your modern image layout, 63 years after they were first introduced. 20205 and 20007 have been leased by engineering firm Loram UK, gaining that company's branding on their BR blue and BR green liveries. The pair haul Schweerbau High Speed Rail Milling Machine DR79601 past East Goscote on June 1, *en route* to Derby. PAUL BIGGS

### ■ Ready for a scrap

Were you inspired by Jack Boskett's scrapyard diorama in MR273? Well, here are a couple of images to whet your appetite and provide you with some ideas of what to do with old models. Former First Great Western Mk 3 Trailer Standard 42060 was being pulled apart at Eastleigh Works during May (PICTURE: CARL WATSON), while the carcass of former GWR green Class 47 47500 Great Western has been picked clean at West Coast Railway Company's Carnforth base (PICTURE: ROBERT FRANCE).







Keep up to date with the real railway and the preservation scene with *Model Rail*'s sister titles *RAIL* and *Steam Railway*. To subscribe, go to *www.greatmagazines.co.uk* 

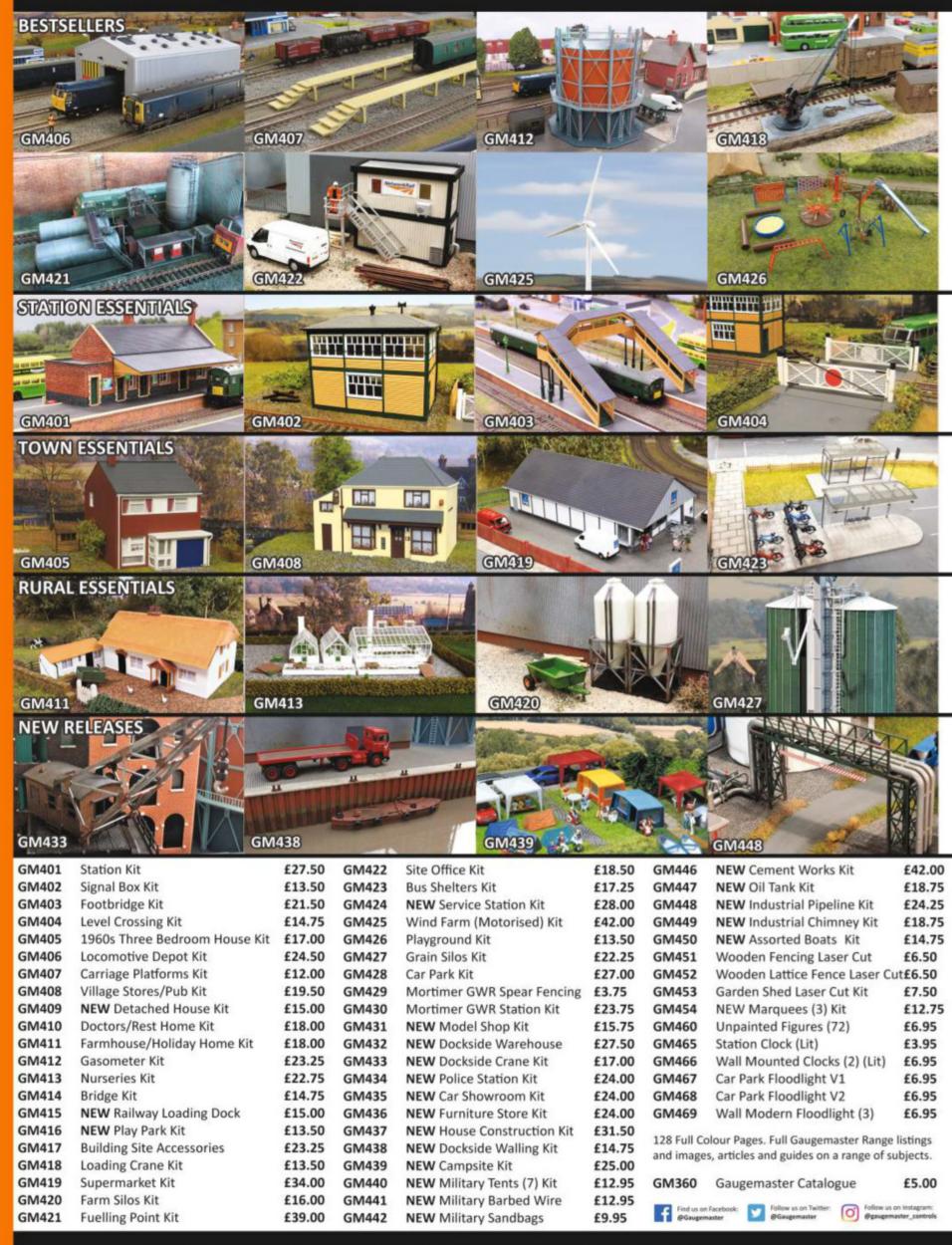


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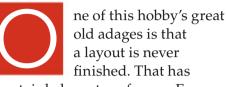
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# According to Chris...

...it's a big mistake to have a plan and then not stick to it.



certainly been true for me. Even when I have 'finished' a layout, as I did with 'Black Dog Halt' back in the 1980s, I soon added a 2ft extension to one end, and I never completed one of the fiddleyards to my satisfaction. Other members of Egham & Staines MRS also carried out tasks which, if left to me, would probably never have been done. Lockdown and working from home has given me time to look afresh at my present layout and I've started

to attend to some areas which had not previously received any scenic work. Despite some ten years in the making, there are still areas of bare baseboard and these had become dumping grounds for failed rolling stock, tools (which I then spend hours searching for) and assorted leftovers from parts of the layout that

I have been working on.

Coupled with this, I have buildings that I've constructed just because I wanted to, and these have no 'homes'. I recently completed a model of a pub for that very reason, and decided that it ought to fill one of those vacant 'lots' on the layout, rather than trying to

find shelf space for it somewhere else. It's another of my models inspired by a film. In this case, The Boot, in the movie *Love's Kitchen*, is in reality the Three Horseshoes in Letchmore Heath, Hertfordshire. The real pub is near Elstree Studios and has featured in one or two movies and an episode of *The Professionals*. I liked its quirky mixture of styles. It dates, apparently, from the 16th Century and is partly timber-framed.

**Eve**n the timber frame is asymmetric. It has evidently been altered and extended several times, as **on**e might expect in 500 years, with little attempt to make the new parts match the old. Perhaps its most endearing feature is **a r**ound porch in which the windows and even the door are curved, and they even have curved glass! No 16th-century carpenter would have given himself such a task, I'm sure, so I guess it is a piece of



It's embarrassing to show this, but it is quite tidy compared to how it's looked in the past.

modelling job I've done in a long time. It took several days to induce into thin glazing material, a curve that did not unwind itself at the first opportunity, and there were times when I doubted my sanity would survive!

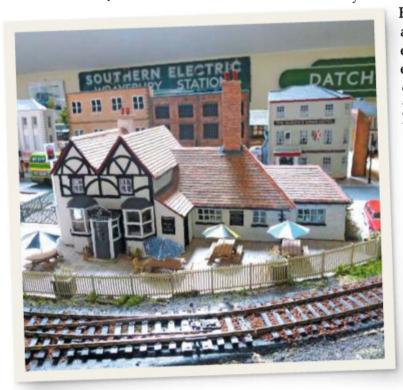
As The Boot grew slowly to be some 10in long, I realised that it would be greedy on layout space. A look on Google Earth showed a sprawl of outbuildings at the rear, which I could omit as they only detract from the look of the place. I had little information on how the back looked as I was unable to make a site visit and had to rely on Google Earth, Streetview and an internet picture search, none of which really showed the back. So, I simply made a neat and tidy job of it, which proved to be fortunate as, to suit my layout, the 'back' is actually the front – from a 'OO' pedestrian's viewpoint.

At the other end of the layout I removed the airfield and set about replacing it with the waterfall I described in *Model Rail* 277. I have decided that Lallybroch (MR276) and the Craigh Na Dun standing stones will go on the hillside at this end of the layout but I also have other models that I'm less certain about. For instance, there are two Victorian semi-detached houses in process of demolition. These are conversions of old Hornby plastic kits. They were featured in *Model* Rail a long time ago and have been on and off several layouts since then, including one that Mike Harris and I built for *How to Build a Model Railway* a couple of years ago. I was always rather pleased with them but I'm not sure I want them in a prominent spot on my present layout. They are too good for the bin and I'm undecided about disposing of them.

I'm also building Savernake station (for the third time) and it may just replace the Oxford Moreton-in-Marsh building that I installed a while back (MR265). I'm beginning to think that the way to build layouts is to start with a plan and stick to it, but it's a bit late now!

# 66 Working from home has given me time to look afresh at my present layout and attend to areas which had not received any scenic work >>

The Boot, installed and fenced. For the time being the backscene behind the low-relief buildings has been removed to improve access.



#### Modeller CV: Chris Leigh

So, decision time. Do I carry on with this job or deal with the complete electrical failure of my 'HO' DCC layout?

www.model-rail.co.uk 17

Victorian folly. It was the

most challenging



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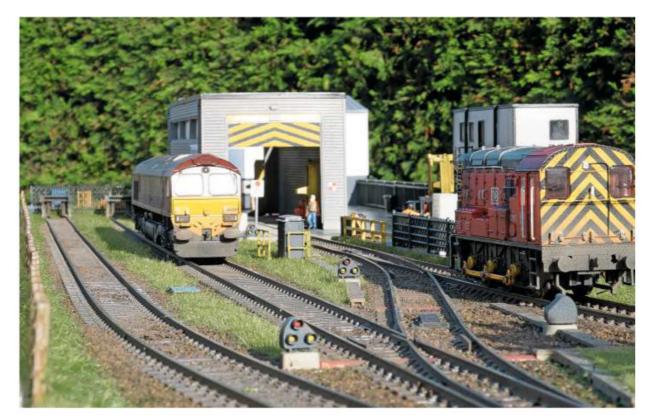


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# **Modelling Lives**

Tales from the world of model making.



Tour manager, music producer and designer **Michael Birch** explains how railway modelling is the perfect way to escape the rigours of his day job.

y name is Michael Birch and this is a quick insight into what I do on a day-to-day basis, and how railway modelling really helps me to escape the stresses and craziness of my day job.

I use the term 'job' loosely for I'm living my ultimate dream of producing dance music on a commercial scale. I am a tour manager, DJ, music producer and graphics designer for US rap artist Fatman Scoop and it takes me all over the world, from Australia and China, throughout Europe and over to the Americas. I love my job but it still takes a huge toll on both my physical and mental wellbeing. I also make commercials for people and I enjoy playing video games.

All these things revolve around one thing: screens.

No matter how expensive or high-quality they are, they give me eye strain or, worse,

migraines, and the only way to battle this is to take myself away from them and get some distance from their harsh, bright lights. As you can imagine, this is very hard to do in a world that revolves around phones and computers and I, like any creative person, can never truly switch off from my music and **fil**m making.

That's where model making comes in.
While I might have my iPad playing music in

Worked but it did bug me that they were not finely detailed modern models and that the liveries were outdated... ??

the background, I'm not engaged with it and I focus purely on making dioramas.

About eight months ago I decided to get my model trains out of the attic to see if they still ran. I'd had them as a child but didn't have the space in which to run them. That was before I'd discovered dioramas and micro layouts.

Luckily, all my old trains still worked but it did bug me a little that they were not finely detailed modern models and that the liveries were outdated... so when I saw Hattons' adverts about trading in unwanted models I decided to replace mine.

It was at that time that I came to realise that I really enjoyed the weathered look. Weathering really enhanced the realism of the models, so I ended up with a weathered Bachmann EWS Class 66. I see these locomotives all the time when I'm on tour.

The trouble was my fresh new locomotive really needed a layout on which to run, but I didn't have the room at all for anything more than a small oval. That's when I started looking into dioramas and micro layouts and started researching how they are made. My friend Gary Drew is an amazing artist (www.garydrew.com) and I turned to him for advice on how to make things look realistic, and how not to ruin something by over-painting.

The owners of Rhuddlan Models were extremely helpful and assisted me on what I would need in order to build a modern image diorama. After a few weeks, I finished my first micro layout and I posted some photographs online. To my surprise, someone enquired whether I'd be interested in selling it. So I did – and then started a fresh layout.

This took a couple of months to build and, once again, it sold almost as soon as I put it online. After successfully weathering a DB Class 08, I decided to challenge myself. I wanted to put everything I'd learnt from these previous layouts to the test by building – from start to finish – a diorama in under seven days. Everything went perfectly and the feedback was beyond amazing! You can see the layout in these pictures.

My next challenge is to complete a diorama in under 48 hours and to include LED lighting. I really want to see if it's possible to make a high-standard model that doesn't look as though I've rushed it in the space of a weekend.

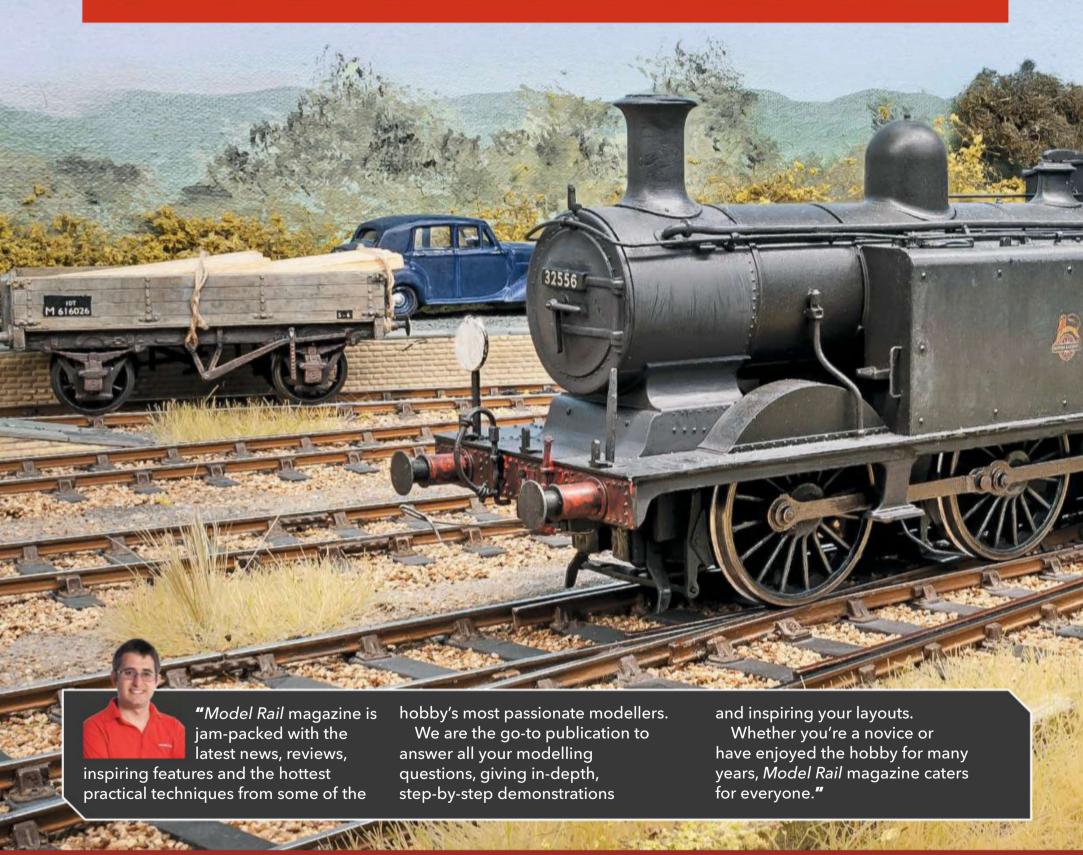
DB Section 19

BOTH: MICHAEL BIRCH

What's next Want to see how Michael Birch built this micro layout? You can watch his video on YouTube - search for the channel 'itsPureCold' (https://youtu.be/8HsnBJLsX5M)

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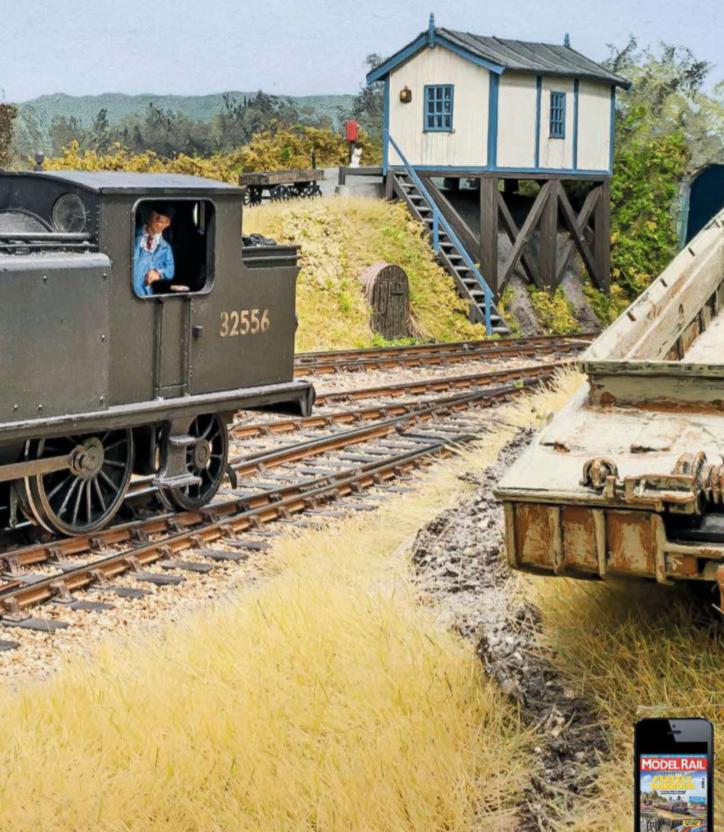
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# Electrifying

Senior project engineer **Mark Knowles** explains how this shed-filling masterpiece came to be.

Words: Chris Gadsby Photography: Chris Nevard



# **'OO' GAUGE LAYOUT DAVIDSON PARKWAY**

e frequently receive photographs and information about reader layouts, and we're consistently impressed by the quality of the modelling. Usually, these layouts are brought to our attention via our e-mail inboxes, but once in a blue moon they come about because of a chance encounter. That's exactly how 'Davidson Parkway' came to our attention; when its owner Mark Knowles just happened to be sitting opposite deputy editor George Dent on the 07:24 service from Sheffield to Doncaster. The result was George,

Midlands on a slightly grey Wednesday morning.
Situated in Mark's garden is every modeller's dream:
a dedicated railway room more than 25ft long, almost
15ft wide and home to an outstanding West Coast
Main Line layout. As we crawl underneath the layout

photographer Chris Nevard and myself heading to the

and into the middle of the room, Mark explains how it came to be.

"I was born in South London, near Selhurst Depot, and as a youngster I always found trips to Euston and beyond really interesting. The smell of warm oil, and the buzz, roar and power of the AC Electrics excited all of my senses, while the variety of locomotives and rolling stock meant there was something new to see everywhere you looked. As a youngster, I had a train set in the loft with Lima and Hornby locomotives and a crude attempt at OHLE, using Hornby's catenary from the 1980s. Fast-forward 20 or so years, and I've moved to the Midlands, work in the rail industry as a senior project engineer for high output track renewals and have a decent-sized garden. About ten years ago, the breeze-block building appeared in the garden!"

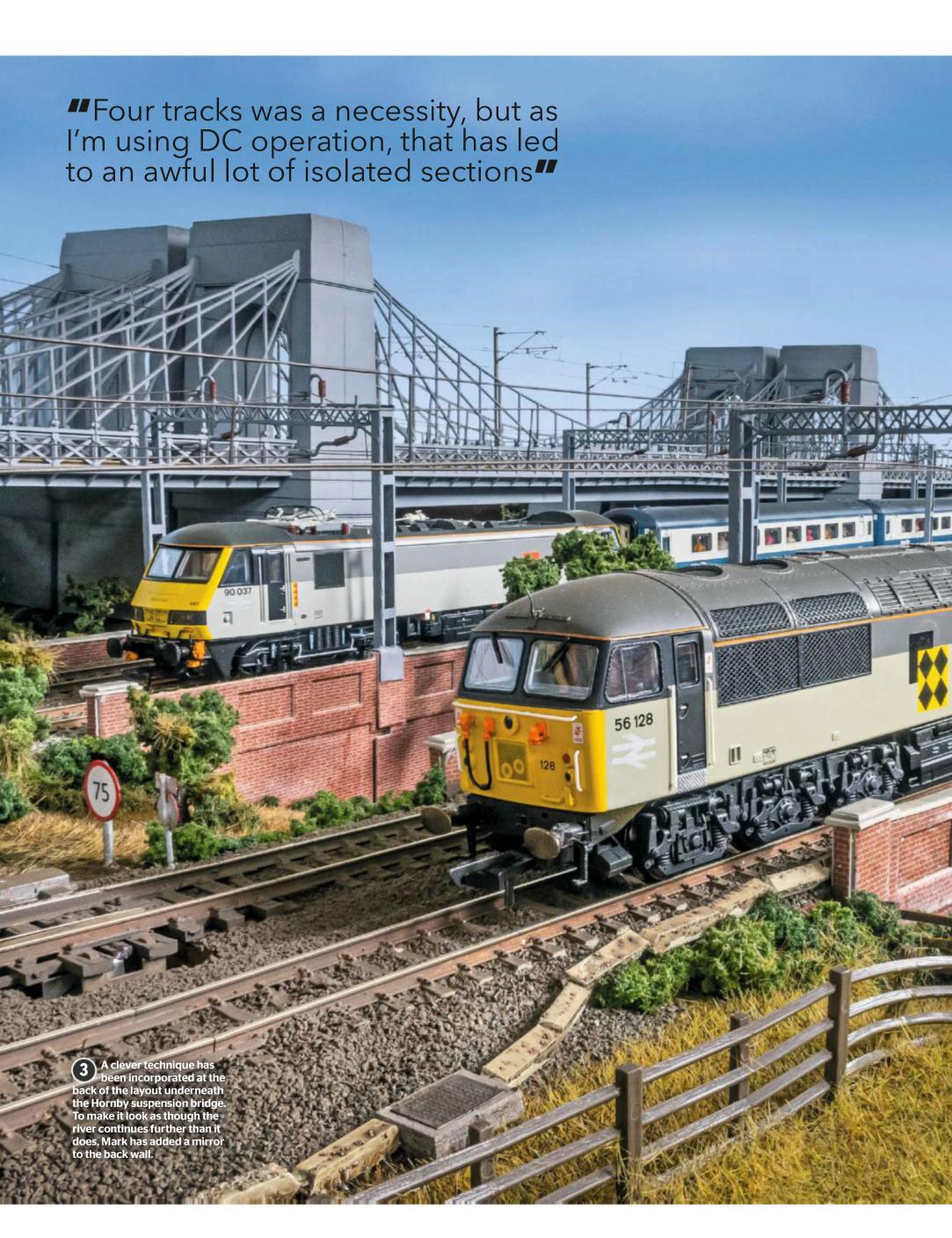
Conventional layout planning wisdom is not to fill >







# **'OO' GAUGE LAYOUT DAVIDSON PARKWAY**





your layout with track, and yet Mark has managed to get four looped lines, paths to two fiddleyards and two tracks which weave their way around the outside to reach the large station with four platforms at the higher level, all without it looking as though it's over-crowded. As with most modellers, getting models running was a key motivation.

"After an awful lot of planning, including Peco templates for almost all of the 100 points on the layout, I began with the two Fast lines and added the two Slow lines soon afterwards, just so that I could get things moving. As I'm basing it on the WCML north of Crewe, four tracks was a necessity, but as I'm using DC operation, that has led to an awful lot of isolated sections."

#### ALL THE MOD CONS

Once you arrive at the centre of 'Davidson Parkway', the large control panel is a sight to behold. At first, the switches and dials look confusing but, as Mark explained, because this was going to be a layout that would never leave home, he's made sure to include everything imaginable.

"There is an order to everything. The dials control the amount of power for each track, the blue switches are for the isolating sections, red switches control the signals and the push buttons operate the points. The ground signals are all from DCCconcepts and the multiple-aspect signals are from Heathcote Electronics. These all have sensors behind them so that they automatically change when a train passes over it, but I also have a manual override so that I can change all of the signals to red if necessary. I was particularly proud of the control panel when I'd finished it. There may have been a lot of wiring to do but I printed a mirror image of the panel plan to place on the underside so that I knew which section I was wiring without having to continuously check the other side."

Even since the *Model Rail* team visited 'Davidson Parkway' last year, Mark has continued adding technology to the layout to either increase realism or make his life easier.

"Since I don't have a handheld controller and am limited to standing next to the control panel, it can be difficult to see exactly where the rear of trains are, particularly when they're entering the station. I use small strips of acetate from Metcalfe building glazing to act as uncouplers but they blend in well so I've installed a vehicle reversing camera to the station (Patriot Central) with the screen attached to the control panel so





that I can see exactly where the uncouplers are. This allows me to detach a locomotive hands-free without having to move from the control panel."

## **DELICATE WORK**

We are always asking ourselves, what turns a good layout into a great layout? When it comes to electrified railways, catenary takes a layout to the next level. Installing it can be long and fiddly work on a small layout but Mark, who built gantries spanning eight lines in some areas of 'Davidson Parkway', has to take a lot of credit for his achievement.

"Most of the catenary is from N Brass Locos, with a few Dapol masts dotted around the layout as well. I've soldered these together and painted them before threading the Peco catenary wire through, bending the ends to hold it in place. I also added insulators, wrapping a wire around a former and painting them a metallic colour. As I work on the network, I have a good idea about the infrastructure and if I was being truly accurate there should be twice as many masts but I had to compromise as it took me long enough to do the ones I have!"



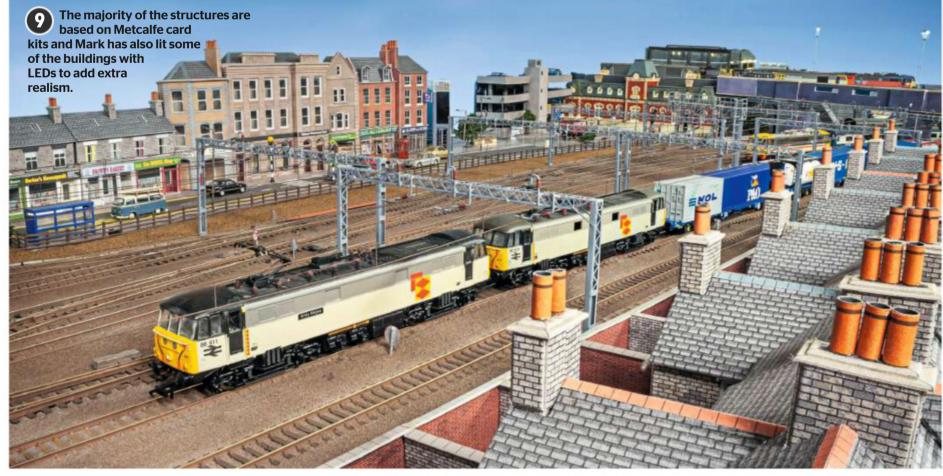
# **'OO' GAUGE LAYOUT DAVIDSON PARKWAY**





All of the lineside furniture is accurate and in the correct place for railway practice





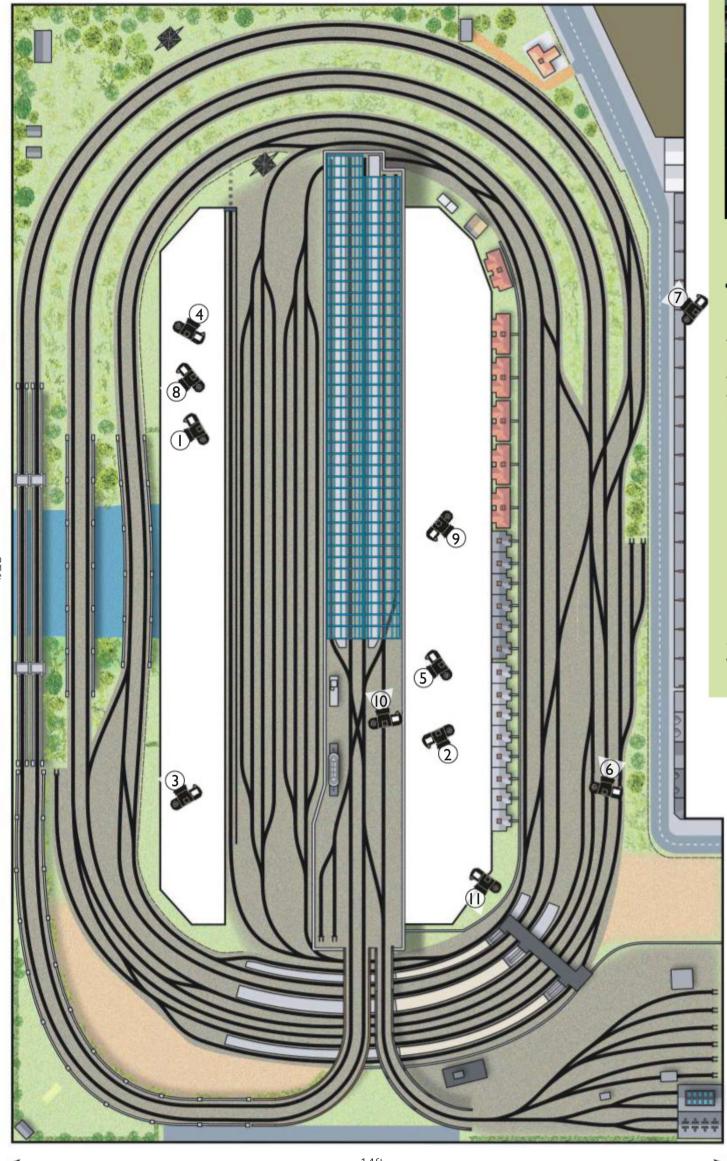


Mark's keen eye for detail is apparent as Chris' camera continues to navigate the layout and pick out new details we hadn't seen before. All of the lineside furniture is accurate and in the correct place for railway practice and while this wouldn't detract from the model if it was placed differently, it increases the admiration for the craft of building such an accurate and impressive model.

There must be many superb layouts out there that we don't know about, and we are always looking for new projects to feature in *Model Rail*. So while you may not have a chance encounter on your commute with one of us, like Mark did, don't be afraid to send us photographs of your projects using the contact information on page 3. You might just end up with Chris Nevard poking his camera around your layout for an upcoming feature!

# **'OO' GAUGE LAYOUT DAVIDSON PARKWAY**

#### Artwork: Andrew Mackintosh





# MODELLER CV: MARK KNOWLES

If I'm not busy working on the layout and adding even more touches, such as station lamps, I'm spending time with the newest member of our family, Rosie the labrador!
She loves attention, which means progress on 'Davidson Parkway' isn't always as fast as I would like!

# FACTFILE: 'DAVIDSON PARKWAY'

Gauge and scale: 'OO'
Size: 25ft by 14ft
Time to build: 13 years

- 14ft

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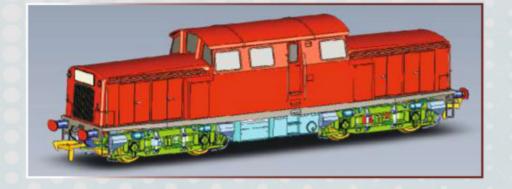


We proudly announce that we intend to produce the Clayton DHP1. It was a demonstrator ordered by Rolls Royce to showcase their engines and hydraulic transmission, with help from Col Fell of 10100 Fell Loco fame. Clayton modified the Class 17 drawings to suit the requirement as they were designed around the same time, although the 17 was about 4 feet longer but the general layout was identical, testing didn't go to plan and it was soon relegated to works shunter for the final 2 Class 17's being built (the 2 with Rolls Royce engines). https://krmodels.co.uk/collections/oogauge/products/clayton-dhp1



# **Model Specification**

- 21-pin DCC socket with easy access
- Directional LED Lighting
- Heavy die-cast metal chassis with central motor and flywheels giving powerful performance
- Separately fitted wire handrails and sandpipes
- Etched grilles
- Sprung buffers
- Flush glazing
- Available in OO Gauge.
- ► DCC Ready (£165.00), and DCC Sound TBC.





# **Workbench** sponsored by



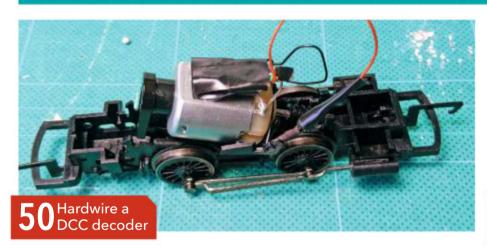




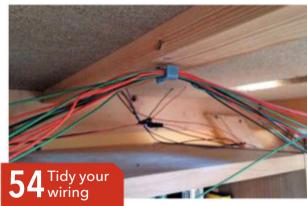




23 pages of projects, advice and top tips that show you how











# Meet the Model Rail Expert modellers





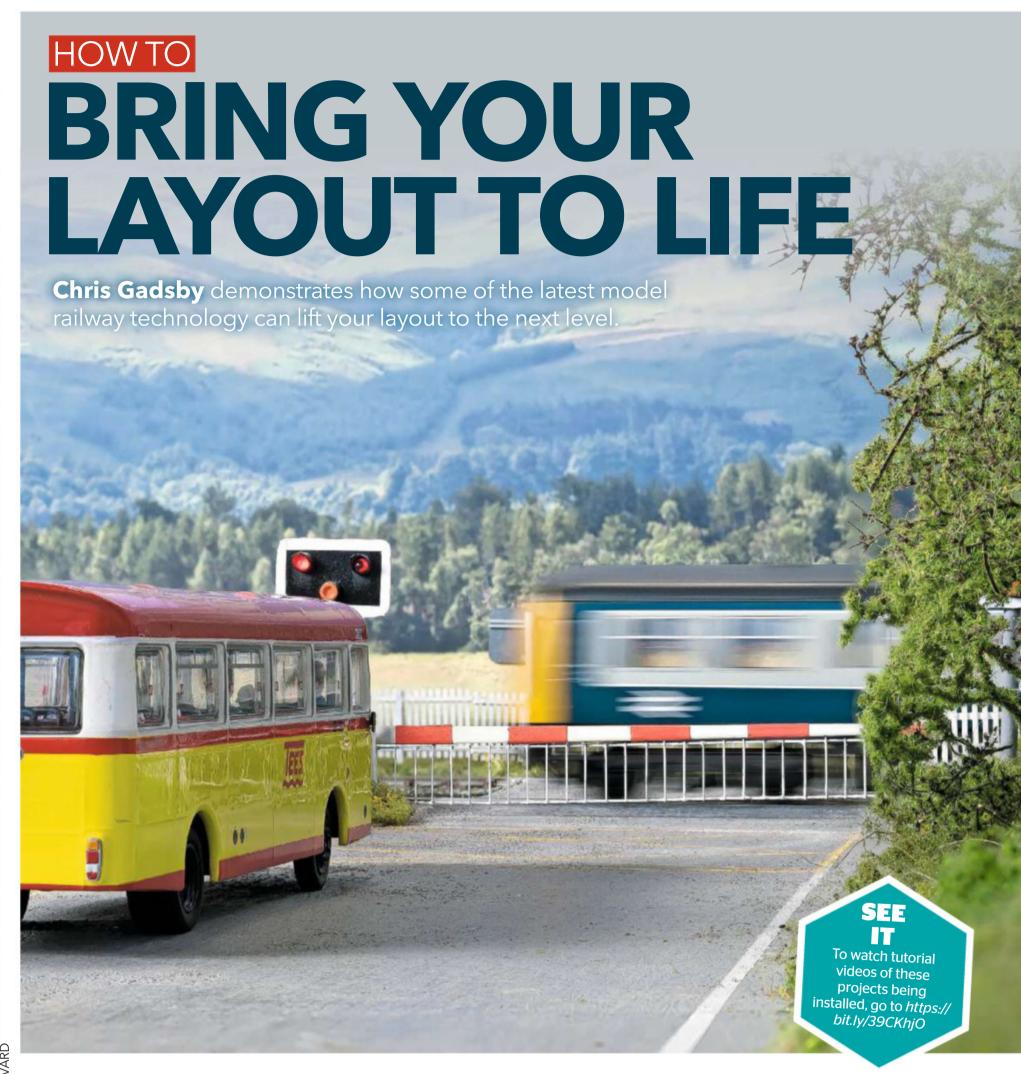




John is a whizz with develops products



Project difficulty ranges from easy: one screwdriver, to very hard: 🕴 five screwdrivers.



ince the dawn of civilisation, the human race has always been looking for the next big technological advancement, such as the wheel, electricity and flight. Recently though, there have been even more significant advancements... in the field of making a little model railway locomotive travel around a layout in a slightly more realistic way.

OK, so we accept that none of these will revolutionise the way we live our lives, however they are major steps forward in how we can all run a model railway more accurately, and achieve a better result in a direct

comparison between your miniature world and the prototype. After all, this is what most of us are trying to accomplish.

The main reason for all of this new technology is the introduction of DCC operation. DCC has opened up a new world of possibilities both on and off the rails and perhaps now, more than ever, depicting the rest of the world has become even more desirable on a layout. Things such as working traffic lights and level crossings mean that our little worlds are now more realistic than ever before and when you factor in working signals and automatic train control, you can run your layout just like the real thing. Even if you don't feel like operating your layout and just wish to sit and watch it work, technology can make that happen too. Route setting and automatic train shuttling are becoming more popular, especially with larger layouts.

Over the next few pages we'll be explaining how some of the latest technology works and what you need to do to install the latest train, signal and infrastructure control on your layout. It's easier than you might think, and the results will significantly improve the overall feel of your layout.

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#### **SIGNALS**



One of the fundamental problems with signalling in model railways is being able to place them a prototypical distance from one another – and knowing where to place them. It's a topic we have covered in Model Rail a few times, so I'm not going to cover it again here. Instead, this article will focus purely on making them operational once you're happy you've got them in place.

But then you're faced with another problem: how do you make them operate realistically? I have written about motorising semaphore signals previously (MR264), so here I'll focus on colour aspect signals. Generally speaking it is better to consider the placement of signals during the planning process so you can install them at the same time as the track is laid, particularly if you want to make them operational – it's a lot easier to do the wiring before the scenery is in place.

Installing working and reactive signals is easy, and one company which makes them is Train-Tech. The signals are fitted with infrared sensors which detect movement and alter the signal accordingly. You can also link the signals together so that as one changes, the signals up the line respond in the correct sequence. If you are only interested in having signals operate

prototypically without also stopping trains at a red signal, then the sensor signals are for you. If you also want trains to stop, the addition of a relay controller and a few extra wires is all that's required.

Ever find yourself wanting to run a realistic railway but can't keep an eye on everything and don't have enough hands to keep everything moving? Well this is where automatic train control can help. As with everything with technology on a model railway, it can do as much or as little as you want it to do, so there's no need to feel as though it's taking away from the joy of twisting a dial and doing everything yourself. Consider it something to aid you rather than something that takes over. Automatic train control is almost one level up from the sensor signals, but the two are so closely linked that I'm going to cover it here rather than in the train movement section. The first question is what is automatic train control? Automatic train control is where an electrical circuit or a computer takes over the movement of trains, allowing you to concentrate on another area. This is particularly useful if you have a large layout as the electronics can operate a locomotive and prevent it from crashing without you having to think about it.

So how exactly does it work? It may sound daunting but it's actually really simple. All you need to do is have a short section of isolated track in front of the signal with a dropper wire connected to the circuit board. The circuit board linked to each signal has a system

#### What you will need

#### **SHOPPING LIST**

- Train-Tech RL1 Relay Controller
   Price: £40 Availability:
   www.train-tech.com
- Train-Tech SS1 2-aspect home signal Price: £40 Availability: www.train-tech.com

#### **TOOLS**

- Sharp knife
- Poly cement
- Drill
- Soldering iron and solder
- Track cutters

whereby if the signal is red it cuts the power to the isolated track and the train therefore can't move past the signal. Once the signal changes from red, power returns to that section and the train can continue.

It is worth noting that if your models are fitted with stay-alive capacitors they would just continue over the isolated section, so your layout would need an extremely long isolated section! The Train-Tech system also allows for an Automatic Braking Module to be fitted for locomotives with suitable decoders so that a gradual rather than sudden stop is achieved, which adds even more realism.



Train-Tech's signals come with a ladder and cage to be assembled, although the signal itself is in one piece. Cut them away from the sprue with a sharp knife and use a small amount of poly cement to glue them in place.



Included within the instruction booklet are numbers and letters to make the signal indicator panel. Cut these out in your desired combination and glue them to the small square included on the sprue.



Installing the sensor signals using the contact legs takes only a few seconds. Simply slot them underneath the rails. With fixed Hornby track, look for the small slot designed for the link wire; on flexible track they can go anywhere.



You can use the sensor signals as standalone products, but they come into their own when connected together. Use the supplied single core wire in the relevant connecting hole and drill a small hole to hide it under the baseboard.

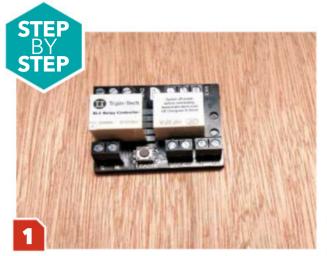


Once the signals are linked they constantly talk to each other. On their own, the signal returns to green after a short delay once the train has passed the infrared sensor. With two signals connected together it will remain red...



...until the locomotive has cleared the next signal in the chain. With enough signals and wire connecting them together, you can create a complete loop of signals talking to one another and displaying the correct light.

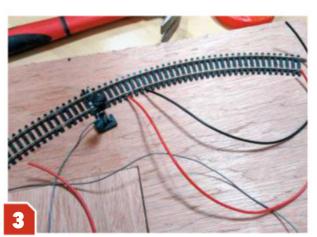
## Workbench technology and realism



As with all things Train-Tech, simplicity is a core feature of the Relay Controller, and it uses screw terminals rather than solder points for the connections. Don't remove the foam pad underneath, which is there to help with cooling.



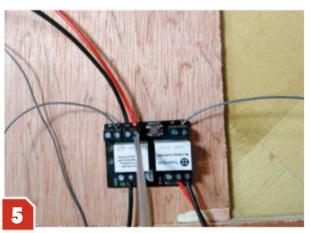
To stop trains, the relay controller makes sections of track dead when signals are red. For this reason you require isolated sections. Use a Dremel cutting disc or track cutters to create an insulated section.



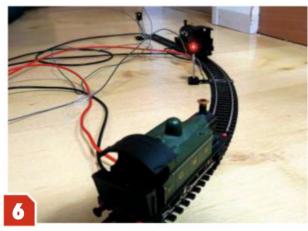
Solder a wire to each side of the isolated break, ensuring that the break is sufficiently in front of the signal for a locomotive to slow to a stop if it is fitted with Automatic Brake Control, which will bring it to a controlled stop.



Connect the 'always live' portion of track to the COM port and the isolated track to the NC port (normally closed). Each relay can control two signals, one on each side of the controller, and this is the part which controls the track power.



Screw in power cables into the DC/DCC socket using the same power supply as the track feed. Connect the sensor cables to the 'S' port of the controller and the middle socket on the sensor signal. You are now ready to go!



Here the signal has changed to red, causing the GWR 0-4-OT to stop on the isolated section of track while the next block is occupied. Once the block is clear the GWR locomotive will begin again without any input from you.

#### TRAIN SHUTTLING

Automatic Train Control will not be for everybody, particularly if you have a section of your layout, such as a depot, that is not controlled by signals. In these areas a train shuttle would be more appropriate if you still want some form of automation in that area.

Block Signalling is a company which produces a range of electronic items for model railways, one of which is a simple shuttle for DC locomotives. Similarly to the relay controller above, it uses screw terminals to keep the wiring simple and only a few solder joints are required to the track.

This shuttle is capable of controlling a single locomotive up and down a single line, so it is perfect for a one-track branch line which disappears behind the landscape, for the locomotive to pause and then make the return journey. It would also work in a depot or a distant high-level line where you wish to make it appear as though it's a busy section of track, or just to add more movement.

Whatever you want to use the Simple Shuttle for, you can have it installed in just 30 minutes and, with a variable pause setting at each end lasting anywhere between a second and ten minutes, you can fine-tune it exactly how you'd like it.

#### What you will need

#### **SHOPPING LIST**

 Block Signalling SS1 Simple Shuttle Price: £14.99 Availability: www.blocksignalling.co.uk

#### **TOOLS REQUIRED**

- Track cutters
- Soldering iron and solder





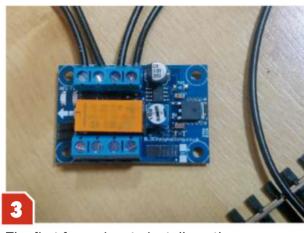




The Simple Shuttle circuit board has holes for four mounting screws in each corner so that it can be discreetly placed underneath the baseboard. Don't force it flush with the board as this may damage the solder joints.



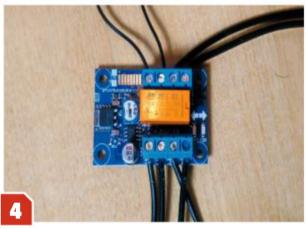
I set up a temporary track to test the shuttle. A break is needed in one side of the rails on either side to bring the locomotive to a halt. Connect wires to either side of each break in the rail and to the other rail with no breaks.



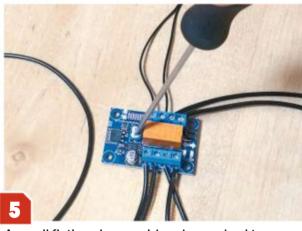
The first four wires to install are the ones which go to the track. From left to right these are the west end after the break, the rail between the two breaks, the east end after the break and the other, unbroken rail.

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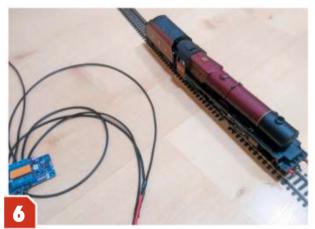




Connect the power wires to the remaining four screw terminals. From left to right these are the speed controller positive and negative and a 12V DC power supply positive and negative. Again, these are labelled.



A small flathead screwdriver is required to adjust the pause time at each end of the track. The first half fine-tunes the setting between one and 90 seconds while the second half is coarse control between 90 seconds and 10 minutes.



You now have a working DC train shuttle on your layout! You can continue to adjust the waiting time at each end as much as you like once it is in position, so try a few different settings and see what works best for you.

### ROUTE SETTING

By now you should have working sensor signals and automatic train control on your layout, as well as a working shuttle. If that isn't enough automation for you and you'd like to sit back and admire your layout more, then computer operated route setting could be for you. This is particularly useful if you have a large layout and can't operate it on your own to its full potential. A number of companies supply software that enables you to use route setting, including

Hornby with its RailMaster software. Route setting involves programming all of your locomotives and points (this does mean you need to have a DCC decoder and address for each of your accessories) and then sitting back while the program plays out and your locomotives move around the layout to a set sequence. The advantages with route setting are that it means you can get all of your models to move at the same time on specified routes, you know that they aren't going to crash into one another and you also don't have to have incredible computer skills in order to set it up, as the instructions are concise and straightforward.

#### What you will need

#### **SHOPPING LIST**

 Hornby RailMaster eLink and RailMaster combination pack
 Price: £100.99 Availability: www.hornby.com

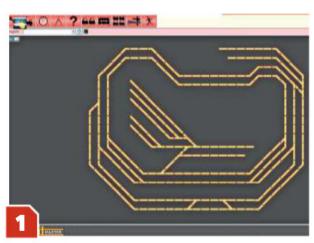
#### **TOOLS REQUIRED**

- Computer
- Programming track









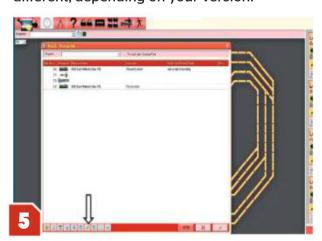
Your screen will look something like this. For route setting you also need to add in the locations of the points and signals and assign an address to each one using the DCC decoder. Your RailMaster instruction booklet will guide you through this.



Keep adding instructions. Here you can see that after two seconds a point will change - as I don't have any point motors installed on my layout yet I can't instruct a specific point at this time. Use the green plus in the bottom left corner to keep adding instructions.



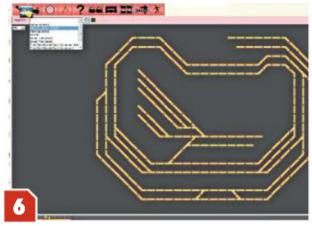
Press the icon in the top left which looks like a stopwatch. This will open the rail program screen which will allow you to program the route you want your locomotives to take. Refer to your manual as the icons may be different, depending on your version.



Use the green pin to mark the steps for testing and then use the arrow to the left of it to test your program. This will take some trial and error to know how many seconds each instruction will take, particularly to make locomotives stop where you want them to.



Start by entering the time in tenths of a second on the left-hand column. Start at 0.0 for each program. Then select the resource. This could be a locomotive, point or signal and select which one to operate. Give it an instruction and any notes for your reference.



Once you are happy, save your program and select it from the drop-down menu to execute it. Make sure you have everything in the intended starting position first though! To save time, make everything finish in the same place as it starts on the program.

## Workbench technology and realism

#### ADD LIFE TO THE URBAN SCENE



By this point you've got signals which work prototypically and trains moving around the layout in perfect harmony but you've still got traffic stuck at broken lights, level crossings which fail to warn motorists of oncoming trains, drivers crashing into each other because they can't see the road and passengers wondering how long they are going to have to wait on the freezing cold platform for the next service.

Worry not though, because with recent advancements in this area, if there is something electronic in the real world, there's most likely something electronic in the model world to do the same job. After all, nothing is going to spoil your layout more than having the railway behaving exactly like the real thing, only for the areas where it meets the 'real world' to fail and bring the illusion of reality crashing down. Fortunately, with just a few wires and the supplied circuit boards, you too can incorporate many real world features on your layout in less than a day.

It's only when you begin to search deeper

on the internet that you realise quite how many companies produce working scenic elements for your layout. Sadly, there isn't enough space to list them all in detail here, but I've featured some of them here from Big Train Sound, Woodland Scenics and Train-Tech, all of which can be installed easily.

Train-Tech's Smart Screen adds a nice touch to your modern platform in the form of a dot matrix display. The majority of stations have these and as a result they are almost as essential as the white lines at the edge of platforms. We first installed one on Chris Leigh's 'Polwyddelan' last year in *Model Rail* (MR259) and it continues impress us.

Want to take your Smart Screen one step further and incorporate sound? Big Train Sound is a company which can create customised platform announcements for your layout, with arrival and departure times interspersed with general announcements so that you can have a tannoy and dot matrix display providing the same information!

Aside from Train-Tech, Woodland Scenics'
Just Plug system has been around for a few
years, but continues to receive plaudits for its
simplicity. With only a drill required and no
soldering involved, it's a quick and easy way to
make a significant difference to your layout.

Even on my far-from-complete layout, these small additions have made me feel as though I've made a huge step forward in realism for a relatively small outlay. One thing to note: with Train-Tech's level crossing and traffic lights I would recommend buying the

#### What you will need

#### **SHOPPING LIST**

- Train-Tech Smart Screen Price: £50
   Availability: www.train-tech.com
- Train-Tech LC10 level crossing Price: £25 Availability: www.train-tech.com
- Train-Tech TL10 single traffic light Price: £25 Availability: www.train-tech.com
- Big Train Sound platform announcements Price: £35
   Availability: www.bigtrainsound.co.uk
- Woodland Scenics Just Plug
   Price: From £19.24
   Availability: Bachmann stockists

#### **TOOLS REQUIRED**

- Sharp knife
- Acrylic Paint
- Drill
- Soldering iron and solder
- Controller for programming
- MP3 player
- Computer

pair rather than a single, as the cost difference is minimal and you receive more for your money.





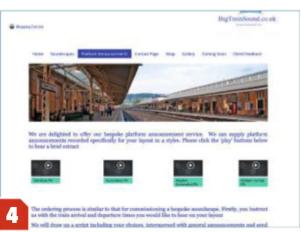
Train-Tech supplies all the wires you need to program the Smart Screen. Connect them to the main track outputs of your transformer, not the programming track. The screen uses a locomotive address for programming.



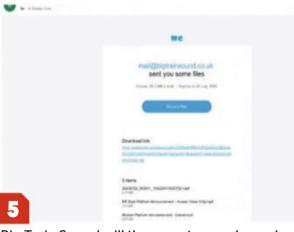
It takes a while to get used to which button to press on your controller, so keep the instructions to hand. Also, sit down! Even with my fingers, which are used to phone-texting, it took me half an hour!



The only thing that isn't perfect with the Smart Screen is that the real-time clock resets every time you turn the power on. You can make it start at a different time, but at the moment passengers are in for a long wait!



Once you are happy with your smart screen you can think about adding sound. To do this visit the Big Train Sound website and specify what you would like to hear. You will receive a script to review before purchasing.



Big Train Sound will then create your bespoke announcements with train times and destinations and send it to you as an MP3 file to your computer. Usually this takes around ten working days.



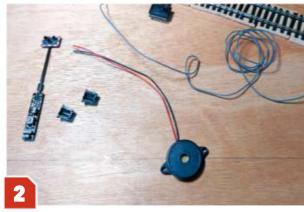
From this point you can transfer the file onto a USB stick, download the file onto an MP3 player or burn it to a CD and place it next to your layout. Simply press play to really bring your station to life!

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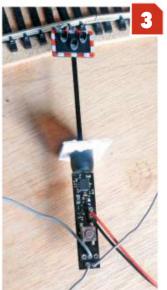




Paint around the edges of the lights with red and white squares. Looking at a prototype picture will help and you will see that the corners are always red. Ordinary acrylic paint will do the job.



Train-Tech recommends using its single core wire for installation. As it is supplied with the kit that's what I did. I also used a Track Sensor Plus as my trigger for the lights, but you could also use a DCC accessory address instead.



The two power cables slot into the connectors at the bottom of the circuit board, the feed from the track sensor goes into the middle at the top and the speaker cables go in the two on the right-hand side.



Drill a 10mm hole in the baseboard so the circuit board can slot through the hole and the mounting cap (supplied in two halves) can fit over the top and hold it in place. This is fiddly, as the two halves don't want to stay together!



Make sure you place the sensor far enough down the line that the sequence is well under way by the time the train reaches the crossing. It's no good if the train passes when the amber light is still on.



It is difficult to place the sensor correctly as each train will likely be travelling at a different speed, so the best action is to settle for the middle ground. Here the light is in full swing as a Class 153 continues its journey.



The Just Plug range includes single and double street lights, wall-mounted lights, internal lights and even North American-style vehicles with working headlamps. These lights come with two fine 91cm wires, plus a Linker Plug.



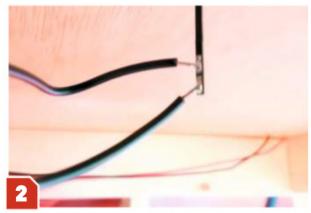
While the initial cost is slightly high, the simplicity of the Just Plug system makes it worth it. Everything is clearly labelled and the plugs are easy to connect. Each hub can control four lights and extensions are available.



Drill a hole with a 2.4mm bit, ensuring that it goes straight down to avoid a lamp on the skew. Simply thread the wires through the hole and connect to the hub. Fix the lamp in place and adjust the brightness to suit.



Train-Tech's traffic lights come as a single working light and a dummy, or as a pair of working lights. Paint a thin white line around the outside of the panel. This is prototypical and helps it to stand out against scenery.



Drill a 2.8mm hole in your baseboard and slot the traffic light in. Connect a wire to each of the contacts on the bottom and you're done! The light sequence will vary anywhere between 10 and 35 seconds.



If you have a dummy light it is a good idea to face it away from the viewing side so as to not detract from the overall viewing. Alternatively, put some workmen around it and pretend it's undergoing maintenance!



Even experienced modellers can make a mistake. The secret is to spot it before you've gone too far, as **Chris Leigh** found out.

he house that I lived in as a child (see MR276, page 45) was built in the 1920s, initially with only gas lighting. According to my aunt, the electricity company would not extend its mains cable right to the end of the street where the house was. It did eventually receive an electricity supply, but family legend said that my grandmother found it so newfangled that, if she had to change a light bulb she would switch off the power and wait a minute for the electricity to run out of the wires!

While I did not inherit her basic misunderstanding of electricity, I've always steered
clear of model railway electrics. I was lucky in
that respect, for, as a member of a model
railway club, I could always find someone who
was willing to do it for me. My layouts were
never very complex, so I often got a sophisticated electrical arrangement for a simple
branch line layout. That was certainly true of
'Black Dog Halt', which was wired for me by
Brian Remnant and despite, having five
baseboard sections, I don't think we ever had
a power failure, thanks to his belt-and-braces
wiring system. Plus it had primitive sound -

a whistle and a diesel horn – wired in. This was mainly used to attract the attention of any fiddleyard operator who left the train held at the 'Chippenham Home Signal' for too long, awaiting a path into the fiddleyard. It was as much new technology as I could handle, in an era when club layouts often had over-complicated control systems in order to involve as many members as possible. Remember all those dinging signal box bells for communication between guys who were close enough to just tap one another on the shoulder?

#### ORDEAL BY ELECTRONICS

Ironing the bugs out of the electronics on a new exhibition layout was always a headache. I recall mornings of embarrassment as the show opened and my electric-savvy colleagues struggled to find what was wrong. Of course, it had always worked perfectly in the clubhouse. I recall a rail making contact across a baseboard join, which had been a clear gap in the clubhouse. It took hours to find the problem, the result of a slightly uneven floor and over-zealous tightening of coach holts.

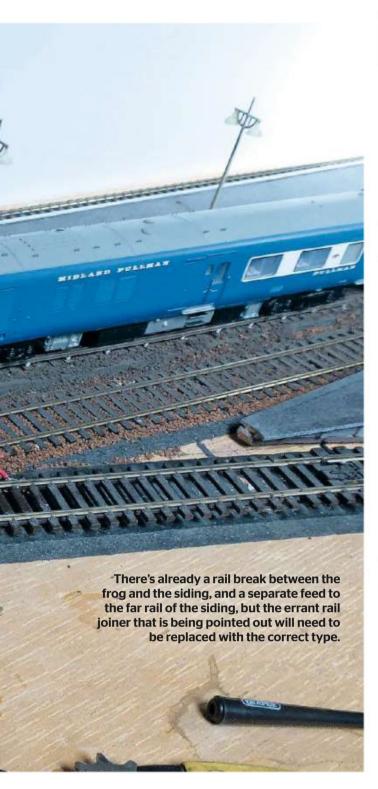
All that is avoided with a permanent layout like mine, isn't it?

Well, maybe, if you are the careful, methodical type. I'm not, and my unfinished layout was pressed into service as a *Model Rail* test track in the days when we didn't have one. From there, I went on to add the station and scenery before I had even decided exactly what I wanted to do with the area where I had put in a bay platform and a siding that was going to lead to the dockside. But the 'dock' became an airfield (MR215) and the sidings languished, disused. All I needed to do was to 'plant' some buddleia and rosebay willow-herb!

However, I blame the pandemic and the lockdown for prompting me to take a new interest in the 'OO' gauge layout. Blame is also due to my 'HO' Canadian layout on which the DCC control has suffered some sort of complete failure which I fear maybe a defective controller. Investigation of that needs to wait for another day, but for now, I have the British analogue circuit to use and it is time to bring the bay platform and the dock siding into use for the first time. It is laid with Peco Code 83 track and Electrofrog points.

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It is easy to see how the job escalates as loose ballast needs to be cleared away, any track feeds unsoldered, and a check made on adjacent pointwork to ensure that the correct rail joiners have been used in the right places.





Now for the job that should have been done long ago, a thorough test run with the points set in all possible combinations. The Dapol Class 22 is about to run, successfully, into the bay platform.



I used black layout wire for the nearer rail and, having decided to split the bay and siding into separate isolating sections, I need to add additional feeds, drilling the baseboard carefully to avoid the framing timbers.



The Class 22 was used to test the bay platform. A feed to the front rail beyond the frog had been needed but by running this via an Expo on/off switch a locomotive could be isolated in the bay platform.



I made a temporary switch panel from a piece of 5mm plywood, drilled and fitted with the Expo switches. These can easily be transferred in due course to a more permanent and better finished control panel.



So, as I was test-running the Dapol Class 29 anyway (page 98), I switched the point to turn it into the siding. Immediately, there was

siding, I found that anything longer than a four-wheel railbus clouted the platform end as it entered the bay, so there was yet more reworking to be done. So, while the whole area was a work in progress, I did some basic,

old technology wiring, through on/off

It is always worth testing with the largest vehicle that is likely to use the siding. A quick test with the Bachmann/Kernow Class 121 revealed that the curved platform needed



The temporary switch panel which makes the layout a lot more interesting to operate. Two blank switches will allow for splitting the long dock siding into three isolating sections,

switches, to provide power/isolation to the sidings so that they are actually now useful and I can run trains into and out of them. allowing me to stable a few more locomotives. cutting back and further cosmetic attention.

#### HOW TO

## INSTALL A PECO **TWISTLOCK** MOTOR

Richard Foster tries out Peco's new solenoid - the



**MODEL** Peco PL-1000 Lectrics Twistlock **Turnout Motor ◆ Price £13.50** 

**AVAILABILITY** Kernow Model Rail Centre Tel: 01209 714099 Web: www.kernowmodelrailcentre.com





wonder how many solenoid point motors have been made and installed on layouts over the years? They're so wonderfully simple: flicking a switch activates an electromagnet that attracts the tie-bar, moving it with that satisfying 'thunk' sound.

There are now more sophisticated point motors on the market, which actually are electric motors and are much kinder to the point mechanism, but Peco's trusty PL-10 and SEEP's PM2 are probably still the first choice for many modellers.

I've always gone for the PL-10 (and, more recently, Gaugemaster's similar GMC-PM10 and Hornby's R8014) and have always faced that dilemma - how best to install them.

There are two options: gauge where the hole in the point's tie-bar is and then drill a big hole through the baseboard and mount the motor underneath, or cut a gaping hole in the

baseboard and clip the motor directly to the point. Neither option is particularly complicated but they're not straightforward either. Trying to align the motor from underneath the baseboard can be a right pain in the proverbial while finding ways to disguise huge holes in the landscape - even with fillets of thin plastic card - isn't easy.

That's why I was particularly excited to see Peco's new solenoid, which has easy installation in mind. Twistlock seemed like such an obvious solution that I wondered why no one had ever thought of it before.

#### DO A JIG

The key to the PL-1000 is a simple paper jig that shows you where to drill three holes; one for the tie-bar and two for the mounting screws. And that, Peco claims, is all you need to install a PL-1000.

The PL-1000 is designed for all gauges from

'N' to 'O', so I ordered a couple for a 'OO9' Lynton & Barnstaple layout that I'm building to see whether they were as easy to install as they appear to be.

The good news is yes, they are. The paper template is easy to use and even a DIY bodger like myself was able to drill the holes in an accurate position. The locking pins were easy to assemble and the pin located in the tie-bar accurately. The twist-lock action was easy and it took a fraction of the time to have the PL-1000 in place when compared to installing a PL-10.

Having connected the PL-1000, it behaved just like a PL-10 and changed the 'OO9' point with the same familiar 'thunk'. The PL-1000 is a touch more expensive than the PL-10 but it's a breeze to install in comparison. If you're planning to go down the solenoid route for changing your points, the PL-1000 will make the job so much easier! Highly recommended.

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Mark where the track and turnout will go with a pen. Then slide the supplied template under the turnout, making sure it's aligned with where you want the track to go.



Align the turnout with the gauge markings on the turnout, ensuring the tie-bar is on the centre line. When you're happy, tape the template into position.



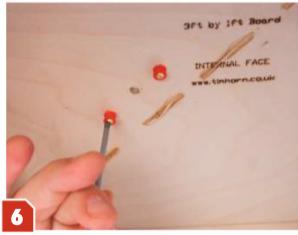
You need two drill bits: a 1.5mm bit for the mounting screws and a 6mm bit for the tie-bar pin. Make one last check that the template is in the correct position and then remove the turnout.



Use a hole punch to make sure that the holes are in the correct position. Now drill out both the 1.5mm and 6mm holes. With the holes drilled, lay your track, keeping the template taped in place.



Remove the four plastic washers from their sprues with a sharp blade. Keep a sanding stick handy to remove any flash. Slide two washers over each of the supplied screws.



Move to the underside of the baseboard to tidy the edges of the holes. Then screw each of the securing screws into the 1.5mm holes. The tips of the supplied screws will not penetrate 6mm timber baseboard tops.



Slide the tie-bar pin through the hole in the turnout's tie-bar. Hold the PL-1000 steady and then twist it so that the locking lugs are fixed securely to the plastic washers.



Connect the green wires to the CDU and the black and red wires to the two outer connectors on the switch. Apply the power feeds to the switch and CDU. If everything works, remove the excess tie-bar pin with a pair of cutters.

#### What you will need

- Peco PL-26R Red **Lever Passing** Contact Switch, £7.36 Availability: Peco stockists or peco-uk.com
- Gaugemaster Electric GM11R Red Wire, £3.25; GM11GR Green Wire, £3.25; GM11BK Black Wire, £3.25; SEEP **GMC-CDU Capacitor Discharge** Unit, £15.50 Availability: Gaugemaster Tel: 01903 884488 Web: www.gaugemasterretail.com

#### **TOOLS**

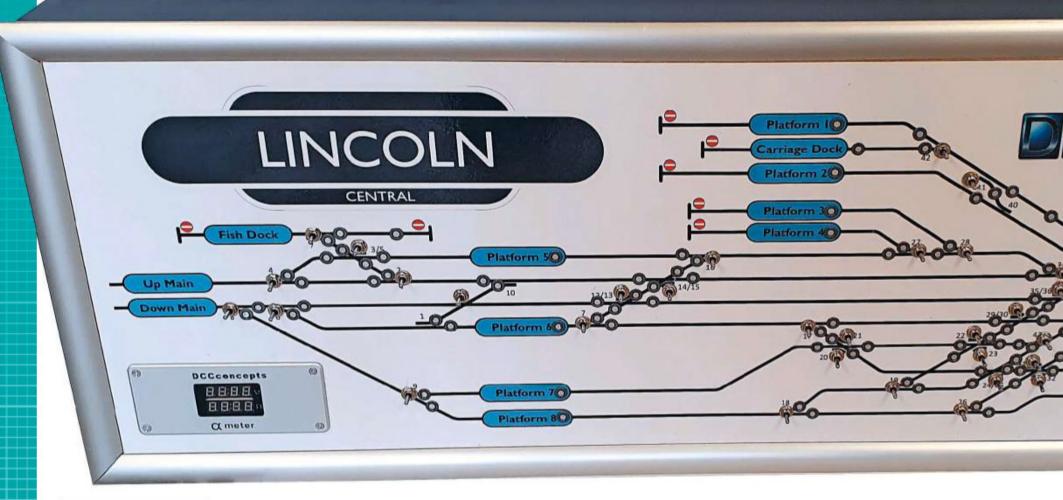
- Marker pen
- Masking tape
- Drill with 6mm and 1.5mm bits
- Flat-head screwdriver
- Soldering iron, solder and flux
- Wire strippers/cutters
- Files
- Scalpel
- Sprue/end cutters

#### TOP TIP

The supplied brass screws are very small, and normally a flat-headed jewellers' screwdriver would be ideal for them. **However**, because the screws need to penetrate quite thick materials (this Tim Horn baseboard is 6mm thick ply), you'll need a screwdriver with a small head but a long handle (like this one) to generate enough force to drive the screw home.



TOP TIP The biggest issue with Peco's PL-1000 is that the two green wires, with their pre-stripped ends, are too thick to go into the same terminal on Gaugemaster's CDU. The solution is to cut both green wires to the same length and then solder them together, with one of the off-cuts you've just made to form a joint like this (which is just lacking some insulation tape) Keep the pre-prepared end to screw into the CDU's terminal.



## **BUILD A** CONTROL PANEL

Ever dreamed of a neat, well laid-out control panel for your model railway? John Whiteside from DCCconcepts reveals that it's not as difficult as you might think.

ver been left green with envy when you've seen a model railway with a slick control panel? The track diagram is beautifully neat, it's alive with red and green lights and, to top it off,

there's the layout's name emblazoned on the front inside a BR 'hotdog' emblem. It certainly puts your bodged-together panel, with its spider's web of tangled wires, in the shade.

The reality is that a professional-looking and reliable control panel is within easy reach, and with minimal soldering. It sounds almost too good to be true! Here's how to do it...

#### **SECTION 1:** CHOOSING YOUR PANEL

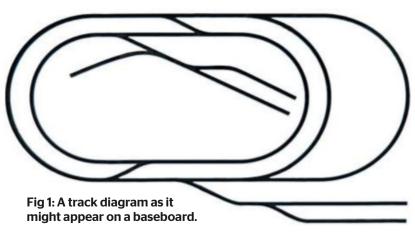
Before you start, some choices need to be made about the panel. We need to address how big the control panel will be. We use standard paper sizes - A4, A3 and so on - to determine the final size. You can stick with a fixed size (A4 paper is 210mm

by 297mm) or a mixture. So a panel with A3 short sides and A0 long sides would make a long, thin panel that measures 1,189mm by 420mm.

Then you need to consider what style of track plan you want. You could go for

a copy of your trackplan (Fig 1) or a straight-line diagram (Fig 2).

Finally, do you want to be able to control turnouts from it and have indicator lights, or just have a mimic panel with lights to show which way the points are set?



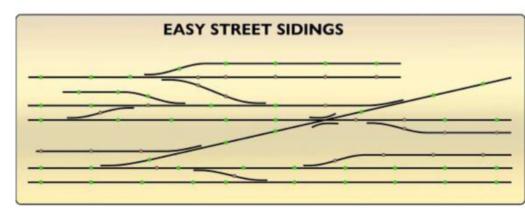
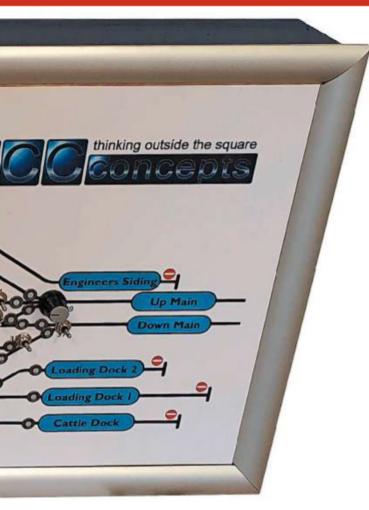


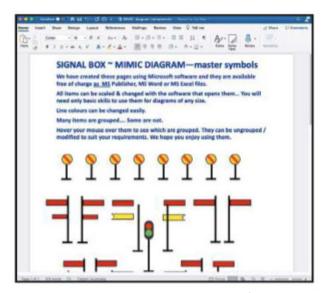
Fig 2: A straight-line diagram, such as you might find in a signal box.

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This control panel that I built shows what can be achieved: it's powered by two cables to the accessory bus and the RJ12 command cable. It measures 2,738mm by 297mm - or rather the long sides from an AO Snap Frame mixed with the long sides from an A4 Snap Frame.



**Step 1:** Go to www.dccconcepts.com/ manual/mimic-board-art-tools/ to download a Microsoft Word document full of track diagram symbols.

Right: Step 3: The completed trackplan,

ready for printing.

#### **SECTION 2: BUILDING THE PANEL**

Having made your choices, here's how to build the panel.

You'll need to make a box frame to your chosen size. You need to ensure that your panel is at least 70mm deep and I use 12mm thick MDF. Mitred corners and a coat of paint (choose a colour that reflects your BR region) will make it look neat (Fig 3). Cut the panel's fascia from either 3mm MDF or 3mm plywood.

Ever wondered how to achieve a neat finish to a control panel? The secret ingredient is an aluminium-finished frame (Fig 4). They come in standard paper sizes but can be easily dismantled and reassembled to fit your chosen panel size. All you need to ensure is that your fascia panel sits neatly inside the frame.

If you're handy with a pen and ruler, you can draw your trackplan directly onto some blank paper. If not, DCCconcepts has made designing your trackplan really easy. Once you're happy with the plan, print it onto the paper.

For a professional look, the paper will need laminating. If your panel is A4, Amazon sells laminators for under £20 but, for bigger panels, your local print shop will be able to laminate your trackplan for you.

My switches of choice are miniature toggles (on-off-on) with spring return to centre (Fig 5). Everyone has their own opinion about where to place switches and route indicator LEDs on a panel, but I like to place the switch at the place on the point where it diverges and the LEDs on the two diverging lines. For crossovers, I use one switch for both sets of points.

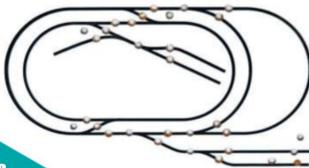
Mark where the switches and LEDs go on your laminated trackplan and then punch out the holes using a 6.5mm hole punch (Fig 5). Fix the laminate over the MDF/ply fascia panel with some low-tack masking tape and then mark the holes on the fascia panel with a marker pen. Remove the laminate



Fig 3: Control panel frame made from 12mm MDF, 70mm deep.



Fig 4: The finishing touch - an aluminium frame from Snap Frames (www.snap-frames.net).



#### TOP TIP

When selecting the position for your switches ensure that the body of the switch sticks outs - make sure the switch bodies don't foul each other if they're fitted close together.

Fig 6: A completed trackplan, with punched holes, ready to be glued to the fascia with 3M's SprayMount adhesive.

and drill the holes with a 6.5mm bit.

Now glue the laminate to the fascia, ensuring that all the holes are aligned. Solder

wires onto the three terminals on the switches (I generally use red, black and green wires). Fix the switches into their respective holes. Do the same with the DCCconcepts Mimic LEDs.

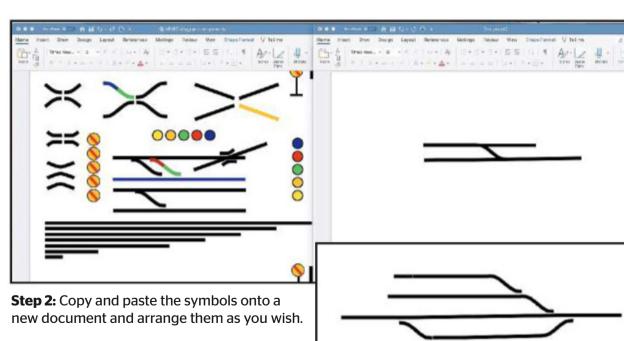




Fig 5: Using DCCconcepts' Alpha Toggle Switches requires 6.5mm holes to be punched into the laminate and drilled in the fascia.

#### Jargon buster

LED: A light Emitting Diode generates light when current flows through it.
CDU: Capacitor Discharge Unit stores electricity in capacitors to provide a burst of power to change a point.

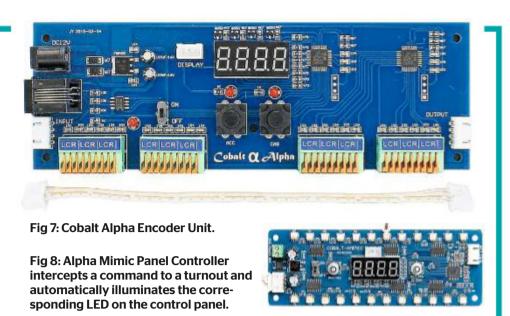
## Workbench technology and realism

## **SECTION 3:** MAKING IT WORK

Now, you could connect the switches on your smart new control panel to CDUs, LEDs and point motors and so on, but that will require quite a lot of soldering. DCCconcepts offers two key products that will give you control of your panel, requiring little more than a screwdriver. Primarily designed for DCC users, analogue modellers can also benefit from this technology too.

Two key items are required:

- 1. Cobalt Alpha Encoder Unit essentially acts as a digital CDU, sending digital commands to 12 turnouts rather than bursts of power (Fig 7).
- 2. Alpha Mimic Panel Controller (Fig 8).



#### **SECTION 4: INSTALLING THE ELECTRONICS**

Both the Encoder and Mimic Panel Controllers need mounting to the reverse of the fascia panel, but raising from the surface by about 25mm. I glue offcuts of MDF together with contact adhesive to form spacers. They need to be the width of both units (20mm).

To decide where these two units are going to be placed, fit one spacer block to each end of the two control boards. and move them around to see where they fit best, ensuring that they don't foul any of the LEDs and switches. When you're happy, mark the position and glue the spacers (Fig 9).

You should now have a panel with the LED and switches fitted along with the two control boards. Now it's time to start connecting the wires.

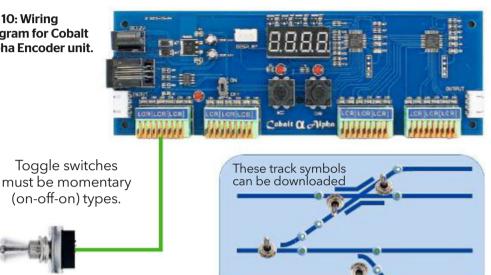
The Encoder has 12 terminals for the point switches, and each terminal is split for the three wires - left, common and right. The centre wire goes to the terminal marked C and the two outer wires to the L/R respectively.

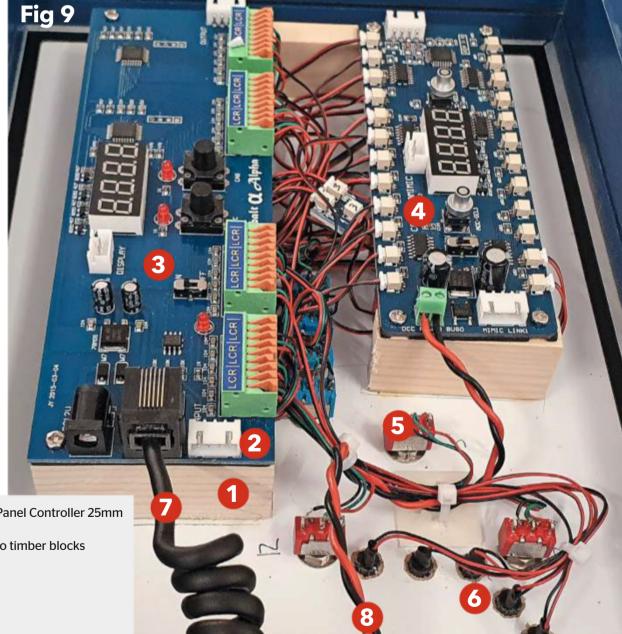
The LEDs need to be connected to the mimic control board. Make sure that Switch 1's LEDs go to the correct output. Don't worry at this stage if the LEDs are not in the correct position in the output as we can change these later (Fig 10).

If you have a crossover where one switch controls two point motors using the same address, you'll need to use an MY3 adapter for the three LEDs. As with the encoder and mimic control panel, no soldering is necessary (Fig 11).

Your front fascia is now complete. Secure it to your box frame and then screw the frame in place.

Fig 10: Wiring diagram for Cobalt Alpha Encoder unit.





- 1. Timber blocks to raise the Encoder Unit and Mimic Panel Controller 25mm above the fascia panel
- 2. Screws to secure both Encoder and Mimic Control to timber blocks
- 3. Cobalt Alpha Encoder Unit
- 4. Alpha Mimic Panel Controller
- **5.** Reverse of toggle switches
- 6. Reverse of LEDs
- 7. RJ12 Command cable
- 8. DCC accessory bus wires to provide power

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#### **SECTION 5: TESTING AND PROGRAMMING**

Now we need to connect the panel to your system and make it work. Let's deal with the LED control board first. This just connects to your track bus or accessory bus via two wires, directly to the mimic board. Once connected, turn it on using the switch on the board. It will light up showing '0001' on the screen before going blank. Now turn the panel over and you should see of each pair of LEDs illuminated. Don't worry if they don't match your point position yet.

The encoder connects via a six-way RJ12 cable to your system, either directly if you are using NCE's DCC system or via Alpha Box or Alpha Sniffer if you're using other systems, or 12V analogue.

It should come up on the screen '0004' and this means its cab address for NCE is Cab 4. This can, as with all NCE products, be changed if needed, but for this purpose we don't need to do this.

Now set up the switches and LEDs (we can also set up any of the self-learn point motors). Switch 1 on your panel can be operated in one position – let's say up – and when you let go it will return to the centre. By operating the switch, you have told the encoder to send out the command to the system to change the point motor in one direction. Your point, however, may or may not have moved.

If it did, move the switch to the other position. The point blades should now

move again. If it moves the incorrect way, either rotate the switch 180° or swap over the L/R connections on the encoder for that switch.

As you operate the switch, the LEDs will also change. If the incorrect route is shown then swap over the two LED cables on the corresponding Mimic output terminals.

Both encoder and mimic are numbered 1-12, so Input 6 on the Encoder will operate Output 6 on the mimic - and so on. If you have more than one of each control board that's not an issue as they can be connected in groups of four - that's 48 inputs and 48 pairs of LED outputs. If your layout is so large that you need more than 48, don't worry - you can!

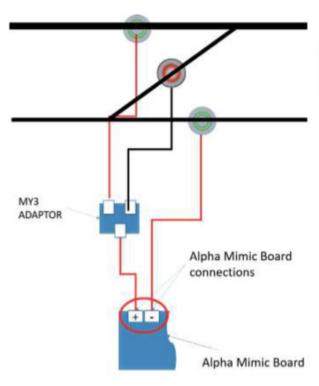
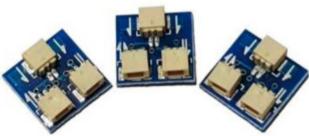


Fig 11: Wiring diagram for a crossover, where one switch controls two point motors using the same address. You'll need to use an MY3 adapter (below) for the three LEDs.



#### **CHOOSING YOUR LEDS**

Remember that this is your control panel so you can choose the colour of LEDs to suit your preferences. Do you want green ones to show that a route has been selected? Or would you rather go for red to show that a train can't go down that route? Or why not choose DCCconcepts' pre-wire red/green LEDs that will show red or green depending on which route is selected? For more on the DCCconcepts range of LEDs, go to www.dccconcepts.com



#### WHAT YOU WILL NEED

This completed A4-sized control panel with 12 points has just two cables to the accessory bus and the RJ12 command cable. Aside from connecting the switches to their leads, it required no soldering. The finishing touches could include a connection panel on the outside of the box for the RJ12 and Mimic Connection leads. What you need for a control panel such as this:

- DCCconcepts Alpha Mimic Panel Controller with red/green LEDs (DCD-MPRG), £49.96; Alpha Encoder Unit (DCD-AEU), £59.95; 2 x Alpha Toggle Switch six-pack (DCD-ATS), £12.95; 6-Wire Flat Cable with RJ12 connectors, from £3.95 for 500mm; 1 x Alpha Mimic Y Connectors three-pack (DCD-MY3), £4.96
   Availability: DCCconcepts Tel: 01729 821080 Web: www.dccconcepts.com
- ◆ Snap Frames. You can buy aluminium frames from A5 to A0 from Snap Frames. Tel: 01604 537900 Web: www.snap-frames.net

You'll also need 4m of three-core cable, a length of twisted cable for mimic connection, an A4 Snap Frame, 12mm MDF (for the box) and 3mm MDF/plywood (for the front panel).

■ If you need more information on building control panels and how to connect or configure them, or the compatibility of other, non-NCE DCC systems, please contact us at DCCconcepts: sales@dccconcepts.com

Chris Gadsby adds DCC decoders to his 0-4-0 Hornby models so they can be used on his layout.

ince DCC is becoming increasingly prominent in model railways, there is an increase in the number of modellers converting their analogue layouts to digital format. This can be an expensive undertaking with a large fleet, but it's straightforward enough with DCC-ready locomotives, as virtually all new releases now are. It becomes more complicated in some models when trying to add sound if the locomotive has not been designed with space for a speaker in mind as you try to squeeze everything in, and even more complicated when there isn't a DCC socket in the first place.

It's the latter of these that I'm going to focus on in this article, and I'm not going to beat around the bush - this is not an easy project that can be done in ten minutes. It takes time and a bit of skill with a soldering iron but with care even



a relative novice to soldering, as I am, can achieve success.

To start, let's answer a question. What is hardwiring a decoder? Whereas in most locomotives it comes from the factory DCC-ready and there is a socket for a decoder already in the model, older models do not have this. To add a decoder to these, it needs soldering directly to the electrics and the motor, wiring it 'hard' in place. With a decoder socket, if you would like to return the model to DC control, simply unplug the decoder, if it is hardwired you've made the change permanently.

There are many reasons why one might want to go to the trouble of hardwiring a decoder into a locomotive. It might have sentimental value, or it could simply be your

#### What you will need

#### SHOPPING LIST

 Hornby R8249 four-function decoder Price: £20.99 Availability: www.hornby.com

#### **TOOLS**

- Screwdrivers
- Soldering iron and solder
- Insulation tape
- Wire strippers

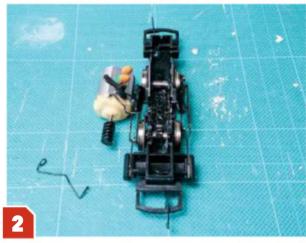
favourite locomotive and you don't want to see it sitting on the shelf gathering dust because you can no longer run it. In my case, it was a mixture of sentimental value and usefulness, as I needed some 0-4-0s on my layout.

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Remove the body. This is straightforward but differs from model to model. Some just have lugs that need pushing inwards to free them, while some have a screw to undo first. Give the body a wiggle and it should come off.



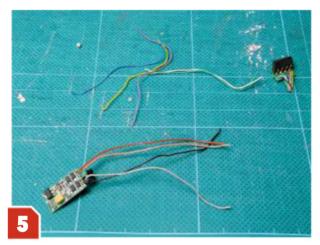
Remove the clip on the front of the motor from the hook on either side. With the spring removed, undo the screw on the bottom and carefully lift off the motor. The mounting may well come off as well – put it to one side.



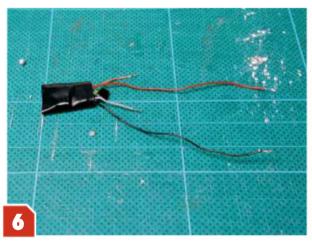
Carefully unsolder the two wires attached to the pickups. You want to interrupt the power going straight to the motor by putting the decoder in the way. Be careful not to melt the plastic with the shaft of the iron.



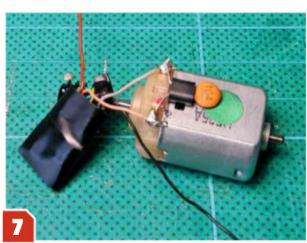
The capacitors must be removed from the motor. I found that the solder just would not melt sufficiently, so I cut them off instead. So long as the metal casing of the motor is not in contact with the finished joint it's fine.



I've used a Hornby R8249 decoder. There is no socket at all so remove the plug. You only need the red, black, orange and grey wires. Cut the rest as short as possible and cover the ends in insulation tape.



Cover the circuit board in insulation tape, not too tight, but enough to stop a short circuit. The orange and grey wires can also be cut much shorter to around 20mm, strip the ends of all four wires and tin them.



Solder the grey and orange wires to the motor, paying attention to polarity. Also note the short circuit caused by the solder touching the motor casing (I rectified it later). One of the capacitors also needs soldering back to the motor.



The circuit board needs fixing to the top of the motor. Blu Tack is one option. I used Deluxe Materials Tacky Wax. The space looks tight, but there is room for it to be situated here and if I want to do anything else, it comes off easily.



Now the motor just needs fixing back to the chassis by soldering wires to the pickups. The black wire goes to one and the spare, long capacitor with insulation tubing goes on the other. Use as little solder as possible.



Put the motor back in its casing and put it back into the model. Note the capacitor at the front of the picture is currently sticking out to the side - this will all be hidden inside the model at the end.



Connect the red wire to the spare end of the capacitor and insulate the joint. Test the model before you put the body back on. Make sure you refit the clip and put the screw in under the chassis to hold the motor in place.



Once you are happy that everything is working, refit the body. It is a squeeze but you don't need to use excessive force to get the body back in place. Test again for trapped wires or contacts. Now enjoy your digital 0-4-0!

#### HOW TO

# CHANGE YOUR MODEL'S CVs

**Chris Gadsby** demystifies the 'dark art' of reprogramming CVs on a model decoder.

veryone knows what a curriculum vitae is. We've probably written a fair few of them during our working lives. They tell employers everything about you and what you can do, and this is the same principle with the CVs on your locomotive. A CV list defines the performance parameters of a locomotive, in terms of acceleration, top speed and deceleration, the number of speed steps and, on some models, changing a CV allows for different functions to be used. Changing the CVs of a locomotive is thought of as difficult and arcane, so people often shy away from it,

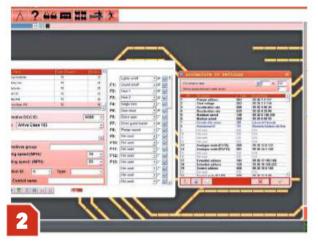


but it's a great way to make your locomotives behave more realistically.

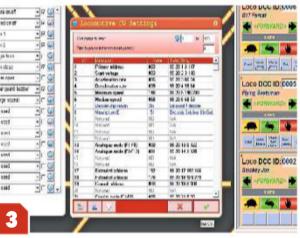
Fortunately, changing locomotive CVs is straightforward whether you are using a controller or a computer. It's quicker and easier to use computer software because you can view and change all of the CVs at once and go and make a cup of tea while they are being re-written, rather than having to do them one at a time.



Your controller and locomotive must be connected to the programming track rather than your main layout, otherwise every model and accessory will be re-written. Just make sure the wires have a secure connection.



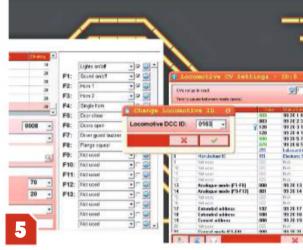
Press the 'i' button to bring up the locomotive CV menu. From here you can change the range of CVs to be read. Basic decoders won't have any writeable CVs apart from the locomotive address - complex decoders will have more.



Click on the green tick in the bottom right corner to initiate the CV reading. This takes around ten seconds per CV. Once it's finished the current values for each CV will be displayed in the 'Value' column.



For any of the CVs you wish to change, click in the value column and input the new data. Using a computer lets you do all of these at once. When you've finished, click the pencil in the bottom left to re-write the values.



RailMaster also allows you to programme a longer, four-digit locomotive address, so that you can use part or all of the locomotive number. For example, *Flying Scotsman* could have an address of 4472, rather than 0001.



When you're done, place the model back onto the track and test it. It may take a bit of trial and error to get the top speed and acceleration/deceleration rates correct but once they're right, you'll enjoy your model a lot more.



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Large Logo (2018 onwards) - LED tail lights, MU socket and plated bodyside window





37419 'Carl Haviland 1954-2012'

InterCity Mainline (2019 onwards) - LED tail lights, MU socket and plated bodyside window





37423 'Spirit of the Lakes'

DRS Simplified Compass (2018 onwards) - WIPAC light clusters, top headlight and MU socket on nose





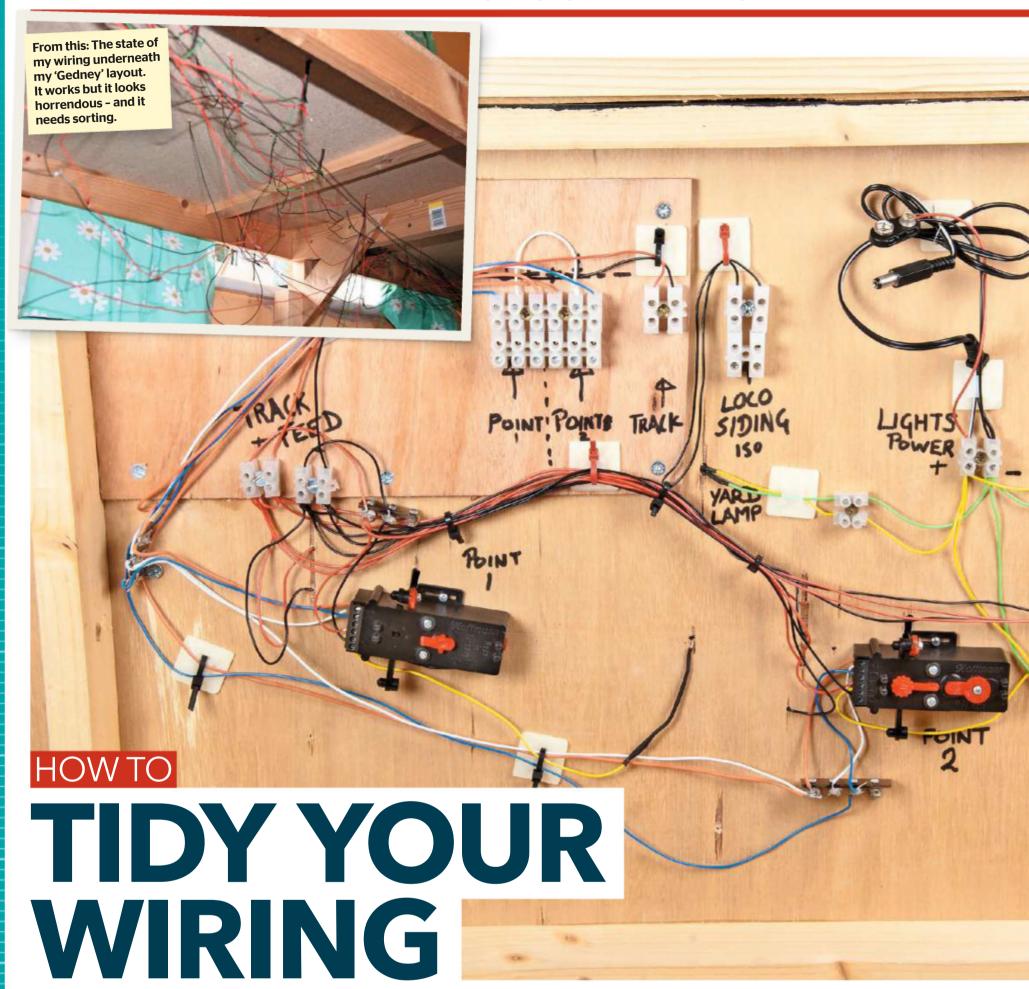
37425 'Sir Robert McAlpine/Concrete Bob'

Regional Railways (2020 onwards) - LED tail lights, MU socket and plated bodyside window

accurascale.co.uk



## Workbench technology and realism



**Richard Foster** tidies up his cabling act using some **George Dent** wisdom and knowhow.

o you undertake any jobs where you know what you're doing is considered wrong... and yet because it works for you, you carry on doing it anyway?

For me, that job is wiring.

I know that neat, easily identifiable wiring will pay dividends in the future. It'll make fault-finding easier and it just looks more professional. I know all that - I just never actually do it.

As you can see above, my wiring is a mess. Wires dangle here and there. I frequently use the same colour wires for positive and negative and soldered joints are left exposed. Sometimes I don't always remember to solder and just leave the ends twisted together...

For those who have recovered from



fainting, my logic is that while I know it isn't pretty, my wiring does work and actually rarely fails. But I realise that I can't continue with messy wiring.

I've long admired George Dent's wiring. It's quintessential George – neat and logically arranged. What strikes me the most is how well secured the wires are. The secret, George tells me, are some self-adhesive cable tie mounts that cost just a few pounds from hardware stores.

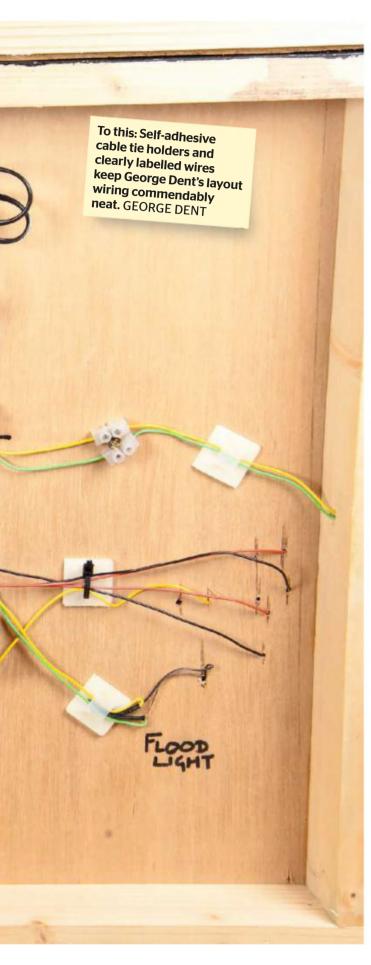
With that handy snippet in mind, I decided to see if I could tidy my wiring. This is how I got on.



PHOTOGRAPHY: RICHARD FOSTER

## HARDER & STEENBECK www.harder-airbrush.eu







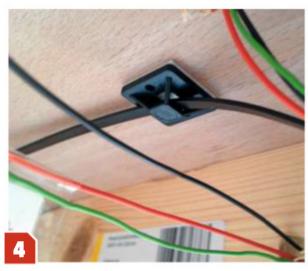
Use Microsoft Word to produce some wiring labels. I colour-coded mine to match the red, black and green wires I've used.



Cut out each label with a pair of scissors and place it on some sticky tape. Cut the tape to length.



Wrap the tape around the wire and press it together to essentially laminate the label, leaving it secured to the wire.



Pull the backing off the cable tie mount and press it to the baseboard. Thread a cable tie through.



Pull the cable ties tight to secure the wires. Then trim the excess plastic with a pair of sprue cutters.



One set of wires neatly secured. Each wire will require labelling at its start and end points.

#### What you will need

#### **SHOPPING LIST**

- Screwfix 31536 Cable Ties Pk100, £2.89; 93380 2-Way Adhesive Base Pk100, £4.13 Availability: Screwfix stores or www.screwfix.com
- ◆ D-Line Cable Tidy Tube 1.1m, £6.99 Availability: Amazon Web: www.amazon.co.uk

#### **TOOLS**

- Scissors
- Sticky tape
- Sprue cutters



Larger layouts might have long cable runs, such as this. To keep mine tidy, I anchored the cables with cable clips.



The remaining wires were hidden inside Cable Tidy Tube, which I bought from Amazon.



HOW TO

## MAKE YOUR OWN **GRASS TUFTS**

Ever the innovator, **Peter Marriott** shows how you can make grass tufts using little more than a puffer bottle.

here's no denying the quality and sheer abundance of today's scenic products. However, the costs can soon mount up and you always run the risk of having scenery that looks the same as everyone else's.

I decided to have a play around to see if I could create my own grass tufts. I used an electrostatic applicator and was pleased with the results. It was quick and easy and I had a lot of fun with it. I could choose what size and colour I wanted. But applicators are quite expensive.



Puffer bottles are the cheapest way to produce static grass. Rather than using an electrostatic charge, the action of shaking the bottle 'charges' the fibres and leaves them standing upright. But could I use a puffer bottle to make my own grass tufts?

I'm pleased to report that it worked first time! So, here's the ultimate budget way of making your own grass tufts.

#### Make grass strips

The only difference when making strips compared with tufts is that the glue needs to be painted in a line or whatever shape you need for your layout. You can make quite thin lines of weeds by running a narrow brush filled with PVA along greaseproof paper and then applying the grass fibres. You can still peel them off the paper in the same way once the glue has dried.







Make some holes in a suitable sheet (timber, foamboard, thick cardboard or balsawood) in order to prevent fewer 'stray' fibres standing at funny angles. To make a mask, I drilled a couple of holes into this off-cut of balsa.



Place the mask over a piece of greaseproof paper and then drop in some Woodland Scenics Static Tac with a paintbrush. Do not skimp on the glue as this will give the tuft strength. Cover the paper with glue blobs.



To make flowers, choose a colour from the huge range of finely chopped foam you wish to use. Use a small paintbrush to pick up a little white glue and rub it on the tallest grass fibres.



I used a small plastic box to hold two different types of tufts I had made in readiness for planting on the layout.



Half-fill the puffer bottle with 2mm and 4mm grass fibres. Experiment with different mixes of grass colours as one solid colour rarely looks realistic. Use different height fibres to ensure that the tuft does not look too uniform.



Tip the bottle upside-down so that the plug end of the bottle is about 6-8cm above your workbench, and squeeze the sides as quickly as you can a few times so that the grasses shoot out of the bottle onto the sticky adhesive.



Use a small pair of tweezers to drop coloured scatter material onto the wet glue (or use your fingers). Put the tufts aside to dry. When dry, shake any excess foam scatter material from the grass tufts.

10 To plant the tufts, drop a spot of white glue onto the landscape. Drop the tuft into place with a pair of tweezers.



#### **TOOLS**

- Selection of paintbrushes
- Barbecue skewer
- Small pair of tweezers

#### Buy your puffer bottle

You can buy puffer bottles from Gaugemaster (GM193), Hornby (R7182), Kato (K24-406) and Noch (N08100). Noch's is the cheapest (£4.95), whereas Kato's has an RRP of £8.50. For availability, see www.gaugemasterretail.com



Do not move the bottle sideways across the glue dots; move it upwards and downwards as too much sideways movement creates tufts that lean over. Remove the mask and leave the tufts to dry.



Use a pair of tweezers to carefully remove the tufts from the greaseproof paper. Handling them with tweezers is the best way to avoid damage to the plants.



**HOW TO** 

# DETAIL SECURITY FENCING

En garde! Peter Marriott shows you how to make security fencing more like the real thing.

ecurity fencing is, sadly, an increasingly common sight today and is, therefore, a must-have accessory on any modern image layout. It's so common that you can buy it from the likes of Atlas, Bachmann, 4D Model Shop, Noch and Peco (see MR2O4, January 2015, for a full list of fence suppliers). Like its full-sized counterpart, miniature security



fencing is functional but will never win any awards for its aesthetics. However, there are a couple of tweaks you can make to proprietary models to make your fencing look more realistic.

#### What you will need

#### **TOOLS**

- Selection of paintbrushes
- Electrostatic grass applicator
- Tweezers
- PVA glue



PHOTOGRAPHY: PETER MARRIOTT

www.harder-airbrush.eu

#### **Painting**

Some miniature security fence products will need a coat of acrylic paint to tone down the plasticky finish. Even fences made from galvanized metal, which means that they shouldn't rust, will also need weathering. I used Humbrol Enamel Rust Wash to make some Bachmann Security Fence look tired. I used a pointed brush to dab it on, then a wider brush to spread it.





#### Litter

A security fence is a blot on the landscape - but so is litter. The problem is compounded when wind blows litter into the fences. While this may not make the landscape particularly pleasant to look at, it can offer a fun modelling project.

All you need to make your litter is coloured paper (old bits of junk mail are ideal) or thin cloth (such as those thin kitchen cloths). Cut the paper or fabric into small pieces and add a dab or two of PVA onto the fence or at the base and the material into the glue with a pair of tweezers. Leave to dry.



#### Weeds and grass

Weeds and security fencing also seems to go hand in hand, particularly along the edge of railway yards or the trackside. The weeds and grasses are often left unchecked and will grow quite tall, so I decided to recreate the effect using different layers of static grass – a short, green grass for the base layer followed by taller and paler grasses. You don't have to follow my instructions precisely – you can use as many layers as you like to build up the height and colour variations of grass.









Paint white glue on the ground between the track and the security fence. I was careful not to paint the whole area with glue because some areas of rough earth add to the realism of a scene.



I chose a short (no taller than 4mm), midgreen static grass for the first layer of scenery. To build up the static grass quickly, I used WW Scenics Layering Spray, which you can apply to the first layer of grass with the glue still wet.



A selection of yellow and golden brown static grass fibres ready for adding the second and third layer of grass fibres. I used the golden brown shade on the wet WWS Layering Spray and followed it with some yellow.



Unfortunately, the yellow grasses looked too thick with none of the familiar willowy effect. Still, it was an easy fix: I used a pair of tweezers to remove clumps of the yellow, which I replanted as weeds elsewhere.



I love the trees from Polish manufacturer MBR (A&H Models in Brackley is the UK stockist). They're well detailed and extremely versatile. I used a small pair of scissors to cut this tree down to make small lineside bushes.



I fixed the pieces of tree to the fence with more PVA. This completed the scene with three types of security fencing by Bachmann Scenecraft and Wills. I'm really happy with the scene - it's exactly the look I was after!



# The bridge builder's story

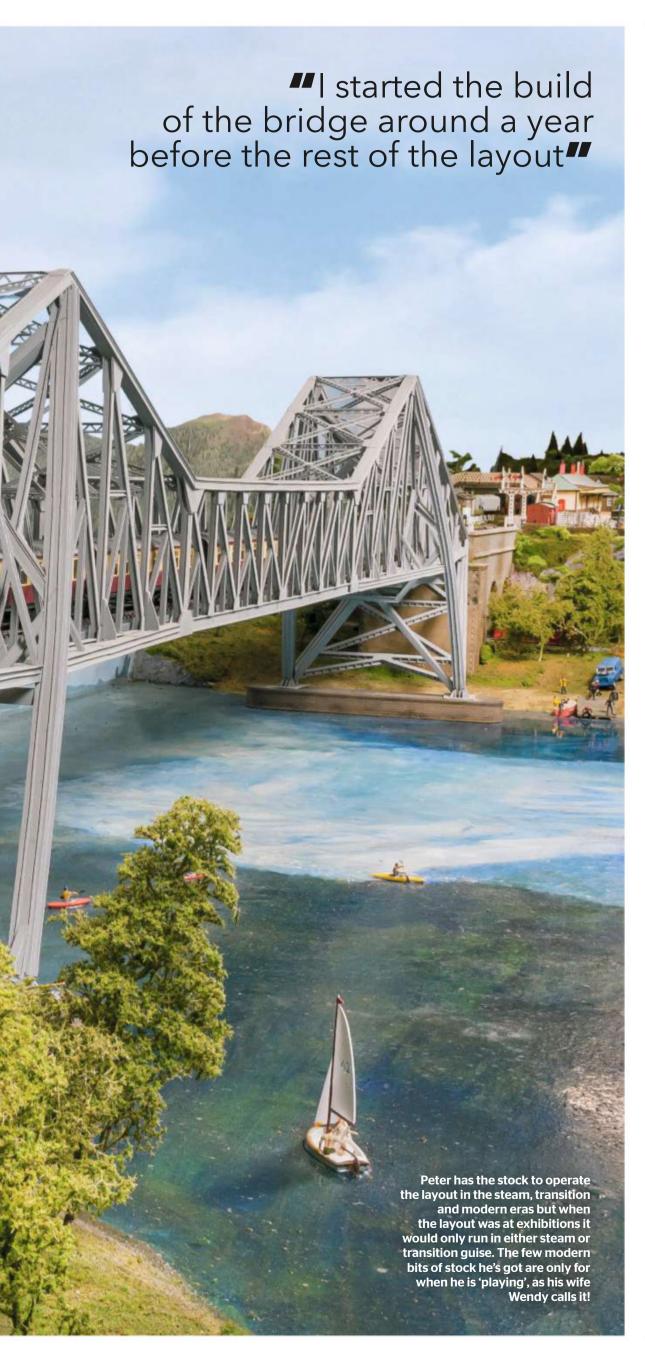
**Peter Midwinter** indulged his fascination for bridges with this impressive layout based around a model that echoes the magnificence of the prototype.

Words: Chris Gadsby Photography: Chris Nevard



#### **'OO' GAUGE LAYOUT CONNEL FERRY BRIDGE**





# things we like The buildings are all scratchbuilt from Slater's and Wills plastic card sheets and Knightwing and Plastruct parts. The station building is based on the one at Kyle of Lochalsh and has been repainted to suit.

Thin brass wire has been used for the electrical

wires to and from this pylon.

#### **'OO' GAUGE LAYOUT CONNEL FERRY BRIDGE**



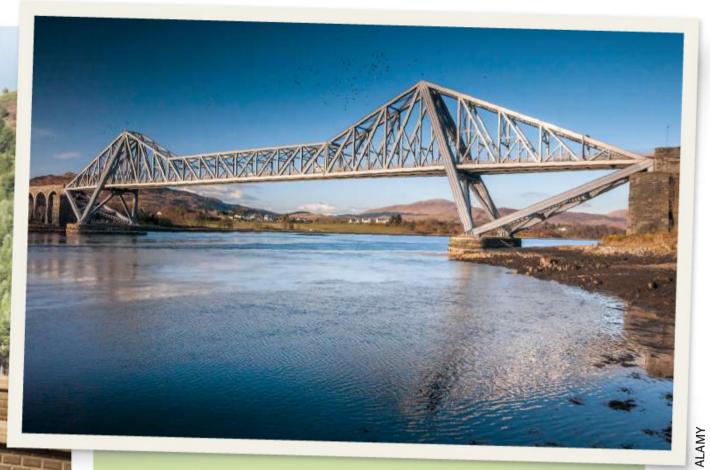
down. After scaling the engineer's drawing and creating the necessary jigs, I used 22 packets of Plastruct truss girders with a couple of 7ft long brass reinforcements underneath to take the weight of the trains and the road system alongside. The brick supports to sit in the water were constructed from wood sanded down to a smooth card and each end was made from plastic card to make the transition from bridge to land."

Peter, who used to own a business building layouts, was able to gauge the progress and realism of his bridge by taking it to an exhibition of one of his other layouts and leaving it on the side as a work in progress display. As people continued to recognise it Peter knew he was on to a winner.

"I wouldn't even like to think what the cost of the whole structure was – the paint itself was expensive enough. If I were to hazard a guess I would say that there it took about 30 hours and 30 tins of Humbrol grey paint!

"We've only ever had one problem with warping and buckling – while it was being exhibited at the Great Central Railway in Quorn. Anyone who has visited that show will know how hot the marquee can get and we arrived on the Sunday morning after >





#### **Connel Ferry Bridge**

Built in 1903 specifically for the Callander & Oban Railway's branch line to Ballachulish, Connel Ferry Bridge was, at the time, the second longest cantilever bridge in the UK behind the Forth Bridge. Designed by John Wolfe Barry, it remained purely open to railway traffic until 1909, when road vehicles were allowed across, one at a time, but first loaded onto a wagon and pulled across. In 1914 a road was added alongside the line, but as trains and cars couldn't be on the bridge at the same time it was, effectively, one large level crossing. The branch line closed in 1966 and the railway was removed, but the road is not wide enough for two cars to pass and traffic is now controlled by lights.



65

#### **'OO' GAUGE LAYOUT CONNEL FERRY BRIDGE**

the heat on Saturday to find that it had warped. We had to wait until Sunday afternoon before we could operate the layout properly again."

#### WET WORK

Today, the prototype bridge spans Loch Etive and allows for access from the south side of the Loch to Oban airport, removing the necessity for an 85-mile round trip. Creating such a large body of water in miniature form is not without its challenges and after Peter used watercolour paints to colour the base of the Loch a suitable colour, plenty of Woodland Scenics Easy Water was poured on the top.

"Connel Ferry Bridge is so close to Ardmucknish Bay that the water can be quite choppy, so having the Easy Water, which can be stippled as it dries to create waves, was very useful. I also used clear varnish in some areas to create small whirlpools, and ensured that where there were figures in the water, such as kayakers and sailing boats, a suitable wash is behind them."

#### MATERIAL WORLD

Many of us will look at an object such as a toothpick and see it merely as a toothpick. Others though such as Peter, see the potential for their alternative uses, the more diverse the better.

"I've been modelling since I was 11 and I now have an eye for the potential in everything. There are bits and pieces from almost every walk of life finding a home on the layout. The supports for the bridge have been constructed from the interior tube of till receipt paper suitably coated and painted and I've even found a use for the plastic spoons from a popular fast-food restaurant. Once you've finished your ice cream the spoon makes for a perfect square to circular transition for chimney pots and drinks lids are also useful for the tops of towers. The toothpicks came from a Chinese restaurant after I spotted them during a meal there. I asked if they had any spare that I could have and they came back out with a couple of boxes, so I now have hundreds!



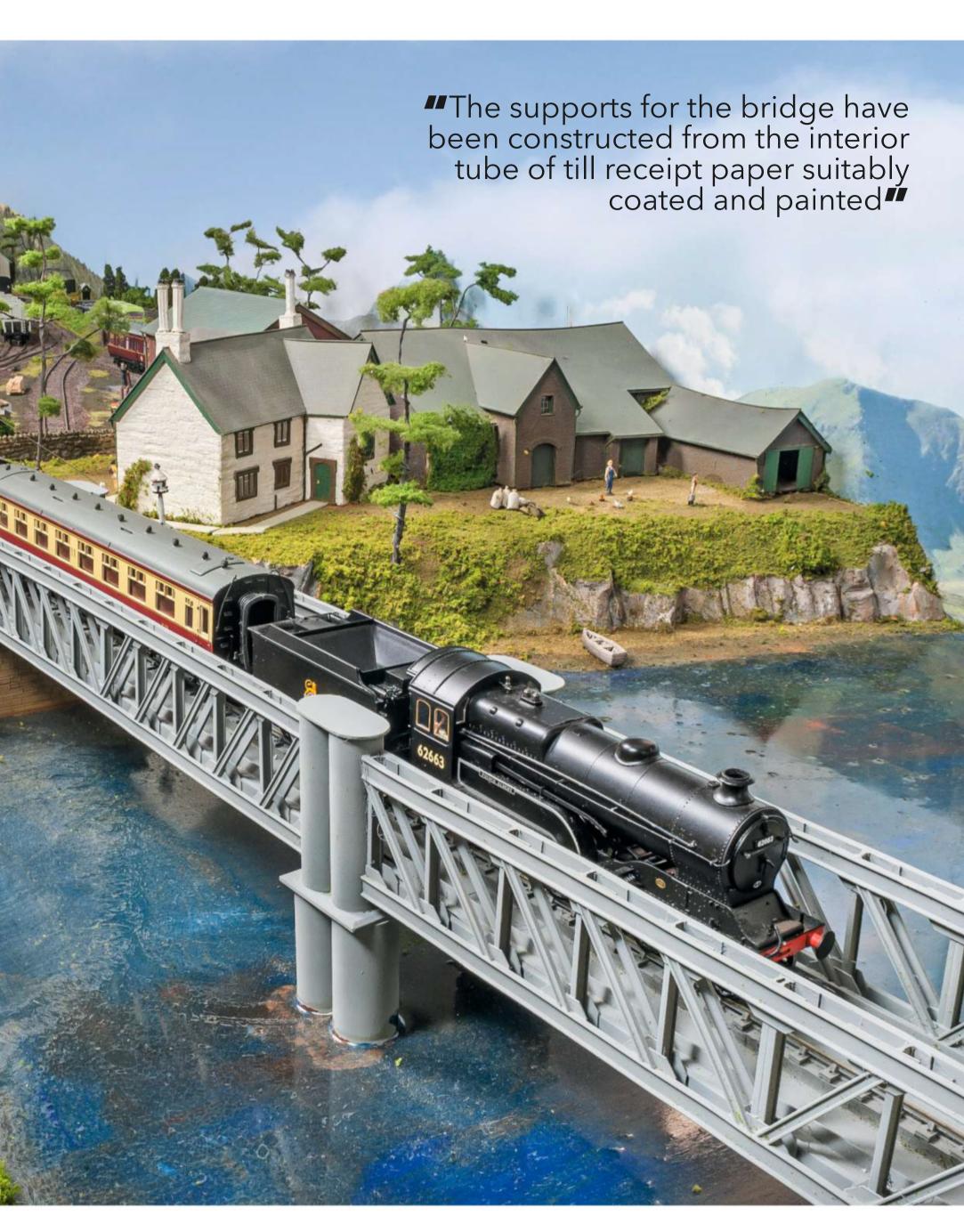






The signals were going to be operational but Peter was pushed for time before an exhibition and so they were just put on for the first show and then never motorised.

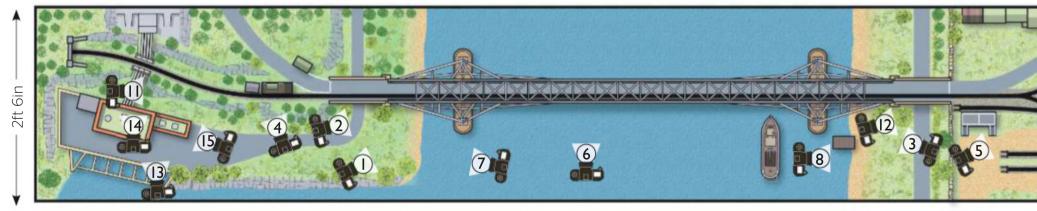




#### 'OO' GAUGE LAYOUT **CONNEL FERRY BRIDGE**



Artwork: **Andrew Mackintosh** 



24ft



They're really useful – I just trim the sharp point off and use them as ornamental bollards around pavements though, so I can find a use for them almost anywhere."

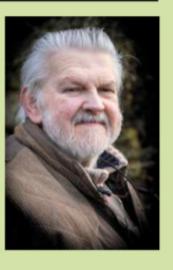
Unusually, Peter has decided to remove the DCC operation from 'Connel Ferry Bridge' and revert to analogue control. This is, in part, due to having difficulty with the point motors underneath his handmade points but also because the layout is becoming part of a much more ambitious project.

"Computers aren't my strong point, so anything I can do to keep it simple is advantageous. I've elected to go back to the stud and probe method that had been previously employed. 'Connel Ferry Bridge' will become part of a much larger layout which combines all of my previous builds, and because these are all DC controlled it is far less expensive to change one back to analogue rather than doing the necessary alterations to make all the rest digital!"

Not everybody will have space for a 24ft layout, however everyone will have some form of a focal point. It doesn't need to be large to be impressive and, as Peter has proven, the most simple of everyday objects could be perfect. Think about that focal point on your layout, what could you use to make it?

## **MODELLER CV:**PETER MIDWINTER

Sadly, Peter passed away two days before this issue went to the printers. He was 73 and our sympathies go out to his family. Peter told us he also enjoyed taking photographs of the real railway and listening to classical music while making his models.



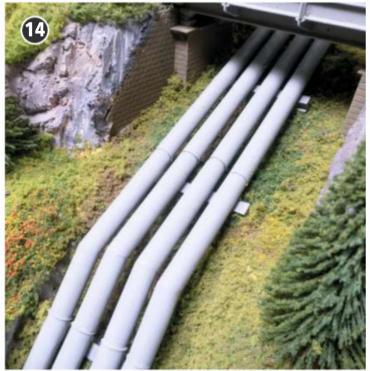
## FACTFILE: 'CONNEL FERRY BRIDGE'

Gauge and scale: ○○

Size: 24ft by 2ft 6in (scenic section)

#### 'OO' GAUGE LAYOUT **CONNEL FERRY BRIDGE**







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**Richard Foster Editor** 



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# THE ESSENTIAL GUIDE TO

Pt 6: 3D-PRINTED KITS

In the final instalment of this module, George Dent explains how the development of 3D printing has revolutionised the hobby and offers tips on how to get the best from these state-of-the-art kits and components.

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#### **3D-PRINTED PARTS & KITS**

Our high-tech, digital age has allowed small, independent manufacturers to create all sorts of products with lower development and production costs. In model railway terms, ready-to-run manufacturers have harnessed the benefits of 3D printing in order to produce new product prototypes at much lower cost.

The same technology has also revolutionised kit production. Instead of creating masters and moulds, modern kit makers are producing digital artwork instead. These computer files are then sent to a 3D printing machine, within which the object is brought to life via a jet of acrylic-based photopolymer. When exposed to light, the material hardens, allowing the object to grow, layer by layer. Indeed, if you look closely at most 3D-printed objects, you can see traces of these individual layers on the surface.

To allow hollow or delicate items to be rendered, some printing machines also build up a supportive layer of wax, around which the polymer is then applied. Once the whole object has been created, the wax can then be dissolved in a chemical bath.

High-quality 3D printers are becoming more affordable, although online manufacturing portals, such as Shapeways, allow users to create their models without expensive equipment of their own. Parts can be scaled up or down (almost) at the touch of a button and products can be quickly made to order, so there's no need to maintain stock levels.

In theory, if you can create the necessary computer artwork and have an internet connection, you can create almost anything. Moreover, the design process has been helped by a recent boom in 3D scanning equipment, which has been used to great effect by the likes of ModelU (MR274). Whether it be figures, individual detailing components or entire vehicle kits and lineside structures, the potential of 3D printing is boundless.

This may sound like a modeller's utopia but, inevitably, 3D printing does have some limitations. The standard of 3D-printed components continues to vary and much depends on the skill of the draftsperson and



Above: Older 3D-printed materials (left) and more recent, superior polymers. 3D printing now allows for the rendering of much finer detail.





**SURFACE** 

PREPARATION AIDS

it can be difficult to address in the conventional way with abrasives.

My experience with 3D-printed kits has taught me that most of the labour goes into the preparation stage. With some materials, a pronounced surface 'grain' will show through the layers of paint, yet

Instead, I've found that levelling up the surface with thick layers of primer to be more effective. The cured paint can then be abraded much more effectively than the bare acrylic polymer. Care is needed to avoid submerging or damaging the surface relief, but a few coats of

brush-applied Mr Surfacer 500 or 1000, following an initial coat of aerosol primer, will do the trick. Mr Surfacer dries rapidly and can be gently abraded to produce

> a very smooth surface. Keep a jar of cellulose thinners on hand to

> > brushes afterwards.

clean your paint-

Above: 3D printing makes it easier to model more esoteric subjects that mainstream kit and RTR producers have ignored, such as this GWR 'Pollen C' girder-carrying set. These were produced by Hazelwood Models (MR193).

the quality of the printing machinery. The material employed by the printer also has a bearing on the quality of the components. Some materials are better for recreating fine detail, but they can be brittle and difficult to work with. Others may present a rough surface that is tricky to refine. That said, the latest materials employed by higher quality printers is miles ahead in terms of resilience and texture.

While my early experiences with 3D-printed components left me sceptical of the medium's potential, more recent products have been much more convincing. There's no escaping the fact that the materials are very different from, say, plastic and brass, which are much more userfriendly. However, with 3D printing, most of the shaping and assembly is already taken care of, so much more effort has to be put into the finishing process instead.





With the aid of 3D scanning and printing technology, ModelU's figures feature an exquisite level of detail.



#### WHAT'S THE BEST GLUE?

As much of the assembly is already taken care of, there isn't usually much glueing involved in 3D-printed kits. However, when parts do need to be joined or smaller detail fittings added, this is best achieved with cyanoacrylate, epoxy or contact adhesives. A PVA-type glue is also handy for securing any glazing, as well as for fixing bodyshells to chassis when there's a need for access in future, as the bonds can be readily broken.



#### What you will need

#### **TOOLS**

- Knife and fresh blades
- Wooden coffee stirrer
- Cocktail sticks
- Abrasives
- Tweezers
- Drill and bits
- Facemask
- Toothbrush

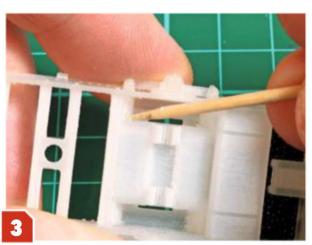
#### GET THE BEST FROM 3D-PRINTED KITS



Surface imperfections can be addressed by burnishing with a wooden stirrer, rather than a file or abrasives. It's surprising how much material can be dislodged at this stage, mostly waxy residues from the printing process.



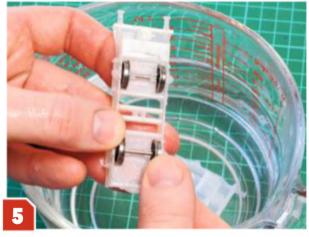
The tip of the wooden stirrer can be shaped to reach around fine detail. Much depends on the material used during the printing process, but the surface may already be fairly clean and a wash in soapy water may be sufficient.



To reach into awkward areas, try using a cocktail stick or toothpick. Always handle 3D-printed parts carefully, as the material can be brittle. When happy, wash and rinse the parts thoroughly to remove any debris.



If wheels need to be installed, there's a risk of the material snapping as the metal axles are squeezed into position. To avoid this, soak the unpainted parts in hot (not boiling) water for a few minutes.



The hot water softens the material, rendering it temporarily flexible. The wheels can then be slotted into the bearings. Set the model aside in a warm environment to dry out completely before proceeding.



Extra weight is likely to be required. Steel or lead strip can be secured within closed bodyshells, secured with glue. In some cases, lead shot may be more suitable, fixed with thin cyano in discreet areas of the underframe.



An initial coat of grey primer acts as a proving stage, as the paint will reveal any surface imperfections that might have been missed. An aerosol-based (or airbrush-applied) primer is recommended.

If the material's surface is uneven, it can be levelled with a thicker primer such as Mr Surfacer, applied by handbrush (see panel). Mr Surfacer dries very quickly and it can be thinned with cellulose thinners if necessary.

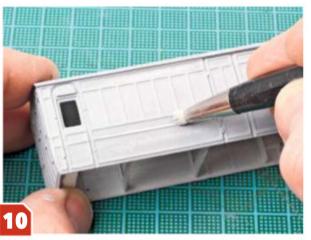


#### **Skills Station**





When the coat of Mr Surfacer has cured (allow a couple of hours), it can be abraded with sanding sticks or pads, working from coarse to fine grades. Wear a mask to avoid inhaling the harmful dust particles.



Panelled coach sides and other awkward areas can be abraded with a fibre glass brush. Again, wearing a mask is recommended, along with eye protection and gloves. Vacuum away the dust and glass fibre debris.



Pinpoint axles can happily operate within 3D-printed bogie frames, provided that the parts are rendered in a suitably resilient material. Fettling the holes with a special tool (www.dccconcepts.com) is recommended.



Gently slot the axles in place, soaking the bogies in hot water to aid flexing if required (see Steps 4-5). A little lubricant in the axle holes, such as dry PTFE powder, will promote smoother running. Test on a flat surface.



Once the parts have been prepared, smaller details such as handrails and roof ventilators can be installed. Remember that the material is soft, so be gentle with the drill. Secure the new parts with cyano or epoxy glue.



A final coat of primer will prepare the model for the main painting stage. Acrylic or enamel paints are suitable. For this wood effect scheme I used a variety of Vallejo acrylics, applied by hand.



After varnishing, lining-out and adding decals, the model can be glazed and assembled. Once the interior was kitted-out, the body was glued to the chassis with Glue 'n' Glaze, which offers secure bonds that can be broken later if required.

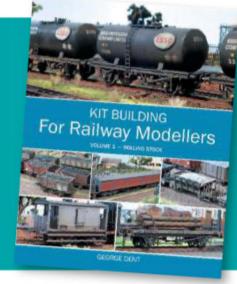


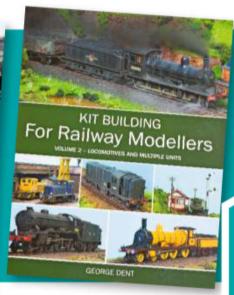
Many kits have NEM coupling pockets or mounting points designed into the chassis or bogies, so it's easy to slot your choice of coupler into position. 3D-printed buffers can be surprisingly resilient.

#### KIT BUILDING IN DETAIL

George has distilled his many years of kit building experience into two successful books: *Kit Building for Railway Modellers, Volumes One and Two*. Covering rolling stock and locomotive subjects in various scales and offering countless hints and tips for working in all materials, they're essential reading for anyone interested in learning new - or developing existing - practical skills.

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#### WHAT NEXT?

This is the end of this Skills Station module. Next month we begin our study of baseboard design and construction.

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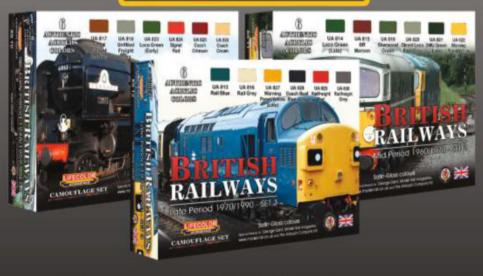


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**George Dent**MR's Deputy Editor
can offer sagelike advice on any
modelling subject.



Chris Leigh
MR's Consultant
Editor is referred to
by his grandchildren
as 'Granddad Trains' need we say more?



Paul A. Lunn
With a great eye for
detail, Paul notices
things that most of us
take for granted.



Dave Lowery
Professional model
maker who's been
there, done that and
got the T-shirt!



# HOW TO: CREATE A HEAVILY CORRODED FINISH



Do you have any tips for creating a heavily corroded finish on steel-bodied coal wagons, using an airbrush? I have a cheap airbrush but I'm still a beginner, so I'm looking for a technique that doesn't demand too much skill and experience!

Samuel Cassow, by e-mail

**George says:** There is a vast array of techniques for recreating rust effects, although most of my favoured methods involve the airbrush being used only sparingly. Indeed, the airbrush simply adds the icing on the cake, with most of the labour being done with paint-brushes, a selection of acrylic paints and a few pots of dry pigments.

In order to create an authentic finish, a range of 'rust' and 'dirt' shades is required. Otherwise, the wagon will appear too uniform, so a palette of four or five different rust-coloured paints is recommended, ranging from light to dark shades. The same goes for the generic weathering colours, with a couple of mid and dark-brown tones, plus a few dark greys, veering towards black.

As for the dry pigments, again, a red-brown rusty shade and a darker grey will be useful, along with a grimy black tone.

After ensuring that the wagon is clean, work can begin with a base shade of 'rust', applied with a soft flat brush in a stippling action, gently dabbing the ends of the bristles onto the surface, rather than stroking in the more usual fashion. This dabbing/

stippling action creates more random patterns and, for best results, most of the paint should be removed from the brush onto a piece of tissue beforehand, to prevent overloading the surface with excess paint.

This process is repeated using the other, lighter and darker, 'rust' shades, until a convincing rendition of corrosion is achieved. It takes a little practice to get this right, so perhaps it's best to have a few trial runs on a scrap piece of card or plastic before working on a wagon.

The airbrush is then employed to refine the overall effect and a new Texture FX Nano Stencil, from Artool, offers a helping hand in achieving a random array of airbrushed tones.



an airbrush and Artool stencil.





Creating an authentic, heavily corroded finish to steel-bodied wagons requires a multi-layer approach. An airbrush is useful for adding the finishing touches and a special Texture FX stencil helps too.



Work starts with a stippled coating of LifeColor's Rust Base shade.
A small flat brush, dabbed onto the surface, creates a random effect.
Concentrate the paint around the raised framework of a hopper.



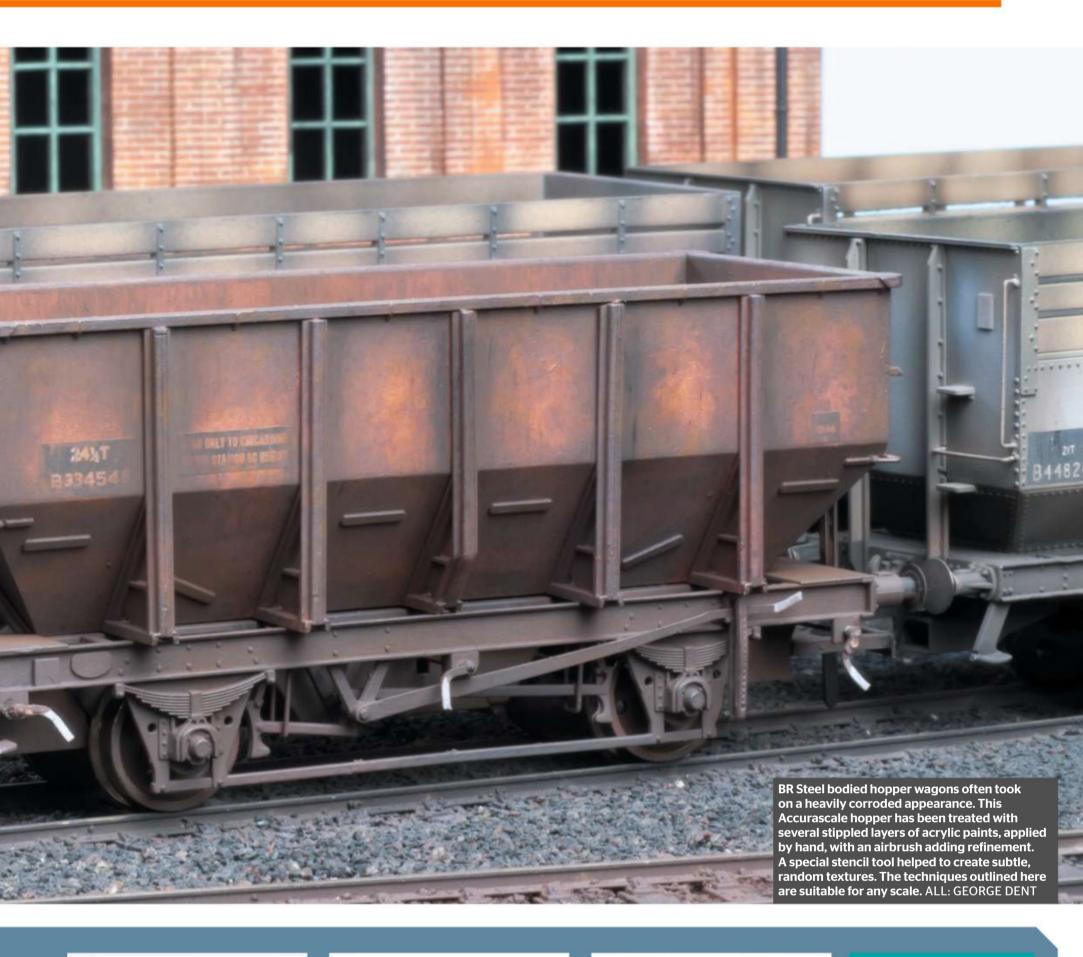
The process is repeated with slightly darker 'rust' shades, applying these more carefully to hint at shading effects against the edges of any raised framing or within recesses. A lighter shade then adds tonal variety.







**PRODUCTS:** Artool Texture FX Nano stencil **PRICE:** £16.15 **AVAILABILITY:** The Airbrush Company **Tel:** 01903 767800 **Web:** *www.airbrushes.com* 





Once the layers of 'rust' are complete, the underframe can be treated. A mix of Weathered Black and Burnt Umber paints, plus a little Earth coloured dry pigment, was created and brushed over the frames.



The Artool stencil was placed in front of the model and a dark rusty-brown mix was airbrushed through it, using a low pressure (10psi). The stencil allows a random array of shapes and textures to be formed on the surface.



A few fine layers of general 'dirt' were then misted over the whole wagon, using a mix of brown and dark grey Tamiya acrylic paints. The paint was thinned to a water-like consistency and sprayed at 10psi.

#### Stencils galore!



Artool offer a wide range of stencil sets for airbrush users. Solvent resistant and flexible, they are a great help in creating patterns and textures, especially heavily corroded finishes.

#### **Technique of the month**

### Here's a quick way to add realism to your chimneypots

Moulded or cast chimneypots, in plastic, resin or whitemetal, usually feature a flat upper surface, betraying the fact that these flues are solid rather than hollow.

But, for the sake a few moments' work, they can be given a significant uplift in realism with a drill bit. A sharp, fine scribing or punching tool pressed into the centre of each pot will give the drill a guiding hand, with a hole just a few millimetres deep being sufficient.

Care is needed to avoid splitting the pot and the diameter of the drill bit must allow for enough material to remain around the outer circumference to maintain integrity. Always use a sharp drill bit to ensure a precise and neat hole.



With the pots assembled and the glue completely dry, mark the centre of the chimney pots with a sharp, fine scriber or punch tool. This depression will help guide the drill bit.



Choose a sharp drill bit, of a size that will leave a good amount of material around the edges of each pot. A strip of masking tape around the bit makes a handy depth gauge.



The shallow holes in each of the chimney pots creates a much more lifelike appearance.
Roofs are highly visible, so we may as well make them look as good as possible.



#### REPLACING FAULTY POINTS



One of the Peco points on my layout has started playing up. I've tried to repair the blades a few times but I think it's time

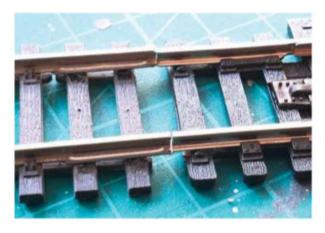
to accept defeat and replace it. However, the track has been ballasted and I'm loathe to damage the surrounding tracks. How can I get the point out with the least amount of disruption?

Derek Harman, by e-mail

**Paul A. Lunn says:** It can be daunting to remove a faulty point, particularly a fully ballasted one. And yet, like most things in railway modelling, there's often a simple solution.

Start by wetting the ballast with warm water, allowing it to soak into the surface. After a while, remove as much of the ballast as you can with a flat screwdriver blade. This is where adhesives such as Deluxe Materials' Ballast Bond prove their worth, as the glue is readily softened with hot water, whereas generic PVAs can be impervious to moisture once fully cured.

With a cutting disc mounted in a mini drill, cut out the offending point as close to the rail joints as possible, cutting through the



fishplates themselves. Try and limit any cutting damage to the point, not adjacent track and carefully lift the point away. Clean away the remaining ballast and remove the broken fishplates from the ends of the rails still *in situ*.

Slide new fishplates onto the ends of the plain tracks (see above), pushing them all the way home - you will have to remove an extra chair per rail - leaving space for the new point to be dropped into place.

Align the rails and, with fine-nosed pliers, carefully slide the fishplates onto corresponding point rails. Be sure to test the operation of the point fully before re-ballasting.

#### **LOCALISED PAINT STRIPPING FOR METAL**



I'd like to repaint a small part of a kit-built locomotive, but don't fancy having to strip the whole

thing down before immersing the bodyshell into a bath of paint stripper. Is there an option for treating small areas? The bodyshell is whitemetal. Alexander Chamberlain, by e-mail

**George says:** My first recommendation is to simply rub those areas down with fine abrasives. However, this isn't always possible on complex profiles such as boiler barrels. Furthermore, there's a risk of damaging any fine details.

If you need to strip back to bare metal, cellulose thinners can be applied with a small brush and, after a few moments, the paint will begin to bubble. It can then be removed with an old toothbrush. Masking



Cellulose thinners can be useful for stripping paint from metal surfaces.

can be applied to protect surrounding paintwork. This is only suitable for use on metal surfaces, NEVER on plastic. Only a small amount is required and it's wise to wear eye and skin protection and to work in a well ventilated space. Cellulose thinners will soften most types of paint.

#### **HOW TO: RECREATE CONCRETE TEXTURE**







Tamiya's Grit Effect paints are great for adding a gritty texture to concrete walls. I chose the neutral Light Sand shade and diluted it with Tamiya's acrylic thinners.





The topcoats can be enhanced with washes such as LifeColor's Tensocrom. Vertical strokes of various shades will bring out the surface relief and give a weathered look.



I have a number of 'OO' gauge building kits requiring a concrete effect finish and I'd be grateful if

you could advise me on how to achieve realistic results. I have heard of mixing paint with talcum powder and believe that special spray paints are available. Any tips would be appreciated.

Duncan A. Young, by e-mail

**George says:** I've also heard about textured aerosol paints, but I haven't tried any of them personally. However, friends tell me they can be useful for recreating the texture of upholstery in large scale car kits and dolls' houses. They may well be overly coarse for use on 4mm scale models and there's also the potential mess and dangerous fumes to contend with.

A much simpler and flexible approach involves adding texture to regular hobby paints, whether they be enamel- or acrylic-based.

The gritty texture that we associate with concrete is an important feature to recreate in miniature, along with the distinctive weathered appearance that the material takes on in real life. Talcum powder is a great source of texture, which will not alter the shade of the paint significantly (and it smells nice too!).

Dry pigments can also be freely mixed with acrylic and enamel paints, although they do impact on the paint's appearance, so choice of pigment shade is important. The consistency of the paint mix can be tailored simply by the quantity of talc or dry pigment added: more dry pigment/talc equals grittier texture.

Another option is to employ a readymade textured paint, as offered in the Wilder and Tamiya ranges, although the choice of colour is fairly limited across both brands. However, the Wilder and Tamiya paints - many of which are available in fine and coarse grades - can be used as a textured undercoat, with the correct colours applied on top using regular paints.

Again, the coarseness of the finish can be tailored by simply thinning the textured paint prior to application.

#### What you will need

- Tamiya textured paints and acrylic thinners
   Availability: Scale Model Shop Tel: 01422 405040
   Web: www.scalemodelshop.co.uk
- Wilder textured paints; LifeColor paints and dry pigments
   Availability: The Airbrush Co.
   Tel: 01903 767800
   Web: www.airbrushes.com

Once the base layer is dry, final colouring can be achieved with regular paints. I used a mix of LifeColor greys, with a little dark green added. Leave overnight to dry.

#### **HOW TO: RE-LIVERY WITHOUT REPAINTING**

Q

I have plenty of older 'N' gauge carriages that are looking out of place alongside more recent

models. Is there a way I can update them without spending hours painting? I hear that there are vinyl overlays available. Are they any good? Ewan Martin, by e-mail

**George says:** Vinyl coach overlays offer a convenient and quick way to transform a range of rolling stock subjects. Indeed, they're perfect for older models that may be lacking in finesse.

Vinyls also make it easier to reproduce complex modern liveries of the privatised era, without the need for tedious masking, painting and decal work. There's also the chance to recreate more unusual vehicle types, such as Departmental stock and barrier/translator vans.

Vinyl overlays do have some limitations though. All raised surface detail must be flattened before they're applied, so carriages can lack the relief of recessed door seams and raised handrails. That's not such a big deal for 2mm scale vehicles, but the flatness may be more apparent in 'OO'.

I've used vinyl overlays a few times and two 'OO' examples are illustrated here: the yellow Network Rail test car (main image) started out as a 1990s-era Hornby model







that was given a new lease of life with a set of vinyl overlays from Electra Rail Graphics – a brand that offers a wide range of vinyls for 'N' and 'OO' coaching stock, multiple units and locomotives.

Similarly, the Porterbrook Mk 1 barrier coach (right) is a Replica Railways Mk 1 BG, with vinyls added from the now-defunct Amsies range. Both conversion projects were complete within a couple of hours, with no hanging around for paint and filler to cure.

I did, however, finish the job with a coat

of satin varnish (from a spray can) to help seal the vinyls and prevent any fading of the inks over time. I also added some weathering to the Network Rail coach and, when seen running on a layout, the lack of surface relief is hardly noticeable.

Of course, there's no reason why you can't add your own wire handrails and other raised details if you wish.

#### What you will need

#### **MATERIALS**

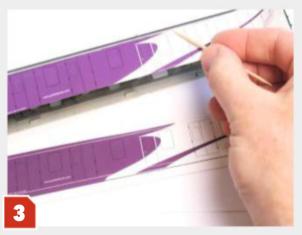
Electra Rail Graphics
 Web: www.electrarail.co.uk



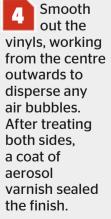
Before the vinyl overlays can be installed, the coach will need to be prepared. Removing the bodyshell from the chassis can make things easier.



All raised detail on the sides must be flattened. A broad file, followed by sanding sticks of various grades will eventually create a smooth surface. Wash thoroughly.



When the body has dried, the vinyls can be applied. Peel away the backing gradually and align the edges carefully before pressing the overlays into position.



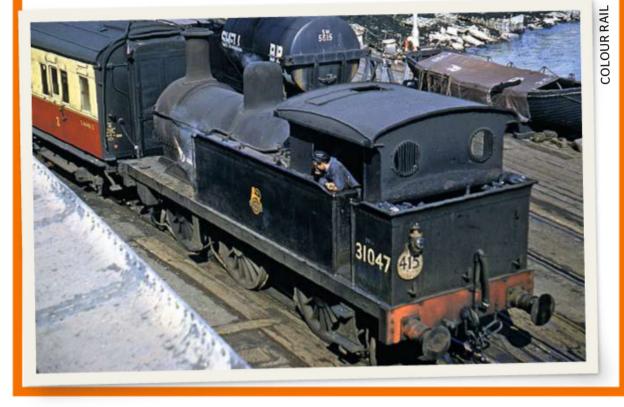


#### PROTOTYPE QUESTION OF THE MONTH



I'm making a representation of an ex-Southern Railway 'R1' 0-6-0T, based on a muchmodified Wrenn body. It

includes a new boiler and cab front and is being fitted to a Hornby chassis. Not one for the rivet counters, but it will do for me! However, I can't find a clear picture of the tiny power classification data applied above the (BR) bunker number. Any clues? David Hanmer, by e-mail George says: SR expert and occasional MR contributor Graham Muspratt tells us that the power designation of the 'R1' was '2FB'. The 'B' suffix was a feature of ex-SR traction types and referred to the engine's braking power. Some Bulleid locomotives, in particular, could haul more than they could safely bring to a stop, so the classification had to reflect the amount of brake force too.



#### **TOP TIP: HOLD IT STEADY**

**George says:** A roll of high-strength, double-sided carpet tape has proven useful in the Dent Workshop recently. The adhesive is so strong that it can hold small and medium-sized kit components and figures securely while spraying with aerosols and an airbrush.

Once painted, the parts can be lifted away, with no residues left behind, and the contaminated tape is then peeled away and discarded. I've been mounting the parts on scraps of wood and thick card.



#### **Tool of the month**

#### Make precision cuts with this mini saw set.

George says: At the height of the lockdown, I spent my evenings building a range of plastic kits. With one kit - a modern Mercedes truck - I managed to break the windscreen while cutting it from the sprue. Clear plastic is more brittle than opaque styrene, so care is needed when trimming or modifying glazing components, whether it be kit parts or locomotive or carriage glazing units.



A friend recommended this nifty tool, which consists of a stainless steel knife handle and a selection of photoetched razor saw blades. Simply choose the appropriate blade for the job at hand, slot it into the handle, and you have a miniature saw with supersharp, fine teeth. Perfect for trimming small components, the tool is much more effective for safely cutting clear plastic than a knife blade.

Availability: Scale Model Scenery Price: £11.95 Tel. 01422 405040 Web: www.scalemodelshop.co.uk



#### THREE CAMEO IDEAS FOR YOUR LAYOUT...



**Carts of darkness:** Rusty, discarded shopping trolleys turn up in all sorts of places, making them a typical - if undesirable - part of the modern urban landscape.



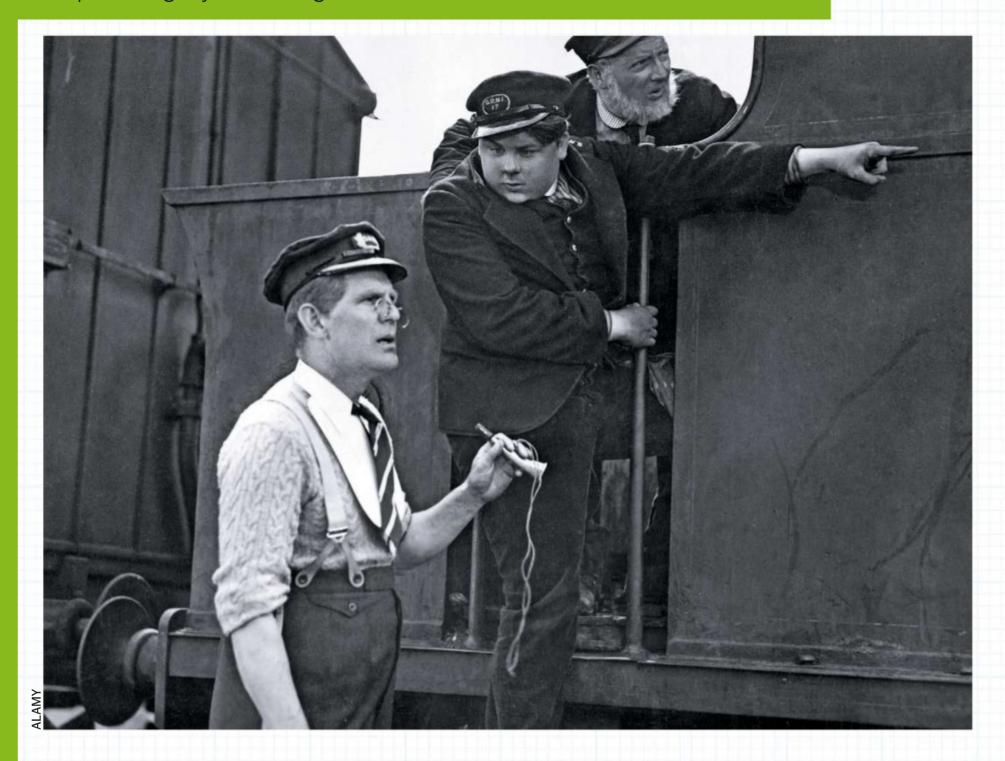
**Shine a light:** Many of our locomotives feature working headlights, but what about road vehicles? Lighting kits are available from www.scalemodelscenery.co.uk



**Cable Guys:** A typical BR engineers' storage yard of the 1970s or 1980s would not be complete without an array of cable drums and yellow vans.

### Masterplan Movies in miniature

Track plans to get you thinking in three dimensions



# RAILWAY

# Hay days

**Paul A. Lunn** continues his occasional 'Film Buff' series by focusing on one of the all time great railway films - and offers suggestions on how you can model it.

Artwork: Paul A. Lunn

hen I first watched *Oh, Mr Porter!* on TV, as a young boy in the 1950s, I was able to spot some of the bloopers but I was absolutely convinced that it was really filmed on the Southern Railway of Northern Ireland! For this Film Buff instalment, I've watched *Oh, Mr Porter!* several times. Despite its wild inaccuracies, the endearing charm of entirely English locations and

quality of those involved, on both sides of the camera, make it a joy to watch, even though it's over 80 years old.

Leading comedy actor of the day Will Hay plays the part of railway employee William Porter, an incompetent daydreamer with a reputation for disaster. The film opens with his most recent calamity, setting off the water crane at Hertford North Station, during a naming ceremony for LNER



'A4' Silver Link. Story has it, and certainly images confirm, that a couple of actors were injured from slipping off a wet platform edge!

With help from his brother-in-law, and unable to resist the offer of a stationmaster's post, Porter is shipped off to Ireland (a journey implied using stock film of the ferry from another famous railway production, The Lady Vanishes). He eventually arrives at Buggleskelly station, somewhere on the border between Northern Ireland and Ireland.

In fact, he's at Cliddesden, on the Basingstoke-Alton line.

The production team heavily disguised Cliddesden. The building was dressed with timber boarding and rustic roof tiles, period notice boards and notices with the SRNI logo added. Appropriately named seats, station signs, also with SRNI logos, added to the atmosphere as did, at the Alton end of the platform, flower troughs and a rockery, with the station name incorrectly spelt as Buggleskkely. A fake signal box was erected at the Basingstoke end and beyond the level crossing, and well out of sight of any camera, the crew constructed a fake tunnel complete with stone effect portal. A lower quadrant lattice signal on a brick plinth has consistently been considered as a prop, together with one of the film's iconic features, a washing line strung across the track, between signal and platform telegraph pole, complete with sundry clothing. There's a fake gate wheel near the level crossing and, with the gates locked and the keys lost, staff had to lift them off their hinges and man-handle them open.

At Basingstoke, which played 'Belfast West Yard', a fake buffer stop was erected for the crash scene, along with, it's assumed, a platform, with unusual



FACTFILE: BASINGSTOKE & ALTON LIGHT RAILWAY

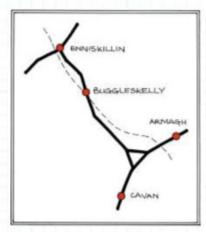
This railway was the first to be built to the standards laid down in the Light Railways Act of 1897. Engineered by W.R. Galbraith, it opened in 1901. Although it closed temporarily between 1916 and 1924, passenger services finally ceased in 1932 and it closed to freight in 1936. However, stubs were retained at both the Basingstoke and Alton ends of the line into the 1960s and 1970s. The line had previously been used to film The Wrecker in 1928.

boarding at 90° to the track. Interior shots were unquestionably filmed at Islington Studios, whereas the model quarry may have been undertaken by professional modellers. Certainly, Wenman Joseph Bassett-Lowke, for example, had been involved with other film projects.

The plot is simple but hugely entertaining. Porter joins the station staff, a jovial if somewhat dubious pair, played by Moore Marriot and Graham Moffatt. Ever keen to prove himself a success, Porter hits on the idea of running a special train. All tickets are bought by a one-eyed man, Joe (Dennis Wyndham), for gun runners, disguised as the local football team. The special disappears but is later found in a tunnel, on an old loop line, which crosses the border. A chase ensues and Porter manages to take over the train and the gun runners are eventually caught by the police.

But without further ado, here are some ideas on how you can create this film classic in miniature.

■ Grateful thanks go to Tom Marshall and Andrew C. Stadden for their help with this feature.



There's a scene, quite early on, in front of a partially fake map of Ireland. It's easy to identify the Buggleskelly branch, starting in the north, from the Great Northern Railway (Ireland) line at Enniskillen, and joining somewhere near Clones, by triangular junction, between Cavan (Midland & Great Western) and Armagh, GNR(I). Please note, the dashed line denotes the border between Northern Ireland and Republic of Ireland.



#### OH, MR PORTER! GARAGE FILLER

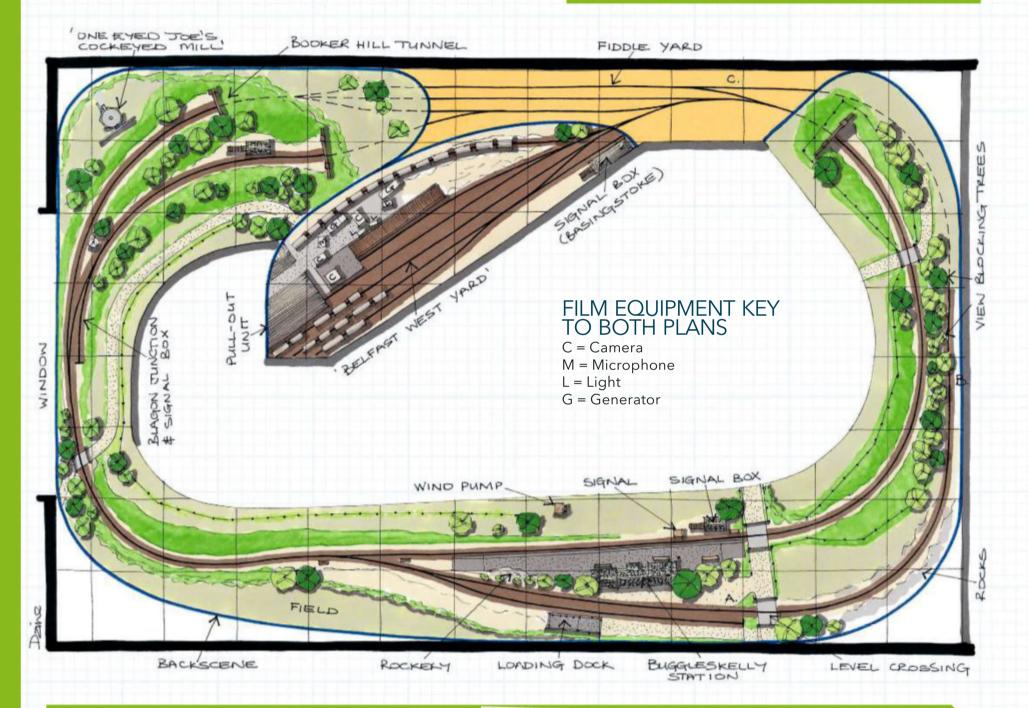
This plan is based on the film script rather than Cliddesden and the Basingstoke & Alton Light Railway itself. It comprises of an oval with non-scenic fiddleyard and two stub lines; one into Belfast West Yard and the other to a nearby quarry. The latter allows operation of runaway wagons, without derailment and damage, by freewheeling down a very modest gradient A. to B. and pulled up, from B. to C., into the fiddleyard, using a spare locomotive.

I recommend the Belfast West Yard baseboard section should be a pull-out unit, hinged at the signal box end, and on castors at the terminus. This will give access for maintenance and stock retrieval under the two tunnels.

#### WHAT'S THAT PUMP?

A significant feature of Cliddesden is a John Wallis Titt Simplex wind-powered water pump. The pump can be seen briefly in the film and was erected in 1901 and demolished in the late 1940s. Certainly, Basingstoke & Alton examples seem to have been used to supply water to the station and railway cottages, rather than for locomotive purposes.





#### 'ONE-EYED JOE'S COCK-EYED MILL'

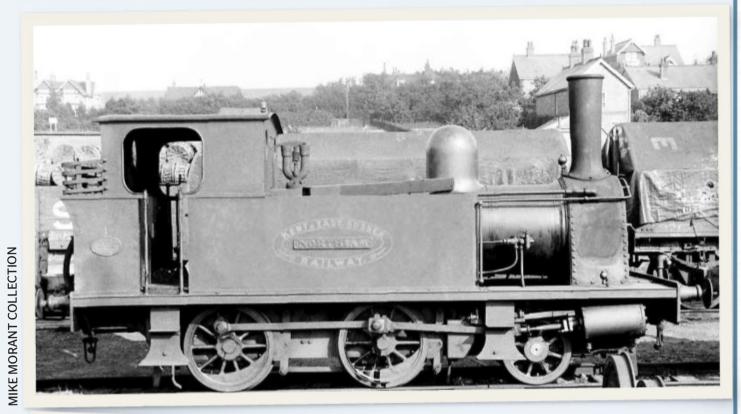
Terling windmill, between Chelmsford and Braintree, serves as the hideout for One-eyed Joe. It's a four storey smock windmill that stands 46ft 2in high and had eight sails, with a total span of 66ft 9in. Dapol's 'OO' gauge kit is based on the mill at Pitstone, in Buckinghamshire, and offers an entry-level structure, but Chris Nevard showed how to get the best from it in MR248.





#### THE LOCOMOTIVE STARS

Star locomotive Gladstone was actually the Kent & East Sussex Railway's No. 2 Northiam (Hawthorn Leslie No. 2421/1899). The 2-4-0T ran light to and from Basingstoke for the film, the height of its chimney increased by the addition of a spiked top funnel and the cab was cut away so that actors could be seen. The 'blown-up' version of Gladstone was a full-sized copy. Roxey Mouldings produces a 4mm:1ft scale kit, although it's currently out of production as it needs a redesigned chassis.



◆ LSWR 'X6' 4-4-0 No. 657 (classmate No. 658 is photographed) received SRNI lettering on the cabside and its chimney was swapped for a shorter, LBSCR type. It became the film's express locomotive with three coaches and two brake vans (one numbered 861). It also appears with wagons parked in sidings near Basingstoke Station COLOUR RAIL during final scenes.



♦ Adams '0395' 0-6-0 No. 3509 (later BR No. 30581, No. 30580's classmate) also received SRNI lettering and an LBSCR chimney. It's used on the film's excursion train with two coaches (numbered 250 and 226). When One-eyed Joe opens a carriage door there's 6462 C sign written on the inside. ◆ In the final scene at Basingstoke, a 'Lord Nelson' 4-6-0 and an unidentified Adams 4-4-0 are also visible.



R. BROUGHTON/COLOUR RAIL

#### OH, MR PORTER! TRAIN SET

This rigid geometry track plan is inspired by the larger plan, though with several differences; Belfast West Yard is on the outside of the layout due to the minimum space central operating well, I expect the quarry to be lined with grey foam, or similar, to minimise damage to falling wagons and I'd recommend a modest upstand, possibly made out of clear plastic, to stop wagons falling off the edge of the baseboard! The layout design works best with access all round but it could be placed adjacent to two walls at the quarry end and the long mill side.

#### HORNBY TRACK SHOPPING LIST

**R600** straight x 7 @ £2.30

R601 double straight x 7 @ £2.75

**R603** long straight x 4 @ £5.25

**R606** 2nd radius curve x 10 @ £2.30

R607 2nd radius double curve x 7 @ £3.45

**R608** 3rd radius curve x 1 @ £2.75

R609 3rd radius double curve x 1 @ £3.45

**R610** short straight x 20 @ £1.70

R628 33degree radius curve x 1 @ £2.95

**R643** 2nd radius ½ curve x 4 @ £2.40

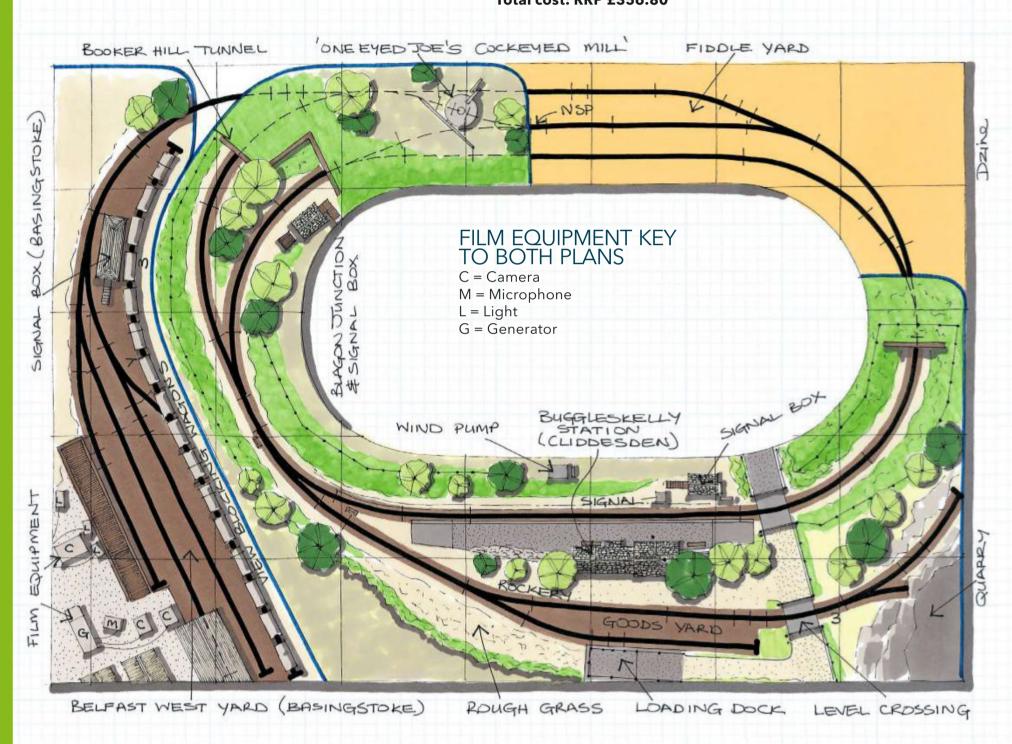
**R8072** L/H turnout x 6 @ £12.60

**R8073** R/H turnout x 4 @ £12.60

**R8074** L/H curve point x 3 @ £19.95

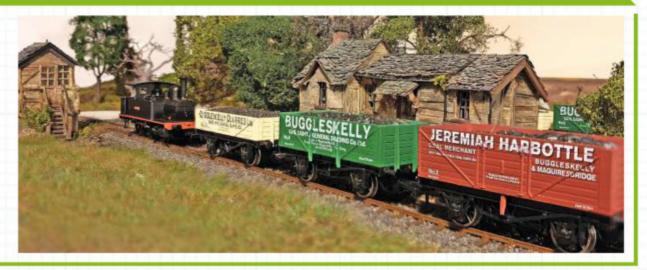
**R8076** Y point x 1 @ £14.70

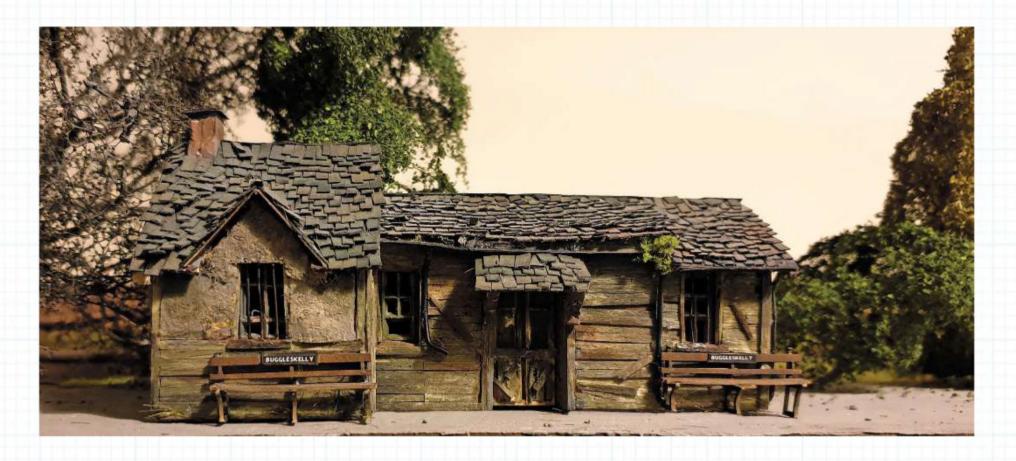
Total cost: RRP £356.80



#### THE WILL HAY APPRECIATION SOCIETY

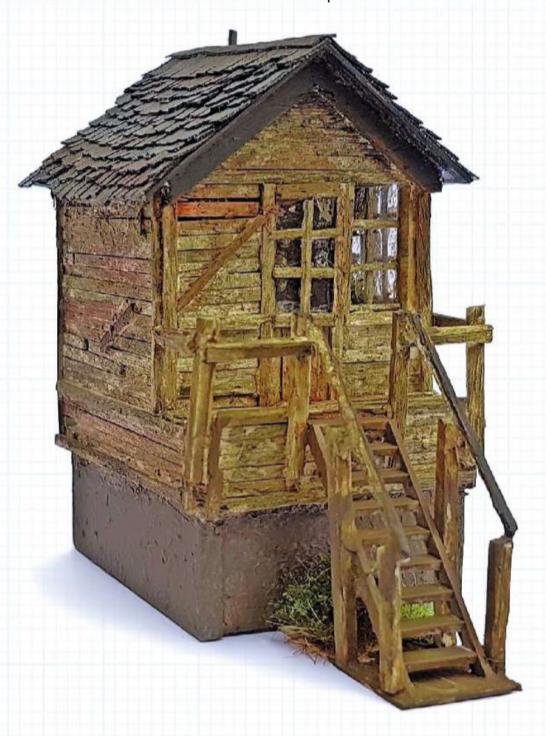
Are you a fan of Will Hay? Then you need to join The Will Hay Appreciation Society. It was founded by Tom Marshall in 2009 and currently has about 5,000 members, hosts an annual 'Hay Day', installs plaques and memorials seats and sells merchandise relating to Oh, Mr Porter! and other Hay films. In particular, it has commissioned 'OO' gauge wagons from Dapol in Jeremiah Harbottle and Buggleskelly Quarry - Sand and Gravel Supplies liveries. To find out more about the society, go to www.buggleskelly.co.uk





#### HERE'S ONE WE MADE EARLIER...

Modeller and Will Hay enthusiast Tom Marshall produced this model of Buggle-skelly station from estimated measurements of *Oh, Mr Porter!* production designer Alex Vetchinsky's 'crazy house' style set. One can only assume the structures were probably built in sections, in Islington Studios and then transported to location for assembly. I prefer the run-down appearance of early shots to those following a painted makeover, supposedly by station staff – Jeremiah Harbottle and Albert Brown – into two-tone stripes.







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HORNBY Trackside

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#### **Our reviewers**

#### **Richard Foster**

His forte is steam locomotives, regardless of region or era.

Scenic products round-up

#### **Chris Leigh**

Wrote his first review in 1964 and hasn't stopped since!

#### Peter Marriott

Model Rail's scenic expert.

#### **Our ratings**

We assess models on the following criteria and rate each of them out of ten: that way, you know precisely how good a model is.

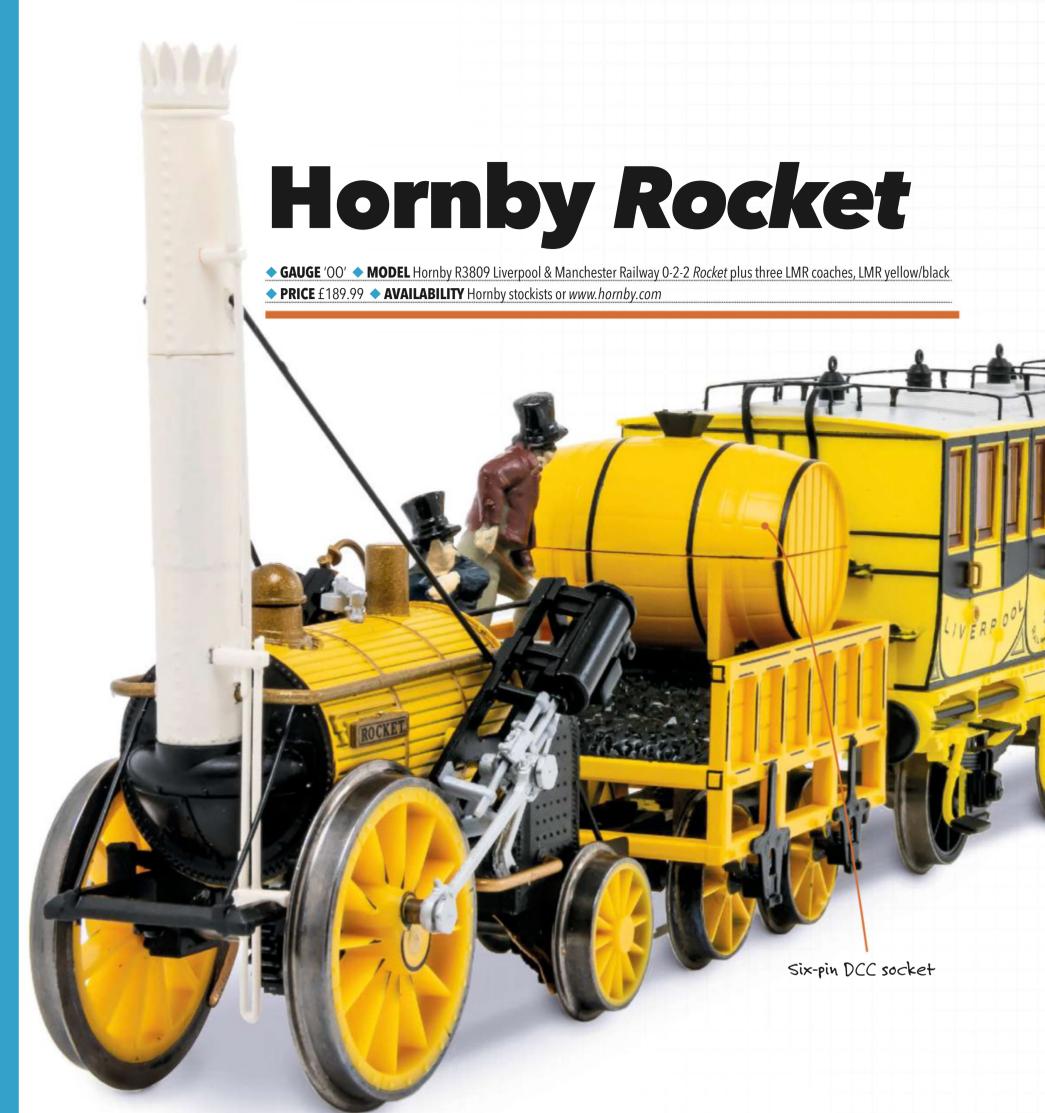
LOOKS	9/10
PERFORMANCE	9/10
FEATURES	8/10
DECORATION	9/10
VALUE FOR MONEY	6/10
TOTAL	82%

#### How we test

At *Model Rail*, we pride ourselves on the quality, thoroughness and unbiased nature of our reviews. To do this, we judge models against prototype images and historical texts. We also run them on our test track, which features 1-in-30 and 1-in-60 gradients in both 'N' and 'OO', not to mention numerous challenging track configurations.







t was only at the end of last year that we suggested that Bachmann Branchline's Ransomes & Rapier crane could be the best 'OO' gauge ready-to-run model of all time. Well, here we are, less than a year later, and here's another strong contender for the title.

The word 'iconic' has become over-used in recent years but there are a few locomotives which deserve the adjective. *Flying Scotsman* is one. And Stephenson's *Rocket* is another.

Rocket was not the first steam locomotive to run. Yet all subsequent locomotives built the world over bore the hallmarks of George and Robert Stephenson's pioneering design. The bright yellow paint, the tall white chimney and those huge leading wheels have made Rocket more famous than any other early locomotive, including Trevithick's Penydarren, Hedley's Puffing Billy or the Stephensons' Locomotion.

There's still plenty of debate

surrounding how much the real *Rocket* matched our collective mental image, an image cemented by the numerous replicas that have been built from 1929 onwards. But does it really matter when a locomotive has this much character?

Given how small *Rocket* was compared to 20th-century locomotives, it's testament to the skill and dexterity of the Tri-ang production team that a ready-to-run model was produced in 1963. What's even

more remarkable is that Hornby called on production and assembly staff who were around in the 1960s to help produce *Rocket* again in the 1980s.

So what better way to celebrate the 100th anniversary of the first Hornby train set than to resurrect *Rocket*?

Despite the age of the prototype, there is nothing old-fashioned about this model, for rather than re-use old tooling, Hornby has developed an all-new *Rocket* for the 21st Century.



### Your eye is drawn to the fine copper pipework, the slender pistons and motion and the exposed, open footplate >>>



And it's a corker!
Hornby hasn't just produced
Rocket, however. It's also
produced the stage coach-esque
Liverpool & Manchester Railway
First class coaches, while the
open Third coaches are to follow
(MR277). Rocket and three Firsts
come in handsome book-packs.
The standard one has a striking
yellow finish, while there's
a limited edition of 1,500
pieces produced in retro Tri-ang
red packaging. It's the latter
that we've received for review

but the only difference other than the colour are the names of the coaches.

#### **DELICATE**

What's immediately apparent about Hornby's new 1:76 scale *Rocket* is just how small and delicate it is. While the old Tri-ang *Rocket* looked good for its age, the new model is light years ahead. There's so much more open space under the boiler, the wheels are noticeably more refined and the chimney is much more accurate. There's also a rendition of the front framing that doesn't appear on the 1960s model.



The body is die-cast metal, whereas much of the remaining detail appears to be superbly moulded plastic. Your eye is drawn to the fine copper pipework, the slender pistons and motion and the exposed, open footplate. The shape and proportions look spot on when compared to the numerous Rocket replicas in both the National Railway Museum and museums in the USA.

But let's not ignore the coaches. As the Liverpool & Manchester Railway opened while photography was in its infancy, builders of replica L&M rolling stock have had to rely on contemporary engravings and educated guesswork based on surviving Stockton & Darlington rolling stock. That said, Hornby's models closely match the NRM's replica vehicles.

They have that wonderful stage coach look, complete with luggage racks on the roof. They're quite light (just 17g) but they feel like a quality product and are, as with *Rocket*, much more refined than the original Tri-ang offerings. The only thing to watch out for is that, despite careful handling, it is very easy to break the exposed footsteps off while removing them from the packaging.

There are some obvious features of a model as small and

# 3 things we like



The chimney, with its flared cap, is very fine and well detailed.



Plastic wire handrails give the coaches a touch of finesse.



The wooden boiler cladding is beautifully moulded as part of the die-cast body.

#### Hornby's centenary

It's strange to think that when Frank Hornby put his name to an 'O' gauge clockwork train set in 1920, *Rocket* was only 91 years old; as Hornby celebrates its centenary in 2020, *Flying Scotsman*, a seemingly modern steam locomotive design, is actually 97 years old!

Hornby launched his engineering toy business, Meccano Limited, in 1907, which was followed by his first enamelled tin-plate 'O' gauge clockwork train set in 1920. That's why today's

Hornby celebrates its 100th birthday this year. To mark the occasion, Rocket is being joined by four new tinplate, 1920s-style 'O' gauge 0-4-0s while more contemporary models are being offered in retro packaging and bearing legendary names such as Dublo and Tri-ang. There's also a selection of 1:76 scale road vehicles being offered in Dublo boxes. For all the centenary products, see www.hornby.com/uk-en/ centenary-year





Factfile: Rocket

It might have only been 25 years since Richard Trevithick's pioneering machine made its first run along the Penydarren Tramway, but the directors of the Liverpool & Manchester Railway still didn't consider the steam locomotive reliable enough to haul its trains. To prove that chief engineer George Stephenson was right to put his faith in locomotive technology, six days of trials were held at Rainhill, just south of St Helens, starting on October 6 1829.

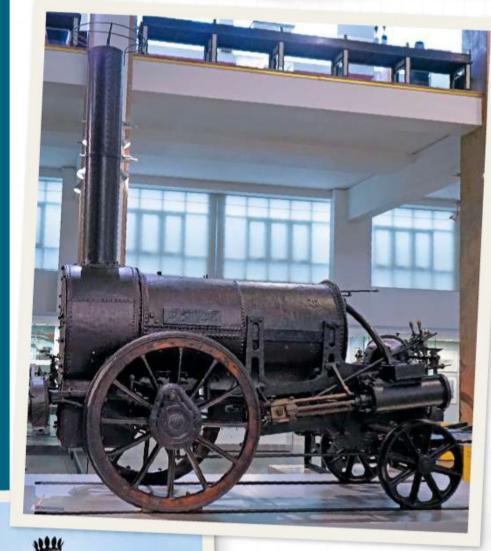
George Stephenson and son Robert collaborated on an 0-2-2 called Rocket. It featured a separate firebox, multiple tubes to carry the combustion gases through the boiler to heat the water, a blastpipe and cylinders roughly in line with the wheels, rather than mounted atop the boiler.

Rocket was not the fastest or most revolutionary of the locomotives entered, but it did prove to be the most reliable. It was declared the winner, steam locomotives would be used on the LMR and Robert Stephenson's company would be at the forefront of locomotive development for many decades.

Whether it's record breaker Mallard, BR's last steam locomotive Evening Star or even the mighty Union Pacific 'Big Boys', every subsequent steam locomotive features technology that Rocket pioneered nearly 200 years ago.



Left: The first *Rocket* replica was built in 1923 for the Buster Keaton film Our Hospitality. Robert Stephenson & Co. built two replicas for display in the USA in 1929; the one photographed here is displayed at Chicago's Museum of Science & Industry while the other is at the Henry Ford Museum. The National Railway Museum has a sectioned replica, built by Robert Stephenson & Co. in 1935. RADHARC IMAGES/ALAMY



Above: Rocket was used on the opening day of the Liverpool & Manchester railway on September 15 1830. However, it was withdrawn in 1834 and used as a stationary engine until restored as a locomotive for use on the Brampton Railway in 1836. Due to its historical nature, it was presented to the Patent Office Museum - now the Science Museum, in 1862. WORLD HISTORY ARCHIVE/ALAMY

Left: The Science Museum commissioned a working replica of Rocket from Locomotive Enterprises in 1979 in order to celebrate 1980's 150th anniversary of the opening of the Liverpool & Manchester Railway. ALAMY



exposed as *Rocket* to which one has to turn a blind eye. The brass wipers on the rear axle for example, or the prominent gear wheel on the leading one. You could add the prominent seam on the water tank... until you realise that it's this that points the way towards the model's greatness.

What made Bachmann's crane so good was that the design team had not only overcome the huge challenge of miniaturising something incredibly complicated but had then made the resulting model easy to play with. There were some fantastic details and observations that only the most skilled engineers would think to include.

Well, the same is true with *Rocket*.

That prominent seam is not where two mould halves meet but actually makes the top of the tank removable. Prise it away and there is the six-pin DCC socket!

Take the coaches out of the hard foam packaging (mind those steps!) and you'll notice that there's no way to couple them to *Rocket*. Such is the open nature of the underframe that there's nowhere to hide the NEM coupler pocket. So Hornby hasn't bothered. Instead, in a little clear plastic bag, are some rigid, moulded plastic chains. They're a little fiddly but, with a pair of tweezers, simply drop onto the coupling hooks and - hey presto - your train is coupled together.

But the pièces de résistance come in two similar plastic bags. There are two figures - fully painted no less - in full Georgian enginemen's uniforms, complete with top hats. That would be good enough at the best of times, but each figure has a fixing pin on one foot and there are corresponding holes on the footplate and tender!

Hornby models are always

a joy to review but *Rocket* and the three coaches really are something that bit special. In fact, *Rocket* is one of those rare models that crosses the usual dividing lines, such as steam vs diesel or LNER vs GWR. It's a must-have item that every modeller can find space for, whether you're modelling the 1830s, the post-1980s preservation scene or just have a suitable gap on your bookshelf.

Don't hang around though – the limited edition *Rocket* in Tri-ang packaging has already sold out and the standard yellow pack is selling fast. *(RF)* 

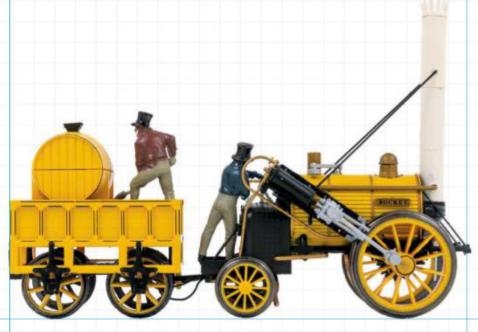
#### REVIEW VERDICT

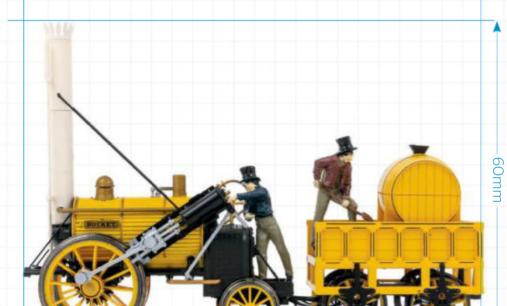
**PROS.** Fabulous detail, beautifully engineered, wonderful touches.

**CONS.** Fragile coach steps.

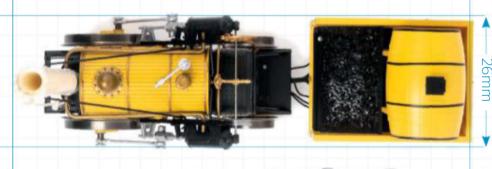
LOOKS 10/10
PERFORMANCE 9/10
FEATURES 10/10
DECORATION 9/10
VALUE FOR MONEY 10/10

70%





85mm





#### HORNBY ROCKET

Drive system: Gears to leading axle

Flywheel(s): N/A

Body: Metal/plastic		
Chassis: Metal/plastic		
Weight: 43g		
Min. curve radius: R2		
Wheel back-to-back: 14.4mm		
DCC ready: Six-pin socket		
Dec ready. Six pill socket		

ı	DIMENSIONS	PROTOTYPE	1:76 SCALE	MODEL
	Length (over buffers)	N/A	N/A	85mm
	Height (over chimney)	N/A	N/A	60mm
H	Width (over footplate)	N/A	N/A	26mm
	Wheel diameter (driving)	4ft 81/2in	18mm	19mm
١	Wheel diameter (trailing)	2ft 6in	10mm	9mm
	Wheel diameter (tender)	N/A	N/A	11mm
				_

#### SERVICING

How to dismantle: See instructions.

Where to oil: Factory-lubricated; instructions suggest further lubrication after running in.

www.model-rail.co.uk

Traction tyres: No

Dady Matal/plactic



## 00 Works '330' 0-6-05T

◆ GAUGE 'OO' gauge ◆ MODEL OO Works '330' 0-6-0ST No. 316, LSWR holly green ◆ PRICE £279.00 (RRP) plus P&P

AVAILABILITY OO Works, Brendon, Langham Road, Robertsbridge, East Sussex TN32 5DT Web www.ooworks.co.uk

t's easy to forget, given the famous railway works such as Doncaster, Swindon and Crewe and the equally famous designers who worked there, that, in the early days, most railway companies ordered locomotives from third party suppliers. It's a practice that continued into the 1930s when the LMS ordered five O-4-OSTs from Kitson.

The London & South Western Railway, struggling to find a six-coupled design to replace unsuitable 2-4-Os on goods workings, ordered six 0-6-OSTs from Beyer Peacock in 1875 and they were delivered the following year. The '330' was a typically handsome and efficient Beyer Peacock design and two more followed in 1887, with a further 12 ordered in 1882. The fleet was spread from Nine Elms in the east to Exeter in the west. All 20 passed into Southern Railway hands and withdrawals started in 1924. One was sold to the East Kent





Railway and another to the Kent & East Sussex. Although the Southern didn't withdraw its last until 1933, the remains of two lingered on until BR finally cut them up in 1949.

Being a standard design makes this locomotive an attractive proposition for a model manufacturer, for as well as exports, Beyer Peacock also supplied five similar machines to the Cork Bandon & South Coast Railway in Ireland in 1881-1894. The last were withdrawn by Great Southern Railways circa 1939/1940.

The manufacturer that has grasped the opportunity is that purveyor of hand-crafted esoteric locomotives, OO Works. Received for review is No. 316 in LSWR green. It was built as No. 227 as part of the 1877 batch and became No. 316 in November 1899 before being renumbered 0316 in June 1912. It was withdrawn in June 1930.

Ready-to-run models of locomotives of this era are few and far between and OO Works has captured the distinctive sloping smokebox and primitive cab along with the Salter safety valves crowning the tall dome.

As with all OO Works products, this is a charming little model. The all-metal construction has that old time toy feel but there's

316

nothing old-fashioned about the level of detail, with crisp rivet detail, fine wire handrails and turned brass whistles and water clack valves.

You can't really compare a OO Works model with a mass-produced RTR model from a Chinese factory. The way that they're made means that there's less rivet detail and relief than on something from Bachmann or Hornby.

You also don't get as many mod cons. There's no provision for DCC or NEM coupler pockets but you do get sprung buffers, narrow tension lock couplers, wire handrails on the locomotive and tender, as well as copper wire for the feed water pipes.

You have to approach a OO Works model as a really well put-together kit and so you forgive the exposed wire pick-ups, the prominent brass bearings and the fact you can see the bottom edge of the motor, as well as the drive gear.

However, wheel profiles are very refined and the bogie wheel flanges are another aesthetic plus point. The model has been designed to allow easy maintenance. All the oiling points, as indicated on the comprehensive

instructions, are accessible by dismantling the model, even the worm drive from the motor.

The LSWR green is well applied and the lighter green lining is commendably neat. The 'brass' and 'copper' finishes are also very effective. This model didn't suffer from the silvering that has affected some previous OO Works offerings but our sample does appear to have some slight imperfections in the casting around the outer edges of the saddle tank.

That aside, this is another great model from the OO Works stable. The price may seem steep when compared to a mass-produced Chinese model, but this is an exclusive, hand-assembled, metal model that's made in Britain. The '330' is unlikely to attract the attentions of the mainstream manufacturers - although you could have said that, once upon a time, about the SECR 'H' O-4-4T and LSWR 'Black Motor' - so this will be your only chance to get one ready to run. As production is limited, get your orders in quick! (RF)

#### RECOMMENDED READING

◆ Locomotives of the LSWR Part 1 by D.L. Bradley (RCTS, 1965)



Wheel profiles are very refined and the bogie wheel flanges are another aesthetic plus point >>>

# 3things we like



The tank filler lid looks as though it will open.



Rear lamp irons are separately fitted items.



Crank pins are subtle, complete with black-painted heads.

#### REVIEW VERDICT

PROS. Wonderful looks, good performance, exclusivity.

**CONS.** Slight casting imperfections, otherwise little of note.

#### **Reviews**



## Dapol Class 29

◆ GAUGE 'OO' ◆ MODEL Dapol 4D-014-000 Class 29 Bo-Bo 6112, BR two-tone green ◆ PRICE £151.95 ◆ AVAILABILITY Dapol stockists or www.dapol.co.uk

im always shocked whenever I research 1950s diesels at just how much money must have been wasted in a vain attempt to support British companies by ordering locomotives which had not only not been tried and tested, but in some cases had not even been designed. One company, which was a recipient of this government largesse via BR, was North British Locomotive Company in Glasgow.

Type A1A-7
A1A-

NBL had the licence to build MAN engines when it was politically unacceptable to buy from Germany. However, the licence-built engines soon – surprise surprise – earned a reputation for unreliability, which the German-built ones did not.

Maschinenfabrik Augsburg Nürnberg AG

Ventu From simila becan the German-built ones did not.

BR ordered the MAN-engined

Type 4 'Warships' (both Class 41 A1A-A1A and Class 43 B-B) from NBL along with Type 2 (Class 22) diesel-hydraulics for the Western Region, and Type 2 (Class 21) diesel-electrics for the Eastern and Scottish Regions. None of these locomotives covered themselves with glory and the Eastern Region soon managed to pass all its MAN-engined Type 2s to Scotland. However, the Scottish Region

also experienced reliability issues with the MAN engines and so, in 1963, D6123 was fitted with a 12-cylinder Paxman

Ventura high-speed diesel engine. From 1965, another 19 were similarly re-engined and they became Class 29 under TOPS.

The easiest way to tell the difference was that the Class 29s were fitted with four-character

headcode panels in place of the end communicating doors. Other detail changes to the body resulted from the engine change.

To distinguish these locomotives, the first examples had the upper sides painted in Sherwood green', but once Rail blue came into use, the remainder received the Corporate Image livery. Though the Paxman engines produced an improvement in reliability, Class 29 was a small, non-standard class and, as such, did not last much longer than the unmodified locomotives; the last '21s' were withdrawn in 1968 while all the '29s' had been withdrawn by the end of 1971.

If the NBL Type 2 diesel-electric proves anything, it's that beauty is not necessary to being modelled. The first NBL Type 2 model appeared as a fairly crude

Playcraft model and then figured quite early among Tri-ang-Hornby's diesel models, but both disappeared from sale years ago, and it has taken until 2020 for Dapol to revisit the type, producing first the original Class 21 (MR273) and now the Class 29. It's now set the record for the longest gestation period for a 21st-century model locomotive – nine years!

Don't be misled by the Dapol box on which a misprint refers to the Class 21/29s as 'hydraulic'; this model owes little to the Chirk company's earlier Class 22, despite the obvious NBL parentage of both locomotives.

The Class 29 diesel-electric has a sharply tooled body incorporating the various changes from the Class 21, the most obvious of which is the illuminated four-character headcode panel. The



#### **Performance**

The Dapol model is probably not prototypical in this area. It proved smooth, quiet and powerful on test although I had to be content to test it at home and not on the curves and gradients of the *Model Rail* test track. It performed faultlessly with a train of 32 wagons in tow which is the maximum I can reasonably muster.

headcode itself, which reads simply '••8•' is set back behind the glazed panel and is illuminated from behind, together with the front marker lights.

The front end character of the Class 29 has been well captured, though there does seem to have been some variation between individual locomotives in exactly how the conversion was handled, particularly in the plating over of the doorway. There's still the residual outline of the communicating doors, as there was on the real thing, and those bizarre lamp irons, welded up from a piece of bar and some 'L' angle. The lamp irons and windscreen wipers are separate fittings. So, too, are some of the roof details, revised from those on the Class 21 to suit the re-engined locomotive.

Both cabs have interior detail and switchable interior lights but no driver figures. A bank of four micro-switches on the underside allows independent switching of front and rear cab lights, headcodes and marker lights in DC operation. Digital users can, of course, switch these remotely.

The most striking feature, in my view, is the treatment of the large bodyside grille. I was unable to

# Carrier The most striking feature, in my view, is the treatment of the large bodyside grille >>>

ascertain exactly how this is done. It appears integral with the main body moulding. From some angles it looks to be a routine moulded grille painted black, but when the light catches it the 'mesh' stands out against a reflective background in a most convincing way.

Publicity suggests that it is an etched grille and certainly the main circular fan grille on the roof is etched. Both are exceptionally fine and very skilfully fitted, such that it is impossible to tell where the etched part ends and the plastic moulding begins.

#### FITAND FINISH

I am not a fan of Rail blue and so I selected 6112 in two-tone green with full yellow ends to review. This model is also available with a decoder fitted (RRP £181.95) and with sound (RRP £293.93). I would have preferred D6114, which was the only one in two-tone green with a small yellow panel, but there's only a sound option with this model. Dapol has been steadily improving its levels of paint finish and printing in recent years and this model is right up there with the best of modern 'OO'. The two-tone green has a nice satin finish and the masking where it meets other colours is neat. The yellow on the ends is, perhaps, a little heavy-handed but this is unavoidable when spraying over a darker colour.

Presumably NBL had the railwayana market in mind when it fitted these locomotives with no fewer than four of its distinctive diamond-shaped worksplates. These are represented by a raised moulding on the cabside and the printing is legible under a magnifier, though smaller and not quite as neat as the TOPS data panels

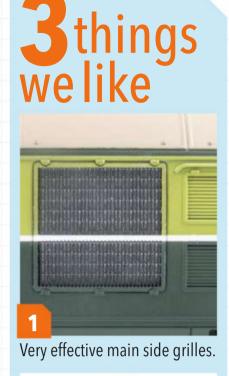
placed on diagonally opposite cabsides. Shiny wire handrails are fitted on either side of the doors.

The body unclips easily from the cast metal chassis, with just three or four strips of cut-up credit card inserted between the sides and the metal chassis block. The two sections remain connected by four sets of wiring, but these can be unplugged if you really need to separate the body and chassis.

Much of the mechanism is concealed within the chassis block but, in doubtless the same arrangement as the Class 21, the centrally-mounted motor drives both axles of both bogies through shafts and bogie-mounted gearboxes. A 21-pin decoder socket is mounted above one bogie and above the other is space for a decoder and sound speaker placed directly under the fan grille.

Sprung oval buffers are fitted and there are pivoted NEM-style sockets at both ends. I found the bogie sideframe detail particularly impressive, with the depth of detail around the leaf springs, dampers, steps and sandboxes, the best I've seen on a ready-to-run model. It's been a while since I last reviewed a diesel-outline locomotive and though I was not a fan of Class 29s and don't think I ever saw one, this is a model which impresses at every turn. (CJL)

Together with classmate D6101 and an unidentified English Electric Type 3, D6112 rests at Grangemouth shed circa 1969. D6112 went new to Stratford shed on June 20 1959 and moved to Eastfield, Glasgow, in September 1960. It was fitted with its new engine in September 1966 and, as 6112, it was withdrawn from Eastfield, still in two-tone green, on December 31 1971. It was scrapped at St Rollox Works in company with 6129 and 6116 in the summer of 1972. RAIL ONLINE





Very quiet running.



Accurate body end shape.

#### REVIEW VERDICT

PROS. Accurate body shape, smooth, quiet chassis.

CONS. Nothing of note.





#### **Reviews**



# Dapol 'Turbot' ballast wagon

◆ GAUGE 'O' ◆ MODEL Dapol 7F-043-003 'Turbot' ballast wagon DB978309, EWS maroon/gold ◆ PRICE £69.95 ◆ AVAILABILITY Dapol stockists or www.dapol.co.uk

s there anything that EWS maroon/gold livery doesn't suit? It even looks good on this, the humble 'Turbot' bogie ballast wagon.

BR's 'Bogie Bolster E' was designed to carry heavier loads in roughly the same 32ft long footprint as the four-wheel 'Tube' wagon. Some 1,200 'Bogie Bolster Es' were built in 1961/62 but their short length made them less suitable for steel traffic than was originally envisaged. With an ageing

permanent way fleet to replace, BR killed two birds with one stone by rebuilding 'Bogie Bolster Es' with low bodies, with three dropside doors for ballast and spoil traffic. Thus the 'Turbot' ballast wagon was born.

Conversions took place at Shildon (1982-1984), Swindon (1984-1986) and Doncaster (1988) and some 1,000 wagons were built. The majority of 'Turbots' had been withdrawn by the early 2000s, but 60 are still in use with London Underground (with the end spill plates removed).

Dapol has promised a 'OO' gauge 'Turbot' for many years but the project seemed to stall. Then it confirmed at the 2017 Warley National Model Railway Exhibition that it was still working on a 1:76 scale 'Turbot', following this news in October 2018 that it was working on an 'O' gauge version too.

The senior scale 'Turbot' has arrived first and received for

review is DB978309, one of those created at Shildon Works. It was one of the small fleet refurbished by EWS - hence the livery - for use on the 'Minehead Stones' trains. These trains moved some 105,000t of rock from ARC and Yeoman's quarries near Frome to Minehead to repair and improve the town's sea defences in 1997/98, and the 'Turbots' formed the backbone of the wagon fleet.

The model impresses straight from the box. It compares well



with prototype photographs on Paul Bartlett's website (paulbartlett.zenfolio.com). The short, stumpy looks are well executed and though all of the door equipment is moulded, it looks effective. However, modellers would probably be prepared to pay a little more for the dropside doors to actually open.

#### **DETAIL DOWN BELOW**

The underframe features a wealth of detail, with the vacuum tanks and brake linkages all present and correct. The trusses are plastic but the material that has been used feels nicely sturdy and there's not much flex to it.

Buffers are sprung, as one would expect in 'O', and there are wire handrails at each end.

It's a shame, therefore that the lamp irons are moulded.

The North American-style Davis & Lloyd 'Ride Control' bogies look effective, with some superbly moulded springs. The exposed three-hole disc wheels have a really effective, 'lazy' look when running at slow speed. The only niggle here is that the axleboxes arguably don't project quite far enough.

The EWS livery looks to be well applied with clear definition

between the 'gold' and 'maroon'. The lettering is all clear and legible and the curve radius restriction is particularly eye-catching. However, 'Turbots' rarely remained this clean so you'll need to break out the weathering equipment for a truly authentic look.

Dapol's 'O' gauge 'Turbot' is competitively priced and another excellent addition to the range of 'O' gauge ready-to-run wagons. (RF)

# 3 things we like



Fine etched chequer plate end steps.



Bufferbeam brake hose is beautifully moulded.



Underframe detail includes the door restraining springs.

#### **REVIEW VERDICT**

**PROS.** Overall looks, performance, price.

CONS. Moulded lamp irons, otherwise little of note.

LOOKS 9/10
BUILD QUALITY 9/10
FEATURES 9/10
DECORATION 9/10
VALUE FOR MONEY 9/10

90%



101

#### **Reviews**



an it really be 15 years since Noch's Gras-Master first appeared on the market? Since then, most modellers have seen the benefits that static grass can bring to the realism of their layouts. That's meant that other manufacturers have jumped on the static grass applicator bandwagon and, despite occasionally revamping the Gras-Master, Noch's tool has perhaps slipped a bit behind the extensive competition it faces.

Noch has, therefore, reworked the Gras-Master, describing it as an evolution that builds on the strengths of the two previous versions. The new Gras-Master 3.0 features an ergonomic design with a wider handle for better handling and a new sieve design to improve the charge the grass fibres receive.

Also new is the Gras-Master 3.0 Profi which provides 16kV of power when compared to the standard tool's 11kV. Profi is designed for 'professional' model makers and those, presumably, who intend to plant a lot of grass.

The Gras-Master is essentially a cylinder and so it has a tendency to roll around when placed on the baseboard or workbench. I once damaged one of mine when I accidentally knocked it off the layout. Noch has remedied this with a plastic support on which the tool can rest when not in use.

l've tried to plant 12mm static grass fibres successfully for years and have never really succeeded until I used this device. Other devices work well at planting fibres up to 7mm tall. In the past, I have used two layers of fibres, say 2mm and 4mm, for taller grass. However, armed with the Gras-Master 3.0, I can now plant the 12mm fibres from Woodland Scenics to create the look of really tall grass.

Overall, after my tests, I'd say that the Gras Master 3.0 Profi is now the most effective static grass planting tool on the market and works very well indeed for planting fibres ranging from 2mm to 12 mm. Yes, it is more expensive than many other similar devices on the market, but it does have the edge in its grass planting ability. (PM)



The Gras-Master 3.0 Profi version is powered by eight 1.5V AA batteries (which are supplied!) and an operating life of approximately 10-12 hours is promised before they need replacing. The standard Gras-Master 3.0 has four batteries to give a an operating life of 3-4 hours. That said, I have been using my Gras-Master for over ten years and have still to replace a battery.



Above: Both the Gras-Master 3.0 and Profi 3.0 come with three screw-on sieves for short, medium or long static grass fibres. The shorter the grass fibre, the finer the sieve so, for example, for 1.5mm-2.5mm fibres and Noch's Snowflakes (ref. 08760) use the fine sieve. For 2.5mm-6mm long fibres the medium sieve is most suitable and the coarse sieve is best for 6mm-12mm fibres. That said, some flexibility can give good results so, for instance, using long grass fibres in the medium sieve fewer fibres will reach the land to make sparse meadows. A word of caution: the fit of the sieves on my sample was a bit temperamental at times.

Below: I weighed my original Gras-Master 1.0 at just less than 300g, whereas the Gras-Master 3.0 Profi weighs in at nearly 700g. It really does feel a lot bigger – and heavier – than the original, although they're both 340cm long.





#### **Gras-Master 3.0 tested**

To see how much of an improvement Noch has made to the Gras-Master 3.0, I tested it against both the Gras-Master 1.0 and the subsequent 2.0. To ensure that the test was conducted fairly, I used the same grass fibres to three different lengths. I used 2mm, 7mm and

12mm fibres to assess their suitability for working in the smaller scales ('N' and 'Z') right through to 'O'. To ensure consistency, I used Woodland Scenics Static Tac adhesive on all tests. I was really impressed with the amount of grass the 3.0 successfully planted.

	1.0	2.0	Profi 3.0
Works well with 2mm fibres?	Good	Very good	Excellent
Works well with 7mm fibres?	Limited	Yes	Excellent
Works well with 12mm fibres?	No	No	Good



Above: Both the Gras-Master 3.0 and Profi 3.0 have red LEDs to indicate that the device is in operation. Both devices also come with illustrated instructions.



#### Get the best from the Gras-Master 3.0

- ◆ Half-fill the grass holding bowl of the device with static grass fibres and screw on the sieve where one is fitted (choosing the correct sieve for the length of fibres).
- ◆ Attach the alligator clip near to the area that you are intending to cover with grass fibres. If you cannot attach the clip to a nearby rail, tap a small nail in the area and attach the clip to the nail.
- ◆ Paint the area to be treated with adhesive.
- ◆ Tip the tool upside-down over the area to be treated and turn it on. Shake the tool, some 2cm-3cm over the glue.
- ◆ The fibres leave the sieve and are pulled through the air through an electrical field that ensures that fibres land vertically.
- ◆ Turn off the tool when the grassing is complete.

#### **REVIEW VERDICT**

PROS. Well made, good ergonomic grip, best for planting 12mm fibres and most powerful Gras-Master produced so far.

CONS. Expensive compared to other devices, Profi version is heavy.

# Scenic products round-up

**Peter Marriott** presents a selection of the latest scenic accessories and tools.

### MODEL SCENE EARLY SUMMER BUSHES



There are so many manufacturers offering foliage products that it takes something a bit different to stand out from the crowd. Czech scenic manufacturer Model Scene has done just that with this beautifully made piece of foliage. The leaves themselves look wonderfully delicate, are well coloured and they're securely attached to the natural backing material. Each piece measures 13cm by 8cm but they're easy to cut to shape. They're best used in 'OO', but will suit other scales.

■ Model Scene also produces foliage for spring, late summer, early autumn and late autumn, all to the same high standard. **Product code:** 701-02S **Price:** £6.59 **Availability:** Scale Model Shop **Tel:** 01422 405040 **Web:** *www.scalemodelshop.co.uk* 



#### NOCH TIMBER LEVEL CROSSING



This useful crossing comes ready finished with a veneer of real wood that needs no painting. It can be cut to length using a sharp craft knife. The kit comes with supporting pieces beneath the crossing that build up the height of the crossing around the track.

**Product code:** 67105 **Price:** £18.50 **Availability:** Gaugemaster **Tel:** 01903 884488 **Web:** *www.gaugemasterretail.com* 



### ALBION ALLOYS SANDING NEEDLES

Do you struggle to get a file into an awkwardly curved shape? Or do you find yourself accidentally filling holes in kits as you're building them? Well, worry no more, for Albion Alloys has produced this six-pack of sanding needles. They're designed for smoothing curved surfaces and the pointed, needle-like end is perfect for cleaning out holes. The six-pack contain two each of 150, 240 and 320 grit needles.

Product code: 4444
Price: £5.40 Availability:
Eileen's Emporium

**Tel:** 01531 828009 **Web:** *www.* 

eileensemporium.com



#### MR HOBBY VARNISHES & PAINTS

ANY SCALE

Varnishes, paints and primers are essential products for modellers and additions to the range of established products are very welcome. Japanese manufacturer Gunze Sangyo's Mr Hobby range is well known in plastic kit and wargaming circles but less so to us in railway modelling, and are well worth checking out. The varnishes are available in a number of finishes, including gloss, semi-matt and flat, as are base colours and primers. The larger aerosol of matt varnish offers better value for money than the smaller aerosol.

■ It's also worth having a look at the Mr Hobby range of modelling fillers and putties.

Product code: Mr Hobby SF283 Base White, B 503 Matt Topcoat and B514 Super Clear Matt varnish **Price**: SF283, £5.00; B503 £8.00, B514, £8.99 **Availability:** MJR Models & Hobbies **Tel**: 01942 386790 **Web**: www.mjrmodelsand hobbies.co.uk





ANY SCALE

#### **BUSCH CYBER CLEAN**

Busch's Cyber Clean is a dirt-absorbing cleaning material that removes dirt and dust and eliminates bacteria from models. It can also be used on track to improve current pick-up and it leaves no deposit behind. To use the green gel, just press some of the flexible material carefully on the model and release it. Most surfaces can be cleaned with it and it is usable many times until it is full up with dirt. After use, store it in the resealable packing to prevent it from drying out. Cyber Clean is made of environmentally friendly material and is biologically degradable.

**Product code:** 1690 **Price:** £4.99 **Availability:** Golden Valley Hobbi**es Tel:** 01981 241237 **Web:** *www.goldenvalleyhobbies.com* 



#### DELUXE MATERIALS AQUA MAGIC – TAKE 2

**Deluxe Materials has** reformulated its Aqua Magic in ready-mixed form for making water in varying depths and to give even better results. This latest version is much clearer than the previous product of the same name. Layers can be poured on top of previously dried layers to increase the depth and, once dried, it carries a good gloss. It also has a useful screw cap for easy pouring of the fluid. Product code: BD65 (125ml); BD64 (250ml) Price: BD65, £10.25; BD64 £16.95 **Availability:** Gaugemaster Tel: 01903 884488 **Web:** www.gaugemaster retail.com



#### **Reviews**

HORNBY SKALE SCENICS MAPLE TREE PACK

This triple-pack of maple trees is one of the newest additions to Hornby's revamped Skale Scenics range. The trunk and branch armature are nicely moulded and painted in matt dark brown paint and with foliage applied to the tips and along the branches. The leaf colour on the foliage is a mixture of dark and mid-green and looks quite realistic though I'd be tempted to give it a spray of hairspray and add a few darker green bits of scatter for colour variety. The trees are 9cm tall, which is perfect for 'OO', but they would make a good tall tree in 'N'.

**Product code:** R7203 **Price:** £11.50 **Availability:** Hornby stockists or *www.hornby.com* 



#### **NOCH FENCING**



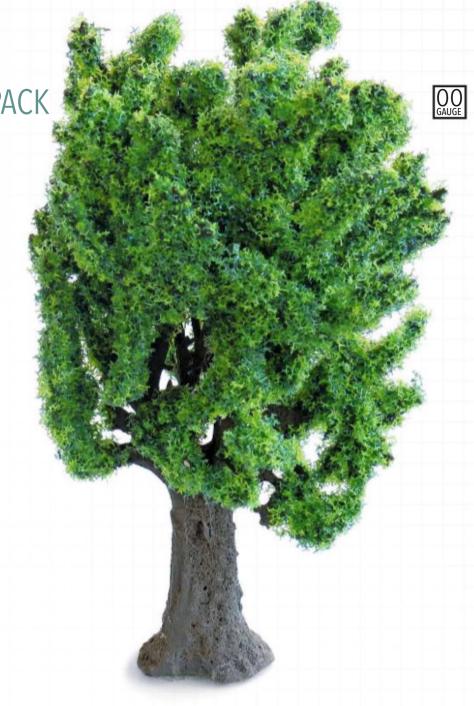
Noch has added a new style of fence to its Laser-Cut Mini range. This pack contains 31cm lengths of fence that are 1.3cm tall. The fine laser-cut parts come on backing sheets and assembly is not a quick job, but the result is worth it with a very fine and distinctive fence style that's suitable for station forecourts, car parks and a multitude of other, similar locations. Oh, clearly illustrated instructions are supplied too.

Product code: 14233 Price: £10.50

Availability: Gaugemaster Tel: 01903 884488

Web: www.gaugemasterretail.com





#### WW SCENICS WINTERY FIBRES



The sun might be shining but that hasn't stopped WW Scenics from launching a range of products to for reproducing snow on a layout. They have some very fine Snow Scatter to represent either fresh or melting snow, available in a number of different sized bags. They also produce snow tufts of various shades of white. The 2mm Snow and Melting Snow can be planted in exactly the same way as other static grass fibres through an electrostatic grass planting tool. It looks good on tree branches, roofs and the land. WWS claims that a 100g bag of 2mm Static

Grass fibres covers approximately 2½ sq/ft.

Product code: Melting Snow; Snow

Price: From £2.50 Availability:

WW Scenics, 30 Lonlas Village

Workshop, Skewen, Neath SA10 6RP

Tel: 01792 815841

Web: www.wwscenics.co.uk



#### **NOCH COWS**

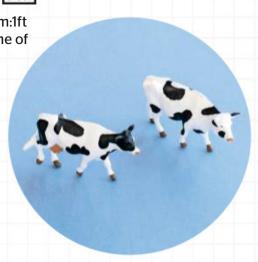
GAUGE

Noch's range of accessories for 7mm:1ft scale gets bigger all the time and one of the latest additions is this pack of four plastic cows. These plastic mouldings are superbly executed. The shape looks spot on, particularly around the backbone. The paint finish is acceptable enough but good when you consider the price – a little weathering to tone down the plastic finish wouldn't go amiss!

Product code: 17900 Price: £16.25

Availability: Gaugemaster Tel: 01903 884488

Web: www.gaugemasterretail.com





#### NOCH COLD FRAMES...

Why not add some fine detail to your miniature gardens with these laser-cut cold frames from Noch? The pair of frames come fully assembled and planted so they would be a quick and easy addition to any back garden or allotment scene. One measures 4cm by 1.6cm and the other is slightly smaller, at 2.6cm by 1.6cm. The lids are made out of clear plastic and the planted salad leaves are clearly visible.

Product code: 14025 Price: £11.50

Availability: Gaugemaster Tel: 01903 884488

Web: www.gaugemasterretail.com

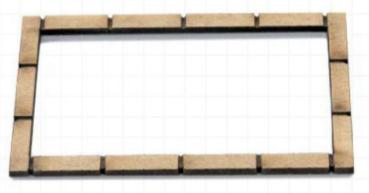


Everyone likes a neat garden, and one of the ways to achieve this is to make a formal edging to your flower and vegetable beds with bricks or dedicated ceramic pieces. Noch has produced a little set of six 6.5cm by 4cm bed borders. The card is neatly engraved and though they're designed to be used three deep (to form raised beds), they look good when used individually.

Product code: 13214 Price: £7.00 Availability: Gaugemaster Tel: 01903 884488

Web: www.gaugemasterretail.com





#### NOCH TOWN SQUARE PAVING



This is yet another innovative scenic product from Noch. It's a 15.5cm by 21cm piece of flexible paving that depicts rectangular stone setts. Dubbed Town Square, it has an excellent 3D effect that's much more realistic than paper or non-embossed card. It's easy to cut with sharp scissors or a craft knife and, once trimmed to fit is easy to fix in place with contact adhesive or PVA. Product code: 60325 Price: £13.75

Availability: Gaugemaster Tel: 01903 884488

Web: www.gaugemasterretail.com





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04

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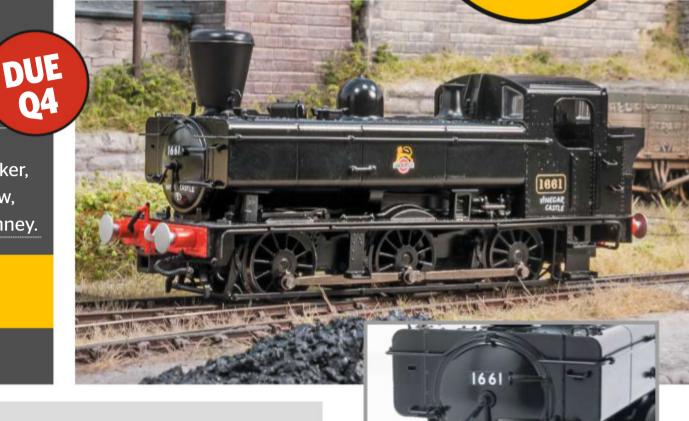
**Motor**: Five-pole

DCC socket: Next18

**Features**: NEM coupler pockets, factory-fitted speaker, sprung buffers, firebox glow, 'Busby' spark arrestor chimney.

£149.00

£134.10 price for subscribers



#### **BR BLACK, EARLY EMBLEM** (PRISTINE)

- ◆ MR-301A: No. 1609
- ◆ MR-301B: No. 1623
- MR-301C: No. 1624
- ◆ MR-301D: No. 1657
- ◆ MR-301E: No. 1664
- ◆ MR-301F: No. 1658 MR-301G: No. 1668
- ◆ MR-302A: No. 1646

#### **BR BLACK, EARLY EMBLEM** (WEATHERED)

- ◆ MR-302B: No. 1649
- ♦ MR-303: No. 1604

#### **BR BLACK, LATE EMBLEM** (PRISTINE)

- ◆ MR-304A: No. 1636
- ♦ MR-304B: No. 1655

#### **BR BLACK, LATE EMBLEM** (WEATHERED)

- ◆ MR-305A: No. 1627
- MR-305B: No. 1628

#### **GWR GREEN**

◆ MR-306: GWR green No. 1638

Please note: These are pre-production evaluation samples. They do not represent the factory-finished models.

#### **'BUSBY' CHIMNEY**

- ♦ MR-307A: BR black early emblem pristine, No. 1616
- ◆ MR-307B: BR black early emblem pristine, No. 1629
- ◆ MR-308: BR black early emblem weathered, No. 1661

#### **NCB GREEN**

- ◆ MR-309A: NCB green, No. 1600
- ◆ MR-309B: NCB green, No. 1607

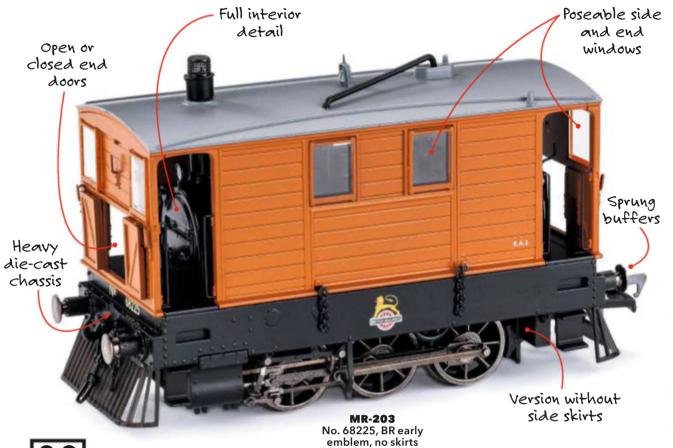
#### PRESERVED GREEN

- ◆ MR-310A: Green early BR emblem, No. 1638
- ◆ MR-310B: Green 'Dart Valley' lettering, No. 1638



Order yours at WWW.MODELRAIL

Please note: Guises may change without notice.



#### **Specification list**

Made by: Rapido Trains

**Motor**: Coreless

DCC socket: Six-pin

**Features**: NEM coupler pockets, space for sound speaker, sprung buffers,

removable cowcatchers, posable windows and end

doors, etched worksplates.

£127.50

£114.75 price for subscribers



## LNER 'J70s'

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MR-203 No. 68225, BR early emblem, no skirts



MR-204 No. 68226, British Railways lettering, no skirts



MR-201 No. 68219,

BR early emblem

MR-205 No. 68223, British Railways lettering, full skirts



MR-202 No. 68222, BR early emblem, full skirts



MR-206 No. 7128, LNER wartime livery, full skirts



MR-207 No. 8223, LNER post-war livery, full skirts



MR-208 No. 7126, LNER lined livery, no skirts



MR-209 No. 7137, LNER unlined livery, full skirts



MR-210 No. 7139, LNER lined livery

## OFFERS.CO.UK OR 01209 705459

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Roof ventilator



#### **Specification list**

Made by: Bachmann/Kader

**Motor**: Three-pole

DCC socket: Six-pin

Features: NEM coupler

pockets, two types of cab,

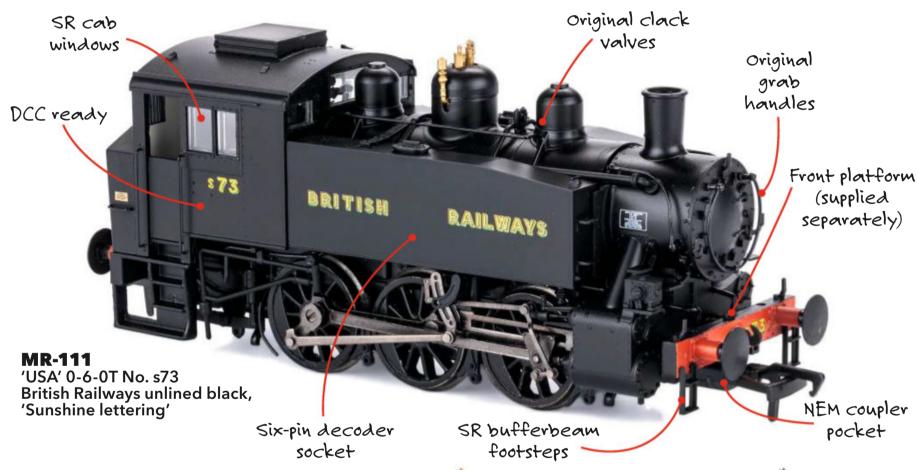
footsteps, separately fitted

different smokeboxes, different

hinged platform.

MR-111 and MR-104A

£116.95 price for subscribers



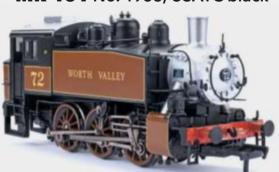
## We've frozen the original 2017 price on these models

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£112.46 price for subscribers



MR-101 No. 1968, USATC black



MR-108 No. 72, Keighley & Worth Valley Railway ochre



MR-107 No. 36, National Coal **Board black** 



MR-110 No. DS237 Maunsell, **BR** Departmental green

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## **COMING SOON FROM MODEL RAIL**



BR Class 11 0-6-0DE

Produced by Helian



Ruston 'PWM' GAUGE 0-6-0DE

Produced by Heljan in partnership with Kernow MRC



009 Vale of Rheidol 2-6-2T

● Order book for these new models not yet open. Keep an eye out in *Model Rail* for updates.



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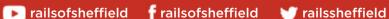
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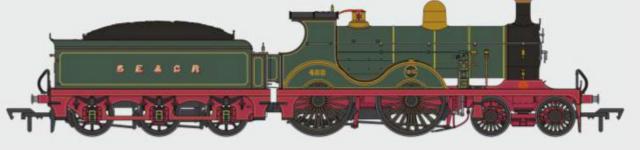
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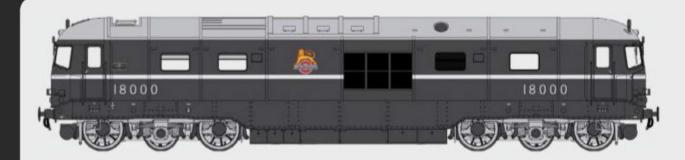
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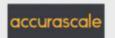
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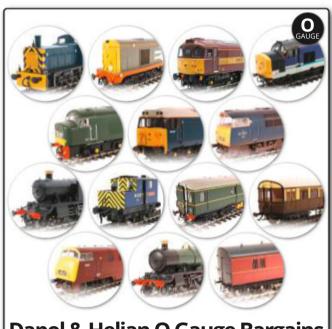
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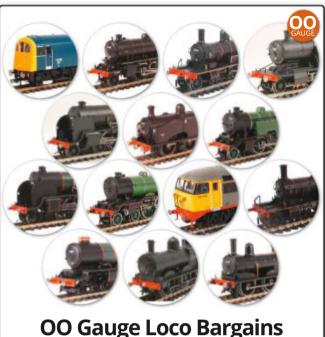
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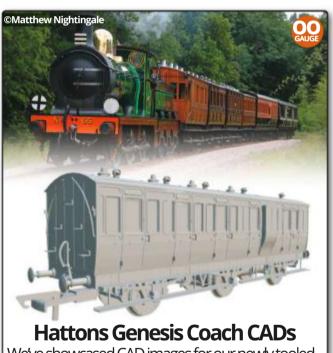


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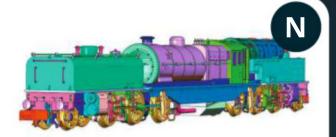
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2D-019-202 Class 43 HST pair of powe 43166 in Intercity swallow (Dap) NEW 202 Class 43 HST pair of power cars 43041 and . £127.50



2D-019-201 Class 43 HST pair of power cars 43131 and

43128 in Intercity executive (Dap) NEW£127.50	ı
Wagons	ı
NR-93 12' wheelbase wagon chassis - plastic kit (Pec) NEW £7	l٠
Model railway spares	g H
NR-90 Brass circular buffer heads - pack of 20 (Pec) NEW £4	ľa
Buildings - general	ľ
KD1005 Dockside loading crane - plastic kit (Gau) NEW £14.50 KD1012 Garden nurseries / allotment - plastic kit (Gau) NEW £17 KD1013 Modern supermarket - plastic kit (Gau) NEW £33	
Grass, ground, lichen, hedges and foliage	Ш
TAS074332 Water Lillies - 6 per pack (Tas) NEW £6.50	Ш
Track - Code 55 Finescale	Į,

SL-300F 1 yard (91.5cm) length of Finescale Nickel Silver flexible Wooden Sleeper track (Pec) . . . . . SL-300F Pack of 30 (Pec) . . . . .

**Commercial vehicles** NTRAC003 Fordson Tractor Yellow Highways Dept (Oxf) NEW



## O Gauge (1:43 Scale)

7S-005-004 Class 0F Sentinel 4wVB 7160 LMS black (Dap) 7S-005-004D Class 0F Sentinel 4wVB 7160 in LMS black - DCC



7S-006-023 Class 14xx 0-4-2T 1426 in BR lined green late 

 crest (Dap).
 £191.25

 4311 Class 43xx Mogul 2-6-0 4358 in BR lined green early emblem (Hel) (RRP £779)
 BARGAIN
 £560



4313 Class 43xx Mogul 2-6-0 5306 in BR unlined green late crest (Hel) (RRP £779)......BARGAIN...£560 4312 Class 43xx Mogul 2-6-0 5330 in BR lined green late crest (Hel) (RRP £779)



4301 Class 43xx Mogul 2-6-0 5355 in GWR green shirtbutton emblem (Hel) (RRP £779) . BARGAIN. . . .£560 4310 Class 43xx Mogul 2-6-0 5378 BR black early emblem (Hel) 6101 Class 61xx 'Large Prairie' 2-6-2T 6106 in GWR green GWR lettering
- as preserved (Hel) (RRP £699) BARGAIN £495 - as preserved (HeI) (RRP £699) BARGAIN £495 6100 Class 61xx Large Prairie' 2-6-2T 6110 in GWR green Great Western lettering (HeI) (RRP £699) BARGAIN £495 6103 Class 61xx Large Prairie' 2-6-2T 6111 in BR unlined green late crest (HeI) (RRP £699) BARGAIN £495



6104 Class 61xx 'Large Prairie' 2-6-2T 6132 in BR lined 6104 Class 61xx 'Large Prairie' 2-6-2T 6132 in BR lined green late crest (Hel) (RRP £699) ... BARGAIN ... £495 6102 Class 61xx 'Large Prairie' 2-6-2T 6144 in BR black early emblem (Hel) (RRP £699) ... BARGAIN ... £450 6121 Class 61xx 'Large Prairie' 2-6-2T in BR black early emblem unnumbered (Hel) (RRP £699) ... BARGAIN ... £495 6123 Class 61xx 'Large Prairie' 2-6-2T in BR lined green late crest unnumbered (Hel) (RRP £699) ... BARGAIN ... £495 6122 Class 61xx 'Large Prairie' 2-6-2T in BR unlined green late crest unnumbered (Hel) (RRP £699) ... BARGAIN ... £495 6120 Class 61xx 'Large Prairie' 2-6-2T in GWR green Great Western lettering unnumbered (Hel) (RRP £699) ... BARGAIN ... £495 6120 Class 61xx 'Large Prairie' 2-6-2T in GWR green Great Western lettering unnumbered (Hel) (RRP £699) ... BARGAIN ... £495 H7-A3-006 Class A3 4-6-2 60077 "The White Knight" in BR green late crest and unstreamlined non-corridor tender (Hel) ... £750 crest and unstreamlined non-corridor tender (Hel).



H7-A3-007 Class A3 4-6-2 60103 "Flying Scotsman" in BR



H7-A4-005 Class A4 4-6-2 4464 "Bittern" in LNER Garter blue streamlined corridor tender - "Record Breaker" (Hel). . . £750



H7-A4-006 Class A4 4-6-2 60007 "Sir Nigel Gresley" in BR express blue unstreamlined corridor tender - "Record Breaker" (Hel) . . £750



H7-A4-008 Class A4 4-6-2 60009 "Union of South Africa" in BR green late crest and unstreamlined corridor tender (Hel) . . . £750 H7-A4-007 Class A4 4-6-2 60012 "Commonwealth of Australia" in BR reen early emblem and streamlined corridor tender (HeI) .......



7S-005-001 Class 13 Sentine 1 1 2 BARGAIN £130 (RRP £175) BARGAIN £130 (75-005-001D Class Y3 Sentinel 4wVB 42 in LNER black - DCC fitted (Dap) BARGAIN £155 'S-005-005D Class Y3 Sentinel 4wVB 68164 in BR black early emblem



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2070 Class 03 shunter 2096 BR blue 'flowerpot' exhaust (Hel) (RRP £395) BARGAIN



2073 Class 03 shunter in BR blue conical exhaust unnumbered (Hel) (RRP £395).....BARGAIN....£295



2052 Class 03 shunter in BR green no yellow ends and 'flowerpot' exhaust - unnumbered (Hel) (RRP £395). BARGAIN £295 2059 Class 03 shunter in Industrial dark blue (Hel) (RRP £395)BARGAIN . £295 2058 Class 03 shunter in Industrial yellow wasp stripes - unnumbered (Hel) Class us strainer in industrial yellow wasp singles - unfinitificities (IRRP £395).

BARGAIN.

2012 Class 20 in BR blue full yellow ends; pre-TOPS style double arrow the cabsides and 4-character headcodes (HeI) (RRP £599)BARGAIN 2014 Class 20 in BR blue full yellow ends; TOPS style double arrows on the cabsides and '0000' headcodes - weathered (HeI) (RRP £599)BARGAIN .£450 2010 Class 20 in BR green small yellow panels and 4-character headcodes (Hel) (RRP £599)....BARGAIN £450



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(RRP £549).

BARGAIN £415

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BARGAIN £415

3743 Class 37/4 EWS maroon and gold - unnumbered (Hel) (RRP £599).

BARGAIN £450



3742 Class 37/4 in Intercity Mainline - unnumbered (Hel) (RRP £599)......BARGAIN....£450



3744 Class 37/4 in Regional Railways - unnumbered (Hel)



4205 Class 42 Warship 829 "Magpie" in BR blue (Hel) 
 RRP £699).
 BARGAIN
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 203 Class 42 Warship D815 "Druid" in BR maroon full yellow ends (Hel) (RRP £699)
 BARGAIN
 £480
 (RRP £699).... 



4026 Class 50 50008 "Thunderer" in BR departmental Laira blue (1990s Railtour condition) - Exclusive to Hatton's (Hel) /S-005-001 Class Y3 Sentinel 4wVB 42 in LNER black (Dap)
RRP £175)
BARGAIN. £130
| (RRP £699)
| Washington and Contained Conta



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BARGAIN .£525 RRP £699)



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GM7000102 "The Didcot Survivor" - premium O gauge starter train set (Gau).....£595

Coaches



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7F-072-005 7 plank open wagon "F Meaker" (Dap) NEW . £39
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7F-043-004 YCV 'Turbot' bogie ballast wagon DB978337 in BR Civil Engineers 'Dutch' (Dap) NEW.



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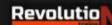
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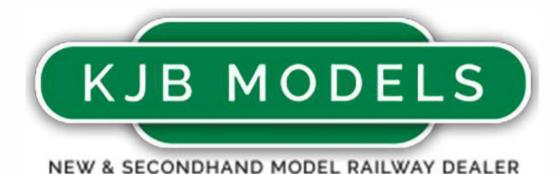
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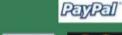
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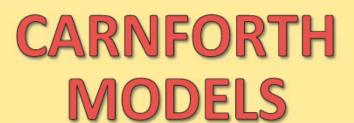


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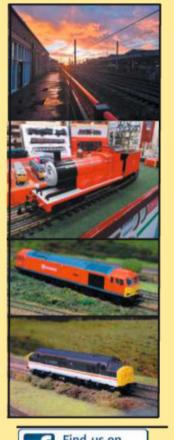
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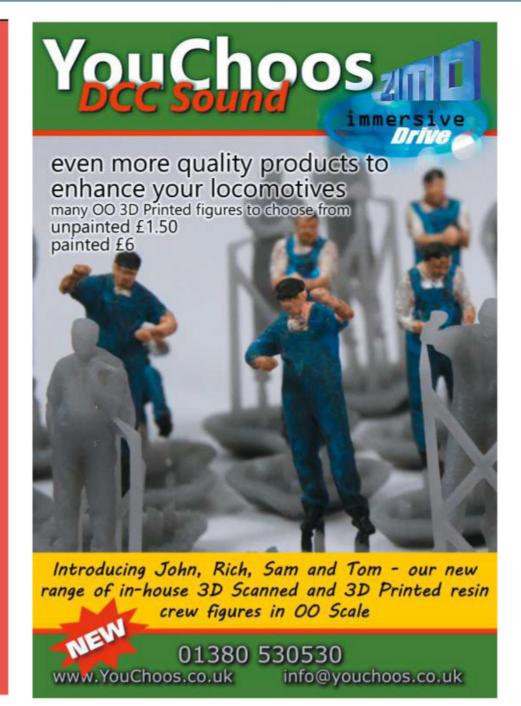
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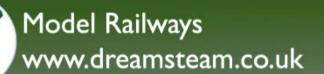
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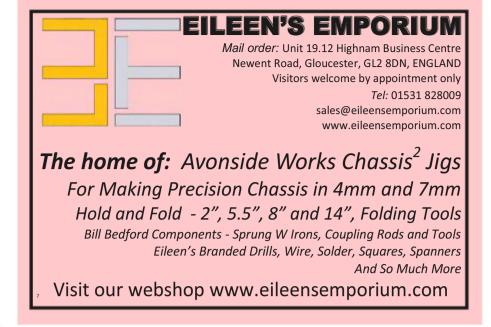
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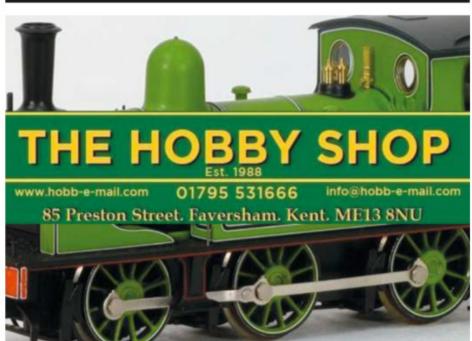
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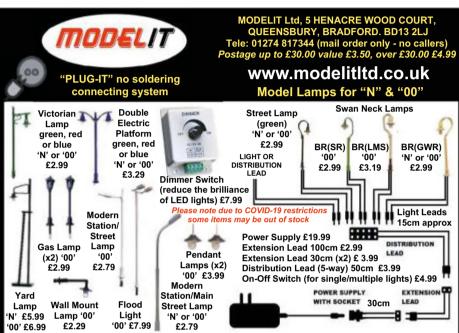
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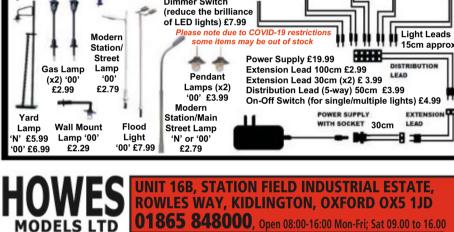
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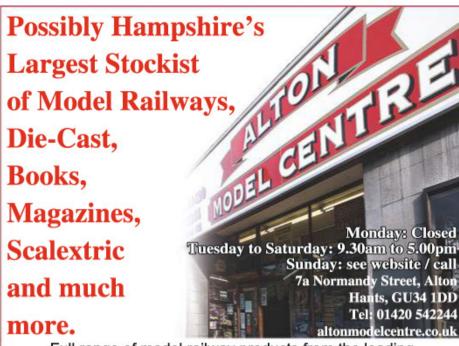












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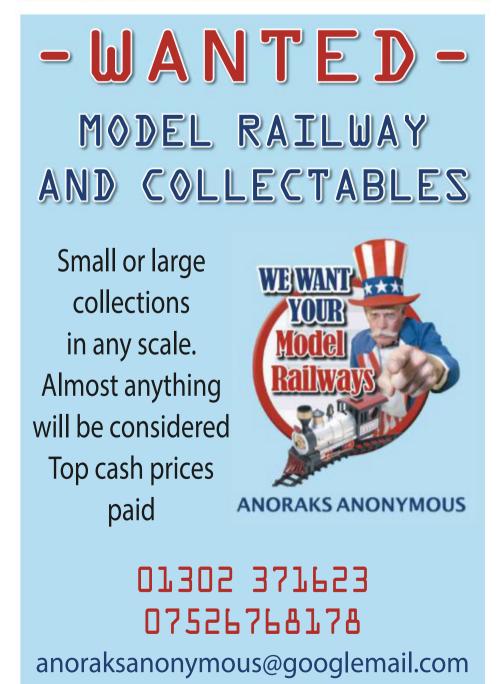
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## Present your case

If there's a locomotive that you think needs to be offered ready-to-run, here's the place to voice your opinion...

#### Locomotive:

Alstom Class 180 five-car DMU

**Gauge:** '00'

Proposed by: Mel Holley, by e-mail

#### What is it?

As part of its franchise agreement, First Great Western (FGW) committed to increase its Paddington-South Wales expresses to half-hourly frequency, requiring extra 125mph trains. With no surplus HSTs, it turned to Alstom with an order for 14 five-car Class 180s, similar to an order for 26 100mph Class 175 DMUs already under construction for First North Western.

Part of Alstom's new 'Coradia 1000' family of EMU/DMU designs, used in Canada, Africa and Europe, the Class 180 were the first 125mph diesel passenger trains to be built in Britain since the final HSTs in 1982. The first '180' rolled out of Washwood Heath works, Birmingham, in April 2000 and was given the brand name 'Adelante' by FGW.

The only high-speed diesel-hydraulic trains in the world, one bogie of each coach is driven by a 750hp Cummins QSK19 diesel, through a three-speed Voith transmission. With big picture windows, the airy interior is more like the popular Mk 3 than any other new train.

Despite the QSK19 also powering Bombardier's Class 220/221 Voyagers, the 'Adelantes' are quieter and more pleasant. Popular with passengers, they have contributed to Hull Trains and Grand Central's top passenger satisfaction scores.

Like most new trains, their introduction was painful and they didn't enter service until December 2001. Plagued with faults, FGW eventually obtained more HSTs and, between 2007-2009, handed back most of its '180s' to owner Angel Trains, although FGW did lease some again until 2017.

After refurbishment, the fleet was split between open-access operators First-owned Hull Trains and Arriva-owned Grand Central. The latter units underwent major modifications to improve reliability.

#### What would make it viable?

Although the interior layouts differ, there are only two bodyshells; the driving and centre cars, helping with tooling costs.

They cover wide geographical areas, including three leased from FGW to Northern Rail in 2008-2011 for Manchester-Blackpool services.

Delivered in FGW's 'Barbie 2' livery, they later carried the attractive FGW 'dynamic lines' livery. Grand Central's striking black/ orange suits them, as does Hull Trains' 'dynamic lines'.

Being transferred this year to East Midlands Railway (EMR), they are likely to carry its new purple livery. With a ban on building new diesel trains, they are likely to be in service for at least another 15 years.

#### Can I see a real one?

Yes! Grand Central's Sunderland/Bradford Interchange-King's Cross routes and Hull Trains, although its sets are being transferred to EMR for Midland Main Line expresses.

#### Have your say

Do you agree with Mel's argument? Go to www.model-rail.co.uk and take part in our vote.

#### How to join in

Want to present your own case? Send us 400 words explaining your choice to modelrail@bauermedia.co.uk, putting 'Present Your Case' in the subject line.



# Behind the Backscene

Model Rail fires the questions at Oxford Rail's gin and chocolate enthusiast **Scott Rhodes**.

Scott Rhodes is Oxford Rail's Brand Developer.

**66** I'm actually

standard! >>

a good cook - though

not quite Master Chef

1 What was your first train set/model? A Bachmann Class 66.

**2 Are you working on a layout now?** Yes, it's a fictional North Eastern Region layout.

**3 What piece of modelling are you most proud of?** My first kit-built locomotive, an Agenoria Andrew Barclay 0-6-0T.

4 Have you ever finished a model railway? Is a model ever finished? There is plenty of detail to keep adding – after all, the devil is in the detail.

**5 Favourite trainspotting location?** Cardiff.

**6 Favourite locomotive?** Class 37.

7 When did you start working in the model railway industry?

I started in a model shop in 2005 and joined Oxford Rail in 2017.

8 What did you do beforehand? Completed my degree.

**9 What modeller has influenced you the most?** Roye England. But also old friend John Rogers, who always encouraged me to push my modelling skills.

10 What is one of the things you would put on your 'bucket' list?

Round-the-world cruise.

11 Strangest thing you've ever eaten? Laverbread.

**12** What is one of your weird quirks? I have many, but overthinking silly situations.

13 Favourite film?
The Titfield Thunderbolt.





#### 14 What book are you reading at the moment?

Neath Enginemen, Reminiscing Steam in South Wales, compiled by Bryan King, Oakwood Press.

15 If you were stranded on a tropical island, what two things would you want with you?

**16** What have you done that you are most proud of? Becoming a homeowner.

**17 What is your favourite song?** *Bohemian Rhapsody* by Queen.

A boat and a good supply of gin.

**18 First record you bought?** *Queen* by Queen.

**19 What is the best advice you ever had?** If at first you don't succeed, try, try again.

**20** What is one food you wouldn't want to give up? That's easy – chocolate!

21 If you had access to a time machine, where and when would you go?

Back to the 1950s to see the UK and its railway network.

**22** What was your favourite cartoon show growing up? *Thomas the Tank Engine.* 

23 Temptation you wish you could resist?

Buying models that I will never use or build.

**24** What is your best childhood memory? Days out with Mum and Nan. Lots of fond memories.

25 The hidden talent which would surprise people? I'm actually a good cook – though not quite *MasterChef* standard!

26 If you could pass any new law?

Outlaw profiteering from a bad situation or event.

**27 What do you drive?** VW T-Cross.

28 Perfect Sunday?

Sat in a carriage on the Severn Valley Railway admiring the scenery, followed by a Sunday roast.

**29 Who would you like to play you in a film?** Anthony Hopkins.

**30 How would you like to be remembered?** A good friend who was always there when needed.

**Next month** LNER expert, locomotive builder and photographer **Tony Wright**.

## Selling your model railway

Warwick and Warwick have an expanding requirement for early to modern collections of British and Foreign trains and train sets from large accumulations to items of individual value. Our customer base is increasing dramatically and we need an ever larger supply of quality material to keep pace with demand. The market has never been stronger and if you are considering the sale of your collection, now is the time to act.





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## **GAUGEMASTER**









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GMKD25

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GMKD26

Corner Pub





Three Storey Town Shop Modern Fire Station

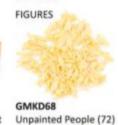
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Crime Scenes (9)

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