

GAUGEMASTER Analogue Control



Choose your controller for life with the Gaugemaster Lifetime Guarantee...

We have been producing Model Railway Controllers for over forty years. Our analogue controllers have stood the test of time, and so has our **lifetime** guarantee:

"We undertake to replace, free of charge, any parts found defective within the lifetime of the unit providing that the item has not been tampered with."

What's the difference between the controller types?

Our Mains Powered Cased Controllers come complete with transformer, and can just be plugged in, connected to the track, and away you go. Panel Mounted Controllers require a separate transformer, and also need to be mounted onto a control panel to be used effectively.

We also produce various controllers with **Feedback** and **Simulation**, two effects controlled by the controller itself. **Feedback** senses the load on the circuit and helps maintain the locomotive at a steady speed up and down gradients. **Feedback** controllers are not suitable for use with locomotives with coreless motors. **Simulation** (also known as Inertia) allows a train to accelerate, coast, and be braked to a standstill, by use of a regulator and a brake.

MAINS POWERED CASED CONTROLLERS

GMC-COMBI Single Track Controller/Transformer Most Suited for HO/OO/N Scale Layouts



Fantastic for small layouts or beginners upgrading a starter set, the Combi has both a 12V DC output to run one track, and a 16V AC output for accessories.



GMC-D Twin Track Controller Most Suited to HO/OO/N Scale Layouts



Our best selling controller. Runs a two track railway with minimum of fuss. The D Controller has two 12V DC track outputs, as well as a 16V AC output for accessories.

Most Suited to OO/HO/N/Z Scale Layouts

SERIES U

GMC-U Single Track Controller with Simulation



GMC-Q Four Track Controller Most Suited to OO/HO/N Scale Layouts



The best selling four track controller available today. It offers impressive value for money with its four 12V DC track outputs, and two of 16V AC and 12V DC outputs for accessories.



PANEL MOUNTED CONTROLLERS

GMC-100 Single Track Panel Controller Most Suited to OO/HO/N/Z Scale Layouts



Some modellers may wish to incorporate their controller into an overall panel to control their layout. The Model 100 Controller has a single 12V DC output.



With the brake knob controlling the 12V DC track output, this controller allows you greater realismwhen running locomotives.



GMC-W Single Track Walkabout Single Track Controller Most Suited to OO/HO/N/Z Scale Layouts



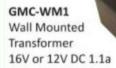
Fitted with 1.5m of cable, this controller allows you the freedom to move around your layout while still controlling your layout. it has a single 12V DC track output.



Did you know...

If you don't have a handy accessory output from a controller, the **GMC-WM1** Wall Mounted Transformer can be used on its own to power accessories, such as point motors and lights from the 16V

output. Just plug it in and connect it up!



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PRICES

Cased Controllers

GMC-COMBI	Single Track Controller/Transformer	£45.00
GMC-100M	Single Track Controller	£115.00
GMC-100MO	Single Track Controller for O Scale	£120.00
GMC-10LGB	Single Track Controller for G Scale	£125.00
GMC-10LGB5F	Single Track Controller for G Scale with Fan	£215.00
GMC-P	Single Track Controller with Simulation	£125.00
GMC-D	Twin Track Controller	£125.00
GMC-DS	Twin Track Controller with Simulation	£200.00
GMC-TS	Three Track Controller with Simulation	£215.00
GMC-Q	Four Track Controller	£225.00

Panel Mounted Controllers (Orange text shows transformer required

GMC-100	Single Track Controller (GMC-T1/M1)	£45.00
GMC-100.0	Single Track Controller for O Scale (GMC-T2/M2)	£50.00
GMC-U	Single Track Controller with Simulation (GMC-T1/M1/WM1)	£55.00
GMC-UF	Single Track Controller with Feedback (GMC-T1/M1/WM1)	£50.00
GMC-UO	Single Track Controller with Simulation for O (GMC-T2/M2)	£70.00
GMC-UD	Twin Track Controller (GMC-T1/M1/WM1)	£65.00
GMC-UDS	Twin Track Controller with Simulation (GMC-T1/M1/WM1)	£90.00
GMC-UQ	Four Track Controller (GMC-T1/M1/WM1)	£100.00

See the GM365 Gaugemaster Catalogue (£5.00) for more details

Walkabout and Hand Held Controllers

GMC-W	Single Track Walkabout Controller	£40.00
GMC-HH	Single Track Handheld Controller with Feedback	£45.00
Transforme	rs	
GMC-M1	Cased Transformer 16V AC	£60.00
GMC-M2	Cased Transformer 18V AC 2.5V	£60.00
GMC-M3	Cased Transformer 24V AC	£60.00
GMC-M4	Cased Transformer 12V AC	£60.00
GMC-T1	Open Transformer 2x 16V AC 1a	£30.00
GMC-T2	Open Transformer 18V AC 2.5a	£30.00
GMC-T3	Open Transformer 24V AC	£30.00
GMC-T4	Open Transformer 2x 12V AC 1a	£30.00
GMC-WM1	Wall Mounted Transformer 16V or 12V DC 1.1a	£25.00
GMC-WM2	Wall Mounted Transformer 9v DC (1600mA) 1.6A	£20.00
GMC-WM3	Wall Mounted Transformer Kato Unitrack UK Power Supply	£20.00
GMC-WM4	Wall Mounted Transformer 12v DC Smoothed for Lighting	£20.00
GMTFK1	Transformer Fitting Kit for T1/T3/T4	£15.00
GMTFK2	Transformer Fitting Kit for T2	£15.00

GAUGEMASTER products are available from your local model shop or, in case of difficulty, direct from ourselves

GAUGEMASTER Controls Ltd, Ford Road, Arundel, West Sussex, BN18 OBN, United Kingdom

tel - 01903 884488 fax - 01903 884377 email - sales@gaugemaster.com





PLUS Four ideas for unusual water scenes you can build

Have your say on new models see page 8

REVEALED

The ultimate room-filler layout design you can build

DISCOVER

BR's strangest railway... and build its locomotives

Workbench

Practical modelling projects from our experts

- Rebuild damaged wagons
- Personalise destination blinds
- Load your stone wagons
- Upgrade RailRoad HST

23 PAGES OF REVIEWS!

BACHMANN CLASS 117



HORNBY '61XX'



WELCOME TO THE FASCINATING WORLD OF STEAMPUNK!

SteamPunk – It's awesome, unique, quirky, stunning and unusually fascinating.

SteamPunk is a subgenre of science fiction where a world of fantasy meets science, incorporated by the technology of steam-powered machinery and combined with the 19th century British Victorian era.

STEAMPUNK LOCOMOTIVES & ROLLING STOCK



BL2001 'Leander' Adder Stone's Coop Commandoes Engine

BL2002 'Fearless' Boston Grey's Hatters Engine

BL2003 'Rogue' Lady Triphenia Lovelace's Diesel Dames Engine



BL4001 Thermopile Impulsion Tea Coach



BL4002 Difference Engine Factory Coach



BL6003 Dinosaur Hatchery Wagon



BL6001 Darjeeling Crate Wagon



BL6002 Hatter Milliner Wagon



BL6004 Goggle Polisher Wagon

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Welcome



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MODEL RAIL

brought to you by



Richard Foster After slashing my fingers, I've stopped experimenting with Shaper Sheet and gone back to plaster cloth!



George Dent
I recently moved into
a bigger workshop with
lots of natural light - my
old space was cramped
and dingy.



Chris Leigh
My layout has gained another pub - so far, a hotel, two pubs, a theatre and a cinema - entertainment city!



Chris Gadsby
My partner has lost me
to Sky Sports with sport
back; I'm allowed as
long as I help her with
her modelling projects!



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 easy-to-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 102-105.



Well, here we are in August and life is very slowly returning to something like normality. You'll see it reflected in the Workbench section and the Reviews sections, which is positively bursting with new models.

It was, perhaps, no surprise that the organisers of Warley National Model Railway Exhibition took the difficult decision to not continue with 2020's show (MR276). Nothing will be able to replace the biggest show in the exhibition calendar, but we have plans to bring you as close to a Warley experience as it's possible to have via the printed page.

Aside from the great layouts and the exciting new announcements, one key part of Warley is the demonstration area, where you can get some valuable one-on-one time with expert modellers. So, with that in mind, we're offering you the chance to ask our experts to help with your modelling problems. Whether it's something scenic, an issue with DCC or a perplexing painting problem, e-mail *modelrail@bauermedia.co.uk* with what you'd like help with (sadly, with the office still closed, we can only receive e-mail suggestions). We'll pick out the three best ones and turn them into practical demonstrations that will be published in the issue. The closing date for receiving your modelling queries is September 5.

We've also had ideas for some more exciting and exclusive models but we can only make them happen with your support. Turn to page 8 to find out more.

Richard Foster Editor

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- **A:** Check out the online index, kindly provided by UK Model Shops, at www.ukmodelshops. co.uk/ModelRail
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- **A:** Go to www.modelrailoffers.co.uk or call 01209 705459.
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For all other enquiries, you can contact us by **e-mail:** modelrail@bauermedia.co.uk

Postal address

Model Rail, Media House, Lynchwood, Peterborough Business Park, Peterborough PE2 6EA.

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

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

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Opening the box

The Big Picture
This month's Big Picture comes from
Marcus Lambert's 'Bradwell Point'.

News
The latest news from the world of model railways.

Crossword
A bumper puzzle to test your knowledge of the UK rail network.

According to Chris
Chris discusses the benefits of modelling as part of a team.

Inspiration

Masterclass: Class O1
The story of BR's lowliest diesels - and their unusual North Wales home.

Masterplan: Tiers
Paul A. Lunn shows you how to take your layouts to the next level - literally.



Regulars

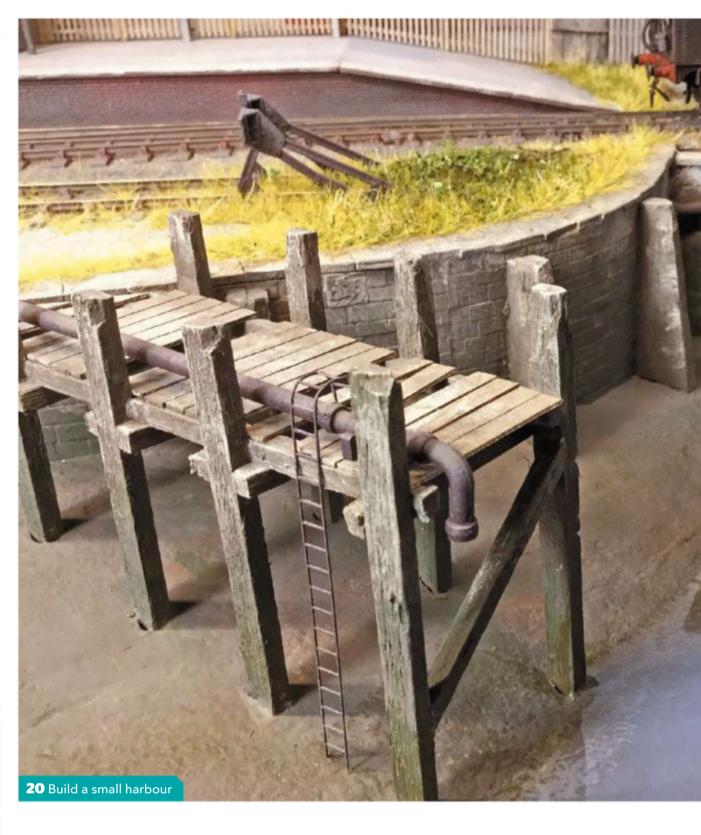
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SUBSCRIBE

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see p16

Looking for a previous article?

Search the online index at: www.ukmodelshops.co.uk/modelrail







Workbench

Build a small harbour
Chris Nevard shows you how simple it can be to add a harbour to your layout.

Build a watermill
George Dent creates a watermill
scene based around a Wills plastic kit.

Model a muddy field
Peter Marriott gives a tutorial on
creating this pastoral mini-diorama.

Make white water
Chris Leigh makes a Scottish stream
with a waterfall.

Create a swimming pool
Chris Gadsby takes inspiration from a lido and then builds it in 'N' gauge.

Update a water feature
Peter Marriott shows you how to
freshen up a water feature.









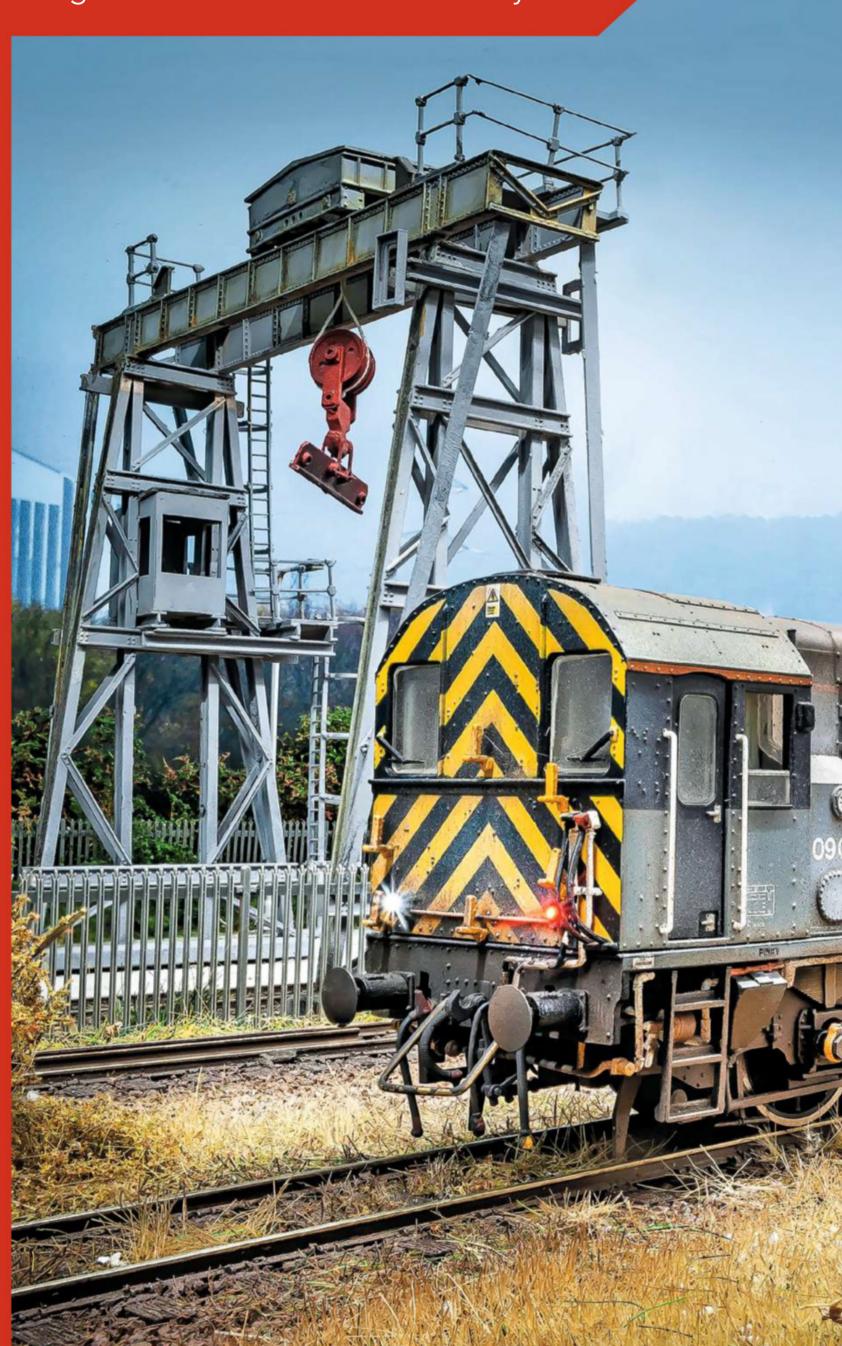


Opening the box

The latest happenings from the world of model railways



Welcome to 'Bradwell Point', Marcus Lambert's hugely evocative 'OO' gauge nuclear flask terminal. It's one of the 12 fabulous model railways that star in our exclusive publication **Great British** Model Railways. GBMR was due to go on sale during the spring but it was postponed owing to the Covid-19 pandemic. However, we're pleased to announce its new publication date: August 26 2020. Purchase your copy from www. greatmagazines. co.uk Photography: CHRIS NEVARD





Opening the box

t Model Rail we're always on the lookout for opportunities to bring you exciting new models... and Heljan's all-new 'OO' gauge Class 47 offers two such opportunities, including a locomotive that's never been produced ready-to-run before. But these projects can only go ahead with YOUR support.

BR ordered five Type 4 Co-Cos from Brush with Sulzer V12 engines, rather than the 12-cylinder twin-bank Sulzer engines fitted to the rest of the Type 4 fleet. These locomotives, D1702-D1706, became Class 48 under BR's TOPS classification system but, due to the engine's unreliability, they were rebuilt as standard Class 47s between 1969 and 1971. One, D1705, survives at the Great Central Railway.

Our proposed model would feature a bespoke body with Class 48 specific exhaust ports. The models would predominantly be offered in prototypical BR two-tone green with warning panels or yellow ends, but that doesn't rule out the option to produce some later schemes with fictional '48XXX' numbers, if demanded (the real locomotives became 47114-47118 under TOPS).

We have also been offered the chance to produce a limited run of Heljan's new model in EWS maroon/gold livery. This livery is

NEW EXCLUSIVE MR MODELS - HAVE YOUR SAY





not being offered as part of the main range.

But that's not all...

We also have the opportunity to produce the SR 'USA' O-6-OT and Ruston 'PWM' O-6-ODE in 'O' gauge with Heljan. The 'USA' would only be offered with Southern Railway cabs and bunkers but with the option of BR modifications, such as the hinged platform under the smokebox door. The RRP would be somewhere in the region of £475, while the 'PWM' could cost approximately £395.

We need to know whether there is a market for these 'OO' and 'O' gauge models. To register your interest (and remember this is not a commitment to buy) please e-mail modelrail@bauermedia.co.uk with 'New Models' in the subject line. We look forward to hearing from you!

◆ Would 'O' or 'N' gauge modellers also be interested in 7mm:1ft or 2mm scale version of our LNER 'J7O' O-6-OT and WR '16XX' O-6-OPT? Please let us know what you think.

STOP PRESS

'66' EXCLUSIVES

We're pleased to announce that we have some analog versions of our exclusive Bachmann Euro Cargo Rail Class 66 66062 available. These are previously sound-fitted models with the sound decoder removed but they are otherwise new. RRP is £145.00 (subscribers pay just £130.50). Numbers are limited so order yours today to avoid disappointment! Go to www.modelrailoffers.co.uk









OO GAUGE



HORNBY'S OPEN 3RD

Hornby has added a new vehicle to its 'OO' gauge Liverpool & Manchester Railway range. The open Third four-wheel coach joins the closed First class coaches that are offered along with Robert Stephenson's famous *Rocket* in commemorative train

packs. The new model, which Hornby says boasts etched brass and separately fitted parts, is expected to arrive this September.

Price: £16.99

Availability: Hornby stockists or *www.hornby.com*



Irish Railway Models now offers a range of accessories to suit its forthcoming bogie wagon models. Its pack of eight pallets of bagged fertiliser (rrp €9.95) complements the bogie fertiliser wagon that's currently in development, while the pack of two 20ft containers in CIÉ

livery fit the 42ft container wagon (see p98). RRP for the container pack is €12.95.

Availability: Irish Railway Models Ltd, Unit 8, The Hyde Building, The Park, Carrickmines, Co. Dublin D18 Y3F9 Ireland Web: www.irishrailway models.com



DREAMING IN COLOUR

Dapol has unveiled the liveries for its forthcoming 'N' gauge Mk 3 sleeping cars: BR blue/grey, InterCity grey, First Great Western 'fag packet' green, First purple and GWR green, original First ScotRail sleeper as well as Serco and Jarvis Departmental colours. RRP is £29.95 and they're available from Dapol stockists.

◆ KMS Railtech has commissioned four exclusive Mk 3 sleeper twin-packs. KMS1 is in Caledonian Sleeper teal and they're joined by First ScotRail's gold band and white band liveries, as well as de-branded Caledonian Sleeper blue. RRP for each pack is £58.00. Availability: KMS Railtech Tel: 0131 618 8822 Web: www.kmsrailtech.co.uk



FIRST LOOK: NOCH GRAS-MASTER 3.0

By Peter Marriott

Can it really be 15 years since Noch introduced its first Gras-Master electrostatic grass applicator? Since then, static grass has been hugely popular and there is now much competition for the Gras-Master!

Noch, therefore, has given its tool an ergonomic refresh. The wider handle makes it easier to use and the new sieve design improves ability to 'charge' the fibres.

Gras-Master 3.0 (product code: 60110) provides approximately 11kV power for 'amateur' modellers, whereas the more powerful 3.0

Profi (product code: 60112) delivers 16kV for 'professional' modellers.

Both models come with three screw-on sieves for short, medium or long static grass fibres. The Profi version is powered by eight supplied 1.5V AA batteries with an operating cycle of 10-12 hours. The Gras-Master 3.0 uses four batteries and is smaller and lighter than the Profi version, giving an operating cycle of 3-4 hours. While the 3.0 feels a lot bigger (and heavier!) than the original version, I do like its non-slip handle. I look forward to testing it against its predecessor and some competitors in the





weeks ahead - and a full review will appear in *Model Rail* in due course. **Price:** £115.00 (Gras-Master 3.0); £175.00 (3.0 Profi) **Availability:** Gaugemaster **Tel:** 01903 884488 **Web:** www.gaugemaster

In Brief

SMOKIN' '59'

Dapol has confirmed that its forthcoming Class 59 will be the first 'OO' gauge diesel-outline model to be fitted with a smoke unit to recreate diesel exhaust. The new '59' is expected mid-2021 and the exhaust-fitted models have a retail price of £219.95 (RRP for a standard Class 59 is £154.95).

OPEN AGAIN

Decal specialist Cambridge Custom Transfers can once again accept orders, having temporarily suspended business due to the Covid-19 pandemic. However, it is only accepting orders via e-mail. Proprietor John Isherwood said: "Unfortunately, we are still subject to Covid-19 shielding, so receiving orders via Royal Mail and processing cheques is not currently possible." Orders can be placed at www.cctrans.org.uk

www.model-rail.co.uk

retail.com

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

OO BACHMANN BRANCHLINE CLASS 20/3 Bo-Bo **GAUGE** What's planned?

- ♦ 35-125: 20306, DRS blue
- ♦ 35-126: 20311, HNRC orange
- ◆ 35-127: 20312, DRS 'compass' livery

Price? £164.95

What stage is it at? Decorated samples When's it due? December 2020

When was it announced? February 2017



OO HELJAN CLASS 97/6 0-6-0DE GAUGE What's planned?

A joint project with Kernow Model Rail Centre and Model Rail. To be offered in BR green, BR blue, Engineer's light green and yellow liveries.

Price? TBC

What stage is it at? Engineering prototype

When's it due? 2021

When was it announced? October 2019



OO HELJAN CLASS 25/3 Bo-Bo GAUGE What's planned?

Twelve liveries, ranging from BR two-tone green with yellow warning panels to Departmental Tamworth Castle and two ETHELs.

Price? TBC

What stage is it at?

Decorated samples

When's it due? Q4 2020

When was it announced? Summer 2018



GAUGE What's planned?

Eight liveries, from plain BR blue to Loadhaul orange/black.

Price? £699.00

What stage is it at?

Decorated samples

When's it due? Early 2021

When was it announced?

September 2018



OO RAILS/HELJAN GAS TURBINE 18000

GAUGE What's planned?

- ◆ 1800: 18000, BR black/silver
- ◆ 1801: 18000, BR green early emblem
- ◆ 1802: 18000, BR green late

emblem

Price? £199.99 What stage is it at? Livery artwork When's it due? Late 2020 When was it announced? January 2020



NEW FOR YOUR TOOLBOX

Gaugemaster has developed three new tools to make your modelling easier. Its Spray Can Trigger Grip (GM573) allows you to use aerosols without getting paint on your hands, while its Finger Craft Knife (GM576) has been designed so that you apply pressure with your hand leaving your

fingers free to steer the blade. Last but by no means least is the Retractable Hobby Knife (GM578) with a two-step retractable blade. Price: GM573, £7.00; GM576, £4.00; GM578, £5.00 Availability: Gaugemaster Tel: 01903 884488 **Web:** www.gaugemasterretail.com

In Brief

NEW OFFICE FOR TCS

DCC manufacturer Train Control Systems has opened a UK office. You can now write to TCS at PO Box 17749, Bromsgrove B60 9NJ, phone 07497 389826 or e-mail uk_sales@tcsdcc.com

On the road



- ◆ Corgi's 1:76 scale Bristol Lodekka is to be offered in two commemorative liveries to mark Hornby's 100th 'birthday'. The doubledecker bus features Hornby and Tri-ang branding and there are two different destinations to choose from: Binns Road or Westwood. RRP is £38.99, from www. hornby.com Other 1:76 Skale Auto/Corgi vehicles in 'Centenary' collection include a Fordson tractor, VW van, Austin K8 van, Morris J van. MG TC sports car and Scammell Mechanical Horse.
- ♦ Northcord Model Co. has unveiled plans for two new 1:76 scale buses: the Alexander ALX400 (on a Dennis Trident chassis) will be offered in open-top form in Megasightseening.com and Stagecoach 'White Lady' liveries, while the Alexander Dennis Enviro400 double-decker will be available in nine different liveries. Hattons is offering the Enviro400 from £48 and the ALX400 for £51. **Availability:** Hattons
- German manufacturer Wiking has announced another tranche of new models, some of which will be useful to UK modellers. New in 1:87 scale is the Alfa Spider, Lada Niva, Mercedes Benz 190SL coupé, Case 1455XL tractor and JCB Fastrac. **Availability:** www. gaugemasterretail.com

Tel: 01514 591660

Web: www.hattons.co.uk



GAUGEMASTER Digital Control



WHICH PRODIGY CONTROLLER?

Prodigy is compatible with most other DCC systems and manufacturers' DCC Decoders. It's strength is 'simplicity without compromise' and Prodigy systems can grow with your layout, allowing you to use the system at a level appropriate to you, your layout, and style of operation. All Prodigy Walkaround Controllers have backlit displays as standard.

Prodigy Express consists of a Base Station, Walkaround Controller, and Power Supply and is an ideal entry level system for a newcomer. Extra features can be unlocked by using the DCC14 Prodigy Advance Walkaround Controller.

Prodigy Advance2 is our best selling DCC Controller. It consists of a Base Station, Walkaround Controller, and a Power Supply, and is suitable for operating most sizes of model railway.

Prodigy Wireless offers all the features of the Prodigy Advance unit but this system offers you wireless control, giving you maximum freedom to operate your layout. Its rechargeable handset and radio transmission ensures easy and reliable performance.

DCC CONTROLLER STARTER PACKAGES

DCC01 Prodigy Express Starter Package Most Suited for HO/OO/N Scale Layouts







- INPUT: 15-16V regulated DC at 2 amps
- OUTPUT: DCC Signal with 14.5V amplitude
- MAXIMUM CURRENT: 1.6 amps
- MAXIMUM NUMBER OF WALKAROUNDS: 20
- ADDRESS CAPABILITY: 2 Digit or 4 Digit
- SPEED STEPS: 14/28/128
- ACCESSORY FUNCTIONS: 28 (F0 to F28)
- DOUBLE HEADING
- PROGRAM & MAIN TRACK PROGRAMMING
- "READ LOCOMOTIVE" CAPABILITY



DCC80 DCC Autofrog

The DCC Autofrog is a simple switch that automatically changes the frog polarity of your electrofrog point.

With the frog powered by the DCC80 it will automatically detect the incoming polarity of the wheels and switch the frog to match.

The DCC Autofrog is available as a single item, and also as a handy pack of three.



Find us on Facebook: @Gaugemaster Follow us on Twitter: @Gaugemaster Follow us on Instagram: @gaugemaster_controls DCC02 Prodigy Advance2 Starter Package Most Suited to HO/OO/N Scale Layouts



- INPUT: 15-14V DC 3.5 amps
- OUTPUT: DCC Signal with 14.5v amplitude
- MAXIMUM CURRENT: 3.5 amps
- MAXIMUM NUMBER OF WALKAROUNDS: 99
- ADDRESS CAPABILITY: 2 Digit (1-127) or 4 Digit (1-9999)
- SPEED STEPS: 14/28/128
- ACCESSORY DECODER AND ROUTE SETTING
- DOUBLE HEADING
- PROGRAM & MAIN TRACK PROGRAMMING
- "READ LOCOMOTIVE" CAPABILITY



DCC05 Prodigy WiFi

This unit allows you to run your Prodigy-powered layout from your phone or tablet, using one of the recommended apps on Android or IOS. The Prodigy WiFi is compatible with the JMRI Engine Driver and WiThrottle apps.

The Prodigy WiFi is also available as a starter pack, combined with a Prodigy Express under part number DCC06.

See our website for articles showing how to use the two apps which are compatible with the Prodigy WiFi on your specific operating system. Android: JMRI Engine Driver iOS: WiThrottle

DCC04 Prodigy Advance Wireless Starter Package Most Suited to OO/HO/N Scale Layouts





- ALL THE FEATURES OF DCC02 PRODIGY ADVANCE
- WIRELESS RADIO CONTROL (UK Approved)
- OUTSTANDING RANGE (80ft Plus)
- BUILT-IN RECHARGABLE BATTERY
- BATTERY CHARGE LEVEL INDICATOR
- OPERATES WIRED & WIRELESS WALKAROUNDS
- PROGRAM & OPERATE WHILE CHARGING
- FREEDOM & MOBILITY DURING OPERATION

DCC40 Auto Reverse Module

This useful module allows digital modellers to overcome a problem that faces most railway modellers at some point: how to operate a reverse



£365.00

£7.50

£11.25

£7.50

£20.00

£18.00

£50.00

loop or turntable on their layout without needing to change the polarity on the track.

Prodigy Advance2 Starter Package

Controller Caddy Walkaround Holder

Prodigy Walkaround Adaptor

DCC Autofrog (Pack of 3)

DCC Autofrog

Prodigy DC Adaptor Plate/Decoder Tester

Standard Point Motor Decoder w/CDU

Standard Point Motor Decoder w/CDU (3)

rs & Handsets **Prodigy Express Package**

DCC02

DCC66

DCC71

DCC80

DCC81

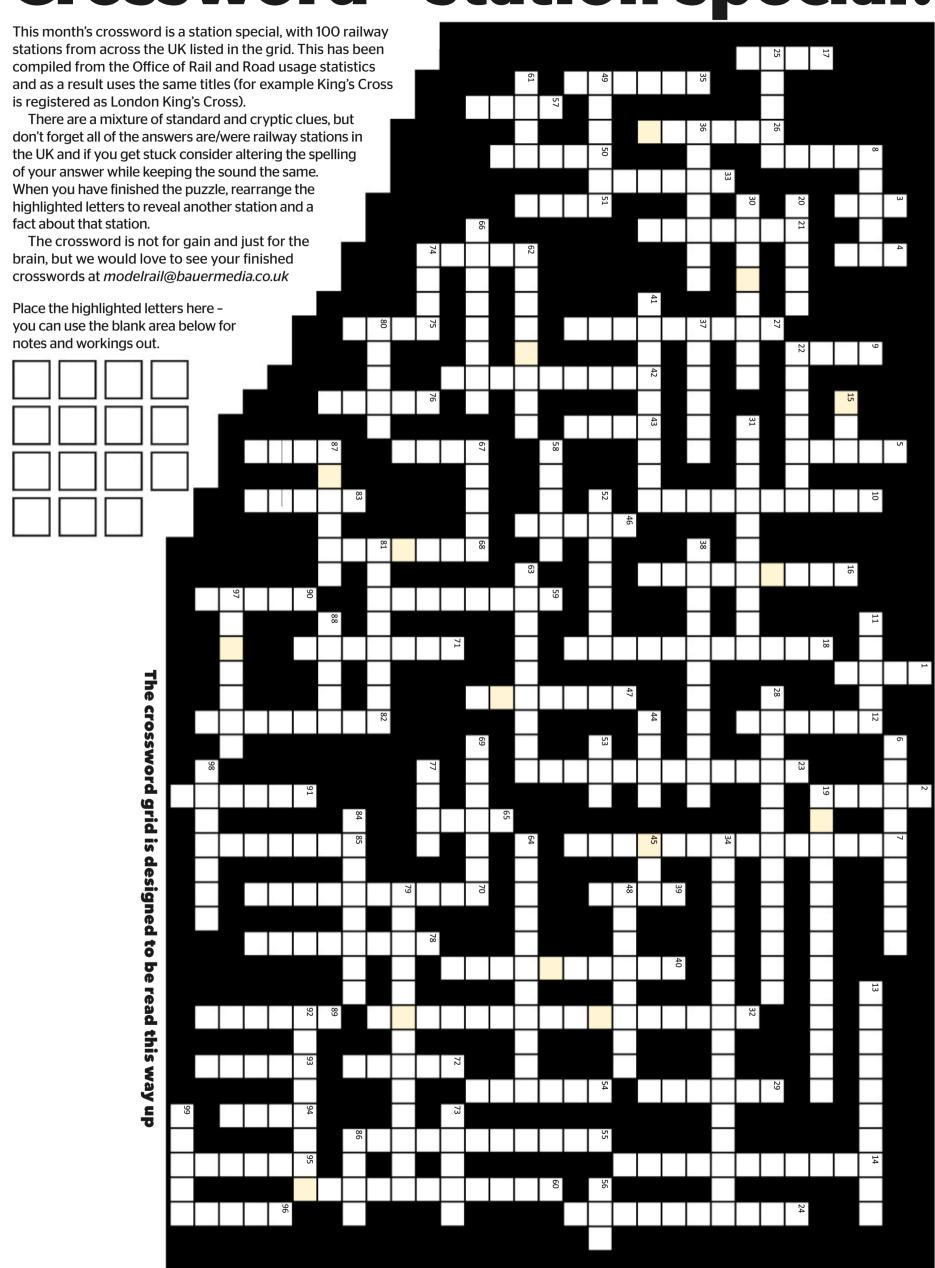
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Crossword - station special!



ACROSS

- Major Yorkshire station where a certain profession may be able to cook in a large grassy area (9)
- North Yorkshire station and surname of a three-time world snooker champion (5)
- Not only a railway station here but also a big city Down Under (5)
- Location of a tragic train accident in May 2002 (7,3)
- This is all around us and contains everything we need to breathe (3)
- Last station in the United Kingdom, alphabetically (6,7)
- A Saturdays-only station served by Northern Rail in Lincolnshire (5)
- 22 That pig is being very noisy! (7)
- 25 Popular contact sport (5)
- see **79** Across
- 30 A common lunchtime food item (8)
- A station which closed in 1995 after Meadowhall Interchange took away a lot of the passenger figures (10)
- 34 Please look after this bear, thank you (6,10)
- The driver might give a short one of these on the journey between Streatham and Wimbledon (7)
- 37 Mineral water brand from the Peak District (6)
- Almost a North London football club, but only a few stops from where you'd see The Derby (7,4)
- A freshly built defensive structure in the North East? (9)
- **44** Get the same number on both of these and you often get to roll again (4)
- Mined material from which you can extract minerals (3)
- **48** A Swedish band and a religious figure together in Scotland, perhaps? (8)
- Home of a famous university and name of a model of Morris car (6)
- The highest railway station in the United Kingdom (7)
- 53 The remnants of a bonfire (3)
- The target score for each hole in golf (3)
- Ensure you're in the right carriages at this GWR South Wales station or you won't get onto the platform! (5)
- Alight here for Sussex County Cricket Club (4)
- LNER station north of *Mallard*'s speed record sign (8)
- Use this to make sure you aren't too heavy when leaving the depot (9)
- Scottish location often used by eloping couples (6,5)
- Don't get lost trying to navigate up this incline! (4,4)
- When investigating a crime the police spend time chasing these (5)
- Four-legged friends with dried grass between their paws (7)
- 73 Frequent hangout for TV's Gavin and Stacey (5)
- Train guards will tell you to do this with your luggage in the overhead compartments (4)
- 77 Shoppers love this on Boxing Day (4)
- **79, 28 Across** and **85 Down**; The longest station name in the United Kingdom (6,7,13,7)

- Large Welsh viaduct with a layout of the same name featured in MR259 (5)
- Simply add an 'I' to **71 down** (8)
- Cornish home of the company which stores *Model Rail*'s exclusives (8)
- You'd be desperate for this after drinking several pints of water (4)
- The cathedral at this LNER city is part of a world heritage site (6)
- A little north of **15 Across,** this station could be said to have sporting 'links' with the monarchy (5)
- You could say this Welsh station has a religiously sacred skull (8)
- A very 'steep hill' is located close to this East Midlands station (7)
- 98 'That pig is heading for the sunset!' (4,3)
- Male station on the route from Inverness to **48 Across** (5)

DOWN

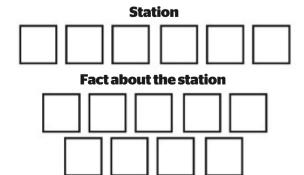
- 194 Down would do this to his treasure (4)
- Unstaffed station on the Pembroke Dock branch (5)
- 3 Cambridgeshire city on the River Ouse (3)
- 4 Perhaps question the reason for this clue? (3)
- Month of the year (5)

See **32 Down**

- You would hope on holiday that the beach would be like this (5)
- At least arriving at this station by train avoids paying the toll on the Humber Bridge! (4)
- 10 The layout featured in MR255 (10)
- Station leaving Portsmouth towards Brighton you tell your friend you've not been to before (6)
- These are plenty wide enough to assist your climb (11)
- The most easterly station in the United Kingdom (9)
- 17 Popular car manufacturer (4)
- This seems like a good place to catch a ferry to France (5,6)
- During lockdown, many people have been doing this a lot to get through their large book collection (7)
- 23 Add a large bible boat to 41 Across (6,6)
- The viaduct here is quite 'magical' (10)
- Bosworth in 1485, or Hastings in 1066, for example (6)
- 27 Venue for tennis matches and the Wombles (9)
- A small market town, home of veterinarian James Herriot of *All Creatures Great and Small* (6)
- and **7 Down**; Station named for the sports stadium it serves and is only open on match days (10,6,8,6)
- 33 The least used station in Lancashire (6)
- Apply headwear in cold weather (6)
- Come to an agreement over the price of an item (4)
- One end of popular narrow gauge line (10)
- Don't annoy this incline, you'll make it angry!
- 43 Leaning from one side to the other (4)
- **46** Single platform station north of Aberystwyth (5)

- Rebecca made short work of this small mountain (7)
- Edward let his cattle board the train first for his commute under the M25 towards Croydon (5)
- You can almost dream as you head east out of Edinburgh on your way home tonight (4)
- Merseyside home of a major model railway retailer (6)
- Once a least used station with only 12 passengers in 2013/14 (7,4)
- The city which the National Railway Museum calls home (4)
- The most southerly station in the United Kingdom (8)
- **60** Former station name of **32 Down** and still the name of the stadium it serves (3,8)
- 62 Shades of mixing white and black (5)
- **65** A beach, miniature golf and a SeaQuarium, this North Wales holiday region has it all! (4)
- There is a whole district in England with this name, although the station is on the Isle of Wight (4)
- Majestic white bird seen on canals and rivers
- A layout of this station and depot appeared in MR265 (10)
- Lay eyes on **17 Down** (7)
- A landform to collect runoff or contaminated water from farmyards and tracks (5)
- You may also find this sticking out of the top of a candle (4)
- Manufacturer Bombardier's depot is located here (5)
- "This outside door is not large enough, I need extra!" (8)
- The surname of Tim who filmed the Loch Ness monster in 1960 (8)
- Every steam locomotive needs one of these to operate the controls, shovel coal and keep everything working (5)
- see **79** Across
- Cumbrian station which is also the surname of a member of the Model Rail team (4)
- The northernmost station in the United Kingdom (6)
- If you want a swim, you'll need one of these (5)
- One stop from **93 Down** (6)
- **93** Often mispronounced southern station situated within the fork of the line (5)
- The captain who lost his hand to a crocodile (4)
- **95** The station at the north end of Loch Lomond (6)
- Station on the Rhondda river reached after leaving Pontypridd (5)

Write your rearranged letters here.





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According to Chris...

...one of the best modelling experiences you can have is working in a team.

learned, long ago, which modelling jobs I enjoyed and which ones I preferred to avoid. I'm sure readers will have realised by now that I lean heavily towards buildings and scenery, I'm OK with rolling stock and track, but I avoid building locomotive chassis whenever possible! I'm fortunate that I can pick and choose to a large extent when it comes to projects for *Model Rail*. So when I was asked about doing a water feature for this issue, the only deterrent was that it was fairly short notice. Then, the Covid-19 lockdown ensured that time would not be a problem.

"What do you fancy doing?" I was asked.

"What do you fancy doing?" I was asked.
"White water," I replied, "I want to see if
I can improve upon the Glenfiddich module
that we did back in 1985."

"Glenfiddich module?" I then had to tell the story of how three friends and I came to build a vintage Canadian railway scene for display in Scotland, and how it involved two famous companies, Canadian Pacific Railway and Grants, the makers of Glenfiddich whisky.

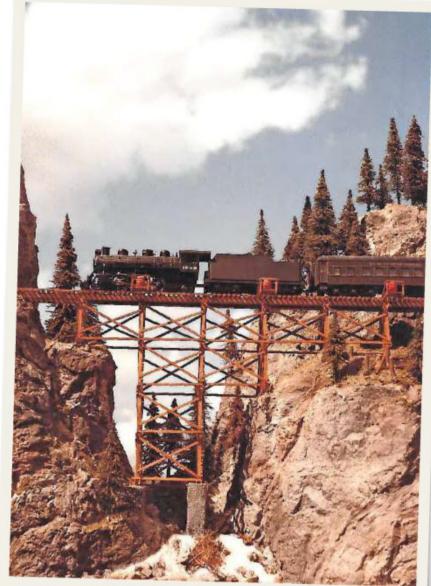
'Fraser Canyon', Egham & Staines Model
Railway Society's 'HO' Canadian layout was on
show at the IMREX Easter 1985 exhibition at
Wembley Arena, to mark the centenary of the
opening of the Canadian Pacific transcontinental
railway. At that show, we were approached by John
Drawbell, of J.D. Studios. He had been asked to
prepare a model diorama to mark the Grant
distillery's connection with the opening of the CPR.
Lord Mount Stephen, the first president of CPR,
had been born next door to the distillery.

After an extensive viewing of our layout and explanation of our construction methods, Mr

Drawbell decided it would be best to simply commission us to build the model. It was to be a canyon-side track with a timber trestle bridge, as used in the earliest days of the railway. He already had a locomotive and a Campbell Models trestle bridge kit, which he handed over. The

locomotive was more 1920s than 1880s but it was the best he could find. A second-hand Japanese brass product, it was in poor shape, a non-runner and with a motor that protruded into the cab. I supplied a couple of old

The scenic work took place in the garden of my home at Old Windsor and we were very lucky with the weather.



The finished diorama was photographed outdoors with the real sky as a background.

Roundhouse coaches, which suited the locomotive rather than the 1880s, and I stripped out the motor, repaired the valve gear and fitted a backhead and cab details from my scrapbox. I think they were Kitmaster bits!

It's a long time ago now, and two of our little team have since died, but I seem to recall that we played to our particular strengths in order to meet the short deadline. Keith was a master of baseboard construction and had a particular skill at getting the maximum out of a sheet of plywood. He produced the fully profiled base for the diorama in little more than a week. It then came to my house for the scenic work. In the meantime, either Bob or Don had built the timber trestle and it came to me, ready to install.

Keith produced a large quantity of tree stumps, cut from dried fuchsia twigs, and his *pièce de résistance*, the so-called bottle-brush trees. He made these from twisted wire and sisal string, and when going at full tilt he could turn out a tree every two minutes. I applied Mod-Roc, as it was then called – the plaster cloth, which we still use, although it's no longer offcuts of surgical bandage. I also cast rock faces using Woodland Scenics rock moulds, which were then a new innovation

The water was clear casting resin, with 'white water' made from aquarium filter wool.

Nothing that I've done since has ever bettered that team effort. We were paid for our work but I was always slightly irked that the publicity which surrounded the new display in Grant's visitor centre only ever credited Mr Drawbell, with not so much as a mention for the guys who actually did the work. We did, however, get a bottle of whisky each!

66 We played to our particular strengths in order to meet the short deadline >>

Keith kept a comprehensive photographic record of his model-making. He designed and built the complex plywood base for the diorama.





Modeller CV: Chris Leigh

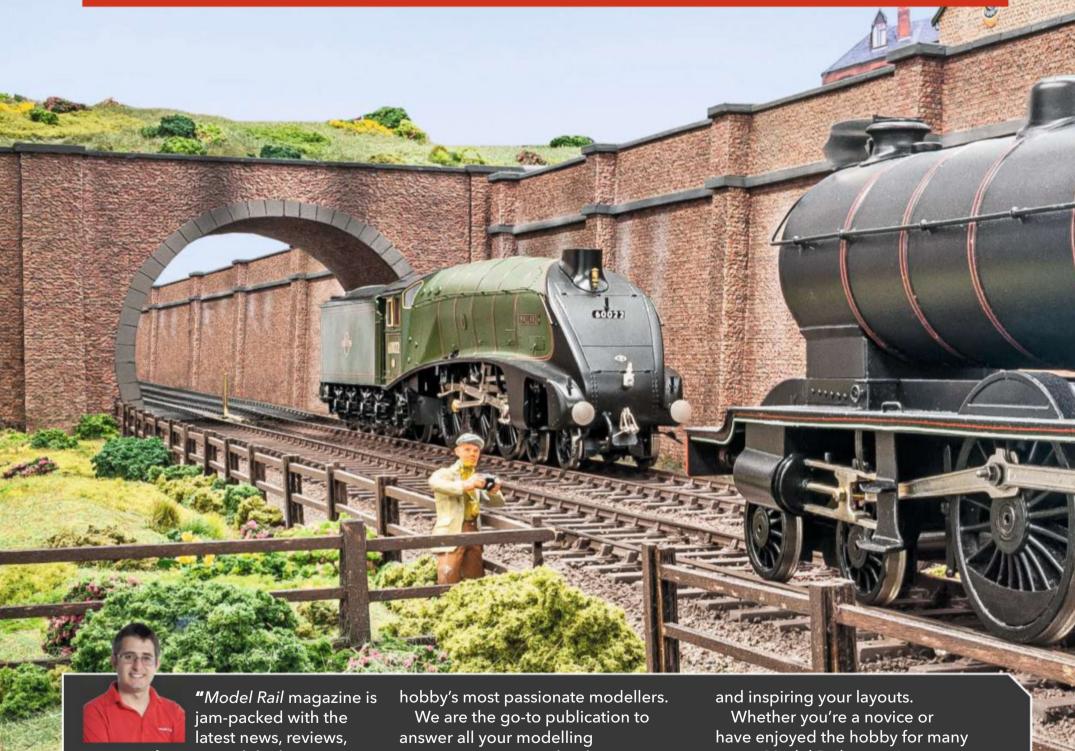
I've never been to the distillery and I have no idea if the diorama is still on display.

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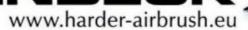
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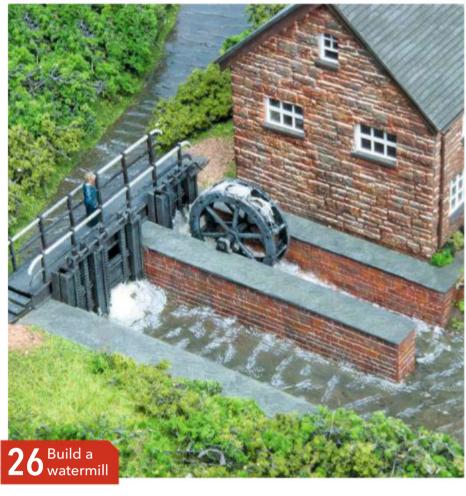
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five screwdrivers. Project difficulty ranges from easy: ne screwdriver, to very hard: 🖡





Workbench water features



The basin needs to be below ground level. You don't need to build a complex baseboard – I cut this basin out of a Tim Horn baseboard kit. Ensure the plywood base is supported, then create the basin's base using 6mm foamboard.



If you're planning a bridge or similar, why not design the layout around a proprietary item? I cut the estuary to the width of Wills' Bow Plate Girder bridge. I plan to incorporate the piers into the harbour wall using DAS clay as filler.



I pressed some DAS clay into the yard surface to create a smooth finish. The riverside walls were added from foamboard - scribed vertically to allow it to curve. Next it was clad in stone-effect embossed plastic card.



I use DAS clay to create the ground texture. To make the cobbles, press the body of a ballpoint pen into the wet clay, then leave to dry. I used foamboard for the culvert. I covered it in DAS (with a little PVA) and scribed it.



The tidal river feature of the layout needed muddy banks. I could have used plaster, but I wanted to keep the weight down. Instead. I assembled layers of offcuts of 5mm foamboard to form the rough outline of the bank.



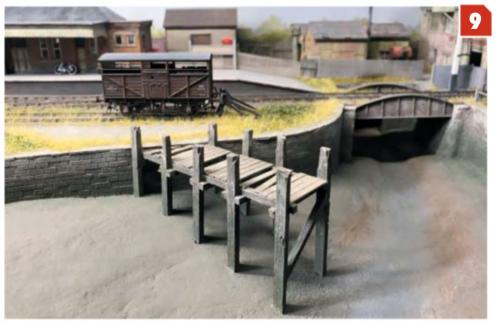
It's surprising how steep muddy banks can be, possibly due to fast water flow. The foamboard was covered in household plaster and sculpted. Skim the surface with water when almost dry to achieve a smooth surface.



Once dry, a couple of coats of grey/brown interior matt emulsion paint were applied. I used the same colour on the harbour walls. You don't need a large volume, so you could buy matchpots of interior matt emulsion.



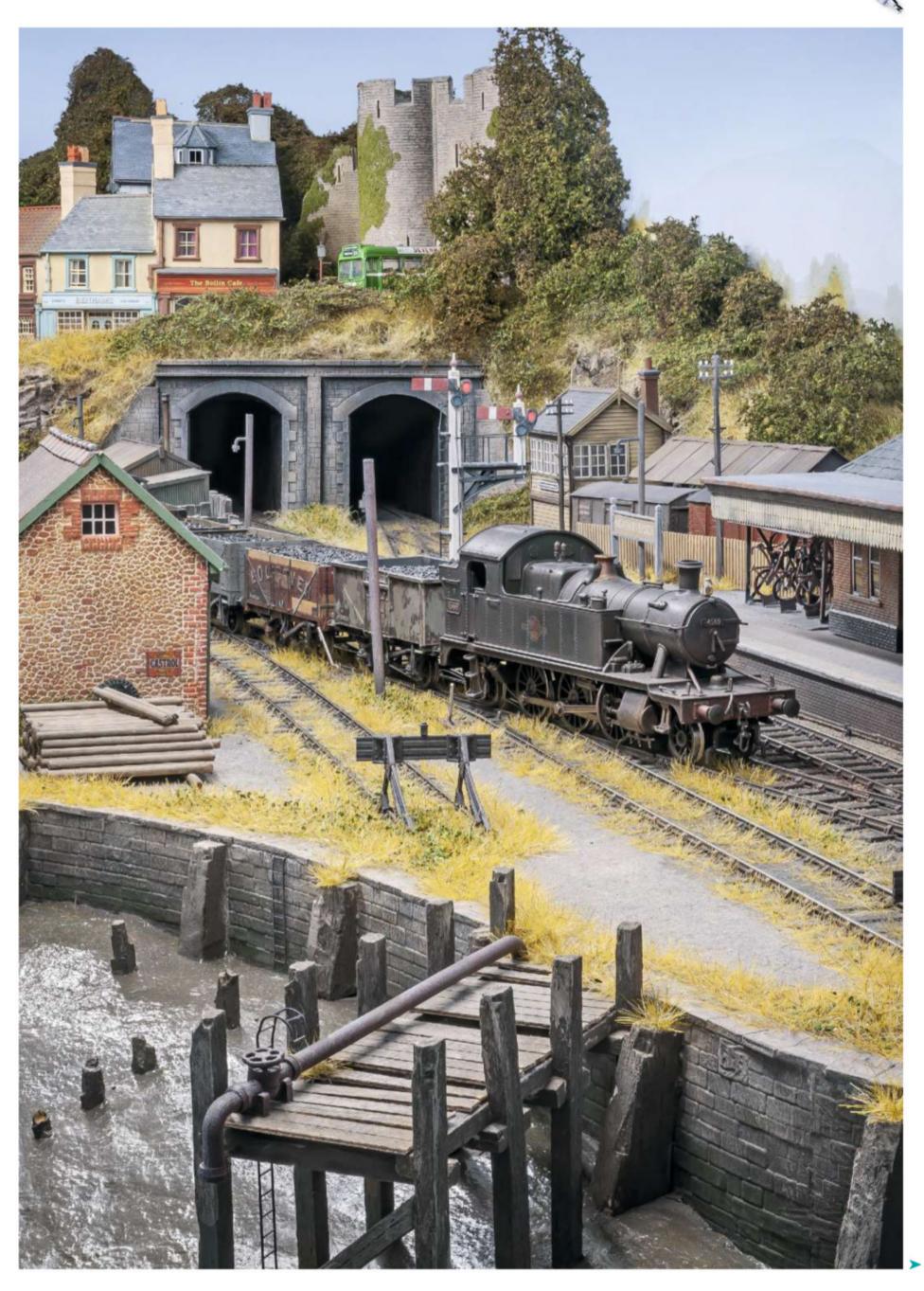
A little jetty was made up from some balsa strip. Balsa wood is a perfect scratchbuilding material as it's cheap and easy to cut with a sharp blade and cutting mat. I assembled it with cyanoacrylate for speed.



I painted the walls and the jetty in matt emulsion. A little drybrushing with a beige shade highlights the wood texture. I used Woodland Scenics Water Tint to create a tide mark. The jetty's finishing touch was a plastic outflow pipe.



I made this little fence from Plastikard square section and rod. All small harbours like this need a pub and I used this Bachmann Scenecraft resin model, giving it a little weathering.



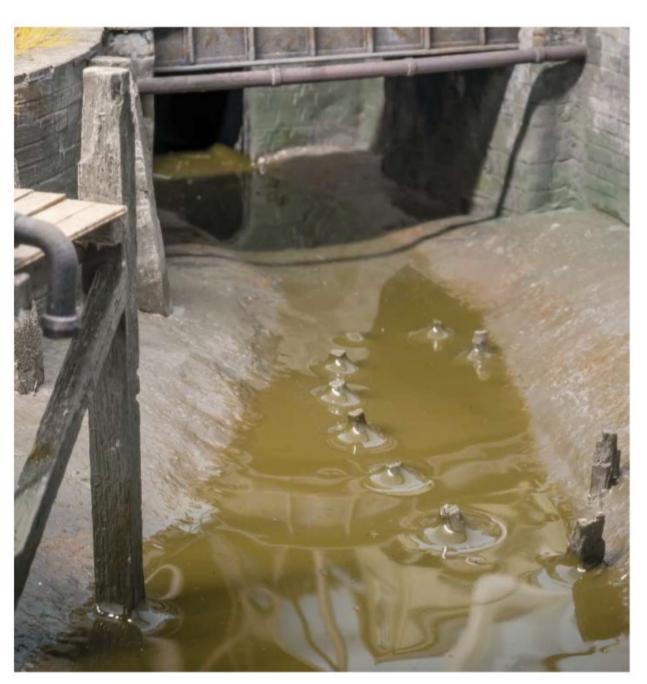
Workbench water features



I wanted to emphasise the run-down look by including the remains of a sunken boat. This was easy to make from some pieces of balsa wood. The harbour wall supports were also made from balsa.



Woodland Scenics Realistic Water was used for the wet bits. It will find a natural level over a few hours. Build it up in several 3mm to 4mm layers. You can mix in a little paint if you want a more opaque effect.





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HOW TO

BUILD **AWATERMILL**

George Dent usually shies away from creating running water effects, but he decided to have a go at creating a watermill scene based around a Wills plastic kit.

nless it's a stagnant pond or a modest stream, the thought of creating lifelike water features fills me with horror. And yet it's something I've always wanted to 'crack', having had mixed fortunes in the past, to the point that I'd begun to avoid them like the plague.

Being in the midst of an international pandemic seemed like a good time to try and conquer my 'aqua-phobia', so I set myself the goal of recreating a watermill scene, complete with water wheel, sluice gates and white-wa-

Richard actually gave me the idea, having mentioned the Wills watermill kit a few months ago, the main structure of which I built for last month's Skills Station. The kit also includes a full set of sluice



a footbridge and the all-important water wheel. I initially thought that the latter was a little small and I wondered if it might make things a little tricky, but it actually looks fine within the finished scene.

While it took some time to think about the composition of the scene and how to create the running water effects, the project proved enjoyable and - dare I say it - might just have broken my phobia of modelling water. It did require lots of time, though, mostly spent waiting for stuff to dry in-between stages, but I'm very pleased with the results. Maybe a grand



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What you will need

TOOLS

- Knife
- Tweezers
- Paintbrushes
- Palette knife
- Spirit level

USEFUL SOURCES

- Wilder textured acrylic paints Availability: The Airbrush Company Tel: 01903 767 800 Web: www.airbrushes.com
- Deluxe Materials Aqua Magic, Scenic Fibres and **Making Waves** Availability: Deluxe stockists or Gaugemaster Tel: 01903 884321 Web: www.gaugemasterretail.com

Creating authentic flowing water effects can be a challenge, but a range of products from Deluxe Materials makes the job easier.





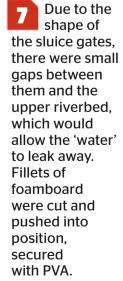
The Wills watermill kit (MR276) consists of materials to create a mill building, plus sluice gates, water wheel, footbridge and brick piers. Printed plans are provided, but the building and accessories can easily be customised.



Layers of foamboard were cut to form the main contours, with the riverbed set higher upstream of the sluice gates. Foamboard is easy to shape with sharp knife, allowing the mill and piers to be set into the landscape effectively.



When the plaster was fully dry, brown emulsion paint sealed the surface. The brick piers were then painted and weathered, before the sluice gates (and central pier) were installed. I wanted a tight fit between the pier walls and gates.





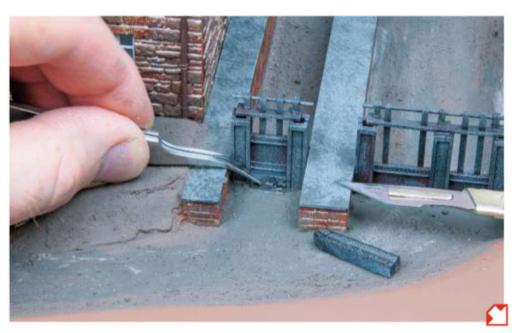
I spent time thinking about the layout of the mill scene, planning the route of the watercourse and how the water would be channelled through the wheel. Once satisfied, the scene was laid out onto an A3 sheet of foamboard.



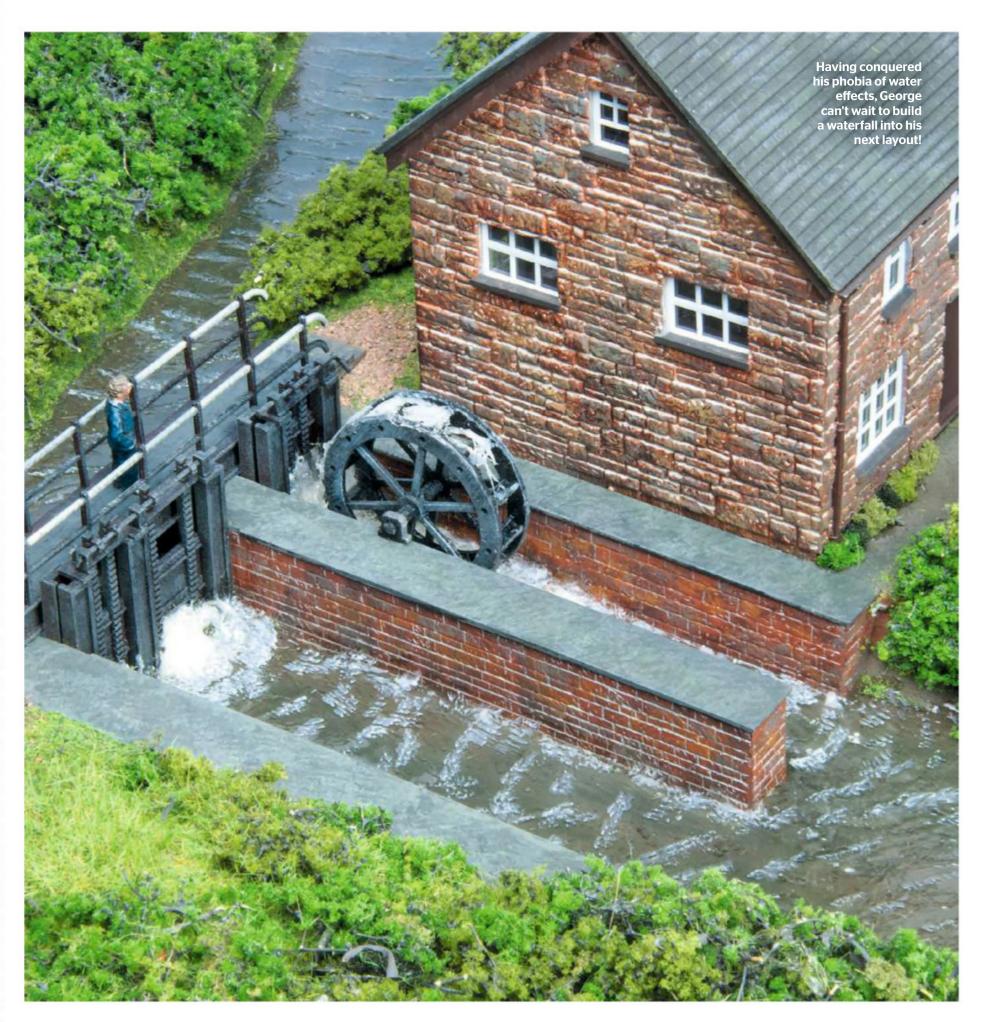
The foamboard layers were fixed with PVA glue before the landscape contours were finalised with plaster. The mill building hasn't been secured yet, nor has the central pier, to make it easier to install the sluice gates later.



The riverbed was coated with Wilder textured acrylic paints, aiming for a random blending of the shades. Fine grade Dark Brown and Light Brown, plus the 'Stony' Dark Russian Earth were applied.



Workbench water features





The foam fillets were disguised with more of the Wilder textured acrylic paints. The diorama was then left aside for a couple of days to ensure all of the glue and paint was fully cured before pouring the 'water'.



Aqua Magic is a ready-to-pour medium – simply squeeze the bottle and allow it to flow. Check the scene is flat with a spirit level, as the fluid will follow gravity. The open ends of the river were blocked with scraps of foamboard.



Use a spreader to help persuade the fluid to settle into any awkward areas. Aqua Magic should be applied in thin layers, each to a maximum depth of 3mm. Prick any air bubbles with a needle.

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If possible, cover the scene to prevent dust from settling in the wet Aqua Magic. Allow a couple of days for each layer to cure - the longer the better. Working in a warm environment speeds up the curing process.



The initial layer tends to soak into the underlying surface slightly - be prepared to apply one or more extra layers. Again, check that the surface is level and allow the Aqua Magic to cure fully.



After the third layer of Aqua Magic had cured, work began on the flowing water effects. Deluxe's Scenic Fibres were cut and fixed with Deluxe's Speed Bond, the fibres oriented so as to mimic the direction of the water.



More fibres were cut and secured to where the water wheel would be located. Test-fit the wheel and form a depression amid the fibres to allow clearance for the wheels' lower edge. Allow the glue to set before continuing.



Scenic Fibres were also cut and secured to the water wheel itself. Again, the strands should reflect the direction of the running water. Remember to consider the direction of the wheel's rotation.



The Scenic Fibres are then coated with lots of Making Waves – a thick, sticky white concoction that dries clear. As with the Aqua Magic, be prepared to build up the effects in stages. Treat the Scenic Fibres on the water wheel too.



Making Waves was also used to create ripple and wave effects, paying attention to how the current would form in real life. Again, this was done over multiple layers to achieve deeper crests emanating from the wheel's channel.



It took a few layers to achieve the desired results, especially in the water wheel's channel, where I wanted to give the impression that the bottom of the wheel was submerged. Don't fix the water wheel in place yet.

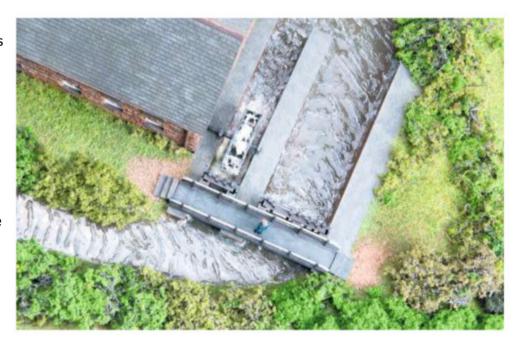


As Making Waves dries clear, we must employ paint to create foaming effects to the water. A pale cream shade of acrylic paint was gently dry-brushed over the surface. Enamel paint would be equally suitable.



I chose a cream shade of paint as I didn't want the water to look too clean. It took a few individual coats to create the heavier foaming effects. Once the paint had dried, the water wheel could finally be installed permanently.

Once the water effects were complete, the mill building and footbridge could be installed, before setting to with the surrounding scenic work. It's important to wait until the water is fully cured before employing scatter material, grass fibres and foliage.



Workbench water features



Peter Marriott proves why he's an expert in his field with a tutorial on creating this pastoral mini-diorama.



s there anything worse when you're out on a walk when the signpost directs you through a field of cows? The way the herd turns to face you and stands, silently, staring right at you is unnerving.

What makes entering a field of cows worse is that whether you have to open a gate or climb a stile, the first steps will always be through a sludgy, disgusting substance that's at least 60% mud and 40% cow manure.

Fields are always at their muddiest at the entrance, where the earth gets churned about by the regular passage of farm machinery. But animals, be they sheep or cattle, will gather there too, anticipating the daily delivery of food. It's such a common countryside sight that it deserves modelling - which, thanks to innovative products from Deluxe Materials, Noch and WW Scenics, it's now possible to do!



RICHARD HIGGINS/ALAMY

OTOGRAPHY: PETER MARRIOTT

HARDER & STEENBECK www.harder-airbrush.eu







Scrape away any scenic material from the baseboard. A few passes with this paint scraper were sufficient to remove this layer of 5mm static grass fibres.



Cut your wall/fence material to suit the width of your gate. In this case, I used Osborn's Cotswolds foam stone wall, which I cut with a scalpel over a cutting mat.



Osborn's Models also produces this lovely laser-cut timber gate, which is perfect for the scene. A coat of Vallejo acrylic paint will heighten the realism no end.



Use the gate to gauge the width of the gateway before fixing the wall in place with Woodland Scenics Scenic Glue.

What you will need

SHOPPING LIST

- Arch Laser ALOO200 Arch Laser Flexible Cotswold Stone Walling including gate, £8.95 Availability: Osborn's Models Tel: 01237 423453 Web: www.osbornsmodels.com
- Bachmann Scenecraft 36-081 Cows, £10.75; Woodland Scenics WFS614 2mm Static Grass Medium Green, £4.80; Woodland Scenics WFS644 Static-Tac, £10.25 Availability: Bachmann stockists
- Deluxe Materials DLBD-60 Create and Shape, £9.00; Noch N09235 Medium Sand, £2.55; Noch N608/6 Artificial Water Mini, £10.75 Availability: Gaugemaster Tel: 01903 884488
- Web: www.gaugemasterretail.com Vallejo 71.037 Mud Brown, £2.60; 70.859 Black Red, £2.60 Availability: Hobbies 24/7 Tel: 01484 506555

TOOLS

- Wooden spatula
- Selection of old paintbrushes

Web: www.hobbies247.co.uk

Plastic pipette



Spread some PVA around the entrance to the gateway using an old paintbrush. I use PVA bought from my local pound shop for jobs such as this.



Wait a few minutes and then run a miniature tractor through the Create and Shape to leave tyre tracks in the soft, white material.



Then spread Deluxe Materials Create and Shape onto the wet PVA. Use a wooden spatula to ensure that it covers the required area.



Find a suitable tool to press hoof marks and other indents into the Create and Shape. This sculpting tool is just right for the job.

Workbench water features



Noch Medium Sand is ideal for creating a soil-like texture. Cover the Create and Shape and surrounding area with PVA and sprinkle it on.



Paint the muddy area with a suitable mud brown (in this case Vallejo 71.037). However, where the mud will be really thick, go for a darker shade (Red Brown 70.859).



Dot spots of Woodland Scenics Static Tac adhesive around the edge of the muddy ground and then spread them out with an old paintbrush.



Use a WW Scenics Pro Grass Precision Applicator to add static grass fibres around the edge of the mud. Clip the alligator clip to the baseboard.



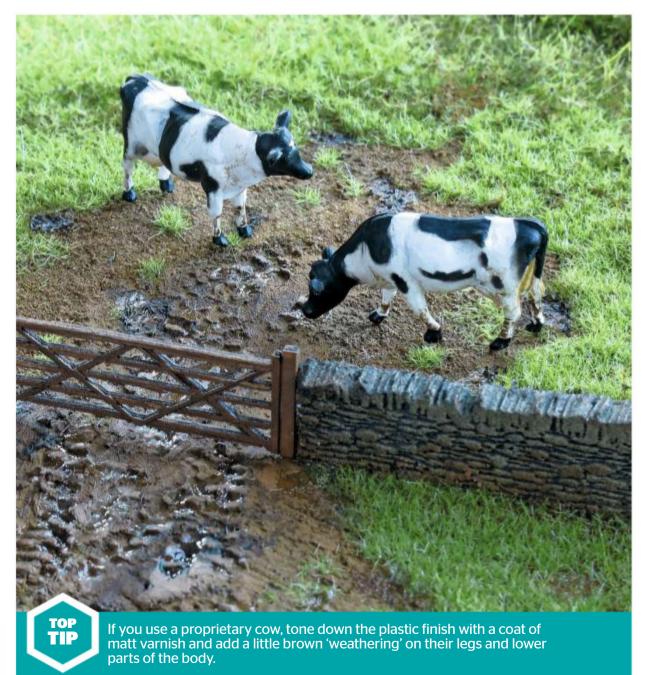
To create tufts of grass that have grown, despite the mud, dab on blobs of Static Tac and apply more static grass with the Precision Applicator.

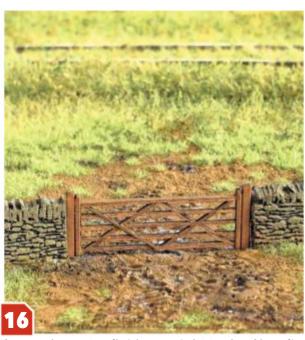


Use a plastic pipette to carefully apply Noch ready-mixed water fluid, drop by drop, into the deepest tractor tracks and hoof prints.

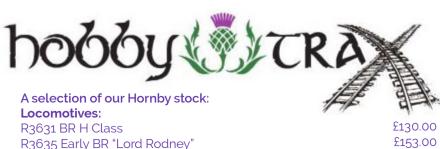


Here are the drops of water fluid five minutes after being added to the scene. As they dry the water volume will reduce.





Leave the water fluid overnight to dry. Now fix the gate in place with a little PVA adhesive.



R3635 Early BR "Lord Rodney"

R3656 Virgin Trains Class 87 "Sir Winston Churchill"

R3661 D5509 BR Class 31

R3677 LMS Coronation "Duchess of Hamilton"

NEW R3679 Class W4 Pecket 0-4-0ST

NEW R3705 Ruston 48DS

NEW R3757 Class 47/7 "Prince William"

NEW R3759 Class 3031 "Achilles"

R3772 Northern Rail Class 156

R3802 LNER Class 43

NEW R3811 Terrier 0-6-0T "Leadenhall"

NEW R3812 Terrier 0-6-0T "Cowes"

Gaugemaster

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DCC02 Prodigy Advance2 controller

DCC90 Ruby DCC 8 pin decoder DCC91 Ruby DCC 21 pin decoder

DCC99 PowerPal capacitor for Ruby series

DCC26 8 pin DCC decoder

DCC27 8 and 21 pin 4 function DCC decoders (each)

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DCC29 Omni direct 8 pin DCC decoder (5 pack)

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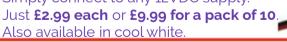
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Chris Leigh makes a Scottish stream with a waterfall.

ost people, it seems, are attracted to or fascinated by water. It seems that, as an island race, there are few of us who don't have some affinity with it.

When we were allocating the jobs for this issue of *Model Rail*, I already had an idea for a project. However, I have a lot of models which I've enjoyed building for magazine features but for which I had no real need. Many of them now gather dust on shelves around my house. As I've pointed out in my column on page 15, I wanted to have another crack at modelling white water but it had to be built for use on my layout and not consigned to already over-crowded shelf space.

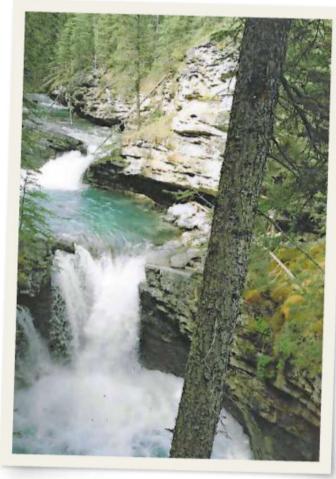
If I built a hill and a tunnel over one end of my layout, to replace the existing, rather tired, airfield scene, I could have a mountain stream tumbling down the hillside. If I gave the whole thing a Scottish look, I could also use the standing stones and castle, which I had built without any idea of where I might use them.

Many professional gardeners will tell you that a water feature is essential. I believe that is true of model railways, too, and I've used a few different methods of creating water on layouts.

WATER, WATER EVERYWHERE

As a kid, my layout had a pond made from a piece of broken glass with green-painted putty around the sharp edges – hardly something I'd suggest these days! There's no doubt, however, that the very reflective surface of glass does make for a good-looking flat pond. I also built bridges over the goldfish pond and posed Kitmaster models on them. As they usually ended up in the

One of the reference pictures which I used, showing the clear curl of the water as it goes over the edge before transforming into a white mass of spray. The blue-green pool gives the clue that this is melt-water. CHRIS LEIGH



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What you will need

SHOPPING LIST

- Gloss varnish Availability: DIY stores
- Aquarium filter wool
 Availability: www.ebay.com
- Woodland Scenics Water Effects Woodland Scenics Talus
- Woodland Scenics rock moulds Availability: Bachmann stockists
- Omen Miniatures scenic paint set
- Plaster cloth

water, this particular modelling effort was restricted to plastic kits!

One thing that does not usually work well in model form is real water. Real water pouring over an 80mm high model waterfall is not going to roar, crash and spray in the way that it would over a 20ft drop. However, I did use real water with a degree of success for Egham club's 'HO' Canadian layout on which a barge loaded with freight cars moves back and forth across the lake. In that situation the water had to move around the barge, but for most model railway purposes the water simply needs to be static, as in a photograph. Unless we have a Faller road system, it is likely that the only things on our layout that move will be the trains. Figures, vehicles and rivers and streams tend to be stationary as they would be in a photograph. Creating white water - fast-moving water churned up by rocks and waterfalls - is best done to look good in a photograph. I had taken this approach with the beach scene on 'Polwyddelan', my Cornish harbour layout, which has quite a lot of 'water' including Atlantic breakers rolling onto the beach.

In the 1980s much use was made of two-part clear casting resin to represent water. Its high gloss certainly worked well for making model water, but there were real issues with it. The very strong smell given off while it was curing was seldom acceptable indoors, it was unlikely to cure in low temperatures and while still liquid it was capable of finding its way off the layout through the tiniest hole or crack in the scenic base.

In more recent years the model scenery manufacturers have come up with a variety of ways to model water using materials that are easier to control, easier to work with, and that don't give off strong fumes. My preference is to use these, together with lots of coats of a good quality gloss varnish.

Wherever it is in the world, moving water tends to behave in the same way, so I used a number of my holiday snaps from Canada as a guide for this project. However, while one waterfall is much like another, the water above and below the fall can look very different. My Scottish stream needed to have the brownish colouring of water flowing over peat moors, rather than the icy blue-green of melt-water which predominates in Western Canada.



I began by planning out how the river might fit onto my existing layout. I used 100mm wide strips of 5mm foamboard which would be the base for the river. The whole hillside will be removable for track cleaning.



Using appropriately tapered pieces of foamboard, foam tack glue and T-pins I produced the base for the river. The gradient is only a difference of some 20mm between the high end and the top of the waterfall.



There is much to be said for building scenic features away from the layout when possible. In this instance, the section of layout which I shall be covering with hillside is not easily accessible.



Most of the print soaked off easily and I then wrung out most of the water and pressed the soft paper balls into place along the river banks, against the foamboard formers that I had glued along the edges.



The river will have a sharp bend and the foamboard was cut accordingly. The position of the river was chalked on the foamboard together with a reminder of which were the high and low ends.



I tested the base in place on the layout making sure that there was adequate clearance for the tracks that will be underneath it. I then glued the upper and lower sections of the river base together.



I needed to build up the river banks but I don't have newspapers. I did have a large amount of computer printouts that needed shredding. I found that if I soaked them I could make papier-mâché style balls.



Provided you squeeze the excess water out of the paper balls, they will not warp the base and they will conform quite easily to the desired shape. There's a certain satisfaction from the recycling aspect, too!

Workbench water features



With my river banks in place, I mopped up any surplus water with tissue. I enjoy making scenery if I can keep myself and my workspace reasonably dry and clean, especially as, in this case, I was working on my dining table.



The next job was to cover the basic scenic shape with plaster cloth and here, too, I have my own neat and easy method. I begin by laying out the strips of plaster cloth and nicking the edges where they wrap over.



Using a half-inch paintbrush I then brushed clean cold water onto the plaster cloth, starting at the river bed and along the edges where the cloth is to be attached to the foamboard. There really is no need to 'dunk' plaster cloth!



I wanted some rock faces around the waterfall area and for the base of these I used Woodland Scenics Shaper Sheet. This fabric-faced aluminium foil makes an easy base for cliffs and rock faces.



The Shaper Sheet reduces in size when it is scrunched up, so you need a piece much larger than the area to be covered. You screw it up tightly in your fist, then open it out and secure it in place with Foam Tack adhesive and T-pins.



For availability and cheapness I use Polyfilla for most routine scenic work. I mix a fairly thin slurry and brush it over the plastic cloth, using a half-inch paintbrush. It is particularly important to cover the riverbed thoroughly.



I used a new set of acrylic paints from Omen Miniatures for much of the colouring on this project, choosing Scenic Camo Brown as a good match for the dark brown of the Scottish stream.



Above the waterfall I wanted a different look, more suited to the upper hillside, with rocks and gravel. Acrylic, water-based paints mix OK, so there was no problem lightening the WS slate grey with Omen's matt white.



I cast some plaster rocks using Woodland Scenics' rock moulds and casting plaster. The plaster does not take long to harden and the moulds can be reused many times. How do you like my patio table?



Woodlands Scenics carving plaster was used for the base of the waterfall. Once dry, it remains soft enough to carve easily with an old screwdriver. Try to think how the water would shape the rock over thousands of years.



coloured with the peaty red-brown, I gave the river banks a coat of Woodland Scenics earth undercoat. A plaster barrier across the end of the river stops wet varnish going astray.



Above the falls I wanted to create an area where the water has cut away the rock and deposited gravel onto the outside of the bend. Various grades of Woodland Scenics Talus and grey ballast were fixed with PVA glue.

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The base is nearing completion, with the cast rocks glued into the riverbed and everything appropriately coloured in either grey or brown. I had tried for a clear contrast between the river above and below the falls.



Having sealed the riverbed with two coats of clear gloss varnish I started to add pieces of white aquarium filter wool for the white water around the rocks leading to the waterfall. Wet varnish will hold it in place.



When the weather was good I worked outdoors, mainly because of the risk of spillage when working with paint and varnish. More aquarium filter wool was added on the waterfall and held in place with varnish.



The 'water' must not become contaminated with stray fibres. My order of application is: paint, varnish to seal the riverbed, allow to dry thoroughly, apply grass. Do not use a static grass applicator! Then varnish 'water' last..



Woodland Scenics Water Effects is a thick, white liquid which retains its shape and is used to make ripples and waves. It allows plenty of time to spread and shape it and dries clear, though it may take at least 24 hours to do so.



I made frequent reference to my photographs as I created the ripples, swirls and eddies above the waterfall. Thick applications of Water Effects and similar products can take a long time to dry clear.



I used the Water Effects extensively above the waterfall and leading into the aquarium filter 'spray' of the actual waterfall. It was built into a wave on the approach side of each of the rocks.



Below the falls on the lower section, I built waves around the midstream rocks, using aguarium filter wool on the approach side of each rock and stippling it with varnish using a small paintbrush.



30

This was the end result on the falls and the lower stretch of river, which then required several hours outdoors in the sun to dry out, and longer still for everything to reach its finished state of clarity and shine.



DIY on my house and modelling work on 'Polwyddelan' harbour had left me with no fewer than three cans of gloss varnish - two polyurethane and one yacht varnish. When first used on this project the polyurethane varnish did not look clear and dried discoloured, turning the aquarium filter wool brown. I had to remove the filter wool and start again. It seems that clear varnish discolours with age and all three cans were similarly affected. A new tin was obtained and this dried clear, so always use fresh varnish and save the old stuff for use on DIY projects where its discolouration won't matter.





At the top of the falls I needed to create the transition from smooth water sliding over the edge, into the great cloud of spray. Here the Water Effects was blended carefully into the aquarium filter wool using a sculpting tool.

HOW TO

CREATE AN OUTDOOR SWIMING POOL

Need to fill a space on your layout? **Chris Gadsby** takes inspiration from a lido and shows you how to construct it in 'N' gauge.



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What you will need

SHOPPING LIST

- Evergreen Scale Models 4505 ¼in squares x2 Price: £9 each
- Evergreen Scale Models 4501 ½in squares x2 Price: £9 each
- Evergreen Scale Models 131 .030in strips Price: £5
- Noch 36841 Badende figures x3 Price: €9.99 each
- The Range mounting card Price: 4 A1 sheets for £10
- Halfords grey primer Price: £7.99
- Halfords spray paint (Rover Russet Brown and Ford Tuscan Beige) Price: £7.50 each
- Deluxe Materials Making Waves Price: £9.50
- Plastruct HRS-2 hand rail x4 Price: £2.35 each

TOTAL: £101.90 approx

TOOLS

- Scalpel with fresh blades
- Tape
- Glue
- Acetate
- Red thread
- Jewellery wire
- Coloured card
- Acrylic paint



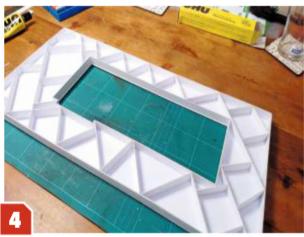
Cut two pieces of card to the desired size of your diorama. Then, use the 'measure distance' tool on Google Maps to work out the size of the pool and where it will be on the model. Use a scalpel and steel rule to cut out its shape.



Use a blade and steel rule to cut the strips. Take your time as inaccuracies here will be highlighted once you put the two layers together. A wider strip will result in a bulge in the finished product.



'N' gauge. Mark strips of that width so that you can create the supports for the top and bottom layers of your diorama. There is no limit to the number of strips you can make.



Glue the strips to the underside of the top layer, ensuring that they sit at right angles. The only places you must put strips are around the edges of the diorama and the pool; the rest you can place wherever you like.



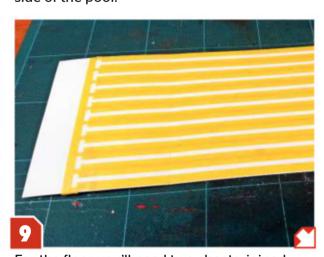
Run a bead of glue along the entirety of the strip supports and sit the second piece of card on top, ensuring all the edges are flush. Press down firmly and use heavy books to hold it in place until the glue sets, preferably overnight.



Evergreen Models (4501) tile sheeting of 1/16in squares was used for the tiles of the pool. Use a blade to score the sheet, then bend it and snap off the required piece. Repeat for each side of the pool.



Angled card will help the Evergreen sheet to slope naturally between the shallow and the deep ends of the pool. I also added in the entry and exit point here and used UHU adhesive to fix everything in place.

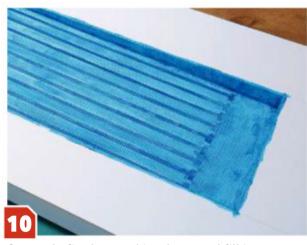


For the floor you'll need two sheets, joined together with strips on the underside. Use masking tape to create the lane marker guidelines and cover with dark blue acrylic paint. The water effect will hide imperfections.



Place each tiled section on the wall and fix in place with adhesive. Ensure it's flush with the top of the pool and ignore the small gap at the bottom (this will get covered anyway). Leave to dry before moving on to the pool floor.

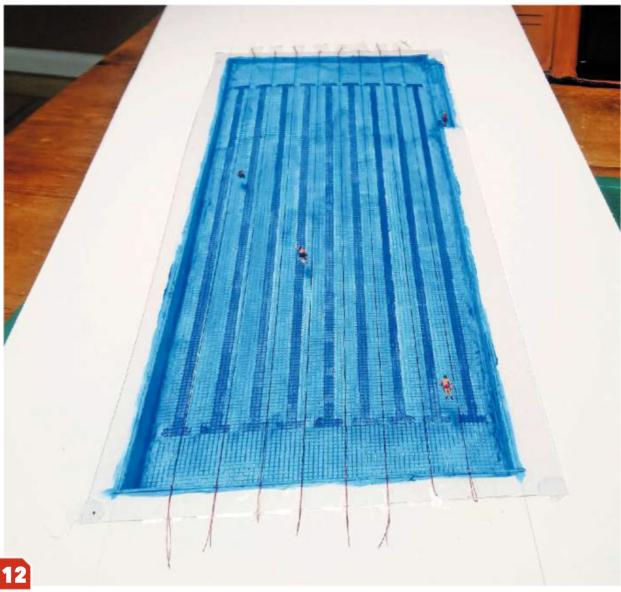
Workbench water features



Securely fix the pool in place and fill in any gaps with ordinary filler. Paint the rest of the pool light blue. Again, don't worry about any slight variations in colour as these will add to the effect of the water.



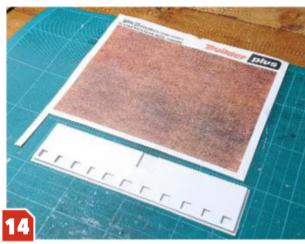
Cut a piece of acetate larger than the area of the pool and mark everywhere you're going to place a figure. Make a small hole big enough to fit the relevant parts of the figure through, then fix the acetate in place around the pool.



To simulate lane ropes I used thin thread folded in half, pulled taut across the pool and secured with tape at either end. The excess thread and tape will be hidden, so don't worry about them being on show now.



For a smooth transition between the pool and the rest of the environment, pools have smaller tiles and drainage around the edge of the pool. I've simulated this with a strip of white tiles between the rows of light blue.



I used Builder Plus brick paper sheet to cover the low-relief building and wall around the pool. Ensure you leave an overhang so that you can wrap the bricks around the corners and leave a nice finish.



For large areas, such as the doors, wrap the paper around the inside of the frame to hide the thickness of the card. For smaller areas like the windows there wasn't enough excess, so I had to cut that cleanly to the edges.



Use a pen to colour in the card and blend it into the bricks. I placed a piece of light grey card behind the brick to give the building thickness and act as a blocker, as clear acetate would show your room behind the diorama.



Working in a well-ventilated environment, I spray-painted Evergreen ¼in squares (4505) with a mix of spray paints to get varying tones of brown for the rest of the tiles on the ground. Leave to dry for around 20 minutes.



Cut the sheet into strips to allow for the staggering of the tiles on the ground. Paint the card a similar colour to the tiles to make any gaps less noticeable. Cut the tiles to length and use UHU to fix them in place.

HARDER & STEENBECK www.harder-airbrush.eu





To make the cubicles, cut pieces of card around 150% the height of a figure. Using Evergreen .030in strips to make a frame, glue it to the card behind. Ensure the strips are longer than the card so the doors aren't touching the ground.



Use Humbrol Poly Cement to fix the styrene strips together and add an additional piece of card at each end to make a cubicle block. Once everything has dried a small amount of glue will fix the cubicles to the rest of the diorama.



Plastruct 1:200 scale railings, sprayed with grey primer, were used to around two sides of the pool and the entry ramp. Remove the lower cross beam and use poly cement to fix it to the tiled floor. Noch figures were added with UHU.



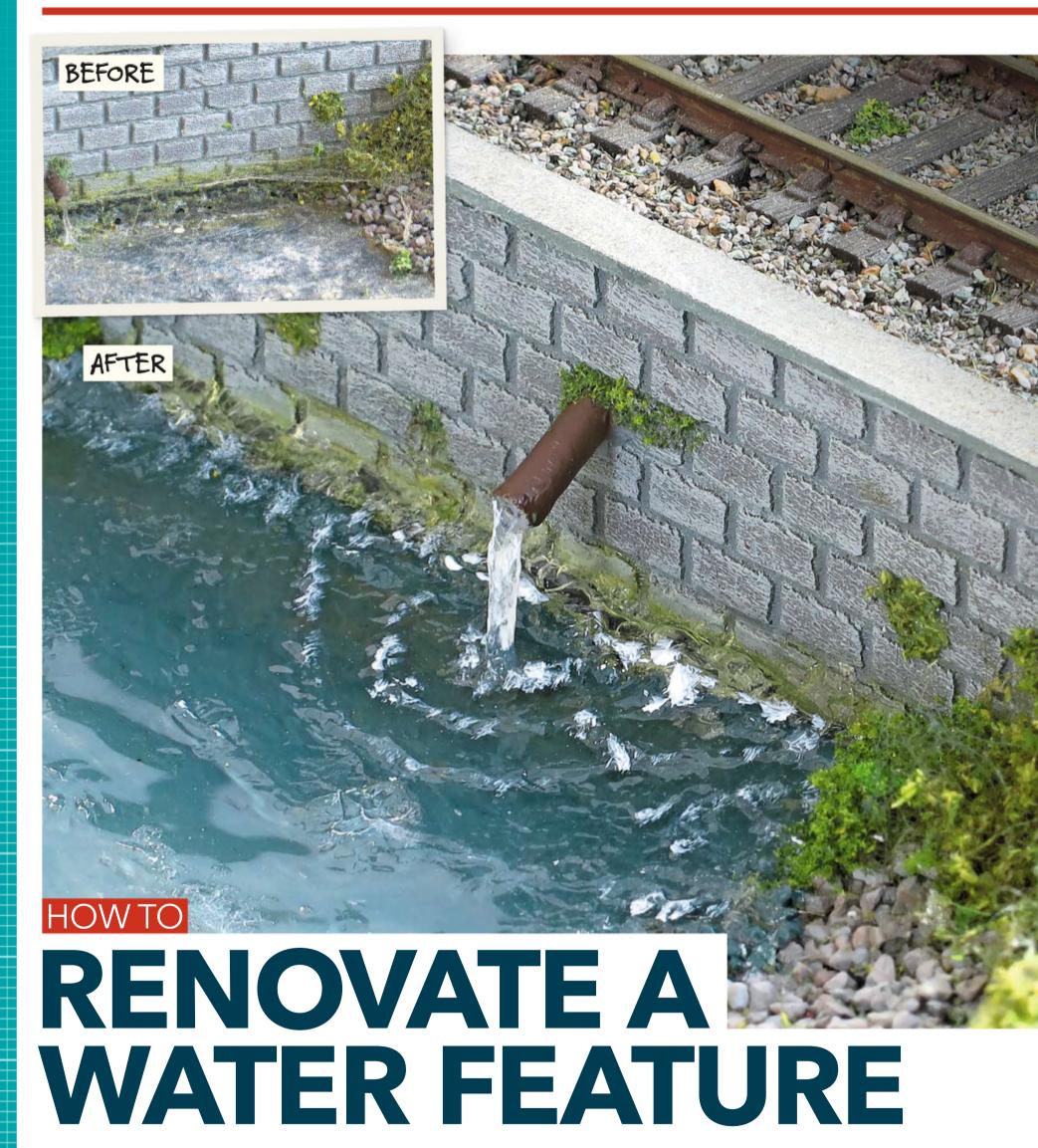
Deluxe Materials Making Waves was used to create the surface ripples and create a wavy effect. I used a spare piece of plastic to spread the substance and then used a track pin, due to its small size, to make the ripples.





Making Waves only takes a few hours to dry and, as it does, the substance turns from white to clear. It goes sticky before it hardens, and acts an adhesive, so you could add items such as flotation devices while it's still tacky.

Workbench water features



Peter Marriott shows you how to freshen up a water feature that's gone a bit stagnant.

hey say that you can't keep a good man down. Well, in this case you can't keep a good diorama down.
'Oh no!' I hear long-time readers moan, 'not this one again'. I made this diorama over a decade ago and, for many years, it was my go-to scene for demonstrating water modelling techniques. It appeared in numerous articles and then, like a character in



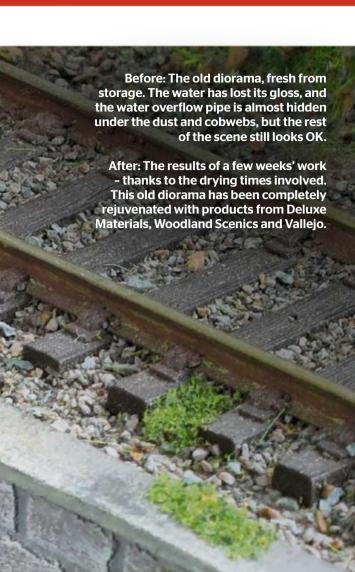
a *Thomas* story, one day it went into the garage and never came out again.

I discovered it quite by chance during a lockdown-enforced garage tidy. Despite its age, the rockface and track - even the grass were still in good condition. It was the water that was the problem - it had lost its gloss, some of it had become discoloured and it was covered in dust and cobwebs.

Could it be saved? I thought so and set to work. Immediately, the diorama resumed its test bed status for I was able to try a few new techniques and products that I'd never used before, along with a few old favourites.

HARDER & STEENBECK www.harder-airbrush.eu





I used a paintbrush to loosen the dust and cat hair and was able to brush some of it away. I then used a small rechargeable vacuum cleaner to remove the rest.



Having cleaned the old water (and removed the old overflow pipe), I covered it with a layer of Deluxe Materials Create and Shape.



Smoothing on the Create and Shape. I didn't level the surface completely because I was intrigued to see if this might add visual texture to the water after everything had dried.



You need to seal the base of a water scene so that paint and dried materials don't seep into the water fluid. Woodland Scenics Water Undercoats are designed to colour and seal a scene.

What you will need

SHOPPING LIST

- Deluxe Materials BD-60 Create and Shape, £9.00 Availability: Gaugemaster Tel: 01903 884488 Web: www.gaugemasterretail.com
- Vallejo VAL26230 Still Water, £12.99; 26201 Transparent Water, £10.99; 26231, Foam & Snow Effects, £3.49 Availability: Cottage Crafts, RMCE, Gembling, Driffield, East Yorkshire YO25 8HS Web: www.cottage-craft.co.uk
- Woodland Scenics CW4532 Hunter Green Water Undercoat, £7.75; C1219 Terrain Paint Slate Gray, £7.75; CW4515 Water Ripples Surface Water, £14.00 Availability: Antics Online **Tel**: 01453 377030 Web: www.anticsonline.uk



- Selection of paintbrushes
- Scalpel with fresh blade
- Glass coaster
- Wooden coffee stirrer
- Vacuum cleaner
- Masking tape
- Self-healing cutting mat



I painted on Woodland Scenics Hunter Green Water Undercoat, covering all the surface and just a little up the sides too.



Once the Water Undercoat had dried, I added a little variation to the colour by dry-brushing on some Woodland Scenics Slate Gray Earth Colours.

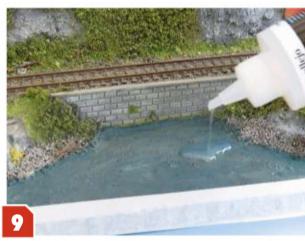


To prevent the water fluid from seeping out of the water feature, I fixed DIY masking tape around the sides of the water area.



Vallejo's Still Water is a crystal-clear liquid which levels itself to reproduce the effect of transparent still water.

Workbench water features



Pour on the Vallejo Still Water straight from the bottle. Ensure that you cover the entire water feature at the same time. It flows easily and finds its own level.



Make sure your baseboard is on a flat surface to ensure the fluid stays inside the masking tape. I applied three thin layers (no more than 2mm thick), leaving each layer to dry fully.



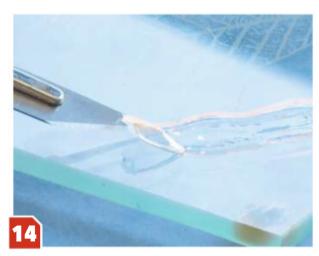
I added ripples to the final layer of Still Water with a wooden stirrer. As it dried, I painted on some Woodland Scenics Water Ripples clear gel and left everything to dry.



I made a new overflow pipe from a piece of Evergreen tube. But could I make water to flow from it?



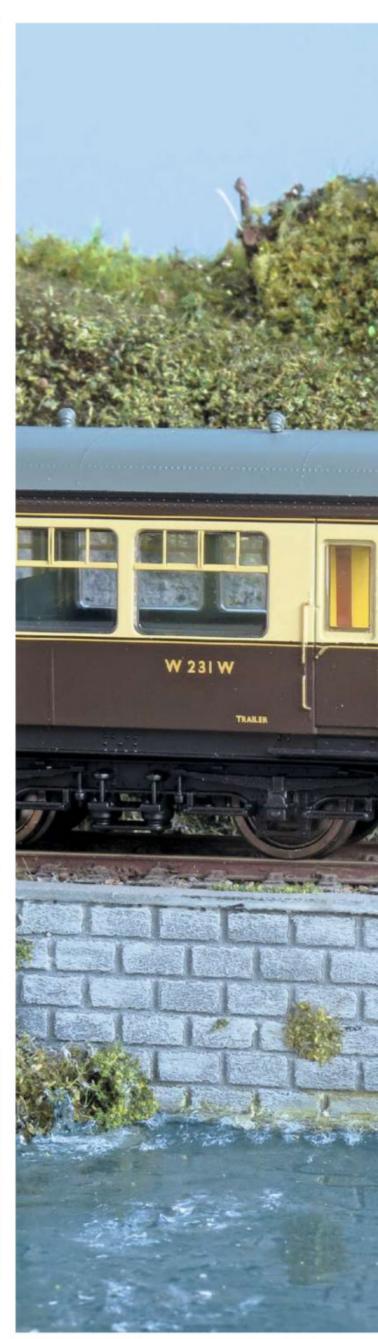
I found a glass coaster and dribbled a little Vallejo Still Water onto it to form a 2cm length of 'water', which dried overnight.



The next morning I removed the dried length of clear 'water' using the blade of a Swann-Morton knife.



By holding a length of the dried water next to the new pipe, I could gauge how long I needed the strip to be.



HARDER & STEENBECK www.harder-airbrush.eu







The length of clear 'water' was easy to trim and shape using a a self-healing cutting board and a sharp craft knife.



I applied a couple of drops of Vallejo Transparent Water on the end of the pipe and on the water surface to act as an adhesive to secure the strip of clear 'water' in place.



To form the ripples that would emanate from around the falling water, I applied some more Transparent Water using a fine-pointed cotton bud.



Don't worry about the milky white finish there's nothing wrong with the Transparent Water, it will dry clear!



To highlight a small amount of the ripples around the falling water I used tiny amounts of Vallejo Foam Effects applied with a fine paintbrush.



I repainted the water pipe with brown acrylic paint that I found in my local hobby and craft shop.

To add a few weeds around the base of the pipe, I applied Woodland Scenics Hob-e-Tac using a fine paintbrush, then sprinkled on a few grains of fine green scatter material.



Masterclass

Looking at locomotives in detail

FIRST among equals

Richard Foster tells the story of BR's lowliest diesels - and their unusual North Wales home.

Only

the rusting

rails, buried in

earth and weeds,

is a railway

ou could almost imagine that it happened this way... It's 1973, and two fitters from Crewe Works are making their way along the North Wales coast applying new TOPS numbers to locomotives. They've been to Llandudno Junction and have just finished at

Holyhead, except that they can't find 01001 and 01002 anywhere in the yard.

They raise this with the shed foreman, who just grins and points them in the direction of two bicycles leaning against a wall. With a twinkle in his eye, he gives them directions and tells the two men to get pedalling.

The two fitters eventually arrive at a small, stone shed on the coast. There's a cruel wind blowing off the sea and only the rusting rails, buried in earth and weeds, suggest that there is a railway here. Leaning their bikes against a wall and wondering if they're the butt of a practical joke, the two men enter the shed.

Inside are two antiquated diesel shunters. They're clearly BR property, judging by the old cycling lion emblems on the cabsides, emblems that were replaced

nearly 20 years previously. Shrugging their shoulders, they diligently get to work, painting over the old 'D' numbers...

BR may have replaced steam locomotives with new diesels and electrics, but many railway practices were unchanged from pre-war and even pre-Grouping days.

> Records, for example, were still kept in ledgers.

Southern Pacific Railroad's **Total Operations Processing** System looked just the thing and, in 1968, BR started negotiations to acquire this computer suggest that there program from the US. Such was the dearth of computing power in Britain at the time that it also had to

acquire an IBM mainframe from America in order to run it. BR's electric fleet shared numbers with its

diesel fleet, with an 'E' or 'D' prefix being the only difference. TOPS couldn't cope with this. The solution was to create a new classification and numbering system.

In theory, when TOPS was introduced, a train leaving Penzance could cover every inch of BR track as far north as Wick. But there was one exception: an isolated stretch of railway some two miles long in the furthest corner of North Wales. How on

earth did it become home to two little diesel shunters that would form the lowest class number on TOPS?

SHUNTING POWER

If you've only been familiar with the block trains of today's railway, it's hard to comprehend the amount of wagon load freight that BR was shifting in the early 1950s. All those wagons required shunting and you can get a feel for how much shunting power was required by the fact that between 1952 and 1962 BR ordered over 400 mechanical, hydraulic and electric shunters from Drewry, Andrew Barclay, Hunslet, Hudswell Clarke, North British, Ruston & Hornsby and Yorkshire Engine Company... and that's not including the 204hp and 350hp shunters that it was building in its own works.

Holyhead's distinctive 'Z'-shaped breakwater was, when it opened in 1873, one of the longest in Europe, and nearly 150 years after it was finished it's still an imposing structure. Eagle-eyed readers will be able to see the old locomotive shed in the bottom right of the photograph and the trackbed to the quarry. NIGEL WILKINS/ALAMY





It's also easy to forget just how much of the wagon load traffic went through Britain's ports. BR inherited a sprawling network of dockyard railways, each with their own shunting locomotives. The bulk of those 14 small shunter fleets went to the Eastern and North Eastern Region to work the likes of Hartlepool, Goole, Immingham, Great Yarmouth and Ipswich docks, as well as the vast network of lines in East London's famous 'Docklands'. In fact, it was 1956's Clean Air Act that forced BR to quickly replace steam from the Docklands and that's why it hastily ordered so many locomotives from so many different manufacturers. As with its main line fleet, not all of these diesel shunters were a success and out of the 14 designs, only six lasted long enough to receive TOPS classifications.

Andrew Barclay added four more 0-4-0DMs to Stratford depot's already extensive collection between January and March 1956. At just 23ft 8in long, with a 6ft wheelbase and 3ft 2in diameter wheels and fitted with a trusty Gardner 6L3 engine, they proved to be a popular and reliable addition to the fleet, in contrast to some other designs.

Supplied for shunting the East London >

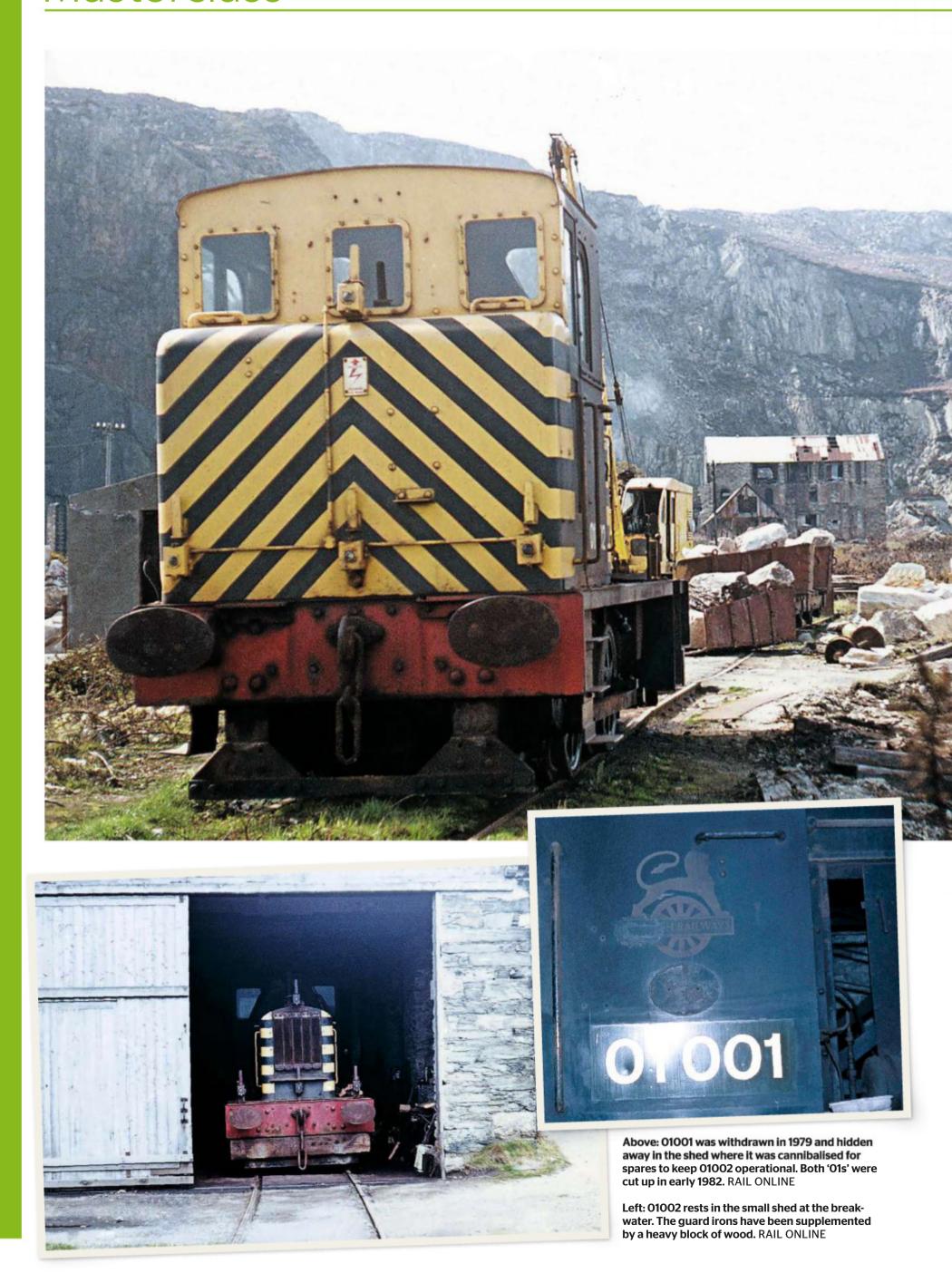
Surely this must win the prize for BR's most unusual stretch of railway? But what a modellable scene! 01002 trundles off towards the quarry along rails buried in mud... closely followed by the Breakwater Railway's Wickham trolley. The first bridge no longer exists but the one in the distance still stands. RAIL ONLINE

This image of the Holyhead's breakwater under construction appeared in the *Illustrated London News* on October 22 1859. Intriguingly, it shows Brunel's massive ship SS *Great Eastern* at anchor.

ANTIQUA PRINT GALLERY/ALAMY



Masterclass



End of the line: 01002 prepares to take another load of stone from the quarry to the breakwater. In the distance is the remains of William Wild's silica works. The yellow warning panel extends over the cab windows and has been quite crudely applied. RAIL ONLINE



docks, 11503-11506 actually spent most of their time pottering around Stratford depot and shed. There is very little to say about the BR career of these four unremarkable 0-4-0DMs, save that they became D2953-D2956 in 1957.

The British Transport Commission's National Traction Plan called for a degree of standardisation to BR diesel and electric locomotive fleet. Those designs deemed non-standard would be withdrawn.

Surely a fleet of four tiny 153hp diesel shunters would be deemed non-standard? Apparently not, for D2954-D2956 were transferred to Newton Heath depot, near Manchester, on May 1 1965. D2956 moved again, going to Doncaster in February 1966 before it was withdrawn that May. D2953 remained at Stratford and was sold into industry in June that year. D2954 and D2955, however, would go on to serve BR's most unusual railway for ten more years.



Andrew Barclay built a fifth locomotive to the '01' design in 1958. It was actually delivered to the Departmental fleet at Peterborough as Departmental No. 81. It was virtually identical to four machines at Stratford, except that it sported the cab with steel doors that Barclay had used on the 0-4-0DM that would become Class 06. Rather bizarrely, it was taken into the capital stock in July 1967 where it was given the number D2965. It was a short-lived move: the new D2965 spent fewer than five months at Doncaster before it was withdrawn on November 1 1967. Sold to British Steel, it was scrapped at Briton Ferry works in 1969.



01002 shows where its new numbers have been applied over its old black livery, complete with BR 'cycling lion' emblem. The Andrew Barclay nose seemed to suit horizontal wasp stripes as the Class O6s also carried this feature. COLOUR RAIL

HOLYHEAD HOME

Holyhead is over 250 miles and two islands away from D2954/55's traditional East London stamping ground. As the main settlement on Holy Island, Holyhead is separated from the Welsh mainland by Anglesey. However, its position

The Acts of Union, which formed the United Kingdom, came into effect on January 11801.

made it a prime site for maritime traffic, particularly to Ireland after 1801. Thomas Telford's road transformed communications with London, but it was the construction of the Chester & Holyhead Railway that gave the town the opportunity to win back the lucrative Irish mail traffic from Liverpool.

www.model-rail.co.uk

CHARLIE CROSS/GORDON EDGAR COLLECTION/RAIL PHOTOPRINTS

Masterclass

Civil engineer James Meadows Rendel proposed a huge transformation to Holyhead's outdated waterfront facilities. Two breakwaters would be built, one the Northern and the other the Eastern. They would be connected to the Chester & Holyhead Railway via a tunnel and a contract was signed between the Lords of the Admiralty and contractor J&C Rigby on February 2 1848. In the event, the Eastern breakwater proved too difficult to build and the 5,100ft long, 'L'-shaped Northern breakwater was deemed enough protection for the new harbour.

Stone was moved from a new quarry to the construction site via a 7ft gauge tramway. Isambard Kingdom Brunel might have espoused such a gauge to give trains greater stability at high speed, but the extra width did give stability when pummelled by winds off the Irish Sea. Rigby's men erected wooden staging into the sea, and rock from the quarry was tipped between the wooden posts. Some 4,000 tons of rock was dumped per day as the breakwater slowly grew longer. It was dangerous work and 40 men died between 1849 and 1852.

Harbour Master Commander Skinner pleaded with the Admiralty that the breakwater needed to be longer to further protect the harbour and another 2,000ft was added to its length. At 1½ miles long, it was now one of the longest breakwaters in Europe and its distinctive 'Z' shape increased the safe harbour area three-fold. It is estimated that some 7,000,000 tons of rock was used and it cost £1,285,000 to build. The Prince of Wales officially opened it on August 19 1873.

The breakwater's railway system was originally 'Y' shaped. It ran from the quarry to a junction close to the breakwater. One line continued left along the breakwater and the other turned right to meet the Chester & Holyhead.

R.B. Longbridge of Bedlington,
Northumberland, supplied six broad gauge
0-4-0WTs to the railway in 1852. With the
breakwater complete, four were sold to
I.W. Boulton of Oldham and rebuilt as
stationary engines for re-sale. What happened
to the fifth locomotive is a bit of a mystery.
Some sources state that it was exported to
Brazil, but J&C Rigby also supplied
equipment for the construction of the Ponta
Delgada breakwater in the Azores, where the
railway was also broad gauge and it's
understood that an ex-Holyhead locomotive
found its way there.

There is no mystery attached to the fate of the sixth locomotive. This was *Prince Albert*, which hauled the Prince of Wales in 1873 and it was retained by the Board of Trade, which had taken on responsibility for the breakwater, to move rock for the regular

The first D2956 was sold to scrap dealer King's of Snailwell, Suffolk. It was retained as the yard shunter until it was sidelined by a defective transmission in 1984 (when it was photographed). The locomotive was donated to the East Lancashire Railway in 1985 where it received the pseudo TOPS number 01003. It now carries BR green and its D2956 number. COLOUR RAIL

maintenance that the breakwater required.

In 1902, William Wild & Son took on a lease for the quarry and developed a silica brickworks on the site. Wild also took on the operation of *Prince Albert* and it was used until just before the First World War, outlasting the Great Western Railway's broad gauge system by over 20 years.

The railway from the quarry and out on to the breakwater was rebuilt to 4ft 8½in and the branch to Holyhead was lifted. From then on, the Holyhead Breakwater Railway was completely isolated from the national network. Remarkably the last broad gauge rails were not lifted until 1933 and *Prince Albert* remained on site until it was scrapped just after the Second World War.

The relationship between the Admiralty, Wild and the newly formed British Railways is not entirely clear. It appears that responsibility for the breakwater remained with the Admiralty but, from April 1 1948, BR supplied motive power, complementing the Admiralty's own railcar. BR, however, seemed to simply hire Wild's locomotives – Andrew Barclay 0-4-0ST No. 1584/1917 Stafford Vernon and Peckett 0-4-0ST No. 1873/1934. No. 1584 was withdrawn in 1951 and scrapped in 1959.

LIGHTWEIGHT WORKERS

BR transferred Departmental 0-4-0DM ED6 (Fowler 420045/1947) to the Breakwater Railway from Beeston Sleeper Depot on June 23 1966 but it was hugely unreliable and its last trip on the Breakwater Railway took place on January 19 1967. Now BR faced a problem: it needed a diesel light enough to work the breakwater. The answer was found at Newton Heath.

The two Barclay 153hp shunters, D2954 and D2955, were transferred to the small shed at the foot of Holyhead's breakwater on June 9 1967. ED6 was taken away during the summer and scrapped; Wild's Peckett No. 1873 was also broken up that year.



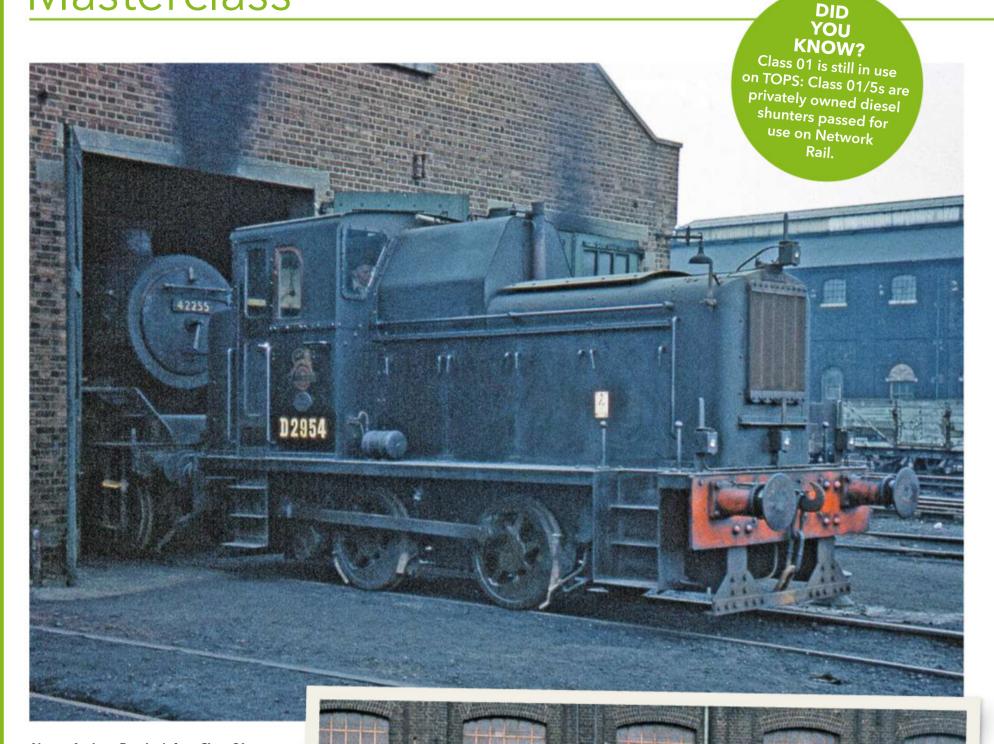




Above: D2955's workstained paintwork has taken on a glossy sheen when it was photographed at Stratford in 1963. The slightly awkward shape was not helped by the fuel tank which was mounted atop of the bonnet, ahead of the cab. TREVOR OWEN/ COLOUR RAIL

The Class 01s were originally numbered in the 11503-11506 series but became D2953-D2956 in 1957. The cab doors were wooden; when Departmental 81 was built in 1958, it had steel doors like a Class 06. RAIL ONLINE





Above: Andrew Barclay's four Class O1s were some of the smallest diesel shunters used by BR. They had 3ft 2in diameter wheels and weighed just 25.2 tons. Despite their small size, they were popular and reliable. D2954, later 01001, prepares to drag Fairburn 2-6-4T No. 42255 out of a shed at Stratford on April 30 1961. RAIL ONLINE

D2956 is in immaculate condition at Stratford, showing off the later 'ferret & dartboard' BR emblem. Departmental 81 would re-use the D2965 number when it was taken into capital stock in 1967; the first D2956 had been withdrawn in 1966. COLOUR RAIL

How the two Holyhead locomotives came to receive the lowest class number on TOPS is simple: they were BR's least powerful diesel. The Gardner 6L3s put out just 153hp; the closest equivalent were the four remaining Yorkshire Engine Company 0-4-0DH and their Rolls-Royce engines generated 170hp! The two Barclays became Class 01 and the YECs became Class 02.

By the time the two '01s' received their new numbers – although they still retained their original BR cycling lion emblems – work on the breakwater system had changed. The quarry was virtually moribund and stone was delivered from Penrhyn by road for 01001 and 01002 to move it down the breakwater to where it was required.

Who at Stratford in the 1950s would ever have thought that of those 14 diesel shunter designs that BR ordered, the two '01s' would see out the 1970s and would only be outlived in BR service by two other machines: Class 05 05001 and Class 06 06004, both of which were retained for Departmental duties?

01001 technically didn't make it through to the 1980s. It was withdrawn on September 14 1979 but was retained as a source of spares for 01002. However, 01002 didn't last long in the new decade: it was withdrawn on March 15 1981. You'd imagine that both '01s' would, by that time, have become prime catches for preservationists but they were both cut up on site. Happily, however, their two classmates

made it into preservation: D2953 is part of the Heritage Shunters Trust collection at Peak Rail and D2956 is based at the East Lancashire Railway.

The '01s' duties at Holyhead were taken on by a rail-mounted self-propelled crane and BR's responsibilities for maintaining the structure ceased in the early 1990s. The shed which housed the '01s' still survives, as does some sections of track, and you can explore the shed, the quarry and the breakwater as they are all now part of the Holyhead Breakwater Country Park.



HOW TO

BUILD A BARCLAY '01' BRASS KIT

Dave Lowery samples the delights of a Judith Edge etched brass kit, and enhances it with his own modelling prowess.

MODEL Judith Edge Barclay 01 0-4-0DM D2953-6 A weekend <u>AUGE</u>】 ◆ **Price** £48.00 plus £3.50 P&P



ow, what a little beauty! I thought that I'd seen and built most ranges of kits over the years. I usually treat most kits as a set of parts for what essentially becomes a scratchbuilding project.

I always approach a new kit prepared to cut and shut parts and to make any shortcomings good with new bits. That way, I'm never disappointed with components that don't fit or holes that are in the wrong place.

But a little bit of work and some patience will result in a good model.

That was how I felt until I built my first Judith Edge kit. What an absolute gem! The detail is excellent and the parts are beautifully etched, which means that it fits together really well. Judith Edge Kits offers quite a range mainly industrial locomotives or smaller BR steam and diesel shunters - in 4mm and 7mm:1ft scales. My advice is to get one now and keep it by to brighten some dark wintry



various assemblies need to be TIP screwed together and the locating nuts need to be soldered very accurately. Firstly, tin the area around the hole, add flux and place the nut in position. Gently bring the soldering iron into contact with the tinning solder. This will melt and lock the nut in place. Add a further filet of solder if required.

Masterclass

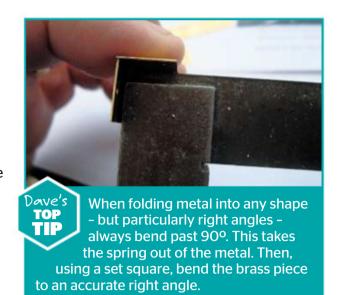
evenings by building yourself a lovely model.

The subject of this build is the Barclay O-4-ODM D2953-56, later the Class O1. It's a lovely little locomotive, with distinctive lumps and bumps that give it quite a character.

The kit contains parts to produce the Departmental version (No. 81). It also includes a few resin castings for sandboxes and internal fittings, but otherwise, everything can be soldered together - perfect for an old dyed-in-the-wool modeller like myself!

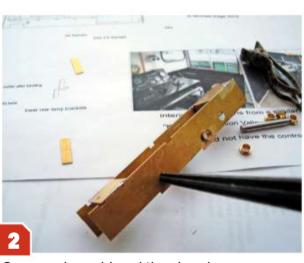
Some of the etched parts are very small and, with the transference of heat, you will need to clamp an old aluminium hair grip to the etch to act as a heat sink. It's a trick that needs mastering but, aside from that, the kit is very straightforward and goes together well. There are a few small screws and nuts as well.

As with most kits, you'll need to source the wheels, motor and gearbox, as well as bufferbeams. In this case, Markits offers the correct seven-spoke Barclay wheels, as well as the gearbox, and Alan Gibson produces the buffers – and all are available from Roxey Mouldings (www.roxeymouldings.co.uk). Unfortunately, the kit is designed to accept a Mashima motor but these are no longer available so you'll need to source an alternative.





It is always a good idea to lay out the components needed for each step. Here are all the pieces required to build the chassis.



Once you've soldered the chassis components together (on a flat surface!), you need to add the brass axle bushes. Open the holes in the frames with a reamer.

What you will need

SHOPPING LIST

 Judith Edge Barclay 01 0-4-0DM D2953-6 Availability: Judith Edge Kits, 5 Chapel Lane, Carlton, Barnsley, South Yorkshire S71 3LE Tel: 01226 722309

TOOLS

- Fine punch and small hammer
- Pin vice and selection of bits
- Files, reamers and broaches
- Soldering iron, flux and solder
- Gas torch



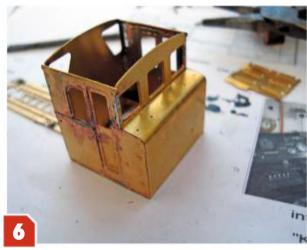
The key to ensuring you build something that runs well is to ensure the wheels and axles sit square to each other and your flat surface. Use drill bits to act as a visual guide.



Assemble the bufferbeams, steps and valance to the footplate. Take care to set the steps straight. The baseplate for the cab and bonnet assembly needs small nuts soldered to it.



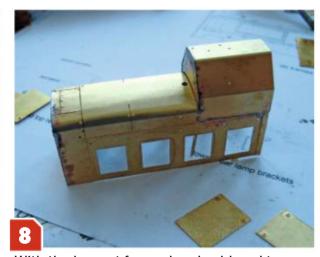
Add a little grease to the top of the footplate before you add the cab/bonnet base. If any solder leaches out when you start soldering the cab to its base it won't stick to the footplate.



Once the cab parts are tack-soldered in place - including forming the rolled top to the rear cab plate - remove the assembly so you can complete the seam soldering.



Forming the front bonnet needs time and patience. There are a series of fine half-etched fold lines – like scored card – that help make the curves. Using the front plate, carefully ease the etch into the correct shape.



With the bonnet formed and soldered to the front radiator former, the fuel tank mounted above the bonnet can be added. Make sure it is all square before seam-soldering.

Some parts will require riveting or at least punching to produce the look of rivets. If you plan to build lots of kits, it's worth buying a riveting embossing tool (Midland Railway Centre offers them for £67.50, see www.midrailcentre.com). Otherwise, a fine punch and small hammer can be used. Read the instructions and identify the parts that need riveting. Practise on scrap brass first to ensure you get the right level of pressure to produce a correct looking rivet.



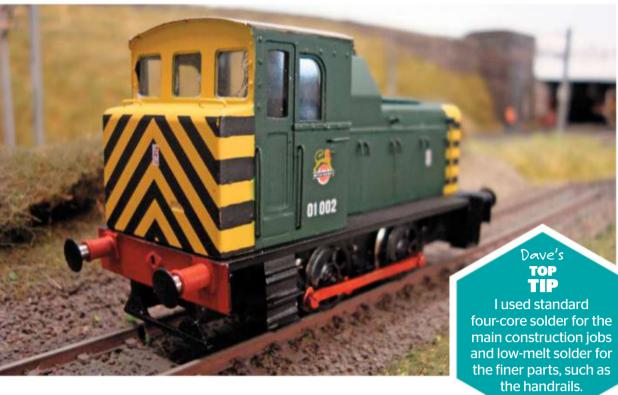
The use of clamps on such a small model is a necessity due to lack of space. Here, the cab control desk is tacked in place and clamped in position, while the whole unit is held so the gas torch can complete the soldered joint.



Use a flat file to round the edges of the ends of the bonnet and cab. Start to file the sharp edge away to a curve, working your way up and down the ends - and then finish off with a fine file.



Body and frame units were primed and allowed to dry. I sprayed the nose and the cab rear yellow while the front and rear bufferbeams are spayed red. Then I masked those areas.





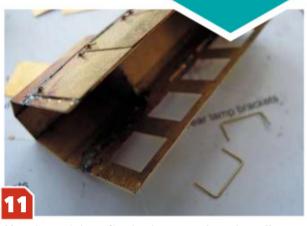
Along the side of the bonnet above the doors is an angled piece of very fine etch. Clamp it in place and start to solder from one end, then work your way along its length. This will prevent distortion.



Roll the roof to the cab top profile. Then gently crimp over the ends with the flat nose pliers to give the tighter curve. Add a piece of rod to the joint between the roof



The main colours - RailMatch BR green and RailMatch black - have been applied. I allowed them to dry before applying gloss varnish. This provided the backing for the Fox black warning chevron decals.



Here's a trick to fix the bonnet door handles. Secure the handrail inside the bonnet with the ends sticking out. Hang the doors over the handles, solder in place and then bend down the protruding ends to form the door handles.



Give the parts a good scrub in soapy water to get rid of the acid flux. I shot-blasted the model in preparation for painting – but sometimes you need a burr and minidrill to remove stubborn traces of solder.



With the decals dry, I applied a coat of satin varnish. The final jobs include glazing the windows, adding the ladder and screwing the body to the chassis. Then sit back and enjoy!

METCALFE

Card Construction Kits

LOW RELIEF

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TERRACED HOUSE FRONTS
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STONE 00 CODE PO275 / N CODE PN175

TERRACED SHOP FRONTS RED BRICK 00 CODE PO272 STONE 00 CODE PO273



TERRACED HOUSE BACKS
RED BRICK 00 CODE PO276
RED BRICK N CODE PN176
STONE 00 CODE PO277
STONE N CODE PN177



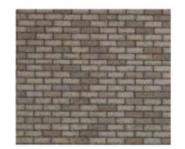
BUILDING MATERIALS



COBBLESTONE 00 CODE MOO51 N CODE PN903



TARMAC 00 CODE MOO56



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CUT STONEWORK (M1) 00 CODE MOO57 N CODE PN902

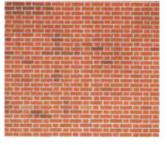


ENGINEER BLUE BRICK
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RED BRICK
00 CODE M



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MODEL RAIL



Skills Station

Welcome to the penultimate part of this module. Whether you're a beginner or an experienced modeller looking to hone your skills, our team of experts will split a modelling task or skill into easy to follow, bite-sized chunks, busting myths learning the same skills. We'll along the way.

Join our Facebook group

and you can post your pictures and chat to fellow modellers all offer friendly feedback and tips to make you even better!

Richard Foster Editor



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THE ESSENTIAL GUIDE TO

Pt 5: RESIN KITS

Polyurethane resin is a useful and cheap material, making it popular with smaller model kit and component manufacturers. As George Dent demonstrates, resin kits have great potential, but their quality can vary.

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Skills Station

RESIN ROLLING STOCK KITS Although recently superseded by 3D printing, cast resin components were a popular element of model kits for decades, particularly among smaller manufacturers. Cheap,

lightweight and easy to work with, polyurethane-based resins can be cast into intricate shapes without the need for expensive machinery.

The quality of resin castings depends wholly on the quality of the original master and the moulds. Alas, a consistent quality across all manufacturers has been lacking and I've had the (dis)pleasure of wrestling with some truly awful resin kits over the years. Air bubbles trapped in the material are a common problem, while some castings may feature heavy deposits of 'flash' which must be removed carefully before assembly.

When they're done well, however, resin kits can be a joy to build and most often come in the form of one-piece bodyshells, leaving modellers to expend most of their energy on building the underframe and adding smaller details. Indeed, resin has a number of limitations and the design of the kit should take these into account. A naturally soft material, it is liable to warp unless cast in fairly thick sections and it's not the best material for rendering finer details such as buffers or brake pipes. This explains why most of the best kits include etched brass and whitemetal chassis, bogies and detail fittings.



Prior to recent developments in 3D printing, resin provided a convenient means of rendering kit components, especially one-piece bodyshells. The best kits offer brass, whitemetal and plastic underframe components, such as this package from DC Kits.

Resin bodyshells have allowed modellers to recreate unusual locomotives, often using RTR chassis as a basis. This Silver Fox Models gas turbine uses a modified Hornby Class 47 chassis.

HOW ARE RESIN KITS MADE?

To produce a resin-cast component, a 'master' must first be produced in plastic or metal. The master is then placed inside a liquid-tight container, into which is poured cold-cure silicone rubber. For hollow items such as bodyshells, an inner and outer mould is required. Silicone has the potential to form itself around even the most intricate details and shapes, allowing high-quality reproductions if the work is carried out properly. Naturally, the quality of the original master and the skill of the mould maker has a direct effect on the finished product.

The polyurethane resin itself is created by mixing a liquid resin with a hardening compound and this fluid is poured into the silicone moulds. A chemical reaction occurs within the liquid resin – generating heat – which helps the curing process, but it also degrades the moulds, thus explaining why resin kits are usually offered in short runs only.







HOW TO ASSEMBLE RESIN KITS



The parts may need tidying up before assembly, removing flash with needle files and sanding sticks. Work gently, as it's easy to remove too much of the soft material by being too vigorous.



The pale colour of the resin makes it difficult to discern if the surfaces are smooth and free of imperfections, so it may be wise to leave the fitting of fine new details until the model has been primed.



When the parts have dried out, the grey primer can be sprayed in light coats. The dull grey finish will instantly reveal any areas that require attention with filler and abrasives, but the primer must be left to dry for 24 hours first.

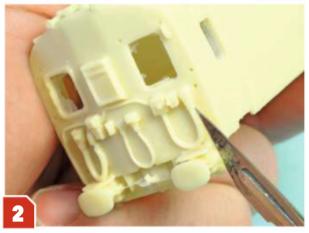
GLUES AND FILLERS

Epoxy glue is suitable for the main structural work, along with slower-setting cyanoacrylate formulas, allowing time for adjustment. Cyano glue is also great for adding the smaller parts.

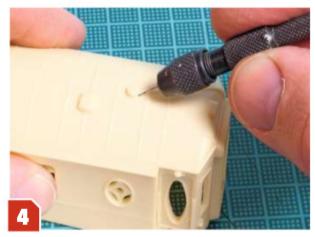
You'll also need a good quality filler to cure any surface imperfections or gaps between joints. Solvent-based fillers adhere best to resin

surfaces.





Resin kits are easy to modify if the moulded detail is regarded as inferior. Unwanted material can be cut and filed away, using fine abrasives to achieve a smooth surface. Any blemishes can be filled with putty.



Mounting holes for detail fittings can be marked out and drilled. An embroidery needle makes for a simple centre punch, to ensure the drill bit cuts precisely. The soft material is drilled easily, so apply only gentle pressure.



After filling any holes, gaps or blemishes, allow the putty to cure before sanding smooth. Depending on how much remedial work is required, you may end up removing most of the initial primer coat!



Cyano glue is best for adding smaller details, as the bond is rapid and there's less mess involved. For best results, decant a little cyano onto a scrap of card and use a cocktail stick to apply a small blob with precision.

What you will need

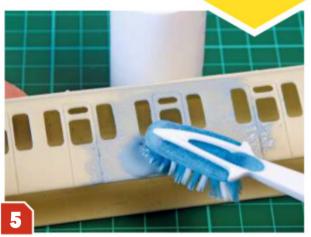
TOOLS

- Knife and fresh blades
- Files
- Straightedge
- Tweezers
- Drill and bits
- Abrasives
- Pliers
- Facemask
- Toothbrush



Polyurethane resin dust is toxic, so a suitable dust mask must be worn when drilling, sanding or filing.

Wash your hands thoroughly after work, especially before handling food.



Before applying any paint, however, it's a good idea to clean the resin parts. An abrasive cleaner, such as a household cream cleanser, is recommended, using it to scrub the surface with an old toothbrush. Rinse thoroughly.



After repeating the washing, drying and priming stage, check again for any areas that are still not perfect. It took several attempts to get the surfaces on this EMU kit absolutely smooth. When satisfied, the fine details can be installed.



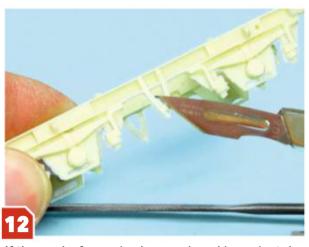
Yet another primer coat is needed to blend in the new detail parts, after which painting can begin in earnest. Putting the effort into the preparation, priming and painting stages will be rewarded with a much more realistic outcome.

Skills Station





Sheets of clear acetate or styrene are usually supplied to act as glazing and this can be secured with PVA or a bespoke glazing adhesive, such as Glue 'n' Glaze, which dries crystal clear.



If the underframe is also rendered in resin, take care to remove any excess material without weakening the structure. Short wheelbase wagons tend to work with resin chassis frames, but longer bogie vehicles seldom do.



Resin is fairly durable but it's still a good idea to replace some features with more resilient fittings, especially buffers. Fitting brass pinpoint wheel bearings is also recommended, and many kits include these.



Resin bogie frames may be provided with locomotive and multiple unit kits, designed to fit onto RTR power units. After test-fitting to ensure correct ride height and axle alignment, they can be secured with epoxy adhesive.



Good resin kits provide an etched brass chassis, onto which the bogies and underframe detail can be secured. This also provides a more reliable foundation. Simply fold up the sides. Eventually, the body can be glued to the frame.



Resin's lightweight nature makes adding ballast vital, especially to motorised vehicles. Fixing metal into the roof keeps the interior clear, while concentrating the mass over the bogies improves performance.



Although some resin kits demand plenty of time in the preparation and painting stage, they do offer a fairly straightforward route to portraying prototypes unavailable in RTR form.

WHAT NEXT?

Part 6 of this Skills Station module shows you how to get the best from laser-cut plastic and 3D-printed kits.

Show us what you've learnt on our Facebook group - https://bit.ly/2TEmHKA

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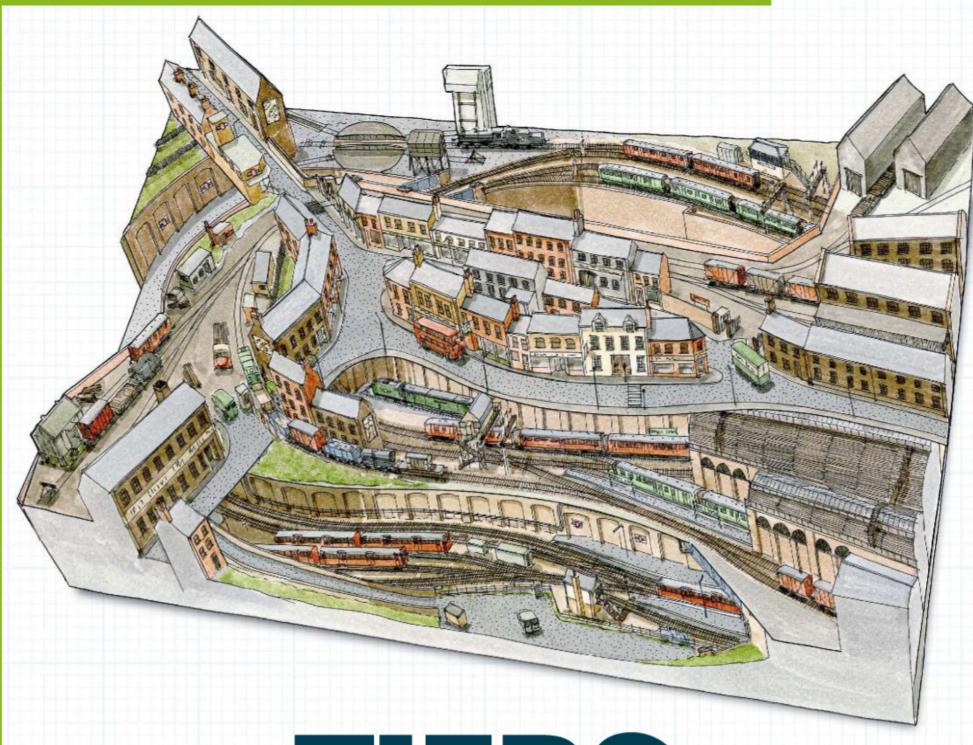
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Masterplan Multi-level layouts

Track plans to get you thinking in three dimensions



TIERS without tears

Paul A. Lunn explores multiple levels, gradients and how to create adequate clearances.

Artwork: Paul A Lunn and Melenie Lunn

reating height and depth on a layout not only reflects the real world but, in my opinion, creates a much more interesting compositional effect. Clearly, making hills and valleys is easier to deal with than changing the levels of your track. After all, you're only dealing with bits of foam and plaster cloth rather than whether your trains will be able to climb a gradient, and whether you not only have clearance between track at multiple levels but also from side to side and the issues arising from rolling

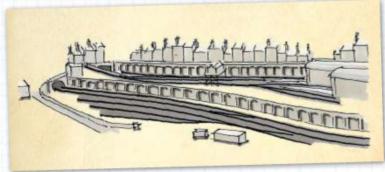
stock clearance, particularly near curved track.

Having multiple track levels throws up another consideration too – can you actually reach into the hidden areas to retrieve derailed stock, or to clean your track?

There are two ways to incorporate height and depth into your track. You can go for a gradient, taking a train from one level to another, or you can keep the tracks on their respective levels but have multiple levels. Here are some ideas, big and small, for multi-level layouts or those with gradients.

THE ULTIMATE MULTI-LEVEL LAYOUT

Size: 12ft 4in by 8ft



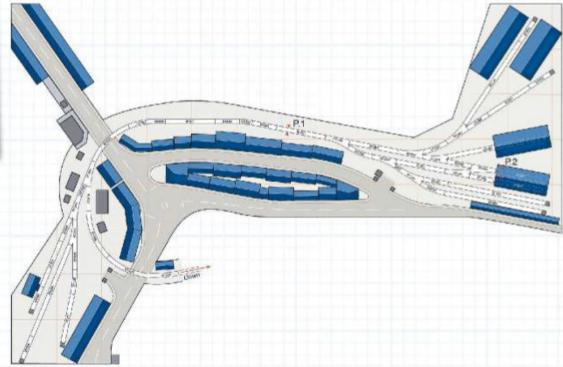
This is probably one of the most complex layouts I've designed. What I call 'the wedding cake' design started as a simple doodle to check how tiers or terracing would look. Satisfied with the compositional appearance, I set about working out track plans on three levels, with a solitary gradient between two of them.

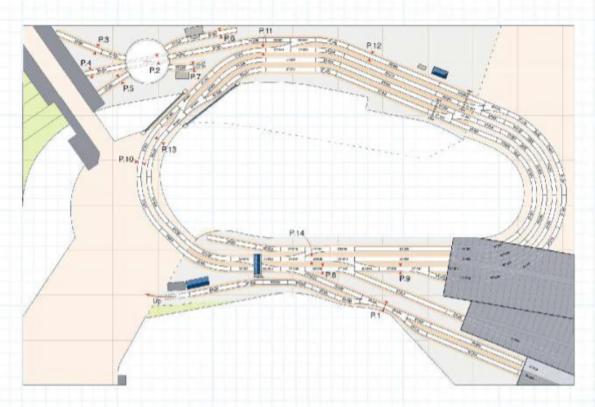
One of the most important considerations is to assess how each level will be viewed. There's partially concealed track, in several places, on two levels, sunken cuttings and a substantial gradient rising up in two places, plateauing partway, to serve one of two goods yards on a third level.

The lowest is a self-contained oval, representing a sub-surface section of the London Underground. Surrounded mainly by retaining walls, it's important to be able to look down and into what are, effectively, cuttings. The mid-level needs to be below eye-level but situated at a height that feels prototypically comfortable with the lowest level. Finally, the upper goods yard level could be at eye level, though I suspect slightly below would be more suitable. Of course, this is all subjective and is dependent on the builder's height when standing, or seated on a chair or stool.

While access is going to be quite tight there are several possibilities; part of the central street scene or other scenic sections without track could be removable. Open access panels in the sides, particularly near the station, bottom right, and underneath the high-level goods yard, top right, would all ease opportunities for maintenance and recovery.

● Thanks to Peco for allowing us to reprint the track plans, which can be found in the Peco Setrack OO/HO Planbook. The fifth edition is out now, priced £3.95, from all Peco stockists.





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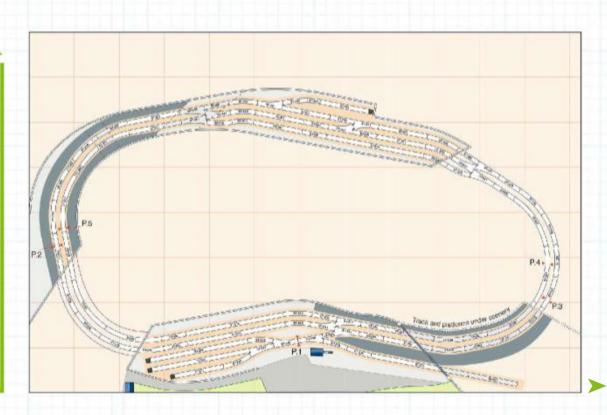
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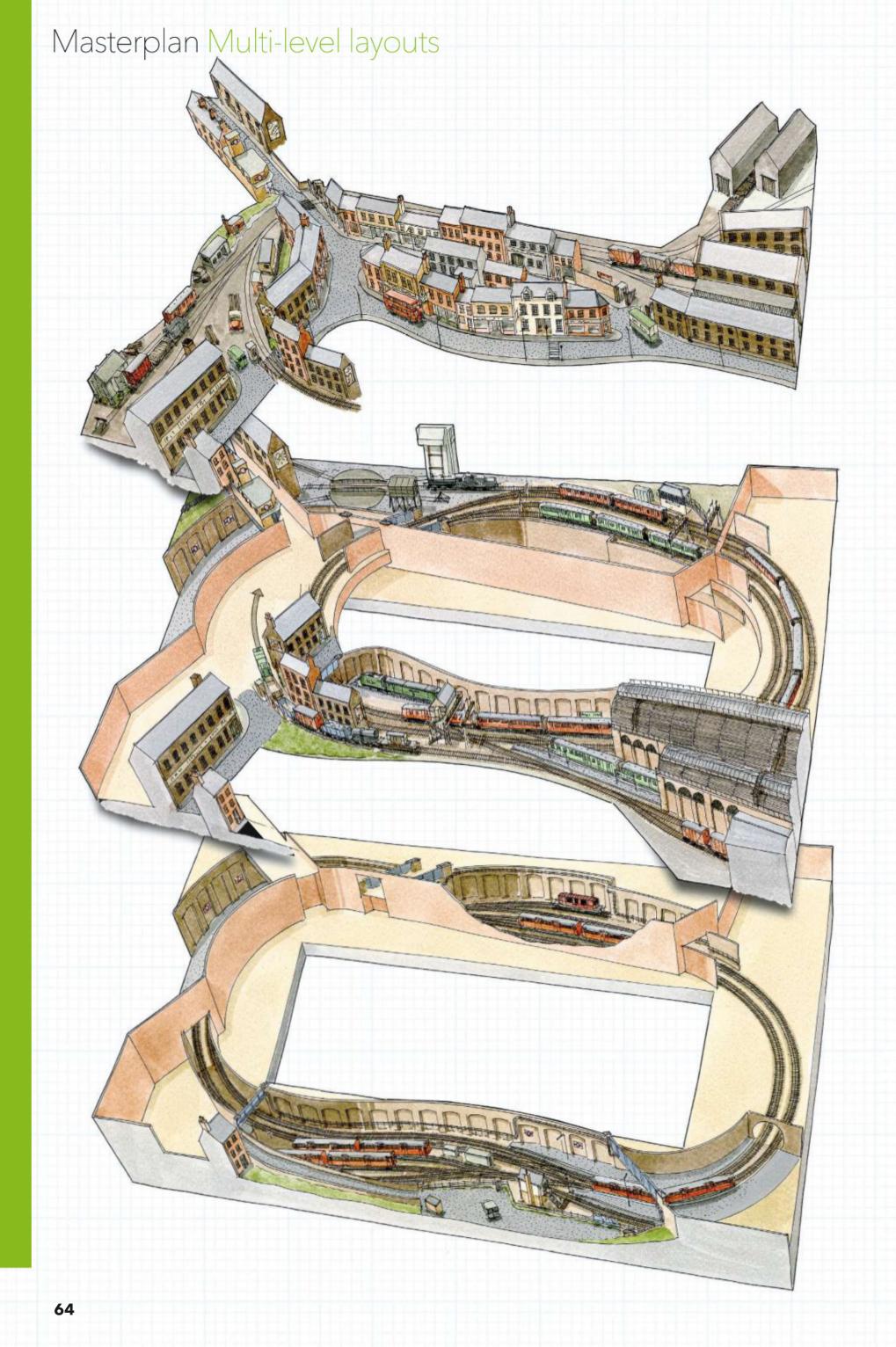
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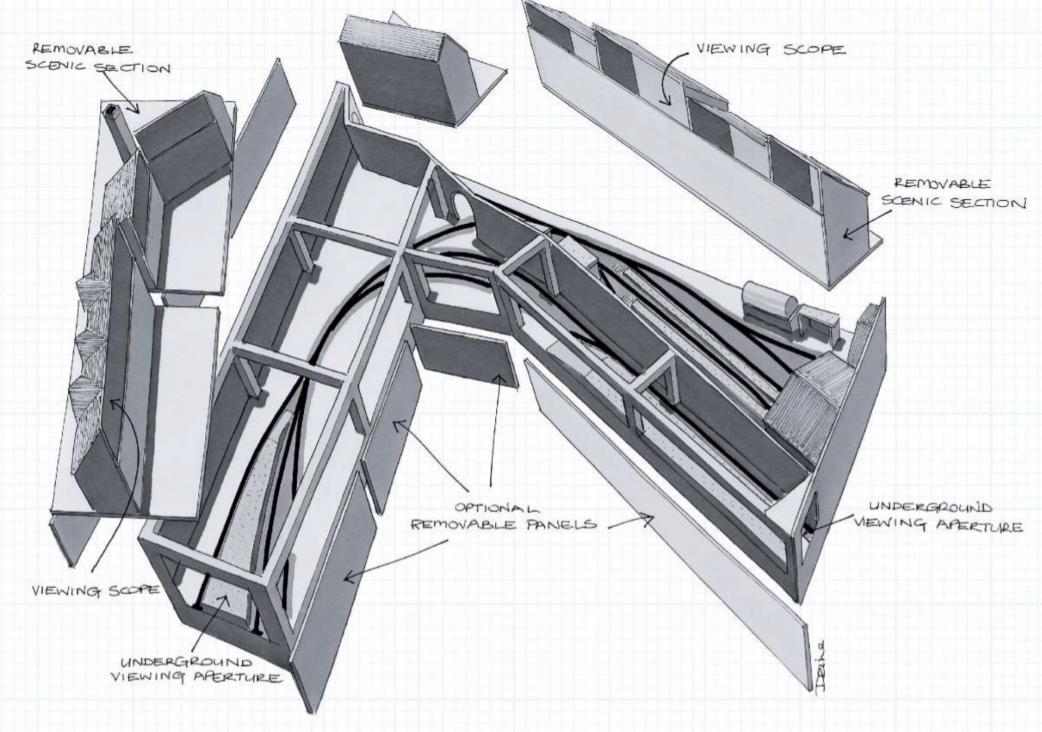
ST-240 R/hand turnout x17 @ £12.75

ST-241 L/hand turnout x29 @ £12.75 Total cost: £1,087.15*

*Prices from www.gaugemasterretail.com







MULTI-LEVEL MICRO 1

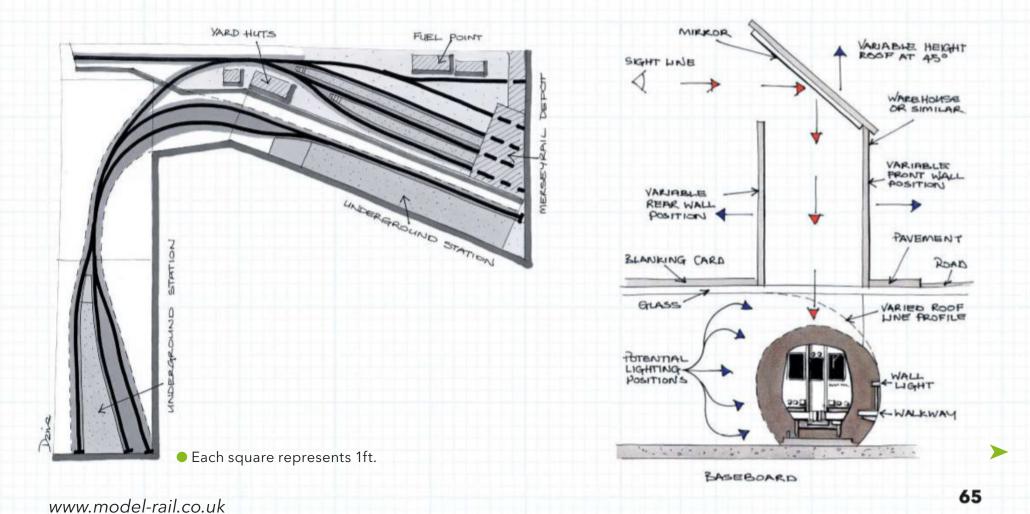
Size: 6ft by 5ft 4in

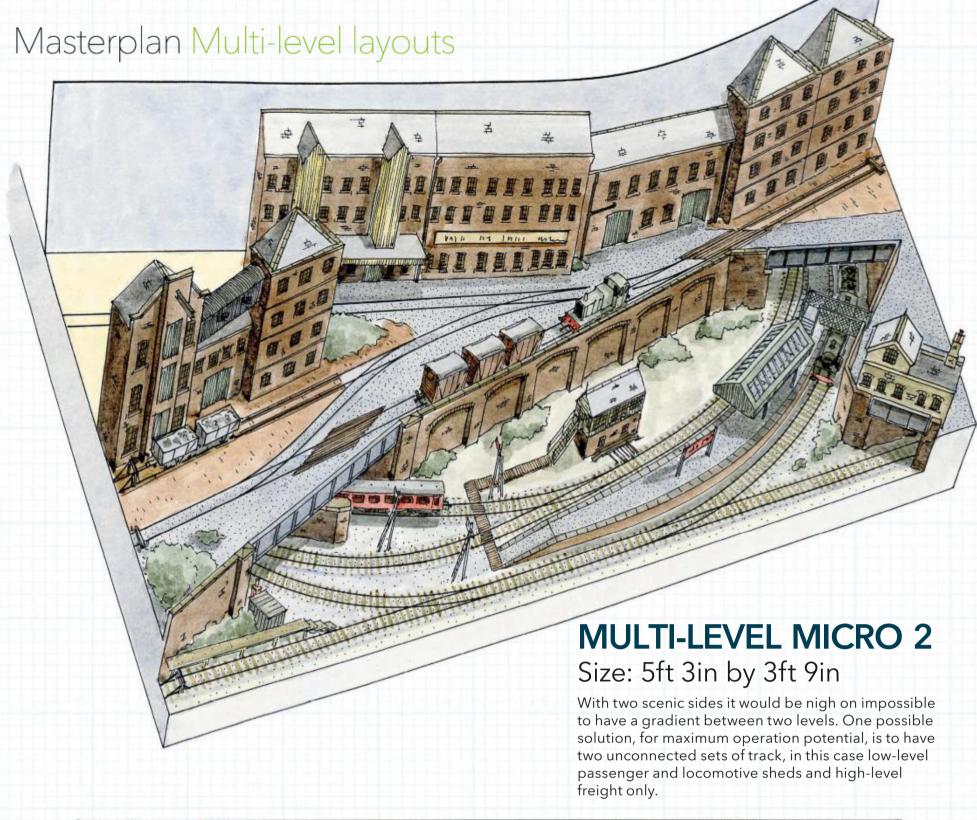
This small layout is complex in its largely underground arrangement. It's an 'L'-shaped layout, based on Liverpool's Merseyrail system, with most trackwork covered by high-level scenic treatment. Only the depot is exposed to general viewing.

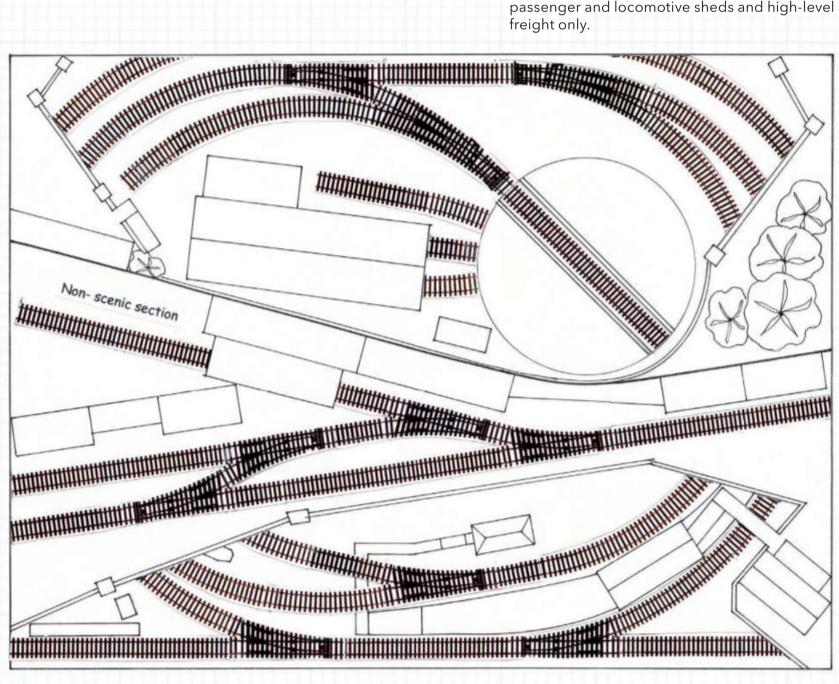
Physical and visible access is provided by opening panels and an inverted mirror scope. Despite structural covering, it's easy to see hidden tracks. The schematic

gives a broad idea of how a mirror scope can be applied. Size - particularly the mirror and downwards aperture - could vary, large enough for a tunnel only or for a section of station platform too. Similarly, the scope could be placed at the end of a layout looking down the line, though this would need a second mirror, at track level or thereabouts, also at 45°. It would also need view-blocking from any other viewing aperture.

The mirror scope's origins probably date back to trench warfare in the First World War for looking out over No Man's Land.





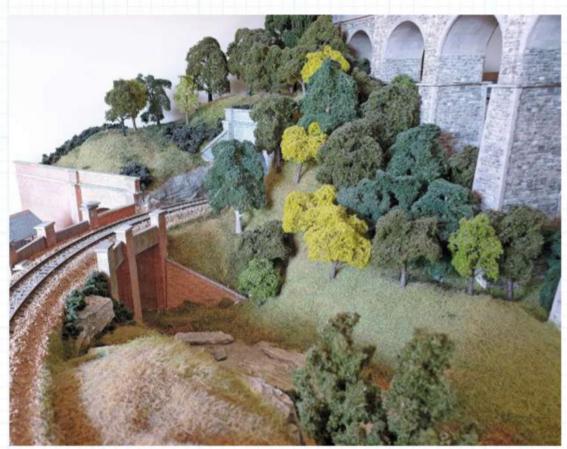


CONTINUOUS TIERS

My own minimum-space layout, with spiral track plan, has multiple track and scenic tiering rising up 6in from the fiddleyard at the lowest level to the station at the highest – both of which, for shunting purposes, are on the level. Everything else is on a continually changing grade with scenic treatment rising or falling away from either side of the track as it winds a spiral route. As a result, there are several sections of track 'encased' in scenery, and where this occurs there are removable access panels. Each panel, plus any tunnel apertures, gives access to every section of hidden track.









Keeping it clear

It's easy to think of clearance as the gap between one track crossing over another. Interestingly enough, you can get this down to a tad under 3in and most stock will scrape through, though those who own a Hornby crane will know the chimney is always going to be a problem!

Of course, it's one thing going under

a bridge of very little clearance if there's a derailment, or track needs cleaning, but it's something else when talking about a tunnel of some length. If you have to get hold of stock and pull it out, either via the tunnel entrance or an access panel, you'll have to factor in the thickness of your hand and, of course, hands come in many different sizes, impacting on the required space. Furthermore, it's important to make any aperture reasonably long enough to remove an offending piece of derailed stock.





GRADIENTSWITHOUT RATIOS!

I suspect that like everyone else I've been brought up on gradient ratios - 1-in-40, 1-in-60 and suchlike. We've traditionally had gentle gradients for main lines and considered steeper ones best for short trains. To me, that's always been a generalisation, without applying much logic.

I've been helping my friend Peter Salmon build his layout for quite a few years now and, back when we started, he needed to find out what would travel up a potential gradient to his high-level branch line terminus. As with every complex layout idea, I suggested we make a mock-up on which we could undertake a series of experiments to define

gradients and stock performance.

Initial tests showed that identical classes from different manufacturers and identical locomotives from the same manufacturer performed differently. In testing Peter's locomotive collection there were some surprises, with smaller locomotives occasionally outperforming larger contemporaries. Additionally, it depends on the train. Varied stock length and weight will all have an impact, as will added detail, particularly if, like Peter for example, you add real coal into mineral wagons.

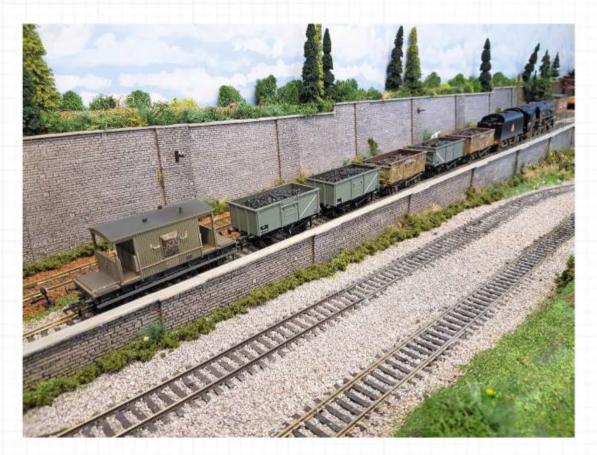
From the results of our experiments, we found that we could rise approximately 3in, enough to clear stock on a track below, over a distance of 56½in,

a ratio of approximately 1-in-19.

Viewed side-on, it's a tough-looking climb, restricted by factors at both ends and yet, at normal three-quarter viewing angles, it looks perfectly acceptable. I know there are only five mineral wagons and a brake van behind the '9F', but that was for the purposes of a photograph. The 2-10-0 would comfortably haul ten wagons and a 2-6-4T could pull three coaches up the grade.

Even when you've factored in variables already mentioned, two of the most important considerations still outstanding are:

- Resistance against movement is always going to be greater when your train either commences from a standing start at the bottom of a gradient or stops partway up and then has to restart.
- Transition in track as it changes from on the level at the top or bottom of a gradient - at its worst it will cause driving wheels to lift off the rails. On the immediate right you can see the different degrees of



success; the lower level has a track joint right at the point of change and, as a result, there is a slight kink. Fortunately this hasn't affected performance, whereas the upper level is a very smooth transition from level, right, to the gradient, left of the point.

A possible effective option (though one I've not tested) might be to have plateaus spaced so that only half or part of a train, particularly a long one, is on the gradient at any one time. In this way the locomotive and front end stock will be on a flat section before it picks up the full resistance of the rear section onto the grade.











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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?



Peter Marriott Rumour has it that MR's resident scenery buff even uses a Gras-Master on his own front lawn...



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



TO SCRAP OR NOT TO SCRAP?

I picked up some damaged 'OO' gauge steel-bodied open

wagons from a bargain bin last year and have been wondering what to do with them. The bodies have been badly bashed about. The most obvious thing would be to portray them as condemned stock or as part of a scrapyard scene. But are there any other options? Could they even be repaired?

Chris Playfair, by e-mail

George says: Much depends on the nature of the damage to the models and the amount of work you're prepared to put into them. Portraying condemned stock is simple enough, although, ideally, the vehicles will need to be heavily weathered and marked with a white cross within a circle (the common symbol to denote stock bound for the scrapyard).

A cameo option that immediately springs to mind could involve a derailment scene, perhaps with a rail or road-borne recovery crane in attendance. Commonly, severely damaged rolling stock would not be suitable for moving by rail to a scrapyard and would, therefore, be cut-up on site.

An array of suitably attired figures with oxyacetylene equipment and empty wagons waiting to collect the chunks of scrap would offer an enjoyable diorama challenge.

THE REPAIR OPTION

If the bodyshells appear beyond salvation, the wagon's chassis can be readily employed for other purposes or held in reserve to act as a spares donor in future. Perhaps there's an interesting 3D-printed wagon body kit to be found on Shapeways - or other online sites that needs a donor chassis.

Having said that, in many cases the body can be repaired, or maybe even used as a basis for a conversion project. In fact, your e-mail reminded me of a wagon I found in the Model Rail office last year that had been partially melted, I assume by being left in close proximity to a soldering iron.

This wagon had been lying around the office since I first started at MR in 2004 and, during a big clear-out, I thought it would be a waste to simply throw it away. Duly inspired by this query, I decided to see if the bodyshell could be mended.

Furthermore, I've been assembling a rake of SPA/POA scrap-carrying wagons over the past year (MR271) and this Bachmann model featured a different rib pattern to the rest of my fleet (the square-sided ribs as opposed to the angled variety), thus making the fabrication of new panels that bit easier.

The repair process consisted mainly of cutting away the damaged areas and replacing them with plastic sheet and strip, blending the new materials as neatly as possible. The nature of the wagon's design helped by providing natural borders against which to fit the new sections. Many steel-bodied wagons feature similar raised ribs, so the technique should be relevant to a variety of vehicle types.





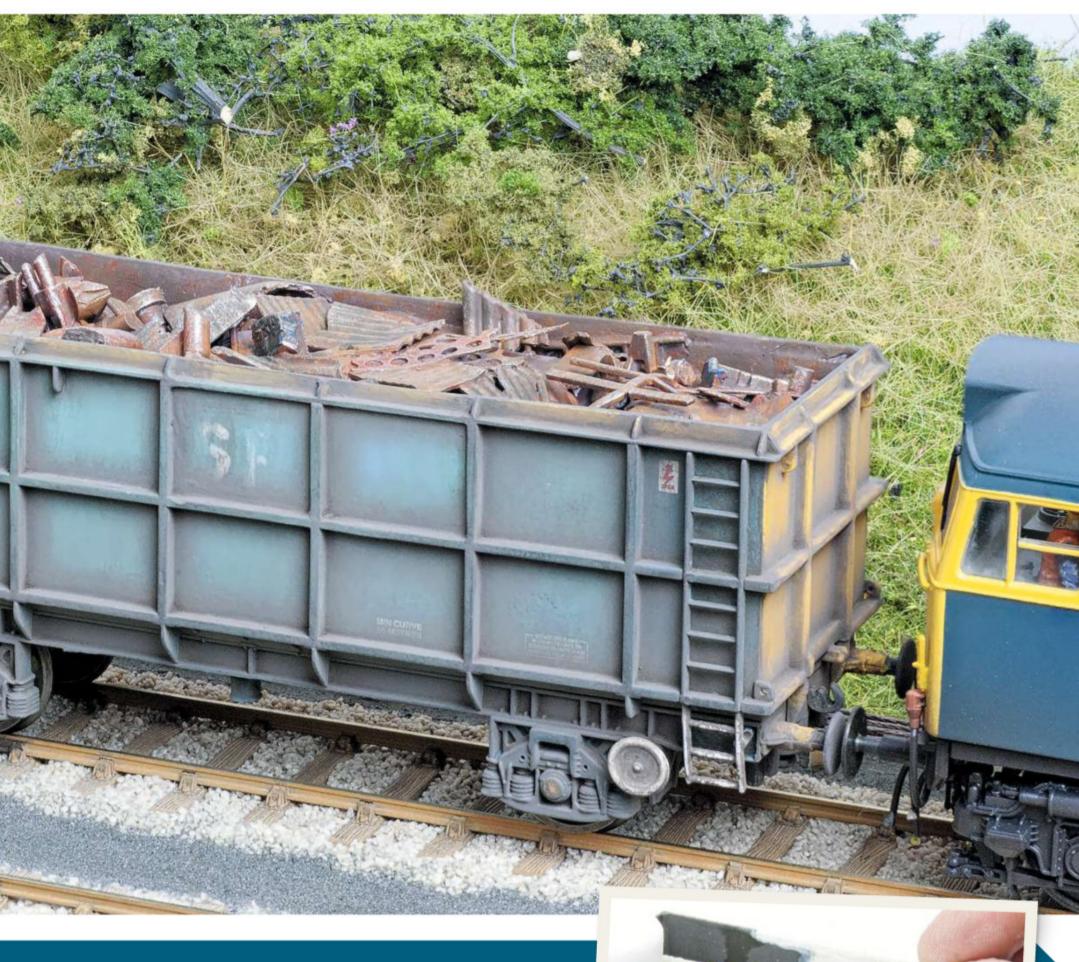
This sorry-looking Bachmann POA wagon looks like it flew too close to the sun, but the melted bodywork could still be salvaged with some careful surgery. Importantly, the chassis and most of the body remained square and true.



With a fine-toothed (and sharp!) razor saw, the damaged panels were cut, using the raised ribs as a guide. After making the vertical cuts, angled slots were also cut to help in removing the waste. Patient work is essential to avoid cutting too deeply.



Switching to a smaller razor saw (this is a Tamiya tool), the waste can be cut away gradually with horizontal cuts. Don't work right up to the raised ribs just yet, but use them as a visual guide for now. The waste can be recycled as part of the scrap load.





Gently abrade the cut edges with a straight, flat file, working towards the raised ribs until a smooth, square edge is achieved. Remove any tool marks with a sanding stick, taking care to preserve the square edges to each aperture.



Cut patches of thick plastic card (I used 40 thou' sheet) to match each aperture as accurately as possible and glue in position with liquid poly cement. The ribs were formed from 60 by 40thou' plastic strip and the upper ledge from 60 by 20thou'.

Once the glue had set, any gaps on the exterior and interior were remedied with plastic model filler, applied with a cocktail stick. After tidying up, the repaired areas were primed and painted.

ГОР ТІР

The correct shade of 'Barclays'
blue is available in the RailMatch
paint range, but I mixed my own
approximation using LifeColor LC08
Matt Pale Blue, plus a little LC01 Matt
White and UA811 Yellow. It's not perfect,
but weathering hid any discrepancy.

Technique of the month

DIY HOPPER LOADS

In order to fill a hopper wagon with a realistic load of stone chippings, coal or other loose material, a false floor will help to avoid adding excessive weight to each vehicle.

In contrast to a straight-sided bodyshell, propping the floor at a convenient height can be tricky, due to the tapering nature of the hopper's interior.

A cheap and simple solution is to use a strip of sponge to prop up the card or plastic base. The height can be tailored by simply trimming the sponge. The loose load can then be piled up and secured with a penetrating adhesive, such as diluted PVA or Ballast Bond from Deluxe Materials.

Product: Geoscenics wagon load kits **Availability:** *www.geoscenics.co.uk*



A strip of foam, from a dishwashing sponge perhaps, can be cut to fit within the hopper interior. A thick card or plastic floor can then be cut to slot inside.



With the card or plastic floor set to the desired height, trimming the sponge accordingly, the scatter material can be piled up and spread out using a teaspoon.



A penetrating adhesive, such as Ballast Bond, can then be applied. Once cured, the load becomes rigid, despite the sponge packing beneath.



READER'S TIP 1: HST UPGRADE

Bob Spicer says: I read with great interest your review in MR271 concerning the latest Hornby RailRoad HST power car set.

Firstly, I thing it's a shame that only one power car is motorised, as the small motor will have its work cut out shifting a full eight-car set on a larger layout, especially one with gradients of any sort.

However, improving the haulage ability of Hornby's budget HST is not too difficult. I have three pairs of Hornby and Lima power cars, one in Virgin Trains livery, one in First Great Western 'fag packet' livery (both painted by myself) and the third pair in the first incarnation of FGW 'Barbie' livery.

Taking the Virgin pair as an example, for the cost of less than £30, I managed to buy an underframe for a powered car, along with a motor bogie, giving me a second power car. I also fitted two red LEDs to one power car and two white LEDs to the other vehicle.

The long, protruding lenses of the 'lighthouse' LEDs allows them to slot into the light apertures more readily. Although the lighting doesn't allow for directional operation, this is fine for my layout's needs.

With a motor at each end, my twin power cars happily whizz along with seven or eight Mk3 coaches, coping well with a range of inclines and various curve radii.

Therefore, a 'power twin' conversion doesn't have to break the bank, if you can get hold of the necessary spare parts. Searching out pre-owned Hornby or Lima power cars with decent motors is worthwhile, especially as the outward condition of the bodyshells is not important. A trawl through model shops or online auction sites is bound to reveal plenty of suitable donor models or spare parts.

The pulling power of Hornby's RailRoad HSTs can be increased by adding a motor to the dummy car.

READER'S TIP 2: NON-STICK SURFACES FOR JIGS

M.J. Causer says: I noticed the mention of the Scale Model Scenery laser-cut alignment jigs in MR265. Something I often use when glueing plastics or card together, especially when using a jig, is a sheet of silicone-backed paper from an A4 sheet of self-adhesive labels to prevent the item sticking to the jig.

I also use a sheet of this paper on my modelling board when I am glueing anything together for the same reason. Obviously, use the side of the sheet that the labels were stuck to!

Also, a reminder that this paper can't be recycled when finished with, as the silicone corrupts the production of new paper.



PROTOTYPE QUESTION OF THE MONTH



I would like to assemble a rake of BR bogie ballast hoppers. What's the difference between a 'Sealion' and a 'Seacow'? And did

they work together?

Andy Mortimer, by e-mail

George says: British Railways' 40t bogie ballast hopper designs can be traced back to the 1920s and a wagon type pioneered by the Southern Railway. Many of these vacuum-braked wagons were absorbed into BR ownership and christened 'Walrus'.

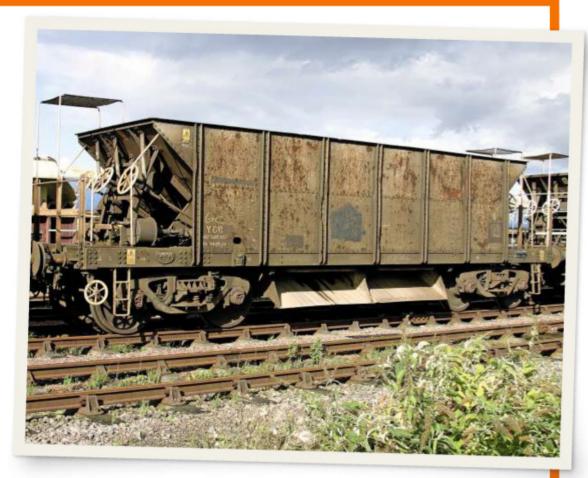
BR later introduced a 50t bogie ballast hopper, the 'Whale', which not only boasted a larger payload capacity, but was also equipped with air brakes. However, these were not successful and a return to a 40t design followed, again with air brakes being fitted from new. Classified as 'Sealion' and 'Seacow', the difference between the two came down to the fact that the 'Sealion' also received vacuum brake equipment, while the 'Seacows' were air brake only, albeit with a through vacuum pipe, allowing the two types of vehicle to operate together. Furthermore, most other existing ballast hoppers remained vacuum brake only into the 1980s.

The bulk of the 'Seacow' and 'Sealion' fleet was built at BR's Shildon Works, with the balance constructed at

Ashford. A notable modification was rolled out during the 1980s, whereby a metal framework and mesh screens were erected over the end platforms to protect workers from overhead live wires.

During the 1990s, vacuum brake gear was removed from some 'Sealion' hoppers and these wagons were recoded as 'Seacows'.

Also during the 1990s, a small number of wagons were equipped with a small electric generator, mounted on one of the end platforms within a steel enclosure. The electricity would be





Above: 'Seacow'
DB982550, coded
YGB under the TOPS
system, carries a very
rusty patina in this
2006 view.

Left: YGH 'Sealion' DB982864 sports the popular BR 'Dutch' engineers' livery, August 2006.

Below left: The grey panel, visible on the right hand platform, protects the electrical generating equipment fitted to 'Stingray' DB982892. ALL: GRAEME ELGAR



harnessed to power rows of lights at a work site, greatly improving working conditions - and safety - for trackworkers operating by night.

The generator-equipped hoppers were classified as 'Stingrays', although they shared the same YGB TOPS code as the 'Seacows'.

In 'OO', Hornby offers both a 'Sealion' and a 'Seacow', while Bachmann produces an impressive version of the 'Sealion'. For 'N' gauge modellers, the 'Sealion' is available from BR gave all Graham wagon flee

Farish.

RAILWAY JARGON BUSTER

BR gave all of its engineers' wagon fleet marine-themed codenames, leading to the various wagons being known as 'fishkinds'. Examples included 'Mermaid', 'Sturgeon, 'Catfish', 'Clam', 'Turbot', 'Limpet', 'Salmon' and 'Dogfish'.

CUSTOMISING BACKLIT HEADCODE PANELS



How can I replace the four character headcodes on my Bachmann Class 47, without losing the illumination?

Bob Walker, by e-mail

George says: The four character alphanumerical headcodes adopted by British Railways were designed to aid train identification for signalling and station staff. Denoting whether a service was an express passenger, parcels, branch line 'stopper', empty stock or unfitted freight, the codes also revealed where the train was bound.

The destination was indicated by the second digit – always a letter – usually in terms of the BR region where the train would terminate. 'E' stood for Eastern Region, 'M' for the London Midland, 'S' for Scottish and 'V' for the Western Region. Southern Region-bound trains were allotted the letter 'O'. Other letters could refer to more specific destinations when the train was to remain within the same region.

For the sticklers among us, an RTR locomotive with pre-printed headcodes will inevitably lend itself to specific services, which may not be appropriate for our layout's location. Customising these codes gives us the opportunity to add greater realism to our train operation and, on some models, the headcodes may be simple to alter. Indeed, some even come supplied with a selection of printed codes.

Where the headcodes are printed onto backlit glazing panels, however, the job is more difficult. It's not impossible though, thanks to special translucent headcode packs from Precision Labels.

Access to the inside of the headcode panels is required and the printed characters can be removed with a little T-Cut Original automotive finish restorer, which will also serve to polish the surface of the clear plastic.

Studying contemporary prototype images will reveal some area-appropriate headcodes that can be recreated using the Precision Labels packs, which are available in different character sizes, for 'N', 'OO' and 'O' gauge.

What you will need

MATERIALS

- Headcode pack, ref. BL41D
- Availability: Precision Labels
 Web: www.precisionlabels.com

TOOLS

- Scalpel
- Fine tweezers
- Cocktail sticks and cotton buds







,,,,,



Dip a cocktail stick into the T-Cut and rub the edge of the stick firmly against the printed interior of the headcode glazing panel. After a few minutes, the paint will begin to soften.



Repeat the process until the glazing is clear, then buff the surface with a cotton bud. If any scratches exist, add a little more T-Cut with the bud and polish the glazing.



The new headcode panels consist of blank four-character panels and self-adhesive digits. Cut out the desired characters and fix in place, touching in any gaps with black paint.



Trim the new panel before fitting, checking whether it will interfere with the fit of the chassis. Glue in place with a couple of blobs of PVA adhesive and leave overnight to set.



MODERN SIGNALS FOR 'N' GAUGE



Are there any cheap - but realistic - kits for modern colour light signals in 'N' gauge? Phil Young, by e-mail

George says: N Brass Locomotives offer a variety of metal kits of colour light signals, of two, three and four-aspect pattern, in working or non-working format.

The four-aspect version also includes parts to create a junction indicator, or 'feather', as illustrated here. These self-assembly kits look fantastic and are incredible value (working signals from £5.20, non-working from £3.00).

Rendered in etched nickel silver, a short length of brass rod is included to form the signal post. Solder or glue assembly is possible, with epoxy or cyanoacrylate adhesives being equally suitable. I chose the solder approach when building this non-working sample kit, except for the fitting of the curved light shades, which were a little tricky to hold still while soldering, so cyano glue was used instead.

Many of the parts are tiny and delicate but, once assembled, the signals are fairly rugged. The height of the signal post can be tailored

to suit your specific requirements, with the excess left beneath the base to provide a useful baseboard mount. Fully illustrated instructions are provided.

Other products available in this range include a range of ground signals, etched ladder strip and protective mesh (fitted around signals in proximity to overhead power lines).



Tool of the month

Diamond needle file designed for photo-etched parts

This high-quality half-round file has been designed specifically for tidying up fine etched metal components or strip. The long handle features a coating of tough, textured plastic for a comfortable and secure grip, while the abrading surfaces are impregnated with ultra-fine diamond particles.

In use, the file works effectively to remove excess material without the risk of 'digging in', as is typical



when using regular needle files, thus reducing the prospect of damaging delicate parts.

Indeed, this is the perfect device for tidying up the edges of etched nameplates and other locomotive detailing components after they've been cut from the fret with a set of shears.

Product: Tamiya 74066 Diamond File

Price: £7.99

Availability: Scale Model Shop

Tel: 01422 405 040

Web: www.scalemodelshop.co.uk



THREE CAMEO IDEAS FOR YOUR LAYOUT



Ready for the knacker's yard: The 'COND' legend daubed onto the side of the hopper denotes that this wagon's useful life is over and the scrapyard beckons.



Paint it red: It's not quite the Forth Bridge, but painting these railings looks like a time-consuming job. The painter's dust sheet on the ground is a realistic touch.



The old and the new: A horse-drawn hay cart resting beside a tractor suggests a farm of the post-war era, when the adoption of new technology was a gradual process.

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- Hattons/Heljan LNER 'A4' 4-6-2
- Rails/Dapol 'A1X' 0-6-0T
- Hornby sliding door Mk 3s
- **Graham Farish Thompson coaches**



Our reviewers

Chris Leigh

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

Richard Foster

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

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
ΤΟΤΔΙ	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.







y 1964 *Abc* Combined Volume, shows that I had 'copped' 33 out of the 47 surviving '61XX' 2-6-2Ts. I had also seen a fair few of the '41XX' series 'Large Prairies' but most of those had gone by 1964. Though I was not a big 'Prairie' fan at the time, I remember them fondly now, due to a number of encounters back in the early 1960s. I watched No. 4109 on March 21 1964 shoving No. 6932 Burwarton Hall and a train of loaded ballast hoppers up Sapperton Bank past the now long-gone Chalford station. I rode the beautiful Gloucester-Ross-Hereford line behind No. 4107 shortly before it closed, and No. 6161 was the last Reading-based steam locomotive I saw in action.

It took until the 1970s for a ready-to-run 'Large Prairie' to

appear, from the Airfix GMR stable. It was a very desirable GWR model at the time, well detailed but somewhat let down by its mechanism. It passed eventually to Dapol and was one of the items sold to Hornby. Hornby breathed on the chassis but its origins were always betrayed by the firing shovel moulded on the tank top of the Airfix original. So it was, until the Margate company announced an all-new 'Large Prairie' in its 2019 programme. That model is now with us and I've had the pleasure of testing and reviewing No. 6145 in unlined black with early crest and, very appropriately for me, carrying the 81D Reading shedcode.

IMPRESSIONS

It has been a very long time since Hornby's revamp of the Airfix 'Prairie', and even longer



since the Airfix version first appeared, so the 'Large Prairie' was ripe for a new model to 21st-century standards. Dapol spotted an opportunity to reclaim the 'Large Prairie' when it announced its plans for a new



model in early 2018 but Hornby had clearly already been working on its new version and it has beaten its Chirk competitor to the model shop shelves. The finesse and delicacy of the details shows immediately that



one is looking at a Hornby model. Wire handrails, for instance, are very thin and held in handrail knobs as fine as any offered by the finescale detailing suppliers. Detail on the moulded plastic body is fine, and complemented by hundreds of tiny rivets.

Working back from the front bufferbeam, with its lightly sprung, turned and blackened metal bufferheads, the stays for the front platform are slender plastic mouldings, reducing the risk of distortion which could happen with wire stays.

Below the running plate, the front steps are straight and set at the outside edge of the running plate valance to give maximum clearance for the swing of the front truck on sharper-than-scale curves. A look through photographs suggests that the position and precise shape of

the steps varied. Some were set but curved back inwards under the running plate. Others were straight, like the Hornby steps, but set back behind the valance.

Hornby's compromise to suit

3 things we like



Sliding cab roof shutter.



Cab interior detail.

box door handles and the very understated

safety valve bonnet being

'brassed' and the chimney cap

body moulding. I spent some

time studying photographs of

firebox top of the Hornby >

the real thing and I feel that the

finished in copper. I do, however, have one small criticism of the

smokebox door hinges. These, like the boiler bands, seem to set a new

standard in the delicacy of detail.



General finesse of small details.

outwards like the Hornby model

Performance

On my home layout, No. 6145 ran well straight from the box. It was smooth and quiet with that elegant, leggy gait that was so familiar with larger wheeled GWR locomotives. I soon had it running with a 16-wagon test train, which I increased to 32 wagons. It took this load in its stride, so would be comfortable with a six-coach suburban train. In fact, It could easily have handled a longer train but I was near the limits of what will comfortably run on my layout!

I did encounter one minor glitch which, at first, I blamed on my layout. There was a tendency to stall at slow speeds on the

curve over the level crossing. I thought it was probably the road surface causing binding but on closer examination, in certain positions on curved track, the rear coupled wheelset could move out of contact with the phosphor-bronze wiper pick-up. Tweaking the pick-up into permanent contact with the wheel cured the problem.

As this is a locomotive which would spend a lot of time running backwards, I reversed it and tried it bunker-first. Again, it proved quite capable and there was no hint of problems running through pointwork in either direction.

Hornby GWR '5101' 'Prairie' - in detail



Factfile: GWR 'Large 'Prairie'

Like so many staple GWR classes, the 'Large Prairies' owe their origin to Churchward and his '31XX' 2-6-2T which appeared in 1903. To fill the need for more locomotives in that category, Collett introduced his '51XX' class. Nos. 5101-199 were built between 1929 and 1934. Having filled the gaps in the initial numbering, more new locomotives built between 1935-48 were numbered 4100-80. Between 1931-35, 70 more were built with boiler pressure

raised from 200lbs/sq in

to 225lbs/sq in to provide a little more sparkle on suburban services. The '61XX' series - Nos. 6100-69 - operated in the London and Birmingham areas. A further variation, the ten '81XXs' of 1938/39 were rebuilds of Churchward machines, fitted with 225lbs/sq in boilers and 5ft 3in wheels.

Cosmetic changes were few once the curved front drop had been adopted as standard, the most obvious being the fitting of cabside sliding shutters. Like most mid-sized tank locomotives, they were versatile, being found on all manner of freight and stopping passenger services, as well as banking duties on

some of the GWR's steepest climbs. Withdrawals took place through the late 1950s to the end of WR steam. Only one '61XX' survives in preservation, No. 6106, acquired by the Great Western Society in its early days and renovated in the goods shed at Taplow station near Slough. Ten '5101s' were saved from Woodham's scrapyard at Barry and six have been restored, although No. 5193 has been turned into a 2-6-0 by the West Somerset Railway. No. 4115 has since been scrapped for spares.



1: '5101' No. 4107 at Ross-on-Wye with a Gloucester-Hereford local train in the summer of 1964.
CHRIS LEIGH

fitted 1952-1955

2: Showing how well Hornby has captured the face of the '61XX', No. 6161 reverses out of Reading General in 1965 in the last days of steam from one of the Western Region's last active steam depots. CHRIS LEIGH

model is slightly too rounded and not as flat as it should be. It's not a deal-breaker but once noticed, my eye was drawn to it. In the same vein, the rear corners of the bunker don't look quite rounded enough but these are small points and don't detract from the model.

Hornby has done its usual nice job with the cab interior, though it is difficult to see through the rather limited openings. Pipework and gauges are picked out in colour and the regulator, handbrake handle and reversing lever on the BR-liveried model are picked out in red.

Both cab doors are moulded partly open which might be some limited help in trying to fit a crew into the cab through those same limited openings. A really nice touch is the sliding cab roof shutter which matches the finesse of the other details to the extent that it is hard to believe that it is not just moulded on and that it actually moves. All the cab and bunker handrails are as fine, as are those on the boiler, and they are nicely blackened to match the body paintwork.

Below the cab doors there's nice relief to the tank/bunker balancing pipes, the steps, and the separately fitted, brassed, pipework. The bunker has removable moulded coal and there are matching sprung buffers and pre-fitted vacuum pipes on the back of the locomotive. The bag of parts to

be fitted by the modeller comprises just the brake linkage, front vac pipe and the optional front tension-lock coupler.

NEM pockets are at slightly different heights front and back and the tension lock is cranked to suit. This makes fitting Kadee couplers more complicated but, of course, it is only really necessary for the tension locks to operate correctly, which they do.

ANY COLOUR YOU LIKE

There's not much to be said about unlined BR black livery other than that Hornby's satin finish looks nicely ex-works and ready for a little weathering to taste. The front numberplate and shedcode are neatly applied in white and look just right. The early BR emblem is neatly executed in full colour and the bunker carries a 'D' power code on a blue route restriction disc. Numberplates are neatly printed in the correct GWR-style

typeface and enable easy replacement with an etched plate simply glued over the top.

CHASSIS

As with most modern models, access to the chassis is a test of nerve but at least on this model it is aided by a good diagram showing which screws to undo. It's a good job, otherwise you'd never find them! You need

a small crosshead screwdriver with a long, narrow shaft and a magnetised tip. The front truck is removed first, followed by a screw above and ahead of it. That's the easy bit. There are two more screws to be released and these are above the rearmost coupled wheelset and deeply recessed into the chassis, within the tanks. A magnetised screwdriver is a must - without it

there's no way of knowing when the screws are fully undone.

The chassis itself is a good up-to-date piece of design and, to be fair, access to it is by no means the most difficult I've come across. In fact, compared to most North American locomotives, it's a doddle. The chassis block is a black-finished metal casting. The rear part, below the bunker, is slotted to

accommodate a speaker for digital sound. The mechanism in this model really shows how well chassis design has developed in recent years, aided by much more powerful small motors.

The motor is mounted towards the front of the tank area. It is a neat, open-frame, skew-wound five-pole, some 25mm by 15mm, and immediately behind it is a small flywheel. A gearbox, situated between the middle and rear axles, drives the centre coupled wheelset and the outside rods do the rest, in traditional fashion. Above the gearbox is a PCB with the blanking plate for a standard Hornby eight-pin DCC installation. A 'pocket' 22mm by 10mm by 6mm is provided to take a decoder.

The rods are blackened metal, jointed correctly just aft of the middle crankpin. Crossheads and slidebars are metal castings, blackened to match. The cylinders are part of the metal chassis casting, which is no doubt why I had problems attaching the cylinder drain cocks with liquid poly cement! The cylinder drain cocks are separate fittings and if you have very tight curves, you'll need to leave them off. Otherwise, a spot of UHU should fix them.

CONCLUSION

With those question marks over the firebox top and the bunker corners I cannot quite bring myself to say this is the definitive 'OO' gauge 'Large Prairie' tank but it has certainly replaced the old Airfix model with one that's right up there with 21st-century standards. Personally, I don't see that there's any point in any other 'OO' manufacturer having a crack at the GWR's large 2-6-2Ts for another 20 years. (CJL)



HORNBY GWR 'LARGE PRAIRIE' 2-6-2T

Flywheel(s): 1

Traction tyres: No

MECHANISM

centre-coupled axle

Drive system: Gearbox with drive to

OVERVIEW	Body: Plastic	DIMENSIONS	PROTOTYPE	1:76 SCALE	MODEL
Manufacturer: Hornby	Chassis: Plastic/metal	Length over body	41ft Oin	164mm	164mm
Ref. No. R3723	Weight: N/A	Height	13ft 2in	53mm	53mm
Unit No. 6145	Min. curve radius: R2 (438mm)	Width	8ft 8in	35mm	35mm
Scale/gauge: 4mm:1ft '00'	Wheel back-to-back: 14.5mm	Wheel diameter (driving)	5ft 8in	23mm	23mm
ELECTRICS		Wheel diameter (leading)	3ft 0in	12mm	12mm
Electrical system: 12V DC two-rail	DCC ready: Eight-pin	Wheel diameter (trailing)	3ft 8in	15mm	15mm
Motor type: Five-pole	Current consumption	CEDITICING			
Lights: No	Max. speed: N/A Stalled: N/A	SERVICING			
9		How to dismantle: Four so		e.	
MECHANISM		Where to oil: See instruction	ons.		

REVIEW VERDICT

PROS. Convincing 'face'. Excellent detail, quiet chassis.

CONS. Little of note.

9/10 9.5/10 **LOOKS PERFORMANCE FEATURES** 9/10 9/10 **DECORATION** VALUE FOR MONEY 9/10



Hattons/Heljan LNER 'A4'

- ◆ GAUGE 'O' ◆ MODEL Hattons/Heljan H7-A4-005 Gresley 'A4' No. 4464 Bittern, LNER blue ◆ PRICE £750.00
- ◆ AVAILABILITY Hattons Tel 01517 333655 Web www.hattons.co.uk

t stands to reason that if you're going to start producing locomotives in a market you've not tried before, you really ought to offer the most popular locomotives... and there's none more popular than Nigel Gresley's 'Pacifics'.

The 'affordable' ready-to-run 'O' gauge market – with mainly plastic bodied models costing hundreds rather than thousands of pounds – is one of the hobby's growth areas. When Hattons decided to dip its toe in this market, it didn't so much dip as dive straight in. But then, when you announce that you're producing the Gresley 'A1'/'A3' and the iconic 'A4' - not to mention Gresley coaches - you're almost guaranteed to swim rather than sink!

It was Heljan that kickstarted this 'O' gauge revolution with its 'Hymek' in 2006, and that's who Hattons have enlisted to make its first 7mm:1ft scale models. We received the 'A3' at 2019's Warley exhibition (MR270). Then, in early May 2020, it was joined by its streamlined cousin.

Received for review is *Bittern* as it is today. Now owned by millionaire locomotive collector Jeremy Hosking, *Bittern* has run in full pre-war LNER condition, despite still carrying its BR double chimney.

The model arrived in typical Heljan packaging: lots of foam and with the locomotive screwed to a plank of MDF. This time, however, the box carries Hattons' dark blue colours rather than the bright blue of the Danish company.

Any big locomotive always makes an impressive 'O' gauge model, but the 'A4's' elegant blend of Bugatti and Douglas DC-3 lines combines to produce something truly special. The 'A4's' shape is notoriously difficult to get right, but Heljan's design team has done a cracking job.

From usual viewing distances,



this is a very impressive model. The swoop of lining and the black paint against the blue accentuates the curves of the nose; the red metal wheels; the turned metal buffers in their slender shanks; the red nameplates; all combine to produce a great-looking model.

It looks just as good from the back too. From the porthole window, buffer shanks and gangway connection to its smooth flanks, Heljan's take on Gresley's handsome welded 5,000gal tender matches the same standard as the locomotive.

What bits of the chassis that aren't obscured by the valance look particularly well proportioned, with fine spoked coupled wheels and delicate metal rods and motion, all in bright metal finish. The trailing end of the frames correctly represents the Cartazzi rear truck, but the wheelset itself is mounted in a more conventional pivoted bogie which is sprung to improve

road holding.

The buffers are sprung, as are the couplings. At the front, you get a fine screw-link coupling, but the rear coupling is a very neat working drop buckeye unit.

There's a DCC socket in the tender that's designed to accept ESU's L-type decoders. The locomotive and tender are electronically linked by a six-pin plug and socket whereas the main coupling is a slim metal bar. You can adjust the position between the locomotive and tender by placing the securing screw into another of the three holes. There's provision for a sound speaker in the tender or space under the chimney. Unlike the 'A3', which has a similar arrangement, the port on the 'A4's' Kylchap blastpipe could also act as a sound port.

Normally in a *Model Rail* review, we'd dismantle the model (after all, our motto is 'If it's a kit, we build it - if it isn't, we take it apart'). However, removing the body on

the 'A4' involves removing the motion bracket and front coupling and as this model was kindly loaned by Hattons, we didn't want it going back with a pile of bits left in the box...

QUESTIONABLE FIT

That does, however, bring us to the model's four problem areas. Firstly, the fit and finish of some of the parts is a bit questionable. As the 'A4' is offered with or without valances, Bittern's valances don't fit particularly flush against the running plate. The most obvious gap is just in front of the cylinders. Some lamp irons still have a bit of flash on them and though we wanted to avoid sending a pile of bits back to Hattons, Bittern had already lost the fireman's seat and fireman's side cab window and the two guard irons were loose.

Secondly, we come to the finish. The Garter blue looks right, with a pleasing satin finish. However, the lettering and numbers are too dark and should be more yellow, which is compounded by the white in the shading being too prominent. Moving towards the smokebox, the footsteps on the running plate have an incorrect chrome finish while the top of the running plate is black when it should be blue.

Judging by photographs of *Bittern* and *Mallard*, the black of the smokebox should reach the leading handrail knob, which suggests that either the paint isn't in the right area or that the knob is too far back. And the least said about the position of the red and white lining, particularly where it meets the running plate, the better...

3 things we like



The eccentric crank pin has its distinctive 'brass' cover.



The nameplates feel like etched brass items and have a pleasing amount of relief.



The handles for the access hatches are simple – and yet very effective.

Performance

We had to return our first Hattons/Heljan 'A3' owing to issues with its performance, and its replacement failed to set the world alight too. Thanks to the easing of some lockdown measures in early June, we were able to take the 'A4' to Dave Lowery's for a test. The question was: would we have similar issues?

Sadly, the answer was 'yes'. Bittern was smooth and silent straight from the box so Dave attached - albeit with difficulty due to the position of the gangway connection - four Darstaed Mk 1s. But Bittern struggled to move them, even stalling under

full power. Reducing the load to three coaches allowed *Bittern* to complete a loop of Dave's layout.

Bittern loosened up after a while and managed to maintain a consistent speed around Dave's layout. However, it still wouldn't take more than three coaches.

This could, of course, be an isolated incident but it would, if possible, be wise to check your sample before you buy. We would like, when lockdown measures are eased further, to test another 'A4' in due course in order to ascertain whether *Bittern*'s performance was a one-off.





Factfile: 'A4' Bittern

No. 4464 was the third member of a batch of 14 'A4s' built in 1937/38. This batch was authorised while the second batch of locomotives (No. 4482-4498) were still being built, joining Nos. 2509-2512 that had entered service in 1935.

Named *Bittern*, No. 4464 went new to Heaton shed on December 18 1937. It lost its valances on November 14 1941 as the rest of the class suffered the same fate during the Second World War. Transferred to Gateshead in 1943,

Bittern became No. 19 under the LNER's new numbering system that came into force in 1946.

The number was short-lived however; it became BR's 60019 two years later. No. 4468 and 4901-4903 had been fitted with Kylchap double blastpipes and chimneys when new but it took until 1957 for the remaining 'A4s' to receive this equipment. *Bittern* received its Kylchap in September of that year.

Its last move was to Aberdeen Ferryhill shed

in November 1963, where along with the remaining 'A4s', it worked the famous 'Three hour expresses' to Glasgow. As one of the final celebrity members of the class in service, it was bought by Geoff Drury after withdrawal in 1966.

It remained out of the limelight until 1988, having been stored at York and Neville Hill sheds, Walton Colliery and Dinting Railway Centre, when it was cosmetically restored as No. 2509 *Silver Link* for an event at the National Railway Museum.

Bittern didn't steam again until

2007 when it entered service at the Mid-Hants Railway. As No. 60019 and resplendent in BR green, it made its main line debut in December that year. It quickly became a main line favourite, even after it was restored to external prewar LNER condition in 2010. The pinnacle of its main line career took place in 2013 when it was permitted to run a handful of selected trains at 90mph.

RECOMMENDED READING

Gresley Locomotives by Brian Haresnape (Ian Allan, 1993 edition)

System builder

Other items to complement this model...

DECODER

Bring your 'A4' to life with an ESU Loksound LV5.0 sound decoder. **Price:** £165.00 **Availability:** Howes Models **Tel:** 01865 848000 **Web:** *www.howesmodels.co.uk*

DETAILING

Add the finishing touch to your 'A4' with 7mm:1ft scale LNER locomotive lamps from ModelU. **Price:** £18.00 for a pack of five **Availability:** ModelU **Tel:** 07887 803737 **Web:** www.modelu3d.co.uk



ROLLING STOCK

Give your 'A4' something to pull with the Gresley coaches that Hattons has commissioned Heljan to produce. **Price:** £249.00 **Availability:** Hattons **Tel:** 01514 591660 **Web:** www.hattons.co.uk



1: Bittern speeds past Cove Bay, near Aberdeen, with the 5.30pm to Glasgow in July 1965. These tightly timed trains became known as the 'Three Hour Expresses'. Bittern undertook at least one railtour in private hands in 1966, having been withdrawn in September of that year. It made at least three trips in 1967 and then had to wait again until 1973 when it ran between York and Scarborough at least twice as No. 19. PETER SKELTON/ALAMY

2: 75mph is the highest permitted speed for steam traction on Network Rail but, in order to mark the 75th anniversary of *Mallard*'s 126mph run in 1938, *Bittern* was permitted to run at 90mph on a handful of special trains. High temperatures forced these to take place in December but that didn't stop *Bittern* from recording a maximum speed of 93mph, a preservation record. To commemorate this fact, plates similar to those of *Mallard* were fitted in 2014. JAMES HAMILTON

3: Moves to overhaul *Bittern* began at the Great Central Railway in 1995 and despite being sold to Dr Tony Marchington in 1997 (who also bought *Flying Scotsman*), it took until 2001 and a move to the Mid-Hants Railway by its new owner, millionaire locomotive collector Jeremy Hosking, for it to be completed. Withdrawn from traffic in 2015, *Bittern* moved to the former Hornby factory in Margate, now owned by Hosking's Locomotive Storage Limited, in 2018 where it awaits its place in the overhaul queue. JOHN WICKHAM

OUT OF SHAPE

More serious, however, is the shape of the cab and footplate area. The cut-out by the cab windows is a fraction too shallow and the cabside handrail just isn't there. On the tender, the leading edge curves too far into the cab, so that the cab doors would never be properly aligned.

There should be a small indent where the cab side sheet meets the footplate. The circular fitting on the side sheet should be much closer to the running plate than on the model - and as the valance appears to be too deep this throws into question the accuracy of the sweep of the valance...

The footplate itself is not as detailed as one might expect, particularly when compared to some 'OO' gauge models. And this highlights the model's fourth stand-out feature: the price.

£750 for an 'O' gauge model is exceptional value. To put it into context, something similar from the likes of L.H. Loveless or Masterpiece Models is likely to set you back at least double that, a DJH kit is over £1,000 and even the RRP of Heljan's GWR '43XX' 2-6-0 is £779. The issue is that, in order to

achieve an RRP of £750, it appears that compromises have been made, such as the lack of backplate detail. The cab roof ventilators are moulded when you can get sliding ones on 'OO' models. You can see the compromises in other areas, such as the lack of rivet detail around the smokebox or the flimsy brake rodding. And because the model is plastic, the tender sides and the valance flex when you pick it up.

If all you're concerned about is price and you want something that looks like an 'A4' but you're not concerned about things like

the accuracy of the lining or the shape of the cab, then the Hattons/Heljan model is for you. But if you want the ultimate 'A4', then you might want to consider looking elsewhere.

The Hattons/Heljan 'A4' is a good model; sadly, it falls a little short of being a great one. (RF)

REVIEW VERDICT

PROS. Looks like an 'A4' from a distance, price.

CONS. Build quality, shape issues, issues with decoration, performance.

LOOKS	7/10
PERFORMANCE	6/10
FEATURES	8/10
DECORATION	7/10
VALUE FOR MONEY	7/10
70%	

HATTONS/HELJAN LNER 'A4'

OVERVIEW	Body: Plastic with metal parts	
Manufacturer: Heljan A/S	Chassis: Metal with plastic parts	
Ref. No. H7-A4-005	Weight: 2.49kg	
Unit No. 4464	Min. curve radius: 5ft	
Scale/gauge: 1:43 scale, 32mm gauge 'O'	Wheel back-to-backs: 29.8mm	
ELECTRICS	Lights?: No	
Electrical system: 12V DC two-rail Motor type: Sealed	DCC ready?: Six-pin socket	
MECHANISM		
Drive system: Gear train to rear	Flywheel(s): Yes	
driving axle	Traction tyres: No	

DIMENSIONS	PROTOTYPE	1:76 SCALE	MODEL
Length (over buffers)	71ft ³ / ₈ in	510mm	499mm
Height (over chimney)	13ft 1in	92mm	93mm
Width (over steps)	9ft 0in	63mm	61mm
Wheel diameter (driving)	6ft 8in	48mm	45.8mm
Wheel diameter (bogie)	3ft 2in	22mm	22.07mm
Wheel diameter (pony)	3ft 8in	26.9mm	25.6mm

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



Rails/Dapol 'Terrier' 0-6-0T

- ◆ GAUGE 'OO' ◆ MODEL Rails/Dapol 4S-010-005 Stroudley 'A1X' 0-6-0T No. 32655, BR lined black early emblem
- ◆ PRICE £80.99 ◆ AVAILABILITY Rails of Sheffield Tel 01142 551436 Web www.railsofsheffield.com

ere's a little secret: while we were investigating the potential of offering the LBSCR 'E1' O-6-OT, we considered its smaller cousin, the 'A1' or 'Terrier'. Was it worth the risk, taking on Hornby? After all, Margate had, at that stage, shown no interest in replacing the by-now extremely dated ex-Dapol model with a new one. Yes, we thought, it was worth the risk... but then Rails of Sheffield killed any aspirations we had when it announced that it was working with Dapol on an all new 'Terrier'. Then our plans were well and truly sunk when Hornby announced that it already had a new 'Terrier' in the pipeline and that this would compete with the Rails/Dapol model.

Rails product be better than Hornby's offering?

Now, roughly a year since Hornby's 'OO' gauge version of 'A1X' No. 32655 in BR lined black appeared in print (MR261), we can now show you... 'A1X' No. 32655 in BR lined black! Obviously, whoever came second in the race to get their 'Terrier' to market was always going to have its product compared with the winner. It's unfortunate that we have received the same model for it's going to make direct comparisons between the two models extremely difficult to avoid.

First things first though. The Rails 'Terrier' comes in a much nicer box. The stout card lid and the subtle colours create that 'old time toy box' feeling of quality. Inside, nestling among the standard plastic clam-shell and sleeve and pieces of foam is a slim, 20-page instruction

booklet, which is far removed from the bits of paper you get in a Hornby box. The contents range from the usual DCC installation guide to such topics as what part numbers you need in case you have to order any replacements.

First impressions are that Rails and Dapol have really done their homework and have both done a great job in producing what is a very refined model. Is this the



first mass-produced 'OO' gauge locomotive to have a separately fitted smokebox numberplate?

This model looks every inch the 'Terrier'. The shape and proportions match published drawings and the huge archive of photographs. The tanks and the distinctly Stroudley cab, cab roof and rear toolbox all look absolutely spot on.

FINER POINTS

It's sometimes easy to overlook just how good a Dapol model is nowadays and the 'Terrier' is testament to the skill of not only the team at Chirk but also at its Chinese factory. Take the boiler fittings, for example. They're very fine and really catch the eye, adding to the impression of quality. The backplate fittings look to be all present and correct and even the gauges have been printed. And those incredibly



66 The backplate fittings look to be all present and correct and even the gauges have been printed >>>



slender coupling rods are secured with crankpins with very unobtrusive heads. A quick glance at the 3 Things We Like panel reveals some fabulous little details.

The \$64,000 question, naturally, is this model better than Hornby's rendition? Hmm...

In many respects, the Rails/Dapol is far superior. For a start, this model has the right combination of details for No. 32655, an area where Hornby's model was sadly lacking. It also has the tank cladding pieces represented, which was another Hornby omission.

Dapol's wheels are much better, with finer flanges. The NEM pockets pivot and there is a factory-fitted speaker as well as firebox glow. A quick flick through the booklet reveals much greater sound functionality. Dapol has also managed to get the right shade of off-white for the cabside numbers too.

But there are some areas where Hornby's just betters it.

Hornby's 'face', despite its moulded smokebox numberplate, is, on balance, a touch more convincing. The door is a little bit more dished and Hornby's smokebox saddle stands out a bit more correctly. The smokebox also extends a touch further than Dapol's and is, therefore, just that little bit more correct.

Those distinctive buffers are also a little crisper on Hornby's model, no doubt because the running plate is plastic whereas this model's is die-cast. And though Hornby's model had its own decoration issues, what lets the Dapol model down is that you can tell that the black between the red and white/grey lines is printed with the lining on top of the black paint.

There are a few little issues around the cab where Hornby wins too. The cabside number may be the right shade but the application on our sample was very slightly off-centre. And the coal rails aren't as well executed as on Hornby's offering.

SHADES OF PERFECTION

So, which one is better?

Being asked to choose between the Rails/Dapol and Hornby 'Terriers' is like being asked which footballer is better, >

3 things we like



The protecting bars across the rear spectacle glasses are extremely fine.



There's even a representation of the inside valve gear between the frames.



The brake linkages are metal, which looks great and is very sturdy.

Performance

By Chris Nevard

Despite its small size, the 'Terrier' is a smooth runner throughout the speed range. Load-wise, it can haul a train in keeping with the prototype and had no problems with a dozen goods wagons. I ran it through a mix of Peco bullhead and flat-bottomed Code 75, including a Peco double-slip - the double-slip being, potentially, the piece of track





Factfile: LBSCR 'Terrier' 0-6-0T

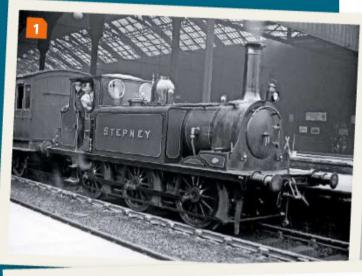
If longevity is the yardstick by which the success of a locomotive design is judged then Stroudley's 'A1' 0-6-0Ts must be among the most successful locomotives built in Britain. The 50 locomotives were the first design produced by William Stroudley after he joined the London Brighton & South Coast Railway and set about resolving the many motive power issues. They were designed for the LBSCR's intensive South London suburban service and entered service in 1872.

An increase in suburban traffic and tracks meant that traffic levels towards the end of the 19th Century overtook the 'Terrier's' capacity. Made redundant in the capital, they took up light duties as shunters and station pilots as well as providing a service on branch lines. Many were sold but, in 1911, the remaining machines were rebuilt by Douglas Marsh with a new boiler, new smokebox saddle and the removal of the combined splasher/sandbox arrangement. Rebuilt locomotives were reclassified as 'A1X', with boilers being supplied to the other operators who had bought 'Terriers' from the LBSCR.

Despite their age, 16 'Terriers' became BR property in 1948. They continued to work where they had before, as BR didn't design anything newer that was just as light. In fact, the 'Terriers' were never replaced - BR just closed their lines instead. The last 'Terriers' were withdrawn in 1963 but, happily, ten survive.

RECOMMENDED READING

- ◆ Portrait of the Terriers by Handel Kardas (lan Allan)
- ◆ Stroudley Locomotives A Pictorial History by Brian Haresnape (Ian Allan)







System builder Other items to complement

Other items to complement this model...

MAUNSELLS

Hornby Maunsell coaches **Price**: £47.99 **Availability**: Hornby stockists



PUSH-PULL

Hornby SR push-pull two-coach pack **Price:** £47.99 **Availability:** Hornby stockists



'BIRDCAGE' STOCK

Bachmann ex-SECR 'Birdcage' stock **Price:** £79.95 **Availability:** Bachmann stockists

1: No. 32655 was built in 1875 and named *Stepney*. By the time this photography was taken, circa 1906, a '6' prefix had been added to its

original number. The National Railway Museum's No. 82 Boxhill is the only true 'A1' to survive although the Bluebell Railway's Fenchurch has been externally restored to 'A1' condition and No. 54 Waddon also retains its wingplates and combined splasher/sandboxes.

M.P. BENNETT/RAIL ARCHIVE STEPHENSON

2: Stepney was rebuilt as an 'A1X' in October 1912. This late 1950s photograph of 'A1X' No. 32655, taken after an intermediate overhaul, shows that its smokebox door now has rivets, not present in photographs taken in 1953 and 1956. You can clearly see the lack of airpump, the five tank cladding rivets and there blanked-off condenser pipe on the front of the tank. S.B. LEE/COLOUR RAIL

3: No. 32655 was withdrawn in May 1960 and became the third 'Terrier' to be preserved. It was delivered to the Bluebell Railway on May 17 1960 and initially operated in a lined black livery with 'Stepney' painted on its tanks in large, off-white letters. For the 1961 season, it was repainted into full Stroudley ochre livery. STEAM RAILWAY COLLECTION

Cristiano Ronaldo or Lionel Messi? Both have strengths and weaknesses to their game but ultimately the standard is so high that there's little to come between them. Instead it comes down to personal preference and how you feel. You might simply prefer Ronaldo's hairstyle...

The same is true here. Each model has its strengths but they're both excellent. Where Hornby wins is around the smokebox, it's not to say that Rails/Dapol's is incorrect; it's just that, in this area, both really capture the distinctive character of the original perfectly but Hornby's model is a smidge more perfect! We really ought to feel incredibly grateful that the standard of today's models is so good that we're able to quibble over such minutiae!

Ultimately, whether you buy a 'Terrier' in a Rails box or a Hornby one is going to come down to which manufacturer you prefer to buy from. But given that this 'Terrier' has the right combination of details, has no niggling livery issues and is crammed with extras - not to mention that it's cheaper - our money would go on the 'Terrier' from Sheffield. (RF)

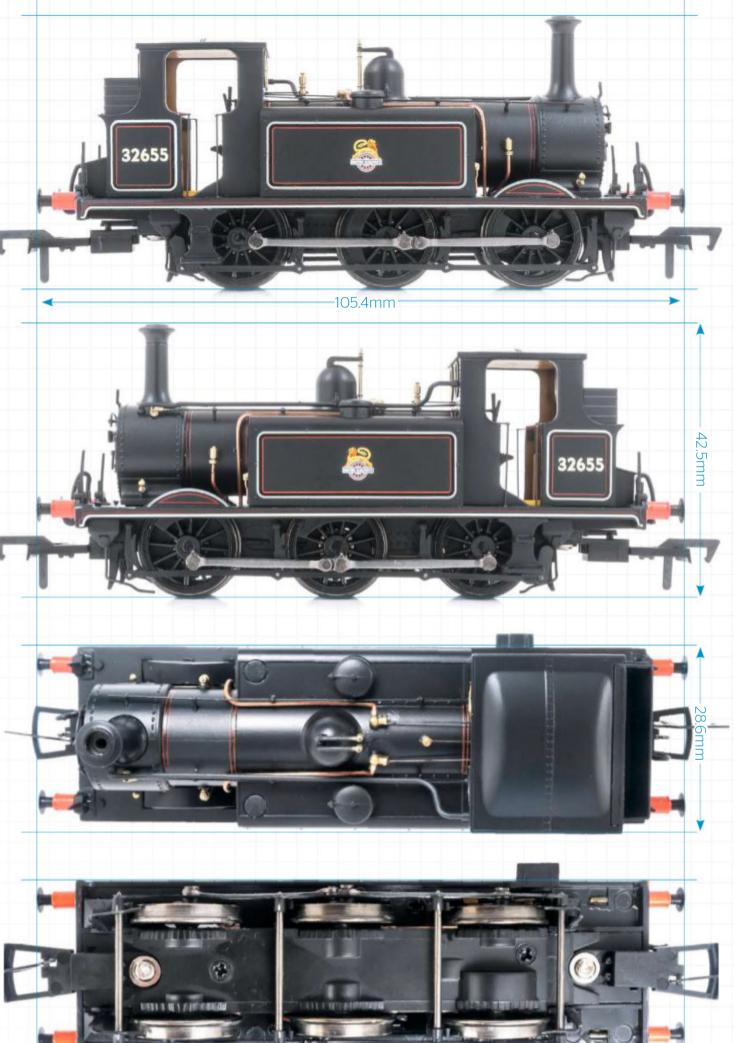


REVIEW VERDICT

PROS. Price, looks, key 'A1X' detail variations, fine detail, DCC functionality.

CONS. Some minor issue but nothing of any great importance.

9/10 9/10 **LOOKS PERFORMANCE FEATURES** 10/10 DECORATION 8.5/10 VALUE FOR MONEY 10/10



RAILS/DAPOL 'A1X' 0-6-0T

OVERVIEW	
Manufacturer: Dapol	Body: Plastic with metal parts
Ref. No. 4S-010-005	Chassis: Metal with plastic parts
Unit No. 32655	Weight: 101g
Scale/gauge: 1:76 scale,	Min. curve radius: R1
16.5mm gauge '00'	Wheel back-to-backs: 14.6mm
ELECTRICS	

EL

Electrical system: 12V DC two-rail Motor type: Five-pole skew-wound Lights?: Firebox glow DCC ready?: Next18 socket

MECHANISM

Drive system: Gear train to rear axle Flywheel(s): Yes

Traction tyres: No

DIMENSIONS	PROTOTYPE	1:76 SCALE	MODEL
Length (over buffers)	26ft 1/2in	104mm	105.4mm
Height (over chimney)	11ft 10 ³ /16in	44mm	42.5mm
Width (over footplate)	7ft 2in	28.7mm	28.6mm
Wheel diameter (driving)	4ft 0in	16mm	15.3mm
Wheelbase	12ft 0in	48mm	48.9mm

SERVICING

How to dismantle: See instructions.

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



◆ GAUGE 'OO' ◆ MODEL Hornby R4896 Mk 3 Trailer Guard Standard 49103, GWR green ◆ PRICE £34.99

AVAILABILITY Hornby stockists or www.hornby.com

here were many reasons why a trip on an HST was a pleasure, but one of them was watching people try to work out how to open the doors. Lowering a drop light, sticking your arm out and grabbing the door handle was a throwback to another era. But as nostalgic as it was, the slam-door Mk 3 no longer complied with current accessibility regulations. Another nail in the Mk 3's coffin was the replacement of HSTs in frontline service on the East Coast and **Great Western Main Lines with** Hitachi's IEP.

But you can't keep a good train down. HSTs have been transferred to ScotRail and Great Western Railway has retained a small number of four-coach sets for local west of England services and there are still HST sets in service with CrossCounty, while Mk 3s are still in use with Chiltern.

In order for these Mk 3s to remain in service, they've been fitted with automatic sliding doors and this has allowed Hornby to do something that it arguably should have done some time ago.

It's long baffled modern image modellers that when Hornby re-tooled its HST power cars back in 2008, it didn't produce new Mk 3 coaches as well.

If you wanted Hornby Mk 3s to run with your shiny new power cars, you had to rely on what former editor Ben Jones called "a mixed bag of homegrown and absorbed Lima products, with some confusion about whether they're HST or locomotive-hauled Mk 3a vehicles and a loose

interpretation of accuracy in either case" (MR247).

Oxford Rail did come to the rescue with its Mk 3s in 2018. These cover both locomotive-hauled and HST vehicles but, given that they're slam-door coaches, are clearly not suitable for representing future HST/Mk 3 operations.

That's where Hornby's new model steps in. Received for review is Trailer Guard Standard 49103 in Great Western's handsome green colour scheme. First glance shows that this model is light years ahead of its old Mk 3s.

This vehicle, formerly TGS 44097, retains its slam door for the guard's compartment but has a new sliding door at the other end. The sliding door looks the part but what's particularly



effective is that the door button panel is printed but printed inside a small indented panel.

PROTOTYPICAL

The Mk 3 has a simple shape, with long flat sides and gently curving ends. The underframe equipment is housed inside a long panel and



the ends that, arguably, don't quite match the standards set by Oxford's model



the roof has those distinctive long ribs. Hornby has replicated it all with aplomb and the model compares well with prototype photographs. It's only the shape of the ends that, arguably, don't quite match the standards set by Oxford's model.



The BT10 bogies are impressively moulded with lots of fine detail. The shiny steel wheels, complete with brake discs, have pin-point bearings, and are very free running (you'll be able to check how level your tables are!).

There are detachable NEM couplers on sprung, self-centring cams at each end. While we've not been able to test this for ourselves (thanks to Covid-19 restrictions), we have heard reports that the position of the tension lock couplers leads to an unrealistically large gap between coach and power car. However, Hornby has supplied a pair of alternative close-coupling units that can couple together either two coaches or a power car and coach.

The tinted glazing is effective, and most of the windows are free from the prismatic effect that some glazing of this size suffers from. However, it does affect the window in the sliding door.

INSIDE STORY

Inside is a basic, self-coloured plastic interior, which works rather well given the tinted glazing. Access is easy: you can simply prise the body away from the chassis, and that opens the possibility - quite literally - to detail the inside of your Mk 3 with

lighting or passengers.

There are some

impressive areas, particularly the accurately profiled buffing plate and the way the flexible diaphragm sits in a well on the end of the body (as per the prototype). and looks very effective.

There are a couple of less-than-impressive areas, though. The self-coloured plastic three-phase sockets under each end look a little crude and still they have a little bit of flash on them.

The lamp irons

are little more

than moulded lumps and the moulded handrails at the guard's end are a little under-nourished.

GWR's green is notoriously difficult to get right for it seems to change depending on the light; it looks dark green in the shade, more blue in full sun. On balance, Hornby's colouring looks acceptable but the high-gloss finish is excellent and more than makes up for any quibbles over the exact shade. The lighter, diagonal band on the saloon end is a fraction too wide and only the ends of the jacking points should be yellow (Hornby has painted the whole thing yellow).

Despite these minor quibbles, Hornby has done the venerable Mk 3 justice and, with a wide range of coach types and different liveries, these models should be in service on layouts for as long as the real things remain moving passengers around the network. (RF)

3 things we like



Underframe grilles and boxes match the prototype.



The large square ventilator (correct for an HST Mk 3) looks as though it's a separately fitted part and features some very fine rivet detail.



All but the small lettering is legible, although you'll need a magnifier in order to read it!

REVIEW VERDICT

PROS. Overall shape, printing, price.

CONS. A few minor issues but nothing to worry about.

LOOKS 9/10
BUILD QUALITY 8.5/10
FEATURES 8/10
DECORATION 8.5/10
VALUE FOR MONEY 9/10

86%



◆ GAUGE 'N' ◆ MODEL Graham Farish 376-251 Thompson TK No. E1041E, BR crimson/cream; 376-225 CK No. 18510, LNER faux teak

◆ PRICE £41.95 ◆ AVAILABILITY Bachmann stockists

O08 was a bit of a watershed year for 'N' gauge rolling stock, for that was when
Graham Farish introduced its
LMS Period III coaches. These critically acclaimed models set the bar for both looks and levels of detail that every one of its subsequent coach releases – from BR Mk 1s to SECR 'Birdcages' – has either matched or bettered. But its new Thompson coaches look set to raise that bar even higher.

Wartime shortages of timber forced the LNER to develop a new range of all-steel coaches for the post-war passenger to travel in and they were

developed under the auspices of chief mechanical engineer Edward Thompson. They retained the same visual cues as the pre-war Gresley 'teaks', but were immediately recognisable thanks to the porthole

thanks to the porthole lavatory windows, while the main windows were 6in wider and 3in deeper. It was planned that the base underframe would

be 60ft over headstocks and 9ft wide but could be extended in length for certain types to improve levels of comfort.

The prototype, First No. 1531, was introduced in January 1945 and production continued in 1950, encompassing six types

(Corridor First, Open Third, Corridor Third, Corridor Composite, Brake Third and Brake Composite) on three lengths of underframe (59ft 6in, 61ft 6in and 63ft).

Birmingham

Railway

Wagon

Carriage &

Company.

Received for review is 63ft Corridor Third E1041E (built by BRCW to Diagram 329 in 1946) and 59ft 6in Corridor Composite No. 18510 (built at York to

Diagram 328 also in 1946). As the numbers suggest, E1041E is in BR crimson/cream whereas No. 18510 is in LNER livery.

Immediate impressions are extremely favourable. Bachmann's design team has once again captured the looks of this classic coach design. The smooth bodysides look right with those huge, square windows (radiused corners were introduced from 1949 to combat corrosion) and the correctly curved tumblehome. Those sweeping ends and the distinctive curving rainstrips look spot on at first glance and the whole ensemble compares very well to photographs and diagrams in Michael Harris' *LNER Carriages*.

BREAKING THE MOULD

Key areas, such as the destination board holders, the pipework on the ends and the door and grab handles are moulded but have been superbly executed.



The gangway buffing plates include some fine lamp irons, which adds a touch of finesse.

But there are several key areas that really lift these models. Firstly, the glazing, which doesn't suffer from the prismatic effect that can affect some 'N' gauge models, reveals a surprisingly detailed interior. There's not much beyond moulded seats and the corridor partition but it's really effective, especially the interior panelling. The only minor niggle is that the frosting for the porthole windows is applied behind the glazing, presumably because it's impossible to produce frosted plastic in this scale!

Things get very impressive below solebar level. The bogies are crisply moulded, with lots of relief. Underneath is a whole raft of detail, from the battery boxes to the truss rods and the brake pipes. It's all beautifully produced and those truss rods, for example, are very fine, they're nicely flexible so you don't feel as though you might break them if you pick the model up.

CLEVER COUPLING

Standard Rapido 'N' gauge couplers in NEM pockets mounted on cams. They've been very cleverly designed so that, when the coaches are coupled together on straight track, the gangways are practically touching but will break apart to allow a train to negotiate 263.5mm radius curves.

As one would expect from a contemporary Bachmann/Farish model, the finish is excellent. The shades of crimson and cream on E1041E looks right and all but the smallest text on the builder's plates are visible (albeit under a magnifier). But it's No. 18510 that steals the show here.

In order to get its new coaches to match the pre-war teaks, the LNER painted its post-war all-steel coaches with a fake wood grain. The Kader factory has done a superb job to produce this scumbled teak finish in 'N'. The shade looks right and the grain is impressively printed. What's more impressive is that the window frames and ventilators are a different shade and the printed curtains have a three-dimensional effect. Oh, and the wheels have white rims too.

These models are truly exquisite and, given that some retailers are offering them for less than £40, they're excellent value. If any coach can tempt you to model in 'N', it has to be these. Highly recommended. (*RF*)

3 things we like



The distinctive LNER gangway doors really look the part.



The torpedo roof ventilators are moulded but beautifully produced.



The porthole windows correctly have ventilators on the toilet side but no ventilator on the corridor side.

REVIEW VERDICT

PROS. Shape, printing, level of finesse, price.

CONS. Nothing.

LOOKS 9.5/10
BUILD QUALITY 9.5/10
FEATURES 8/10
DECORATION 10/10
VALUE FOR MONEY 9.5/10

93%



Bachmann Class 117 DMU

◆ GAUGE 'OO' ◆ MODEL Bachmann Branchline 35-501 Class 117 three-car DMU L426, BR blue/grey

t has always seemed obvious to me that, because the Pressed Steel DMUs were a 'family', this presented

model manufacturers with an opportunity. Tool the 'Bubble Cars' and it was an easy step to a three-car unit, or vice versa. Lima did it - eventually. Hornby chose to reissue Lima's Class 121 but not the three-car unit.

Dapol has produced the single car in both 'OO' and 'N' gauges but shows no sign of producing the three-car. It has fallen to Bachmann to do the obvious and having released the Class 121 just three months ago, the three-car Class 117 was hot on its heels. I had been very much looking forward to this model despite the fact that it is not being offered in the original condition and livery that I would have preferred. Nevertheless, the arrival, mid-lockdown, of the FedEx man with a parcel from Barwell was most welcome.

The first impression is that Bachmann has no suitable packaging for a three-car model, for the '117' uses the same type of outer carton as the four-car SR EMU, with one empty box to fill the vacant space. It seems wasteful but it's presumably cheaper than making new packaging.

Our sample is in the same Rail blue/grey livery as the Class 121 (MR273) enabling direct comparison, and it is every bit as impressive. I was intrigued to see how the mechanics of this model have been handled, given that Bachmann's earlier multiple units have had a brake van full of mechanism and a tendency for it to intrude into the passenger area.

That first hurdle is easily cleared. The Class 117 uses the same under-floor drive to one bogie as the Class 121. The only difference is that both motor coaches are similarly powered and there is no evidence of mechanism intruding into the passenger saloon, where the interior unit with its blue seats is fully modelled.



Our sample represents unit L426 (Motor Open Second W51406, Trailer **Lavatory Composite** W59516 and Motor Open

Second Brake W51364. This unit appears to have been Bristol-based (with a 'B' prefix) 1983-85 but was London based - hence the 'L' prefix - both before and after that time. The model is represented in refurbished condition with the small side grille in the guard's compartment and the GWR-design suspended gangways.

UNDERFRAME FEATURES

As with the Class 121, use of a substantially plastic chassis means that Bachmann has really been able to go to town on the

underframe detail. Numerous separate parts allow for a real depth and crispness to the detail. In order that the drive system does not intrude into the body, there's a bulge under the floor, which is hidden by moulded chassis details, the final drive and gearbox.

Like the Class 121, there is bogie bolster and under-floor frame detail above the bogies. This is an important area on a DMU because the bogie frames were quite slender and there was a visible gap between the bogies and the floor. Bachmann has got this just right.

There are other goodies on the chassis, too. A full complement of footboards and steps are present and there are guard irons on bogies at both ends of the unit. The '121' buffers have been correctly replaced by the

large, round Oleo type and they're lightly sprung.

As on the Class 121, there is a very flexible speedometer connection between the leading axlebox and the solebar on both motor coaches. A small pack of extra details, hoses, cables and sockets for the bufferbeams is included but these can only be fitted to the cab ends if the tension-lock coupler is removed. The parts are moulded in rigid plastic. This is OK, except for the MU cable connectors which will break if flexed during fitting, and it is difficult not to flex them.

There are location holes and fittings for the inner ends of the cars, too, but only for the sockets and screw coupling as anything else would interfere with the movement of the couplers on



curves. Indeed, it may be wise to omit the screw coupling to avoid it making the coupling of the multi-pin plugs more difficult.

While the motor cars share the benefits of the excellent Class 121 chassis, the trailer car warrants closer inspection because that has an altogether different underframe. The amount and spacing of fittings on a trailer vehicle was much more sparse and that is reflected on the model, where virtually every tank, battery box and brake fitting is a separately applied part. I recall as a youngster, inevitably curious about such things, being fascinated that there was a pipe below the toilet of these vehicles for discharging its contents onto the track. It was so conspicuous, and I'm happy to report that it's right there in full prominence on the Bachmann model!

Above the solebar, the character of the Pressed Steel body has been beautifully captured. The very clear flush-fitted glazing allows an unrestricted view into the cab where the driver's seat and the main controls are picked out in colour. I found the view through the cab side window particularly evocative. I can't imagine how many times I peered into a cab from the platform, and that view looks spot on.

The interior detail shows up well, being in this case a one-piece



moulding in blue plastic for the Second Class areas with brown plastic in the first class section of the trailer composite. Internal bulkheads and doors are painted and the result is one of the best interiors I've seen in a ready-to-run British-outline model.

Separately fitted details on the body include, windshield wipers, corner steps, lamp irons, exhaust pipes and the handrails adjacent to the cab and brake van doors. The cut-out beneath the inward-opening guard's door is present, as is the security mesh on one of the 'van' windows.

However, the clear view into all three cars means that you will need to invest time and money putting passengers into them - something

that really would not have been practical for the manufacturer to do, but which is very much needed. Even if you are running your DMU as empty stock, you'll need to fit a driver.

the 'Blue Pullman' >>

COUPLERS AND PICK-UPS

Phosphor bronze pick-ups are fitted on both power bogies of both driving cars. All trailing bogies including those of the trailer composite have wheelsets running in metal bearing strips so that there is continuous electrical pick-up through all three cars.



Superb paint and print finish.



Low-profile mechanism.



Cab interior detail.

Performance

Small can motors, largely concealed beneath the floor, drive the inner end bogie of both power cars through short drive-shafts to a gearbox mounted on the bogie. The whole arrangement has been kept below floor level, even in the motor second. Models should always be given a period of running-in at moderate speed in both directions in order to bed in the gearing. In some instances it will help the mechanism towards smoother operation but in this instance it ran so sweetly from the outset that it was difficult to spot any improvement after a 45-minute running-in session.

These units were allowed to haul a modest tail-load although I only ever saw the more powerful cross-country units hauling anything. I did, however, test the Bachmann model with

two unpowered Lima cars in tow and it handled them with ease. It was not unusual, particularly in later years, to see Class 117s running without the centre car, as two-car units. The couplings on the Bachmann model are arranged in such a way that it can be run with just the two power cars coupled together and it works just as well in that configuration.

During Covid-19 working-at-home we have no access to the *Model Rail* test layout, so it was not possible to test the unit on gradients or proprietary set-track curves. The Class 117 was test-run on my layout with Code 83 Peco Streamline track and points and with minimum 3ft radius curves. However, I have no reason to doubt the manufacturer's specification that it will negotiate second radius track and points.



Power is conducted between the cars by way of the same multi-pin plug-and-socket arrangement used on Bachmann's Blue Pullman. If I may be allowed one adverse comment about this superb model, it is these couplers. I have no doubt they are a necessary evil in order to permit the sophisticated electrical arrangement but I find them as obtrusive as the old Lima tension locks. The risk of damage to the model during coupling or uncoupling, which is best accomplished with the model off the track and lying on its side, is such that my Blue Pullman has remained on my layout and coupled since the day I first test-ran it. It was with some trepidation that I uncoupled the '117' after its first test run.

POWER PLAY

2163

But sophisticated the electrics certainly are on this model as they

Factfile: Class 117 DMU

The Pressed Steel Company built 123 three-car 'high-density' DMUs for Western Region, London area suburban services. They were essentially Derbydesigned Class 116s produced under licence because Derby Works did not have the capacity to build them.

Initially the units were supplied in unlined dark green but later deliveries were lined in cream. The vehicles had 3+2 high-density seating with 2+2 in First Class and they were non-gangwayed, so only those travelling in the TC had access to the toilet. They were the mainstay of WR suburban services out at least as far as Oxford and Westbury from the time of their introduction in 1959, until increasingly displaced by units cascaded from other regions in the 1980s. They were replaced by Networker Turbo units in the London area in the early 1990s but clung on in the far reaches of the former Western Region until 1996/97.

Under TOPS the Pressed Steel units became Class 117. The original green livery was replaced by all-over Rail blue with yellow ends, following the introduction of the Corporate Image in 1964. In the late 1980s, those still operating in the London area received **Network SouthEast colours** while others received Regional Railways or ScotRail livery. Perhaps the most notable livery variant was the 1950s-style chocolate and cream applied to 51368/59520/51410 for the GWR150 celebrations in 1985. A suburban DMU had never looked finer!

Thanks to the usefulness, quantity and longevity of these DMUs, the equivalent of 12 units have passed into preservation, but several trailer composites are operated as steam-hauled coaches on the Torbay & Dartmouth Railway.





1: Pressed Steel modified BR's design (later Class 116) to include the, by-then, obligatory four-character headcode panel. This displaced the destination display to an afterthought added in the central windscreen panel, giving these units their most distinctive identifying feature. COLOUR RAIL

2: During the late 1970s, gangways were fitted so that all passengers had access to the toilet and travelling ticket inspectors could pass through the train. The gangway door was at the expense of a couple of seats. D. PYE/COLOUR RAIL

extension refurbishment programme that included asbestos removal, improved lighting and revised heating and ventilation systems. Refurbishment meant that most, if not all, were repainted in the 'refurbished livery' of white with a Rail blue stripe but this impractical colour scheme was soon replaced by the Corporate Image 'main line' livery of Rail blue and

3: The '117s' underwent a life

grey with full yellow ends.
C. TRETHEWEY/COLOUR RAIL

are on the Class 121. The model has directional white/red marker lights, interior saloon lighting and cab illumination A bank of six tiny switches on the underside allows analogue users maximum possible control over the lighting of the unit.

Figuratively, the Bachmann model has all the bells and whistles you might expect of a modern DMU model. True, it does not come with on-board digital sound but it is equipped for easy sound-fitting. A Plux22 decoder socket and pre-installed speaker make the installation of top-notch sound easy.

The Rail blue/grey livery is neat and subdued and the grey, a problem area on some models, is correctly positioned. The BR logos and limited amount of lettering are neat and legible but the lifting point markings have not been applied to the solebars.

That said, there is some very

impressive, neat and legible tiny printing on the body. In addition to the 'Guard' and 'Private' lettering correctly rendered in Corporate Image-style upper and lower case, the word 'Coolant' appears above the prominent bodyside filler. On the door glazing, tiny white labels read 'Please close the door' under a magnifier, while the second class area in the TC has No Smoking labels in the windows.

The blue and grey sample does not represent the era I model so I had already ordered an original lined green version, which gave me the opportunity to compare the two. The lined green version is a thing of beauty - the most exquisite ready-to-run model I've seen since the Blue Pullman, from the same stable. Vehicle numbers are W51349/W59501/W51391, with headcode 2A2O and the destinations, Newbury and Paddington.

Bachmann has gone to town swapping detail slides on the

moulds to provide a cab end in original condition with no marker lights and a bodyshell without the extra side grille. Inner ends are devoid of gangway connections and have the original exhaust layout. The livery application of the lined dark green looks spot-on, though the satin finish is very much an ex-works, brand new, unit. The cab ends have white roof domes. These quickly discoloured to cream and, in my view, cream looks better on a model, so I shall have the paintbrush out.

I can't prove it from photographs but I'm pretty certain that the intermediate bufferbeams should be black. Red seems to have been factory applied but would have been painted out once the units entered traffic. Nevertheless, in whatever colour scheme (and NSE is forthcoming), the '117' is, without question, the most beautiful ready-to-run model I've seen since the 'Blue Pullman'. (CJL)

System

Other items to complement this model...

PASSENGERS

Give your
'117' a full
complement of
passengers with
this bumper
pack of 60
figures from
Noch. **Product**



code: 16072 Price: £74.95 Availability: Gaugemaster Tel: 01903 884488 Web: www.gaugemasterretail.com

SOUND DECODER

Bring your '117' to life with a sound decoder from Legomanbiffo. **Price:** from £120.00 **Availability:** DC Kits **Tel:** 01132 563415 **Web:** www.dckits-devideos.co.uk

WASHING PLANT

Detail your DMU depot with this ready-to-plant washing plant from Bachmann Scenecraft. **Product code:** 44-184 **Price:** £49.95 **Availability:** Bachmann stockists



REVIEW VERDICT

PROS. Accurate body shape, smooth, quiet chassis.

CONS. Bulky couplings.



94%



BACHMANN PRESSED STEEL CLASS 117 DMU

OVERVIEW	Body: Plastic	DIMENSIONS	PROTOTYPE	1:76 SCALE	MODEL
Manufacturer: Bachmann	Chassis: Plastic/metal	Length over body	64ft 0in	256mm	256mm
Ref. No. 35-501	Weight: 388g	Height	12ft 41/2in	49mm	49mm
Unit No. L426	Min. curve radius: R2 (438mm)	Width	9ft Oin	36mm	36mm
Scale/gauge: 4mm:1ft '00'	Wheel back-to-backs: 14.5mm	Wheel diameter	3ft 0in	12mm	12mm
FLECTRICS		Bogie centres	40ft 0in	186mm	186mm
ELECTRICS Electrical system: 12V DC two-rail	interior lights, destination box lights	Rogie wheelbase	8ft 6in	34mm	34mm
Motor type: Can motor	DCC ready: PluX22 socket				
Lights: Directional marker/tail lights,		SERVICING	lalia		

MECHANISM

Drive system: 2 x chassis-mounted motor with shaft drive to one bogie

Flywheel(s): Yes Traction tyres: No How to dismantle: Body unclips.
Where to oil: See instructions.



◆ MODEL Irish Railway Models IRM1078-D 42ft container wagons (with beer kegs) Nos. 30072/30139, CIÉ red oxide PRICE €100.00

AVAILABILITY Irish Railway Models Ltd, Unit 8, The Hyde Building, The Park, Carrickmines, Co. Dublin D18 Y3F9, Ireland **Web** www.irishrailwaymodels.com

ankind is faced with many seemingly unanswerable questions, such as 'What is the meaning of life?' and 'Are we alone in the universe?'. But one of them has to be: 'Why does Guinness taste better in Ireland than it does in Britain?'

The growth in containerisation had just as much of an impact on Irish railways as it did in Britain and the introduction of 40ft ISO containers forced Coras lompair Éireann to develop a bogie flat wagon to carry them. The first wagons, at 42ft 9in over the headstocks, emerged from CIÉ's Inchicore Works in 1971, followed by a further batch in 1978 to total some 212 vehicles.

Unlike in Britain, where there are myriad container wagon designs from many different builders, the CIÉ 42ft wagon still comprises the bulk of Ireland's container wagon fleet, although 'pocket wagons' were used on dedicated DFDS liner trains.

Having produced the distinctive cement 'bubbles' and the equally well-known bogie zinc wagons, Irish Railway Models is probably right to have chosen the 42ft container wagon as its next item of ready-to-run rolling stock. Despite being nearly 50 years

old, they're still a common sight on the Irish rail network, both in the Republic and Northern Ireland. What makes them an even more attractive proposition for a model maker is that they've not been confined to container traffic. Some 42ft wagons have been fitted with hinged bodies to carry spoil, while others have been incorporated into weed killing trains. Received for review, however, are the wagons fitted with demountable cages that were designed to carry beer kegs.



The shape looks bang on and all the details are present and correct, even down to the distinctive buffer shanks >>



The most famous use of these wagons was to move Guinness, although they were used for other brews too. Dublin's Heuston station is a stone's throw from Guinness' St James' Gate brewery and had been linked by a short 5ft 3in gauge tramway. However, road traffic forced the tramway's closure and 'the black stuff' reached the railhead by road.

LOADS OF DETAIL

Your eye is immediately drawn to the shiny silver kegs inside the cages. Viewed from the top, you can see that the keg load is actually a solid block but, when viewed through the cage bars, it looks incredibly effective.

It's the contrast of bright silver

against the dull red oxide finish that draws your eye. ClÉ's livery doesn't do a lot for the vehicle's aesthetics and, in model form, it can look a little plasticky. There's not a lot IRM can do about this, which is a shame as the bland livery hides quite a lot of detail during a cursory glance.

Get closer to these wagons and you begin to see how much detail there really is.

First of all, the models compare very well to prototype photographs. The shape looks

bang on and all the details are present and correct, even down to the distinctive buffer shanks.

Container wagons have very little substance, which makes the lengths that IRM has gone to even more impressive. The wagon deck is die-cast metal and, from the feel of it, even the brake reservoirs are too, while the brake rods feel like metal wire. The sole bars feature the pockets for the cages to fix into and they behave as the real things do, although the fit on some of the cages is a tad tight.

There are some fabulous little touches that gives these wagons

a touch of real finesse. The NEM pockets move on sprung cams, the buffers are sprung and the axle ends rotate. The only thing to watch out for is that the

plastic handbrake wheels are very vulnerable and care must be taken to avoid accidentally breaking one off.

As with all IRM models, different twin packs are available, and each wagon has its own number. All the running numbers are well printed, matching the standard of all the container information on the solebars. Special mention should be made of the worksplate, which looks as though it's a moulded part; it's not - it's just well printed!

Good looks, fine detail and some fabulous little details - what more could you want from a model wagon?

Now, who's for a Guinness? (RF)

3 things we like



Tension lock couplers are body-coloured in order to reduce their visual impact.



You get a bag of extra bits, including end boards and brake pipes. You also get coupling bars and spare axle ends.



The keg cages are all individually numbered.

REVIEW VERDICT

PROS. Good looks, lots of features, well made.

cons. Handbrake wheels are fragile, otherwise nothing of note.

LOOKS 9/10
PERFORMANCE 9/10
FEATURES 9.5/10
DECORATION 9/10
VALUE FOR MONEY 9/10

91%

WW Scenics Pro Grass Box

◆ SCALE Any ◆ PRODUCT WW Scenics Pro Grass Box Applicator Tuft Creation Kit ◆ PRICE £67.50 ◆ AVAILABILITY WW Scenics, 30 Lonlas Village Workshop, Skewen, Neath, Port Talbot SA10 6RP Tel 01792 815841 Web www.wwscenics.com

W Scenics is one of the most innovative scenic manufacturers out there - and it's UK-based to boot. It has developed a whole range of static grass applicators for all manner of - well - applications, including working in very small spaces.

Its 'Pro Grass' range now includes this, the Pro Grass Box.

The Pro Grass Box enables you to make your own grass tufts, so that you can produce tufts to perfectly suit the look you want. But it's also a very useful device for making grass strips and adding foliage to hedges and trees. It's also a useful alternative if you can't get the hang of a traditional grass applicator.

Grass Box acts like a reverse static grass applicator; you add glue to a piece of cellulose paper, place the grass fibres on the metal plate and attach the power lead to the paper. Hold the paper over the plate and the fibres fly up and onto the paper, getting caught in the glue. Laughably simple but very effective.

The box itself measures 12cm by 9.5cm and is 5cm deep. It is powered by a 9V battery (not supplied).

The resulting tufts are very realistic and you can personalise them to your exact tastes. It's also a good value device too. You can buy the basic set for just £39.99. I've tested the Tuft Creation Kit, which is more pricey but you get so much more: a 250ml bottle of Tuft Glue, two bags of 4mm static grass and four A5 sheets of Tuft Paper.

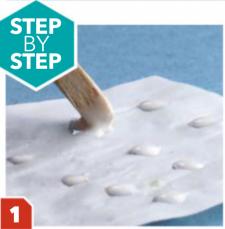
Overall, the Pro Grass Box is another extremely useful addition to the scenic modeller's arsenal! *(PM)*

REVIEW VERDICT

PROS. Well made, compact and very useful.

CONS. Nothing of note, but it's unsuitable for anyone fitted with a pacemaker.





Begin by painting good-sized blobs of glue on the Tuft Paper using a small paintbrush or an old lollipop stick.



Mix the colours and lengths of your static grass (no longer than 6mm fibres) and place them on the Pro Grass Box's metal pad.



Attach the alligator clip to the greaseproof paper. Switch the device on and hold the paper, glue side down, a few centimetres over the metal plate.





Leave the glue to dry. You can then carefully remove the tufts with a pair of tweezers and fix them to your layout with a drop of PVA.

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116XX' 0-6-0PT

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22 VERSIONS TO CHOOSE FROM

Specification list

Made by: Rapido Trains

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

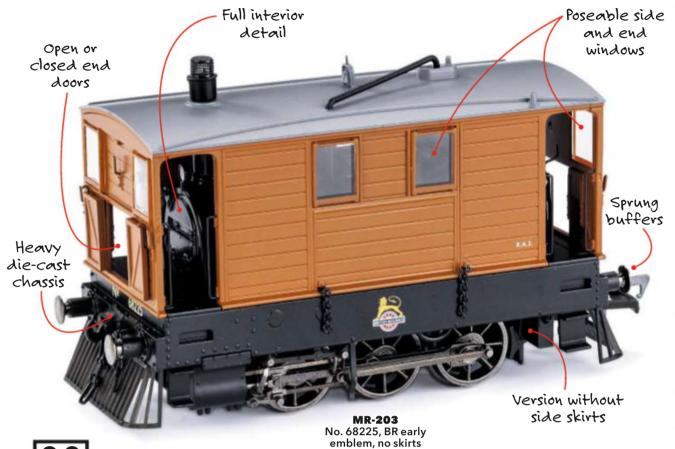
PRESERVED GREEN

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





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Specification list

Made by: Rapido Trains

Motor: Coreless

DCC socket: Six-pin

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

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doors, etched worksplates.

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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,

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

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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,

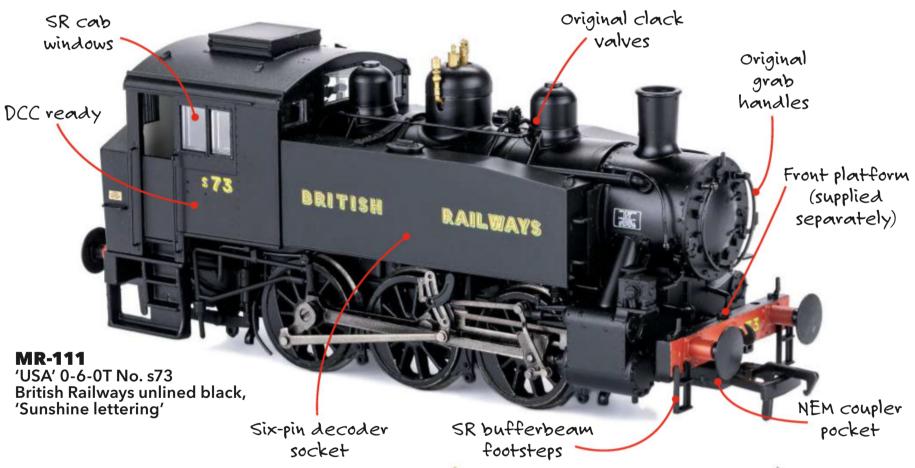
footsteps, separately fitted

different smokeboxes, different

hinged platform.

MR-111 and MR-104A

£116.95 price for subscribers



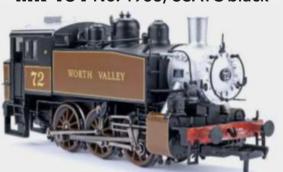
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MR-108 No. 72, Keighley & Worth Valley Railway ochre



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



MR-110 No. DS237 Maunsell, BR Departmental green

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OO BR Class 11 0-6-0DE

Produced by Helian



Ruston 'PWM'

Produced by Heljan in partnership with Kernow MRC



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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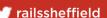
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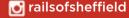
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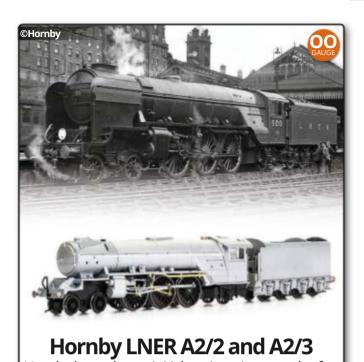


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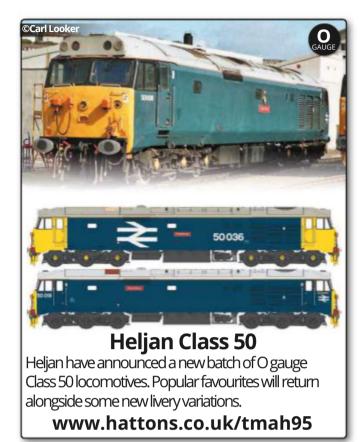
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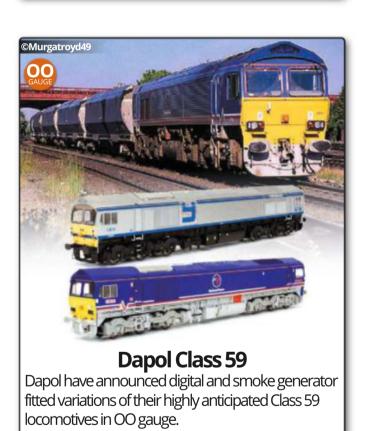
www.hattons.co.uk/tmah94

painted samples are expected soon.

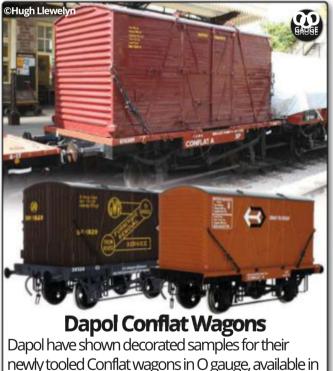




www.hattons.co.uk/tmah93



www.hattons.co.uk/tmah96



a selection of GWR and BR colour schemes.

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GWR Class 78xx Manor 4-6-0

Stage: Newly Announced

Due: TBC

Price: from £135.96

hattons.co.uk/dapolmanor



British Rail Class 59

Stage: Painted Samples Due: Summer 2020 Price: from £131.71

hattons.co.uk/dapol59



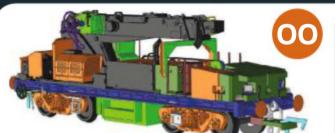
GWR Class 43xx Mogul 2-6-0

Stage: Painted Samples **Due:** Summer 2020 **Price:** from £135.96

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Plasser GPC 12t Crane

Stage: CADs Shown **Due:** Q1 2021 **Price:** £69

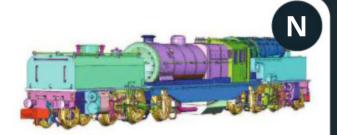
hattons.co.uk/gpc



Genesis 4 & 6 Wheel Coaches

Stage: Artwork Shown Due: from Q1 2021 Price: from £36

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LMS Beyer Garratt

Stage: CADs Shown

Due: TBC Price: £199

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Lynton & Barnstaple 2-4-2T

Stage: Painted Samples

Due: Q3 2020 **Price:** £203.96

hattons.co.uk/landb242t



British Rail Class 45

Stage: Hand Painted Sample

Due: Q3 2020 **Price:** from £143.65

hattons.co.uk/hel45



British Rail Class 47

Stage: Hand Painted Samples

Due: Q4 2020 **Price:** £594.15

hattons.co.uk/helo47

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Standard 2MT 2-6-0

Stage: Prototype Shown

Due: Jan 2021 Price: £162

hattons.co.uk/hornby2mt



British Rail Class 91

Stage: Renders Shown **Due:** December 2020

Price: £153 hattons.co.uk/hornby91



LNER Thompson A2/2 & A2/3

Stage: Engineering Samples **Due:** Late 2020 to Early 2021

Price: £171

hattons.co.uk/thompsona2



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R3500 The Sir Nigel Gresley Collection (Hor) £474 H4-66-019 Class 66 66418 in Freightliner Powerhaul Steam train packs



R3397 LMS Suburban Passenger Train Pack - Ltd



R3398 Lyme Regis Branch Line Train Pack - Ltd Ed (Hor) ...BARGAIN....£136



OR76BOOM01XS Railgun Pack railgun "Boche Buster" and 'Dean Goods' 0-6-0 2330 in ROD khaki - Digital sound fitted (Oxf)£247 H4-66-028 Class 66 66762 in GBRF Europorte (Hat) .£150 **Diesel locos**



1723 Class 17 'Clayton' D8534 in BR blue (Hel). . . £118.96



4D-025-004 Class 21 D6111 in BR green small yellow .. £129.15 panels (Dap)



R3621 Class J36 0-6-0 722 in LNER black (Hor) £126 4D-025-003S Class 21 D6116 in BR green small yellow panels - DCC sound fitted (Dap) £249.84



BR green early emblem (Hor) (RRP £169.99)BARGAIN . £124 2716 Class 27 27030 in BR blue Scottie Dog emblem -



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4D-014-002S Class 29 D6129 in BR blue - DCC sound



4D-003-015S Class 52 "Western' D1034 "Western Dragoon" in BR maroon small yellow panels - DCC sound fitted (Dap).....£248.66 4D-003-018S Class 52 "Western' D1041 "Western Prince" in BR blue OCC sound fitted (Dap)



4D-003-016S Class 52 'Western' D1043 "Western Duke" in BR chromatic blue small yellow panels - DCC sound fitted (Dap). . .







H4-66-014 Class 66 66502 in Freightliner "Basford Hall
 Centenary 2001" (Hat)
 £150

 H4-66-015 Class 66 66513 in Freightliner (Hat)
 £150
 H4-66-021 Class 66 66528 in Freightliner Powerhaul "Madge Elliot MBE Borders Railway Opening 2015" (Hat) . . . £1



H4-66-023 Class 66 66705 in GBRf original Union Flag





H4-66-031 Class 66 66789 in BR Large Logo blue GBRf branding "British Rail 1948 - 1997" (Hat) £150



4D-022-013 Class 68 68004 "Rapid" in Direct Rail Services blue (Dap)£131.71



4D-022-016 Class 68 68034 in Direct Rail Services blue (Dap) £131.71 Diesel train packs



R3750 Belmond Pullman Train Pack Class 67 67021 in Pullman and three pullman coaches (Hor).....£270 **DMUs**



4D-009-006 Class 121 single car DMU 'Bubblecar' 55026 in BR blue and grey Highland Rail stag (Dap) (RRP £145) .BARGAIN £79



4D-009-007 Class 121 single car DMU 'Bubblecar' 55032 in BR blue



4D-009-009 Class 121 single car DMU 'Bubblecar' 977723 in Railtrack red and white (Dap) (RRP £145)BARGAIN £79 **Track Maintenance vehicles**



cleaning heads & vacuum in blue (Dap). £64











266220 Bever Garratt 2-6-0 0-6-2 47993 in BR black early emblem



266213 Beyer Garratt 2-6-0 0-6-2 4993 in LMS black original coal bunker (Hel)£212



OR76AR006 Class 415 Adams Radial 4-4-2T 3520 in £94. Southern Railway green (Oxf).....



R3409 Class 6000 King 4-6-0 6002 "King William IV" in BR Green late crest (Hor) (RRP £137.99)BARGAIN£124.50 emblem (Hor) (RRP £77.99)......BARGAIN.



R3408 Class 6000 King 4-6-0 6016 "King Edward V" in GWR Green shirtbutton emblem (Hor) (RRP £137.99)....BARGAIN. £124.50 R3721X Class 61xx 'Large Prairie' 2-6-2T 6110 in GWR green - Digital £144



R3721 Class 61xx 'Large Prairie' 2-6-2T 6110 in GWR green (Hor) NEW



R3723 Class 61xx 'Large Prairie' 2-6-2T 6145 in BR black - Digital fitted (Hor) NEW



R3565 Class 8F 2-8-0 8035 in LMS black (Hor) ... £127.50



R3682 Class 8P 'Princess Coronation' 4-6-2 46225 "Duchess of Gloucester" in BR express passenger



R3681 Class 8P 'Princess Coronation' 4-6-2 6241 "City of Edinburgh" in LMS post-war lined black (Hor) . . . £184.50



R3677 Class 8P 'Streamlined Coronation' 4-6-2 6229 "Duchess of Hamilton" in LMS crimson lake - as preserved (Hor) (RRP £189.99)BARGAIN. £139.50 R3639 Class &P 'Streamlined Coronation' 4-6-2 6244 "King George VI" in LMS crimson lake (Hor) (RRP £189.99)BARGAIN . £139.50



R3713 Class 8P Princess Royal 4-6-2 46207 "Princess Arthur of Connaught" in BR maroon (Hor) £171
R3713X Class 8P Princess Royal 4-6-2 46207 "Princess Arthur of
Connaught" in BR maroon - Digital fitted (Hor). £184.50



R3284TTS Class A1 4-6-2 4472 "Flying Scotsman" in LNER green - TTS sound fitted - Railroad range (Hor)£114



R3663TTS Class A1 4-6-2 60163 "Tornado" in LNER apple green British Railways lettering - Railroad Range - TTS



R3847X Class A1X Terrier 0-6-0T 14 'Bembridge' in Southern



R3415 Class J15 0-6-0 65477 in BR black early





R3635 Class LN 'Lord Nelson' 4-6-0 30863 "Lord Rodney" in



R3634 Class LN 'Lord Nelson' 4-6-0 851 "Sir Francis Drake" in Southern Railway olive green (Hor) (RRP £169.99)BARGAIN . . .£124 | 4D-014-000S Class 29 6112 in BR green full yellow ends



OR76N7003 Class N7 0-6-2T 69612 in BR black early emblem (Oxf). £98



R3171 Class P2 2-8-2 2001 "Cock O' The North" in LNER



R3413 Class S15 4-6-0 30831 in BR Black late crest (Hor) (RRP £94.99)







UK P&P £4 per order (free for orders over £175)

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H7-A3-002 Class A3 4-6-2 4472 "Flying Scotsman" in LNER Grass (Orders before 2pm) green unstreamlined corridor tender - "Record Breaker" (Hel). £750 H7-A3-005 Class A3 4-6-2 60035 "Windsor Lad" in BR green early emblem and unstreamlined non-corridor tender (Hel).£750

H7-A3-006 Class A3 4-6-2 60077 "The White Knight" in BR green

and unstreamlined corridor tender in BR green late crest 1958 (Hel) £750 H7-A3-002B Class A3 4-6-2 unnumbered single chimney, banjo dome and unstreamlined non-corridor tender in LNER Grass Green 1934-



VA13902 Jaquar XJ12 Series 2 LWB - Juniper Green (Cor) NEW £27 VA11118 Land Rover Series 1 80" - Poppy Red (Cor) NEW **Public Service vehicles**

VA10819 Ford Capri Mk3 2.8i Special - Diamond White (Cor) NEW. £27

VA12414 Ford Granada Mk2 2.8i Ghia - Nimbus Grey & Strato Silver

old out on pre-order (Cor) NEW

VA11012 Ford Escort Mk3 XR3i - Durham Constabulary (Cor) NEW . £27



Any or Multiple Scales Analogue controllers



COMBI Combi 12v 1Amp Single Track Controller£34 Transformer (Gau)



D Double/Twin track power controller (Gau) £86 **Digital decoders**

DCR-21Pin-Direct-V2 21-pin 6-function 1.1Amp direct plug decoder back DCR-8PIN-HarnessMini Single (Hat) . . DCR-8PIN-HarnessMini Box of 5 (Hat).



DCR-8PIN-Harness Box of 10 8-pin (harness) 4-function 1.1Amp decoder back EMF (Hat).....£120 R8249 Box of 6 8-pin 4-function 2-sided 0.5A (1A peak) decoder (Hor) £92 R8249 SING ID 45 III 4-III ICIDI 2-SIGEO U.SA (TA peak) decoder (Ind): 132
R8249 SINGIE (Hor). £16
DCR-8PIN-Direct 8-pin compact direct 4-function 1.1Amp decoder back EMF (Hat) £17
DCR-8PIN-Direct Box of 5 (Hat) £136
R7150 Standard 6 pin Decoder (Hor). £23.50 DCD-ZN218-6 Zen Black - 8 and 21 pin 6 function digital decoder (DCC) . . . £23

Digital controllers



524-042 NCE Power Cab 2 Amp Digital DCC controller (NCE) £159.50



DCC02 Prodigy "Advance 2" starter DCC controller package (Gau).....£279 Digital control accessories

BPDCC80 Pack of three DCC autofrog polarity reversal switches - for electrofrog points (Gau) **Point motors**



Switches and levers

GM519 1 pole 12 way rotary switch (Gau) NEW **Publications - model and prototypical** railways

rayModeller2008 Railway Modeller magazine - August 2020 (Pec) NEW. . . £4.60 **Tools**

GM579 'Green stuff' modelling putty for filling, sculpting and repairing

Other Scale Train sets - analogue



Train sets - digital

R1236 Starter Digital train set - "Mixed Traffic" (Hor) £189



30-420 Western Pullman train set Class 251 Blue Pullman in revised DCC sound and DCC Railcontroller (Bac) .£874 Wagons

R6954 14 ton tank wagon Burmah No. 118 (Hor) NEW



R6988 2020 Merry Christmas gift open wagon (Hor) NEW £14.50 R6943 3-plank open wagon GW 39679 in GWR brown (Hor) NEW . . £12 R6944 3-plank open wagon LSWR Engineers Dept 316 LSWR R6945 4-plank open wagon "C.Addicott & Son, Weston-Super-

R6946 4-plank open wagon Bestwood No. 2017 (Hor) NEW.



R6948 5-plank open wagon Herbert Rigler No. 106 (Hor) NEW £13.50 R6949 6-plank open wagon Crigglestone Collieries No. 222 (Hor) NEW . £13.50 R6950 6-plank open wagon H.Harrison & Sons No. 33 (Hor) NEW £13.50 R6978 6-wheel milk tanker St. Ivel 44029 (Hor) NEW. . £13.50



R6951 7-plank open wagon Gardner No. 306 (Hor) NEW .£13.50 R6952 7-plank open wagon Madge No. 62 (Hor) NEW £13.50



(Taunton) (Hor) NEW £15.50
4F-014-016 GWR Fruit D van 2873 in GWR brown shirtbutton emblem weathered (Dap) NEW £17.50
R6974 GWR shunters truck 94981 GWR grey (Bordesley Junc.) (Hor) NEW £15.50



R6973 N13 Horse Box W665 in BR crimson (Hor) NEW£22 NTRAC003 Fordson Tractor Yellow Highways Dept (Oxf) NEW . . . £4.50 NVOL4007 Volvo FH4 Semi Low Loader Cadzow (Oxf) NEW . . . £13.50 R6964 Triple pack of CDA hopper wagons in ECC - weathered (Hor) NEW £63 R6963 Triple pack of hopper wagons HAA, CDA, HMA as preserved by National Wagon Preservation Group (Hor) NEW . £63 National Wagon Preservation Group (Hor) NEW

Containers and loads R60002 40' and 20' containers "Pentalver" - Pack of two (Hor) NEW . £13 **Digital controllers**



R8213 DCC Select unit (boxed) (Hor) £98



R8312 e-LINK Module, Railmaster Software & 1 Amp Transformer (PC/Laptop Required) (Hor).....£85 Cables & Wires

PL-80 Power feed joiners - Code 100/124 (x4 pairs) (Pec) £6 Man-made scenic structure - railwayrelated



LK-55 76ft Well type turntable (Pec) £42 Signals

4L-001-006 Signal - motorised, GWR left hand junction bracket signal - £55.50

two aims (bap)
Track - Code 100 Setrack
R607 2nd radius double curve track (8 make a circle) (Hor) £2.60
R607 Circle of 8 (Hor)£20
R609 3rd radius double curve track (8 make a circle) (Hor)£2.70
R609 Circle of 8 (Hor)
R8262 Double 4th radius curve (8 make a circle) (Hor) £3.20
R601 Double straight -335mm (Hor) £2.20
R601 Box of 24 (Hor) £48



R070 Electrically Operated Turntable (Hor).....£64



R8072 Left Hand Standard Point (Hor) £9.50



R8073 Right Hand Standard Point (Hor)......£9.50
 R600 Standard Straight (Hor).
 £1.80

 R600 Box of 24 (Hor)
 £40

Buses

OM46315B AEC Type RM - London Transport - 359 CLT - Route 88 'Boulogne, The motorway to Europe' (Cor) NEW



OM46315A AEC Type RM - London Transport - 359 CLT Route 88 Acton Green - 'Boulogne, The motorway to£35.50 Europe' (Cor) NEW. £35.50
76BI005 Beadle Integral Thornes Of Bubwith (Oxf) NEW. £17
CC02741 Only Fools and Horses - The Jolly Boys Outing' - Plaxton
Panorama - Percy's Luxury Tours of Peckham (Cor) NEW. £35.50

Public Service vehicles 76LR2S007 Land Rover Series II SWB Canvas RAF Police (Oxf) NEW . . £5.50 Farming and construction

76JS003 JCB JS220 "W H Malcolm" (Oxf) NEW...... **OO9 Narrow Gauge**



9960 Lynton & Barnstaple 2-6-2T E188 "Lew" in Southern Railway green (Hel)£186.96

N Gauge

NR-4E 4 wheel bolster wagon in NE brown - 231331 (Pec) NEW . . . £7.50 **Buildings - general** CD1005 Dockside loading crane - plastic kit (Gau) NEW KD1012 Garden nurseries / allotment - plastic kit (Gau) NEW £17 KD1013 Modern supermarket - plastic kit (Gau) NEW £33 KD1011 Modern wind farm turbine - plastic kit (Gau) NEW £33 **Bridges, Tunnels & Walls** A2993 Chain link fence gates - 36cm (Woo) NEW . . .

Track - Code 55 Finescale SL-300F 1 yard (91.5cm) length of Finescale Nickel Silver flexible Vooden Sleeper track (Pec) £3.20 sound fitted (Dap).... | Wooden Steeper lace \(\) Co. | SL-300F Pack of 30 (Pec) | SL-300F 1 Yard of Nickel Silver Flexible Track Concrete Sleepers (Pec) | £3.50 | £99 |

Commercial vehicles

O Gauge (1:43 Scale)



7S-006-021 Class 14xx 0-4-2T 1405 in BR black early £191.25



4-21 1426 III BR IIIIeu gre crest (Dap). . .



7S-006-020S Class 14xx 0-4-2T 1432 in GWR unlined green G W R lettering - DCC Sound Fitted (Dap). £340



7S-006-001S Class 48xx 0-4-2T 4800 in GWR green Great H7-A3-003 Class A3 4-6-2 2745 "Captain Cuttle" in LNER black H7-A3-003 Class A3 4-0-2 27-3 Capital Calcium E750

H7-A3-001 Class A3 4-0-2 27-5 Capital Calcium E750

VA13900 Daimler Double Six Series 2 Vanden Plas- Caramel (Cor) NEW £27

Department F7-A3-001 Class A3 4-0-2 27-5 Capital Calcium E750

H7-A3-001 Class A3 4-0-2 27-5 Capital Calcium E750

VA13900 Daimler Double Six Series 2 Vanden Plas- Caramel (Cor) NEW £27

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VA13900 Daimler Double Six Series 2 Vanden Plas- Caramel (Cor) NEW £27

Department F7-A3-001 Class A3 4-0-2 27-5 Capital Calcium E750

VA13900 Daimler Double Six Series 2 Vanden Plas- Caramel (Cor) NEW £27

Department F7-A3-001 Class A3 4-0-2 27-5 Capital Calcium F7-A3-001

NEW £27

Department F7-A3-001 Class A3 4-0-2 27-5 Capital Capital



H7-A4-006 Class A4 4-6-2 60007 "Sir Nigel Gresley" in BR express blue unstreamlined corridor tender - "Record Breaker" (Hel) .. £750 H7-A4-009Loco Class A4 4-6-2 60008 "Dwight D Eisenhower" in BR green late crest and streamlined non-corridor tender (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 £750 orridor tender in LNER silver 1935-1938 (Hel) £750

Diesel locos



7D-008-013D Class 08 shunter 08717 in BR blue - Digital



2007 Class 20 in BR Railfreight grey full yellow ends, 1980s style warning flashes and headcode discs -



3400 Class 33/0 33012 in BR blue - weathered (Hel) . .£466.65



......£191.25 yellow ends (Hel) (RRP £699)BARGAIN....£495 Coaches



7P-004-008 GWR Diagram 'N' 59' Autocoach W37W in BR crimson and cream (Dap)£170 Wagons

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ВСК		V	V		V	
BG*		V		V		~
FK		V	V		V	
RF	V		V		V	
RTO	v		v		~	

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SO Open Second

CL 1st/3rd with corridor & lavatory

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S Second class compartments

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4F-014-022 Fruit D Van No. 2872 GWR Brown, weathered.



35-526 Class 121 Single Car DMU Set BR Blue & Grey...... ...£19.99 35-527 Class 121 Single Car DMU Set Revised Network SouthEast......£131.95 38-325A 13 Ton High Sided Steel Wagon BR Bauxite (Early).....



39-421B BR Mk1 POS Post Office Sorting Van Post Office Red with Nets......£59.99 BACHMANN SCENECRAFT OO

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44-0111	Steel Frame Crane£50.99	
	Cylindrical Tanks£29.75	
44-0204	Low Relief Cottage Hospital£42.95	
44-0503	K8 Phone Boxes x 2£21.95	

HORNBY OO



.....£267.95 R1252M LNER Sir Nigel Gresley Train Set Centenary Year.... 35-525 Class 121 Single Car DMU Set BR Green with speed whisker......£131.95 R1255M Flying Scotsman Train Set..

31-390 Class 414 2-HAP 2-Car EMU No. 6061 BR (SR) Green...

R3721 GWR Class 61xx 2-6-2T Large Prairie No. 6110 Great Western WR Green.£125.99 R3721X GWR Class 61xx 2-6-2T Large Prairie 6110 Great Western Green. DCC Fitted.£143.99 R3723 Class 61xx Large Prairie 2-6-2T Steam Locomotive No. 6145 BR Black E/E.£125.99 R3723X Class 61xx Large Prairie 2-6-2T Steam Loco 6145 BR Black. DCC Fitted. £143.99



R3769 Network Rail Class 43 HST Train Pack	£260.99
R3770 GWR Class 43 HST Train Pack	£260.99
R3810 L&MR Stephenson's Rocket Train Pack	£179.99
R3822 Hornby Centenary Year - Limited Edition 1983, Smokey Joe	£35.99
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R60003 ONE Container Pack. 1 x 40 and 1 x 20 containers	£12.99
R60005 ex-LMS CCT RDB No. 975667 Track Research Laboratory BR	Research.£20.69
R6943 3 Plank Open Wagon No. GW 39679 GW Brown	£11.69
R6947 5 Plank Open Wagon No. 7 Dowlow Lime	£13.49
R6948 5 Plank Open Wagon No. 106 Herbert Rigler	£13.49
R6954 14T Tank wagon No. 118 Burmah	£14.39
R6974 GWR Shunters Truck No. 94981 GWR Grey, Bordesley Junc	£16.00
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R6975 GWR Shunters Truck No. DW94962 BR Grey, Taunton......£16.00 R6982 GWR Macaw H Bogie Bolster No. 107136......£17.99 R6983 BR Bogie Bolster A No. W107402......£17.99 R6988 Hornby Christmas Wagon 2020.....£14.99 R6998 PD Ports Container Pack. 1 x 40 and 1 x 20 containers.....£12.99 R6999 Malcolm Logistics Container Pack. 1 x 40 and 1 x 20 containers.....£12.99 C RAIL OO

..£143.99 CR88 20ft x 8ft 6in Container No. FIBU 033449 ONE..

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35-500 Class 117 3 Car DMU Set BR Green with speed whiskers.....



35-500Z Bachmann Class 117 3 Car DMU Set B430 GW 150 Chocolate & Cream.. £329.95





31-676A Class 85 No. E3057 BR Electric Blue



31-678A Class 85 No. 85040 BR Blue, weathered.

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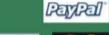
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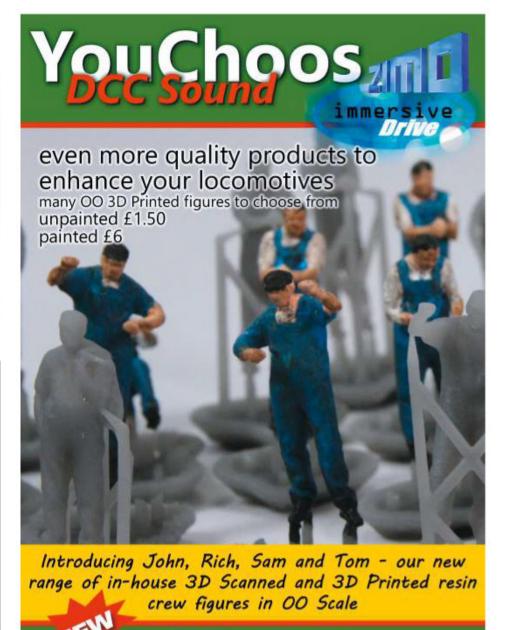
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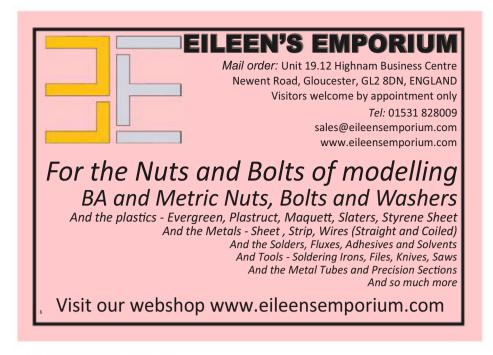


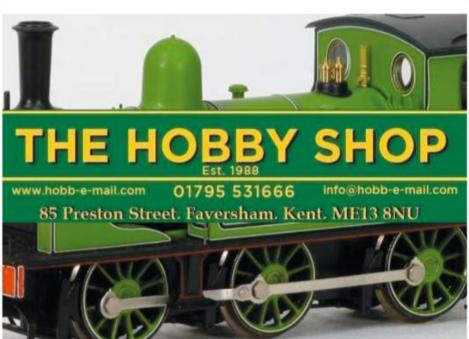
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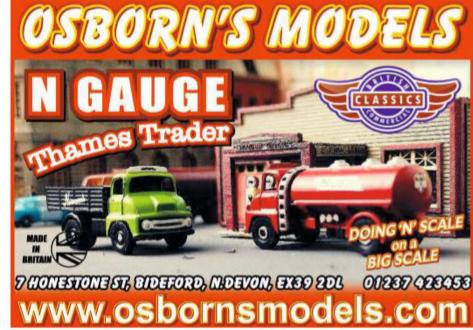
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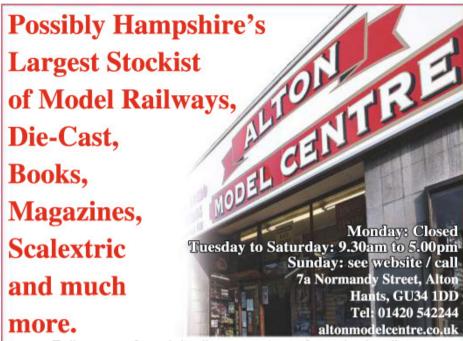
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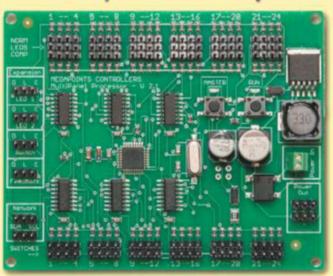
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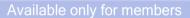
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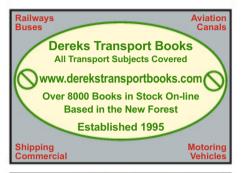


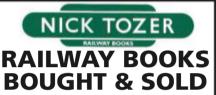
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Present your case

If there's a locomotive that you think needs to be offered ready-to-run, here's the place to voice your opinion...

Locomotive:

Isle of Man Railway Beyer Peacock 2-4-0Ts

Gauge: '00n12'

Proposed by: David Lloyd-Jones, Isle of Man

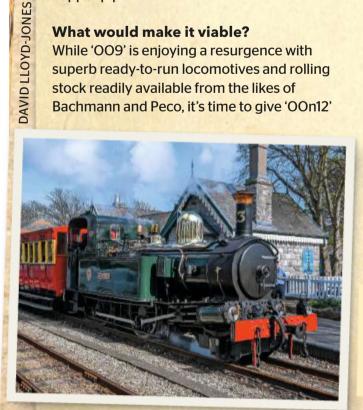
What is it?

The 3ft gauge Isle of Man Railway was mainly a passenger railway catering for thousands of visiting holidaymakers and, after several takeovers, its network reached the principal towns of Douglas, Ramsay, Peel and Port Erin. One of its most recognisable features was the fleet of 15 Beyer Peacock 2-4-OTs. This design was based on similar Beyer Peacock products that were built for service around the world from Norway, Egypt, Australia and, of course, Britain. However, the proportions of the Manx version has produced a very attractive Victorian tank locomotive.

Ireland had a huge network of 3ft gauge lines but nothing compares to the Isle of Man and its unique fleet of Beyer Peacock 2-4-OTs. They exude Victorian charm with their polished brass domes, paintwork and copper pipework.

What would make it viable?

While 'OO9' is enjoying a resurgence with superb ready-to-run locomotives and rolling stock readily available from the likes of Bachmann and Peco, it's time to give 'OOn12'



(also known as 'OOn3') the same focus. This is 4mm:1ft scale trains running on 12mm gauge track to replicate 3ft gauge railways. The track is available from Peco, so why not produce something to run on it?

While they appear to look the same, they are all slightly different as they were supplied in different batches over a 53-year period. Combined with the various liveries these locomotives have carried over the years, there would be plenty of variety and opportunities for a potential manufacturer.

The Isle of Man Railway is the last stateowned steam-worked railway in the British Isles. It's never been dieselised like those in Britain or Ireland, and aside from a few shaky years in the 1960s and 1970s, it was never properly closed either. Paul A. Lunn has extolled the railway's virtues, both scenically and operationally, before (MR258). Surely it's about time that this historic and beautiful railway system be honoured with 21st-century models, rather than the elderly ex-GEM kits that modellers currently have to rely on?

Can I see a real one?

A trip to the IoM is a must to see these engines operating in their natural habitat. Of the 15 2-4-OTs built for the island, 14 survive. Some are on display, some are in store and six are in operational condition. Two, including No. 3 Pender at the Manchester Museum of Science & Industry, are on the British mainland.

Have your say

Do you agree with David'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 **Ian Futers**, the king of the Scottish-themed layout

lan Futers is a respected modeller, layout designer and author.

1 What was your first train set/model?

An unnamed 'roundy-roundy' train set on an 8ft by 4ft baseboard. I was about 12 years old and I made it myself. This was followed by my 'OO' gauge NER layout 'Ashleigh' in 1972.

2 Are you working on a layout now?

At least three! Including what my wife calls the 'lockdown layout'.

3 What piece of modelling are you most proud of? The infamous 'Fort William', a layout too far.

4 Have you ever finished a model railway? About 40 of them. Although, is a model railway ever finished?

5 What model have you've always longed for? Gresley 'A3' 4-6-2 No. 60041 *Salmon Trout*.

6 Favourite trainspotting location? Newcastle Central in the 1970s and 1980s.

66 My wife says I keep losing everything! I can never find anything >>

7 Favourite locomotive?

North British Railway 'J' 4-4-0 (LNER 'D30'), better known as the 'Superheated Scotts'.

8 When did you start working in the model railway industry?

I have never worked in the model railway

industry as such, but I began writing in the model press from 1972.

9 What did you do beforehand?

I mainly worked in education (early years and primary) with 20 years as a headteacher.

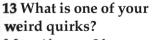
10 Who has influenced your modelling the most? P.D. Hancock and the Reverend Peter Denny.

11 What is one of the things you would put on your bucket list?

I would like to visit Russia.

12 Strangest thing you've ever eaten?

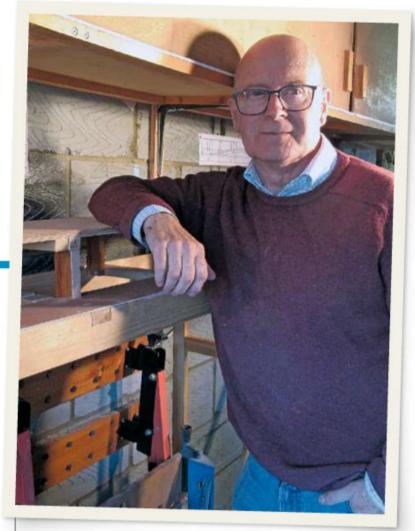
Frogs' legs at the Leamington Spa Model Railway Club Christmas dinner. They tasted like chicken...



My wife says I keep losing everything! I can never find anything.

14 What is your best childhood memory?

Heading on the
North Tyneside
electric trains to
Newcastle with my
father in order to
purchase a HornbyDublo three-rail
item on a Saturday.



15 What book are you reading at the moment?

I am re-reading all of Arthur Ransome's *Swallows and Amazons* collection.

16 If you were stranded on a tropical island, what two things would you want with you?

A pencil and the Squires catalogue!

17 What have you done that you are most proud of? Encouraged people to have a go at building a model railway.

18 What is your favourite song? *Piano Man* by Billy Joel.

19 First record you bought?

Mozart's Symphony Number 40.

20 What is the best advice you ever had?

Measure twice, cut once. My father taught me this.

21 What is one food you wouldn't want to give up? Marks & Spencer mince beef pies!

22 If you had access to a time machine, where and when would you go?

Anywhere on the West Highland Line in the 1970s.

23 What was your favourite cartoon show growing up? *Popeye*.

24 Favourite film?

Hacksaw Ridge.

25 Temptation you wish you could resist? Fry's Chocolate Cream bars.

26 The hidden talent which would surprise people?

I am a semi-professional pianist and organist. I regularly play for shows, weddings and events.

27 If you could pass any new law?

Something to do with railway exhibitions closing at 4 o'clock...

28 What do you drive?

A BMW X1 (the layouts fit in it).

29 Perfect Sunday?

Lunch at a National Trust property with my wife.

30 Who would you like to play you in a film? Anyone who is bald.

31 How would you like to be remembered?

As someone whose layouts and music have given others pleasure.



Next month Oxford Rail Brand Developer Scott Rhodes

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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