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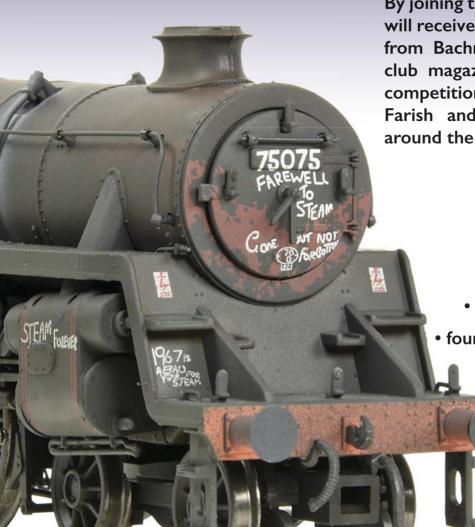


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IN THIS EPISODE...

Immerse yourself in the urban grime of 'Stylson Yard' set in the British Rail Sectorisation era. Plus, Phil Parker tours the hidden treasures of the Historical Model Railway Society, whilst Andy York explores progress in the workshops of the LMS 'Patriot' Project.





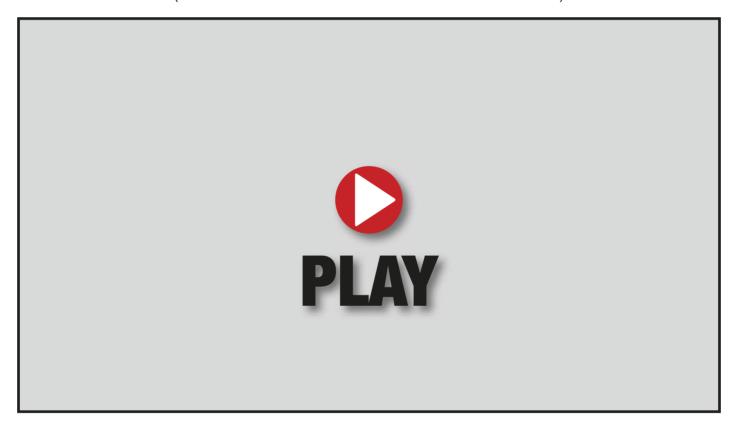
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54 RISE PARK (N)
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673D PRINT MASTERCLASS
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DECODER TESTERMichael Russell's test unit might prevent you installing a decoder only to discover that it doesn't work. Very useful!

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94 Good things sometimes come in small packages, as Ben Jones discovers.

98 Two new models from this Irish manufacturer, although one has a somewhat morbid history.

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62INTERVIEW - METCALFE

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A mixed selection of content for your viewing pleasure. We begin with the Little Layout Company's 'Stylson Yard' layout, which is so good that they decided not to sell it, we enjoy a tour of the LMS 'Patriot' boiler shop and Phil and Andy visit the Historical Model Railway Society.



thinking outside the square concepts





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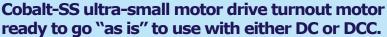
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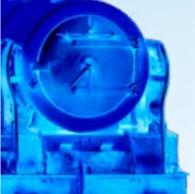
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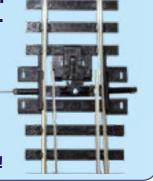


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Welcome



y the time you read this, our Alexandra Palace expo has already happened and thankfully the weather played ball throughout. The same could not be said for the recent Nottingham show, however. Conveniently local to me, I had no excuse not to go, and I left the house in broad sunshine, only to return some 10 minutes later to retrieve the business cards that I'd forgotten to pack. This delay allowed the snow clouds to roll in and I headed out again into what I can only describe as a full scale blizzard, which then refused to budge for the rest of the day and into the next. My respect to the attendees, exhibitors and traders who braved the inclement conditions, but the weather had plainly affected the numbers by the afternoon, which was a shame.

Such days are definitely best spent indoors and are a great excuse to get a bit of extra modelling in, which leads me nicely to our Cakebox Challenge. Michael Russell tries his hand in this issue, and works a few tricks with perspective in his diminutive 'View Across the Tracks' diorama on page 50. As a railway modelling professional, he's not allowed to enter the competition, but there's still time for you to take part before 'judgment day' finally arrives.

Speaking of which, I can now confirm that we'd like all entries in by October 12th. For your model to be considered, we're asking for three pictures of the completed project – two of the model, from any angle that makes it look great, and one of it inside the standard cakebox or against something that proves its scale. We're also looking for up to 200 words of description – including the title, of course. Judging will then take place over the following two

weeks (more about that shortly) with the winner, or winners announced at the Warley show and in our January 2019 issue. Entries should be sent to: cakeboxchallenge@warnersgroup.co.uk.

Back to present business, and I'm delighted to lead off with 'Burnden Park', which is a great model in both size and quality. We visit the Bolton end of the layout in the first part of our coverage, before moving out over the rolling Pennines, across a scenic viaduct and on to the final destination at 'Ingleborough Junction' next month. And I thought that 'Buckingham' (March 2018) was going to be our biggest and most expensive trackplan!

This is just the start of a great issue, though, with four excellent layouts in 00, N and 0, more advice for aspiring 3D print modellers, the latest models and kit, and a host of practicals including a prototypical coal office and a really neat way to turn a perfectly good card kit signal box into a convincingly neglected shadow of its

former self – the latter being provided by one of our talented cakebox engineers.

On that nicely circular note, let's get on with the show...



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MAY 24 - SEE P137

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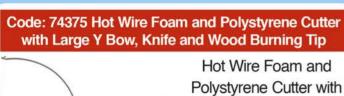
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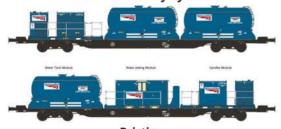
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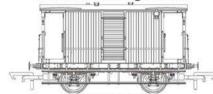
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32-035K Class 20 20172 'Redmire' in BR Blue Thornaby red stripe - Ltd Ed for Bachmann Collectors Club (Bac) . £109.95 32-404XDS Class 25/3 25276 in BR blue (Bac) NEW . £92 32-065 Class 43 North British (NBL) Warship D865 'Zealous' in BR Maroon Small Yellow Panel (Bac) £118.96





1-663 Class 47/0 47209 "Herbert Austin" in Railfreight NEW£135.96 Distribution Sector (Bac) NEW 31-661DS Class 47/3 47346 BR Civil Engine



31-660A Class 47/4 47444 "University of Nottingham" in BR large logo blue (Bac) NEW.....£135.96



32-819 Class 47/8 47814 "Totnes Castle" in Virgin £135.96



BARGAIN

R3380 Class J15 0-6-0 7510 in LNER Black (Hor) .276 (RRP £109.99).



R3405 Class J50 0-6-0T 585 in LNER Black (Hor



R3242A Class K1 2-6-0 62032 in BR Black early





R3456 Class N15 King Arthur 4-6-0 30792 "Sir Hervis de Revel" in BR Lined Green early emblem (Hor) (RRP £160.99)BARGAIN . £108
31-003A Class O4 Robinson 2-8-0 6184 in LNER black (Bac) . . £110.46
R3560 Class Q1 0-6-0 33032 in BR black late crest (Hor) £100







R3524 Rebuilt "West Country" 4-6-2 34096 "Trevone" in £144 BR green late crest (Hor)





H4-P-010 SECR P Class 0-6-0T "Pride of Sussex" in Robertsbridge Flour Mill green (Hat) NEW



H4-P-005 SECR P Class 0-6-0T 1555 in SR black Egyp lettering (Hat) NEW.



sunshine lettering (Hat) NEW



H4-P-011 SECR P Class 0-6-0T 27 "Primrose" in Bluebell



H4-P-007 SECR P Class 0-6-0T 31027 in BR black ear



Class 0-6-0T 31323 in BR black lat



H4-P-012 SECR P Class 0-6-0T 323 "Bluebell" in Blue Railway lined blue (2010s) (Hat) NEW.



H4-P-003 SECR P Class 0-6-0T 754 in SE&CR grey (Hat)



H4-P-004 SECR P Class 0-6-0T A325 in SR lined Maunsell green Maunsell lettering (Hat) NEW £99 32-360A Standard Class 4MT 2-6-41 80104 BR lined black late C11471





32-250A WD Austerity 2-8-0 79250 "Major-General Mc Mullen" in Longmoor Military Railway blue (Bac) . £144.46 Diesel train packs



R3399 EWS freight train pack Class 67 in EWS and three MHA open wagons (Hor) (RRP £241.99)BARGAIN . . . £13 Steam train packs



R3299 'Going Home' train pack - 70th Anniversary of the end of WWII Black 5 4-6-0 5156 in LMS Black and 3 x LMS Period 3 Coaches - Ltd Ed (Hor) (RRP £289.99) . BARGAIN. . . . £150



R3402 Queen of Scots Train Pack Class A4 4-6-2 in LNER garte blue and three pullman coaches - Ltd Ed of 1000 (Hor) 228 R2979 West Coast Bailways Pullman 4-6-0 Black 5 44932 and 3 pullman





Gra = Graham Farish, Hel = Heljan, Hor = Hornby, Jav = Javis, Len = Lenz, Met = Metcalfe, Oxf = Oxford Diecast, Pec = Peco, Poc = Pocketbond, Vi = Vir Trains



Prices valid until 23/05/18

All prices correct when going to press. Errors excepted.



32-534DS Class 55 Deltic 55004 "Queen's Own £225 21 Highlander" in BR blue - DCC sound fitted (Bac) 32-533 Class 55 Deltic D9001 'St. Paddy' in BR green full yello £148.71 £134 £229.90 weathered (Bac).
R3291 Class 56 56094 in Colas Rail Freight (Hor) NEW.
R3291 Class 56 56094 in Colas Rail Freight (Hor) NEW.
32-762XDS Class 57/3 57312 "The Hood" Virgin Trains - we



5820 Class 58 58012 in Mainline triple grey (Hel) (BRP \$125)





5826 Class 58 58028 in unbranded Triple Grey (Hel)





R3572 Class 60 60087 "CLIC Sargent" in Colas Rail Freight orange/black (Hor)... R3266 Class 60 60090 "Quinag" in Hailtreight Coal sector (Hor)



32-980A Class 66/7 66728 "Institution of Railway Operators" in GB Railfreight - weathered (Bac)... £152.96 R3388 Class 67 67004 'Caim Gorm' in Caledonian Sleeper (Hor) NEW... £85



R3272 Class 67 67006 'Royal Sovereign' in EWS Royal



4D-022-008 Class 68 68003 "Astute" in Direct Rail Services compass (Dap)...
40-022-008S Class 68 68003 "Astute" in Direct Rail Services of DCC sound fitted (Dap). £131.71 mpass -£254.9



4D-022-009 Class 68 68006 "Daring" in Scotrail (Dap) £131.71



4D-022-010 Class 68 68008 "Avenger" in Direct Rail - DCC fitted (Dap). 4D-022-010\$ Class 68 68008 "Avenger" in Direct Rail Services



OLIV003 Class 73/1 73141 "Charlotte" In First GBRf purple-Olivias Trains limited edition (Dap) (RRP £140)BARGAIN £99 31-677 Class 85 (AL5) Bo-Bo Electric E3056 in BR Blue



OLIV002 Class 73/2 73205 "Jeanette" In GB Railfreight blue -Olivias Trains limited edition (Dap) (RRP £140)BARGAIN £99 OLIV001 Class 73/2 73207 in Gatwick Express - Olivias Trains limited



4000 Hawker Siddeley Brush HS4000 "Kestrel" prototype diesel electric loco (Hel) (RRP £155)...BARGAIN...£129



32-991 Type 27 Wickham Trolley and trailer B30W in BR Maroon (Bac). 276.4



ctro-diesel E6002 in BR green Railroad Range (Hor) ...



7602 Class 76 EM1 Woodhead electric E26049 in BR blue Ltd Ed for Olivias Trains (Hel) (RRP £160)BAF



7601 Class 76 EM1 Woodhead electric E26051 in BR green half yellow panels - Ltd Ed for Olivias Trains (H (RRP £160). BARGAIN.



7700 Class 77 FM2 Woodhead electric 27000 "Flectra" in BR black early emblem Trains (Hel) (RRP £165) gloss finish - Ltd Ed for Olivia



7703 Class 77 EM2 Woodhead electric 27002 "Aurora" in BR black - Ltd Ed for Olivias Trains (Hel) (RRP £165)BARGAIN £12



7702 Class 77 EM2 Woodhead electric 27004 "Juno" in BR electric blue - Ltd Ed for Olivias Trains (Hel) (RRP £165)BAR(



in BR green half yellow panels - Ltd Ed for Olivias
Trains (Hel) (RRP £165)BARGAIN.





7706 Class 77 EM2 Woodhead electric E27006 "Pandora" in BR electric blue - Ltd Ed for Olivias Trains (Hel) (RRP £165).....BARGAIN...£129





R3365 Class 91 91120 in East Coast Trains (Hor)



R3480 Class 92 92016 "Brahms" in Railfreight grey EWS 'Beastie' vinyls (Hor) (RRP £99.99) ... BARGAIN. ... £5. **HSTs**





£59 R3510 Pair of Class 43 HST Power Cars 43187 and 43188



BARGAIN 32-286 Class 101 2 Car DMU in BR green small yellow



.... £129.95



4D-009-HAT02 Class 121 single car DMU 'Bubblecar' 121032 in Arriva Trains Wales - Hatton's limited edition (Dap)£129.95



4D-009-HAT07 Class 121 single car DMU 'Bubblecar' 55022 in original Network South East - Hatton's limited edition (Dap) .£129.95



4D-009-HAT03 Class 121 single car DMU 'Bubblecar' 960011 in Railtrack blue and green - Hatton's limited edition (Dap). £129.95





8920 Class 128 DPU 55991 in BR blue yellow ends



8990 Class 128 DPU in BR green speed whiskers and Midland style fronts M55987 (Hel) (RRP £119.95)BARGAIN ... £69 32-937 Class 150/2 2 car DMJ 150/22 in Centro blue stripe ... Bac) ... £40.21 R8214 Class 153 single car DMJ 153309 "Gerard Fiennes" Greater Anglia (Hor) NEW ... £89 R8375 Class 153 single car DMJ 153379 in ex-Central Trains green East Midlands Trains branding (Hor) ... £33



30-425 Class 251 Midland Pullman train pack in Pullman nanking blue - Collectors Edition (Bac) £490 **EMUs**



30-430 Capital Commuter train pack Class 416 in Network SouthEast and low relief station building (Bac) . . £178.46





R3341A Class 2-HAL 2623 2 car EMU in BR blue (Hor) DEMUs



31-238A Class 205 'Thumper' in BR blue -£203.96

Track Maintenance vehicles



800 Non-motorised OO Track Cleaner motorised leaning heads & vacuum in blue (Dap)..... B800 Non Train sets - analogue



R1151 Caledonian Belle trainset 0-4-0 steam local ue 4 wheel coach & open wagon (Hor) (RRP £49.99)....



R1155 Pendolino trainset Class 390 390004 in Virgin Trains "Alstom Pendolino" branding (Hor) £150 Train sets - digital



R1172 e-Link Majestic train set A1 Pacific Peppercorn Class in Experimental blue & BR Class 47 (Hor) (RRP £299.99) BARGAI





R1125 Somerset Belle train set Class 3F 0-6-0 S&DJR ttons

07:30 - 18:30 09:00 - 17:00 Mon - Sat Sun



R1184 Western Express digital train set eLink TTS sound Hall steam loco (Hor) (RRP £329.99)...BARGAIN....£199 Coaches



39-621 60' ex-SECR Birdcage brake third 3446 in SR oliv green (Bac) £55.21 39-601 60° ex-SECR Birdcage brake third lavatory 3518 SR olive £55.21



39-622 60' ex-SECR Birdcage brake third S3428S in BR



39-611 60' ex-SECR Birdcage composite 5453 in SR olive
 green (Bac)
 £55.21

 R4617A Mk2E FO first open 3221 BR intercity (Hor)
 (RRP 524.99)
 £17



R4622 Mk2E TSO second open W5860 in BR blue & grey - Railroad range (Hor).
R4663 Pullman First Class Kitchen Car - K-Type Pullman Car (Hor)

£33 an Third Class Parlour Car - K-Type Pullman Car (Hor)



34-385 Thompson 3rd class corridor in LNER teak (Bac)£46.71



34-435 The £46.71



34-410 Thompson composite corridor in LNER teak



on first Corridor in LNER Teak (Bac) NEW£46.7 Wagons



R6880 HEA hopper wagon - "Hornby 2018" (Hor)



R6473 Pack of 3 16 ton mineral wagons in BR bauxite -Railroad Range (Hor) (RRP £19.99)...BARGAIN......£



37-237 Pack of three 16 ton steel mineral wagons BR grey - weathered loads (Bac)......£48.41



R6883 Pack of three GWR horse boxes in GWF

4F-028-102 Pair of 40-foot containers - "Mitsui Lines" (Dap) NEW . 5:1 4F-028-103 Pair of 40-foot containers - "Mitsui Lines" - weathered (Dap) NEW . 5:1 R6827 SR Dia 1530 Cattle Wagon "53767" (Hor)



Analogue controllers



R8012 HM2000 High output power & speed controller €87

			accessor	decoders
8247	DCC acces	sory decoder	(for points and m	notors) (Hor)£



PC2 One Touch DCC Quad Point C Digital controllers



R8214 DCC Elite unit digital controller (Hor)
Point motors
R8014 Mark 2 Point Motor (Hor) £7.5 R8243 Surface Mounted point motor (Hor) £8.5
Lighting equipment
OLO Charles Completic China Warm White (Tax)

CL2 S	tandard Co		nting St				Tra) .
		(Cable	s &	W	ires	
PL-80	Power fee	tioiners	- Code	100/1	24 (x	4 pairs)	(Pec)

Model railway spares inescale insulated rail joiners/fishplates (Code 70, 75 & 83) for gauge - Pack of 12 (Pec)

OO & HO gauge - Pract or 12 (1962).

\$1.110 Finescele rall joiners/fishplates (for code 70, 75 & 83) for OO & E. \$1.110 Finescele rall joiners/fishplates (for COC HO & O gauge code 100 rails incl. Homby, Peco & Peco Streamline) - Pack of 12 (Pec). ... \$2.51.10 Motal rails (piners/fishplates (for Code 100 rails incl. Homby, Peco & Peco Streamline) - Pack of 12 (Pec). ... \$2.20. \$1.10 Motal rails (piners/fishplates (for code 100 rails inc Homby, Peco & Peco Streamline). For OO, HO & O gauge - Pack of 24 (Pec). ... \$2.20. \$18KADEE NEMS2 Kodee coupling - Medium (8 c8mm) - Pack of four (Kad) \$5.51.10 Motal rails (pinescele). £2

Kadee coupling - Medium (8.63mm) - F Buildings - railways



44-072 Depot Crane (Bac) (RRP £43.95)BARGAIN. . . . £21



LK-20X Double length overall arched station roof (Pec) . . £22.50



44-017 Modern servicing depot - Scenecraft range (Bac) . £84.96 Man-made scenic structure - railwayrelated



5	R083 Box of 6 Buffer Stop (Hor)	
	R070 Electrically Operated Turntable (Hor) £64 R537 Lineside Fencing (Hor) £7	ľ
	Signals	l
	4L-002-001 Signal - Motorised, LMS home (OOSIGN3) (Dap)	

Buildings - general 8 AA Telephone kiosk (Hor) NEW



Bridges, Tunnels & Walls

bridge (Hor) People - civil





4-CrewP-002 Crew set for Class driver and firem



Track - Code 100 Setrack	
R605 1st radius double curve (8 make a circle) (Hor). R605 Circle of 8 (Hor). R605 Circle of 8 (Hor). R607 2nd radius double curve track (8 make a circle) (Hor). R607 Circle of 8 (Hor). R609 3rd radius double curve track (8 make a circle) (Hor). R609 Circle of 8 (Hor). R601 Double Sergialty (Hor). R601 Double Sergialty (Hor).	£18 £2.50 £18 £2.60 £2.10



	R8072 Left Hand Standard Point (Hor)	£9.5
1	R603 Long Straight - 670mm (Hor)	£3.7
	R8073 Right Hand Standard Point (Hor)	£9.5
	ST-245 Setrack curved double radius left handed point insulfrog (Pec)	£14.5
-	ST-244 Setrack curved double radius right handed point insulfrog (Pec) .	£14.5
	ST-241 Setrack No.2 radius left handed point insulfrog (Pec)	£
	ST-240 Setrack No.2 radius right handed point insulfrog (Pec)	2
	ST-204 Setrack Quad Straight (670mm) (Pec)	£3.5
	ST-204 Box of 24 (Pec)	£7
U	ST-101 Setrack Starter Track Set - Third Radius (Pec)	£5
~	H621 Single 970mm length of flexible track (Hor)	22
	R621 Pack of 24 (Hor)	£6
	R600 Standard Straight (Hor)	£1.5
0	R621 Pack of 24 (Hor) R600 Standard Straight (Hor). R600 Box of 24 (Hor)	£3
u l	T 1 0 1 100 01 11	

Track - Code 100 Streamline



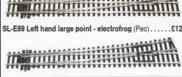
SL-100 Pack of 25 1 yard (91.5cm) length of Code 100 Wooden-sleeper nickel silver flexible track (Pec) SL-100 Single (Poc)





SL-E99 3 way medium radius point - electrofrog (Pec) £27 SL-99 3 way medium radius point - insulfrog (Pec) £27 SL-99 Double slip - insulfrog (Pec) £33





HIIIIIIIII

SL-E96 Left hand medium point - electrofrog (Pec) £10.50 SL-96 Left hand medium point - insulfrog (Pec)£10.50	0

£25	######################################
82.	SL-E92 Left hand small point - electrofrog (Pec) £9.50 SL-92 Left hand small point - insulfrog (Pec) £9.50



	SL-E86 Right hand curved point - electrofrog (Pec) . £12.50 SL-86 Right hand curved point - insulfrog (Pec) . £13 SL-E88 Fight hand large point - electrofrog (Pec)	
	SL-86 Right hand curved point - insultrog (Pec)	2.50
1	SL-E88 Right hand large point - electrotrog (Pec)	212
н	OL OO DE CEL COLOR	cel

SL-E95 Right hand medium point - electrofrog (Pec) ...£10.50 SL-95 Right hand medium point - insultrog (Pec) ...£10.50



SL-E91 Right hand small point - electrofrog (Pec) . . £9.50

Track - Code 75 Finescale

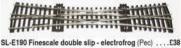


ength of finescale Nickel Sitver concrete-£3.30 £82. gth of Nickel Sitver Finescale flexible track (Pec) £3 £72.

SI, E100

£29

SL-E199 3 way finescale medium radius point -





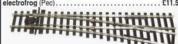


L-E196 Finescale left hand medium point -	
lectrofrog (Pec)	. £11.50
I -F192 Finescale left hand small noint - electrotron (Pec)	£10.50

SL-E186 Finescale right hand curved point electrofrog (Pec).....



SL-E195 Finescale right hand medium point electrofrog (Pec)...



SL-E191 Finescale right hand small point



unifrog (Pec) SL-U1188 Right hand la radius bullhead rail point - unifrog (Pec) . £26

Track & Points 8262 Double 4th radius curve (8 make a circle) (Hor).



£9.50 76Bl003 Beadle Integral coach - "East Yorkshire" (Oxf). £16.50

www.hattons.co.uk/new

for all new releases



76IR6003 Irizar i6 coach - "The Kings Ferry" (Oxf) . £20.50 OM46619A New Routemaster. Go-Ahead London, 88 Cemden Town (Cor) £34 Cars

003 Aston Martin DB9 Coupe Cobalt Blue (Oxt) NEW Austin Seven Saloon light grey (Oxf) NEW Commercial vehicles

Euro 6 curtainside - "Wretord's Transport" (Oxf) NEW . \$21.50



76MB010 Mercedes Actros Semi Low Loader JCB (Oxf) 521 Farming & Construction



76LDL001 JCB 531 70 Loadall JCB (Oxf) £16



76JS001 JCB JS220 Tracked Excavator JCB (Oxf) . £19.50 Military ground vehicles 76SFT58 RAF Cente 642



76SM001 Sherman Mk3 Tank - 10th Armoured division 1942 (Oxf). Tools



SL-43 Loco Lift and storage unit (Pec)

N Gauge Steam locos £12



372-313 Class 21C1 Merchant Navy 4-6-2 35021 'New Zealand Line' in BR Malachite green (Gra) (RRP £169.95)BAF GAIN £119



372-311 Class 21C1 Merchant Navy 4-6-2 35023 'Holland-Afrik Line' BR green early emblem (Gra) (RRP £169.95)BARGAIN



372-210A Class 3F Jinty 0-6-0T 7309 in LMS black (Gra NEW. 372-031 Class 4073 Castle 4-6-0 5041 'Tiverton Castle' in BR gr emblem (Gra) . £80.71



372-536 Class 4MT Standard 2-6-4T 80119 BR lined black

DCC fitted (Dap). MS Grand Britania 4-6-2 70025 "Western Star" in BR green late creat weathered. DCC Fitted (Dap). E144 372-800B Class A1 4-6-2 60163 "Tomado" BR Express blue (as preserved). GCC Fitted (Dap). £144.46



372-386 Class A2 4-6-2 60537 'Bachelors Button' in BR green early emblem (Gra) (RRP £169.95)BARGAIN ... £94 28-002-002 Class V Schools 4-4-0 30921 "Shrewsbury" BR Black early



of Rutland" in BR crimson late crest (Gra) £144.4 Steam train packs

2S-011-004D Class A3 4-6-2 60103 "Flying Scotsman" in BR greenblem four Gresley teak coaches in crimson & cream (Dap)

Diesel locos

371-457 Class 37/0 D6714 in BR green small yellow panel



372-247 Class 47/0 47209 "Herbert Austin" in BR railfreight triple grey distribution sector (Gra).... £114 7



2D-022-007 Class 68 68001 "Evolution" in DRS (Dap)£118.96 £242.72



2D-022-001 Class 68 68002 "Intrepid" in DRS (Dap). £118.96



HSTs



2D-019-005 Class 43 HST 4-car book set in BR Intercity

2D-009-002D Class 121 single car DMU 'Bubble car' 55032 in BR blue grey (DCC Fitted) (Dan)

370-425 Class 251 Midland Pullman train pack in Pullman nking blue - Collectors Edition (Gra) £339.96

Train sets - analogue



370-130 'The Night Mail' train set Class 47 and Mk1 post



GMKS006 Class 373 Eurostar starter train set - oval of£185 Kato track (Gau) Train sets - digital

NEW

370-048 The Highlander Digital Train Set Class 37/4 in BR large logo blue and two Mk2 coaches in 'Kyle Line' green and cream (Gra) NEW. £229.46

Coaches

pury BR Black early £120.76 374-902A BR Mk I TPO Blue & Grey (Gra)

Wagons agon Ronuk (Gra) NEW ... £16.11 agon Shell BP (Gra) NEW ... £16.11 wan hopper 'Scottish Grain Distillers' (Dap) NEW £13 Cables & Wires PL-82 Power feed joiners - Code 55/80 (x4 pairs) (Pec)

Model railway spares SL-311 Insulated Rail Joiners/Fishplates for N & 009 gauge (12 per £1.70 s/Fishplates for N & OO9 gauge (24 per pack) (Pec) £2 **Buildings - railways**

rlisie style railway station building - card kit (Met) NEW . £12 rlisie style railway station shelter - card kit (Met) NEW . . . £7 Track - Code 80 Setrack

ST-11 Double straight track (Pec)

ST-6 Setrack left hand point insulfrog (Pec) £8.50



Track - Code 80 Streamline yard (91.5cm) length of Wooden-Sleeper Nickel Silver



SL-E395 Right hand medium point electrofrog (Pec) £9.50 SL-395 Right hand medium point insultrog (Pec) £9.50

Track - Code 55 Finescale





SL-302F Pack of 30 1 Yard of Nickel Silver Flexible Track





SL-E386F Finescale curved double radius right hand



SI -E390F Finescale double slip electrofrog (Pec)

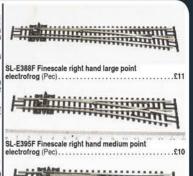




SL-E396F Finescale left hand medium point electrofrog (Pec).....



SL-E392F Finescale left hand small point



SL-E391F Finescale right hand small point electrofrog (Pec).....

muum

scale scissors crossover electrofrog (Pec) £63 O Gauge (1:43 Scale)

Steam locos



'Jinty' 0-6-0T 47673 in BR black late 7S-026-004 Class 3F



7S-007-002 Class 57xx 0-6-0PT pannier 5700 in Great £199.75



7S-007-001 Class 57xx 0-6-0PT pannier 5717 in BR Bla early emblem (Dap) NEW £199.75
7S-007-001U Class 57xx 0-6-0PT pannier in BR Black early emblem unnumbered (Dap) NEW



7S-024-001 Class 64xx 0-6-0PT Western green (Dap) NEW. 78-024-001D Class 64xx 0-6-0PT pannier 6412 in Great We DCC fittled (Dap) NEW. green -£359.50 as 64xx 0-6-0PT pannier 6417 in Great Western gr 7S-024-002 Cla 8 64xx 0-0-0-1 pannier 6417 in Great Western iss 64xx 0-6-0PT pannier 6417 in Great Western im - DCC fitted (Dap) NEW



7S-024-003 Class 64xx 0-6-0PT pannier 6435 in BR bla arly emblem (Dap) NEW . S-024-003D Class 64xx 0-6-0PT pannier 6435 in BR black early



7S-024-004 Class 64xx 0-6-0PT pannier 6439 in BR lined



7S-025-001 Class 74xx 0-6-0PT pannier 7411 in GWR ss 74xx 0-6-0PT pannier 7411 GWR green - DCC green (Dap) NEW 7S-025-001D Class 74



7S-025-002 Class 74xx 0-6-0PT pannier 7444 in BR black late crest (Dap) NEW 78-025-002D Class 74xx 0-6-0PT pannier 7444 in BR black lat DCC fitted (Dap) NEW

UK P&P £4 per order £2 per single diecast item

£7 guaranteed Next Day delivery (Orders before 2pm)

Diesel locos





2006 Class 20 in BR blue full yellow ends, 1980s style





2015 Class 20 in Railfreight Red Stripe headcode



5351 Class 53 D0280 'Falcon' in BR two tone green small yellow panels. (Hel) (RRP £699) £390





6000 Class 60 diesel in Railfreight triple grey (Supplied unnumbered separate waterslide numbers, sector emblems and, a selection of nameplates.) (Hel) (RRP £649)BARGAIN.... £390



128 parcels DMU 55993 in Royal Mail red (Hel). £470



8950 Class 128 parcels DMU M55995 in BR blue yello



7P-004-005 GWR 59' Auto Coach in BR crimson (Dap). . £170



cream twin cities crest (Dap)£170



4993 Mk1 GUV full brake in BR blue Newspapers

Wagons on Diagram 108 B144783 BE



238.25 agram 108 B258683 in BR linh B223910 in BR grey (Da eel mineral wagon Diagram 108 B266949 BR



7F-030-006 16-ton steel mineral wagon Diagram 10s B561357 in BR bauxite (Dap) NEW £38.25 7F-030-005 16-ton steel mineral wagon Diagram 108 B563823 BR may (Dap) NEW. £38.25 on steel mineral wagon Diagram 108



7F-030-008 16-ton steel mineral wagon Diagram 108 B570259 in BR bauxite (Dap) NEW



y £38.25 agram 108 B68921 BR £38.25 on steel mineral wagon Diagram 109 B142798 BR



7F-030-052 16-ton steel m B262468 in BR grey (Dap



wagon Diagram 10 B70100 in BR grey (Dap) NEW. . . .





H7-WW-705 Warwell wagon 50t diamond frame bogies M360333 in BR grey (Hat)....

Track - Code 124 Bullhead Streamline





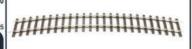
	102		Sharmer Research
SL-E790BH	Double	slip (8 degree	angle).



SL-E792BH Left hand point bullhead rail and



SL-E791BH Right hand point bullhead rail and



ST-725 Setrack Bullhead 2nd radius standard c 410mm (16") radius 1020mm (40.5"). 16 make a circle (Pec).

Cars

stin Ruby Saloon dark blue (Oxf



43R25001 Rolls Royce 25/30 - Thrupp & Maberly

Commercial vehicles

I 400E van - "Lotus" (Oxf) NEW.... and Rover Series IIA SWB Hard Top Royal Mail (PO

Public Service vehicles

Any or Multiple Scales

Analogue controllers



Analogue point control

Digital decoders

running (Bac)
DGR-21PIN-Direct 21-pin 4-function 1.1Amp direct plug decoder ba
EMF (Halt).
DGR-21PIN-Direct Box of 5 (Hat)
DGR-21PIN-Direct Box of 10 (Hat)



BARGAIN



36-568 6 pin DCC decoder Back EMF and Railcom (Bac) . £24.61 DCR-6PIN-Direct 6-pin 2-function 1.1Amp direct plug decoder back EMF (Hat)

EMF (Hat).

2.17

DCC32 Prim 2-function 1A (EA) peak) decoder (saleble for N gauge) (Gau).

2.24

BPDCC27 8 & 21-pin 4-function 1A (1.8A peak) small OMNI decoder (measures 23 x 27w x 10d mm) x 5 (Gau).

2.77

DCR-PIN-HarmessMinl 8-pin inflamess) 2-function 1.1Amp small & thin decoder back EMF (Hat).

2.18

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DCD-ADS8FX COBALT8 output Accessory Decoder for all Solenoid and other point motors needing momentary power (DCC).

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Digital controllers





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36-501 EZ Command starter DCC controller for OO, HO, N and OC

scales (Bac).
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DCO5 Prodigy *Advance WiFi Receiver - allows Smartphone or Tablet
control of Prodigy DCC system (Gau) NEW.
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Point motors

DCP-CB6DIP Cobalt ip slow-action digital point motor - pack of 6 (DCC). . . £105 DCP-CBSS-2 Cobalt SS surface mounted point motors controller - pack of 2 (DCC)
PL-10WE High performance turnout point motor extended pin (Pec)
PL-10 Point Motor (Switch Machine) (Pec)
PL-10 Bag of 6 (Pec)



PL-10E Bag of 6 Point Motor Extended Pin (use PL-9) (Pec)... PL-10E Single (Pec).





Switches & Levers



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12 (DCC)					٠.													. ,	£1	62

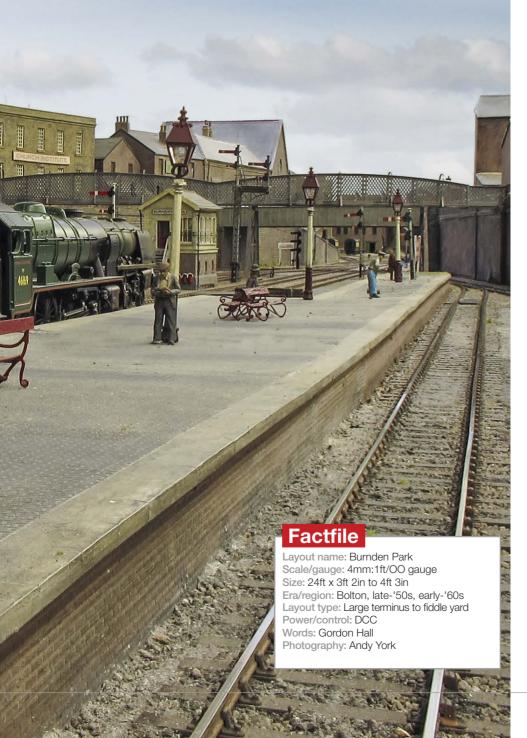
Tools

XU2175B Flexible track cutters (XURON) (Gau) . £15
PL-71 Loco servicing kit - servicing cradle, infills, Powerlube, brush & scraper (Pec) . £19



BURNDEN

The happy memories of a bygone era inspire a lovely layout and, occasionally, some unusual loco choices. Gordon Hall rolls back the years...



train set, a model railway, whatever you call it, it's a man thing. Or is it? In my case it was all started by my good wife, who got fed up with the stock gathering around the house. A message was sent to Father Christmas, who duly delivered six baseboards and the attached note - "Stop talking about it and get on with it!"

From that moment the project 'Burnden Park' was born. Why Burnden Park? Both my wife and I were born and bred in Bolton, the home of Nat Lofthouse and Burnden Park. The following passage from Michael Deacon, writing in the Daily Telegraph, summarised much of what I had envisaged:

"What I have realised as I watch the miniature locomotives whirring round the bends of track, is that the appeal of model railways has little to do with trains. What really matters is the scenery they run through. The painstakingly fashioned trees and hedgerows and river banks and duck ponds, the windmills and villages, the omnibuses, the traction engines, the miniscule men all wearing hats, the tiny schoolboys fishing in the stream... These are what model railways are about. Hardly any depict the world as it is today. Almost all are visions of a lost England: an England before Beeching. An England of Rupert Brooke or Rupert Bear. Soothing for both modeller and viewer these little landscapes are a retreat: a retreat from now, and its endless bewildering frenzy of change. Here are scenes of perfect pastoral serenity, unmolested by reality, cloudless as a childhood summer: a beautiful sunlit stasis."

From its inception Burnden Park was to be a railway of memories of the late- '50s and early- '60s. Steam was still king but diesels were slowly announcing their arrival. Memories abound of 'Scots', 'Jubs', 'Black 5s', 'Streaks', 'Semis' and 'Brits'. Memories of smoke, grey days, rainy days along with a cacophony of sounds of whistles shrieking, blasts of steam, all brought together when you and your pals stood on the open latticed bridge as a Glasgow bound-Brit thundered underneath. In the words of Maurice Chevalier - 'I remember it well."

Some serious negotiations were required with the good lady about the garden shed. Said shed was emptied and another of equal length was added - a railway room 42 feet long and 10 feet wide was created. Burnden Park #1 began as an out and back with a ludicrously complicated reversing

LAYOUT FOCUS

loop in the middle. This combined with gradients that Edmund Hilary would have found eye-watering. Add to this a mismatch of scenery, of an industrial complex complete with canal and anything else that could be squeezed in and, if that were not enough, discovering that baseboards only painted on one side have a nasty habit of warping and bumps appear where they shouldn't... The result was that Burnden Park #1 simply did not work!

The childhood dream was rapidly disappearing. However, help was on its way in the form of buildings and scenery guru, Geoff Taylor, and track laying and electrical wiring expert, John Bailey.

Burnden Park #2 began, a little less grandiose, tight curves and banking banished, reverse loop condemned. In its place, a long run from Burnden Park out into the Pennines, courtesy of a viaduct, and, with a run of some 90 feet, the opportunity

to watch some trains go by. Code 75 was kept for the fiddle yard, with the main track being C&L Finescale. All went well, until personal tragedy. Gill, my wife after a battle with bone cancer, sadly died. The home we lived in, beautiful as it was, lay at the far end of a tiny village, a delight for two, but not really a single man's domain. Thus with sad heart the move was made back to Wiltshire. House found, and instructions to builder, "for the moment forget redoing living accommodation, build me an enclosed room, 45 feet long and 10 feet wide."

With a clean canvas and the knowledge of two failures behind me – what did I want? Moreover, what did I want to avoid? The last of these was easy:

- · No dreadful banking curves
- No gradients that would put the 'Lickey Bank' to shame
- Cluttered scenery that included every diorama imaginable.

So, what did I want: -

- A long run from Burnden Park (the Bolton of my youth) stretching the whole length before crossing a shortened viaduct and onto the Pennines.
- A Branch terminus that evoked memories of those dark Pennine villages
- A railway that had some serious complex running situations.
- A railway, with flexibility that would allow both one person to cope but with the ability to take up to 6 operators.
- A railway where you could 'taste' the grime and 'smell' the smoke.
- A railway circa 1958 (Bolton Wanderers winning the FA Cup) the heavy influence of steam with just a hint of the coming diesel

A formidable list, but, with a team of 'top drawer' supporters, we could pull it off.





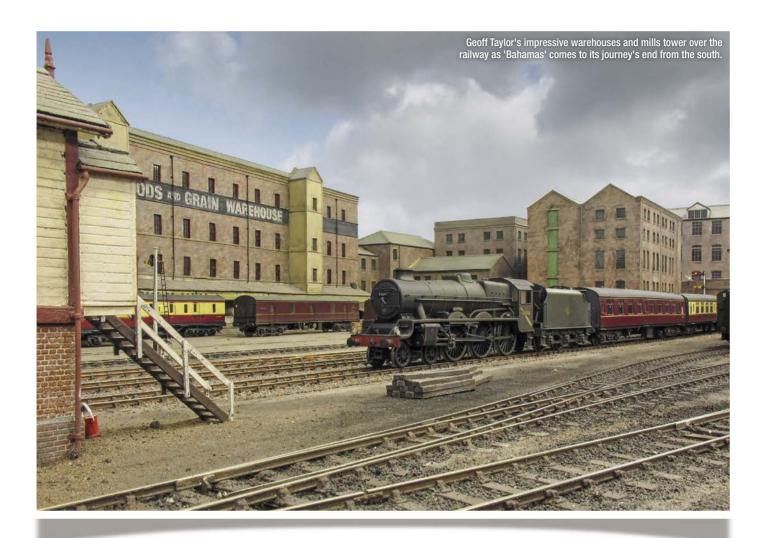




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LAYOUT FOCUS



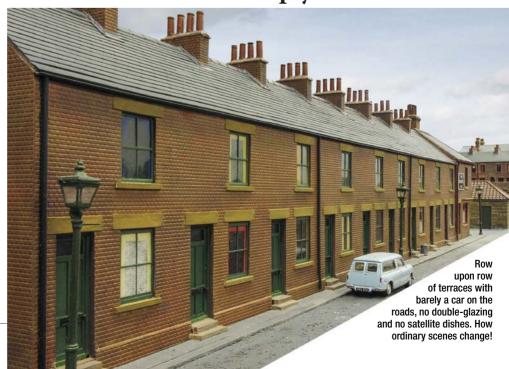
The baseboards were laid, deliberately higher than is the norm, to encourage more eyelevel viewing, and, as it turned out, making it far easier for John Bailey to be seated beneath the railway when installing all the wiring.

Huge sheets of paper were spread across the boards, all in 1 to 1 scale. Did this work, would that work, relentless questioning as the layout began to evolve. The location of Burnden Park and its platforms was easy, and from this, carriage sidings, shed, goods yard and turntable found their natural place.

John had decided that due to its complexity, point work had to be hand-built. Again, drawings were laid out and adjusted where necessary. We had already decided that the layout would grow in blocks. The idea being that Geoff could begin the scenic planning when a block of track had been laid. I look back in amazement that we only got it wrong once - there is one group of points that are beneath a bridge! The entire track laid was, again, courtesy of C&L Finescale, with the exception of the fiddle yard, Peco code 75 being adopted.

This is not a layout depicting reality.

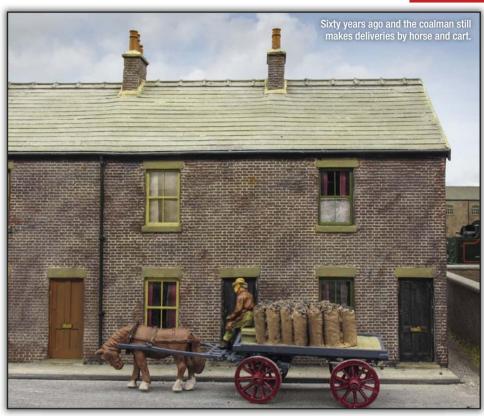
baseboards only painted on one side have a nasty habit of warping and bumps appear where they shouldn't... The result was that Burnden Park No.1 simply did not work!

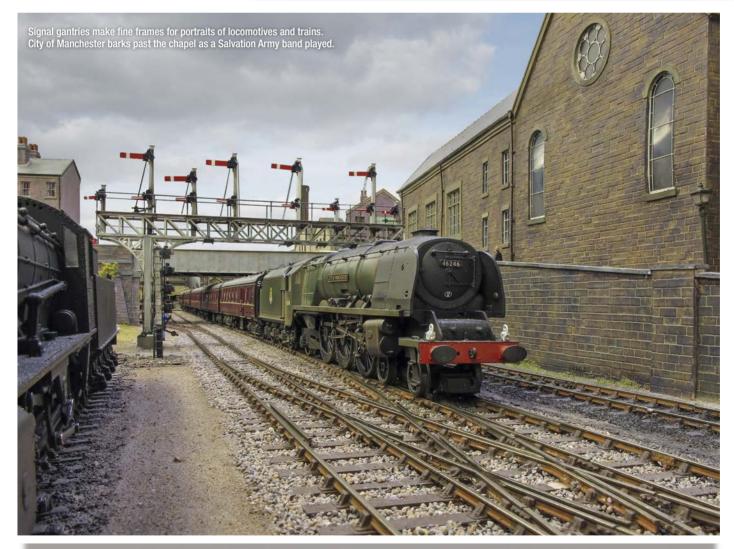




Remembering Michael Deacon's article, it was to be one of memories. I know the Thames Clyde did not run into Bolton, and you never saw a Western Diesel arrive on Platform 2, but I had 'spotted' these in my youth, and so they would have pride of place. The workhorses of the time - the 'Mickeys', Black Fives et al – would be there too. suitably grimy and ready to do their share of work. This is not an article on 'how to do', since Geoff has written several excellent books on model buildings and readers have been told ad nauseum on how to lay ballast etc. So what could I possibly add? Maybe more of the thought processes we went through to build what, in its simplest terms is an 'out and back' running from a Terminal station to a Fiddle Yard, some 100 feet away. A railway that ran through the muck and dirt of Bolton through to the splendour of the open countryside to be found in my beloved Pennines.

Once we had decided the general scope it was time for the Civil Engineers to move in -Geoff on top of the baseboards, John beneath





LAYOUT FOCUS

them and the late addition, Tony Gee, the signals genius, wherever he was needed.

The majority of the buildings are from Bolton - the Co-op from the centre of town and Preston's the Jewellers (you can see me at the bus stop outside Yates's Wine Lodge, thanks to 3D printing). The station building is the old Bolton Great Moor Street to give me a four platform terminal. Geoff is a true genius and taught me many things as we progressed - weathering buildings and placing them, different heights and making the eye and brain explore. 'Muck' everywhere and people in places that they should be, roads that are there for a purpose, and so on. What little scenic dioramas we have, have been peopled and beautifully painted by Tony, and I managed to persuade Laurie, latterly becoming my second wife, to lend her artistic skills into painting the backscene sky.

In Vermont, USA is a general store with the logo "If we don't have it you don't need it". I have amended that slightly for the stock that graces Burnden Park – If I didn't 'spot it' I can't run it! I make no apologies for Flying Scotsman running alongside Duchess of Hamilton – as I have said before, these are

for my memories of wonderful days long past. As the railway progressed so stock was added with now enough engines to support at least ten rakes of carriages and a couple of goods trains for a complete timetable. Local suburban stock serves the branch line.

All tracks that are visible are finescale, with all hand-made points operated by Tortoise motors. Dotted around the layout are hidden magnets to serve as uncouplers for the excellent Kadee auto couplers. You do need a little patience to get all the correspondent couplers to the correct height; they work so well, avoiding the 'hand of god' that would otherwise be needed. John B completed outstanding work and finished it all off by adding four control panels for each of the main operating areas. Signaling would have been either a nightmare or a compromise if had not have been for the introduction of Tony Gee. His signal work, including a gantry of over 13 signals at the Burnden Park throat, is masterful, and his knowledge of signaling has been very important as the layout control has evolved.

What we think...



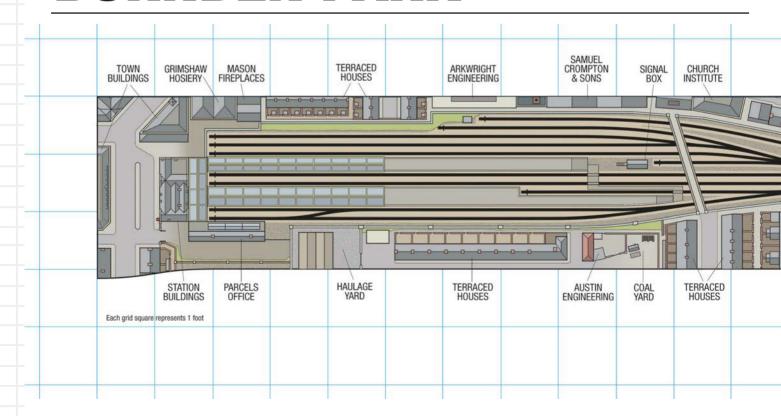
Burnden Park oozes life in a northern town and it's not often you see a plausible football ground brought into a layout to give a sense of time and place; the trackwork, signalling and buildings are wonderful giving an air of authenticity to the whole creating doubt that the location isn't real.

The long stretch of line through Ingleborough Junction and beyond portrays the wide open spaces of the edge of the Yorkshire Dales; although the track bed is perfectly level you feel there's hard work up gradients given the surrounding topography.

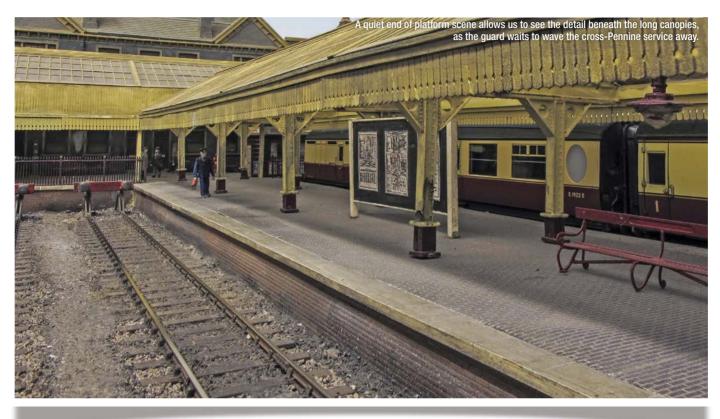
Andy York, RMWeb Editor

Trackplan

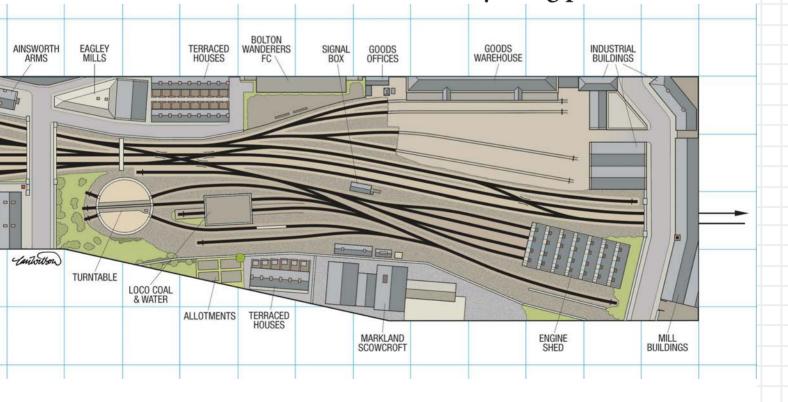
BURNDEN PARK





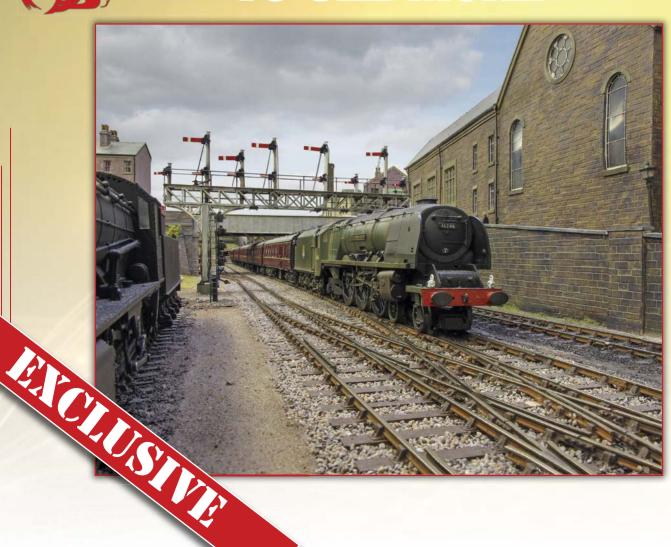


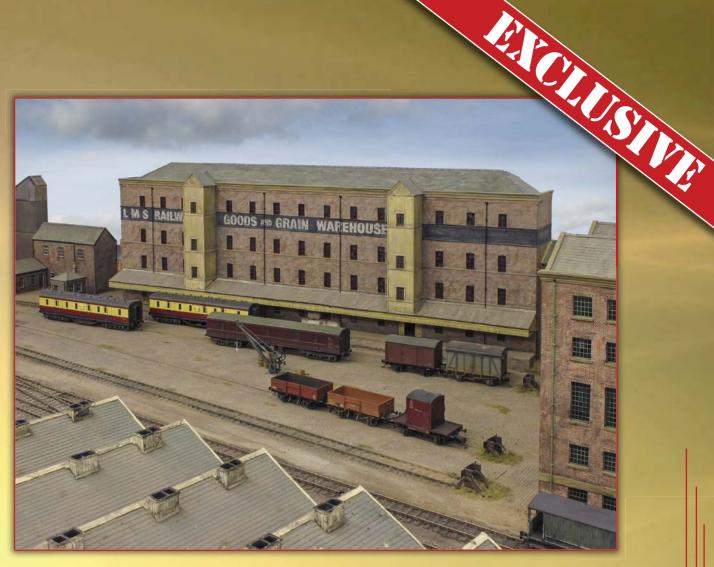
I make no apologies for Flying Scotsman running alongside Duchess of Hamilton - as I have said before, these are my memories of wonderful days long past



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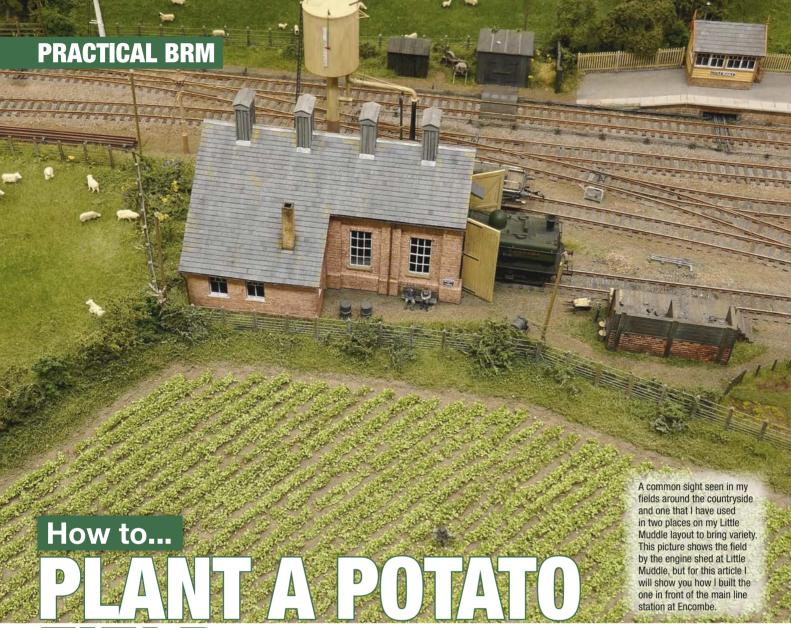
BRITISH RAILWAY MODELLING Y

The happy memories of a bygone era inspire a lovely layout and, occasionally, some unusual loco choices. Gordon Hall rolls back the years...

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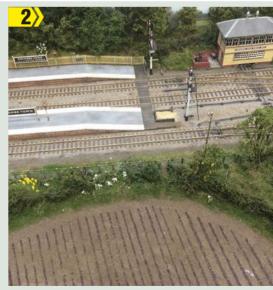


Kevin Phare's 'Little Muddle' layout is full of modelling details, but he always seems to be asked about an agricultural scene in one corner. Here's how it was made.

etails matter on a layout, but it's often the case that certain visual aspects are overlooked at the expense of others. Sometimes that might be deliberate, if, say, the focus is on operation rather than scenery. Or maybe the modellers concerned reached the limits of time. resource or skill. Whatever the case, Kevin Phare was concerned that all of the various elements of his 'Little Muddle' layout were as well-modelled as each other. Earlier editions of BRM have already covered his advice about scratch-building a signal box, erecting a fence line and installing realistic point rodding. There are other scenic and contructional features to cover besides, and yet the scene of a lonely scarecrow keeping guard in a field full of potato plants always seemed to encourage more than its fair share of enquiries. Finally yielding to public pressure, here he reveals the simple but effective techniques of its creation.



Before starting the area was covered in Treemendous Earth Powder to form the basis of the field. The line drawn represents the angle I wished to run the rows of potato crops. The criteria for this was just simply whatever gave the best visual effect. The field slopes towards the viewer, with crops planted to ensure that any rainwater could run away down the lines of plants.



With the angle determined I then drew parallel lines, approx. 12mm apart across the field. This gave a scale separation of the plants of two feet, which seemed about right when I looked at pictures of a real field.



The above shows the scenic material used from the Sliflor MiniNatur range and is shown in two different sized packets. The next process is optional, but I decided that it gave elevation to the plants to make it look like they were planted with a soil furrow between without having to cut one out!



A second layer of earth powder was applied to increase the depth giving the impression of a furrow between crop lines.



Lengths of Sliflor were cut and these glued with PVA along the raised sections. Odd lengths were butted up and sometimes gaps were left to represent where a plant might not have taken.





In order to get the plants in some form of line, and before I lost the marked ones under the earth powder, I fixed masking tape with the centre line of one of the planting strips to give me a datum point for keeping the rows parallel.





KEEP IN TOUCH

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Your forum for sharing information, questions, praise, grumbles, projects, layouts and your thoughts on the hobby then and now.



LOOKING FOR IDEAS

Here's my home layout - the bridge was a complicated thing to construct because it was needed where the track is curved, so was an odd shape to put together. You'll see that it's now installed across a valley with a river underneath.

The other reason I'm getting in touch is because I saw Howard helped someone with their layout on the DVD. The fact is, I'm stuck!

As an engineer, I've treated the construction as a work project and so far it's been easy, but now the track is down I need to add a surface onto this frame. I'm short on inspiration and I can't visualise what it'll look like or what the next step is. The centre section is to be an area for locomotives, the far corner is to be a private yard and I've made a coal depot kit for the purpose. The corner by the door is to be a through station and goods shed.

Alan Delaney, Oxfordshire

Howard Smith replies...

Hello Alan, thanks for getting in touch, you've made a great start in completing the track laying process which can become repetitive on a large layout. The next step is what I find the most exciting, but also what makes the layout transform rapidly from a 'bare bones shell' to something visually appealing. Scenery isn't so much about being stuck as asking yourself what you want out of your layout.

You can either follow prototype practice and observe standard structures and procedures that the railway would undertake which will limit your potential scope, but can focus your attention on more specific areas, or make it entirely your own thing, giving you freedom.

The best advice I can give is to have a look through books, the internet image sites such as Flickr and take it from there. If you've an interest in a specific region, it'll help narrow down your search – just take ideas from what you like and make it your own. Let us know how you get on.



THANKS FOR THE MEMORIES



Recently, having time to kill before catching a train at Manchester Piccadiily, I went browsing in WHSmiths. My genes propelled me to the model railway section, my eyes alighted on the above-mentioned mag. "Ha, I said, just the right place to find a mention of the Borchesters!" Indeed, there it was on p64 and I was immediately immersed, and nearly missed my train in true Dyer fashion.

I loved reading lan Wilson's account of my father Frank Dyer's influence on his modelling. My childhood memories include watching my Dad cutting the new DMU coaches out of brass sheet, helping to rub dried and painted tea leaves through a sieve (no static grass around then), and aged 12, derailing the V2 spectacularly at the Central Hall Exhibition in front of the press. I loved his insistence on making each model realistically dirty, scoring the card for a new platform to mark paving stones, then rubbing the surface with a finger dipped in used turps to give a well-trodden look. I remember him adding weeds around the edges of walls and buildings and deliberately damaging the fencing.

Thanks for the magazine, I enjoyed many of the other articles but mostly it's been lovely to know my father is still appreciated, I still miss him so much. The V2 now has pride of place on my sideboard

Anne Clarke (nee Dyer)





FREELANCE GOTHIC STATION

Rummaging through bins at exhibitions I found a job lot of broken resin buildings at a bargain price. With a Gothic flavour in mind and a few prototype photographs to hand I juggled with a mixture of simple creativity and licence to achieve a likeness of an 1870 Gothic country station. The chimneys are from Scalelink, the gargoyles are from Langley, the roofing and brickwork is from Wills and I raided a sewing box for beads. Minimal weathering was applied using powders and grimy enamel mixes.

Dave Cutler



WILSONS DAIRY

Hi Guys, thought you might be interested in my new dairy. This came about when I purchased four milk tanks at a show and didn't have anywhere as a base for them, so I built a dairy in a corner of the layout. Like most projects that start as a simple siding with a few bits added, this one grew into quite a complex build, with several buildings, tanks, birds, and a smoking chimney. The tanks were scratch-built from Morrisons empty pepper pots, plastic tubing with walls added. Buildings are Metcalfe with added figures, milk churns and seagulls. I'm quite pleased with the finished result, and Sprat & Winkle couplings and magnets under the track have given me quite a bit of operational leeway.

Jenny Kirk, Bolton





Your opinion

We are always interested to receive your letters, hear your comments and see pictures of your layouts - send them to BRM, Warners Group Publications, West Street, Bourne, PE10 9PH.





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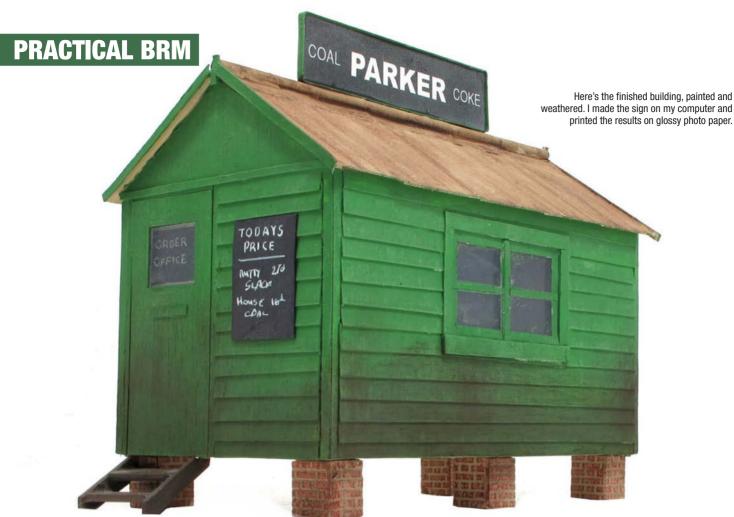


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MAKE A CARDBOARD COAL OFFICE

Show Phil Parker an interesting plan and he wants to start building it. When the plan dates from the 1950s, he's going to have to use materials from the era.

s you can see from this month's DVD, I really enjoyed my trip to the HMRS archive. Undoubtedly, the highlight was looking through the Skinley plans they hold, and one in particular caught my attention – a wooden coal office.

This is the perfect starter project for anyone who fancies having a go at scratch-building their own buildings. Even in 7mm scale, it's not very big, so little in the way of materials is required and the job shouldn't take too long. Since the real building would have weathered a bit over time, this will only add character.

Taking inspiration from John Ahern's 1950 book *Miniature Building Construction*, I've used cardboard as much as possible. While not a fashionable material, card is easy to work with and very cheap. Buying a sheet of Daler board will set you back around six

pounds, and there's enough material for dozens of little huts or even a couple of OO warehouses.

If this is too rich, cereal packets are worth a look. The card is surprisingly high quality, although a bit thin, so more bracing will be needed, but most people will have regular, supplies to hand. I've made many models using it.

Of course, once you've made your first few buildings this way, the world is your oyster. Bigger models just need more cardboard. Who said railway modelling was expensive?

I'd advise you print the plan out to the size you intend to build the model. It's much easier to transfer dimensions to parts if you can read them off with a rule.

It's certainly easier than trying to work out how long 4 3/16in is when you grew up in a metric system! ■

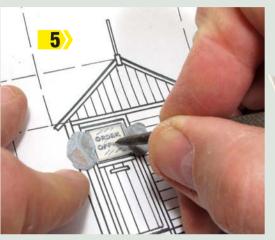


I mark out the shell of the building on 2mm thick Daler board, trying to arrange the sides so I don't have to measure each one individually. The pencil lines indicate the tops of the weatherboard planks and are 4mm apart.

Is it easier to add details to the sides with them flat or as an assembled shell. I've decided that the second option works best, as I can put the corner pieces in first. Note the offcuts fixed inside the corners as bracing.



Planking begins. Each one is 5mm tall and cut from Bristol board. Smearing UHU on the side allows for three or four planks to be fitted at a time. Each overlaps the one below by 1mm.



On the door glazing are the words 'Order Office', so I scratch this into the plastic with a metal scriber using the Skinley plan as my guide.



To give the asbestos some texture, it is painted with Humbrol 121, pale matt stone, and then sprinkled with talcum powder. Once dry, the excess is brushed away and the surface coated with a brown wash for added





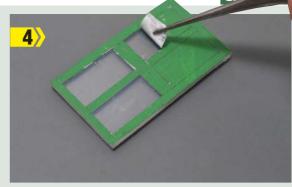
For the vertical planked sections and door, I scribe the planks into the face of some



Since I'm not building a detailed interior, I colour in the sides with a marker pen. When you look through the windows, the darkness will hide this.



Brick supports start life as square balsa wood that is stuck to embossed PlastiKard. As each side dries, I scribe along the edge so the plastic can be bent around the corner. Eventually the wood is covered, making a square brick stick.



Windows are thick plastic. I pre-paint sticky labels and then fix them to the plastic. Next, the middles are cut out with a sharp knife (any cuts in the plastic face are invisible being right next to the bars) and are carefully peeled away. Extra depth can be achieved with layers of label and it's a lot easier than painting and trying to keep the 'glass' clean.



According to the plan, the roof is asbestos. I'm pretty sure that Slaters PlastiKard became available in the late 1950s, and no less a person than Dave Rowe recommends it in his book 'Architectural Modelling in 4mm scale', so I've used the corrugated version. The ridge is formed of a plastic tube covered with squares of kitchen foil fixed with UHU.



After painting, the individual pillars are cut off with a fine saw. To be honest, not all of the sides stayed stuck, I should have used a stronger glue. Sticking them back in place was fiddly, but not difficult and you can't see the joins.

once you've made your first few buildings this way, the world is your oyster. Bigger models just need more cardboard

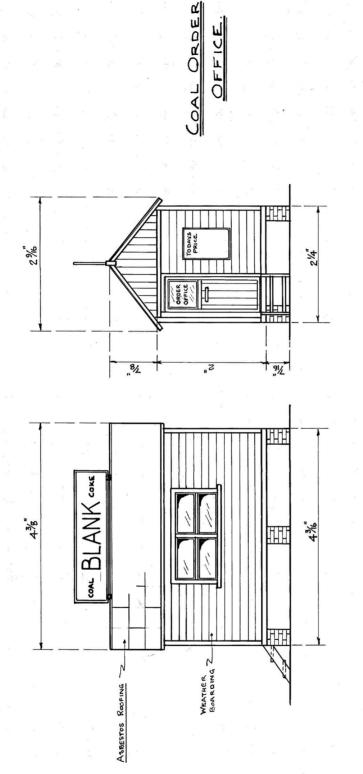
PRACTICAL

Materials used

- Daler Board A 2mm thick cardboard available from art shops in AO size sheets. Picture framers use it too and will often sell offcuts big enough for our
- Bristol Board Smooth, white card sold for illustration and watercolour work in A4 pads. Basically, a very high quality card that cuts cleanly with a sharp knife. Found in art shops and online.
- Stater's Plastikard A proprietary plastic product normally sold in A4 sheets by model shops and traders. Cuts cleanly and can be stuck with liquid glue such as the firm's Mek-Pak.

Tools required

- Sharp knife
 - Steel rule
- Engineers square
 Sharp scriber
 Blunt scribing tool (an old ballpoint pen will work)



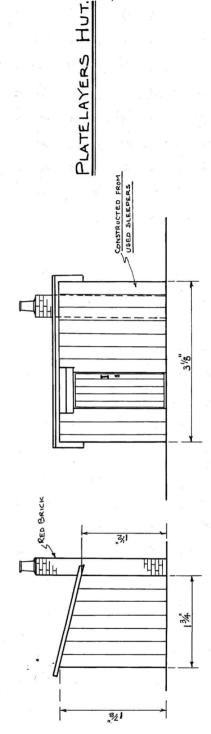
20

NAME WHITE LETTERS WOODWORK GREEN.

BLACK GROUND

PAINTING NOTES+

ROOF GREY



ALL BLACK PAINTING -

This is the plan I've used. The given measurements are correct for 7mm, although it has not been reproduced at that size. Reproduced with permission of the Historical Model Railway Society.

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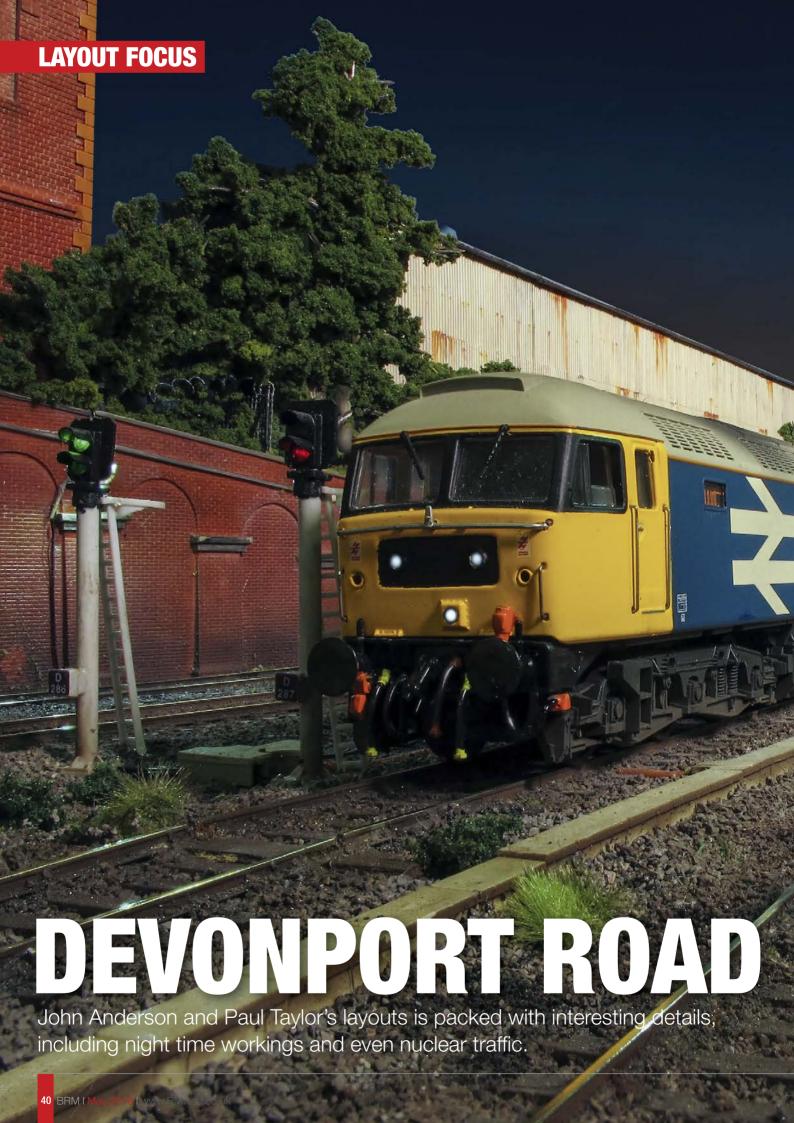
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fter showing my layout 'Aberdaugleddaw' for ten years on the circuit, she was showing her age and I had learnt a lot, notably about baseboards and electrics... I needed to improve!

On the layout, a specialised nuclear flask wagon worked to a submarine refitting facility in The Haven, but in reality this usually worked to Rosyth in Scotland or Devonport in Plymouth. The arrival of a second Navy flask wagon concentrated my thinking - a new layout but based in Plymouth. I had a number of Hornby class 50s and a lot of the stock used on Aberaugleddaw was suitable for the new layout, plus plenty of other things I had thought of building.

But the dockyard connection at Keyham is off the mainline and I did not have the space for this. Therefore, by playing with the geography of Plymouth, if the GWR branch through Cattewater met the SR line from Gunnislake at a point where another junction to the dockyard was established (to avoid the need for dock traffic to reverse on the main line), this point would be 'Devonport Road'.

And so it's 1990, and by now the face of the railway in Plymouth has changed. The GWR platforms 1 and 2 have been converted for parcels use, 'Devonport Road' being better sited in the city than North Road station. Some short sidings were used for the parcels trains, just as was done at Pylle Hill in Bristol, where a series of very short loops existed to assist with marshalling parcels stock.

This left the SR platforms, numbers 3 and 4, still open for passengers and served by the infrequent service to Gunnislake and the Airport. The original station building has closed, but has been rejuvenated as a pub – named 'Platform 5', obviously! On the layout a rock festival is taking place and all sorts of characters are trying to get past the man on the door and his bouncers! The once extensive goods yards have all gone but the remaining lines were taken over by the civil engineers and used for a wide variety of departmental stock.

At this point, Paul gave the layout a withering look and said "Where's the scenery?" Yes, the boards were optimised for as much stock as possible, so we then constructed a series of four scenic boards that are fitted onto the front of the layout when it is at exhibition, but are then removed when the layout is operated at home. But what to put on the boards?

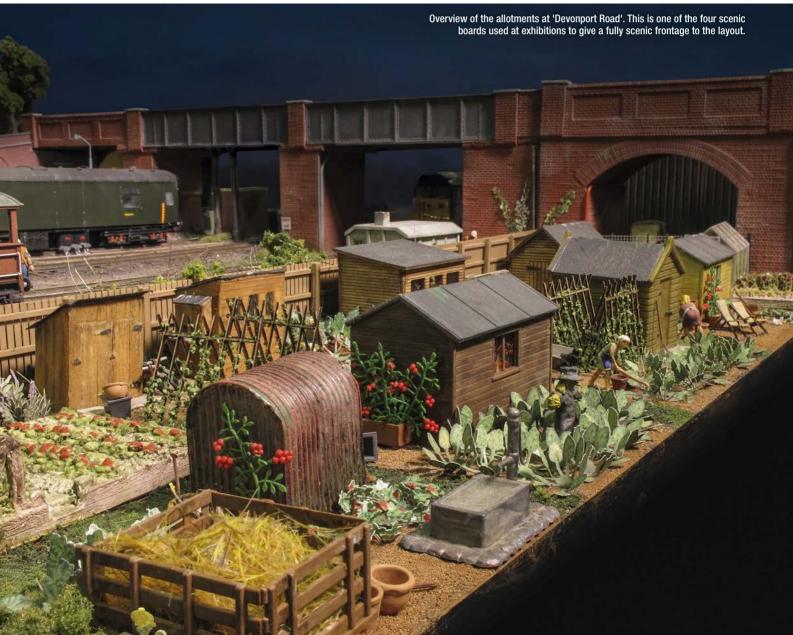


LAYOUT FOCUS

It was decided that they should blend with the rest of the layout, so one would be more of the railway engineers yard, including an abandoned siding, another would be an allotment area built on part of the former yard, and the third, a locomotive works specialising in the repair of industrial shunters, and hence separate from the main rail network, would form the front piece to one of the fiddle yards.

But what to place in front of the other fiddle yard? To assist in his architectural building, Paul is always looking out for kits that might come in useful and I remembered that he had a second-hand Kibri kit for a handball court. On 'Dovington Camp', I had persuaded him to build a cut through freight transfer point, and I'd built a cut through locomotive shed for the locomotive works. These have always generated much comment. So putting the ideas together, I casually suggested he build a leisure centre, and why not have it as a cut through? The rest, as they say, is history!







Devonport Road Trains

I have far too much rolling stock to run on Devonport Road, so things are always turning over. This means that anyone seeing the layout at one show should hopefully see some new formations at another.

Parcels Traffic

I have used Replica and Bachmann BGs and GUVs as the basis to model most of the different types of 'N' coded vehicles running around 1990. As well as the typical vans one used to see. There are a number of oddities, including a high security BG (NBV) and a courier vehicle (NNX). In the pipeline are the unique BG fitted with roller shutter doors and the airline container conversion of the BG (NRX). These are marshalled and remarshalled in the sidings at the front of Devonport Road using one of Laira's class 08s or, as occurred at Bolton, the train loco typically a parcels sector class 47.

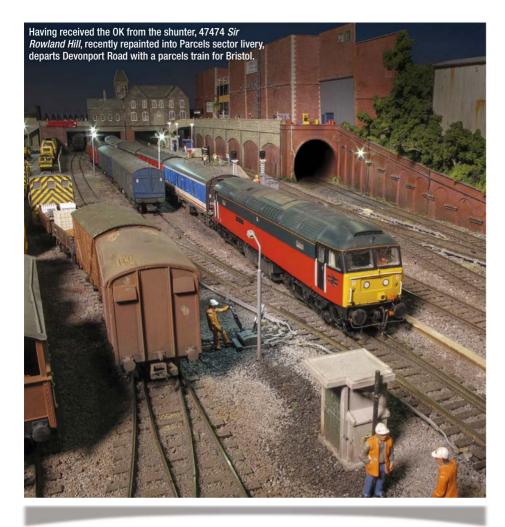
Nuclear Workings

I have always been fascinated by strange stock and workings, and the movement of the MOD's UCTP wagon is one of them. UCTP stands for Used Core Transport Platform and, as its name suggests, it moved









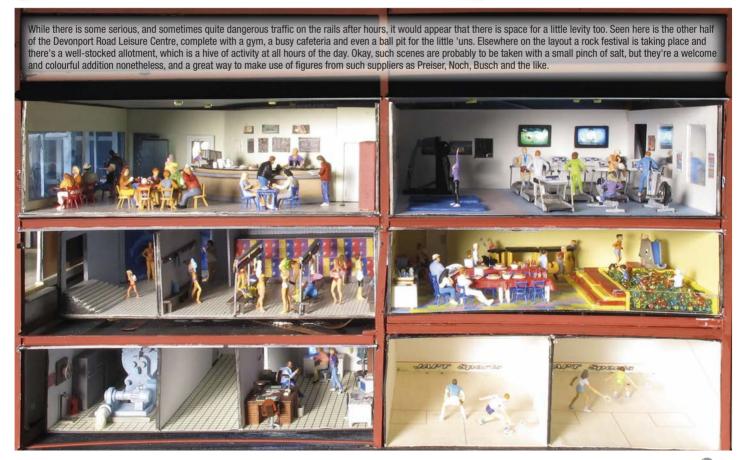
'used' reactor cores from the Navy dockyards, where the nuclear submarines are refitted, to Sellafield for reprocessing.

The wagons and workings were and are cloaked in secrecy, brought home by the fact that the formations include escort coaches. I spotted a 7mm model of the UCTP in a magazine and contacted the maker. Then began a very interesting exchange with Roland Turner, a superb scratch-builder, who also had knowledge of the wagon itself. We exchanged information and Roland offered to build me a UCTP. When it arrived I was amazed at the detail and how well it ran.

Repair & Modification Workings

Both Devonport and Rosyth Dockyards have been involved in the repair, modification and repainting of rolling stock. For example, Devonport was involved with TDM fitting to HST stock and DBSO vehicles, while Rosyth was more involved in the repainting of a number of locomotives, the modifications of class 158s to 159s and the alteration a number of first class Mk2D coaches. Most notable job was the work they did on London Underground stock, which necessitated movement of underground vehicles across the Forth Bridge!

A number of these modification and repair activities are modelled on Devonport Road.



LAYOUT FOCUS

A number of damaged HST power cars are used, including one with a wrecked front end and one with a missing parcels area door. There is also a fleet of HST barrier coaches, created by modifying varying passenger coaching stock, to ensure a locomotive can couple to an HST power car. In reality HST stock has fixed knuckle couplings, which means that a locomotive cannot couple directly to them.

Departmental Workings

The wagons used by the railway engineers are extremely diverse, not only in type but also in age. The same is true on Devonport Road. A number of internal user wagons of GWR and SR origins, showing their Western region internal number commencing with 06, are used alongside more modern ex-revenue air braked opens and vans, all displaying their mystifying fish-kind names.

These are supplemented by dedicated wagons and equipment, including both single and twin jib cranes with their attendant mess wagons; tampers and the diminutive Bachmann Wickham trolley.

Two dedicated CCE shunters are used to shunt these wagons. One is an ex-Class 06, made from a Hornby model with a Branchlines chassis and A1 detailing kit. The other is a 'PWM' shunter, an old Q kits product, numbered as 97652 that spent many years languishing withdrawn at Laira

but reinstated along with the Class 06 to work at Devonport Road.

And The Future...

There are quite a few items of rolling stock that I fancy having a go at, including further parcels vans, and I currently have a large number of half-finished TTA and TEA tankers that will eventually represent various types of tankers. A micro layout based on Ashton Meadows CCE yard in Bristol is coming together. This will fit onto the engineers sidings fiddle yard and, as well as giving more storage room in the dockyard fiddle yard, will also mean that we can trip departmental wagons from one place to another as well as just shunting

However, in our 'armchair modelling' sessions thoughts have turned to a GM invasion of Devonport Road, with Class 66 'Freds, Sheds and Dreds' taking over from Class 37s, 47s and 50s; Network Rail ousting the parcels sector and a combined Riviera Trains/West Coast Railways depot setting up in the engineers yard, under the name Cornish Riviera Trains.

But what about something in a different scale, 009 or O gauge, or even going abroad, Austria or France before Brexit? Well, you will just have to watch this space or keep up with the blogs at www.claphammodelrail.com.

Meet the modellers

Hi. I'm John Anderson, one half of the modelling group known as 'CLAPHAM', the Clevedon and Portishead Armchair Modellers. The other half is Paul Taylor, who is known for 'Dovington Camp' (BRM December 2016). Like many people, I started in railway modelling as a child, but with a Triang TT hand-medown layout, and when it came to my own layout, it was a move into LMS 00 layouts - none ever finished! However, when I looked at the prototype I saw banger blue diesels and so a move to these was next, then a dalliance in N, again with diesels. The usual break then occurred as "other things" took priority, until older and married. I settled down and got back into modelling again.

Although we both enjoy all aspects of railway modelling (some more than others) we actually have complementary major interests. Paul is an excellent maker of buildings, and he has built two of the key structures on Devonport Road - the leisure centre and the station building (based on Devonport Kings Road station in Plymouth); whilst my interest is in the stock.

At this point I must thank my long suffering wife Michelle - did she really know what she as taking on? - and my late mum, who started it all off.





50 007 *Sir Edward Elgar* passes Devonport Road station as 47 573 *London Evening Standard* arrives with a high security BG (NBV). Buildings to the rear of the layout form a natural scenic break.

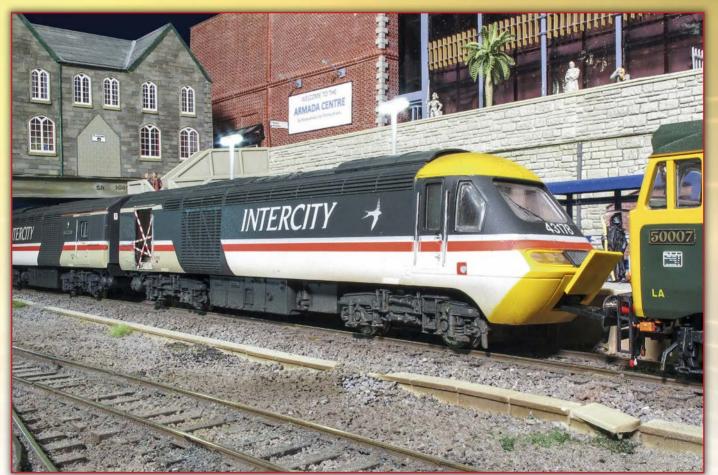


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PRACTICAL BRM



Michael Russell's wintery-looking cakebox project plays a couple of neat tricks with perspective. Here's how he built it.

decided to use perspective in my cakebox 'A View Across the Tracks', to make the space look bigger than it is. The penalty paid is that the diorama must be viewed from one direction only to look correct. I decided to avoid the use of buildings and track viewed end-on, because both impose challenges as far as perspective is concerned. Therefore, the track would have to go across the diorama. Once I had made that decision, the rest of the design was straightforward.

On this occasion I decided to eschew the computer and paint the backscene using traditional techniques. I find that watercolours give the most convincing results and so are employed here. I've used a Scalemodelscenery base, which is simplicity itself to assemble and only requires minimal tools and some wood glue to finish.

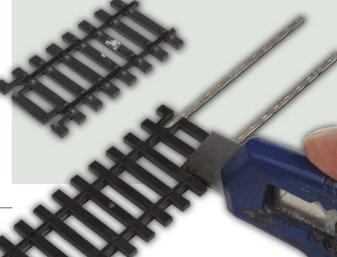
What we used

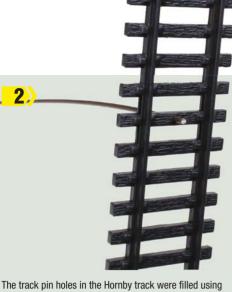
- Scalemodelscenery.co.uk BB007 kit PVA glue A length of Hornby OO and Peco N gauge track Slaters Plastikard 1.4mm rodding
- car primer cereal packet
- cardboard grey emulsion paint
 wood dye Phoenix rusty rails
 enamel paint 4mm and 2mm
 Legacy Ballast car screen wash •
 ready mixed or powder household
- filler grey charcoal stick earth coloured ground scatter jute hanging basket liner watercolour or acrylic paint Woodland Scenics
- Poly Fibre lichen brown Noch Laub • 0.45mm brass rod • synthetic hair • cyanoacrylate glue
- brass blackening fluid 0.3mm diameter florist's wire •solder and flux washing soda Milliput carpet adhesive Expanding foam Winsor & Newton Cotman 300gsm watercolour paper wallpaper paste

Foreground



The track was cut to length using a dedicated Xuron track cutting tool. I used Hornby 00 and Peco Streamline N gauge track because they are of a similar standard. On the Hornby track, I slid the sleepers off and cut out the sections that cater for power feeds, as these aren't as realistic as the others. The remaining sleepers were then slid back into place.





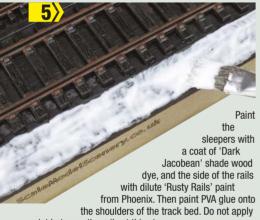
Slaters Plastikard 1.4mm diameter plastic rodding from their 0600 assorted rodding set. The track was then sprayed with grey car primer and left to dry



The track bed is made from eight pieces cut from a cereal packet glued together with PVA. From the front, the pieces are staggered by 1mm to give an angle of about 35% for the ballast's angle of repose. I add readymixed household filler and coat the shoulder and land behind the tracks.



After painting the track bed with a dark emulsion paint, stick the track in place with PVA or a contact adhesive if you want quicker results.



paint between the rails at this stage



Scatter on ballast. I used 4mm from the near shoulder and 2mm Legacy ballast for the far shoulder. Leave to dry. Spoon ballast between the sleepers and spread with your fingers. Use a small brush to remove chippings near the rails. Mist with alcohol and then dilute PVA glue and



I decided that the ballast was a too bright and fresh for my liking, so I dusted it with grey charcoal to tone it down.



Cover the cardboard behind the track with ready mixed household filler. When dry, brush with PVA and add a scatter of your choice. Leave to dry.



Using PVA, stick down pieces of Jute hanging basket liner. When dry, pull off the excess and trim using scissors.



Paint the grass using dilute watercolour or acrylic paint. I used various green and brown shades.



Add more vegetation. I made brambles out of Poly Fibre and scatter and evergreens using lichen and scatter. Portray dead, fallen leaves under the trees using Noch Laub

I decided to avoid the use of buildings and track viewed end-on, because both impose challenges as far as perspective is concerned

PRACTICAL BRM



The fence posts start life as 0.45mm brass rod. Darken these with blackening fluid. Drill 0.55mm holes every 2cm and glue the posts in place use cyanoacrylate. Snip the posts off about 1cm high.



Tie a loose knot in a length of artificial hair, place it over the end post and tighten the knot. Now take the hair across to the last post, winding it once around each intermediate post. Attach to the last post using cyanoacrylate and add a drop to the knot on the first post too. Do this three times spacing the wires out carefully.



Use a rotary tool to gently square off the end of each post, and brush on a drop of blackening fluid using a cotton bud.

Foreground trees



Take some 0.3mm diameter florist's wire and wind it around four fingers about 20 times, which will produce a tree suitable for N gauge applications. For smaller trees, use fewer fingers and less turns. Squash the loops flat, then snip the loops off one end with wire cutters.



Twist the wires into branches reducing to single strands towards the ends. You can work on the tree as though it were 2D at this stage if that is easier for you. Bend the tree into a 3D shape and use some solder to strengthen the joints. Wash off the flux with a washing soda solution.



Mix up some Milliput and use it to cover up the worst of the un-lifelike twists in the wire.



Use a mix of PVA glue, powder filler and acrylic paint to coat the branches. You may need several coats to cover the wire twists.



Spray some carpet adhesive into a container with a lid and brush the ends of the branches with it. If you put the lid on afterwards, the glue should be usable again.



Press artificial hair into the network of branches, end-on. Trim to an inch long immediately and repeat this until all the branches have a coating. Thin the twigs by pulling with your fingers, removing those that don't appear to grow outwards from the tree. Trim long twigs to length and remove twigs that are stuck out at odd angles.



Spray the tree with a matt paint to unify the colour and remove the shine from the hair. This picture shows the dramatic improvement that the hair makes in portraying fine twigs



You may like to make ivy using Woodland Scenics Poly Fibre and scatter. It looks great and is useful for covering up any mistakes.

Middle Distance Trees



Take a two inch long pinch of artificial hair and dip the middle into a blob of cyanoacrylate, then place to one side to dry. This will make two trees. Repeat this for the number of trees you need.



When dry snip the piece in two to give what look like two small paintbrushes without the ferrules. Spread the bristles out to give a fan shape.



Mount the trees along the edge of a piece of cardboard using double sided tape. Use an airbrush to spray them an overall brownish/grey colour. Ensure that the shade is lighter than that used for the foreground trees.

Middle Ground



The ground for the middle distance is made from an offcut of Eurothane foam. Cover it in filler and add a scatter as done for the foreground.

27)

Brush on PVA glue and sprinkle with brown Noch Laub. Drill holes and glue the middle distance trees in position.

Background

The background is made using Winsor & Newton Cotman 300gsm watercolour paper. To create a misty impression of distant trees you need to use a 'wet in wet' technique. First dampen the paper evenly using a sponge soaked in water.





You will probably need several attempts to get something you're happy with. Do a selection of scenes so you have some choice as to which you finally use. If you are painting shapes that need to be clearly defined, such as distant hills, then paint onto dry paper.



Mix up some wallpaper paste. Use a stiff brush to evenly coat the fibreboard of the baseboard. Lay on the backscene and adjust the position - it should be fairly easy to slide. Weigh down with heavy objects, such as a pile of books, and leave to dry overnight. Once dry trim off any excess.



Now add the lighter tones first to represent the far distance. Make the paint stronger and paint the next layer to portray scenery, which is closer to the viewer. Three layers look best. I used a mix of Burnt Sienna and French Ultramarine, but Payne's Grey should work well too. Restrict your palette to two or three colours at most.



Aerial perspective

Unlike linear perspective, which uses a aerial perspective is portrayed using colour. As objects recede into the distance they become lighter in tone and bluer in shade. The contrast between objects also diminishes with distance. It is a good technique to use anywhere on a model railway that is only ever viewed from one side and particularly where the baseboard depth is limited.



On-track plant enthusiast Martin Orme, highlights reasons for 'going custom' in N gauge, illustrated by a selection of his vibrantly-painted creations.

ack in my spotting days in the late '70s and early '80s I'd see the signal 'go off' and eager anticipation of the approach of a locomotive would change to a feeling of derision when something yellow appeared. How times have changed, with the fascinating array of plant and equipment that can now be seen lurking in many a siding adjacent to stations.

My interest in On Track Plant (OTP) started with a wish to create something different, sometimes as a present for my father, other times just to see if I could!

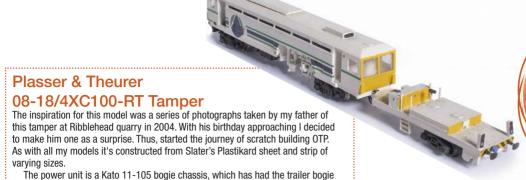
My efforts won't stand close inspection by the 'rivet counting' fraternity. The main difficulties when creating OTP is the limited information and how to create the complex electrical & hydraulic features. These models are intended to be representations of the prototype and many compromises are required, sometimes to accommodate a chassis length, other times assumptions are made because of insufficient information or photographic evidence. It's only in recent years that so much data has become available on the internet and it was the availability of photographs that instilled me to produce my first model.

With a little time and effort you too can have a go at something different. It's amazing what you can create from Plastikard. One or two of these vehicles are now available as 3D

kits, but are more expensive for what remains an unfinished model. These home-made models cost a fraction of the price.

Martiu's 7

To ensure bodies are square I produce strips of material and cut these into smaller pieces guided by a small engineer's square. It's easier to produce one long strip at 15mm in width than make multiple smaller pieces at 15mm wide - you'll always get variation no matter how careful vou are.



removed and repositioned at the correct extended spacing. Electrical pick-up is maintained via the use of a small piece of PCB split down the middle connected

to the motor contacts by wires. The trailer is a representation and has a Plastikard

chassis running on a continental wagon bogie. Fuse wire was used for the piping with additional wire for the coupling and handrails. The livery was created using a

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Plasser & Theurer Tasc-45 Multi-Purpose Vehicle (MPV)

base white overcoat with coloured lining and chevrons from Fox Transfers.

Instigated by the purchase of a couple of small Kato 11-103 4-wheel chassis and searching the internet, I came across photographs of a Plasser & Theurer MPV that looked to have a similar wheelbase. I produced an N scale drawing from the photographs, with length dimensions adjusted to accommodate the chassis and height dimensions assessed against locomotives manufactured by N Gauge manufacturers.

The body sides were fabricated from Plastikard and matched as pairs. All transverse pieces come from the same strip, so the same width is carried across the length of the body. The hydraulic arm was constructed from square strip with additional 'piston' fittings added from plastic rod. The motor is hidden under a ballast load. To imitate working lights, I fit clear jewels supplied by Langley Models. These are fixed with varnish, not superglue, to avoid frosting.

Geismar GP-Tramm VMT 860 PL/UM Track Motor Car & Trailer

Plasser & Theurer

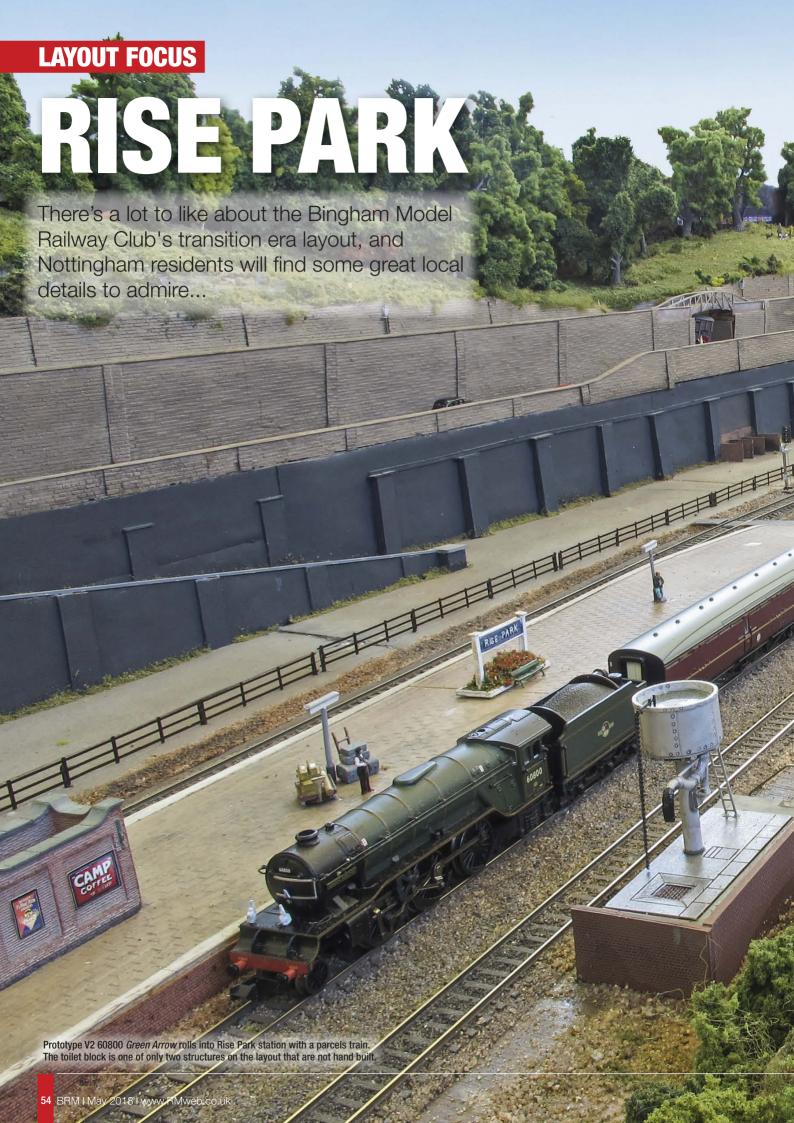
and Cowans Sheldon 12T Hydraulic Cranes

The inspiration for this pair of cranes came from the purchase of a copy of On-Track Plant by NPT Publishing which allows you to identify what you've seen. You can then start searching the internet.

A short wheelbase continental bogie chassis formed the starting point for the models. The sides were slimmed down to the tighter British loading gauge, with the bodies created from basic Plastikard boxes. Details were made from varying sizes of sheet and strip, built and shaped as required. Glazing was undertaken with individual pieces of acetate fixed with PVA glue after painting. The biggest difficulty was trying to find photographic evidence of details, so many assumptions had to be made. I particularly like the paint scheme on the orange and blue GrantRail vehicle. The chevrons are from Fox transfers, but as with most of my models, numbers and operator transfers aren't available. Perhaps one day I'll try printing my own?

On the way home from Southampton Model Railway Show at Eastleigh, I spotted one of these units in the old works yard. I took a note of the number (DR98305) and undertook further research when I returned home. It seemed an obvious use for the Kato 11-104 chassis that I had purchased for potential new projects.

The cabs were constructed and painted separately to allow for glazing. It was particularly difficult to produce the compound angle shape. I produced two pairs, the first for my father's 80th birthday the second for myself. I'm pleased with my final effort and I think it's my best result so far. I am particularly pleased with the load comprising bags of ballast and a tarpaulin to hide the motor in the power car. The trailer uses a Peco 15ft wagon chassis with the solebars extended to match the motorised chassis. So, now you know - there's nothing stopping you from having a go at making your own OTP vehicles.







bout four years ago our group decided that the layout 'Farndon Road' we were building was just too big and heavy for us to manage. It had outgrown one clubroom and could not be erected fully at the new one. Reluctantly the decision was taken to sell it and start again. As the main interest within the group was Eastern and London Midland Regions, and definitely late steam era, we set out to find a stretch of line local to us that would fit into a twelve-foot long N-gauge layout. It didn't take much discussion to locate the layout somewhere in the Nottingham area.

Looking around the Nottingham area it was soon realised that to fit an actual station into a twelve-foot layout was going to result

either in a layout where the railway was out of sight of the audience for too long or one where there was a lot of space with too little happening. Accordingly we took the decision to take features from the Nottingham area and combine these to give convincing impression of a main line in the outskirts of North Nottingham.

Rise Park does not, and never did have, a station. Indeed, to reach Rise Park would have needed gradients on the Great Central Railway similar to those of the Lickey Incline. Similarly the buildings on the layout never existed side by side, though almost all of them do or did exist in Nottingham shire, and the majority within the City of Nottingham.

Baseboards are comparatively conventional, built of plywood by Trevor. The three main boards are four feet long and two foot six wide. The centre board had fold-down legs at each end, secured by detachable cross-braces at the front. The two end boards piggy-back from this, with folding legs at the outer ends only. Top Valley Market is a separate board that sits over the right-hand end main board overhanging at the front by nine inches. Three scenic boards, each nine inches wide, are attached to the front of the main boards to present the railway in a natural bowl.

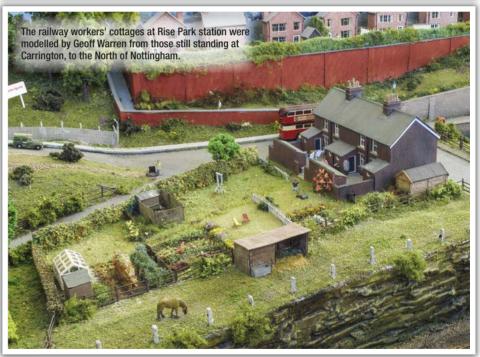
Track is Peco, Code 55 out front and Code 80 backstage, with the hidden bends at each end made using Peco Setrack Radius 2 or 3. In the fiddle yard exit points are



non-moving, with blades cut short and soldered into place. These were made by Simon using a method borrowed from Richard Deas. Points at the entrance to the fiddle yard are hand-thrown, as they are immediately in front of the operator for that line. There are five roads in each direction, each capable of holding two trains. The five roads on the Up side are underneath the scenery, the panels being built over the Down sidings.

Electrics are conventional, with analogue control using Modelex hand-held units. There are two panels, one for each line, with each section separately switched on both rails. In hindsight it would probably have been simpler to use common return. Wiring





Meet the modellers...

The group grew out of a long friendship between Gwyn Humphries and Trevor Webster. In the late nineties they formed the Newark Area Group of the N-Gauge Society. Meeting weekly in Farndon with a fluctuating membership eventually the premises proved unsuitable and the group folded into Bingham Model Railway Club, with six members now forming the core of the N-gauge Section. Apart from Simon, all members are retired. We currently meet on Tuesday mornings every week and sometimes on Thursday evenings. Current members are Alf Hodkin, Bob Lockey, Les and Simon Richardson, Jim Ross and Geoff Warren.

LAYOUT FOCUS

was mostly carried out by Alf, Jim and Les. The three points at the front are the only motorized points on the layout, and throw together to select the down main or loop lines. The semaphore signal at the loop exit is by Dapol, controlled by a push button on the backscene, while the colour light signal on the up line is automatic. This was supplied and installed by Online Models.

A tour of the line.

Up trains enter the scene from the North through Rise Park Tunnel and pass through a vertical-sided cutting to reach Rise Park Station. Above the tunnel the old farm buildings are derelict and are being used by the contractors building the new Rise Park Estate. Also up here are the railway workers' cottages and the stationmaster's house, all made by Geoff. The building site and area is by Alf, who modelled the showhome on his own house in Rise Park. A Barton bus stands at the bus stop awaiting passengers. This will in time be swapped for a Midland General vehicle, as more appropriate to this part of Nottingham.

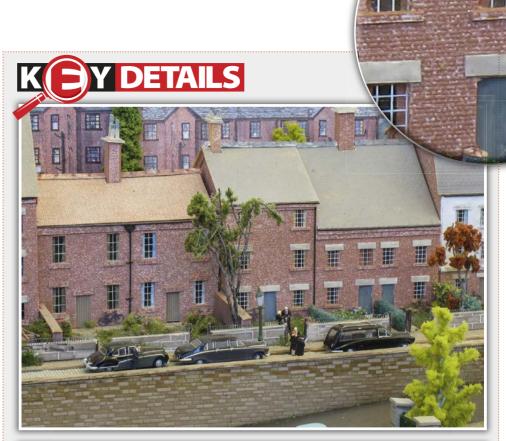
Rise Park Station is a typical Great Central island platform, based on Rothley. Despite Graham Farish making a complete set of ready-to-plant GCR station buildings the only Scenecraft offering is the toilet block, which was originally going to be sited over the baseboard join. To the East the sidings serving Hodkins works have been taken up, though the wagon turntable is still in situ. A dealer selling vintage taxicabs has set up in the arches. Above this there is still some woodland separating the new development from the edge of Nottingham itself. To the West modern industrial units have appeared where the goods yard was.

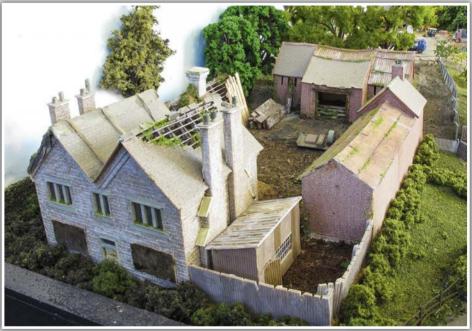
The train now continues past the typical GCR signalbox and enters Top Valley tunnel. The three-storey houses above the tunnel were in Stanley Street in Newark, behind Northgate Station whilst the brewery and maltings are from Nottingham itself. In Top Valley Market Place the Art Deco Metropole Cinema faces the old Market Cross.

Trains and operation

Trains are chosen as far as possible to reflect those running on the Great Central Main Line between Nottingham and Annesley yard, and if the layout is at an exhibition these are the ones that will be presented. In the clubroom anything goes! At a show the period is set to 1960 or thereabouts.

Trevor has passed on the two ironstone





The buildings

Buildings have been scratch-built by Trevor, Geoff and Alf using similar methods, and all have been chosen as local prototypes. Research has involved old photographs, looking through reference books on old Nottingham, and field trips to measure buildings still standing.

If made from photographs hours were spent counting bricks, with calipers set to average door sizes of 6'6" by 3' for normal doors and 7'6" by 3' for large front doors. These measurements were transferred onto paper and drawings made. Each was then checked against Trevor's collection of old Ordnance Survey maps to ensure the building footprint was correct.

The buildings were constructed from Slaters Plastikard. All dimensions were drawn onto 20 Thou white sheet to give an inside framework complete with apertures for doors and windows. This was then cut out. If any squaring up was needed it was done at this stage. The white frame was covered with the appropriate textured exterior sheeting, with apertures cut using the white layer as a guide. Windows are a mixture of brass etches, Freestones Scene Setter sheets and clear acetate with glazing bars added using Evergreen strip. Adhesives used were the most appropriate for the job.

As Eric Morecambe might have said, we have all the right buildings, but not necessarily in the right places.



LAYOUT FOCUS

trains from his layout 'Parnhams' (BRM October 2010), together with some of the stock from his later 'Stamford East'. Other rolling stock is borrowed from 'Hawthorn Dene' (BRM Spring 2016) or supplied by Geoff.

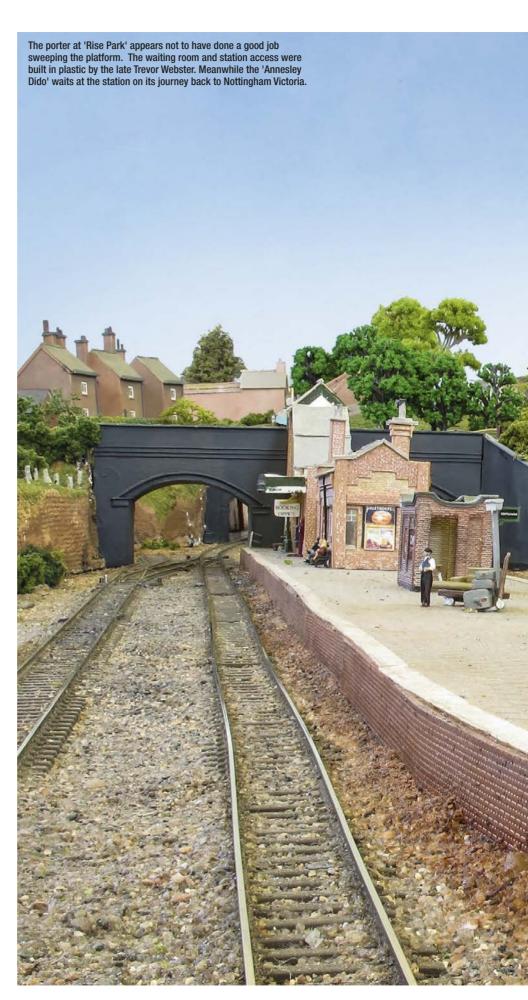
The Annesley to Woodford 'runners' are represented by trains hauled by WDs, 9Fs, a K3 and a Robinson 2-8-0, while a fast Grimsby fish train is hauled North to Annesley by a Hall Class. Geoff has provided a set of mainly Southern Region stock making its way North behind a class 5 loco. Slower freight sees J11s or 4Fs and stopping passenger trains can be either DMUs or rakes of non-corridoor coaches hauled by a 4-6-0, 4-4-0 or mixed traffic tank locomotive. The Annesley Dido is represented though the correct coaches for it have yet to be sourced. With nine or ten trains in the sequence for each line and the ability to loop a Down train, there should be a reasonable time between repetitions. At shows we try to have a member of the group (often Jim) to describe the layout and answer questions that may arise.

Trevor Webster

Founder member of the group Trevor lost a two year battle with cancer in February 2017. Trevor was a cabinet maker by trade, and a fine model builder. His layout 'Parnhams' was featured in the October 2010 issue of BRM. He was also instrumental in finding Bingham MRC a new clubroom a couple of years ago. In commemoration, the 'Best Layout' trophy at the South Notts Model Railway Show is now the Trevor Webster Trophy.

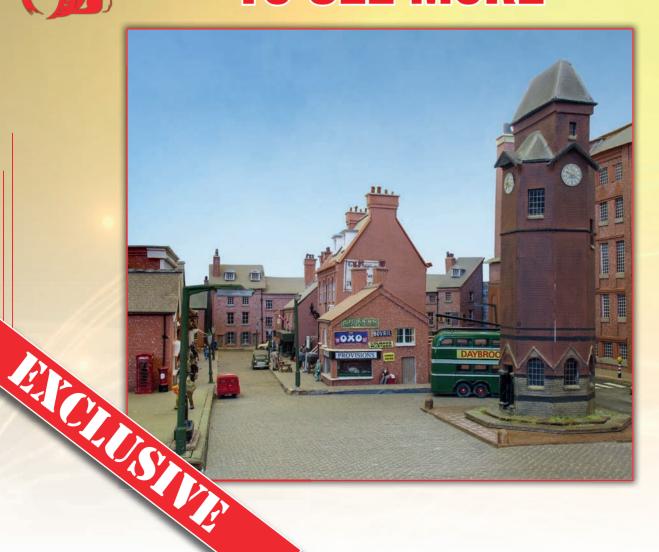
In Conclusion

There are still things to do to finish the layout, mainly detail work on the scenery. Despite this we were delighted to be awarded 'Best Layout' at our debut show at Sileby in March 2016. At our second outing at Cotgrave in April 2016 a video of the show was posted onto YouTube. Watching this gave us a list of details that needed improving, and these have been tackled in order. The group is moving on to a new project, this time in 00 gauge. It's a layout designed for children to operate at shows and is built as a tribute to our friend, the late Revd. Chris Burch. Chris was well known for his N-gauge layouts which he invited children to operate under the supervision of their parents. We thought it would be appropriate to continue this tradition, but using stock our increasingly elderly hands can re-rail more easily! ■

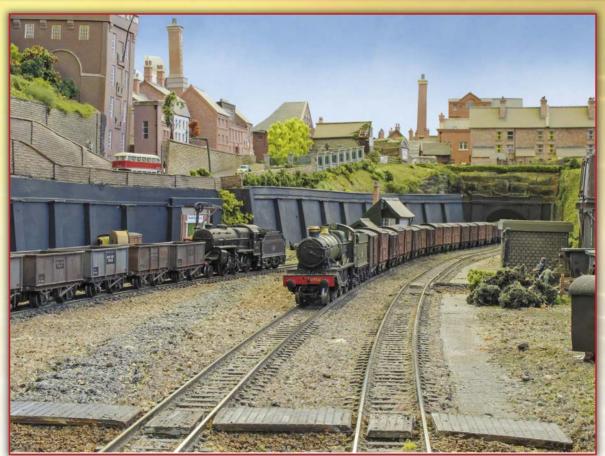


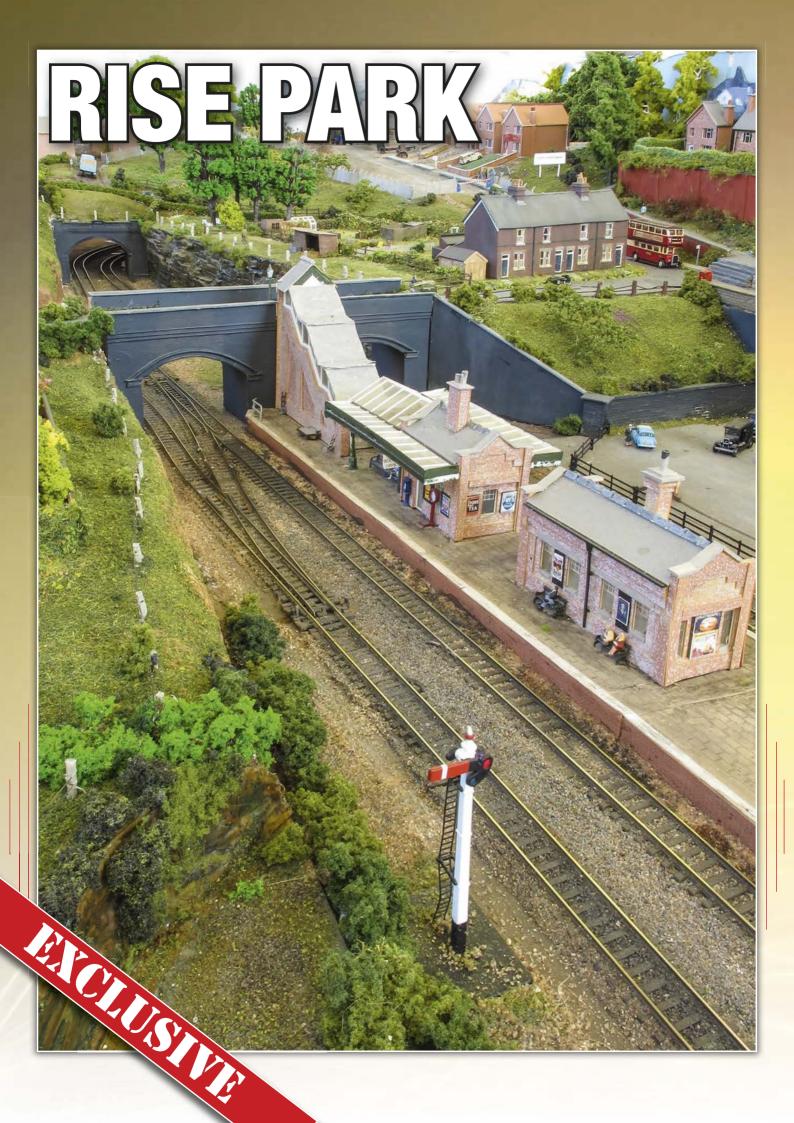


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BRITISH RAILWAY MODELLING SIDE AND A SIDE A

There's a lot to like about the Bingham Model Railway Club's transition era layout, and Nottingham residents will find some great local details to admire...

WATCH THE VIDEO HERE

(You must have a wifi connection to stream video content)



BRM meets...

METCALFE MODELS

Card kits are the architectural backbone of thousands of home layouts. We caught up with Nick Metcalfe, owner of Metcalfe Models.



BRM: It's an obvious question to ask, but how did Metcalfe Models begin? Nick: It was in a gift shop in Dublin where I saw a card kit of an Irish cottage, printed on a single sheet of card for about £5. Being in a printing business, I thought "crikey, the mark up on that is huge, I could do it for much less." I once had aspirations of becoming an architect and I've had a lifelong fascination with architecture in general, so it seemed a good idea. I set to work designing card kits in my spare time and my boss let me hire his printing presses to print them at weekends. My wife Judy, who'd recently given up her job to become a full-time mum to our youngest daughter

Sophie, took on the task of handling the packaging and mail order sales. We started with kits for children but were soon drawn to model railways when the Settle and Carlisle Railway Trust asked us to produce scale model kits of its railway buildings to sell in the Trust shops. We sold these designs in model magazines and soon attracted the attention of Peco, who offered to distribute our kits. This arrangement continued for the next 26 years, but with markets changing and reorganisations within our company, we brought our sales and marketing back in-house last year. We can understand our customers' needs and react to trends faster and more easily.

BRM: What do you think makes your kits so popular?

Nick: Entertainment value! These are construction kits that give lots of pleasure whilst building, and much pride and achievement in the finished result. Price is a good factor because card kits give you better value for money.

BRM: How is a Metcalfe kit made? Has manufacturing changed over the years? Nick: Our kits are printed in four colours on a lithography press, then die-cut on a heavy duty Heidelberg press. The process is much the same as always, but with the addition of laser cutters, we're able to enhance



Watch a handy Finishing & Painting tutorial from Metcalfe Models. Click the play button below



the models with finely cut components, unobtainable using die cutting. The big changes came with the design side. Our first designs were put together on the drawing board by hand, but with the advancement in the 1990s of computer software, it soon became digitised.

BRM: Are kits developed from things you see and like?

Nick: Quite often our kits are close replicas of the real thing, like our PO238/9 GWR station, but most are scaled down a little, otherwise they'd look too big on most layouts. Our PO226 Parish Church kit is half the size it would be if it were reproduced to scale dimensions. Some designs are pure fantasy, like our Village Shop and Café. When it was drawn, we wanted something that would look intricate and quaint, conjuring images of quaint places in modeller's minds. Other kits, like our Mainline Station series (see adjacent) are sections of real buildings which can be used together to create a scene.

BRM: Which kit from your range would you recommend to the ultimate beginner? Nick: Most of our kits are easy to build and all come with step-by-step illustrated instructions. I think the easiest are our PO255 Cottages kit, or maybe the low relief kits like PO274 Terraced Houses.

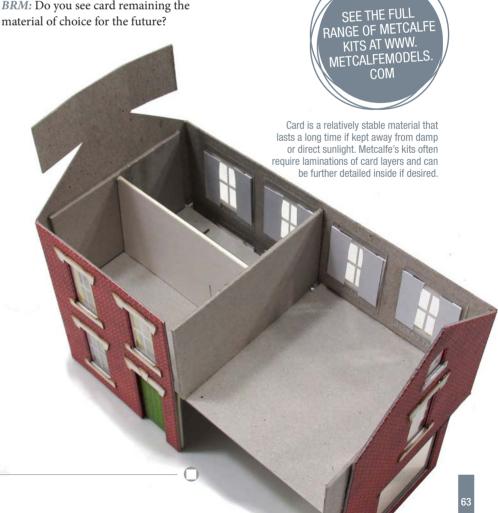
BRM: Is the railway market your largest? Nick: When we started, children's things like puppet theatres and a farm yard set were appealing, but model railways soon took over. That said, we've many customers who buy our kits simply for the pleasure of building them. Buildings that are readymade and painted from the box may suit some, but construction is all part of the hobby and we try to promote this.

BRM: Tell us about your recently developed new website...

Nick: We wanted it to be visual, lots of big photographs and rotating images. We still have a little bit to complete, but ease of use and pleasing to look at is what we always strive for. It's easy to browse and you'll find our entire range, all of which is available to purchase online.

BRM: Do you see card remaining the

Nick: I think in today's age of environmentalism, card is a good choice. It's not without its drawbacks; card corners are visible if not disguised, but overall it's versatile, easy to customise and 'kit bash' and much cheaper to use than other materials, all of which make it a more affordable product.



SIGNAL BOX DERELICTION

Don't
miss our interview
with Nick Metcalfe
of Metcalfe Models
on page 62.

Adapting card kits can be very enjoyable as Paul Kirkup validates with this Metcalfe LNWR signal box. Here's how he transformed it to wrack and ruin...

By mpty and disused signal boxes, goods sheds and station buildings became a common sight from 1963 onwards, as branch and secondary route train services became DMU operated, and staff were withdrawn from stations. Often this was a prelude to complete closure of many branch lines. With often just a basic passenger train service in operation, goods yard sidings were ripped up and single line operation instituted on former double track routes.

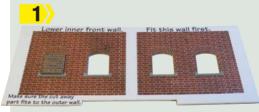
Even in rural areas it didn't seem to take long before redundant buildings became vandalised, starting with windows being broken and doors smashed in. Boarding them up was often only partially successful in thwarting the vandals' attentions. Lack of any maintenance resulted in damaged roofs and missing rainwater goods, then water would accelerate the cycle of decay.

Many layouts feature a signal box, but not many show them in a derelict condition. Here, I've taken Metcalfe's popular LNWR signal box kit and built it to represent one of these unloved, but still standing, victims of modernisation and Dr. Beeching.

What we used

- Metcalfe 00 LNWR signal box and signal box interior mini-kit
- Scalescene 00 brown brick download
- Scalescenes 00 roofing slate download
- Humbrol 53 Gunmetal metallic paint
- Ronseal wood dye 'Peruvian Mahogany'
- Railwayscenics flaking paint wood print download
- Jewellers aluminium wire 0.3mm and 1.5mm
- Ratio 538 guttering and rainwater pipe fittings
- Wilko emulsion tester pots 'Java Bean' and 'Nutmeg Spice'
- Woodland Scenics Fine Turf Earth scatter material
- Javis Black Ash scatter material
- Javis Light green and mid green scatter material







Many signal boxes had their locking room windows bricked up over time. I've stuck Scalescenes brown brick to the window cut-outs and refitted them back into the front wall.



I cut the locking room door so I could model it in the open position, and I cut a piece out of the card kit base so the door would stand open.



Before I fitted the windows, I hacked them about with a craft knife to look as though the locals had been using them for target practice!



Using the Metcalfe first floor as a template, I cut a new floor from 2mm balsa. In order for the grain of the timber to run correctly for the projecting gallery planking, I had to cut several pieces which I glued together with PVA.



I marked out the planking using a ball point pen, which will show through the next stage.



The main windows were then broken. This time I went a bit further and took out some of the timber glazing bars as well. This is hard work as the glazing material is quite tough. I found that a heavy duty craft knife worked best, but watch your fingers.



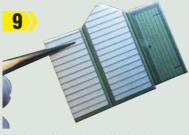
I assembled the upper part of the box, before realising I should have lined the inside walls. I downloaded flaky, white painted timber boarding from Railwayscenics.com and printed it onto an A4 size self-adhesive label, before cutting sections out and sticking them to the inside walls. I realised afterwards that the internal planking should have run horizontally, not vertically.



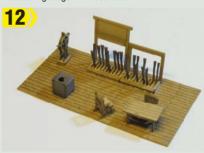
I did the same to the cabin floor and furniture and when all was dry I dabbed thin PVA onto the walls and sprinkled some light green scatter material. I did the same on the floor, but this time used a mix of Javis black ash scatter and Woodland Scenics Fine Turf Earth concentrating the debris build up in the corners and around the fittings. Adding some tiny offcuts of card, string, tiny scraps of paper and glitter, to represent broken glass, completed this stage.



I stained the floor with two coats of 'Peruvian Mahogany' wood dye, and distressed the planking with a scalpel, my fingernail and sandpaper. I then weathered the timber using watery washes of white, black and brown acrylic paint, before dry-brushing with Humbrol 53 'Gunmetal' metallic, to represent the silvery look of old wood.



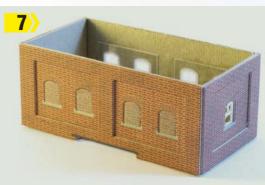
Before I stuck the main windows in the upper walls, using a very sharp scalpel I lightly scribed along all the timber planking lines, just enough to cut through the printed surface of the card. This was to help the weathering stage I will use later.



I assembled the fittings mini-kit, and made a floor from card and marked it with planking using a pencil. I used a piece of cereal box card, which happened to be brown on the non-printed side. This was cut to be a snug fit in the base of the upper storey, to keep it square. I painted the various fittings with a wash of dirty grey/brown acrylic paint, before adding some rust weathering powder to the frame, stove and gate wheel.



Now for the roof. Firstly I added a structural ridge cut from a wooden coffee stirrer, before marking out rafters on the roof which comes with the kit. I cut out the waste material to leave me with five 'rafters' on each roof slope, 2mm wide spaced 8mm apart.



The base of the box was assembled following the Metcalfe instructions.







I cut off the roof flap as I didn't need this and it would be in the way of the detail I was going to add later. I also cut the cabin door so it could be modelled in the open position too.



Then I stuck the various fittings to the floor, deliberately breaking the chairs and table leg in the process, to represent vandalism. I wanted the cabin interior to look as though the roof had been leaking. To achieve this I brushed the walls with white spirit then, while it was still wet and starting at the top, I brushed on small amounts of 'Peruvian Mahogany' wood dye. This ran down the wet walls creating streaking. Adding more dye in places suggested a concentration of water at that point. Don't worry if it looks a bit dark when wet, as it dries lighter.



This time I remembered to apply the internal planking before I fitted the roof. I'd already cut along the planking lines, so that part of the ceiling that falls away could be modelled.

PRACTICAL BRM



I stuck the roof onto the upper floor and painted it with a mix of emulsion. I used tester pots from 'Wilko', Java Bean, Nutmeg Spice and black acrylic dabbed on to achieve an old, dirty appearance.



The bottoms of all three doors were scratched with a sharp scalpel to remove the printed surface of the card. A brush loaded with clean white spirit was held on the bottom of each, which wicked up into the card. This was then repeated with the dark wood dye to simulate rotten water-damaged timber.



The plastic staircase was tackled next. I scraped the top of each stair tread and lightly gouged them with a pointed scalpel blade to represent wear and timber grain, then I cut away bits of one or two steps and broke one completely. I also cut away one of the handrails before assembly and painted them with my black/brown emulsion mix. Dry brushing with Gunmetal brought out



In order to model the 'open' part of the roof, I added slating laths cut from 25 thou' plastic microstrip spaced at 4mm centres (3mm would have been better) stuck with UHU, and added a card overlay to the rest of the roof to bring it up to the same height. I used cereal box card for this. I also used the Metcalfe barge board spacers, but made some larger barge boards from 1/8th inch balsa and ran the laths onto them. The slating laths and roof overlay are then painted with a brown/black emulsion mixture.



On the real thing, the window cleaning gallery was supported on cast iron brackets. I made these from standard office staples, bent and cut to shape before supergluing them to the wall and underside of the gallery.



The final item to make was a stovepipe. I used a plastic lollipop stick, cut and filed to fit before gluing it together, but 2mm tubular plastic section would be just as good.



The slates (downloaded from Scalescenes) were stuck to the roof and laths using neat PVA. Some areas were left without slates and some tiny offcuts were stuck in place to add to the air of dereliction.



Final detailing then took place, using Ratio guttering and 1.5mm diameter Jewellers aluminium wire as rainwater pipes, with collars made by wrapping 0.3mm Jewellers wire twice around the pipe. Handrails across the windows were made from 0.3mm Jewellers wire glued into small holes drilled in the card.



Finally, I gave the whole building a light blasting with a watery spray of dark brown and black acrylic. Then, with the spray on a finer setting, I added further weathering below windows, where more run-off occurs, and at the base of the wall, where splash-up occurs. I tried to get a rain shadow on wall surfaces where an overhang protects the wall from the worst of the rain.



Conclusion

Here's the finished signal box. I've just added a little bit of moss and other debris on the window gallery and staircase, and a few tiny, irregular cuttings from the glazing sheet to represent broken bits of glass lying around. Once the building has been fixed in place on the layout, more broken slates can be scattered on the ground below the areas of roof damage, with further debris such as bits of timber, broken furniture and other items like the signal box nameboard perhaps.



MAKING THE MOST OF 3D PRINTS

In his second 3D printing article, Steven Da Costa describes how simple techniques can improve the quality of finish on your projects.

'n my previous article (Spring 2018) I discussed some of the materials available from Shapeways and, based on my experience, some of their strengths and weaknesses. Whichever material you decide to have a model printed in, it will always benefit from some smoothing to remove remaining evidence of printing.

I wouldn't recommend chemicals such as acetone as, other than the potential health risks, it would be very easy to end up with a blob of plastic that used to be your model. Flooding the model with multiple coats of paint or primer might fill the layers quite quickly, but will soften details.

I mainly rely on abrasives to remove the stepping evident on a 3D print. I primarily use medium and fine grade flexible sanding sticks of 3-5mm in width sourced from suppliers like Flory Models and Albion Alloys, which on plastic last a long time.

Here are some of the processes that I typically follow to clean up 3D prints. While I have exclusively used Frosted Ultra/



The first thing to do with your print is to thoroughly clean it. Use soapy water, white spirit or IPA and carefully scrub the model with an old toothbrush and allow to dry. Don't forget to rinse with clean water.

Extreme Detail from Shapeways for the prints in this article, the basic principles are applicable to most printed items. ■



The heavier deposits of wax not removed by Shapeways are seen as a slight yellow discolouration. Use white spirit and a cocktail stick to remove this, and carefully pick at and break up any deposits. Rinse with water and allow to dry

PRACTICAL BRM



If you've used white spirit or IPA on a Frosted Ultra/ Extreme Detail print, you will find that it has turned from being translucent to a matt white. As long as you have not exposed the print to the white spirit for more than a few minutes this is nothing to worry about, and it will not affect the following stages.



I use progressively finer sanding sticks, finishing with a polishing grade grit to remove scratches. Once you're happy with the finish, wash the model in water, allow to dry and apply a new coat of primer.



Working around raised details such as the maker's plate on the bunker requires care. I find that shaping the sanding stick using scissors or a track cutter is helpful for getting around these areas.



I carefully run a screwdriver along the edge of the valances to gently remove any loose material or 'fuzziness' from this area.



Next I spray the model with a light coat of paint. You'll want to keep the paint as thin as possible. However, a spray primer can be used, just as long as it's not a filler primer. Allow to dry for a couple of hours, or preferably overnight, before attempting any sanding work.



Here's the V3 locomotive body, now in primer. This shows the layering inherent to the 3D printing process.



I find it preferable to use a shaped chisel blade to finish off edges. Let the weight of the blade do the work and don't be tempted to put pressure on it. You could do the whole model like this, but extreme care must be taken in keeping the blade parallel to the work to avoid gouging



Here's a similar body that has been washed and recoated with primer. There are still a few imperfections that will be polished out using fine grade sticks/papers.



Take a fine or medium grit sanding stick and start working it over the model. I use a drop or two of water to help stop the standing stick clogging. Work the stick over the whole surface. For a piece such as this wagon roof, I hold the stick at an angle to prevent the possibility of damaging the edges.



Coating the model with primer is helpful, as it allows you to gauge how far through the stepping you have sanded. This makes it easier to get everything smooth within a couple of sanding stages - thus reducing the likelihood of damaging detail. Virtually all of this primer will be rubbed off.



The other side of the boiler is a little more difficult to get into. I use a small chisel to remove the worst of the layering in this area.

Top tip

- Try and use the best quality 3D printing materials you can afford. Frosted Ultra/ Extreme detail are best from Shapeways.
- Spend a bit of time looking over the model, studying detail to be preserved.
- Ensure that a 3D print is cleaned thoroughly before applying paint.
- Don't flood the 3D print with paint.
- Work slowly and methodically around the model.



This fish van print is already fairly smooth. However, a wax support has been required which has affected the surface finish. To successfully remove this it is necessary to sand the entire surface to get a consistent finish.



The chisel blade is also useful for a model with lots of panelling, by working carefully between the beading of each panel. For the lower beading on this GNR full brake, I will use a small jeweller's screwdriver held vertically to remove any unwanted material. The chisel technique is also useful for heavily riveted areas, but take extra care not to chip the rivets. Archers rivet transfers are a very useful substitute in this eventuality.



For small areas, such as the 'W' irons around axle boxes, I used a shaped cocktail stick to gentle scrape the surface of any imperfections. Using the techniques described above showing it is possible to find a way into all but the very tiniest of areas.



A collection of models in various stages of painting/ completion. For items such as safety valves, buffers, coupling hooks and vacuum pipes, I prefer to use etched and turned items as they are more robust than 3D prints in this scale. A good quality super glue, applied with a piece of wire, is used to attach them.

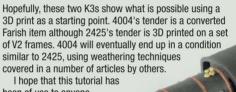


While sanding a model it is important to ensure that you don't accidently remove any raised details. Spend a bit of time studying the model and learning where such features are to help plan out the sanding processes.



Here's the fish van body shown earlier, now illustrating the surface quality that can be achieved with a bit of time and care.







modelling using 3D prints. The processes are not too time consuming and I would estimate that (excluding time taken for drying) the more complex models can be made ready for final detailing/painting in two to three hours while simpler items (such as the wagon roofs illustrated) take a matter of minutes.



A wagon with outside framing is a little more complex because in N Gauge it's difficult to get a sanding stick into the corners. In situations such as these, I prefer to use a chisel blade and carefully scrape the surfaces.



For thinner areas with heavy relief detail, such as this wagon chassis, I find that a number 10 or 10a scalpel blade is good for working between the features. Again, keep the blade at right angles to the work and let the weight of the blade do the work and be careful not to let the point of the blade gouge the model.



in N gauge. Steven is also part of the

team that runs Atso-Cad Models, a

hobby business that allows him to

share some of his creations with

other N gauge modellers.

FULLERS WHARF

Malcolm Hine's Peak District layout satisfies on many levels, but its canal interchange makes for a particularly attractive centrepiece.



with the location decided I began serious planning to see what could be squeezed into the available space – a 16ft shed



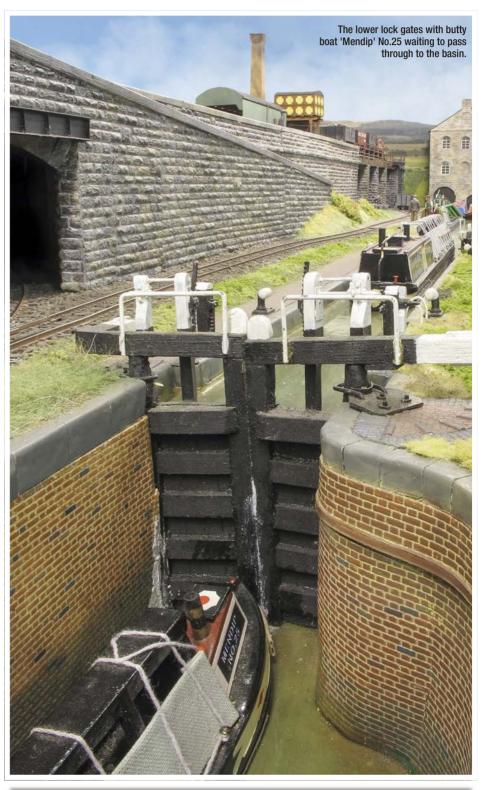
LAYOUT FOCUS The Manning Wardle 0-4-0ST JUBILEE 1897 departs the low level narrow gauge terminus and passes the motor boat 'Ferret' making its way through the canal lock. RM I May 2018 I www.RMweb.co.uk

hose who know me will recognise the theme of an imaginary layout based on the northern fringes of Derbyshire. I had been modelling narrow gauge for some years culminating in an O/16.5 scale layout called 'Stoney Middleton'. After some years on the exhibition circuit I felt it was time to start on its eventual replacement. Naturally, I wanted to keep to the same geographical area, but this time I had a fancy to move up to standard gauge. After wrestling with various schemes, I arrived at the layout you see before you.

I wanted to keep a narrow-gauge link and I liked the idea of a canal. I delved into the history of the transport scene in the area and found that the Cromford and High Peak Railway (C&HPR) had an interchange with the Peak Forest Canal at Whaley Bridge as well as a goods facility at Shallcross Yard. There was also an interchange between the canal and the High Peak Tramway nearby at Bugsworth Basin. This was handy because I'd already bought and constructed a Javelin kit of a North London tank as used on the C&HPR.

With the location decided I began serious planning to see what could be squeezed into the available space – a 16ft shed. I eventually arrived at the plan much as it is now. The only alterations that have taken place were to change the standard gauge fiddle yard from a hidden cassette to the turntable used today. I decided to build this layout on baseboards constructed from 6mm exterior quality ply using diagonal bracing to give the necessary strength and make it light weight. The baseboard ends were strengthened with 9mm ply, whilst giving the depth required for the pattern-makers dowels to provide positive location and alignment. The boards were constructed to incorporate the canal at the lowest level, the narrow-gauge line which runs alongside its length and a tunnel under the standard gauge yard to a hidden cassette fiddle yard.

Following house move, I decided the time had come to concentrate on the new layout so 'Stoney Middleton' was sold along with some of the stock. The track was laid to the standard gauge to provide dairy and coal sidings, a run-round loop and two kickback sidings to a goods yard with a loading dock, cattle dock and crane. A roadway provides the visual link between the upper yard and the coal drops, canal and narrow gauge at the lower level. Trackwork to both the standard and narrow gauge is Peco with O gauge points from C&L and Marcway kits to the canal attracts a lot of comments and queries. It was one of the earliest scenic items to be tackled, because everything else is built up around and above it



LAYOUT FOCUS

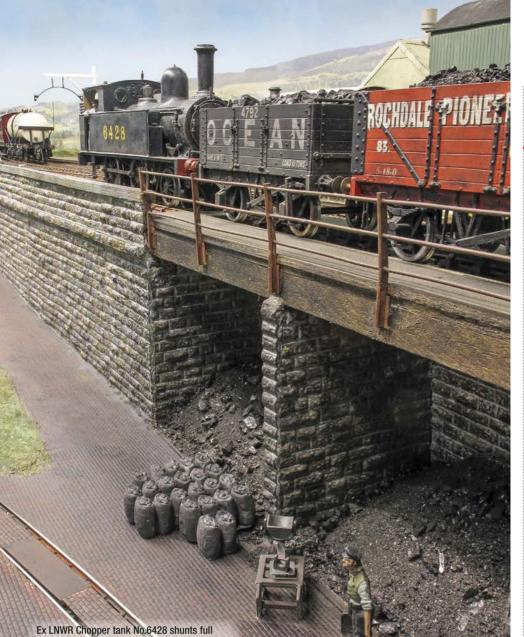


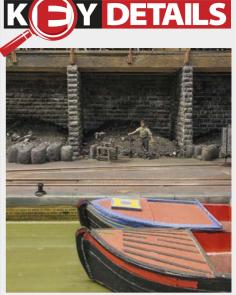


provide a comparison with the Peco points. I have however standardised on Tortoise point motors on all points both narrow and standard gauge and have found them to be reliable, smooth and quiet in operation. The control system is plain and simple DC from a Modelex 1.5Amp handheld unit on the standard gauge and a Gaugemaster WW handheld unit on the narrow gauge. Point control is via double pole double throw switches with LEDs to indicate which direction the point is set. Couplings are three-link on the standard gauge, which influenced the decision to have this at the higher level to make it more accessible and Kadees on the narrow gauge using fixed magnets strategically placed to allow remote uncoupling.

Scenery

The scenery has been gradually developed over time. The canal attracts a lot of comments and queries. It was one of the earliest scenic items to be tackled, because everything else is built up around and above it. A base of quality ply was cut to size, then painted in the base colours - darker towards





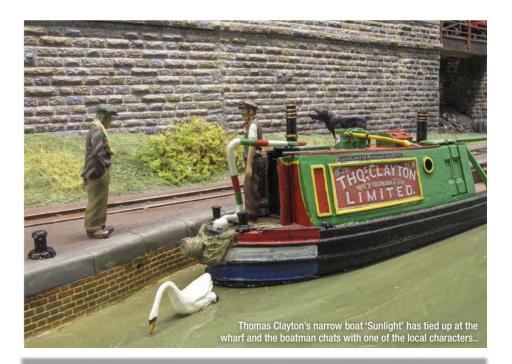
COAL DROPS

Knowing what to include on a layout is a problem often faced by many - ambitions to include many things with limited space, or lots of space with uncertainty on what to include. Sometimes, it's a simple case of observing or researching typical traffic flows. Passenger services aside, most railways were built to move goods. In the case of Fullers Wharf it's coal, aggregates, livestock and produce. In an instant you've four building themes - something to handle coal, something to handle milk, with exchange sidings for the rest. The coal drops make an interesting feature, where coal from the wagons would be unloaded into piles below, before being transported locally. This widespread practice is no longer, but traces can still be found, such as those at Bridgnorth on the Severn Valley Railway.

the centre and lighter at the edges. Then followed the application of many layers of thinly applied gloss varnish occasionally tinted with either green or white to produce an opaque finish. The embankment is made from strips of cereal packet glued with PVA, then built up with strips of newspaper soaked in a runny mix of filler. The surface was painted and the grass applied using carpet underlay glued with PVA. This was spray painted with an airbrush, then trimmed with nail scissors. The backscene was from ID backscenes, applied using wallpaper paste. The retaining wall which runs the length of the layout makes use of Slater's coarse stone painted with oil paints. The buildings consist of the dairy and a canal warehouse based on a photograph of Samuel Oldknow's warehouse at Marple on the Peak Forest Canal. Stonework is made from DAS modelling clay on a 3mm ply base which is scribed and painted with enamels. One of my favourite modelling activities is adding detail,

wagons into the coal dock while the coalman

pauses from his labours.



LAYOUT FOCUS

although I feel it's important to be restrained. There are a few cameo scenes like the yard porters pausing from their labours to chat about the fortunes of the local football team.

Stock

I've stayed with the same period of the mid-1930s. This and the location has obviously had a bearing on the choice of locomotives and stock run on the layout. All of my standard gauge locos are kit-built from etched brass.

 Park NLR 0-6-0 tank No. 27515 by Javelin as stated earlier. These locomotives had a long and distinguished career on the C&HPR to which they were well suited with a short wheelbase for the sharp curves and enough weight to provide adhesion for climbing the gradients as well as braking.

- 2. LNWR 2-4-0T No. 6428, built from an ABS kit. Nicknamed 'chopper tanks' because of the distinctive exhaust sound when being worked hard. This was also a long-lived engine, lasting on the C&HPR until 1952, 15 years after its classmates had disappeared.
- 3. LMS Jinty 3F 0-6-0F No. 7469 built from an Alan Gibson kit. A ubiquitous shunting tank, this one was built by the Vulcan Foundry at Newton-le-Willows.
- 4. Midland 1F 0-6-0T No. 1702 from an Oldbury models kit.
- Midland 3F 0-6-0 tender locomotive from a JM Models kit. Originally built by Dubs & Co. in Glasgow in the early 1890s.

For the narrow gauge I currently have four locomotives:

1. *Lady Laura*, a Peco Hunslet on a Branchlines chassis.

- 2. *Sir Christopher*, a Peco GVT Beyer Peacock tank on a Branchlines chassis.
- Alf, an ex-WD petrol-electric tractor by S&D Models on a soon to be replaced Hornby chassis.
- 4. *Jubilee 1897*, a kit by Agenoria of a Manning Wardle 0-4-0ST.

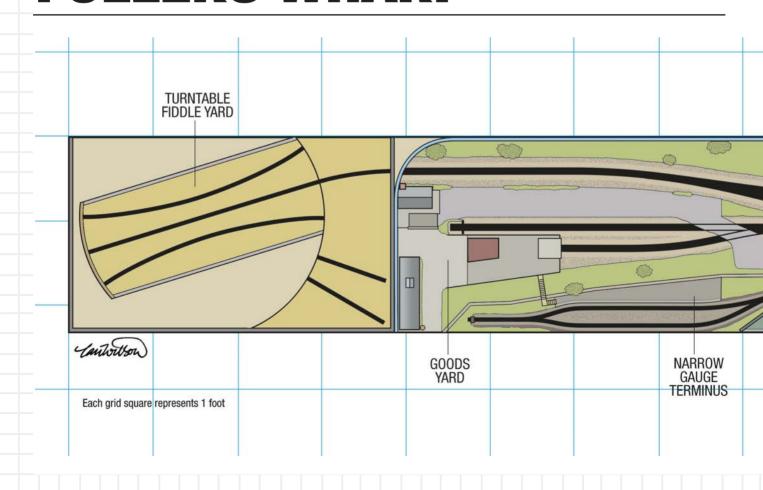
The freight stock on both standard and narrow gauges are from a variety of kits or scratch-built and reflect both the period and location, although there are far more than the layout can handle as I can't resist adding to the fleet.

Running

Operation on the standard gauge involves despatching trains in sequence from the fiddle yard to be shunted and exchanged then sent back. The fiddle yard is the same length as the run-round loop so there is no sense

Trackplan

FULLERS WHARF



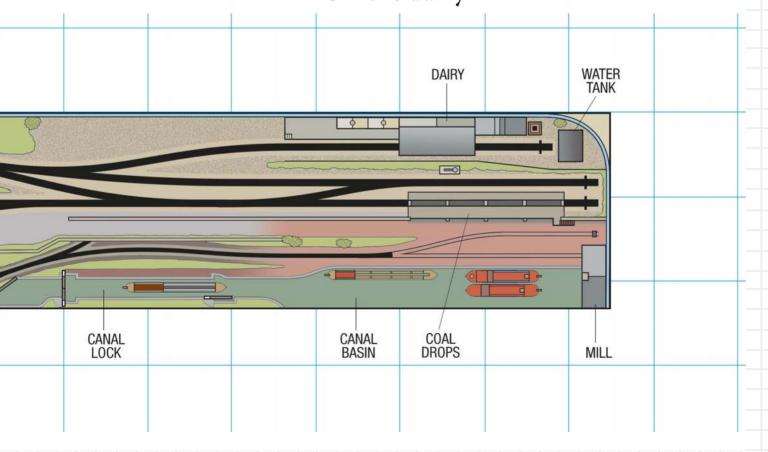


in trying to add more wagons as it makes shunting impossible. The trains are usually arranged as two mixed goods as well as a milk train, which is swapped for a van train from the dairy. These are returned to the turntable fiddle yard, which enables trains to be turned without the need for handling. The narrow gauge is operated on the same basis using a cassette fiddle yard which also allows trains to be reversed without handling.

This is Fullers Wharf, then – a hopefully believable corner of the North Derbyshire/ Cheshire borders. The plans I have for the future include adding a stable and blacksmiths and replacing the kit-built weighbridge office. There are a number of scenic details that I would like to add, so I will be busy for a while yet. The layout is due to be exhibited next at Ely on the 19th May 2018.

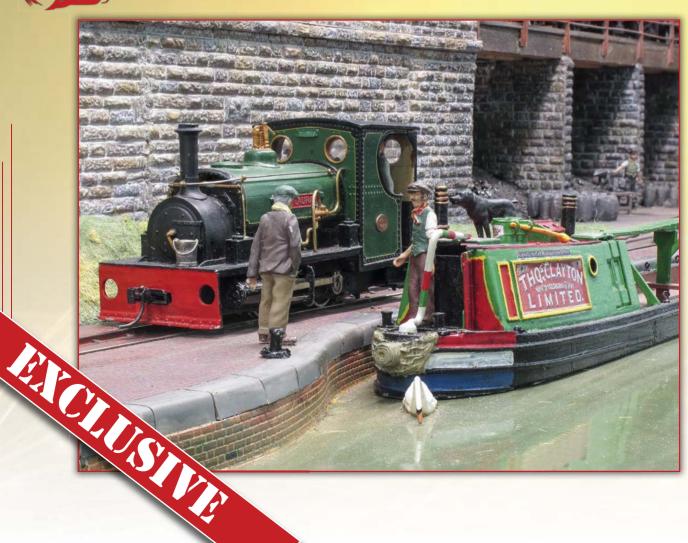


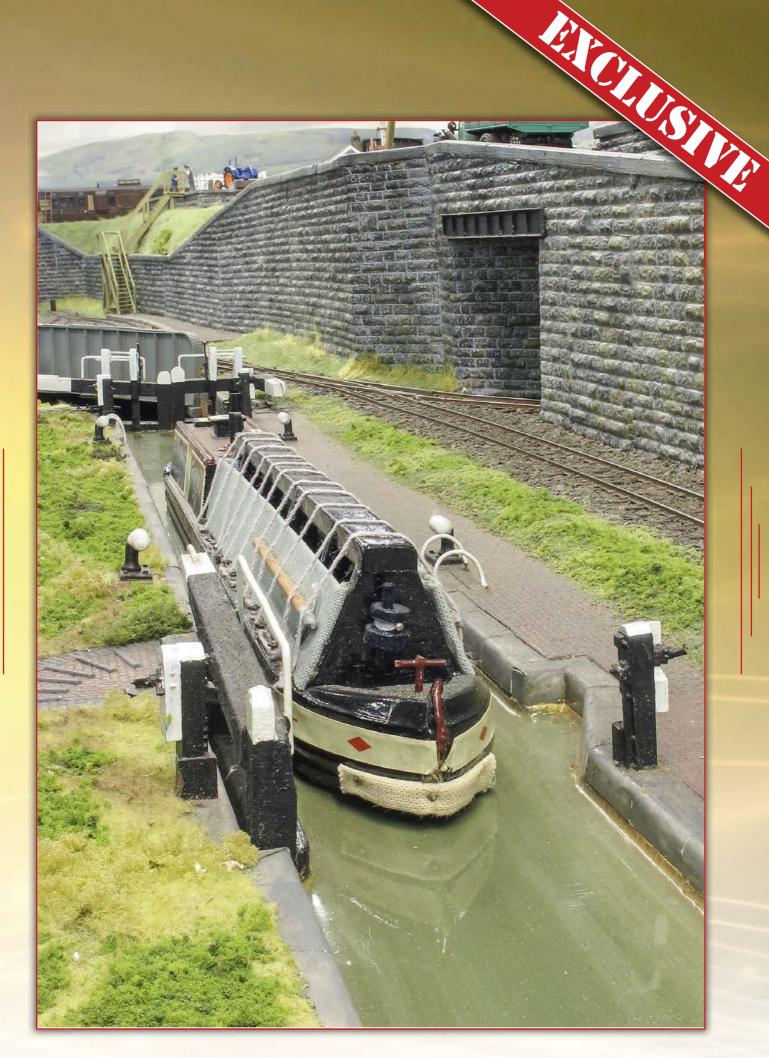
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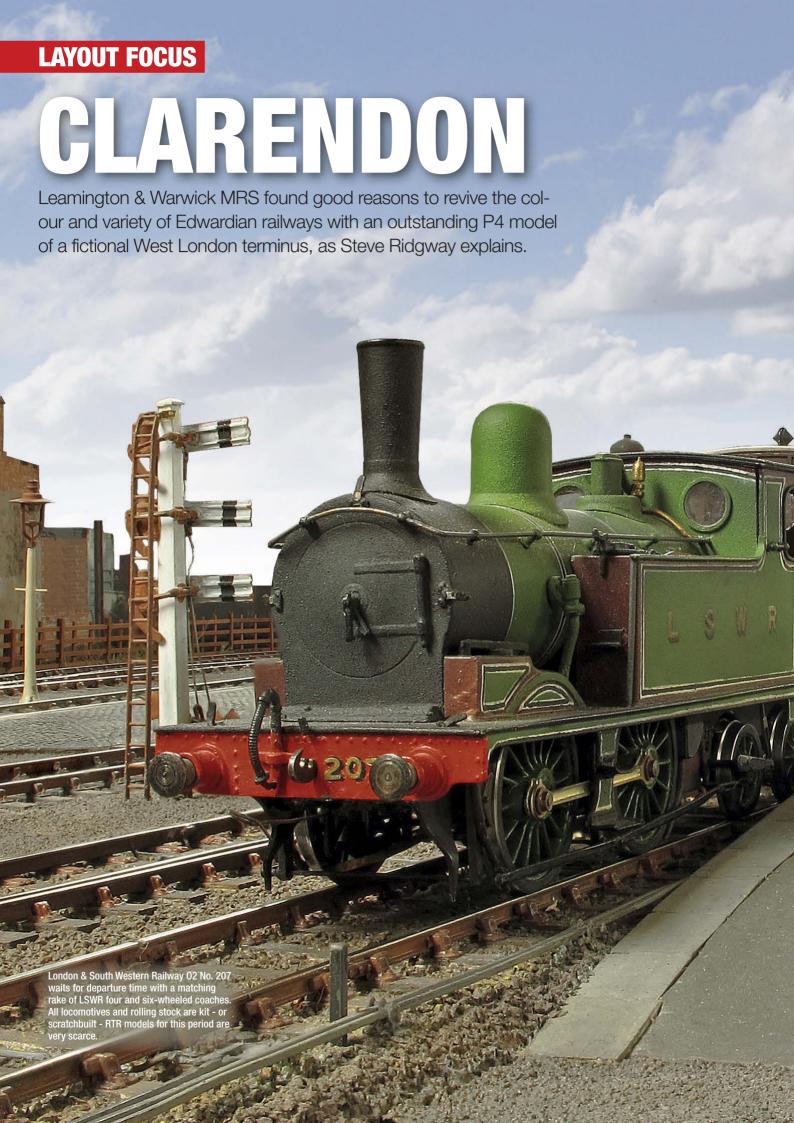


BRITISH RAILWAY MODELLING THE STORT AND THE

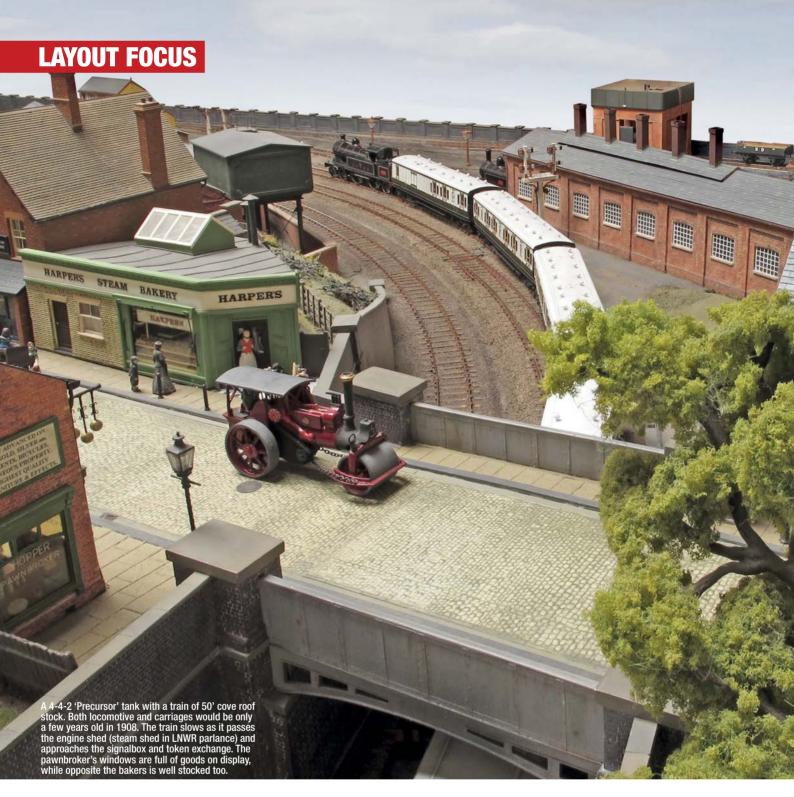
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s the exhibition career of 'Walford Town' drew to a close our group decided that we would like to move on to something new. We had come together to produce the first layout completed to exhibition standards by our club, the Leamington & Warwick

Model Railway Society. The L&WMRS had produced several fine layouts before, but they were privately owned by club members. We had some class acts to follow, but felt that we had to keep to the standards already set judging by the number of invitations to exhibit and awards received over the years.

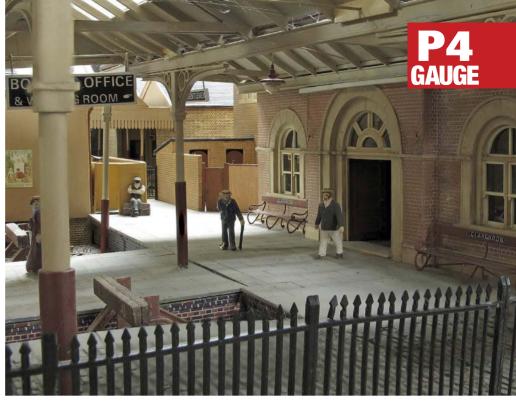
As a group we had formed good friendships

from working together and going to shows. The strength and success of the group was put down to having similar aspirations with regard to what constituted a satisfying layout to build and operate. Because we had had so much fun in this endeavour there was enthusiasm to continue and build another layout together.

'Walford Town' was EM Gauge, with 18.2

we decided to enhance our experience by operating like a real railway with a dedicated signalman. He sets the route, switches the sections to a driver, and then operates the signals





A view under the station canopy looking towards the main station building and goods shed. All buildings are scratchbuilt. The canopy columns are handbuilt and made from various sections of brass tube.

mm gauge - as opposed to the original EM standard of 18.0 mm. Several of us were already P4 modellers, so we decided the new layout would be to those standards. Many discussions took place as to what, where and when should be the new project.

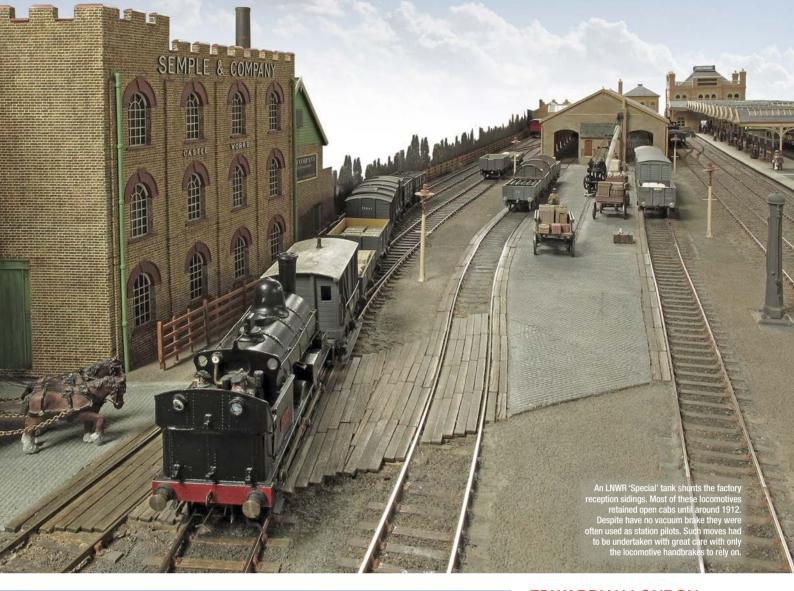
Walford was a diesel layout and when started represented the contemporary midto late-1980s scene on the ex-Great Eastern in London. This had worked well in that it was neither the area nor the era of anyone in the group. Individual interests varied from the Great Western to London Brighton & South Coast Railway, London & South Western Railway to the London & North Western Railway with a bit of Lancashire & Yorkshire thrown in.

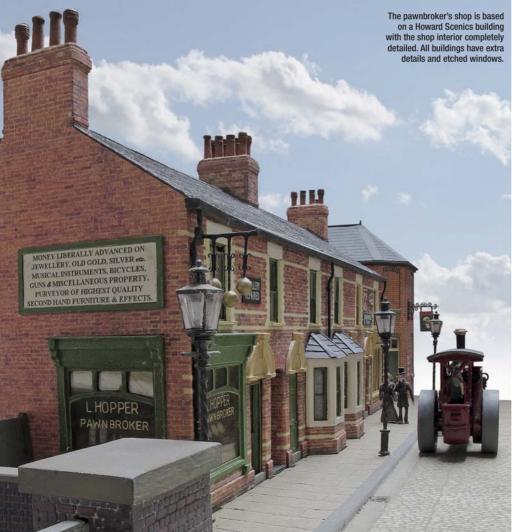
Eras varied from late-19th century to the 1960s and beyond. We wrestled with how to make best use of the interests and expertise of the various members when someone pointed out that Addison Road on the West London line saw trains from the LNWR, LSWR, GWR and LBSCR. If we picked 1908 then there was quite a lot of stock already available from group members. Others, whose interests lay elsewhere, would be happy to build stock as a diversion from building for their own layouts.

However, Addison Road (Kensington Olympia as it became) was far too large to contemplate. At that time the club rooms were in a basement with limited scope for such a large undertaking. Also, we knew that it would take far too long to build working at a pace commensurate with the standards to which we aspired. The solution was to develop a feasible branch off the West London Line to a small but busy terminus not far from Wormwood Scrubs. The local topography was suitable, so 'Clarendon' was invented. Another important feature of the layout was that it would be a testbed for various techniques and components which would be useful for individuals' own projects. For example we have used four types of drive mechanism for the signals.



As far as possible we have tried to depict an Edwardian scene. Almost all road transport relied on horse power at the time, and following helpful information from an exhibition visitor we modified the reins to be more representative of real tack. It will be noticed that virtually all people are wearing hats. Straw boaters made from waste plastic sprue and thin discs are much in evidence.





EDWARDIAN LONDON

Setting the time period as Edwardian meant that some very interesting research had to be undertaken. We try to portray the scene which existed as best we can, from peoples' dress and road transport to the type of railway working that would have been seen.

Some long-distance through workings, such as the famous 'Sunny South Express', would involve replacing a locomotive with one from different company. The carriages were LNWR for the whole journey but the locomotive was changed in London so that the appropriate traction would work over its own route. This is the precedent for making locomotive changes at Clarendon, for trains having taken a short diversion down the branch from the triangular junction with the West London Line.

At the time many railway vehicles had only wooden brake blocks, and some did not have a continuous vacuum brake (such as our station pilot). Consequently trains would move at walking pace into platforms. Unfortunately, this occasionally provokes critical comment from show visitors, but we do try to educate and enlighten with our portrayal of the period scene.

Another feature of train working at the



A scene in front of the station entrance. All paving slabs are individually laid and the cobbles in the station yard were cast in resin as we could not find any suitable commercial ones. Note the stone stump to protect the gate posts from wagon wheels.

time was the re-marshalling of passenger trains, complete with passengers, part way through the journey. Luggage vans and through coaches would be swapped between trains, as would carriage trucks and their accompanying horseboxes. Horseboxes are marshalled at the head of the train, when occupied, for the safety and comfort of the horse.

Another point of interest and relevance to the era is the large shed in the goods yard. As most goods were moved by rail there was a lot of movement between companies so the building acted as a transhipment shed. The single line - a short-sighted lack of investment - would have been worked by staff (Webb-Thompson) so we slow the passenger trains to allow for token exchange

PROTOTYPE INSPIRATION

The prototype station at Addison Road (now Kensington Olympia) would have been an ideal location. It had trains visiting from the LNWR, LSWR, GWR and LBSCR, which covered specific interests, or the already available stock of several members of the group. However, Addison Road was considered far too large from the point of view of how long it would take us to build it, the space

and cost required. It did however start us thinking that the West London line could have had a short branch to an area near

Wormwood Scrubs, which we named Clarendon.

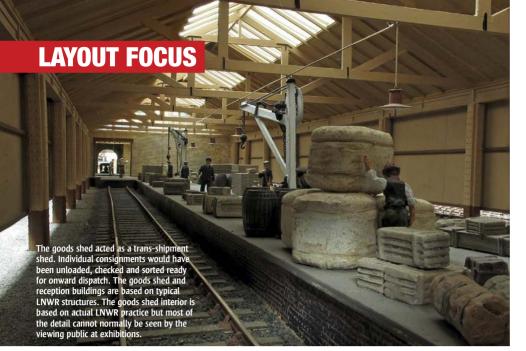
near the signalbox. Goods trains have to stop.

The turntable is a 42' hand-operated example, typical of the era. LNWR locomotives did not work tender first, so most are turned here. Longer locomotives









such as the GWR 2-8-0 have to use the triangular junction 'off-scene' at the supposed junction with the main line.

BUILDING FROM SCRATCH

Many items on the layout have been kit or scratch-built, partly by necessity and partly because of the pleasure and satisfaction of building something which is unique. In recent years, locomotives of a suitable vintage have begun to appear and so it might be possible to see a converted RTR model in the future. Buildings are a mixture of scratchbuilt with some proprietary fittings and kits such as the excellent Howard Scenics card offerings suitably upgraded.

As the build of 'Clarendon' was nearing completion (we still have to add telegraph poles and a few locomotive shed staff), thoughts turned to a development of the line back towards the fiddle yard/main line. With all the re-marshalling of trains, there was a need for carriage sidings. An added benefit was that all those carefully built and lined models wouldn't spend so much of their time hidden in the fiddle yard!

We also wanted a gasworks (off-stage) and accompanying exchange sidings to provide more varied goods workings. A goods loop was also a desirable feature, especially on this busy line, and would provide more interest. Thus 'Scrubbs Lane' was devised as our current project.

Four additional boards have been built to allow the three long carriage sidings, along with the other sidings. A road overbridge hides the entrance to a fiddleyard (cassette deck) and flies over the carriage sidings. Thus the far end of the sidings and goods loop are off-stage. This means that some moves, and the far end of some carriage rakes are off-stage too, keeping the fiddle yard operator busy.

So that we can operate effectively, some signals within the Scrubbs Lane 'box control area are merely repeaters displayed on the main panel, where the drivers can observe the (imaginary) arm settings. All this means that the operating sequence has to be carefully developed. The fiddleyard operator now has to operate the yard, Scrubbs Lane 'box and drive some of the trains including the private owner trips from the gasworks. His work has to be dovetailed with that of other operators to avoid operational delays.

AUTHENTIC CONTROL

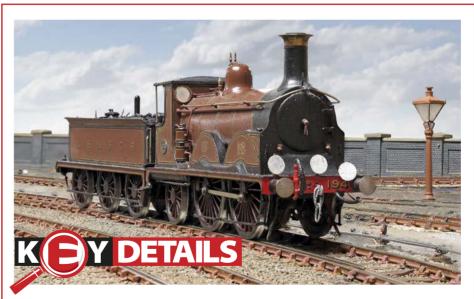
Traditional cab control had been used for 'Walford Town', with all sections switchable to either of the two controllers. The two drivers were responsible for setting their own route including the signals. The

fiddleyard operator could set his area to be driven by either driver or by himself, and controlled the advance starter to advise train entry speeds.

For 'Clarendon' we decided to enhance our experience by operating more like a real railway with a dedicated signalman. The signalman sets the route, switches the sections to a driver, and then operates the signals. Drivers must obey signals, and the only form of safety protection is the provision of catch points to protect passenger lines.

The signalman has the complete sequence, and each driver a sub-set for his own moves. The only points and section power switches controlled by the drivers are the goods sidings which are set by the equivalent of ground frames. We also have a shedmaster-cum-foreman who has complete control of the locomotive shed, and is allowed by the signalman onto the main running lines as required. Incidentally, the shed operator, being stationed at the front of the layout has an additional duty; answering questions and conversing with visitors.

Building and operating 'Clarendon' has been a very rewarding and enjoyable experience for the group, which is still firmly together despite several members having moved away from the immediate area. Certain members disappear off with measurements only to reappear weeks or months later with new items to put on train cassettes or attach to baseboards!



As far as possible we have tried to depict an Edwardian scene. Almost all road transport relied on horse power at the time, and following helpful information from an exhibition visitor we modified the reins to be more representative of real tack. It will be noticed that virtually all people are wearing hats. Straw boaters made from waste plastic sprue and thin discs are much in evidence.

CLARENDON

STATION MASTER'S HOUSE

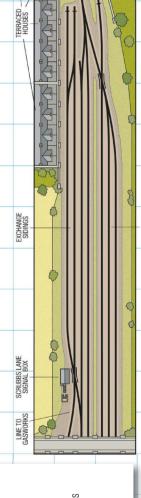
GOODS

GOODS



FACT FILE

The group, which had formed within the Leamington & Warwick Model Railway Society to take on the build of (what was then the contemporary scene) 'Walford Town', decided to continue and build something new together. Although Walford was EM gauge, several of the group were already P4 modellers, so we decided to go the finer standards for the next project. Most were more interested in steam railways, and several already had pre-Grouping stock suitable for 1908.



SHED

FACTORY COMPLEX WITH ENGINE SHED & WAGON TURNTABLES

> GAS SHOWROOM

PUBLIC HOUSE BAKERY



MAKE A DECODER **TESTER**

Michael Russell devised this guick-build electronic circuit to test his DCC decoders. Best of all, it costs a few pounds and just takes a few hours to make.

Then I buy a decoder, I check that it works. I don't want to find this out after fitting it to a locomotive. It is also too late to find this out if you've modified the decoder in some way, which will be the case if it's been hard-wired.

I sometimes have a decoder in my spares box and I can no longer remember why it's there. Is it broken, a spare, or did it have an issue? It's best to find out in advance of fitting, and sometimes I want to setup a decoder beforehand.

I don't like the idea of keeping a locomotive back for testing purposes, so I've devised a simple circuit to do the job for me. The parts only cost a few pounds and the

build isn't lengthy. This tester has paid for itself, in time and cost many times over.

This tester is designed for decoders with up to four functions, such as the Hornby R8249. If you have a decoder with a larger number of functions you could modify the design, but the chances are that if four work then the rest will too. The tester has been built with expediency in mind, so be careful when using the unit that you don't allow the decoder to come into contact with the unit and cause a short. You could make the design more robust by enclosing it in a project box, but since the tests are likely to be brief, I don't consider this a necessity if you're a careful user.

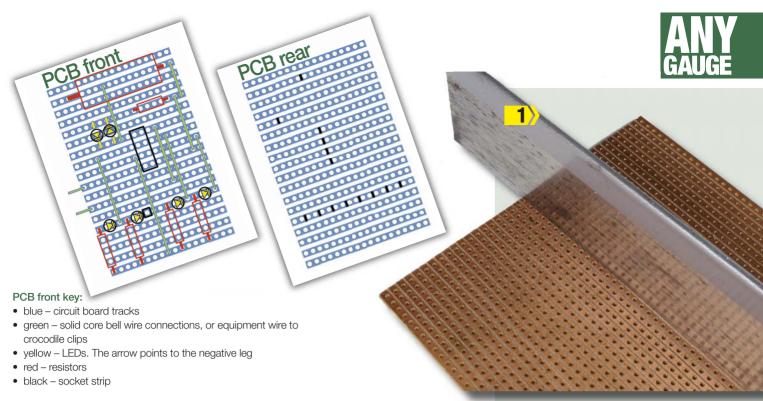
Electrostatic Discharge (ESD)

Electrostatic discharge is static electricity, often generated by our clothes when we move. Although of low amperage, large voltages are involved. Static can damage devices that contain microprocessors, like decoders. To avoid damage, you should observe ESD precautions. When handling a decoder removed from its protective packaging and not fitted to a locomotive, I recommend wearing a wrist strap, such as those sold for use when assembling computers. Store spare decoders in their wrappers because these provide protection by acting as a Faraday cage.

What we used

- 1 x 47-Ohm, 7-Watt resistor
- 2 x yellow LED
- 1 x white LED
- 1 x red LED
- 2 x green LED
- 5 x 680k Ohm 0.6-Watt resistors
- 1 x NEM 652 socket and 1 x Modular Connector 32 Socket Strip
- 1 x piece of 18 x 18-hole stripboard
- 12in solid core bell wire
- 12in equipment wire
- Two shielded crocodile clips

*Items available from good electrical retailers



PCB rear key:

- blue circuit board tracks
- black lines indicate where the tracks should be cut

3

Use the edge of a knife blade to lift the edge of the copper strip and gently draw the copper away from the resin board. If copper material on the other side of the cut starts to move as well, cut again with a knife.

socket. You can either buy
a NEM 652 socket or use two 4
socket lengths of socket strip. Consult
the diagram and note when you fit the item that
four of the breaks you made in the stripboard tracks
are between the socket legs.

outside or clean up the debris immediately.

Cut the stripboard to size with a razor saw between

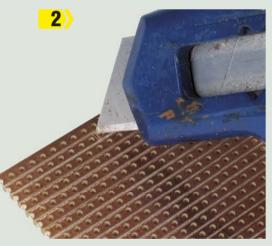
holes and wear a facemask to avoid breathing the resin dust. You need a piece 18 holes x 18 holes in size. Work

Use a multimeter on a resistance setting so its acts as a simple circuit tester. Place the two probes together to check that you get a full reading. Now place the probes either side of the cut and ensure there's no circuit. If there is, then you need to remove more material.

Push through and solder into place ensuring the items are

square to the board and fully

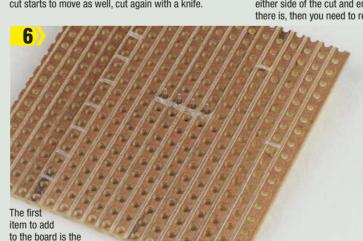
pressed home. Misalignment will make inserting the decoder plugs difficult later.



You need to cut tracks on the stripboard in the places marked on the accompanying diagram. This breaks the connection along a row and isolates one section from another. Take great care to only remove material in the correct place or you'll ruin the piece of board you're working on. Score a line with a knife gently across one end of the place you wish to cut and repeat at the other end. The cuts need to be about 1mm apart or less.

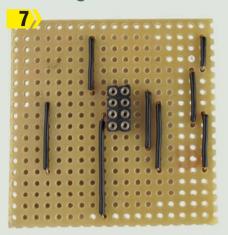
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Continue in this fashion until you have removed all the material necessary.



PRACTICAL BRM

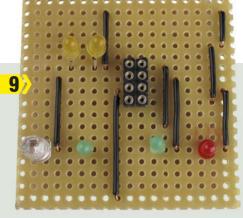
Soldering



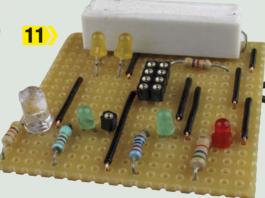
Add eight bell wires to the board. Consult the circuit diagram and be accurate in your placement. If you rotate the board so the tracks run horizontally, all wires run up and down the board because they join certain tracks up.



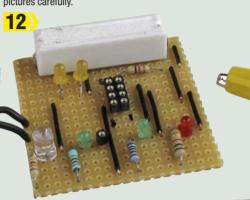
Cut off over-long pieces of wires that protrude beyond the solder joints. Do this for all the components you fit.



Fit the LEDs in place. They are polarity-sensitive, so you must get them the right way around. In the diagram, the yellow arrow points to the negative leg and on the LED this is the longer of the two. The casing is often squared off to show the negative leg too. Ensure you solder the correct colour LEDs in the right place by looking at the pictures carefully.

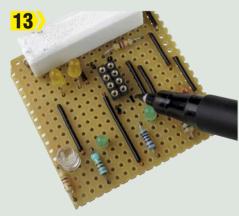


Add the single socket to handle function wires that aren't wired to the 8-pin plug, like the purple F2 wire on the Hornby R8249 decoders.



Add the leads that you can use to connect the unit to the programming track or main line. I recommend the use of shielded crocodile clips to avoid short circuits at all costs.

Add the resistors, leaving the large wire wound unit until last. They can be fitted either way as they're not polarity sensitive. For the five LED resistors, I used a motley selection that I had lying around in the 470 ohm to 2K ohm range



Lastly, use a permanent marker pen or a dab of enamel paint to mark pin one on the decoder socket. With the large ceramic housed resistor at the top of the unit, this is the bottom right pin.

Testing, please...

With the unit resting on an insulated surface, use a multimeter set to test a circuit (the ohm resistor setting) to perform the following checks without a decoder fitted. Unless where indicated, if you get a reading for a circuit, even partial, you've made an error and must rectify the fault before using the unit. The most likely issue is solder bridging between tracks and components or track breaks in the wrong place.

- You should have a reading between pins
 1 (bottom right) and 5 (top left), but not between any of the other pins of the socket that hold the decoder
- You should have a reading between the two input terminals

The first time you use the decoder tester I recommend, if you have one, using an old or inferior decoder. Connect the tester to the programming track and ensure you can read CVs, then connect the tester to the main track and try reading a CV 'on the main'. If these tests are passed then proceed to use the decoder as normal. If certain LEDs fail to light, then check that you haven't fitted them the wrong way around; they are polarity sensitive.

Michael's Advice

- If you wish, you can replace the two yellow direction LEDs with a single bicolour LED.
- To form a good solder joint, it is essential that all items are held firmly in place and do not move during the soldering process. I use Blu-Tack to hold the PCB down whilst sandwiching the components against the workbench.
- Soldering works best when all the components are clean. You can polish items using a fibre glass scratch brush.
- Use rosin cored solder suitable for electronic work.
- Avoid breathing in solder fumes. Work with an extractor fan, perhaps your paint spray booth has one, and open the windows.
- When hard wiring a decoder, save your wiring harnesses because they can be used to make adapters for use with this tester. Adapters for the 6 pin (NMRA 651) and Hornby nonstandard 4 pin (X9659 decoder) are easily
- A good source of solid core wire that you may have lying around is telephone or networking
- If the LEDs are too bright for your liking, then fit larger resistors in the range 1k to 2k ohms.

EREF

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PROTOTYPE INSPIRATION



NIGHT SHIFT

On the March 25, 1992, 31427 waits to depart from London St. Pancras with the 20:10 parcels train to Derby. This short train would make an ideal subject on a small layout. ANTHONY KAY

Stephen Rabone, Editor of Traction magazine, has long been fascinated with railway operations during the hours of darkness. With these traffic flows come new layout operations, as he explains.

here's something very special about watching railway operations at night, especially on a large and busy station. My first experience of this came about by chance in 1971. I was a student teacher based at a school in Greenock and was returning home to Yorkshire for the weekend. My plan was to use a weekend return ticket from Glasgow Queen Street to Leeds but, to my dismay, I was told by the booking clerk that the ticket wasn't valid on the route via Edinburgh. He suggested going on the overnight train to Leeds from Glasgow Central. Hanging about in Glasgow didn't appeal, so I decided to break the journey at Carlisle and watch trains at this important junction station.

I caught the next available train from

Central, behind a pair of Class 50s on the 'Midland Scot' to Birmingham and spent the four hours at Carlisle watching a procession of overnight sleeper trains, as well as numerous mail, parcels and container trains. By the time my train to Leeds pulled in at about half past one I was cold - it was February - but I'd had my eyes opened to the delights of night-time train watching.

What made it so special was the lack of people, apart from railway staff, so the sounds are usually just the trains and the silence of the night when the rest of the world is asleep. Then there's the anticipation of seeing just the headlights of the train looming out of the dark. What is it that's coming? You won't know until it's almost upon you. The visual appearance of the trains is also very different, with lights reflecting on flat surfaces but most of the vehicles are in shadow.

Over the years I've spent many enjoyable hours watching the railway at night at Carlisle, York, Newcastle and Stafford. In winter, the dark comes earlier and the late evening will give you much the same experience without the attendant tiredness of a full night stint!

A layout in the dark

I've built several layouts based on British and European prototype locations and operated them to a sequence of movements based closely on the real timetable. It soon felt illogical to operate the overnight timetable with the main room lights on.

Simple experiments showed it was possible to simulate night-time operations relatively

I wired up a series of small grain of wheat bulbs, fastened them under the station canopies, put a few in the signal boxes and added some yard lights. These were all run at a lower voltage than normal so the bulbs would last longer and give a more realistic level of light.

Signals added another source of light interest. Colour light signals were easy to obtain from the likes of Eckon and Berko but semaphores were more difficult. Dapol now makes British style semaphores with LED lights. Positioning a few lights around the room, such as near the control panel helped me see better. I also used a pencil torch with a wire hook on the end so that I could see the couplings easily when shunting.

I feel the present railway at night isn't as interesting as it used to be in the 1980s and 1990s because much of the traffic has disappeared. I'll concentrate largely on nonpassenger traffic that you'd expect to see at medium and large stations during this era.

Mail Traffic

Mail trains were, by the nature of the traffic they conveyed, largely to be seen at night, although many could also be seen running in the daytime. They could vary from a short train of a few storage vans, possibly even with a Travelling Post Office (TPO) van in them.

The Carlisle to Perth and Whitehaven to Huddersfield TPOs spring to mind here because they were short modeller-friendly train. For instance, the 20:38 (later 21:30) Carlisle to Perth, which had passenger accommodation, had the formation BG/ POS/BSK (on Fridays only)/SK/BCK. In diesel days this was usually hauled by a Class 24 or 26, although I also saw it behind a Class 47/4.

After the electrification of the West Coast Main Line it was usually a Class 81 or Class 85 from Carlisle to Mossend yard and then a diesel locomotive to Perth. The Whitehaven to Huddersfield via Manchester Victoria train was generally made up of a BG/POS/ BG/BG and by the 1990s was often hauled by a Class 31/4.

At the opposite end of the spectrum were the long distance TPOs which would have a large number of sorting vehicles and additional storage vans. Some of the long-distance trains split into shorter formations so the Euston to Glasgow train had a portion going on to Aberdeen. Today some mail traffic still remains but is in the shape of Class 325 electric multiple units running on the West and East Coast Main Lines.

A traffic that has completely disappeared is the conveyance of newspapers in block trains of vans which were often made up of BR GUVs. In later years the vehicles were lettered 'Newspapers'. These operated from London and Manchester to locations across the country, often in long trains, but in some cases, vehicles were detached at stations along the main route and forwarded to their final destinations. In a few places these portions could even be towed by a DMU. An example of this was the use of a DMU to bring a van to Middlesbrough from Darlington.

If you model railways south of the River Thames, newspaper trains were often quite



PROTOTYPE INSPIRATION

short. A typical service in the 1980s from London Waterloo was the 22:52 Waterloo to Weymouth combined passenger and newspaper train with the formation being BG/GUV/BSK/TSO/BSK. Other trains, such as the 03:00 Victoria to Ramsgate were even shorter, with just BG/GUV/GUV/ BSK formations. Interestingly, this service conveyed a passenger coach which was open to the public. The Southern Region typically used Class 33s or 73s on these trains, although Class 71s and 74s were used at times. In later years Class 47s appeared, such as on the Waterloo to Portsmouth train which was often made up of five or six BG type vans.

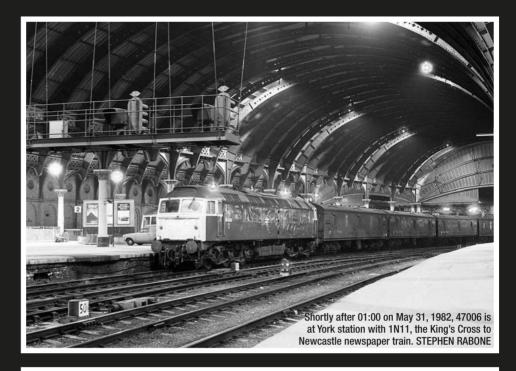
General parcels traffic is something that any layout can justify because the majority of these operated overnight carrying time-sensitive consignments. Well into the 1980s, the network of these trains was extensive and could vary in length from long formations on the main lines through to short one or two vehicle workings. These short portions would be added and detached from the long-distance workings as the train travelled across the country. Some of the shunting arrangements for these trains were complex. Specially dedicated trains for use by mail order companies operating out of locations such as Sunderland, Bradford and Oldham weren't uncommon, each evening seeing a succession of trains departing for destinations nationwide.

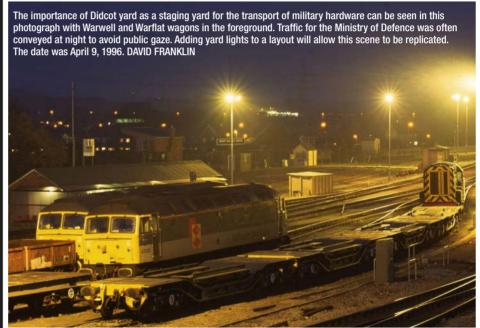
Station Pilots

Parcels, mail and newspaper traffic leads to another aspect of operations that has now disappeared - the use of shunting locomotives to deal with the re-marshalling of trains. Most medium and all large stations would have a locomotive (or two) to deal with the shunting of vans to and from trains. Carlisle, for instance, needed two Class 08s when I spent time there in the 1970s and these were kept busy most of the night.

Engineers and Freight Traffic

Night rail operations were, and still are, dominated by freight traffic. Slow moving trains such as those for the permanent way department were often run overnight in preparation for major engineering works at weekends. The modeller can justify assembling that mixed bag of wagons that is languishing in the sidings and run them in the early hours of the morning knowing that they aren't going to get in the way of passenger traffic.







Much overnight freight traffic is almost as time sensitive as daytime passenger trains. In the 1970s and 1980s BR gradually changed over its long-distance freight traffic operations from the relatively slow network using vacuum-braked short wheelbase wagons to the much faster air-braked wagons found on the Speedlink network. These trains were a modeller's dream as they were often relatively short but conveyed a wide variety of wagon types.

Most night freight traffic wasn't dissimilar to that seen in daylight hours. Container

trains, merry-go-round coal hoppers and tanker traffic can also be run. Fortunately, they don't always have to be long trains.

The Grangemouth to Dalston bogie tanker fuel train for instance, was split at Carlisle Kingmoor yard. It was then tripped the short distance through Carlisle in three short portions of about four or five vehicles, with the locomotive returning to Kingmoor light engine between each working.

There were numerous examples of short container trains where a portion was detached from a longer train to be worked to a terminal with low levels of demand.

The next time you operate your layout, put the daytime passenger trains away in the carriage sidings, turn off the room lights and run the trains of the night. ■

Below: Taken in the late 1990s or the very early 2000s, this is a photograph that, for me, captures the essence of night time train watching. 60011, in Mainline blue livery, waits at Carlisle during a crew change with an empty coal train that has come over the Settle and Carlisle line and is heading to Hunterston to collect another load of coal. The station is deserted, although the small Royal Mail towing tractor on the right will no doubt spring into life when the next mail train arrives. MICHAEL DOBSON



NEWS FROM 'ALLY PAL

The London Festival of Railway Modelling at Alexandra Palace vielded a number of new announcements from manufacturers. Here, we highlight a selection of these...

DAPOL'S 'HAT-TRICK'

Artwork for Dapol/Rails of Sheffield/Locomotion Models SE&CR liveried version of the new A1/A1X 'Terrier'. Dapol/Rails



Revealed to show visitors and announced on its website on the Saturday morning, Rails of Sheffield, Dapol and the NRM are to release models of the Stroudley 0-6-0 'Terrier' in OO gauge. Manufactured by Dapol, seven liveries will be produced, six of which will be sold exclusively via Rails of Sheffield and Dapol, with liveries including Stroudley 'improved engine green,' KESR blue, SECR lined green, Southern lined green and BR lined black in a choice of early or late crest. A seventh, (4S-NRM-001) sees A1 82 'Boxhill' painted in Stroudley's improved engine green with a gloss finish, exclusively for Locomotion Models, the prototype of which is part of the National Collection.

Fifty of the William Stroudley-designed London, Brighton and South Coast A1 Class locomotives were built between 1872 and 1880 at Brighton Works, and Dapol's new tooling will see a model of this cherished prototype emerge in OO gauge for the first time using 21st century tooling.

With Dapol's successful O gauge A1/ A1X Terrier, dimensions and CAD artwork are already to hand and the manufacturer expects to see decorated samples for Warley 2018. Models are to feature a diecast chassis and wheels with an injection-moulded body, all of which will be fitted with a Next-18 decoder socket. Tooling will allow for most variations of the A1, A1X and Isle of Wight variants, with two cab/bunker types and two smokebox/boilers. Prices are £110 for DCC ready, £140 for DCC-fitted and £239 for DCC sound-fitted versions. Pre-orders can be reserved today for £30 via Rails of Sheffield, Dapol and Locomotion Models websites.

In other OO gauge news, Dapol is to produce models of the Orenstein & Koppelbuilt JHA hoppers as built for aggregate haulage by Foster Yeoman and still used today by Mendip Rail Ltd. The wagons differ from traditional-style wagons, with two outer wagons with traditional buffing/drawgear and inner wagons with buckeye couplings to allow closer coupling and a reduction in train

0&K-built JHA hopper, to be produced by Dapol.



Dapol's models designed from works drawings will be offered in Foster Yeoman livery, with four different outer wagons and six inner wagons as per prototypes. Outer wagons are to feature lamps, sprung buffers and NEM coupling pockets at one end, and buckeye couplings at the other. A diecast chassis and close coupling mechanism will allow models to operate on 438mm radius

Included, an accessory pack containing two versions of interconnecting pipes, loose and unconnected and flexible to connect between adjacent wagons, plus a working flashing rear lamp on the outer most end of the train (DC directional, 6 pin DCC socket for control of lamp). Wagons are expected to retail at £45 for middle hoppers and £55 for end hoppers.

Seen on its stand at the show was a 3Dprinted sample of its O gauge Class 121 and announced at the show, also with a 3D print, Class 122 'bubble cars'. These self-sufficient first generation DMUs were produced by British Rail to operate on branch lines and secondary routes, making the ideal compact addition.

Eight Class 122s survive in preservation

including W55001 at the East Lancashire Railway, which Dapol has laser-scanned to help produce the model. Five liveries are being produced in BR blue/grey, BR green with and without whiskers, Regional Railways and BR blue with a choice of DC, DCC-fitted and DCC sound fitted versions. Prices are £299.00, £329.00 and £454.00 respectively.

CAD cross-sectional images of the models have revealed a full depth floor, seating and passenger compartment detailing. A heavy diecast chassis will aid tractive effort, supported by two motorised power bogies with all wheel pickup with an impressive level of underfloor detailing. Headcode and destination boxes with removable glazing allow numbers to be changed behind glazing.

Separate grab handles on passenger doors and etched grills for guard's windows will be fitted, whilst the guard's area is to be detailed with separate lighting. Three buffer and exhaust types are to be modelled, two roof types with large and small box types and three different chassis. Control switches



CAD artwork has been developed for Dapol's Class 121 and 122 project, allowing 3D test prints to be displayed at the show. Note the location of the bogie-mounted motors in the cutaway below.



are to be accessible by a removable roof or from underneath the model, allowing independently controllable cab, passenger compartment, guard compartment and directional lighting.

Following our unboxing video of its OO

and N gauge Class 68s (see **BRM** YouTube channel), Dapol has told us its second batch of OO gauge locomotives will be fitted with disc brakes.

W www.dapol.co.uk, www.railsofsheffield.com and www.locomotionmodels.com





War Office 'Parrot' bogie WD wagon (38-740), complete with sheeted tank load, due summer next year.

Bachmann Europe's display of engineering prototype samples and scenic demonstrations ensured that its stand was a hive of activity all weekend. An unpainted sample of its forthcoming three-car Class 117 DMU, expected to arrive in July 2019 and to be offered in three liveries; BR blue/grey (35-501), BR green with whiskers (35-500) and Network SouthEast (35-502), was of particular interest. Photographs show an impressive level of underframe detail, with provision for a DCC sound speaker hidden in the fuel tank. Drive shafts, engines and radiators, battery boxes, fuel and air filters and reservoirs are present and of note was a line of fine rivets between roof and bodyside of these 1959 to 1961 pressed steel-built DMUs.

Also, on show was a decorated sample of its War Office 'Parrot' bogie WD wagon (38-740), complete with sheeted tank load. The wagon is to be offered without load and rail supports (38-741) if desired. See also its Warflats in BR grey (38-727) or in WD green with rail supports and bronze lettering loaded with a Cromwell tank (38-726) or with white lettering and tank (38-725). Recommended retail prices when released are expected to be £54.95 for loaded wagons and £39.95 for unloaded wagons.

W www.bachmann.co.uk



The Great Model Railway Challenge

Phil Parker talks to Pat Doyle, the producer of Channel 5's new TV series, which is set to appear on the nations screens later this year with model railways at its very heart.



E CAUSINE

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(You must have a wifi connection to stream video content)



TMC TO PRODUCE COAL HOPPER



A patch-painted B282904 is seen at Connah's Quay, Flintshire, North Wales in May 1963. Note the triangle applied to the side. This wagon will be offered as a two-pack with wagon B282891 under code 38-929Z.

The Model Centre (TMC) has commissioned Bachmann to produce a 24.5T mineral wagon - TOPS coded MEO in later years - in OO Scale. The newly-tooled wagons will cover variations including two axle box types, three buffer types and three bodies offering options for modellers from their introduction in 1952 under BR steam until withdrawals in the very early 1990s.

British Railways built 3,395 of the 24.5T mineral wagons to diagrams 1/115 and 1/118 between BR Ashford and BR Shildon from December 1952 until September 1962. Primarily built for the traffic of coal to coal-fired power stations and large industrial locations, they often worked in block trains, measuring just over a foot taller than the standard 16T mineral wagon.

A good number were lettered for specific routes, but often strayed from these to further afield. A small batch was produced with pressed side doors. The duties of these wagons meant they could be found from Scotland to South Wales, working between

coal fields and power stations. In later life some had doors sealed or removed and were used to convey loads types such as sand.

TMC has said it has been working on the models with Bachmann for over 18 months and will produce the following models, with prices to be determined closer to delivery:

- 38-925Z Wagons B280037 and B280009 in BR grey with RCH buffers and oil axleboxes.
- 38-926Z B282087N in BR grey with pressed side doors, RCH buffers and oil axleboxes.

- 38-927Z B280883N in BR grey livery with yellow triangle, marked 'NO DOORS', RCH buffers and oil axleboxes.
- 38-928Z Wagons B281982 in BR grey with yellow triangle, black data panel 'To work between Babbington & Castle Donnington Power Station LMR' with pressed side doors, RCH buffers and roller bearings and B281146 in BR grey with yellow triangle, chalk lettered 'Load only to C E A Castle Donnington' with RCH buffers and roller bearings.
- 38-929Z Wagons B282904 and B282891, in BR grey with yellow triangle, black data panel marked 'Load only to John Summers & Sons Ltd, Hawarden Bridge Shotwick Sidings LMR' with Oleo buffers and roller bearings.
- 38-930Z B282299 in BR grey with yellow triangle, black data panel marked 'To work between Rawdon Colliery & Hams Hall C Power Station's self-contained buffers and roller bearings.
- 38-931Z B281861 in BR grey livery marked 'NO DOORS', data panel coded SAND, spindle buffers and oil axleboxes.
- 38-932Z B282217N in BR grey livery with yellow triangle, data panel coded COAL 24 1/2, self-contained buffers and roller bearings.
- 38-933Z B282827 in BR grey livery with yellow triangle, data panel coded COAL 24 MEO, Oleo buffers and roller bearings.

To pre-order yours, visit its website. W www.themodelcentre.com

B282217N is captured amongst a rake of identical wagons at Stanton Gate, Derbyshire in Spring 1976. This wagon with Oleo buffers and SKF bearings will be offered as 38-932Z.



MANNING WARDLE 'K' IN O GAUGE

Minerva Model Railways is to manufacture a ready-to-run model of the Manning Wardle 'K' Class 0-6-0 saddletank locomotive in O gauge.

BRM has been given access to early CAD illustrations, although we were told finer details such as rivets have yet to be added. Delivery of the model is expected to be ahead of Christmas 2018 in a choice of three liveries - lined dark crimson, lined dark blue and lined black.

The small locomotives saw use on industrial, light and some mainline railways and will follow Minerva's recently released Great Western Railway 57XX/8750 0-6-0PT locomotives.

The first of Manning Wardle's 'K' Class was built in 1864 at the company's factory in Leeds, many being ordered by civil engineering contractors, involved with building railways. Many of these locomotives saw widespread use on industrial and light railways, with some seeing use by the Great Central Railway and Great Western Railway.

The locomotives were fairly modular in design, with changes between cabs, buffers, brakes and sandboxes according to the desired specification when ordering.

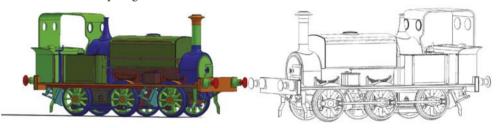
The Manning Wardle will be built to the same general specification as Minerva's GWR 57XX/8750 0-6-0PT, Kerr Stuart Victory 0-6-0T and Peckett 0-4-0ST locomotives. What is thought to become the smallest mass-produced, injected-moulded British locomotive in 0 gauge has presented the manufacturer with several engineering challenges, such as the need to source a new, smaller motor.

The model is to feature a traditional injection-moulded body, diecast metal chassis, sprung buffers,

three-link couplings and over 200 individual components. Running will be assisted by all-wheel pickup and a 40:1 gearbox driving the rear axle, with a choice of DC, DCC-fitted and DCC sound-fitted variants. A bespoke sound file is being produced for the latter variants and the overly-exposed cab of these small industrial locomotives will be detailed.

Advanced orders are being taken until September 30 via its website only, for a discount of £25. Prices are expected to be as follows; DC - £255, DCC fitted – £310, DCC and sound fitted - £380.

W www.minervamodelrailways.co.uk



ACCURASCALE DECO SAMPLES

Livery details for Accurascale's first ready-torun model, the HOP24/HUO (BRM April) to be released in the second quarter of 2018 have been revealed. The manufacturer has received its first engineering prototypes from its factory, with livery samples following closely.

Adjustments to the height of coupler pockets to NEM standards and revisions to brake shoes have been identified. Wagons will be sold in sets of three (see table), each with different running numbers and markings. A total of five packs in pre-TOPs condition are being released, with a further pack offering modellers the chance to buy a 15-wagon rake.

Wagon packs are priced at £59.95, with a special rake including all five pre-TOPs packs offered at £275.00. See its website for further details, including TOPS versions.



HOP24/HUO WAGON DETAILS

PACK A	DACK A						
B333635	Self-contained buffers	HOP 24 1/2 marking	[route info blanked out]				
B335009	Spindle buffers	COAL HOP marking	[route info blanked out]				
B335539N	Spindle buffers	HOP 24 1/2 marking	[route info blanked out]				
PACK B							
B333897	Self-contained buffers	HOP 24 marking	Load only to Stella north or south Dunston or Blyth power stations				
B334155	Self-contained buffers	HOP 24 marking	Load only to Stella north or south Dunston or Blyth power stations				
B334160	Self-contained buffers	HOP 24 marking	Load only to Stella north or south Dunston or Blyth power stations				
PACK C							
B334429	Self-contained buffers	24 1/2T marking	Kincardine Power station SC region				
B334438	Self-contained buffers	HOP marking	[route info blanked out]				
B334548	Self-contained buffers	24 1/2T marking	Kincardine Power station SC region				
PACK D							
B334949	Spindle buffers	HOP marking	[route info blanked out]				
B335039	Spindle buffers	HOP marking	[route info blanked out]				
B335703	Self-contained buffers	HOP marking	[route info blanked out]				
PACK E							
B336817	Self-contained buffers	24 1/2T marking	Load only Thorpe Marsh power station				
B336937	Self-contained buffers	24 1/2T marking	Load only Thorpe Marsh power station				
B337128N	Self-contained buffers	HOP marking	Load only Thorpe Marsh power station				

W www.accurascale.co.uk

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HORNBY B17 CLASS NO. 2864 LIVERPOOL

Until very recently, Hornby's model of the B17 Class dating from 1980 with the release of LNER No. 2862 *Manchester United* has been a tender drive model powered by a ringfield motor with rubber traction tyres. Relaunched as part of its Railroad brand, this new model has been re-engineered with a new motor moved to its boiler. Smoother running is one benefit, but room for an 8-pin DCC decoder and DCC sound if required in the now more spacious tender will please many. Also available in non-Railroad version.

Price RRP £95.99 W www.hornby.com

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DAPOL 7S-007-002 57XX CLASS AND 7S-024-001 $64XX/74XX \ GWR$ 'PANNIERS'

Received for review as this issue went to press, Dapol's newly-introduced 0-6-0 'Panniers' are making their way to retailers. Following its merger with Lionheart, the diecast GWR/BR 64XX and 74XX locomotives with plastic injection-moulded details are now available once. Choose from four liveries for the 64XX; GWR, GWR 'shirt button', BR black with early or late crest with either 21-pin DCC ready, fitted or sound-fitted variants. Its 74XX models are being released in GWR green or BR black late crest with the same sound options. Sales of its 57XX locomotives also released this month are proving popular with popular early crest BR versions already sold out with some retailers. Ten versions are being produced DCC-ready or DCC-fitted covering the same liveries as its 74XX, with the addition of unnumbered versions and two London Transport liveries - L92 and L94.

Prices 54XX: £235.00 DCC ready, £420.70 DCC sound-fitted 64XX/74XX: £400 DCC ready, £422.89 DCC ready, £550.00 DCC sound-fitted

W www.dapol.co.uk





Rails of Sheffield/Dapol launch new 4mm scale Terrier

Rails of Sheffield, Dapol and the NRM are to release models of the Stroudley 0-6-0 'Terrier' in OO gauge. Manufactured by Dapol, seven liveries will be produced, six exclusive to Rails of Sheffield and Dapol, with liveries including Stroudley Improved engine green, KESR blue, SECR lined green, Southern lined green and BR lined black in a choice of early or late crest. A seventh, (4S-NRM-001) sees A1 82 'Boxhill' painted in Stroudley's improved engine green with a gloss finish, exclusively for Locomotion Models.

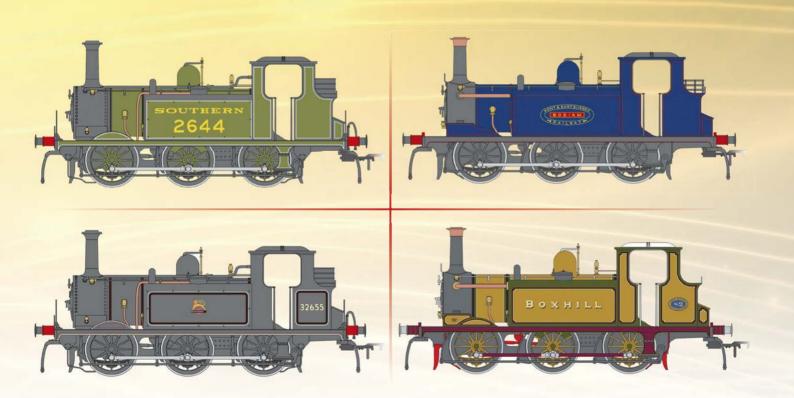


A.C.A.C.S.IVE

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Click here for extra video content from DCC concepts





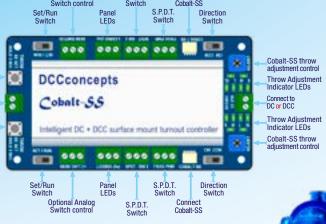
Cobalt-SS. The ultra-small motor drive turnout motor, ready to go "as is" to use with DC or DCC. So small that it can be almost hidden in the ballast, yet strong enough for all common scales. Very stable stepper motors provide the drive power... and all motor connections are plug-and-play.

Reset to default

Connect to DC or DCC

Cobalt-SS works with all common scales & gauges. All you will need is in every pack. Each output on the control board is able to operate a full crossover.





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OXFORD





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BUSCH 1044 ROAD CONSTRUCTION SET

Despite how its title describes it, this new pack from Busch is quite versatile and contains a host of accessories that can be added to most model railways depicting the 1980s to the present day. With a large assortment of tools including gas cylinders, spades, wrenches, spanners, pick axes and watering cans, plus timber, signs, pipes, manhole covers, railings, wooden timbers and metal fencing, this handy pack contains all you'll need to create a worksite either adjacent to a road or lineside. Also included is a plastic cone-shaped mound that can be sprinkled with sand or rubble, saving weight. Note: self-adhesive road and warning signs supplied are written in German.

Price £21.80

W www.goldenvalleyhobbies.com



H0/00

FERRO-TRAIN (M-305-FM) CHILDREN'S PLAYGROUND AND (M-387.211-FM) TEN OIL BARRELS

Seen on its stand at the London Festival of Railway Modelling, this ready-painted children's playground from Austrian manufacturer Ferro-Train will add instant detail to a small park. Assembled from etched-brass components it has two two-person swings, a rope swing and climbing ladders - ideal for posing figures. The oil barrels are also painted and enhanced with company loops, amongst which. Aral. Esso. Mobil and Shell.

Price Barrels €14.50, playground €28.50

W www.shop.ferro-train.com

NEW GEAR

OO

GRAMODELS LSWR 42FT COACH KITS

New in the line of resin-cast kits from military model specialist GraModels are three LSWR coaches. Depicting the 42ft variants, a Brake Third, Third and Tri-Composite are available. Seating, compartment dividers, fittings, white metal compensated bogies, vacuum cylinders and trussing is included. However, buffers and wheels must be sourced separately. The whitemetal articulated 7ft 6in LSWR bogies included with the kit are also available as separate items.

Price £32.50 (coach incl. bogies), £7.95 (bogies)

W www.gramodels.co.uk

SCALE MODEL SCENERY (AX076) RECYCLING BINS

Continuing the trend for 3D printed items, this new pack of three recylcling bins, from scenic model building and accessory specialist Scalemodelscenery, will enhance many a modern layout car park. Three different coloured panels are included, but the models are supplied unpainted. A set of three recycling decals are supplied, ready to apply to the front of the bins.

ice £4.95

www.scalemodelscenery.co.uk



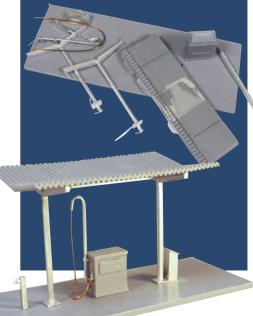
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SKYTREX (4LS/011) DIESEL REFUELING POINT

Refuelling points are a popular feature on dieselera layouts, allowing locomotives or diesel multiple units to be displayed side by side. This new cast resin and whitemetal kit from Skytrex is the ideal evening modelling project to add such an item on your model, requiring only superglue and a small needle file to smooth edges.

Price £15.00

W www.skytrexmodelrailways.com



№ NEW MODELS

DAPOL CLASS 68 CHILTERN RAILWAYS



Having taken several years to develop its OO gauge Class 68, released to some acclaim in 2017, the Welsh company has now used its 'shrink ray' to produce an N scale version to a similarly high specification.

Reviewed here is 68010 *Oxford Flyer* in Chiltern Railways grey/silver – one of seven variants covering all the major liveries so far. Also available are Chiltern 68014, ScotRail's 68006 *Daring* and 68007 *Valiant* and three DRS blue locomotives – 68001 *Evolution*, 68002 *Intrepid* and 68005 *Defiant*.

The impressive list of features includes a compact Next18 DCC decoder interface, die-cast chassis, smooth running five-pole motor, pick-ups and drive on all four axles, bright LED headlights, cab lighting, detachable Rapido couplings in NEM sockets and an accessory pack containing etched nameplates and optional bufferbeam hoses and cables.

Impressively, the electronics are designed to allow six different lighting configurations using DCC. This gives the option of switching off the cab lights at either end as required and extinguishing tail lights when hauling a train – these can also be configured for DC analogue use by two switches on the chassis circuit board.

Models with factory-fitted DCC decoders and digital sound will be available later. For the moment, the company recommends its in-house 'Imperium 2' Next18 six-function decoder as the best fit for the '68'.

All models come with a comprehensive, full-colour 32-page instruction booklet featuring detailed drawings of the model and major components, a list of spare parts and lighting and DCC sound functions as well as the usual guidance on running-in and maintenance.

FINE DETAIL

Immediate impressions are that Dapol has produced a high-quality model of this striking modern design. The large number of separately fitted components, from the silencer and cab air-conditioning pods on the roof to the fine cab door handrails and factory-fitted bufferbeam details mark this out as a quality piece of kit.

For the latter, a full set of hoses and cables is fitted at one end, with shortened versions at the opposite

The modern modular design of the Class 68 poses some real challenges, but Dapol has done an excellent job in producing a high-detail N scale model.

FACT FILE

I MANUFACTURER Dapol I CATALOGUE REF Dapol 2D-022-003 Chiltern Railways grey/silver Class 68 Bo-Bo diesel 68010 Oxford Flyer

I PRICE RRP £141.00 I WORDS and PHOTOGRAPHS

Ben Jones

See more of this model.

Visit www.brmm.ag/

Class68Unboxing

In this scale, moulded - rather than etched - grilles are the norm, but they are crisply executed.

Other highlights include the brake discs on the wheels and a plethora of minute printed detail.



end to allow the Rapido coupler to swing freely on curves. It's an ideal arrangement for a push-pull fitted locomotive and will save many modellers both time and patience for other jobs.

has a metallic finish without

being over the top.

Authentically, the two Chiltern models have the additional orange AAR push-pull receptacle fitted just above the bufferbeam. The Chiltern and ScotRail models also have larger fuel tanks than the lower-numbered DRS machines.

The whole front end is beautifully executed, laser-scanning of the prototype capturing the numerous curves and bumps very effectively, and the quality continues throughout the model. Highlights including the excellent bogies complete with polished brake discs, clever treatment of the characteristic 'undercut' beneath the cab front and superb overall shape of the body. Unlike the 'OO' gauge model, it hasn't proved possible to include etched metal grilles on the bodysides, but the moulded grilles are crisp and convincing. As on the prototype, the modular design means there are tiny details to enjoy wherever you look.





Application of the Chiltern Railways livery is neat and accurate with a good representation of the original shades and the metallic silver. Printing is crisp throughout, right down to the tiny warning notices and data panels. This is the simplest of the three livery options, but samples of the DRS and ScotRail models that we've seen also look impressive.

A die-cast chassis gives the model plenty of weight (around 100g), adding to the feeling of quality. It also gives stability and plenty of 'grunt' for hauling prototypical trains. Two brass flywheels on the driveshafts help smooth out interruptions to the traction current. The sample was smooth and quiet on DC control and ran for several hours without any issues. All four axles are driven via a gear tower on

each bogie and have brass wiper pick-ups at the rear of the wheels. The bodyshell unclips easily, revealing a neatly designed chassis housing the decoder interface and lighting control switches.

However you look at it, Dapol has delivered a compelling package and an impressive rendition of a charismatic modern diesel packed with desirable features and clever design. It's a step up in quality from some of the company's older diesel models and should prove very popular with modellers of the contemporary railway. It's also an ideal companion for Dapol's Mk. 3s, Network Rail IOA and JNA ballast boxes and Megafret intermodal flats, or the Graham Farish FNA nuclear flask carrier.

Highly recommended. ■



Dapol Class 68 Unboxing

Good things come in small packages, as Ben Jones discovers as he appraises Dapol's brilliant N Gauge version of this charismatic locomotive – read all about it in his exclusive review. Meanwhile, watch as Andy McVittie and Howard Smith unbox and then run the new model for the first time.



E. COLUMN STATE

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PROTOTYPE HISTORY



DRS CLASS 68

Over the last few years, the '68s' have quickly taken on cult status and handled a surprising variety of duties. Ben Jones takes a brief look back at their career so far.

ince the first examples landed on UK soil back in late-2013, the Vossloh/ Stadler Class 68s have become something of a cult class. Imposing looks, an impressive soundtrack, a variety of interesting and fast passenger duties and evocative names have all helped to cement their status with enthusiasts.

An initial order for 15 locomotives, financed by Beacon Rail, was placed by Direct Rail Services (DRS) in January 2012. The specification was for a 100mph, mixed traffic machine capable of hauling heavy freight and fast passenger across as much of the British network as possible. DRS intended the new locomotives to replace its ageing Class 47s, plus some of the Class

57 and 66 fleets on a variety of duties from nuclear flask trains to charter operations.

Vossloh's bespoke design for the UK - known as 'UKLight' - is based on its EuroLight concept, which combines high power with a reasonably light axle load. Interestingly, only a couple of EuroLight prototypes have ever been built. No production orders have ever been placed for full size machines, although they have been tested widely in mainland Europe.

The DRS Class 68s feature a Caterpillar 16-cylinder power unit (leading to the nickname 'Cats') rated at 3,800hp, four ABB AC traction motors, sophisticated control electronics, rheostatic and electropneumatic braking, electric train heating supply (ETS)

and AAR system multiple working/push-pull equipment.

The first 15 UKLights, 68001-015, were constructed at Vossloh's Valencia plant in 2012/13. Extensive static and low speed tests were followed by 68001 moving to the Velim test centre in the Czech Republic for dynamic testing in 2014.

Testing and staff training took place in the UK from early-2014 and the class gradually extended its sphere of operations, starting with DRS intermodal freight and Network Rail bulk ballast trains between Mountsorrel and Crewe.

The first passenger duties for the class came in September 2014, when extra trains were operated by DRS to the Ryder Cup at

Gleneagles in Scotland. Since then, charter and spot hire operations have formed a significant part of the type's workload, with charter trains including the 'Northern Belle' taking the class far and wide across the network.

An option for a further ten '68s' (68016-025) was taken up by DRS in September 2014 and delivered by April 2016, followed by seven more in July 2015 (68026-032) and two more in January 2017, taking the total to 34 by mid-2017. By the time the later batches were being delivered, Vossloh España had become part of the Stadler group and the final locomotives carry Stadler, rather than Vossloh builders plates.

Passenger duties

Even while deliveries were still taking place, rumours abounded that DRS had done a deal with Chiltern Railways to supply '68s' to replace DB Schenker Class 67s on Marylebone-Birmingham Snow Hill 'Chiltern Mainline' services. This was indeed the case, and Class 68s delivered in Chiltern silver/grey (68010-015) were phased into use from December 2014. The six locomotives are slightly modified for working in pushpull mode with Chiltern's modernised Mk 3 stock and Mk 3b Driving Van Trailers. To provide extra cover, DRS blue 68008/009 also have this capability and can often be seen on hire to Chiltern.

Two more locomotives, 68006/007, have been sub-leased to Abellio ScotRail since April 2015 to work peak-hour commuter trains between Edinburgh and the Fife Circle. To match the DRS-owned Mk 2f stock they haul, the pair have been reliveried in ScotRail's attractive dark blue with stylised Saltire logos.

In December 2015, First Group retained the TransPennine Express franchise with an ambitious bid that included three new fleets of inter-city trains. Perhaps surprisingly, given the dominance of multiple units on the modern passenger railway, one of these orders was for 13 sets of locomotive-powered push-pull sets built by CAF in Spain.

Later this year, the five-piece Mk 5a sets, powered by sub-leased DRS Class 68s should be introduced on the Liverpool-Newcastle route. Eventually they will move to the Manchester Airport-Middlesbrough route, replacing Class 185 DMUs.

DRS is leasing 68019-032 to TPE for these services and by early-2018 68019 *Brutus* and 68021 *Tireless* had already been reliveried in the operator's striking silver/blue colours (notably without yellow warning panels on

the cab ends). Last November, 68021 became the second of the class to visit the Czech Republic, where it was joined in March by the first complete set of CAF Mk 5a stock. Dynamic brake force and door interlocking tests will take place at Velim before the train moves to the UK for approval tests.

If all goes to plan, the '68s' and Mk 5a sets are due to enter service with TPE from December.

DRS work

The rest of the Class 68 fleet continues to undertake a wide variety of freight and charter work for DRS. Duties have included Anglo-Scottish intermodal trains on the West Coast Main Line (now handled by electro-diesel Class 88s), intermodals on the Highland Main Line to Inverness, charter work for promoters such as UK Railtours, Network Rail infrastructure trains and nuclear flask trains for DRS' parent company the Nuclear Decommissioning Authority. The latter take the class all over the country, with pairs of '68s' often used to provide

insurance against failures.

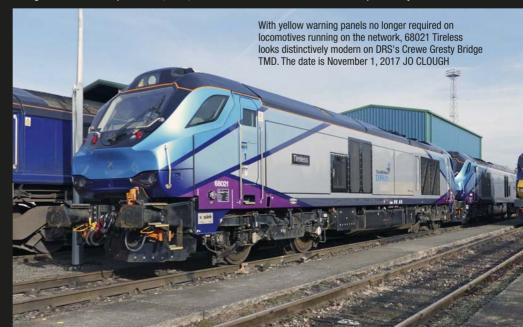
In recent months, Class 68s have also started to be paired with Class 88s on certain nuclear trains (and on a couple of railtours), providing an opportunity to compare the diesel version with bi-mode sister. While externally similar, the '88s' are fundamentally an electric locomotive fitted with a 950hp 'last mile' diesel designed to allow shunting of trains off the electrified network.

Following the sale of the 'Northern Belle' dining train by Belmond in late-2017, Class 68s no longer work the train and DRS traction will eventually be replaced by West Coast Railways Class 57s.

Powerful, versatile and with little competition from other modern UK-compliant diesel designs, demand is likely to remain strong for the Class 68s over the coming years, especially if the Mk 5 coaches are a success and more operators follow TPE's example. It remains to be seen whether more '68s' will be ordered, or whether government ambitions to reduce emissions from diesels will favour their bi-mode sisters.



Caught at Norwich on September 19, 2016, 68024 Centaur wears the revised DRS 'Compass' livery. BEN JONES



№ NEW MODELS

MURPHY MODELS ROAD VEHICLES



Best known for its OO gauge models of Irish railway prototypes, Murphy Models has moved into road vehicles with this new twin pack.

This pair of finely detailed, injection moulded plastic models depicts two very different vehicles seen on the streets of Dublin in the early years of the 20th century. The Leyland fire engine is a replica of Dublin Fire Department's first motorised appliance, designed in 1909 by DFD Chief Captain Purcell. It was also the first Leyland fire engine, using a chassis supplied by the company. This vehicle and two others were built in Scotland, with others thought to have been used in England and India. The Dublin engine is thought to have survived until the 1950s, when it was scrapped.

A very different machine is an improvised armoured personnel carrier (APC) used during the 'Easter Rising' conflict of 1916. The British Army leased a number of Daimler flatbed lorries from Dublin-based brewer Guinness. These were converted at the Great Southern & Western Railway's Inchicore Works, using steam locomotive fireboxes mounted on the rear section to create armoured vehicles. Locomotive cab roofs were also fitted over the standard lorry cab roof and steel plates fabricated to provide additional protection. The vehicles were the forerunners of modern APCs, used by armed forces all over the world.

Gun ports were drilled into the fireboxes, but dummy ports were also painted on to confuse snipers.

Murphy's model clearly shows its railway origins, with the locomotive fireboxes prominent on the flatbed section and the overhanging cab roof. Although not a railway vehicle, it will certainly be of interest to anyone with a passion for the history of the country's railways and the role they played in the formation of the independent state.

On the left, the British Army found a grim new use for an old Guinness flatbed lorry. Right, the Leyland fire engine, resplendent in red and gold.

Discover more about the history of the unusual Daimler-Guinness Type 1b Iorries. Visit www.brmm.ag/

ArmouredLorries

FACT FILE

I MANUFACTURER Murphy

I MODEL MM1710 Leyland Fire Engine and Daimler APC I **PRICE** £55.00 (€49.00 Roll

I AVAILABILITY Exclusive to Murphy Models and stockists

I WORDS Ben Jones I PHOTOGRAPH Howard

Both models feature extensive details and depict unusual Irish subjects from a turbulent time in the country's history. Whether you're a collector of quirky road vehicles or are interested in Irish history, this pack is well worth a closer look. ■

Armoured Daimler-Guiness Lorries: In a nutshell

There were three types of these vehicles:

- Type 1 The most commonly seen version, featuring cylindrical locomotive smokeboxes bolted together and placed on the rear of the vehicle, with a small area of the flatbed extending past the smokeboxes.
- Type 1a was made from two long smokeboxes, with four gun ports, and seemingly only two dummy ports painted on each side. The passenger / fighting compartment was slightly shorter than the ones seen on Types 1b and 1c.
- Type 1b and 1c were made from four shorter smokeboxes. Types 1b and 1c can only be differentiated by small details, such as the layout of their pistol ports and support bars on the cab roof. 1c also had substantially more dummy ports painted on than 1b. These are also the most commonly photographed Daimler-Guinness Iorries.
- Type 2 A box-shaped version with a fighting compartment adjoined to the driver's compartment. It appears to have been made from steel plates. It has a rectangular rear, which appears to be made from two water tanks riveted together. Only one photo is known to exist.
- Type 3 Similar to Type 2, but with a V-shaped prow, probably for deflecting bullets. Only two photographs are known to exist.
- Type 1s had holes in the roof for chimneys that were sealed with metal plates, which would be necessary to avoid grenade attacks or rebels firing down into the passenger compartment from above. There was a door at the rear of the vehicle, for entry and exit - for the Type 1, this was the smokebox hatch. It is unclear what kind of hatches the Type 2 and 3 vehicles had. Usually four small pistol ports were added to each side of the smokeboxes, and dummy ports were painted to confuse snipers.





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Squires will be exhibiting at the following shows in 2018 -Diary updated as bookings are confirmed.

May 4 - 6 - The 50th Bristol Model Railway Exh The Thornbury Leisure Centre, Alveston Hill, Thornbury, Near Bristol, BS35 3JB. Friday 1pm - 7pm, Sat 10 - 6.30pm, Sun 10 - 5pm. Coming to Bristol Show? Why not try Saturday?? or Sunday??? The show is less busy

May 12 - READING The Association of Larger Scale Railway Modellers Trade Show and Exhibition, Rivermead Leisure Centre, Reading. RG1 8EQ. Sat 10 - 4.30. *FREE entry to ALSRM Members*

May 19 LITTLEHAMPTON South Downs 7mm NGA Group SWING Model Railway Exhibition, The Littlehampton Academy, Fitzalan Rd, Littlehampton, W/Sussex **BN17 6FE** 10-4.30. 10th Anniversary - New Venue - plenty of FREE Parking www.swing.model-railway.org.uk.

June 2 - DONCASTER Gauge 'O' Guild Summer Show, The Dome Leisure Centre, Doncaster Lakeside, Bawtry Road, Doncaster, South Yorkshire, DN4 7PD. Sat 10 - 4.00. June 2/3 - SHILDON, Model Railway Exhibition, Locomotion Museum, Shildon DL4 1PQ Sat/Sun 10 - 5pm. *Free Car Parking & Free Entry to Museum and Exhibition -Yes that's Free Entry!!!!!* :-)

June 9/10 - GLASGOW 'O' Gauge Model Railway Exhibition, Pollokshaws Burgh Hall, Pollokshaws Road, Glasgow, G43 1NE.

Sat 10-4, Sun 11-4. *Free Parking, Close to Railway Stations* June 23/24 - PERTH Model Railway Exh, Dewars Ice Rink, Perth, PH2 0TH Sat 10-5.30, Sun 10-5

July 14/15 - BARRY & PENARTH Model Railway Exhibition - Clubs 40th Anniversary. St Cyres School, Sully Road, Penarth, Vale of Glamorgan, CF64 2XP. Saturday 10 - 5, Sunday 10-4.30.

July 28/29 - North Shields RAILEX NORTH EAST, John Spence Community High School, Preston Road, North Shields. Tyne & Wear. NE29 9PU Sat 10-5, Sun 10-4.30. Aug 4/5 - SOUTHWOLD Waveney Valley Model Railway Exhibition, Saint Felix School Southwold, IP18 6SD Sat 10 - 5pm Sunday 10-4.30pm. **Plenty of FREE Parking.**
Aug 11 - BEXHILL Model Rail Exh, St. Richards Catholic College, Ashdown Road, Bexhillon-Sea, East Sussex, TN40 1SE Sat 10 - 5pm *Plenty of FREE Car Parking on site!* Aug 11/12 - SKIPTON Model Railway Exhibition, Skipton Academy (Formerly Aireville School) Gargrave Road, Skipton, BD23 1UQ, Sat 10 - 5, Sun 10 - 4.

www.skiptonrailsoc.org.uk Sept 1/2 - TELFORD GUILDEX 2018, O Gauge Exhibition and Trade Show, The Telford Exhibition Centre, St. Quentin Gate, Telford, TF3 4JH, Saturday 10 - 5, Sunday 10 - 4.

Sept 22/23 - HALIFAX Model Rail Exhibition, North Bridge Leisure Centre, Halifax, HX1 1XH Sat/Sun 10 - 5 Oct 6/7 - SHILDON, Model Railway Exhibition, Locomotion Museum, Shildon DL4

1PQ Sat/Sun 10-5pm.*Free Car Parking and Free Entry to Museum & Exhibition - Yes that's Free Entry!!!!! :-)

Oct 13/14 - ALDERSHOT Farnham MRC 44th Exhibition. Alderwood Leisure Centre. Tongham Road, Aldershot, Hants. GU12 4AS. Sat 10-5, Sun 10 - 4.30. www.farnhammrc.or.uk

Nov 3/4 - ANGMERING W.Sussex Area Group N Gauge Society "All Scales Model Railway Exhibition", The Angmering School, Greenwood Drive, Station Rd, Angmering, BN16 4HH,

Sat 10-5 Sun 10-4 *Now 2 Day Show - Short Walk Angmering Station - Features various scales not just N Gauge!!!*

Nov 10/11 - TELFORD IPMS SCALE MODEL WORLD 2018 The Telford Exhibition Centre, St. Quentin Gate, Telford, TF3 4JH, Sat 10-6, Sun 10-4.00 FREE Entry for IPMS Members

Nov 16-18 - WAKEFIELD 57th Model Railway Exhibition, Thornes Park Athletics Stadium, Horbury Road, Wakefield, WF2 8TY Friday 5.30-9. Saturday 10-5.30. Sunday 10-4.30

Nov 17/18 - WORKINGTON Model Rail Show, University of Cumbria, Energus Building, Blackwood Rd, Lillyhall Estate, Workington, Cumbria, CA14 4JW. Sat 10 -5, Sun 10 - 4. **5th Year at this NEW VENUE*

Nov 24/25 - BIRMINGHAM Warley National Model Railway Exhibition, Hall 5, NEC Birmingham **B40 1NT**. Sat 9.15 - 6pm, Sunday 9.15 - 5pm. www.warley-mrc.org.uk

EXHIBITIONS & SHOWS IN 2019

Jan 26/27 - KENDAL Model Railway Exhibition Leisure Centre, Burton Rd, Kendal, LA9 7HX Sat/Sun 10-5

Feb 22-24 - GLASGOW Model Rail Scotland Scottish Exhibition Centre, Glasgow, G3 8YW Fri 10.30-6, Sat 9.30-6, Sun 9.30-5 www.modelrail-scotland.co.uk

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Bachmann Baldwin Unboxing

Four years ago Bachmann announced a range of models in 009 – that is 4mm: 1ft scale running on 9mm (N gauge) track to represent narrow gauge prototypes. To tie-in with the anniversary of the start of WW1, its first locomotive, a War Department (WD) Baldwin has now arrived. Let's take a closer look.



WATCH THE VIDEO HERE

(You must have a wifi connection to stream video content)





Pre-order Bachmann Baldwin 009



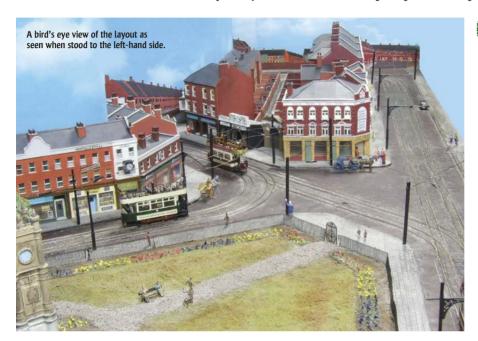








If city centre modelling is your thing, or you have a large collection of diecast vehicles and a limited amount of space, then a tramway layout may be an option to consider.



ased loosely on the tramway system on the Broadway, Ilford, this compact layout built by Alan Lawrence utilises all the advantages of modelling a tram system (tight curves, limited clearances and compact rolling stock) to achieve plenty of operational interest.

The trackplan may initially appear complex, however, after a brief analysis, you will see that the many loops all form an integral part of the trickery it creates. The trams effectively run

around on circuits, running down a high street one way, before performing a full loop and returning back the other way. If required, the trams can switch from one circuit to another, to provide a little variety.

This has to be one of the most well planned compact layouts to have ventured on the exhibition circuit. The trams are free to circulate around the Ilford-inspired houses, without creating confusion.

The eye is led to the 'focal point' of the layout in the form of a junction. The overhead catenary with numerous wires also keeps the eye entertained.

Despite being set in an urban environment, there

FACT FILE

- **LAYOUT NAME** Broadway Trams
- **SCALE/GAUGE** 2mm:ft / N gauge
- **SIZE** 4' x 2'
- **ERA** 1920 1930
- CONTROL 12V DC
- LAYOUT TYPE Exhibition
- ▶ PHOTOGRAPHY Ray Lightfoot

FOR

✓ Compact geometry with tight radii curves and simple pointwork ✓ Urban modelling allows a lot to be incorporated into a compact space ✓ Trams can be run close together, realistically, without appearing inaccurate.

AGAINST

- ✗ Most of the rolling stock needs to be built from kits or adapted from static models ✗ Tramways require overhead wiring and masts, though the wires can be omitted in this smaller scale
- X Trams offer limited variations in operability.

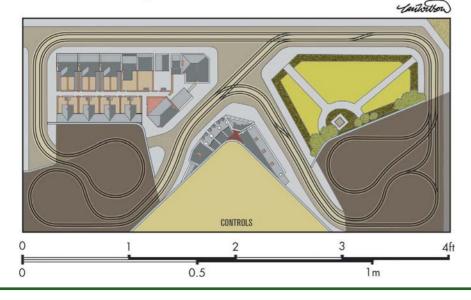
are one or two verdant areas on the layout - a small park with a stone monument occupies at least one third of the total surface area, allowing for a scenic break from the imposing architecture, an excuse for a few trees and the chance to model some colourful flower beds.

HAND-BUILT TRACK

Alan fabricated the track from code 40 rail using copperclad sleepers from the 2mm scale association shop. As with the prototype model, most of the track on this tramway is buried in the cobbled roads. Alan has managed to replicate this convincingly and in the process has only used half the quantity of sleepers of standard railway track.

SMALL, BUT NOT SIMPLE

When building the layout, you may think that due to its small size, the construction of the model would be relatively easy. This isn't necessarily the case, as the rolling stock items readily available are few and far between. There are a limited number of ready-to-run tram prototypes in both N and OO gauges and should nothing suit the task, then alternatives in the form of whitemetal kits must be sought and built. **BRM**







FOURTEE COLLERY

An industrial setting is ideal for minimum space modelling. When combined with a less commonly employed scale, it can also provide operational interest.



A large quantity of track in a small space - a common trait of industrial modelling.

his is one of a few layouts that
Doug Richards, member of the
Nailsea and District Club, has
built. He chose to model in
the less common 3mm:ft scale,
more commonly referred to as 'TT' - a scale
developed in the UK by Tri-ang.

This layout shows just what can be squeezed into this 'half-way' scale - a meeting point between 2mm:ft (N gauge) and 4mm:ft (OO gauge). Modelling in 3mm:ft has its advantages and disadvantages, like most scales, but those who model in this scale argue that due to its size, it is more convenient than OO, without the fiddliness of N gauge. Should you wish to model in 3mm:ft however, you'll soon notice the lack of ready to run models unlike the N and OO gauge markets.

DESIGNED WITH PORTABILITY IN MIND

Fourtree Colliery is a portable layout that measures a mere 40" x 12", built for a challenge issued by the 3mm Society in 2005 during its 40th Anniversary. Being a 3mm Society member, Doug naturally accepted - the only rules were that the layout must be a working model (i.e. not a static diorama) and fit within the confines of the measurements already stated.

Because of the small size of this layout, it can be picked up under one arm and placed on the back seat of a car - ideal for transporting to shows or meets. There's plenty of pointwork to keep operations interesting as well as



Short platforms provide an excuse to allow the running of passenger trains (most probably full of workers) on and off scene

a turntable to save space on run-round. Even a platform allows for some passenger workings to be incorporated. As you'd expect when working in this scale, all of the buildings and structures were scratchbuilt

A MIXTURE OF TRACK

Doug used a mixture of trackwork - some older GEM points, but also flexi track, produced by the society. The 3mm society has been an important player in promoting the use of this still rather 'niche' scale in the country and joining as a member is highly recommended, if not for parts such as track or kits, simply for friendly advice.

So, if space for a layout really is limited then take a leaf out of Doug's book - it really is possible! **BRM**

FACT FILE

- **LAYOUT NAME** Fourtee Colliery
- **SCALE/GAUGE** 3mm:ft / 12mm gauge
- **SIZE** 3'4" x 1'
- **ERA** BR steam
- CONTROL 12V DC
- **LAYOUT TYPE** Exhibition
- **PHOTOGRAPHY** Doug Richards

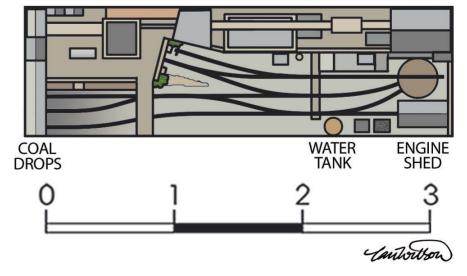
FOR

- ✓ Colliery buildings help to conceal storage roads and sector plate ✓ Plenty of sidings for varied movements of coal and other trains
- ✓ Turntable and passenger workings for added operational interest. ✓ Can fit on a standard table without support.

AGAINST

✗ Only small locos can be used due to lack of run-round space ✗ Rolling stock not very varied due to lack of storage space ✗ Due to the nature of the scale, locos and stock will need to be mainly kit-built.

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EXHIBITIONS

Bredgar & Wormshill Open Day Model Railway Show

The Warren, Swanton Street, Bredgar, Sittingbourne, Kent ME9 8AT Opening Times: Sunday 1030 - 1630 Prices: Adult £10.00 Child £4.00 (4-15) Under 4 Free Family £25.00 (2+3)

MAY 12 - MAY 13

Mickleover Model Railway Group -**Derby Model Railway Exhibition**

The Roundhouse, Roundhouse Road, Pride Park, Derby, Derbyshire DE24 8JE **Opening Times:**

Saturday 1000 - 1700 Sunday 1000 - 1630

Prices: Adult £8.00 Under 14s free (when accompanied by an adult)

T: 07973 640746

MAY 19 - MAY 20

EM Gauge Society Expo EM Spring

Bracknell Leisure Centre, Bagshot Rd, Bracknell, Berkshire RG12 9SE

Opening Times:

Sat 10.30-17.30. Sun 10.00 - 16.30 Prices: 2 day Visitor £9.00. Family £16.00. Accompanied child £2.00.

Members £7.00.

MAY 26 - MAY 28

Bala Model Railway Show

Ysgol y Berwyn (Bala School), Ffrydan Road (A4212), Bala, Gwynedd. LL23 7RU **Opening Times:** Sat & Sun 10.00-17.00

and Mon 10.00-15.30 Prices: Adults £5.00. Family (2+2) £10.00 T: 01678 540666

W: www.bala-lake-railway.co.uk

CONTACT US

DIARY DATES are now ONLINE!

As of the December 2016 issue of BRM, only a select number of Events will be listed within the magazine. For an extensive list of all Diary Dates please visit our website at the address below.

www.brmm.ag/brmevents

Enter your event on our website www.world-of-railways.co.uk

Closing date for the June issue is May 21st

MAY 26 - MAY 27

Railex 2018 (Aylesbury)

Stoke Mandeville Stadium, Stadium Approach, Aylesbury, Bucks. HP21 9PP Opening Times: Sat 10.30 -17.30, Sun 10.00-17.00 Prices: Adults £9.00. Children £5.00 Family £20.00 Sunday only: up to two children admitted free with paying adult

T: 01296 437475 W: www.railex.org.uk

Bressingham Narrow Gauge East Bressingham Steam Museum, Diss,

Norfolk IP22 2AA

Opening Times: Saturday 10.30 - 17.00 Prices: Entry £6.50

The 7mm Narrow Gauge Association **Model Railway Exhibition**

Burton Town Hall, King Edward Place, Burton on Trent, Staffordshire DE14 2EB **Opening Times:** 10.30 - 16.30 Prices: Adults £5.00, Members £3.00, Partners & Children FREE

OTHER EVENTS

MAY 4

Great Eastern Model Railway Goes Scenic 199 Plumstead Road,

Norwich, NR1 4AB Opening Times: Friday 1000 - 1500 T: 01603 431457

MAY 5 - MAY 7

Heritage Steam Gala Bressingham Steam Museum, Nr Diss, Norfolk T: 01379 686900

W: www.bressingham.co.uk

Buckinghamshire Railway Centre Diesel Day Station Road, Quainton, Nr Avlesbury, Buckhamshire HP22 4BY Opening Times: Sunday 1030 - 1700 T: 01296 655720

UK Toy & Model Auctions Ltd

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JUNE 9 - JUNE 10

West Somerset Railway Diesel Gala Minehead, Somerset TA24 5BG

Opening Times: Various

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JUNE 16 - JUNE 18

Bala Lake Steam Gala

Llanuwchllyn, Bala, Gwynedd. LL23 7DD **Opening Times:** 9.00 - 18.00

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W: www.bala-lake-railway.co.uk

TRAIN & TOY FAIRS

APRIL 28

Tov & Train Fair - Worcester

Perdiswell Leisure Centre, Bilford Road, Worcester, Worcestershire WR3 8DX Opening Times: Saturday 1030 - 1400 Prices: Admission £2.00 T: 01270 652773 Tony Oakes

Bluebell Railway

The Station, Station Approach, Horsted Keynes, Haywards Heath, West Sussex RH17 7BB

Opening Times: Saturday 1000 - 1600 Prices: Admission Platform ticket, or free with train travel ticket or Bluebell membership card T: 07866 641215

APRIL 29

Barry Stockton Train & Toy Collectors Fair - Port Sunlight

Hulme Hall, Port Sunlight, Wirral, Mersevside CH62 5DH

Opening Times: Sunday 1030 - 1430 Prices: Adult £2.00 Child £0.50 T: 0151 334 3362

Jim Corr Toy & Train Fair

- Chester-le-Street

Park View School, Lombard Drive, Chester-le-Street, Co Durham DH3 4BB Opening Times: Sunday 1000 - 1500 Prices: Early Ent £5.00 Adult £3.00 OAP/Child £2.00 T: 07504 035955

Billericay Model Railway Group

Galleywood Heritage Centre, The Common, Galleywood, Chelmsford CM2 8TR **Opening Times:** 10.00 - 17.00 Prices: Adults £5.00. Under 18 £3.00. Concessions £4.50. 5 to 13 Years Free.

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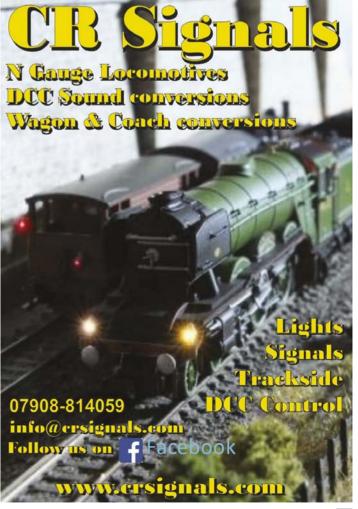


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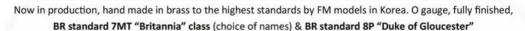
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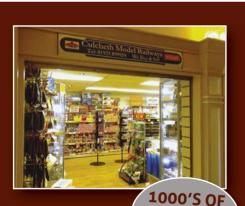






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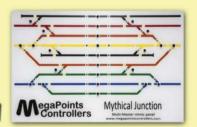
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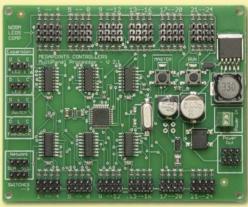
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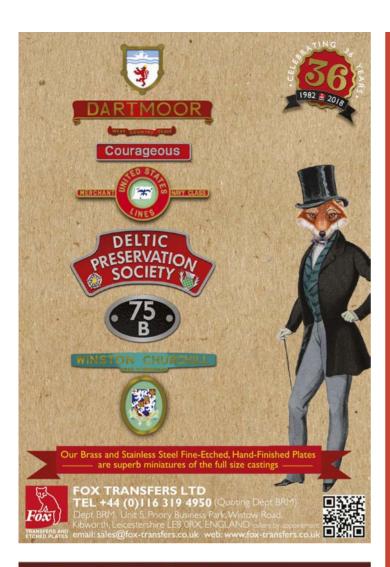
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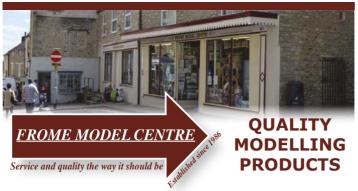
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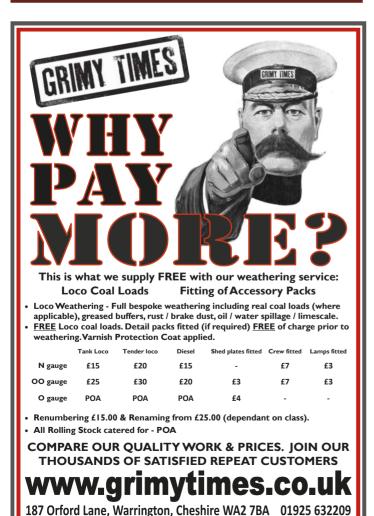
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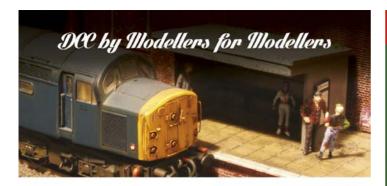


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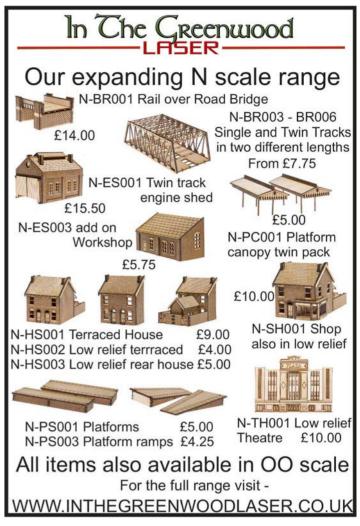
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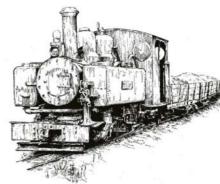
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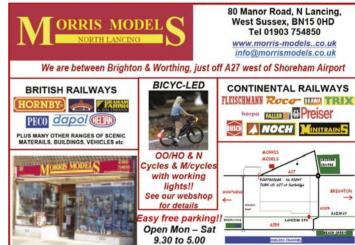
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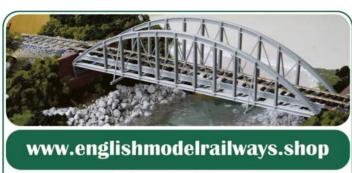


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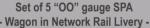
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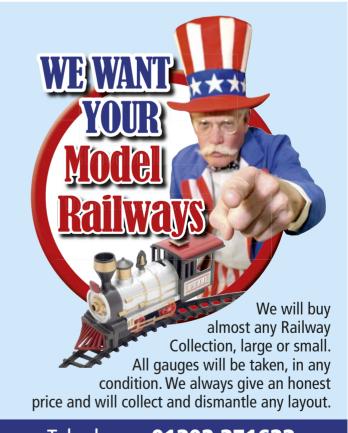
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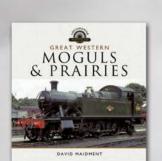
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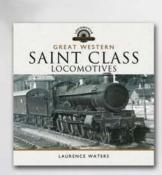
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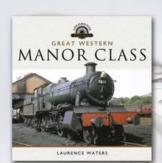
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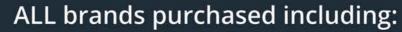
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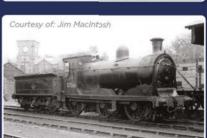




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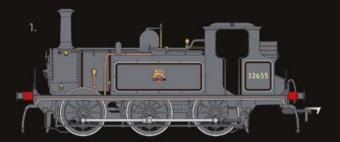


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TAIL LAMP

In view of **BRM**'s 25th birthday (issue 1, April 1993) we wondered what had become of regular column 'Lock's Siding' and 'Jack the Station Cat'. Alan Cliff brings us up to date.

eventy years ago a 12 year old schoolboy was given a Bassett-Lowke circle of three-rail track complete with two points. On this track ran a Bassett-Lowke LMS compound 4-4-0 No. 1036 with a mixture of Bassett-Lowke and Hornby wagons and vans. With them came the latest edition of the Bassett-Lowke Model Railway Handbook. Perusing the book, the boy found a photo of the writer Gilbert Thomas admiring a Bassett-Lowke locomotive, and he thought what a good idea it was to write about model trains.

However, as writing didn't appeal, the idea to emulate Gilbert Thomas disappeared. Then twenty-five years ago one David Brown the Editor of a proposed model railway magazine, to be entitled British Railway Modelling, contacted the now middle aged former schoolboy and asked if he would be willing to write an article for the first issue. Mr. Brown rather liked the article and commissioned five more and so the 'Chronicle of Lock's Siding' was born and marched on for one hundred and fifty six consecutive monthly columns. This established a world record for a freelance writer contributing to a national model railway magazine.

Lock's Siding is still the name of the writer's 0 gauge 3-rail standard scale layout. Only once did a photo of part of the layout ever appear for the simple reason that the writer used the name 'Lock's Siding' to introduce **BRM** readers to British makers of ready-to-run 0 gauge past and present. One reader commented that Lock's Siding must have been the scale size of Toton marshalling yard, judging by the amount of traffic that passed through. Actually it only had one platform, and a siding.

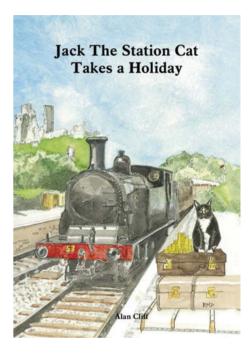
Presiding over the station was its cat called Jack, whose antics amused many, but not all readers. Perhaps in the hope of removing the feline from the magazine some **BRM** fans suggested that Jack the

Station Cat become a character in a series of children's books. In the year 2000 this happened, but somehow Jack stayed as a constant character in the column. In 2006 the column finally came to an end, as it demanded a lot of time.

Readers might like to know that other locomotives have passed through Lock's Siding in the subsequent years. Some are from famous 0 gauge layouts that contributed to our hobby. Thus the LMS compound No. 1032 from Jack Ray's tworail standard scale 'Crewchester' found itself rubbing frames with the clockwork LMS (ex-L&Y) 0-6-0 No. 12151 from Norman Eagles' 'Sherwood Section of the LMS.' Alongside them might be found a Metropolitan Bo Bo electric loco from the 'Midland and Southern Counties Railway' the outside third rail layout of John Hart, mentor of Jack Ray and many other modellers. Over 50 years ago John sought to improve DC motors for 0 gauge. The modern supplier of DC mechanisms MSC and their JH motor recall his contribution.







Peeping out of the siding is a Hornby clockwork 0-4-0 tank converted to battery operation by Allan Pratt, a pioneer in 16mm scale narrow gauge modelling and a tinplate enthusiast extraordinaire. Then there is a lovely little Caledonian 0-4-4 tank that once graced the layout of Bill Soutar in Scotland.

Two very interesting locos are a pair of LNER 4-4-0s, a D20 and a D21 built by the Leeds Model Company some 60 years ago for the Cleethorpes Model Railway. They had recently been refurbished by Keith Murray of Habrough. So the list could go on with appearances by locomotives from modern RTR makers in 0 gauge ranging from an ACE Trains LMS 'Jubilee' 4-6-0 5712 *Victory* to a WJV Models GWR 14xx 0-4-2 tank. These latter two splendid models are available in two- or three-rail standard scale (28mm back-to-backs.)

It just remains for the now 82-year-old former schoolboy to congratulate **BRM** on achieving their Silver anniversary and thanking them for inviting him to contribute to the magazine.



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SECR Birdcage Coaches	hattons.co.uk/bc	£55.21	Mar 2014							
Class H1 & H2 Atlantic 4-4-2	hattons.co.uk/h2atlantic	£161.46	Mar 2013							
Baldwin Class 10-12-D 4-6-0	hattons.co.uk/baldwin460	from £127.46	Jul 2014							
Class 90	hattons.co.uk/c90	from £152.96	Jul 2014							
Class 117 DMU	hattons.co.uk/c117	£254.96	Sep 2015							

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Class 121/122	hattons.co.uk/dapolbubble	from £123.25	Dec 2012							I.
Class 142	hattons.co.uk/c142	from £115.18	Jan 2011							
Class 59	hattons.co.uk/dapol59	from £124.43	Oct 2015							
GWR 'Large Prairie' 2-6-2T	hattons.co.uk/dapolprairie	from £115.56	Dec 2017							

Hattoni	Link	Price	Date announced	CAD done	In Tooling	Seen 1st EP	Decorated samples	In production	On Board Ship	Released
O Gauge 50t Warwell Wagon	hattons.co.uk/ogaugeww	from £85	Oct 2016							
ICI Hopper Wagon	hattons.co.uk/ici	from £24	Mar 2015							
SECR P Class 0-6-0T	hattons.co.uk/pclass	£99	Sep 2017							
Andrew Barclay 14" & 16" 0-4-0ST	hattons.co.uk/barclay	£99	Sep 2017				ľ			
Beilhack ZZA Snowplough	hattons.co.uk/beilhack	£43	Oct 2016							
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Class 47xx 'Night Owl' 2-8-0	hattons.co.uk/47xx	£154	Nov 2014							
Class 07 Shunter	hattons.co.uk/cl07	from £111	Jan 2016							
O Gauge Class 50 (Refurbished)	hattons.co.uk/hel50	£600 (EST)	Apr 2017					/2		v.

(HORNBY)	Link	Price	Date announced	CAD done	In Tooling	Seen 1st EP	Decorated samples	In production	On Board Ship	Released
Hltachi IEP Class 800	hattons.co.uk/IEP800	from £239	Nov 2016							
Class 87	hattons.co.uk/hornby87	from £144	Nov 2016							
SR 'Lord Nelson' 4-6-0	hattons.co.uk/lordnelson	from £136	Jan 2018							
NBR Class J36 0-6-0	hattons.co.uk/J36	from £112	Jan 2018							

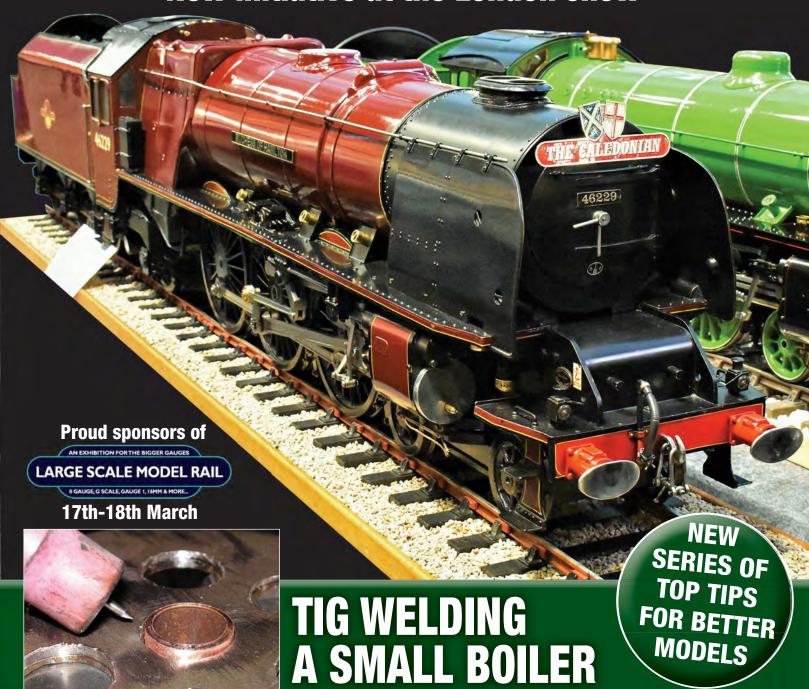
	Link	Price	Date announced	CAD done	In Tooling	Seen 1st EP	Decorated samples	In production	On Board Ship	Released
GER/LNER Class N7 0-6-2T	hattons.co.uk/oxN7	from £87	Jan 2017							
BL 18" Howitzer Railgun	hattons.co.uk/railgun	from £42.50	Jan 2018							
5 Plank Open Wagon	hattons.co.uk/ox5p	£10	Jan 2016							

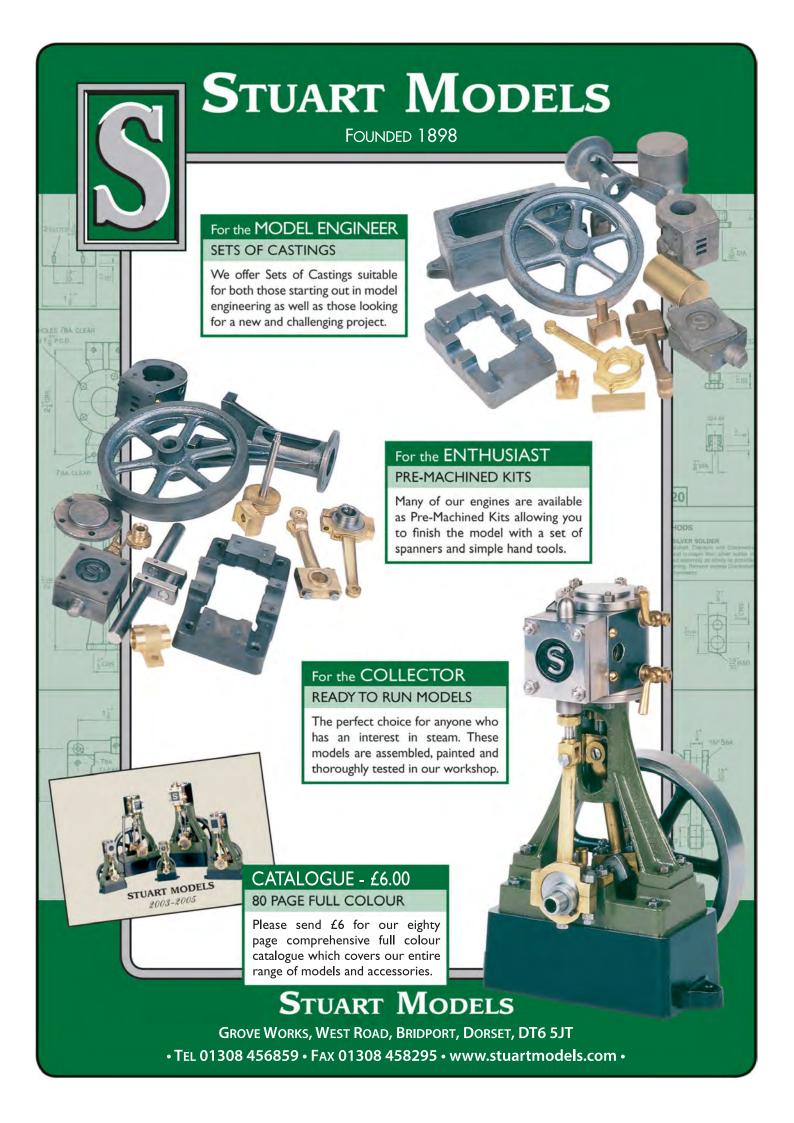
Shows the stage the project is at based on the information available to us. CAD: Computer Aided Design. 1st EP: First Engineering Prototype. TBC: Price is yet To Be Confirmed (EST): Price is estimated.

THE MAGAZINE FOR MODEL ENGINEERS



Welcome to the Year of Engineering New initiative at the London show









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FRONT COVER

Among the many superb miniature locomotives on display at the London Model Engineering Exhibition was this 5in gauge LMS Coronation class 4-6-2 Pacific 'Duchess of Hamilton' built by Martin Parham and displayed on the Maidstone MES stand.

Photo: John Arrowsmith





EDITORIAL

A new face but traditional values

elcome to *Engineering in Miniature* magazine and regular readers will note that there is a new face in the picture above. I am Andrew Charman, your new editor, and I must start by thanking my predecessor Phil Parker for his stewardship of the magazine.

Some readers may know me as the editor of *EIM*'s sister magazine *Narrow Gauge World*. Rest assured that I am also a

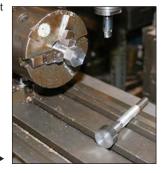
model engineer, though I admit in recent times a somewhat latent one. I was lucky back in the early 1970s when in the first week of 'big school' the boys in my form were separated into two groups, and I was in the half sent to metalwork, rather than woodwork – I've never been able to get on with wood though I greatly admire those who can.

I thoroughly enjoyed metalwork and before long was also attending evening classes, restoring my teacher's 5-inch gauge tank loco (particularly its frustrating mechanical lubricator...) and starting a project to build a one-inch scale 'Minnie' traction engine. Sadly that project, and my model engineering generally, went on long-term hold as I built a career in motoring journalism, though I still have all the bits, so one day...

The passion was revived when I relocated to Wales in 2007 and started tending to 12in to the foot models in the workshops of the Welshpool & Llanfair Light Railway, while also

passing out as a locomotive fireman. Pressure of work has kept me out of the workshop in recent times, though I am proud to think that the W&LLR's Kerr Stuart 0-6-2T 'Joan' runs today with a couple of quite complex bolts in its motion made from solid bar by me. I even got to indulge in the then to me black art of using a dividing head to machine hexagonal heads!

Hopefully this new role will provide the answer to my recent lack of model engineering – if you don't have time for your hobby, make your hobby your job! I am getting my own garage workshop out of mothballs which involves clearing the rubbish my offspring have 'stored' in the way – there's a 12in swing Clarke lathe in there somewhere...



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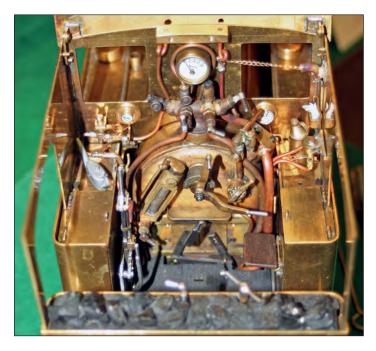
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Future features

Enough about me, however, you will want to know my plans for this magazine. I'm very familiar with EIM, owning almost a full set back to that first issue in April 1979 with the two gorgeous Heywood 15in gauge locos on its cover. My idea of what the magazine needs evolves from three basics, which are not rocket science. In no particular order there should be included instructional features for the new entrants to model engineering, particularly the young. There should be in-depth features that even the most experienced model engineers will gain something from, and there should be multi-part constructional features showing how models are built - highly instructional and hopefully encouraging others to build their own.

That's what I want to do with *EIM*, but it won't happen immediately - please give me a couple of issues to at least get my feet under the bench! And while I may have firm views of what should be in these pages, no opinion is more important than those of you the readers – please write and tell me what you want to see in *EIM*.

Should you wish to share your work with others by contributing to the magazine, all the better - we pay for features you know! If you think you have something our readers would enjoy seeing in the pages of *EIM*, please get in touch – you don't have to be an expert wordsmith, that's our job.

Midlands Model Rail

By the time you read these words I will have met several readers at the London Model Engineering Exhibition, and I am hoping to meet many more of you at events this year, starting with the Midlands Garden Rail Show on 17th-18th March. *EIM* is a co-sponsor of this event with our sister magazine GardenRail, and some of you might wonder why we lend our name to a 'small scale' event.

Well we are right to do so, as the smaller scales are appealing increasingly to model engineers, particularly those who have perhaps downsized their premises with less space for the workshop. Many a model engineering society now includes a 32/45mm line at its site.

Recent years have seen much greater complexity, accuracy and proper engineering on models particularly in 16mm scale (1:19th), generally representing 2ft narrow gauge on 32mm (O) track or wider narrow gauges on 45mm gauge (G1) track. The slightly larger 7/8ths scale is also growing in popularity, 1:13.7 representing 15in gauge on 32mm and 2ft on 45mm track.

Recently in 16mm scale we've seen coal-fired locos complete in every detail down to the likes of working injectors. So there will be plenty to interest the model engineer at the Midlands show - our preview is on page 34, why not come along to the Warwickshire Event Centre and say hello?

Planning for a secure future

My slipping into the editorial chair immediately resulted in a large amount of correspondence winging its way to my little corner of mid Wales. I certainly was not aware of the variety and quality of the many club journals and newsletters around – finishing this page will mean that the somewhat frantic times of getting my first issue to the printer will be out of the way and I will be able to settle down and read them properly.

Something I certainly will be studying in detail is the 'Recruitment of New Members into Societies' initiative that has been undertaken by the Southern Federation. This is something that has clearly been underway for some time and has produced an extensive draft report. That 'first-issue' mania has only allowed me time to skim-read the report so far, but I will be absorbing it in full and returning to this most important subject in a forthcoming editorial.

Beating the myths

That's more than enough from me and rest assured that the editorial and contents will revert to its usual single page next month. I will finish by reiterating what I stated earlier - I want to hear from you and I want to see your features on your models.

I've heard a few myths since I've agreed to take this role – people have told me that model engineering is on the wane, something I don't believe for one minute having seen some of the excellent new models at shows. "You won't get features with drawings, because no-one does them any more," was another comment, which I found incredulous – surely every proper engineer starts with a drawing? I hope to hear from you...

Andrew Charman – Editor

The April issue of **Engineering in Miniature** publishes on 15th March.



ABOVE: It may be hard to believe but this is a coal-fired 16mm scale locomotive, produced by TME, and much of the detail that you can see in this picture works!

LEFT: Visitors to the Midlands Model Railway Exhibition on 17th-18th March can expect to see 'proper' model engineering on display, and plenty of interest for all ages...

Photos: Andrew Charman





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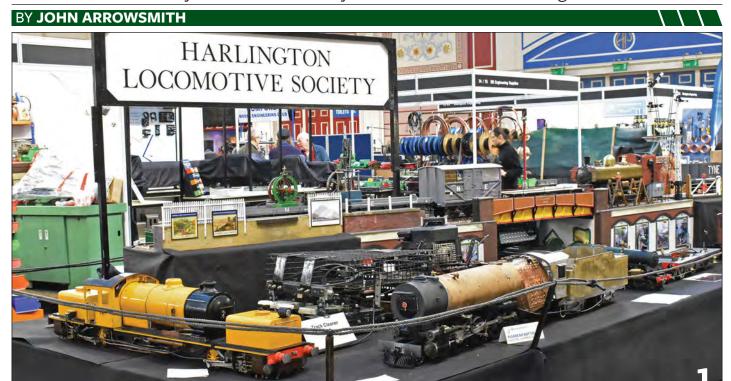
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London Show start to a Year of Engineering

The London Model Engineering Exhibition at Alexandra Palace is traditionally the first big event of the year but this January's show took on an extra significance...



he 22nd London Model Engineering and Modelling Exhibition exhibition at Alexandra Palace opened to visitors on Friday 19th January with the usual range of excellent models, working demonstrations, activities and traders selling just about anything anyone could possibly need for this most fascinating and absorbing of hobbies.

Attendances on all days were very good and the Great Hall was soon buzzing with the sights and sounds of all the visitors enjoying the presentations. And the importance of the exhibition was demonstrated on Friday when it was chosen to be the venue for the launch of a new Government initiative, the Year of Engineering – a pioneering campaign to transform the way young people regard engineering and to boost the numbers entering the profession.

The Year of Engineering will see a national drive in all parts of the country to inspire young people who will shape our future. Stephen Metcalf MP has been named the Government Envoy for the initiative, a role that will see him drive cross-party support for the campaign throughout 2018.

PHOTO 1:

Typical of the excellent club displays at the show was this busy stand by the Harlington Locomotive Society, voted...

PHOTO 2:

...best club stand in the show, voted for by the groups attending.

PHOTO 3:

Stephen
Metcalf MP
launched
the Year of
Engineering at
the show, here
being listened
to attentively
by show
organiser and
EIM founder
Chris Deith.















PHOTO 4:

The central display included a tri-scale celebration of 'Mallard's speed record some 80 years ago.

PHOTO 5:

A highlight for many visitors was this enormous 1/72 scale model of the 'Ark Royal' aircraft carrier.

PHOTO 6-7:

The Chelmsford and Northolt Clubs were jointly awarded second place in the club stand competition.

PHOTO 8:

Centrepiece of the winning Harlington stand was this impressive 3½in gauge US Challenger locomotive.

All photos in this feature by John Arrowsmith unless stated

I was able to talk directly to Mr Metcalf to reinforce the desire of the model engineering movement to recruit more youngsters into our ranks and he hoped this initiative would help in doing just that. He was greatly impressed by the displays put on by the many model engineering clubs and societies and spent several hours touring the Great Hall talking to many clubs, visitors and traders.

Mr Metcalf's first stop was at a central display by David Fortey who has recently completed a magnificent model of the HMS Ark Royal aircraft carrier. This model, built to the popular plastic aircraft modelling scale of 1:72, is 121/2ft long and had taken David 25 years to build. It weighs in at 90kg and is powered by four Ford Fiesta blower motors running off a single car battery. The motors run independently and handle exactly the same as the full scale version - and it doesn't leak! Mr Metcalf was suitably impressed.

At the other end of the display table was another magnificent ship in the shape of Brunel's 'SS Great Britain' which had taken 15 years to build and was commemorating the 175th anniversary of the launch of the original. This model was 8ft long, with masts 4ft high, and provided visitors with another superb example of model ship building.

Record remembered

Completing the presentations in this central display area was a commemoration of the world speed record by a steam locomotive set 80 years ago. The LNER's A4 Class 4-6-2 'Mallard' was displayed in three different gauges, while also performing in steam on the OO Gauge layout of the OO Live Steam Club elsewhere in the hall. The MP was



invited to try his hand at controlling this locomotive on the layout which he proceeded to do without difficulty.

The London exhibition supports a Best Club Stand competition which is voted on by all the clubs attending. As ever there was very close competition between a number of clubs but the overall winner was the Harlington Locomotive Society, displaying a varied selection of models and equipment to show off what the club was all about. Joint second place was awarded to last year's winner Chelmsford SME and the Northolt Model Railway Club, both of whom had excellent presentations of a wide range of models.

This year there was also a joint third prize with the Blackheath MPBC, Ickenham MES and Romford SME all receiving certificates.

Among the many fine models on the Harlington display, the 3½in gauge American Challenger locomotive was a superb piece of work with so much fine detail, while a 2in scale Minnie Traction Engine still under construction also displayed some good workmanship. And in complete contrast to these large models the excellent upper quadrant bracket signal was a well-recreated piece of equipment.

Much variety

The Chelmsford SME display was a model engineer's showcase with excellent models covering a wide range of prototypes. The late Don Ketley's 25 ton Craven Bros Steam Crane really was a work of art. In 5in gauge it was full of interesting and well-made detail as was the fine 4in Foster traction engine. A new scratchbuilt 3D Printer by Alex Collins added a modern-image element to the display. A favourite

PHOTO 9:

Something different on the Harlington stand, a wellfinished upper quadrant bracket signal.

PHOTO 10:

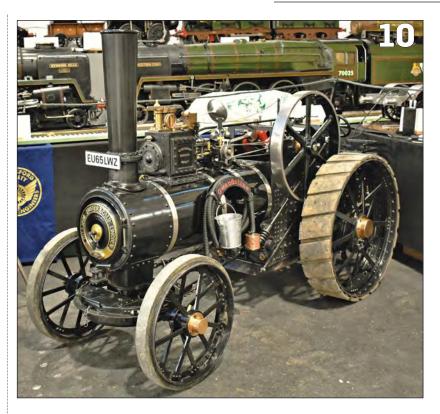
A fine Foster traction engine in 4in scale headed the Chelmsford SME stand.

PHOTO 11:

Continuing progress on a US 'Big Boy', on the Northolt MRC stand.

PHOTO 12:

Some visitors were heard to question whether the name on this 5in gauge Terrier on the Northolt stand was prototypically correct – but in fact the last of the class, built in 1922, carried this name.



locomotive of mine is the Hughes 'Crab' 2-6-0 and there was a good unpainted example on display.

On the well-filled Northolt MRC stand the front end for a 7¼in gauge 'Big Boy' being built by Alan Antiss is a large piece of work. Showing good progress from last year it was accompanied by the blastpipe and inner chimney castings. A lovely little

5in gauge Terrier added to the attractive display.

The dominant model on the Society of Model and Experimental Model Engineers (SMEE) was a recently refurbished example of an LNER A3 locomotive 'Flying Fox' – beautifully finished it was a fine model to be admired. In complete contrast to this model was the working









demonstration machine of a digitally controlled Wire Eroding machine. Designed and built by members of the SMEE's Digital Group this machine attracted a lot of attention.

It was also pleasing to see the lathe being used to let people try their hand at turning, it is always a popular aspect of the SMEE stand.

A regular supporter of the exhibition is the West London Meccano Guild and this year the display was dominated by a large model of the Eiffel Tower, topical considering the news about the Bayeux Tapestry coming to London.

Members from the Chingford SME presented a well-filled and interesting display which included a small set of workshop machines and materials as well as some excellent models. The pair of driving wheels and cranks for a 7¼in gauge LMS Duchess class locomotive were notable for some good workmanship and finishing. The little double acting Southworth Pump was a useful piece of kit which was also well made.

PHOTO 13:

The Superbly refurbished A₃ Pacific loco 'Flying Fox' starred on the SMEE stand.

PHOTO 14:

Also creating much interest was this wire eroding machine.

PHOTO 15:

This neat double-acting Southworth pump was displayed on the stand of the Chingford SME

PHOTO 16:

'Dougal' - superb modelling by a young member on the Sussex MLS stand.

The Sussex Miniature Locomotive Society can always be relied on to provide an excellent display of exhibits and this year the little 5in gauge Andrew Barclay 0-4-0 'Dougal' built by Andy Strongitharm was a lovely example of the prototype today resident on the Welshpool & Llanfair Light Railway. We hope to publish more on this model in *EIM* soon. The stand also featured a beautiful example of a Pullman carriage, scratchbuilt in 3½in gauge.

Young to the fore

There was a good display by the young engineers of the Eastleigh MBC with some very sophisticated models mixed in with the more traditional model work undertaken by youngsters. They have a great working partnership with their club, members supporting them very well. This is really how it has to be done if these exhibitions are to survive.

Equally highlighting the skills of young people was the Steam Apprentice Club, part of the Traction Engine Trust and featured in last month's EIM. The stand saw a steady stream of visitors enquiring what the club can offer and demonstrating what young people can do given the opportunity. I hope they had a successful show.

A club that hasn't taken part in the show for a number of years was the Maidstone Model Engineering Society but members more than made up for their recent absence with an excellent display of locomotives and fittings. A couple of locomotives stood out - the superb 5in gauge LMS Coronation class 4-6-2 Pacific 'Duchess of Hamilton' built by Martin Parham and a 5in gauge LNER B1 Mayflower 4-6-0 were first-class examples of the model engineer's skill both for attention to detail and finish.

Members of the Welwyn Garden City Society provided a wide range of marine craft and traditional engineering models which proved of plenty of interest to visitors. Meanwhile the larger-gauge enthusiast was served by a couple of very different exhibits on the 101/4 in gauge Society stand. A GWR-liveried 0-6-0 Burry Port-style locomotive was in fact a doubled-up Simplex coupled to a standard four-plank wagon, plus a small diesel engine and a large hopper wagon.

It has been said to me in the past that model boat building does not include very much model engineering content, well a look at the engine compartment of a steam-powered hydroplane exhibited on the Model Hydroplane stand suggested the opposite. The stand itself contained a wide range of high-speed boats and

engines built to a very good standard.

In complete contrast to these high-speed machines the operations of the G1MRA with its Invicta track were positively slow but nevertheless it attracted a great deal of attention as it always does. Traditional locomotives and rolling stock with that nostalgic whiff of steam provided plenty of entertainment for the visitors, both on this stand and that of the Bedfordshire group of the Association of 16mm Narrow Gauge Modellers – a most successful Association with more than 4000 members and a scale that is seeing ever more serious model engineering these days.

In the activity zone a number of presentations ensured there was lots of entertainment for everyone. The British Model Flying Association had a full programme of demonstrations with a variety of aircraft. I managed to catch a difficult flying formation with three aircraft in the air, all appearing to be stalled on the back wall panel, clever flying by the operators.

There was a wide variety of naval craft on display by the Surface Warship Association which demonstrated the great interest which exists for this type of craft. The display also included a couple of small lifeboats which were produced a few years ago but which suffered from some basic problems with the motor drive system. Modifications by members of the SWA have ensured that when used at other model boat shows, the children for whom they were designed have great fun driving them on the pool.

The main problem I always have with this type of report is what to leave out, there is so much more to this exhibition that I could report on but space precludes. I will close by offering my sincere thanks on behalf of the organisers to all participants, clubs and traders, for all your efforts and add that they are really appreciated. I hope it can all be repeated next year.

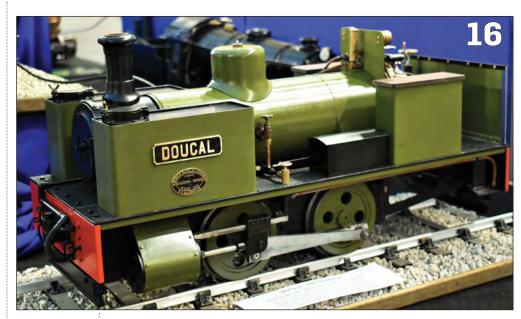


PHOTO 17:

Plenty of engineering on this steampowered model hydroplane.

PHOTO 18:

The Gauge One Guild always has plenty of steam action on its layout.

PHOTO 19:

If you like your modelling large scale, this is 101/4in gauge... Photo: Andrew Charman

PHOTO 20:

And finally we liked the motto of the Steam Apprentice Club – more of this please!









Ways to get a grip...

The longer you are a model engineer the more knowledge you acquire, especially with regard to those tips that make life easier and produce better results. This new series aims to share such tips, particularly for newer converts to the hobby. John models in 71/4in gauge and has previously published a complete 'words and music' constructional series for a close-scale GWR 1400 class locomotive.

BY **JOHN SMITH**

couple of days ago, I was standing in line at Alexandra Palace waiting for this year's London Model Engineering Exhibition to open its doors. The average age of the punters around me was around 70. I realised that I have enjoyed our hobby for nearly 50 years but that there are many who only take it up after retiring from work.

I thought that perhaps I could pass on to them – and hopefully to some young people thinking about taking up the hobby - some of the techniques that I have picked up over the years which work and which have helped me to stay safe and produce good work. So I have aimed this series at those new to our hobby and wishing to 'get up to speed' as quickly as possible. Of course, I hope that there will also be something in each 'Tip' to interest the experienced model engineer who is determined to never stop learning.

I don't claim to be an expert in everything and I mistrust anyone who does! What I can tell you is that every Tip will be based on my personal experience, and any product or company that I might recommend will be of excellent quality/offer an

correspondence forwarded to me by your new editor. A picture is worth a thousand words, so my plan is to present each

receive and respond to any

Tip in the form of photographs accompanied by as few words as are needed.

excellent service. I will be delighted to

Safety is not a very interesting topic, but it is an important one, particularly as many of us are acquiring larger machine tools with very powerful motors.

Clamps are very important when drilling large holes on the drilling machine and when drilling holes of almost any size in sheet material particularly brass, which can 'catch' the drill and give one a nasty shock. Using two clamps minimises the risk that the workpiece will slip, be spoilt or fly across the workshop to cause injury. Of course, most workpieces will be held by hand as the first small hole is drilled, but get those clamps on as soon as you can.

When milling, a good machine vice (that has been accurately ground all over) can hold most workpieces. I use a Röhm CNC vice. It isn't cheap, but I am confident that you would

never regret your investment.

Large or awkwardly-shaped workpieces can be clamped directly to the table of the mill. An accurately ground angle plate (without webs), held in the vice, can be very handy for small workpieces. I use SPI angle plates for this purpose. They have tapped holes all over for holding clamps, Photo 1. This type of angle plate is also well suited to the use of toolmakers' clamps, Photo 2.

For tiny workpieces, particularly when several have to be made, a home-made jig, which can be held in the machine vice or on the drilling machine table, is the answer. This can be very simple – just a groove to register the workpiece and a couple of small clamps to hold it down - **Photos** 3-5. In **Photo 6** we can see another jig in use on the swivelling angle plate. The common feature? They all have at least two clamps!

Staying safe

To conclude with this time, the boring but necessary bit:

• Always wear eye protection. If you shop around you will find plastic safety glasses which are comfortable to wear over glasses.

PHOTO 1:

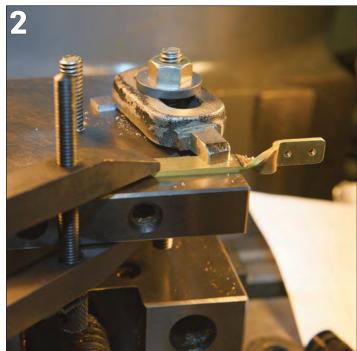
Combining an angle plate with clamps makes for a firmly-held workpiece.

PHOTO 2:

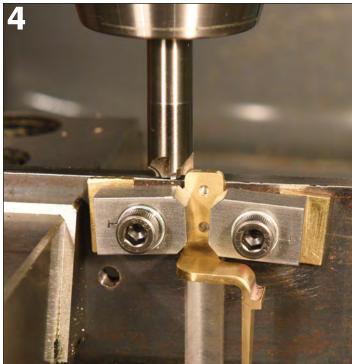
An angle plate can also be effectively combined with toolmaker's clamps to secure the work.

All photos in this feature by John Smith









- Keep the workshop tidy and the floor near your machines free from electrical cables and other trip hazards. I use an old vacuum cleaner to pick up swarf; I have learned the hard way to keep it handy but not so close that I trip over the hose.
- Ensure that your workshop is well-lit; you can see much better when your eyes are not dilated (like 'stopping down' a camera lens to get more depth of field).
- Wear lightweight cotton gloves; these will protect your hands from swarf splinters.
- Don't wear a tie when working at the lathe; if it gets caught in the chuck, you will be badly injured.
- Equally, don't wear a personal music player with headphones quite apart from the danger of trailing cables getting caught in rotating machinery, you will want to hear what is going on with your machine tools.
- Don't be in a hurry. Take small cuts, use a modest spindle speed and a fine feed. This will reduce the risk of the workpiece slipping.
- Always wait for the spindle to stop before measuring a workpiece or inspecting it with a loupe.
- When removing sharp edges from a spinning workpiece in the lathe using a needle file (we all do it!), put the tang of the file into a wooden file handle drilled out to suit. This will stop the file going right through your hand if it catches a jaw of the chuck.
- Don't operate machinery when tired or when you have had a couple of drinks; it isn't worth the risk.

COMING NEXT MONTH - THE IMPORTANCE OF PLANNING...

PHOTO 3-5:

When working on smaller components a home-made jig eases the task, particularly if lots of smilar parts need to be made.



This jig is being used with a swivelling angle plate-like all the other examples in this feature at least two clamps are employed.





Building a small boiler

Jan-Eric's latest project is an exercise in the art of TIG welding.

BY **JAN-ERIC NYSTRÖM –** Part one of two



Before we begin...

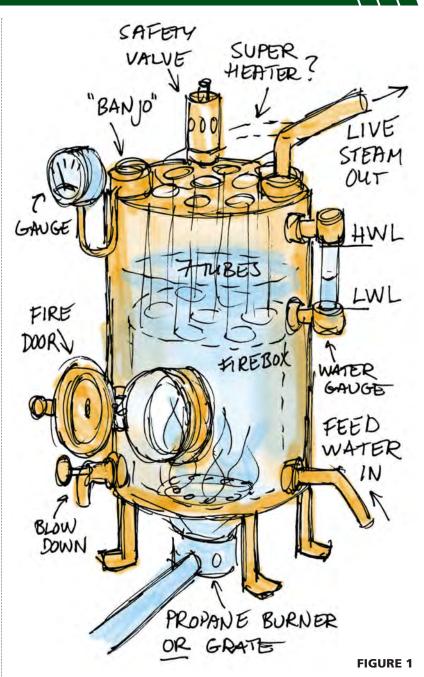
here are certain risks involved in building and using a miniature boiler. Heat and pressure can both be destructive, so you should proceed with caution, and collect all the information necessary for the project before you start.

This article describes the construction of a small boiler, with a water capacity of less than one litre. The techniques used apply only to a boiler of this small size - larger boilers, such as used in passenger-hauling locomotives and steamboats, require different construction methods. Steel boiler construction and welding also differ markedly from what is presented here. Study all available sources of information, and obtain advice from experienced builders and professional welders before starting your own project.

ome day, just for fun, I'm going to build a small stationary steam engine - maybe when the inspiration to work on my live steam locomotives is temporarily waning, but I still want to do something in the workshop. And any steam engine needs a boiler, so why not make one?

A tiny vertical boiler also seemed like an ideal 'small project interlude' at least compared with a complete loco, so I decided to go ahead and build one. No detailed drawings were necessary; I was going to ad-lib the work as I was plodding along. Thus, I ABOVE: The completed small boiler.

ABOVE RIGHT: A simple sketch sufficed to decide the general arrangement of the boiler. All photos and diagrams by Jan-Eric Nyström



only made a 'conceptual' sketch of what I had in mind, Figure 1.

This is a really simple design; a cylindrical firebox inside a cylindrical shell, so no stay bolts are required. There are seven flues leading from the firebox to the top of the boiler, where there are three bushings, one for the pressure gauge, one for a safety valve, and one for the live steam outlet. In addition, there are two bushings just above the foundation ring: one for the feed water, the other for a blowdown valve. On the side of the boiler, two

bushings provide the connections for a water glass. A fire door completes the design. This boiler can be used either with propane fuel, or with solid fuel by building a simple grate and ashpan.

There are two common ways of making joints in a copper boiler: silver soldering or TIG (also called GTAW) welding. Your choice of assembly method depends on the available equipment and your skill in using it. For silver soldering, a sufficiently sized propane burner and a propane tank is enough. TIG

welding needs more complicated, thus more expensive, equipment.

Note that there are several types of tungsten electrodes for TIG welders - in addition to the diameter, which can vary between 0.5 and 6mm (my welder uses 1.6 or 2.4mm electrodes), there are several different alloying elements used, distinguished by a colour mark on the electrode. Avoid the yellow and red types – they contain radioactive Thorium, which may cause an increased cancer risk, if grinding dust is inhaled or ingested. The black, light blue or gold Lanthanum electrodes are not radioactive, and safe in this respect, as are grey-marked electrodes alloyed with Cerium.

TIG (GTAW) welding manuals are available in book form from many publishers. Manuals and articles help you understand the requirements (and limitations) of the process. I also had the fortune to get some hands-on experience and instruction by a professional welder before buying my own unit. Wikipedia, the online encyclopedia, has an excellent introductory article about TIG welding, at http://en.wikipedia.org/wiki/TIG

Avoiding disasters I decided to practice first, on scrap materials. This small vertical boiler was also my 'TIG pilot project', and a learning experience before constructing a large locomotive boiler for my next planned project, a 4-6-0 ten-wheeler.

Usually, small boilers are built of pure copper, so you may ask, "Why copper-nickel?" Well, I had access to inexpensive, surplus pieces of that material, having friends in the shipbuilding industry, where large diameter Cu-Ni tubing used to be a common material in heat exchangers before modern composite materials, combining steel and synthetic polymers, became the norm. Being able to obtain leftover pieces of Cu-Ni at a very low price, I of course preferred to use that material. Since you would probably find copper more easily obtainable, and less expensive than stocked or special-order, non-surplus Cu-Ni, you would of course use that material instead. This article is written with that in mind.

Two tubby tubes

To begin the project, I rummaged through my collection of Cu-Ni tubing, and found two pieces of large-diameter tube that proved to be ideal: an 89mm outside diameter (o.d.) size for the firebox, and a 108mm one for the shell, both with a wall thickness of 2mm. These sizes would provide a water space of 7.5mm, well over the 6mm minimum often suggested for a copper boiler of

Tig welding or silver soldering?

■ Depending on which welding method you choose, the parts will need to be prepared in a different way.

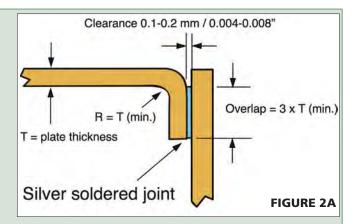
Silver soldering is an excellent method for joining pure copper as well as bronze, but it is not suitable for copper-nickel, unless the Cu-Ni parts are entirely annealed and heated evenly – a difficult task if the assembly is large. TIG welding can be performed on both copper and Cu-Ni, but not on bronze, so all bushings will have to be silver soldered onto an otherwise welded boiler.

In this simple example of joining techniques, it is assumed that the parts to be joined are a tube sheet and a boiler shell.

Note that when making longitudinal joints, such as in a boiler shell rolled from flat plate, reinforcing 'butt straps' are necessary if the joint is soldered. Soldered plain butt joints are not safe! A longitudinal TIG-welded butt seam should be very thoroughly prepared, and carefully examined for defects, since longitudinal seams are subjected to the greatest stress in a boiler. On a large boiler, welded seams should in fact be X-rayed!

If the assembly will be silver soldered, the tube sheet must be flanged, as shown in Figure 2a. The inner radius of the flange should be at least as large as the thickness of the plate, and may be larger. This is to prevent cracking of the metal during flanging.

The parts should fit with a tolerance of just a few



thousandths, to ensure proper penetration of the solder and minimize the amount of expensive filler. Capillary action draws the molten solder into the narrow clearance, provided that the metal is cleaned and fluxed well.

The width of the actual joint area should be at least three times the thickness of the plates. 'Sil-Fos' or 'Phos-Copper' brazing metals, such as used in plumbing, should not be used – sulphur in the combustion gases will eventually make these filler metals brittle.

Use only true silver solder, and its recommended flux. Solders containing tin or lead should of course not be used here, because of their lower melting point!

A TIG-welded seam,
Figure 2b, needs less
preparation – basically, only a
chamfer is needed, providing
space for the filler metal, as
shown. The chamfer should be
at least 70°, preferably around
90°, with a width of roughly
the plate thickness. A narrow
gap between the parts further
promotes the full penetration
of the weld.

Ideally, a TIG weld on copper metals should be performed with shielding gas on both sides of the seam during welding. This is usually done with a T-connector 'splitter' and two gas regulators from a single argon tank. If this is not possible, special glassfibre 'backing tape' can be used (Argweld is one brand). The tape prevents air reaching the molten metal on the root side of the weld, which would otherwise oxidize it and making it porous and brittle.

Comparing these two methods of joining, the following can be noted: 1) Silver soldering is a simpler process, and can usually be safely performed after a moderate amount of practice. It is important, however, to affirm full capillary penetration of the solder. 2) TIG welding should be performed by an amateur only after extensive practice, preferably with instruction from an experienced welder. Porosities in the welds must be avoided.

Regardless of method, you should know about the risks involved in building a boiler, especially if you are constructing a much larger one with a higher operating pressure. Seek help from a professional welder if you have any doubt regarding your welding abilities – or, use only silver solder on pure copper. Safety First, always!

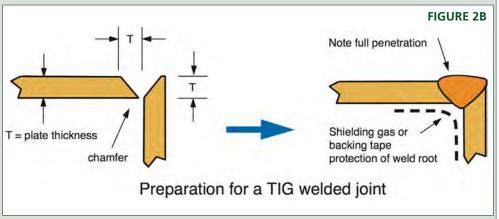










PHOTO 1:

Using a hole saw to make the openings for the firehole.

PHOTO 2:

One of the cut out pieces is saved to provide a heat shield.

PHOTO 3:

Preparing the weld in the firehole ring. Note the piece of backing tape stuck to the inside of the tube.

PHOTO 4:

The way we want it complete penetration of the weld.

this size. Steel boilers need larger water spaces and thicker materials, due to the inevitable rusting, which erodes the plates and clogs up the water spaces.

Tubing in the above sizes is usually available in pure copper from companies doing plumbing work. Finding materials for larger boilers is a problem, since there are very few sources for copper tubing of 120mm diameter and up. Large copper boilers are often made by rolling and joining sheet copper into a tube. These methods are described in boiler building books and other magazine articles, so I won't go into details about the methods involved in rolling a boiler shell from sheet copper.

After cutting the firebox and shell tubes to length, my next task was to make the openings for the firehole. Chain drilling and filing an almost 50mm diameter hole didn't appeal to me, so I took one of the hole saws I had lying around, **Photo 1**. Even though it is intended for woodwork, copper metals are soft enough to saw with such a tool, provided you do it slowly, and use a generous amount of cutting oil. It is important not to overheat the hole saw, which would then be quickly dulled.

Cutting the second hole in the shell, at the same height from the bottom edge as in the firebox, completed the work with the hole saw. I saved one of the cut-out pieces, seen remaining inside the saw in Photo 2. It will be used as a heat shield inside the boiler's fire door.

I didn't have a tube of the right size for the firehole ring, so I made it by cutting away a strip from a short piece of 57mm tube, too large to fit in the hole as such. The cut edges were chamfered to a total angle of 90°, and the ring was closed and held in a vice for welding, **Photo 3**. I welded from the outside only, using a piece of special glassfibre 'TIG backing tape' on the inside, to protect the root of the weld from oxidation. In the photo, the tape is seen sticking out from both ends of the tube. With a welding current of 100 Amps, the penetration was complete, as seen in **Photo 4**.

The seam needed very little grinding and filing to clean up. The ring needs to conform to the inner contour of the firebox, so I inserted the tube in the cut-out hole, took a felt pen marker and drew a sinuous line which helped me grind the ring to the correct 'saddle' shape, Photo 5.

After that, I could start welding the first 'real' boiler seam! Having sharpened my nascent welding skills on numerous test pieces before this, I began the welding, Photo 6. Note that the hole in the firebox tube has been chamfered, in order to ensure proper





weld penetration, and that both parts have been thoroughly cleaned.

I used a special filler wire intended for Cu-Ni ('CuNi30Fe'), which I was able to obtain from the same surplus source as the tubes. For pure copper, 'OFC' (Oxygen Free Copper) filler wire must be used.

Welding copper and its alloys can be tricky – the more copper the metal contains, the higher is its thermal conductivity. Pure copper conducts heat away from the weld area very quickly, necessitating a high amperage setting on the welder - my welder's 160 Amps would just about have sufficed for this small boiler, if made entirely from copper. To weld an even slightly larger pure copper boiler, a sturdier TIG unit, providing 200 or 300 Amps would likely be necessary.

In welding pure copper, there is also a greater risk of burn-through. Due to the rapid heat conduction, a large area may suddenly reach melting temperature, causing a catastrophic failure. In any case, a sufficient flow of argon-shielding gas is of paramount importance. My gas flow may have been set a little low, since there is a slight discolouring outside the weld area, Photo 7. Wire brushing the area clean showed the weld itself to be sound, though. Photo 8 shows the main parts of the boiler at this stage.

Seven dwarf tubes

The top of the firebox was roughly cut out and chamfered with an angle grinder, after which I marked and drilled holes for the fire tubes. The seven tubes are only about 100mm long and 15mm in diameter, so the holes were drilled to that size. In addition, I made a countersink in the hole with a 16mm drill, to a little over half the thickness of the plate, Photo 9. This was finicky, since the drill wanted to grab the soft material. With a very light hand on the drill press,

PHOTO 5:

Grinding and filing the ring to the correct saddle shape.

PHOTO 6:

Beginning welding of the first seams.

PHOTO 7:

Slight discolouring around the weld area suggests the gas flow could have been set a little higher.

PHOTO 8:

Progress the major components of the boiler.



just 'pecking' the metal, I got the countersinks done.

The slight roughness of the holes seen in the photo is of no consequence but if the tubes were to be silver soldered, greater precision in drilling

would be needed. If silver soldering is the choice for joining the firebox top to the shell, the edge will of course have to be flanged instead of chamfered, as shown in Figure 2a.

The copper tubes were cut to







length, and their ends were thoroughly cleaned on a belt sander, **Photo 10**. TIG welding requires very clean materials - any dirt or oxide will cause porosities in the seam. Likewise, the tubeplate was sanded clean, and the first tube is inserted and ready for welding in Photo 11.

Note the slight protrusion of the tube - this is intentional, and necessary. Since no filler material is used in this joint where the end of the tube is just melted and fused to the plate, there needs to be enough material to fill the countersunk part of the hole. I had done a test previously, with tubes protruding from 0.5 to 3mm, Photo 12, and found that it was impossible to fuse a tube properly to the plate with a protrusion of less than 1mm. 3mm was a bit too much; it left a high mound around the tube. 1.5 to 2mm seemed to be best.

In Photo 13, I have already welded three tubes, and the fourth is inserted. The welding work needed a steady hand to get the tube to fuse evenly to the plate – a slight hesitation, and there will be a bump in the seam, or, even worse, a melt through. I had practiced by making a before attempting to weld the boiler's actual tubeplate. The result, after cleaning up, appears quite

dozen or so tube welds on scrap metal

PHOTO 9:

Countersinking the holes for the tubes.

PHOTO 10:

Thorough cleaning is essential when TIG welding.

PHOTO 11:

First tube inserted ready for welding.

PHOTO 12:

A test to determine how far a tube end should protrude from the tubeplate.

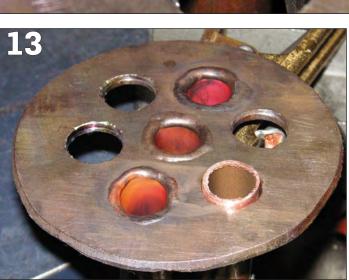
PHOTO 13:

Three tubes welded, a fourth to go.

PHOTO 14:

A satisfactory finished plate.









satisfactory, **Photo 14**. Welts in the welds, especially on the inside edge of a tube end, would make it difficult to clean away ashes and soot deposits from the tubes.

Sound joints?

So as to study the weld penetration, I cut up some of the test welds I had made, and noted that indeed, the metal had fused all the way down into the countersink, **Photo 15**.

To further ascertain the soundness of a joint of this type, I crimped the tube with pliers to see what would happen to the weld. It did not break, even though the unfused part of the tube did separate a bit, as seen in **Photo 16**. A deformation of the tubes like this could not happen in normal use, so I felt this was a good way of fitting the tubes in the tube sheets.

One obvious drawback is that it is not possible to remove a tube easily, as you can with rolled-in copper tubes in a steel boiler. On the other hand, silver soldered tubes cannot be removed easily from a copper boiler, either, so it really did not matter.

THE CONCLUSION OF JAN-ERIC'S BOILER BUILD WILL BE IN NEXT MONTH'S ISSUE.

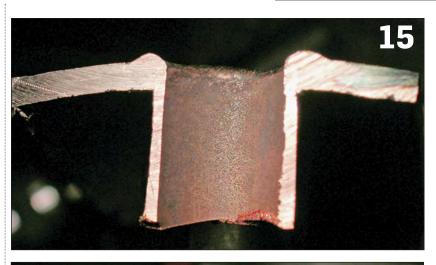
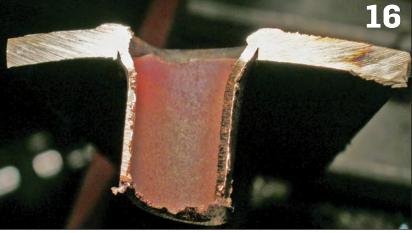


PHOTO 15: Studying weld penetration - the metal has fused all the way down into the countersink.

PHOTO 16: Crimping with pliers proves that the weld

will not break.





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Self-contained works

Many model engineers also employ their skills at heritage railways, while others would like to. In this new series we go behind the shed door to see how such lines keep their fleet working. This first feature visits the Kirklees Light Railway, engineering staff member Harry Billmore showing us around a workshop that could be considered large-scale model engineering...





he Kirklees Light Railway was opened in 1991 as a 15-inch gauge line on the trackbed of the former Clayton West branch of the Lancashire & Yorkshire Railway, and since that date the 3.5-mile line has become a major tourist attraction in this area of West Yorkshire.

Since its inception, the line's workshops have been almost entirely self sufficient, with only coded boiler work having to be contracted out. Three locomotives, 14 carriages and nine sets of points have been produced in these works, along with all of the normal running repairs required to keep any steam railway running. In more recent times the workshop has been used to rebuild the original locos so they can deal with the far increased traffic that now runs on the line.

The workshop was set up by the Railway's founder Brian Taylor. He had built the first loco to run on the line, 'Fox', a 2-6-2 Hunslet lookalike, in his own workshops at home and needed more space to construct further locos. The goods transfer shed left behind from the standard gauge branch line at Clayton West was converted into the workshop and

storage facility with the addition of a floor. This has subsequently had a further floor added in the rafters, around the remains of the goods transfer crane. Much of the tooling acquired in the KLR's early days, like much of the track and the works wagons, came from local collieries that were closing down and would rather see the machinery put to good use than scrapped. The large radial drill and two hydraulic presses are prime examples of this.

The workshops as they stand today are in continuous use, with KLR operations manager Ian Screeton masterminding the work going on. Routine work undertaken includes tyre turning, re-tyring, fitting new axles to the carriage bogies, woodwork repairs to the carriages, repairing any faults with the locos, routine washouts and repairs to tools that are being used elsewhere on the line.

Less routine work currently underway in the works include a 10-year overhaul to Fox, which encompasses re-engineering most of the locomotive. The workshop is also fabricating electric gas lights, rebuilding one of the guard's carriages



that has become rather tired, rebushing and pinning the valve gear of Guest 2-4-2 'Katie' (the famed 1954-built loco resident at the KLR since 2015), assembly of LED lighting for the car park, development and installation of electronic speedometers, fabrication of replacement parts for the back actor on the railway's tractor and a few other minor jobs that crop up.

Much-used Myford

One of the most-used machine tools in the workshop is our Myford 254 lathe with variable speed control. This is ideal for most small components that require a high degree of accuracy as it is fast enough to use carbidetipped tooling at near the correct surface speeds. We use this to turn the carriage axles that need replacing when the bearing register becomes undersized from changing the ball bearings. A full set of bed stops and careful measuring means that half-thou tolerances are reasonably easily attainable for the bearing registers to prevent the bearings being over stressed when pressed on. Another fairly routine job is making new stainless valve spindles for the gauge frames, as well as all the usual small bits of turning that are constantly required when rebuilding and fitting components.

Another of the most-used machines is our 'small' Dean Smith and Grace (DSG) lathe. With a swing of 21in over the bed this is used to turn all of the carriage wheels and all of the loco wheels apart from Katie's which are just too big in diameter. Our diesel 'Jay', a 4wDH built by Brian Taylor in 1992, has wheels that will just about fit into this lathe but it is hard work machining them, constant resetting required due to the

HEADING:

The Kirklees is today a busy line – o-6-4T 'Badger' built by Brian Taylor in 1991, starts away from Clayton West. Photo: Andrew Charman

PHOTO 1:

View of the workshop. 'Fox' is under overhaul to the fore.

PHOTO 2:

Operations manager lan Screeton busy on the well-used workbench.

PHOTO 3:

The large DSG lathe – in front of it is 'Ivor', built by Brian Taylor for a 10¼in line at Shibdon Park, Halifax. lan is currently rebuilding it.

PHOTO 4:

Here can be seen the 254 Myford and small milling machine.

PHOTO 5:

The large mill, and the back actor from the vital tractor.





tool post fouling the outer diameter.

This machine is fitted with one of the most useful extras for a lathe I have come across, a hydraulic copier that makes the turning of complex shapes amazingly easy, specifically wheel profiles. It works by employing a follower running along a pattern cut out of 3mm steel in the required size and shape of the final profile. The follower then operates the control

valves on a hydraulic ram that moves a tool post attached to the back of the cross slide in and out as the carriage moves along the bed. It is a pre-CNC production attachment that makes the machining of repeated complex shapes significantly easier.

As well as wheel profiles, washout plugs with taper threads are machined on this lathe again using the hydraulic copier. Somewhat more decorative





pieces are also made using the copier, for example all of the finials and ball ends on the electric gas lights are being machined in this way.

We also have a larger DSG, with a swing of 30in over the bed, we acquired this soon after buying Katie to accommodate the loco's larger



driving wheels. This lathe has also had a hydraulic follower fitted, requiring quite a lot of ingenious bracketry created by Ian to make it all fit and work. This is my favourite lathe, both being very accurate and enormous, it is just a pleasure to work on.

For milling purposes we have







PHOTO 6:

The hydraulic follower is seen here on the large lathe cross slide.

PHOTO 7:

Items made - a trailing axle for Fox, wheel centres and speedometer housings.

PHOTO 8:

Progress on the axle for Fox.

PHOTO 9:

The blastpipe and lempor exhaust of Fox.

PHOTO 10:

Here the axlebox, axles and the hornguides have been set in the frames of Fox.

PHOTO 11:

As on most lines space is at a premium, carriage work needing to be done too.

PHOTO 12:

A new smokebox, chimney and cap for Fox.

PHOTO 13/14:

The varied KLR fleet includes the articulated 'Hawk' and the former Fairbourne loco 'Katie'. Photos: Andrew Charman

three milling machines. One is used almost all of the time, while the other two are used occasionally for very specific purposes. The busy one is a Spanish copy of an American copy of a Bridgeport (!) called a Round Tower, with a swivelling head and a slotting head on the other end of the rotating arm. An interesting job carried out on this recently was to create the sliding slot for a set of drop buffer stops for our platform rides.

Our big Herbert mill is almost exclusively used for machining point blades and frogs before welding, while the small horizontal Tom Senior mill is used infrequently for slitting and slotting purposes.

Versatile drill

The rescued Town Woodhouse radial drill required a little work when it came to us (basically re-winding of the motor) but since then has provided sterling service putting big holes in all sorts of things, from drain covers to lightening the wheels on 'Hawk' (an 0-4-4-0 built by Brian in 1998 in the style of a Barclay Kitson Meyer). This job was carried out while the wheels were still attached to the axles. The bed of the drill is also used as our welding bench, with both MIG and TIG welding capability.

Over the MIG set is our brilliant Italian Imer horizontal band saw which is fitted with a home-made roller bench for long materials. We would be lost without it now!

Some of the less used but extremely useful machines are our Little John turret lathe, mainly employed for making studs, and a Kearns horizontal borer which bored all the cylinders on the home-built locos. We also have an electric furnace which we use for case hardening using a carbon coffin technique, we have employed this on everything from impact tool tips to crank pins.

Our upstairs storage space also doubles as our woodworking shop, which is somewhat basic, but provides



everything we need to do. It comprises a small table saw, band saw, mitre saw, a couple of benches, a router and various hand tools which makes us virtually self-sufficient in woodworking capability. Recently we built of a Victorian street scene for our Santa's grotto, as well as rebuilding the Santa postbox, alongside more normal tasks such as major reframing of the carriages as well as all the myriad of other minor woodworking jobs that go on.

Currently out of use and awaiting its resurrection soon is our profiler. This has been used to flame cut cranks, rods, compensated springing links and numerous other complicated shapes. It employs a template similar to the hydraulic followers on the lathe with an electronic follower so you can set feed rates and various other bits to get a clean cut.

Next to the profiler is currently our small tractor, with its front loader, back actor, three-point linkage and hydraulics. This has been instrumental in keeping the lineside clear and digging drainage. It is currently set up with a hydraulic ram to assist with our current trackwork project which is dragging the rail back up the hill from the tunnel to the top station where it has migrated to over the last 20 years.

On the bench

Our fitting bench under the window is one of the most used and useful parts of the workshop, with a large vice that has been much abused over the years but remains sound, and racking behind for spanners, screwdrivers, measuring equipment and all sorts of other hand tools.

Other jobs that have recently passed over the bench have included a new smokebox for Fox with a full Lempor exhaust and smoothed-out steam passages, new horn guides, built on the Baldwin principle with self-adjusting wedges, large bearing areas and the like. These have also

helped to strengthen the frames, which in turn necessitated new axle boxes which were designed to take far bigger ball bearings along with the new axles, wheel centres and tyres.

A few other bits made recently have been spare fusible plugs for all the locos, carriage axles, brake blocks and numerous other things I have forgotten about!

In the pictures that accompany these words you will see some of our dedicated band of volunteers at work, without whom the railway would not

All photos in this feature by Harry Billmore unless stated. be able to function. If you would like to come and join us and help with any of the jobs we do, please contact us at info@kirkleeslightrailway.com, view our website: www.kirkleeslightrailway.com or simply drop into the station at Clayton West.





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A mighty engine...

What is believed to be the largest working Triple Expansion Steam Engine in the world is resident in southwest London.

BY **JOHN SMITH**

wice a year, without fail, I visit the magnificent great engines at Kempton, close to the M3 motorway in southwest London. I love the cathedral-like grandeur of the fully-tiled engine house, the smell of oil and the sight of 800 tons of steam engine turning over almost silently at some 16rpm (**Photo 1**).

The engines were designed and built in 1927 by Worthington Simpson Limited of Newark-on-Trent at a cost of £94,750. After trial assembly in the works erecting shop, the two engines were stripped down and transported by rail to the Metropolitan Water Board's newly-built engine house at Kempton (Photo 2). Every single part of the engines and the associated pumps were designed to pass through the 25ft high double doors of the engine house. The overhead gantry crane in the engine house placed the components into position.

Photo 3 shows a general assembly drawing from 1927. The trust which cares for and runs the engines has a complete set of drawings, which have been digitised. I'm hopeful that one day I will be able to prepare drawings for a model.

The role of the two great engines was to pump 38 million gallons of

Thames water per day to Cricklewood in London NW2 against a head of 200 feet of water. Each engine had a rating of 1008 horsepower and was designed to run continuously, twenty-four seven. They ran from 1929 until 1980, when electric pumps were installed.

Steam was supplied by six Babcock & Wilcox boilers which were automatically fed. Coal consumed was 13 tons per day.

When one sees these wonderful engines one inevitably thinks of the triple expansion engines in the 'Titanic' ocean liner – the Kempton engines have featured in two films about the Titanic. They had cylinder diameters of 54 inches, 84 inches and 97 inches, although the marine engines each had two low pressure cylinders. The larger cylinders, a slightly longer stroke and an operating speed of 76rpm gave each Titanic engine a maximum power output of 16,000hp, but they were very similar in overall size to the Kempton engines.

I often muse about what a model of one of these engines in ¾in to the foot scale would be like. It would be 30 inches high, 34 inches long and would weigh about 437 pounds. Each flywheel would have a diameter of 12¾in, that is a little beyond the

Principal Dimensions

Height Approx 4oft Length 45ft Weight 800 tons **Power (continuous)** 1008hp Speed (max) 25.4 rpm Flywheel diameter 17ft

Flywheel weight 32 tons each

Cylinder diameters High pressure, 29in

Intermediate pressure, 54in

Low pressure, 86in

5ft 6in Stroke 200psi Steam pressure Steam superheat 150°F

capacity of a Myford Super 7. But what a magnificent model!

More Information

Details of opening times of the Kempton Great Engines museum are on the website, http://kemptonsteam. org. It's well worth a visit and, if you take the free guided tour, you get to climb to the very top of one of the engines, 62 feet above the steam turbines, which were installed in the mid 1930s to supplement the triples.



PHOTO 1:

The Kempton engine house cathedral-like grandeur.

PHOTO 2:

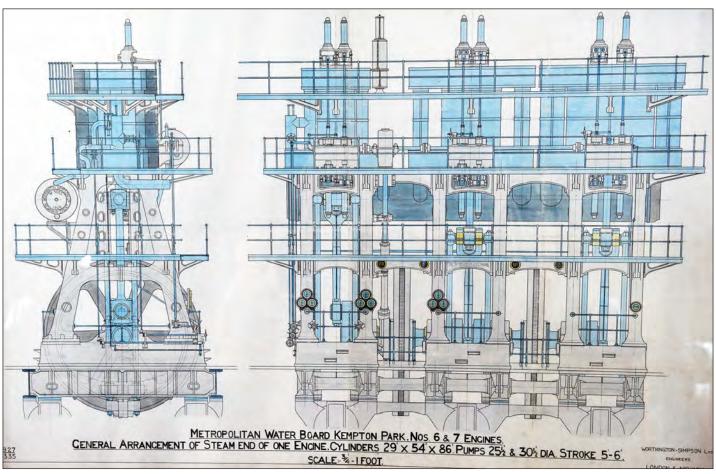
A mere 800 tons of steam engine turning over almost silently at 16rpm.

PHOTO 3:

Working drawing of the engine, produced in 1927.

All photos by John Smith





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A 6in Foden project

Kevin Edwins almost bought a 4in scale Foden steam wagon off the shelf. But instead he took on the greater challenge of building a 6in one from scratch...

BY **ALAN BARNES**



s Chief Engineer on the 2ft 6in gauge Great Whipsnade Railway at Whipsnade Zoo in Bedfordshire, Kevin Edwins is no stranger to the world of steam engineering. He is responsible for the team which ensures that the steam and diesel locomotive fleet operating

at this popular tourist attraction are maintained in first-class condition.

Kevin's latest major project at the zoo has been the overhaul of former Bowaters 1908 Kerr Stuart 0-4-2T 'Excelsior' that returned to traffic in early 2017.

So for someone who is working

Finished wagon photos by Alan Barnes, construction photos by Kevin Edwins

THIS PAGE:

The finished wagon is certainly a fine miniature.

PHOTO 1:

Making a start – building the chassis.

PHOTO 2:

The rear axle assembly was completed by Maskells.

PHOTO 3:

Construction of the boiler – a 'steep learning curve' according to Kevin.

every day with steam locos it would be understandable if any spare time was spent in activities which did not involve coal, boilers, engines, oil, dirt and grime. However for Kevin and his family the 'steam theme' continues away from work as they have owned and rallied miniature steam engines for a good many years.

In common with many enthusiasts Kevin's interest in steam stems from his childhood when he was taken to steam and vintage rallies by his parents and his grandmother. His grandfather was a farmer and visits to the farm also created an early interest in tractors and machinery. The family home was practically on top of the Leighton Buzzard Railway so it was hardly surprising that Kevin became involved with that narrow gauge line as a young volunteer.

Eventually in 2002 Kevin started to work at the Great Whipsnade Railway and moved through the ranks from driver to eventually assume his current position as Chief Engineer. The work here gave him a solid grounding in hands-on steam experience which he later applied to his first venture into scale steam



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engineering. Kevin and his wife Emma have owned and rallied a number of miniature steam engines but until a few years ago they had not seriously considered building an engine of their own.

Dream bigger...

In 2009 the couple were rallying a 4½in Plastow Burrell traction engine but had always rather liked the idea of having a Foden steam wagon. At around the same time a 4in Foden wagon was advertised for sale and Kevin sought advice from experienced steam engineer Michael Maskell before he took the plunge and bought the Foden. However Michael's advice took Kevin by surprise as he told him that a 6in wagon would be a much better option and that he should also consider building the wagon himself.

This gave Kevin food for thought as he had not considered a 6in engine before and neither had he thought about the possibility of taking on a major build himself. His experience lay with the overhaul and repair of narrow gauge steam locomotives but these engines were the 'finished item' and had been around since the 1900s building new engines in whatever scale was a whole new 'ball game'.

Kevin and Emma gave Michael's suggestion careful consideration, however, and as Michael and his

friend Jonathan Vickery were about to start building their own 6in Foden steam wagons this seemed like a pretty good opportunity. The decision was made, the 4½in Burrell was sold to fund the new project and Michael made arrangements to order the major components for Kevin's new Foden wagon which included steel for the boiler and the cylinder block.

Kevin did not have the luxury of a well-equipped workshop at home but fortunately he was allowed to use the machines in the works at the railway while Michael also made the equipment at Maskells available. From the early discussions and right through the build project Michael was very supportive and as Kevin said, "I don't think I could have completed this build without his help."

Work on the scale Foden began in September 2009 and the first few weeks were spent building the main chassis before Kevin moved on to the front axle. He had already made the decision to put the wagon on cast wheels with solid tyres - Ian Vickery had made the patterns for the wheels which were cast at the beginning of 2010. The finished wheels were then sent to Reliant Rubber Engineers for the fitting of the vulcanised tyres.

By his own admission Kevin found building the boiler a very steep learning curve. He began by cutting



PHOTO 4:

More careful measuring as the cylinder saddle is drilled.

PHOTO 5: Completed

cylinder block

PHOTO 6:

Beginning to take shape as the hornplates are offered up





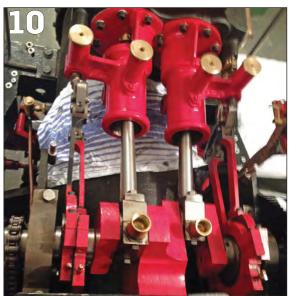




out the boiler plates, basically copying the way that the Maskell boilers were being made. A few months later the boiler was tacked up and all ready for the welding to be completed.

While Kevin had wanted to build as much of the wagon as possible himself he did recognise that some elements were beyond his skills, for example the rear axle that was machined for him at Maskells. This was a true scale version of the original



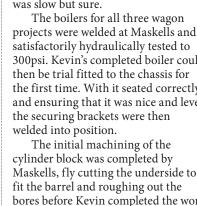




Setting the motion bracket.

PHOTO 8:

Definitely beginning to look the part now with the first of the motion added.







axle, prepared from the Foden drawings. As the end of 2010 approached the Foden had progressed to the point where it comprised a rolling chassis, a part-built boiler and a large collection of other components stored wherever there was space. There was no set timetable for the wagon to be completed as Kevin only had his spare time available – progress was slow but sure.

The boilers for all three wagon

satisfactorily hydraulically tested to 300psi. Kevin's completed boiler could then be trial fitted to the chassis for the first time. With it seated correctly and ensuring that it was nice and level the securing brackets were then The initial machining of the

cylinder block was completed by Maskells, fly cutting the underside to fit the barrel and roughing out the bores before Kevin completed the work using a Van Norman boring machine. Maskells also machined the valve faces and regulator face while Kevin drilled and tapped the bolt and stud holes

together with the holes for the valve rods and the mounting holes.

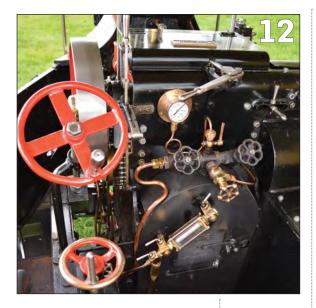
All square

The hornplates were welded to the top of the side plates, after being set up square on a jig that Maskells had made especially for the job - this ensured that the crank would be set square to the cylinder. Kevin's pile of individual parts was now becoming noticeably smaller as various components were fitted to the chassis, the cylinder bolted into place, the crank fitted and the motion work being added.

One of Kevin's previous employers offered to help with some of the sheet metalwork and he was sent various sketches and drawings which enabled him to make parts - these included the water tank and the stainless steel ashpan. Good progress was made until late 2013 when the build was interrupted by a house move. By that time work had started on some of the 'plumbing' pipework, including the injector pipes, while the cab which had been made by Ian Vickery had been fitted.

Kevin decided to fit a Lempor blast nozzle instead of a single jet or a silencer box. This is a four-jet tapered nozzle which increases the smokebox vacuum but reduces the back pressure in the cylinder exhaust. Nigel Day, a friend of Kevin's and a noted authority on Lempor exhausts worked out the calculations for the set-up.

While the move had delayed work on the project the new house had the advantage of a garage that proved to be an ideal new home for the steam wagon. Now rather than having to travel to carry out work on the Foden Kevin could just nip out to the garage whenever he had some spare time. Sorting out the new home obviously took priority but whenever possible some time was made for a few 'Foden Sessions' - over the next few months the work on the motion continued



and the wagon slowly took shape.

A landmark event was the lighting of the first fire which took place on 27th January 2014 – the engine was gently warmed through and a few joints were pulled down. The next day the engine was lit up for the second time and enough pressure was raised to make a trial run. Run it did, although not very well. Obviously some adjustments and fine tuning were necessary and these would be made in due course. Arrangements were made for the boiler to have hydraulic and steam tests which were passed without any problems.

The sheet metal components for the Foden, which were partially complete and had been in store for nearly a year, were now finished.

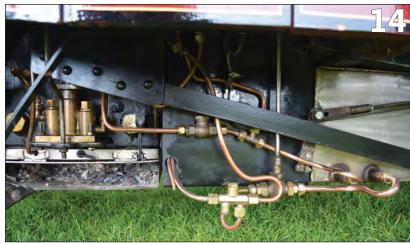
These included the side panels which were edged with aluminium beading as were the doors. Kevin had chosen BR Midland Maroon for the livery and he used T & R Williamson transpeed poly-finish paint which he applied with a brush, having carefully prepared all the surfaces. Most of the panels also received a finishing coat of Craftmaster varnish and a simple buff lining edged in black was also applied.

First outing

Painted but not yet finished the Foden wagon made its first working rally appearance at the Stotfold Mill Steam Fair in May 2015, although it had been previously exhibited at three Bedford club rallies in its part-built state. The engine was still being run in at this time and for Kevin it was a case of







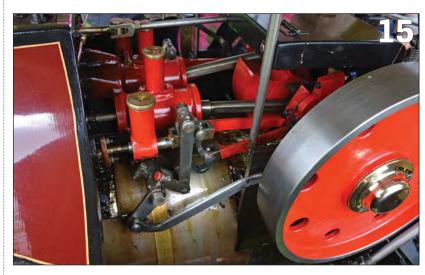




PHOTO 9:

The sheet metalwork goes on as the Foden moves towards completion.

PHOTO 10:

Close-up of the finished and painted motion.

PHOTO 11:

A milestone moment – the first fire is lit in the wagon.

PHOTO 12-15:

Views of the finished Foden wagon – a credit to its builder.

PHOTO 16:

Complete in every detail...

PHOTO 17:

An early outing to the Beeches Light Railway before the signwriting was completed.



almost constant 'fettling' over the next few months to get it running as smoothly as possible.

There was also the matter of the body to consider as this was just a simple platform at this point. Kevin considered that a dropside body would be more convenient. This work was carried out during the winter of 2015/16 with Kevin making up the ironwork and fittings while Ian Vickery handled the woodwork.

PHOTO 18:

Driving a wagon is child's play, as Kevin's young daughter demonstrates!

PHOTO 19:

Kevin and crew at the Steam Apprentice Club driving weekend.



The final touch was the addition of the neat signwriting that sets off the maroon livery and varnished wooden body of this fine-looking steam wagon. Kevin is very pleased with the wagon which performs well on the road. It has a preference for smoky coal rather than Welsh, it maintains pressure without too much 'bother' when on the rally field and once nice and warm steams freely.

Kevin freely admits that his first

scale build did prove to be rather a challenge and acknowledges the invaluable help he received from the Maskell and Vickery families during the project. As he observed; "If I hadn't spoken to Michael that day in 2009 I might be driving a 4in scale off-the-shelf steam wagon." That would have been a great pity as this 6in scale Foden is a truly superblooking engine and is a credit to all those involved in the build.

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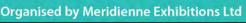
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Engineering on display at Midland Garden rail show

Engineering in Miniature joins forces with sister magazine GardenRail in March as joint sponsors of the Midlands Garden Rail Show, or to give the show its traditional title Large Scale Model Rail.

This year marks the 17th staging of the event, which will take place at the Warwickshire Event Centre near Leamington Spa on 17th-18th March. The show continues to go from strength to strength and is today regarded as one of the leading garden rail exhibitions in the UK. More than 2,000 enthusiasts are expected to attend from all over the UK and Europe.

This exhibition is well supported and organisers are expecting 35 leading suppliers and 15 layouts and displays, with plenty of live steam. As well as the traditional modelling scales of Gauge O and 1, and the popular 16mm and G garden railway scales, the exhibition will also feature larger scale modelling. A newcomer will be 'Chalfont' modelled in Gauge 3 which many EIM readers will likely know better as 2½in gauge.

Of course while known as Large Scale Model Rail, this exhibition focuses on rather smaller scales compared to what is typically found in these pages. However they are also scales that are finding increasing favour with model engineers, particularly those who have less space in which to carry out their hobby – look at many a club stand at a show these days and you will find particularly 16mm scale models, and it's notable that among the exhibitors at the show will be the Bromsgrove Society of



ABOVE: No matter what the scale live steam will always attract...

Photo: TEE Exhibitions

ABOVE: Smaller scale engineering is increasingly earning its place alongside more traditional sizes, here on the Hereford MES stand at the Midland Exhibition last October.

Photo: Andrew Charman

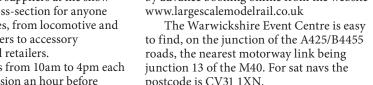
Model Engineers, Coventry Model Engineering Society and the National 2½in Gauge Association.

The traders and suppliers at the show provide a broad cross-section for anyone starting in the scales, from locomotive and rolling stock suppliers to accessory specialists and used retailers.

The show opens from 10am to 4pm each day with last admission an hour before

closing. Admission charges are £8.50 adult, £7.50 senior citizen and £3 child on the day, with discounts worth £1 per ticket available by advance booking online from the website www.largescalemodelrail.co.uk

postcode is CV31 1XN.



Government launches Year of Engineering

welcome development in January saw A the Government choosing the London Model Engineering Exhibition to launch its 'Year of Engineering' initiative.

As detailed in our show report starting on page 9, Stephen Metcalf MP has been appointed Government envoy to the initiative. This aims to transform the way that young people see engineering and to boost the numbers entering engineeringrelated professions.

We are promised that Ministers from across government will be engaging with companies and industry experts as part of the initiative, a welcome move which appears to be attempting to reverse the decline in awareness that engineering has suffered from over many years, fewer young people recognising the opportunities available in such careers.

The Year of Engineering will include a focus on digital and robotics - these are aspects of engineering that are becoming increasingly relevant to modern life, and it's notable that the recent successful revival of the 'Robot Wars' TV programme is enthusing young people and opening their eyes to the appeal of engineering.

EIM welcomes the Year of Engineering initiative - despite its perhaps inevitable focus on 'modern' engineering, our traditional subjects have a role to play and we were pleased to see just how much time Stephen Metcalf spent at the London event, taking in all the traditional model engineering on show.

Encouraging young people to experience the achievement of making something themselves using machine tools can only be good for the model engineering movement, producing the model engineers of the future.

Model engineering suppliers -

these are your pages. Launching a new product or service? Tell our readers about it here. Send press releases and images to Andrew Charman at: andrew.charman@ warnersgroup.co.uk

17D adds to ride-on range

New from 17D Miniatures are these kits for ride-on carriages, available in both 5in and 7¼in gauge.

The new releases follow the successful launch in 2017 of 17D's ready-to-run Inspection Saloon driving cars in both gauges. Both these and the standard ride-on carriages are now being offered in what is described as easy-to-assemble kit form.

17D tells us that all the hard work to build the carriages will already be done before delivery, with the chassis prefabricated, the body unit pre-fabricated in steel and the bogies supplied in a straightforward bolt-together design.

The kit-build vehicles include the same quality features and attention to detail as the ready-to-run versions, including professionally manufactured, fully upholstered and comfortable removable roof/seats; acrylic glazed windows; door handle and hinge details; a correctly profiled and sturdy steel body and semi-scale and rugged bogies with heavy-duty springing to each axlebox.

Various liveries can be accommodated, decals available for the carriages including



GWR, BR and LMS colour chemes.

Unbraked versions of the carriages are priced at £999.00 plus VAT in 5in gauge for a full kit, while the 71/4in gauge model costs £1168.00 plus VAT.

17D can also supply a complete, all-in-one, integrated, manual and vacuum operated brake unit, which can be added to any of the models for £314.80 plus VAT. İt uses a disc brake and caliper on each bogie.

For those working on a budget, all of the parts can be supplied separately, enabling modellers to buy each component as their build progresses.



17d-miniatures.co.uk. Tel: 01629 825070. e-mail: sales@17d-miniatures.co.uk Web: http://17d-miniatures.co.uk/

DVD recalls 7¹/₄in Gala highlights

New from the 7¼ in gauge Society is a DVD providing an enjoyable souvenir of the Society's 2017 Gala and AGM event, which was held on the Burnley and Pendle Miniature Railway Society's Thompson Park Railway in Burnley over the weekend of 22nd-24th September.

Produced to a high standard by RailAdvent and DansRailVideos, the disc runs to an hour and 10 minutes and showcases the wide variety of stock, both steam and internal combustion, that ran over the weekend. In addition to the resident fleet, around 40 visiting locomotives were in action during the event.

The camera operators were certainly kept busy, seeking out a wide variety of angles across this extensive track to produce a disc that never becomes repetitive. From long shots across the very busy main station to close-ups of locos being prepared in the shed area, there is plenty to maintain the viewer's interest. We are even treated

to tracking shots filmed from adjacent trains!

Praise is also due to the audio soundtrack, because basically, apart from some incidental music during the intro, the locomotives are left to provide their own sounds, with no intrusive commentary getting in the way.

The final positive aspect is that the DVD costs a mere £5.00, including post and packing. To obtain your copy make your cheque payable to The 7qtr Society and send it to Society chairman Frank Cooper at 47 Holmes Road, Stickney, PE22 8AZ.





Miniatures at Statfold

The Statfold Barn Railway will again be holding its Giant Miniature Weekend in 2018, on 12th-13th May.

The weekend was established in 2016, when the private Staffordshire line provided a new home for a rally previously held at the standard gauge Battlefield line in Leicestershire. A wide variety of traction engines and steam lorries in various miniature scales attended and the event has grown in stature ever since.

Attractions at this year's event are expected to feature more than 100 miniature steam engines, as well as a busy service on the extensive 2ft gauge Statfold line. The Roundhouse display centre with its extensive collection of rescued locomotives will also be open, while there will also be toy and model steam on show.

The cost is £10 adults, £5 children and all tickets must be ordered in advance from www.statfoldbarnrailway.co.uk - there will be no tickets on the gate.

Photos: Andrew Charman

Letters to the Editor





Micro live steam

In his editorial in the January issue, Phil Parker mentions the OO scale Hornby live-steam model of the Gresley Pacific 'Mallard', believed to be the smallest live steam loco in the world. However we believe this loco is not alone in its claim.

In 2017 both at the now (so far) defunct Spalding Model Engineering Show, and the Festival of Railway Modelling organised by EIM's publisher Warners, we on the Peterborough Society of Model Engineers stand displayed a live steam, OO gauge, Crampton loco made by Stan Bray. At my suggestion, The Peterborough Telegraph featured this loco in one of its pictures of the event.

The Crampton is one of only two in the world. Stan told me that after two sets of lost wax castings had been produced, the equipment was damaged, precluding the production of any more castings.

Stan made his model from the castings supplied by his friend. Complete with its tender, it is scarcely longer than a OO model of an A4 sans tender.

It was a great shame that the 2018 Spalding show was cancelled at short notice. It would be good to see a new organiser either at its previous Springfields location, or at the Excel

Centre at the East of England Showground in Peterborough.

Howard Lewis

The editor replies: So this Crampton is the new contender for smallest live-steam locomotive - unless you know better... On the subject of shows it's always sad to see one not continue, but we also appreciate the challenge of organising such events. Basically if we want them, we all need to support them.

Older than you think

Having just read John
Arrowsmith's excellent piece on our Tonbridge MES in the January Club Newsround I thought I ought to correct just a few points.

Our Society has been in existence since 1944 (more than 72 years, not 45) and we took delivery of the BR Freight Coach about 30 years ago.

We constructed the carriage shed ourselves. The 'Maison de Poulet' moniker is due to the fact that it looks like a chicken shed but it has certainly made our lives easier during the running sessions.

While we have heard rumours about the local swimming pool having designs on the land we occupy, we have heard nothing officially. Indeed, the Council's plan for the future of the sportsground on

which we are located - www.tmbc. gov.uk/__data/assets/pdf_ file/0003/138828/TRS-Man-Plan.pdf - makes no mention of moving us.

We feature on the front of the plan and on page 19 as a current occupant but are not mentioned in the Council's to-do list at the back of the plan. We did work with the Council when the local swimming pool was rebuilt, they know how to get in touch with us should they wish and know just how expensive moving us would be.

I feel a bit guilty at picking up on these points because the article was otherwise rather good but I would like to damp down any speculation about the future of the Society on its

> Mick Low Hon Chairman - Tonbridge **Model Engineering Society**

Show us some 3D

ongratulations on your appointment to the editor's chair. I expect you will be soliciting comments as to what to feature in the magazine - can I make an early plea for something on 3D printing?

To many of us this is a technology that appears to be sprouting up everywhere but which we know and understand very little!

Russell Snowdon

The editor replies: You are not the first to make that point to me Russell and the technology is as alien to me! Rest assured we will be looking to unlock the mysteries of 3D printing as soon as we are able.

ERRATUM

ABOVE:

The Crampton

live steam loco

built by Stan

Bray is clearly

Hornby's A4 -

smaller than

see 'Micro

live steam'.

In the Young Engineers feature in our February issue (page 36) Solomon Johnson was pictured at the controls of a steam locomotive and the caption suggested it was the 15in gauge Ravenglass & Eskdale or 'Ratty' line. As many readers would have spotted it is actually on the Rudyard Lake Steam Railway, a Staffordshire line of 10¼in gauge. We apologise for the error.

Opinions or information to share? A point to make? Engineering in Miniature welcomes letters on all model engineering subjects. Send your letters to; andrew.charman@warnersgroup.co.uk or to 12 Maes Gwyn, Llanfair Caereinion, Powys SY21 0BD

Taking on the tram

Reece is learning model engineering skills the best way - by building something.

BY JOHN ARROWSMITH

s you all know by now this will be my last Young Engineers page for *EIM*. It has been a pleasure meeting so many young people during the last few years and hopefully encouraging them to progress in model engineering and perhaps adopt an engineering career, there are plenty of opportunities. I am sure my successor will provide lots of encouragement for you to include your projects in this page as you are the future of model engineering.

I have received more information about the Young Engineers at the Tyneside Society. Seven young people are now involved with the club, getting lots of help with different projects and also learning to prepare and drive steam locomotives. Linda Nicholls has done a splendid job at the club in persuading senior members to help and this is now being rewarded by the young members' active involvement with the club. It would be nice if other clubs followed Linda's initiative and started Junior sections, it will be worth it in the long run.

I finish with a short article from Reece Burgess, encouraged by his club Plymouth Miniature Steam to design and build a model tram.

"My name is Reece and I have an interest in trains and engineering. I decided to build a tram as I like them and thought it would be a good opportunity to learn new skills.

It all started on a visit to Blackpool when I rode on one of the heritage trams – I had been on them before when they were in active service, but now they are surrounded by the new 'flexity' trams you start to appreciate them more. While riding the tram I decided I wanted to make a model as it would be a challenging project.

Iconic tram

The vehicle of choice was a Blackpool balloon tram as it is an iconic image, in my opinion, of Blackpool's heritage fleet. I also decided to build it so that it could be run on O-gauge track. My original ideas were to cut out the body from plywood using a template I would draw, I later realised this would be difficult as I only use hand tools. There were many flaws in this plan but luckily I didn't have to find that out the hard way as Plymouth Miniature Steam decided to help me.

I had been a member of the club for about six months by this time and

RIGHT: The Blackpool Balloon, an iconic vehicle and a good choice for a first project.

BELOW RIGHT:

A trial to see if laser cutting wheels was practical produced this neat wagon.

воттом:

The tram chassis comes together with its powertrain. We look forward to seeing the finished vehicle.

This may be John's last column but we still very much want to hear from Young Engineers! Please send your news and projects to the editorial address on page 3.



an apprentice with them, building a basic steam plant. I asked some of the guys there if they had any ideas for the tram mechanism and was given some 25mm diameter aluminium rod to use for the wheels. I turned this down on the lathe to 5mm wide, this includes a 2mm flange, and created eight wheels.

It was also suggested that I laser cut the body so I spent a week of lunchtimes at school creating the panels. I decided to use 3mm MDF for as it is thin enough to look good but thick enough to be strong. Other members started to ask what I was building so I decided to take the tram along to a club meeting where you can show what you have been working on. I was given a lot of support from club members and was also offered a bag of motors and gears that I could use.

Exam break

I now had what I needed to assemble the tram but with exams approaching I had to put aside the model for a while as school was more important. I tried to work on it when I could but progress was slow. The body was quick to assemble as it is just two side panels glued to an angled front piece. As I had little time I decided to test if laser cutting wheels would work so I designed some O-gauge trucks and cut them out. They worked better than I expected and were cheap to build as

well because I used kitchen skewers for the axles.

After the summer, I had a lot more free time and work started again. My plan had been to use bolts to connect the bogies to the body but I decided to test using a dowel instead and it works a lot better than I expected. I have started to sand the main body down to make it look more like the real thing and I have also started to put the track together by gluing it to some scrap MDF, I will use copper wire from a mains lead for the overhead lines.

I have selected the old Blackpool transport cream and green livery for my tram as I think the colours work well together. When it is complete I have plans for another tram but have not decided what to model yet.

I would encourage everyone to have a go at model engineering or just building things in general. You learn lots of new skills and you end up with something that you can say, "I did that". Reece Burgess





All Change...

Regular readers will know that John Arrowsmith is retiring from his role as our club news reporter and we would like to thank him for all his efforts over the years - he will be missed!

BY JOHN ARROWSMITH

'ell this is it, my last Club News for Engineering in Miniature magazine. The last few years have been most enjoyable and have given me the opportunity to explore many different clubs and societies as well as making lots of new friends.

There has been more than one common theme over this time relating to many different clubs from all over the world. The most enduring is the plea in most newsletters and magazines for more member involvement in club activities, followed by the wish for more younger members to join and help with the workload. On the last point the new initiative being prepared by the Southern Federation may help to provide a framework which many clubs can embrace to create enough interest within the movement to start to address these problems, but the reality is that it is down to the clubs themselves to create an atmosphere within their organisations that will attract people to their clubs.

I will follow with interest to see what transpires over the next year or so and whether my successor will be able to report on a new generation of model engineers really starting to get to grips with this fascinating hobby.

This month sees the Midlands Garden Railway Show, also known as Large Scale Model Rail, at the Warwickshire Exhibition Centre over the weekend of the 17th /18th March, sponsored by Engineering in *Miniature* and its sister magazine GardenRail. This will be the 17th consecutive year that the show has been held here and I understand that 35 traders and 15 layouts will be attending. This is a must for all devotees of the larger 'smaller' gauges - more details are on page 35.

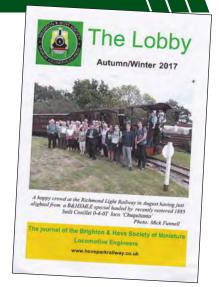
Time to get running

Don't forget that the clocks go forward on 25th March as British Summer time begins. This is reflected in the club diary (page 41) with many more events already organised as the running season gets underway, so why not offer your services to your club or society and help them have a really positive year instead of one of just getting by with a minimum of volunteers assisting?

Talking of younger members

being involved I reported on the activities of a group at the Brighton & Hove Society a couple of months ago where there is a thriving Junior section. In fact one of these youngsters has taken on the role of newsletter editor, which as you all know is no mean feat and one that comes up again and again in many clubs who struggle to either get material or anyone to do the job. So well done to Mikey Farr, I hope he is successful with his writing because his latest edition is a very good one with lots of photos and information and a good diary page listing all the club's activities over the next year.

Mikey reports that the club's annual outing to the Richmond Light Railway was much enjoyed by all who attended. In his notes the Chairman remarks on the fact that most of the content in the magazine is by the younger members, how many clubs can say that? Meanwhile activities carried out by the Brighton club over the winter include maintenance on the new passenger cars to ensure they are ready for the 2018 season.



At the Bradford MES members enjoyed a very good annual dinner which was well organised as usual by Ken Shipley. The raised track reconstruction is progressing well and is staying within the allocated budget – the club must have a project engineer who is keeping the work schedule on a very tight rein. An interesting note in the newsletter

ABOVE RIGHT:

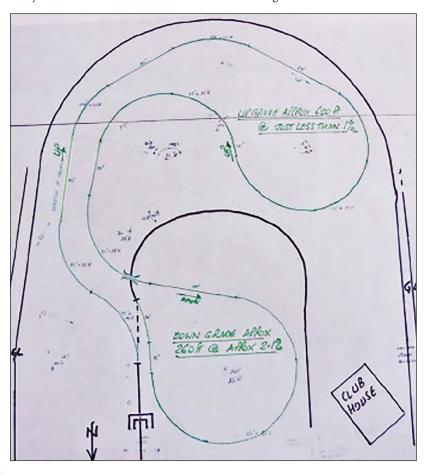
The Brighton & Hove Socety newsletter has a young editor.

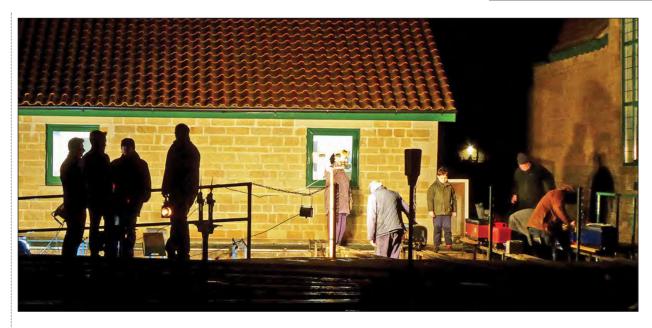
RIGHT:

From the newsletter of the Richmond Live Steamers in Canada, this plan shows how a planned track extension will more than double the running length of their line.

FACING PAGE:

Two pictures from the after dark fun had by the Ryedale SMC in November.





includes a page from *Model Engineer* magazine in September 1968 when the club officially opened its new track at Northcliffe. To have lasted so many years without reconstruction being required is a testament to how well the track was built in the first place. The first official run on the track was by Duncan Graham with his 5in gauge Atlantic.

The club's auction night in November was a busy event with the usual range of goods available for very modest prices. The bargain of the night must have been the bandsaw that was knocked down for £5.00. Nevertheless a useful sum was raised for club funds.

Another club that is planning to extend its track this year is the Richmond Live Steamers in Canada. It has taken some considerable time to map out the new layout but thanks to lots of input from members the proposed track will fit into the available land area. This extension

will more than double the length of the existing track and will contain some interesting one and two per cent gradients to test the drivers. The minimum radius will be 30ft and when it is completed and coupled to the existing layout the direction of running is to be reversed.

Other site improvements have included moving the fuel container to a new location which will enable a new access to the storage container to be built. The club has suffered from a spate of thefts in recent months including timber, screws, a surveyor's wheel and even track points. Having procured new points the old ones were returned, so in an attempt to prevent further losses site security has been improved.

The newsletter from the Ryedale SME is produced in diary format with almost daily reports of activities at the club. No other society produces a magazine like this which makes for a very interesting read. Members here

enjoyed a Night Run last November which saw a good turnout of locomotives both steam and electric and this combined with a good pie supper with puddings made for a very enjoyable evening.

General track maintenance continues with sleeper renewal and attention to signalling equipment being carried out. A new concrete access to the field has been completed and will greatly improve this area of the site. Some members will be attending the National Railway Museum event at Locomotion, Shildon, on 21st-25th March as part of the GL5 team.

Training popular

Reflecting on the activities in 2017 the SMEE Chairman notes that all the training courses were fully booked with most of the students then becoming SMEE members on completion. The existing 'Polly' course is proceeding well and the

TOP, RIGHT:

Two pictures from the after dark fun had by the Ryedale SMC in November.





Milling course is also expected to be fully supported. This augers well for the future as those taking the courses are new people coming into the hobby and it shows there is a real need for basic training. I hope other societies with good workshop facilities follow suit and offer basic training to potential new members.

Meanwhile the SMEE is looking for a group of existing members to take on the work of the Stationary Engine Committee who have all retired after many years of hard work maintaining the documenting of the Society's extensive collection. In the workshop the decision to remove the Colchester Student lathe has been reversed following representations by the workshop users. It has also been proposed to upgrade the ACME feed screws on the Wabeco mill to ball screws to improve performance.

The Autumn edition of the Aylesbury Link, the news magazine from the Vale of Aylesbury club, contains the list of prize winners that were presented earlier in 2017. The

Chairman's Cup was awarded to Tony Cauldrey for a superb example of a 7¼in gauge tender built for his 4F 0-6-0 locomotive.

An article by Bob Jones looks at how the number of miniature traction engines attending rallies has increased so much over the last few years that some organisers are now restricting the number of attendees, as they just do not have the space for them to operate. He suggests that one of the reasons for this is the range of both drawings and kits available which enables a wide range of models in different scales to be considered. He notes that 25 years ago the Vale of Aylesbury rally would have 10 to 15 engines, in steam nowadays this figure has crept up to 30 which is all they can reasonably accommodate and now they have a waiting list.

The 2017 rally was another success with the 30 engines booked in and enjoying the area around Quainton with road trips to the George and Dragon pub in the village each day. There is a competition for the 'best

ABOVE:

Winner of the Aylesbury club's Chairman's Cup, this impressive 71/4in gauge tender built by Tony Cauldrey.

LEFT: This picture was squeezed out of John's Young Engineers page due to lack of space but is still very worthy of use. It was -1°C when the shot was taken but these young people were determined to enjoy their track time at the Tyneside Society.

engine' and this was won by a VAMES member Joe Holland with his 4in DCC Burrell road locomotive newly outshopped after a 3½-year build from a kit. The runner up was Andrew Wildish from the Canterbury club who had brought his DCC Foster to the event. It was a really good event with good weather and lots of visitors including a number of Steampunk members who were attending a weekend rally at Quainton Road.

New Welsh club

And finally! The emergence of a new club is always good news, and so we welcome a letter from Robin King in central Wales.

"A small number of us model and home shop engineers located around the central area of Wales have been meeting up regularly over the last year, and as member numbers have steadily grown we've now established ourselves more formally under the title of the Cambrian Model Engineers, Robin tells us.

'Our members interests are widely varied including live steam, toolmaking, clock making, large to very small scale railways, mechanical antiques restoration, and anything else engineering related. The intention is to expand that range to attract a wide range of members, particularly those areas of interest to younger age groups."

Robin adds that the members are a sociable bunch and currently meet on a fortnightly basis at various members' homes for general chat, 'bits and pieces' meetings, and a look at each other's workshops, always accompanied by tea/coffee and cakes.

"We also have use of a 5in gauge ground-level track for 'steam up' meetings, by the generosity of our chairman Martin Rant, weather permitting of course."

Robin is happy to talk to anyone wanting more details of the club on 01686 414939. Remarkably, one of the first to get in touch will be our new editor, as this club is literally just down the road from where he lives at one end of the Welshpool & Llanfair Light Railway!

Well as I said above, this is my last Club News for EIM so my sincere thanks for all your help and support over the years, it has been much appreciated. Just keep sending your club news into my successor and helping the magazine to prosper.

Andrew C the Editor writes: John may be stepping down but we still very much want your club news! Please send future updates to me at andrew. charman@warnersgroup.co.uk, or by post to 12 Maes Gwyn, Llanfair Caereinion, Powys SY21 0BD

ARCH

EVERY SUNDAY

Bournemouth SME Public running in Littledown Park 11am - 3.30pm.

Canterbury SME (NZ) Public running from 1pm at Halswell Domain

Urmston MES Public running in Abbotsfield Pk 10am - 4pm

Vale of Aylesbury MES Public running at Quainton Rly Cntr from 12 noon.

- Warrington SME talk 'The Great Orme Railway' M.Crabtree, 8pm at Pewterspear Sports Club.
- 2 Colchester SME Auction Night 2 in the Clubhouse 7.30pm.
- Isle of Wight MES Open Afternoon, Broadfields 2pm-4pm.
- Tiverton MES Monthly Steam Up at Worthy Moor from 11am.
- Frimley Lodge MR Public running 11am-4pm, Sturt Rd GU16 6HT.
- Fylde SME Public running at Thornton Cleveleys from 1pm.
- Halesworth DMES Steam Up frm 10.30am, Reydon, North Suffolk
- Kinver MES Public running at Kinver 2pm - 4pm.
- Pietermaritzburg MES Public running at Rudling Rd, Bisley from 11am.

- Rochdale SME Public running in Springfield Park from 12 noon.
- Sale Area MES Public running in Walton Park from 12 noon.
- Southport MES Public running at Victoria Park 11.30am - 4.30pm
- Sutton Coldfield MES Steam Up at Little Hay from 10am.
- City of Oxford talk 'Powder Coating in the Home Workshop' 7pm.
- 6 Taunton SME Talk 'Edgar T Westbury', Bob Bramson 7.30pm.
- Bristol SME talk 'Trials & Tribulations of Model Scratch Building' at Begbrook 7.30pm.
- 10 SMEE Basic Training Day Part 1 day 2 at Marshall House
- 10 Southern Federation AGM at Cardiff MES 2pm at the Club House Heath Park
- 10 Westland & Yeovil DMES Track running day at Westland Leisure Centre 11am - 4.30pm.
- 11 Leeds SME Public running at Eggborough from 10am.
- **11** Sutton MEC Track Day from noon.
- 14 Birmingham SME Training Night at Illshaw Heath 17pm – 9pm.

- 14 SMEE Visit to the Clock works at West Norwood
- 14 St Albans DMES Members 'Model Night and Work in progress' Christchurch Cntr, AL3 4QT 7.30pm.
- **15** West Huntspill MES Slide Show evening with Peter Triggs from 7pm.
- 15 Wirral MES Quiz Night WI Hall Thornton Hough, 7.20pm.
- **17** SLSLS Public running from 1.30pm Anthony Road, West Ryde, Sidney.
- 17 Large Scale Model Rail Show at
- 18 Warwickshire Exhibition Cntre, 10am each day (more details on page 34)
- **18** Cardiff MES Public running at Heath **25** Stockholes Farm MR Wakey Wakey Park 1pm - 5pm.
- **18** Guildford MES Public Open Afternoon Stoke Park 2pm - 5pm.
- 18 Pinewood (Wokingham) MR Public running at Pinewood Leisure Centre 1.30pm - 4pm.
- 19 Peterborough SME talk 'Driving Experiences of a locomotive driver' All Saints Church Hall from 7pm.
- 21 Leeds SME talk '3D Printing' with Bob Gledhill, Eggborough 7.30pm.
- 21 NRM Shildon Open event, GL5 25 running portable track system.

- 22 Worthing DSME talk 'Sussex Windmills' with Peter Hill at the Clubhouse from 7pm.
- **24** Brighton & Hove SME Public running at Hove Park 2pm - 5pm.
- **24** Chesterfield MES Running Day at Hady from 11am.
- 24 Spring Rally at Llanelli DMES
- 25 Pembrey Park, contact Rob Raynor for more information.
- 25 Bristol SME Steam-Up at Ashton Court, Public running noon - 5pm.
- 25 Maidstone MES Public running at Mote Park, Maidstone from 1pm.
 - Day and steam up 10am 3pm
- 30 Lancaster & Morecombe MES Public running at Cinderbarrow. 10.30am - 3.30pm
- **30** Surrey SME Public running at Mill Lane, Leatherhead 11am – 4pm.
- **30** Wirral MES Public running at Royden Park form 1pm -3.30pm.
- 31 South Lakeland MES Public running,Lightburn Park from 10.30am.

Details for inclusion in this diary must be received at the editorial office (see page 3)at least EIGHT weeks prior to publication. Please ensure that full information is given, including the full address of every event being held. Whilst every possible care is taken in compiling this diary, we cannot accept responsibility for any errors or omissions

New editorial address

Please send all club news, diary dates, newsletters etc in future to the editor, Andrew Charman andrew.charman@warnersgroup.co.uk Tel: 01938 810592

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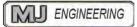


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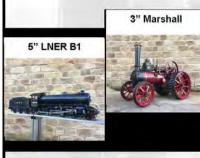
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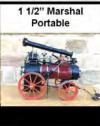
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