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ANNUAL 2015

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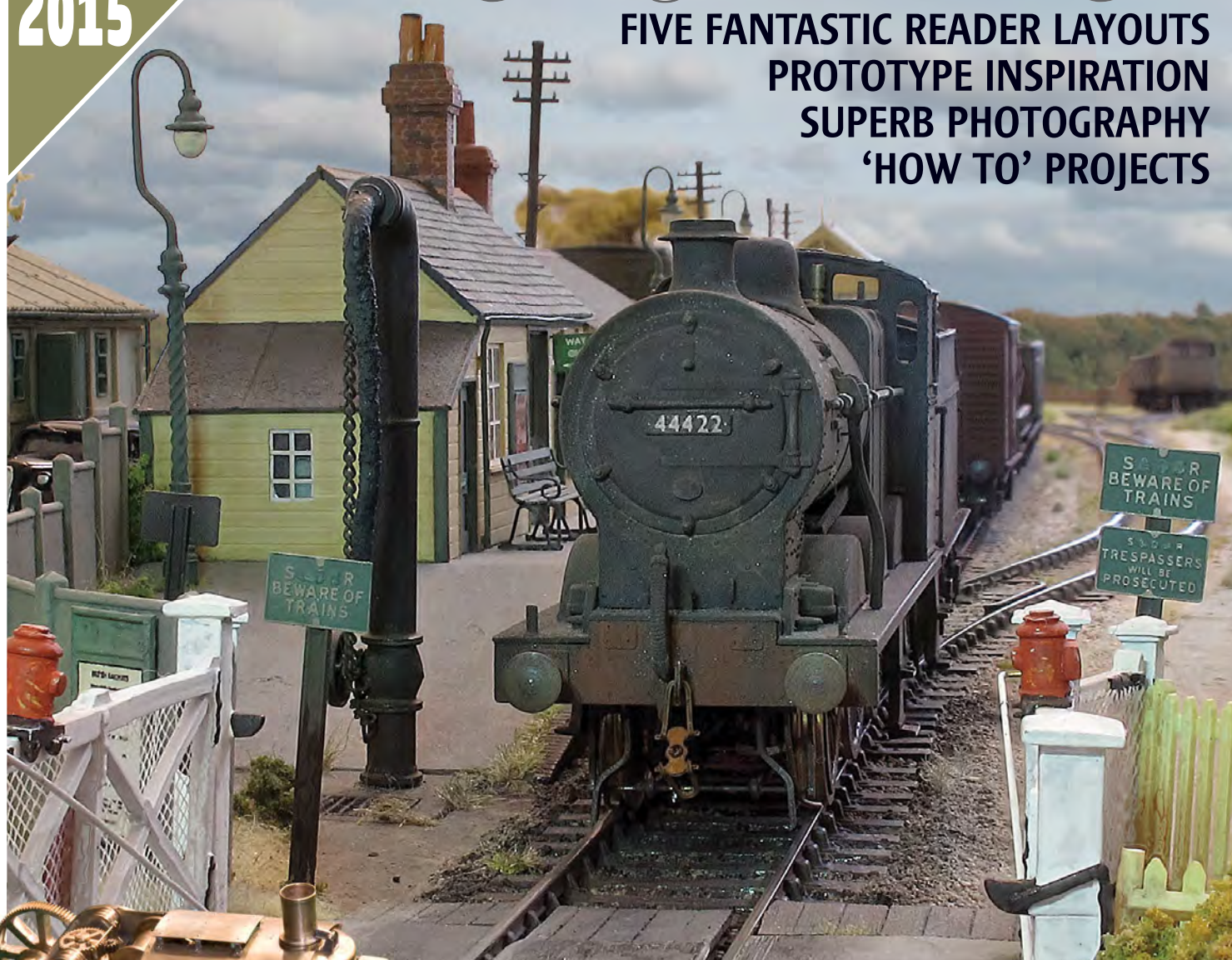
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RTR MODELS:  
WHO'S DOING  
WHAT IN  
2015

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## WELCOME TO...



# BRM ANNUAL 2015

**W**elcome to your revamped **BRM** Annual, a celebration of all that's best about *British Railway Modelling* and our wonderful hobby.

Over the next 130 pages you'll find a wide range of articles covering numerous fascinating subjects, scales, eras and regions. We've brought together no fewer than six great layouts in OO and O gauge, showcasing a broad range of interests, skills and interesting background stories. Whether you're into Scottish railways of the 1960s (Grangemouth) or 1980s (Tulloch Bridge), London Midland Region steam in O gauge (Sykes Bridge) or the ever-popular Somerset & Dorset (Lyncombe Vale), there should be plenty to catch your eye. The story of the latter layout is unusual in that it was built on the other side of the world by modellers who had never seen the real S&D at work or even visited the UK.

Look out also for Andy York's stunning illustrated review of his favourite layouts of 2014, Paul Bason's celebration of two decades of making buildings for **BRM** and a remarkable tale of

miniature engineering from Mick Cawthorne, who scratchbuilt a fully operational Cravens 25t crane in O gauge. These and other articles by regular **BRM** contributors such as Nigel Burkin, Tony Wright and Michael Russell are great examples of how skill, imagination and determination can create amazing models that we can all enjoy.

It's been another interesting year for the RTR manufacturers, not always for the right reasons, but on page 58 you can find out who's doing what, when it is expected and more about the new suppliers who are coming into the British market at the moment. We've also got an exclusive interview with Chris Klein of Ixion Model Railways, who gives some interesting insight into the company's operations and the model railway business.

With all the new models, kits and other products in the pipeline, some exciting events and intriguing developments in the year ahead, there's plenty to look forward to in 2015. Here's to another great 12 months!

Ben

# BRM

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When you're on the other side of the world, how do you go about building a layout that captures the atmosphere of the Somerset & Dorset joint line of 50 years ago? **John Pavitt** reveals the full story.



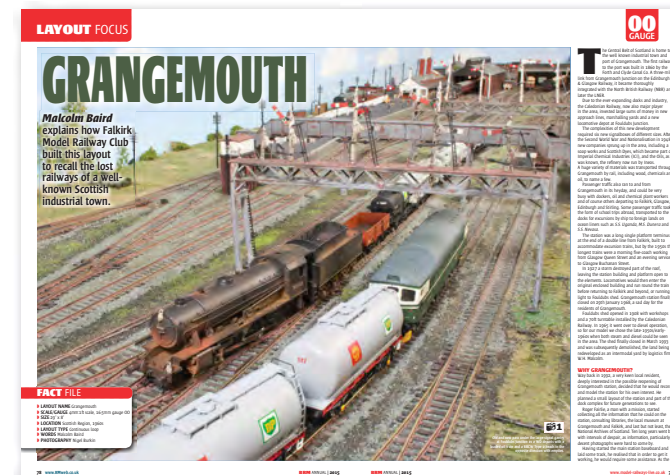
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Finding it impossible to limit his modelling interests to one area or era, **Andrew Butler** built a 'chameleon' layout capable of being transformed by changing the buildings and stock.

LAYOUT FOCUS

## TULLOCH BRIDGE

Finding it impossible to limit his modelling interests to one area or era, **Andrew Butler** built a 'chameleon' layout capable of being transformed by changing the buildings and stock. Here we see it in 1980s West Highland Line guise.



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LAYOUT FOCUS



This O Gauge layout featured in April 2005 and April 2008 issues of BRM. **Jeff Nicholls** presents a selection of his favourite photographs of the layout in action.

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## HOW TO SUPER-DETAIL A GRAHAM FARISH CLASS 37

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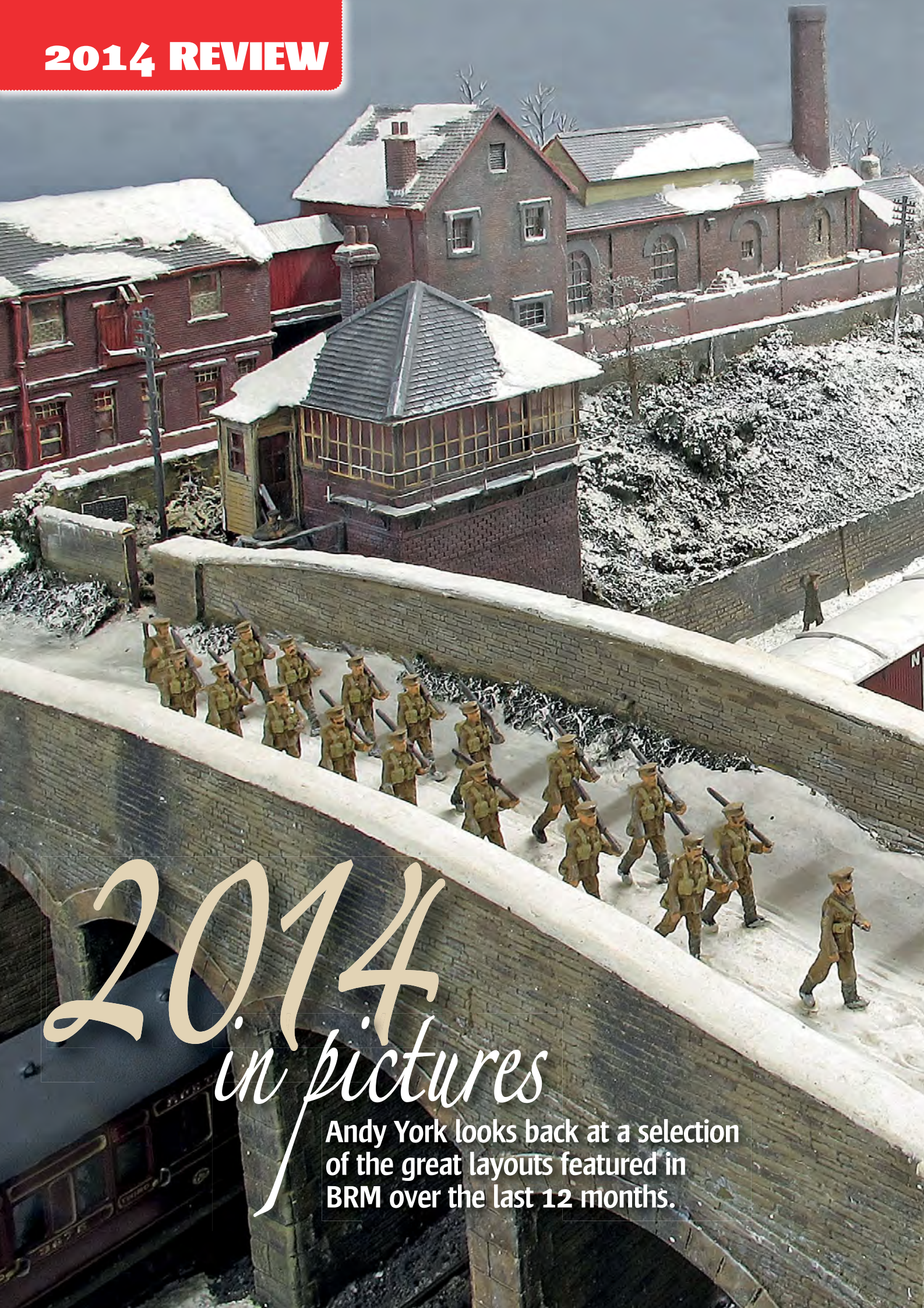
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**CHRIS KLEIN INTERVIEW**  
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**2014 REVIEW**



# 2014 *in pictures*

Andy York looks back at a selection of the great layouts featured in BRM over the last 12 months.





### Hudson Road

Our minds are presently taken back 100 years to the start of the Great War; Jon Grant's superb 'Hudson Road' evokes that time as recruits prepare for war. Here, an ambulance train returns the wounded from the front to their native North-East.



**2014 REVIEW**





### **Diddington**

The last Sunday of April sees RMweb members gather in Taunton for an annual get-together featuring some superb layouts. One of this year's stars was Alex Warren's 'Diddington', which beautifully captures a Cambridgeshire Fenland branch towards the end of its days in the 1960s. Look out for 'Diddington' in BRM in 2015.





# 2014 REVIEW

## THE GREAT TRAIN ROBBERY



### January

Richard Lambert's O gauge layout, 'Heyside' (right), features the most magnificent BR London Midland Region locomotives set against a backdrop of mills and terraced housing.

### February

At 0324 on 8th August 1963 one of Britain's most notorious crimes was committed with the robbery of £2.6m of used notes in what the press later dubbed 'The Great Train Robbery'. The diorama by Luton Model Railway Club is probably one of the more controversial models created but it is presented in a form which educates the viewer without glamourising the crimes committed.

### March

'Peterborough North' is Gilbert Barnatt's 'Layout of a Lifetime', re-capturing his youth with everything from the most famous of ECML express services through to the most mundane of goods trips accurately portraying what could be seen at this cramped station in 1958.



HEYSIDE



PETERBOROUGH NORTH





## DENTDALE



## JUNIPER HILL

### April

Spring comes to the Settle & Carlisle route as Wayne Webb's N gauge 'Dentdale' shows the effectiveness of 2mm scale for watching full-length trains working their way through the landscape. Given the neutrality of the scene Wayne also runs the layout at exhibitions in a contemporary period too.

### May

Not all great layouts have to take over the home; Mark Branson's 'Juniper Hill' is shown here almost in its entirety and proved to be a very successful project for testing scenic techniques successfully capturing the feel of the back-end of a Northamptonshire ironstone system.

### June

Many people complain that today's railway is uninteresting. That's far from the case with Mick Bryan's 'New Bryford', a showcase for his love of departmental stock and workings with the latest liveries of train operators in this North-West urban setting.



## NEW BRYFORD



# 2014 REVIEW



## GNR 'LARGE ATLANTIC'



### July

In a year when we have seen more product announcements than ever from an increasing number of commissioning parties and suppliers, Locomotion announced that Bachmann is to produce the Ivatt GNR 'Large Atlantic' from the National Collection - it should be available in early 2015.

### August

In 2014 we lost one of our most inspirational modellers, Dave Shakespeare. His legacy lasts from his encouragement for other modellers to find their own way, using creativity to capture atmosphere. This photograph by Tony Wright shows a small section of his third incarnation of 'Tetleys Mills'.

### September

RMweb Live featured many exceptional modellers giving equal prominence to demonstrating skills and inspirational layouts. Tim Maddocks' OO 'Bleakhouse Road' gave both by the bucketful with his meticulous recreation of a typical S&DJR station on the Somerset levels.



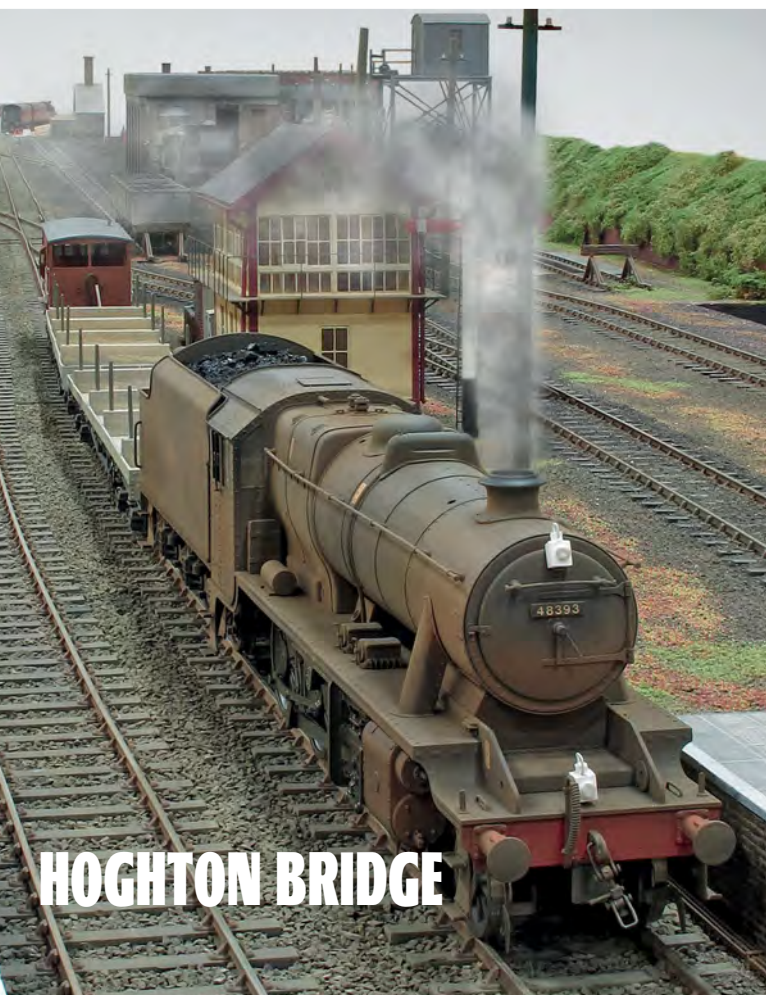
## BLEAKHOUSE ROAD







**BACUP**



**HOUGHTON BRIDGE**

### October

The RMweb special edition of **BRM** included Jason Thomas' rendition of Bacup, a small Lancashire & Yorkshire Railway terminus which oozes atmosphere evocative of Colin Gifford's famous images of Pennine mill towns. All modelling is to an exceptional standard and is a great showcase for what a lone modeller can achieve.

### November

Adrian Prime captured a Kentish branch-line terminus now buried beneath the M25 in the form of 'Westerham', the model goes beyond the sleepy station and captures a taste of village life through the clever use of images from Google Streetview bedded into the scenic background.

### December

Rarely do we get the chance to feature a grand project in such a large scale but Trevor Smith's 'Hoghton Bridge' is just that with a 50' stretch of Gauge 1 based on a station and shed on the Oldham loop, the sheer mass of the locomotives shows through into the photographs proving the larger the scale the more life-like it appears in photographs.



**WESTERHAM**



# LYNCOMBE

When you're on the other side of the world, how do you go about building a layout that captures the atmosphere of the Somerset & Dorset Joint line of 50 years ago? **John Pavitt** reveals the full story.



## FACT FILE

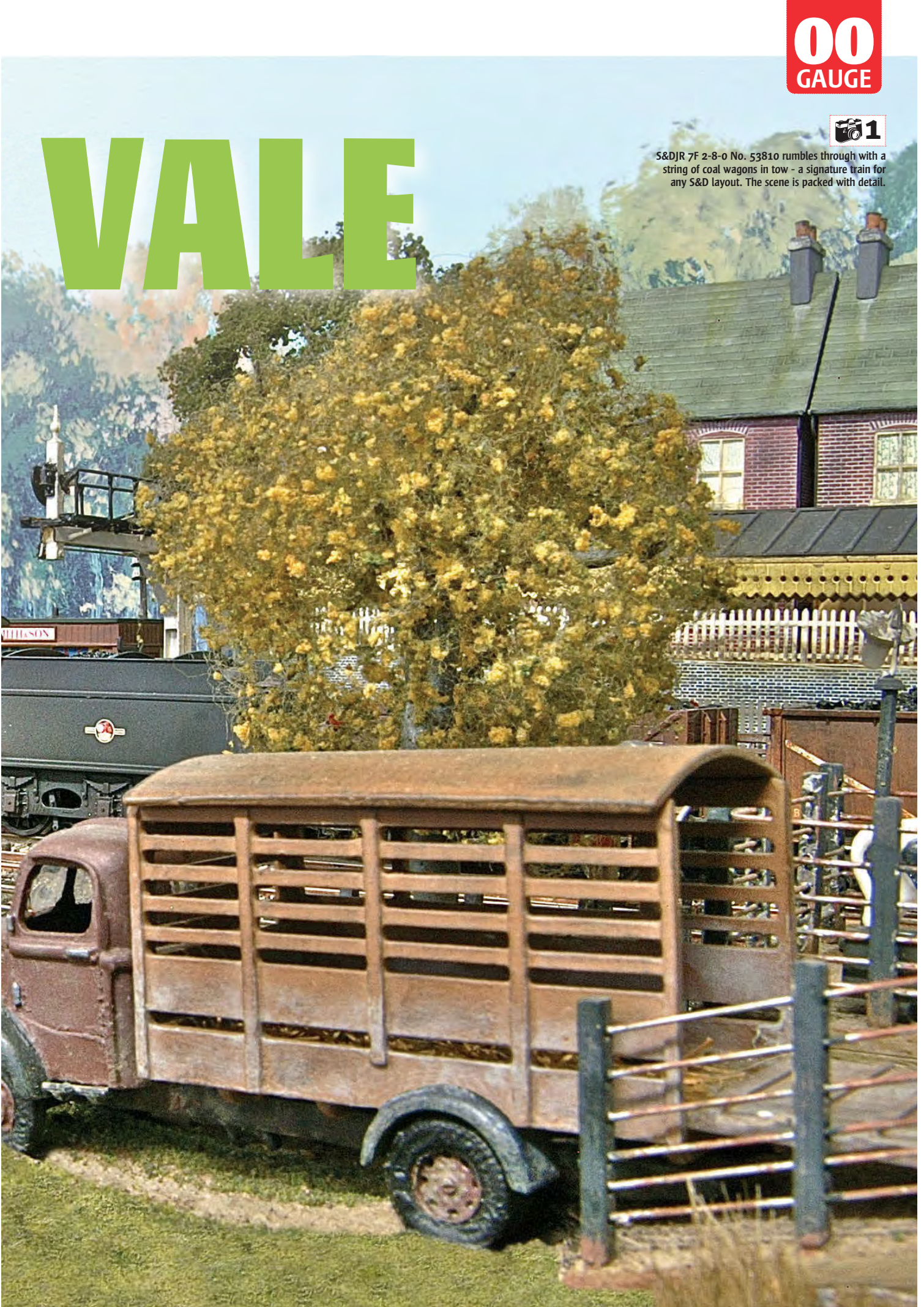
- **LAYOUT NAME:** Lyncombe Vale
- **SCALE/GAUGE:** 4mm:1ft scale, 16.5mm gauge OO
- **SIZE:** 6.5m x 2.5m
- **ERA/REGION:** 1950s, Somerset & Dorset
- **CONTROL:** 12V DC cab control
- **LOCATION:** Australia
- **LAYOUT TYPE:** Continuous loop
- **WORDS & PHOTOGRAPHS:** John Pavitt





S&DJR 7F 2-8-0 No. 53810 rumbles through with a string of coal wagons in tow - a signature train for any S&D layout. The scene is packed with detail.

# VALE







All the elements of a classic British country railway have been included, despite the layout being built in Australia by modellers who had never visited the UK.

In 1992 Derek Gower, an acquaintance I had not seen for some years, began attending a local church where our family was worshipping at the time. He quickly found out that we were railway modellers and a good friendship began. This renewed friendship would influence our choice of what we were to model forever. The reason was that Derek used to go to school at Broadstone, where the Somerset & Dorset Joint Line joined the Southern.

Derek told us he had some books and videos on a beautiful old railway in which we might be interested, so the next Sunday he lent us his two Ivo Peters S&D videos, plus two of Ivo's books and other books on the S&D. We couldn't believe his generosity and so through the kindness and encouragement of an English gentleman we fell in love with the old S&D. We had never modelled to a prototype before, basically we took the approach

that if it looked British it was all right.

We joined the S&D Trust in 1993 and were to spend the next two years researching information about Evercreech Junction – no easy task when you consider that we live in Australia. We had started tracklaying when it became apparent, that we just did not have enough space to do justice to this station and its surrounding area. I have to thank Neil Pankhurst, Assistant Museum Curator of the S&D Trust at that time, for his invaluable help in providing much detailed information on this station. Although we will never build Evercreech Junction, we found some of the general information about the S&D useful in project planning for 'Lyncombe Vale'.

## LAYOUT IDEA

In mid-1995, whilst removing the track that had been laid on 'Evercreech Junction', our younger

son Stephen was asked by his teacher to bring an example of his hobby to class. I can't remember exactly how much advance warning Stephen gave me, but my ageing memory tells me, not much. We hadn't long finished 'Wellsworth', our first exhibition layout, money was scarce, so scrap ply and timber combined with leftover points and track from the abandoned layout, were the order of the day.

Something small with a bit of operating potential was required, the Peco book 60 Plans for Small Railways from 1968 provided the answer. After reviewing all plans we decided on a small station scheme design, but we expanded it to suit the pre-cut ply scraps we had in our timber rack. Thus began the long road to what is 'Lyncombe Vale' today.

As we had decided to model an S&D prototype, we needed a name from a location somewhere along the line that did not have a station. The idea





of modelling a station at Lyncombe Vale came from information quoted in *The Somerset & Dorset Railway* by Robin Atthill, where he mentions the declined proposals for stations on each side of Devonshire Tunnel to serve the expanding suburbs of Bath. The deciding factors to use 'Lyncombe Vale' as the station name were, Lyn is my wife's name, for without her most brilliant modelling skills, I would still be playing toy trains. Also, after much research, this short section between the two tunnels was just perfect with its beautiful scenery and two viaducts.

## PLANNING

There wasn't any really; it just evolved over four different stages. Stage one was modifying the trackplan on the original 1,800mm x 500mm school project baseboard. We added a third siding in the goods yard and an extra siding behind the platform to form a bay road for local trains. Needing

to incorporate Watery Bottom Viaduct, we built another 1,500mm open frame board attached to the left of the station baseboard. We then added another 1,200mm board at right angles to this, so trains could disappear off-scene through a tunnel to a fiddle yard board 1,500mm in length.

We also added another 700mm long board to extend the platform, catering for longer trains, which also enabled us to extend the cattle dock road to a more useful length. This meant that we had an 'L' shaped layout 4m long by 3.2m deep and for the first two train shows in 1996 the layout was exhibited in this format.

In the second stage, two more 1,500mm boards were constructed, the existing fiddleyard board track was ripped up and all three were bolted together to form a 4.5m long fiddleyard running parallel to the scenic boards, with the original 1,200mm scenic board forming the space between. This meant that



The layout evolved in four stages, with new scenic sections added as the layout grew to its current size and arrangement. Trees are largely home-made by John and Lyn.



Buildings were built from a wide range of kits from numerous sources, or scratchbuilt where nothing suitable was available.



Rebuilt 'West Country' No. 34045 *Ottery St Mary* edges past the permanent way gang with an inter-regional train formed of ex-SR Bulleid stock.

we had a 'U' shaped layout 4m along the front 2.2m deep and 4.5m along the back. We exhibited in this format for the final shows of 1996.

For the third stage, a 1,200mm board was added to fit in the open end of the 'U' thus making the layout a complete oval. To accommodate the sweeping curve we wanted to get on this new section, the existing 700mm cattle dock board was extended by 900mm. The headshunt line was extended to the end of this board with the cattle dock road being converted into a siding loop and an extra siding put in for a timber yard. The front section was now 4.9m long and the back section 4.5m; the solution was to add small 200mm sections to the two end fiddleyard boards making these 1,700mm long. The layout was exhibited in this format right through 1997.

Stage 4 came in 2001. After exhibiting in 1997/98 with the layout in oval format, one of the





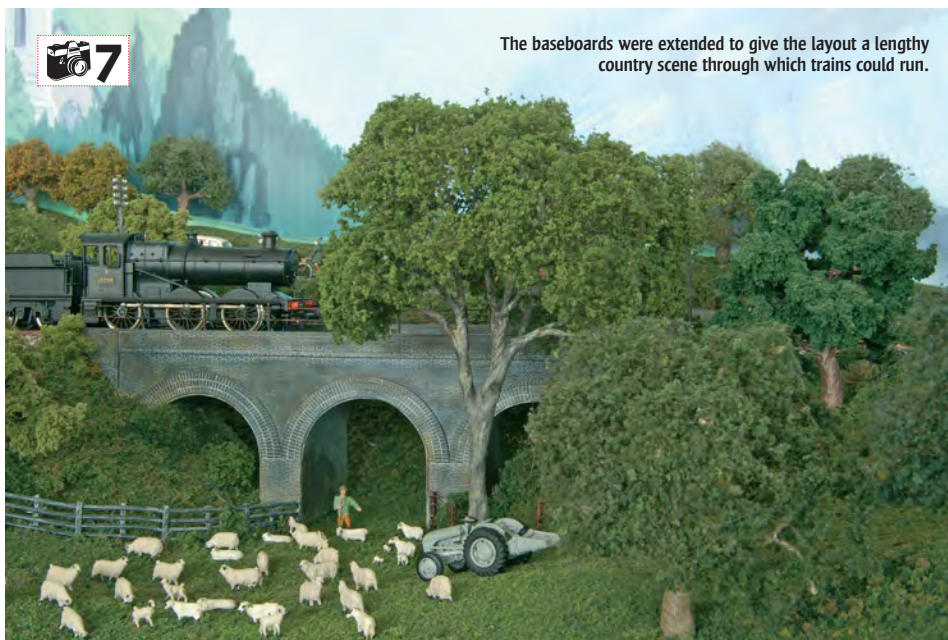
ongoing problems with the 2,600mm x 1,200mm internal operating area was congestion when all three operators were sharing this space. At first we were only going to push the internal depth out to 1,500mm, making it easier for operators to pass behind the control panels whilst operating the layout. However we decided to lengthen the layout by 1,600mm at the same time. This improved the look, giving more countryside for trains to run through between Watery Bottom Viaduct and Lyncombe Vale. With the fiddleyard now also 1,600mm longer we could now run the full-length summer holiday trains that were such a feature of the S&D. The result was a layout with overall dimensions of 6,500mm x 2,500mm with an internal space of 5,200mm x 1,500mm.

## TRACKLAYING

Peco Code 100 track and Streamline points were used throughout. Using leftovers, the first stage of the layout had all Insulfrog points, except for one Electrofrog point. Having never used these before, we realised at our first show, that shunting with them was much smoother, as the ex-LYR 'Pug' ran freely over the Electrofrog point, but stalled on the other points.

Stages 2, 3 and 4 of the layout saw us move over completely to Electrofrog points making for much smoother running. The layout currently has 39 points.

Our 500mm wide baseboards make it difficult to achieve graceful sweeping curves and some 18" radius curves were used to get trains around through the tunnel mouth and into the fiddle yard on stage 1. Stage 3 and 3A has nothing less



The baseboards were extended to give the layout a lengthy country scene through which trains could run.

than 24" curves, but because a total rebuild of the Watery Bottom Viaduct board would have been necessary a short section of 18" curve was left in place just after the viaduct until after the 2002 shows. This caused some minor problems when other members used their rolling stock, which had been altered for close coupling. Apart from this, smooth running is the order of the day, at home and at exhibitions. We did not exhibit during 2003 so a full rebuild of this section could be undertaken

to remove a problem area.

Track is laid on 3mm cork sheets with the excess trimmed away after tracklaying was completed. It is fixed to the baseboard with fine pins down the centre of the sleepers. By pre-drilling small holes slightly larger than the pin, I avoid sleeper and track distortion.

Rail edges were painted with Humbrol Rust, and, to avoid that glossy plastic look, sleepers were painted with Railmatch Sleeper Grime and Humbrol





**Left** Locomotives have been chosen to reflect those seen on the S&D in the 1950s/60s. The release of the Bachmann 7F filled a major gap in the fleet!

**Right** Books, videos and photographs were used to achieve an authentic S&D look. Backscenes were hand-painted by Andrew Morris.

**Below** Livestock traffic was important to BR in many rural areas until the 1950s. Ex-LMS cattle vans have been delivered to the dock to be loaded with cows for market.



## KEY DETAILS TREES



Trees form a vital part of the scene, as this small vale between Devonshire and Combe Down tunnels was heavily wooded. There are 150+ trees, all of which were hand-made by my wife Lyn and myself, with Lyn doing most of the work. We start with off-cuts of underground power cable, breaking the wire down into different lengths and thickness. A pin of brass rod is soldered into the base of each bundle of wire, leaving about 25mm protruding for planting in the landscape. Lyn then forms the trees by twisting the wire and returns them to me for soldering. After soldering Lyn coats the trees with dark brown 'No More Gaps' slightly diluted with water. The job of painting and weathering was mine and then Lyn used a combination of Heki and Woodland Scenics flock to finally make them look sufficiently realistic.

Brown Bess, then weathered in appropriate places with various other colours. This also helps to camouflage the track pin heads. After all other scenics were finished we chamfered the cork edges, then ballasted the track with a sifted mixture of light grey crusher dust and a creamy white stone cat litter. Mixing these two together gave an excellent result closely matching the colour of ballast used on the northern section of the S&D.

### ELECTRICS

Only having a basic knowledge of electrics and electronics I worked on the 'keep it simple, stupid' principle. We went for basic cab control with three cabs, one each for the single track main line, goods yard and locomotive changeover in the fiddle yard. Power for each cab comes from a 17.5V tap on the transformers, via a diode bridge rectifier. Two control panels cover the front section and the fiddleyard. Cab switching is mostly done with double pole, six-position rotary switches while some sections use double-pole, double-throw, centre-off toggles. In all cases the second side of these switches is connected to LEDs indicating which cab is in operation on any given section of track.

A mixture of Peco and SEEP point motors was used throughout, with auxiliary switch motors being used for the goods yard points and orange LEDs showing which road was live. All point motors are switched by push-to-make switches.

In the fiddle yard, where multiple point motors had to fire to set a road, we found that the usual 15V AC through a standard Capacitor Discharge Unit (CDU) just would not get the job done. Dave Jenkins - who built the CDUs - advised us to



upgrade the input to 21V AC, leave the capacitors in the front panel at 4700Uf and 25V but to increase the capacitors in the rear panel to 10,000Uf and 40V, with both output resistors raised from 680R to 2k2. This all worked really well and it is now rare to have a point motor misfire.

Wiring uses 25 core round computer cable, containing 12 plain colours and 13 striped. Power was bridged from control panel to baseboard via old 80-pin Telecom connectors. These connectors were modified into 20-pin blocks and used to connect power between each module. Hand controllers are the simple corded type, with four-pin XLR plugs and sockets of rugged cast aluminium construction.

In 1998 Paul Grundy, an electrician in our modelling group, installed a self contained 240V ring system, with a single input point and outlet sockets for power transformers, lights, accessories and power tools evenly spaced under the layout. It was a definite improvement and time saver when setting up and dismantling for shows. Power transformers are built into the main front control panel in a self-contained section, thus avoiding the risk of low voltage coming into contact with high voltage. We are using Dick Smith 2Amp transformers with voltage taps ranging from 12-30V AC.

SEEP tension lock uncouplers (TLUs) were used in all locations as our rolling stock still has the manufacturer's couplers fitted. These units are ideal as they sit very low between the rails, are reliable and are easily activated with a push to make switch. They cause a great deal of interest at shows, because they are not an item that is widely used and we find patrons very inquisitive about



**Above** A Bachmann BR 4MT 4-6-0 in Western Region lined green crosses Watery Bottom Viaduct - one of several scratchbuilt structures on the scenic section.

## KEY DETAILS LOCOMOTIVES & ROLLING STOCK



We based most of our information on the Ivo Peters books, *S&D in the 1950s and 1960s*, and other publications, to gather a list of the locomotive classes and numbers used between 1946 to 1966. Despite the fact that my purchasing policy prior to this was, "if it's British and looks good, buy it", to our surprise, we had a number of locomotives that were correct for the S&D. Some had incorrect paint work and numbers, but we are slowly having these repainted and correct running numbers applied. Even some of the new locomotives have had to have their numbers changed.

The same process has been applied to coaches and wagons with correct items being purchased as income allows. We still have a long way to go before we have a full selection of stock that ran on the S&D, but we at least now have enough to give a realistic feel and the Bachmann 7F 2-8-0 was one we'd been praying for!

exactly how they work. We acknowledge help given with the electrification by fellow British Railway Modellers of Australia (BRMA) member Jack Jeary.

### BUILDINGS & STRUCTURES

As we had never been to England, photographs, books and videos of the S&D were all we had to work with. This is fairly good for railway structures as somewhere behind that locomotive in the middle of almost every photograph or video clip you get a glimpse of the goods shed, station building, footbridge or viaduct. But when it comes to domestic or industrial buildings modellers licence applies, because there seems to be a dearth of information on these subjects, particularly if you are modelling to a specific prototype area.

In 1997 we met John Tooze, an ex-S&D passed fireman. He lived in Bath and worked out of the Green Park shed until closure in March 1966. A good friendship developed during the five years that he lived close to us and was part of our modelling group.

We are very thankful to John for his help during the construction of stage 3A, giving us first-hand information on which building kits were closest to prototype and what colours to paint them. This made the new section much more accurate. Buildings on the layout are from Wills, Ratio, Peco, Dornaplas, Superquick and Dapol, with some kit-bashing and much repainting, using techniques learnt from *Architectural Modelling* by Dave Rowe and *The Art of Weathering* by Martyn Welch.

Five structures were scratchbuilt from photographs; these being the two tunnel mouths, Watery Bottom Viaduct, the small viaduct just before Combe Down Tunnel and the footbridge. These structures really help to give the layout authenticity.

### SCENICS

Once again photographs and videos were used to get the landscape as accurate as possible in the





Locomotives are all ready-to-run and largely from the Bachmann range, such as this ex-GWR '8750' 0-6-0PT.

confines of mainly 500mm wide baseboards. The hills are made from styrene foam scrounged from wherever we could find it, shaped using knives, surform files and rasps until it looked right. It was covered with coatings of plaster mixed with dark brown tile grout and PVA to avoid that white look if anything got damaged. Ground cover was created using a wide range of different textures, Heki and Woodland Scenic materials plus rubberised horsehair for hedges plus dirt, coal and ash gathered locally.

The backscenes were beautifully painted by our friend and English gentleman Andrew Morris; a signwriter by trade and an amateur artist. Without these the whole scenic effect would be totally lost as they complement and add a greater depth to the total look of the landscape.

Figures and whitemetal kits are from Springside, Model Scene, Mikes Models, Langley, P.D. Marsh and others. We scoured magazines and catalogues looking for kits that would create the scenes we wanted. This was and still is an ongoing process. Signals are either scratchbuilt or Ratio kits, all of which have been built and painted by Jack Jeary - a specialist in model signalling. Unfortunately they are not yet operational but this is something we hope to do in the future.

## EXHIBITING

In 1996 our 4m Stage 1 and Stage 2 versions were connected to the BRMA North Side Group's layout 'Wedmore' layout, which was 7.5m long. This 11.5m scenic frontage looked stunning and trains really looked like they were going from one town to another. With the main control panels being about 8m apart, the noise of patrons and no running schedule due to a lack of time to create one, that first show was chaotic. We learned very rapidly and for the next three shows, we used an intercom and a running schedule, so everybody knew what was going on.

At the end of 1996 there was a parting of the ways for various reasons. So 1997 saw our layout appear in its own right in its Stage 3 version. Operation was to a strict schedule which was written with reference to a 1950s S&D working timetable. This made for very smooth running, with only the odd derailment (we all have them!).

In 1998 we were on the road again with Stage 3A and the layout looking better than ever. We wrote some more challenging schedules for these shows to make it more interesting for the operators and viewing public. Due to the small show circuit in Queensland we did not exhibit again until 2001 to avoid over-exposure. Since then we have exhibited in 2002, 2004, 2005 and 2007.

'Lyncombe Vale' is both a personal and family effort so I wish to say a huge thank you to Lyn who over the years has put in many hundreds of hours, using her excellent modelling skills and eye for detail to get the layout looking just right. Lyn also gives valuable support by being at on duty at shows, giving out information and answering many questions. Thanks also to my two sons, Andrew and Stephen, for their help in building kits, painting figures, the many hours of operating time put in at train shows and a variety of other jobs they have done over the years.

To the members of the Brisbane North BRMA Group who put in a lot of hours helping get the layout to its first show in 1996 and for their continued help, we couldn't have done it without you, thanks guys.

We also owe a great debt of gratitude to the current team, who helped us right through 1997/98 and again in 2001/02, 2004/05 and 2007 as without them we could not have exhibited this layout. Thank you all so very much for your consistent loyalty and support.

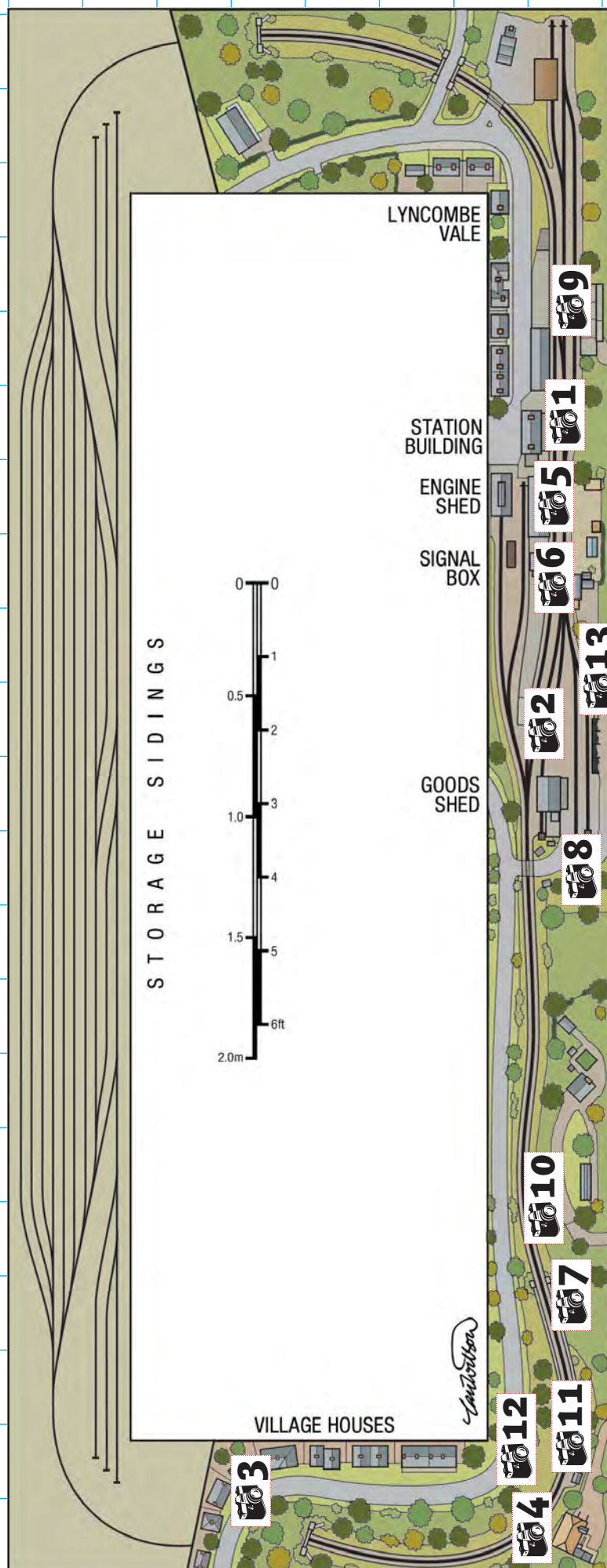
## JUST DO IT

Did we achieve our objectives? Despite the long hours and times when we despaired of ever getting to a show on time, we are more than satisfied that the character of the layout is right. The layout has been very well received at exhibitions and has achieved nearly flawless reliability. It can be driven by anyone after a ten minute instruction course.

A steep learning curve has taught us that there are things that we can do better next time, but we're very happy that we achieved the majority of what we set out to do, without departing too much from the prototype. One thing we have learnt is, don't be put off by the knockers and rivet counters, just get out there and do it. You'll be surprised at just how much you can achieve with limited funds, a lot of hard work, much research and an abundance of time and patience. **BRM**









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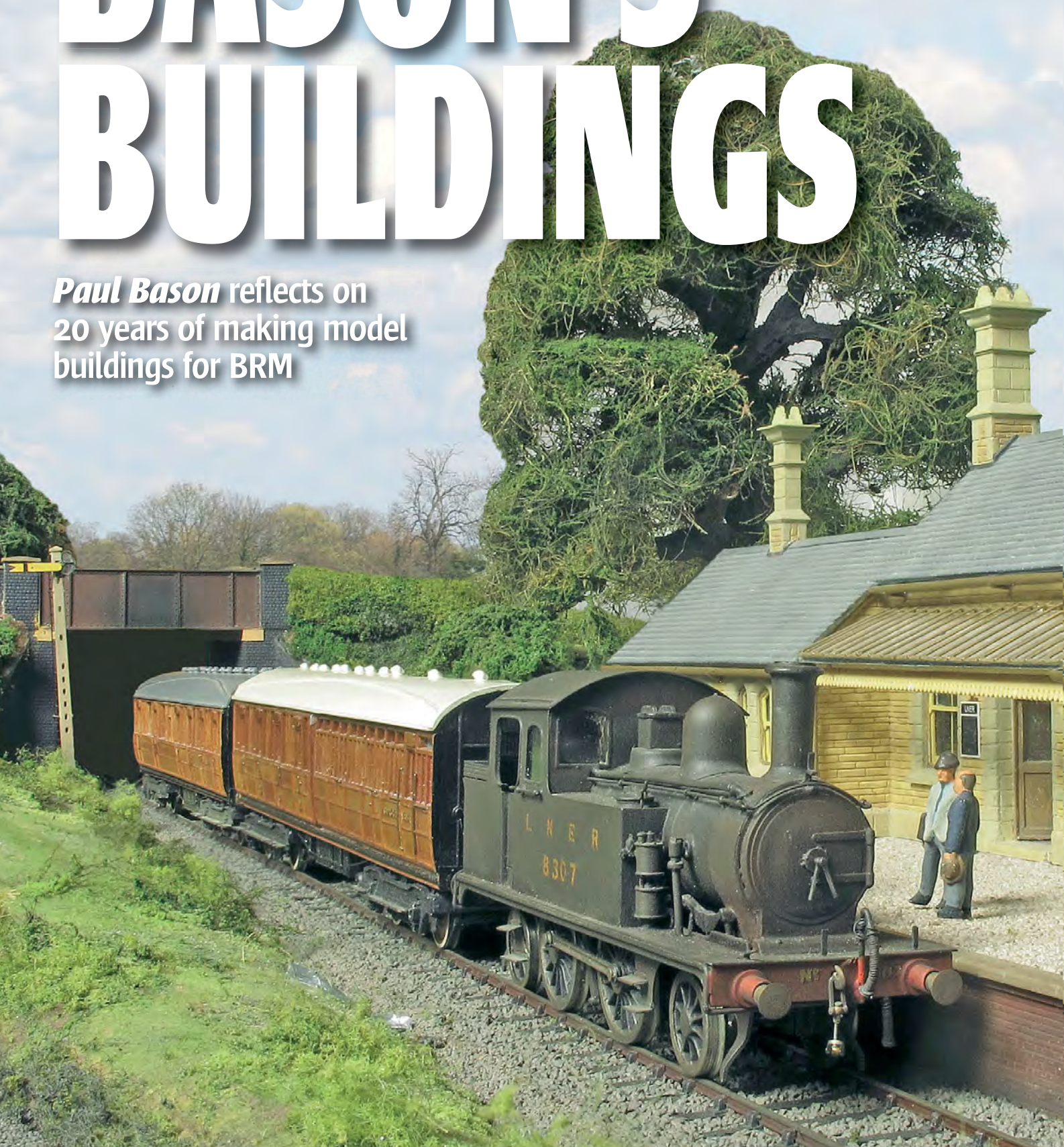
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# *Classic BRM* **BASON'S BUILDINGS**

*Paul Bason* reflects on  
20 years of making model  
buildings for BRM







**Above** Where it all started - the first three cottages that I made almost 30 years ago.

**Left** Although not thatched, Paston Ridings stone-built station building is a model of Wansford Road near Peterborough.



**D**oesn't time fly when you're having fun? It really doesn't seem like 20 years since I was putting together my very first feature for the then brand new *British Railway Modelling* magazine. Who would have thought

then that some 86 features, 82 reviews and a staggering 2,662 photographs later, that I would still be writing features for the magazine and would be photographing layouts too? OK, so you might think that I'm sad keeping a tally that I have contributed to 658 pages (including photographs), but I am after all a Chartered Quantity Surveyor and from that comes from more than just a passing interest in building construction.

It all started when, having already had a few small features and photographs in the now defunct *Model Railways* magazine (which covered my medal winning cottages at the Model Engineer Exhibition a few years earlier) I was approached by **BRM's** first editor David Brown to write a piece for the new mag. Luckily my other main hobby has always been photography and, although I hadn't deliberately taken stage by photographs, I had taken enough fairly presentable ones to illustrate the article without too much trouble. David let me have a peek at the mock-up magazine and, following a chat with him about the new format, was pleasantly surprised to learn that the man behind the exiting new venture was in fact Michael Warner who I knew from my days working in John Fowler's Model Shop on Saturdays some years earlier. Indeed I had got a shoebox full of his kit-built GWR locos running for him and had built a Will '61XX' as a sort of commission while I was still at school.

My input to **BRM** Volume 1, Edition 1 was a five-page feature that introduced the scratchbuilding skills needed to construct the thatched cottages for Paston Ridings, my LNER EM gauge layout that was still very much under construction at the time. The article summarised basic building construction in plastic card but tactically left out thatching which was held back by the Editor until Issue No. 2. Reading the feature 20 years on it is pleasing to see that my ethos (if I may use such a word) was the same then as it is now.



# Classic BRM



**Clockwise from above** Visitors to Warner's Peterborough show may have driven past Alwalton Post Office; here it is in model form. Star of **BRM's** very first front cover was Royal Oak cottage; in fact it is a model of a pub in the village of Castor but given a garden setting. The Bluebell Inn and the cottages either side are based on historical photographs of the Dogsthorpe area of Peterborough.









# Classic BRM

Essentially I only started scratchbuilding model cottages because I wanted to prove that you don't have to be a super-qualified modeller with years of experience to knock up something presentable in a fairly short period of time. I had read an article in a magazine back in 1982 and, really wanting to have a go at thatching for myself, measured up and photographed a local pub (well why not!) before getting straight in to the job in hand. The resulting 'Green Man' may be a bit rough around the edges and may not be quite up to my current standards but it still looks like a well-weathered thatch and did just what I hoped; it proved that thatching is not as hard as some folks make out and certainly gave me the confidence to make a whole village full of cottages that still sit proudly on the end of my layout.

Although some readers might think that we chaps that write articles like this must be really prolific model makers, I certainly am not. Like most people; work, the family, other hobbies all have a call on my time. Indeed, after the initial push with the first half a dozen cottages, the layout took up a lot of my modelling time so new cottage construction has, over the years, been intermittent to say the least. Admittedly my collection, as you can see from the accompanying photographs, has been added to from time to time but, having







**Above** Elton Cottage is another model built since the first **BRM** feature

**Below** The Green Man was my very first thatched building; the sprinkling of flour was temporary!



scratchbuilt my first locomotive when I was 14, I couldn't just make buildings on their own and nothing else.

Despite the passage of time, my basic method remains pretty much the same although I now use a solvent-free variety of contact adhesive that wasn't around when I first started to fix the thatch. Essentially the building comprises a shell made up from components that are all two sheets of 40thou plastic card laminated together. Not only does this make the resulting structure nice and rigid but it also prevents warping and distortion over time.

Where the walls represent stonework, each stone is scribed onto the face of the plastic by hand using a scraper board tool and thatching is from plumber's hemp trimmed to shape using curved nail scissors.

My structure modelling in the last 20 years hasn't all involved thatching. I spent an enjoyable couple of them helping the late Michael Warner by making a host of buildings that enabled him to finish off his Moreton-In-Marsh to Shipston-on-Stour layout. Although I cannot admit to being a fan of the Great Western I do miss my Saturday morning visits to see Michael and his wife Jean as the small collection of models progressed. Long-term readers might recall these as they were featured as an occasional series in **BRM**.

Having somehow won the scratchbuilding competition with various of my 4mm scale buildings at the King's Lynn O Gauge Group's Christmas Dinner for several years now, the likes of Bob Pearman and John Hobden have often asked me when am I going to move on to bigger (and better?) things and build a cottage in 7mm scale. Well Bob and John, I have started one and what a size it is, particularly when you have been a 4mm fan for years. With work progressing slowly I am keeping my new project under wraps for the time being, but a soon as it is finished, I am sure that the editor will find space to include it (We will! - Ed.).

With other projects such as my O gauge live steam locomotive and the complete remodelling of my 1980-built narrow gauge layout in hand; work



**Above** Duck Street Cottage under construction **Below** Duck Street Cottage has a family connection; being my Mum's birthplace it had to be the subject of my most recent cottage.

over the last 20 years on Paston Ridings has been a now and again sort of thing. It has been to a handful of shows in that time, but as it is far too large to put up in its entirety at home, has spent much of its time boxed up and in storage. With a few new cottages to put into the scene, and for that matter a couple half-planned, I might just get it out and give it a makeover. Who knows I might even add on another couple of baseboards! **BRM**







## Tony Wright shows you how to achieve 'volume' conversions of Hornby Gresley carriages using etched brass replacement sides

**S**ome years ago in **BRM**, I presented a piece entitled 'Done In a Trice', in which I converted Hornby's then-new Gresley carriages into different diagrams using Mike Trice replacement etched-brass sides. There were two principal reasons for doing this - firstly, I achieved vehicles not made by Hornby and two, I addressed some of the 'mistakes' made in the construction of these RTR coaches - the lack of correct tumblehome and the incorrect position of the horizontal lower beading. Though the latter issue has subsequently been addressed by Hornby in its BG, the too-flat bodyside profile still remains. How these errors occurred in the first place is a puzzle. I was told it was a 'production' issue with regard to the models' construction process. I'm still puzzled!

It's important to state first of all that several of the procedures and techniques about to be described were covered in the original piece. They've also featured in my Right Track DVD Part 4, where I consider improvements to a variety of RTR subjects. The above said, in this

# NOT QUITE



## TOOLS REQUIRED

- Mini-drill
- Cutting discs/dental burs
- Stanley Knife
- Files (various sizes)
- Xuron cutters
- Soldering iron
- Bench Vice
- Steel rule
- Bending bars
- Razor saw/craft knife

article I consider a much larger range, convert more vehicles and assist a friend in the process.

I think it's also important to state that a little of what follows calls for specialist tools of one kind or the other. These are tools which will last a lifetime, be useful for a whole range of metal-forming procedures and will enable the modeller to really develop his/her range of skills. It would also be disingenuous to state that this is a 'dead easy' set of procedures. I know the hobby appears to be generally moving in the direction of easier projects - what with current RTR and RTP excellence - but there must surely be a place for a more challenging approach, particularly as experience is gained.

Anyway, the following projects are not all my own work. Gilbert Barnatt is well known for his 'Peterborough North' layout (**BRM** March 2014). He admits to being rather inexperienced in the actual 'doing' of things, apart from being very accomplished at scenic work.

However, by bringing together the work of experienced professionals he's achieved an outstanding layout, but such excellence is expensive. So, not only to save money, but also to enable him to learn many techniques, he and I have been meeting up in my workshop on a weekly basis to produce what you see in the following article.



# IN A TRICE...

**Replacement sides enable us to achieve vehicles not made by Hornby and correct mistakes on the RTR models.**



The whole range of Hornby's Gresleys has been exploited. Though new carriages now cost a considerable amount, do look out for second-hand donor vehicles on eBay and the like. Sometimes 'mucked-up' examples appear, but as long as these are not damaged, other than cosmetically, they can be good value. Replacement etched brass sides are not cheap either (nor should they be), but the overall cost is still less than a full metal kit. Gilbert and I acquired etched sides from the ranges of Mike Trice, Bill Bedford, Comet and Kemilway (the last mentioned from a complete kit). Door furniture frets (grab rails and handles) and seats and

tables were sourced from Southern Pride and Comet Models.

I should point out that the vehicles about to be described are what I'd call 'layout coaches'. That is to say that they're designed to operate on large layouts, often in trains of up to 14 vehicles, thus not to be scrutinised in a glass case. I hope they pass reasonably close inspection, but in no way should they be treated as professionally-built/painted vehicles, even assuming that I could build to the highest standard, which I definitely can't. The painting work of a true professional will be featured later, and you'll note a difference. But, as I hope the following notes

will show, with a bit of determination the end results can be quite acceptable, even by someone who's never tackled anything like this before.

Plenty of prototype source material was scrutinised beforehand. This included the standard works on the subject of Gresley coaches by Michael Harris, Mike Trice and David Jenkinson, plus several Isinglass drawings and as many prototype pictures as could be found. In the now established manner, the following photographs show how we got on.

**STAGE ONE: INSTALLING THE REPLACEMENT SIDES** ➡



# PRACTICAL BRM



## STAGE ONE INSTALLING THE REPLACEMENT SIDES

**1** The sides as supplied by Bill Bedford (Mousa Models) for a Dia. 211 Corridor Composite. Though droplights and ventilators were on the fret, no door furniture was present. Along with the Comet sides, these were probably the simplest of the etches we used.

**2** A pair of sides from Mike Trice for a Gresley BG, Dia. 113/245. What appear to be large window apertures are the spaces where the lower panels are to be soldered in.



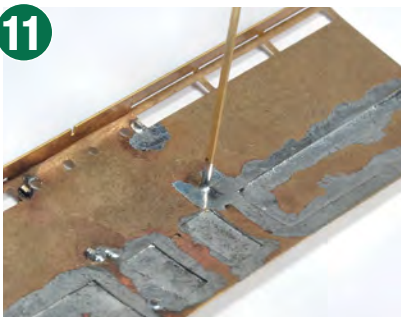
Once the angle was almost achieved, the final bend was accomplished using some scrap hardwood strip and a light hammer. Whatever you do, don't use the hammer directly onto the etched side!



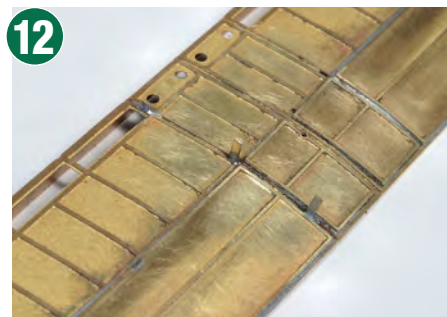
Nice and flat, and no damage caused to the top lights during bending.



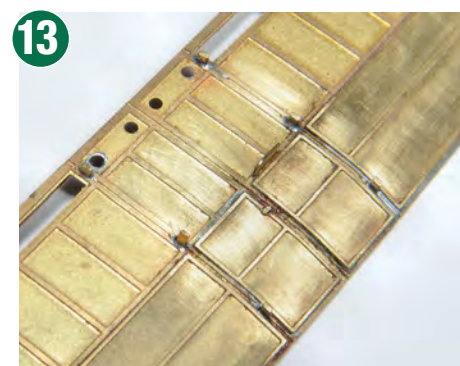
The next process was to form the tumblehome. This was needed for every vehicle. I've had this device for three decades and I doubt if it's available from any supplier now. It consists of a brass rod, fixed with bolts to a brass bar. The side was inserted and clamped in place.



Slots for door hinges were provided on the Trice products (some others please note). The hinges were represented using scrap etched fret, soldered in from behind.



Any surplus was subsequently cut-off to length, the lowest hinge being the longest. The lowest hinge in this shot needs to be altered to be at right angles to the solebar, not the curvature of the tumblehome.

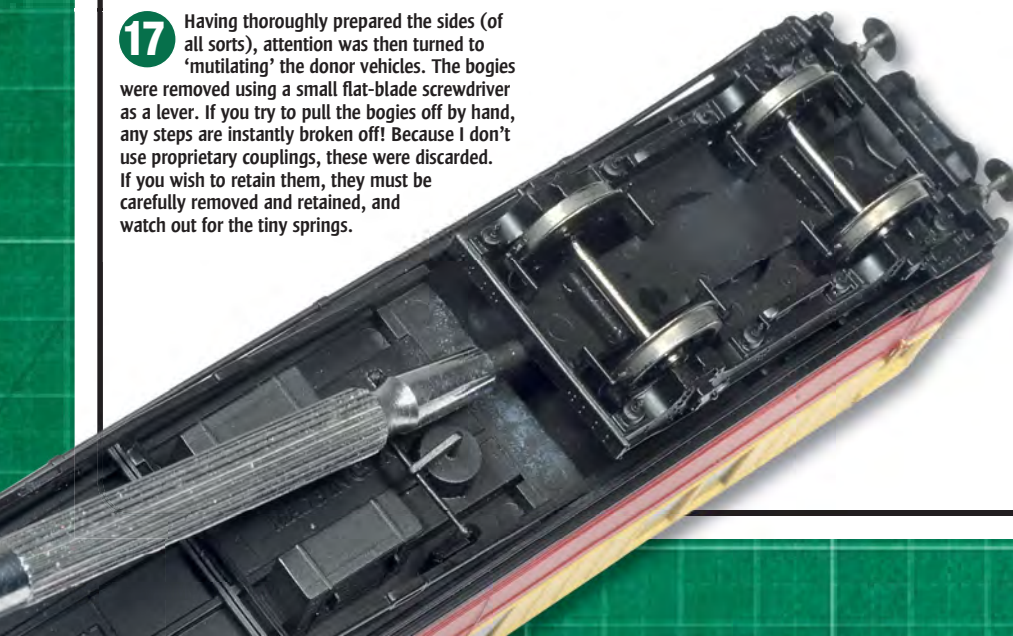


Hinges and door handles now in place, all soldered on from the rear.

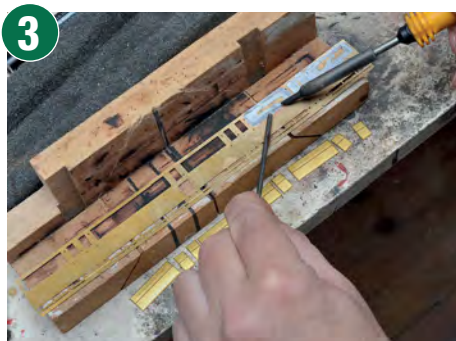
**17** Having thoroughly prepared the sides (of all sorts), attention was then turned to 'mutilating' the donor vehicles. The bogies were removed using a small flat-blade screwdriver as a lever. If you try to pull the bogies off by hand, any steps are instantly broken off! Because I don't use proprietary couplings, these were discarded. If you wish to retain them, they must be carefully removed and retained, and watch out for the tiny springs.



Hornby's method of attaching the sides to the underframe is by clear plastic lugs (part of the glazing) passing through slots in the floor pan. These were instantly removed with the trusty Xuron cutters.







These individual panels had to be very carefully soldered in from the rear. The trick was to hold each one in place with the aid of the handle of a needle file, checking to see that none slipped during the process. Don't mix up the panels either. An old beech mitre block was used to support the work during this process. It has many uses, as will be shown later.



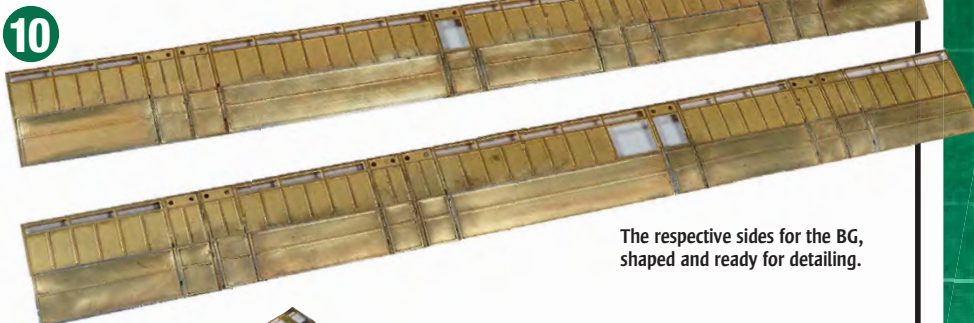
With all the lower panels in place, it was time to form the right angle lip at the top of the sides. This is unique to the Trice system, and gives a substantial amount of 'land' for subsequent fixing to the roof. The bending bars ensured that the sides were clamped securely ready for the bending process. The other manufacturers' sides don't need this process, for they don't have the lip.



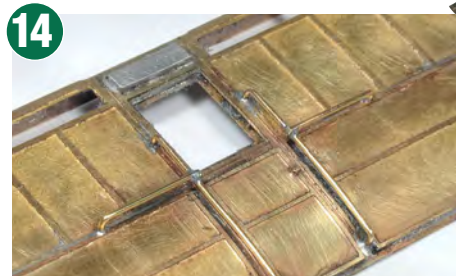
With the small lights so close to the top, any chance of forming the right angle at the cornice without distorting these would be all but impossible in my opinion without bending bars. The initial bend was established using a steel rule.



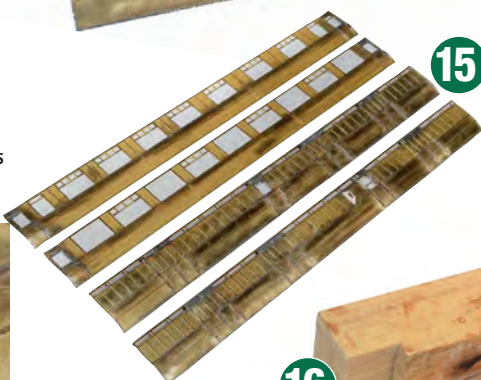
I then used a steel rule to shape the tumblehome, drawing the side towards me in a series of careful steps until the right shape was achieved. There is no 'undo' function in this process! Another way to achieve this uses a section of skirting board of a slightly tighter radius than required. Place the coach side on it and apply uniform pressure with another piece of wood, with some cloth protection (such as a towel) between the outside and the other piece of wood.



The respective sides for the BG, shaped and ready for detailing.



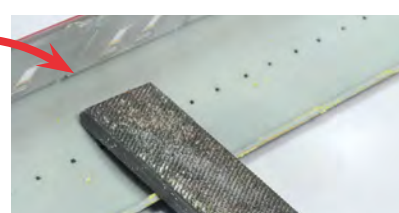
The guard's door has prominent vertical and horizontal handrails. These were formed from .45mm brass wire, shaped as appropriate – again soldered on from behind. The ventilators were also soldered on from the rear (this time with low-melt solder). These are Trice products made of cast metal. Comet suggests cutting bits of plastic card and the others provide these in etched-brass.



Both CK and BG sides fully-formed and all the extra bits soldered on as appropriate.



There is no 'undo' button for this process either. The sides (in this case from a sleeping car) were removed using a circular saw in my ancient mini-drill. It was imperative not to bite into the cantrail/cornice.



Any 'blobby' rear soldering had to be cleaned up thoroughly. There must be no impediment to future glazing, nor obstruction to subsequent fixing of the sides to the ends. Files and a dental burr in a mini-drill were used to achieve this.

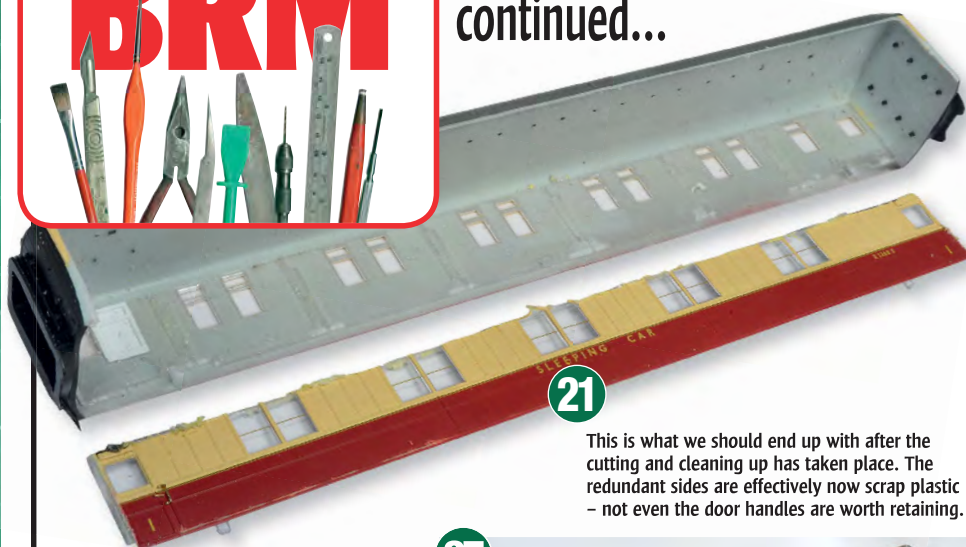
Final cleaning up to the cantrail/cornice was achieved using a sharp Stanley knife in a 'scraping' motion; that is drawing the side of the blade along the edge (to the right in this case), not using it in a 'cutting' manner. Similarly, a coarse file was used in a 'draw-filing' motion; that is moving it from side to side, not forwards and backwards.



# PRACTICAL BRM

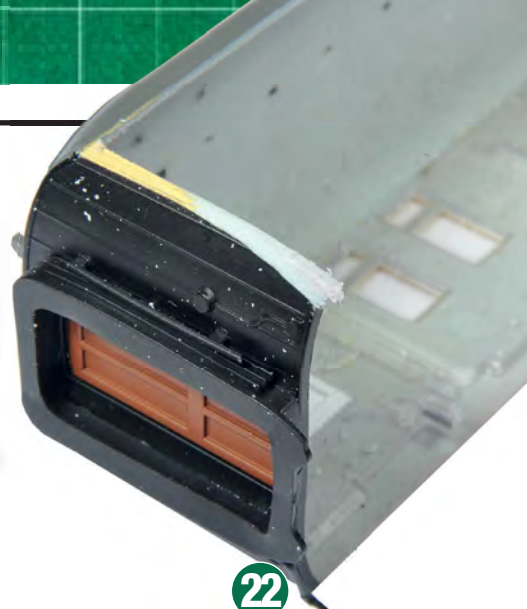


## REPLACEMENT SIDES continued...



21

This is what we should end up with after the cutting and cleaning up has taken place. The redundant sides are effectively now scrap plastic – not even the door handles are worth retaining.



22

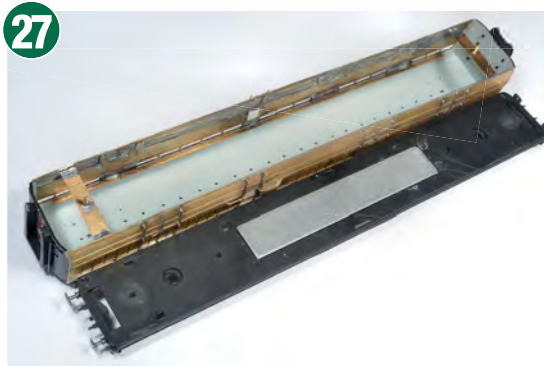
The ends must be altered to obtain the correct tumblehome. This was achieved using files, taking care not to take too much off because they end up super-thin at the bottom.

26



Because the sleeping car donor had battery boxes (correctly) both sides of the central trussing section, these had to be removed. Once more the whirring saw was employed, taking the greatest of care not to damage the turnbuckle trussing.

27



With the original method of fixing the body to the sides long-gone, a replacement method had to be devised. I soldered strips of scrap brass across the body at both ends with 8BA screws soldered in their centres. The screws pass through holes drilled in the floor pan, to be finally secured by 8BA nut.

28

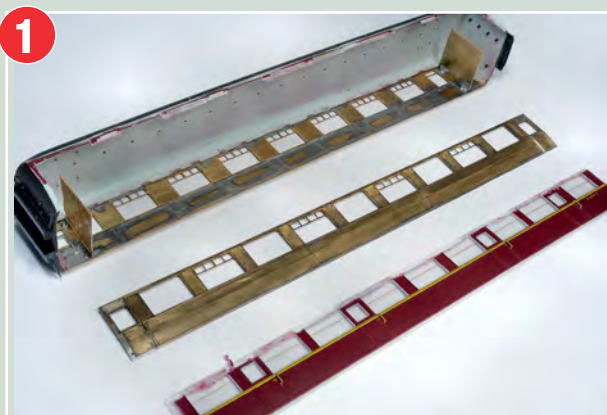


The correct tumblehome shape imparted to the brass sides resulted in their interfering with the solebars. Using the knife in a scraping motion, sufficient plastic was removed from the rebate at the top of the solebar to achieve a snug fit.

## STAGE TWO

## KEMILWAY CORRIDOR THIRD

1



A further conversion involved the construction of a Dia. 298 Corridor Third using Kemilway sides fixed to a donor Hornby TK. The same procedures were followed, though, because of thicker nature of the Kemilway sides they're probably less-suited to grafting onto plastic carriages. This is not a criticism of the sides – they're perfectly designed for their purpose; as parts in superb complete kits.

2



Because of the differences in the prototype vehicles, the Hornby interior had to be slightly altered to suit. Once more, the mitre block and razor saw were put to good use.

3



I originally devised the new method of fixing of body-to-frames by having 8BA nuts soldered to the brass stretchers. I then thought it was better the other way round, with the cheese-head screws attached to the stretchers (as shown earlier with the BG).



23



Evo-Stik was used in impact mode to initially fix the replacement sides. That is, to smear a small amount onto both surfaces, letting it dry for a few minutes and then bringing them together.

24



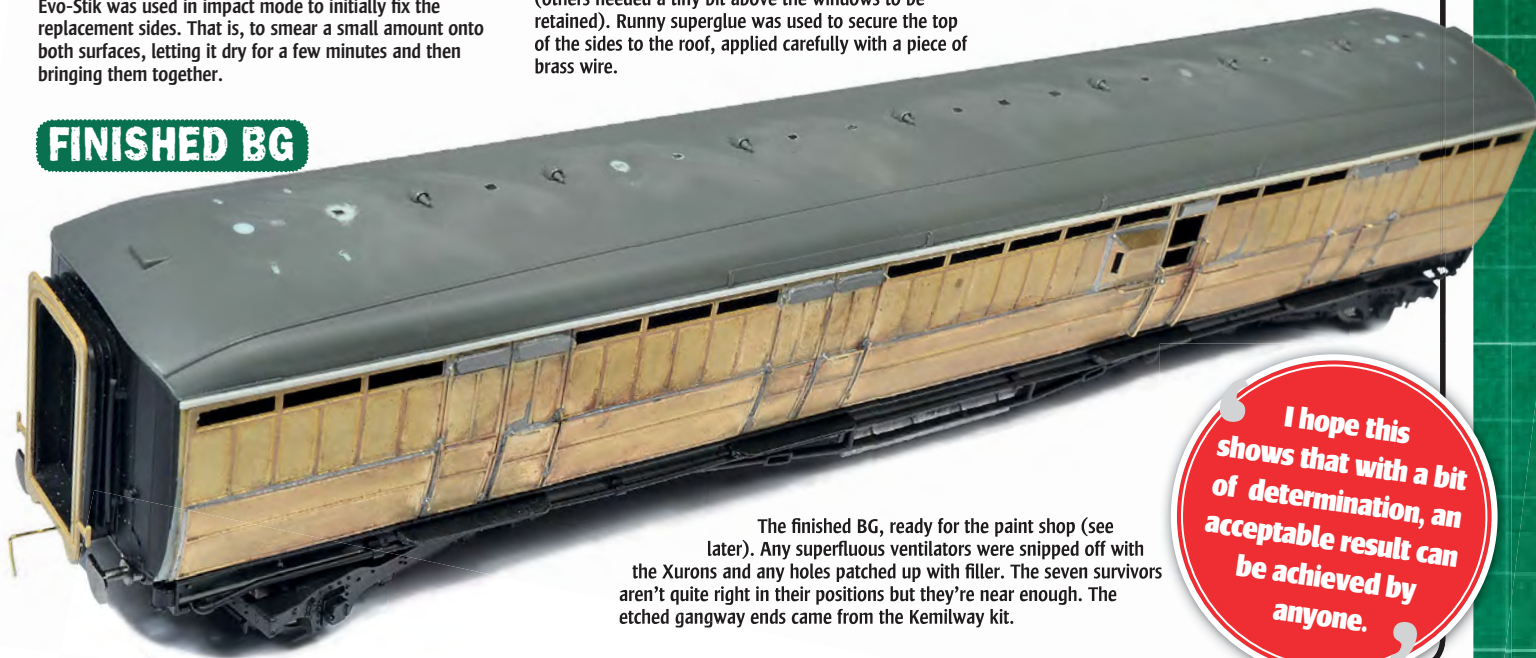
Because of the Trice right angle at the top, the sides could be taken right off up to the bottom of the cantrail (others needed a tiny bit above the windows to be retained). Runny superglue was used to secure the top of the sides to the roof, applied carefully with a piece of brass wire.

25



To add to the appearance and to strengthen the roof/side bond, a replacement cantrail was made from Slater's 0.20" x 0.25" Microstrip, fixed in place with Mek Pak.

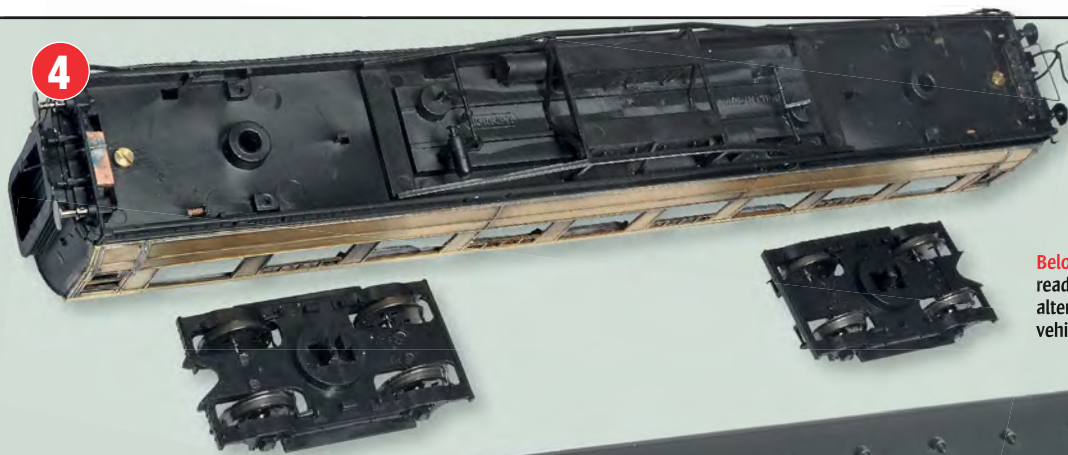
## FINISHED BG



The finished BG, ready for the paint shop (see later). Any superfluous ventilators were snipped off with the Xurons and any holes patched up with filler. The seven survivors aren't quite right in their positions but they're near enough. The etched gangway ends came from the Kemilway kit.

*I hope this shows that with a bit of determination, an acceptable result can be achieved by anyone.*

4



**Left** The 8BA cheese-head screws now hold the two main bits together perfectly. My replacement couplings are also shown, plus representations of the steam heating/vacuum brake pipes.

**Below** The complete Dia. 298 Third Corridor ready for painting. Note the ventilators in alternate windows on the corridor side of this vehicle – a feature of these later-built cars.

5



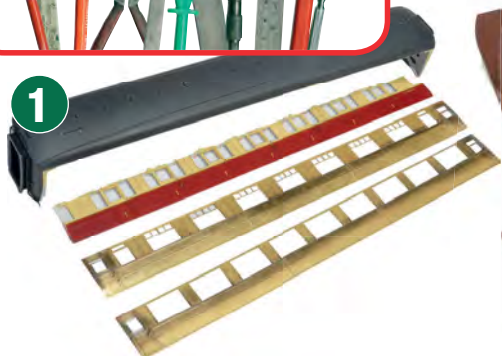
**STAGE THREE: COMET SIDES**  
**STAGE FOUR: PAINTING**





## STAGE THREE COMET SIDES

1



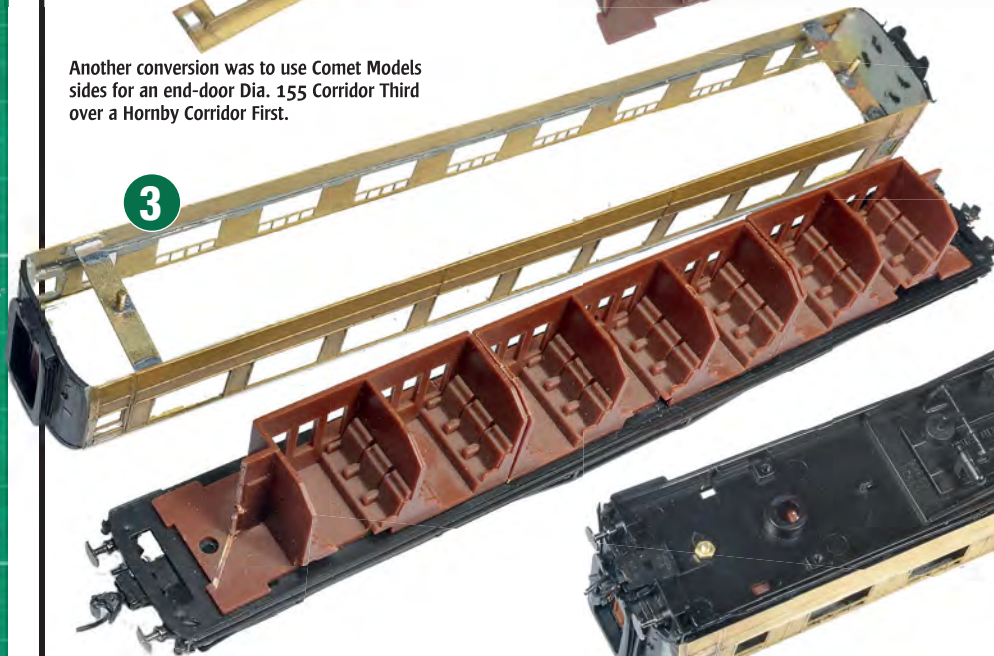
Another conversion was to use Comet Models sides for an end-door Dia. 155 Corridor Third over a Hornby Corridor First.

2



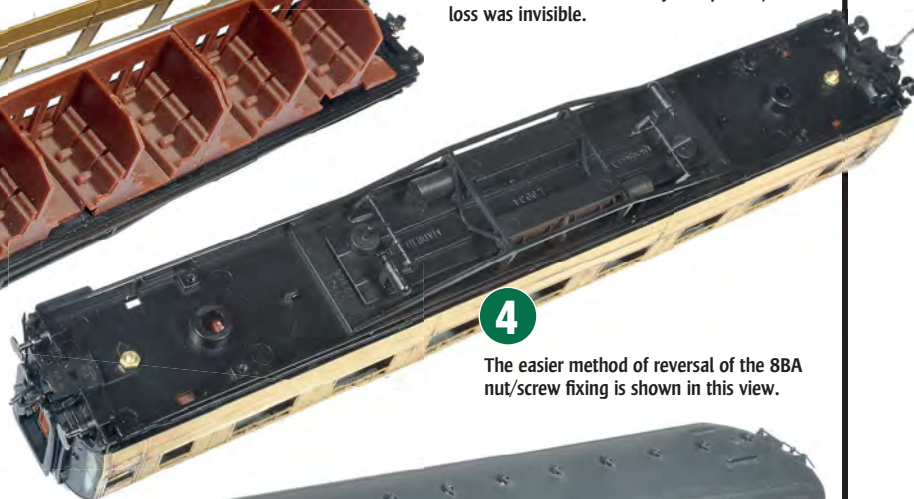
**Above** Because the Hornby FK interior was unsuitable, a surplus interior from a Bachmann Thompson TK was hacked and boded to suit. It's a pity Hornby chose solely to produce the all-door Gresley stock (with the exception of the Buffet Car) because, particularly in BR days, it was rapidly superseded by the end-door stock.

3



**Left** The end toilet dividers of the Bachmann substitute fouled the new method of fixing, so were cut off. When the body was put on, their loss was invisible.

4



The easier method of reversal of the 8BA nut/screw fixing is shown in this view.

5

The Dia. 155 TK ready for the paint shop. This is the compartment side. Gilbert uses Kadee couplings on his stock.



6



Another conversion was concerned with this Dia.114 Four-Compartment Brake Third, also using Comet sides. Many of the now-surplus roof ventilators have yet to be removed.



# STAGE FOUR PAINTING



**Left** Painting is often the process which causes the biggest headache for modellers. My method (my wife's dainty hands being used in this process) is to spray the models outside, using a cardboard box (which has been thoroughly 'settled' beforehand by initially spraying with primer) containing a cake icing turntable. I use Halfords car acrylic – two coats of red primer then three thin coats of Ford Burgundy Red. Beware of suicidal small flying insects!

**Above** Another useful gadget is this internal-expanding metal grip. It allows you to turn the piece being painted to all sorts of angles, though wear a rubber glove on your non-painting hand!



The TK and BTK painted and ready for finishing. Because the roof effectively got over-spray, a nice canvas effect was achieved. Those extra roof ventilators have yet to go!



If one is really careful in brush-painting the roof, masking tape is not necessary. However, it still makes things quicker and easier in my opinion.



This is the Kemilway TK, fully painted and ready for lining, numbering and glazing. Humbrol matt No. 67 was used for the roof and satin No.85 for the ends.



A Trice Dia. 27 Open Third also ready for finishing. This was made using yet another Hornby TK as a donor. The necessary extra footboards on the solebars and bogies have been fitted – these came from Ian Kirk plastic spares or Southern Pride etched brass items.



Lining was applied using Modelmaster's BR maroon transfers. I used Carr's 'Transfix' to help float the waterslide lining into place.



Any final adjustments were made using a cocktail stick. Because no lining, however good - and this is - will stick to the raised beading on these carriages, I applied it just below that beading. This is not quite right (though evidence exists of Gresley vehicles having lining set lower); it should be actually on the beading, but the eye reads it as being correct from a slight distance.

**STAGES FIVE & SIX: FINISHING TOUCHES AND INTERIORS**



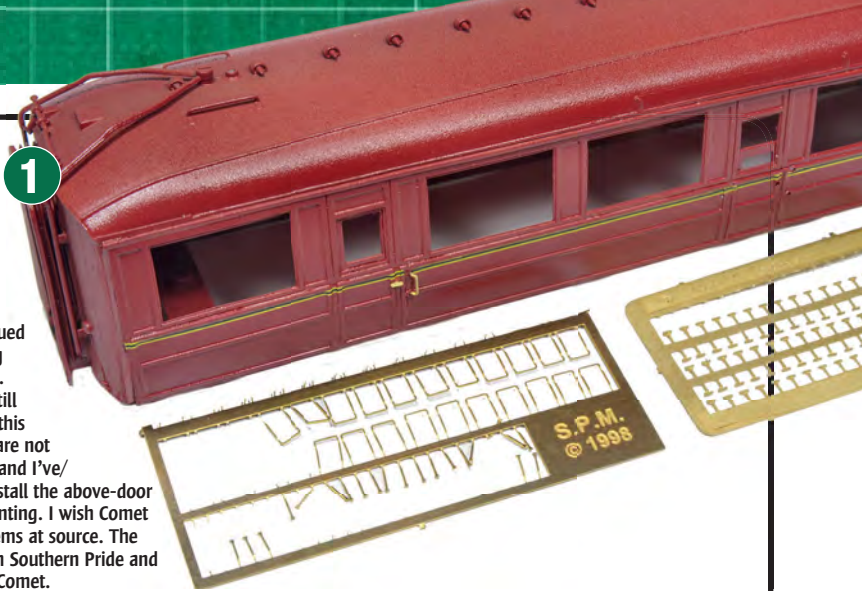
# PRACTICAL BRM



## STAGE FIVE FINISHING

Door furniture was attached at two different stages. Either it was soldered on before painting, with the paint being scraped off later (my preferred method) or subsequently superglued in place after painting (Gilbert's preference). You'll note the roof still has to be painted on this car (my descriptions are not entirely prescriptive) and I've/we've forgotten to install the above-door ventilators before painting. I wish Comet would supply such items at source. The grab handles are from Southern Pride and the 'T' handles from Comet.

1



2



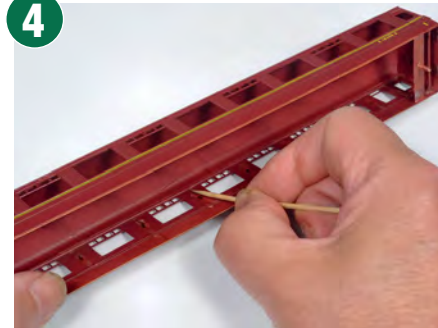
For glazing I used 10thou Slater's Plastiglaze. This was cut to the appropriate length and width (Stanley knife and safety rule), placed in position inside the coach and the positions for the pillars marked with a felt-tip pen.

3



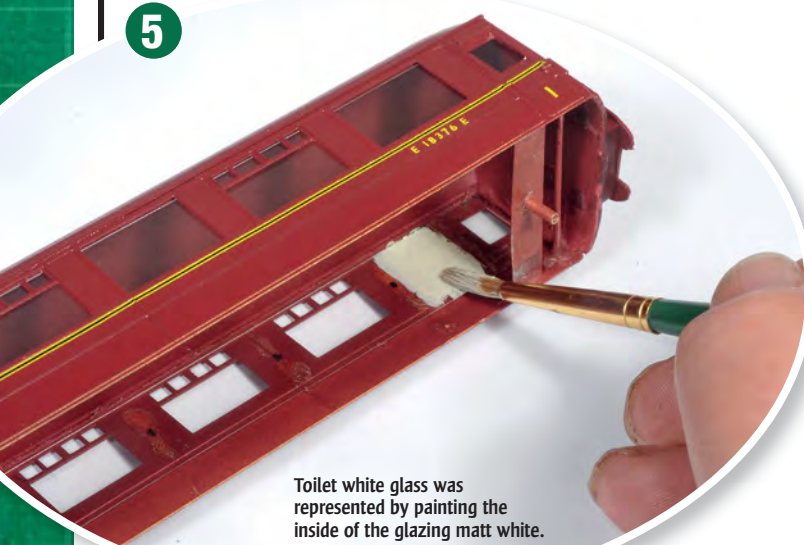
Evo-Stik was then applied to the pillars and the marked glazing, applied with the ubiquitous cocktail stick.

4



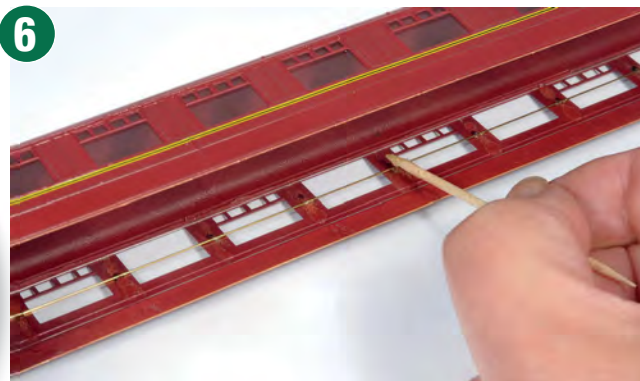
Once the glue was dry, the two components were then carefully brought together, taking care not to get any glue onto the visible glazing, for this is ruinous. The glazing was pressed in place with another cocktail stick.

5



Toilet white glass was represented by painting the inside of the glazing matt white.

6



**Above** The corridor handrail was formed using .45mm brass wire, held in place with Evo-Stik in contact mode. Once again, great care was taken not to damage the now perfectly-fitted glazing.

**Below** The (almost) complete Gresley BG. These Dia. 113 guard's duckett-fitted vans were constructed between 1929 and 1934, earlier-built examples being built on turnbuckle underframing (which this one is). I say almost complete because the central battery boxes (on the opposite side) have yet to be fitted, as too the guard's step below the solebar for access from rail level. Numerals and lettering came from the HMRS 'Pressfix' range.

7





# STAGE SIX

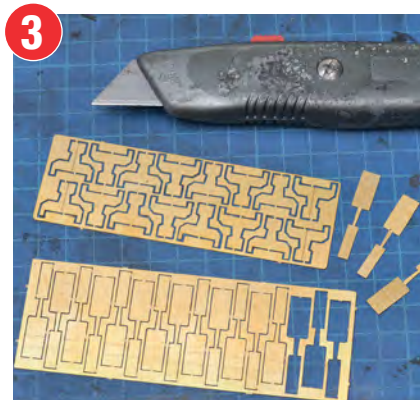
## INTERIORS



Though several interiors were altered from the originals or sourced from Bachmann, for the open coaches new interiors had to be made. The Comet plastic seats had to be cut to size; easily achieved using the mitre block and a pin inserted to give the correct width.



Avoiding tissue damage (Gilbert can't stand blood!), the mitre block gave an excellent guide for the razor saw.



Comet also supplied the etched tables and seat ends. These were cut out from the fret using the Stanley knife and cleaned up with fine files.



The seats were then glued back-to-back with Slater's Mek-Pak.



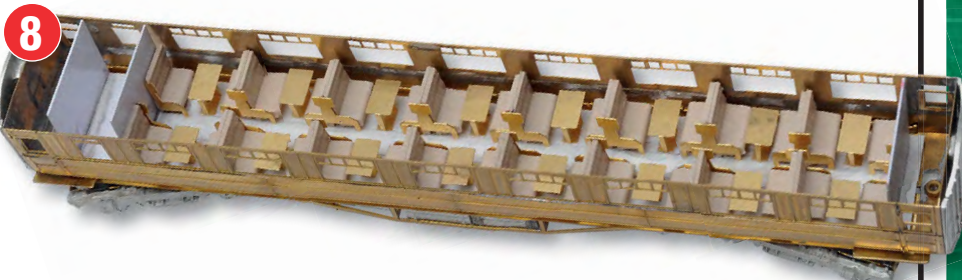
Any slight width discrepancies were taken care of using the coarse file with the seats drawn along it.



Once the tables had been soldered up, they were fixed to the plastic sub-floor/partitions (made from plastic card) with superglue, the seats already having been fixed with Mek Pak.



The seat ends were also fixed in place with superglue.



This interior was for a complete Comet kit of a TSO, though the principles of the sides' construction are exactly the same for the conversions. Exact accuracy is not necessary for interiors like these, though care should be taken with the correct positioning as they are visible through the glazing.



This is the interior for the Dia.27 Third (later Second) Open, arranged as 2+1 seating for dining. It's formed of Southern Pride bits and pieces and painted with red-oxide primer, with matt white for the table tops. My photographic lights caused the end partition to bend slightly. It's now straight!



**Above** Seen through the glazing, the white table tops are just visible.

**Below** From a low angle, the seating is visible in the Dia. 27 car. This is now complete, with the bogies and underframe weathered.





# PRACTICAL BRM



## STAGE SEVEN

## GOING A STAGE FURTHER

**Right** Professional coach-builder and painter Larry Goddard takes his conversions a stage further by cutting off the solebars, narrowing the floor pan and then re-attaching them. With the correct end profile and resultant narrower headstock, the result is much better.

**Below** Larry's painting (with the lining in the correct place) is far superior to ours, though he still considers these conversions to be in a lower class than a full kit-build. I'm inclined to agree, but we're building many layout carriages here - a bit like this one.



## FINISHED MODEL





## SUPPLIERS

**Hornby Gresley coaches:** from stockists nationwide, see [W](http://www.hornby.com) www.hornby.com

**Mike Trice/MJT replacement coach sides**

[E](mailto:enquiries@dartcastings.co.uk) enquiries@dartcastings.co.uk

[W](http://www.dartcastings.co.uk/mjt.php) www.dartcastings.co.uk/mjt.php

**Mousa Models/Bill Bedford**

[W](http://www.mousa.biz/fourmm/coach/sides4.html) www.mousa.biz/fourmm/coach/sides4.html

[T](tel:07586415287) 07586 415287

**Comet Models**

[W](http://www.cometmodels.co.uk) www.cometmodels.co.uk - Please note, this business has temporarily ceased trading due to the death of the proprietor. It is hoped that a new owner can be found. See the website for updates.

**Kemilway**

[W](http://www.kemilway.com) www.kemilway.com

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**Southern Pride**

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**Right Track DVD 4: Detailing & Improving**

**RTR Locomotives and Coaches**

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**Above** This is the conversion seen in Right Track DVD No. 4 and also in the previous article. The Dia. 27 TO ahead of it is yet to be completed in this view but next to a Bachmann Mk I this Restaurant First (RF) fits in very well.

**Below** Though really out of position in the train (for photographic purposes only), the Dia. 27 TO also looks its part next to a kit-built Comet Gresley, then a Bachmann Mk 1, then a kit-built Mk 1 and so on. Just for the record, the locomotive, A2/3 No. 60515 *Sun Stream* is also a conversion - of a Bachmann A2 using Graeme King's resin parts.

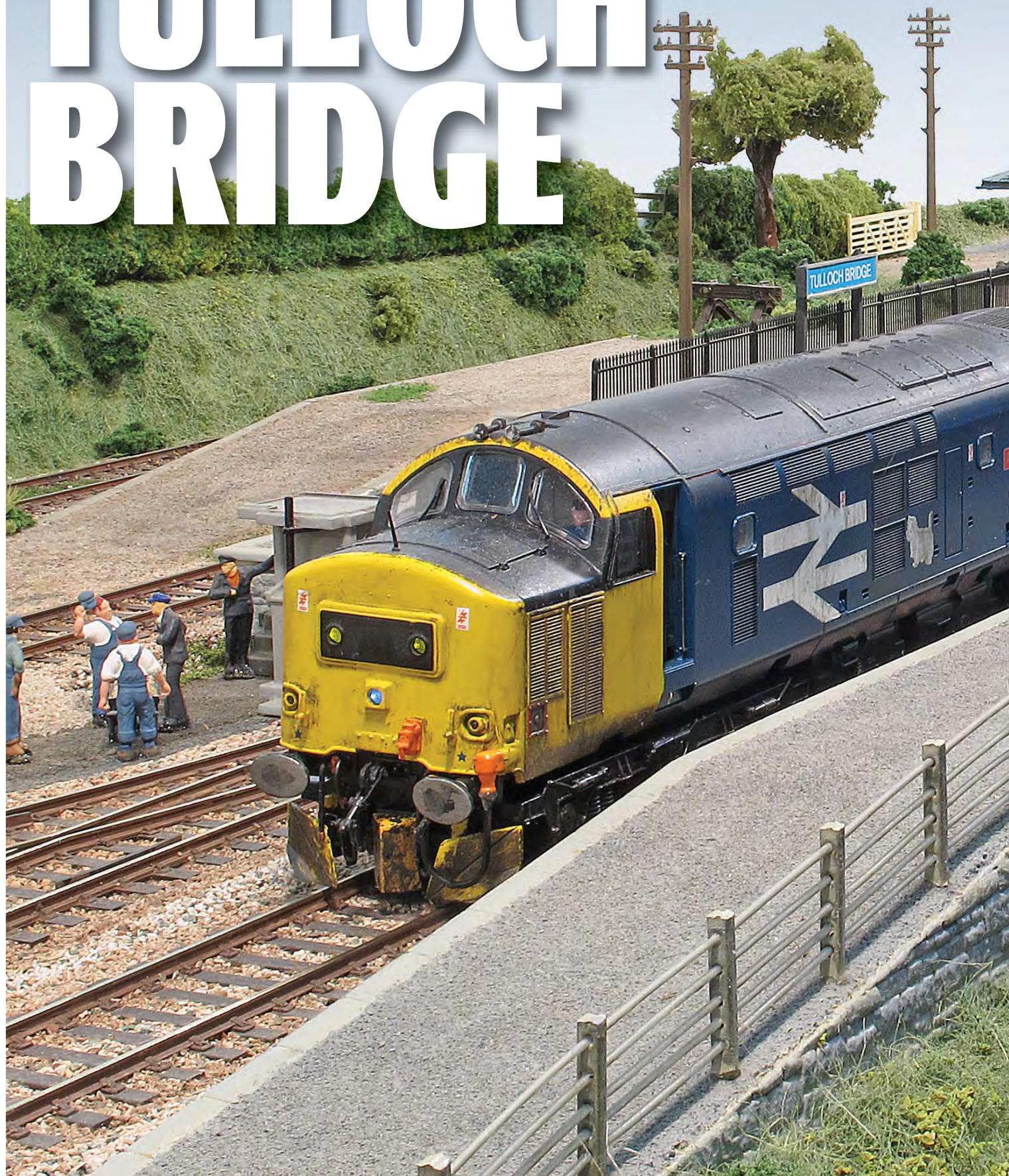


**Below** The almost complete CK. Though Gilbert has painted the roof and ends, it's yet to have the end steps fitted beneath the doors and on the bogies, and the underframe is still to be weathered. Even though carriage sides were kept clean, nobody cleaned the roofs or running gear.





# TULLOCH BRIDGE







Finding it impossible to limit his modelling interests to one area or era, **Andrew Butler** built a 'chameleon' layout capable of being transformed by changing the buildings and stock. Here we see it in 1980s West Highland Line guise.



Able to supply its own ETH for the train, 37410 draws into Tulloch Bridge with the sleeper to Fort William.

## FACT FILE

- **LAYOUT NAME** Tulloch Bridge
- **SCALE/GAUGE** 4mm:1ft scale, 16.5mm gauge 00
- **SIZE** 20' x 8'
- **CONTROL** Lenz LH100 DCC
- **LOCATION** 1980s Scottish Region
- **PHOTOGRAPHS** Andy York







BR blue 27105 awaits departure with timber destined for sawmills in Glasgow together with finished paper and empty fuel tanks returning south via Mossend.



**T**ulloch Bridge is the third detailed description of a series of locations portrayed by my 'Chameleon' layout.

In the 1960s a family holiday introduced me to the unique flavour of Scotland's railways. In the 1980s a further holiday with my own family cemented my enthusiasm for the West Highland Line in particular. This was followed by numerous trips with my son during the 1980s and 1990s travelling to and from Fort William on the sleeper train behind Class 37s.

The West Highland Line was an obvious candidate for one of the identities for my layout designed to transform into several different locations.

## RESEARCH

The whole of the West Highland Line from Craignend Junction, near Helensburgh, to Fort

William was examined for potential candidates for the location. Some of the stations are situated in wooded areas, these features have their own attraction but in model form the presence of woodland or forest would restrict the view of passing trains.

Architecture on the WHL is quite unique with timber construction being predominant and the unique roof profiles of the chalet-style buildings being most significant. Replicating these profiles would present a considerable challenge in itself. Not many of the stations had goods facilities which included a building which suited my minimalist approach to the layout.

The line has a host of stations that could be potential candidates for my layout. However, the majority of the stations have island platforms which would not suit my choice of other locations for the layout.

My scenic section was limited to 3.8m (12' 6") by 0.45m (1' 6") for reasons of available space and the ability to transport the layout in my car and trailer. The twin platform stations at Spean Bridge and Tulloch were the strongest candidates with their modest goods yards. Spean Bridge would have been suitable but is surrounded by several buildings which would be difficult to accommodate within a baseboard just 0.45m wide. Tulloch was ideal, being somewhat isolated and having a goods yard with just two sidings it fitted the bill almost perfectly.

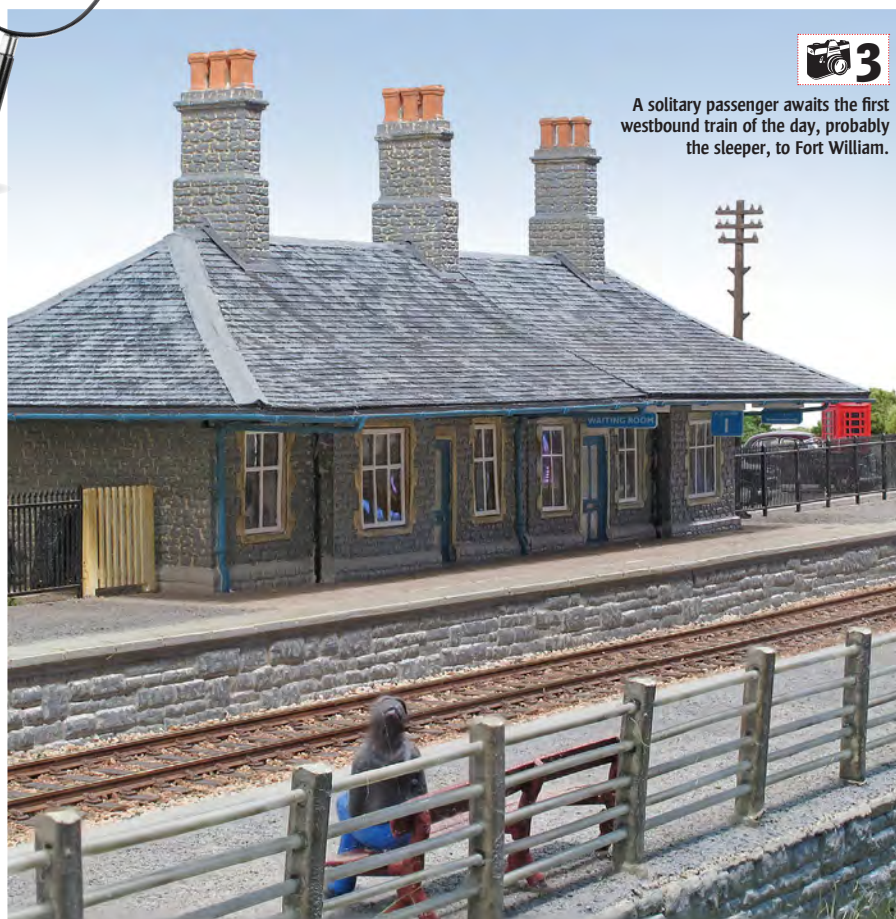
Having chosen Tulloch as being the closest match for my layout I considered using the name for the model. However, I was trying to avoid too many connections with exact locations. Immediately to the east of Tulloch station there is a significant bridge conveying the line over a deep gorge and the River Spean. Tulloch Bridge seemed an appropriate name for this layout in the circumstances.



## KEY DETAILS BUILDINGS AND STRUCTURES



A solitary passenger awaits the first westbound train of the day, probably the sleeper, to Fort William.



The signalbox is a heavily modified Wills kit with a more substantial stone plinth and, unsurprisingly, a completely new roof with the unique West Highland Line profile.

A very heavily modified combination of Bachmann Scenecraft Market Hampton buildings is used for the main station buildings. These were chosen because I intended to utilise the same buildings for another version of the layout and it would be useful to have the same 'footprint' for each.

The buildings were cut through at first floor level to make them single storey, while the roof sections for each of the two halves were scratchbuilt to the unique West Highland roof profile and grafted on to

the Scenecraft base. The Market Hampton chimneys were utilised on the new roof.

On Platform 2, the small shelter is a modified Peco kit decorated in blue and white/rail grey. A faded blue and white/rail grey was chosen for the colour scheme on the premise that the 'corporate' ScotRail livery had not yet reached this remote part of the network at that time. All other civil engineering structures remain the same as 'Florinstone' (BRM August 2014)

Signals are of different types; the tubular post signal is a Ratio product and the lattice post signal (utilised from Florinstone) was built from Model Signal Engineering components. Again, both are operated by 'wire in the tube' mechanisms.

### OPERATION

In the period chosen, West Highland Line trains rarely amounted to more than six or seven coaches with the sleeping car train to/from London being the longest. Some freight trains could have as few as two or three vehicles.

The six storage loops, which replaced the original cassettes, could hold these shorter trains with ease and some of the loops were capable of holding two or three trains.

With DCC and sound firmly in place on the layout, the sound files engineered by Tony Molyneux came into their own on Tulloch Bridge. Tony has outstanding Class 20, 25, 26, 27 and 37 sound files which are well suited to the sense of theatre created by the enclosed 'off scene' baseboards.

I have several atmospheric digital film sequences of Class 37s on the Fort William to Euston sleeper, taken from high on the opposite side of Loch Treig,

between Tulloch and Corrour. On a still evening, Class 37s could be heard pulling away from Tulloch and storming up the gradient all the way towards Corrour. Stirring stuff, now available in model form!

I considered running Tulloch Bridge to a timetable but as the West Highland is hardly renowned for the regularity of its train service, I wanted to avoid viewers at exhibitions falling asleep between trains!

In addition to the sleeper a number of passenger trains are run on Glasgow services utilising Mk 1 and Mk 2 coaches. A variety of freight traffic is carried including fuel oil, timber, aluminium ingots and paper creating plenty of interest for freight operations. Snowploughs also occasionally put in an appearance.

On occasions, the Burngullow to Irvine china clay slurry train (silver bullets) is extended to serve the paper mill at Corpach!





## LOCOMOTIVES AND STOCK

As already mentioned, motive power is provided by Classes 20, 25, 26, 27 and 37, mostly in corporate BR blue or large logo liveries. However, one or two Sector livery Class 37s creep into the diagrams to signify the changes taking place in the 1980s/90s. Charter trains also make an appearance with maroon Mk 1s and the occasional Deltic!

The sleeper is the most notable service of the day; sometimes run with a Class 37/0 and an ETHEL (withdrawn Class 25 modified to provide electric train supply) heading a mixture of Mk 1 and Mk 2 seated coaches and Mk 3 sleepers. At other times a '37/4' is in charge, reflecting the change made in the mid-1980s.

Other passenger trains are generally in the hands of Class 37s, 25s and 27s with the odd Class 26 working. Class 20s can also put in an appearance on passenger workings - sometimes working 'bonnet' first! Freight trains are generally in the hands of all the same classes, as they were in real life.

Freight stock comprises OCA open wagons, VDA vans, Cargowagon bogie ferry vehicles, TTA fuel tanks and bogie china clay slurry tanks. However, research is underway to scratchbuild or modify available freight stock to produce some of the unique freight vehicles that conveyed china clay slurry, timber and alumina on the West Highland Line. Many of these vehicles were few in number and specific to this traffic on the West Highland Line.

## ENJOYMENT

The West Highland Line and its traffic are almost unique operating through inhospitable terrain and fierce winter weather.

I recall a trip with my wife to walk some of the West Highland Way in January. On our last day we travelled from Fort William to Bridge of Orchy to walk from there to Tyndrum. The plan was to return to Fort William that evening for a meal before taking the sleeper on our way home to Devon.

Unsurprisingly for January, it was raining at Bridge of Orchy and halfway to Tyndrum this had turned to heavy snow! Rather than go on we decided to return to Bridge of Orchy and catch the train back to Fort William. The weather steadily deteriorated on the return journey but, as is often the case, on arrival it was just raining heavily when we got back. Deer were sheltering in the lea of the hills or anything else they could find all the way back to Tulloch.

We duly left Fort William on the sleeper, for what was to be a very exciting train journey! We were the only passengers on the train and had just the Stewards and guard for company.

Upon reaching Spean Bridge there was 6" of snow on the platforms and at Tulloch there was 12"! The climb to Corrour was through very heavy snow and the Class 37 made a determined effort all the way to the top.

On the approach to Corrour I peered out of the door droplight as the driver feathered the throttle

before dramatically opening up to charge the drifts between the platforms.

I quickly closed the window before I was engulfed in snow. On we went, charging drift after drift across Rannoch Moor before reaching the relative safety of Bridge of Orchy. We eventually reached Dalmuir and Edinburgh on time!

This interlude just demonstrates how unique the West Highland Line is and why so many people take pleasure from travelling on it and, have such great admiration for the service it provides. I have attempted to produce a model that does some justice to the line and its operation. I hope you like it. However, I'm still working on how to clear snowdrifts in 4mm scale! **BRM**

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A Class 25 enters Tulloch Bridge with a freight from Mossend Yard to Fort William and Corpach.





Large logo 37410 Aluminium 100  
approaches Tulloch Bridge from  
Fort William with an engineers'  
train for Mossend Yard.







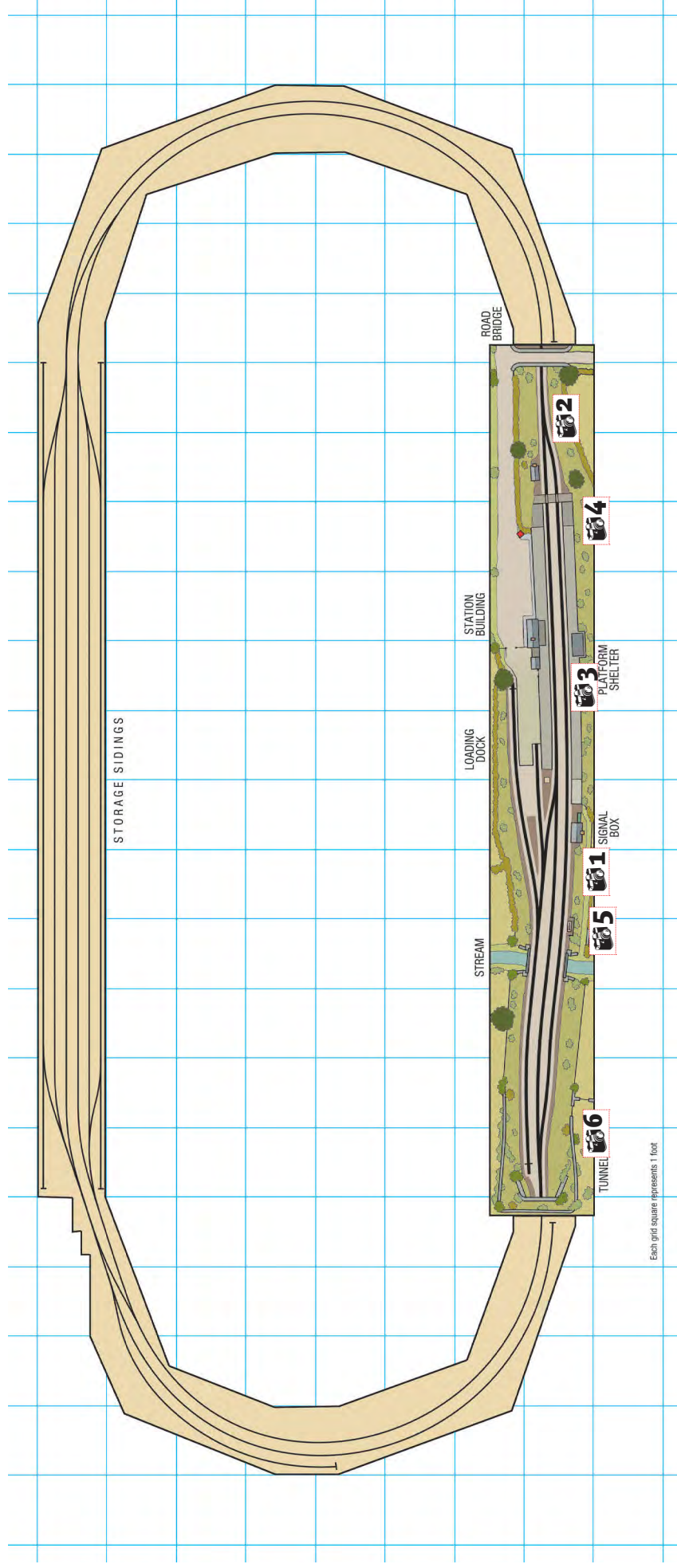






00  
GAUGE

# LAYOUT FOCUS TULLOCH BRIDGE





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BRM

DDAY



# WHAT'S DUE IN

Throughout 2014 we've seen an unprecedented number of new RTR models announced by established manufacturers and new suppliers. **Ben Jones** lists what's been claimed and when we might see them.

If you've been left baffled by the volume and frequency of new models being announced this year, don't panic; you're not on your own.

Despite the much-discussed problems with deliveries from Chinese factories, new companies, retailers and, to a lesser extent, the major suppliers, all have not been deterred from staking their claim to a remarkable variety of locomotives and rolling stock.

While Bachmann, Dapol and Hornby have seen their output drop, new companies such as Austrains, DJ Models and Oxford Rail are working on their debut products, covering subjects that the 'big boys' might not have been able to justify. While we are yet to see the finished article from any of the newcomers, we should start to see production models from DJM in the New Year, and from Oxford Rail in mid-2015.

This brief guide brings together every British outline RTR product that has been announced but is still to be released. Some have been in the pipeline for several years, whereas others are relatively fresh. Either way, seeing the list makes it clear just how much is being invested in new tooling. When a simple wagon can cost up to £40,000 to research, design and tool-up ready for production, and a locomotive between £70,000 and £150,000, it's

obvious just how much is riding on the success of each project. So, realistically, what can we expect to see in 2015?

From Bachmann, the Billinton E4, GWR 64XX and GNR 'Large Atlantic' are well advanced and should be with us relatively soon. The Class 43 'Warship' has recently shown its face too. Having been recalled for correction, the two GWR 'Halls' (standard and modified) should also resurface. The Peppercorn A2, Maunsell N 2-6-0 and 'Merchant Navy' will make it a big year for new



Due Spring 2015: GNR 'Large Atlantic' for Locomotion Models.

## BACHMANN OO

Bachmann has an extensive 'to do' list, covering a wide range of OO gauge subjects from Wickham inspection trolleys to Victorian tank locomotives and 5,000hp electrics. New in 2014 was a diversification into 1:76 scale narrow gauge (OO9), with a First World War Baldwin 4-6-0T and wartime wagons, which should start to appear in late-2015/2016.

Depending on how development progresses, some items may jump forward, while others slip back. See [www.bachmann.co.uk](http://www.bachmann.co.uk) and **BRM** for regular updates.



Bachmann Class 43 'Warship' in OO.

### DUE LATE-2014/EARLY-2015

- ▶ GWR 64XX 0-6-0PT – Mar/Apr
- ▶ GNR Large Atlantic\* – Mar/Apr
- ▶ Class 150 DMU (redesigned chassis) – Nov/Dec
- ▶ BR Pipe wagon – Nov/Dec
- ▶ BR Tube wagon – Mar/Apr

### MID-2015

- ▶ LBSCR E4 0-6-2T – Apr/May
- ▶ GWR 'Hall' 4-6-0
- ▶ GWR 'Modified Hall' 4-6-0
- ▶ BR 21t Grain hopper – Apr/May
- ▶ BR Mk 1 TPO stowage van

### LATE-2015

- ▶ NBL Class 43 'Warship' diesel
- ▶ LMS 10000/01\*
- ▶ SR USA 0-6-0T\*
- ▶ 20t oil tank

\* Denotes special commission for a specific retailer. Not on general release.

### 2016?

- ▶ Baldwin 4-6-0T (OO9)
- ▶ LBSCR H2 Atlantic
- ▶ LNWR 'Coal Tank' 0-6-2T
- ▶ LMS Stanier 'Mogul'
- ▶ LMS/BR Ivatt 2MT 2-6-2T (new DCC Ready chassis)
- ▶ LNER V1/V3 2-6-2T (new DCC Ready chassis)
- ▶ BR Class 24/1
- ▶ Class 90 Bo-Bo electric
- ▶ Class 158 (new tooling)
- ▶ Wickham Type 27 Trolley
- ▶ BR Mk 2f coaches
- ▶ GWR Hawksworth autococh
- ▶ SR PMV van
- ▶ SECR Birdcage coaches
- ▶ LNER Thompson coaches
- ▶ OO9 wagons
- ▶ BR FFA/FGA container flats
- ▶ Conical end TTA tanks
- ▶ Warflat wagon



# 2015?

Graham Farish steam locomotives, and they will be joined by the all-new Class 31 diesel and some superb new rolling stock (see below).

Hornby's SR 700 Class and D16/3 appear to have moved to the head of the Margate queue, followed by the Peppercorn K1 with the J15 some way behind. There's no indication as to why the GWR 'Hall', engineering prototypes of which have been around since summer 2013, has slipped behind more recent projects though.

Dapol is making its O gauge 'Terrier' and OO gauge Class 73s a priority and both show great promise, while Heljan's Gresley O2 2-8-0 and 'Met' electric have progressed to a stage that should see

them released during 2015.

In N, the Dapol GWR 'Grange' appears to be the best bet for next year, jumping ahead of many other N projects that have been announced for some time.

Finally, DJ Models looks set to release its first production models in March 2015; the Hunslet 'Austerity' 0-6-0ST and Adams O2 0-4-4T for KMRC.

Two newcomers are Oxford Rail and Rapido Models, both of whom are promising releases in mid or late-2015.

All delivery dates given are a 'best guess', based on the current status of each model. For updates on new models, see **BRM's** news pages every month or visit [www.rmweb.co.uk](http://www.rmweb.co.uk).

## GRAHAM FARISH N

As with its OO gauge range, Bachmann has an extensive programme of new releases planned in N gauge. Although new items have been relatively few in 2014, there are a number of new items close to completion and expected in late-2014 and early-2015. See [www.bachmann.co.uk](http://www.bachmann.co.uk) for updates.



A Graham Farish Hawksworth coach (above) and SR Bogie B luggage van (below).



### DUE LATE-2014/EARLY-2015

- ▶ New Class 37/4 & 37/5 - Nov/Dec
- ▶ LMS 'Duchess' 4-6-2 - Nov/Dec
- ▶ LNER Peppercorn A2 4-6-2 - Nov/Dec
- ▶ BR Mk 1 CCT - Nov/Dec
- ▶ MR 20t brake van - Jan/Feb
- ▶ BR Covhop wagon - Nov/Dec
- ▶ Polybulk bogie grain hopper - Nov/Dec

### MID-2015

- ▶ SR N Class 2-6-0 - Apr/May
- ▶ SR/BR 'Merchant Navy' 4-6-2 - May/June
- ▶ BR Class 31 diesel - Mar/Apr
- ▶ SR 12t vent van - Mar/Apr

### LATE-2015

- ▶ GWR 64XX 0-6-0PT
- ▶ LMS 4F (re-tool)
- ▶ BR 4MT 2-6-4T (re-tool)
- ▶ BR(W) Hawksworth stock
- ▶ SR 'Van B' bogie luggage van
- ▶ BR Pipe wagon

### 2016?

- ▶ GWR 'Castle' 4-6-0
- ▶ BR Mk 2f coaches + DBSO
- ▶ SECR Birdcage stock
- ▶ SR PMV 4w van
- ▶ GWR/BR Hawksworth Autocoach



Dapol's forthcoming OO gauge Class 73 electro-diesel.

## DAPOL

After its re-organisation over the last 12-18 months, Dapol is now making progress on products in three scales. No predicted delivery dates are published by this manufacturer, although some products are known to be further forward than others and so are marked for possible 2015 release.

See [www.dapol.co.uk](http://www.dapol.co.uk) for updates and further information.



Dapol's GWR 'Grange' expected in 2015.

### DAPOL N

- ▶ LNER J72 0-6-0T - 2016?
- ▶ Class 33 - 2015
- ▶ Class 50 - TBC
- ▶ Class 59 - TBC
- ▶ Class 68 - TBC
- ▶ Class 142 - TBC
- ▶ GWR 'Grange' 4-6-0 - 2015
- ▶ SR 'Schools' - TBC
- ▶ Bulleid Light Pacifics (air-smoothed/rebuilt) - TBC

- ▶ Class 68 - TBC
- ▶ Class 73 - 2015
- ▶ Class 21/29 - TBC
- ▶ GWR streamlined railcar - TBC
- ▶ Class 121/122 - TBC

### ROLLING STOCK

- ▶ Turbot bogie open wagon - 2015?
- ▶ Freightliner MJA bogie box twins - TBC
- ▶ WH Davies Lowliner - 2016?
- ▶ Freightliner HIA bogie hopper - TBC
- ▶ BR diesel brake tender - TBC
- ▶ BR BBA bogie steel carrier - TBC

### ROLLING STOCK

- ▶ SR Maunsell coaches - 2015
- ▶ SR Van C - 2015
- ▶ SR CCT van - 2015
- ▶ Mk 3 Trailer Guards Second (TGS) - 2015
- ▶ NR IOA bogie box - Early-2015
- ▶ NR JNA bogie open - Early-2015
- ▶ GWR Collett BG (for NGS) - 2015
- ▶ Freightliner MJA bogie box twins - TBC
- ▶ Freightliner HIA bogie hopper - TBC

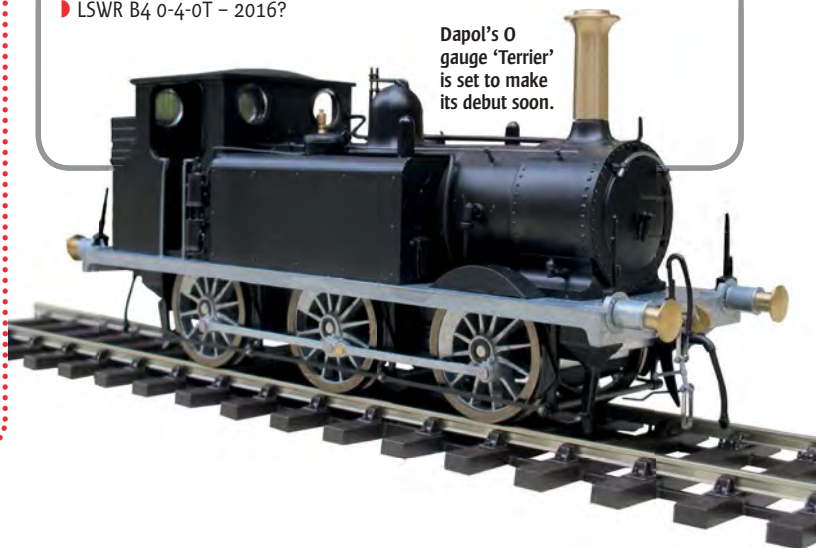
### DAPOL O

- ▶ SR A1/A1X 'Terrier' 0-6-0T - late-2014/early-2015
- ▶ Class 08 - TBC
- ▶ BR 10t/12t vans (various types) - TBC
- ▶ BR open wagons (various) - TBC
- ▶ BR HAA coal hopper - TBC
- ▶ BR HEA/HSA hopper - TBC
- ▶ BR Vanwide/VEA van - TBC

### DAPOL OO

- ▶ LSWR B4 0-4-0T - 2016?

Dapol's O gauge 'Terrier' is set to make its debut soon.



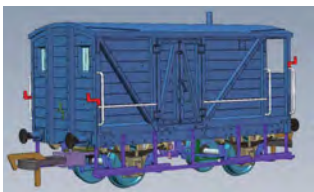


## DJ MODELS

An LNER Q6 0-8-0, announced for the DJ Models OO range.



Eighteen months after its launch, this new manufacturer is getting closer to its first releases in OO gauge and has an ambitious programme of further models both for its own range and commissions for retailers such as Kernow Model Rail Centre. Arguably its most high profile commission to date is a high-specification GWR 'King' 4-6-0 for



Hatton's Model Railways of Liverpool, which will compete directly with an all-new Hornby 'King' due in late-2015.

DJM is also involved in a number of new schemes using the Kickstarter crowd-funding model, which encourages consumers to 'invest' in new projects by paying for their models in advance. If and when the target is reached, the funding is then released for development and production and investors receive finished models in return. If the target isn't reached, production doesn't proceed. To date, none of the schemes have reached their target. See [www.djmodels.co.uk](http://www.djmodels.co.uk) for updates.



A pre-production sample DJmodels Hunslet Austerity 0-6-0ST in OO.

### DJ MODELS N

- ▶ Hunslet Austerity 0-6-0ST - TBC
- ▶ BR Baby Deltic - TBC
- ▶ BR Class 17 Clayton - TBC
- ▶ Class 390 Pendolino\*\*
- ▶ GWR streamlined diesel railcar\*\*
- ▶ Class 59 - TBC
- ▶ GWR 63XX 2-6-0 - TBC

### For KMRC

- ▶ GWR '1361' 0-6-0ST - late-2015
- ▶ LSWR O2 0-4-4T - Spring 2015
- ▶ LSWR Gate Stock - late-2015
- ▶ LSWR/SR road van - 2016?
- ▶ BR D600 Warship - late-2015?
- ▶ PBA Tiger china clay hopper - 2015

### DJ MODELS O

- ▶ Hunslet Austerity 0-6-0ST - TBC
- ▶ BR Baby Deltic - TBC
- ▶ BR Class 17 Clayton - TBC

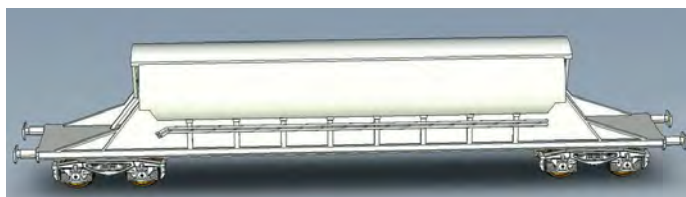
\*\*Denotes model is subject to a Kickstarter scheme and production depends on funding target being reached.

### DJ MODELS OO

- ▶ Hunslet Austerity 0-6-0ST - March 2015
- ▶ Class 59 diesel - TBC
- ▶ Class 71 electric\*\* - TBC
- ▶ LNER Q6 0-8-0 - TBC

### For Hatton's Model Railways

- ▶ GWR King 4-6-0 - early-2016



A basic CAD image of the forthcoming PBA China Clay Hopper for KMRC.



## HELJAN

As usual, the Danish manufacturer has a diverse selection of OO and O gauge projects underway, some of which are expected to make their debut as this edition of the **BRM** Annual goes to press.

In O gauge, the range of diesel locomotives and rolling stock is set to

An engineering prototype of a Metropolitan Bo-Bo electric.



Heljan's 1361 in OO (left) and O gauge Dogfish ballast wagon (right).



increase significantly in 2015, while in OO the company continues to select unusual and esoteric prototypes suited to short production runs.

Interestingly, Heljan is going head-to-head with Kernow Model Rail Centre/DJ Models on the GWR '1361' 0-6-0ST, an obscure class of just five

locomotives built for use in Cornwall.

Further announcements were expected at the Warley NEC show, see [www.heljan.dk](http://www.heljan.dk) and **BRM** for updates.

Also in the pipeline is Heljan's first venture into narrow gauge, a OO9 model of a Lynton & Barnstaple Manning Wardle 2-6-2T.

### HELJAN OO

- ▶ Park Royal railbus - late-2014
- ▶ Class 05 - 2015
- ▶ GWR 1361 0-6-0ST - 2015
- ▶ GWR 1366 0-6-0PT - 2015
- ▶ LNER O2/3 & O2/4 2-8-0s - mid-2015
- ▶ Metropolitan Bo-Bo electric - 2015
- ▶ L&BR/SR Manning Wardle 2-6-2T (OO9) - TBC

### HELJAN O

- ▶ AC Cars railbus - late-2014
- ▶ Class 60 - early-2015

- ▶ Class 42 - late-2015
- ▶ Do280 Falcon - late-2015
- ▶ Class 25 - TBC
- ▶ Class 45 - TBC
- ▶ Type B oil tank - late-2014
- ▶ OAA open - late-2014/early-2015
- ▶ VBA van - late-2014/early-2015
- ▶ Cargowaggon bogie flat - TBC
- ▶ Cargowaggon bogie van - TBC
- ▶ BR Catfish hopper - late-2015
- ▶ BR Dogfish hopper - late-2015
- ▶ Mk 1 GUV - late-2014/early-2015
- ▶ Mk 1 BG - late-2014/early-2015



# HORNBY

Although its supply issues are still not fully resolved, Hornby has made good progress on several outstanding products announced in 2013/14 and a raft of new steam locomotives is being prepared for production. After customer criticism of the simplified detail on recent models such as the LNER P2 and BR *Duke of Gloucester*, the Margate firm is returning to higher levels of detail on its next tranche of locomotives. Expect Hornby to unveil its 2015 release programme in late-2014. See [www.hornby.com](http://www.hornby.com) and **BRM** for updates.



LNER/BR Peppercorn K1.



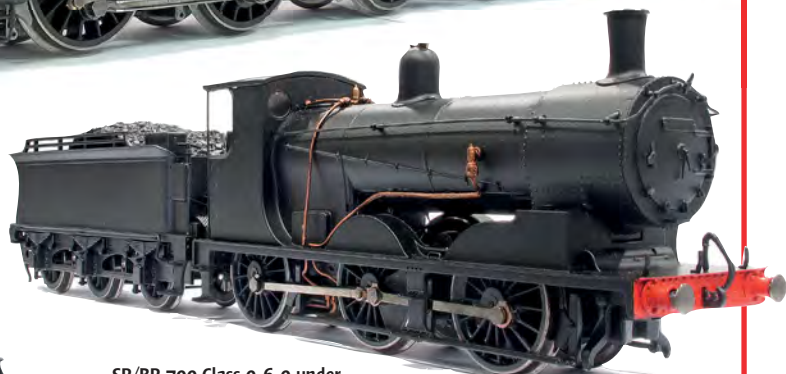
Hornby's 'Crosti' 9F, to be released as part of the Railroad range.

## DUE LATE-2014/EARLY-2015

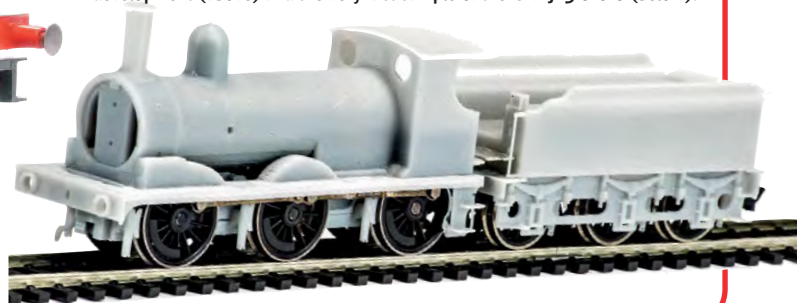
- ▶ SR/BR 700 Class 0-6-0
- ▶ LNER/BR D16/3 4-4-0
- ▶ LNER/BR Peppercorn K1 2-6-0
- ▶ BR Franco-Crosti 9F 2-10-0

## DUE 2015

- ▶ GER J15 0-6-0
- ▶ GWR Hall 4-6-0 - TBC
- ▶ GWR King 4-6-0 - Q4 2015
- ▶ BR Mk 2e coaches



SR/BR 700 Class 0-6-0 under development (above) and the very first sample of the GER J15 0-6-0 (below).



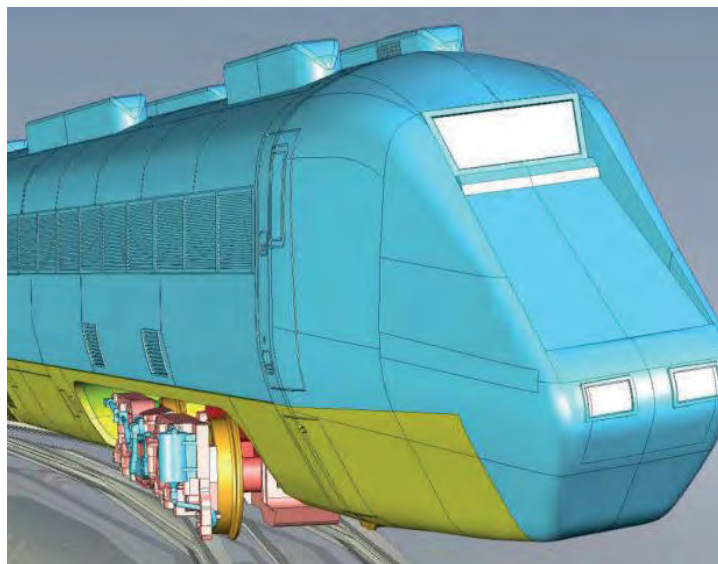
# OXFORD RAIL

Branching out from its core business of die-cast road vehicles, Oxford Diecast revealed its first OO gauge RTR locomotive in November 2014. Starting with the much-requested LSWR Adams Radial 4-4-2T, Oxford Rail is planning quick expansion in this area with several more products in the pipeline. First engineering samples of the 'Radial' are due in early-2015 with the first releases expected mid-year.

Acknowledging the complex detail variations of this small class, Oxford Rail has catered for two alternative boilers and frame arrangements, two chimneys, rectangular or oval spokes, single or double slidebars, alternative coal rails and pipework arrangements according to livery and locomotive.

See [www.oxfordrail.com](http://www.oxfordrail.com) for updates.

# RAPIDO TRAINS



Well-known and well respected in North

America for its highly-detailed HO and N scale models, Rapido's first solo venture for the UK market will be the experimental gas-turbine Advanced Passenger Train (APT-E) for Locomotion Models. Being produced as part of the 'National Collection in Miniature' series, production of the four-piece train will be limited to the number of advance orders placed before the cut-off date in April 2015.

See [www.rapidotrains.com](http://www.rapidotrains.com) and [www.locomotionmodels.co.uk](http://www.locomotionmodels.co.uk) for more information.

## OTHER SUPPLIERS

In addition to the established manufacturers, a number of new suppliers are starting to enter the British model railway market with products planned for release in 2015/16.

**Austrains** is well-known in its home market of Australia, but in November 2014 it revealed that it was working with a British backer to produce a OO gauge RTR model of a Midland Railway

Kirtley double-framed 0-6-0 for release in 2016. See [www.austrains.com.au](http://www.austrains.com.au) for updates.

**FTG Models** has been working with DJ Models to produce a OO gauge BR Railfreight SPA steel carrier, which was arriving in the UK as we went to press. Its second model should be the Motherwell Bridge-built TTA carbon dioxide tanker, although research and development

is still at an early stage. For more information see [www.ftgmodels.co.uk](http://www.ftgmodels.co.uk).

After the success of its O gauge Hudswell Clarke 0-6-0ST and Fowler diesel industrials, **Ixion Model Railways** is collaborating with another UK company to produce a 7mm scale standard gauge steam locomotive suitable for the UK and Australian markets. See [www.ixionmodels.com](http://www.ixionmodels.com) for updates.

**Realtrack Models** is working on further OO gauge models to join its acclaimed Class 143/144 railbuses and FLA intermodal twins. A PCA cement tank was mooted a couple of years ago, but is yet to appear. The company also has plans for other modern image items that should be announced during 2015.

See [www.realtrackmodels.co.uk](http://www.realtrackmodels.co.uk) for more information.



**LAYOUT** FOCUS



*Classic BRM*  
FAREWELL TO...  
**SYKES BRIDGE**



One of the formidably ugly rebuilt Franco-Crosti 9F 2-10-0s on the turntable. No. 92022 is built from a Seven Models kit.

Merrick Tomlinson and Trevor Gibson's O Gauge layout was featured in April 2005 and April 2008 issues of BRM and exhibited for the last time in 2012. **Jeff Nicholls** presents a selection of his favourite photographs of the layout in action.







**CLOCKWISE FROM LEFT:** A clean locomotive for a change! Surely one of Sir William Stanier's most elegant locomotives, ex-works 'Mogul' No. 42983 is photographed on the turntable. Built from a Gladiator kit.

Built from the excellent Connoisseur kit, battered Fowler 4F 0-6-0 No. 44358 rests inside the otherwise empty shed buildings.

A couple of the shed labourers are seen in action shovelling ash. No. 45512 'Bunsen' looms behind.

Built to replace the old LYR 'Pugs', Yorkshire Engine Co. 0-4-0DH D2862 (a DJH kit) manoeuvres the depot stores train gingerly into the shed.

Two generations of English Electric diesel power share Sykes Bridge shed. D235 *Apapa* is virtually brand new, whereas ex-LMS 10000 already has a few years under its belt. A BR 2MT 2-6-0 lurks in the background.

Veteran ex-Midland Railway 2F No. 58287 is in the twilight of its life, eking out its days on light goods work or hauling the District Engineers' Saloon. Seen here trundling light engine off the Docks Branch.







# PRACTICAL BRM



HOW TO  
BUILD A...

# BREAK

A few years ago the Sheffield O Gauge Group had a layout on the exhibition circuit called 'Wirksworth'. It featured a working model steam crane with a grab that we would use to load wagons. It was the work of the late Tom Stones, a very fine modeller from Sheffield, and was fully mobile, powered by an early form of DCC called 'Selectrol' by ECM.

The crane was a real showstopper, helping us to win best layout at the Telford one year. We took it in turns to operate it but it required total concentration, often to the extent that you became totally oblivious to your surroundings. It came as quite a shock to turn round and find a crowd three or four deep watching your every move (and often making a complete fool of yourself!). Unfortunately the control system eventually died and as it was no longer in production we could not get it repaired, so the crane had to be retired. Nevertheless the idea lodged in my mind, to resurface at a later date.

A few years later and with 'Wirksworth' retired from the exhibition circuit a few members of the club decided to produce a small quayside layout called 'Yeomans Quay'. It was to feature continuous checkrail track laid into a cobbled seafront and be wired for DCC. As we had seen a few layouts featuring sound we thought we would give that a go as well.

One of our members, Mike Harrison also has an interest in boats and soon scratchbuilt us a 'Clyde Puffer' for the quay. The question of whether we wanted the hold open or closed set in motion a chain of events that eventually gave me recurring headaches for about a year.

The hold being open made it possible to load and unload cargo with a crane and, having in the past built exploding gunpowder vans and working two-stage stone conveyors, the other members thought it gave me ample grounding to build a working breakdown crane.

Having been 'volunteered', I started to look at the possibilities and to look for a prototype. The fact that we planned to use DCC made the control possible but I realised that we would need five motors and five DCC decoders to control them. One would control the movement of the crane along the track, a second the rotation of the crane body, one would raise and lower the jib, another would raise and lower the hook and finally one would be needed to drive the outside cranks of the steam engine that powered the real thing. These cranks would turn whenever the crane did any kind of work in conjunction with whichever activity was taking place at the time.

I discovered that using DCC it is possible to control two locomotives at once. I reasoned that I could use this facility to drive two motors at once to give prototypical operation.

The finished crane working on our 'Yeoman's Quay' layout.





# DOWN CRANE

In a remarkable piece of miniature engineering, **Mike Cawthorne** scratchbuilt a fully operational Cravens Brothers 25t steam crane in 7mm scale. *Photography by Mike Cawthorne*

It's mesmerising to see the drum slowly start to revolve, the rope take up the strain and run through the pulleys as the jib begins to rise and fall.



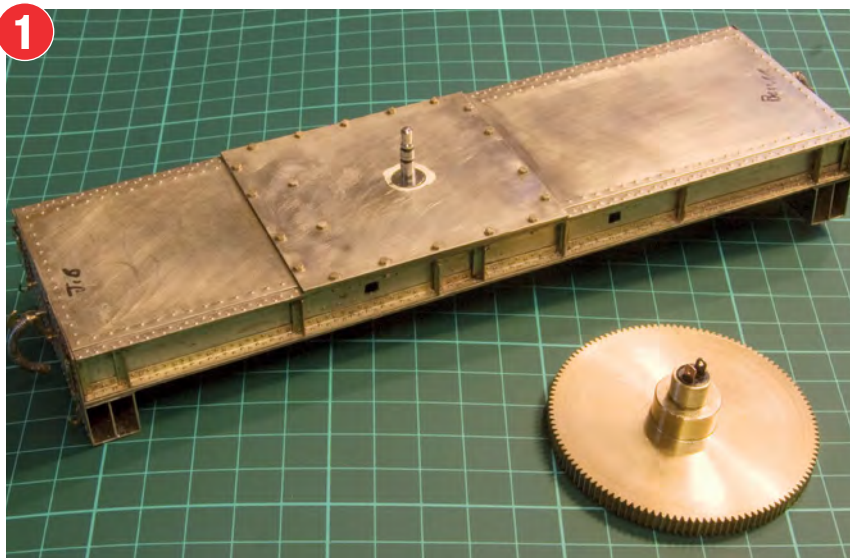


# PRACTICAL BRM



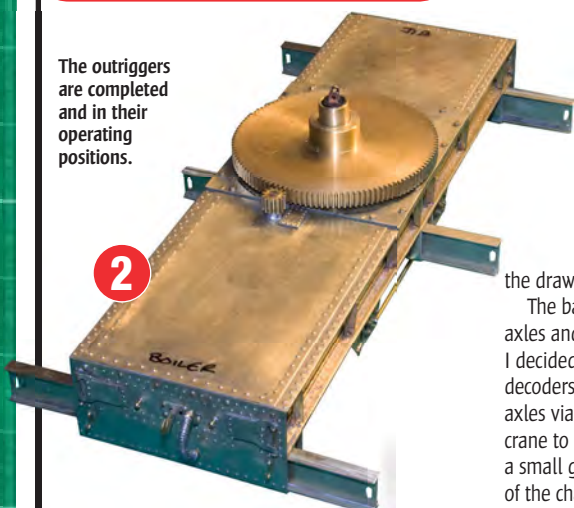
The base unit starting to come together. The stereo jack plug is in position and the socket is fitted to the large gear.

1



The outriggers are completed and in their operating positions.

2



## GATHERING MATERIALS

I had a quick trawl of the web and found that there was an ex-LNER Cravens Brothers 25 ton crane preserved at the National Railway Museum in York. Also there was a good set of drawings available in June 1978 edition of *Model Railway Constructor*. I had a quick trip to York and arranged to see the crane with one of the Friends of the NRM because it was not on public display. It looked ideal and I took about 100 digital images from every possible angle. Back home I enlarged

the drawings to 7mm to see what room I had available.

The base unit of the crane was to have two fixed axles and two outer axles on a form of pony truck. I decided that I would need two motors and DCC decoders in the base, one would power one of the fixed axles via a motor and fold up gearbox to allow the crane to move along the tracks; the other would power a small gear from underneath that comes vertically out of the chassis base to engage with a large gear and drive the body rotating mechanism.

I know that this is not prototypical but it was the only way I could think of to make all the features work within the space available. The decoders for these motors fit under the axles of the pony trucks.

On the crane body there would be three motors and they would fit quite nicely under the boiler. The problem was where to fit the two decoders and the sound chip. Also I would have to find space for a speaker and a smoke unit. Having a long look at the drawings I realised that the bunkers and tanks on either side of the boiler were empty space on the

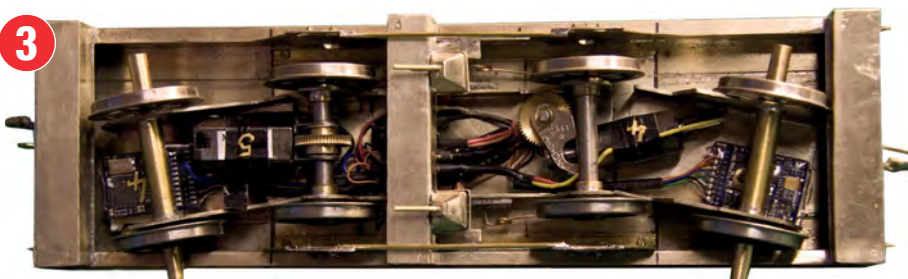
model and if I made them removable I could hide the decoders inside.

Power to the upper crane body would be via a stereo phone jack to provide a path for both sides of the circuit and still allow the body to revolve. All the decoders would have to be fitted with miniature plugs and sockets so they could be programmed individually and the motors worked on separately.

I was starting to get together quite a sizeable (and expensive) shopping list. The next problem would be gears, and some quite large ones.

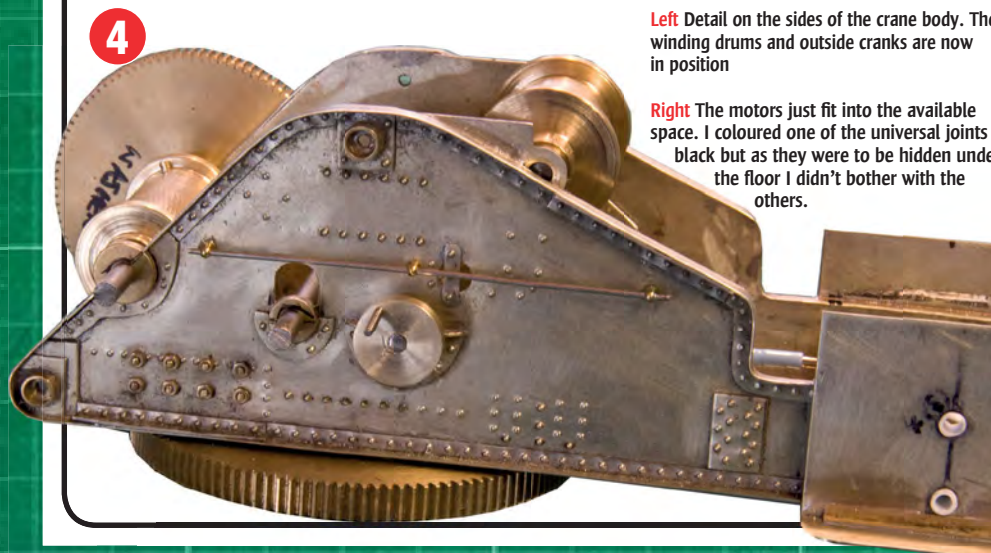
I was directed to a company called Muffett Gears of Tunbridge Wells in Kent. It has a bewildering range of gears in its online catalogue and after checking the dimensions on the drawing I sent off for a selection of gears in brass. The hi-fi jack was obtained from my local Maplins store, where I also discovered a strip of male and female connectors which could be cut to the required length and were ideal for the miniature plugs and sockets. I also obtained some of its smallest diameter heat-shrink

3



The motors and DCC decoders are squeezed into the available space. Everything is labelled to avoid confusion later.

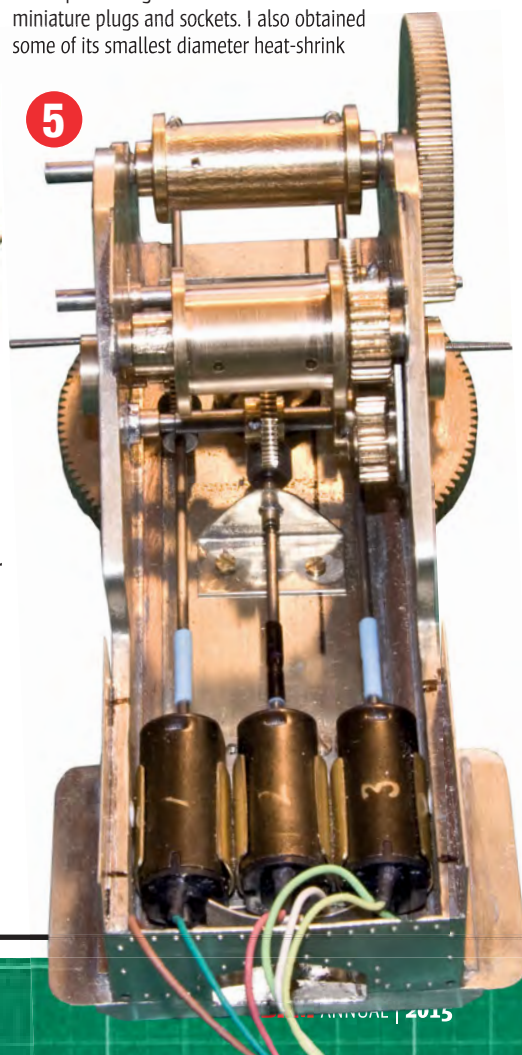
4



**Left** Detail on the sides of the crane body. The winding drums and outside cranks are now in position

**Right** The motors just fit into the available space. I coloured one of the universal joints black but as they were to be hidden under the floor I didn't bother with the others.

5





sleeving to insulate the soldered connections.

Motors and gears were ordered from Branchlines and the decoders were from DCC Supplies.

I opted for ESU LokPilot decoders to match the characteristics of the ESU LokSound unit I already had in stock. Finally a trip to the Eilean's Emporium stand at the Gauge O Guild Convention in Telford made me the proud owner of a bewildering array of 'L' and 'T' section brass, steel rod for drive shafts and sheets of nickel-silver. Whilst there I also ordered etched worksplates from Guilplates and Slater's tender wheels.

## CONSTRUCTION

When starting any project I always look to make everything removable and in sub-assemblies that are screwed together. Otherwise, if something gets trapped in the mechanism it means that the model has to be virtually destroyed to remove it at a later date. I resolved to make all the gears and shafts removable as, at this time, I was still not exactly sure how it was all going to fit together.

I started with the base which was made up from 18thou nickel-silver sheet, sometimes in layers on the top and with hundreds of rivets embossed around the edges in two rows. The real buffers were on hinges so they could be swung out of the way when operating. The coupling hook was allowed to swivel in a slot and there were also safety chains on the bufferbeam. Also built into the rear of the bufferbeam and the side channel was housing for the outriggers.

While constructing these I soldered inside small 'L' angle strips to act as limiters so that when I made the outriggers they would not pull straight out of the ends. There are three outrigger housings in total, each containing two outriggers. The centre one posed a problem as the chassis would be trapped by this housing and also the brake rigging and sandboxes. I eventually made a removable unit comprising the frames for the two inner axles, the outrigger housing and the brake gear and sandboxes, held in place by four 10BA screws.

The hi-fi jack plug was also fitted at this stage on the pivot point of the crane. The inner chassis was made up of a centre fixed unit with a pony truck at each end. It is powered on one axle by a motor and fold-up gearbox that just fits in the available space. Pick-ups are attached to the sides on a small strip of copper-clad fibreglass with wipers bearing down onto the wheel treads.

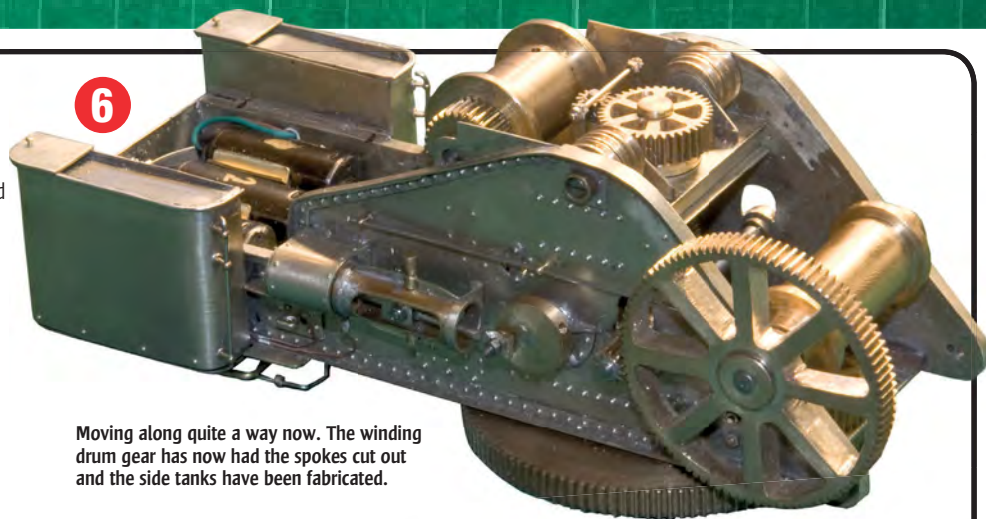
The ends of the axles on the pony trucks have strange extended axles that bear on pads on the base side channel. The pads were filed from square rod to the appropriate shape and soldered on. The extended axles were turned from rod with a 6BA screw thread in the end to match the Slater's lock nuts. A length of screw thread was then superglued into the tapped hole and when dry the extended axles were screwed in to retain the wheels.

The next thing to be tackled was the big drive gear which had the hi-fi socket modified to fit. It now would fit over the plug in the base and lock in position with the in-built spring.

A continuity test proved that there was uninterrupted power as the gear rotated.

The small gear was used to mark the hole for the shaft in the base and a long bearing made for the shaft. The gear was then fitted to its own driveshaft and the second motor and gearbox fitted from below. When power was applied the big gear revolved smoothly.

Decoders were fitted to the underside of the pony trucks with double-sided foam tape and miniature plugs and sockets fitted between the pick-ups and the



**6** Moving along quite a way now. The winding drum gear has now had the spokes cut out and the side tanks have been fabricated.



**7** Finished jib with cross bracing in the correct position after the second attempt.

motor. I also wired the jack plug to the pick-ups ready to provide power to the crane.

With the decoders programmed to addresses 4 and 5, I tested the whole unit under DCC. To my amazement everything worked first time. I then made up the outriggers and the chocks that lock up the suspension. With everything in place and working the base was complete, now for the difficult bit.

## UPPER BODY

The upper unit is made of two parts; the crane body and the jib. The body was made up first on a base of 64thou nickel silver. I then mounted the large gear wheel to this with a couple of countersunk 8BA screws. The sides were then marked to shape on two pieces of .18 nickel-silver which had been soldered together, along with the centres for the cross shafts and the jib pulleys and pivot.

Once cut out the sides were separated and the rivet detail punched through from the reverse side. The sides were then soldered to the thick base and the bearings for the drum shafts were soldered in place using a length of shaft to hold everything square. Detailing and edge strips were added until the sides looked like the prototype pictures. Plates

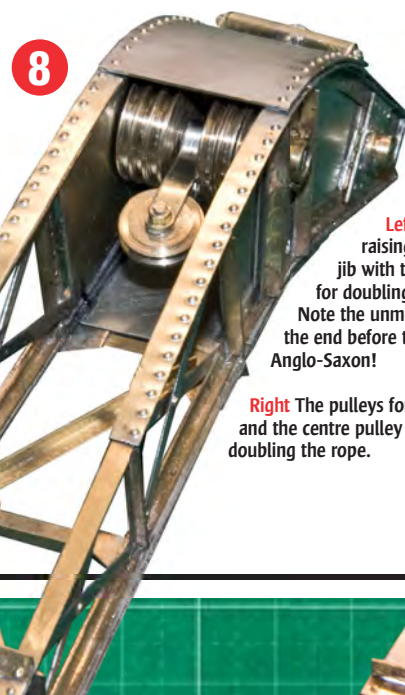
of nickel silver were soldered to the sides at the rear as tank backs ready to fabricate the side tanks and bunkers and a hole was drilled through both layers ready to take the wiring for the decoders.

I glued small pieces of plastic tube into these holes to act as protective grommets to make sure that the wires did not rub on the metal edges.

Now for the acid test - would the motors fit?

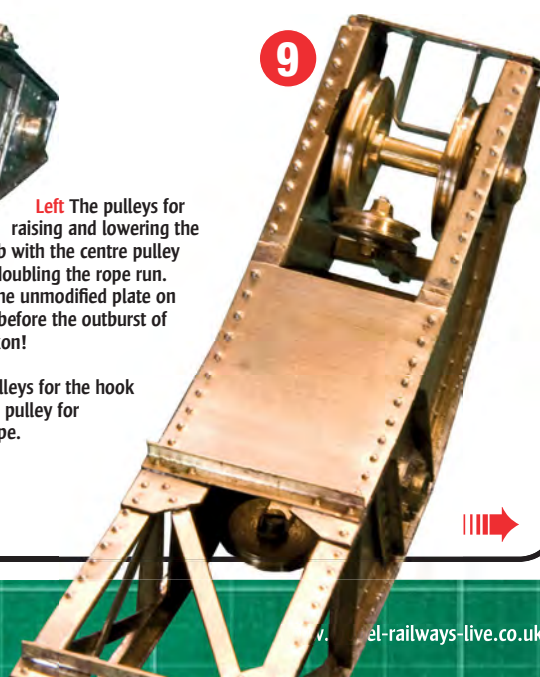
I made a mounting plate that would screw into the base below the boiler and three motor cradles from tube split down one side so the two Mashima 10X24 motors and an escap 10X24 coreless motor for the jib would clip in but be held firmly. The motor wires were run around the plate and into the tanks. Now it was time to look at mechanisms for the drum shafts and outside cranks.

There are two winding drums in the crane, one raises and lowers the jib and the other raises and lowers the hook. The drum for the hook has a big spoked gear that is driven by a little gear, both running on 1/8" shafts through bearings. The drum is made to be an exact fit between the sides and is bored through at 1/8". It was drilled and tapped to accept a 10BA grub screw. When the shaft was threaded through the drum and bearings the screw



**8** Left The pulleys for raising and lowering the jib with the centre pulley for doubling the rope run. Note the unmodified plate on the end before the outburst of Anglo-Saxon!

**9** Right The pulleys for the hook and the centre pulley for doubling the rope.





# PRACTICAL BRM



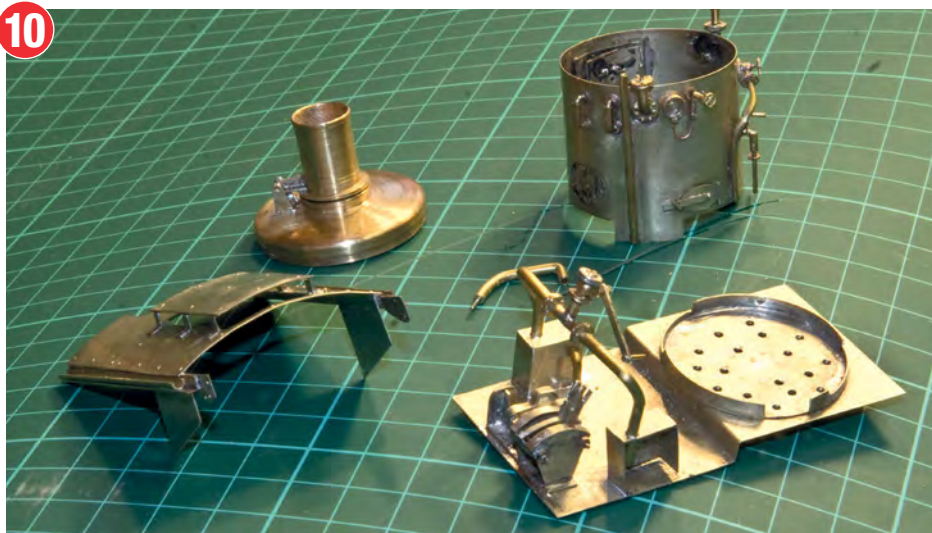
locked everything in place.

A similar arrangement was used for the small gear, in this case using a small collar with grub screw. The whole mechanism is removable by unscrewing the grub screws. The outside cranks were also made at this time, being held in place by a grub screw in one of the cranks. The cylinders would be made up later.

The next thing to be tackled was the upper drum for raising and lowering the jib. The problem with this drum is that it is at the top of the crane unit and the drive had to be arranged from the drive shaft in the bottom of the crane. The prototype drum has a gear on the end so I made one with the same gear and used that to drive from the cross shaft below via a gear train on one side of the frame. A quick turn of the gears by hand showed that everything was meshed correctly and there was no binding.

With all the gears and drums moving without

10



Final detailing parts. The cab floor and motor cover, boiler barrel and top and the cab roof.

binding in the crane body the next step was to make everything work using the motors housed under the boiler. I used some shafts of the same diameter as the motor with neoprene tube for flexible joints. These shafts run in long bearings set into a bracket screwed to the floor on the front of the body. The worm gears were then adjusted to run with their gears. After a bit of fine tuning everything ran well. Finally, the outside cylinders were fabricated and fitted to the crane body.

To complete the body I added handrails and steps

and made two sets of jib pulleys on the top of the frame ready for the rope. They run on a tubular shaft held by a screw into a threaded bearing in the side frame.

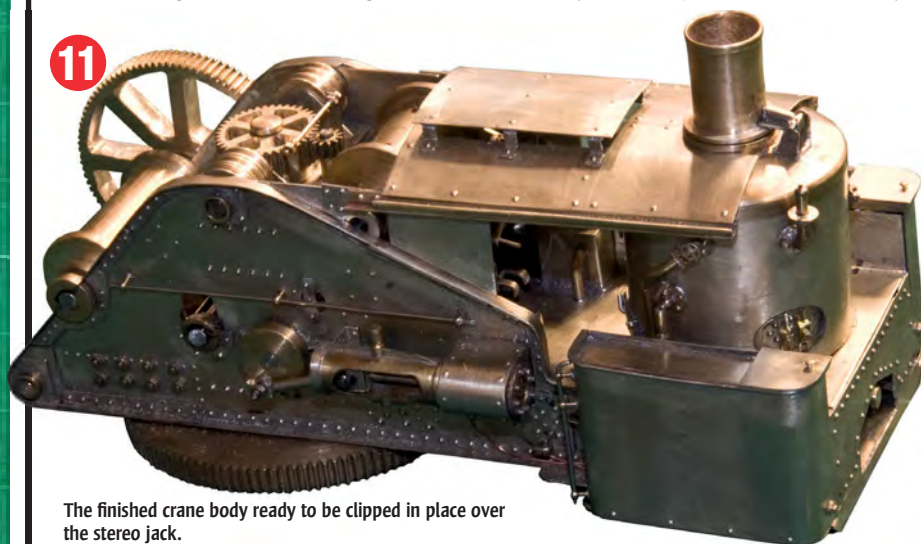
Yet more head-scratching was undertaken as to how the jib would be constructed. There is a side-on view of the jib on the drawings that I had enlarged to 7mm scale so a copy of this was made and two views were printed off, one a reverse of the other. The two sides of the jib were constructed on top of the drawings using the angle and 'T' section. Lengths of riveted strip were soldered to the sides to add strength as in the prototype and finally the crossmembers and corner plates were added to make up the box section of the prototype. Bearings were then added for the pulleys like the ones on the body.

A pivot of tube was soldered across the base and the jib could then be located in the crane unit by screwing two 10BA screws into the tube through the outside bearing points on the outside of the crane frame. Two banks of three pulleys on the jib were also arranged on a tubular axle, as on the crane body, with a central boss that had the centre pulley mounted to it, again located with 10BA screws through the outer bearings. After that, the pulleys for the hook were fitted to the end of the jib. The hook unit was the last thing to be made, with two pulleys it was quite a complicated little affair that required a hook on the bottom that would revolve while the hook body remained steady. I won't go into detail about its construction but quite a lot of Anglo-Saxon language was used during its assembly!

With the crane body and jib mounted together it was time to consider the rope to be used. I recalled an article in an old Gauge O Guild Gazette where another intrepid crane builder had already encountered these problems. Apparently, the problem is cotton or twine cannot be used as it has an inherent twist and tries to unravel itself. Nylon fishing line remains wrapped around the drums and in the correct size for my wire rope would not form round the pulleys properly. The answer, apparently, was braided fishing line which is very strong and has no twist. I duly visited my local fishing tackle shop and came away with three different sizes. The real crane uses two different gauge cables so I could experiment to get the right size. I had to modify the top of the jib so I could thread the cables round the pulleys, the metal cover now clipped in.

I connected the motor for the jib drum to my controller and, holding my breath, turned on the power. It is mesmerising to see the drum slowly start to revolve, the rope take up the strain and slowly run through the pulleys as the jib begins to slowly rise and fall. The same was tried with the hook drum, the

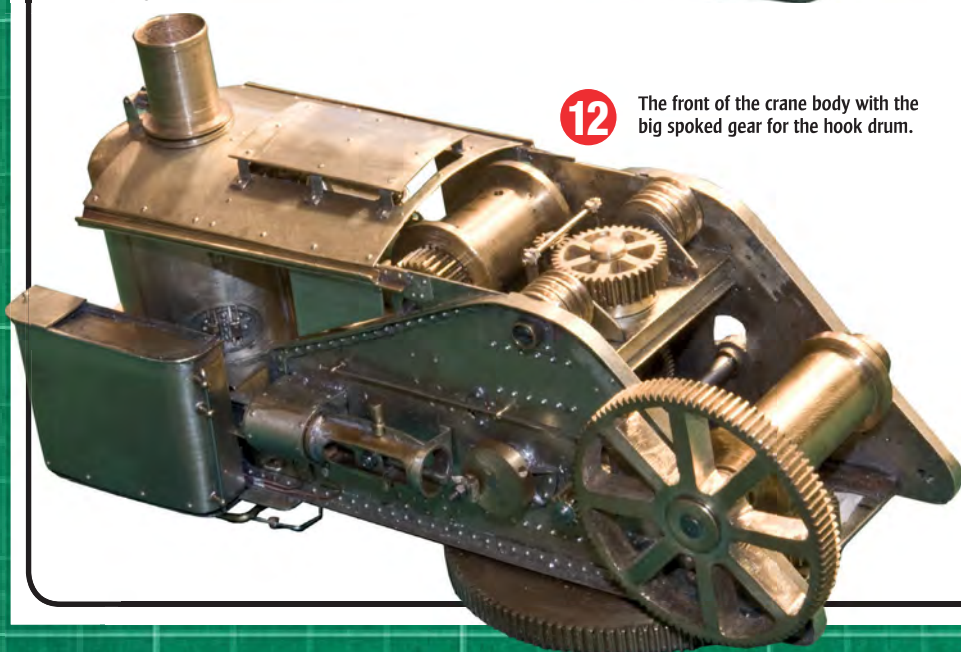
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The finished crane body ready to be clipped in place over the stereo jack.

12

The front of the crane body with the big spoked gear for the hook drum.





big spoked gear slowly turning as the hook moves slowly up and down. Now that I had proved that the mechanical parts worked I had the simple job of adding the DCC, and the sound - and the smoke. Still, it was time for a small celebratory drink all the same.

### FITTING DCC

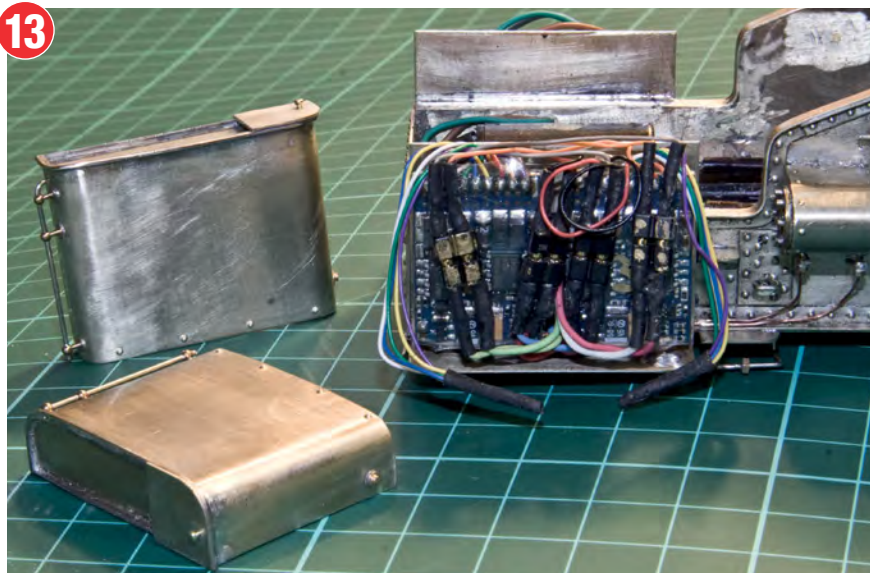
The decoders were fitted in the side tanks, two in one side and the sound decoder, which is bigger, in the other. The tanks are made so they slide down into place over the decoders and hide everything. The decoders were programmed with addresses 2 and 3. The last to be fitted was the sound decoder. The speaker is arranged to play through the base of the boiler unit fabricated to fit between the frames. This also incorporates the cab floor and the operating levers. The boiler barrel was detailed using photographs taken in York, even down to the hinged chimney.

Inside the boiler is a reservoir and a smoke unit powered by the lighting function from the sound decoder. The combined power draw of five decoders and smoke unit caused the fine wires to melt. This meant that the crane had to be rewired with heavier gauge wire, which cured the problem but I have not yet had the courage to reconnect it.

The decoders were fine-tuned so they would all start at the same voltage and work on 28 speed steps. By adjusting the momentum it is then possible to make each motor reach its ideal operating speed by pressing the big button on my Lenz 100 controller once and selecting 8 speed steps, in essence making it a one button operation.

Fine control is via the smaller speed buttons as usual and all the decoders are programmed to their maximum permitted speed at 28 steps if required. By doing this the motor for the outside cranks and any other motor should start in synchronisation (which, by

13



How the decoders are hidden. Each one is marked with its number in gold permanent marker, as are the miniature plugs and sockets.

and large, they do). The sound decoder was also synchronised by programming to give four exhaust beats per revolution. To get the motors to drive in pairs I used the F2 facility on my Lenz unit that is normally reserved for double-heading locomotives. The decoders have single figure addresses so that programming change can be done quickly. Once operators are used to it, changes can be made in a couple of seconds.

### DECORATION

With the crane now complete and working to my satisfaction it was time to paint it. I decided to paint it as preserved so the whole crane was given a coat of Halfords red primer followed by the same

firm's satin black. Pulleys and winding drums, the gears and all the fixing screws were chemically blackened with Carr's Metal Black.

The bufferbeams, hook body, outside cranks and connecting rods were painted red and any paint on the valves and exposed pipework was carefully removed with a craft knife. The end of the jib was then given a couple of coats of white on the inner plating. The only lining is on the cylinders and the side tanks and this was executed using a bow pen. The crane was then reassembled and re-threaded and much to my relief everything worked as before.

So after a year's worth of spare time, I have a model that I have wanted for a long time. Operating it is a fascinating experience and no-one so far has needed to lie down in a darkened room afterwards! **BRM**





# BETON

## HOUGH







Ivatt 2MT 2-6-2Ts and 2-6-0s were typical motive power for secondary LMR lines in the 1950s.

## FACT FILE

- **LAYOUT NAME** Beeton Hough
- **SCALE/GAUGE** 4mm:1ft scale, 16.5mm gauge OO
- **SIZE** 20' x 2' 6"
- **ERA/REGION** 1950s, London Midland Region
- **CONTROL** ZTC DCC
- **LOCATION** Portable
- **LAYOUT TYPE** Home/Exhibition
- **PHOTOGRAPHY** Chester MRC



*Charles Wheatley*  
describes this new OO  
gauge layout by Chester  
Model Railway Club.



# LAYOUT FOCUS



2

Both inside and beyond the railway fence, much effort has gone into scenic detailing.



Platform lighting is seen to best effect at dusk or night time running sessions.

3



4

**C**hester Model Railway Club's main OO gauge layout is 'Chapel Junction', a large four-track main line layout finally completed in 2008. Whilst it serves a useful purpose as a running layout for members, it was never designed to be portable and it's too large to easily dismantle and reassemble for exhibitions. Nevertheless some of us were able to use this layout as a 'test-bed' to develop and learn new skills.

Some of the members felt that we needed to raise our profile on the exhibition circuit, and we started to look for a new layout project that could meet the following criteria:

- Built to exhibition standard
- Easily portable, requiring a team of no more than four or five to assemble and operate
- Interesting to operate and to watch
- Digital Command Control
- Fiddleyard to terminus configuration

Searching through prototype station plans we came across New Brighton on the Wirral. This was a reasonably compact trackplan which, with some modifications, could be a good representation of a small town or country terminus.

Our original idea was that the station sat at the end of a railway extension from Crewe to Wrexham. We haven't stuck too rigidly to this concept, however, which has given us much more freedom

in terms of scenery and operating potential. The name 'Beeton Hough' is a play on words - 'off' the 'beaten' track, but it does sound right.

Set on BR's London Midland Region, the period modelled is the early-1960s, giving us the scope to run late steam and early diesels. Passenger services connect to Crewe and beyond, and are either two to four coach locomotive-hauled trains, or Diesel Multiple Units.

The area is mainly agricultural and outgoing goods traffic consists of seasonal agricultural produce, livestock (mainly cattle) and milk (still in churns during this period). Incoming, there are some limited coal deliveries, and an occasional consignment of farm machinery.

## SAWING, DRILLING, HAMMERING

Building baseboards isn't my idea of fun, but it takes all sorts. John Wannop - our resident carpenter - who relies on an experienced eye as much as a ruler, built them off-site in early-2009. He quickly delivered three main boards, with one being tapered due to space restrictions in the clubroom. An additional board holds the fiddle yard. The overall length of the layout including the fiddle yard is 20' with a maximum width of 2' 6".

The centre board is self-supporting, with the other boards joined to it by conventional bolts. The legs slot into position, and the bracing strips







5


are then bolted into place. A lighting system has been designed and built by David Holt for use at exhibitions.

### TRACKLAYING AND BALLASTING

Work on the layout was suspended for a couple of months over the summer whilst some renovations were being carried out at the clubhouse. We commenced tracklaying in September 2009 using cork tiles as the underlay. Our club secretary, Roy Greenhalgh, laid a lot of the track, as he owned the mini-drill and hammer!

We settled for Peco Code 75 track, which we thought was a good compromise between reliability and realism, especially when weathered and ballasted effectively. To save on costs, we used points that had been donated to the club. They were in good condition, but the track geometry had to be built around them.

We didn't rush this stage as we wanted the curves into the station to 'look right', and we seemed to spend an inordinate amount of time making minute changes. We pinned the track down loosely at first making adjustments as necessary. Whilst laying the track, we also created the gently curved template for the station platform. Where the track crosses the baseboard joins, it is soldered to copperclad strips for additional resilience.

With the track all laid, we set about the laborious 



task of ballasting, using pale 2mm scale granite, stuck down with the usual PVA/water mix. Once in place it was carefully weathered using watercolours. Finally the sleepers were dry-brushed a couple of times to highlight the texture of the moulded grain.

For the fiddle yard, we decided that the best solution would be to use cassettes. These were made using aluminium angle, basing them on those used by our colleagues in the narrow gauge section on their well-known OO9 layout, 'Dingle'. We have six cassettes, of varying lengths. The longest ones can hold a maximum of four coaches plus locomotive, which is adequate for the traffic at this station.

## THE MYSTERIOUS WORLD OF DCC

Apparently all you need are two wires to the track; that's simple enough then. In theory, that's true, but in practice, it's a very different situation.

Our first task was to investigate the possibilities of Digital Command Control (DCC) and make sure that the track was wired correctly. We installed a copper bus bar beneath the baseboard, from which the electrical feeds run to each section of the track.

Power is provided by three separate sources; a 16V AC supply for the DCC controller feeding the track, a 9V DC supply for the Tortoise motors and building lights, and a 5.5V DC supply for the uncouplers. The building lights are switchable from the control panel.

We use a ZTC controller to operate the layout. This unit has generally proved popular with the operators and it fits neatly on a lockable sliding shelf under the baseboard.

All of the points are conventionally operated by Tortoise point machines, controlled by switches on a mimic diagram panel, with LEDs showing the selected route. The control panel is bolted to the side of the baseboard and can be easily unplugged and removed.

To allow us to carry out shunting effectively, we needed a reliable method of uncoupling that would work with the proprietary tension lock couplings on our members' stock. After investigating various solutions, we decided on a solenoid system. The uncouplers were built from scratch using solenoids from defunct H&M point motors. These are operated via a rotary switch and push button on the control panel.

When uncoupling, the wagon couplings have to be carefully positioned over the clear transparent disc between the tracks. The rotary switch is set to the relevant position, as marked on the control panel, and a button is pressed to activate the solenoid, which pushes the disc up to uncouple. This activity requires good co-ordination between the driver and control panel operator.

## SCENERY AND BUILDINGS

Once the track had been laid and ballasted, and the electrics had been thoroughly tested, we could at last turn our attention to the scenery.

The topography of the layout leads from the station, alongside a hill and through the tunnel. In reality, a tunnel would probably have been fairly unlikely in the area modelled, but it's still one of the best ways to get to a fiddleyard!

The terrain is mostly formed from polystyrene, roughly shaped to the required contours. This is then covered with three to four layers of newspaper strips soaked in PVA and allowed to dry. This smoothes the profile, and it was then liberally coated with dark brown emulsion, prior to the final layer of grass vegetation being added.



To simulate the grass embankments, we used hanging basket liner sealed with hairspray, a cheap and reasonably effective technique we had already used successfully on 'Chapel Junction'. Watercolours were used, sparingly, to vary the colour of the grass. In other areas static grass is used to good effect.

The rock cutting on the tunnel approach into the fiddle yard was formed from a stiff mix of Polyfilla and PVA, and textured with a coarse paintbrush. It was then painted in a sandstone colour and weathered with a mixture of other acrylic colours. We added hand-painted countryside backscenes and





with a mix of filler and PVA to provide an uneven surface, which was then painted a dark muddy colour using watercolours. Again, this technique had been previously used on 'Chapel Junction'.

In order to get the layout up and running we decided that initially, all buildings would be built from kits, and we may at some point replace some of them with scratchbuilt structures. The buildings range from a repainted 'Thomas' station building (actually a nice little model), to various Metcalfe card buildings. Some are equipped with internal lighting. Many of our members assisted with constructing these kits, and we are continuing to add those all-important details to the scenery.

The curved station platform took some time to get right. It was made from MDF, topped with a thin sheet of plywood which was then painted a grey-ish colour using an emulsion mix. The station canopy is a Wills kit, supported by Hornby metal canopy brackets, selected for their robustness. The canopy roof can be removed for transit.

Some of the scenic details were built separately as modules, and then placed in the appropriate position on the layout. This approach was taken for the short row of terraced houses, built by John Gresty, and the adjoining scrapyard, built by the author. The scrapyard 'junk' mostly came from old hacked up plastic kits, including parts from a Russian Vostok and a Bloodhound missile! The vehicles were plastic cars bought cheaply at a local swapmeet, and suitably distressed.

LMS round post signals from Ratio have been installed as a temporary measure, to be replaced by operational signals in the near future.

## OPERATIONS

'Build it and they will come' should have been our motto as we had no DCC-fitted locomotives when we started, and we are still fairly dependent on members providing suitable motive power for shows. Steam era traction is generally represented by ex-LMS Fairburn and Stanier 2-6-4Ts and Ivatt 2MT 2-6-2Ts, whilst encroaching dieselisation is represented by DMUs and the occasional diesel locomotive.

A detailed operating sequence has been developed to allow a variety of passenger and goods movements to take place within a reasonable space of time. Each numbered sequence instructs the driver, 'signalbox' and fiddle yard exactly what to do for that particular movement.

The layout can be set up and operated by a team of four. At exhibitions our aim will be to keep things moving and there would normally be three operators on duty at any one time, running a mixed schedule of passenger and goods trains.

To date, the layout has been exhibited at a couple of club 'open days', and the Merseyside exhibition in October 2013.

## AND FINALLY...

Many newer members of the club were involved in building the layout, some of whom had little or no previous experience. This had the advantage that tasks were approached without any pre-conceptions, and we weren't afraid of trial and error. The construction of the layout was (mostly) fun, and hopefully, those involved learnt some new skills as we went along. Besides those mentioned in this article, several other members of the club were involved, and our thanks go to everyone who assisted in the development and construction of 'Beeton Hough'. **BRM**



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also re-planned some parts of the layout to make it more visually appealing.

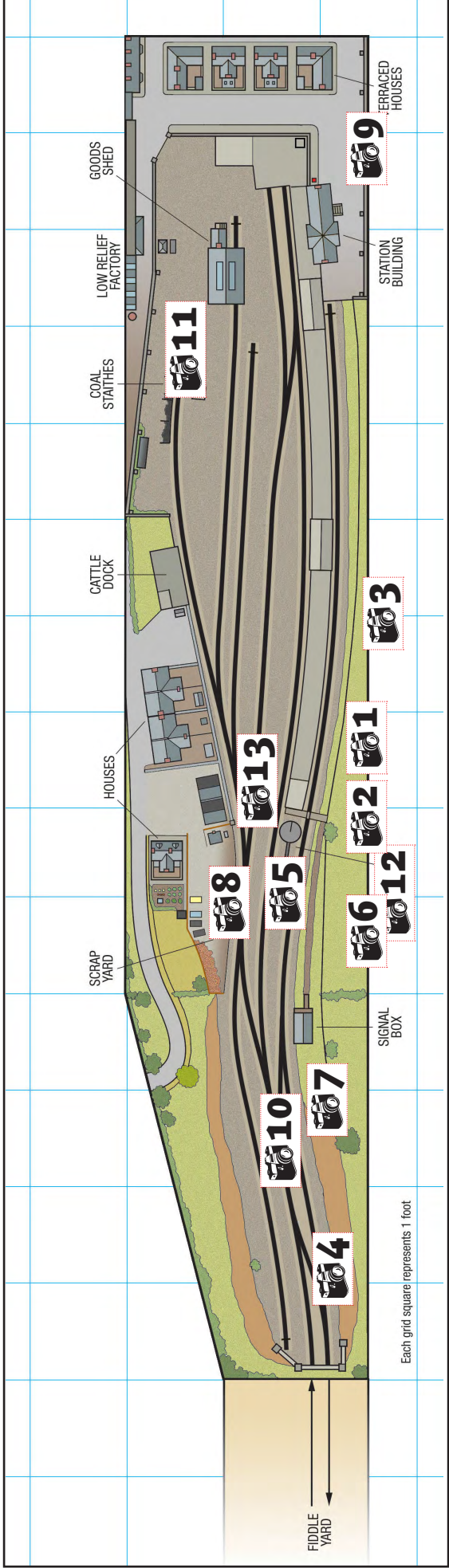
Trees and some large bushes were formed by twisting together strands of medium gauge brass picture wire. The 'trunks' were then covered with masking tape. Brown acrylic sealant with a little

PVA mixed in was applied using a fairly stiff brush to create the required rough bark effect. Finally, the trunk and branches were painted in a grey/green colour, and Woodlands Scenics foliage matting was spread thinly across the branches.

The area between the tracks was lightly brushed



# LAYOUT FOCUS BEETON HOUGH



*Sam Wilson*



Wills stone sets have been used for the factory yard, seen here being visited by a British Railways xxxxxx delivery van. Buildings are a mix of card and plastic kits with extra details added as required.



Dodgy goings-on at the Station Garage? A visit from the local Constabulary is underway - or maybe their Mini patrol car just needs some mechanical attention? Small backstreet garages are a great way to fill awkward spaces and display those die-cast vehicles.



Strategically placed at the station throat, Beeton Hough 'box controls movements to and from the dead-end station platforms and goods yard. Just visible to the right is the signalman's neatly tended vegetable patch.



One of Metcalfe's excellent card kits was used for the semi-detached brick-built houses. One of the residents is busy in his garden at the rear; like many of this period it has been turned over to growing vegetables.



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Hornby Class 43 HST	2 x Hatton's DCR-8PIN-Direct (£13)	£17	<b>£43</b>
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# BRM MEETS... **IXION** **MODEL RAILWAYS**

Having made its debut a few years ago, Anglo-Australian supplier Ixion Model Railways has developed a diverse product range across various scales. **Ben Jones** talks to Chris Klein about how the company is developing.

Chris Klein with the  
Radio FM Award 2012



In 2006, Australian modeller Lindsay O'Reilly was unable to find an N scale industrial tank locomotive for a proposed New South Wales colliery layout. Knowing Phil Badger had built his own Manning, Wardle 0-4-0T in N, Lindsay contacted him about doing a locomotive body for a commercial chassis. No suitable chassis was available so they considered having one made in China. Needing funding advice and business skills, Lindsay contacted his friend Chris Klein in England and, in 2007, Ixion was born.

Ixion is a partnership of three railway modellers from two countries. Chris Klein, from the UK, is Finance Director, and the reason that the company is registered in the UK. Phil Badger is Technical Director and Lindsay O'Reilly is the Marketing Director. They both live in New South Wales.

As Ixion has now been in business for seven years, **BRM** thought it was high time we discovered more about what makes this unusual company tick.

**BRM: What are Ixion's aims and ambitions?**

**CK:** We'd like to enjoy comfortable retirements, partly funded by a range of exceptional models which give modellers pleasure and value for money. It's also nice to be able to stock your own layout with free engines!

**BRM: What influences your decisions on products? For example, why British N, industrial O gauge, Australian narrow gauge?**

**CK:** Ixion's models reflect our diverse interests. I'm a dyed-in-the-wool GWR/BR(W) modeller in OO and O, but wee bits of narrow gauge and blue diesels also lurk in my collection. Phil has produced his own kits of standard and narrow gauge

Ixion's O gauge Hudswell, Clarke 'Countess of Warwick' tanks have been a huge success.





Australian locomotives and rolling stock in a variety of scales. Lindsay owns Australian and other models in a range of scales, but has a special affinity for the colliery railways of NSW. A look at Ixion's products will show almost all of those interests represented!

**BRM: What have been your highlights to date?**

**CK:** The reception of the 7mm scale Hudswell Clarke 0-6-0ST. Our vision was to produce a true O gauge RTR 'starter' locomotive at an entry-level price. It has been hugely popular since release in 2012, so much so that a re-run was ordered in the autumn of 2014.

**BRM: What else is in the pipeline?**

**CK:** The NSW Government Railway 32 Class has been announced in HO scale. It will herald a range of HO NSW steam locomotives and help fund more 7mm locomotives for British modellers. We have a list of 'company' locomotives we'd like to do; we don't want to be pigeon-holed just as producers of industrial types, but don't expect any 'Pacifics' either.

**BRM: If you could produce one item (regardless of demand and cost), what would it be?**

**CK:** Unquestionably, the GCR/LNER Robinson ROD 2-8-0 in both N and 7mm scales. Thirteen RODs went to the Richmond Vale Railway in NSW so it fits our British and Australian heritage perfectly.

**BRM: How do you view the British (and international) model railway trade at the moment?**

**CK:** The UK and Australian markets appear to be buoyant. The UK seems awash, especially in OO, with models, some of which are quite esoteric and perhaps of questionable commercial viability. The practice of announcing locomotives and then not delivering for several years is bad for the hobby's image though; it took Ixion just 11 months to get the Fowler diesel from quote to customer. Small independent retailers are under pressure and 'showroomers' are a particular problem. One thing we do at Ixion is to support small independents by providing attractive models with a fair margin, no minimum order and absolutely no under-cutting through our own direct sales channel.

**BRM: How do you see the market developing over the next five years?**

**CK:** Consolidation as the pool of viable UK prototypes diminishes. As production costs continue to rise in China we may start to see repatriation of design and manufacture to the UK, always assuming the skill and expertise exist here. Social media and crowd-funding such as Kickstarter have the potential to change completely the traditional business model of investors risking large

A weathered Ixion Manning, Wardle 0-4-0ST in 7mm scale.



**As production costs continue to rise, we may start to see repatriation of design and manufacture to the UK - assuming the skills and expertise still exist here.**

amounts of capital making models that might not sell well.

**BRM: What trends should we be looking out for?**

**CK:** The continuing spread of DCC and sound-ready models. We would like to see locomotives with on-board power sources that can be operated remotely and independently. It would eliminate masses of wiring and temperamental current collection. The full effect of 3-D printing is yet to manifest itself, but it will become increasingly important as the technology improves.

**BRM: What would make the hobby appeal to a wider audience?**

**CK:** We must target the adult modellers who have the cash to keep the hobby viable and we must help children to realise pixels on a screen just won't provide the satisfaction that building a real 3-D object with your own hands does. To do this, railway modellers just have to be seen to be having fun. **BRM**

Ixion 'Coffee Pot' No. 2





# GRANGEMOUTH

**Malcolm Baird**

explains how Falkirk Model Railway Club built this layout to recall the lost railways of a well-known Scottish industrial town.

## FACT FILE

- LAYOUT NAME Grangemouth
- SCALE/GAUGE 4mm:1ft scale, 16.5mm gauge OO
- SIZE 29' x 8'
- LOCATION Scottish Region, 1960s
- LAYOUT TYPE Continuous loop
- WORDS Malcolm Baird
- PHOTOGRAPHY Nigel Burkin





Old and new pass under the large signal gantry at Fouldubs Junction as a WD departs with a loaded oil train and a BRCW Type 2 heads in the opposite direction with empties.



The Central Belt of Scotland is home to the well known industrial town and port of Grangemouth. The first railway to the port was built in 1860 by the Forth and Clyde Canal Co. A three-mile link from Grangemouth Junction on the Edinburgh & Glasgow Railway, it became thoroughly integrated with the North British Railway (NBR) and later the LNER.

Due to the ever-expanding docks and industry, the Caledonian Railway, now also major player in the area, invested large sums of money in new approach lines, marshalling yards and a new locomotive depot at Fouldubs Junction.

The complexities of this new development required six new signalboxes of different sizes. After the Second World War and Nationalisation in 1948, new companies sprung up in the area, including a soap works and Scottish Dyes, which became part of Imperial Chemical Industries (ICI), and the Oils, as it was known, the refinery now run by Ineos. A huge variety of materials was transported through Grangemouth by rail, including wood, chemicals and oil, to name a few.

Passenger traffic also ran to and from Grangemouth in its heyday, and could be very busy with dockers, oil and chemical plant workers and of course others departing to Falkirk, Glasgow, Edinburgh and Stirling. Some passenger traffic took the form of school trips abroad, transported to the docks for excursions by ship to foreign lands on ocean liners such as *S.S. Uganda*, *M.S. Dunera* and *S.S. Nevasa*.

The station was a long single platform terminus at the end of a double line from Falkirk, built to accommodate excursion trains, but by the 1950s the longest trains were a morning five-coach working from Glasgow Queen Street and an evening service to Glasgow Buchanan Street.

In 1927 a storm destroyed part of the roof, leaving the station building and platform open to the elements. Locomotives would then enter the original enclosed building and run round the train before returning to Falkirk and beyond, or running light to Fouldubs shed. Grangemouth station finally closed on 29th January 1968, a sad day for the residents of Grangemouth.

Fouldubs shed opened in 1908 with workshops and a 70ft turntable installed by the Caledonian Railway. In 1965 it went over to diesel operation, so for our model we chose the late-1950s/early-1960s when both steam and diesel could be seen in the area. The shed finally closed in March 1993 and was subsequently demolished, the land being redeveloped as an intermodal yard by logistics firm W.H. Malcolm.

### WHY GRANGEMOUTH?

Way back in 1992, a very keen local resident, deeply interested in the possible reopening of Grangemouth station, decided that he would record and model the station for his own interest. He planned a small layout of the station and part of the dock complex for future generations to see.

Roger Fairlie, a man with a mission, started collecting all the information that he could on the station, consulting libraries, the local museum at Grangemouth and Falkirk, and last but not least, the National Archives of Scotland. Ten long years went by, with intervals of despair, as information, particularly decent photographs were hard to come by.

Having started the main station baseboard and laid some track, he realised that in order to get it working, he would require some assistance. As the







**2**

Unlined 'Black Five' No. 44781 runs light past Fouldubs Junction 'box', which was scratchbuilt to the original Caledonian Railway design.

creator of this ambitious scheme, he did not realise the enormity of the task

Roger contacted Falkirk Model Railway Club and asked if it was willing to take on the project, in order to preserve some of the memories of the station as it was.

An overwhelming, 'yes' was the reply from club members and Roger was encouraged to become a member too, duly handing over all the information and diorama. The membership was enthusiastic about the challenge, leading to further investigation and trips to the National Archives of Scotland in Edinburgh, gaining more information and lots of ideas.

Falkirk MRC has its own annual exhibition at Forth Valley College, Falkirk. The 2008 exhibition was being planned, and the club decided that the now-completed and detailed board of Grangemouth Station be shown to the public to gauge reaction. This was an overwhelming success with the local population, many of whom had fond memories of it, especially the railway workers, who gave us detailed information and photographs taken while at work.

The most popular question posed at the exhibition was, "why model only the station? Why not model add the route to Falkirk and the engine shed at Fouldubs?"

**Right** Two diesel railbuses at the station. From this angle the scratchbuilt station building a support wall for the long-removed overall roof can be seen. In the background is what remains of the train shed.



**3**

A view of the coaling stage looking towards Fouldubs Junction signalbox.





## Way back in 1992, a keen local resident, deeply interested in the possible reopening of Grangemouth station, decided that he would record and model the station for his own interest

Although this is almost three miles as the crow flies, the Grangemouth team set about drawing, with the aid of modern technology (XtrCad), a draft plan for scale and dimensions. The layout drawings themselves proved quite a challenge, as space in the clubroom was at a premium, and our chairman repeatedly told the team, we don't have rubber walls!

After some thought about what we could achieve, including as much detail as possible, but also making the layout suitable for exhibition use, a final plan was produced. A lot of the trackwork had to be compressed; this is most evident in the shed where instead of three to four locomotive lengths per track we have only managed one to two.

Keeping in the more important railway details also meant leaving out a large part of ICI and the timber yards. The plan size was finally set at 28' long and 8' wide including fiddleyards, as can be seen from the drawing, prompting gasps of concern from other members!

### CONSTRUCTION

If you belong to a model railway club, or have your own layout at home, you will appreciate the cost of

wood, screws and fittings. It's a daunting prospect, and needs careful consideration, especially with a large project, requiring lengthy baseboards to be made.

Our boards were constructed of 3/8in" (9mm) plywood on 2" x 1" (48mm x 22mm) timber frames, with bracing both longitudinally and laterally, all glued and screwed. Each bracing bar has two 18mm holes to facilitate the running of cables. At present we have eight 4' x 2' 6" boards plus one 4' x 4', for the shed area. This board could not be reduced or split in any workable manner.

The legs, which are made from the same 2" x 1" (48mm x 22mm) timber, are pivoted below and retained, each side, by case clips neatly folded when not in use.

The boards are connected by dowels to aid with alignment and also held together by case clips, giving the layout boards both strength and stability. The sections are erected 'piggyback' in each direction from the centre board which has four legs mounted in a similar fashion to the others.


We are constructing more boards to the rear of the layout giving space for a long-awaited storage

area. This will greatly improve our approach to a continual run layout, taking away the turntable fiddle yard, which at present restricts the length of any trains we run.

### TRACK AND WIRING

We chose Peco Code 100, wooden sleeper track as the most practical solution for our layout. All points and slips are Peco Electrofrog. In total we have 56 points, two single slips and seven crossovers. All point motors are Seep PM1s. The majority of the points are medium radius, as we had no option but to work according to our plan and size of the layout. As can be seen from the trackplan, this became a challenge to the team, not only in track laying but also realising the complexity of the wiring that had to be achieved – this was not for the faint hearted!

With such complicated trackwork, wiring for DC control was a task requiring intelligence and self-control. We are very fortunate that we have a member who is talented in electrics and model railway design, who came to our aid.

Greig Mackenzie, a well-known modeller in his own right, led the team in the art of wiring, using, 



according to him, over a kilometre of wire across the five sections!

We have two control panels, one for the main lines and another for shed workings, plus 15 rotary switches to operate the five section controllers along the line. Wiring is such that no movement can be made from the shed area to the main line without permission from the main panel. The auxiliary wiring incorporates LED lighting for the shed, both inside and out, and the station platform and associated buildings.

## SCENICS

All the buildings are scratchbuilt; the only exception being a garage from Lesley and the use of signals by Ratio, adapted for our own use. Materials used in construction include plastic card, Plastruct, cardboard and wood.

All the structures were built from original plans or drawings and photographs scaled up or down as required. These include the locomotive shed and all associated structures, the station building and train shed, signalboxes, gantries and footbridges. No. 2 signalbox, at the station, is unusual because of its situation in the triangle between the lines to the marshalling yard and the docks. This was to allow the signalman a view of the operating area.

The making of this building was further complicated as we only had one decent photograph and no plans from which to work. The turntable was



**Above** Grimy WD 2-8-0 No. 90533 runs on to the main line with an oil train heading for Glasgow via Falkirk. The station can be seen in the background with a Park Royal diesel railbus waiting to follow the 'Dubdee'.

**Right** A typical collection of ex-LNER, ex-LMS and BR steam locomotives on shed at Fouldubs.

**Below** BR 4MT 2-6-0 No. 76100 passes the unusually designed No. 2 signalbox en route to the docks.

**Operating can be complex with all the running lines and numerous sidings, so concentration is key to making the layout work to its full potential at exhibitions.**







7



A couple of visiting B1 4-6-0s stabled between passenger duties sit outside the shed, with a BR 4MT 2-6-0 inside the repair workshop on No. 1 road and a couple of WD 2-8-0s in the main shed.

also scratchbuilt and requires a bit of concentration when lining up. This keeps the operator alert at all times.

Time is a factor when you're scratchbuilding; for example the shed took six months to build, but when someone sends you a photograph with more detail, you have to start again! We purposely left the old smoke ventilators on the shed from the Caledonian days to make the building more appealing to the eye. Also, we left the shed doors on at the request of the public. These can be removed if we are running a diesel operation. The yard lights in front of the shed were scratchbuilt from brass tubing, using brass cup washers as lamp reflectors and LED lamps.

## KEY DETAILS LOCOMOTIVES AND STOCK



New Type 2 diesel locomotives from three different sources add to the variety at Grangemouth; a BRCW Type 2 (Class 26) eases over the crossings with an oil train while a North British D63XX B-B (possibly on test from Hyde Park Works in Glasgow?) and Derby/Sulzer Bo-Bo D5000 sit in the sidings.

Falkirk MRC members can provide a large collection of kit-built and ready-to-run locomotives and rolling stock to give us a good display of prototypical operations across different eras and countries, according to the layout being exhibited. Detailing and weathering of locomotives is their own responsibility as we do not expect all models to be heavily weathered on Grangemouth, but some members have chosen to do this and we are very grateful in this respect.

Grangemouth is primarily run with BR steam locomotives, largely of LMS and LNER origin, plus BR Standards and early diesel traction of various types appropriate to the area. We are fortunate that Grangemouth has always seen a wide variety of traction. The BR green diesel locomotives in the photograph above are owned by Robert Glass who is recognised for his superb detailing and respraying work.





Ivatt 4MT 2-6-0 No. 43137 is rare stand-in for the usual 0-6-0T on coaling stage duty.



The footbridges took a total of six months to make, after a considerable amount of research. The main footbridge at the station was a cause for concern as we could not get a photograph detailing the construction and design. Luck was on our side eventually when we attended a local exhibition and were given a photograph by a member of the public.

The coaling stage was again modelled on Caledonian drawings we obtained, but compressed

to fit the space available while still including the coaling stage and ramp. The ramp is worked using a shuttle control giving constant movement for the viewing public.

We tried to detail the layout realistically rather than pristinely clean, as this was the way it was remembered by everyone. We have used real coal in some scenes to gain a better effect, but to the operator this can be detrimental in some circumstances. No gloves are supplied! Puddles

were a necessity and we added them using clear varnish.

## OPERATIONS

Operating can be complex with all the running lines and numerous sidings, so concentration is key to making the layout work to its full potential. Our priority is to have constant movement in the viewing area to keep the public's attention.

This is operated by two controllers, one allocated





to the main line working and another to shunting. A separate controller is dedicated to the locomotive shed. The main lines are operated by the remaining controllers, varying the route taken by use of the rotary switches and point changeovers.

There are times when a considerable variety of goods traffic is on the layout, coming from Grangemouth Docks. Loads such as coal, wood, and most dangerous of all Esparto grass (we're talking steam days here). Fuel tankers and chemicals

also travel along this stretch of track from the BP refinery and ICI works.

Uncoupling on such a large layout gave us cause for concern with buildings and other items of scenery causing obstructions. This was overcome by fabricating plate type uncouplers operated by pushrods and cranks from behind the backscene, which we found more accommodating than the ready-made variety.

Finally, Falkirk Model Railway Club has dedicated

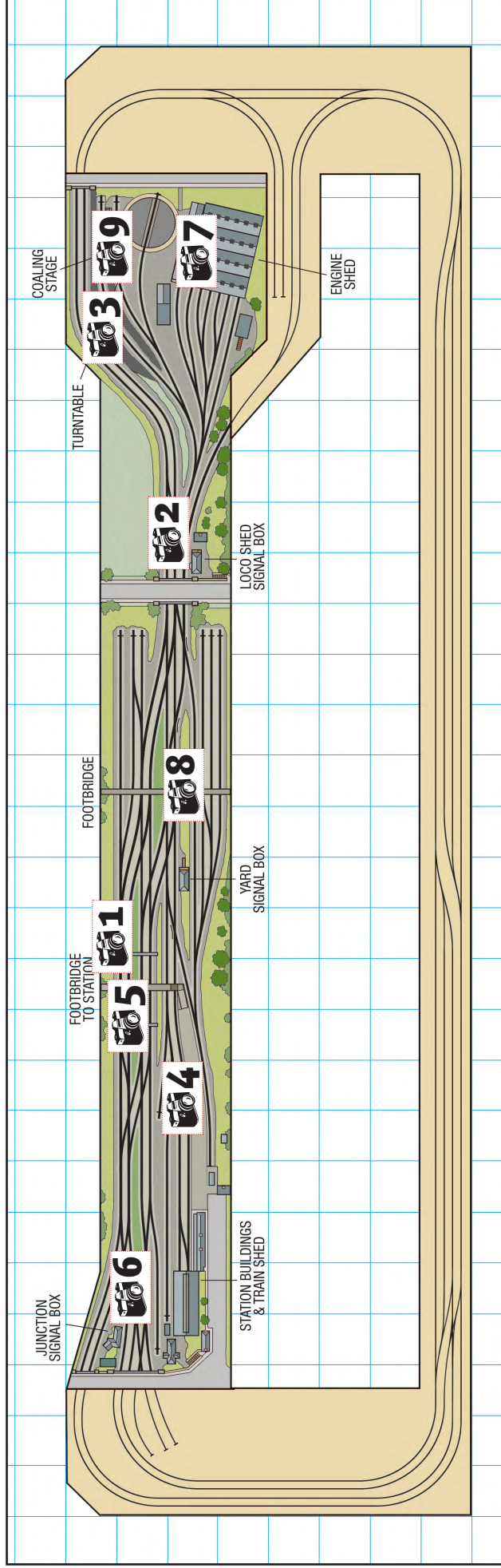
this layout to founder member, Wilson Kerr, in recognition of his commitment to supporting the club throughout the years, and his o-going passion for the railways of Grangemouth.

We would also like to thank all the kind people who contributed with photographs and stories, without them, this layout would not exist. If you're an exhibition manager and would like to invite us to your show, please see [www.falkirkmrc.co.uk](http://www.falkirkmrc.co.uk) for more information. **BRM**



00  
GAUGE

# LAYOUT FOCUS GRANGEMOUTH



AC Cars 579978 is a Silver Fox kit while Park Royal 79973 is a fully detailed and motorised Airfix/Dapol kit.



Caption here caption here caption caption caption



# SAS

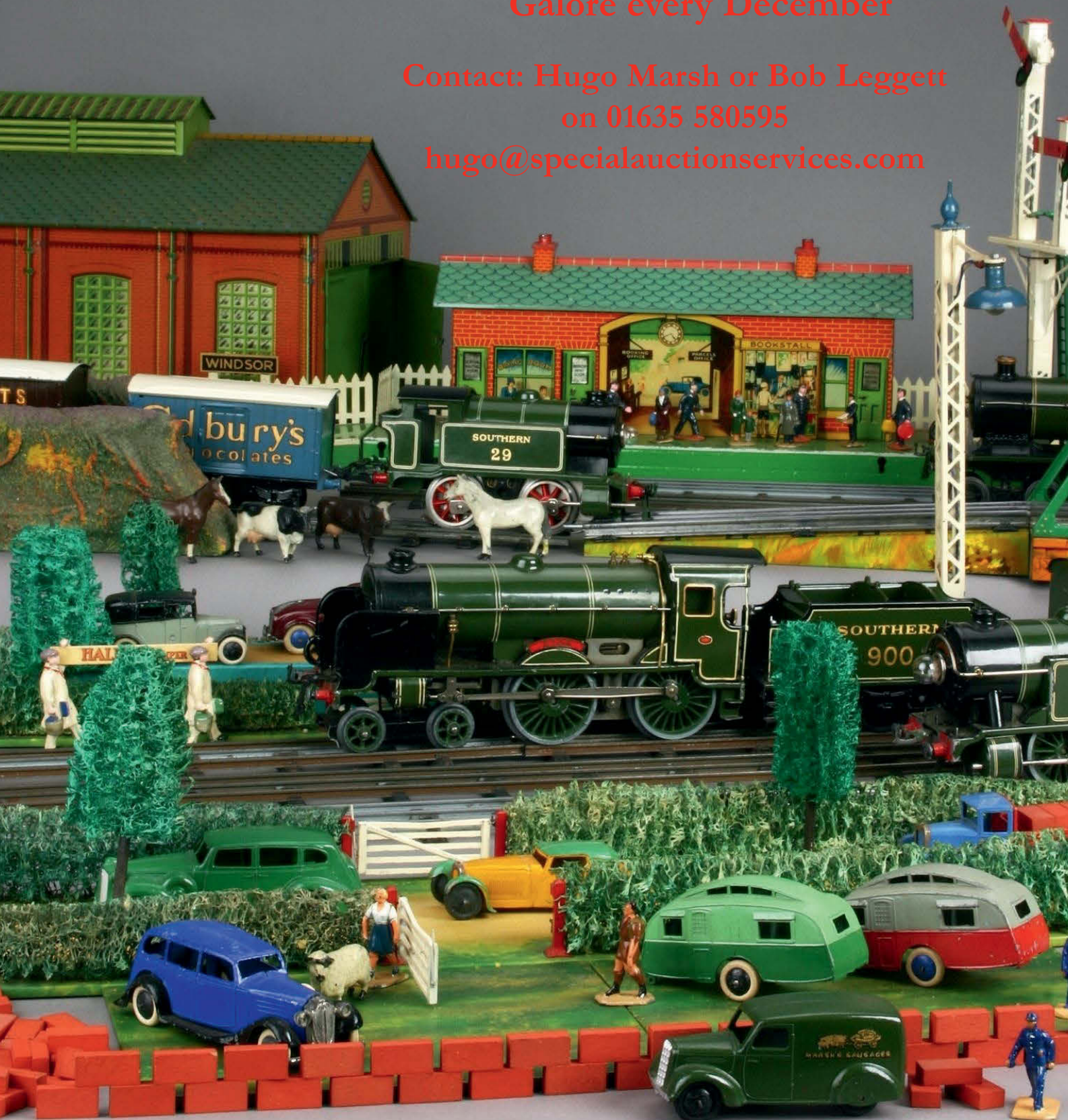
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# SUPER-DETAIL A GRAHAM FARISH CLASS 37

After examining photographs of 37 308, I noted that renumbering and detailing could be completed without a repaint.

Quick ways of adding individuality to your N gauge Class 37s are explored by **Nigel Burkin**, using a 'celebrity' machine as an example.

**AFTER**



A cruel view of the completed model. With glazing and bonnet ends reattached to the bodysell, the model is finally completed and tested with track power to see if the optic fibre light guide has worked and there is no light leakage from the lighting circuits.





Part of the EWS heritage pool of locomotives, 37 308 was painted in BR blue for the 2000 Old Oak Common open weekend. By the time this view was taken in 2004, it was employed in the Midlands and North West, including freight trips originating from Bescot.

#### Details to note include:

- A** Bonnet mounted radio aerial
- B** WR style lamp irons either side of the headcode panel
- C** Bonnet front handrails painted yellow
- D** Headlight in a square housing
- E** Rust streaking below bonnet side and bodyside grilles
- F** Grime and oil staining of the fuel tanks
- G** Bleached paint work on the roof



**Right** Standing in as a trip locomotive on the author's Dudley Heath layout is Graham Farish Rail blue 37 254, the ideal base model on which to create a likeness of 37 308. When complete, it will be employed on short trip freights on the layout.

**B**achmann re-issued its Graham Farish Class 37 as a completely new model in 2008, with a new chassis, drive and electronics. First to appear was the Class 37/0, which has been released in original and later modified form. The 'cut nose' versions (with bufferbeam cowling removed) included a model of BR rail blue 37 254 finished in typical 1980s condition. It is this model which became the basis for this simple rebuild and weathering project. The bodyside features matched the full size 37 308 of 2004 except for a couple of lamp irons on the bonnet and modern headlights which would have to be added.

Whilst the Graham Farish chassis has been completely redesigned with all-wheel drive, six-pin DCC socket and more advanced electronics; the body sits a little too high on the chassis, enabling the wheels to clear the underside of the body on sharp radius curves. It is possible to lower the body by about 1mm to 1.5mm by making modifications to the chassis lighting board, cab interior and

internal glazing. No wires connect the body lighting to the chassis circuit board, electrical connections are made via contacts fitted to the chassis lighting board which touch the bonnet mounted light boards (the ones fitted with LEDs) to complete the electrical circuits.

This article looks at lowering the body relative to the chassis and applying weathering. It is also possible to detail it with etched metal conversion parts produced by Shawplan if desired.

After examining reference photographs of the full size locomotive, I noted that renumbering, the painting of a warning stripe along the cantrail and the addition of some small details to match the full size 37 308 could be completed without repainting. Weathering was to be as subtle as possible; not an easy thing to do in N gauge. I hoped that thin paint washes and some dry brushing of track colour and rust streaks would achieve the desired effect. In all, it is intended to be a quick enhancement project, one that makes the model a little

**PLEASE  
TURN OVER  
FOR STEP-BY  
STEP GUIDE**

**BEFORE**





# PRACTICAL BRM



## TOOLS AND MATERIALS

- Shawplan Models Class 37 cab window surrounds ■ Shawplan Models Class 37 fan grille (see below) ■ A selection of paint brushes from sizes 0 to 3 ■ A Pin vice
- Selection of small drills from 0.3mm to 1mm in diameter
- Grade 1200 wet and dry paper
- Needle files ■ Modelling knife and new blades ■ Fine nose tweezers
- 20thou styrene strip 1.5mm (60thou) wide ■ 20thou styrene card
- 40thou styrene card - off-cuts are sufficient ■ Squadron white putty
- MNS Transfers: Sheet 3 for coaching stock ■ Cocktail stick
- Paint stirrers ■ CA (super) glue
- Homelux bath seal adhesive
- 1mm diameter optic fibre

**Cost of materials: £26.00**  
excluding the base model

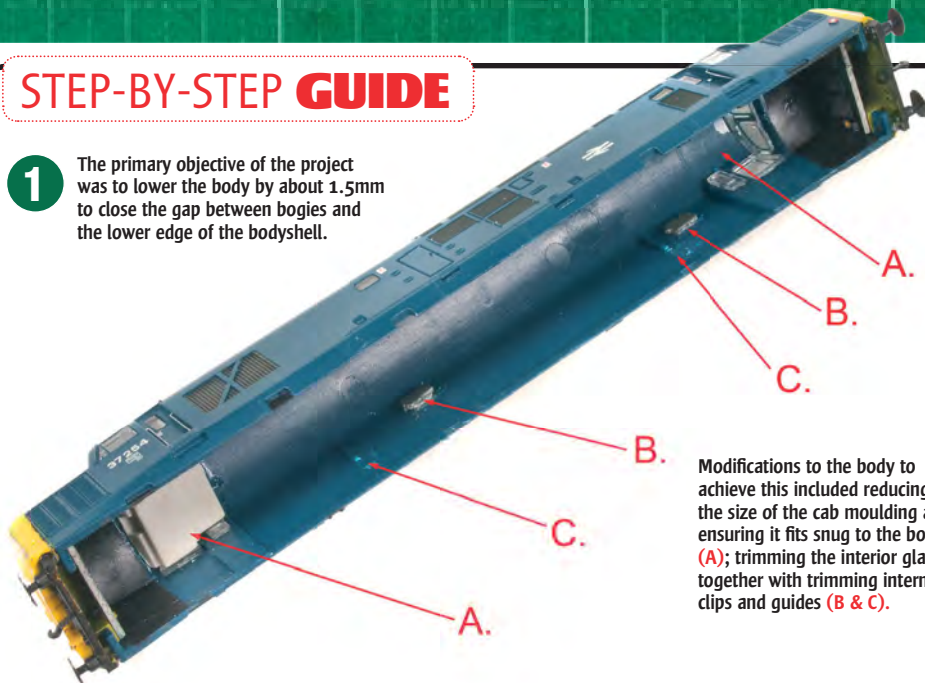
**Project time: 12 hours over**  
several days



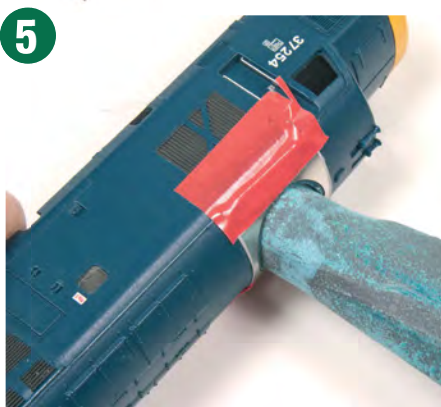
A variety of detailing parts is available from Shawplan Models to suit the Graham Farish Class 37 including roof grilles and cab window surrounds. The radiator frost grille etch is also of interest for modellers because 37 308 was fitted with them in the 1970s.

## STEP-BY-STEP GUIDE

- 1** The primary objective of the project was to lower the body by about 1.5mm to close the gap between bogies and the lower edge of the bodyshell.



Modifications to the body to achieve this included reducing the size of the cab moulding and ensuring it fits snug to the body (A); trimming the interior glazing together with trimming internal clips and guides (B & C).



A piece of curled wet and dry paper was used to finish and smooth off the fan grille opening before fitting the grille.

### LOWERING THE BODY

I started by lowering the body to reduce the gap between bogie frames and the lower edge of the body. Test fitting of the body was done at every stage of this exercise. Several features prevented this work from being completed and I had to identify each one in turn until the position of the body relative to the chassis could be altered.

The obvious feature to work on is the pair of cab inserts. They were trimmed so they would sit tight to the inside of the cab roof, allowing an additional 1.5mm of clearance between the top of the chassis frame and the bottom of the cab mouldings. The lighting boards located in the ends of the chassis were trimmed with a file so they would take up less room in the bonnet ends, yet still make contact with the corresponding bonnet light boards. The underframe fuel tanks were adjusted and fitted in a slightly different position. Finally, the engine room windows were taken



An adhesive tip applicator, part of the 'Microbrush' range, is ideal for holding small etched details. CA glue has been applied to the edges of the grille just before fitting to the model.

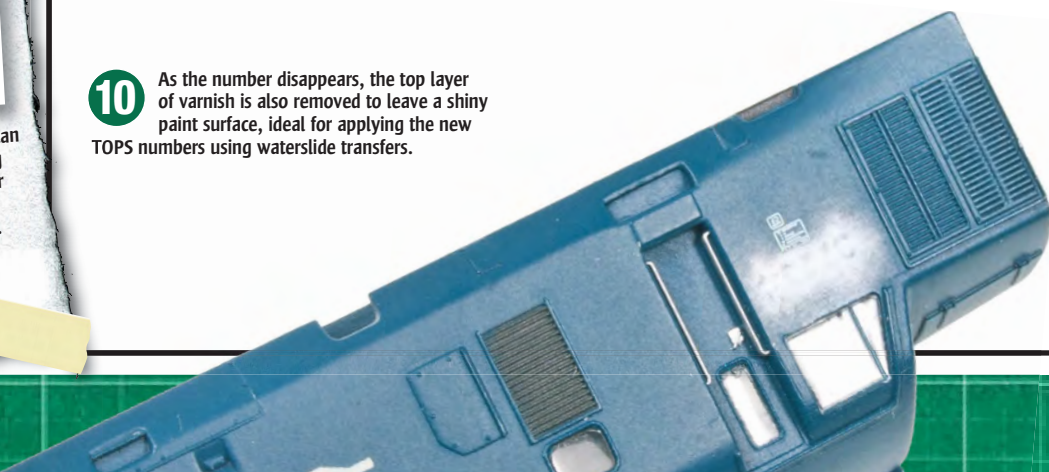
out, the rebate trimmed and set aside for refitting later in the project. I discovered that the windows caught the die-cast chassis frame after completing all of the obvious modifications. Please note that this modification will affect the model's ability to work round curves of a radius of less than 10"!

### DETAILING THE BODY

Once I was happy with the revised body-to-chassis relationship, I dismantled the body, setting glazing, cab inserts and the bonnet lighting boards to one side. The bonnet ends were carefully prised from the end of the bodyshell, taking care not to break the spigots.

Bodyshell detailing consisted of livery embellishments and the addition of some etched details such as cab window frames and a roof fan grille. I started with the numbers, removing them with a spot of paint solvent and a piece of tissue held in tweezers. The rubbing action has to be firm but not so aggressive

- 10** As the number disappears, the top layer of varnish is also removed to leave a shiny paint surface, ideal for applying the new TOPS numbers using waterslide transfers.



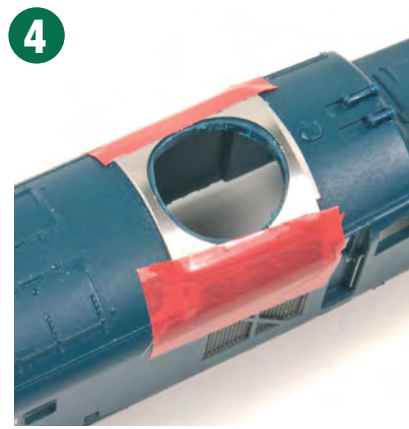




Having modified the body to sit lower on the chassis, etched details may be fitted if desired, starting with the fan grille. The moulded grille was drilled out using a 1mm drill fitted to a pin vice.



The resulting hole in the roof was carefully opened out using a sharp scalpel. There's not a lot of plastic to play with on N gauge models, so care is needed not to pare too much plastic away.



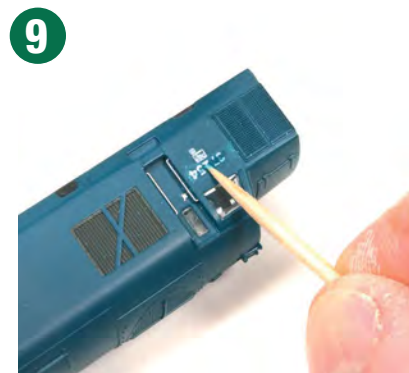
Part of the Shawplan etched fret may be used to achieve a correctly shaped opening for the fan grille. Avoid removing plastic right to the edge of the etched fret but leave enough to secure the etched grille.



Etched window frames are also fitted using a tiny smear of CA glue. Do not apply the glue direct from the bottle but use a scrap piece of 10thou styrene to wipe just the right amount to the edge of the etch.



When keeping the factory applied livery, remove the printed TOPS numbers by rubbing a dab of paint solvent gently across the numbers with a scrap of tissue.



A slightly more aggressive method of number removal is to use the same paint solvent and the tip of a cocktail stick – but with care.

as to strip the paint down to the bare plastic. All that should be removed is the top layer of varnish and the numbers themselves to reveal a shiny finish perfect for application of new numbers using waterslide transfers.

Transfers were followed by the application of the orange safety line along the cantrail applied with a bow pen. Whilst the line will be partly obscured by the first stage of weathering, it can be refreshed before the final application of grime and rust streaking. Finally, additional electrification warning flashes were applied adjacent to the cab doors and to replace the printed ones which were of an earlier type unsuited to a locomotive in 2004 condition.

### MODIFYING THE BONNET ENDS

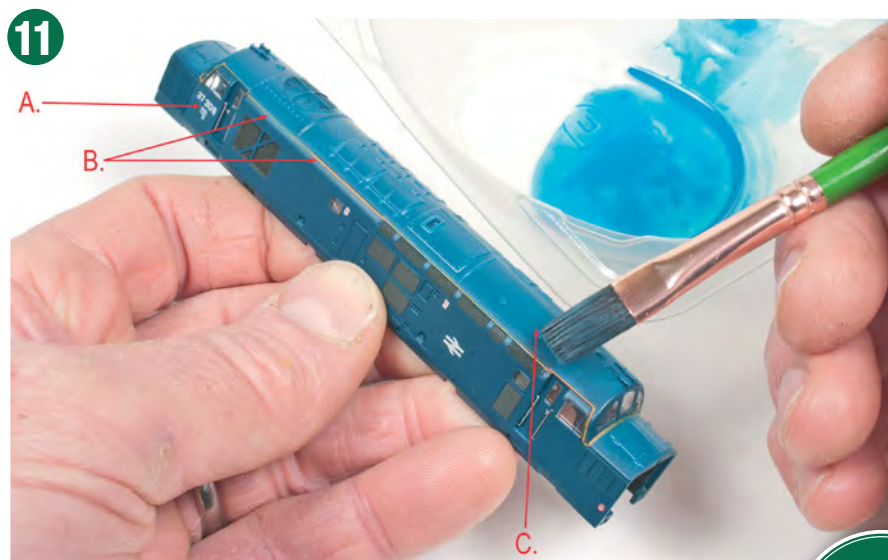
To bring the model up to date, a high-intensity headlight was fitted to each bonnet front. The frame was cut from 20thou styrene to a dimension of 1.5mm square, the smallest that could be managed whilst allowing a hole to be drilled through it, before being glued in place and using photographs to check the correct position. Once the glue was firmly set, it was trimmed and a 1mm diameter hole drilled through the centre of each square of styrene and through the

bonnet itself. With the hole safely drilled, they were trimmed very sparingly to reduce their bulk slightly.

Additional Western Region pattern lamp irons were fitted to either side of the headcode panel using 0.3mm diameter brass wire; cut and bent to shape before insertion into 0.4mm diameter holes. A dab of warning panel yellow paint was applied sparingly to the new details together with the bonnet handrails before being set to one side to dry.

### FITTING OPTIC FIBRE LIGHT GUIDES

A short run of optic fibre, bent to a right angle was required to feed light from the bonnet lighting board LEDs to the square framed headlight. A short piece was formed into a right angle by holding it over the hot tip of a soldering iron and allowing gravity to work it into the correct shape – the bend being curved rather than angled partly to ease installation and partly to prevent light



With the new numbers applied (A) together with the orange warning stripe (B), weathering can commence by matt varnishing and the brushing of a very thin wash of diluted rail blue paint (C) to the roof and shoulders of the body. The blue paint is mixed with a dab of white to lighten it.

### PHOENIX PRECISION PAINTS

► P960 'Frame Dirt' ► P963 'Brake Dust' ► P975 Dull black ► P976 Dull and matt White ► P132 BR rail blue ► P148 Warning panel yellow post-1985 ► P219 Orange ► Matt varnish ► PQ8 Paint thinners  
[www.phoenix-paints.co.uk](http://www.phoenix-paints.co.uk)

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STEPS



# PRACTICAL BRM



loss during transmission through the guide. With the fit determined and the piece cut to the desired length, a small lens was formed in the external end of the optic fibre by holding the end close to the soldering iron tip where it forms a shallow dome. The optic fibre was then fed through the hole in the bonnet front and head light housing. In the rear of the bonnet is a moulded plastic shroud that prevents light leakage. It was notched to accommodate the light guide. A dab of CA glue secured it in place and a piece of Homelux ([www.homelux.co.uk](http://www.homelux.co.uk)) bath seal adhesive applied around it to prevent light leakage.

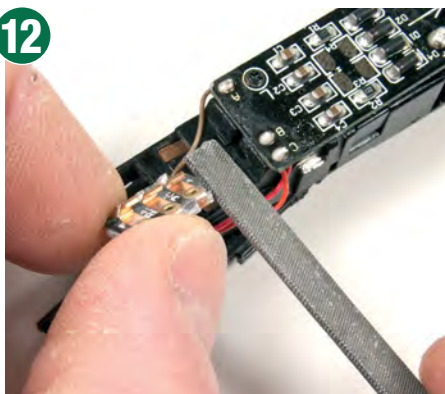
## WEATHERING AND FINISHING

Following renumbering, spot painting of new details and lining, the bodyshell was treated to a coat of matt varnish to seal in the transfers. Matt varnish has the effect of toning down the factory-applied paint finish and taking the shine away. It forms the ideal surface for dry-brushing weathering effects at the risk of making the finish appear grainy. Grainy finishes become more of a problem the smaller the scale. With this in mind, I chose to use enamel paints because they are generally finer than acrylic.

To give the impression of a locomotive roof bleached by the sun, a mix of rail blue treated with

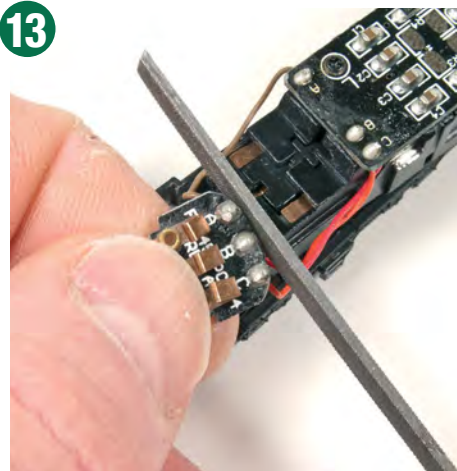
## STEP-BY-STEP GUIDE

12



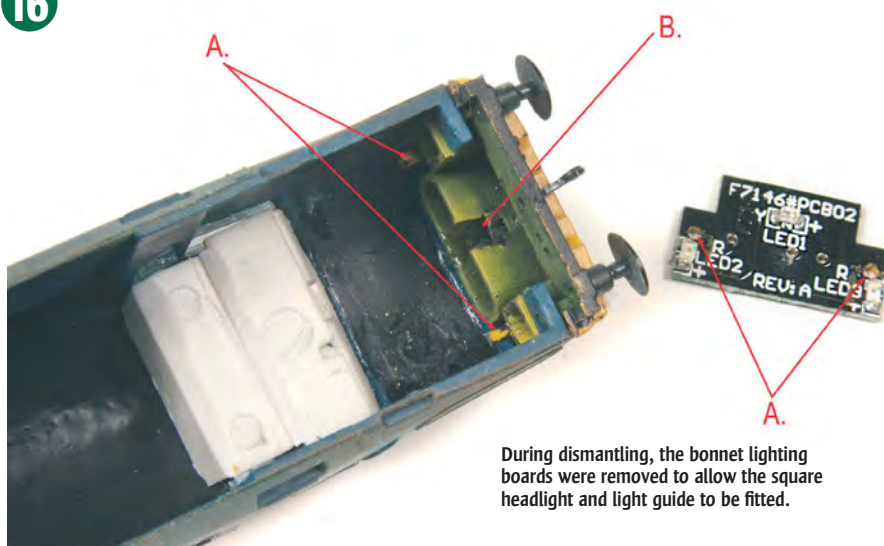
Whilst paints were drying over a period of about 36 hours, the chassis lighting board was reduced in size to enable the body to sit lower on the chassis.

13



A needle file was used to carefully file down the top of the chassis lighting board.

16



During dismantling, the bonnet lighting boards were removed to allow the square headlight and light guide to be fitted.

There reaches a point with every project where you have to draw a line under it and move onto the next one. After I took the photographs for this article, I noticed that I was still to mark in the black seal around the headcode box marker light lenses!

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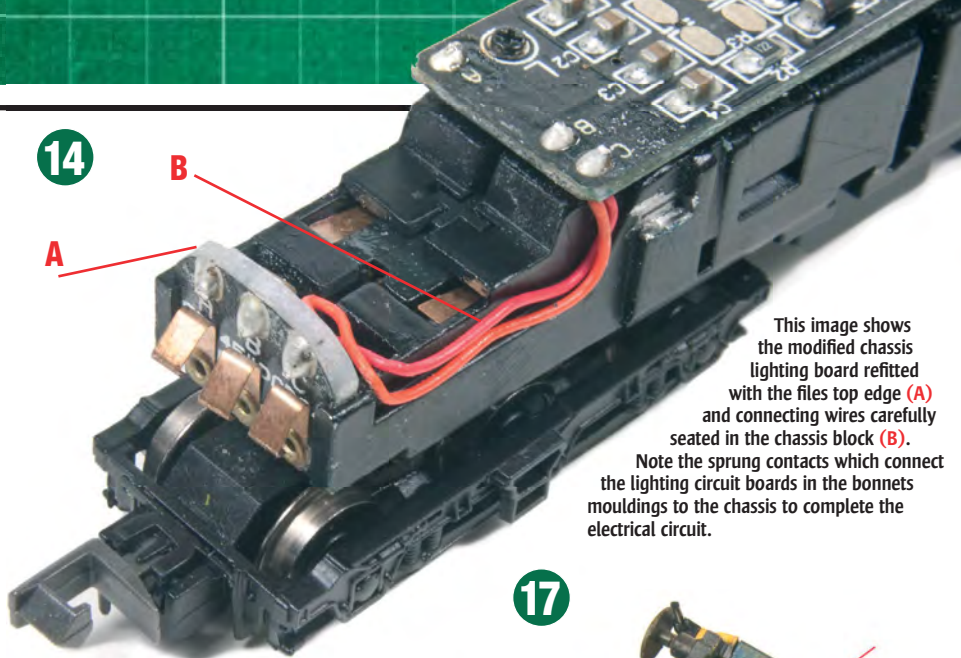
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This image shows the modified chassis lighting board refitted with the files top edge (A) and connecting wires carefully seated in the chassis block (B). Note the sprung contacts which connect the lighting circuit boards in the bonnets mouldings to the chassis to complete the electrical circuit.

During dismantling, the bonnet lighting boards were removed to allow the square headlight and light guide to be fitted.



A short piece of 1mm optic fibre was bent to right angles using the tip of a soldering iron before being cut to length and fitted to the square headlight housing added to the front of the bonnet.



Black bath seal adhesive prevents the loss of light from the bonnet lighting board and from the fibre optic guide.

a spot of matt white, thinned to a ratio of 15:1 was washed over the bonnet tops and the roof working along the length of the body using a flat paint brush in good condition. When examining the full-size 37 308, I noted that the bleaching was streaked along the length of the roof and not across the width. The thinned paint was applied in several light applications, to avoid flooding raised detail until I was happy with the finish. I followed up with the lightest spray of thinned matt white paint, again diluted to a ratio of 15:1 before leaving the body to dry for 36 hours. Whilst users of acrylic paints will be able to proceed with the next stage considerably quicker, enamel paints need time to cure so subsequent applications of weathering do not spoil the weathering.

The orange safety line was refreshed where necessary before a further application of weathering colour, this time to the bodysides, starting with a touch of grime to the grilles. This was followed up with a thinned wash of brown rust to the bonnet end grilles, which was lightly streaked down the side of the locomotive. Finally, weathering of the bodyside was completed with some dry-brushing of rust to the sides in small patches and adjacent to the grille detail. Following another period of curing, the glazing was refitted and cab interiors glued into place.

Before reassembly of the bonnets and refitting, the radio aerials were fitted to 0.4mm diameter holes drilled in the top of the bonnet mouldings. A touch of dry-brushing applied some fading to the top of the bonnet mouldings before re-assembly of the lighting board and fitting to the bodyside. The original fit was not perfect and some time was spent adjusting the spigots to try and achieve a better fit between the bonnet mouldings and the body. Whilst the line between the two is not easy to disguise unless the model is being fully repainted, the finished model looked considerably neater than at the start.

With modifications to the glazing, cab inserts, interior body clips and ribs, the fit was looser than desirable for regular handling. I used pieces of black Homelux bath seal adhesive to secure the bodyside once I was happy with the model's performance and that the lighting was functioning correctly.

Close up, weathering of N gauge models always appears a little coarse and sometimes I forget to take a few steps back to enjoy the finished model from a distance. Spray painting of effects remains a firm favourite of mine, although thin paint washes and dry brushing always have a place in small scale model weathering. Overall, the model looks fairly close to how the full size locomotive did and has now taken on its own character. **BRM**

## FACTFILE: 37308



Pristine BR rail blue locomotives including 37 308 were displayed at the open weekend held at Old Oak Common in August 2000.

As D6608 it was the last Class 37 to enter traffic, in November 1965; it was also one of the last Class 37/0s in active service with EWS, albeit as part of the heritage traction and reserve fleet. The locomotive entered privatisation as 37 274 (not its original TOPS number) adorned in the aircraft blue of Mainline Freight, one of the three pre-privatisation Trainload Freight companies. EWS repainted the locomotive in BR blue (embellished with certain safety features such as an orange cantrail safety stripe) and reinstated its original TOPS number in time for the Old Oak Common open day event in August 2000 where it was displayed alongside two Class 56s in the same livery - 56 004 and 56 006 - and a wide selection of other active and preserved diesels.

Following the event, 37 308 became part of the EWS heritage fleet and returned to revenue traffic in 2002, allocated to the EWS Class 37 pool for Anglia and South where it spent time on various duties, including on the former Southern Region. In late-2003, it was reallocated to Sandite duties at Toton before returning to Old Oak Common pool for a time. It finished its career allocated to the Midlands and North West pool together with the 'Tactical Reserve' pool before withdrawal and sale into preservation. Its recent history makes 37 308 an ideal locomotive for my N gauge locomotive fleet for use on Dudley Heath. The beautifully applied BR rail blue livery had faded by this time, especially on the roof and bonnet tops making the perfect weathering project.





Class 20 D8156 heads a long string of coal empties along the Midland Main Line at Ratcliffe-on-Soar in March 1969. While the majority of brake tenders had black painted bufferbeams, sometimes with part of the vacuum brake stand pipe painted red, unusually this vehicle, which is one of the Diagram 1/557 pair built by the Standard Wagon Co, appears to have a red bufferbeam and BR Mk 1 bogies.

# BR DIESEL BRAKE TENDERS

Introduced to provide extra brake force for diesel locomotives working unfitted mineral trains, these unusual and short-lived vehicles present an intriguing modelling prospect for steam/diesel transition era modellers.



English Electric Type 3 D6811 propels a Diagram 1/555 brake tender on a Down mineral train at Ardsley, on the former Great Northern main line between Wakefield and Leeds in August 1967.



**Right** D6764 runs light along the East Coast Main Line at Pilmoor, York, towing a Diagram 1/555 brake tender in February 1968. Note the Gresley 8' 6" wheelbase bogies, recovered from passenger or parcels stock.



**Below** An unidentified EE Type 3 works a train of ICI chemical tanks – possibly liquefied ammonia tanks – near Harrogate in June 1965. Such a short train is unlikely to have required braking assistance.



Another English Electric Type 3 propels a Diagram 1/555 brake tender through Ravensthorpe, between Dewsbury and Mirfield, on an Up freight in August 1967. The station, dating from 1890, only has platforms on the former Leeds, Dewsbury & Manchester Railway route which curves away to the left; the '37' is coming off the line from Wakefield Kirkgate via Healey Mills Yard.

**B**uilt between 1962 and 1964, brake tenders were introduced to provide additional braking effort for diesel-hauled unfitted mineral and goods trains following reports by drivers of braking problems. As one ex-driver remarked about his experiences with Class 24s, 'you could either sound the horn or apply the brakes, but you couldn't do both!'

Steam locomotives were heavier, usually had brakes on more wheels, and being considerably larger than diesel wheels, their driving wheels could absorb more braking force over a larger area of wheel surface. The heavily ballasted (using concrete blocks or scrap steel) diesel brake tenders were fitted with vacuum brakes working on all wheels, initially going to the North Eastern Region, but eventually seeing service almost everywhere.

A total of 122 were built under four different BR Diagrams: 1/555 (DB96405-105 and DB964112-121) at Cowlairs and York on Gresley 8' 6" bogies; 1/556 (DB964000-28 and DB964031-34) on Stanier 9' 0" wheelbase bogies split between Derbyshire Wagon Co, Central Wagon Co, Standard Wagon Co, and Marcroft Wagon Co; and 1/557 (DB964029/30), both Standard Wagon Co, running on BR1 bogies. All of the above had round top bodywork. The six vehicles to Dia.1/558 (DB964106-111) built at Stratford looked totally different with their angular bodywork. They were fitted with Gresley 8' 0" wheelbase bogies.

Considered a waste of resources by some commentators at the time, brake tenders played a vital role in the operation of unfitted trains. They lasted long enough for some to receive BR Rail Blue, some being branded with the TOPS code RTV. The last recorded use of a brake tender is thought to have been 1978. Regrettably none survived in preservation, several being scrapped in collieries where apparently they had developed a habit of derailing themselves! However, a group at Rothley on the Great Central Railway is building a replica. **BRM**





# WHY BUILD

Having completed some stunning dioramas of his own in recent years, **Michael Russell** explains why everyone should give it a try.

**W**hat exactly do we mean when we refer to a diorama? You've probably seen quite a few before, but may not have realised it. Full, or life-size dioramas are common in museums and are designed to educate. Probably the most common subject is wildlife, because they show the animal in context, as a snapshot in time. By portraying the creature in its environment, much more of the 'story' behind the subject is imparted. For example, where the creature lives and what it eats.

Without the environment, our understanding of the subject is limited. For example, a line of locomotives placed on a shelf in a display cabinet



doesn't tell the viewer much about them. My scrapyard diorama would be much the poorer if I had just produced the locomotives without the actual yard itself.

## RAILWAY DIORAMAS

Turning to models – miniature dioramas are smaller than life-size and they must be 3-D, so this precludes pictures

and other flat portrayals of reality. The common perception is that they are small, perhaps no bigger than six inches in length, but they can be bigger. Really though the size is related to the scale used in the





# D A DIORAMA?

depiction. A 1:35 scale diorama will generally be bigger than one at 1:76 scale. A T Gauge diorama could, in theory, be minute.

Of course, military modellers, and other plastic kit modellers, are synonymous with model dioramas. Usually the latter don't have moving parts and instead show an instant frozen in time, but they usually do portray scenes with lots of action or movement in them. For example, subjects that hardly ever keep still, such as people, are very common in dioramas.

The key to understanding the benefits of dioramas is to think about project management. Each diorama is a project and therefore subject to the 'Triangle of Forces'. The forces are scope, budget and timescale and you can't change

one force without it affecting the others. For example, if you have a bigger budget for a project, then the scope can be increased, or if the scope stays the same, then the timescale could be reduced by hiring more workers/paying for overtime.

With dioramas the force that is restricted is the scope (not the quality!) and this leads to a reduction in cost and time. If you have limited financial resources, or little space, or you have a short attention span, then a diorama is ideally suited to you.

**Dioramas are good as a way of trying out different methods of construction or materials**

## ADVANTAGES

There are many advantages to dioramas. A problem for some builders is that they run out of enthusiasm before a layout is finished. My 'Byworth' model railway, despite being a modest 24" x 66" in size, took me several years to build. 'Woodmores

Scrapyard', only 11" x 20" in size,

took only a few months. If you are currently undertaking a larger build or are between baseboards, then a diorama can be slotted in between these larger projects for variety without impacting on them too much.

Dioramas are also good as a way of trying out different methods of construction or materials. I like experimental modelling to try out new ideas and to make sure I have mastered techniques before committing them to a larger project. The small scope

A line up of industrial motive power on my puddle/concrete diorama.





# PRACTICAL BRM



of a diorama means you can manage funds more easily and get returns quicker. With a large layout you are generally stuck with one theme, whether it is season, region or time period. With dioramas you can have a go at many subjects and experience more variety in your modelling.

Additionally, if you model from home, you probably have limited space and dioramas are obviously going to take up less room. There is the possibility that you could swap dioramas between storage and display for variety and, with some forethought, you can build your dioramas so that they link with each other to form a larger scene.

A restricted, smaller scope means you can model to a higher standard. I prefer to produce less work that I am happy with rather than lots of content that I would judge as mediocre. More detail also means that the diorama is more interesting. I have found myself looking at some dioramas for hours and still seeing new things.

With regard to photography, a diorama is easier to shoot without damaging the model and it can be designed to be easy to photograph from all angles. For example, backscenes can be made removable, or could be swapped between sides. A diorama is easy to take outside to take advantage of natural light (the best kind). However, for photographic purposes, the

Various engine parts lay scattered around on my Woodmores Scrapyard diorama.







A BR 4MT 'Mogul' with a Thames Trader flatbed lorry for company.



The motion of a Standard 4MT locomotive is reflected in a puddle.

minimum size of any one dimension would be about 18", otherwise you will have problems hiding the baseboard edges.

### DISADVANTAGES

What are the drawbacks? There are a few; if you do decide to have operational stock, then if you want to 'play trains' you will probably get bored quickly. Also, once it's finished, you may quickly grow tired of it and move on to something new. If you build several dioramas, then you can swap between them to offset this. Some subjects are unsuitable; a double track main line may be difficult (as will anything involving long trains). Portability is a double-edged sword, because the diorama is easier to walk off with and easier to hide, so there are security implications.

### PLANNING

How do we go about designing our diorama? First, you need to ensure that you have a clear idea of what you want to achieve. You won't achieve your goal unless you know what it is. So, we need some way of conceptualising how the finished diorama will look. Computers are good for this, because a virtual model can be built using a package such as Google SketchUp. You could also build a full size or small-scale physical replica mock up using material such as cardboard. This doesn't need detail so you could even portray the buildings using cereal boxes. In this way, the design can be modified until you are happy with the result. Ensure you research the subject and perhaps also see what others have built in the past. In general, railway modellers don't build many dioramas, although it is becoming more common. I hope that I have inspired you to try making one. You will be surprised at how the 'change of air' will affect your future modelling, so why not have a go? Comparatively speaking, it will not take up much of your time or financial resources. **BRM**

## HINTS AND TIPS

- 1 A diorama is an ideal opportunity to 'up your game'. Add lots of detail. This will keep the viewer interested.
- 2 Plan it carefully beforehand and don't start to build until you have a clear idea in place.
- 3 Do something different! Choose an interesting topic, not covered or poorly covered before. Perhaps you could portray an important event such as driving the golden spike on a new railway. Sometimes though, it is the mundane that you want to capture – the everyday scene that has now disappeared.
- 4 Use the space wisely - think vertically. Add lights, movement, effects. Make it flexible for variety.



Two Hunslet 'Austerity' tanks stand out of use at a colliery internal railway.



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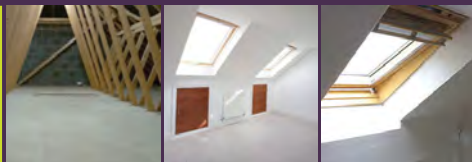
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# TMC makes the Heart Beat

The North Yorkshire Moors is no stranger to railway enthusiasts as the scenic North Yorkshire Moors Railway runs through stunning countryside which form part of the National Park. Lying some 1.5 miles from the main Pickering to Whitby road, is the small community of Beck Hole, home to a Public House, two farms and nine cottages and one of the best stocked models shops in the country: TMC, which has recently doubled the size of its retail facility.

The idyllic rural location is far removed from the bustle of the Trafford Centre in Manchester where the TMC story began. The Trafford Model Centre opened in September 1998 and expansion followed in the early 2000s with shops opening in Liverpool and Leeds. This resulted in a hasty name change to The Model Centre (TMC) and soon the business operated six shops across central England. In 2005 they were acquired by Modelzone.

TMC was founded by Chris Yates, who began working in the model business on leaving school and joining his local shop, Evans Model Centre in Doncaster.

He later joined Hornby as a sales representative covering the north of England for the company before leaving to set up TMC in Manchester.

Early on a customer bought a locomotive in Manchester and requested that it was weathered for him for which he was happy to pay extra. Chris duly carried out the customer's wishes and word soon spread that TMC were offering a high quality bespoke weathering service as well as providing name and number changes to ready-to-run models.

After the Modelzone takeover, Chris spent two and a half years in senior management position before resurrecting the TMC name and going back to providing the bespoke service that his customers had long enjoyed. After a spell setting up workshops in Tockwith, York, Chris began looking for more spacious accommodation, which he found in delightful Beck Hole.

In the space once occupied by an old chicken shed, the first half of the current TMC workshop and retail area was created to operate alongside the family home and holiday let accommodation.



The entrance to TMC set amongst the beautiful scenery at Beck Hole, familiar to many who watched the TV series 'Heartbeat'. PHOTO BY CHRIS DIXON



Chris Yates of TMC (left) with a happy customer making his purchase from the well stocked shelves. PHOTO BY CHRIS DIXON



One half of the well stocked shop complete with digital and analogue test tracks. PHOTO BY CHRIS DIXON

Recent activity has seen it double in size with additional showroom, workshop and office space.

TMC has a loyal customer base built up over the years. Now employing six people, the traditional weathering and finishing service to customer specifications has seen a growing demand for ready-to-run models straight from the box in both N and OO scales.



TMC also caters for the larger scales in being a distributor for the LH Loveless range of Gauge 0 and Gauge 1 ready-to-run models, which of course can be weathered for those who so wish it.

TMC stock all Bachmann Branchline, Graham Farish and Scenecraft ranges and are a major stockist of the Woodland Scenics range of scenery products. Various name and number changes were very much in evidence in the workshop. One was for a 50<sup>th</sup> birthday present where the number depicted the birthday itself and the nameplates proudly bore the recipient's name. Also on the headboard was 50<sup>th</sup> Birthday Special which also carried his name. Other bespoke models were Pullman cars carrying the names of the customer's wife and daughters in place of the more traditional offerings.

More recently TMC have branched out into exclusive models. The first was a model of Beck Hole local pub 'The Birch Hall Inn' followed by a range of 'Heartbeat' buildings much in demand by followers of the police-based television drama including the 'Aidensfield Arms' and 'Scripps Garage'. This was followed up by the exclusive edition Horseboxes, of which several versions are currently available. Chris told us he has plans for further models which must remain a well kept secret for the time being.



Despite its rural location, there was a succession of visitors through the door either to collect models previously ordered or to buy off the shelf. TMC is located in a prime tourist country, Chris and his team will be delighted to show potential customers what they can offer. Many of TMC's customers rely on the extensive mail order service which includes a good number of export items for those living outside the UK. There can't be many model shops that sit in such beautiful surroundings, with free parking and a pub (both real and model) on the doorstep. The sheep help to provide a far more interesting journey to the shop than the usual problems of traffic jams and parking wardens. It is not difficult to see why TMC is becoming increasingly popular. For further information contact [www.themodelcentre.com](http://www.themodelcentre.com) or see below.

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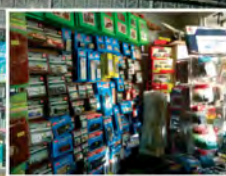
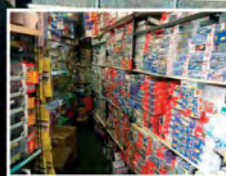
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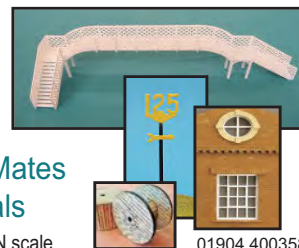
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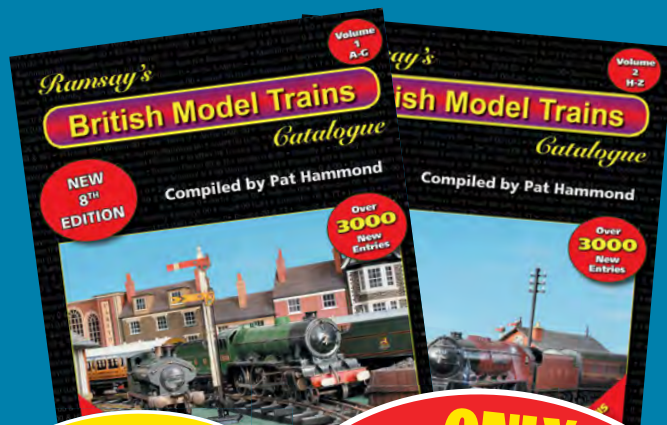
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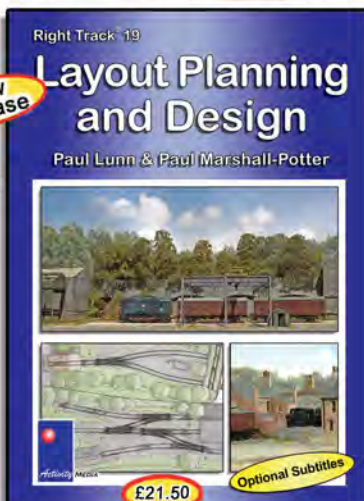
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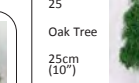
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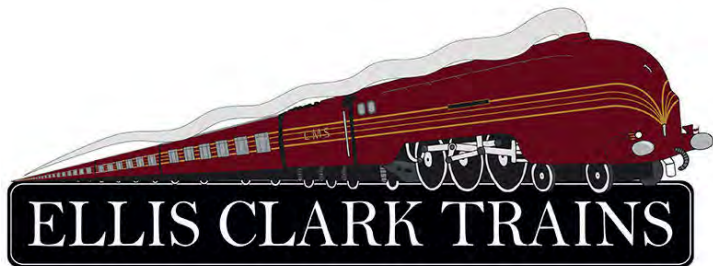
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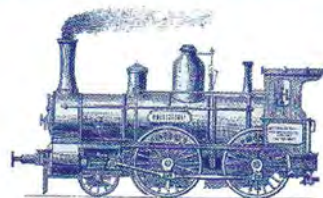


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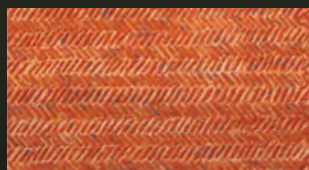
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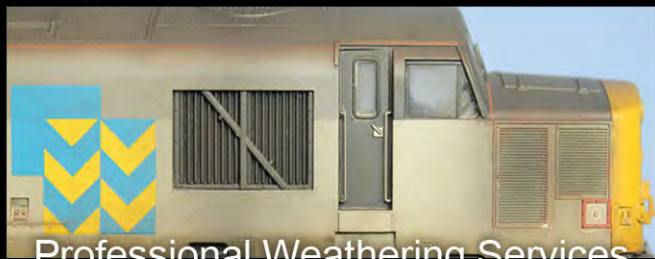
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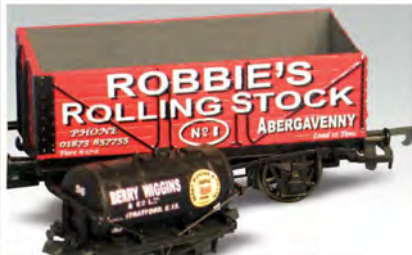
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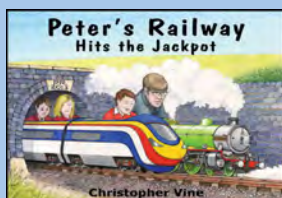
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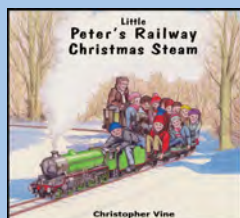


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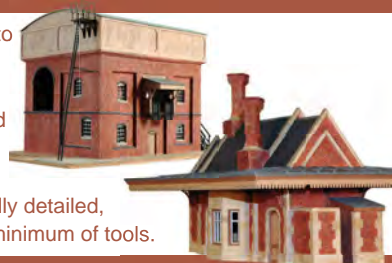
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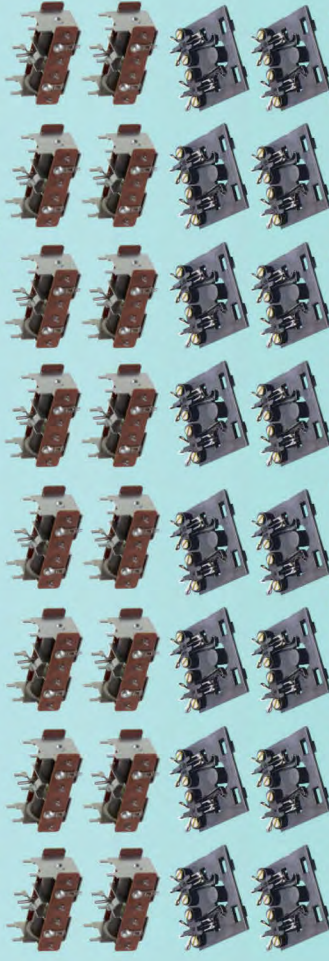
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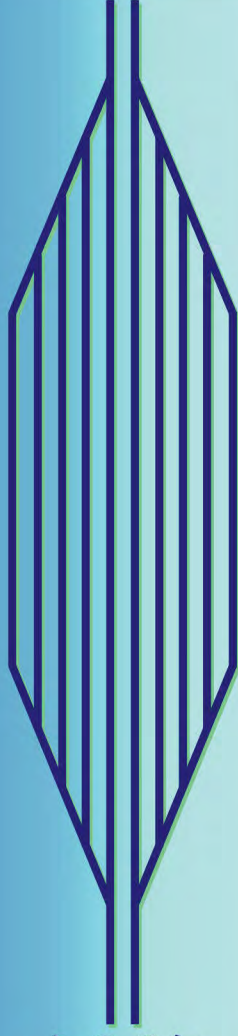
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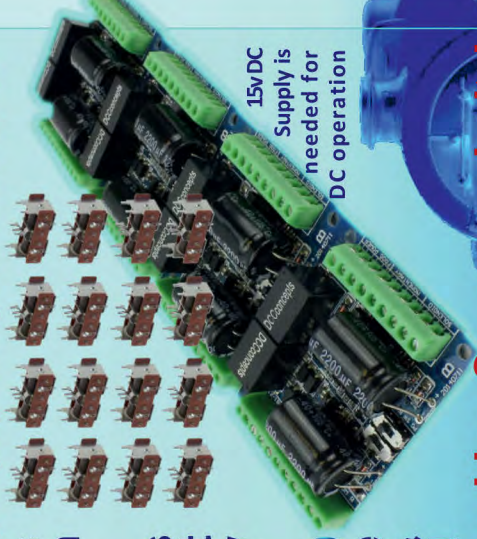
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