Risborough and District
Model Railway Club

Jan-Mar 2020 Winter

FOOTPLATE

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WELCOME

Merry Christmas or a Happy New Year depending on when you are reading this!

We had our club Christmas meal on Friday 6th December. This was well attended with 43 people there for an excellent evening. Thanks to Ant for organising this.

In the new year we will announce dates for the 3D CAD workshops run by David Lane. These will be for small groups so sign up quickly to get your preferred date. Further workshops will be organised throughout the year.

I will be attending the CMRA exhibition in Stevenage as a demonstrator with my N gauge models and promoting the club. Do stop by and have a chat.

As some of you may know, Ant had to go into hospital recently. Unfortunately he will be staying there over Christmas and the New Year so we all wish him well. Ant has asked that some of the many things he does for the club be passed on to other members so if anyone is interested in getting involved with

publicity let me know. This involves sending out diary entries for magazines, preparation of posters & fliers and also exhibition programs.

Finally, a reminder we have 2 rooms each Friday which we have to pay for whether we use them of not. So while it is nice that you all want to be friendly and squeeze into 1 room, do make use of the booked space.

Paul

From the Internet

There is an online compendium which welcomes you to upload your photos of fire stations. There are still many without photos. Click on the database section for an alphabetical listing. If you are looking for an individual station to maybe add a photo, the simplest route is to use a search engine adding firestations.org to the station name.

http://www.firestations.org.uk/Intro_Page.php

Here is a series of videos about building replicas of the 20 mule team Borax wagons in the USA. They show all the stages of wood and metalwork. And are of great interest if you model horse drawn vehicles.

https://www.youtube.com/watch?v=Gq41lsw_GLY&list=PL3Qu3GIvx73EgVa8dYcN_e9ps2BDMO9j3&index=1

A useful website with thousands of historical photos taken from the air -

https://britainfromabove.org.uk/en

The quality and definition is amazingly good (you can clearly read advertising hoardings and loco numbers). You can view without registering but registration is free, there's no marketing and if you register you can zoom in and download the photos for personal use. Type 'station' or 'railway' into the search function and be prepared to step back in time. You can easily idle away a few hours!

Front cover: Maintenance vehicle at Brno Dolní Nádraží station n the Czech Republic. This station is being used by the long distance trains while the main station is being rebuilt.

Photo by Paul

Creating Prince's Cross (Part 1)

by Tony Elliman

The Birth of an Idea

Way back in 2010 as I was approaching retirement I decided that a good project for the coming years would be to fulfil my ambition to construct a model railway. I had started a couple of times with my son in the 80s and 90s but he never shared my enthusiasm and I was holding down a demanding job. However, there were some personal issues to deal with first and I only really got started in 2016 when I was living in a therapeutic community. Of course I couldn't actually build anything at that stage but I could start planning.

One of the first questions is how big will the layout be? Not knowing where I would be living when construction started I had to make some assumptions. Single and on a company pension somewhere with two bedrooms seemed the most likely outcome. At least one of them would be designed as a double and finding somewhere with at least 3 meters along one wall looked like a safe bet. Allowing for some sort of off scene turn into a fiddle yard would give a scenic length of 2.5m. Again assuming access would be limited to one side I set a target of 0.7 to 0.8m for the base board width.

The next question is what sort of layout will it be? What are my priorities? The thing that grabs my attention in a model is the operation - trains coming and going- so I want a layout with a variety of possible movements. It needs to be a busy station or yard. The other area I want to focus on is it being a "signalman's" layout. In the days of manual signalling the big four employed about as many signalmen controlling the network as they did drivers moving the trains. With no access to the "back" and the fiddle yard off to the side this narrowed my choice down to some sort of terminus.

Since I had spent much of my early teens trainspotting at the north London stations my thoughts turned to Kings Cross at the end of the steam era in 1960. In those days King's Cross was a pretty big station - significantly bigger than it is now. The main line platforms are about 1000 feet (2 meters in British N). It was also 15 platforms wide with a line under York road to the east and the parcels and "milk yards" to the west. To fit my space limits it would need to be a freestyle design of something similar; but smaller. Thus, since princes are small kings, it became "Prince's Cross".

Getting the "Look and Feel" of King's Cross

I want to give Prince's Cross the "look and feel" of Cubit's station south of the Regent's canal with the same pattern of traffic movements. To capture

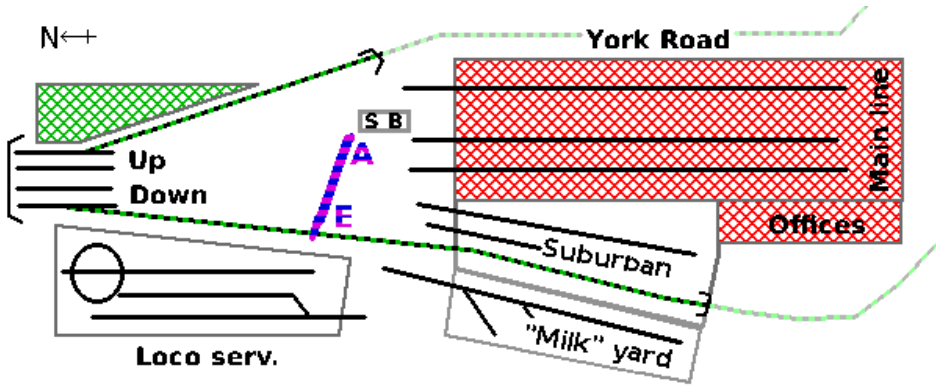


Figure 1:The King's Cross Site

something of the 1960s station, my freestyle model can't be a perfect design. It needs to reflect this feel of having grown over time so things end up not being in the right place.

Throughout its life King's Cross has been hemmed in between major existing structures - the gas works, the canal, and the York and Euston roads. All of the expansion of the station has been on the west side of the site - away from the main line platforms and up lines through the gasworks tunnels. Each addition or extension has had to be a compromise between the ideal and what is possible. By the 1960s the station and track work were not well organised for its mix of diesel and steam traction providing a varied range of services.

This is what will make Prince's Cross an interesting challenge to operate as a signalman's layout. Only one of the up lines through the gasworks tunnels can reach any platform. The plodding suburban diesel trains heading up to town have to cross all the down lines to get to the suburban platforms. Also to get to the service area steam engines have shunt ahead on the down main and then run back into the Milk yard before reversing again into the service area.

The platform rationalisation in 1971, rerouting Thameslink through St Pancras and now (2019) plans for a major over haul of the approach from Belle Isle all go to show just how far the 1960s station was from the ideal. To remain in keeping with the prototype I have needed to study the way it had been evolved over the years and then repeat the process on a smaller scale. Any similarity between the back story I have dreamed up for Prince's Cross and the prototype King's Cross is not entirely accidental!

Scaling Things Down

Working from detailed track plans for the King's Cross re signalling in 1932 and 1971 along with photographs of movements in and out of the station has led to several iterations of the station design. This is a point where ambition and the practicality of building the model come into sharp conflict!

Rather than build track work from scratch I decided to work with the PECO code 55 profiles. It took several attempts to come up with a feasible looking design that captured something like King's Cross with its routing through signals A to E on the west side of the station. (In my final design these reduce to only three routes - A to C).

A critical question was whether to retain the underground link to Moorgate (more recently known as Thameslink)? This could be modelled by creating down ramps and looping the line back under the base board as shown in figure 2. Using a passing loop in the underground section would mean trains don't need to come back in the order they left.

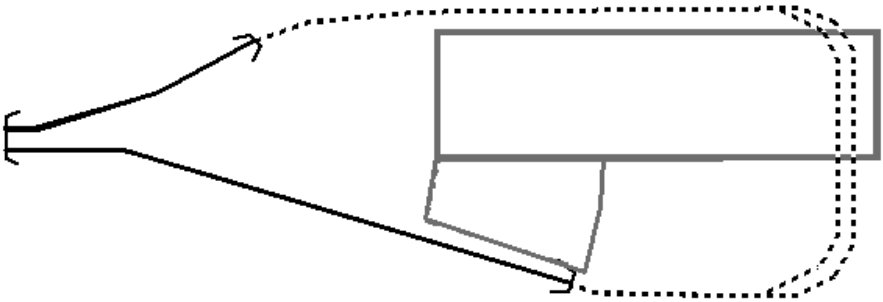


Figure 2: Modelling the Moorgate Line

Much as this would be visually and operationally exciting I decided that the added complexity of the station throat and construction might just be a step to far!

Cubit's main line train shed is about 214 feet wide. If the 75 cm target for the model is to be achieved this needs to come down to about 100 feet or so (21 cm). Each double line will be about 5 cm and a 20 foot wide platform needs 4 cm. Some unforgiving arithmetic led me rapidly to just put four mainline platforms under a single arched roof.

The rest of the site also needed to be similarly reduced to about half the scale of the 1960 station. The seven suburban platforms on the west side needed to

come down to about three. This reduced the station to the scale of Marylebone but that is still credible as a small London main line terminus.

The prototype suburban train shed was gloomy and when modelled would be difficult to see into. I therefore decided that Prince's Cross would have only one internal suburban platform and the other two would be modelled on the 1920s external island platform and canopy. In like manner the milk yard and loco service area were both reduced from four lines to two.

In the 1960 prototype six approach lines ran through the gasworks tunnels. The question then was how many of them should be retained for Prince's Cross? The signalling diagrams for King's Cross show that several of the tracks can only reach a part of the station as listed in table 1.

Gasworks tunnels (northerly point)		**to Platforms (southerly point)**	
Prototype	**Model**	**Prototype**	**Model**
Up Slow	Not included	York Road; main line 1 & 2	Not included
Up Main		East half of main line	All main line
(North spur)		All main line	
Up Relief		All main line, all suburban (milk yards & loco exit)	
Down Main 1		All main line, all suburban (milk yards & loco exit)	
Down Main 2	Not included	All main line, all suburban (milk yards & loco exit)	Not included
Down Slow		All suburban (milk yards & loco exit)	
(Loco entry)		(Milk yard 1)	

Table 1: Comparison of routes through station throat area.

In addition to the tunnels, movements to and from the north end of the site can also be from the north spur (home for the station pilot) or to the loco service area entry road. These are also included in Table 1.

To model these quirks will need more than two lines through the tunnels. Having already dropped the York Road platform excluding the up slow line was an easy decision. The other easy decision was to exclude Down Main 2

which effectively duplicates Down Main 1.

At this point some consideration needs to be given to loco movements between the service area and the main line platforms. In the prototype these involve shunting ahead on one of the two Down Main lines. They must then run into the milk yard before finally reversing into the service area. The choice of Down Main 1 or 2 allowed the signalman a valuable option to keep these light engine movements clear of departing traffic.

With the loss of Down Main 2 the model has lost this option. The only alternative is to set back on the Up Relief but in the prototype that is the only up route into three quarters of the station. To compensate for this my Prince's Cross design allows the Up Main to access all main line platforms instead of just the eastern half of the station.

Continues next issue.

Western Region Auto Trains

For those thinking of super detailing a GWR/Western Region Autotrain, you may find these photos useful. In particular the loco-coach connections including the square-section rodding for the regulator. Recorded at the Bodmin & Wenford Railway: BR Green livery Pannier 0-6-0T 6435 and Hawksworth

Auto Coach W232W; 21 August 2018, Canon SX620 HS pocket digi-camera.
David


6435

Using Tam Valley Frog Juicers

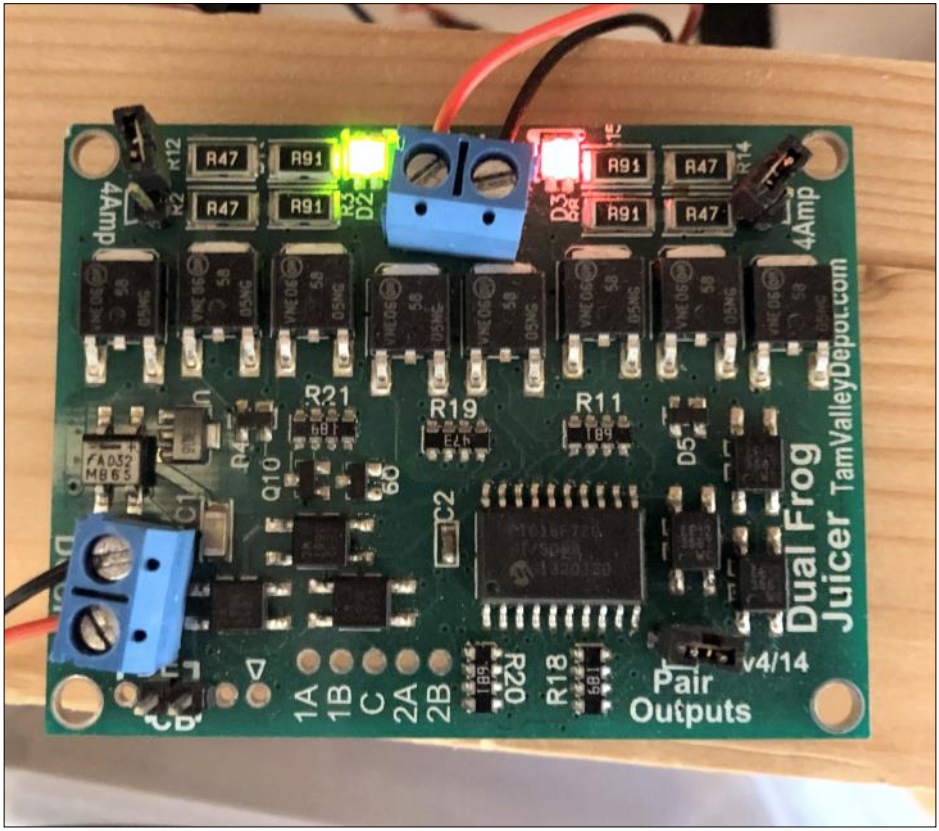
When using live-frog points on a layout, you'll always come across the need to switch the frog polarity as the switch blades are moved. Over the years, various ways of doing that have been developed. The simplest, train-set option has always been to treat the frog and blades as a single electrical entity and to rely on contact between the blades and the stock rails to power the frog. While this works, after a fashion, we all know that this method is fraught with difficulties, not least being that the powering of the frog relies on blade contact which then precludes painting the rails in the contact area. There's also the issue of shorts if a wheel touches both stock rail and the open blade, which also precludes any sort of close-to-scale gap between open blade and stock rail.

Alternatives are based around separating the crossing from the blades electrically with a gap in the closure rails close to the frog and bonding the stock and blade rails together. That eliminates the two issues noted above at a stroke but requires than that the frog power polarity is switched as the blades move. The commonest option for that, when using switchmotors of any sort is to use that motor to operate a switch. Many point motors available have built-in switching - this includes popular slow-mos such as Tortoise and Cobalt, as well as old stager snap-actions like the venerable H&M. Other options available include microswitches operated by the movement of the point mechanism; add-on switches like the Peco one, or for manually operated points, the Blue Point machine which provides Tortoise-like switching for hand-operated turnouts. While all of these do work, and in the case of most commercial offerings, work well, they all are based on a mechanical switch, which as we know, gets dirty, gets out of alignment, or breaks. There's also, in the DCC world, the added issue that if the layout wiring isn't up to scratch, that these switches may be asked to carry large currents for appreciable periods of time should a short occur that the DCC system doesn't catch and break the power. If that happens – noting that on properly wired layouts, it won't - then heat damage, possibly significant heat damage, is likely to occur to the frog switching mechanism, and to the locomotive that causes the short. The likelihood of these issues occurring is magnified by the fact that we all know that the most likely time for them to happen is 10 minutes after opening time on the first day of a two-day show.

But now, for the DCC user, and only the DCC user, there is a viable and simple alternative. That is the Frog Juicer from Tam Valley. These come in Mono, Dual and Hex versions, capable of handling one, two and six point frogs respectively, as well as the Dual and Hex being able to do some other things, too.

When Aylesbury LNWR was being resuscitated, we decided, rapidly, that

because of the state of the wiring we would have to rewire it for DCC to have any real chance of getting it going again, as the old DC control panel was not repairable. We left in place all the existing H&M point motors as they all worked OK, but on some, the switching contacts had failed. So had some of the dubious auxiliary switches that had been used when the layout was built almost fifty years earlier. Rather than mess about with these recalcitrant units we decided it would be far simpler and more reliable to bypass them and switched the relevant frogs with juicers, which worked perfectly, every time.



Above: Dual Frog Juicer can be used to switch 2 independent frogs or be used as an auto-reverser. Photo by Mick.

So how do you use these magical things? It's very simple. Each unit is fed the two wires of the DCC track power on one pair of terminals. I should say at this point that all the points in question and the juicer itself do all need to be in the same DCC power district and reiterate that these things are only for DCC users; they do not work with old-fashioned electricity. You then connect the feed

wire from the point frog to the juicer - making sure, as ever, that the frog is isolated from the rest of the turnout. That's all that's required. In use, the frog will be connected to one or the other rail by the device. If it is connected to the "wrong" rail as a locomotive approaches, the device will detect that as the first wheel bridges the two rail ends. It then reverses the DCC polarity of the frog so quickly that neither the locomotive nor the DCC system will see it happen, and you won't have sound locos click, pop or restart. You'll even find that if, as on the prototype, if you approach a point from the heel end across the frog whose blades are set for the other road, the frog will just switch, the loco will carry on and run over the mis-set blades. That might end up with a derailment, but so might that in the prototype!

Beyond simple turnouts, there are more complex frog switching scenarios, where the benefits of automatically switching frogs and crossings on demand are clear. The first example is that of a single slip, where it's not possible to tell what polarity a frog at one end should be from the position of the blades at the other end. Or more complex trackwork configurations like the full outside double slip on Aylesbury LNWR near Park Street crossing - which could also be described as a scissors crossover – it's 4 turnouts and a diamond, and some of the old switches for that had failed. It's way simpler to switch the frogs in such arrangements with a juicer than it is to mess around with ganged mechanical switches or relay cascades, and of course far simpler to install and get working. Even a plain diamond crossing can be hard to do with mechanical switches if the approach routes themselves use multiple points, or have no points close by, or the two routes have nothing in common. Switching the crossings of such a diamond becomes again straightforward with a juicer.

Left: mono Frog Juicer. A & B are track connections, F is the frog connection.

Photo by Paul.

The TV Dual juicer can also be used as an auto-reverser, merely by configuring a single jumper. When set up like this, as well as operating a balloon loop, it will also reverse the polarity of the rails on a turntable on demand. I use one this way on a turntable on my own layout. Previously it was powered in a conventional way with a commutator-type arrangement below the baseboard made of PCB with wipers on it, but that just wasn't always reliable. The pivot is a brass tube, so I reworked it with two separate lands on it, each connected to one rail on the deck, then connected the pickup tabs to a Juicer configured to autoreverse. All the reliability issues I'd previously been having just vanished. The picture on page 13, shows the juicer in action below the turntable. You can see the DCC power coming in on the left and the outputs at the top. Bottom right is the jumper that pairs the two outputs together. It's required to be on for the usage I'm making or left off to power two separate point frogs. The two LEDS change colour when the device switches, so that on installation and testing you can see that it is working.

These things certainly add cost to each turnout. SCC, run by club member Ted Smale, stock Tam Valley products and Ted will give you current prices if you ask (01865 730455). Late 2019 UK street prices seem to be about £13 for a Mono, £30ish for Duals and around £70 for a Hex. Duals are more expensive because they feature higher powered internals capable of handling 10 amps of draw; the Mono and Hex are Ok for the 5 or 8 amp boosters you're more likely to meet powering layouts up to and including O-scale. But put those prices in context. If your point is powered by a £2 servo, adding £13 or so for a share of a Juicer gives a total price that isn't much different to that of a Tortoise motor, which will do the same job with mechanical switches. What's the price, especially on an exhibition layout, of the peace of mind that you get knowing that there is nothing mechanical that can go wrong?

Mick Moignard

Articles for Publication in Footplate

Articles should be sent at least 1 month before publication dates, i.e. beginning of March, June, September and December for publication in April, July, October and January. Plain text, no formatting, photos as large as possible.

The *FINAL* Final Running Session On Ted Martin's Garden & Woodland Rly.

Thame - Sunday 10th November 2019.

With the entire loco fleet, most of the rolling stock and workshop equipment sold or bequeathed, all that remained following the last TMG&WR Open Day in September was the (not so) permanent way.

…. and then, someone had the bright idea to hold a 'final fling' event before the track gets lifted, inviting 7¼ inch gauge loco operators from far and wide, along with TMG&WR 'friends' such as us; and envisaging a full day running a couple of sets of former TMG&WR coaches hauled by a fleet of 'guest locos' (including a few of the former TMG&WR's Great Western locos, all of which are now permanently reallocated elsewhere). And so it came to pass….

Under clear skies (apart from half a dozen or so Red Kites and a couple of Remembrance Day fly-past helios c/o RAF Benson) the day went well. An impromptu operating sequence was put into operation keeping (what I was

told) a record number of visiting 'friends', including several R&DMRC members, happily entertained throughout.

To mark our presence (in a reasonably discreet manner), some of those locos carried 'Risborough Venturer' headboards – of which, one seemed to have fallen off the loco Paul put it on somewhere around the layout (not yet recovered); and a red one that looked so good sitting on the 'BR Standard 4 Tank', I decided to take the liberty of presenting it to the loco owner (who just happened to be Alan Gelson – our Club's host on the day and on our previous Open day visit in September) in appreciation of the invitation many of us gratefully took up by attending one or both events. No doubt we'll see it again; and that leads nicely to a post-script – **Something to look forward to**….

Quite a few of the former TMG&WR locos and rolling stock are now live at Pete Dickson's Treetops Railway, Halton. Pete, with the help of a number of volunteers, is undertaking groundworks and track extension(s), including the building of a multi-spanned curved viaduct (think Barnstaple?) over a lake (or maybe it's a long bridge over a big pond? – we shall see!). Upon its completion, Pete says our Club will be invited to visit, (maybe around early summer 2020?). As is the way of such things in 7¼ inch gauge circles, it's anticipated that a number of 'guest' locos will be in steam there on a fairly regular basis, including the growing fleet of locos Alan Gelson and his sons Andy and Richard build, restore and operate. Looking forward to that then!

Pete J.

Wickham Type 27 Gangers Trolley

I bought this kit (N Brass Locos) many years ago at a Railex show as it looked like a characterful little model. I'm pretty sure there wasn't one stationed at High Wycombe, but it will make a nice little cameo……. Rule 1 applies!

I had acquired several photos of preserved examples and had an article I found in the Railway Modeller November 1969. This had a good 7mm:ft scale drawing, some photos and a dimensioned sketch of a suitable hut.
The kit comes with a fret of nickel-silver and some tiny wheels. I have to say from the start it is not an easy build. Fold lines were under etched and very close to the edge to get the flange effect. Even with a 'Hold n Fold', getting the bends to a right angle and even, was trying to say the least. I eventually resorted to scoring the lines deeper with a scrawker. Another option would have been to cut off the flange and solder on a separate edge.

The chassis is also rather odd. It comprises some folded longitudinal channel sections like the prototype which solder into slots in the end beams. The outer pair contain holes to accept bearings for the wheels. The wheels come on an axle which is sawn in half and then you glue the stub axles into the bearings. It

gauged out at 18.83mm so how one is meant to assemble it to OO standards is a mystery. Also, the wheels are slightly too large a diameter and foul the underside of the floor, necessitating filing off the top of the flange. Once the model is assembled, this subterfuge is hidden by side skirts.

It is claimed it can be motorised and no doubt the 2mm modellers amongst us may well attempt this. Given the above problems with gauge and wheel size, this option never entered my head!! It will sit nicely on a piece of track at right angles to the main line. The fact this will be P4 will not be noticeable.
Once the basic assembly is complete, the detailing is reasonably straightforward, with brakes, seats and some interior detail for the driving position. I added the canvas screens from tiny rolls of masking tape with fine thread (raided from Gill's stock of such stuff), tied round as the securing tapes. One sheet has been left down. I added some interior paraphernalia – tools etc to bring it to life after I had painted it.

Colour scheme seems to have been very variable and that shown is typical. Transfers were taken off an HMRS sheet and then the whole lot weathered. So, a tricky model involving an amount of swearing, but worth persevering with as it does indeed make a very characterful little model and captures the essence of the original well.

Tim

Aylesbury Update

Above: Overall view showing a productive Saturday; platform surfaces glued, platform loop track laid, Tim fettling one of the last points to be laid, Adrian and Chris track building. On the extreme right it is just possible to see the ash ballasting of the Cripple Siding carried out earlier in the day.

Left: A close up of the glued platform surface and platform loop trackwork laid earlier in the morning.

Steve L

RISEX 2020 Exhibition

Please put Saturday 22nd February into your diary as a "must attend" event – it looks as though it's going to be another good one. The layouts have been invited, the traders have all agreed to come and the catering is sorted, except that we need lots of volunteers for all the various jobs please, from help setting up on the Friday night from 7pm and all day on the Saturday starting at 7.15am, so see Bob E. and sign up today!

Once again, we will have the two Club Display cases setup, one in the Carrington Room and one in the Main Hall. We will need models to fill them, therefore if you can let James know if you can provide some to fill a shelf, or even two, then that would be great.

Risex (or Cakex) is renowned for its fine array of homemade cakes. We don't want to disappoint those visitors who come for the cakes, as well as the exhibits and display, so please exert the utmost persuasive/culinary skills to provide us with the usual array of delectable baked goods, we are looking for at least 20 of them, so let Paul know what you can provide, the stickier and the creamier the better.

Those who would like a cooked lunch on the day, please place and pay for your orders in advance of the show with Mark (the menu choice will be distributed soon), as you won't be able to do so on the day. A selection of rolls, crisps etc. will be available on the day. During the Saturday setup, a limited number of bacon rolls will be available to purchase from 08.00 to show opening time.

See the Club website http://www.rdmrc.org.uk/ for more details on the layouts and traders who are attending.

If you are going to an exhibition or know somewhere that will take some flyers then get in contact with the club Trustees, as we need to make sure we cover as many places as possible, to make sure that the show is a success.

Don't forget to sort out your unwanted railway items for the Second-hand sales table, these should be priced and brought to the club on Saturday morning. The sales form can be found in the members area of the website.

Risex Management

Modelling Saturdays

The following dates have been booked 09.00 to 17.00

Jan 18, Feb 8

I try to arrange modelling Saturdays not to clash with other events but this is not always possible. If you are involved in or know of events that are likely to be of interest to our members then let me know so I can put them in the diary.

Paul

Test Track Nights

Here is the list of proposed test track nights. If you want to make use of the test track then you need to get it out and set it up in the Cherry Baker room. Don't wait for someone else to do it.

Jan 17, Feb 14, Mar 13

Laser Cutting Materials

In stock we have:

0.5, 0.75, 1, 1.5 & 3.2mm white plastic (Rowmark) with some 1.5 & 3.2mm in black. Sheets are 1220 by 610mm.

Clear acrylic in 0.5 & 1mm. Sheet sizes vary but some are 1000 by 1000mm.

MDF in: 1.5, 2, 3.2, 4 & 6mm, sheet sizes are 1220 by 600mm

The max size the cutter takes is about 350 by 450mm. The larger sheets will be cut down to approx. A3 or A4 and we will calculate the prices.

Club Diary

2020

January	3	Trustees Meeting
	11-12	Chiltern Model Railway Exhibition, Stevenage Arts & Leisure Centre, Stevenage
	17	Test track
	18	Modelling Saturday
February	2	NMRA Benson Winter meet, organised by Mick.
	8	Modelling Saturday
	14	Test Track
	21	Risex Setup
	22	**RISEX 2020** Exhibition, Community Centre, Princes Risborough
March	6	Trustees Meeting
	13	Test Track
	20	**Wheeltapper 2020** Modelling Competition, with Guest Judge and Speaker Jerry Clifford who will be talking about the development of his Bath Queen Square layout.
April	1	Start of New Membership Year - Subscriptions Due
May	1	Trustees Meeting
	22	Railex Set Up
	23-24	**RAILEX 2020** Exhibition, Stoke Mandeville Stadium, Aylesbury

Rubbish and Recycling

Recycling will be collected each club night, this includes card, plastic bottles and cans. Please leave it in the kitchen or the box/bag provided.

Please remember to put a black plastic bag in the dustbin before use and empty it when full. There is a wheeled metal bin at the end of the community centre; please put our bags in there when they are full. There is a key in the kitchen. Spare bin bags are under our fridge.

A visitor to Padfracombe

UP 4-8-4 FEF-3 #844 visits Padfracombe. 844 is a US 1:48 scale (so around 10% smaller than European 7mm O scale) model of the loco as it existed around 1996. The prototype is the largest non-articulated steam locomotive operating anywhere in the world, and one of the few steam locos that has never been retired by its original owner, in this case Union Pacific. The class name FEF-3 stands for Four-Eight-Four, 3rd group. The model is a brass one from Overland Models, one of 54 made in 1998 by Ajin Precision in Korea, and was with Mick for sound and lights installation. It visited Padfracombe for a track test. While it ran just fine, it also demonstrated that its NMRA-standard O-scale wheels are not entirely compatible with James's Gauge O Guild standard finescale track flangeways. There is also possibly some fact to the rumour that James now fancies a Big Boy 4-8-8-4 to be based at Padfracombe for excursion duty.

Mick