



Risborough and District  
Model Railway Club

Jan-Mar 2021 Winter

# FOOTPLATE



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## WELCOME

Hello everyone. Merry Christmas and a Happy New Year, even if we are all locked away from each other. Hopefully next year we can start meeting but it may not be a for a while yet. Both our exhibitions for 2021 are cancelled but we may be able to have an small event later in the year.

The Community Centre work continues with the floor screed done and the doors and windows going in. Electrics and plumbing have progressed as well and the roof is just about complete now. Once the new hall is secure, the door openings can be cut in the wall through to the main hall.

Our Facebook group continues to get plenty of postings which show some very impressive modelling. If you have not posted, don't be put off by the high standard of some of the models, it is always interesting to see what you are doing. These stories are reproduced Monthly in Footplate Lockdown Specials for those not on Facebook. The regular seasonal Footplates continue and I manage to get enough articles each time, sometimes just in time! Thank you for all the contributions, keep them coming.

We have had a couple of Zoom meetings, just a get together and chat. These were successful and we now have confidence to be able to run talks and probably the AGM. More Zoom events will be organised but if there is something you would like to see, let the Trustees know and we will do our best to organise it. I think we should aim for at least 1 Zoom meeting per month.

Paul

## From the Internet

The Monster - Filmed At Gorton, Manchester (1925)

<https://www.youtube.com/watch?v=BBRfULXzg94>

4K cab ride, a series of videos mostly in the Netherlands but also in France and Switzerland.

[https://www.youtube.com/results?search\\_query=4k+cab+ride](https://www.youtube.com/results?search_query=4k+cab+ride)

Low clearance bridge, Brand new cars totalled, \$2,000,000 damage

[https://www.youtube.com/watch?v=pcqfa\\_uj2hA](https://www.youtube.com/watch?v=pcqfa_uj2hA)

Great Western Steam Railmotor 93

<https://www.youtube.com/watch?v=t4oZBKUdFgA>

From Flushing to Harwich and London around 1937 in colour!

<https://www.youtube.com/watch?v=-Dbvj6-SdX0>

Merchant Navy Locomotives

<https://www.youtube.com/watch?v=5EvKeHWm7w0>

34092 City of Wells

[https://www.youtube.com/watch?v=A8WADCR\\_jGs](https://www.youtube.com/watch?v=A8WADCR_jGs)

Romney, Hythe & Dymchurch Railway - 'End of Season Parade' 31/10/2020

<https://www.youtube.com/watch?v=FiT0hC-ngxw>

Front cover: A snowy winter scene at Oslo Airport Station in November 2019.  
NSB BM74 FLIRT EMU 74513.

Paul

# Model Railway Signalling-Part 1

With no background of working on the railway I needed to learn about signalling design and practice before planning the signals for my freestyle layout Prince's Cross. I looked at both railway documents and modelling books only to find significant differences between the two. In at least three places I found modelling articles incorrectly describing the meaning of semaphore distant signals. These notes are my attempt to understand how to reflect British practice realistically on a freestyle model.

Modelling books tend to focus on the difference between semaphore and multi-aspect lights as signalling has evolved. Prince's Cross is based in the 1960s when much of the network was covered by signalling controlled from a local box. However, my inspiration King's Cross, had coloured light signals controlled from a power frame installed in 1932. These technologies and electrical interlocking with train detecting track circuits date back to the early 1900s. Critically, operation remained under control of a signaller who could see the area around the box.

In these initial notes I will concentrate on just the running signals. These control train movements across the whole network with trains going from one box to the next, often at significant speeds.

In practice both coloured lights and semaphore signals were used for most of the twentieth century. In 1924 the Institute of Railway Signal Engineering defined three and four aspect coloured lights as we know them today nearly 100 years later. As the LMS and LNER pushed mainline speeds in the 20s two aspect (yellow & green) distant signals replaced semaphore arms. An example of the mixed technology signals is the Northern Junction box near Southampton. From 1966 to 1981 this controlled semaphore signals on the tracks north of the box and three aspect lights on the tracks to the south.

Semaphore and light signals are visually distinct elements of a model. However, the era of a freestyle model doesn't define which form is appropriate. Other, less visual factors will determine where signals are placed and how they operate. A key question is where they are controlled from. Is it a local signal box or is it from an invisible remote control centre? In 1978 over half the network, 12,307 miles of track, was still controlled from local signal boxes. Semaphore signals under local control, were still in use on the Wheary lines to Yarmouth and Lowestoft in the early twenty first century.

## **1 From Signal Boxes to Remote Operation**

Electrical technology (lights and track circuits) make remote control possible

but certain activities require local supervision of movements. It was the disappearance of these that made remote control feasible.

The transition from steam to diesel and electric traction had an impact on the design of junctions and terminal stations. Locomotives no longer needed to be shunted for turning and servicing. There was also no need for specialised engine sheds and facilities for overnight stabling. The growing use of integrated multiple units and remote driving coaches removed the need for passenger locomotives to be run round carriages.

The other significant change in the mid twentieth century was in the type of traffic on the network. In the 1930s local freight trains made pickups and deliveries to freight sidings and sheds at almost every station. By the 1970s local freight had practically gone and major single freight trains, like coal, were on the wane. The need to shunt freight at stations or for an express to bypass slow moving freight was disappearing.

Every text describes the use of signals to keep trains a safe distance apart. In 1889 the Regulation of Railways Act mandated absolute block working on all passenger lines. Put simply no train can enter a section of track (the block) until the previous one is out of the block.

Less is said about signals in their role of protecting and controlling local shunting activity. Direct communication between driver and signaller is also important in this role to ensure agreement on the moves to take place. With changes in motive power and moves to all passenger traffic the local signaller was becoming redundant.

Prince's Cross is based in the 1960s with steam and diesel locomotives and some diesel multiple units. There is also a small parcels and milk delivery yard on the east side of the station. This freestyle design needs a station signal box to oversee local shunting.

Understanding the working of a local box like this will be important for quite a few freestyle layouts. The local shunting activity adds to the visual and operational appeal of the model.

An alternative to a full local signal box is a ground frame or, at a level crossing, a gate box. These deal with local control and protection of shunting but have no responsibility for controlling block working on the running lines. Some models could use this approach but it has to fit into the wider network control "off scene".

## **2 Overlaps, Clearing Points and Station Limits**

Here I am going to focus on the placement of signals controlled from a local

box. Since it may have as many as five running signals along each track, we need to understand some basic principles to map out what a particular model may need. Before beginning to look at variations, in later notes, I will deal with just one of the single direction tracks running between reasonably well spaced out stations.

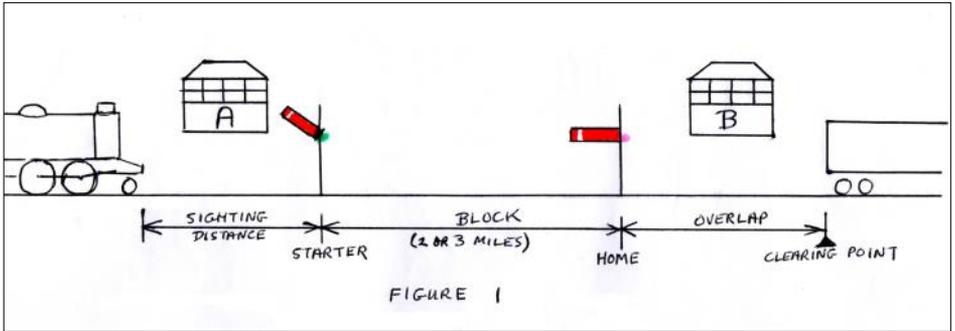


Figure 1 shows one such track between boxes A and B with a single absolute block covering the track between A and B. Access to the block is controlled by A's starter signal and the block ends at box B's home signal. Signaller B, at the end of the block is responsible for the block.

Signalling rules recognise that things do go wrong but a mistake should not lead to an inevitable crash and loss of life. A momentary lapse of attention, fog or misjudged braking could lead to a driver overrunning a stop signal at danger. B may not give A permission to pull off (clear) his starter unless there is a safety net of a clear quarter mile overlap in advance (beyond) his, B's, home signal. The end of this overlap is known as the clearing point. Working out the clearing points and overlaps will affect where to place signals on a freestyle model.

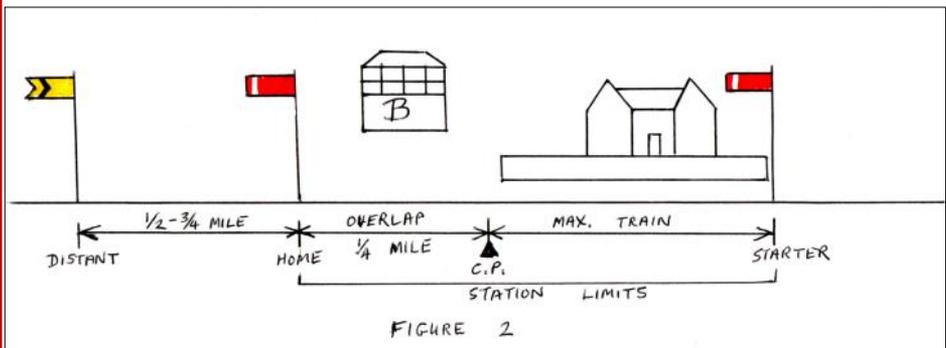


Figure 2 looks more closely at the signals controlled from box B. The section of track between B's home signal and B's starter signal is not part of the block

from box A or the next block ahead to the next box C. This section of track, under B's sole control, forms the protected area for local shunting activity. It is known as within station limits. The origins of this term are unclear but it was in use around 1900 onwards and is clearly defined in the LMS 1937 rule book.

To understand the role of station limits, consider the situation where B has only a single stop signal – the starter on the right. While a train is at the platform it is still within the A-B block. B cannot accept another train until this one has left and there is a clear overlap in advance (beyond) the starter. The following train must wait at A until this one has arrived at C. (B is unlikely to have a clear view of the clearing point a quarter of a mile away beyond the other end of his station). If B has a separate home signal, with a clear overlap, the following train can be permitted to leave A while a train is standing in the platform at B.

In general stations on a freestyle model will have both home and starter signals. Only a very quiet rural station or urban stations very close together will have a single stop signal. Such a signal, which serves as both home and starter, is referred to as a block post. There are no station limits at a block post and the two blocks run end to end.

### **3 Speed and Distant**

Although the primary function of signalling is to ensure safe movement of trains, this needs to be done in a way that supports efficient use of the railway. This too will affect the placement and operation of signals.

I have seen model round and round layouts with trains repeatedly stopping and starting at every functional signal. This may be visually exciting, but it is not a good way to run a railway. Trains should go from one scheduled stop to the next in one smooth movement with no intermediate stops. As each running signal comes into view it should already be clear, as shown in figure 1.

Trains have very long braking distances in comparison to road vehicles. Unlike car drivers they must run at speeds well above that which would allow the driver to stop within the visible track ahead. Signals need to tell a driver how much track has been cleared ahead of them. Traffic lights give road drivers information about stopping – they have three different stop aspects. Railway signals show danger (do not pass) or they show clear with information about which route is clear and what type of movement is permitted.

Figure 2 also shows a semaphore distant signal on the left. This signal is essential for the drivers not scheduled to stop at B. Without this signal all drivers must slow down so that by the time the home comes into view they can stop before they pass it. This needs to be a normal braking manoeuvre not emergency braking. Passengers do not like being thrown from their seats!

When clear the distant tells a driver there is no need to slow down.

Beware of some modelling books which say the distant tells the driver the next signal is clear. This is a confusion with the yellow and green aspects of three (and four) aspect coloured light signals. In remote control areas each signal is a block post with no station limits.

- Even if the home signal is clear, signaller B must not pull off the distant if:
- The route is set into a bay platform or dead end,
- The route is set via points which may only be taken at slow speed,
- The other signals within station limits would stop the train before reaching the next block.

In other words, a clear distant tells a driver it is safe to proceed at speed right through the station limits into the next block. The distant lever is interlocked with all the stop signal and point levers to ensure it can only be pulled when it is safe to remove the caution.

This initial note on modelling signals has established the basic rules and terminology for planning signals on a freestyle model. It has also shown the need to think about how the model fits into the bigger picture of the network signalling and movements. In the next note I will expand this to cover running signals protecting point work for crossovers and sidings.

Tony

## **Articles for Publication in Footplate**

Articles can be on any subject including, model reviews or construction, places you have visited, your own layout etc. and 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 high a resolution as possible.

# OrgMemory 29pcs Mixed Model Trees from Amazon

I found this set on Amazon while browsing Model Railway items. There are 29 tree armatures from 40mm to 110mm (the seller claims up to 140mm but this is not so). Compared to Woodland Scenics tree armatures these have a little less detail and the moulding is not quite as good. There is some flash and there are moulding sprues to remove, which is easy to do. What you do get is 29 (I actually got 30) armatures of 8 different designs which do not need to be bent to shape, they are moulded in 3D unlike the WS ones which are flat. When painted and foliage has been added they will be quite acceptable. The set costs £7.99 and you get free postage if you are with Amazon Prime. The photos show what was in my set, you may get a different selection. Most will be very useful and different to my other trees. Can you identify the species?

Paul





# Dogfishing

'Castellan Green', 'Bloodreaver Flesh', 'Stormvermin Fur', and 'Baneblade Brown', are not the usual shades of paint that are in the railway modeller's inventory. Let me explain how they solved my problem.

I have been on a mission – encouraged by Covid lockdown circumstances – to rid cupboards and shelves of uncompleted (even not started) kits of various shapes and sizes which I have purchased over several years of activity in the hobby.

Whilst a supplier like Peco (who have absorbed Parkside Dundas) and others operating in the normal hobby channels can be relied on to provide good building instructions, and suggestions as to the appearance of the resulting model, it is possible to come across traders (at shows for instance) who are not so reliably complete in their offerings. So it happened that I had 2 kits for a Dogfish ballasting vehicle. The assembly instructions were adequate - although the wheels fell out until I improvised a thickening of the sides of the frames. Eventually I had 2 wagons, but no definition of the appearance that would enable me to finish the vehicles.

Following the mission goal, I searched with Google for pictures of Dogfish wagons, and somehow found a website review of the Heljan 0 gauge product of the Dogfish (by Swansea Railway Modellers Group) which dated from 2016 – and also of the Catfish wagon. First I knew of these models, but never mind. Apparently the Catfish only delivers ballast between the rails whilst the Dogfish does between and without. The images were in colour, and suggested that I needed some dark green paint! Well, I would never have guessed! My memory of the original that I have seen at Quainton Road didn't seem that colour.

I don't know if Railmatch do a 'Dogfish Green', but it seemed unlikely. After some head scratching, I chanced on the idea of seeing what I could find in the local paint shop (no, not B&Q). Not much more than a stone's throw away, just off the Market Square in Aylesbury, there is a Games Workshop (tho' its now called War Hammer), which has a range of unlikely paint shades, in small pots, water based. I made a photocopy of the review article and went down to try my luck. I showed it to the lad in charge, saying I needed a very dark green shade, and he advised that the darkest green they had was called 'Castellan Green'. I bought a pot of that, and subsequently returned for a wider range of colours. Being water based, they are very easy to apply, and quick to dry. I'm not sure about their durability so careful handling may be advised. I had already

sprayed a primer base with oil colours, but this was easily covered by a single coat of the Warhammer paint – it even adhered to plain brass, though I think it would be easy to damage.



The photo shows the result – although the camera shows the green shade rather more prominently than it appears to the naked eye, and I may prefer the wheel suspensions to be a plain black. I have used Baneblade Brown for the internal surfaces, and Stormvermin Fur looks very apt for the platform flooring.

Adrian

# Banner Repeater Signals for High Wycombe



These are the prototype banner repeaters for the down main situated by the Amersham road bridge. They are of the GW open backed type that pose some modelling challenges.



This shows the post complete with the 2 landings and rear ladder platform. The post is composed of 2 diameters of tube nested one inside the other, available from Eileen's. The lower is O/D 2.5mm and the upper 2mm. The landing is a modified Mike Clarke etch.



Here is the first landing constructed from 1mm angle. The 2mm tube offcut is sunk into a hole and has been coated with indelible fibre tip ink. The left-hand piece of angle is temporarily tacked to maintain alignment. I've made extensive use of different temperature grades of solder to prevent unsoldering work already done. This is with 179<sup>0</sup>.



The lower and upper landings complete.



Production of the casings. 1mm x 10thou brass strip has been wound round a pencil and soldered to handy bits of channel with 179<sup>0</sup>. Next you can see one unit soldered to a piece of 8 thou sheet using 145<sup>0</sup> solder. This is then cut off, trimmed round the outside and the centre removed with a piercing saw to leave a small ledge inside – the upper casing. This ledge supports the glazing (from 0.2mm packaging) also seen at the top.



Here, the central bearing is being fixed. This is some 1.25mm tube (I/D 0.6mm) soldered (179<sup>0</sup>) into some more 1mm x 10thou strip. The bearing is centred in the casing using a disc of 5 thou brass cut to fit inside and sit on that ledge. It too, is coated with indelible ink to prevent inadvertent attachment to the casing. The bearing support bar is soldered with 145<sup>0</sup>.

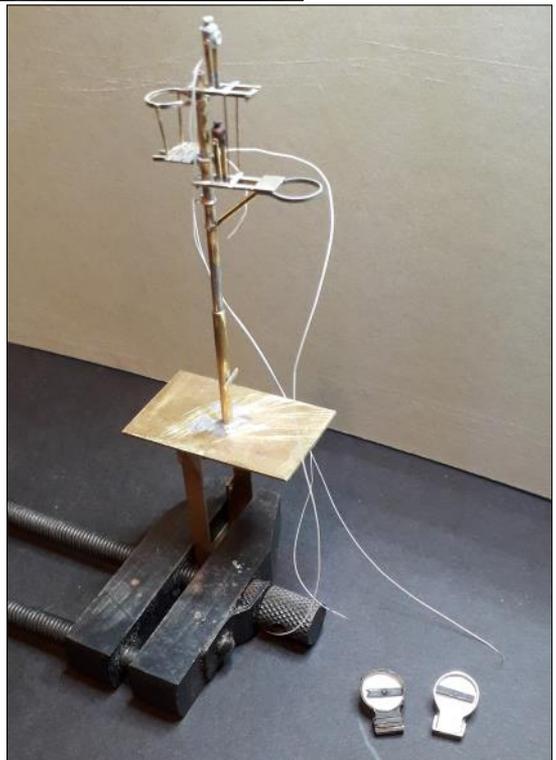


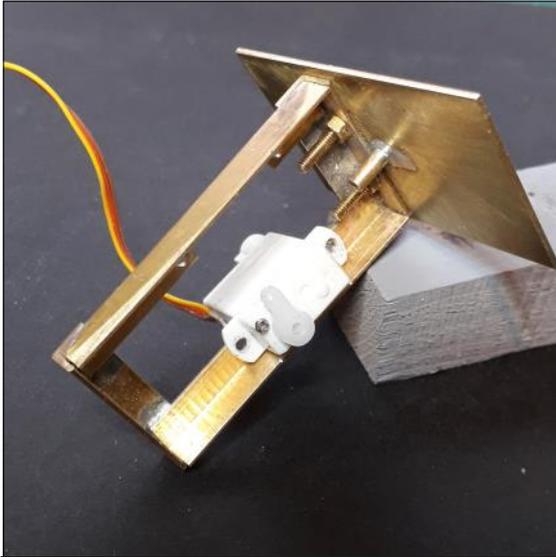
Four casings completed (there is another pair of banners at the beginning of the down platform). The folded casing supports and the front detail etch are from the MSE kit as are the arms. Top left shows the glazing in place with a drift of white paint over it.



This is the safety hoop at the top of the ladder. Imm x 10thou strip, wound round a smaller pencil and formed round a dummy bit of blackened post. Temporarily tacked to a bit of brass sheet. This allows me to then file the hoop down to about 0.75mm which is closer to the prototype. I think flat strip looks better than wire.

Safety hoops, diagonal brace and various stay wires all in place. This is where the differential solder melting points pays dividends. A quick in and out with 145° solder and nothing else falls off! The lamps (Modelu) have had their LEDs (prewired 0402s) glued in place. A 0.45mm hole is then drilled through the lamp below the LEDs and a wire threaded through the upright supports and the lamp holds everything in place. The negative will be soldered to the post and the positive will be discretely soldered to some motor wire which then runs visibly down the front of the post. This represents the real wires running from junction boxes at the base (you can just see the bracket here) up to the motors. Motor wire was used as getting the Teflon coated wires on the LEDs to stick to anything is hopeless – and they're too thin.

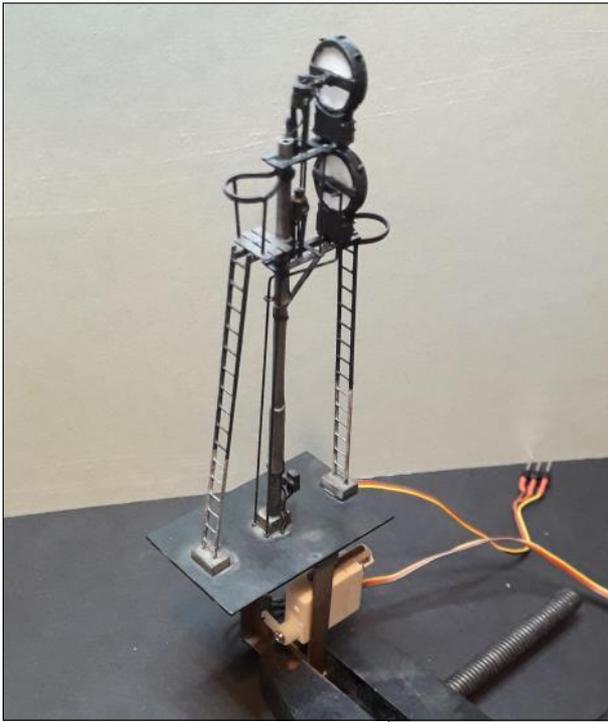




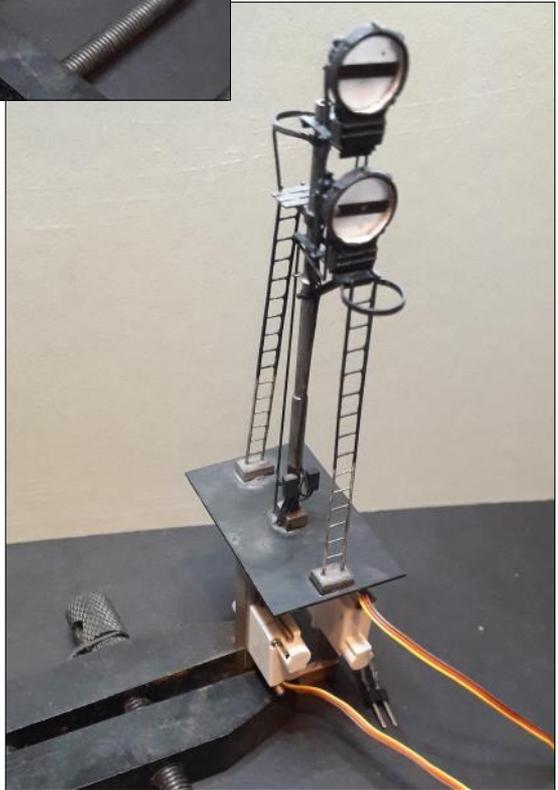
The servo mount. This is pieces of angle brass soldered up. It's bolted to the signal base on 10BA bolts. Holes were tapped in the base 10BA. The bolts screwed in place and held with solder and then filed flush on the visible face. The angle has a slot cut out (just visible on the left side of the mount) to take the servo which again is bolted in place (12BA).



The signal virtually complete – only operating wires needed. The ladders are Mike Clarke etchings and you see a better view of the lamp mountings. Small cranks (from a Mike Clarke coach detailing etch) have been soldered onto the signal arm drive shafts. A piece of cigarette paper and a quick dab with a hot clean iron (145<sup>0</sup>) stops everything soldering up solid. The lower crank faces left, the other right.



Everything in place ready for installation. Drive wires can be seen (guided through fine tube soldered into the base) and the electrical junction boxes at the post base. The post and ladders appeared to sit on some sort of concrete block represented here by Plasticard.



Next page: Some shots of the installation. A Modelu finial has been fixed after installation.

Tim



# SR (exSECR) D Class

A while ago Pete J kindly gave me a SR (exSECR) D Class loco. It was well constructed from a Wills kit and nicely painted and lined. There was some very minor damage (missing steps and guard irons) and, while well-built, the builder had just used what was in the kit so there was no added detail. The builder also seems to have had little knowledge of the prototype as it was built as outshopped by the SECR rather than as modified by SR.

So, I replaced the missing parts, added brakes, lamp irons etc and modified it to (1938) SR condition (removed various smoke box accessories and the cast rear tender number plate, replaced the buffers and added tender top extensions). I also completed the painting and lining below running plate level (including those tricky tender frame cut outs!) and replaced the tender numbering and lettering with the correct colour SR versions. To improve running I added tender pick-ups. It needs some weathering, a crew and cab side number plates but this is how it looks at present.



Roy

# Is it a cottage or a Wookiee?

My old photos of Appledore show a couple of thatched cottages so my experiments continue. Using one of the Petite Properties kits and some fake fur from Hobbycraft this is the result so far.



I need to paint the fur with watered down white glue, and get it to lay as I want and then tone the colours down to a more realistic colour. Of course we could leave it that colour and style as a retirement place for an elderly politician from across the pond <evil grin>.

Cheers

Ted



# Small Diorama Project

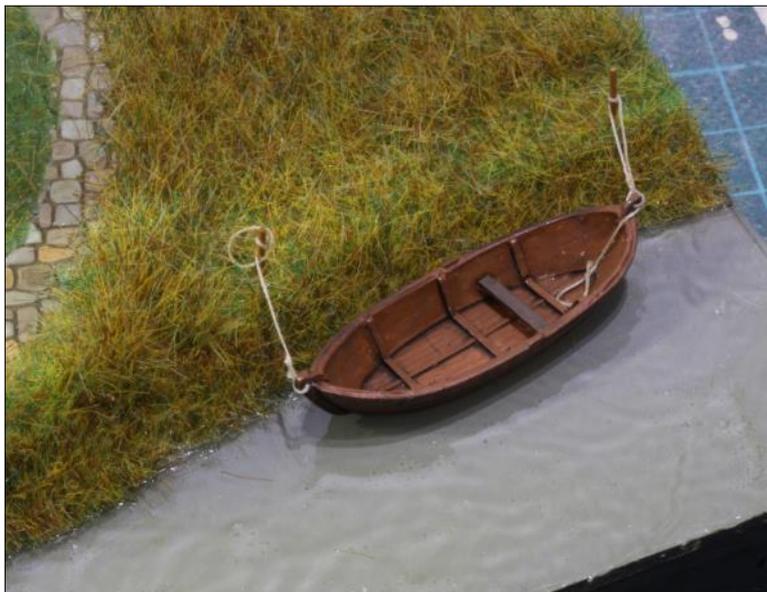
My diorama is now complete. My aim was to produce a model from bits in the cupboard and to experiment with static grass and making water ripples. The only thing I had to buy was the small bottle of Mod Podge. It was also an opportunity to model a typical flat drained farming area which there is no space for on the main layout. Previous Footplates have shown the construction methods which are fairly simple and are processes anyone can do. The static grass is still a bit of an art rather than scientific technique but I think I have the hang of it now. The water turned out to be much easier than I had expected and gives me the confidence to start on the large canal on the layout. All I needed was a drinking straw!



Above: an overview of the scene, the canal on the left is higher than the ditches on the right by 2mm. Each wind pump lifts the water by a small amount.



Above: You can see the different colour of the water which is created by painting the underside of the 2mm clear styrene sheet. The slightly coloured water from the outflow of the mill (top left) and the direction of the rowing boat ropes try to give the impression of flowing water in the larger drainage canal.



Left: the rowing boat is a resin casting from Artitec. The ropes are rigging cord (cotton thread) soaked in very dilute PVA to keep them straight when dry.



Above: The water here has been coloured with GW green wash, so you can produce quite subtle effects in colour and texture. The ripples are made by blowing through a drinking straw.

Right: the farmer considers how to get the stupid cow out of the ditch! More importantly, can he do it without getting wet? The muddy water around the cow is produced by adding a small amount of GW brown wash to the Mod Podge before making the ripples. The other cows look on in amusement!



Paul

# 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

Many shows are now being cancelled for 2021, a few are still listed as going ahead at present.

January	15	<b>Zoom Talk</b> by Geoff Plumb, 20.00 to 21.00, entitled 'Industrial Action!', covering some aspects of Industrial systems in the UK.
February		
March	20-21	Warners Exhibitions, Alexandra Palace, Alexandra Palace Way, London N22 7AY
April		
May	8	Association of Larger Scale Railway Modellers. Rivermead Leisure Centre, Richfield Avenue, Reading RG1 8EQ
	22	German Railway Society, Didcot Civic Hall, Britwell Road, Didcot OX11 7JN
June		
July	3	Beaconsfield & District Model Railway Club, Beaconsfield School, Wattleton Road, Beaconsfield HP9 1SJ
	15	NMRA British Region Benson meet.