

Issue 10

Christmas 2019

[Contents on page 2](#)

# The L.B.& S.C.R. Modellers' Digest

A journal of the Brighton Circle, for those modelling the "Brighton" in all scales and gauges.



## Contents

	Page
Midhurst 1866	<a href="#">4</a>
Models from the AGM	<a href="#">11</a>
Reworking a Dapol Terrier 7mm scale	<a href="#">16</a>
7mm scale coal wagons	<a href="#">25</a>
Building the Worsley Works Directors' Saloon	<a href="#">37</a>
Brighton Private Owner Wagons	<a href="#">45</a>
More Scenes from Ashcombe Down	<a href="#">52</a>
Pullman "Her Majesty"	<a href="#">58</a>
Improving the Bachmann E4	<a href="#">69</a>
Travelling Hand Crane - The Tool Van	<a href="#">73</a>
The Ouse Valley Viaduct Project	<a href="#">107</a>
The Slaughter Goods	<a href="#">113</a>
New Releases	<a href="#">119</a>

# Editorial

By a simple quirk of the material that has been submitted for publication in this issue, there is a heavy bias towards goods traffic.

160 years ago, in 1859, the Brighton owned 15 0-6-0 tender locos. In 1863, the West London Extension Railway opened, providing a direct connection between the Brighton and the industrial centres of the north. By 1869, the stock of 0-6-0s had increased to 48, with a significant proportion belonging to Craven's standard goods class (you might like to ask Ian MacCormac about the actual degree of standardisation). These locos continued to haul a large proportion of goods traffic into the Robert Billinton era and so the EBM kit for this class fills a significant gap in the list of types that have been available for modellers. And how many other pre grouping companies can claim a kit for an 1860s goods loco?

Dapol's 7mm scale private owner wagons have provided opportunities for 7mm scale modellers, as demonstrated by Colin Paul and Nicholas Pryor has completed a series of PO wagons in 4mm scale.

Elsewhere, Gordon Gravett describes reworking the livery of the 7mm scale Dapol Terrier, Matt Wickham and Peter Warren record two of the more splendid Brighton passenger vehicles, Colin Paul continues the story of the travelling hand crane and Rod Cameron illustrates the majestic model of the Ouse Valley viaduct.

Eric Gates

Modelling Steward, The Brighton Circle

[ericandannegates@btinternet.com](mailto:ericandannegates@btinternet.com)

[Return to contents page](#)

# Midhurst LB&SCR 1866

By Michael de Jong Smith

There has not been a lot of progress since my previous posting, primarily due to having been as far as 'Death's Door' and spent a month in hospital this year. Also the Parkinson's has not improved, so I have had to rely on assistance from others to get any work done on the layout.

I have had a lot of help from two members of MERG, Chris Barker and Ian Hart, who have set up all three point Indicators, changed many of the turnouts to servo operation, and have partially rewired the layout, criticising what I had originally done, and showing me what I should have done!

The point indicators and slotted post semaphore signal were made for me by Stephen Freeman, and put in place by my friend Ian Barefoot..

Chris and Ian Hart then wired the system so that now all point indicators are wired in conjunction with the three Tortoise point motors that control the 'run-round' and platform tracks, so that one switch allows a locomotive to move onto the turntable, the switch is thrown and all three point motors and indicators change to re-route the track for the locomotive. All point indicators have lights which also change from red to green, depending on the route chosen

Each point indicator arm is painted red with white lettering, so the indicator controlling incoming trains has 'Platform' on the right hand arm and 'Loop' on the left arm. The indicator controlling exit from the turntable is lettered 'Platform' (left) and 'Loop' (right) and the connection to the LSWR headshunt is lettered 'LSWR' (left) and 'Loop' (right) -see over.

Various detailing additions have been added to the layout, including more Victorian passengers and railway staff, milk churns, porters with barrows etc.



Each point indicator arm is painted red with white lettering, to denote the appropriate road.



Rolling stock has been added to with a most beautiful tender locomotive built for me by Richard Jones, which needs final detailing and lining to become Number 173 'Chichester'. This has been built by Richard from an EB Models 'Dieppe' kit and, if you have been following Richard's various postings, you will know that even the Salter valves have been hand made using wire and tube, so they are exquisite. This loco in its unfinished state, is shown at the head of a rake of 5&9 coaches, waiting for the new semaphore signal to move to the 'off' position.



Other locomotives appearing on the layout are two versions of a 'Terrier', 'Merton' in IEG and 'Boxhill' in my interpretation of the experimental livery of green with black and white lining as a 2-4-0.

'Boxhill' is shown at the coaling stage adjacent to the Engine shed..



Also, an E5 has appeared on the scene trying to show the attempt to run this locomotive as a 2-4-2.



My range of Stroudley 4-wheel coaches has also expanded, but I do now seem to have an excess of Brake vans over passenger carrying stock for some reason. Ian Barefoot is just finishing the lettering of a 'Balloon' Driving coach to go with 'Boxhill' and also a number of close coupled 4-wheel Stroudley coaches which might help to redress the balance between brake ends and passenger stock.

The range of 5&9 Model's early coaches has also expanded

I am also receiving assistance from a lady who is finishing off many wagons which I had previously built but had never lettered.

A small diorama shows two early horseboxes and a carriage truck being shunted from the LSWR



line on to the LBSCR Loop by an LSWR well tank locomotive. The private train was for Lord & Lady Cowdray who had been on holiday to the West Country. The LSWR Passenger brake has been shunted past the connecting junction and uncoupled. The well tank is pushing the three wagons through the open gate under the control of a LBSCR staff member using a red flag.

Locomotive number 21 (EB Models kit) is waiting to couple up and take the wagons over to the dock where the horses and carriage can be unloaded and driven to Cowdray House.



Photographs copyright Michael de Jong Smith

[Return to contents](#)

# Models from the AGM



Two of Mr Craven's engines.

Above - Polegate, from the prototype of a 5&9 kit for a Nasmyth Wilson single.



Below - Dieppe, from an EBM kit for a Stephenson single.

Both were built and painted by Eric Gates



Kensington - built by Mike Waldron from an EBM kit and painted by Eric Gates.



Nicholas Pryor's G class Sutherland - built and painted by Roger Stapleton, from a Peter K kit, and possibly a rare example of anyone having successfully managed to build this particular kit. Built to 16.5mm gauge, it is fitted with P4 profile wheels.

Set of Nicholas Pryor's Craven carriages.

To the right, type 13E Composite Brake of 1863.

The three vehicles are built from 5&9 kits in the orthodox style, with plasticard floors and interiors. The roof is 0.5mm aluminium sheet rolled to profile with 1.0mm half round wire soldered on to represent the roof bars. Wheels are by Alan Gibson and the Type 13E Brake is now fitted with open spoke wheels.. They run well and are very stable on the track, but represent quite a starting load for smaller locomotives. The livery is varnished teak with a suggestion of lining by single gold lines. The only lettering is a suggestion of a crest and of class designations in the panels on the doors. The coaches were built by Ian Willets and painted by Dave Studley.





To the left, type 14A First Family Luggage and below, type 14D Composite Luggage.

These photographs show the coaches before interiors and glazing were fitted





Photos copyright Ian MacCormac, Dave Studley and Nicholas Pryor

Built 10 years ago by Roger Stapleton from a second-hand Peter K kit, Sutherland came with P4 wheels on an OO gauge loco. It therefore requires well laid track. It runs smoothly through PECO medium radius point work and around 3ft radius curves. It is powered by a Hanazono H21 motor and exerts a pull of 35grms, which is enough to shift at least seven coaches. Pick-up is from all six wheels of the loco.

Haulage is tackled by lightly springing the loco trailing axle and transferring weight from the tender onto the loco fall plate to assist adhesion. Roger painted it with a Halfords spray can that was thought to be a suitable colour but it was far too light. The aim was for what F. C. Hambleton described in *Locomotives Worth Modelling* as “between newly-made and old mustard”. Roger described the resulting colour as more like custard. He rectified the problem with a coat of tinted varnish. The lining uses transfers from the Brighton Circle and the number plates were produced by Guilplates. The name was from sheets of something like Lettraset. Roger only had two alphabets hence Sutherland in which no letter is repeated.

[Return to contents](#)

# Reworking a 7mm scale Dapol Terrier

## by Gordon Gravett

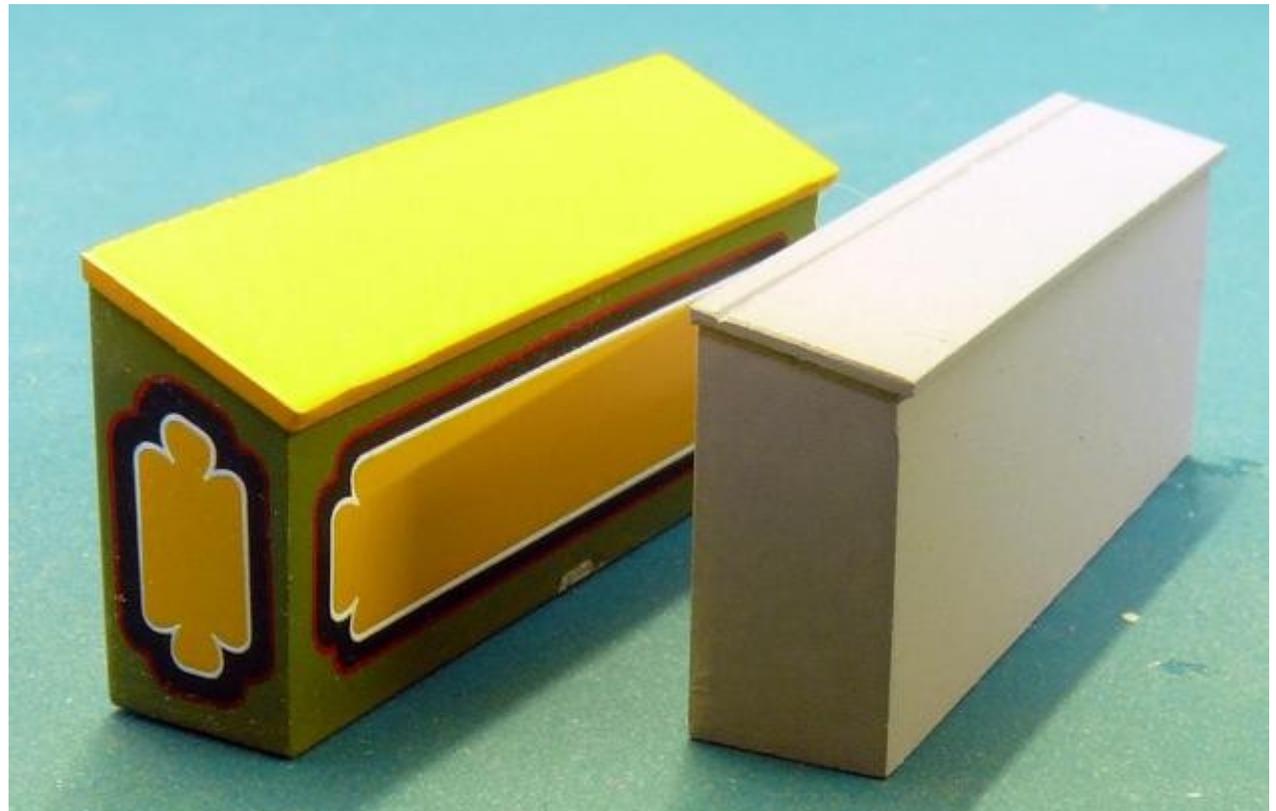
The introduction of the Dapol Terrier is very old news now and has already featured at least twice in these pages – a Critique in Issue 2 and details on repainting one in Issue 4, both by Richard Barton. Like many of us, the temptation to pre-order one of these was too much and my chosen livery was that of Stroudley's Improved Engine Green (as a complete change from the usual BR black of my layout). Unfortunately, on seeing a pre-production example and, then receiving my own "Thames", like Richard, I just knew that I would have to do something about the colour.

This was a great shame as the quality of the finish could not be faulted and the printed lining was far neater, and finer, than anything I could hope to achieve. It wasn't just the yellow colour either, the green surrounds to the panels appeared far too light to my eyes. With the disappointment of the colour, and with more pressing projects on my mind, I decided to replace 'Thames' in its box and decide, later, the best way to proceed with it.

In the meantime, I had seen a photo in Tom Middlemass's book "Stroudley and his Terriers" of No.40 "Brighton" in the later Billington condition with the condensing pipes removed and I decided to use this as my reference. I had also spoken to Richard and he had informed me about the lining transfers available from Guilplates, which were duly ordered. Name transfers for "Brighton" were not produced but number plates for "40" were available as the same plates were produced for an H1 Atlantic. For the names I would resort to trying to paint over some rubdown lettering and found, on-line, that a Woodland Scenics sheet, DT507, had white lettering of a suitable size for all but the, slightly larger, initial letters. Fortunately, I also found a very old sheet in my collection that had larger 'B's of the right size.

Eventually, the workbench was cleared and “Thames” was dismantled as Richard described. I also managed to separate the cab front/firebox rear moulding from the main cab/bunker unit by sliding a thin blade into the joint and breaking the glue but the front splashers refused to budge on mine. Holes for the lubricator and condensing pipes were filled in the tank fronts and smokebox, excess rivets removed from the tank sides and the printed names gently rubbed down with 1200 grit paper to remove any tell tail signs. With everything dismantled, various other modifications and details were also added. These included adding a coal plate to the cab rear, carving off the indicator dials on the cab front plate and replacing the hand wheels with tap-like levers in line with the handrails. These, as Richard mentioned, ran through the handrails to the smokebox. I did not want the firebox to glow so I also made a door and shelf for the firebox.

With the benefit of Richard’s experience, I thoroughly degreased all the components with IPA and then sprayed everything with Halfords grey primer. This seemed to adhere well and I was ready for the topcoat. With everything dismantled, I also took the opportunity to make a new toolbox for the rear of the bunker with less rake to its lid but I agree with Richard that it is also not deep enough. Is it possible that there’s a slight dimensional inaccuracy in the length of the cab or bunker?



Comparison of the replacement toolbox (in primer) and the original.

I was fortunate to have available a swatch sample of the late Bernard Miller's "Improved Engine Green" (loaned from a friend) and used this to try to adapt Phoenix Precision's colour – lightened with the addition of a little Humbrol 24 yellow – as best I could. This was airbrushed onto all the relevant parts and then given several days to thoroughly dry. With a matt finish and no lining to embellish it, the main body colour looked extremely dark and drab at this stage and I had to re-assure myself that it was, at least, close to the sample of paint. Then, after lightly applying some Tamiya masking tape to help align the letters, and marking the spacing, the white lettering was rubbed down. The Woodland Scenic lettering worked fine and, after a bit of struggle, I also managed to rub down the slightly larger "B"s. (I used to use rubdown lettering a lot but, with so much graphic work now done on computers, it is not so readily available.) All I needed then was a good quality fine 5x0 brush, a magnifying headband, good light, paint thinned to just the right consistency and a steady hand(!) to over-paint and shade the "Brighton" names.

Rub-down lettering as a guide to the name aligned with the help of a piece of Tamiya masking tape.





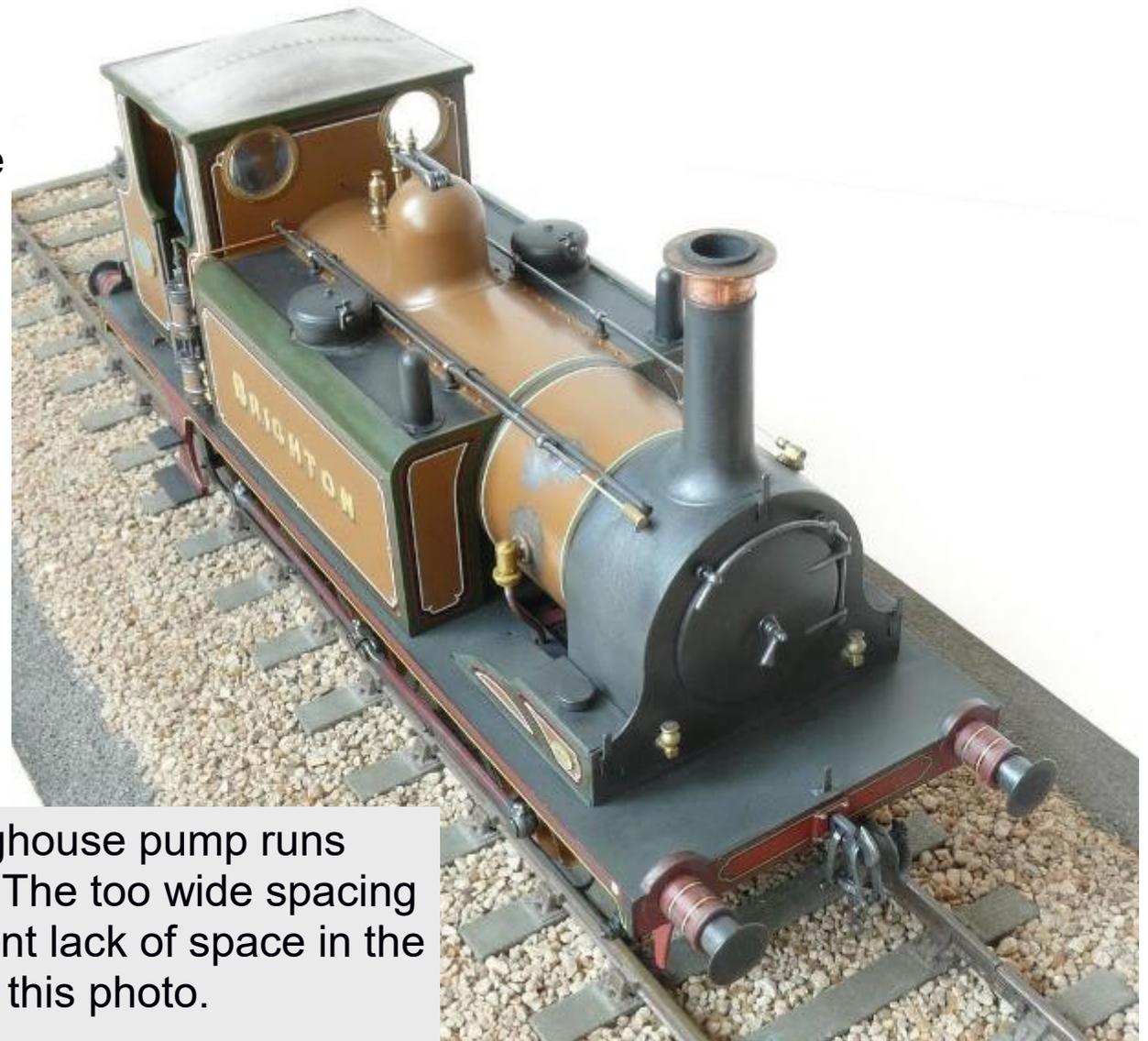
I was quite happy with the “claret” colour, and the neat lining, of the footplate valences and buffer beams so left them alone. With hindsight, though, I do wish I’d followed Richard’s example and reshaped the tops of the cab steps. I can also (now) see what he means about the raised coupling plates but I have to say that I never took a lot of notice of them before I read his critique. The repainted and lined Westinghouse pump was detailed with some 4mm scale handrail knobs and copper wire and pipe runs re-routed in accordance with photos. What, I assume, is the exhaust from the brake pump runs along the boiler and enters the smokebox just above the handrail extension. Whilst on the subject of the Westinghouse brakes, the plastic pipes that locate under each buffer beam were heated gently over a candle and coaxed to form a tighter curve - again, as seen in photos.

The Westinghouse pump, detailed with 4mm scale handrail knobs and brass wire and lined with the transfers. The (plastic moulded) pipes to the clack valves were replaced with copper wire.



I wanted “Brighton” to represent a working engine and, as such, to show a reasonable amount of grime, deterioration to the paintwork and weathering. Most notable to me in many of the photos of these engines, was the way the paint blistered or burned off the smokebox and boiler cladding. On the smokebox this was done with the aid of talc dabbed into the wet paint and using a small amount of Humbrol Metallic Gunmetal mixed into the No.85 Coal Black to give it more of a metallic sheen. On the boiler, I used the Gunmetal, along with a touch of dark rust colour, to create the patches of bare metal where the paint had burnt off the cladding – mainly around the clack valves and handrail knobs. Other than this the weathering followed what might be considered normal practice – dirt, oil and grease on the chassis and sooty deposits on the top of the boiler and cab roof. I also used Gunmetal (rather than a bright silver) to paint all the polished steel as I think this gives a more subtle and natural appearance.

The re-routed exhaust from the Westinghouse pump runs along the boiler to enter the smokebox. The too wide spacing of the spectacle glasses, and consequent lack of space in the corners of the lining, is also apparent in this photo.



I have no layout (within the period) on which to use “Brighton” and it was bought purely on a whim because of the price and could not be resisted – as, no doubt, have been many more. It does, though, run very well and does get the chance to stretch its legs from time to time when its much older sisters - 32636 and 32646 – are not looking!

Blistering of the smokebox and burnt paintwork on the boiler cladding can be seen in this photo. As locos of this period were regularly cleaned with oily rags I assume the burnt patches on the boiler cladding will not have rusted too much so I have shown them as mostly bare metal. Humbrol Metalcoat Gunmetal was used for much of the polished steel on the model (and burnished) as I think it looks more natural than a bright silver colour.



This view into the cab shows the simplified details – dials and handwheels removed and tap-like levers in line with the handrails. The cab steps do not look good in this view!



The completed “Brighton” posing for the camera. I do wish I’d followed Richard’s example and reworked the cab steps and adjusted the lining. It’s not too late to do this but I am very lethargic about reworking completed models.



Photos copyright Gordon Gravett

[Return to contents](#)

# 7mm Scale Coal Wagons

By Colin Paul

## **Improving the appearance of the South & Gasson and Corrall & Co. Ltd coal wagons.**

The Brighton Circular Modelling Notes for Autumn 2018 mentioned that Gaugemaster were advertising two 'new' 7mm scale models (commissioned from Dapol) with an LB&SCR connection, namely the solitary South & Gasson of Brighton No.105, and a Corrall & Co. Ltd of Brighton open coal wagon No.166. Both are now available and are priced at a very reasonable £48 each (£2 more for the weathered version).

Before purchasing one of each, I knew there were going to be a few compromises in production of these models. Neither model reflects the actual wagons depicted in photographs. The official photo of the South & Gasson wagon, for example, shows it has eight planks instead of the modelled seven, but, more alarming, the model has an 'end door' which, in reality, it should not have. The lettering layout is pretty much identical as per the prototype photo. As for the Corrall's wagon, it closely resembles drawing 2 in Simon Turners article on Corrall wagons (Brighton Circular Volume 14, No.4, August 1988) with sprung buffers. The drawing (based on photos) has been lettered CORRALL & COMP<sup>Y</sup> (top plank) with L.B.&S.C.R. (third plank down), whereas on the model it reads CORRALL & Co. Ltd. (spread partly over the top three planks) with BRIGHTON (on the bottom plank). Both wagons feature a more modern looking axlebox, which in practice should be earlier grease or later oil filled ones.



Straight out of the box photos showing an unweathered Corral & Co. Ltd coal wagon, which was borrowed from Mike Cruttenden and positioned on his garden railway. Sadly, I did not take a photo showing a clean South & Gasson wagon. As can be seen, they are full of detail both inside and out. The interior is beginning to 'dust' up nicely though only superficially. The dropdown door is a very nice feature. One of the three link couplings has already come off.

Aside from these comments, both models were superbly moulded, and finished to a very high standard with lots of fine detailing, which is what you would expect from Dapol. The bodies were moulded in their respective body colours of Dark Brown for the South & Gasson, and Bright Red for the Corralls. Not only do the models have outside ironwork and rivet details, which show up very clearly, they also feature fully detailed insides, with individual planking and bolt details etc. For that extra added touch, the side doors actually open, which is a very nice feature and ideal for dioramas<sup>1</sup>. They also feature sprung buffers, and compression sprung drawbar hooks. When placed on plate glass, there is no rocking at all within the models. I noticed though that the brake lever guides are a bit on the flimsy side, so care must be taken when handling. Upon opening the boxes, I found two of the coupling hooks had fallen off which were not a drastic problem to fix. Being mass produced, there were some small, but not insignificant errors that could not readily be seen first time around - more anon.

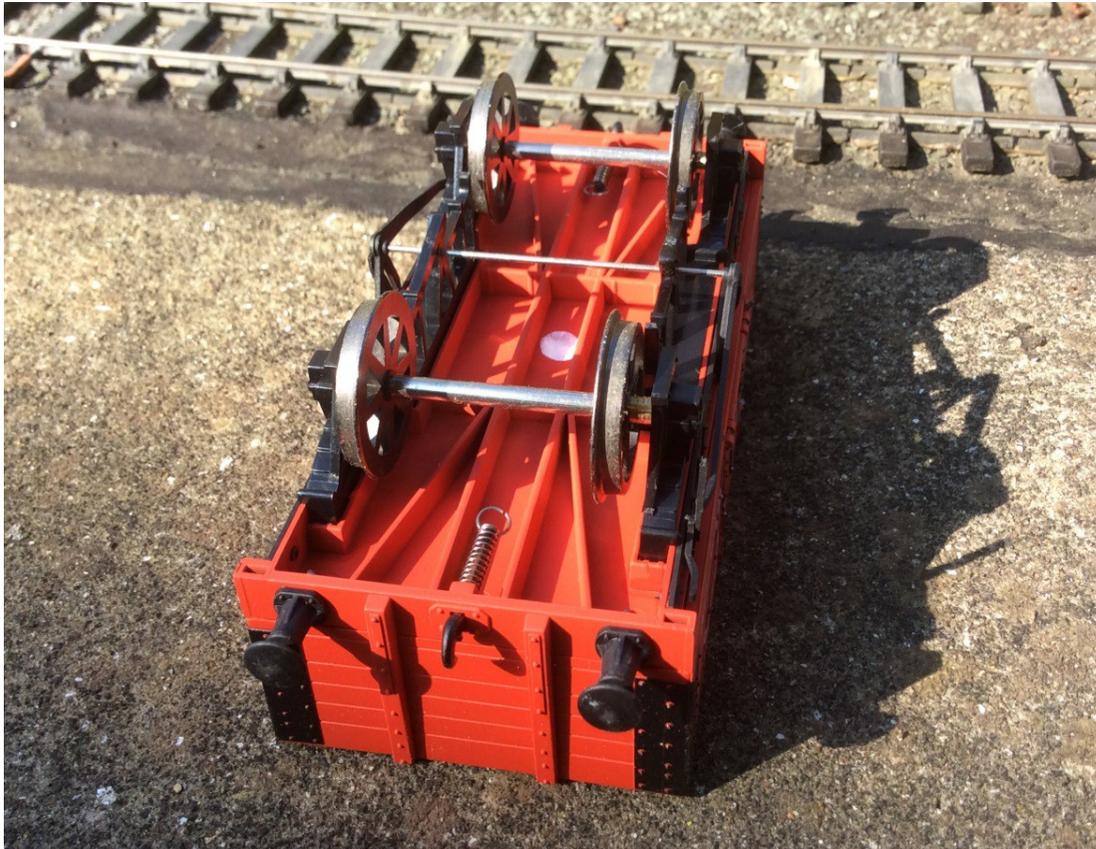
1. At Mike Cruttenden's recent Garden Railway Open Day, he mentioned that the models slightly expand in the heat and the side doors drop open!

### Improving the models

People who have purchased these models may decide to leave their respective models "as they are" and leave well alone. Whereas some on the other hand (as in my case), may choose to subtly improve theirs. What I am about to discuss are not drastic improvements that require a major rebuild or repaint.

The first area of concern was with the excessive side play movement of the axles. The amount of slop in each one ranged from 2 to 2.2mm. One of the bearings was slightly loose in its hole in the back of a W-iron which kept popping outwards. These problems I thought would lead to buffer locking. Mike Cruttenden assured me this slop did not cause any problems at all in running when

being pushed through standard 6' radius Peco pointwork. I thought differently before discussing it with him. My solution was to make small 2mm thick, 5mm diameter black Plastikard packing washers with a 3mm hole drilled out in the centre. A small segment was then cut out just slightly smaller than the axle diameter. Each washer was then pushed down over the protruding bearings and behind the W-irons. If there was still a bit of slop within the axle, thin 0.10mm packing pieces of Plastikard were added to the washer backs (using Mek-pak) and re cut out again. This did happen on two of the axles (one on each wagon). Trial and error is called for to achieve a snug but loose fit.

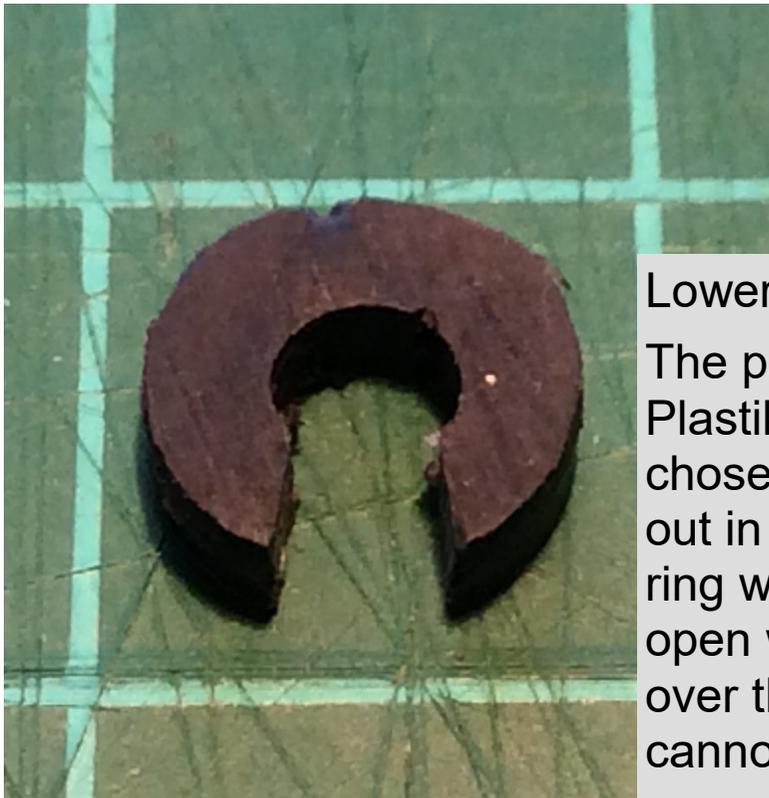


The underframe has been designed with the correctly positioned cross members and longitude framework to stop any subsequent twisting within the body. Freighter type brake gear is fitted that is located into two long rectangular slots. I wanted to remove them, modify and re-locate them slightly more inwards and in-line with each wheel tread but they would not budge. I feared I would do more damage than good so I left them in situ. The solid moulded areas are not too bad but could be changed for etched ones, but again, I felt it was not worth it. Note the drawbar is secured by a spring, and round retaining ring.



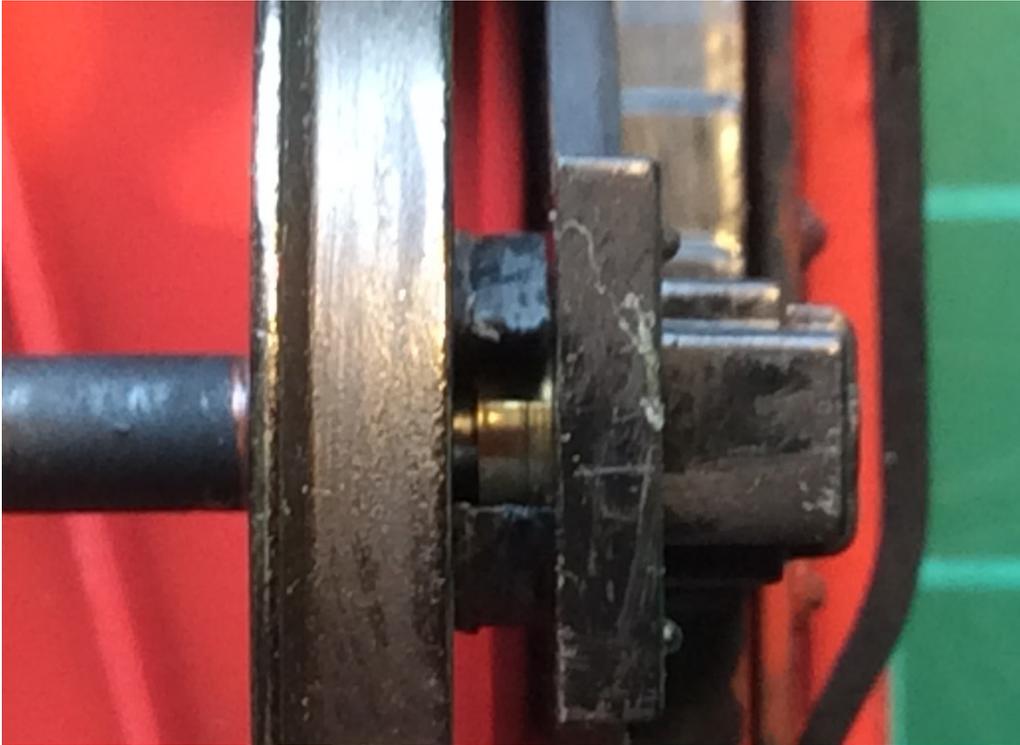
### Upper left

This shows the 'slop' within the axles. The left hand photo shows the axle hard up against the left side W-iron, whilst on the right a large portion of the bearing protrudes out of the hole. The sideways movement on this particular wagon was 2.2mm. Also visible is the left-hand brake block that is correctly positioned in-line with the wheel tread. When the axle was centralised for packing out with washers, both blocks were out by a good 1.0mm. The separate black coloured solebar overlay can just be seen in both photos.



### Lower left

The packing washers were cut from a piece of 2mm thick black Plastikard. After trial and error with various diameters, 5mm was chosen. Solid round discs were cut out first, then a 3mm hole drilled out in the centre. A small wedge shape segment was cut out of the ring which enables the bearing to pass through when fitted. The open washer bends outwards and distorts slightly when inserted over the bearing. As the wedge shape is tapered, the washer cannot fall out.



A Plastikard packing washer fitted in place over the brass bearing. This photo shows the open end of the washer with the bearing encapsulated inside. Being a slightly loose fit over the bearing, the washer can rotate around it, but there is no chance of the washer falling off. If for any reason the washer requires removal, a thin flat of a file pushes down on the open ends forcing the washer off the bearing. Note, the axle has now been painted matt black over the steel finish of the original.



As both models are pretty light being made entirely of plastic, extra weight was added. Lead sheet was cut into strips, then glued in using contact adhesive in between the framework. Three layers were used, which finish just proud of the depth of the beams. Having run out of lead sheet, more will be added later. The lead was later painted Matt Black hiding the grey colour of the edges. The solid moulded brake blocks can also be seen which were left alone. These could have been removed and replaced but I decided not to. The rod that links the two levers has also been painted matt black and weathered.

The next item to address was with the black printed areas especially on the Corral open. Some of the “red” body colour was showing through on the extreme edges of the body strapping where the print had not quite lined up properly. It was more noticeable on the diagonals and corner plates. Measuring these tiny lines at approximately 0.2-0.3mm may not seem a lot, but my eye was drawn to a red line. More apparent though were the “red” areas around the bases of the raised rivets where the print had not fully covered them. To rectify, Humbrol Matt Black (No.33) was used using a tiny brush touching up any red. There was a slight colour difference between the satin printed black colour and the matt black used, but I knew the model was going to be weathered anyway so I was not too concerned. The white printed letters and numbers on the other hand were printed perfectly so were left alone. The South & Gasson wagon was printed better and left alone.

A close-up, showing where some of the black printed areas have not fully covered the red body colour behind. The extreme corner edges and rivet bolts were particularly bad hence the touch up with Matt Black. Just seen, but not too critical, is the red line showing either side of the black solid on the diagonal ironwork. This gave the impression the iron width was too thin. This too was touched up to both edges now giving the strapping a thicker look. The missing white and black shading areas along the planking were left alone. Note the missing link and black coloured solebar.



I decided to leave the Corral wagon number as printed, but they could easily be changed. The South & Gasson number has to remain as it was the only wagon the company owned.

The solebars are a separate overlay which are coloured black. In practice they should be body colour. The nearest colour for the Corral wagon in the Humbrol range is Satin 174 (Signal Red), whereas Precision Umber Brown (dull) was used for the South & Gasson. Again, when weathered, the subtle colour change would not be seen.

Not particularly liking the brown colour on the insides and floor of either wagon, they were painted a pale, unpainted wood colour (Natural Wood No.110). Not having a decent (working) spray gun, several brush coats were required.

The tops of the wagons too were also coloured brown matching the insides which I thought a bit odd. So they were over painted with their respective body colours (as in the photo on page 35).

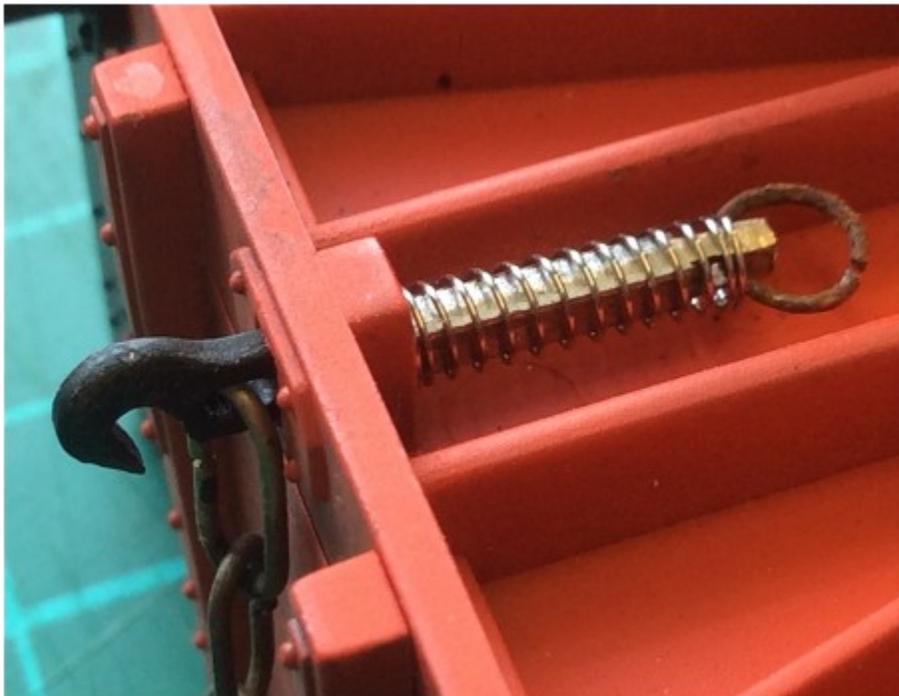
The black coloured buffer heads including the backs were painted Humbrol No.27003 (Polished Steel). Before the paint had dried on the buffer heads, each one was dabbed with a tissue partly showing the original black colour behind. This gave the appearance of an oily/greasy finish.

During handling, one of the small black plastic backing collars that secured one of the buffers in place (behind the headstock) had come off. Luckily for me the buffer and spring stayed put and did not ping out into oblivion. Not wanting anymore to come adrift in use, each collar in turn had a small blob of superglue applied to it.

As mentioned in the preface, two of the three link couplings had already come off the drawbar hooks whilst in transit. When assembled, the top links are simply pushed fitted into a slot in the top of the drawbar itself, and held in place with glue within an open slot. Coupling up to another wagon was impossible. Breaking the glue joint on the remaining drawbars links, they simply fell out of the open drawbar slot again. The best way to rectify the problem was to solder on a flat strip of nickel silver (n/s) across the top of each open slot securing the links in place.

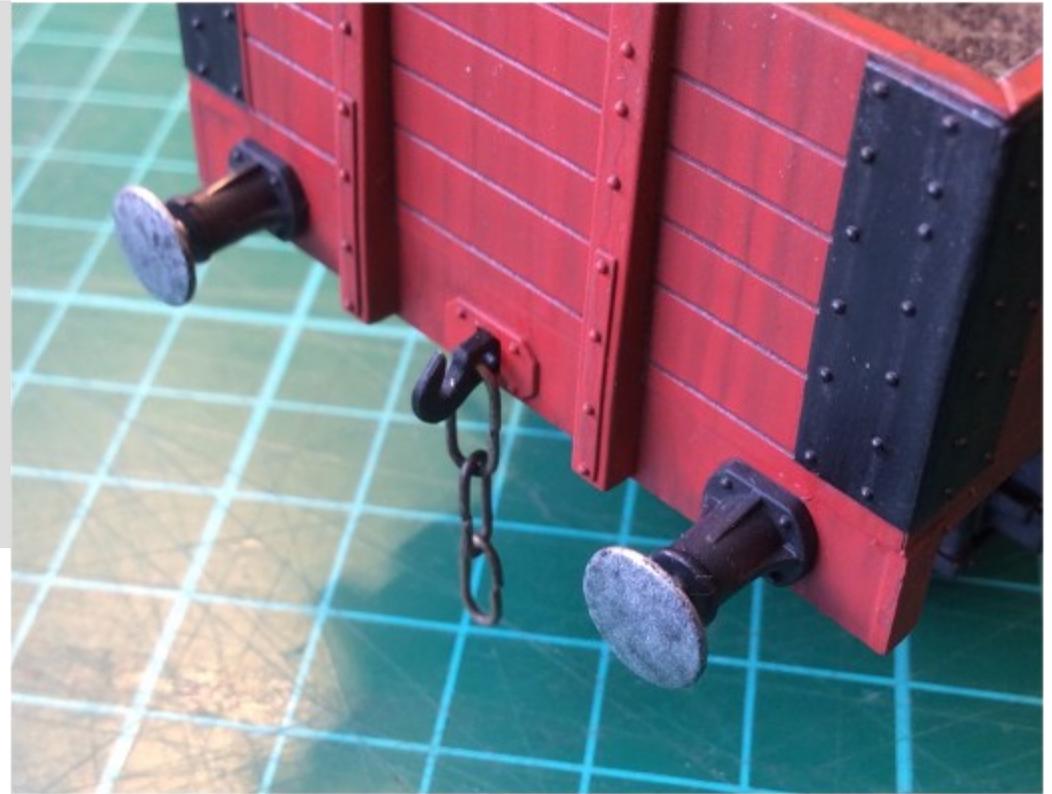
After removing the hook by twisting the ring behind the spring, one drawbar was cleaned up ready for soldering on the n/s strip. To my surprise none of my solders actually soldered successfully. I could have drilled two small holes in the hooks, then glue on a pre-bent piece of brass in place. My solution was to replace the existing drawbar hooks altogether and swap them with spare lost wax ones I had in stock. As the rectangular slot in the headstocks were wider than the replaced lost wax drawbars, each one had to have packing pieces soldered onto either side filling out the gaps.

The existing links were not very good either. One or two were squashed quite badly (probably from over exertion with pliers in the assembly process) in certain areas. In the end I made new ones out of 0.7mm nickel silver rod in an existing 'coupling jig'. The links were then 'oil quenched' by heating over a gas ring to a cherry red colour, then quickly dropped into motor oil. After washing and drying, they were fitted onto the new hooks.



As the original drawbar hooks could not accept any solder, I substituted them for a sprue of ten lost wax ones obtained from Sanspareil Works – 7mm Finescale - CSP Models at [www.cspmodels.com](http://www.cspmodels.com) (Ref:L&F22). Though slightly smaller in size than the originals, they still look really good. The only problem I encountered with them was their overall thickness which was too thin for the squarish drawbar slots on both models. My solution was to solder on two thin nickel silver (n/s) side pieces either side of the bar just behind the hook itself which can just be made out in the photo.

I had to round off each edge of the four n/s flats for the spring to slide over with ease. The original spring and retaining ring were retained. Also just visible are my homemade 0.7mm diameter n/s links which had been oil quenched prior to fitting. Note also the drawbar hook has been painted matt black, and the heads of the buffers painted a silvery/oily colour over the original black.



## Weathering

As stated above, not having a working spray gun (no decent compressor) all of the weathering was done using a medium sized flat soft brush.

The mixture of colours were used for the underframe, which consisted of No.33 (matt black), No.112 (tarmac), No.29 (earth). The colours were not mixed up in any specific quantities before applying but were thinned down with Enamel thinners. A small amount of No.133 (red oxide) was used to highlight bits of rust here and there. With the paint still wet, especially around the axleboxes and leafsprings, I then dabbed on some unscented talcum powder to simulate brake dust, but not too much.

For the body work and buffer housings, a rough mix of 60% matt black and either 40% earth or matt natural wood (No.110) was mixed and thinned down, again with enamel thinners, and applied vertically with the same flat brush.

For the interiors, the same mixture for the bodywork was mixed up again. Brush strokes were applied along each of the planks. Again, I was not bothered with some of the over painted colour showing through. Before the paint had dried, I liberally applied coal dust and small chunks of “coal” everywhere in all of the crevices. When completely dry the coal tended to stay put.



Before weathering, the tops of each wagon were painted in their respective body colour which can be seen here. I thought the original ‘brown’ colour looked odd. The pale unpainted colour (Humbrol Natural Wood No.110) was applied on the insides of both wagons including the floor planking. Several coats were required hiding the original dark browns of the original models. Whilst still wet (last coat), coal dust and chunks were liberally thrown in and brushed around everywhere with a knackered old brush. When dry, the wagons were turned upside down to remove any excess loose coal.

This now completes my not so drastic improvements. They could be enhanced even more if you wish. I would definitely change the over thick plastic W-irons for etched or cast white metal ones, and fit older style axleboxes. The brakes are, I feel, acceptable as they are. The solid “V” hangers and safety loops could be removed and changed for etched ones and brass strip respectively if you wish.

So there they are and a great addition to any LB&SCR layout.



Close up photos showing my improved and weathered versions. Standing on their own they seem quite dirty, but placed alongside the as bought weathered ones, they seem rather clean. Perhaps another grubbier re-weather in due course. What stands out externally are the solebar body colours, buffer heads, and the pale unpainted wood effect inside with coal dust and chippings. I have also given the leafsprings a rusty oily appearance.

# Building a Worsley Works LBSC Directors saloon

## Part 2

By Matt Wickham

In the previous part of this article, the LBSC Directors Saloon kit was readied for painting. The chassis was pretty much straight forward primed with grey and painted with matt black. The wheels in the early photograph were lined in white so this was quite easily done with some white acrylic.

Having committed to the as-built design, I only really had one choice of livery, as, later on in life, the coach received a number of modifications which are mostly still present today on the preserved vehicle. Therefore when building the model it is best to double check what is original and what is not.

The original livery, when the coach left the works, was umber brown lined out in gold, with the LBSC coat of arms featuring twice on the sides. The lining will also be challenging.

A small 14ml pot of paint from Phoenix Precision paints usually costing £3.50 would cost me close to £20 because of the courier fee. In addition, living on an island means delivery costs are even higher, so I tend to look for the best alternative. For years I have used car paints or specifically Halford's rattle cans. I have found the paints to be great quality and the spray cans give a nice fine spay of colour, without clogging up. There is an excellent list on a model railway forum which I have used as my guide to railway colours. The cans cost between £6 and £8 but you can certainly paint a few coaches or locomotives with one.



Coach chassis painted in Matt black, and the body and roof primed ready for paint.



Sprayed with Vauxhall brazil brown, slightly darker but not far away.

The coach is a picture in brown, however the most challenging part is the exquisite lining in gold - and there is quite a lot of it! The choices are transfers or bow pen or an option which some modellers may not have thought of before. I considered using HMRS gold lining, but sadly this was a bit too thick, so I rejected it. I purchased some lining gold paint from Phoenix paints, but had problems with it not flowing freely through the bow pen. When it did flow, it bled quite badly. So what next? Five years ago I built a small L.B & S.C.R. four wheeler from Roxey Mouldings. This was also finished in a mahogany colour, and had be lined out in gold. When researching, I came across an article on the Brighton Circle group, where a member had used a gold gel pen, which I copied for my particular coach and it worked well! I purchased a number of pen's with different nib sizes, from 0.7mm to 0.5mm which produce lines from 0.39mm - 0.3mm which is not far off what I require.

I struggled to remember how I had applied varnish to the lining so, on a scrap piece of brass, I painted it with the same paint, then added a line from the gold pen, and trialled various varnishes on this test piece. Vallejo satin spray varnish dried fine, and did not wash away the lining, so this I opted for light coats of this.

Door handles and hand rails were added, made on a small jig using 2 tack nails, and bending 0.5mm brass wire around them.

Lining the coach with a 0.7mm nib Gold gel pen





After 15 hours, the carriage and its lining is finished.

Although the lining was a challenge it was not as difficult as the next part - LBSC coach insignia. I am lucky still to have a sheet of transfers from the Brighton Circle, which is fine for numbers and logos, but unfortunately, because this is a special vehicle, it required items that are not produced. This carriage has four LBSC crests, which are not available, and high resolution images are difficult to get hold of. So using what images I could find, and those kindly sent to me by Bluebell volunteers Kuristo and Richard, I went about seeing if I could possibly get a set of transfers made. I went to Fox transfers originally, where the price was unaffordable. I tried some friends from the Brighton Circle, and contacted Mike Waldron, who is taking over producing transfers. After some discussion we managed to get enough information together to produce a design and, after Paola worked her magic, the transfers were completed in October 2018.



Examples of the crest, and finished art work, transfers printed and applied.

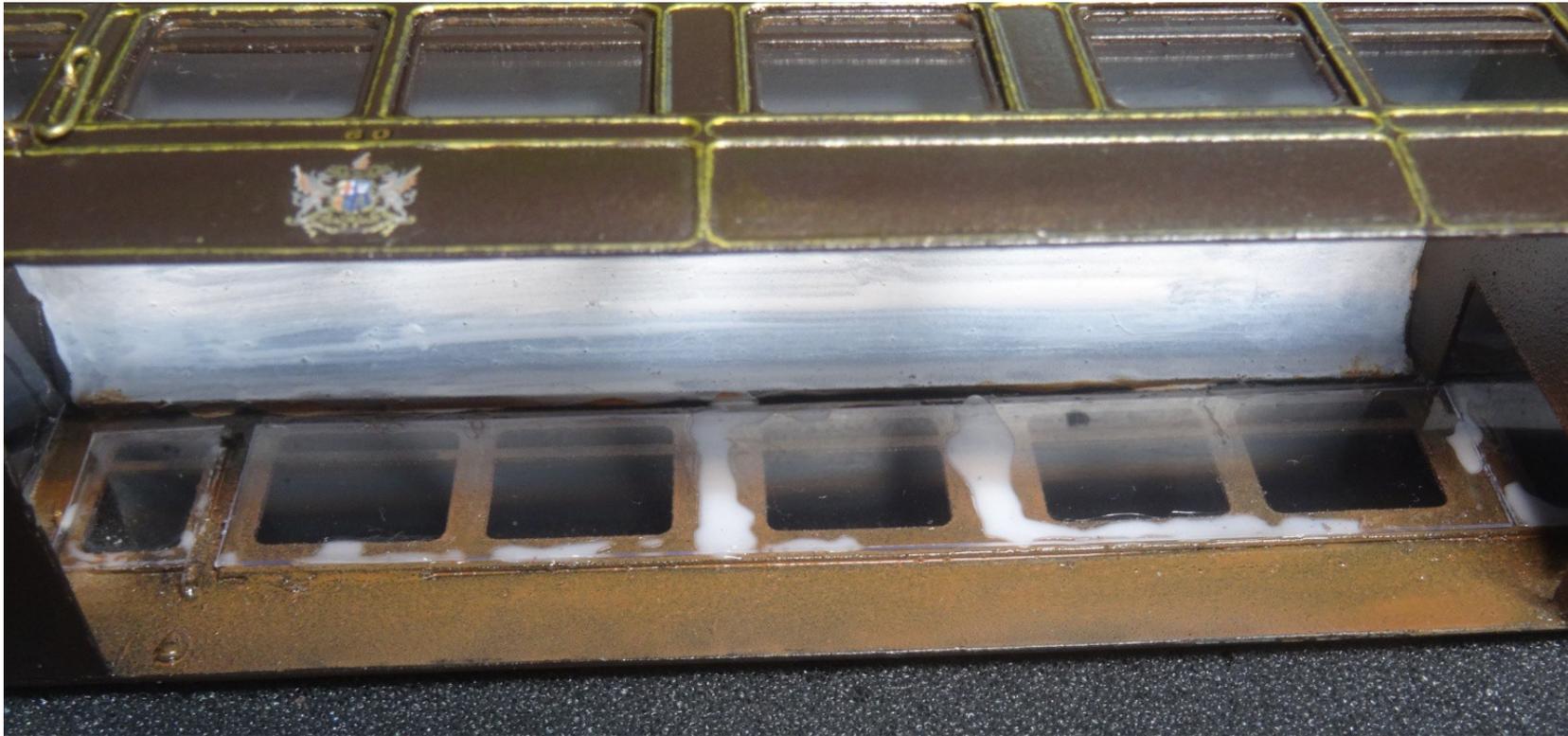
The transfers are normal water slide transfers, and are quite easy to add to the model, once applied these were sealed in with varnish spray.

Once dry the model was prepared for glazing. The most common method to glaze kit built coaches is to use clear acetate sheet, which is readily available from craft and office supply shops. This was cut into 14mm wide strips, and fixed to the carriage with Glue and Glaze, or canopy glue, which is similar to PVA, as this glue does not react with the acetate.

Some of the windows around the kitchen and pantry are frosted from the photos that I have seen, and, to replicate this feature, I have tested spraying a satin varnish at the acetate and allowing it to dry giving a frosted effect. The toilet window should be opaque and this received the same treatment. It creates a frosted look, so it was still slightly transparent. After drying, I was quite happy to fit this to the model.

Acetate sheet, sprayed with satin varnish, then cut into strips and fixed with Glue and Glaze creating a frosted window effect.

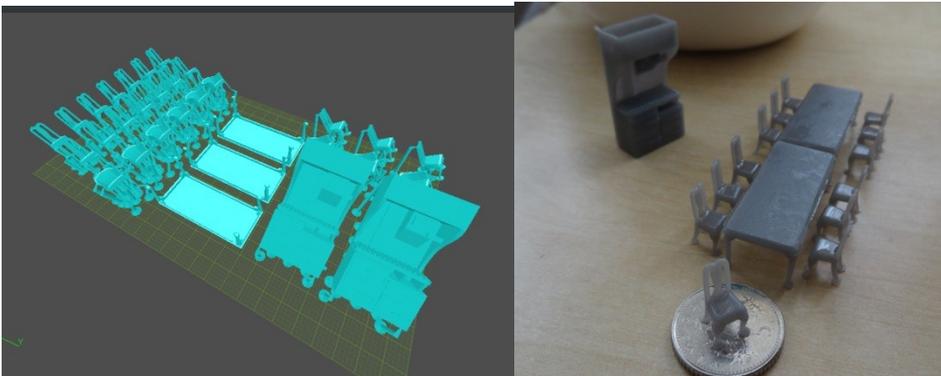




The Glue similar to PVA dries clear, so if there is any overflow there isn't too much to worry about.

I do not usually pay much attention to the inside of the coach, but on this occasion, being a special vehicle, I thought I would make a bit more effort. To save time, I went through various 3D model websites, finding tables, chairs and a few arm chairs. The cooker, which will look like a black blob behind the frosted windows, I designed myself as a bespoke item. You may not be able to

see it but at least I know it is there! I 3D printed these items on my 3D printer in resin, which took about 6 hours, and they are tiny! The 5 pence piece in the photo gives you an idea of the size.



Left - 3D printer platform with furniture models.  
Right - Cleaned up tables and chairs plus a cooker.

After more hours hardening of the resin, the parts were cleaned, primed, and then painted, which took a fair few hours mainly due to their size. They were then fixed on false plastic floors which were attached with double sided tape. The last addition will be people to go with this furniture.

I would like to thank everyone who was involved with this kit, Worsley Works, Mike Anton, Kuristo DeMans, Richard Salmon, Stan Chandler, Mike Waldron, Paola Demartini and Eric Gates.





Cult pens - [www.cultpens.com](http://www.cultpens.com)

Halfords - [www.halfords.com/](http://www.halfords.com/)

Upstairs Downstairs - [www.trainshop.co.uk](http://www.trainshop.co.uk)

Spike 3D Concept engineering - [www.spike3d.com](http://www.spike3d.com)

Markits - [www.markits.com/](http://www.markits.com/)

Wizard Models - [www.wizardmodels.ltd/](http://www.wizardmodels.ltd/)

Worsley Works - [www.worsleyworks.co.uk](http://www.worsleyworks.co.uk)

247 Developments - [www.247developments.co.uk/](http://www.247developments.co.uk/)

Eileen's Emporium - [eileensemposium.com/](http://eileensemposium.com/)

Photographs copyright Matt Wickham

[Return to contents](#)

# Some Brighton Private Owner Wagons

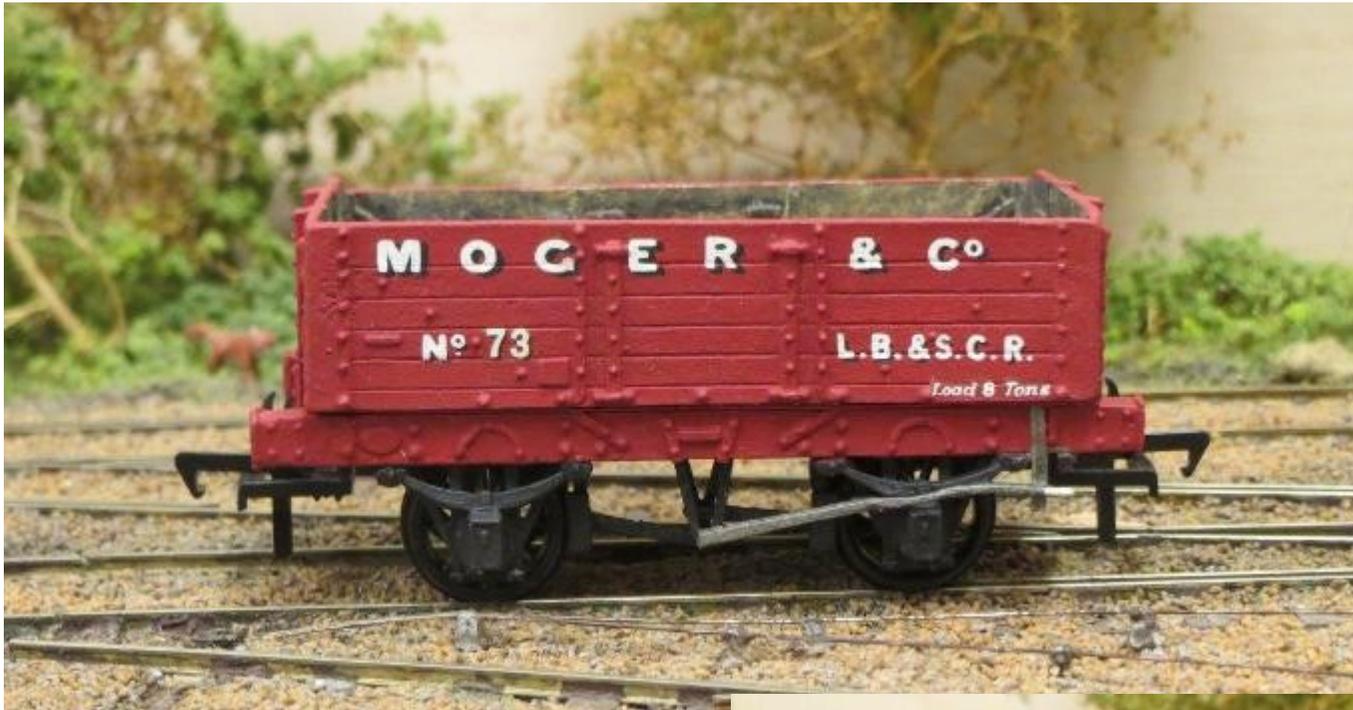
By Nicholas Pryor

The wagons illustrated were built from a variety of cast kits, offering different styles of typical coal wagons seen widely across the country in the mid to late 1800s.

Roxey Mouldings offer two former Woodham Wagon Works models from masters by Eric Gates. The 'Parry' wagon is a 5 plank side door type, and 'Stephenson Clarke' is a 6 plank end door type.

Chris Cox offers a wide variety of different early wagons in his 5&9 range, many from masters by Simon Turner. The models shown are based on four types available from Chris, the two 4 plank side door types 'Lamont & Warne' (round ends) and 'Rickett Smith' (raised ends), the spring buffer 5 plank 'Beadle Brothers' and the early 5 plank 'Whatley & Underhill'.

The transfers are from the POW Sides range. POW 1036 'Rickett Smith' is a newly commissioned addition to their range, based (with his permission) on Simon Turner's drawing.



Roxey 'Parry' kit and POW 1003 lettering.

Roxey 'Parry' kit and POW 73 lettering.





Roxey 'Stephenson Clarke' wagon and POW 1005 lettering.

5&9 'Lamont & Warne' kit and POW 375 lettering.





5&9 'Lamont & Warne' kit and POW 1002 lettering.

Roxey 'Parry' kits and POW 88 and 1007 lettering for 17 and 445 respectively.





5&9 kit of same name includes transfers.

5&9 'Rickett Smith' kit and POW 1036 lettering.





Lamont & Warne no 678 is from a 5&9 'Lamont & Warne' kit and POW 939 lettering.

Left to right.

Two 5&9 'Beadle' wagons, one as Lamont & Warne with POW 939 lettering, and one as Beadle with POW 743 lettering. Rickett Smith as before.



## Painting Details

To obtain a variety of shades of red oxide, a variety of Humbrol reds were used, either neat or mixed in different quantities. The basic colours used were Nos 153, 130, 132, 174 and 100. Moger No 73 is a shade based on No 73. Pigments available in the era would have been mainly from natural sources and would have varied in tone, both on application and after weathering, so a wide variety of shades of red oxide would have been seen.

The 'unpainted' wood interiors are created using colours from the Lifecolor sets CS20 Weathered Wood and CS38 White Wood, available from Airbrushes.com. These colours are easy to use and have high opacity. The main colours used are 717, 718, 779, 775, 776 and 778 usually in that order. The paint is gently put on in light streaky fashion with each subsequent colour straight away, just blended in. It is not necessary to wait for each to dry. The interior should be painted before building. It is easier to do all the sides and especially the floor while they are in pieces. Painting adjoining planks individually in slightly different shades or picking out a single plank here and there with a slight contrast helps the effect.

After all the coats have been left to dry for 24 hours, an overall wash is applied with either Humbrol 173 for general merchandise wagons, or 67 for coal wagons. These were slightly diluted with white spirit, and all surfaces liberally coated and immediately wiped off with tissues. Detail can be added with undiluted wash, particularly in corners and between planks. A final coat of satin varnish is applied after the transfers are fixed.

These wagons were built for me by my good friend Frank Bulkan, and I am grateful to him for his detailed account of how he painted them.

# More scenes from Ashcombe Down

Mike Cruttenden

Note the authentic scale 1860s LB&SCR valencing. The aluminium paint on the covers is to protect the controllers from the heat from direct sunlight. Modern day components do not appear to be as robust as older ones and shut down the controller when they get too hot. Experience has



shown this to be a serious problem with DCC systems. When running, we usually arrange for one main line to be using this system and the other to use standard DC. A CCTV screen enables the operator to view the Mid Sussex Dairy Company's model farm sidings and loading platforms and also the newly opened Sand Rocks Motor Car Halt, neither of which can be seen from the operations position.



Somerhill branch auto train. A1 class No 681, formerly “Beulah”, converted in 1905 to 2-4-0T. Loco by Peter Wisdom, carriage by David Lowe. Having come off the main line at Sand Rocks Jnc onto the down relief line, the train is approaching Ashcombe Down Racecourse station, where it will enter the Somerfield branch bay platform. It will then head back up the relief line to Sand Rocks Jnc, and on to the Somerfield branch, before entering Sandy Hill tunnel. The track in the foreground leads to the horsebox loading bay for the racecourse.



Petrol railcar No 4, having failed climbing Summit Bridge Bank, has been towed into the carriage truck unloading dock at Ashcombe Down station to await the fitter’s arrival. Model by Peter Wisdom.



Train crews' view of the south portal of Ramber Park South tunnel. All the tunnel portals are removable when the line is not running and replaced by a sealed door. Although there is no way to conceal the line passing through a brick wall, experiments have shown that a black background is the least distracting visually and the eye and camera concentrate more on the subject to be viewed.

Train crews' view of the Royal Alexandra bridge. This is removable and only in place when the line is running, as at this point the railway crosses the pathway leading from the road into the rear of the house. At the top of the picture is the new operators' shelter, with its valence and finials.





Late afternoon. The Somerfield branch empties coal train returning south and about to enter Ramber Park North tunnel. All the tunnel mouths on the line follow a general overall design, but with detail differences.

Arch Overbury's C2x 0-6-0 on a short coal train, the last span of the Anscombe Millpond viaduct, before entering the south end of Ramber Park South tunnel.





Late afternoon and the returning empties coal train leaves the south portal of Sandy Hill tunnel on the Somerhill branch. The train is stationary before Sand Rock Jnc, It is waiting to take the down relief line into Ashcombe Down station loop, before joining the main line back to its home base.

The tunnel mouth is designed to be out in good weather but is strongly enough built to survive the odd

shower. When out of use, it is stored and replaced with a sealed waterproof door.

I have experimented this year with artificial grass which looks quite good - and certainly better than bare concrete. The “grass” backing has to be cut with a sharp knife and can be clipped into shape with a sharp pair of scissors to reduce its height to a more scale size. This is tedious but only has to be done once!



A study in elegance. Robert Billinton B2 class 4-4-0, Wolfe Barry stands in the Ashcombe Down carriage sidings, having just come off shed fully coaled and watered, ready for the return to London after the day's racing is over.

Photographs copyright Mike Cruttenden

[Return to contents](#)

# Pullman “Her Majesty”

By Peter Warren

## The Story So Far

In issue 9 of the *LBSCR Modellers Digest* I explained how I became involved in building a model of the Pullman Limited train of 1895 and started with the six-wheeled ‘Pullman Pup’ electric lighting van no. 29 before commencing the three Pullman cars. The techniques used on no. 29 had proved generally successful, so a start has been made on ‘*Her Majesty*’, a parlor car, which was coupled to van no. 29 at one end of the train.

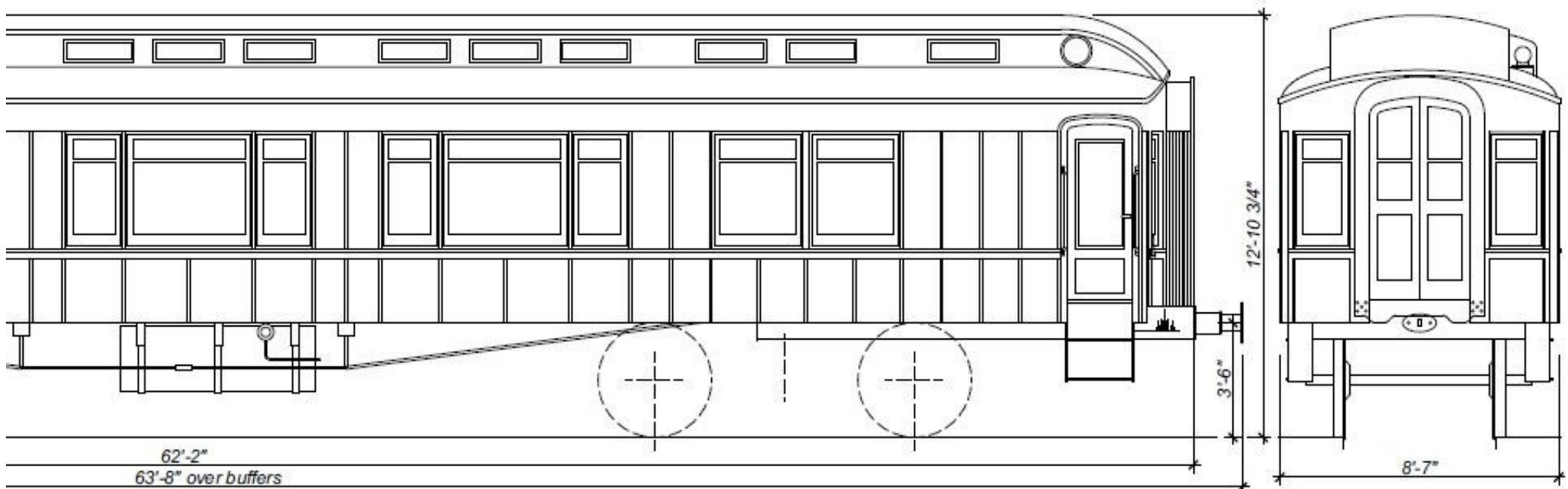
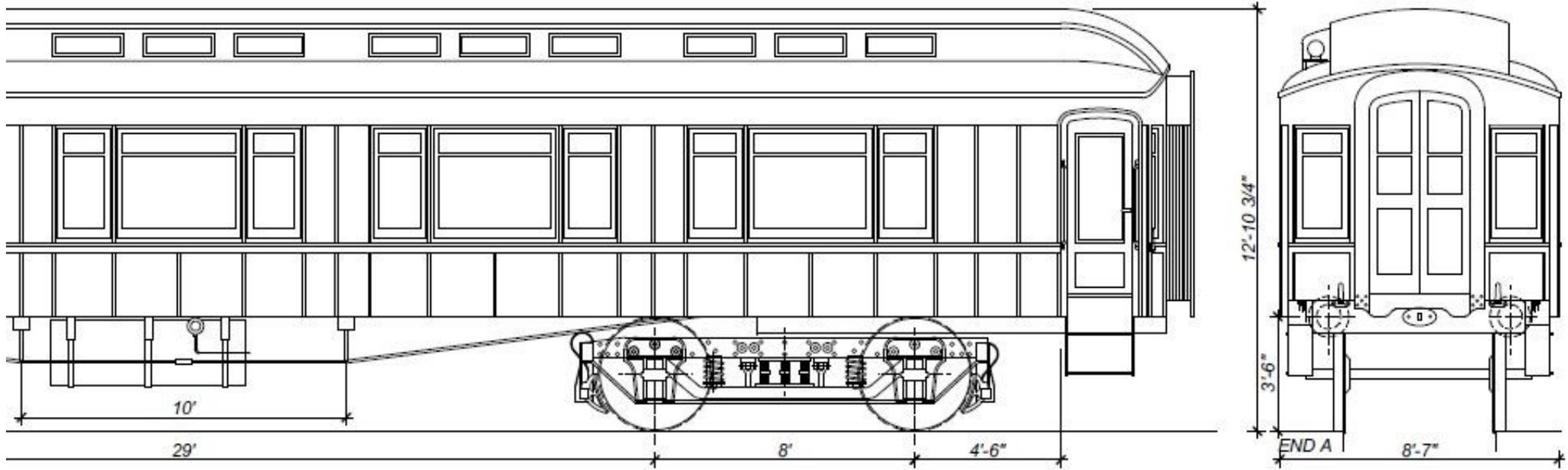
## Prototype

The cars which formed ‘Pullman Train No. 2’ (*Princess of Wales, Duchess of York and Her Majesty*), were supplied in kit form from the Pullman company workshops in Chicago and assembled at Brighton. Each car in the train was different. Designed to operate as a fixed formation, within the 3-car set there were bar couplings and no side buffers, but the outer ends of the train were fitted with heavy timber headstocks, side buffers and screw couplings to run with ordinary stock.

## Drawings

Ian White, having carried out a great deal of research for his forthcoming book<sup>1</sup>, pointed me in the direction of a very useful LB&SCR drawing showing a dimensioned plan view of each of the cars<sup>2</sup> and I have based my model on this. In preparing my own CAD drawing I also referred to the drawings in the original LB&SCR diagram book in the National Archives at Kew<sup>3</sup>, and the more well-known copies of the Pullman company drawings which show the car name as ‘*Alexandra*’

instead of *'Her Majesty'*<sup>4</sup>. An extract from the resulting drawing is shown here.

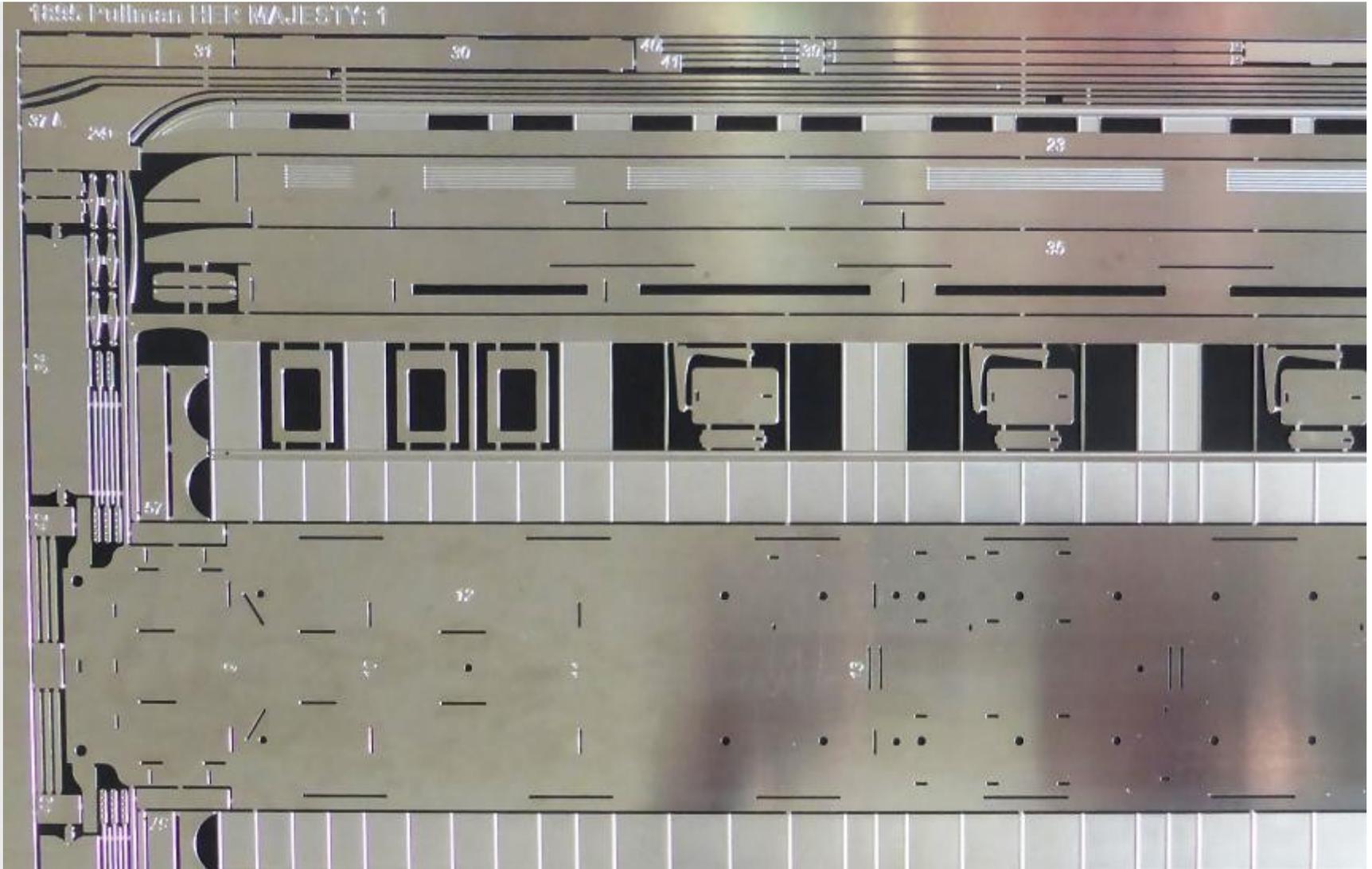


## Construction

Photo 1:

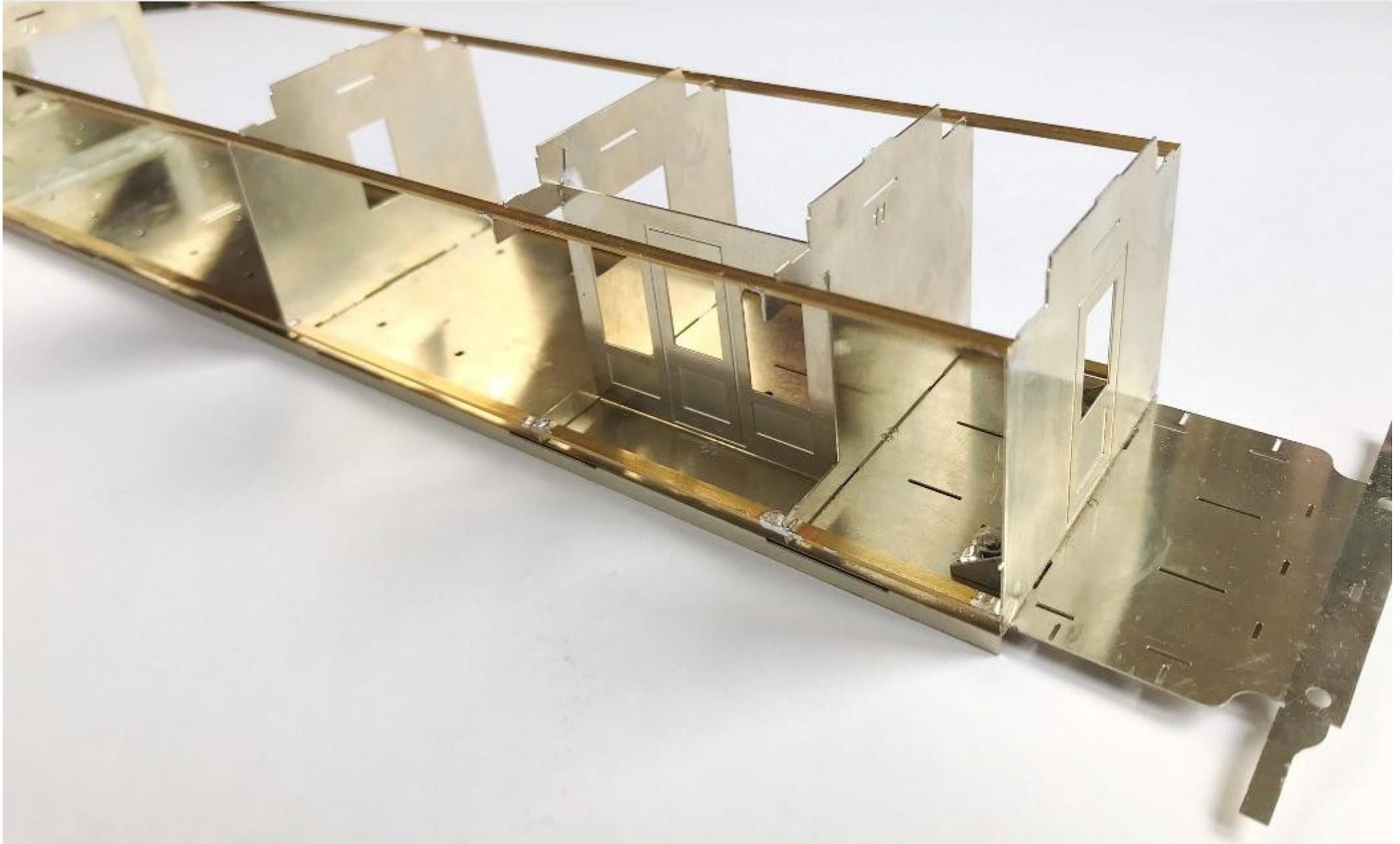
Following the same principles as for van no. 29, I designed '*Her Majesty*' as a kit of parts in 0.45mm etched nickel silver and this photo shows part of one of the two sheets of etched components.

The plan was to make a basic box for the carriage body as the cars were of



all-timber integral construction with no separate underframe. I designed the floor to be removeable, complete with bogie mountings, headstocks, steps and gas tanks, to enable the interior to be detailed later and to simplify painting. I also decided to make the roof and the clerestory as separate components because it would reduce the extensive masking which was necessary at the painting stage with van no. 29.

Photo 2: The floor was used as a jig to which the partitions were bolted. Longitudinal brass strips were then soldered in to add stiffness, forming a basic skeleton of the vehicle.



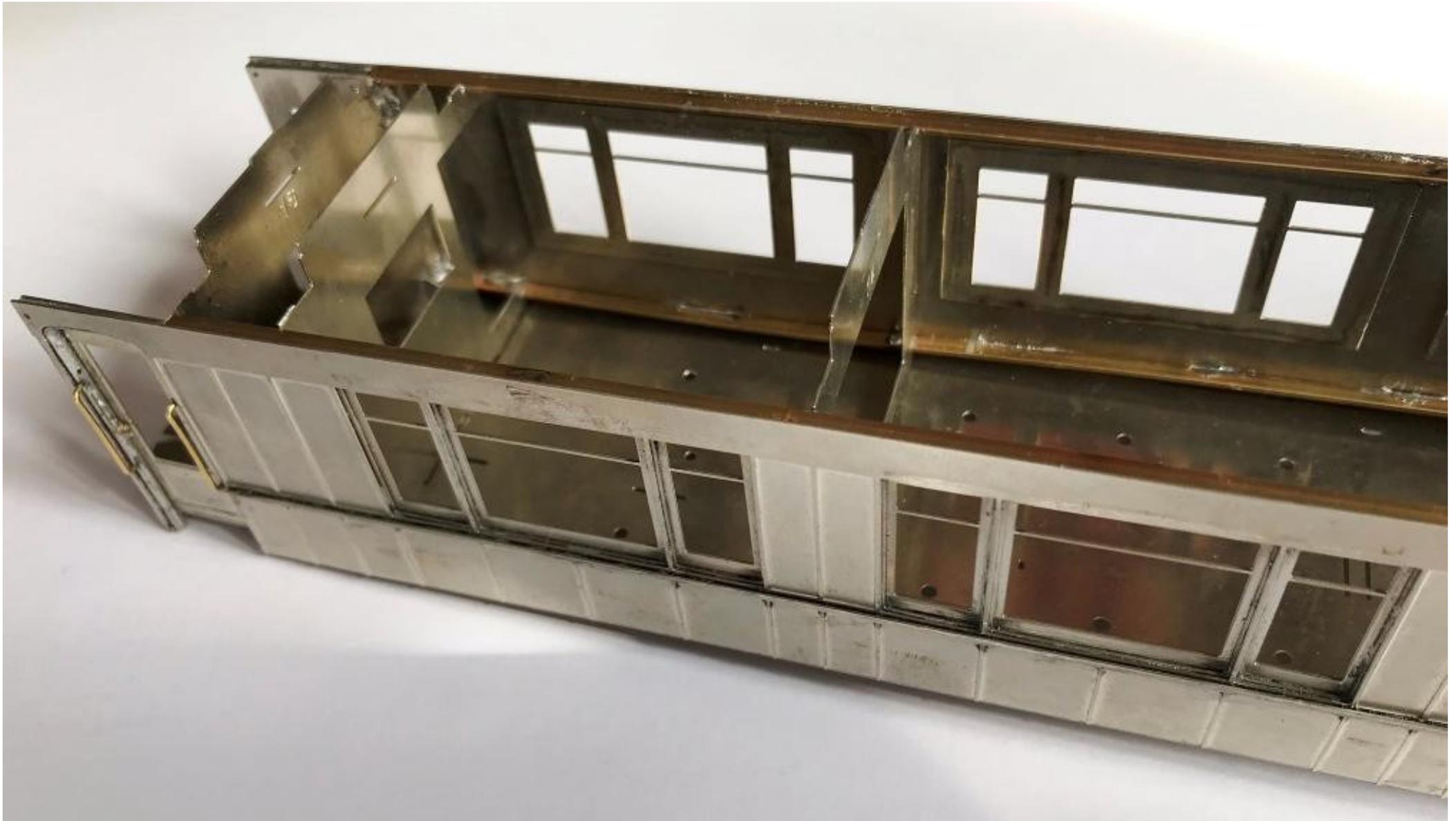


Photo 3: The carriage sides were soldered to the partitions and to the brass strips to produce a rigid box structure as shown in the photo. The car ends and corridor connections were then fitted.

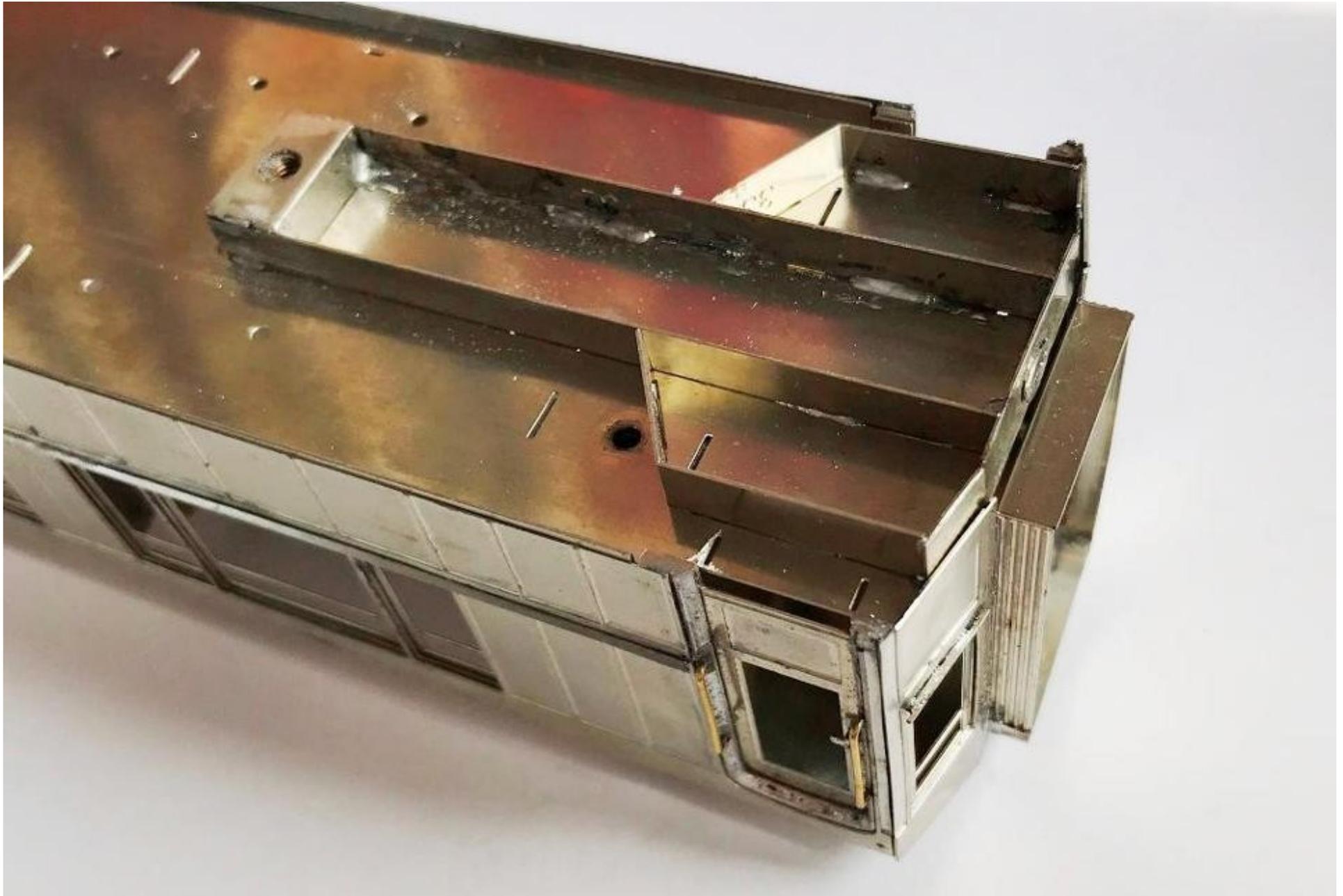


Photo 4: Before unscrewing the floor from the body, the bogie mountings and headstocks were added; this view shows the inner end of the car without side buffers.



Photo 5: The remaining underfloor detail included cast brass queen posts, brass truss rods with moulded plastic turnbuckles from EDM Models and gas tanks from brass tube. Although the train was illuminated with electric lights powered by the dynamo in van no. 29, supplementary gas lighting was also provided; later in life *'Her Majesty'* was altered to run as a 'loose' car and had to rely solely on gas lighting.



Photo 6: The etched formers for the roof and clerestory have been added. These will be infilled with timber (basswood) and sanded to match the roof profile seen on van no. 29 adjacent. Buffers and a screw coupling have yet to be fitted to the headstock at this end. Within the set the cars will be coupled with MagClic magnetic couplings.



Photo 7: The distinctive 8'-0" wheelbase timber-framed Pullman bogies were not available commercially. Fortunately, there is a good LB&SCR drawing in the HMRS archive<sup>5</sup> showing the details, so I decided to make my own. Making six identical bogies from scratch was daunting, so I modelled one in 3D CAD and

exported an STL file to a specialist SLS 3D printing company<sup>6</sup>. They produced six bogies in PA2200 nylon, dyed black. This was my first attempt at this sort of thing, and I was quite pleased with the result, although the surface finish was rougher than I hoped as the detail was too fine to permit the vibro-polishing specified. The photo shows how the printed axleboxes were cut away from the bogie frame and fitted with PTFE bearing bushes (S&D Models). The steel wheels are by Roxey Mouldings and have had the axle end diameter reduced to suit the bearings.



Photo 8: The wheels have had cast Mansell disc inserts added. The bogies have also been given some additional detail which was not considered feasible to include in the 3D print, including the long flat tie-bar below the hornguides and the brake safety loops. These items were included in the nickel silver etch. The bogies were inset quite a long way from the car ends! This photo shows the story so far and work is currently under way on the roof. There is still some way to go before I can apply Ian White's transfers!

## References

1. *LB&SCR Carriages Volume 4; Later arc roofed coaches, electric stock and British and American Pullmans* - Ian White (due to be published in 2020)
2. HMRS drawing no. 24154 – (LB&SCR drawing 4449 16/01/1896)
3. RAIL 414-745 - Diagrams of coaching stock 1870-1910
4. HMRS drawing nos. 24719 & 29724
5. HMRS drawing no. 16145 - LB&SCR drawing 5466 1/11/1888
6. 3DPrintUK <https://www.3dprint-uk.co.uk>

# Improving the Bachmann E4

By Phil Taylor



My latest project, just completed, Bachmann E4 converted to P4 and backdated into *Beachy Head* in goods green livery.

How it came out of the box!



Not a quickie by any means - the alterations included.....



shortening the smokebox & associated mods, new chimney, moving dome & new safety valves, moving whistle & new base, rebuilding cab with flush riveted roof and removing rear spectacle coal rails & new glass (original had no rear glass!), improved Westinghouse pump, crew added, new handrails, lamp irons etc, removal of rivets & boiler bands,.....



repaint, lining, lettering, numberplates etc., real coal, new wheels with sprung front axle, thinned and refined coupling rods, mainframe overlays, new rear frame section, new guard irons, new brake linkage etc. but retaining brake shoes and removal of couplings.

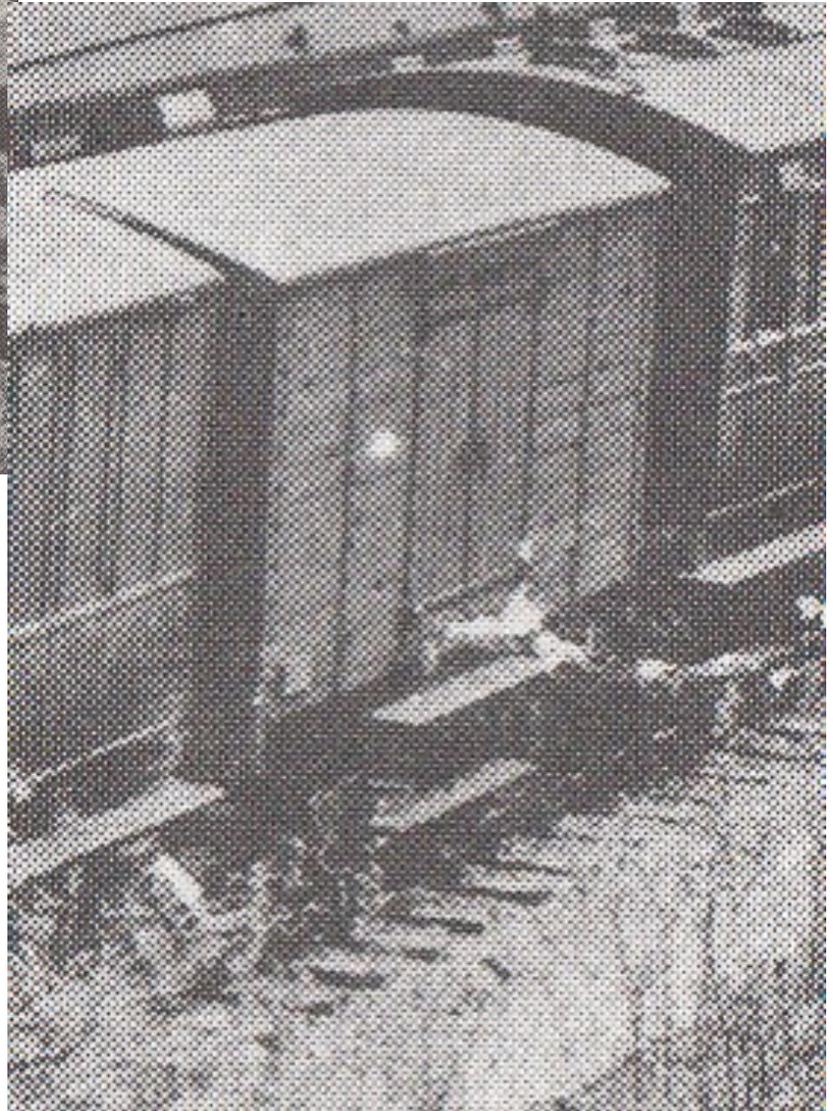
# Travelling Hand Crane, No 19 - Part 8

## The Tool Van

By Colin Paul

To accompany the Travelling Hand Crane No.19, there must have been a small tool van of some description, that was permanently allocated for it when in use. As there are no records of such a van associated with No.19, I am taking a bit of modeller's licence and creating one. If such a van was used, it would have carried the much larger bulky loads including coils of rope, chain, general tools, but most importantly the timber props for propping up the supporting beams, etc. The latter may well have been placed in an open or dropside wagon. The smaller hand items would be stowed away in the two tool boxes mounted on top of the match truck. A spare, run down, but stoutly built Stroudley four wheel 8 ton van sprang to mind, after looking at the Buxted derailment photograph of D1 0-4-2T No. 273 (ex. *Dornden*) taken on April 5<sup>th</sup>, 1916 (1). It shows a Stroudley 6 wheel Full Brake, followed by a four wheeled van (to Diagram 8, SR 1433), then an ex Stroudley 3<sup>rd</sup> Brake for the riding van (as noted by a chimney on the roof, for a stove). There is nothing special about the 8 ton van, other than the provision of two footboards mounted directly underneath the side doors. This would enable the crew to step up from ground level.

Note 1 Bygone L.B.&.S.C.R. Steam, Vol 2 A.C.Perryman 1982. Rochester Press (ISBN 0 905540 80 8), Page 25. See following page.



When the construction of the match truck was nearing completion (Modellers Digest Issue 2, June 2015), I was waiting for the crane drawings to be prepared. When completed, they still required tweaking in a few areas, which took another month or two. Although the large gearwheels, slewing ring, and pinions were settled on right from the start, they had not yet been 3D printed. So with some time on my hands, I thought about the tool van. I had in stock an old Wagon & Carriage Works (Ref:WW108) etched brass kit, which would have been ideal, but it had a higher pitched Billinton roof profile whereas I wanted a shallower Stroudley roof. It would not have taken me too long to modify and file down the ends but there was also a problem with some of the etched planks, that were not fully half-etched in some areas. The white metal castings in the kit were dreadful and would require replacing, so a set of Philip Elverd's lost wax LB&SCR 4' 6" leafsprings and oil filled axleboxes were purchased. Deep down, though, I like to see the grain of the wood showing through the paint, matching the match truck and decking. With all of these problems, the seed was sown; a scratch build van would be required.

A rough working drawing was prepared to 7mm as a basis for the model (Figure 1). This was derived from Figure 10, page 27 of An Illustrated History of Southern Wagons Vol Two (OPC) and Plates 44 and 46, pages 26 and 27 and Figure 27, page 95 from Southern Wagon Pictorial compiled by Mike King (OPC). A lower roof radius of 10' 0" was drawn on instead of 7' 0<sup>1</sup>/<sub>4</sub>". The double block and lever (one side) was retained and the footstep position overdrawn on top. Also copied and overlaid were the 4' 6" leafsprings, oil filled axleboxes and self contained buffers from Figure 27.

# LBSC 8 TON GOODS VAN

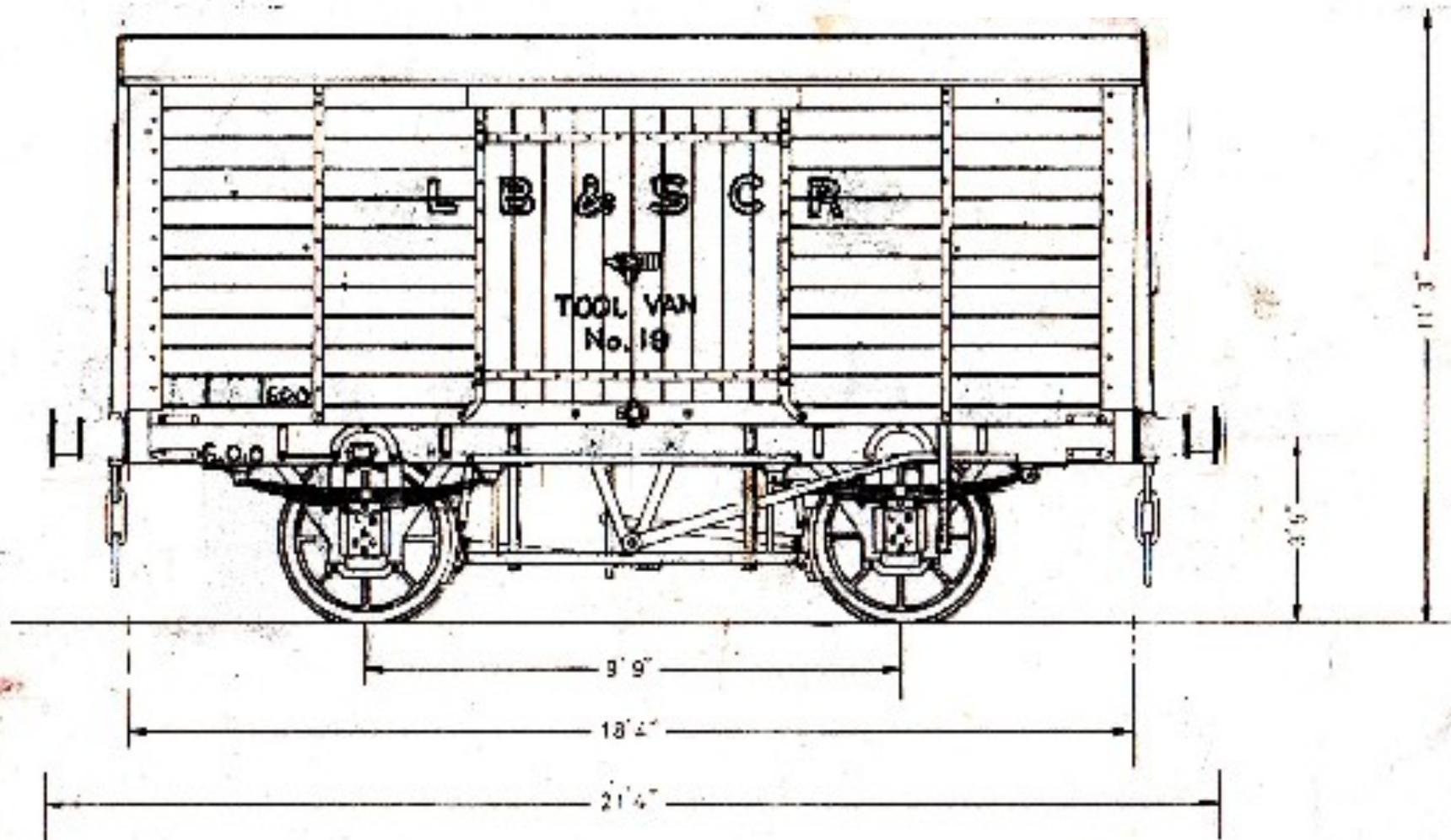


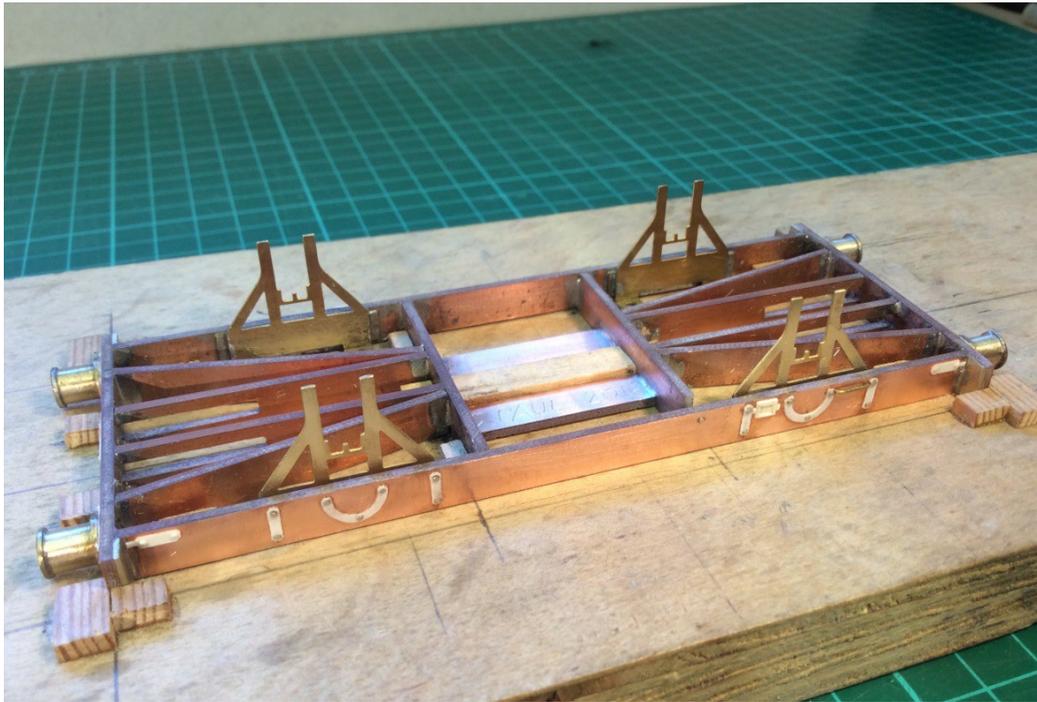
Fig 1

## Underframe

The principle dimensions of an 8 ton van to LB&SCR Diagram No.8 (SR Diagram No.1433) are: 18' 4" long over headstocks x 7' 8½" wide with a wheelbase of 9' 9". As the match truck for the crane utilised a cut down van having the same dimensions, the same jig was used again. I tend not to throw anything away after a model has been made, even if it is a "one off", so this jig saved me a lot of time. The underframe was started in late 2015. I was so quick off the mark; I did not take any photographs of it until the underframe was well under way and soldered up.

Using C&L 7mm x 1.6mm double-sided copperclad sleeper strip (Ref:7ZC101B) throughout again, the solebars were carefully cut to length (124.5mm) and marked for the positioning of the W-irons, ironwork, crownplates, and bolt hole positions. Holes for the bolts were then drilled out with a 0.625mm drill bit to accept 0.6mm round brass rod for the bolts. When drilled, the brass rods were inserted and superglued in place, then cut to approximately 2mm high. All ironwork overlays are 10thou Plastikard with corresponding holes drilled out so that the rodding sticking out could pass through. They were again superglued in place. The same procedure applied to the headstocks (54mm long), but this time I choose to add cubes of 10thou for the bolt detail over the buffer backing plates and drawbar plates. Self-contained buffers are Slaters (pre-grouping round base parallel Ref:7904) again with a thin round brass tube ring soldered onto the end. All four buffers were then soldered in place from behind the headstock. It was then a simple matter of placing the completed items in the jig and soldering them together.

The internal sections of the frame were cut, filed to length and soldered in place. The sections with the long cut out slots (behind the headstocks) are for inserting retaining pins for the spring to secure the drawbar hook in place. On some of the models, that I made in the past, these sections were solid throughout, which made the fitting of the springs and retaining pins very awkward.



## Photos 1 and 2

Two views that look remarkably similar to the match truck underframe photos shown in my previous article describing its construction in part 1 (Issue 2, Christmas 2015, Page 17). The match truck for the crane was a cut down Stroudley van to LB&SCR Diagram 8. As the tool van is exactly the same, the same jig was used once again. The frame is made up of individually cut and prepared C&L double-sided copperclad sleeper strip, which has 10thou Slaters Plastikard ironwork added. Within the jig, every item is held perfectly upright and square ready for soldering up. Clearly shown are the packing pieces poking out either side of the W-irons which gives enough clearance for the leafspring casting. Also shown are the four packing strips behind the headstock ends thickening them up to the correct depth. The only visual difference between the two u/fs are the four cut out areas on the parallel strips for the drawbar retaining spring pins. They may appear too long and narrow, but I was not precisely sure what drawbar I was going to use. Some, as in the case of Laurie Griffin's are very long.

Using copperclad for the headstocks, the same problem arises with the thickness being insufficient, so they were built up using scraps of 30thou (0.75mm) brass, measuring 7mm x 3.5mm, soldered behind and touching the outer face of solebar. The thickness is now 2.5mm.

W-irons are EBM Models LB&SCR etched brass ones (Ref:7W-053) which are soldered directly onto the rear face of the solebar with thin pieces of scrap 20thou (0.5mm) brass measuring 26mm x 5mm sandwiched in between them. The reason for this is that the copperclad is slightly too thin (i.e. under scale) for an actual solebar thickness. The packing pieces also give clearance for the overall leafspring thickness as no part of the leaves must protrude outside the face of the solebars. Some filling still has to be done on the back of them for a snug fit behind the lid of the grease axleboxes. Although securely soldered onto the front face of the W-irons, I still like to give the thin end supports a bit of extra security via home turned pins.



Photo 3 A close-up view of the headstock end showing the Plastikard backing plates behind the buffer shanks and the rectangular draw bar backing plate in the centre. For some reason, probably quickness, I decided to add cubes of Plastikard to represent the bolts which were glued in place. On other models I have scratch built using this method, none of the cubes have come or fallen off in use as they are so tiny. The Slaters buffers are as purchased, but with the addition of the thin collar soldered on the ends. Note the pencil lines on the ply indicating a central line and headstock end lines where the strips of wood would eventually be glued. The packing piece behind the right hand W-iron is more evident from this angle.

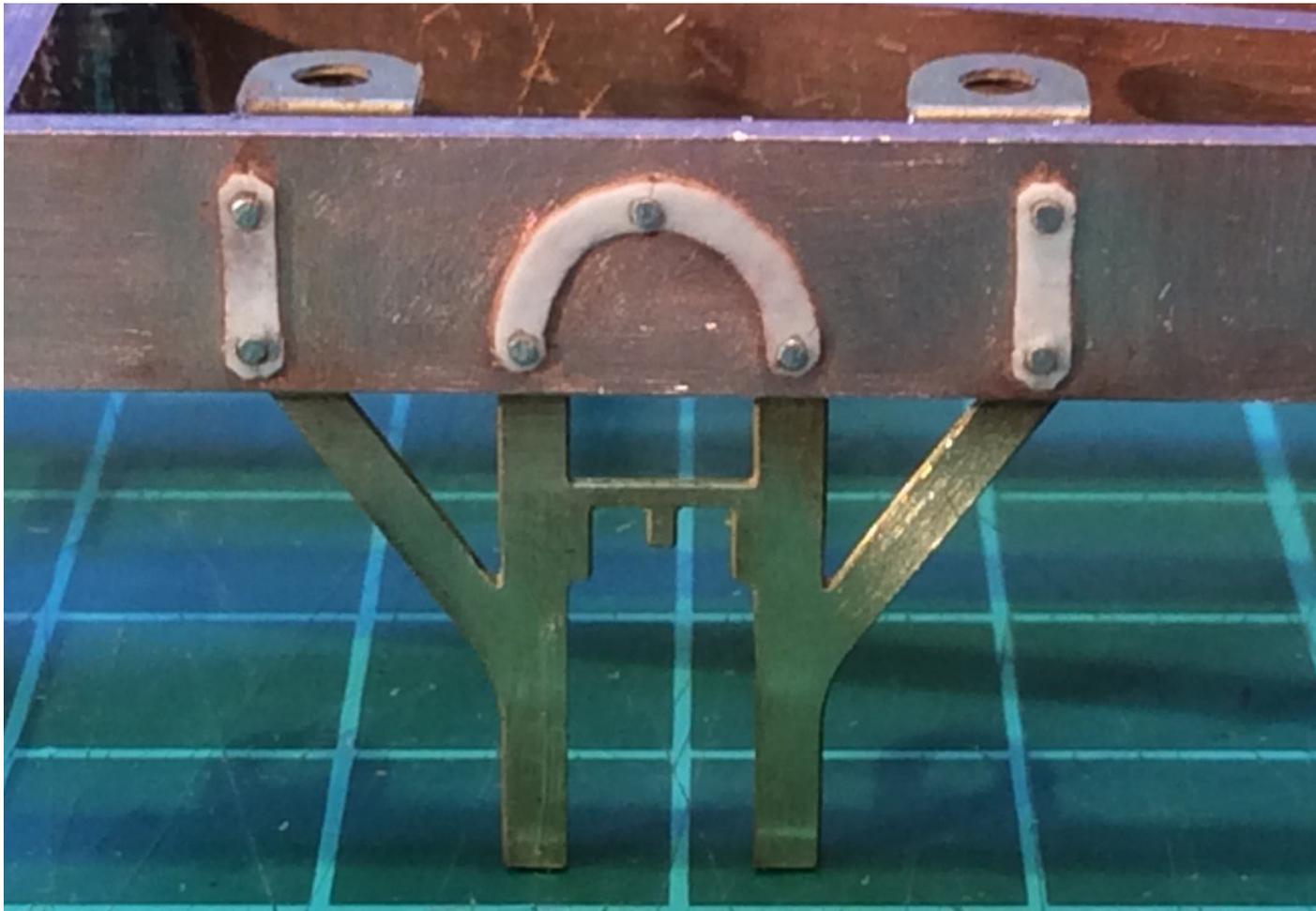


Photo 4 All Ironwork overlays (10thou Slaters Plastikard) were added before the frame was soldered up. Here 0.6mm n/s rod was used for the bolt detailing. Cutting out the curved crown plates was not an easy task. The prepared EBM Models LB&SCR W-irons were removed from the etch and soldered in position making sure they lined up with the external ironwork. The hole on the bent down left hand lug would eventually be used for a retaining bolt, securing the van body to the u/f. As this model is to F/S O Gauge, the frame is not sprung. So the small pin (protruding downwards) above the hornguides was not used but still retained. Philip Elverd's LB&SCR grease axleboxes slide in perfectly within the slots if a sprung u/f is required.



Photos 5 and 6 As the scale 4' 6" leafsprings are to a scale solebar thickness, some of the casting has got to be removed (only 0.5mm) from the back so that the front of the mounting brackets do not protrude out further than the solebars edge. The other reason for filing away this area is the position of the W-irons. On the model they are set further out due to the length of the Slaters axles and bearings within the axleboxes. So another jig was made so that an individual spring could be held securely in place for filing as noted by the filings. Two headless brass panel pins were simply hammered into a piece of wood as shown. In Photo 6 (right), the rear of the springs have had two small notches cut out in each one for the wings of the W-irons to pass. The fronts are left as is and clearly show seven leaves.

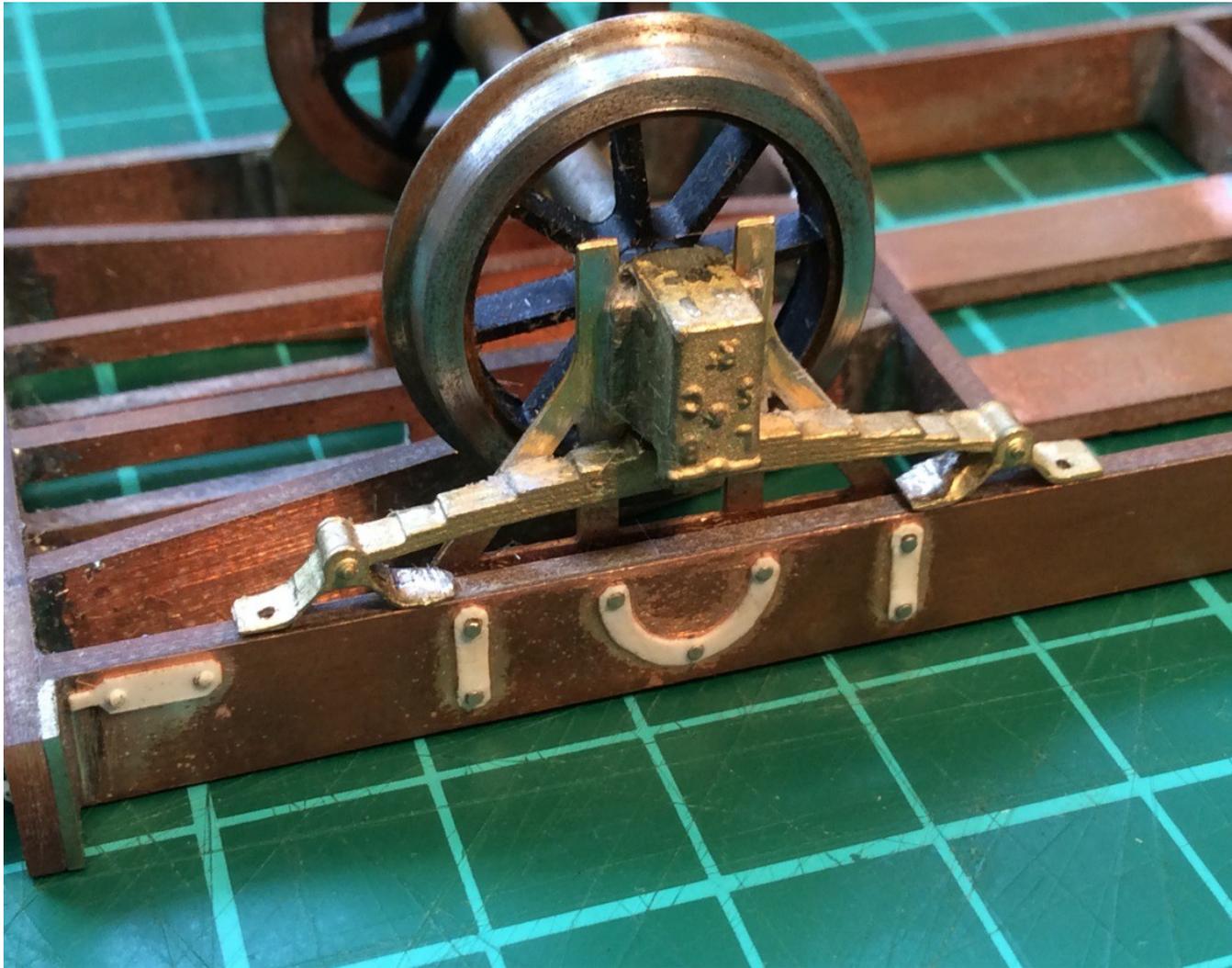


Photo 7 A leafspring and oil filled axlebox soldered in position onto the front of the W-iron. The axleboxes and axles have got to be fitted first to get the ride height correct. For a van to this Diagram the height from rail to the centre of the buffers is 3' 5" (24mm). Trial and error is the name of the game here. A small amount of filing or packing of the axleboxes is required. The springs can then be slid in from the side then soldered securely in place. Note the two holes drilled out for the small pins for extra security of the ends. In practice, pins were never used because the hardness of the lost wax did not warrant fitting them. Also note the individual letters on the face of the box.

LB & SC Ry
---------------------

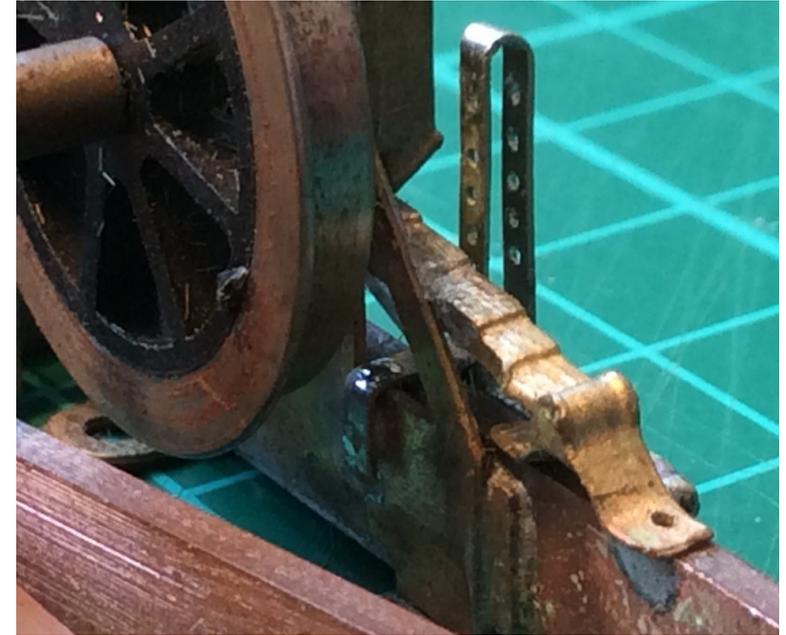
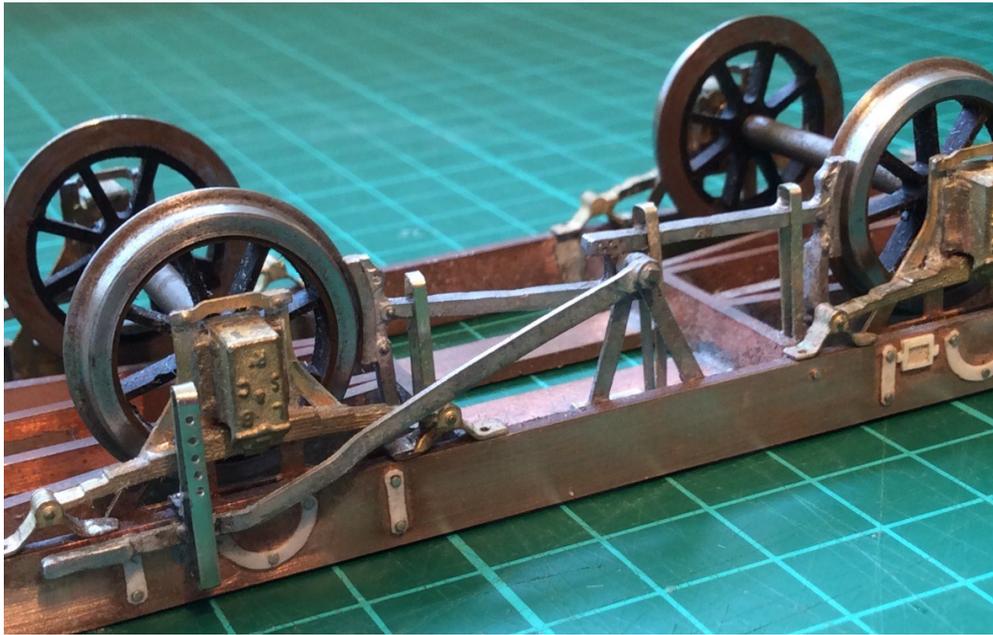
## Brakegear

As I was modelling an ancient Stroudley van, I wanted to fit a single lever and brake block on one side only. As the van had footboards fitted both sides, the lever would foul the back of both of the footboard support brackets. The only way brakes could be fitted was to fit more modern double block and lever one side. This lever clears the back of the right hand bracket with no fouling. I assume the van had better brakes fitted by 1904, but kept the original self-contained buffers.

Having constructed many LB&SCR goods wagon kits over the years, this has led to a number of left-over brake castings. These are gradually being used up on other scratch built vehicles. Many years ago, Adrian Swain of ABS Models was approached to supply me with more white metal castings from his kits. These ranged from 9' 3", 9' 6", and 10' 6" LB&SCR brake castings (the later from his LB&SCR Double Bolster kits), V hangers, safety loops, brake levers etc. Looking at the choices, I did not have a 9' 9" wheelbase casting to use, but in my stock, I had a broken 10' 6" casting. As the brake support shaft had to be reduced in length anyway, along with the bridging support unit in the middle not being required, I used this. With some cutting, filing, and re-soldering, I managed to reduce its length quite easily, making sure the brake blocks did not touch the wheel treads. The gap is a realistically spaced 0.5mm in from each wheel tread.

As the w/m safety loops castings were a bit on the thick side, 1mm x 0.3mm brass strip (Eileens Emporium Ref:F01003D) was used and bent accordingly. Once bent up, they were cut to 20.5mm long, then conveniently soldered onto the inner support strips behind the solebars.

The single cast 'V' hanger was used as it looked about the right thickness compared to photos. It was soldered directly onto the inside face of the solebar then bent outwards (as on van No.8196 on the Bluebell Railway) making sure the hole lined up with the centre hole in between the two brake pulls shafts.



Photos 8 and 9 A broken LB&SCR 10' 6" wheelbase ABS brake casting was cut down in length and modified accordingly to fit in between the wheel treads. The distance from the brake blocks to the treads are very close and prototypical. The cast 'V' hanger and lever was also utilised, though the latter had to be re bent in another position around the front of the axlebox. It then had to be cut shorter with a representation of the loop on the end. The cast safety loops were solid, so I made three new ones from bent up 1mm wide x 0.3mm n/s and brass strip. The two outer ones are conveniently soldered to the two cross members. The central safety loop (Photo 8) was left in mid-air and very vulnerable. So a small rectangular brass plate (hidden out of view) was soldered in position behind the solebar for the ends to be soldered to. The 1.5mm wide x 0.3mm lever pin guide was, again, very tricky to achieve which required several attempts. Some were bent too short, some too long. In the end one was near enough perfect. It also had to be designed with an integral bracket on the back (as shown in Photo 9) so it could be soldered to the back of the W-iron. Drilling out the holes was the easiest bit to do. The last bit to add was the lever. A very small amount of low-melt solder was used to secure it to the pin guide.

The vertically positioned adjustable brake lever support bar (or pin guide), to the right of the right hand axlebox (on the face of the solebar), had to be scratch built as the casting was cast in solid w/m and not at all prototypical. Much preferring to see daylight through it as per the prototypes, one had to be fabricated. This time I used 1.5mm x 0.3mm n/s strip (Eileens Emporium Ref: NF01503D). Although first appearing quite thin, it could be bent and flattened out slightly if required for tweaking, which is what I had to do a few times to get it to fit perfectly. Once completed, five holes were drilled out for the retaining pin. There should be six holes in total but the holes would have been quite close together and too bunched up.

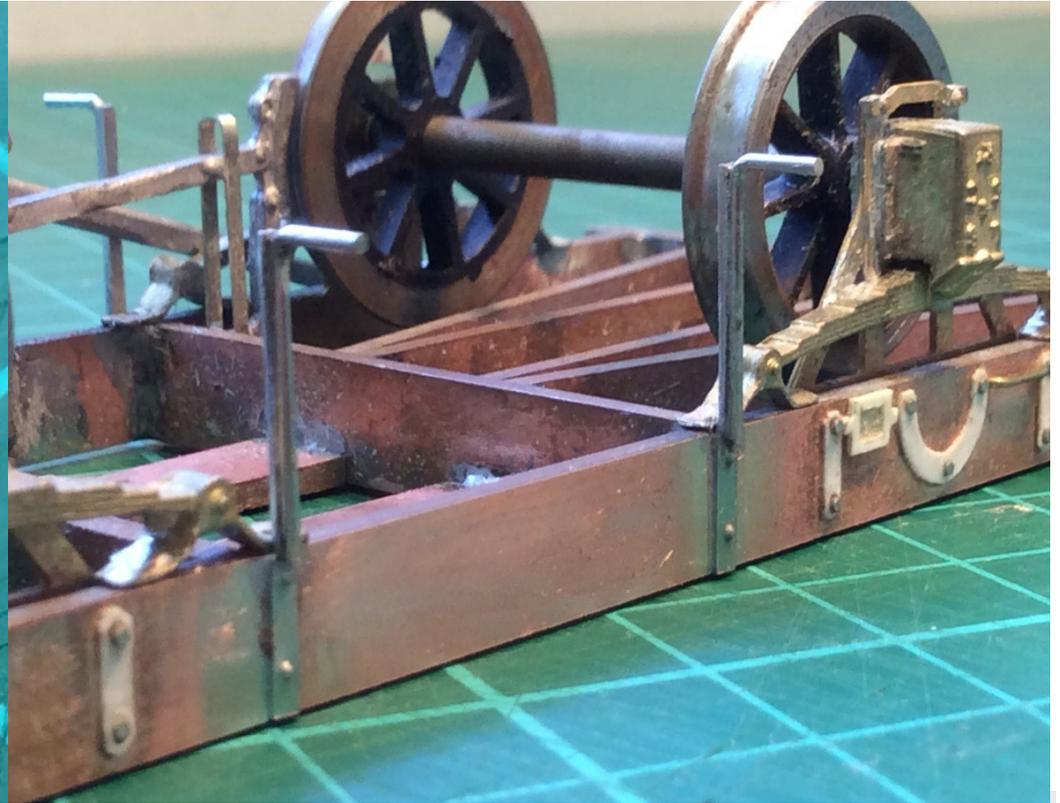
An over length double bolster brake lever casting was used for the actual lever. It was very carefully flattened out, then re-bent to go around the front of the axlebox area (it cleared it in practice if it was lowered) with enough clearance. The angle of the hand loop was then bent accordingly, making sure it was parallel with the bottom of the solebar. As the lever was still too long, it was cut to length. For the hand loop, I simply soldered on a bit of waste casting on the front end.

### Footboards

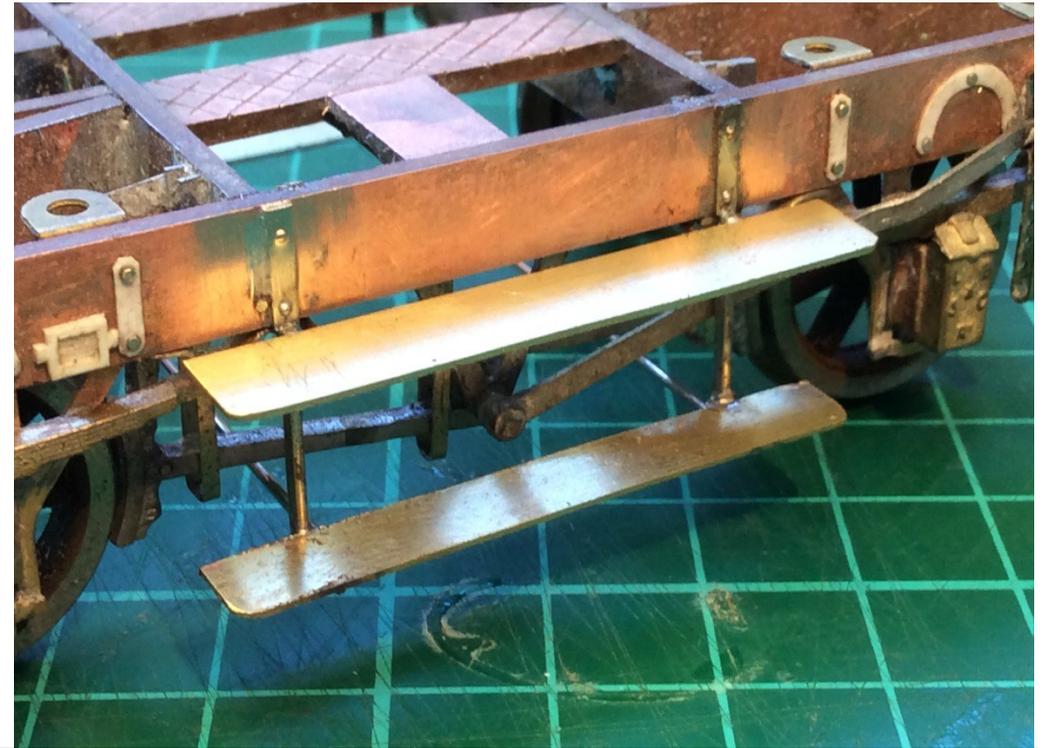
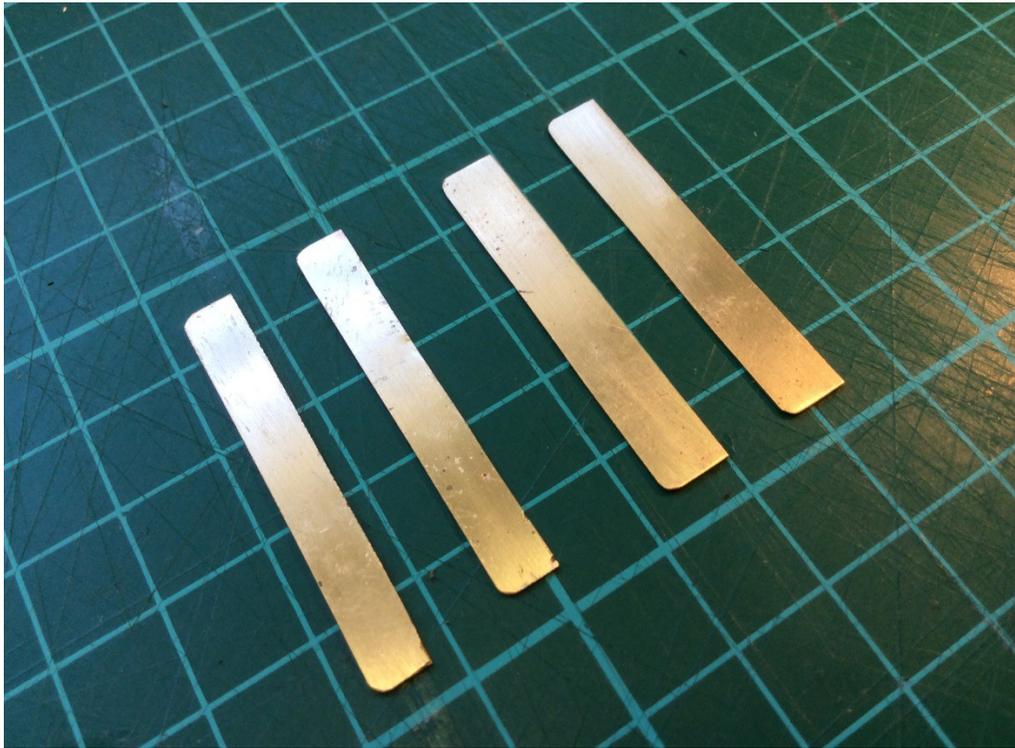
As mentioned above, the van has been fitted with footboards, which are positioned directly underneath each pair of side doors. The top one is noticeably wider and protrudes out further than the bottom one. The boards are attached to the outside faces of two vertically positioned drop down support brackets mounted onto the solebars. Looking through my extensive library of LB&SCR books, none show any goods vans showing this arrangement. The only ones that came close can be found in Southern Wagons Vol.2 (OPC) showing the same vans livered in SR brown in Plates 50, 51, and 52. These photos only show vans with a top footboard. In Plate 50, I have calculated their length as 6' 0" and the support brackets spaced at 4' 3" apart. These measurements match the ones fitted on Stroudley and Billinton six wheel full brakes. Looking at

photographs of these brackets, the bottom footboards are just below the axle centre line. They also appear to be very thin and vulnerable. My solution was to use the same 1.5mm x 0.3mm n/s strip as used for the pin guide. Two rivets were punched in first, spaced 4mm apart (matching the spacing of the iron work strapping). The strips were then cut to 20mm long, making sure the rivets lined up. 0.8mm n/s rod was used for the actual bracket. A length was cut to 18.5mm long and bent at right angles 5mm in from the end and soldered in place on the front face. Each bracket then had its sides filed back, almost touching the 0.8mm rod, giving the brackets a narrower, thinner appearance. After marking 4' 3" spacing on the solebars, they were soldered in place. It was very tricky getting them dead vertical and in-line. It was imperative the bottom brackets were dead level too as the eye would be drawn into seeing a crooked, not quite horizontal footboard.

Once they were done, I had no idea what the widths of the footboards would be. So a quick cardboard van body mock-up was made just to see what the ideal widths should be. After much thought, I chose 7mm (1' 0") for the top board, and 5.5mm (just over 9") for the lower board. Scrap 0.5mm thick brass was used, all cut to 42mm long with the corners rounded off (after painting, thin veneer wood will be glued straight onto the top surface representing wood grain). The top footboards were tack soldered straight onto the brackets themselves making sure they were positioned slightly below the bottom of the solebars (the wood veneer then packs up the thickness just above the solebars). To strengthen these two boards, four unequal 'L' brackets of 0.8 n/s rod were cut 14mm long and bent at right angles in the middle, then soldered underneath and behind the solebars. The bottom boards were then soldered onto the bottom brackets. Although the brackets were now quite sturdy, they had a tendency to be pushed inwards with handling, especially on the unbraked side. To get around this, two 0.6mm n/s rods were cut to 58mm long then soldered directly onto the underside of the bottom footboards. Painted black and in the gloom, they will not be seen. This method has worked successfully with several scratch-built LB&SCR Craven outside framed brake vans that I have constructed in the past.



Photos 10 and 11 This is the design I came up with for the very thin and flimsy footboard brackets. 1.5mm wide x 30thou n/s strip and cut to an overall length of 19mm. Two rivets were then embossed representing the bolts that go through to the solebars. 0.8mm n/s rod was then pre bent and soldered on the front via another jig (not photographed). It was imperative all four were exactly the same. The sides were then thinned down to rod diameter of 0.8mm. Soldering them on was not easy even though each one was level with top of the solebars. Getting them perfectly vertical and spaced out correctly took some time to achieve.

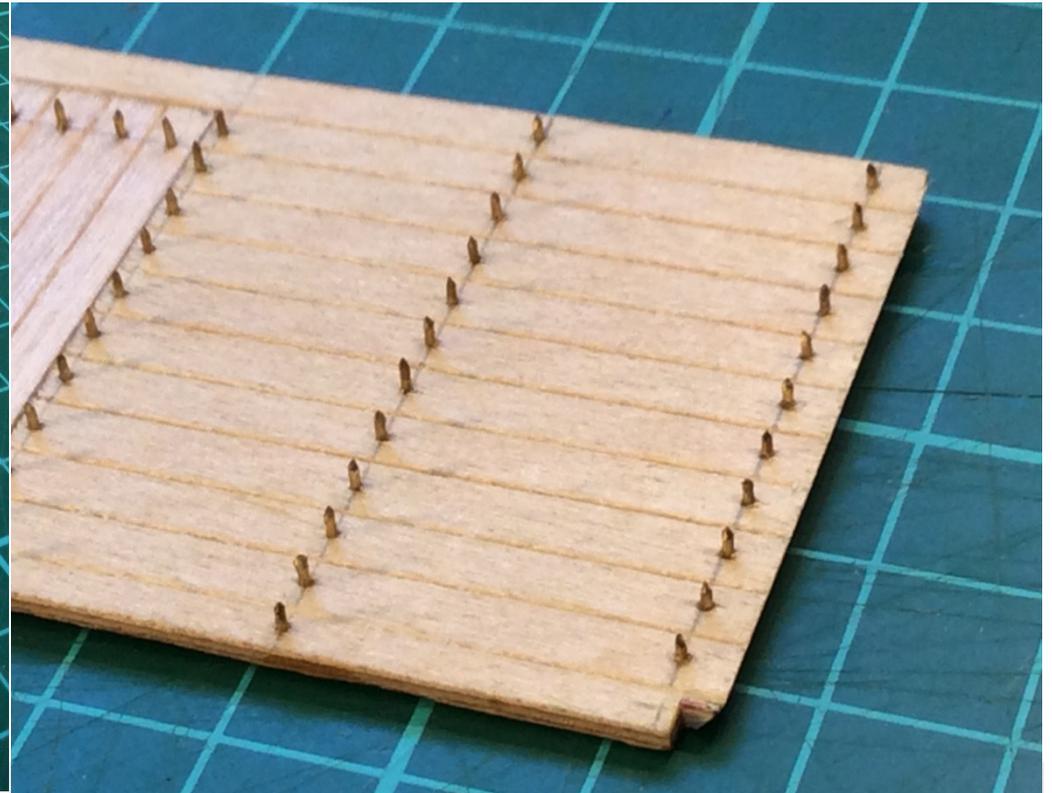
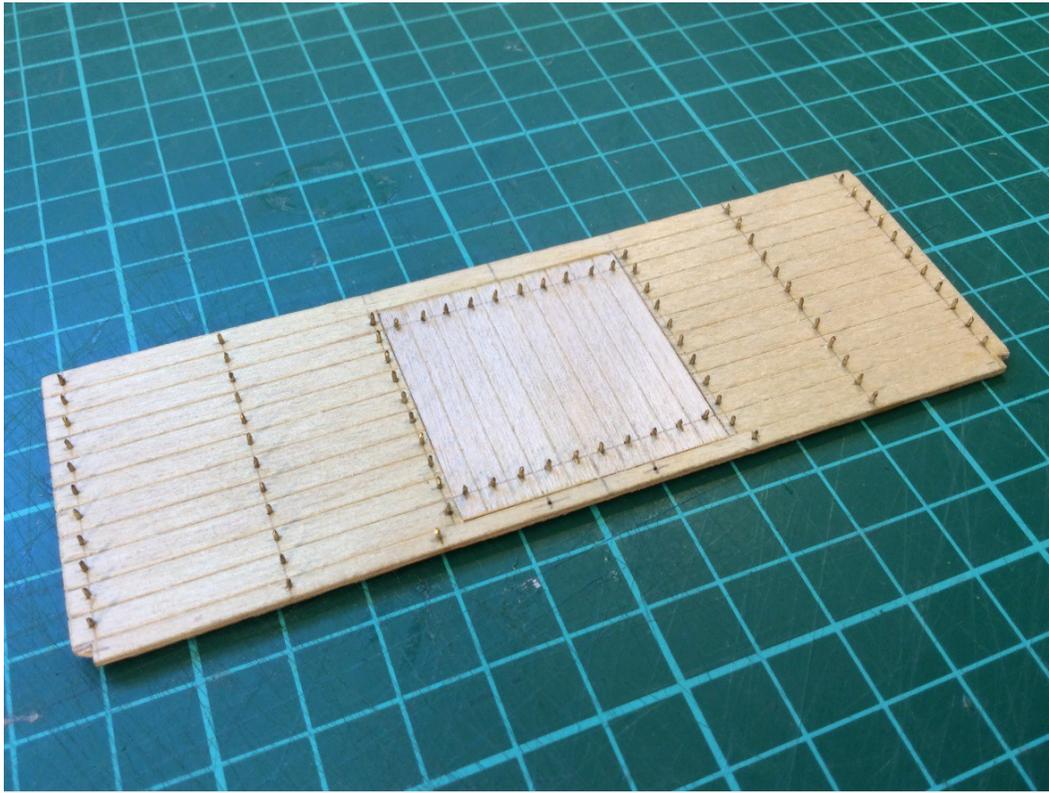


Photos 12 and 13 Through trial and error, the two different widths of footboards were calculated at 1' 0" (7mm) for the top one, and 9" (5.5mm) for the lower narrower one. Their overall lengths appeared to be the same. 6' 0" long looked about right when thin card was placed on the brackets. Thin scrap brass was used for all four with the corners slightly rounded off. Later after painting, thin veneer will be glued on thickening them up to scale thickness. To the left of the left hand bracket on the face of the solebar, a small bolt can just be made out. This is the position of where the original single brake lever one side would have been fitted. There was no way this lever could have been fitted to this van due to the brackets getting in the way of the lever. Just visible underneath and behind the brackets are the two 0.8mm n/s cross member rods that strengthens the brackets. If not fitted, the brackets along with the lower footboards would be pushed inwards with handling. The small rectangular plate mentioned in Photo 10 to secure the safety loop in position can be seen behind the solebar.

## Bodywork

For the bodywork of the van, 1/16th" wood ply was chosen over Plastikard as I like the impression of grained wood, though probably slightly over scale. To me, plain plastic would look much too smooth, but easily grained by hand. A single piece of ply was cut out first covering two bodyside lengths in one strip. I left a good 5mm either side for trimming to length later. All planks were scribed across the whole piece matching the 7mm scale drawing planks. It was then cut in half and each one trimmed to the overall length of the underframe (18' 4" = 128.3mm). The ends were then mitred at 45 degrees. Small rectangular cut outs were filled out (2.5mm wide x 1.5mm high) in each bottom corner so the body sits slightly lower and snugly behind each headstock back. On the real vehicles, the door planks are vertical and made up of five individual planks in each door. As the grain of the body sides are the wrong grain, a whole double door aperture has to be cut out. On this model, I decided not to have opening doors for a change, so a new door with matching scribed lines was prepared and glued in place. It was imperative the lines were perfectly vertical.

The centre lines of all vertical, horizontal, and diagonal ironwork rivet positions were then very carefully marked on in pencil. Each line was then cross marked for the actual rivet position. Care was taken here as some of the rivet positions on the drawing did not match the photograph I was using. Each centre mark was then drilled out with a 0.625mm drill bit to accept 0.6mm round brass rods. Each individual rod was painstakingly sharpened to a fine point and set in at a distance of 2mm from the front face. To stop any glue seepage on the front, all 98 rods (for just one bodyside alone) were glued in place from behind. It was imperative the rods were perfectly upright in each of the holes. Any that were found to be crooked were removed or re-glued correctly. As each one was individually fitted at a time, they had to be left for a few minutes to dry before the excess rod could be trimmed off on the back and filled smooth. Any rod that came loose was dabbed with more glue from behind.



Photos 14 and 15 Going by the drawing, a single strip of ply was cut to full height and long enough for the two sides (side by side). A small amount of excess ply was left over length for trimming later. Pencil marks were then marked on each end for the individual planks and vertical lines for the ironworks bolt detail. Thankfully all of the bolts are in the centre of each plank and was easy to mark out. After scribing the planks on (in my case with the thin tipped bradawl) the ply was then cut in two halves. The door apertures were then carefully cut out. New door pieces had scribed planked lines applied then glued in place. Horizontal door strapping lines were then marked on. The sides were then trimmed to size making sure they did not overhang the ends of the u/f. Finally, the ends were mitred at 45 degrees. All holes were drilled out with a 0.7mm drill bit for the bolt/rivet detailing. Each and every one of the hundred or so rods had to have a sharp point filed on them for marking onto the overlays. It took many days gluing them all in.

## Ironwork overlays

For the ironwork overlays, 10thou Plastikard was used throughout, except for 15thou which was used for the rectangular hoods that are positioned over the side doors. On photographs, a slight shadow can clearly be seen.

I started first on the two outer sideframe vertical end corner overlays. Firstly though, I double checked to see if the rivets are perfectly in-line with each other. Any that are not can be straightened up with tweezers or small pliers. I give myself a good 2-3mm waste area around the item that is being made. Firmly holding down a bodyside, a piece of Plastikard was pressed firmly down (by gentle finger pressure) onto the pointed rods. This produces small indentations on the inside face. Each hole was drilled out with a 0.8mm drill bit. You may think that a 0.8mm hole is too large. In fact it is ideal as it gives a bit of slop (not too much) if a brass rod is not exactly in the right place. Any visible holes around the rivets are lost in the painting process. When drilling out from the indentations (inside face), burrs are formed on the outside face from the drill bit and thus require filing off. The hole is then redrilled out again from the front. A trial and error fit over the rivets should hopefully line up. If not, any offending holes can be made larger by elongating them (left, right, or up or down) using a tapered broach or a new scalpel tip (the latter under a lens). When happy with the fit, the inner end was cut off (1.25mm out from the centre of the rivet). I treble checked once more before finally supergluing them in place. The oversized end was cut off leaving 1mm out from the mitred edge.

The protruding brass rivets now have to be cut and filed down to represent the head. The finished height is around 0.25mm. Fearing I would file off too much leaving a flush, or near flush head, I first drilled out a 0.7mm diameter hole in a scrap of 0.5mm brass etched strip. The strip is then placed over a rivet. The rivet is then filled flush with the strip. You know you will be safe in filling as the 0.5mm head is way too tall. The strip is then removed. Care must now be taken filling more

brass off down to 0.25mm. Be very careful here as some brass rods are harder or softer than others and require more or fewer strokes. It very nearly happened to me on this particular model. **YOU HAVE BEEN WARNED!**

The rest of the ironwork is pretty much the same. The hardest items to make are the narrower 1.5mm wide vertical and door strap strips. Again they are made from at least 10mm wide strips to start with. No matter how accurate I was with the brass rods, some were still not perfectly upright. Even after straightening, some of the holes did not line-up, making the strips a bit wavy. Again, trial and error is the name of the game, elongating the holes. After some tweaking, the outer edges can be trimmed down to 1.5mm wide. It is imperative these strips are perfectly straight when placed in position with no kinks. Only now can they be glued in place. Door furniture such as the door hinges, clasps, and instruction chalk board etc were built up from 10-15thou Plastikard.

## Ends

The same procedure more or less applied to the two ends with the corner plates being done first. I was not sure if the plates went straight up to the roof line, or were cut flat along the top of the 2<sup>nd</sup> plank down. Consulting Simon Turner on the matter, he found two Stroudley van end photos that clearly show the plates did carry on up to the roof. There are two vertical thick tapered end posts on each end that continue right down to the bottom of the headstock. Measuring the drawing, the top projection out from the van end is 1.5mm, and 3mm out from the bottom of the headstock. Wood strip 3mm x 3mm was purchased for these. Four were then prepared slightly over length. A diagonal line was then marked on just one piece. Holding two strips together in the vice, they were very carefully sawn (using a piercing saw) across the diagonal line. The two pairs were then carefully filled smooth. When filling (across the grain) it is imperative the wood does not split. To stick them on, I used Evostick Wood glue instead of Superglue. Although the latter is quick and

instant, if one is not perfectly vertical a major removal causing damage will ensue. The former allows a small amount of movement in the final positioning before the glue sets. When dry (ideally overnight), the rivet holes can be drawn on, lining up within the centre of each plank. These rivets are much larger compared to the ironwork rivets. On a previous scratch model of an LB&SCR egg truck to Diagram 10 (SR Diagram 1435) I chose 1mm rod (0.9mm might have been slightly better). Pilot holes were drilled in by hand, then drilled out proper in my pillar drill using 1.1mm drill bits. After the holes were cleaned up from behind, the rods were Superglued in from the back. To get all of the bolt projections at the correct distance out from the supports, a 15thou piece of Plastikard was placed on the front of them. When glued in, every rod projects out at the same height. A small amount of filling still had to be done on one or two rogue heights. Four lamp irons were made and bent up from scrap brass (1mm wide). The projections were then filled to form a slight taper. Two holes in each were drilled out for minute home turned pins to secure them to the supports. If just glued in place, they would inevitably fall off.

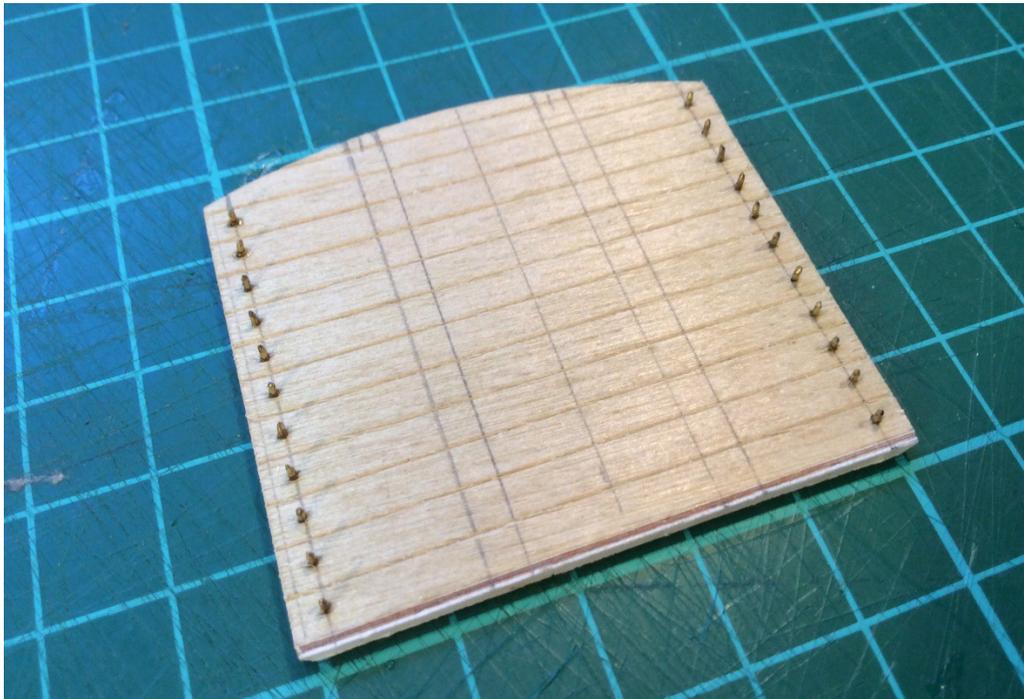
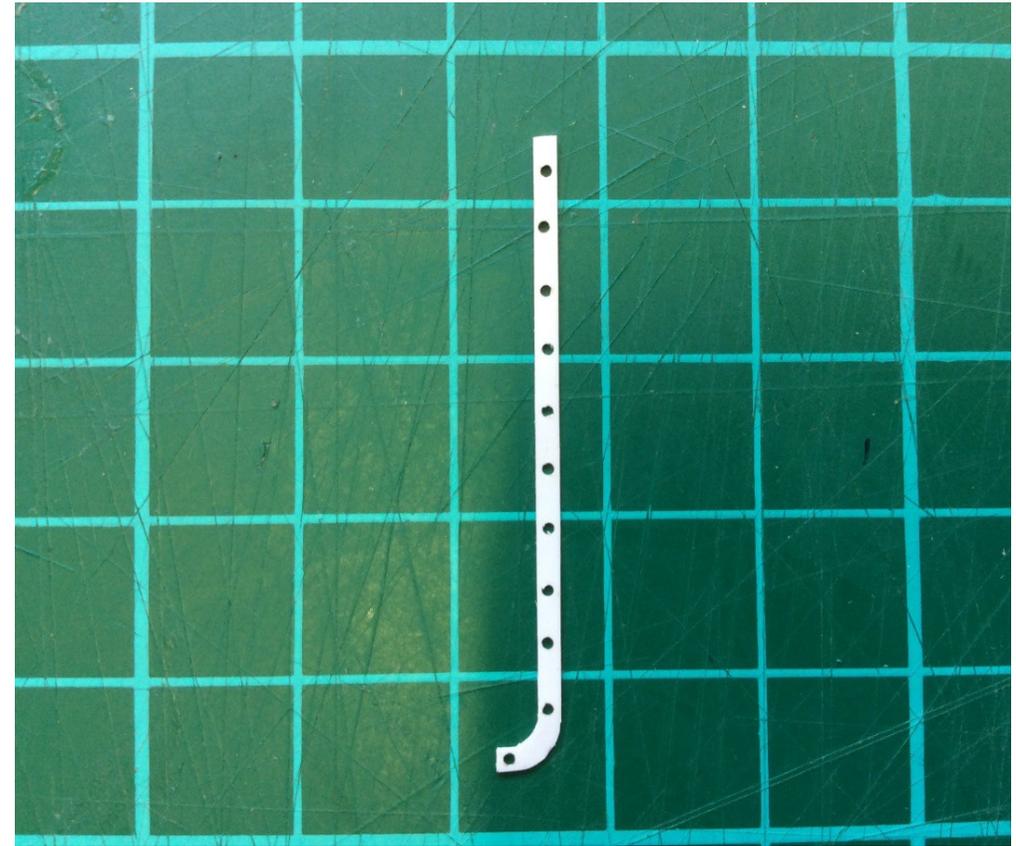
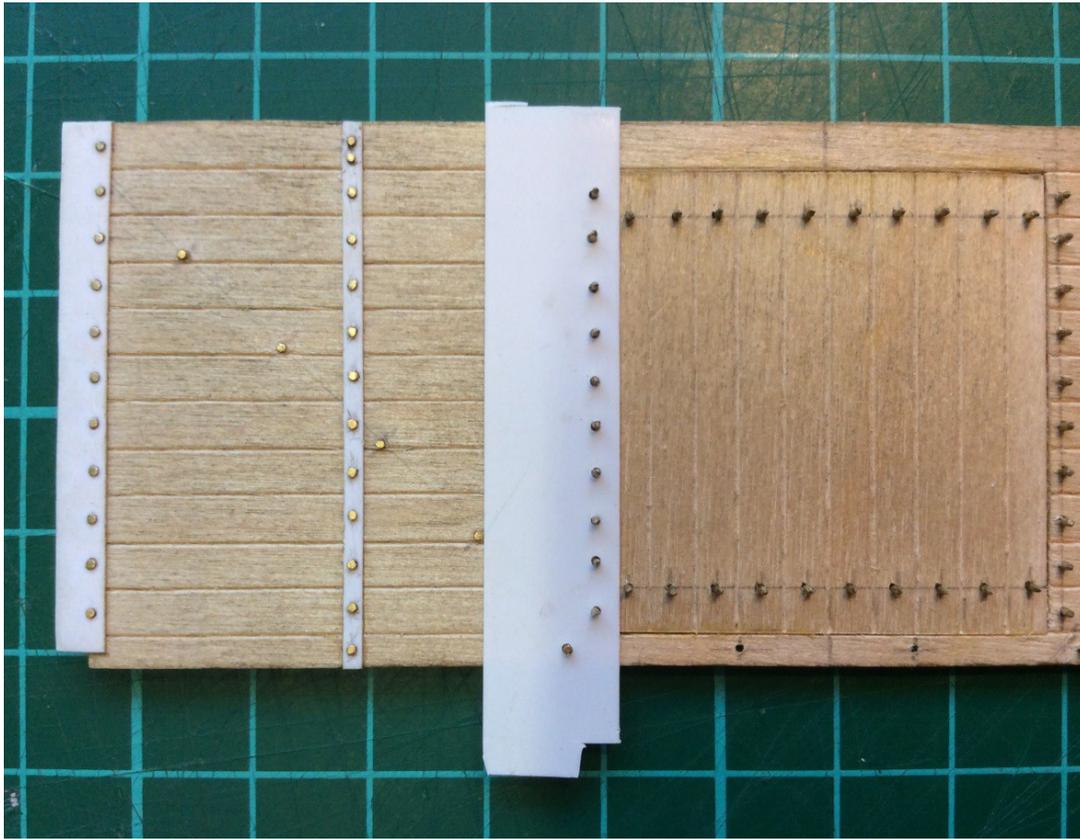


Photo 16 The ends were done in exactly the same way as for the sides, being paired and scribed in one piece up before cutting in half. All vertical lines were then marked on as can be seen. The two double rows of lines are for the positioning of the two outer supports. When offered up to the sides, I miss calculated the overall height by 0.5mm hence the white card packing piece glued on the bottom. All would eventually be hidden by paint. Great care must be taken when handling these parts as the spikes on the brass rods are extremely sharp.



Photos 17 and 18 Each individual iron overlay is custom made to fit its specific location. Showing the 'J' shaped strapping section as an example, an oversized piece of 10thou Plastikard is placed over the points of the protruding rods. Holding it firmly in place, finger pressure is then applied over the points. Some sharp points do come through so care must be taken with your fingertips. On the reverse side of the Plastikard, small indentations have formed. These now have to be drilled out. Hopefully, when placed back, the holes should line up perfectly over the rods. Some inevitably won't and will have to be made larger or elongated slightly. I use a tapered broach. When it does finally fit, it can be cut out as shown in Photo 18. You may also notice the second hole down is very slightly to the left. The pin will soon be bent to the right and the hole elongated before gluing in place. Paint will eventually hide any openings in the Plastikard.



Photo 19 All overlays are sparingly glued down using Superglue. It is imperative there are no glue seepages out of the sides. If there are any areas not covered with glue, I normally put a small amount of glue onto the tip of a scalpel blade and gently slide underneath the area. Filing the rods down to the correct height can be a bit tricky. It is imperative they are all to the same height. To achieve this, a hole was drilled out of a scrap piece of brass. It was then held over a protruding rod. The rods were then simply filed flush down to the brass strip. After removal there will be a slight burr around the edge of the rods which will have to be cleaned up.

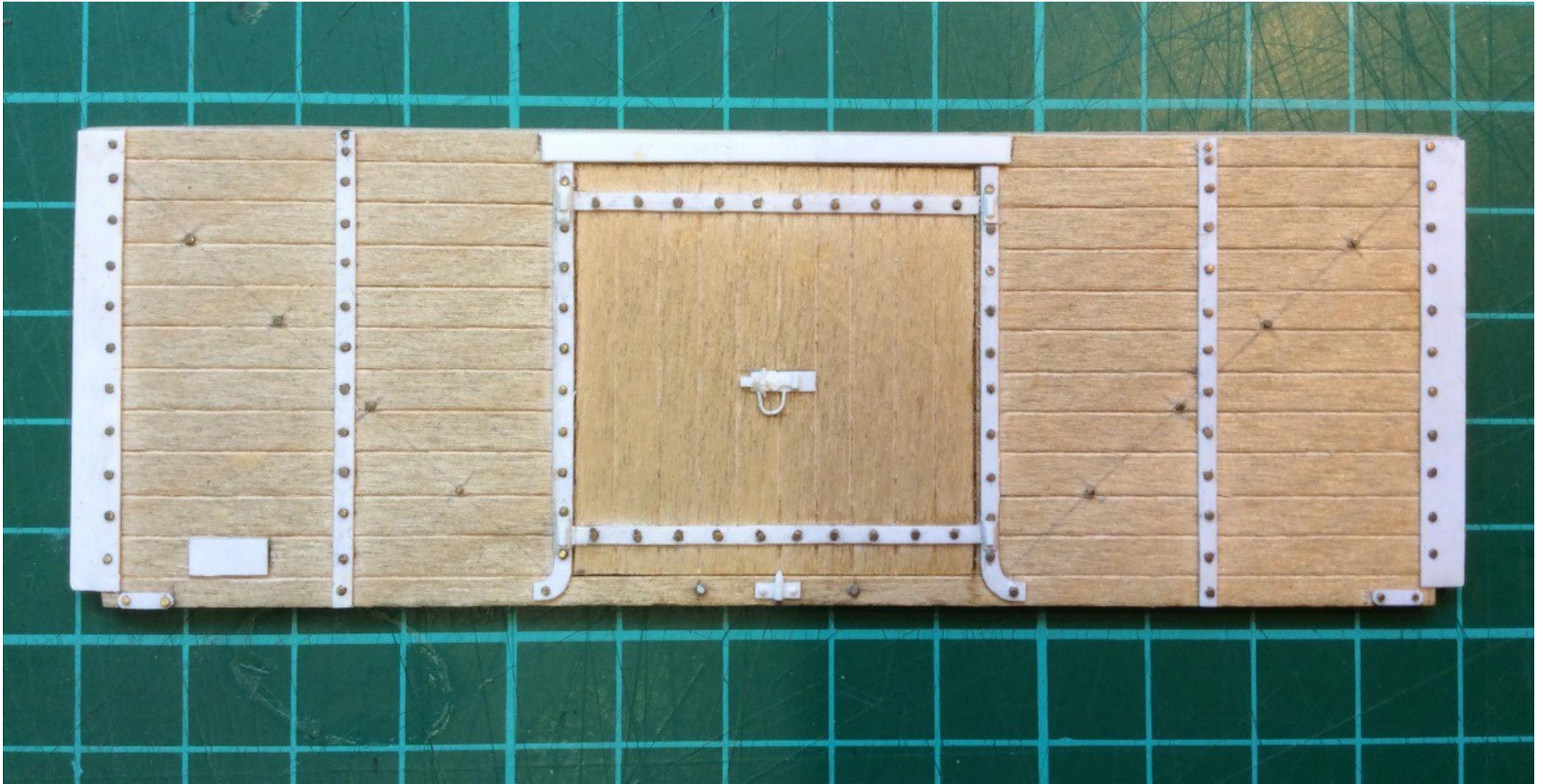


Photo 20 A completed bodyside. Though not very clear to see, the end corner plates are 0.5mm too long over each end. These will be filed down when the body is assembled. Small details such as door hinges, door clasp, chalk board etc, have been added with 10thou. The thin rectangular panel over the doors is a piece of 15thou Plastikard as it protrudes out further than the ironwork. Either side of the centrally positioned door clamp on the bottom plank, two slightly larger diameter rods can be seen on the photos. 0.9mm brass rod was used.

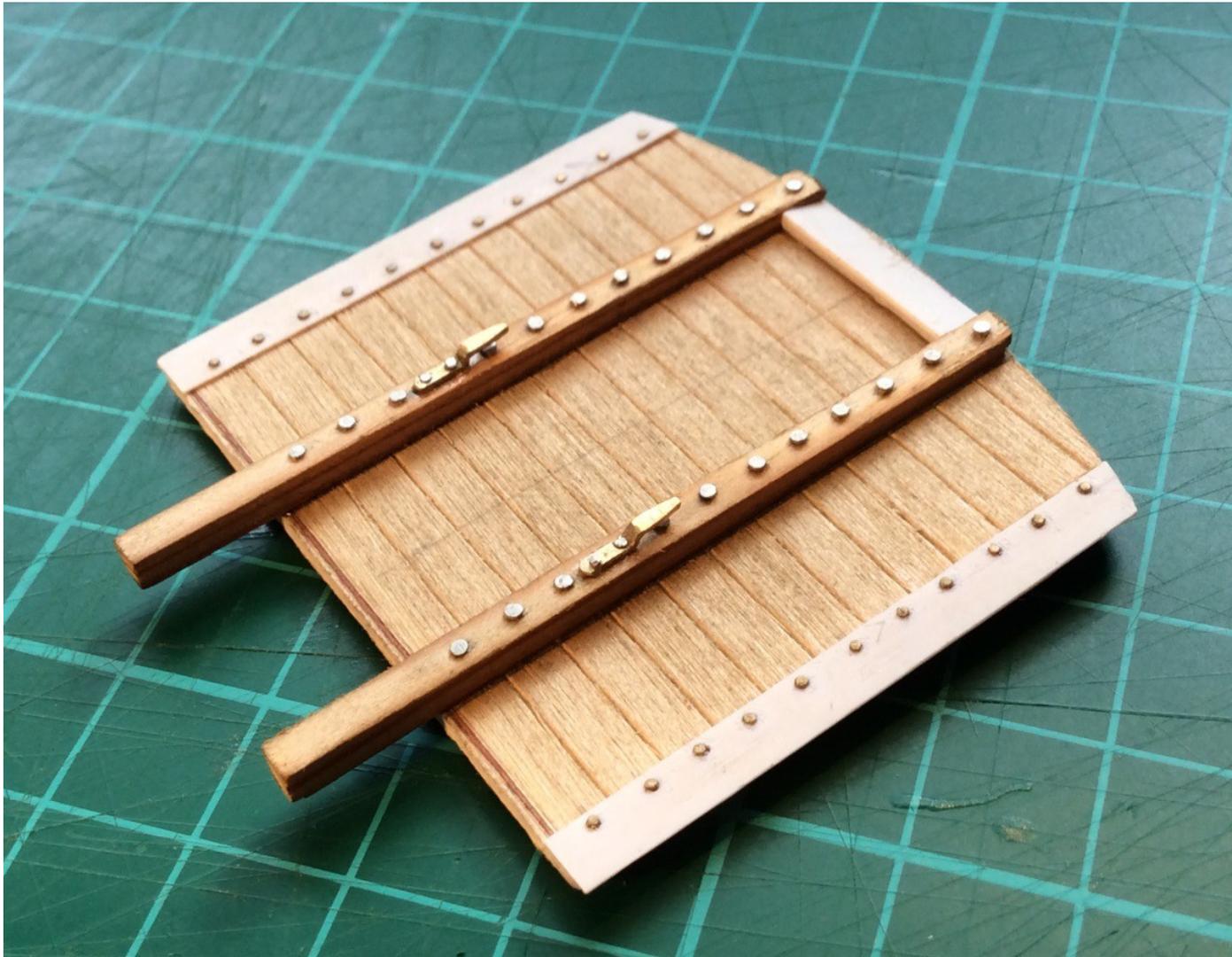


Photo 21 The ends were built up, again using 10thou for the corner plates and brass rod exactly the same as for the sides. Just about visible (bottom right hand corner) a small piece of overhang of 0.5mm can be seen. 1/8th" square wood strip was for the end supports. The strip was cut in half and filed with a taper matching the drawing. Both are too long at the moment and will be trimmed later. Holes were drilled all the way through for the 1mm brass rods. Again, to stop any glue seepage on the front, all were glued in from behind. Lamp iron brackets were fabricated using scrap

brass and bent and filed to shape. Each one has two small 0.6mm holes drilled out. After each bracket was glued in place (Superglue) and left to dry, each hole was re drilled out again this time going straight through into the wood. Home turned securing pins were then turned down with 0.7mm diameter heads. The pins then finally glued in place. Finally, the roof bonnet (20thou Plastikard) was glued in place set at the correct angle.

## Assembling the body.

Through experience, you cannot glue the ends straight to the sides. This is asking for trouble. It is best to cut out a separate floor piece first, then glue the ends and sides on separately. The floor measurements were calculated at 124.5mm x 50mm and a piece of ply was cut. As the floor is completely hidden, no scribed wooden planks lines are needed. One end was Superglued on first (using a T square), making sure the end was perfectly central within the mitres. The other end was then offered up to the other end of the floor. A very small amount of wood had to be filed off for a snug fit over the headstocks. This end was then glued in place. The bodyside lengths were deliberately made slightly longer (at 0.5mm longer over each end) for trimming back for this next crucial stage. By careful filling them back in from both ends they eventually fitted in place nicely. Superglue was used this time gluing them on. When replaced over the u/f, the body sat perfectly with no twisting. Any gaps in the four outer corners were made good by inserting thin slithers of Plastikard where necessary. Any slight gaps will be hidden by adding paint. The bottoms of the over length end supports (x4) were cut flush with the bottom edge of the headstocks. To stop the sides from bowing inwards, three internal pieces were cut to shape and glued in place.

On this particular model for some strange reason, I choose not to glue the body straight onto the u/f, preferring to bolt the two together (It does help having separate items for painting with less masking off etc). With the body held onto the u/f, a suitable sized drill bit was placed through one of the outer holes of the W-irons then drilled straight into the underside of the floor. Double-sided copperclad sleeper strip was then glued inside the body over the holes. The copperclad strips were then Araldited in place over the holes. Holes were redrilled through the floor again through to the copperclad and captive nuts for the securing bolts were soldered in place.

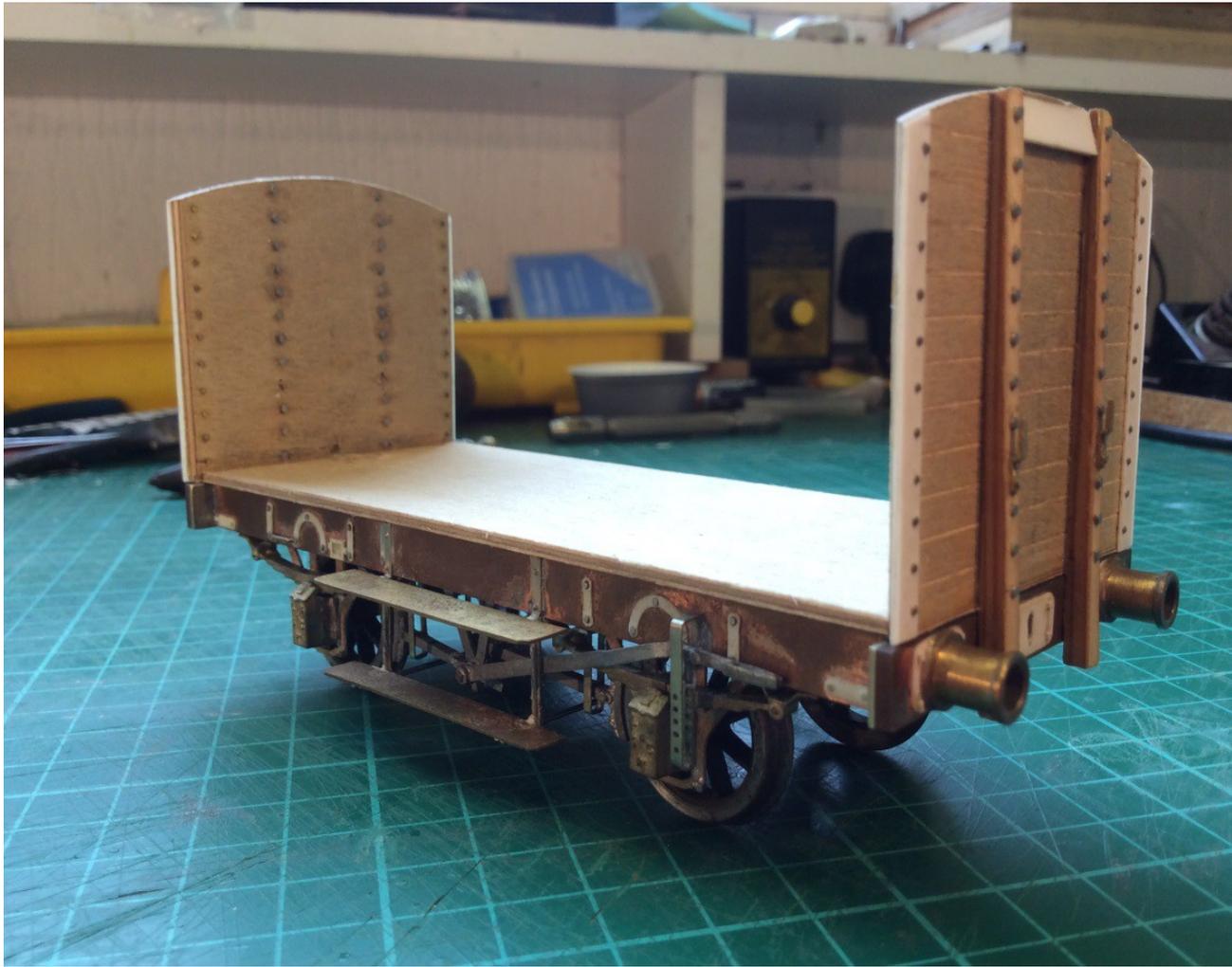
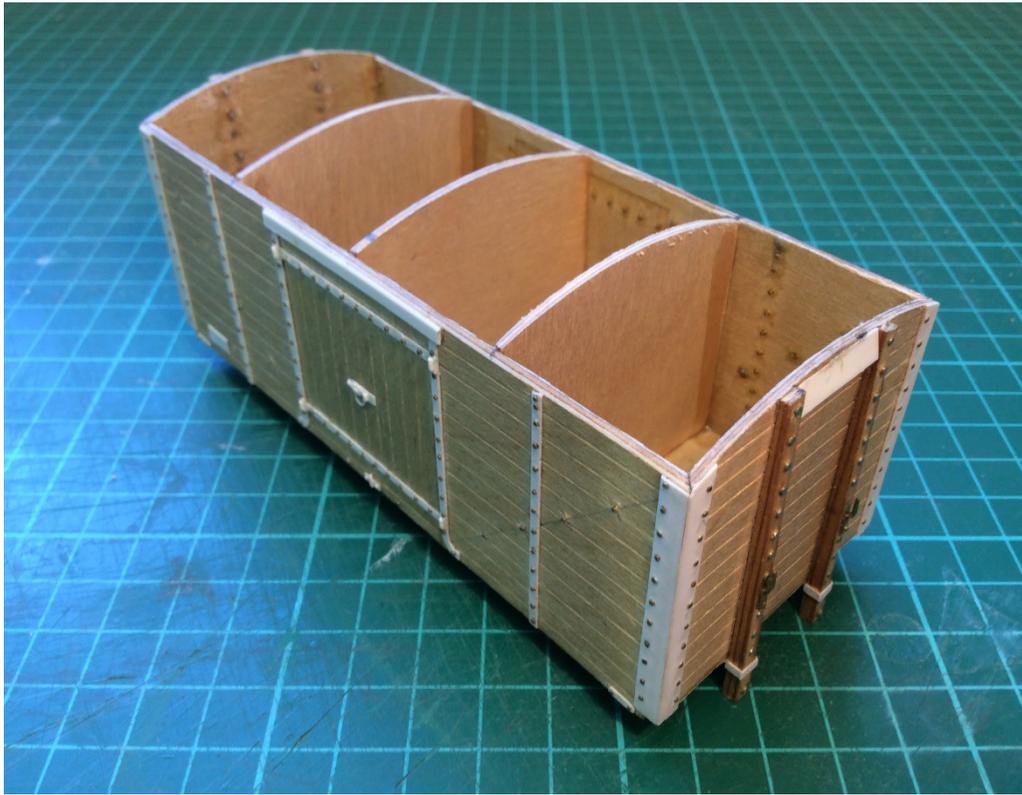


Photo 22 As mentioned in the main text, the floor piece was precisely measured at 124.5mm x 50mm. A piece of ply was then cut out using a Stanley knife. It is important the ends of the ply are perfectly upright and not at an angle. If not square, the ends will tend to bow inwards or outwards. If so, a small amount of filing will have to be done squaring up. With the floor in place on the top of the u/f, one end was glued straight onto it. Before the Superglue has time to set, the end can be squared up with the aid of a small T square. The same procedure more or less applies to the other end. The other end of the floor may have to have a

small amount of ply filed off it (hence the extra 0.5mm) for a snug fit over the ends of both headstocks. It is important there are no gaps behind the backs of the supporting beams. The photo may give the impression the body is stuck to the u/f but it is not. The body has been designed to slide on and off. Note the over length supporting beams which will be trimmed later in the build. Also shown are two clear white vertical edges poking out either side of the sides (far end). These are the oversized corner plates which will also be trimmed when the sides are fitted.



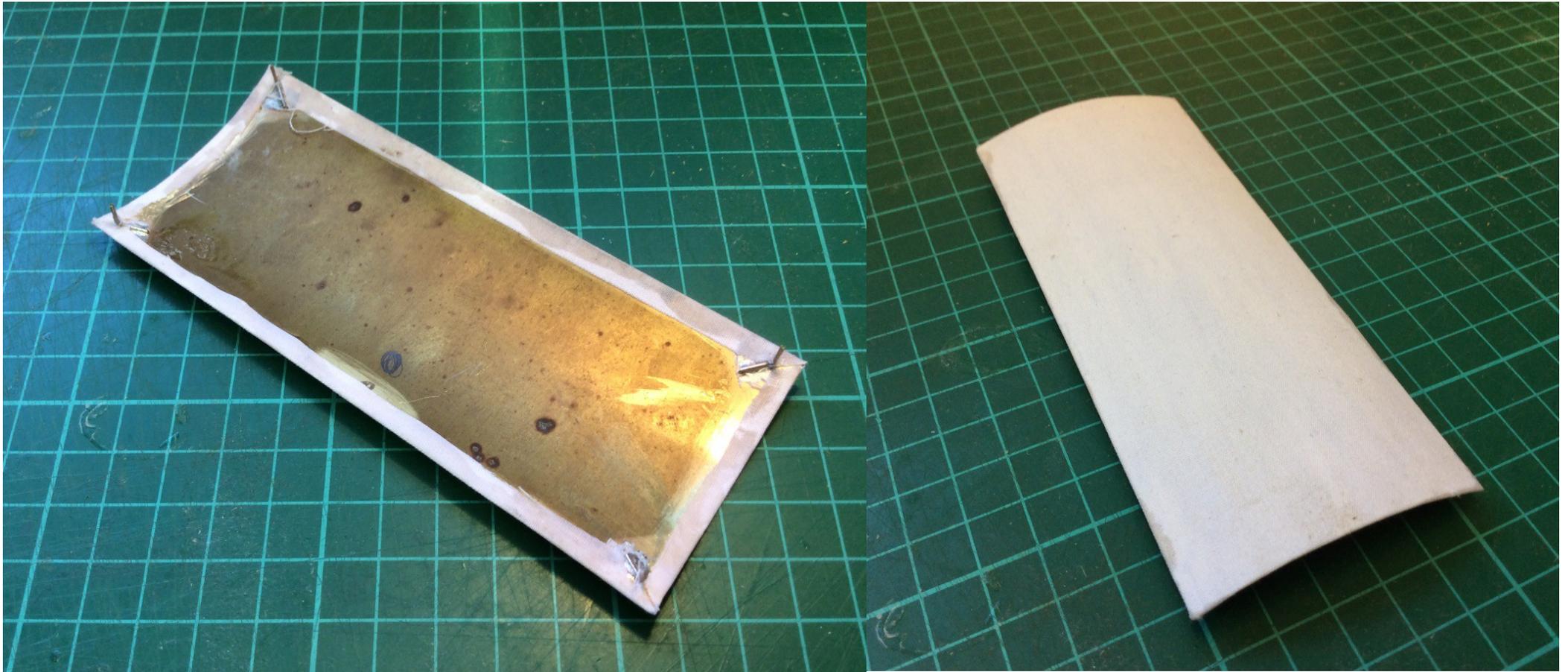
Photos 23 and 24 These two views show the completed body. A lot of time was taken fitting the sides for a snug fit within the ends. Again, small amounts of filing had to be done on each of the mitres to achieve this. Trial and error was again called for. Only when I was completely happy they were glued on. Superglue was allowed to flow down from the top and creep into the mitres. The sides of the floor were spot glued first, making sure the floor sat perfectly on top of the u/f. The edges of the corners were then very carefully filed smooth and slightly rounded off. Three internal partitions were fitted added as the sides still had a tendency to bow inwards slightly. One central one would have been sufficient but two more stiffens up the body considerably. Photo 24 shows a double-sided copperclad sleeper strip Araldited to the floor with two captive nuts soldered onto it. These are for the bolts that secure the body to the u/f via the holes in the W-iron lugs. Note also the 45 degree mitres.

## Roof

The roof overhang of the sides and ends on both the Stroudley and Billinton design of roof are very small. The sides are roughly 0.5-0.75mm, whereas the ends are a generous 1-1.5mm. The roof measurements on the model were calculated as 132mm x 58mm. A piece of 20thou (0.5mm) brass was cut and rolled accordingly. To secure the roof to the body, four 0.6mm n/s rod 'L' brackets were bent up and soldered to the underside of the roof. Each one protrudes downwards in each corner. After tweaking, the roof is a snug fit. The roof was then covered in Japoura cloth (using 3M Spray mount adhesive) which looks like canvas that has a very close weave. This material was also used on John Ritter's six Billinton six wheelers, which I built for him, to good effect. The excess areas were then Superglued on the underside and made good. Although quite bright and white at first, no weathering (i.e. spray painting/powders etc) is required. Over time, with regular handling with dirty grubby fingers, it gets very dirty and more prototypical.



Photo 25 During the construction of the individual body parts, I made sure that all was square before going on to another part. On a couple of corners, there was a slight gap as shown in the foreground corner plate. As the gap is only 0.25mm wide by as much deep on this particular corner, I decided to fill it with paint. The last items to fit were the four brackets that go around the bottom of each end support (inset from the buffers) and the face of the headstock. In practise, these brackets would have secured the body to the u/f. Wood veneer has not yet been glued to the footboards which will be done after painting.



Photos 26 and 27      Photographs of Stroudley van roofs do not show much overhang all around. Getting this crucial measurement correct on the model was critical. Several pieces of card were cut out and placed in position before any brass was cut. When I was happy, a piece of 10thou brass was cut then rolled. Four 0.7mm n/s 'L' shaped brackets were bent at right angles and then soldered in each corner to the underside of the roof. The roof can, if required, be removed easily. The covering is white JAPOURA CLOTH which is excellent for depicting the canvas covering on the prototype rooves. As the weave is so fine, it does not show in the photos. Superglue was used on the underside to stop the edges fraying. Even at this early stage, the covering is beginning to get very grubby already.

## Painting

The underframe was washed and cleaned. When dry the body, solebars, and headstocks were spray painted using Halfords grey primer, then a coat of Humbrol No.27 Sea Grey (AD6027) was applied. All ironwork, W-irons and running gear were painted in Humbrol Matt Black No.33.

## Lettering

As the van depicted in the Buxted photo was devoid of any lettering, I thought of leaving it unlettered. It did look a bit strange though, placed alongside the fully lettered crane so it had to be lettered somehow. The size chosen was again from Plate 44 Southern Wagons Vol 2, page 26 at 9" high. Luckily for me there was a set on the new transfer sheet purchased for the crane's lettering (HMRS Sheet 13). Way before the model was even started, the chosen "TOOL VAN No.19" lettering was causing a problem. Where to place it? In the end the letters just about fitted in between the door lock hinge and bottom horizontal door strapping. I chose 2.2mm high letters, again from HMRS Sheet P4P. To me, they look to be in the correct place. The "6.0.0 Tare" weight numbers were applied where they would normally be positioned (on the bottom plank and on the solebar). I have not added the two oval wagon plates that would have been fitted on the solebars, thinking they would have been removed when the van was transferred to the crane. They would have been re issued to another van or wagon.

## Completion

A drawbar hook (purchased from [www.cspmodels.com](http://www.cspmodels.com)) was prepared and cleaned up. Homemade 0.7mm n/s links were then bent in a jig and oil quenched. As the drawbar hook is made from lost wax, oil quenching cannot be done, so careful weathering with paints has to be achieved matching the links. Buffer heads were then fitted. To date, it has not been weathered.

This completes the tool van scratch build.



Photo 28 The Buxted van was devoid of lettering (several planks either side of the doors have very faint word possibly hinting its use), but clearly painted in the early pre 1895 livery of light Lavender Grey with (possibly) black ironwork. As my model was set in the later 1895-1911 period, the much darker lead colour was used along with the 9 inch high L B & S C R lettering. Wanting to identify the van to be used in conjunction with the Travelling Hand Crane No.19, I plumped for the layout above. Although slightly on the small side, the next sized letters were way too big to comfortably fit the area.



Photos 29 and 30 The van fully painted and in ex works condition. At first glance both views may appear identical, but one side shows the brake side, the other un-braked. The model was spray painted using Humbrol No.27 Sea Grey for the main body and u/f with Humbrol Matt Black No.33 for the ironwork and running gear. HMRS Transfer sheet No.13 and P4P (as described in the main text) was used for the lettering. Both footboards have now had thin wood veneer glued (contact adhesive) onto the original brass footboards increasing the depth. The wood was then painted using Railmatch Sleeper Grime 1406. The roof is not painted but left to weather with handling over time. Although quite white in the photos, it is beginning to tone down nicely. The two cross member struts (as mentioned in photo 13) that support the bottom footboards together, cannot be seen at all after painting.



Photographs copyright Colin Paul

[Return to contents](#)

# The Ouse Valley Viaduct Project

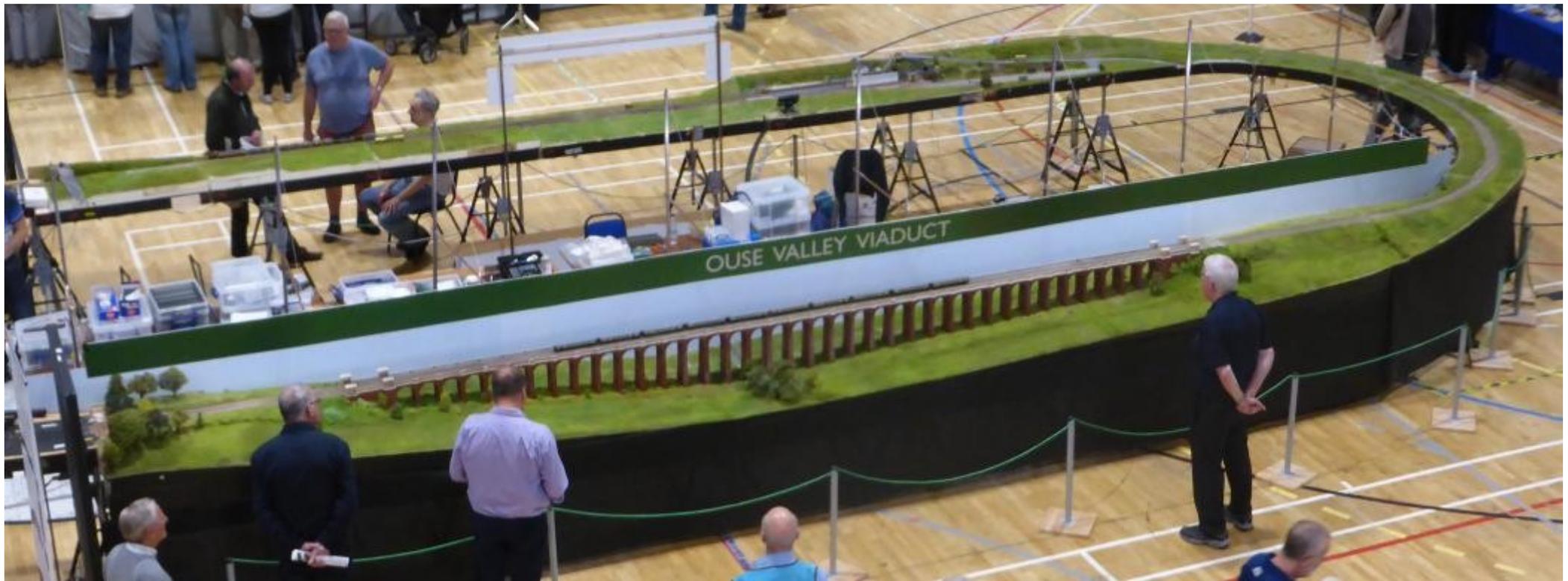
By Rod Cameron

This project was first seen in LBSCR Modellers Digest No.1 in summer 2015, showing the basics of design concept and construction. After some trials and tribulations, the full layout made it to its first exhibition at Scaleforum in September this year. This entire layout has been built by just two people (John Farmer and Rod Cameron) over a period of ten years, although additional valuable contributions have been made by others, particularly regarding viaduct details and stock. Scaleforum was probably only about the 7th occasion that it has been put up in totality!

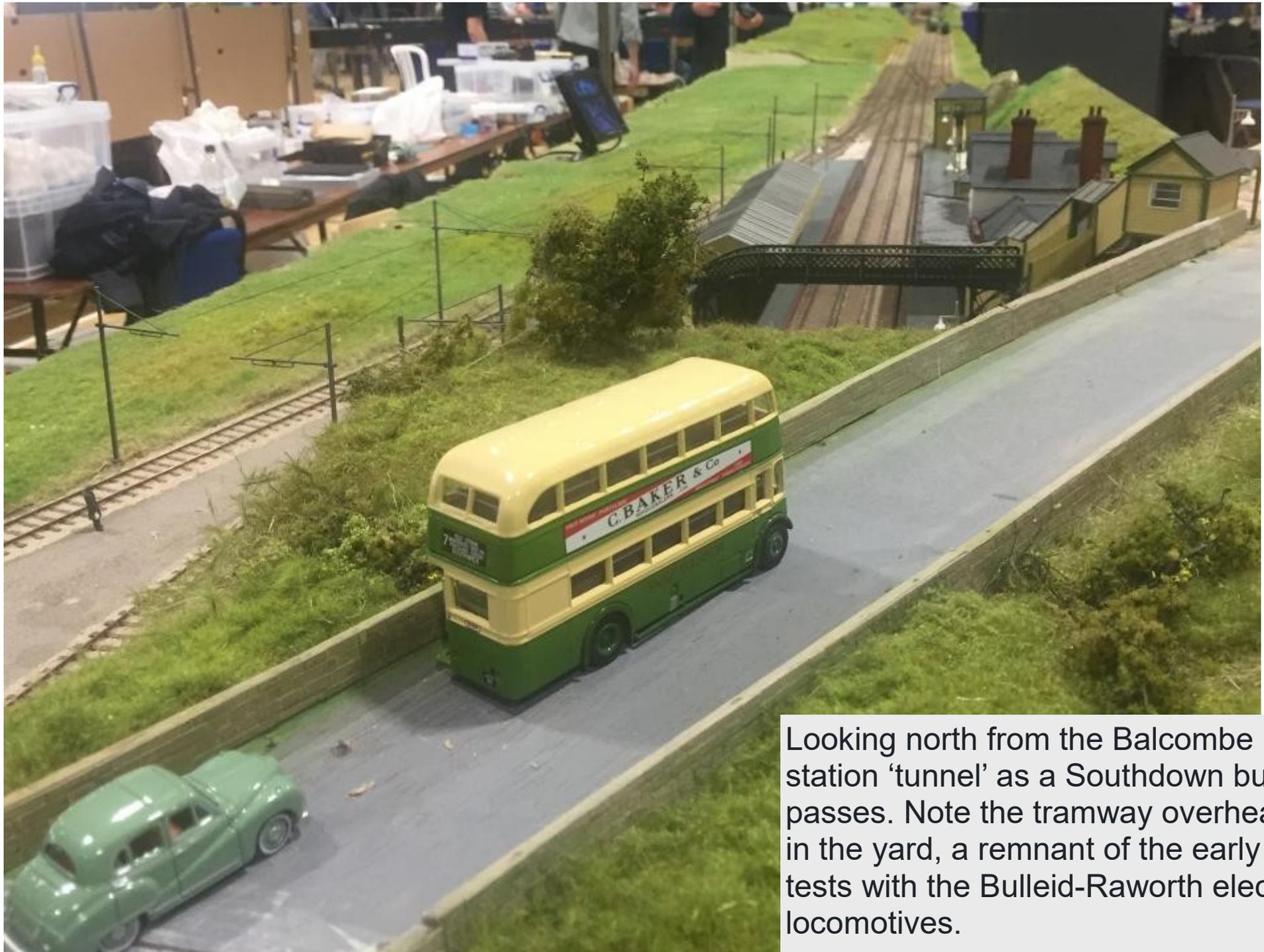
It is commonly said of large layouts “if we’d known at the beginning it would take this long ...” etc. That certainly applies with this, and there is still much to do, especially on the Balcombe side. This includes fully developed scenics and detailed backscenes, all round lighting, station furniture, point rodding, conductor rail and insulator painting, protection boards, cable troughing and cable posts, lineside fencing and telegraph poles, working ground signals, coach weathering and corridor connectors and a whole lot more of the required stock (locomotives, EMUs and coaches). Hopefully this will not take another ten years!

The scenics are all at a very basic level at the moment. Hanging basket liner was used for base cover with various lengths of static grass applied, and then fine ground foam added on top onto which hedges, bushes and scrub will be added in the future. Around a hundred trees of various types and sizes will have to be made to complete the scene.

The photographs do not show many trains! To augment them however, a number of short videos can be found on YouTube – just search ‘Scaleforum 2019’.



The size of the combined viaduct and Balcombe station layout can be appreciated. The 10-BEL on the viaduct is lost in the landscape.



Looking north from the Balcombe station 'tunnel' as a Southdown bus passes. Note the tramway overhead in the yard, a remnant of the early tests with the Bulleid-Raworth electric locomotives.



C class 0-6-0 heads a short goods train north from Balcombe passing the down bracket signal.



Looking down on some of the station buildings. Of note is the kiosk at road level leading down the covered stairway to either the main building on the down side or the footbridge to reach the up side platform.



Photographs copyright Rod Cameron

[Return to contents](#)

# 4mm scale Craven Goods Loco

By Ian MacCormac

New release from Exclusively Brighton Models is the 4mm scale kit for a Craven standard goods loco of the batch built by Slaughter Grunning. Other variants of this “standard” class will follow.

The resin printer has changed the way of designing and this is the first example of this new thinking. Items in red/white are etched. Items in grey are resin parts. Yellow is wire etc which will not be supplied as part of the kit. Original fittings are on the front, main drawings, with alternative parts to the rear.

There will be an inside motion unit to drop in at some time in the future. The 4mm version has just been released and is available at £100 for the etches, resin parts and instructions. The kit will not include bearings, hornblocks, wire, handrail knobs etc. This helps both the cash flow and the time to pack kits. Each person usually has their own preference over a lot of that anyway!

The 7mm version of this should be ready for the Windmill meeting.



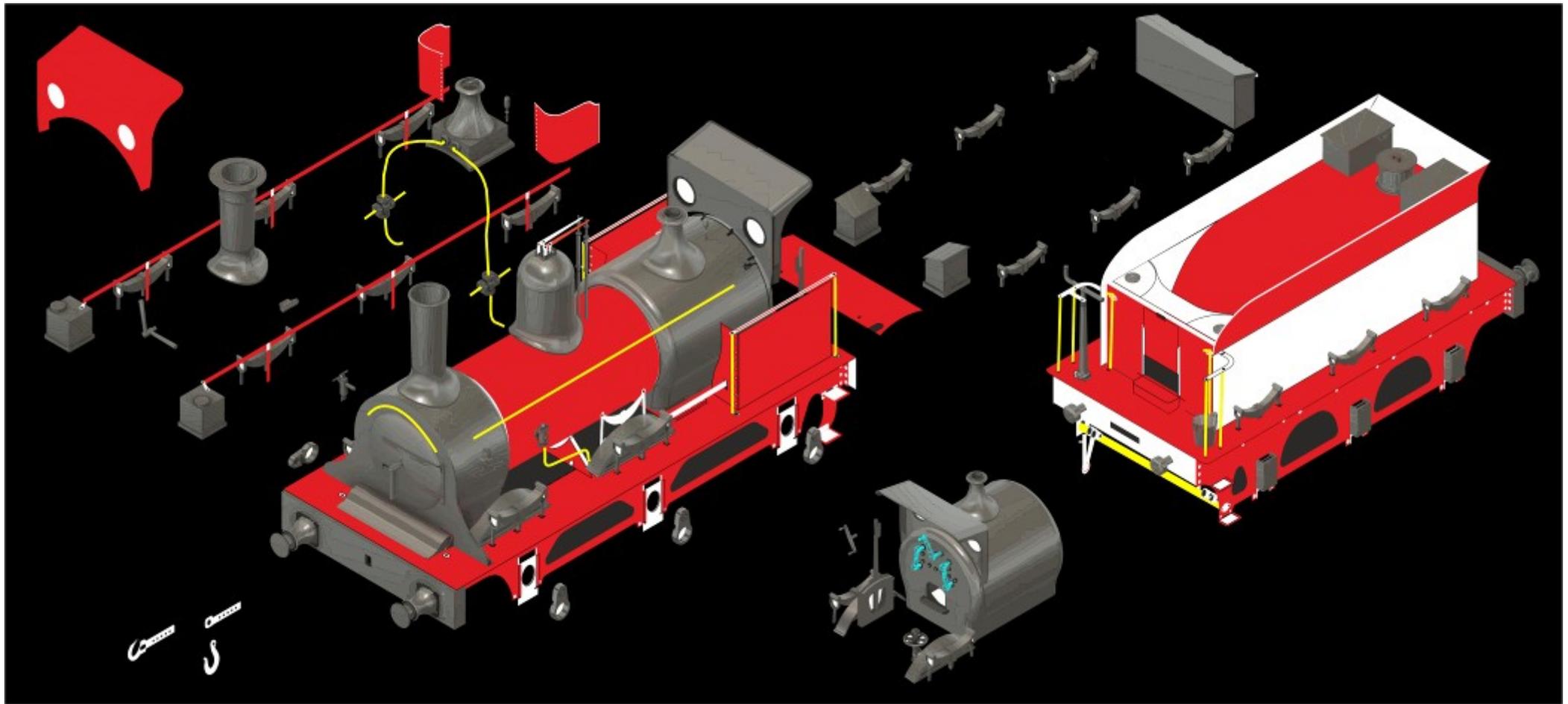
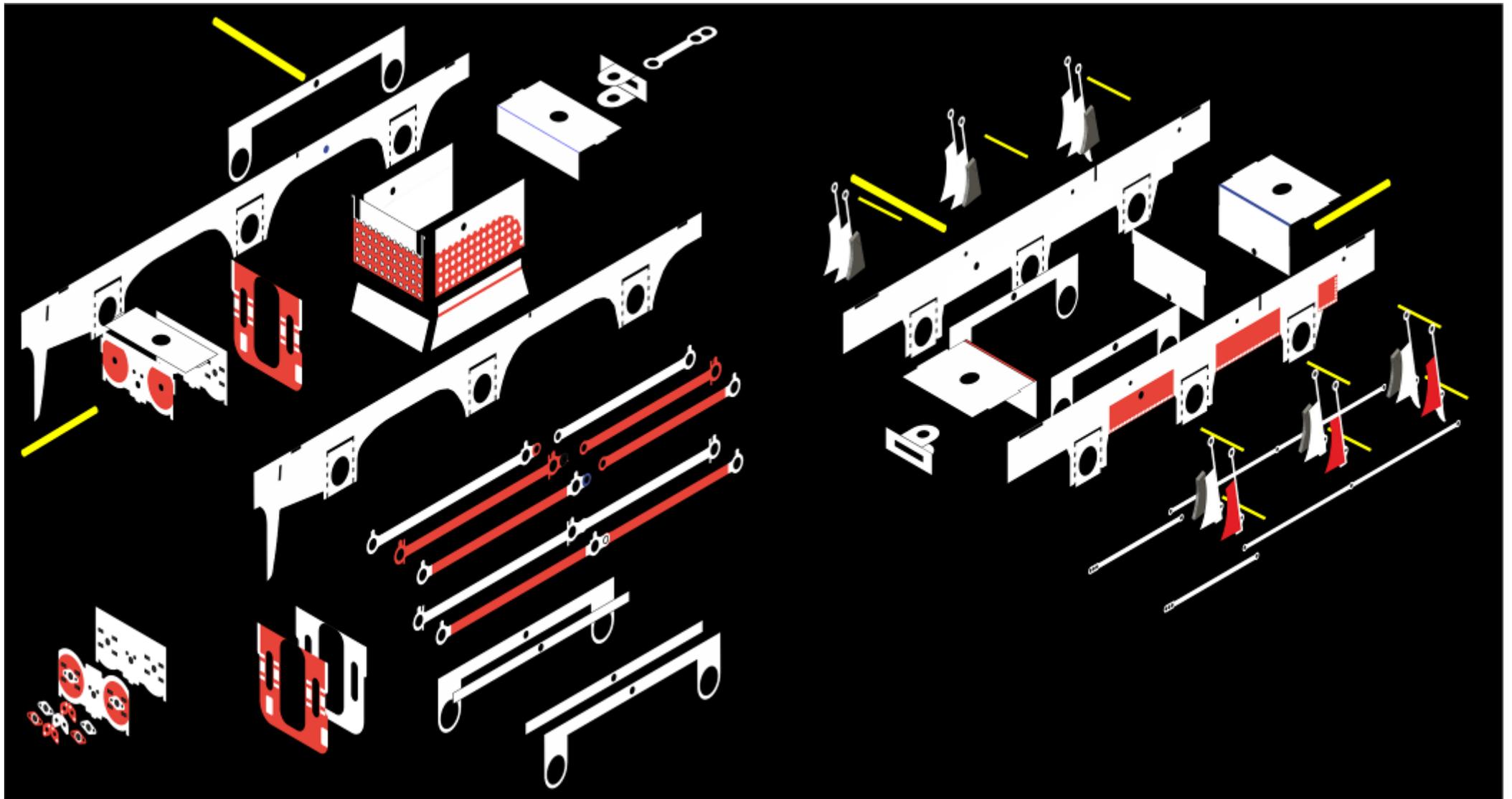
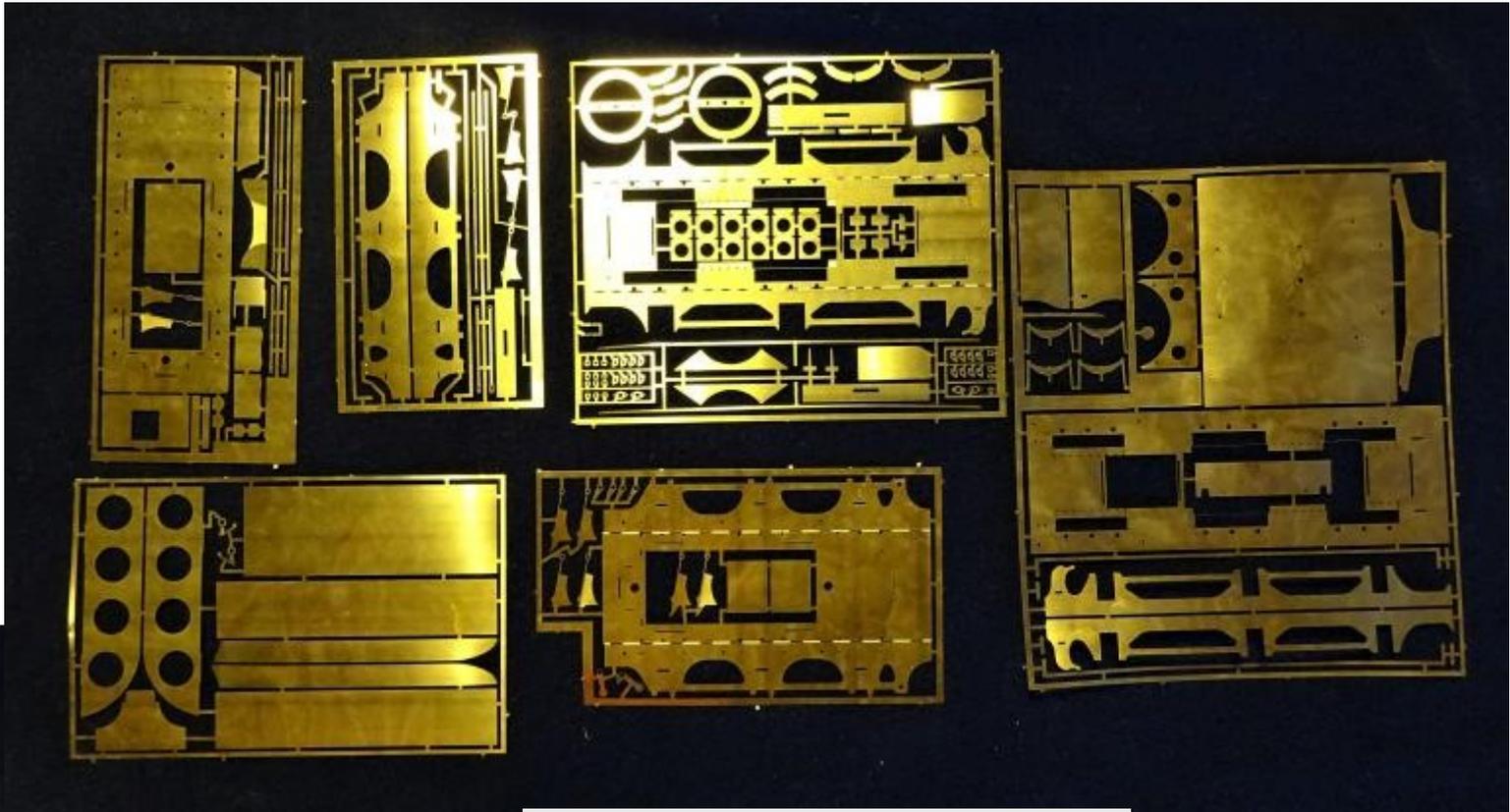
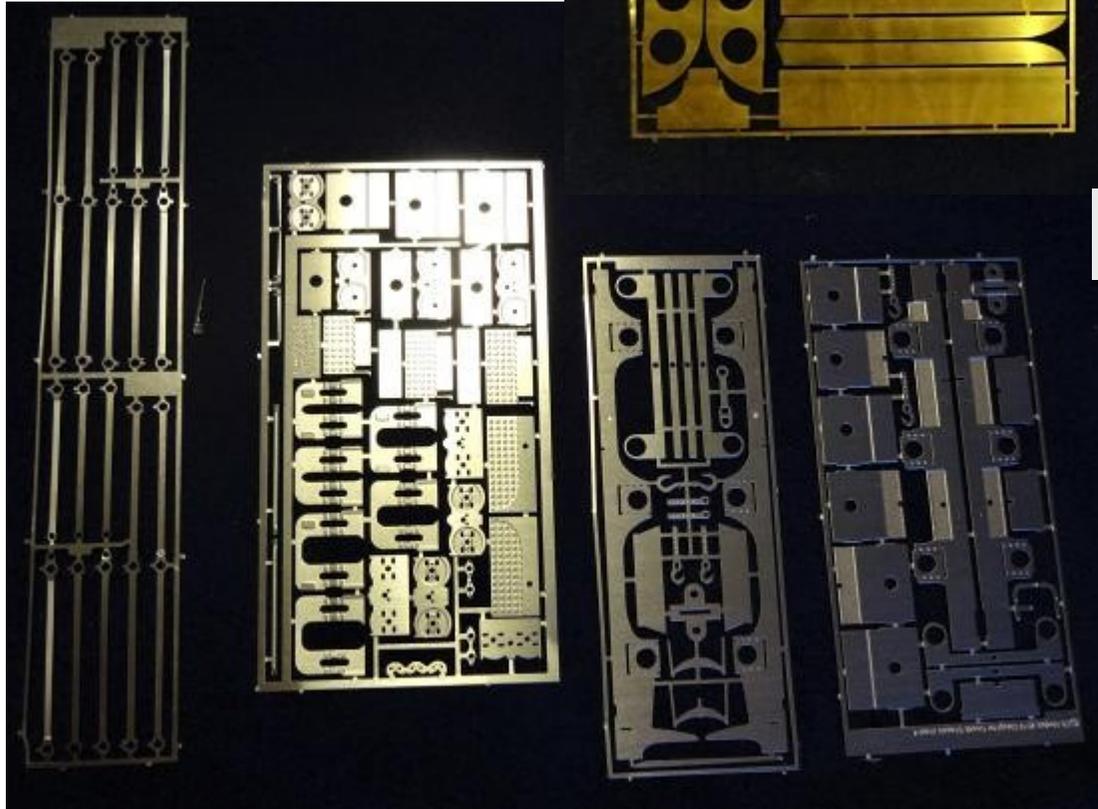


Diagram of the body parts.....



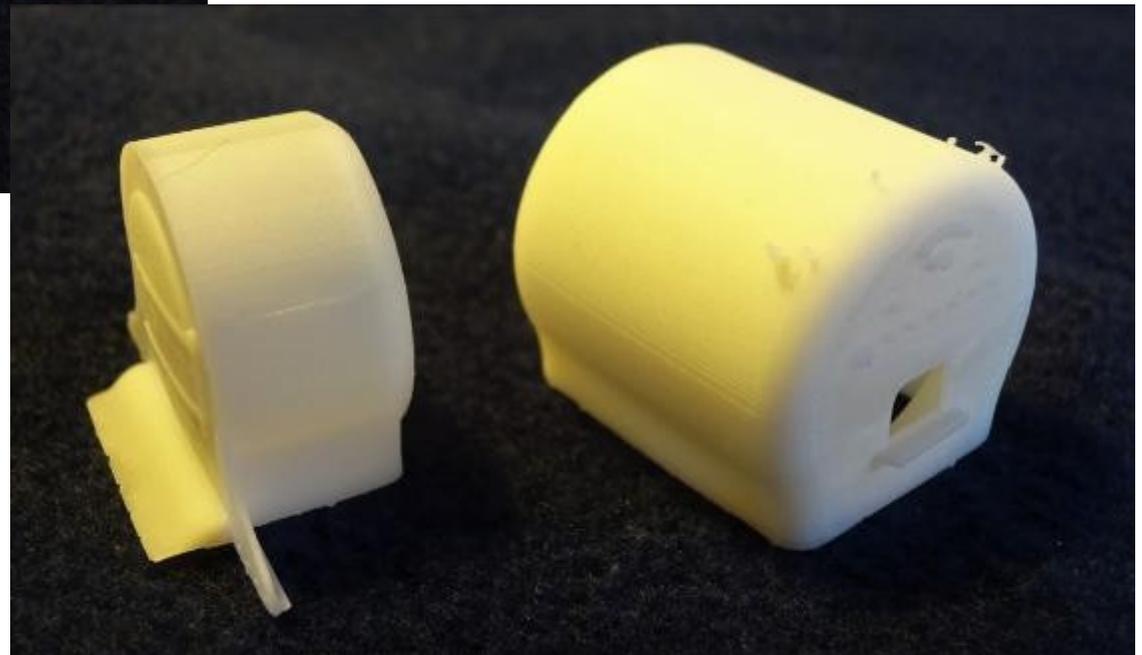
..... and the chassis



Samples of the etched frets



Samples of a selection of the castings.



New numberplates have also arrived at EBM.

Craven style 249 to 254 with Avonside Slaughter works plates and 236 to 241 with Nasmyth Wilson works plates. Already in stock are the equivalent Stroudley style loco numbers available 468 to 473, 476 too 481.

I3 tank works plates no 21 with 22 to 30 and 75 to 91 having the doubling plate representing the vent beneath the worksplate.

J class 325 works plate.

All other existing Stroudley style still available.

All at £4 a 4mm set plus 70p p&p for any number up to approx. 20 sets.

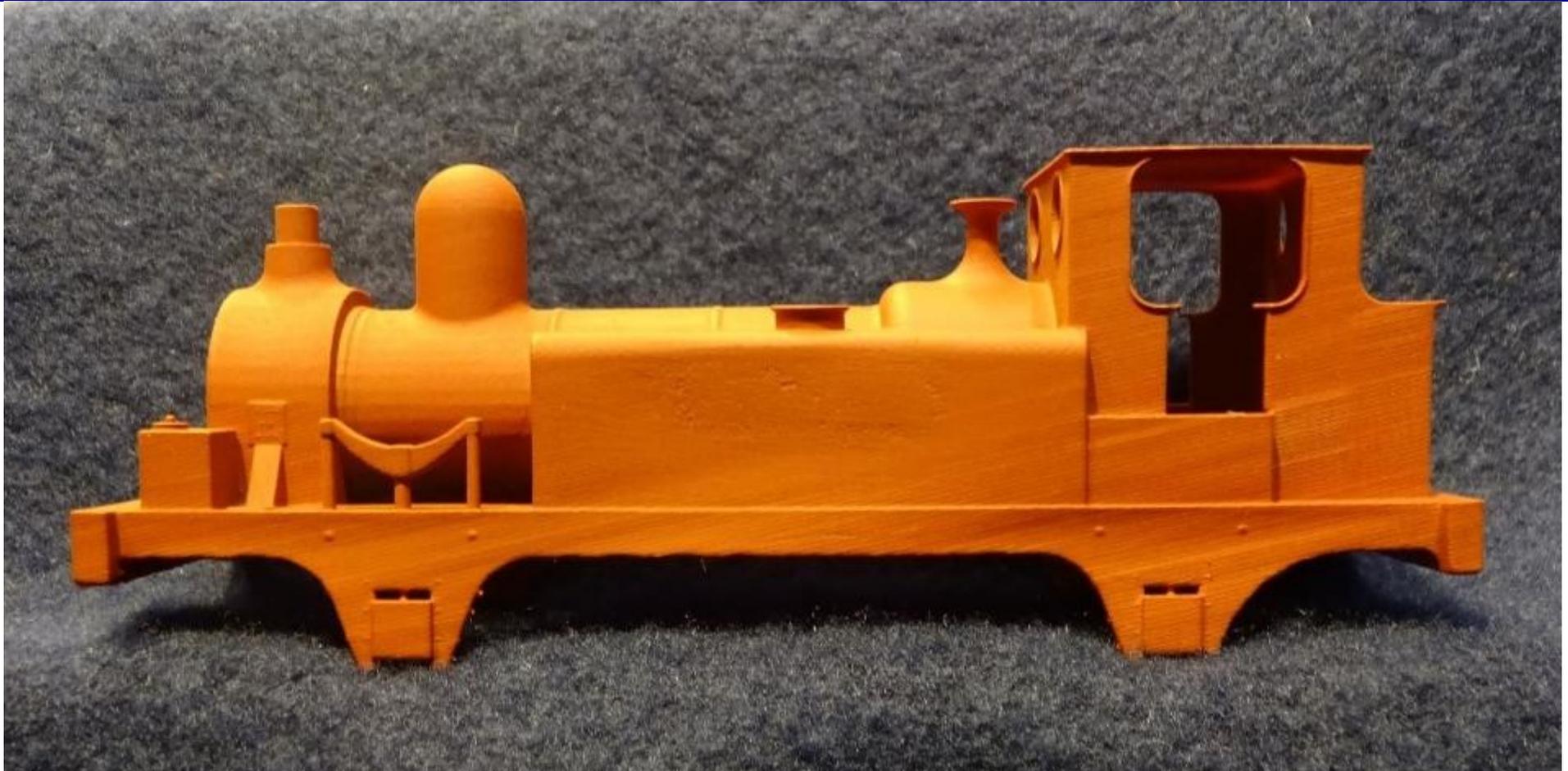
A few are available in 7mm at £7 a set plus 70p p&p.

J 325, I3 21, 22 to 28. All Terriers.

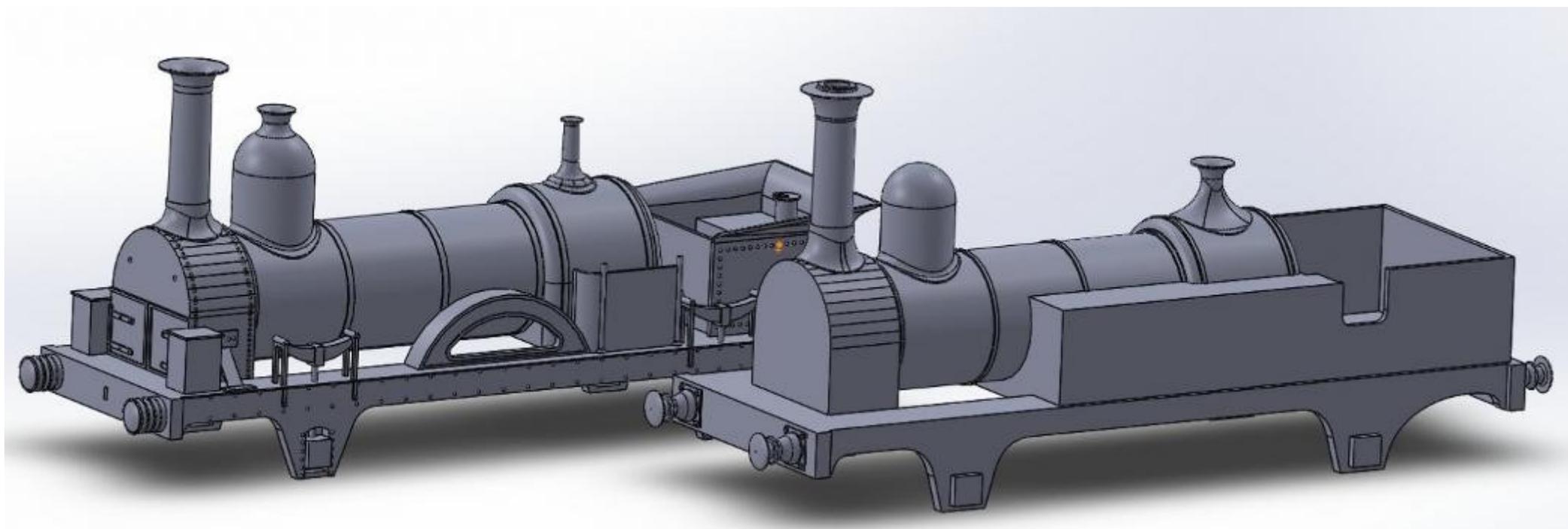
Also a small etch to convert Roxey 7mm 4 wheelers to springing. £5.

# Seaford - 3D print

By Killian Keane



A pretty cruel close up of a prototype print of Seaford, designed by Killian Keane. The chimney comes as a separate printed item. The loco has had a simple dusting of Halford's rattle can red primer to highlight the areas that will need to be smoothed with wet and dry paper.



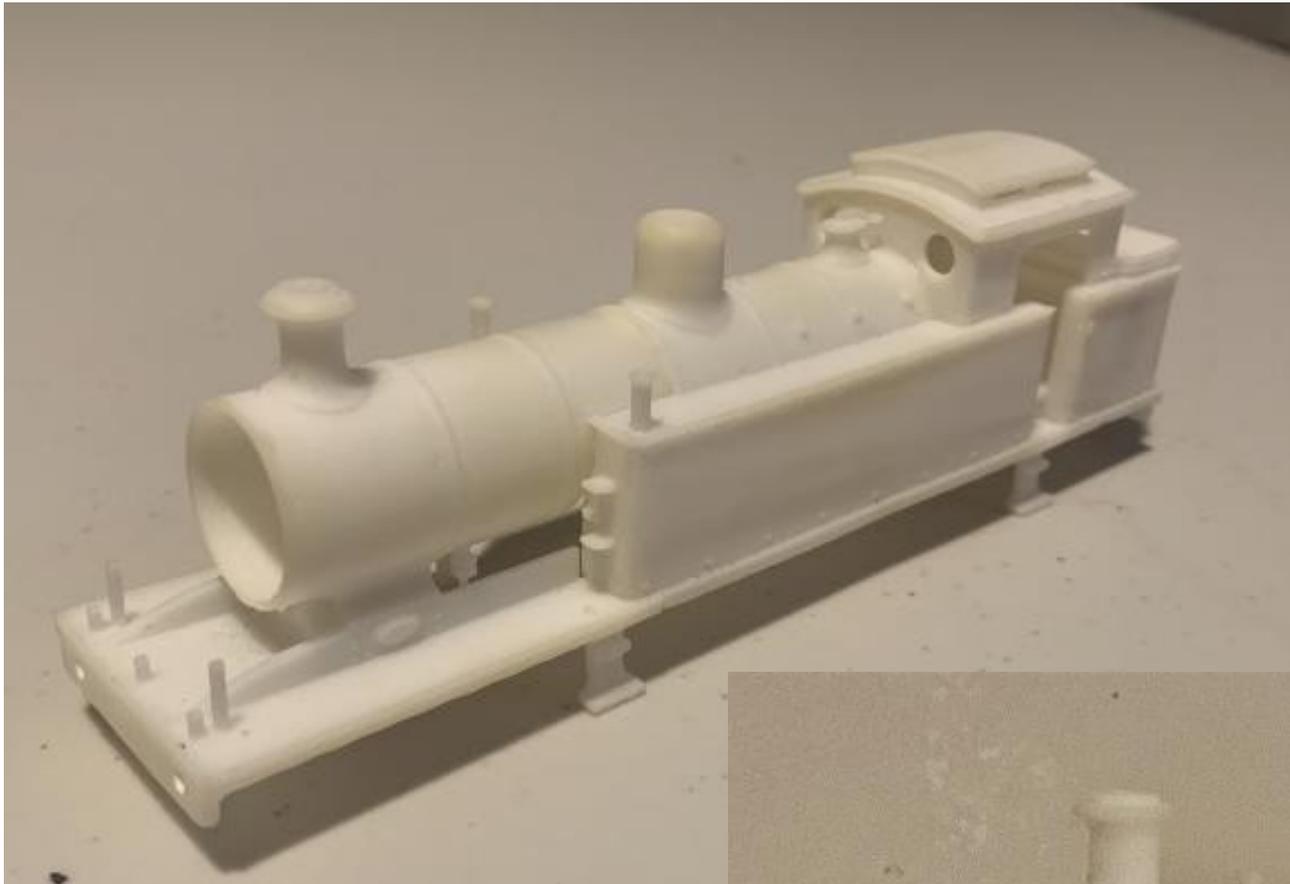
Possible future projects include Craven no. 14 and also a version of Seaford in its 1859 condition with separate buffers, chimney etc.

# 3D Printed Locos and Rolling Stock

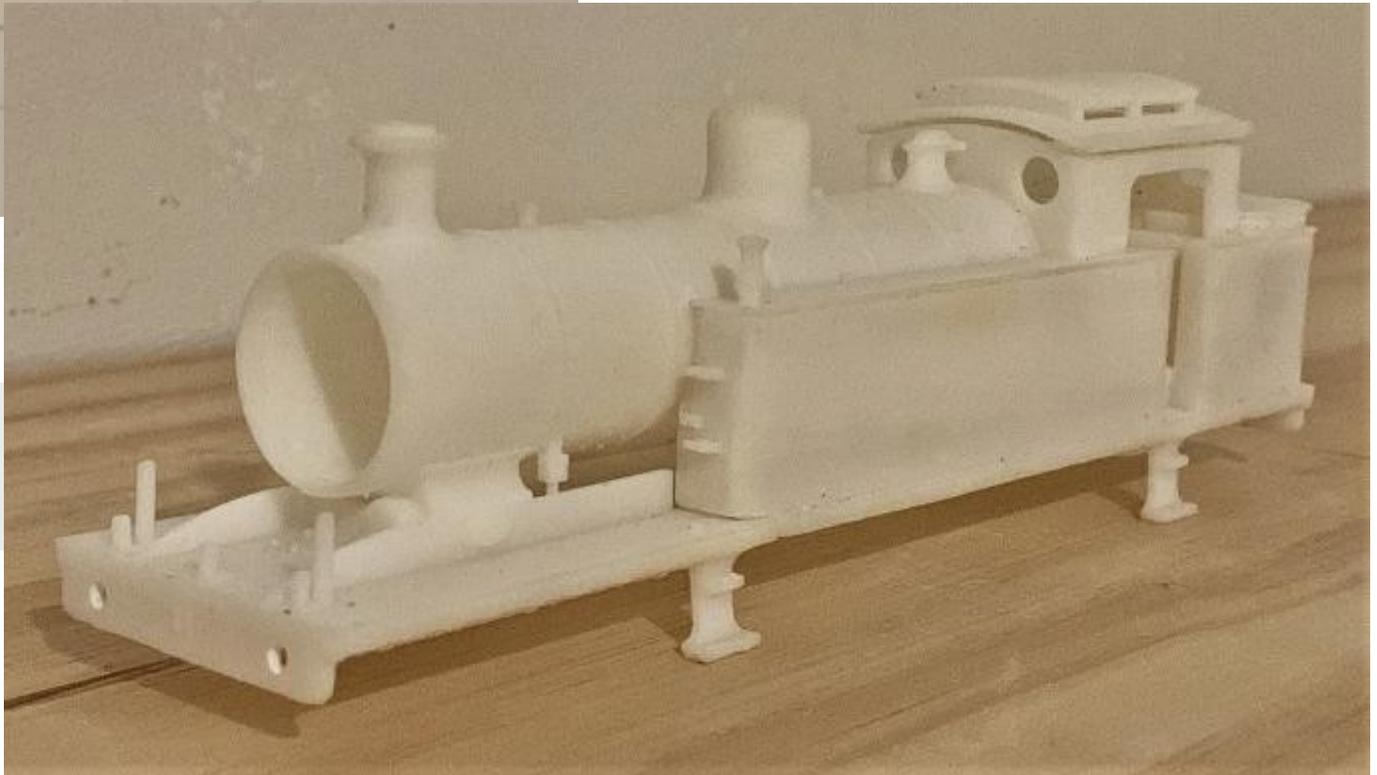
By Javier



A printed sample of Hayling Island, as rebuilt by Stroudley. The original, delivered by Sharp Stewart with an open cab, may also be on the drawing board for 3D printing.



An early print of the I3 tank.

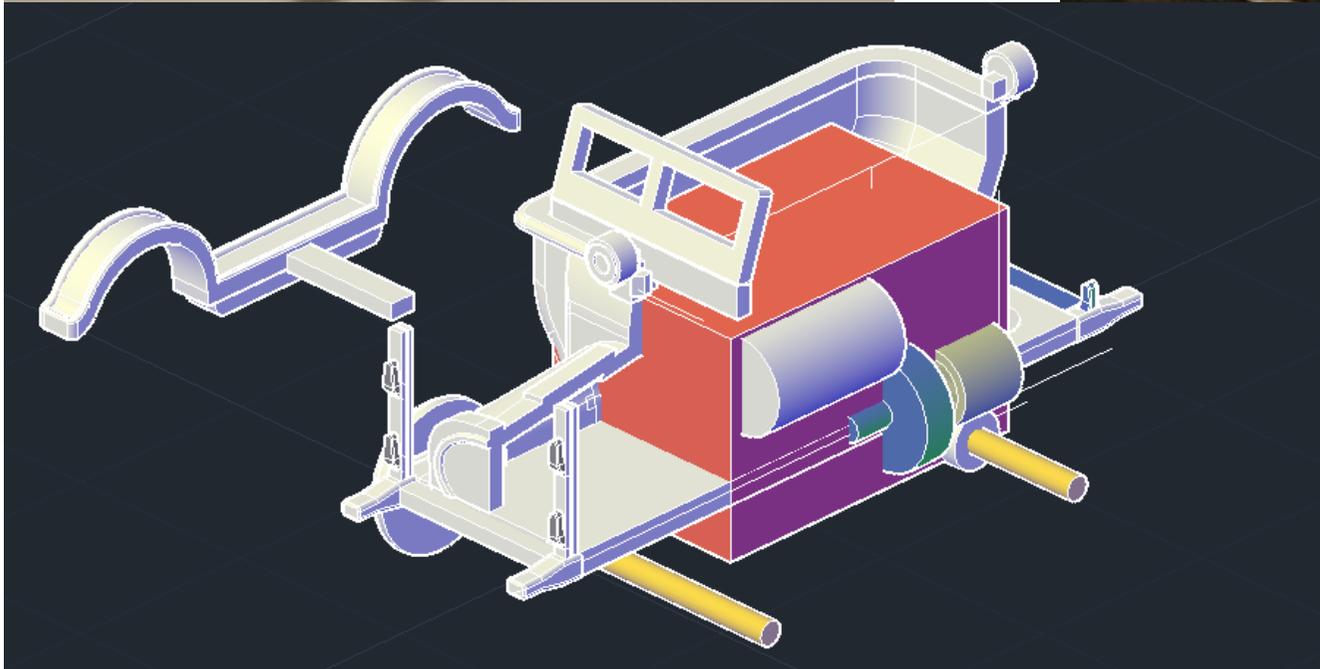


Possible future projects may include an I1x and a B4x

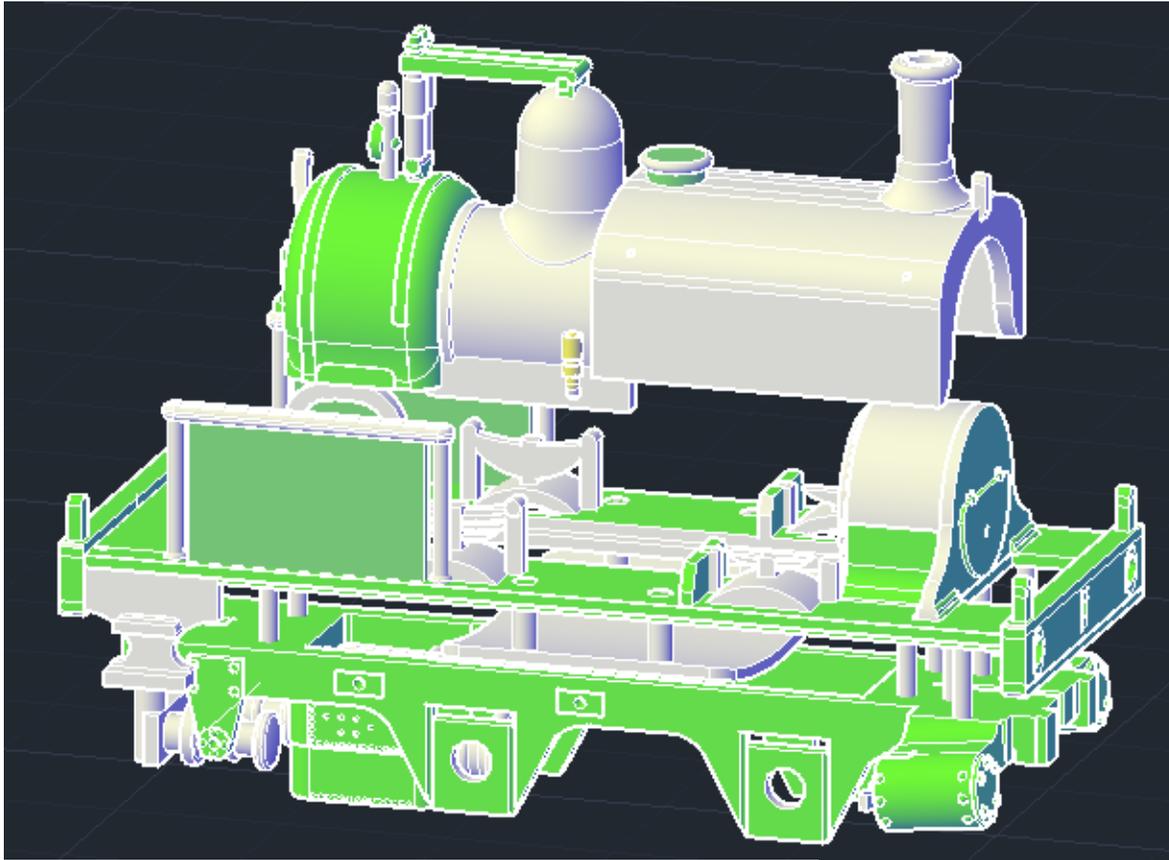


6 wheeled gas tanker, for supplying gas lit carriages. The 4 wheeled, ex Metropolitan Railway vehicles may also become available.





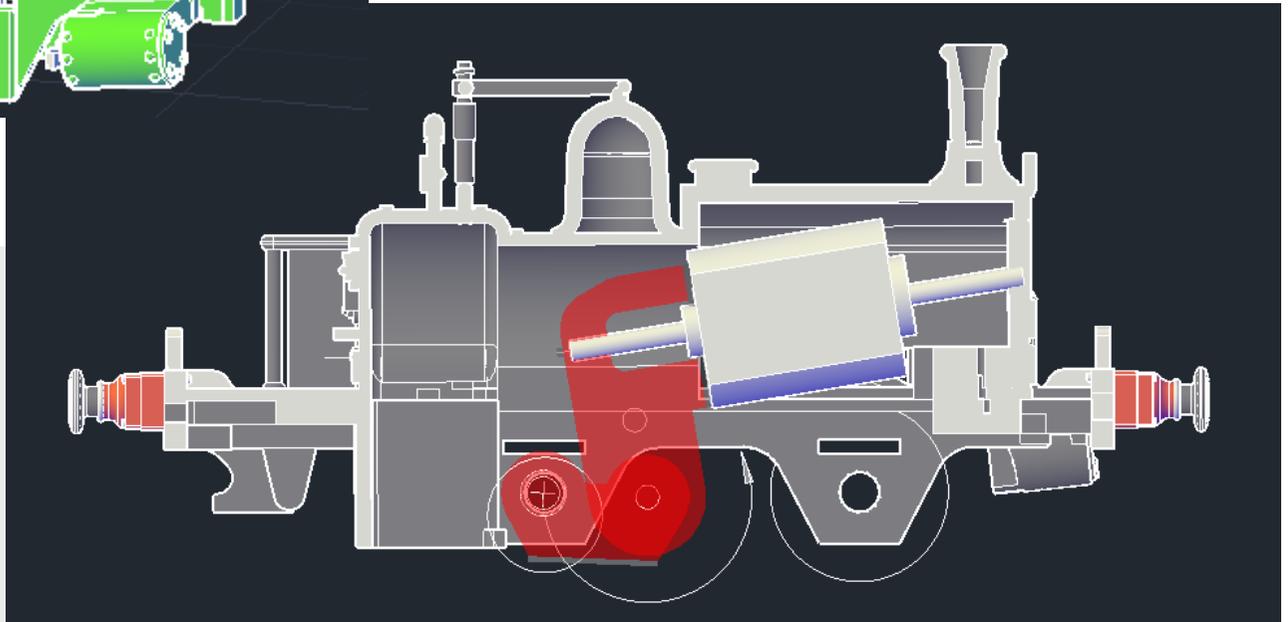
A printed sample of the petrol inspection railcar. Anyone up for motorising this?



Javier's shop is at [Shapeways](#).

..and still on the drawing board, the original version of No 400 with saddletank. The plan is to have a Mashima1015 motor with a HighLevel LoLoader gearbox.

Photographs copyright Javier



[Return to contents](#)

# Another Terrier

That “Hold the Front Page” moment!

The Rails of Sheffield/Locomotion version of the Terrier is tantalisingly close to arrival.

Unfortunately, the Digest has had to close for press, with the model still promised to be available before Christmas!

# Brighton Layouts that you may see at Exhibitions

The following LB&SCR themed layouts are due to be exhibited over coming months.

**FERRING** (P4 scale Marsh era) will appear at the London Festival of Railway Modelling at Alexandra Palace, London N22 7AY on 21<sup>st</sup>/22<sup>nd</sup> March 2020

**PLUMPTON GREEN** (P4 scale Marsh era c1910) will appear at the Crawley MRC Exhibition at Tanbridge House School, Horsham RH12 1SR on 18<sup>th</sup>/19<sup>th</sup> April 2020

**PULBOROUGH** (P4 scale Marsh era) will appear at the Bluebell Railway Model Railway Exhibition at Horsted Keynes station on 27<sup>th</sup>/28<sup>th</sup> June 2020

**SALTDEAN** (7mm Stroudley/Billington era) will appear at the Keighley MRC exhibition at University Academy, Keighley BD20 6EB on 14<sup>th</sup>/15<sup>th</sup> March 2020

[Return to contents page](#)

# The Brighton Circle

The Brighton Circle is the Historical Society of the London, Brighton and South Coast Railway (L.B & S.C.R.). It is dedicated to the research and publication of information about the company and it produces a quarterly journal entitled the Brighton Circular.

While the Circle is primarily focussed on railway historical research, there has been an important interaction with preservationists, particularly on the Bluebell Railway, and with railway modellers. The Bluebell line provides an important source of original artefacts, which contribute valuable information about the company's practice. Modellers have benefitted by access to data about the physical appearance of the company and its operations and, as a result, members of the Circle have been able to produce scratch builder aids, kits, paint and lettering on a limited run basis, which are made available among other members.

Membership of the Brighton Circle for 2020 is

£18.00 for full membership

Applications should be sent to

[The Secretary, Nicholas Pryor](#)

[nicholaspryor@sotheby-road.co.uk](mailto:nicholaspryor@sotheby-road.co.uk)

The Circle is also in contact with local historians, industrial archaeologists, family historians and other groups whose interests intersect with those of the Circle.

# THE BRIGHTON CIRCLE

Dedicated to the furtherance and publication of original research into the history of the  
London, Brighton and South Coast Railway

---

## MEMBERSHIP APPLICATION FORM

To the Hon. Secretary, Nicholas Pryor, 19 Sotheby Road, LONDON N5 2UP

I hereby apply for membership of the Brighton Circle.

**NAME**.....

**ADDRESS**.....

.....

.....**POSTCODE**..... (BLOCK CAPITALS PLEASE)

It would be helpful if you could give some idea of your main interests in the history of the LB&SCR and any special interests. Please indicate if you are a modeller and give any details.

I enclose a cheque/postal order for £19.00/£10.00 to cover the joining fee of £1.00 plus twelve/six months membership of the Brighton Circle for the calendar year 2020 (please delete as necessary).

Cheques should be made payable to **The Brighton Circle**.

### Privacy statement

The personal information provided above will be stored on a computer database of members' details and used for administration purposes by the Brighton Circle's appointed representatives.

Please sign below to indicate that you agree to give the Brighton Circle permission to use the personal information that you have supplied in the following ways

- To store it securely for membership purposes
- To communicate with you as a Brighton Circle member
- To send you general information about the Brighton Circle

Please be advised that you can request for your data not to be used for any of these purposes at any time by contacting the Honorary Secretary by e mail at [nicholaspryor@sotheby-road.co.uk](mailto:nicholaspryor@sotheby-road.co.uk) or by post to Nicholas Pryor, 19 Sotheby Road, LONDON N5 2UP

**Signed**..... **Date**.....

L

V

[Return to contents page](#)