

Association of Shrewsbury Railway Modellers



January 2021 Newsletter

Welcome to the first newsletter of a New Year, which, more than usually, we hope will prove to be a time of renewed optimism for a return to normal life; or at least a return to something more familiar. For some of our more chronologically challenged members the vaccine is now a close prospect, and, though it is unlikely that we shall be able to meet as usual for some time yet, there is at least a promise of better things to come.

Looking back over the past year, I am confident that you will all wish to join me in thanking Nick Coppin for all the time and energy he has put into keeping us in touch during this suspension of our usual meetings, especially in our new venture of getting those meetings going again online.

Next Zoom Meeting - Wednesday, January 6th

Dave Gotliffe is presenting: **"Leftovers, Mash & Green Stuff: A small-scale scenic modelling project for the Lockdown."** It will start at about 7.15pm and you are encouraged to join the meeting at 7pm so we can have a prompt start. Just click on this link and it will take you into the meeting

If anyone would like to run through 'Zooming', do feel free to email Nick Coppin at nickcoppin@shrewsburyrailwaymodellers.co.uk and he will help to fill you in! We hope as many members as possible will join the meeting: the last one was well attended.

Thanks are also due to those who have given up their time to edit the newsletter, as well as to all those who have so generously contributed articles of so high a standard and so full of interest. I shall also be editing next month's newsletter, so please send any items to me for inclusion by 21st January at

Thus we finished the year virtually on Zoom, without the customary festive Christmas meeting with Sam's wonderful pies, the raffle, the chance to see the work of others, and that splendid quiz which so embarrassingly exposes our ignorance every year (well, mine, anyway). However, thanks, many thanks, to Stephen Duffell and Dave Gotliffe, the quiz has survived on line, and quite a number of us have filled in the idle hour or two, or three, in hunting up the answers; and very enjoyable, informative (and occasionally frustrating) it has been. The officially checked and approved answers appear below, together with the scores and prizes.

Peter Cox

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Minutes of December Meeting

Our first Zoom Meeting was held on the evening of 2nd December and proved to be a great success. Meeting at 7pm for a 7.15 start, those of us who turned up early began chatting about the merits of Ultrasonic Cleaners. These can be bought quite cheaply. Cleaning solutions were briefly discussed; plain water, Dettol (for stripping model paint) and for your soldered items, a substance called Horolene which is used by clock makers came highly recommended by Mike.

At around 7.19 the meeting opened properly with 15 of us in virtual attendance. Nick took us for a canter around England's rail system in the 1960s and 70s with a brief foot perhaps in the 80s... maybe! We began our tour on Hayling Island and the general area around Portsmouth before departing for Nottingham. A visit over the boarder to Aberystwyth ensued and then to the Settle and Carlisle area..... We broke the meeting briefly (this was enforced by the Zoom time limit of 40 minutes per free session) and re-joined on the same Hyperlink in the invite email. We resumed on the West Somerset Railway in the embryonic years of preservation. Winchester, Southampton and Newbury rolled by before Banbury and the nearby Fenny Compton to Kineton branch which was and still is run for the MoD. We visited Hebden Bridge and then back into S Wales to look at some of the late NCB Locos at work.

It has to be said, there is something very therapeutic about being guided around someone else's collection of photos. The details picked out by people are often different from those which you would notice.... And so it was with Nick as our guide, because as although he did not use the option of muting us all, everyone sat and listened attentively although there was some chat on the sidebar about various other details noticed in the photos. I certainly hope we all know the visual differences between a Class 40 and Class 37 Diesel Loco now!

If anyone has anything they might like to entertain us with for forthcoming meetings, please let someone know. Although the talk of C-19 vaccines are prolific we are planning for interruptions to our physical meets for some time and we are therefore planning for the medium term at least.

Scott Stephenson

Association of Shrewsbury Railway Modellers



Christmas Quiz 2020 ANSWERS

The answers have been cross-checked with multiple sources where possible and are correct to the best of our knowledge. Where the answers are in red please see the additional notes at the end of this document.

Section A: Early Days

1. In which year was the Great Western Railway (GWR) founded?
2. What was the name of the MP killed by "Rocket" during the opening of the Liverpool & Manchester Railway?
3. Which three companies merged to form the Midland Railway?
4. Which company seized a GNR engine at Nottingham, locked it in a shed and lifted the rails to prevent its removal?
5. Which two railway companies were involved in the "Battle of Havant"?
6. In which year did the last Broad Gauge railway passenger service run in the UK?
7. Which of London's terminus stations did the LNER inherit at that time of its formation in 1923?
8. On which route did the UK's first diesel-powered public passenger train service operate?
9. Which was the most numerous single class of steam locomotive built in the UK? (How many were built? Bonus point for the closest answer.)
10. Built in 1929, what was unusual about the "Hush-Hush" locomotive? (Bonus point for the railway company that built it)

1833
William Huskisson
Midland Counties Railway North Midland Railway Birmingham & Derby Junction Railway
The Midland Railway
LBSCR and LSWR
(20 th May) 1892
Fenchurch Street King's Cross Liverpool Street Marylebone
Preston to Blackpool Central (LMS, 1928)
LNWR's DX Class Goods Loco (943)
It was fitted with a marine high pressure water-tube boiler or it was a 4-6-4 tender engine (LNER)

Section B: The UK Railway Infrastructure

11. Between which two towns/cities is the longest scheduled non-stop railway journey in the UK?
12. Class 230 EMUs, manufactured in the UK by VivaRail, are converted from which donor vehicles?
13. Which four stations will be served by Phase 1 of HS2?



14. Which company built the class 68 diesel locomotives? (Bonus point for the country in which they were built)
15. ...and in what way do the visually-similar class 88 locomotives differ from class 68?
16. What is a "Harrington Hump"?
17. Which is the longest railway bridge in the UK?
18. Locomotives in the UK are allocated a TOPS classification. What does TOPS stand for?
19. Where is the steepest gradient on the UK rail network?
20. Where is the railway bridge with the world's widest brick-arch span? (Bonus point for naming the designer)

London (Kings Cross) and York or Watford and Carlisle

Retired D-Stock from the London Underground's District Line

London Euston, Old Oak Common, Birmingham Interchange and Birmingham Curzon Street

**Vossloh Espana (pre-2015)
Stadler Rail (post 2016)
(Spain)**

Class 88 is an electro diesel that can be powered by 25Kv AC via a pantograph, or by an internal diesel engine

A modular system to increase platform height

The Tay Bridge, Dundee, Scotland

Total Operations Processing System

Exeter General to Exeter St David's

**Maidenhead
(the Maidenhead Railway Bridge)
(I K Brunel)**

Section C: Railway Music & Literature

21. What was the (railway inspired) stage name of American country singer Lecil Travis Martin?
22. Which song contains the following words: "Down around the corner half a mile from here..."?
23. Who wrote the Orchestral music titled "Pacific 231"?
24. In the 1936 film "The Night Mail", which distinguished British poet and composer wrote the spoken verse and accompanying music respectively?
25. In which classic 19th century novel is

Boxcar Willie

**Long Train Running
(by Tom Johnston/the Doobie Brothers)**

Arthur Honegger

**W H Auden
Benjamin Britten**

Anna Karenina

the heroine killed by a train?
(Bonus point for the author)

(Leo Tolstoy)

Section D: Nicknames

26. In railway terms, what is the "Clockwork Orange"?
27. What was known as the "Dockers Umbrella"?
28. Between which stations did the "Necropolis Railway" run?
29. Where is "The Drain"?
30. Which line is known as "The Long Drag"?

The Glasgow Underground Railway

The Liverpool Overhead Railway

Waterloo London and
Brookwood Cemetery (near Woking)

The Waterloo and City Line of the
London Underground

The Settle and Carlisle Line (specifically
the 1:100 section from Settle to Aisgill)

Section E: Names, Numbers and Classes

31. What connects LBSCR no 333, LNWR Claughton no 1914, GCR B3 no 1165 ?
32. What was the last steam locomotive to be named by British Rail?
33. What type of locomotive was loco number 1, acquired by BR in 1948? (Bonus point for stating its name.)

All carried names commemorating men
lost in WWI:
Remembrance, Patriot & Valour
respectively

BR Standard Class 5MT 73087 Linette

Peckett 0-4-0ST, W4 class.
"Hercules"



34. What class of locomotive is this?

N15 (King Arthur Class)

35. Name any one of the three steam turbine locomotives built in the UK in the 1920s and 1930s.

- (a) Reid-MacLeod geared turbine, built by North British Co, 1924
- (b) Beyer-Ljungstrom turbine loco, 1926
- (c) LMSR Stanier Turbomotive, 1935

Section F: Abbreviations

What do the following abbreviations stand for?

36. MS&LR	Manchester, Sheffield & Lincolnshire Railway
37. PD&SWJR	Plymouth, Devonport & South Western Junction Railway
38. FY&NR	Freshwater, Yarmouth & Newport Railway (Isle of Wight)

39. MDHB	Mersey Docks & Harbour Board
40. WC&EJR	Whitehaven, Cleator & Egremont Joint Railway

Section G: Railway People

41. Which former chief executive of Chiltern Railways founded VivaRail, which manufactures the class 230 EMUs for regional routes in the UK?
42. Two Scottish brothers became loco engineers, one for the NBR, CR and LSWR and the other for the HR and GSWR. What was their surname?
43. What was the surname of the Father and Son who were Locomotive engineers of the LSWR?
44. Sir Daniel Gooch, of GWR fame, had 3 brothers who were also distinguished railwaymen. Name any one of the brothers and the railway company he was associated with.
45. Robert *Stephenson* was famous for building railways, but what was his contemporary Robert *Stevenson* famous for?

Adrian Shooter
Drummond
Beattie
John Viret Gooch - LSWR and Eastern Counties Railway Thomas Longridge Gooch – Manchester & Leeds Railway William Frederick Gooch - GWR
Lighthouse construction

Section H: Model Railways

46. Where is John Ahern's renowned 1930s layout "Madder Valley" on permanent display? (Bonus point if you can identify the town/village in which this is located.)
47. What scale and gauge is Gauge 3?
48. In which year did Miniatur Wunderland open in Hamburg, Germany?
49. Hornby OO Gauge Train set R1041 consists of a circuit of OO track, a Mallard loco in LNER garter blue, and a transformer and controller. Sets in mint condition currently fetch around £2,000. What makes them so expensive?
50. In which country is the ultimate owner of the Bachmann model railway brand based?
51. Which manufacturer was the first to commercially produce model railways in N Scale?

Pendon Museum Long Wittenham, near Abingdon, Oxfordshire
Scale: 17/32" (13.5mm) to the foot (1:22.5) Gauge: 2½" (63.5mm)
2001
The loco is a live steam loco
China (Hong Kong)
Arnold

Section I: Photographs

Identify the following railway stations:

52.



Clapham Junction

53.



Inverness

54.



Shrewsbury

55.



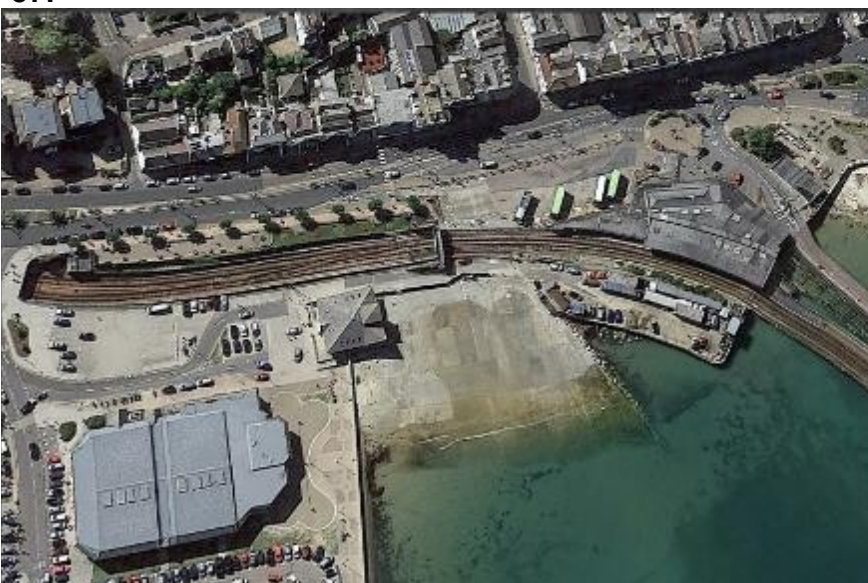
London Waterloo

56.



York

57.



Ryde Esplanade
(Isle of Wight)

Notes

1. The first joint meeting of the Bristol and London committees was on 19th August 1833 where the title Great Western Railway was adopted, and is generally regarded as the date on which the company was founded. A parliamentary bill for the railway's construction was approved and received the Royal Assent on 31st August 1835 and the GWR was incorporated on that date, the first general meeting of the new company being held in the City of London tavern on 29th October 1835.
2. The Liverpool & Manchester Railway opened on 15th September 1830. The Prime Minister (the Duke of Wellington) rode in a special carriage on the southerly line, all the other trains running parallel on the northerly line. At Parkside the Duke's train halted whilst the other trains ran slowly by on the other line. Huskisson and others riding in the Duke's carriage disobeyed orders and alighted and stood between the two lines. A warning was shouted that the *Rocket* was approaching and in the scramble to get back into the Duke's carriage Huskisson fell into the path of the oncoming train and was run over by the *Rocket* and its train. Huskisson was carried at great speed to Eccles where doctors were in attendance and he died that evening.
3. The Midland Railway was formed by a combination of the Midland Counties Railway, North Midland Railway, and Birmingham & Derby Junction Railway in 1844. This was the earliest amalgamation sanctioned by Parliament.
4. Relations between the Midland Railway and the Great Northern Railway were not good in the 1850s. On 1st August 1852 the Great Northern Railway ran its first train to Nottingham over the Nottingham and Grantham Railway. The Midland Railway captured the engine and locked it into one of its sheds where it stayed for several weeks.
5. The LSWR took over the Portsmouth direct line that ran from Guildford to Havant and had to run over LBSCR metals to reach Portsmouth. To stop the LSWR train from reaching Portsmouth the LBSCR removed the junction points and placed an engine on the line. The LSWR men captured the engine and replaced the points; the LBSCR men removed a rail and placed 2 engines to block the LSWR. A court injunction forced the LBSCR to allow the LSWR trains through.
7. Moorgate was not operated by the LNER but later saw trains from BR Eastern Region.
8. In 1928 the LMS introduced a four coach DMU on the Preston to Blackpool route. It was built for the LMS with English Electric transmission and Beardmore oil engines. The train ran for a few months until the engines (which had been designed for use in the Airship R100) were unable to stand the rigors of railway operation.

Other early railcars included the "Tyneside Venturers" introduced in 1931 by the LNER and built by Armstrong Whitworth; the AEC railcars sold to the GWR in 1933; The 3 car articulated set introduced by the LMS in 1938 for the Oxford-Bletchley-Cambridge service and in 1939 on the St Pancras to Leicester and Nottingham: plus railcars in Ireland.

10. The answer we were originally expecting was that the "Hush Hush" loco was fitted with a marine-type high pressure water-tube boiler, operating at 450psi. However, we have since realised that it was also the only standard gauge 4-6-4 tender engine to run in the UK. So we will accept either answer.

11. Several internet sources quote the UK's longest scheduled non-stop rail journey as London Euston to Preston (189 miles). However, this is no longer the case (as at December 2020); all London to Preston trains now also stop at Warrington Bank Quay (167 miles), leaving the longest non-stop passenger journey as London Kings Cross to York (174 miles).

There is also a Caledonian Sleeper service from London Euston to various Scottish destinations, which includes a non-stop section between Watford Junction and Carlisle (246 miles). So we will accept London and York, or Watford and Carlisle, as correct answers.

[From April 2021 the Sunday Caledonian Sleeper from London Euston to Edinburgh will no longer stop at any intermediate stations, so the longest non-stop journey will then be London Euston to Edinburgh (335 miles). All Caledonian Sleeper services depart from London Euston, including services to Edinburgh and beyond.]

16. The Harrington Hump takes its name from Harrington in Cumbria, where it was first used.
17. Some entrants have suggested Bromford Viaduct. At 5.6km (3½ miles) it is indeed the UK's longest bridge. However, it is a road bridge (it carries the M6 motorway between Castle Bromwich and Gravelly Hill in Birmingham). The longest **railway** bridge in the UK is the Tay Bridge, near Dundee, at 4.43km (2¾ miles).
19. Different sources give different answers here, but the majority seem to agree that while the Lickey Incline is the steepest sustained gradient at 1 in 37.7, the short section of line between Exeter General and Exeter St David's is the steepest at 1 in 37 (on a curve!).
32. Twenty **Class 5MT** locos were allocated to the Southern Region. Although originally unnamed, they were later given the names of former King Arthur class locos. The last to be named was 73087, named *Linette* in June 1961 (formerly the name of King Arthur class loco number 30752). Many entrants gave the answer as Evening Star, which was named when it entered service in March 1960. So although Evening Star was the last loco to be named when originally built, 73087 was the very last loco to be given a name.
42. Dugald Drummond (1840-1912) - NBR CR LSWR, and his brother Peter Drummond (1850-1918) - HR GSWR
43. William George Beattie, locomotive superintendent 1850-1871, succeeded by his son William George Beattie, who was locomotive superintendent 1871-1878.
44. **John Viret Gooch** – loco engineer LSWR and Eastern Counties Railway
Thomas Longridge Gooch - chief engineer Manchester and Leeds Railway
William Frederick Gooch – works manager GWR Swindon
45. The answer we were looking for here was lighthouse construction - Robert Stevenson (1772-1850) was known as "Lighthouse Stevenson". Robert had 3 sons who followed him into the lighthouse business.

Some entrants have given the answer Robert Louis Stevenson, who was of course a world-famous author (Treasure Island, Jekyll & Hyde, Kidnapped, etc). While his life overlapped Robert Stephenson's by 9 years (the latter died in 1859, RLS was born in 1850), they did not live at substantially the same time so they were not really contemporaries. So the correct answer is lighthouse construction.

Interestingly, Robert Louis Stevenson was the grandson of Robert “Lighthouse” Stevenson.

50. Bachmann’s ultimate owner is Bachmann Industries – formerly the Kader Group. Although registered in Bermuda, it is Chinese-owned, with global headquarters in Hong Kong.
55. The prominent station in the foreground is London Waterloo, but Charing Cross is also visible in the top left-hand corner (bonus point for identifying both).

The Results

Name	Score	Prize
Peter Cox	67	ASRM Notebook
Gordon Woods	66	Track Tester
Howard Mainwaring	61	ASRM Ruler
Sam Ryan	50	ASRM Ruler
Nick Coppin	39	Railway-themed Playing Cards
Phil Rowe	36	Multi-tool
Graham Betts	34	
Ian Payne	34	
Scott Stephenson	23	
Andy Vaughan	17	

Ahem! I am not going to be (too) embarrassed about this result, because it does not show superior railway knowledge, just that (a) I may have been luckier than others in my Google searches, and/or (b) I badly need to get out more! I had a lot of fun and learnt a lot, and I am seriously impressed by any who tried to do this fiendish test without recourse to the internet. You have the satisfaction of knowing that you did it under exam conditions.

OF LINK BASEBOARDS, A TRIP DOWN MEMORY LANE AND NOTHING TECHNICAL

In previous newsletters I recalled how I had been sidetracked from building the link baseboards and proffered some lame excuses. But now having played for a while I really, really could turn my attention at long last to constructing the link baseboards to bring the MPD boards into play. With the materials and time available what could possibly go wrong? What could possibly divert my attention [again] and cause yet another hiatus in the progress on these boards?

Initially nothing. Templates on lining paper had been drawn up showing track and point alignments, the short 600mm section located on top of the main layout had already been made and so I repaired to the barn pressing the trailer into service as a bench which provided a handy flat working surface to cut 8x4 sheets of MDF. I cut out the tops and the bases of the two boards. I then started to cut the vertical supports to complete the monocoque form of construction; at which stage I realised I could not continue until certain work was undertaken to one of the MPD boards.

There are 3 tracks departing the main layout but 6 arrive at the MPD. Of these, 3 continue at the same level throughout, but a double track section disappears under the MPD as does a single track which sits on the bottom of the MPD baseboard. The double track section was previously part of the continuous circuit passing under the MPD and I had made provision to construct a cutting and providing a tunnel portal. A rather essential wire-in-tube passes over this cutting concealed in one of two suspended pipes which I rather wanted to retain as a feature.

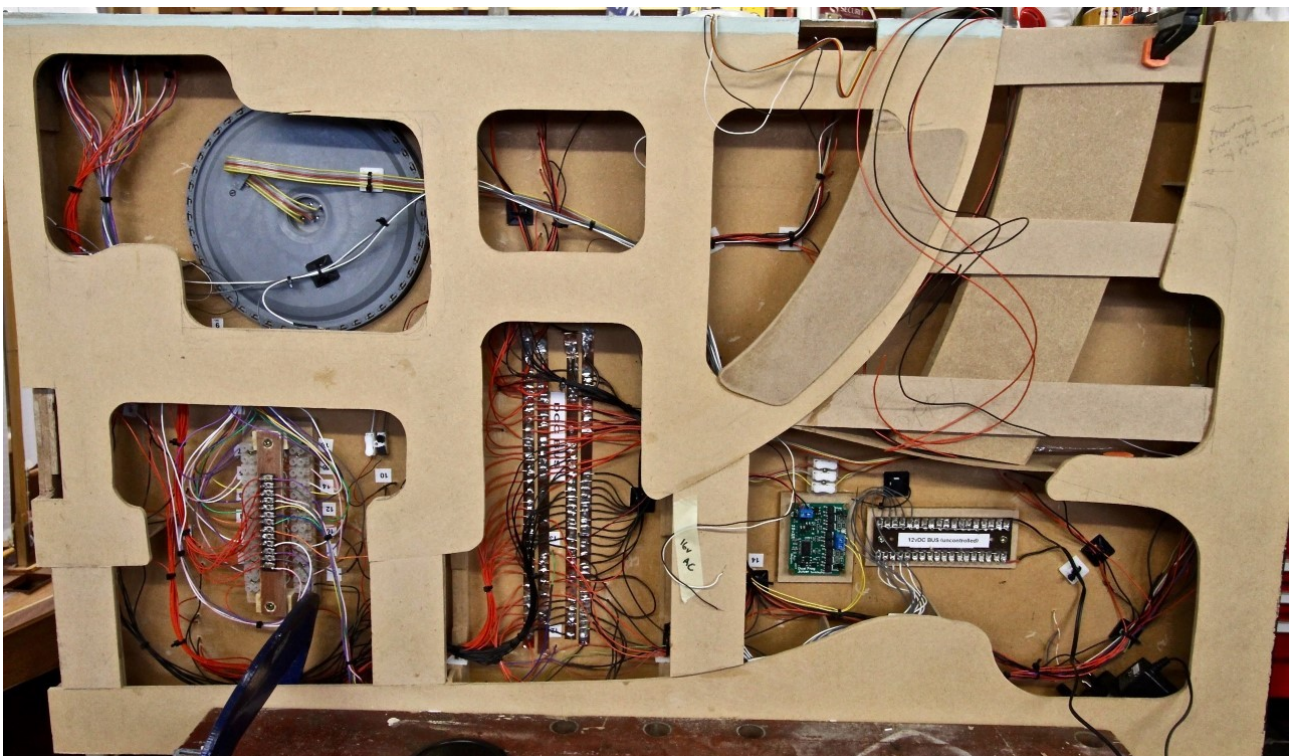
Thus I must now leave the link baseboards partly made and repair to the workshop to ensure I get each of the three levels spot on for the link section. But before that can be done I must finish wiring this section of the MPD as there is very little unused space under the running surface and all wiring must be kept away from the lower concealed tracks. If the cutting is constructed first and the tracks laid I will not be able to reach to connect some of the droppers or frogs.

And so I started on another marathon exercise to electrically connect up 13 points, this time via slide switches, solder in 106 droppers, and wire up the Fleischmann turntable which I have had for years but not got round to electrically connecting. I must admit '106 droppers' sounds excessive and this is in part due to my own insistence that each section of track should have two pairs of droppers in case of failure, especially important in my view for a siding.

Photo 1 will explain how many sidings require me to fulfil this obsession



Photo 2 fails miserably to confirm that: "DCC only requires 2 wires".



Probably a word or two of explanation is required at this point:

- The 'drunken' yard lamps are only positioned temporarily
- The peculiar cut out shapes to the underside of the baseboard made necessary as this was originally over the top of 4 running lines to which access then had to be available.

I jury rigged this board to enable testing as I went along especially as I was not over confident of the wiring for the turntable. This requires connections from the DCC bus via a polarity changer (Tam Valley juicer with jumpers set up for me by Kevin at Coastal DCC) and also an AC supply to drive the motor. Hence the trip down Memory Lane because whilst this would eventually be fed from the main layout's 16vAC bus, here in the workshop I needed a temporary supply. Deep in the recesses of which I located an old transformer which stepped down to 14 volts AC. This was made in England (!!) and manufactured in Bakelite. (Brown of course!). Interestingly the cover has to be removed in order to connect both mains and 14 volt wires and a with a fuse that has to be taken out to gain access to a live terminal. One ponders how at the tender age of 7 one managed this and avoided electrocution – perhaps in those days we were inherently safety conscious with a sense of self-preservation unlike today where it seems it is somebody else's responsibility to keep one safe. [I am sure I preach to the converted]. I connected it up and tested – after 70 years it remained in excellent working order despite the chrysalis happily reposing on the windings. I had acquired this transformer, stolen you might say, out of stock from my grandfather's electrical wholesale business. Perhaps this method of acquisition escaped the requirement to pay Purchase Tax in the 50's, but who cares as long as my Hornby Dublo signals worked?

Happily most of the board went live but inevitably rigorous testing did show up two problems. The first being one of the buffer lights had got damaged - nothing that a quick search on eBay sorted and a replacement was soon installed. But the other glitch occupied more time. I had incorporated a 3-way point to save space and cut and bonded as usual for DCC – this was now firmly soldered and wired in place so the detection of a dead frog filled me with a strong sense of foreboding. E v e n t u a l l y, after checking all connections I discovered it was the slide switch which needed to be pulled over more seriously to make contact. Nothing wrong with the switch - clearly the wire-in-tube had been cut 0.5mm too short. I must find out by whom and take his name!

And so now this MPD board could be returned to the layout and work recommenced on the [elusive] link baseboards. Having determined the three gradients and cut the formers the cold barn could be vacated in preference to the warmth of the workshop bench where the requisite 9 points could be modified for DCC.

Photo 3 shows the link baseboards awaiting the fixing of the running surfaces.



Photo 4 shows the requirement for the link baseboard to accommodate three different levels for the track as they join, pass through and pass under the MPD.





San Francisco California Tram

It is called the California because it is double ended.

I have just sent the last five months modelling this tram in 1:24 G scale from an OcCre kit. The kits come with laser cut 2mm and 3mm quality plywood and diecast metal parts together with a good set of instructions.

When making my tram models I find it useful to mount the parts onto a heavy board. This not only keeps it square and true as each part is glued and assembled, but also acts as a carrier to fix the board in a vice on my modelling bench at any elevation required.



The adhesive used for the plywood was 'Deluxe Speed Bond' with an adjustable on/off value which allows detailed control of the amount used. And various super glues for metal parts and finishing detail. Prior to painting I seal the plywood with Trade Plastic Primer and soak the metal parts in Distilled Vinegar for 30 minutes.

Whilst working off the modelling board I try to complete as much of the detail as possible before removing the tram body and fitting the remaining details on the underside.



A few variations were necessary from the kit. The outside poles are 1.5 mm dia styrene and the edges of the running boards again are styrene strips 1 x 1.5 mm. The roof was painted with kitchen quality emulsion to achieve a smooth finish rather than the acrylic paint used elsewhere.



The actual San Francisco Tram and my G scale model.

Michael Glover

Building a 7mm Scale Private Owner Wagon

I was given a nicely cast resin wagon body for my birthday by my son which I thought would be a quick route to another wagon for my pre-Great War model of Tollesbury. The main coal merchant at that time seems to be Moy of Colchester and I found a nice photo of a Moy 7 plank wagon in the first volume of Bill Hudson's private owner books. Nothing seems to be quick, however and as I investigated how to acquire the remaining parts to complete the wagon, I could see this was going to take a bit longer than I had originally thought.

The wagon body is from the HMRS and comprises the body sides with all the ironwork, strapping etc and the wooden frames and headstocks, all in one piece. The detail is very good and includes internal detailing including bottom opening doors. This is only the start and I still needed wheels, W irons, axleboxes, springs, brake gear, buffers and drawhooks. I already had various bits left over from other kits or bought speculatively when I was trying out Scale7 twenty years ago. I have used Wizard Models split-spoke wheels and Ambis etched W iron assemblies and brake gear.

I decided to cast the axleboxes and springs in resin. I made a master of one spring from brass strip. The 'bible' for modelling private owner wagons is the series of articles by Chris Cross in the MRJ issues 12 to 15. From that, I was able to get the correct width, thickness and length of the spring leaves. I milled some 14thou brass to the correct width and soldered it together. I then read that I should have rounded the edges first; that will have to wait for the next attempt.

For the axlebox, I started with a Slaters 'Ellis' pattern from



a kit.

This was a bit crude and I tweaked it a bit. I milled it square and removed the back of the moulded lugs and milled a groove for the spring and added the nut and bolt on the side that would have held in the bearing.

Both the spring and axlebox masters were put in a plastikard box into which was poured a silicone rubber solution.



After a day, this was eased out and a polyurethane casting resin poured into the mould cavity. One of the problems with resin casting is trapping bubbles in a detail. To stop this happening, I used a cocktail stick dipped in resin to fill the nut and bolt and other hidden details before filling the rest of the mould. You only have a few minutes to do this as the

resin cures very quickly. The cured castings were removed after a bit less than an hour. Those with bubbles were rejected and more cast until I had four good springs and four axleboxes.

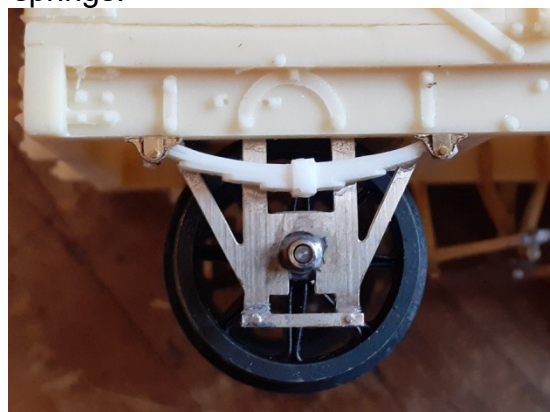
The ends of the springs should be anchored by a spring shoe. Even in 0 gauge, these are less than 5mm wide so I made a pattern in plastikard 8 times the finished size and cut them out on the pantograph engraving machine.



Tiny parts tend to ping off into the corners of the workshop as they are cut out, so I soldered the scrap of engraving brass sheet to a piece of nickel silver sheet, cut through the brass and when all were finished, I unsoldered them and did not lose any!



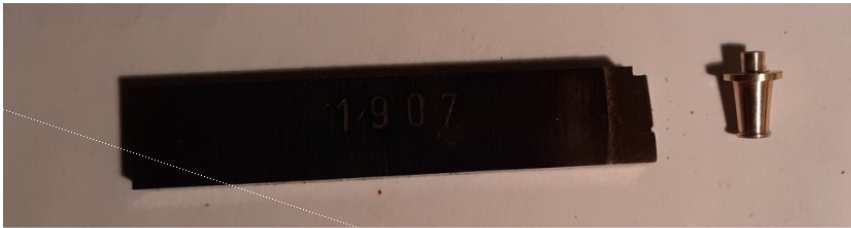
After drilling a 0.5mm hole in the spring shoe, I soldered a short length of wire in and glued them over the ends of the springs.



Buffers were next on the agenda. The wagon is a 1907 RCH pattern and most wagon buffers did not have ribs, so a straightforward turned item would do. Again, I referred to the MRJ articles and drew a scale plan for making a form tool for the lathe. I drilled and milled a piece of carbon steel to the shape of half a buffer and when satisfied with the result, I heated the steel to red hot, quenched it in cold water and cleaned the surface so it was shiny again. Then, heating it gently from the end farthest from the cutting edge, I

waited till the correct tempering colour (a medium straw) had reached the end and quenched it again. This leaves the cutting edge very hard but not so brittle it might chip.

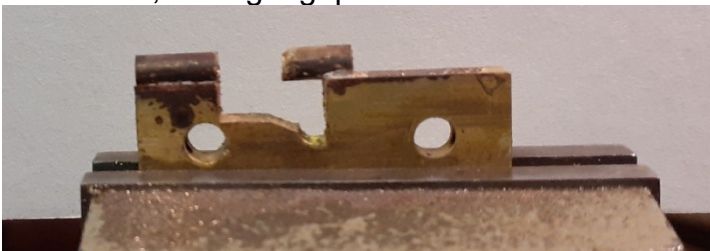
So far, I have only used it to make one, experimental butter guide. It seems to work well but I need to grind a tiny fillet near the front end.



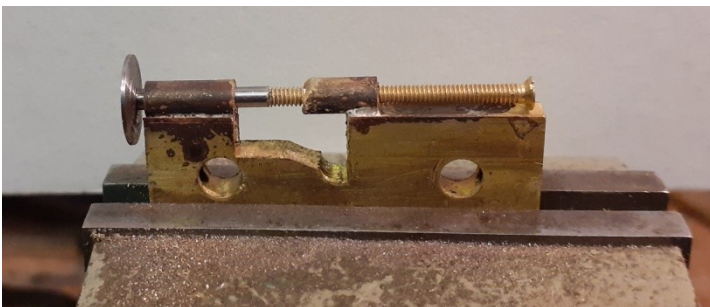
I already had some Wizard Models buffer head/shanks which are very nice but the shank is too short to project from the back of the buffer guide. This means you cannot make it sprung. Sue said "Why not add some more metal to it?" It is 1.7mm diameter and has to slide in the guide, so not that straightforward! You could not *soft* solder it as it would be unlikely to hold being so small and of steel. *Silver* soldering seemed the answer.



To align the buffer shank and a 10BA screw, I made a rather gashy jig from some brass and brass tube; cutting a gap once it was made.



Then I silver soldered a screw onto the end of the buffer shank.



It took quite a bit of filing to get the buffer out of the jig but it seems to work well. Now I can fit a 10BA nut on the end of the buffer shank to stop it falling out.



That is as far as I have got. I still need to drill a hole in the back of axleboxes and fit them to the W irons, make the buffer guides, extend the buffer shanks and drill the headstocks for the buffers and drawhooks. Then there is the painting and lettering.....

Nick Coppin

Retro-fitting Point Mechanisms

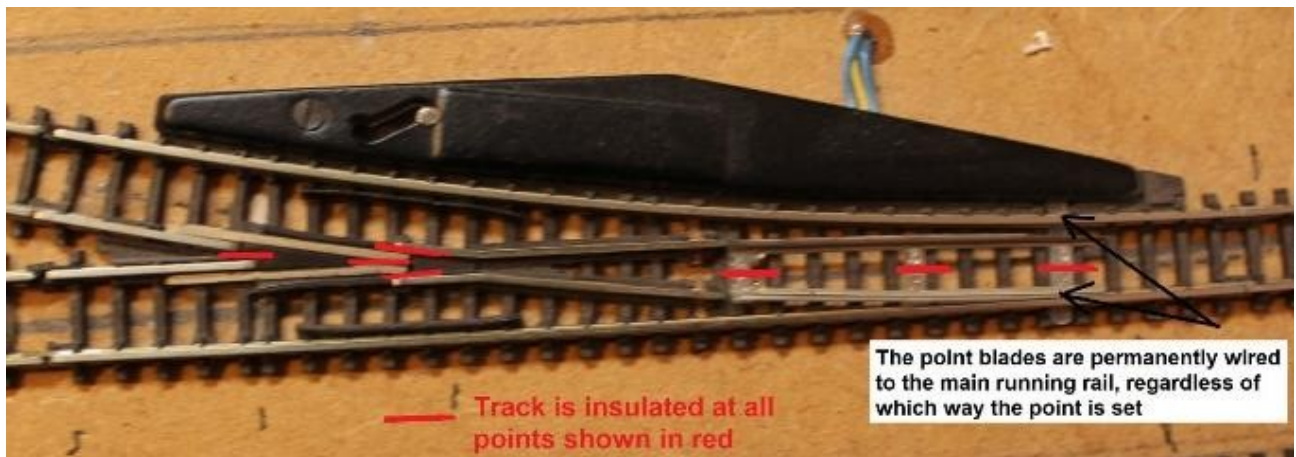
I have been building Swiss model railways in Z Scale for many years. I use Marklin track as it is the only Z Scale track widely available in Europe, and for the most part it is excellent. Unfortunately, the appearance of Marklin pointwork is compromised by its obtrusive point operating mechanism.

You can see what I mean in this photo of the hidden storage sidings on my Kyburg layout. Each point is fitted with a long, thin metal box containing the solenoid and manual operating switch.



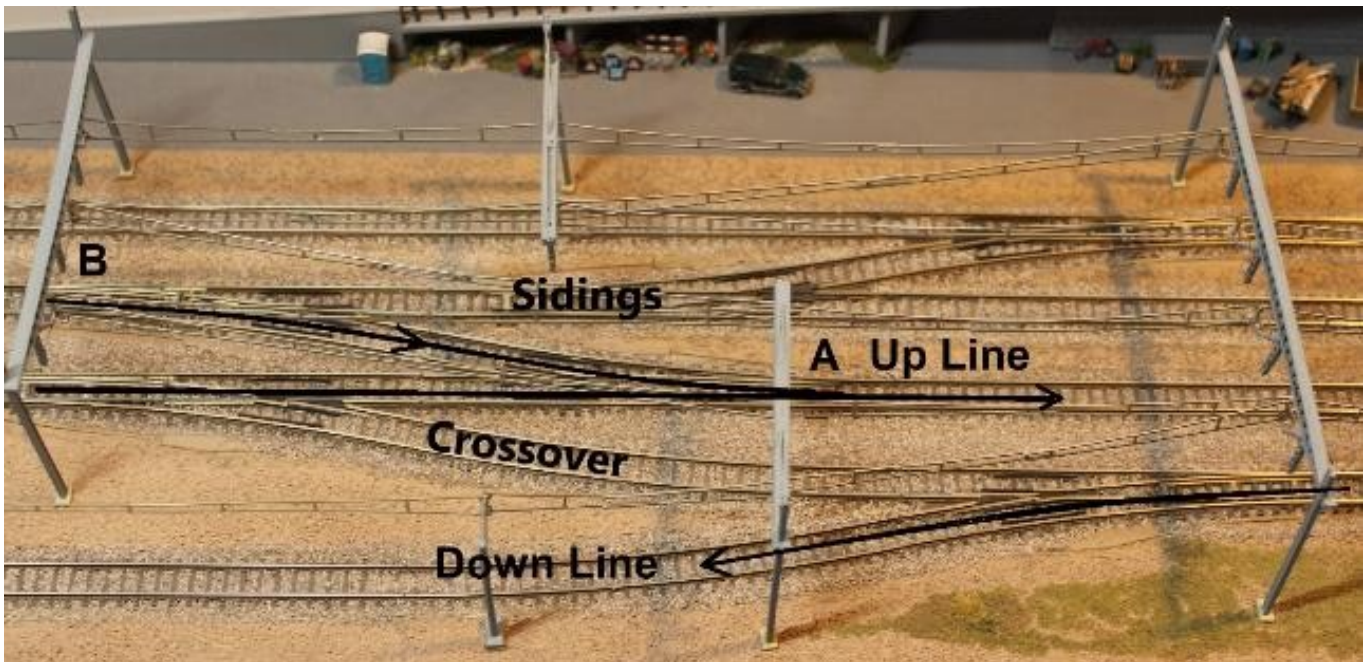
Even the manual version of the point has the same box – the solenoid is omitted but the ugly box and manual switch remain. And the manual switch itself is awkward to operate.

All of this makes Marklin Z Scale points look rather toy-like, but on the other hand they are beautifully engineered (and correspondingly expensive!). They are of the insulated-frog variety, but have been carefully designed to allow smooth running, while preventing locos from stalling across the points:



Two sprung metal strips at the frog are designed to provide power to the bottoms of the wheels without creating a short circuit. It is a very clever design, and works perfectly. The point blades are permanently wired to the adjacent running rail from the underside. When combined with the insulated frog, this means that power is always provided to both roads, regardless of which way the point is set. The low tension return spring attached to the tie bar is designed to enable a train to run over the point in the trailing direction, even if the point is set against it.

With this in mind, when I constructed the pointwork on the viewing side of Kyburg I carefully removed the ugly metal boxes and only installed the (barely-visible) return spring to permanently set each point for one direction only. There are no point motors attached to these points.



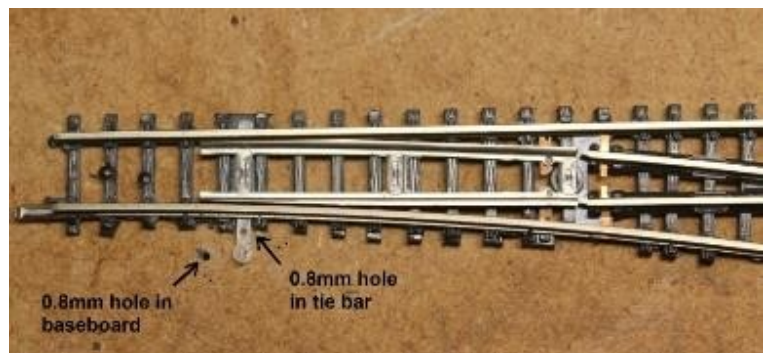
As you can see, this eliminates the unsightly point mechanisms, but restricts which roads can be used. The two Up line platforms (the two middle roads on the left-hand side) merge at point A. Down line trains always take the route at the bottom, as indicated. The crossover is not used. Both facing points are permanently set against it, so no trains can access it. Similarly, no trains can access the sidings; if trains are placed manually into the sidings at the start of an operating session, they can exit over point B in the trailing direction, but once out they can't get back in, as the return spring at point B will reset the point to send trains along the Up line towards point A.

While I can live with not being able to use the crossover, lack of access to the sidings limits layout operation significantly. The wiring is in place; the only constraint is the inability to change the points. I have therefore now decided to try to retro-fit some sort of point-operating mechanism, initially to point B in order to access the first siding, and if successful to all points on the viewing side of the layout.

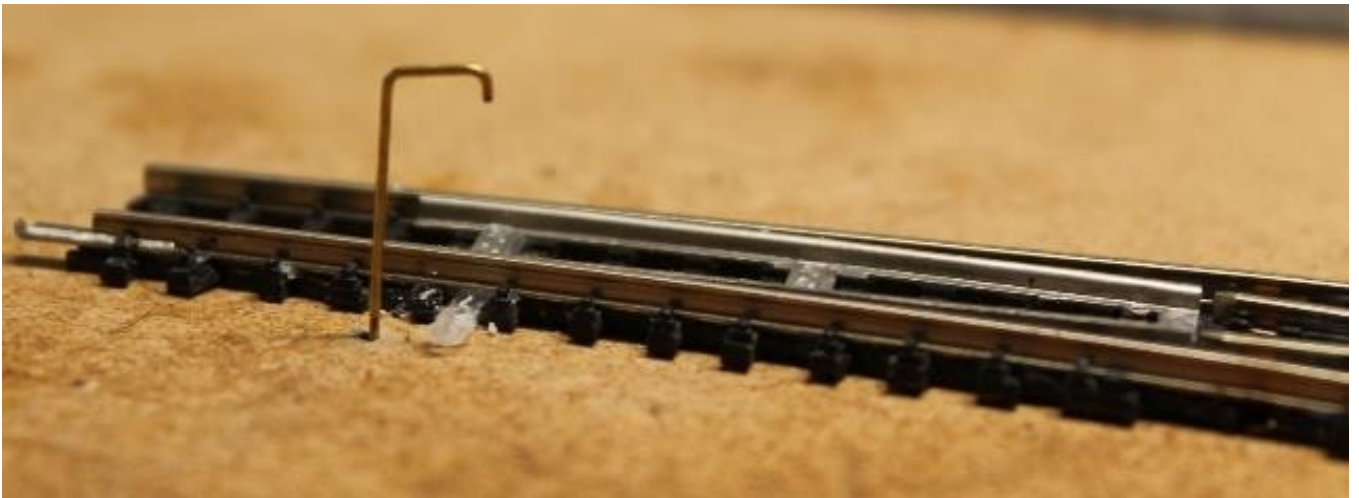
Having mulled it over, I think the job needs to be split into two parts: the first is to install an unobtrusive device above the baseboard to move the point blades' tie bar; the second is to connect that device to a point operating switch in the fiddle yard via a mechanism installed below the baseboard.

Having trawled the internet for ideas, I have come up with a very simple solution to the first part, based on a composite of YouTube videos.

I started by fixing a spare point to a 9mm MDF sheet (the same material as used for the layout's baseboard) as a test rig. I then drilled a 0.8mm hole in the tie bar, and a further 0.8mm hole in the baseboard, 5mm from the first hole.



Next, I took a 0.5mm brass rod from my odds and ends box, bent it as shown and inserted the long end into the baseboard hole to form a tie bar-switching rod:



The short end was then pushed down carefully into place onto the hole in the tie bar:



The bottom of the switching rod protrudes below the baseboard, where it can be bent through 90°. I found that if it is bent too tightly up against the baseboard this impedes the free movement of the tie bar; this is why I bent it in two places as shown.



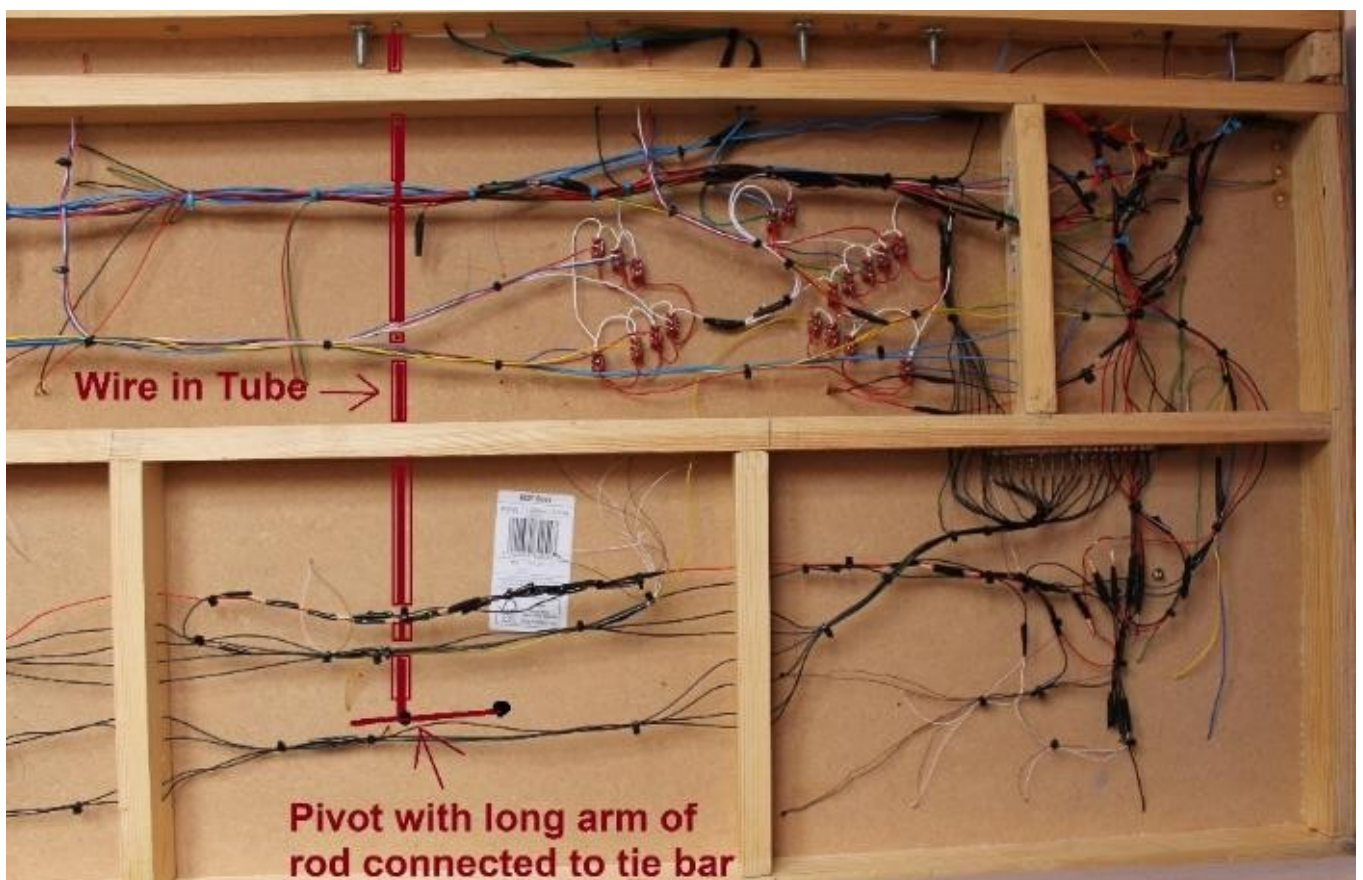
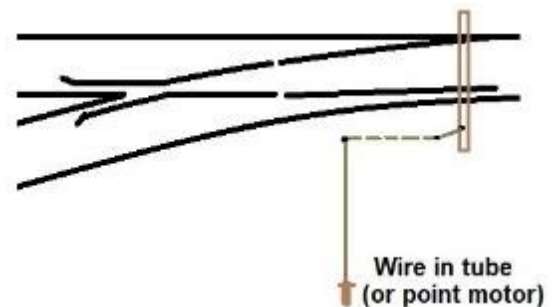
Similarly the locating holes are slightly oversize at 0.8mm. This is because when the switching rod is rotated it actually describes a small arc, so if the holes are too tight the rotation of the rod jams the tie bar.

When I install the mechanism on the layout, I will probably make the hole in the baseboard slightly larger so that I can insert a small brass tube into the baseboard, rather than inserting the switching rod directly into the MDF (which is likely to work loose over time). This will also hopefully allow me to bend it cleanly through 90.

The next stage will be to create a pivot on the long arm of the switching rod under the baseboard, on which to fix the connecting rod. I am considering two options:

1. Wire in Tube

The first option is to install a traditional Wire in Tube operating mechanism. This will involve installing a small brass tube containing a thin brass rod, which will protrude at the fiddle yard side of the layout.



Fortunately, the points are located in an area of the layout where there is not too much wiring under the baseboard. This means the wire and tube can be inserted behind the wiring, close to the baseboard. Some experts seem to recommend adding an omega loop to create some flexibility in the system, but the 0.5mm brass wire I have been experimenting with seems to be sufficiently flexible. So I will only add an omega loop if the final set-up is too stiff.

2. Point Motors

The second option is to install point motors rather than wires in tubes. Given the limited depth available under the baseboard (35mm) and the need to squeeze several mechanisms close together, I would need to source suitably small motors. I am looking at the Peco PL11, ironically designed for surface mounting. Alternatively the Conrad 2201977 is very compact. Either way I would need to fix a connecting pin, which would need to pivot with the connecting rod in such a way that the throw of the motor translates into the tiny 2mm throw of a Z Gauge point tie bar. The Conrad motor is supplied with two connecting rods of two different diameters and the motor is fitted with a screw to fix these in place, so on the face of it appears to be the ideal choice. They are not widely available in the UK, but they do pop up on eBay from time to time or they can be ordered direct from Conrad in Austria.



Peco PL11
Surface Mount Point Motor



Conrad 2201977
Universal Point Motor

Needless to say, the whole project would have been far simpler to build if it had been incorporated into the layout design from the start. Installing it after the layout has been built creates the considerable problems of trying not to damage the existing pointwork above the baseboard and the wiring below it. On the other hand, the tiny size of the points, the low tension of the tie bar springs and the small tie bar movement mean that the operating mechanism can be as small and lightweight as I can make it.

It may all prove to be impracticable, but I won't know until I try. I'll let you know how I get on.

David Gotliffe

Live Steam Gauge 1 Midland Single Princess of Wales Class

To prove just how active and fruitful lock-down has been for some, ***Philip Rowe*** has submitted this photograph of his completed and beautifully liveried loco. As he says, he has written about this before, but here is proof that a picture is worth a thousand words.



Readers' Comments

I would like to thank warmly the no less than four of you who responded to my plea for 3mm MDF. It is good to be able to report that you enabled me to find just what I wanted; and it shows that this column can be a useful place for pleas for help or advice.

However, that is all the entries I have had this month. I had hoped that this might become a rather more vibrant forum for ideas and discussion, but perhaps the answers to the Quiz will trigger some correspondence next month?! (But please remember that the judges' decision was final. No trolling will be allowed!)

I do though have one more request. Can anyone recognise where this photograph was taken and who the upstanding young man is?

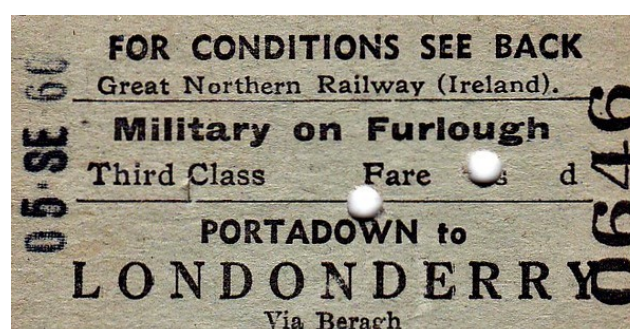


Guards Van

This timely warning comes by courtesy of *Eric Challoner*



as does the following proof to the youngsters that we knew 'furlough' was not a new word.



And finally, I had intended to move on bravely to the New Year and not produce possibly corny Christmas snow photographs, but since the snow is cascading down outside as I put this edition together on December 29th, here are a couple:-

So often this year it has felt as though progress has come to a complete halt



But with a strong, determined team we shall steam on through in 2021



(OK, so now only the captions are definitely corny!)

HAPPY NEW YEAR