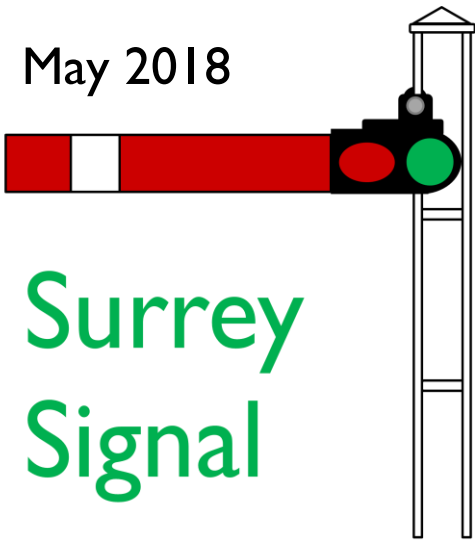


May 2018



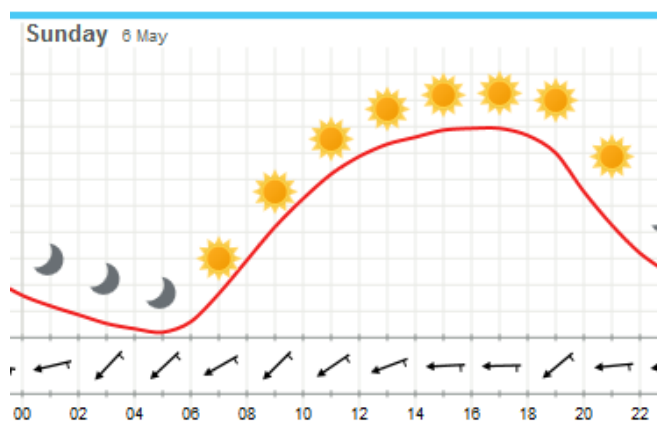
# Surrey Signal

An occasional newsletter  
for the G1MRA Surrey Group



## Steam into summer

The Met Office summaries confirm that 2018 has been mostly wet and cool so far, but this is more like it...



With more light in the evenings, I was happily running trains in the garden at 20.00 last night. Let's hope it lasts.

## Return to Cranleigh

On **Saturday May 26<sup>th</sup>** we have a public running day at Cranleigh Village Hall. This is a new venue for us, but not for G1MRA (see below). The hall is a good size, and has a tea-and-coffee annexe off to one side.

Setup will be on the Friday afternoon. We don't have secure parking for the trailer there, so Peter is planning to tow it back to GMES overnight.

The public will be in between 10.00 and 16.00. We shall then have to knock down quickly since there is another event coming in at 17.00.

Ian Russell is organising everything, and you'll be getting emails nearer the time. I will be making up a kitchen rota for tea, coffee and cake sales.

As at Dorking, we depend on donations of cakes from members to keep the public fed so if you can **please bring cake donations on the day.**

I think this will be a terrific day. Ian's done a great job.

## Bill's memories of Cranleigh

Bill writes: I was brought up in Cranleigh and was first introduced to G1MRA at the 3-day exhibitions that were held in the hall every third year.



The late Ken Herring (a G1MRA founder) was the President of the Cranleigh Model Engineers for many years until his passing. The photo was taken at the 1980 show, the year after I'd left home. I can identify Mike Hack, Francis Dobson and Bob Hines inside the layout. The layout was the North London' group track for the back straight (now the basis for the Chiltern Group's track I think) and the front section was built up by bolting Dexion together and using loose ballast on the track work in the day or so before the show. We even had a local shows's engine outside the hall all day except for when it went for an excursion along the High Street twin a day! My father is behind the Cranleigh 4mm layout along the left wall.

## Return to Royal Holloway

We celebrated the fourth anniversary of the Oval's public debut in March at the 2018 Science Festival. Many of us still remember with a grimace the first event after which we had to carry the Oval boards up steep flights of stairs to the van (and when I got home I then had to get them up into my loft). What a long way we've come since then.

For the last few years the venue had been the Victorian boiler house with its cobbled courtyard in which wagons of coal were unloaded after being hauled up from Egham station. Steam used to be raised here and piped through a tunnel to the main Founder's Building.



In fact, the central boilers are still here, but gas fired, tiny (relative to 1886 norms) and relegated to a few rooms at the back of the complex. The rest has now been converted to a dance theatre, seminar rooms, a café and a lecture auditorium (or Oval running room as I think of it when I have to teach in there). And yes, the tunnel is still used, though it is now festooned with data and comms cables.

We were able to set up on Friday afternoon. Mike and Christine Bland, Ian Russell, Peter Jackman, Richard Burkett, Liz and Adrian had everything ready by about 18.30 so the actual day could have a leisurely start.

On Saturday, I think we saw 20-25 of our members, and many hundreds of visitors. Strangely they arrived in pulses: my spot check counts varied between 55 and 7 spectators at a time. Christine did a fine job of 'encouraging' small humans to avoid leaving with burn marks, though at times one wondered if we shouldn't just let nature takes its course, *pour encourager les autres...*

James Mander had brought his RC controlled Thomas to trundle up and down the full-length siding at the front of the Oval. Sadly, Thomas' G3 sized body couldn't make it under the new passenger footbridge and so he was constrained to the left-hand end of the layout. Too many doughnuts, I'd guess. Another life lesson for our young visitors.

For me, the running highlights were Jim Mander's coal fired Aster A3, which ran like a dream on (I think) only its second outing; Micahel Wrottesley's Jumbo hauling a train of 100 year-old Carette for Basstte Lowke coaches and Mike Bland's Mallard, circulating majestically. This last was particularly popular with the punters. It's in the nature of a Science Festival that one sees quite a few technology-fixated youngsters, and throughout the day several people asked about Mallard (maybe there's been a TV show recently on the speed record?) Many of them returned in the afternoon, especially to see the engine.

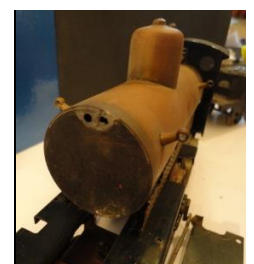
We instituted a new track marshalling regime after reports of collision damage at another track's event recently. I believe we had only one small bump during the day, and I can confidently assert (ahem) that the cause was mis-communication between the two drivers concerned: the marshalling had been exemplary.

We had something of a challenge at day's end: another event was following us into the venue that evening so we had to knock down efficiently. The last box was wheeled out 73 minutes after the public left, which I think must be a record. As the local organiser, I am *extremely* grateful for everybody setting to with such gusto after what had been a very long day.

It's nice to think that courtesy of Jim, the old boiler house once again had the whiff of coal smoke about it, many decades after coal was originally supplanted by oil and gas. We'll be back next year.

## Invincible restored

At the 2017 AGM, Stephen Potter brought a box containing a dismantled Bing engine that he believed his father had been bought new. Parts had received blue paint, and the cylinders were missing. My initial reaction was 'yikes; that looks like scrap'. I quickly recovered the situation by putting Stephen and Michael in contact and Keeping My Head Down.



Michael doesn't mess around, and within a few weeks he had fitted some cylinders that he had in stock. By the end of October, an engine had already emerged:



Photo credit: Michael Wrottesley

Michael then commissioned John Dopson to paint and line the engine. Stephen sourced a new whistle and safety valve, and before Christmas, restoration was complete.



Photo credits: Stephen Potter

Stephen wrote to Mike and John: *What an incredible job you have done to restore my Vintage Bing Engine from the box of bits I first showed to Adrian at the AGM.*

*I have added the whistle which fits perfectly. The safety valve is the right screw thread now also. GUILPLATES did a great job on the LNWR name and number.*

*She is now "Invincible" - L&NWR Jubilee Class 440 built at Crewe in 1899 and launched in July no.1914 (the year my father was born)*

*From all the research I have done I can date it to circa 1903. The original boiler would we have concluded have been polished brass but painted in the correct livery the loco looks stunning. The tender also I have concluded is original to the engine but the prototype would have been a six-wheeler. There is evidence from other models that Bing was not always consistent. I have put the LNWR crest on the tender.*

*Virtually all LNWR tenders did not have the crest on them but were plain or had LNWR painted. The crest was more normally on the splasher but thus far have not been able to source one small enough. John and I thought it was a great addition to the overall scheme.*

*I would like to source a G1 head lamp but nobody seems to make them. Other gauges yes but not G1. Any thoughts welcome.*

So, anybody with a spare Bing headlamp that they would part with please let me know and I'll pass the information along.

## An anniversary train

A nice find on eBay: somebody was selling one of the original 50<sup>th</sup> anniversary G1MRA wagons, so I snapped it up.

I had bought one of the Accucraft 70<sup>th</sup> anniversary wagons at the AGM. They are nicely weighted, though the long sides of the body do tend to bow a little.

I am also lucky enough to own Tony Hall-Patch's 60<sup>th</sup> anniversary truck complete with running number 13, (which was Tony's G1MRA membership number); they were made by Northern Finescale.



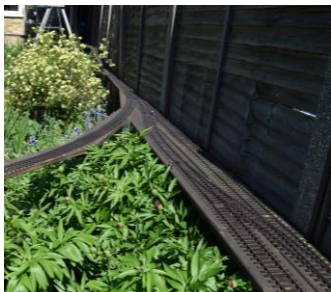
Photo credit: Richard Burkett

I'm not sure who manufactured the 50<sup>th</sup> wagon: no doubt Michael can tell us. They are a little crude compared to the other two, but run quite well.

At Martin's GTG in March we coupled them all up to the Q1 and ran a complete anniversary train around and Richard kindly supplied me with some pictures.

## Ernest Bowden and his cables

My Ashford High Line track is nearly three years old ([www.cs.rhul.ac.uk/~adrian/steam/AshfordHighLine](http://www.cs.rhul.ac.uk/~adrian/steam/AshfordHighLine)) but it still suffers from one major infelicity: the turnout joining the steam up bay to the main line is embedded in a large flower bed and it cannot be reached without squashing the plants.



As usual when I have a technical challenge, I consulted our Group Technical Officer, one P Jackman. His first suggestion involved springs and fishing line. The problem is that I have one run of about

3.5m (that's around 11 ½ feet for those of you watching in black and white). The fishing line is quite stretchy, and over that distance it was a non-starter.

Back on the phone, Peter mentioned bicycle brake cables, which are certainly non-stretchy. Still, I didn't fancy weather-proofing springs, and would rather have something that could both push and pull, so I read around a bit, and (re-)discovered Bowden cables.

For such a brilliantly useful, and essentially quite simple idea, this is pretty late invention: Ernest Bowden was granted his patent in 1896. If you're not a cyclist, you're most likely to have encountered them in the form of a mechanical shutter release cable.



The basic idea is to have a flexible (yet longitudinally rigid) cable inside a flexible yet longitudinally rigid sleeve. If the ends are rigidly attached to a frame, very precise displacements of the wire can be transmitted over long distances through very convoluted paths. My bike has eight gears on the back hub, and the indexed shifter needs to transmit sub-millimetre-accurate displacements from the handlebars. Sounds like just what I needed!

(As an aside, Bowden licensed his idea to Raleigh, and they built a significant competitive edge in the pre-WWI bicycle market. Sadly for poor Ernest, Raleigh was run by one Frank Bowden (no relation) who now often gets the credit.)

Normal gear cables are 2m long, which was insufficient for my needs, but it turns out you can get 3.6m long cables for tandems.

The core cable is stainless steel wire, and the outer is a spiral wound tube encased in UV-stabilised plastic. I

3D printed some brackets to hold the cables, and I now have an essentially maintenance free, mechanical solution. The flowers are safe once more.



One of the most useful feature of using Bowden cables is that you do not need a complicated arrangement of bell cranks to go round corners. One of my cables dives down under the track boards through an obliquely drilled hole, then reemerges some distance away having gone under two tracks and popped up just where needed.

## Ieuan's latest treasure

Ieuan brought this very pretty engine along to Michael's get-together. The prototype is Cambrian Railways number 35 *Plasfynnon*, which according to The Locomotive Magazine of November 1913 was a Sharp Stewart 0-4-0 saddle tank delivered in 1863.



She was probably out of service by 1900, but as seen here, would make a characterful late Victorian mixed traffic train. Judging by the chimney, there weren't many over-bridges on that line.



Photo credit: unknown 1890's photographer

## 3D print fails to catch fire

How do you fancy the chances of a plastic 3D printed steam-raising fan? Well, plastic nozzle bracket to be precise.



This is one of those ex-military valve-cooling fans that occasionally come up on eBay. I wanted to be able to change the nozzles easily because some of my tank engines have very restricted chimneys, but the big engines need plenty of draft. The nozzles have an aluminium body with a copper tube press fitted in.

My intention was to mill an aluminium bracket to mount things onto the end of the fan; before getting the Sherline out I thought I'd mock one up on the 3D printer. I printed it solid rather than the usual 20% honeycomb internal structure: the result has real heft.

Before I could get around to milling the 'real' bracket, I needed the fan for a run and, although I was quite expecting to need a fire extinguisher, I ran it up with the plastic bracket which showed no signs of distress at all. I've now used it for several hours, and there isn't a mark on it so that's saved me a job.

Of course, one of the beauties of 3D printing is that you can have colour. I'm now making one for Elizabeth in pink. Whether it will withstand the challenge of coal firing remains to be seen.

## Peter starts a Deltic

Inspired by an OO-scale kit, Peter has started drawing a CAD model for *DP1 Deltic*. He is printing using High Impact Polystyrene (HIPS) which Ieuan has been having some success with: it is tough like ABS (that's the plastic that Lego bricks are made of) but expands less when molten and so is less prone to warping and delamination when cooling down.

Ieuan has recently acquired a printer of the same type as mine and Peter's. It came with some HIPS, hence the new experiments. To some extent it combines the ease of use of PLA with the robustness of ABS.



Photo credit: Peter Jackman

I would love to have a G1 Deltic to run... I spent a lot of time in the Science Museum as a kid, back when *Deltic* and *Caerphilly Castle* used to dominate the main hall.

Deltic is presently at Shildon: here's a shot from 2015 when it was on loan to the Ribble Steam Railway.



Photo credit: Geoff Sheppard via Wikimedia commons

Peter's now working on the sides; the next part to be modelled will be the bogies.

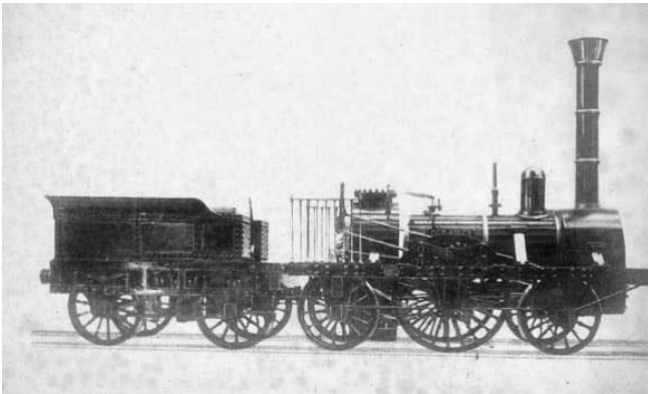
## The Eagles have landed

Gauge 1 models of primitive locos are quite a specialised market. The prototypes are so tiny that working live steam examples in this scale are pretty challenging. Aster's Lion is perhaps the best known example.

The German model railway market is probably bigger than that of the UK, and it turns out that there are two different Gauge 1 models of the pioneer German locomotive *Adler* made by Marklin and Metafot: I recently acquired a Marklin set to go with my existing Metafot engine and we got both of them out at Michael's GTG. The rather period (and continental looking) figures on Michael's *Brondesbury* station complemented the engines nicely.



The *Adler* was built at the Forth Road works by Stephenson and Co. in 1835 and ran on a line between Nuremberg and Fürth. She was an example of Stephenson's *Patentee* class: essentially like the Planet replica in Manchester but with a longer wheelbase and a bigger firebox.



In the early years they only used the engine twice a day because of the expense of imported coal; the other services were horse drawn.

The line wasn't a great success, but *Adler* itself is viewed in Germany much as we might think of *Rocket*. The actual engine was sold in 1858 to an iron dealer, from which we may infer that it was scrapped.

A 'replica' was built in 1935 using the very meagre surviving documentary evidence: it is not even clear that the one contemporary photograph (above) is of the real *Adler* or a model.

In 2005, the replica was badly damaged in the Nuremberg round house fire, but it was rebuilt. There is also a static replica dating from 1950.

As you might expect, Marklin have produced variants of *Adler* in many gauges, including a beautifully engineered electric G1 version, with three coaches and a set of figures. It was originally issued in 1985 to mark the 150<sup>th</sup> anniversary of the line's opening. After the fire, Marklin did another run with the profits being donated to the restoration fund: the work cost around €1 million.

The Marklin coaches are particularly good. They have die-cast bodies (Mazak, probably) with a very good paint finish, and opening doors complete with tiny, working, door handles.



Did you ever wonder why *Rocket* and early railway carriages are often yellow (not a very practical colour for steam railway)? Well that was the colour used by contemporary express stage coaches which the railways were competing with.

The Metafot engine comes from an interesting company which was started by Lutz Hielscher in Wuppertal in 1969. Their main business was small moulded metal parts, but he became interested in railway models and they branched out into steam engines. There is a butane-fired live-steam version, though I've never seen one. Mine is electric, although it seems to have a full set of valve gear underneath, and may be an after-market conversion.



The main Metafot business was sold off in the 1980's, but Lutz Hielscher now sells steam toys as well as Gauge 1 engines manufactured for him: see <http://www.hielscher-dampfmodelle.de/cms/index.php?lang=en>

## The Great Barrier Grief

Hayward's Heath was one of the first public shows we did with the Oval, and rather late in the day it became clear that we would need to take our own barrier, or risk toasted-toddler syndrome. I wanted something lightweight, because I've seen the barriers at Ally Pally being bent out of shape by folk leaning on them. We already had the yellow webbing straps that were used to keep the boards together before Peter's racks became available, so I knocked up a design for supports using 3D printed brackets and electrical conduit from ScewFix, which must be the cheapest and lightest rigid material you can buy.

That all worked sort-of, but I've learned a lot about 3D printing in the process. The material has a grain like very soft wood, and is much more breakable along the grain. We got a lot of wobbly bases until I redesigned

it so that the vertical tube would push right down to the bottom. Recently we've also been getting broken tops for the same reason, so I've turned those on their sides and reprinted then and now the tube holds the layers together. Finally, I am shortening the legs and adding non-slip pads to reduce the trip hazard. It never ceases to amaze me how much design effort goes into successful projects, and that makes me appreciate the Mogers and the Jackmans of this world all the more.



## 32:1 ARM1G repaint

Seen at Horstead Keynes on the Bluebell Railway: somebody has produced a 32:1 replica of Dick Moger's ARM1G design. (That's G1MRA backwards for the uninitiated, and of course it's really an SECR Wainwright H-class.)



The engine is looking particularly splendid at the moment because it was the star of the 2017 Warley modelling show for which Hornby sponsored a complete repaint. More at <https://www.hornby.com/uk-en/news/the-engine-shed/warley-2017-huge-announcement>



No, I didn't expect to ever be putting a link to Hornby's site into the Surrey Signal either.

## Elstree Ponds invitation dates

Graham Colover is hosting the Chiltern Group at his Elstree Ponds track and has asked me to invite Surrey members too: please email Adrian if you would like to attend. The sessions start at 11am and tea, coffee and biscuits provided.

The dates this year are: May 24, June 6, July 25 August 19, and August 29.

## Haywards Heath in 2019

One of the most well-organised shows the Oval has attended was the 2016 Haywards Heath celebration event that marked 175 years since the railway reached the town. It was a general modelling event and attracted large numbers of visitors. Lots of space for us since it was in a sports hall.



The same team have recently been in touch about a repeat event in May 2019. They said the Oval was (flattery, perhaps) the star of the show and are very keen to have us back. Initially the new venue they had selected looked difficult, so they have switched the event back to the Dolphin leisure centre so that we can fit in. What nice people, and something to look forward to in a year's time.

## Frontpiece

At the last count, I believe we had seven Aster Spam Cans in the group; (Bill, Peter, Tony, Ken, Richard, Adrian and a newly joining member) though I wouldn't be surprised to hear that there are a few more lurking. They are great runners and not expensive by Aster standards, so why shouldn't we have three Spitfires out on the Oval at once?

Here, my version of 21C166 pluckily takes on some out-of-scale *Camassia leichtlinii* which are threatening to invade the track.



## SURREY G1MRA GROUP

2018 fixture list as of March 6<sup>th</sup> 2018

**Surrey group meets second Tuesday afternoons**

Please refer to your membership list for venues or email Adrian Johnstone as [a.johnstone@rhul.ac.uk](mailto:a.johnstone@rhul.ac.uk)



Tue 9 Jan	Sutton MEC	13.00
Fri 19 Jan-Sun 21 Jan	London Model Engineer Show: Invicta Track at Alexandra Palace	
Tue 13 Feb	Ken Lowes	13.00
Sat 17 Feb	Bacon Butty Bash, Durrington; Salisbury and Stonehenge Track	
Sat 10 Mar	Oval at the Royal Holloway Science Festival; setup Friday from 16.00	
Sun 11 Mar	Sutton open afternoon: G1 running from 12.00	
Tue 13 Mar	Martin Hulse	13.30
Sun 18 Mar	GMES open afternoon: G1 running 14.00-17.00	
Sun 8 Apr	Sutton open afternoon: G1 running from 12.00	
Sun 15 Apr	GMES open afternoon: G1 running 14.00-17.00	
Tue 17 Apr	Michael Wrottesley	13.00 Note: third Tuesday this month only!
Sat 21 Apr	G1MRA Spring meeting; Shepshed	
Tue 8 May	Martin Hulse	13.00
Sun 13 May	Sutton open afternoon: G1 running from 12.00	
Sun 20 May	GMES open afternoon: G1 running 14.00-17.00	
Sat 26 May	Oval public run at Cranleigh Village Hall; setup from 08.00; public from 10.00	
Tue 12 Jun	Ken Lowes	13.00
Sun 10 Jun	Sutton open afternoon: G1 running from 12.00	
Sun 10 Jun	GMES open afternoon: G1 running 14.00-17.00	
Sat 23 Jun -Sun 24 Jun	Bluebell Model Railway Weekend	
Sun 8 Jul	Sutton open afternoon: G1 running from 12.00	
Sat 7 Jul -Sun 8 Jul	GMES rally	
Tue 10 Jul	SMEC/Martin Hulse	13.00
Sun 29 Jul	GMES open afternoon: G1 running 14.00-17.00	
Sun 12 Aug	Sutton open afternoon: G1 running from 12.00	
Tue 14 Aug	Peter Jackman	13.00
Sat 18 Aug-Sun 19 Aug	Oval at Weald and Downland Museum Vintage Steam Weekend; Singleton	
Sun 19 Aug	GMES open afternoon: G1 running 14.00-17.00	
Sun 9 Sep	Sutton open afternoon: G1 running from 12.00	
Tue 11 Sep	Bob Boorman	13.00
Sun 16 Sep	GMES open afternoon: G1 running 14.00-17.00	
Tue 9 Oct	Guildford MES	13.00
TBC	Oval at the G1MRA AGM, Woking	
Sun 14 Oct	Sutton open afternoon: G1 running from 12.00	
Sun 21 Oct	GMES open afternoon: G1 running 14.00-17.00	
Sun 11 Nov	Sutton open afternoon: G1 running from 12.00	
Tue 13 Nov	Sutton MEC	13.00
Sat 24 Nov	TBC Oval public run at Dorking URC hall; setup from 08.00; public from 10.00	
Sun 9 Dec	Sutton open afternoon: G1 running from 12.00	
Sun 9 Dec	GMES open day: G1 running 11.00-15.00	
Tue 11 Dec	Bob Boorman	13.00