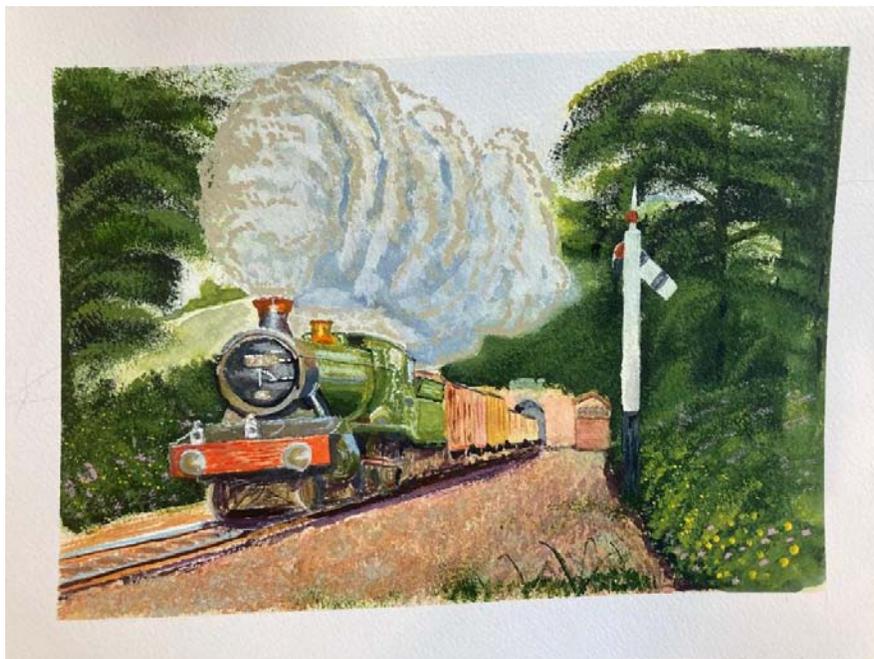


Sussex Miniature Locomotive Society Ltd

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BEECH HURST NEWS



Cover picture: -

A Work of Art: 'Lockdown' may be a strange time and difficult for many people, but what has been heartening are the stories of individual achievement. SMLS member Andrew Ellis has used some of his downtime to perfect his artistic skills, with a recent example pictured above...

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Editor's Notes

The past couple of months since the April edition landed have been odd to say the least and through these pages I hope all members are keeping safe and well. At the start of 'lockdown' pretty much everything stopped for a few weeks but since mid-May the restrictions have been gradually lifted and it is sometimes hard to keep track on exactly what is and is not permitted! I am pretty sure that we are not out of the woods yet and hopefully another 'lockdown' will not follow this period of easement, after all we now know what a 'lockdown' really feels like – one bitten twice shy and all that! On a much more positive note are all the good news stories coming from 'lockdown' and in the modelling / model engineering world are the stories of the many projects which are now coming to fruition as a result of the increased time spent at home and in the workshop. It is fair to say that many of these projects may not have hit the bench had it not been for the 'lockdown' – every cloud has a silver lining. Perhaps once all is said and done the club could host a 'Lockdown Bits & Pieces Evening' to showcase all the work that has been completed against the recent adversity. I am pretty sure we could fill the clubroom and workshop easily! Well done to all those members who have been productive during the past couple of months and hopefully we can share more of your positive experiences in future editions of the newsletter...

Talking of newsletters, I would like to thank Mike W for continuing to produce 'Wharfedale News' in between times and it is always an interesting read.

The April edition of this newsletter was another bumper one and I would like to thank Chris S, Clive H & Ray for their contributions.

June is a little bit slimmer but thanks to Andrew E, Chris S & Steve T for their contributions, along with some 'vintage' content continuing the series about the development of our signalling system (**see pages 5 – 10**). In addition to the usual writings, there are also pieces about recent gardening work as well as a look ahead to 2021 and our 70th anniversary, so please read on and enjoy, and keep safe in these continued challenging times...

Andrew B

Chairman's Notes

Dear all, I hope you are all still in good shape and finding plenty to do in this 'lockdown'. At least now you can go out and visit National Trust gardens and garden centres if you are not listed 'vulnerable'. I have to admit that this year, in spite of everything, is flying by. Where did those 16 weeks go? When Covid-19 first made the news the concern was that it would hit so fast that the NHS would not be able to cope, now, four months down the line it is taking time to get it under control to enable us to get back to a near normal life.

We are looking at the possibility of opening the club but at the moment in line with Government guidelines it is still not possible. We are looking at developing a risk assessment to see when it is likely that it would be safe to do so but unless there are some considerable changes in the Government's guidelines it is unlikely that it will be very soon. To keep our clubhouse, with all its soft furnishings, safe will be challenging.

We can now report that the request for permission to re-roof has been submitted to the council for approval and confirmation that we can proceed and they have acknowledged receipt. We understand we do not need planning permission but an agreement from council and trustees that the tiles we are suggesting are an acceptable replacement for what is existing. The electricity cables over the clubhouse needed extra insulation during re-roofing and this has been completed so we are ready to finalise the details and go once we get approval.

The new security system is now in place and key holders have been notified.

I will continue to produce the 'Wharfedale News' and would like to thank all again for the articles they have supplied. Special thanks to Mike P and David Miles for continuing to produce an article every week.

I do have to go into hospital for a few days to have a small growth removed from one of my kidneys so subject to all the tests that I have to go through to prove I am safe and free from Covid-19 I will be out of action for a short while from the 22nd July.

Our team of workers at the club has now increased to include a gardening team so my thanks now go to Andrew B, Andrew S & Tom for carrying out the security checks around the clubhouse on a regular basis and in addition to Andrew S, Dave Mattingley, Graham Miller & Mike P for doing the gardening.

Stay safe...

Mike W

Don Ashton

Don Ashton, well known for his knowledge and publications on locomotive valve gears, passed away on Easter day, just short of his 81st birthday.

Don joined SMLS in 1966 and was also a member of the Urmston club. He visited us several times in the 1960s and 1970s. Don was one of our delegates when we joined the Northern Association and along with Syd Rowland built Joe Locke's 5" gauge SR 'N15' King Arthur Class 'Sir Harry Le Fise Lake'.

An anecdote below from Chris S and one such visit to Beech Hurst by Don:

"I remember him & Nobby setting out a valve gear design using steel sheet, pins and a drill, all about 5 times bigger than we'd ever need for a 5" gauge locomotive. It was all done in the workshop with some interesting language, loads of cigarettes and a look of glee when it finally seemed to work. Nobby used this design for many of his most successful locos and I believe Bob Youldon did too."

Don will be a great loss to the steam building fraternity.

Chris S & Steve T

SMLS Back Catalogue

In this time of 'lockdown' I know some of you guys are catching up on things and getting on with your projects or making things that could come in handy. I know the club library is out of bounds but I might be able to help you. I have a very good collection of ME's and all but a few EiM's, I have also over the years copied all the articles written by club members I could find. I have also collected articles of interest I have found in the various magazines, tools & jigs to make, toolmakers clamps, vice's and all sorts of other useful model engineering things.

There are also articles on how to do things like: how to weld, how to colour materials, build a workshop, a bench, a loco stand and lots more. If you are looking for something in particular please e-mail: stevet50@btopenworld.com and I will see what I can find and send you a copy.

Steve T

Summer Work – By Andrew B

Since the last edition, the club has remained closed apart from some essential visits to meet with contractors and more recently for two pairs of members to keep the gardening under control.

The former has seen Andrew S meet numerous roofing contractors and as of a couple of weeks ago local firm Kaycee Roofing was selected from our shortlist. Depending on the permissions required from MSDC, it is hoped for the new roof, plus woodworm treatment, to be installed in the coming weeks before autumn.

The latter gardening visits have seen Andrew S & Dave Mattingley, and Graham Miller & Mike P, take it in turns on alternate weeks to complete a couple of hours of 'socially distanced' gardening. Most of the overgrowth has now been dealt with, so just odds & sods to keep tidy in the near future. Thanks to those above for their efforts (**picture below**: The tidy area behind the clubhouse).

Finally, Andrew S, Tom & I have continued our thrice-weekly security checks to ensure our assets are safe and I am pleased to report that apart from some general litter coming from the new residential care home we are safe & well.



FULL BLOCK SIGNALING FOR COMBINED EXISTING & EXTENSION TRACK

by Alan Killick

It will be seen from the attached diagram that the track is divided into seven sections each of approx 300'.

The sections have been made as even as possible to enable trains to maintain even headway and steady speed.

The signals are 3 aspect colour lights and work on the absolute block system. This means that there can only be one train in a section at any time, the problem of running into an occupied section on a Yellow signal is removed. There is one exception to this rule that I will detail later.

The three aspects will now mean,

- (1) RED Stop.
- (2) YELLOW Section clear to the next signal which will be at Red.
- (3) GREEN Section clear to the next signal which will be at Yellow or Green.

It will be realised that this will be much safer than the present system and will give drivers advance information of the next signal and enable higher average speeds to be maintained.

The exception occurs in the section containing the station where it is required to allow more than one train to enter at the same time. This is provided for by a special signal at signal No.7 position having an extra Yellow aspect to one side. This Yellow aspect will form a Call on Signal. The control system is so arranged that this call on aspect can only be shown when section 7 is clear from signal 7 to the station boundary. This is to prevent a driver finding a train stationary a short distance beyond the Call on signal. NOTE The Red aspect is shown at all times when any part of the section is occupied. It may be that drivers will have to stop at the Red aspect before proceeding to the station on the Call on Signal.

For reverse running the special signal is mounted on the signal I post and will show Red or Red and Call on when the station is occupied. (either may be selected by a control switch in the station hut.)

The transporter alarm and Red train approaching lamp will work for both directions of running.

The emergency stop and alarm system will operate as at present with the addition of a facility for resetting from the point of initiation.

Signal 4 will be a double arm semaphore, air operated and controlled by the automatic colour light system. Provision for mounting a three aspect colour light on the same post will be provided for stand by use and a detection system to monitor the signal arm position. Failure of the semaphore to follow or a loss of air pressure at the signal will cause an alarm to be sounded on the control panel. A Red alarm warning lamp could be provided at the signal to indicate to drivers that a signal failure has occurred.

It is proposed to mount the control system together with an illuminated diagram in the club room on the North wall over the electric heater. The Club-house is now at the centre of the track and cable runs will be reduced to a minimum. A means of checking the track circuit continuity has been devised and the checks can be made from the control panel.

When funds permit it should be possible to provide the station with an illuminated track diagram. Extensions to the telephone are also considered.

With the once round running trains approaching the station through the jungle when reverse running will always be slowing to stop at the station. This together with the advanced information from the previous signal will obviate the need for a repeater signal outside the station as at present. The repeater signal at the bridge may also not be required due to the re-siting of the bridge signal to give sighting distance when leaving the short tunnel, that will eventually replace the present bridge, when running reverse. It is proposed to use 24 volt, 18 watt lamps in the signals to be under-run to give about 10 watt output. This will be double the existing power and will improve visibility on bright days.

S. M. L. S. NEWS

How they operate

by A J Killick

Beech Hurst Signalling System

As we start a new running season we thought it a good idea to include a few words about the operation of the signals on our railway. Part of the article was published in the news in 1981 and because we have many new members it's worth repeating with a few additions.

The track is divided into seven sections each of about 300 feet. The sections have been made as even as possible to enable trains to maintain even headway and steady speed. Each section is protected by a three aspect colour light signal and the system is worked on the absolute block principal. This means that there can only be one train in a section at a time.

There is one exception to this rule and it occurs in the section containing the station (section 7). We require to be able to have more than one train in the station at a time and this is provided for by means of a "Call On" signal. This takes the form of a two aspect colour light signal mounted on the same post as the protecting signal. This "Call On" signal will show a red aspect when the main signal goes to red as the train enters the section. A yellow aspect or "Call On" will be shown when the trains in the station have moved up to leave room for a further train to enter the platform.

Signal Aspects

RED means Stop at the signal. (It should be appreciated that the section break may not be exactly next to the signal. Therefore stopping next to a signal may cause you to enter the next section and giving a permanent RED)

YELLOW means section clear to the next signal which is Red.

GREEN means section clear to the next signal which will be Yellow or Green.

FLASHING RED means stop immediately a flashing red signal is sighted (wherever you may be) and check the train. Proceed only when signal resumes a normal aspect.

NO ASPECT A signal that shows no aspect must be treated as a Red light. Stop at the signal and then proceed slowly to the next signal. Report the defect to the Duty Traffic Controller.

Repeater Signal This is situated in the middle of Parkfield Tunnel (big tunnel) and provides advance warning of the signal just outside the tunnel exit.

Yellow is displayed when the signal outside the tunnel is red and Green is only shown on the repeater when the next signal is Yellow or Green.

Tunnel Gate Interlocks The signal at the entrance to Parkfield Tunnel will be held at Red unless all four tunnel gates are locked back against the tunnel

Traverser Point and Steaming Bay Transporter Both of these come within section six. If either of these are not safely in position the signal protecting section six will be held at Red. To prevent the operation of the Steaming Bay Transporter just as a train is approaching the protecting signal a safe to operate light (Green) is provided above the handwheel. The Transporter should not be operated if this light is out. The Traverser Point is power operated and to prevent unauthorised operation a key is required to unlock the control system. This key resides in the main control panel and removal from the panel will cause the protecting signal to go to Red. This key is protected by a padlock, during operating hours the Duty Traffic Controller holds the padlock key. In the event of a pneumatic failure the Transporter point will not operate under it's own power. For this situation there is a manual handle for operating the point. This handle is also protected by the padlock. A safe to operate light is provided above the key on the main panel and serves the same purpose as the one on the Steaming Bay Transporter.

Alarm Bell This is a large electric bell mounted on the north wall of the Loco shed. The bell will ring if the signal protecting section six is over run whilst either the Traverser Point or the Steaming Bay Transporter are out of position. If the alarm bell rings anyone in a position to do so should warn the erring driver and assist him to stop the train.

Shunt Signal This takes the form of a Southern Railway type ground signal or dummy mounted at the north east corner of the Loco shed. It will show all clear when the Traverser Point is set for the siding. This requires compressed air to operate.

The system is instantly reversible by pressing the appropriate button on the control panel. Normal is for anticlockwise and Reverse for clockwise rotation of the circuit.

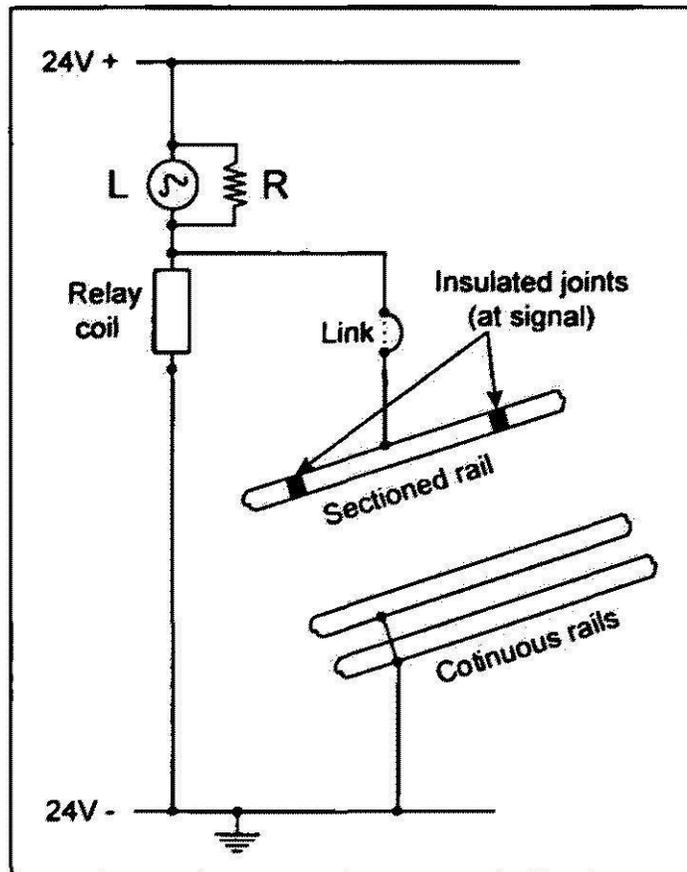
How they operate

The following diagram shows the basic circuit used to control the signals at Beech Hurst. Starting from the top, a 24V+ supply is taken to the relay coil through the Lamp (L). The relay is energised and as the current is low the lamp does not light. The resistor (R) provides an alternative route should the

lamp fail. With the relay energised its contacts are arranged to provide a supply to the green aspect at the signal.

If a train enters the section of track it will short circuit the rails together and short out the relay coil. Full voltage will appear across the lamp (L) to give a track section occupied indication on the track diagram.

When the relay is thus de-energised the contacts switch the signal aspect from green to red.



The selection of green or yellow aspects is made by a second relay controlled by the next signal ahead, if this signal is green then a green aspect is selected, if it is red then the yellow aspect shows giving advanced warning of the need to stop at the next signal.

The removable link in the track circuit wire enables that particular section to be isolated should a fault occur.

It will be appreciated that excessive amounts of water on the sleepers can give rise to leakage causing false operation. Also a long nail that has been mistakenly used to secure the rails can give similar problems.

The signal lamps are supplied from a transformer at 18V AC. This

transformer in the control panel also supplies a bridge rectifier that provides a 24V DC supply for the relay operation. A 24V AC supply is also provided to run all the indicator lamps on the main control panel.

I will be pleased to answer any questions or give more detail if asked.

This article was written to give you a better idea of the way our signals work, and the way we should use them. If any faults occur please don't play around with the control panel unless under instruction from the Signals Engineer or Duty Traffic Controller.

Work in Progress & For Sale – By Andrew B

Since April, and during the continued 'lockdown', 'Work in Progress' has never been so good! My workshop, along with many others alike, has been busy and 4 months in, some of the results are starting to come to fruition. My painting activities have continued when the atmospheric conditions have allowed and in fact the hot weather of 3 weeks ago provided the perfect pre-lunchtime painting conditions, even if it meant starting before 07:00 on many mornings! In between times I have been back on the 'ML7' and making a couple of new regulators. Based on the design used in Andrew S' 'Dougal', they are both rotating bronze drums with a PTFE insert used as the main seal. Unlike 'Dougal's' which was contained in a longitudinal pipe running the length of the boiler, both of these new ones are removable cartridges that fit through and are then fixed under the dome with the actuation rod and outlet pipe connected once in the boiler. All sealed by 'o' rings and the PTFE insert, they appear very smooth and effective. As I write this piece, both are nearly ready to be tested using air and then steam...

For Sale: Having made a recent acquisition I am now looking to sell my 'low well' wagon – just not enough space for everything! **Pictured below** with removable wooden top boards and stout steel frame, I am asking £350 and any interested members can contact me at the e-mail on the cover page or I will sell privately...



Forthcoming (including 2021) & Diary of Events – By Andrew B

Given the continued Covid-19 restrictions **our club activities remain suspended** and the committee will keep members abreast of developments. At the time of writing the next two items in the Diary are cancelled but I have left the August BBQ and Scout visit which remain subject to confirmation depending on government advice at the time.

In addition, I have added dates for 2021, which we agreed at the last 'virtual' committee meeting. Next year is our 70th and as such we would like to have a bit of a 'blow out'! The committee decided to commit to Diary dates as early as possible so members can choose if they wish to attend any of the special days in and around their personal social calendar. The main 'gala' weekend will be that over the Whitsun Bank Holiday and this may extend into the following half-term week but the latter is still under discussion. Our goal is to get 70 complete locomotives (including 'Big Boy') at Beech Hurst for Saturday 29th May 2021 – a logistical challenge to say the least! As such we will be calling in favours from members who have locomotives. More details will follow in the coming months but for now if you can keep that day (weekend) free it will be worth your while...!

~~27th July 2020 – Charity Run – See details above – From 13:00 – TBC~~

~~29th July 2020 – Focus Model Engineers to visit SMLS – From 10:00 – TBC~~

29th August 2020 – Summer 'Bring Your Own' BBQ evening – From 18:00 – TBC

15th September 2020 – 1st Haywards Heath Scouts to visit SMLS – Timings TBC

3rd – 5th April 2021 – Easter Bunny Competition – Details TBC

2nd May 2021 – Under 30's Day – Details TBC

29th – 31st May 2021 – 70th Anniversary Gala Weekend – Details TBC

19th June 2021 – Open Day & Mid-Summer 'Bring Your Own' BBQ – Details TBC

9th – 10th July 2021 – 24-hour Run – Details TBC

7th August 2021 – Teddy Bears Picnic – Details TBC

28th August 2021 – Double Heading & 'Bring Your Own' BBQ – Details TBC

25th September 2021 – Late Evening Run – Details TBC

NB. Certain events may be organised at short notice and will not therefore appear in the newsletter. Please check white / notice boards in the clubhouse for details of such events.