

February/March 2021

Steaming Ahead



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Sutton Coldfield Model Engineering Society

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President Roger Addenbrooke

Secretary Martyn Cozens

Treasurer Chris Greene

Chairman Peter McMillan

Directors

Clive Burrows

Bob Whitaker

Martyn Scott

Richard Petley

Adrian Linnecor

Tony Critchley

Len Ingram

Subscriptions for 2021-2022

After discussion at the February Board meeting, the Board has agreed that, because of the effect of the current restrictions on opening, all current memberships should be extended for the foreseeable future, and that renewals should be deferred until such time as the club can reopen to members. At that point subscriptions will become due and the Board will decide the rate of subscriptions for the rest of the year to April 2022.

Editor:

Tony Critchley e-mail tonyscmes@virginmedia.com

Press Date is the third Tuesday of the month

**The next edition of Steaming Ahead will be published late
March 2021**

**Front Cover: Railcars at Stiege on the Harz
Schmalspurbahnen in Germany.**

Editor's Notes.

Welcome to the first edition of Steaming Ahead for 2021, and here we are again, back in a lockdown and very unsure when and if a new normal will start to emerge. I suspect that for quite some time it will not be very much like the old normal, and we are all going to have to get used to living somewhat differently.

One comment that I've had from several different quarters is that workshop time has been reduced, the main reason being that "It's too cold to go out there at the moment". However, people have been busy sorting, archiving and planning so many thanks to everyone who has put pen to paper to provide items for the magazine.

We have the second part of Bill Hall's article on the building of the high level track at Lea Marston, and its subsequent move to Little Hay. Chris Bassett is getting on with "Tich" and there are some ideas for continuing to develop the SM32 at the club.

For anyone who is looking for something to occupy them, why not have a go at putting something together for the next Steaming Ahead? It need not be long, complicated, technical or erudite, and our members' interests are wide and varied so don't be shy. If you want to talk about an idea drop me an e-mail (address opposite) and we can discuss it. Photos are always welcome, so any pictures of visits, models, events or whatever will always fill an odd corner.

Thanks again to everyone who has contributed, stay safe and we look forwards to being able to get back to Balleny Green at some point in the future,

Tony Critchley, Editor.

Chairman's Chunter for January 2021 Steaming Ahead

The end of another year on the calendar has rolled over and 2020 is now consigned to history. It was a year when the pandemic turned everything on its head and normal life became all but impossible. Although we managed to maintain days when members were able to run their locos, social distancing was the rule and no visitors were to be allowed on site. In terms of activities we managed just one birthday party during the year which was held on 15th March – the week before the first lockdown was announced! Although for our society it looks as though 2021 is going to get off to a delayed start, let's hope that before too long things might be more-or-less back to normal.

One of the consequences of being in a prolonged state of lockdown is that there are no events to plan or report on hence my notes this month are quite short. Your board have continued to hold the monthly board meetings via conference calls thus ensuring that the running of the society continues as normal and that a programme of events is ready to implement as soon as conditions allow. I could bore you all with reports of those meetings but I'd rather not, other than to mention the minutes from the meetings are available from the secretary if anyone wants to see them.

Much more interesting are the articles submitted by yourselves on what you have been occupying your time on at home. I think Tony has a few more in hand, but please do keep them coming.

Regular security checks continue to be made at Balleny Green to ensure all is well. It is noticeable that the wildlife is enjoying the peace-and-quiet and I think Bob the mole-catcher is going to be busy when site operations resume. On a recent visit a fleeting glimpse of a stoat was spotted near the tunnel.

I think that is it for now, it just remains for me to wish you all a (belated) Happy New Year and in particular that it will be a healthy and prosperous one.

Peter McMillan (Chairman)
January 2021

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What are we doing today, John?



Because we have practically got all the materials to do the job, we can go ahead with the work, which started before Christmas, on extending the footpath from the crossing near the Memorial Garden, to the entrance to the compound and workshop.

This will be two rows of slabs spaced out with ballast to help to drain off any surplus water. This will remove the slippery mud hazard in wet weather, and also means a little less grass to be cut.



Unfortunately a further lock down has brought the job to an abrupt halt!

Well let's hope by the time the next Magazine is due, we can start looking at What are we doing today? again.

John Genders.

A decorative border of stick figures surrounds the text. The figures are arranged in a rectangular frame, with some figures at the corners and others along the edges, creating a border around the central text area.

A KEY ISSUE by Chris Green

On the 22nd of December some 12 to 15 members assembled its Balleny Green for the usual Tuesday club meeting. There was not much going on, so by noon all but five of them went home. I got there just after 12:00 o'clock, having been elsewhere beforehand.

I went direct to Little Hay from my earlier appointment and did not have my club keys with me. I quickly realised that all five of the remaining people were relatively new members none of them being keyholders. Lock up would be down to yours truly, so I had to ask one or more of them to wait on site while I went home to fetch my keys. I had to warn them that it would take at least $\frac{3}{4}$ of an hour.

If the keyholder decides to leave the site before the end of the day's proceedings, it is his duty to ensure that another key holder is still there to secure the site and lock up. If not, he must wait until the site has been vacated and do the lockup himself.

It's competition time! Here is the question. Had I chosen not to visit the club at all on that day, what would the five non key holders have done to secure the site and lock up bearing in mind that there would be no more meetings before the Christmas break? Although they had mobile phones, none of them had stored contact details for any other club members. One positive thing has arisen out of this situation. The two people who volunteered to wait for me while I went to pick up my keys have provided next of kin details for the emergency Contact's Book!

Chris Green.

(Editors' Note: The Board has agreed that contact details for local keyholders will be available on site from now on!)

LBSC “Tich” Build—Part 5.

Chris Bassett



Well happy new year everyone and hope you all had a good Christmas during these tough times:- anyway back to work! During the summer months the painting was continued, and being as it was all going so well I decided to tackle some of the jobs that I was putting off! First task was to

finish off inside the tender this again was the help from Martyn. Between the two of us we decided on what to do with the hand pump and water supplies to injector and axle pump. The hand pump caused a bit of mirth as I wanted it long ways on to the floor of the tank. However this would have caused problems in the future as all the pipe work connections would be underneath the coal bay itself and my fat fingers wouldn't be able to get at the connections! So the decision was made to set it laterally across the tank and in the centre with plenty of space to take it out if anything goes wrong in the future. This was nicely finished with a thick brass base for it to sit on so that the hand pump can be screwed on it. Ease of maintenance was the key word!



With that done the next step was to make 3 brass bushes, one for the hand pump which was threaded to connect the hand pump to an elbow under the tank to take the pipe work to the clack on the boiler, the other two were for the axle pump and injector. However

these two were fitted with a filter, something Martyn found. They are plastic with a stainless steel filter round the inside, normally they are used on paint spray guns, they work really well as they can easily be removed to clean or fit new ones .

With Martyn's help at an end, the rest was up to me and the next stage was to figure out how to do the flaring on the tender sides and back. Originally it was suggested to bend some brass round a piece of solid round bar this I couldn't keep still so a rethink was needed, I grabbed a hammer!!



The idea was to draw a centre line down the length of brass strip I was using, set it in the vice and hammer over the side on the line. This worked really well to the point where the curve was spot on in my eye, I then lay it on the tender and it was spot on so carried on to the point where I completed both sides and the off cut was enough to make the back section. Next was to get it attached. This was done carefully measuring up equally along both sides ready to centre punch and drill the holes out ready for riveting to the side of the tender. This I enjoyed the most as it meant the tender was getting close to being completed. I carried on riveting and finally it looked right, the tender sides and back were assembled and to finally finish it off I added the handrails and two steps made out of brass angle, all were attached and soldered on. As you can see it looks the part.



Once the tender was finished, both it and engine were sent off to Phil for him to do his magic with the pipe work. Up to this point I've never done any silver soldering or even got the tackle to do the job and not wanting to make a mess, Phil got on with the job with the agreement I did the painting except the smoke box which he

did for me. Just to set the record straight, the work Phil's done on the pipe work I personally can't thank him enough. I wouldn't know where to start cheers buddy. While Phil was doing all this, I got cracking with the painting, I started with the cab and boiler the usual 3-4 coats on all was applied in-between flattening down, they looked absolutely fine out in the sun once dried.

The cab on the other hand was a pain to do because unlike the boiler and cylinder tin work the cab needed the roof spraying black, the inside cream and outside blue. To begin with the black was put on with the usual manner (3 coats in-between flattening down). Once dried fully the black and blue were masked up carefully and the cream put on. The cream I used was GWR coach cream (a legacy from when I painted the inside of the cabs of the Peckett Harrogate and the Brazil class tank at Statfold Barn railway) 3 coats later the cab was done. However I had one or two snags.

So that's that for now until next time see you down the line.

Chris Bassett



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From the Secretary.

It has been pointed out that due to the closure of Little Hay members are no longer able to view a copy of the previous months Board meeting minutes that are usually displayed on the notice board in Club house. Therefore should any members wish to have a copy of the minutes emailed to them, please email a request to the Secretary, no earlier than the 10th day of the current Month.

Martyn Cozens
SCMES Secretary Email = scmesec@gmail.com

Developing SM32

By Malcolm Shaw

I have been a member of SCMES for about 6 years now and I like to visit and run trains on the garden railway. I have set up a private Facebook group to enable communication between members of SCMES who use the garden railway. Private groups are used where posted text and images can only be viewed by members of the group. I hope that when Balleny Green reopens we can share pictures of our running sessions, organise days and times to meet and run trains and share our latest projects. The group is called SCMES Garden Railway.



On another subject I would like to know if there would be interest in setting up a mobile SM32 circuit which could be exhibited at model railway shows like the one at Wylde Green. I would envisage that

the circuit would be built from plywood on a timber frame with foldable legs which can be dismantled into a flat packed package for transport and storage. SCMES always has a presence at the Wylde Green show usually with a traction engine and stationary engine in steam. I thought having an operating live steam railway might encourage new members to join the club. I have included a link below for the modular layout built by members of the 16mm society to give an idea of the concept.

<https://www.16mm.org.uk/resources/modular-layout-standards/>

Malcolm Shaw





Update on the Coal situation...

Further to my article in the last edition on the subject of coal, I note that a new deep mine has been proposed at Whitehaven (Cumbria) which has been approved by the Local Authority and which the Government has decided not to block. If all goes according to plan this should come online sometime in 2022.

This is good news for the coal supply situation within this country. Predictably however, the “environmentalists” are up in arms about it and lobbying is underway, so we watch the outcome of the situation with interest.

Peter McMillan
23rd January 2021

The Ravenglass & Eskdale Railway

This 15" gauge railway is one that I've visited many times over the years, up in the Lake District, my last visit being July 1989. My favourite route is to go through Grasmere village and over Chapel Stile, and then Great Langdale and up over Wrynose Pass, and then up Hardknott Pass and then down to Dalegarth where the railway starts. The route is very testing for driver and vehicle with several hairpin bends and 1 in 4 gradients, but the views and scenery is well worth it, but there are several different ways there if you don't fancy that challenge.

The Ravenglass & Eskdale Railway was originally built way back in 1873 and was commercially opened on the 24th May 1875. The Railway's main purpose was to transport iron ore, that was being mined in the hills above the village of Boot, down to Ravenglass

where it could be transferred onto the Furness Railway's mainline to Barrow. The Railway was also open to passenger traffic (beginning in 1876) and was built to the narrow gauge of 3ft (between the rails), this made the Ravenglass & Eskdale Railway the first public narrow gauge Railway in England!

Forced Closure and The Great War

The Railway was forced to close in 1913 due to diminishing quantities of iron ore and falling passenger numbers. The Railway's trackwork and rolling stock had also begun to fall into disrepair and a couple of mishaps had not escaped the authorities. However this was not the end for the Railway as in the midst of the Great War came an unexpected twist of fate.

Narrow Gauge Railways Ltd and Locomotive Testing



In 1915 miniature railway engineer and prolific model makers WJ Bassett-Lowke and R Proctor-Mitchell, (representing Narrow Gauge Railways Ltd) acquired the Railway line as a base for testing their little

locomotives under fairly harsh operating conditions. These engines ran to a smaller gauge of 15" or 381mm. They steadily began to re-lay the line and on 28th August 1915 the first train ran as far as Muncaster Mill - this service was commemorated with a re-enactment in 2015. By 1916 the re-gauged track ran as far as Irton Road, and the following year these miniature trains were running the full length of the line. However there was a slight deviation from the original course - the original 3ft trackbed carried on beyond Beckfoot, up Beckfoot Bank, and along the fellside to the village of Boot. Bassett-Lowke thought that the continued climb away from Beckfoot might be too far for his tiny locomotives so he curved the track away from the fell, in front of the former miners cottages and over Whelan Beck to its terminus and present day position at Dalegarth for Boot.

Keswick Granite Company

Quarrying recommenced on the line near Beckfoot in the 1920s, this time for granite, which was transported to Murthwaite, where they were crushed for use mainly as road stone and railway ballast. By 1946 ownership of the line had transferred to the Keswick Granite Company, who in 1953 decided to cease quarrying operations. With the exception of the war years, passenger traffic continued throughout.

Formation of The Ravenglass and Eskdale Railway Preservation Society

In 1958 and again in 1959 the line and fittings were offered for sale but unfortunately without any serious potential purchaser, it was announced that the 1960 season would be the last. The Railway was to be sold by auction in September. The Ravenglass and Eskdale Railway Preservation Society was formed by enthusiasts looking to take over the Railway but hopes were not high. Fortunately, two interested parties (Colin Gilbert a midlands stockbroker and Sir Wavell Wakefield a local landowner) stepped in on the day of the auction with the balance of the purchase price, £12,000, and the Railway became theirs.

The Wakefield Family and New Locomotives

By 1968 the Railway moved on, becoming an integral part of the Wakefield family business in the Lake District. Much work had already been done to catch up with the backlog of maintenance, new coaches had been built and the Preservation Society had



funded the building of a new locomotive, the River Mite. Further major works continued;

Ravenglass station was re-modelled and a further locomotive, Northern Rock was built in the company's workshops, entering service in 1976. The Preservation Society has also funded the diesel locomotive, Douglas Ferreira, named after a long-serving General Manager.

New Station & Visitor Centre

In 2005 work started on the building of a new station and visitor centre at the Dalegarth terminus, the building was officially opened by Pete Waterman in April 2007. In 2011 the old café on Platform 1 was renovated and extended, officially opening in 2012. 2018 saw the completion of the Ravenglass Railway Museum Renovation Project. The building was opened in June by Paul Atterbury and is full of great new interactive exhibitions. Our new project is the renovation of our carriages which will be taking place over the next few years.

John Genders.

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A Railcar for the Loch Downe and Cair Reonn.

By Tony Critchley

In the middle of last year I decided that the LD&C needed a railcar to enable it to cope with the pressures placed on the system by the pandemic. It would be based on a railcar from the Harz Schmalspurbahnen that I had visited 2 years ago, and that Mark wrote about in the June/July 2020 Steaming Ahead. As well as their fleet of steam locomotives, the HSB run railbuses on regular



The prototype

timetables between the various towns on the network, and these are well used by locals. The one I chose to model is 017 019-5, built in the 1990s as this is one I had travelled on.

I should say at this point that mine is, for several reasons, by no means a fine scale model of the type. To start with I could not find any plans available, so had to work from photographs and memory. Also the prototype is metre gauge, whereas I am working to SM32 scale and 2 foot gauge. I also decided that I needed to reduce the overall length slightly to make sure that the model

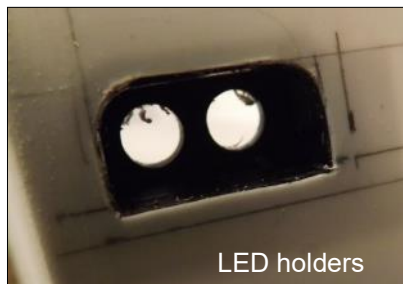


would go round the curves on my track. So it's not a scale model, but one that I hope captures at least the feel of the original, you can decide!

I used a power bogie which I think came from ipengineering, and turned matching wheels to make the second bogie, with 3d printed side frames for both. I also printed the window frames, light holders (for LEDs), the roof panels and the drivers seats.



The main body is made from plasticard on a wooden floor, and it is braced with aluminium angle to give rigidity.

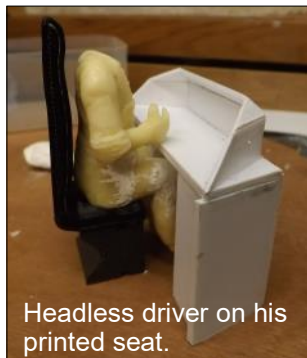


LED holders

I am a beginner with the 3d printer, but being able to make pieces to an exact size rather than fabricating



Paintshop



Headless driver on his printed seat.

them is very useful, plus it gave me something else to play with during lockdown.



I am looking forward now to being able to give the railcar a good run on the club tracks and iron out any problems that I find.

Tony Critchley

Focus on Safety – February 2021

As you can well imagine nothing has been going on at Little Hay to report. However, we can look forward to opening up sometime in the near future and we can refresh our memories for when we start operating again.

Previously I have mentioned that HSE have been busy and they have issued a guide that applies to our club called : HS2020 – Managing health and safety at passenger-carrying miniature railways In the first instance this document will have very little relevance to most of our members but we must ensure that the club meets this requirement.

There is one aspect which will affect members supporting our public events. This combined with such a time of inactivity will need some memory refreshment of our operating procedures. We are obliged to

conduct refresher course/seminars to ensure that we all are familiar with the operating requirements for drivers and guards at public events.

When we are able to hold events again in the clubhouse I will start to undertake some basic refresher seminars. We will be obliged to hold these on an annual basis and before anyone drives or guards at a public event they will have to have attended an annual certification event. To many of you this may seem very much “over the top” but it will help in the event of any accidents that may occur at the public event. The claim culture in today’s society is very prevalent and we cannot be too careful to protect the club. To assist in the memory recovery, here are the details from our Code of Practice (CoP) section 19 on Guard duties.

Guard Duties when running on Ground or Elevated track at Balleny Green site.

Objectives: The Guard is responsible for the train at all times to ensure the safety of passengers and trains, and to avoid accidents.

These requirements are mandatory when the public is involved on site, and shall be standard practice for all events.

19.1 Station duties:

- To supervise and control passenger loading and unloading to and from a train.*
- Whilst a train is stopped the Emergency Brake (where fitted) shall be applied to prevent any movement of the train whilst passengers are boarding or alighting from a train.*
- When all passengers have alighted, the Emergency Brake shall be released to allow the train to move to the loading area.*
- When in the passenger loading area, the Emergency Brake shall be re-applied to wait departure.*
- Before allowing the train to depart, ensure that all the passengers are seated correctly with feet inside the foot well or on the running boards.*
- Small children who may be unable to reach either floor or running boards SHALL be accompanied by an adult*

- *Passengers shall also be warned to keep hands and arms inside the carriage profile and against any wriggling or excessive movement whilst the train is in motion.*
- *The guard and driver shall confirm they understand the audible and hand signals that shall be used during operation of the train.*

19.2 Whilst running:

- *Be on the lookout for any danger ensuring that passengers are obeying the warnings concerning hands, feet and excessive movement. When necessary give a vocal warning to the offender.*
- *In exceptional circumstances the guard shall bring the train to a stop by use of the Emergency Brake (where fitted). On elevated track long blasts on his/her whistle shall be made and the offender shall be asked to leave a train.*
- *When the train comes to stop, other than at a red light, the guard shall apply the Emergency Brake (where fitted) to prevent the train from moving off, and then confer with the driver to ascertain the problem.*
- *In the event of a train breakdown, the guard is responsible for protecting the rear of the train, and shall go back to the last signal the train had cleared to ensure a following train comes safely to a stop, and then make every effort to send a message of the event to the signal box when manned.*

19.3 Train ready for Departure:

- *When the train is ready to depart the guard shall release the Emergency Brake (where fitted) and signal to the driver by giving a blast on his/her whistle and a hand signal (by torch in darkness). The driver will acknowledge with a blast on the loco whistle, and then move off.*

19.4 Running during darkness:

- *The guard is responsible for ensuring a red tail lamp is fitted to the rear of the train including any assisting engine. He must also be in possession of a white torch light.*

19.5 Nominated event guards shall sign the attendance book to say they have read and understood conditions 19.1 to 19.4, and wear a tag to that effect.

For certain, at some stage in the future we will begin to open up the site. We do not know when this will happen at present, however, when this happens we will issue some further guidance to how we wish to operate. This will be based on whatever guidance we are given from the government and what we believe to be in the best interest of our members. This will be issued to all members and also available to view on the website, www.SCMES.co.uk

Please stay safe and I hope to see you all soon.

Thank you

Martyn Scott, Safety Officer

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The Elevated Track (part 2)

By Bill Hall, (continued from last edition).

The slowest part of the whole exercise was the poor chap looking through his level. He soon learned that once the first shutter was set the other members were too busy trying to get a prod in the concrete to notice him. I was told we looked like hens at a corn trough.

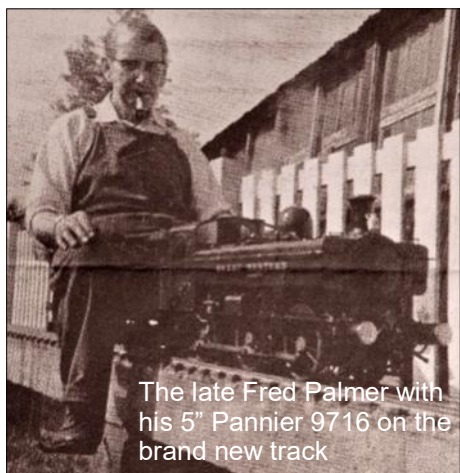
All of the members joined in — the more energetic ones on a 5/33/2 (cubic feet not gauge) concrete mixer which was hand powered by a capstan on the back of its drum. Ah, the queue to have a go on that! Our older and wiser members nicknamed themselves 'The Old Codgers' and they helped with the shutter packings, stripping and moving the shutters and levelling up everything. Their help ahead of the main working parties was invaluable. Have you ever seen concrete shutters set with a vernier height gauge? Such was the good-natured leg pulling we all enjoyed,

Sliding dowel joints were formed in the concrete beam at the end of each straight section and in the centre of our longest straight. Anchor

straps and 2½" of existing track were removed at each location when the time came. Expanded polystyrene ceiling tile off-cuts were used to form the ½" gap in the concrete. Single ½" diameter dowels 12" long were incorporated with one end covered by a single thickness of newspaper rolled round twice and held by two rubber bands. A small plug of expanded polystyrene was placed in the rolled end.

One joint did not have the existing rails cut through in our excitement. By Murphy's law this had to be where expansion problems had occurred in the past. One hot day it was observed the new beam had arched and lifted the top concrete block off the columns to a maximum height of ½" for five adjacent bays.

New running track joints were made by using commercial fishplates with



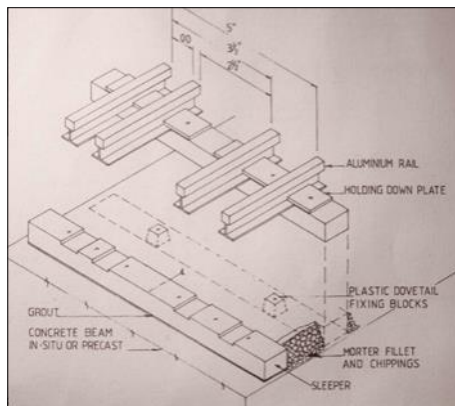
The late Fred Palmer with his 5" Pannier 9716 on the brand new track

4 BA nuts and bolts. The holes in the rail ends were opened out to 2 BA for lateral play. These fixings should have been only finger tight or otherwise no sliding would take place. "Oh, I thought they were only in loose so I tightened them right up," was the comment as we went round putting the nuts on the other side so that the wheel flanges did not hit them. Did they ping as we slackened off the nuts! The fishplates were made from Tufnol for track circuiting electrical isolation.

Concrete is probably the most abused material known to man. We decided on a mix using pea gravel to ensure that the concrete went down the sides and between existing track sections. A thickness of 1" of concrete to cover the steel was specified.

The required amounts plus a shovelful were ordered blended. This means that the sand and gravel were mixed at the suppliers. On the appointed Saturday morning an enormous lorry appeared at the appointed time. "Daren't go on there mate" said the driver after looking at the soft ground and he tipped the load as far inside the gate as he could. He shot forward and off up the road with the back lowering. We

still don't know how he missed two sets of overhead powerlines with the aluminium body. It was a cool day and he must have had that three thou' referred to previously. Lo and behold we had a heap with pea gravel one side and sand the other. Oh well, by the time we had shovelled all of it sideways so we could drive home it was pretty well mixed.



Our plan of campaign was to concrete from a point furthest away from the mixer using a passenger truck on which sat Aunty's tin bath to trundle the materials along the existing track taking care to look out for washers! The only sequence change made was to delay concreting two of the transition bays so that our works train was used to full benefit. A wheelbarrow was used in the later stages.

The consistency of the concrete mix was carefully controlled and a board was provided onto which concrete was emptied from the mixer, both of which were kept clean and washed down even though we had no mains water supply. The water to cement ratio was balanced between workability of the concrete and minimum water required for a quality mix, with comments being passed from those members placing the concrete to those on the mixer and vice-versa.

To add-a finer touch the Society's name was cast into a beam facing the gate by using a thick cartridge paper stencil. The concreting was completed in July 1972.

Commercial aluminium rail was purchased and it was originally intended to use timber sleepers screwed down to our new concrete track bed at 2 foot centres. So impressed were some of our members that we found ourselves with Tufnol sleepers. These were gang milled on a lathe using a master mounting

Clamp on the lathe cross slide and a vacuum cleaner extract system. The screw holes were jig drilled. The holding down plates were made of

$\frac{1}{8}$ " thick fabric grade Tufnol in three sizes to suit the rail spacings. Different screw heads were used on those which pass through into the beam plastic fixing blocks for easy identification. The rail joints were put on a double width sleeper to minimise effects of wheel impact.

Sections of the new track were assembled and then grouted up with a cement and 'Unibond' adhesive mixture. This was a labour of love and well worth the effort. For a finishing touch, fine white stone chippings were laid between the sleepers and contained by a mortar fillet onto which chippings were pressed. Continuous running on the track commenced on Boxing Day 1972 with a severe speed restriction pending completion of the grouting of the last length.

Some interesting lessons have been learned from the new track. One was the noise and vibration from one rail. This can also occur in full size and is apparently inherent from the rolling of the track material. The remedy was to turn the rail round and all is quiet again. Also, greater expansion provision was found to be desirable on a little and often basis, otherwise one ends up with pushing and a large gap appears somewhere in cold weather and rail ends get flattened. Having a level section in the station is also desirable — an uphill start can also present problems to some drivers! I would suggest that adequate clearance under the track for lawnmowers is most desirable. Many enjoyable afternoons and events took place before we demolished and relocated the track, at the end of the 1982 running season, to our new precast concrete elevated track at Balleney Green near to the Sutton Coldfield television transmitter to the north of Birmingham.

This article is reproduced from "Engineering in Miniature", March 1989, by kind permission of Chris Deeth.

Bill Hall



What Brian Dale has been doing during lockdown.

There will be more about this MINIART tram kit in the next magazine.

Floating Piston Valves

By "Maninshed"

Something I'm trying on my 5" gauge Speedy is floating piston valves the idea is not mine, but was given by a friend in the Rugeley Society. Does it work? Well he has them installed on a 3½" gauge Doris' a 3½" gauge American 2-8-0 and a 5" gauge Merchant Navy class engine, both the Doris and the American engines have run at Little Hay. I believe the valves have been on the Doris since the mid 90s, so have been in operation since last century.

Photo showing complete assembly.



The original units are fitted with cast iron piston rings, but I have tried PTFE seals mainly because cast iron piston rings are a time consuming to make. Briefly the 'Piston Rod' can be made as two parts the actual rod, with threaded sections and the spacer collar which is 'Loctited' to the shaft between the threaded areas. The 'Cones' should be a good fit on the piston rod assembly, the 'Piston Head' should have 0.005" clearance in the bore to allow for radial float. The 'Piston Head' should be able to rotate when the assembly is all built up, but there should be no disenable lateral play.

Machined finish on all parts should be the very best achievable. The PTFE seals are a bit of an experiment, but in theory they should work. From what I've learnt generally when PTFE seals are made there is generally too much PTFE material in them, the material swells when submitted to hot steam and water so the valves go tight. The usual practice is to have the PTFE seals machined under size so that when hot they expand to the correct size again a time consuming process of guess work.

Photo showing assembly stripped down.



My thinking is to apply the same theory as the cast iron piston rings but for a slightly different reason. Cast iron rings are made small in section for a reason, something to do with the spring pressure they exert in the bore of the cylinder. So I thought if I make the PTFE rings of small section they are going to expand less due to less material in them, we will have to see. The competed assembly was fitted to the cylinder piston valve bores which had been lapped. Also I made the valve head diameter 18mm instead of the designed 5/8" to give a little more volume for steam. Obviously the valve cut off point is at the top of the tapered 'Cone' to maintain correct valve events so these dimensions are important, as they would be on any type of piston valve assembly.

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A driver training day on the Bure Valley Railway

