

# Sussex Miniature Locomotive Society Ltd

Issue No. 453  
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## BEECH HURST NEWS



### Cover picture: -

*Sad News:* It is with deep regret that I should start this latest edition by reporting the passing of Brian Joyce in mid-November. Brian was a member for nearly 20 years and always a pleasure to see at the club. A short obituary and pictures appear inside...

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## **Editor's Notes**

As I start this edition of the newsletter I have just received the sad news that Brian Joyce, our oldest member, has passed away. Brian had until recently been living independently at St George's on Ditchling Common but moved earlier this year to Ashton House at the end of Bolnore Road for dementia care. He was a regular member of SMLS for many years and until about 5 years ago a regular steam driver too. In addition, Brian was always willing to help with maintenance and to advise, and encourage, both young and old alike, he will be sadly missed. I have written a short piece with pictures, which appears later in this edition...

Since the last newsletter, we have closed our truncated running season and with care, consideration and respect on all our parts we can hopefully look forward to a full season in 2022.

During the past few weeks, Roy P and his team have renovated the sidings, and they do look very smart. Roy has kindly written some words, which appear later in this edition, together with pictures of the recent work. For a number of reasons Roy will be retiring from Track Manager this year and as such I have written a short piece on behalf of the committee to thank Roy for his efforts and in Adam's notes below, we will now seek a future Track Manager.

In addition, Steve T has asked if I can list a number of workshop spares, which are surplus to our requirements. A pictorial list with brief descriptions and guide prices appears later too. I have also updated our Diary to start 2022.

With this edition a little later than planned, so I could include a piece about Brian, the next (December) edition will be issued after the Christmas break. As such, I would like to wish all our members a very Happy Christmas, stay safe and with the same care, consideration and respect we can hopefully turn a corner into New Year 2022 ...

**Andrew B**

## **Chairman's Notes**

Dear all, this is my first go at this so be gentle on me.

Firstly, for those unaware, Mike Wakeling has stepped down as Chairman due to personal reasons and for the interim as Vice-Chairman I will be carrying out any duties required. I would like to personally thank Mike for his time as Chairman through a very difficult period over the last 2 years. We have all found the changes we have had to make due to the Pandemic extremely difficult at times and trying to run a society such as ours from a distance is no mean feat.

Whilst on thanks, I would like to mention Roy Preston. Roy has overseen the track maintenance for the last 10 years having taken over from Mike P. Roy has done a sterling job managing and maintaining the track in this time and I am sure everyone will agree the track is in the best condition we have ever known it to be with Roy carrying out each and every job to his high and exacting standards. Roy is now taking a step back from the track maintenance and we are actively looking for a replacement to take on the role. If anyone is interested, please get in touch with myself or Andrew S to discuss the requirements and role. Thanks, Roy, for your brilliant hard work and I look forward to riding the rails again next year.

As I sit here and write, the future is still unclear and Covid is on the rise again, so I ask all members attending the club to be careful and sensible, and if in doubt of the risk please remain at home and respect the views of others who may not feel comfortable attending the club at this time. With that in mind, great thanks must go to all those members who have been present over the last few months and who have carried out track work, leaf clearing, moving coal, moving sleepers and general maintenance around the club.

Last Saturday, John B invited members to the clubhouse for an informal chat to allow everyone to 'talk across the table' and air their feelings and views on the club and its future. I myself was not able to attend having originally hoped to as my wife and I have a commitment we cannot miss this week and are essentially 'isolating'. I hope it was a constructive and enjoyable conversation for all.

For New Year's Day, we are inviting members to enjoy the normal 'fun run' but encouraging this to be an outdoors event and this year not offering the catering with the current risks of Covid. I hope we can return to the normal proceedings for New Year's Day 2023.

Lastly, I would like to wish all members a very Happy Christmas and a wonderful New Year...

**Adam**

### **Brian Joyce**

During November, our oldest member, Brian Joyce, passed away aged 96 following care for dementia. Brian had travelled a lot during those 96 years and yet his final residence at Ashton House would be closest to the two clubs at which he spent a lot of his later life, the Mid Sussex Model Engineers and SMLS.

Speaking with his daughter, Brian was an engineer from a young age and like many young engineers was fascinated by how things worked. Experience was key and normally meant taking things apart, much to his Father's displeasure!

Born 9<sup>th</sup> September 1925 in Streatham (London), Brian was educated on the south coast in Bournemouth and aged 18 he joined the Royal Navy, seeing live action on Sword Beach during D-Day. Thereafter, he was posted to the Far East, which turned out to be unnecessary, so he demobbed and found employment with traders Harrison & Crosfield in Kuala Lumpur. Brian married Celia in 1951 at a church in Bournemouth, before returning to the Far East. There they remained for a further 25 years before returning to the UK and settling in Oxted, Surrey. This was home for the remaining years of Brian's working life in London, before a final move to Wickham Drive in Hurstpierpoint upon his retirement in 1987.

Wherever life took Brian, a workshop was an essential part of life. With much of his time spent in the Far East, Malaysia, Singapore etc..., there one of his locomotive projects was born, a FMSR Class 'O' 4-6-2 Pacific, latterly known as a KTM Class '56'. Brian's was 3 ½" gauge (**see picture next page top**) but pretty big even at that scale and would easily pull 2 of our longest passenger trucks. I remember the Class 'O' running at Beech Hurst during my teenage years and would be alternated between Brian's other 2 steam locomotives, a 5" narrow gauge 'Hunslet' (**see picture next page bottom**) & a nice 5" gauge LSWR 'T9', the latter being particularly unusual and a real greyhound if opened up!





Many of the aforementioned projects were constructed in Brian's well-appointed Hurstpierpoint home workshop, where in the garden he also built a test track. Until recently I had always assumed Brian was a railway orientated model engineer, but not so. Aside his locomotive projects, he also built boats, planes and many stationary engines. Brian was undoubtedly a very good 'all-rounder'! As he found driving steam more tiresome, so the difficult decision was made to sell his own steam collection and concentrate on project work, whilst still enjoying a drive using our club electric locomotives. Brian always said he regretted selling all the locomotives at the same time and wished he had kept the 'T9' at least. During this time he worked on the rebuild of an 'LBSC' designed GWR '15xx', before the opportunity came along to purchase Peter Chapman's LNER 2-8-0T locomotive. This had run at Beech Hurst for several seasons and was originally built by David White from MSME. Brian ran the LNER tank for a few more years before selling her to SMLS for use as a club locomotive and choosing to drive electric once again. He had by now turned 90!

A down-size move from Hurstpierpoint to St George's on Ditchling Common followed soon after and the sale of most of his workshop. This had been a tough but realistic decision. Undeterred, enough small tools went with the move to allow the production of a Stuart Turner stationary engine, which was to be Brian's last. Well travelled and certainly worldly, I always thought Brian to be statesman like, considerate, kind and very genuine but together with a great sense of humour. I am sure I speak for all those who knew him in saying he will be greatly missed.



**Andrew B**

## Winter Work – Track Work

This autumn saw my track gang complete the refurbishment of the main siding and head shunt. As it is probably not appreciated what my helpers have to do, I thought it worthwhile providing a bit of an insight into the work involved.

*The work undertaken was mainly as follows:-*

Mid-September saw advanced work on two fronts. First, there was the punching and drilling of more than 1,200 Russian larch sleepers undertaken mainly by Geoff West & Steve Turner, with a bit of help from a few others. This work took place on Saturdays through to the end of October. Also in September, earth, leaves and grass were removed from around the plinths supporting the concrete piers, work in readiness for their removal. This was undertaken by the track gang.

Following public running saw the track gang start to remove the track from the point to the turntable, involving angle grinding away the rusted fishplate screws and removing the roofing bolts holding the track down, and also many 2BA sleeper bolts.

After removing the track in sections, the rail was separated from the sleepers, cleaned up with wire brushes and marked so the sections would go back in the same way, so it would all fit together, not 100% successful but like any jigsaw we got it back OK in the end.

For the main siding, the old 16ft rail lengths were cut in half to allow expansion joints to be inserted, the cutting job undertaken very carefully by Steve Steer.

All wooden packing and spacers were cleaned to remove paint.

The steelwork was then jacked up and supported on wood blocks after removing the height adjustable packing between the steelwork and the top of the concrete piers, and then moving the piers to one side.

The next job was to clean all the painted steelwork using scrapers and wire brushes, removing as much rust as possible followed by a coat of red oxide over much of the area.

Three coats of bitumen paint were applied to try to increase the protection, as we would normally only apply two coats.

After allowing the paint to dry for two weeks, the concrete piers were repositioned on the plinths and wooden packing placed on top of thickness chosen to be as close as possible to that recorded on removal.

The track was lowered and the lateral level of the steelwork was checked and thickness of packing changed if the level was out by more than about 10% of the bubble.

Modifications were also made to the packing if longitudinal level varied between piers.

New sleepers were then secured down using roofing bolts at the steel cross-members and intermediate wooden spacers, with the bolts left loose for the time being.

The rest of the sleepers were laid out and then the inside nails partly inserted for the 3½" rail.

The lengths of the 3½" rail were laid and fishplates attached followed by outside nails, again only lightly inserted.

Adjustments were then made to ensure a smooth curvature or straightness, lightly tightening the roofing bolts.

Inside nails were then inserted for both 5" rails and the rails laid, followed by insertion of outside nails and attaching fishplates without tightening up the 3mm screws.

After sorting out a few problems with some of our original rail markings, it all went back without a major problem.

Expansion gaps were now adjusted so hopefully there should be no problem during hot weather. Expansion gaps are not inserted on the mainline because they lead to considerable rail hammer.

Fishplate screws were then tightened.

All nails were then inserted, inside first, and knocked home, first at the roofing bolts and then the rest after making sure the spacing between sleepers was reasonably even.

After final adjustments to ensure smooth curves and straights, the 20mm panel pins were inserted after drilling pilot holes. These pins stop the sleepers moving.

This whole procedure was then applied to the head shunt, except that expansion gaps were not introduced because this track tends to be well shaded in the summer.

Although this is only a rough guide and sounds complicated, it is really quite straightforward and has served well over the years and hopefully will continue to for future years.

This year has seen something like 600 man-hours spent on track work on Mondays, Thursdays and Saturdays from September to mid-November. Those involved were:-

Graham Miller, Graham Mundy, Mike Porter, Mike Wakeling, Dave Mattingley, Steve Steer, Sam Hope, Joshua Edwards, Mick Robinson, David Hartfield, Andrew Ellis, John Green, Harry Shopland, Alex Widdowson, Nick Edwards, Charlie Allen, Ken Hope & Hamish Clarke.

In addition: Geoff West & Steve Turner on the sleepers.

I want to express my thanks and gratitude to everyone listed for their hard work. The resulting siding and head shunt look great (**see pictures next 2 pages**).

The completion of the work this year leaves no major work necessary for a while. For several reasons, I am now relinquishing responsibility for the track once I have completed the preparation of supporting documentation and tidied up a few loose ends.

**Roy P**









## Thanks

Further to Adam's earlier words, I would like to add a thanks to Roy for all his hard work maintaining the track over the last decade. Talk to members of other clubs and one of the things they remember about Beech Hurst is the quality of the track – our reputation certainly precedes us! Of all the clubs I have visited over the years, none have a raised track to match ours. I cannot think of another where you can 'drive it like you stole it' and feel comfortable the wheels will hold the rails! That quality comes with the basic underpinnings of the original design but also the continued high standard of the upkeep to this day. I am sure our forefathers would be pleased to see it in such condition and it is only thanks to Roy who has galvanised a team to keep it as such. Hopefully going forward we can continue in a similar vein...

**Andrew B**

## Pneumatic Point and Compressors

A few changes have been made to the compressed air system in the clubhouse which need to be explained.

Earlier this year, Steve Turner & I made some changes to the pneumatics for the point with two new lockable pressure regulators installed, which are associated with the small compressor. These are now arranged such that the small compressor feeds the point through the bottom regulator and the second (higher) regulator feeds the point from the large compressor line in the event of failure of the small compressor. To implement the swap-over of air supply to the point, there are two shut-off valves, suitably labelled, both of which must be changed.

*This arrangement means that for compressed air to be available at the steaming bay, it must be supplied by the large compressor. To achieve this, the shut-off valve in the compressed air line, situated in the workshop above the door, must be kept open whenever compressed air is needed at the steaming bay or in the event of the failure of the small compressor.*

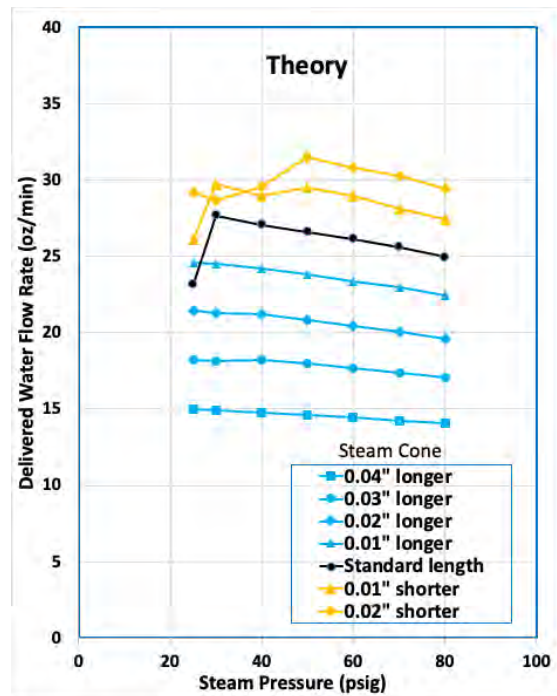
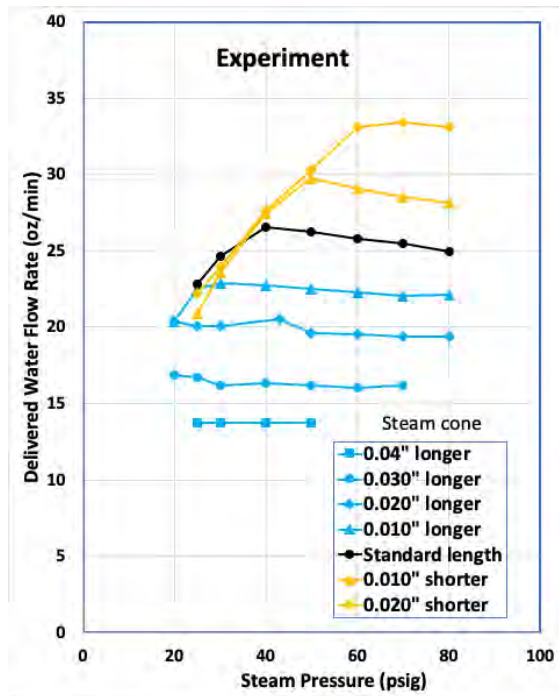
**Roy P**

## Miniature Injector Studies – Testing, Measurement and Theory

As is fairly widely known, over the Pandemic period I spent much of my time making and testing injectors with my new test rig. A major reason for undertaking this work was the realisation that there is little information in the literature about how physical changes to an injector, such as dimensional changes, influence the performance of the injector. I also decided to try to develop a very simple theory for the injector, based partly on conservation laws. This turned out to be far more successful than I expected.

As an example of the comparison between experiment and theory, the figures (**depicted next page**) show the experimentally measured flow rates compared with the theoretical values for different steam cone lengths in increments of 0.01" for a 26 oz/minute injector. Overall, agreement is surprisingly good at the higher steam pressures but not so good for the two shortest cone lengths.





This is probably because the tip of the steam cone is within 0.010" of the relief at the entrance to the draught tube of the combination cone, leading to less restriction to flow and increased flow rates, especially for the shortest cone. If you want to know why the theoretical results show a lack of smoothness towards low steam pressure, you need to read my book which is now available to download from Camden Miniature Steam Services, via the following link:

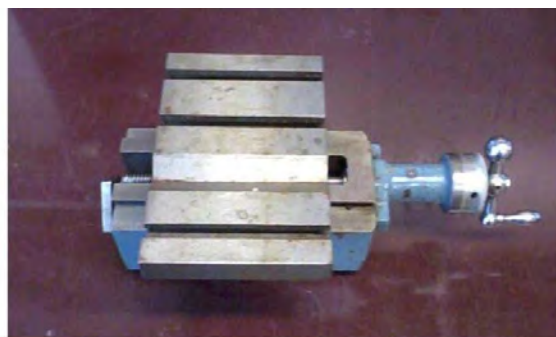
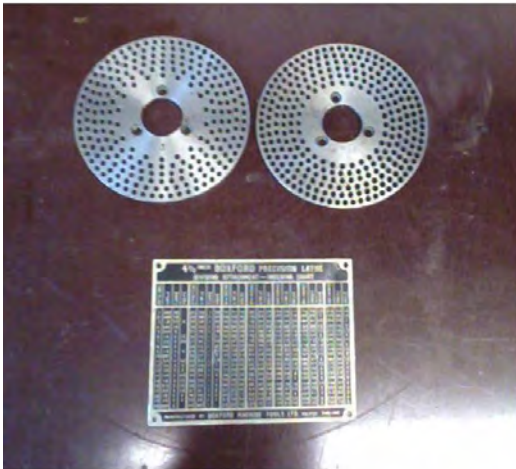
<https://www.camdenmin.co.uk/products/miniature-injector-studies-testing-measurement-and-theory>

Roy P

## For Sale

Steve Turner has asked if I can advertise for sale the following items, which are surplus to requirements (**see pictures on the following 6 pages for details**). Some are specific attachments for a Boxford, whilst other attachments can be used on different machines. Included with each listing is a brief description and guide price, and if you are interested then please let Steve know by contacting him at the following e-mail address: [stevet50@btopenworld.com](mailto:stevet50@btopenworld.com). Items that remain un-sold will be offered for general sale outside of SMLS.

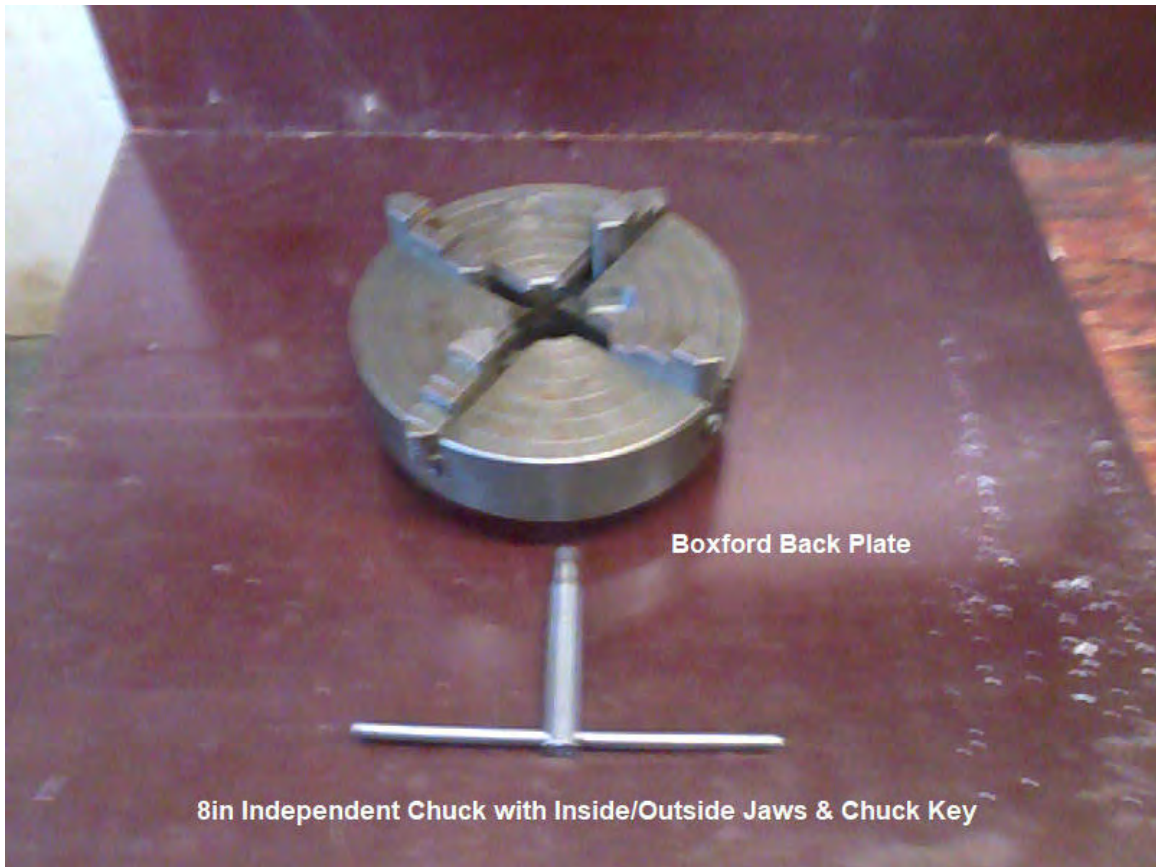




**Pictures above:** Boxford dividing and milling attachments (1 lot) - £POA



**Pictures above:** Boxford 'T' slotted cross-slide & boring table - **£300**



**Picture above:** 8" Burnerd 4-jaw independent chuck with Boxford mount - **£200**



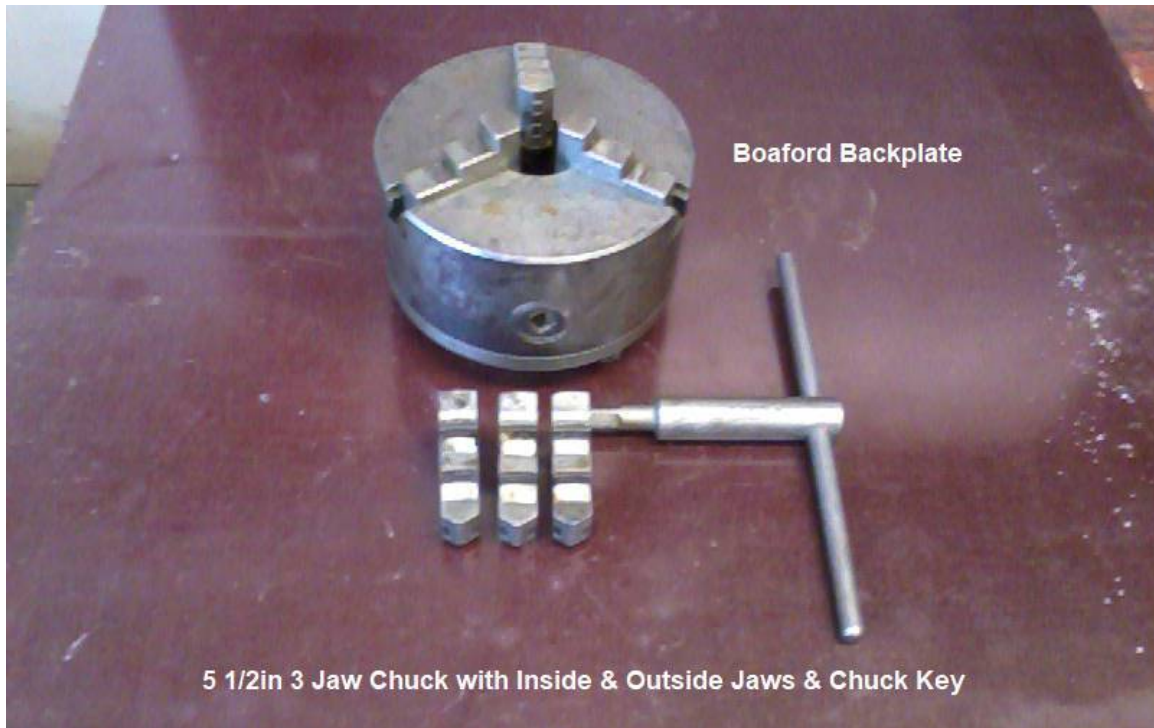


**Picture above:** Burnerd 11 piece collet set – 5/8" to 1½" - £195



**Picture above:** 6½" Pratt 3-jaw chuck with Boxford mount - £150





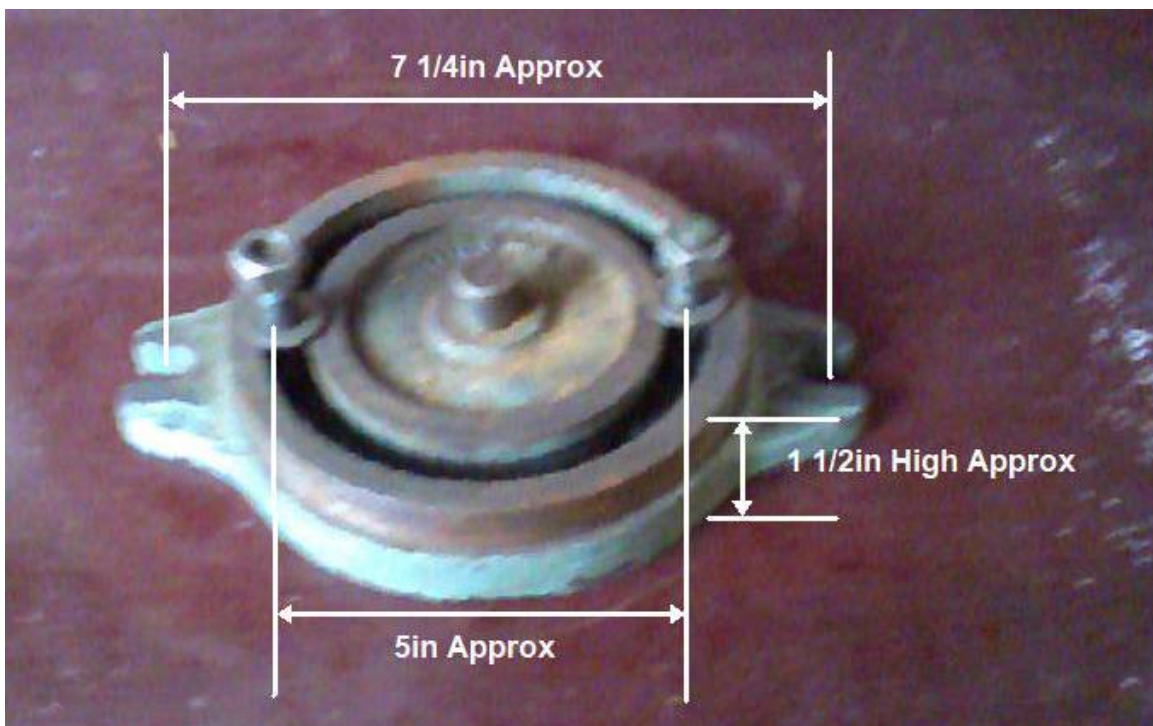
**Picture above: 5½" 3-jaw chuck with Boxford mount - £100**



**Picture above: Mk2 Myford milling vice - £60**



**Picture above:** Tapping head, up to 1/2" square drive - £50



**Picture above:** Vice swivel base - £25





**Pictures above:** 4-way indexing tool post - £25



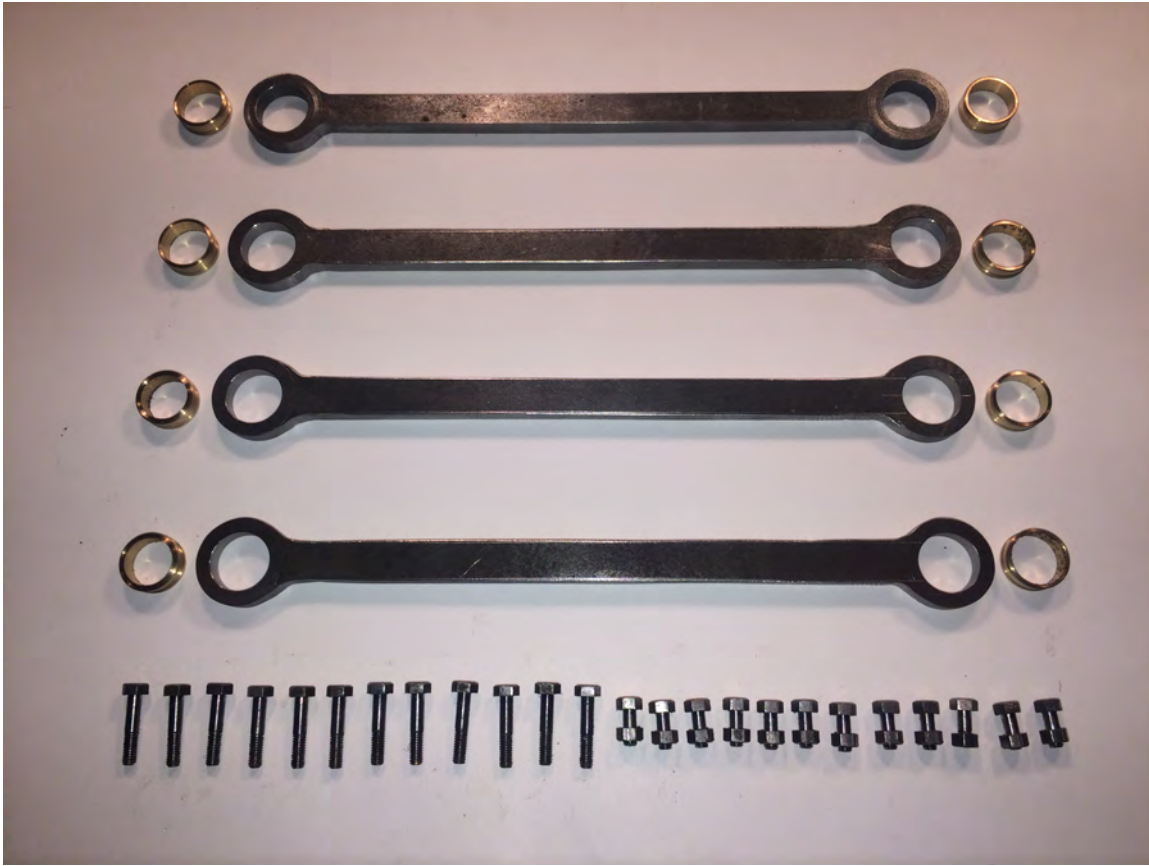
**Pictures above:** Boxford copy tool post - £10

**Steve T**

### **Work in Progress – 'Project 75' – A 'North London Railway' 0-6-0T**

Since the last edition, I am now back working on 'Project 75', with an ambition to have the basic locomotive in steam by the middle of 2022! The chassis was dismantled and painted earlier this year, so I am now finishing off the reassembly of this by making a batch of 60 fitted bolts for the cylinders, frame stretchers and reverser stand. That just leaves the coupling rods to fabricate and the basic air running chassis is pretty much complete. I have also just started the construction of the boiler with the front tube plate, firebox plates and firebox wrapper all formed and ready for drilling. My Christmas present from Dad & Mum has arrived in the shape of a 16" length of copper tube for the boiler barrel! Not much of a surprise but a very useful addition to the project! Everything else is in stock, aside the flue tubes, so I may well tap up Bro' to contribute towards those bad boys! Weather permitting, I hope to get most of the boiler up together in the coming weeks but if it is too cold that will have to wait for some warmer days. In between times I will fabricate the coupling rods and look at some of the boiler fittings etc..., the patterns for which I shall largely copy from 'Railmotor'...





**Picture above:** The cut coupling rods ready for finishing, bushes & fitted bolts...

**Andrew B**

### **Forthcoming & Diary of Events**

A New Year's Day Fun Run has been pencilled in to open our Diary account for 2022. As mentioned earlier in this edition, we encourage this to be an outdoors social given the recent rise in Covid cases and of course weather permitting. Lunch is not provided as per previously, so please bring your own refreshments. Unfortunately, the London Model Engineering Exhibition at Alexandra Palace will not take place in 2022, which normally fills an otherwise quiet January. Fingers crossed this will be back into our diaries again for 2023.

Future Diary dates will be advertised as soon as these have been agreed and will be communicated via future newsletters.

1<sup>st</sup> January 2022 – New Year's Day Fun Run – Will start from 10:00

**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.

**Andrew B**