



NEWSLETTER OF THE COLCHESTER SOCIETY OF MODEL & EXPERIMENTAL ENGINEERS LTD

No 57

Autumn 2020

### Activities since Autumn LINK No 56

Normally I would be reporting on all the exciting activities that had been going on during the summer months, but as we know times are far from normal and due to the Covid 19 situation all of the activities had been cancelled.

Just to remind you of the story so far, on the 17 March in light of the Government's decision to ask all to cease unnecessary travel, cease social events and effectively isolate those at most risk, the Committee decided to close the Club facilities. In order to control access to the club site the main gate had a padlock changed to prevent unauthorised access. In June the Government allowed up to 6 people to meet outside whilst maintaining social distancing and so the Club opened up on Wednesdays and Sundays to admit 6 persons at any one time and maximising the period between visits to allow natural degradation of contaminated surfaces. Following a risk assessment procedure, various measure were put in place to make the site Covid safe including installing paper towel dispensers and disposal bins in the toilets, setting up hand sanitizer station's and a control regime for use of the toilets and general cleaning of equipment. The clubhouse meeting room, library and kitchen were deemed 'out of bounds' leaving only the workshop open for hand washing and to gain access to the toilets.

As we moved into August the Government relaxed the rules around the number of persons permitted to meet and the club allowed up to 15 members to attend site from the 29 August on, still operating on Wednesdays and Sundays. Now in September, as the Government has tightened the restrictions again, we are back to 6 members only but now operating on Wednesdays, Fridays and Sundays utilising morning sessions from 09:00 to 12:00 and afternoon sessions from 13:00 till 16:00. It is still necessary to book your slot (including boiler testing) for any session with Ian Pryke by telephoning 01206 211540 between **10 am and 3 pm ONLY**. In order to maximise the use of the sessions to members, only fully paid up members are allowed to attend, no partners, family or friends. All members must bring their own refreshments including any cup/glass to drink from as the kitchen is locked.

The Garage is nominally out of bounds but if a member wishes to make use of the equipment in the garage they must identify that requirement when making their booking and be responsible for cleaning the equipment after use. It is expected that members will bring their own riding trolley but in the event of not possessing one, a club driving trolley is available to use. Currently only the raised level track is in use at this time. Each member entering the site is recorded on a site register with entry and leaving time for track and trace purposes if required.

**Any member displaying Covid 19 symptoms will be sent home and told to get a test. The site will be closed and all other members sent home and advised to get a test.**

The AGM scheduled for 24 April was postponed and held on the 28 August with only the Council members on site and other members contributing via Zoom. The current list of Council members can be found on the last page.

Council have recognised that some of our more senior members do not avail themselves of all of our wonderful facilities but would wish to remain members of this unique society and therefore a Senior (full) membership category has been introduced. This is defined as: “Members who have reached the age of 85 years with 15 years continuous service”. If you wish to be considered as a Senior member please apply to the Secretary for Senior (full) membership which has a subscription rate of £50 for 2020. All the benefits of a full member will continue to be enjoyed by a Senior member.

And finally, as the models night was unable to held at the club a “virtual” model night was run using photo’s submitted by members of their work in progress being issued by newsletter to all the members (selection included on pages 8 & 9). This seemed to be well received by the members so as and when we are able to run a model night at the club, photos of the exhibits will be sent out via newsletter to let those members unable to attend see what is going on and hopefully feel more involved with the club.

**Don Black**

### **Children’s Parties 2021**

Even in these uncertain times we have 6 parties booked for the 2021 season. We are anticipating offering morning sessions to those parties cancelled this year so as to limit our members involvement to just the 6 dates in the year. However by running a party in the morning, starting at 10:00 and finishing at 12:00 giving us time to prepare for the afternoon party which starts at 14:00 and finishes at 16:00 we will need a greater supply of volunteers to step forward and assist in running the days.

It all depends on how the Covid situation has hopefully diminished by next April before we can consider these parties going ahead.

**Graham Willmott**

### **Modifications I have made to my Locos - Part Four**

#### **Stirling Single 2-2-2**

With my London Transport Hunslet completed and running well, one of the Club members offered me a Stirling Single Wheel 2-2-2 locomotive. I did not want another locomotive at the time and this one was not of a very high standard. However, after much haggling and the price coming down, I eventually purchased the part built locomotive.

My son Robert had done some work on the locomotive. The cylinder block bores had been machined from both the front and back of the cylinder casting, and yes, you may have guessed it, did not line up. There was a step half way down the cylinder bore. Robert had taken the cylinders into work, borrowed a set of adjustable reamers, and reamed the cylinder bores until true. To this day one of the cylinders is larger than the other by a 1/16th” or so.

I started work on the Stirling several years after purchasing the parts, working on the tender running gear. The recesses for the wheels to clear the tender sole plate were the first to be done. A sump tank was then fitted into the sole plate with fine gauze mesh filter over the sump as on my other locomotives. The tender water tank was then taken apart back to bare flat plates ready to start again. A large number of unnecessary holes were then plugged up by copper rivets hammered into countersunk holes. After six months the tender tank had been rebuilt and soft soldered together except for the sole plate.

With the sole plate screwed down onto the tender chassis, the hand pump was fitted after it had been rebuilt to my design. The pipe work was then all done and when complete the sole plate was soldered onto the body. Next was the assembly of the wheels, brakes and running gear under the tender until the tender was nearly ready to paint. A coat of primer was put on before the tender was put to one side.

Work now started on the engine. The cylinder block was dismantled out of the frames for a rebuild. All the tapped holes were drilled deeper and re-tapped, some being made larger in diameter. Larger sighting holes were drilled and tapped into the steam chest so that I could see the valve timings easily. After this, the eccentrics were all reworked and the lifting links on the valve gear were modified to clear a foul up in the expansion links. The cylinders were drilled and tapped for the drain cocks. When all looked OK, this was followed by an air test. Result - Super! Steam operated cylinder drain cocks were done.

Work continued on the locomotive, boiler valves, pipework, and the clack valves were scrapped and remade. Eventually the hydraulic test was done and passed at 200psi and the hydraulic test cert issued by Gordon Ross. Then an air test through the boiler was carried out to check the regulator and the engine would not run. On a Stirling 2-2-2 there is no dome, the steam is taken from the boiler by a large tube passing high along the boiler, with a row of small holes drilled in the top of the tube.

The regulator was stripped from the boiler and these holes were opened up. The regulator was then replaced with PTFE sealing discs and stainless steel pins in the linkages.

The first steam test presented yet more problems. The piston rods were replaced with stainless steel, the original ones being mild steel. The pistons were taken out and new piston rings fitted in PTFE to my published design. Next was a track test. Oh dear, there were steam leaks from under the smoke box, and so the boiler was lifted yet again. Joints on the steam chests and cylinder covers had all blown out. The screws on the steam chests were then tapped out to a larger size and increased in number. The main steam pipe was fitted with a screwed union to replace the flange joint held together with just two screws. Eventually a successful steam run was had at the track.

The loco was now run regularly but there was trouble ahead. The super heater was replaced to a better design, having failed on the original silver soldering in the smoke box. After 200 miles had been run, the crank shaft failed when the Society had a day at Chelmsford track. I then had to machine up a new crankshaft from the solid and made this in EN8 steel, so there should not be any more trouble here. I then had to machine up new eccentrics to fit into the new crankshaft centre. I have now heard of four other modellers who have had built up crank shafts fail. My Claud Hamilton has a solid crank but this was already in when I bought the frames. I have also made a new fire grate from high temperature stainless steel, with the fire bars running up and

down the firebox, instead of across as they were when I bought the loco.

The loco has now run 370 miles, with several of the club members having had a drive. All have had a smile on their faces when driving the loco. When Alec Walford had a drive he summed it up by saying, as he handed the loco back to me, "This engine needs one of my governors fitted", and I have had a few moments myself about going too fast.

**Geoff King**

### **J69 Loco injector feed modification**

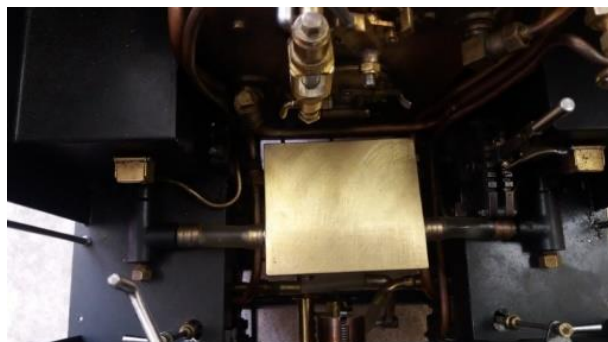
Some members might be interested in the injector feed mod I recently made to my 5in J69. In my original design, I had the two side water tanks linked across with each other, with a tee feed pipe going down between the frames terminating at an on/off tap connector. This would then connect two flexible pipes to my driving trolley auxiliary tank. From the pipework, where it passed between the frames, I took off the water feeds to the injectors. When all connected up, the theory was that as the side tanks emptied, the trolley tank water level would fall to match the side tank level.....but, as you will have guessed, water will always take the least line of resistance!! On goes the injector, drawing as I subsequently found out, predominantly from the side tanks.

When the side tank level got too low, the feed would suck in air and break the injector flow, because the water from the trolley tank couldn't quite match the predominant flow from the side tanks. Probably if I had fitted 3<sup>1</sup>/<sub>2</sub>" injectors instead of 5", then the water flows would have been gentler, and could have balanced out a bit better .

So, what I did was to build an additional bunker tank, such that the water feeds to the injectors were teed off between the bunker tank and the trolley tank. Now what happens is that the additional buffer capacity [about a cup full] enables the side tanks to drop at a slower rate without any air being sucked into the system, since the bunker tank now balances out the flow from the side tanks and the trolley tank. If the side tanks empty momentarily, the system still functions perfectly because of the buffer capacity.

I can now run such that the side tanks and the trolley tank are pretty near in unison.....before the mod, I would need to keep topping up the side tanks, even though the trolley tank was near full. Obviously, given time, say at rest in the station, the levels would balance out, but when running and using the injector, the pre-mod system was an aggravation!!

If you look at the attached pics, all the above I hope will become a little clearer.





**Roger Williams**

### **How well do you know your members?**



A little light hearted competition for you to identify whose lovely leg's these belong to. This valiant group of members came to the club to do various jobs during one hot summer's day in July including the repainting of the steaming bay canopy. Social distancing was observed during all maintenance works. There is no prize, just the prestige of knowing that you can identify your fellow club members by their lovely legs.

The answer will be revealed in the next issue of The Link

**Suzanna Giera**

### **The Wednesday Wrinklies Report**

Under our restricted operating conditions, the cutting of the grass areas (without collecting the cuttings) and general weeding have been carried out to keep the site reasonably tidy. Currently it is impossible to gain access to the council tip so members are now assisting by taking a recycling bag home to dispose of with their own garden waste.

Unfortunately, the Rowan tree sited on the left hand side of the car parking area developed a disease and split during strong winds earlier in the year so had to be cut down and removed. Although it was dying, the root ball did not come out easily! Whilst it would not be placed in

the same location, if anyone has a Rowan tree sapling they wish to donate as a replacement it would be most welcome.

The only major work planned for the remainder of this year is the task of changing out the decaying track edge timbers around the raised track for pressed concrete path edging sections. So far 45 have been installed leaving 255 remaining to go. Members are able to run locos during the work whilst observing safety measures and sounding their whistle when approaching the work area.



**Don Black**

### **Chairman's ramblings**

Your club is still operating, all be it in a very different way than we are used too. Your committee are constantly reviewing the Covid situation and are trying to interpret complex legislation and come up with a plan that allows us to enjoy our hobby, and at the same time staying within the law. We are aware that the current method of operating is not to every one's liking.

The regular monthly committee meetings have been reinstated and if you feel there is a way to improve how we currently run the site, whilst remaining within the law, please do contact any member of the committee who can bring your ideas to the next committee meeting for consideration.

The Southern Federation are recommending that formal records of maintenance are kept of any club vehicle that is used for passenger hauling/caring purposes. If you are interested in looking after any of the club loco's/driving trolleys/ passenger trolleys, please speak to me.

The current thinking is there will be no winter programme of talks or events such as night run, fireworks or even the Xmas quiz night; hopefully we can hold the AGM in April.

In the meantime stay safe and enjoy our wonderful hobby as best you can.

**Ian Pryke**

## Secretary's Report

I am pleased to take over the role for secretary of our club from Ian Ransome. Thank you, Ian for the huge amount of time and effort you put into the role.

I have been interested in railways from an early age when my grandfather and I set up a Gauge 0 track in his loft and watched with horror as a live steam pot boiler loco ran off the track!! More recently I have built two larger scale locos with another on the way.

I will continue to organise the evening talks which will start again next year.

Feel free to contact me if you think I can help in any way to promote the club and encourage new members

**Jim Hollom**

### CAD model of the Martin Evans 3 1/2" gauge GWT 2-6-2T locomotive

Although not a member, Martyn has recently completed a computer CAD model of the Martin Evans 3 1/2" gauge GWT 2-6-2T locomotive and he would like to know whether this would be of any interest to our members.

The CAD model contains about 343 unique parts, 43 Sub-Assemblies, 7 Valve Assemblies, 19 Pipe Assemblies, including nuts, bolts, washers and rivets. There are 1683 parts in the model according to the CAD data and it took me 240 hours to complete. He has always appreciated the skills required to build such models and completing this CAD model has reinforced that appreciation.



Original Firefly



Cad version

This is his first locomotive to model in this manner and if by chance, anyone has modelled or owns this particular model, he would welcome a discussion to compare the virtual with the reality. If anyone wishes to talk to Martyn, contact can be arranged via Don Black.

**Martyn Benson**  
a local Colchester Engineer

**Virtual model night photo's selection**



**Graham Willmott:** 5" Abberton Manor – result of 2 ½ years' work



**Julian Staunton:** 1:96 scale model of 8000 ton cargo vessel



**Andy Hope:** A four cylinder model 3 ½" gauge 4 – 6 – 2 GREAT BEAR





**Jim Hollom:** A4 Loco work in progress



**Norman Barber:** open crank gas or oil engine “Wyvern”



**Ian Pryke:** One inch scale model beam engine

As you can see from slim version of LINK we were short on content for this edition. The magazine is for the benefit of members but it needs you as members to contribute articles, short stories, interesting anecdotes, personal experiences related to club activities for it to continue. The Spring 2021 edition of LINK is presently very sparse on content.

**Don Black**  
**Editor**



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