

**Reading Society  
of Model  
Engineers  
Charity Number  
1163244**

# The Prospectus

**July 2024**



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Part of the RSME display at the Stoke Row Rally in June. See pages 3 and 10. Photo John Billard

**STEAM AND DIESEL?  
BETTON GRANGE REVEALED  
A BACK STORY  
RODS AND CYLINDERS**

# THE VIEW FROM THE CHAIR

John Billard

Our latest trustees meeting took place on the 17th June. We were pleased to have a full attendance at the club house on a pleasant summer evening.

Good progress is being made on issues including that a defibrillator has been ordered and progress is being made with the key register and drivers record. The club's income from public running is on budget with a surplus to date over about £2K. The main expenditure so far this year has been on the workshop refurbishment.

Whilst we have had a good take up of subscriptions for the current year there are a number who have yet to renew. The membership secretary is providing details so that we can send a reminder. We had a discussion about dealing with this in future years with the proposal that whilst subscriptions are due at the beginning of April members would be given a period of grace subsequently. Details are to be worked out including the implications for members club insurance. In the meantime a request for payment would be made by the end of July by which time membership would be terminated.

The workshop refurbishment is progressing well with the construction of new benches and a new internal door has been selected. The club Baldwin has been working well at public running but it's uneven exhaust has been noted. This is being investigated. Good progress is also being made on dealing with the raised track carriages for which thanks are due to the carriage and wagon gang.

Regarding the raised track a detailed survey is to be undertaken to provide advice on the best form of current maintenance and refurbishment.

The July public running on the 7th current coincides with a car show in Prospect Park. Previous experience has shown that running might start before our usual opening time and it was therefore agreed that we should aim for 11:00 to 11:30.

Club running continues to be well supported and our boiler tester is being kept busy. During the October club running the Narrow Gauge Society will be visiting RSME.

The club has had a request seeking information on young members. While it is regrettable that the young members evening has had to be discontinued such members are welcome to attend club running and club events when accompanied by a parent or responsible adult. There was a discussion about the club's presence at the recent Stoke Row rally and our future attendance is under review. The key issue is the availability of RSME members to support a club stand and the hope that they reply in advance to requests for assistance.

There has been a request from a member to consider an open day for 2025. It was agreed to take this idea further provided we were confident that we would have membership support in good time.

We meet again on 15 July.

# STOKE ROW RALLY 2024

8—9 June

Considerable preparation had been made for this year's Stoke Row Rally to show our activities to a wider public. Nigel Penford had well prepared his large 9F 2-10-0 and this was accompanied by the editor's Super Claud under construction on its revolving builders stand and the club's Polly engine that had been assembled by our younger members. A particular feature was Stephen Millward demonstrating his Emco lathe and a Drummond shaper which gave visitors an opportunity to cut metal. Our stand was accompanied by an impressive photographic display of pictures taken at our club site.

Thank you those members who gave up their time to greet visitors at our stand. It would not have been possible otherwise to have put on such a good show. Not forgetting our member Michael Furness who is on the rally committee and was able to provide facilities for us.



*Saturday, left to right, Nigel Penford, Terry Wood, Donald Pickett, Rob Ashfield, Alan Broodbank*



*Sunday, Keith Pauline, Mick Chalmers, Terry Wood, Chris Makin, David Scott, Stephen Millward*

*Also Oliver King, Anthony King, Laurence Lewis, Stuart Kidd, and Mayak and Saroj*



Photos  
John Billard

## PETER DAWES 1934-1924

A few of our earlier members of RSME may remember Peter Dawes who died in May.

Through his connection with the building industry he was involved in building the present club house providing concrete for the foundations using surplus material from the Greenham Common air base runways. He introduced a young Jim Brown to the 00 group. He had a long history of model making with his interest moving to model boats, later involving himself with the historic lifeboats of the RNLI at Chatham Historic Dockyard.

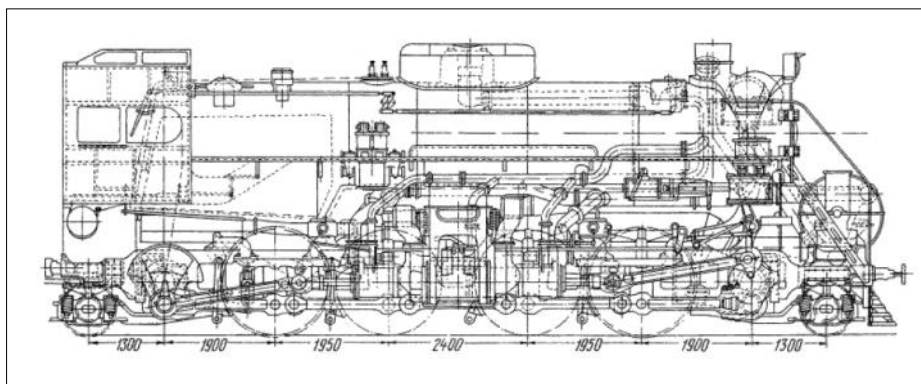
For 20 years he led the Reading Area Group of the 16 millimetre Modellers Association and he and his son Bruce had a comprehensive garden railway regularly hosting members of the group. Our thoughts are with Bruce for his sad loss.



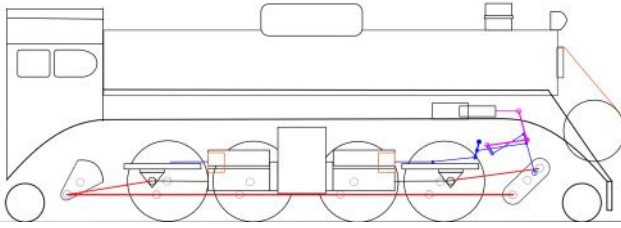
### CHUFFING UNUSUAL Part 1

by Alex Bray

Bang bang chuff chuff, bang bang chuff chuff ....



At the northern end of the main platform at Donesk station in November 1939, a group of trainspotters were clustered around, notebooks in hand, staring into the distance where a cloud of ... a cloud of... then they heard the noise. Bang bang chuff chuff, bang bang chuff chuff, bang bang chuff chuff... Amongst the group of spotters were those who reckoned that they could tell the class of locomotive from half-a-mile distant, just by the sound of the exhaust: these guys were nonplussed. Bang bang chuff chuff .... The diesel aficionados were likewise wrong-footed – they could not identify the distant beast, although there were not that many diesel locomotives to identify. Bang bang chuff chuff ....

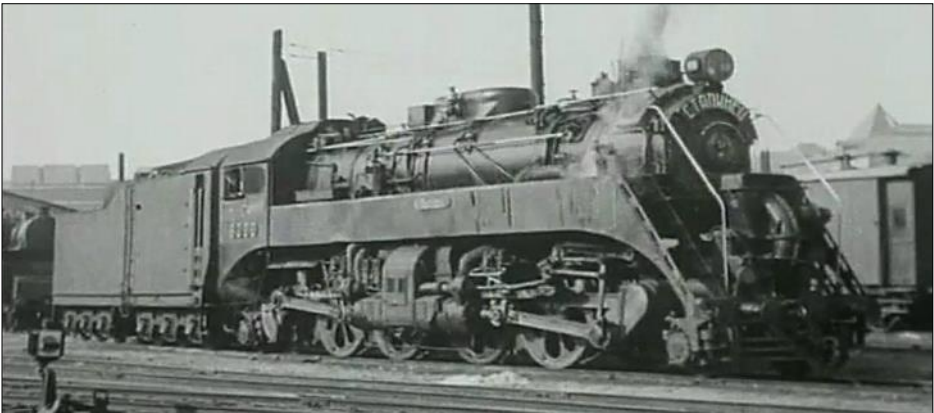


Out of the swirling fog and snow of that Ukrainian winter slowly emerged the source of that strange exhaust: a steam-diesel hybrid 2-8-2 opposed-piston

freight locomotive, No 8000, built in 1939 at Voroshilovgrad Works and now running trials on the North Donesk railway.

It had all started in 1935, the brainchild of L. M. Mayzel, who at the time was a student at the Moscow Electromechanical Institute of Transport Engineers. The idea was simple enough: Mayzel had recognised that there was some similarity between a large steam engine cylinder and piston assembly and an internal combustion engine that used diesel fuel (look at large marine diesel engines). The cylinder is fully sealed at one end: at the other cylinder end there is an aperture and gland through which the piston rod emerges and is guided by means of a crosshead and slide bars. Valves open and close to allow the ingress and escape of the required propellant: the only difference is that the diesel fuel mixture is compressed and, under pressure and with appropriate heat, explodes to provide the driving force., whereas the steam, already under pressure, expands to provide the required forces. So the idea was - why not use the **SAME** cylinder for steam **AND** for diesel?

One advantage of the steam-engine is that it can develop maximum torque at zero velocity -making it ideal to start a locomotive (and train), get it under way and accelerate. But a steam engine has a serious fault – very low thermal efficiency, less than 10% in some cases. The diesel cycle internal-combustion engine is much more economical in operation, but it cannot start under load –



it needs to be started off-load, and, further, needs to have an external means of starting it.

Over the next few years, a number of scientists and engineers, including Maysel, worked on the theory of this “heat” engine, and practical building work on this promising experimental locomotive began at the Voroshilovgrad Locomotive Plant, Ukraine (the October Revolution Locomotive Factory, which later became the Lugansk Diesel Locomotive Building Plant) in the first months of 1939. The engineering design work took only a few months and so the construction of the locomotive started in June 1939.

*To be continued*

## **A DAY OUT WITH BETTON GRANGE** **by David and Lilly Scott**



Planning for this day began for me during a wonderful event at the Llangollen Railway. Steel Steam & Stars 11 during April of 2009. Lily had taken Katie on an Earthquake Experience holiday of China so leaving me to enjoy some earth shatteringly big locomotives thundering up and down the line. I still can't remember what time the night running ended

but was up for the first train and got the Dukedog being admired by a dad and son. I sat back on the station seat and joined in the conversation with two men on the pros and cons of just getting the right composition with or without people in the shot. Chris then bought us both a breakfast. Peters Railway books were beginning to be successful for him.

Between later trains I bumped into Peter Thomas who was usually found on the Polly Models stand. The then, end station had a display of models including a Grange. This was also my first meeting with the guy who came with about 30 wagons to our Federation event.

Now as we were both attempting a





large Prairie Tank in 5" gauge, Peter Thomas had our then phone number and couldn't resist a very early call. Roughly translated to "Just done an ALL NIGHTER with the boys at York, Got to the early hours, and the next drawing to emerge from the pile WAS THE GRANGE CYLINDER!"

"That's the one with the enlarged piston valve!" I added to his enthusiasm. Peter got quite heavily involved in the project and knew many interesting people who could help. Every year at the Bristol exhibition he would keep me posted on progress.

I never got up to Tysley to see progress after she moved there, but it is on our list as there is a rear sandbox on a very chocolaty Avonside that needs measuring some time as the Midge drawings do not show them.

Then all the STARS aligned. This is a reference to Lady of Legend who was to join in the long weekend event on the Gloucester and Warwickshire Railway. GWSR in short. and best laid plans of playing trains. Saturday was perfect and even our small portable did two superb laps on one battery. Sunday was Steam, Soaking and Shelter. Honestly calling the site Rainsbrook after the house that once resided there did not help. Everyone was soaked. 44 miles to Toddington Station (Plan A) I collected our O-1 chassis on display from the clubhouse between more showers and headed home. (Plan B)



Body got me up at six all dry and revived. It is only 65 miles to Cheltenham Racecourse Station the same as The Bluebell, I joked. Tea towel\* and camera in hand the car was instructed and we were off. Soon swapping a weeks worth of food and fuel for two tickets, we were Hall ed off to find her. Toddington of course and a quick gallop over the footbridge to the leading coach. It was to be our



first time into the brand new Broadway Station as well. Thankfully they mended the viaduct again? I joined the Click of photographers at the end and we waited. Betton Grange stopped just ahead of the tail locomotive and we all had The Shot. Some were ready for the double header out.

I did notice that they were doing a fine job of the rebuild with superb brickwork and the other platform was also to have a building. Nice bit of Celotex insulation on the floor.

We stayed with her until finally departing at Cheltenham with much fussing and shunting round. All of us enjoying some up close and personal as she blasted off. Yes Granges do have a distinct sound and a now distant all nighter search for the cylinder drawing has paid off.

And the Betton Grange Tea Towel\*? Lily said that the footplate Grime should wash off!

I waited 15 years to get it dirty on her first Weekend. So 27 years in planning and building and saving up for. £1,300,000 well spent.

The Viaduct ?? This did a partial collapse during its original building, It now has steel wires holding the walls in place poor thing.



## NOTICES TO MEMBERS

For those who missed it we had a brilliant talk on 20th June about horse dealing in Reading. Something that came to end in the early 1940s. For some in our audience this brought home directly stories of our streets and sights in town. Talks will now resume in September and we have planned an interesting programme. Please read the notices and come if you can. That makes it more rewarding for the speaker and those who organise it.

## SUBS RENEWAL

If you are reading this and not paid your £20 for this year please remember to pay to any trustee or to our membership secretary Mike Manners. [michael.manners2@ntlworld.com](mailto:michael.manners2@ntlworld.com) or by post to *RSME Membership Secretary, 257 Loddon Bridge Road, Woodley, Reading, Berks, RG5 4BL* Bank sort code 20-78-58 Account number 70796077



# BUILDING A CLAUD

by John Billard

## Connecting rods and cylinders

To bring readers up to date recent work has included making the connecting rods and a trial fit on the engine.

For the connecting rods I have not spent so much time manufacturing stuff for the scrap box. This started with the rods and straps delivered by Model Engineer Laser. Step 1 was that there appeared to be an error in the Martin Evans drawing of the straps drawing; swiftly corrected by MEL. Not before some work had been done I might add. Step 2 was then to proceed with a machining sequence error so it was back again



to square one after the obligatory further work had been undertaken. Step 3 involved confirming the drawing error but then discovering that it wasn't the error I had in mind in the first place. So more work heading to the scrap box. Eventually I had most of the components together and it must be realised that inside big ends are fairly complex. Once assembled with brasses in place a reamer is used to bring to size. This was another opportunity to make a pile of scrap. I found that I had an adjustable reamer good for the job at 0.75" plus a thou for clearance.... and that worked.



A piston was slid into the cylinder and the con rod attached to the cross head. This was a key moment because of my variation of design (reminder; valves under the cylinders instead of on top) which included angling the cylinders at 5° rather than 4°. I was relieved to find that clearance at both ends of the stroke was equal and not touching the cylinder covers. Equally too the motion plate and slide bars were pretty good and the rotating con rod worked well in the cross head with little adjustment needed. It all could have gone horribly wrong at this stage so relief all round.



With the rods in place I felt able to exhibit at Stoke Row; the object of the exercise.

## STOKE ROW—THE BACK STORY John Billard

I hope our members who were able to attend the Stoke Row Rally enjoyed the show and were able to see the club stand at first hand. This had involved much work by just a few people and I thought it would be interesting to give members a behind the scenes glimpse of the ups and downs that happened to as we tried to organise it.

The story starts last year when we had a stand at the rally. This had various shortcomings not helped by very few members appearing to run it. Michael Furness, on behalf of the rally organisers, felt that we could do better and I agreed to take over to make sure that there were some obvious improvements to show our club in a good light.

I started to make announcements in Prospectus earlier in the year asking members to help with the stand and particularly to provide exhibits. This was repeated up successively to the point when programme entries were required urgently. But no member had responded to me which was disappointing to say the least. It looked like they were prepared to exhibit as a private entry but not to help the club.

So at the point when we had to provide details for the programme, and the answer to Michael was “nothing”, a rethink was required. Then Nigel Penford came to the rescue by offering to enter his big 9F (which still needed some work to make it fit to show). With four tables to fill I then entered my Claud under construction, we decided to borrow the club Polly to show what our younger members could do and Stephen Millward had a good idea that we could demonstrate some machining with his little Emco lathe and an interesting Drummond shaper that we had recently acquired from Peter Jennings. I arranged to have a photographic display as a backdrop, organised polo shirts as club regalia, we had a banner and a pile of literature and membership forms, and were ready to go. By this time enough members had been persuaded to attend the stand and a simple rota was produced.

On the Friday morning Nigel, Pete Culham and I were at the club house loading up the Polly and the 9F into his van. We then heard that there was a problem with the model tent and somehow it had ended up being located not where we had thought with the crafts. Inside the beer tent! We really couldn't think of a worse situation. Michael was tearing his hair out, having been completely let down, and we made our way to the rally site not knowing what we would find.

What we did find was that a portion of the beer tent had been divided by a tarpaulin wall. Adding to this was the news that Reading College had withdrawn their entry at the last moment leaving five tables empty. However, apart from that, we coped with it, and it did not us take long to set up our exhibits ready for the next day.

Everything then went fine with a continuous circulation of the public on the Saturday morning. But in the afternoon a Big Band started on the other side

of the tarpaulin wall which effectively stopped any conversations we were able to have with visitors. And this was repeated the next day with a large 60s band that played more or less continuously during the afternoon. This emptied our show because of the high volume of sound.

There was nothing we could do about this. At the at the same time I was very grateful for our member helpers making the best they could of the situation. I know that Michael was very upset about the way things had turned out all of which had been beyond his control. We remain very grateful for his enthusiasm and assistance in setting up what we think was a good and better show for RSME.

There are plenty of lessons to be learned for the future. If members have reached the end of reading this missive I hope there is some appreciation of what we had to contend with. And, in future when we are seeking help for these events, please read the notices and do respond!



A busy moment at the Stoke Row Rally with Karl Trussler's 4" Garrett traction engine to the fore.

Photo John Billard

## **JULY 2024**

Sunday	7th	Public running	Setting up from 09.30 onwards
<b>Thursday</b>	<b>11th</b>	<b>On the Bench Night</b>	<b>19.30</b>
Saturday	13th	Club running	10.30 onwards
Monday	15th	Trustees meeting	19.30
Saturday	27th	Club running	Setting up From 10.30 onwards*

\*not as published in the June Prospectus

## **AUGUST 2024**

Sunday	4th	Public running	Setting up from 09.30 onwards
<b>Thursday</b>	<b>8th</b>	<b>On the Bench Night</b>	<b>19.30</b>
Saturday	10th	Club running	10.30 onwards
Monday	12th	Trustees meeting	19.30 tbc
Saturday	26th	Club running	10.30 onwards

*Opinions expressed in PROSPECTUS are the personal views of the contributor and cannot be taken as reflecting the views of the trustees or editor.*

***The deadline for the August issue is 20 July***

*Contributions may be submitted in hard or soft copy to the editor.*

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