

Reading Society of Model
Engineers
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Charity Number 1163244

The Prospectus

April 2017



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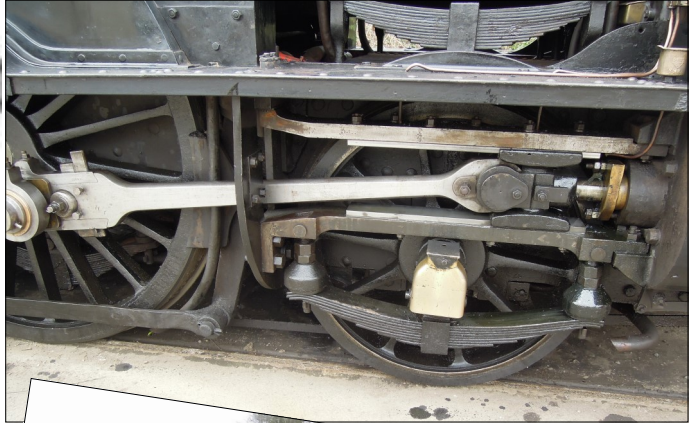
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Free to members



Beattie Well
Tank 30587
seen at Buck-
fastleigh on
11 March
2017
Photo
John Billard

DAWSON'S DIARY
AGM REMINDER
ANGEL TO THAMESLINK
AN OUTER BRACKET
A SPEEDY BUILD FOR THE BEAST
BEATTIE WELL TANK ODYSSEY

DAWSON'S DIARY

kept by the President

The RSME once again came up trumps with the weather as March is already with us. The first Sunday public running was busy with good takings. Well done everyone who came to help out on this monthly undertaking.

The tea bar sink taps have been replaced with new ones thanks to Nigel Penford, also shelving has been put on the club house wall for displaying locomotives left to the club by some of our passed on members like Vic Dodswell's Rover Class broad gauge 2-2-2-2 loco.

Club running Saturday nice and warm this time with a good turn out of locos. Altogether there were ten engines running on both tracks mostly steam this time. Stuart Kidd steamed his K1 2-6-0 for the first time for some time. Also Nigel Braund had his loco "Ben" out once again. Andy Midwinter was seen on the footplate of Karl's LNER 2-6-2 once again, has he seen the light at long last, green locos that are not GWR! Mike Burke is back from Australia and New Zealand and had his Princess Marina out for a run.

It was nice to see so many members having a good time on the tracks. That's what it's all about this hobby of ours!

PONDERINGS

by 61249

Angel to Thameslink

Around 1994 we had just started to think how we might bid for the Angel train leasing business as a management team, a process started in the lounge of the new MD who came to us from Barclays Bank where he ran the "Motability" car leasing scheme. Incidentally the "Train Contracts" bit of the title has been dropped subsequently, and the logo designed by a young lady in my daughter's class at school changed as well. Our motives were not to make a million, but to retain our jobs in an industry we loved, convinced that our expertise was necessary to see the industry through change, and to make the best possible use of the business opportunities that privatisation represented.

Just two more memories of life in train leasing. One technical, one not.

Taking the technical one first, it was incumbent upon the leasing companies to establish procedures and contracts to conduct the heavy maintenance overhauls and repairs. If the TOCs did the servicing, we needed to do those items that maintained the value and leasability of the asset long term. The first port of call was the premises of companies already deeply involved, and so one day we found ourselves as a bunch of BR engineers inside a factory at Burton-on-Trent where a significant portion of BR's DMU diesel engines were overhauled. This was in fact a quite small, family owned business offering repairs at a significant discount from those with the OEMs of the engines, Paxman, MTU and the like. On the tour they were keen to impress us with their engineering capability, and how they had improved the performance of the engines through a process of reverse engineering and improvement, de-

signing out proven weaknesses in the design that the manufacturer was reluctant to admit existed.

Avid long term readers of these articles may remember previous explanations as to how one feature of train mounted kit is that it rarely operates as well or efficiently as it does on static or road based applications, and how the manufacturer with his warranty in mind is keen to blame the railway, and much



less keen to admit his kit might have a weakness that the rail use exposes. Our repairer was well aware of this phenomenon, and saw his USP as being able to modify the engines as they came through to eliminate these weaknesses and improve the performance.

All good so far. But as we toured we became acutely aware that the engineering controls in this family run business were almost non-existent, quality controls were lacking, and engineering processes were spread around the site to a logic known only to the owner/manager, without whom the place would not function, and who was clearly of the view that his was the way to run it, whatever the customer thought. He remains, by the way, a brilliant engineer.

The possible downside of the approach came however when he explained how he was re-routing a fuel overflow pipe to eliminate a severe bend that had been a significant stress raiser and cause of failure. While this was fine on the engine we were looking at, it so happened that this modification, if applied to our trains, would result in a steady stream of fuel being deposited directly on to a handily adjacent exhaust pipe. Questioned, it was clear that there was no effective risk assessment or design management process that would have revealed this to either him, or us. We left acutely aware of the scale of the engineering control task that we were inheriting, and I must say that the industry as represented by both customer (Train Leasing Company) and supplier (private engineering companies) have managed the wide-open barn door quite effectively to the extent that I am aware of just one safety related component failure on a train in the last 20 years. (Broken wheel at Sandy).

The non-technical memory is of a picture on the subject of vehicle leasing

that one of our imported colleagues from a commercial bank owned leasing company showed on the lease arrangements for a single aircraft. At the time our industry was being criticised (as it still is) for the complexity of commercial arrangements that were being introduced by the privatisation process. However, on the chart were a series of lines joining up boxes, which were companies, and squares, which were countries. Some companies are happy to provide finance for aircraft building, some for their early life and others are attracted by the risk and reward of leasing aircraft to their second or third user, and life extension programmes. I remember that for one aircraft there were thus 12 companies and five countries involved in the lease over a 20 year period, some companies taking the risk for quite short periods, less than five years. I guess this was the aircraft equivalent of the complexity of mortgage offerings that wrought such havoc to banking in 2008, since no one really knew what they were actually on the hook for, so to speak, when the s**t hit the fan. Nevertheless, they made the BR organisation tree look like a page from Janet and John. We truly had moved into a different world.

Exciting as it was, my time as Engineering Director Angel Train Contracts was quite short and not really ended at a time of my choosing. Once again the interview in the food queue at the Euston staff cafeteria was the venue, with the “would you like to think about?” conversation, to be followed up by a phone call at home. The person asking the questions knew me already, of course, he had already been my boss once, so my weaknesses were well known to him. In spite of them the job he had on offer was absolutely irresistible to someone like me who regarded themselves as a railwayman first, and an engineer second. El Presidente of the RSME who has helped me over the years with my 5” Tilbury Tank, will doubtlessly agree that engineering is not my forte. But I had managed railway engineering for 30 years, now was my opportunity to run a railway, and prove that engineers could do it as well as anyone else.

The offer was certainly irresistible, and within weeks in April 1995 I left Angel to take over as Managing Director Thameslink.



The most exciting railway at the most exciting time. Wow!

Photos 61249



Above, 30585 at Eastleigh on 22 September 1962.

Right, 30586 at Eastleigh on the same day. Sadly scrapped in March 1964. ("You have two, what do you want another one for?").

Below, 30587 at Fratton on 18 April 1964 and the same engine 53 years later at Buckfastleigh. Photos all John Billard



A BEATTIE WELL TANK ODYSSEY by John Billard

The story of these three 1874 LSWR engines is well known; in summary they were retained for 64 years to work the Wenford Bridge branch. Withdrawn at the end of 1962 all were scheduled for preservation but only two survived.

AN OUTER BRACKET BEFORE DINNER?

by David Scott

Just after lunch I grabbed some 1/8th by 1 1/2 inch steel and decided upon a challenge. These are usually bestowed upon apprentices armed to the teeth with files, and hidden from all useful machinery! My milling machine is missing a part so I honed up my hand skills and marked it up. You have heard about my passion for sticky labels and these assisted nicely. I am useless at darts but a tungsten tipped one is superb for the first find of the cross marks, always stays sharp and knurled as well!

Also taking a tip from the blacksmith give it a slight tap first to get your ears ready for a bigger thump.

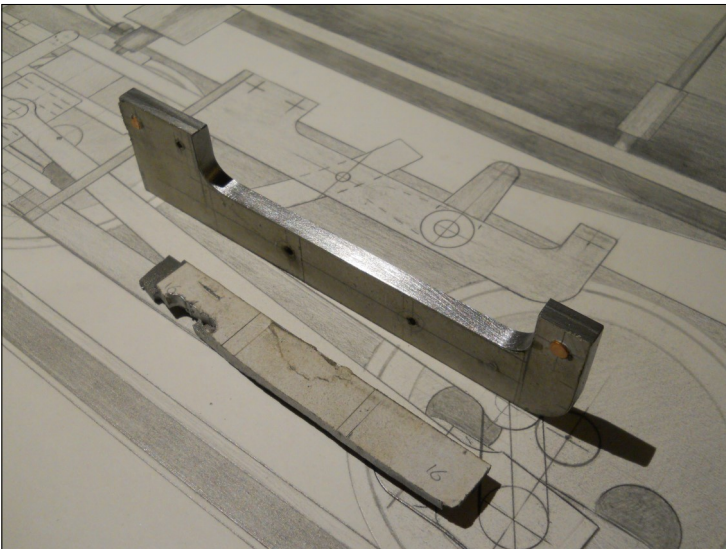
(Pardon? was that the phone?)

Am I allowed to drill for the copper rivets? Yes. hand drill. So these now holding the two plates together got cut to length. No, file the ends! And with the assistance of Moore and Wright and some disappearing light, by afternoon tea all was square.

Do a check and alter down the cross beam width due to shortage of the size I thought I had three holes drilled with the battery drill and an attempt to burn off the three chocolate biscuits with the hacksaw... Almost! It did not wander and we were soon bending out the bit in the corner with an eighth left.

For rapid steel removal, a coarse round file works wonders. Some emery cloth round a half inch bar soon gets the curves. And the square fights the peeping light for a flat shiny top. Even before we all went contactless 10 pence pieces were in short supply... but for the final curve, one comes to hand. Now you know where all the serrated edges come from!

Model Engineers files. 24 millimetres in diameter for reference!



The almost finished parts left.

Photo David Scott

A SPEEDY BUILD FOR THE BEAST

by David Scott

Five years in Reading coming up in the Autumn for us, and so far, nothing of mine in steam yet? Gemma is well out of ticket poor girl. I searched the rapidly getting tidier workshop for inspiration and the Speedy bits gave me an idea! Now around the boiler now in the middle of an almost clear floor, came various lumps and lengths of heavy duty steel, several roller bearings, a mass of bolts and a distant memory of Load Star. This had been built by Jim Ewins as an experiment in the 1980s on her not losing her feet pulling a huge load hence her name. Based round a 5 inch gauge 9 F!

I have a small lathe and a small mill so an easy method of putting a heavy 32 inch long frame together materialised. When it got too cold in the workshop the drawing board in the sitting room got a newish piece of card and an outline of the boiler emerged. Next to arrive was the valve gear. I wished to try out one from Paddington reduced down to suit the 1500 in 5 inch gauge, slowly evolving in the background.

A return to the workshop turned up six wheel blanks in steel so these now measured started to arrive on the drawing. We all dream of a large rectangular, easy dump, no wheels or axles in the way, ash pan, so why not? So that was the rear wheelbase organised. Let's go for slightly shorter, so at 9 inches for the rear and 8 inches for the front she was looking distinctly Simplex.

The horn-blocks are formed using the flat surface of the steel of the 6 cross stays. I have tried this before and anyone watching S.I.M.P. Or Humble Bee racing round the track will realise that it works well. The axle-boxes turned from square steel will come next. The ones in the photographs are a bit small but give you an idea of how they are made. These are given a thin sheeting of phosphor bronze shim and is so easy to replace with a pair of scissors and some folded tags when it eventually wears out without taking her apart.

The success of the chassis relies upon getting two parallel parts identical for each side during the milling, and then drilled and tapped accurately. The horn spacing coming with parts clamped together from this first bolted stay, either side of the axle-box, plus 2 shims, and then drilled and tapped. For the purest and faint hearted M 8 sockets! The cross stays are from ½ inch by 2 ½ inch steel. Bets on a slip next Autumn? Beside me on the bench is the front buffer-beam for a Black Five requiring 60 scale holes the last time I fancied a count! (Redemption anyone?)

The Beast has 7 holes in her front and 9 in her rear? Yes, we are housing the two water pumps in a very get at able place and they could be used as the second step up for the crew! Steps are in hand for a design for more. Any bets in minutes on a removal, mend, and replace of a pump? The same goes for the oil pumps with hints of the Class 2 and 3 from last summer's excursions. Not to mention the high running boards.

Two shelving strips of metal turned up, got measured and became running

boards almost overnight.

I used some of these in grey to make a smaller case for an ancient computer several months ago. These gather dust and fluff like they are based in Witney and involved in blanket making requiring a hint of vacuum! Massive amount of space saved and a floppy drive added to the houses museum of archaic bits. This looked huge next to a tablet! These running boards are already black so saving in paint and a walk over to Halfords. Pound shop Black I am told is gaining favour amongst Black Loco fans.

We were spotted in Drew's getting Screws and couldn't resist some ready formed, end feed copper fittings for the blast pipe. Yorkshire fittings have the ridge full of solder. These I have arranged to be held between the main beam at 5/8 by 1 inch and the slab under also 5/8 by 2 1/2 inches. The cylinders sit there and don't move. Could be interesting outside cylinders on a long wheelbase locomotive not trying to wiggle herself off the track.

The oil pump drive grew up and out of the cross-heads rear plate extended. These are my favourite from the steam plant of S.I.M.P. Again, shims of phosphor bronze held between three pieces of steel bolted together in a sandwich with four bolts, just add a dressing of oil!

The motion bracket could be a plain slab of 1/8 by 1 1/2 but I got carried away with the compass and as it looks nice, had better cut it out. M 4 bolts spring to mind for these. I got an assorted box from one of the pound shops. Again simple lining up, drilling through two plates and everything works. The smoke-box could be longer BUT this is Speedy's over-scale 3 mm tube already to install. Was? Lily has adopted it to hold a paper towel roll for the moment by the settee. The chimney needs turning, but today's rain and something to write for Prospectus, prevents a search for something suitable!

Does anyone have a drawing of the regulator for a Speedy this may come in handy as we are somewhat leaking not having one.

Lovely pondering s over Polly's long way round rods and levers for Stephenson's motion when Walschaert's is such a neat solution and they have mass production methods available. The rods came out of stock and I have seen a southern 2-6-0 run for a season on solids before the Centec chewed them slimmer. Always drill and ream the holes into first through the axle-box holes. Then pretty them up even with a hacksaw and files. The front ones are 3/8 by 1 inch due to a cross head or two!! And the rear ones 1/2 by 1 inch for extra strength.

I pondered the water pump positions for ages but the downside of having an eccentric crank getting in the way stops us driving them from the centre crankpin into the slide-bar bracket. However, saving on some milling of the rear rod gives us a boss to attach some arms to. Problem solved.

Yes, you can go all day just using pumps and these being quite small, reduce the thrust needed to operate. I used two hole balance wheels on S.I.M.P. And they look functional and quick to do... Yes you have guessed

it. Someone picked up the wrong stub of rod left on the lathe at 1/2 inch and bored too much for the 3/8 crankpin. Move the wheel round and have another go! Best of three holes anyone?

For painting hints on holes, mask off the outside face of the wheel, cut the holes out and spray in bursts all round. Do the top coat, peel off the masking and spray. This saves a huge build-up of paint and risks of runs.

Her rear buffer-beam was shown in last month's Prospectus being milled and is quite a lump. But, does provide anti tip facilities. The long slot was already milled by someone else hence being in the scrap!

Why S.I.M.P? We have a Simplex which I have heard is complex and a few thoughts of the letters reveals several future possibilities.

S.I.M.P or simple to build all 4 wheels of her. OR.

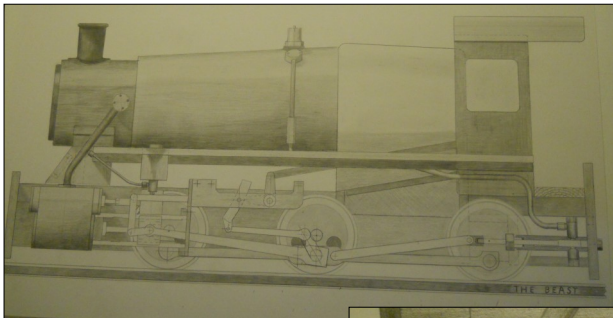
So Identify Motive Power! For the Battery drill version. OR.

Steam In Moments Please! For the steam version. OR.

Spark Induced Mixed Petroleum! For the petrol or gas version. OR.

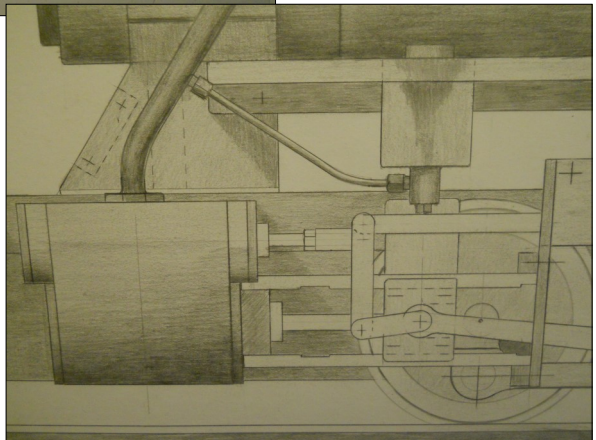
Swarf Impedes Machining Progress! When making her. OR.

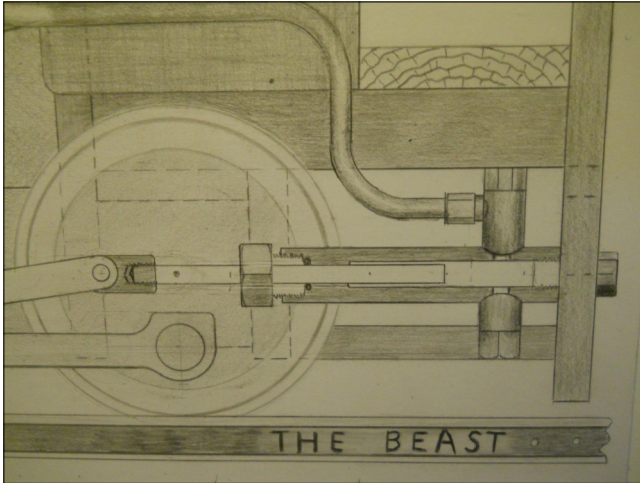
Spray Improves Machines Protection! When painting her. OR.



The general arrangement

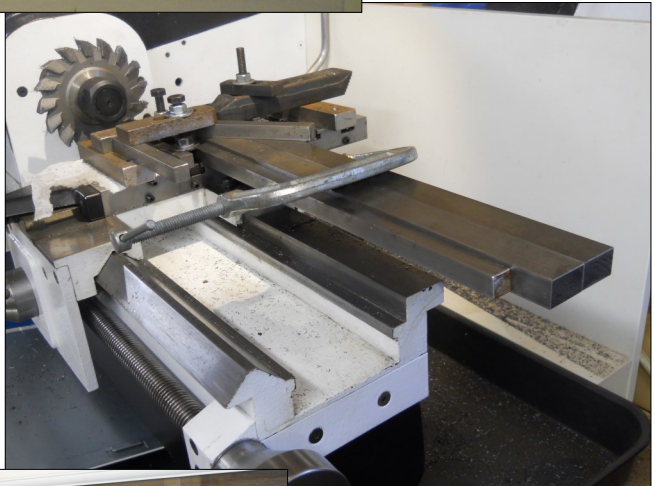
The oil pump and drive



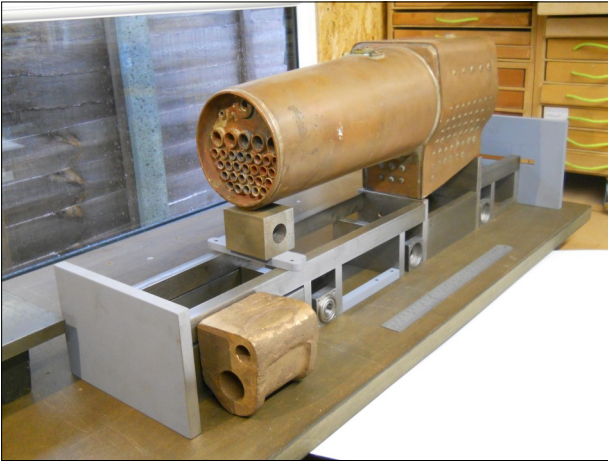


The very best
place for a water
pump!

Milling the ends of
long lengths of
frame.



View of the cab layout.



The first mock up
in the workshop.

All illustrations
David Scott

NOTIFICATION OF 2017 ANNUAL GENERAL MEETING

Notice is hereby given that the 2017 Annual General Meeting of the Reading Society of Model Engineers ('RSME') will be held in the Clubhouse, 82 Bath Road RG30 2BE, on Thursday 25th May 2017 at 7.30pm.

Any ordinary member over 16 may apply for election to a vacant Trustee post. **Any nomination for a Trustee must reach Stuart Kidd on or before 23rd April 2017.** Each nomination should be signed by the nominee indicating their willingness to serve, and by a proposer, both of whom should be paid up RSME members over 16.

The following details of the nominee should be provided:

- Full name
- Address
- Date of birth (if under 16)
- Any existing charity appointments.
- Vocation/profession

Three Trustees retire by rotation this year, Mike Chalmers, Mike Manners, and Alf Cusworth. There is a fourth Trustee vacancy following Paul Rylands resignation.

Any motions for consideration at the AGM need to be submitted to Stuart Kidd also by 23rd April 2017, and must be proposed and seconded by paid up RSME members.

The May 2017 issue of Prospectus, which will be circulated on or about the week beginning 1 May will contain the Trustees Annual Report, the accounts, details of all nominations to Trustee and any motions to be put to the AGM.

Stuart Kidd

stuartnkidd@aol.com

07966 278968

DIARY

April 2017

Saturday	1st	Birthday party	11.00-13.30 14.30-17.00
Sunday	2nd	Public running	13.30-16.30
Tuesday	4th	00 gauge	
Saturday	8th	Club running	11.00 onwards
Sunday	9th	Birthday party	11.00-13.30 14.30-17.00
Monday	10th	Special needs Trustees meeting	13.13-16.00 19.30
Monday	17th	Public running	13.30-16.30
Tuesday	18th	00 gauge DCC	
Friday	21st	Young Engineers	
Saturday	22nd	Young Engineers Birthday party	14.30-17.00
Saturday	29th	Birthday party	11.00-13.30 14.30-17.00
Sunday	30th	Birthday party	11.00-13.30 14.30-17.00

May 2017

Tuesday	2nd	00 gauge	
Saturday	6th	Birthday party	11.00-13.30 14.30-17.00
Sunday	7th	Public running	13.30-16.30
Saturday	13th	Club running	11.00 onwards
Sunday	14th	Birthday party	11.00-13.30 14.30-17.00
Monday	15th	Trustees meeting	19.30
Tuesday	16th	00 gauge	
Sunday	21st	Birthday party	11.00-13.30
Thursday	25th	AGM	19.30
Friday	26th	Young Engineers	
Saturday	27th	Young Engineers Club running	13.30
Sunday	28th	Birthday party	11.00-13.30 14.30-17.00

**The copy deadline for the May PROSPECTUS is
18 April. This is the final date.**

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