

The monthly club
newsletter for
Bournemouth &
District Society of
Model Engineers

Secretary: Dave Finn
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Chairman's Thoughts

Our coach trip to London ME exhibition was well attended by over fifty members and guests. Speedy's boiler kit was picked up at the exhibition. Our thanks go to Dave Finn for organising the trip and hopefully we can arrange another trip for next year.

The Annual Dinner at the Crooked Beams last month filled the restaurant with 43 members sitting down to eat. We all had a very enjoyable evening, the meal once again was excellent and well served by the staff. Thanks to Dick for organising the event. We have provisionally booked the restaurant for next year.

At the last meeting I read a letter from Jean Brookes, but for those who were not at the meeting here is Jean's letter in her own words:

Tuesday 16th January

Dear Club Members.

I wish to thank all of you who came to Ron's funeral he would have been proud to know so many of you came, the tracks at Kings Park and at Littledown gave my husband great pleasure in the evening of his life.

*Giving my thanks once again to you all.
From Jean*

Jean has said that she intends to come to the track in her three-wheeler when the weather picks up – I just hope there are not too many speed cameras on the way.

Well folks, we are organising an exhibition at the Ringwood Town & Country Museum for Saturday 28th and Sunday 29th April 2007, so get your models ready for the show. I visited the RT&CM with John Hoyle and Dick on Monday 5th February when we were shown their new Conference Room. It is approximately 11 x 8.5 metres in size and there is also an entrance area to the room, inside the main building, 8.5 x 3 metres. They have the whole of the building alarmed, which is overseen by Red Care and our models would be insured under the Museum's own insurance. John has offered to co-ordinate the event on behalf of the Committee. We will organise the picking up of models with a van if you have problems with transport and at the next meeting we will have a list for those who would like to exhibit, so please ensure that your name gets onto it. The RT&CM has offered reduced admission for members and visitors from other societies who wish to visit the exhibition and the Museum on the production of a valid Membership Card.

It will also be an opportunity to see what the Museum Engineering Workshops have and they will be displaying their stock of metals, nuts, bolts and consumables for sale on the days of the exhibition. If you phone up prior to the exhibition you could collect the items over the weekend (Tel: 07836 764384). They also do a good Sunday lunch but suggest you book early to avoid disappointment.

David Martin

Editor's Ramblings

It seems that my plea in last month's issue for items for publication in the Newsletter has actually worked. Nick Feast presented me with a description of how he designed and built his 3½" gauge Bulleid Q1. Part 1 of his epic is in this issue and Part 2 should be in next month's issue.

The Technical Page is also coming along nicely. For this issue our esteemed Chairman has described his low cost water filter to ensure that you keep the grit and rubbish out of your injectors so that they work reliably.

The Monthly Technical Discussion Meetings are really getting established. We managed to squeeze

fourteen of us into Merrifield Towers for the February one. Topics discussed ranged far and wide - from boilers, large and small, to wheels, also large and small, small diesel engines to little known, exotic piston rings.

For future meetings the 'admission fee' will be to bring something along to provide a topic of discussion. Make the effort and join us on the first Monday of each month.

Please note that the Copy Date for the March issue of the Newsletter is Thursday 1st March.

Dick Ganderton

The Technical Page - Dave Martin's Injector Feed Filter

When opening up the tender on my *Polly II* to my surprise I found that the water supply for the injector and the axle pump had no filters on them. Looking in the garage for a solution I found two plastic paint filters intended for a suction pot spray gun. These cost approximately £2.00 each. They are designed to push onto the bottom of the pipe that goes into a suction spray gun and are very good for spraying as well.

I just pushed one onto the $\frac{5}{16}$ " x 32T threaded water feed to the axle pump that was sticking up on the tender floor. The before and after pictures will, I hope, make this clear.

The injector feed was slightly different. I had to open the hole in the bottom of the filter to approximately $\frac{3}{4}$ " diameter and make a $\frac{5}{16}$ " diameter hole in the top. This then simply pushed over the spindle and down over the water valve in the bottom of the tender. They are easily removed for cleaning.







The other thing I wanted were some caps to go on the end of the $\frac{5}{16}$ " x 32T threaded connections to my injector and axle pump on the loco to keep them the dirt out. So looking around again, I came across a pressure cap from a mountain bike inner tube. They seem to fit and due to the shape are easily screwed onto the pipes and just as easily removed.



Above left: Dave's tender before fitting the filter. Above right: With the filter fitted. Left: The filter fitted to the injector water valve



Distance Across Corners – Squares & Hexagons

Across Flats				Across Flats			
$\frac{1}{4}$	0.29	0.33	0.36	$1\frac{3}{16}$	1.37	1.58	1.68
$\frac{5}{16}$	0.36	0.41	0.44	$1\frac{1}{4}$	1.44	1.66	1.77
$\frac{3}{8}$	0.43	0.50	0.53	$1\frac{5}{16}$	1.51	1.75	1.86
$\frac{7}{16}$	0.50	0.58	0.62	$1\frac{3}{8}$	1.58	1.83	1.94
$\frac{1}{2}$	0.57	0.66	0.71	$1\frac{7}{16}$	1.66	1.92	2.03
$\frac{9}{16}$	0.65	0.75	0.80	$1\frac{1}{2}$	1.73	2.00	2.12
$\frac{5}{8}$	0.72	0.83	0.88	$1\frac{9}{16}$	1.80	2.08	2.21
$\frac{11}{16}$	0.79	0.91	0.97	$1\frac{5}{8}$	1.88	2.16	2.30
$\frac{3}{4}$	0.86	1.00	1.06	$1\frac{11}{16}$	1.95	2.25	2.39
$\frac{13}{16}$	0.93	1.08	1.15	$1\frac{3}{4}$	2.02	2.33	2.47
$\frac{7}{8}$	1.01	1.16	1.24	$1\frac{13}{16}$	2.09	2.42	2.56
$1\frac{15}{16}$	1.08	1.25	1.33	$1\frac{7}{8}$	2.17	2.50	2.65
1	1.15	1.33	1.41	$1\frac{15}{16}$	2.24	2.58	2.74
$1\frac{1}{16}$	1.22	1.42	1.50	2	2.31	2.66	2.83
$1\frac{1}{8}$	1.29	1.50	1.59				



Diary Dates - Websites Worth Watching

B&DSME Diary Dates

21 st February	Monthly Meeting; Muscliff Community Centre. Richard Knott's Annual Video Show.
5 th March	Monthly Informal Technical Discussion Meeting; 7.00 for 7.30 pm. Dick Ganderton.
21 st March	Monthly Meeting; Muscliff Community Centre. John Hoyle - Making Simple Model 'Diesel' Engines.
2 nd April	Monthly Informal Technical Discussion Meeting; 7.00 for 7.30 pm. Venue to be decided.
21 st March	Monthly Meeting; Muscliff Community Centre.
28th & 29th April	B&DSME Model Engineering Exhibition; Ringwood Town & Country Museum. Further details nearer the date.
6 th & 17 th June	Open Weekend; Littledown Miniature Railway.
12 th August	Charity Weekend (Macmillan Cancer Support) & 16mm Track Opening; Littledown Miniature Railway.

Websites Worth Watching

George Wheatly has suggested that I introduce a new column that covers websites of interest to Model Engineers. Until I can persuade an unsuspecting Member to oversee the column on a regular basis here are a couple to be getting on with. Simply 'cut and paste' the URL into your browser. The first one was sent to me by Richard Harvey who describes it as 'Classic chaps!!'

<http://www.youtube.com/watch?v=fDWk0BCeblQ>

The second one came via George who came across it while Googling for M4 stainless steel threaded rod. He promptly ordered what he wanted and the service and the prices were excellent, he says.

<http://www.modelfixings.co.uk/>



A Simple Depth Indicator For The Drill Press

Brian Merrifield had a little bit of time to spare one afternoon and decided to fix up a simple depth indicator for his drilling machine.

From time to time it is necessary to drill holes on the drill press to a known depth and his previous machine was equipped with a simple device that enabled this to be done with moderate accuracy. It was just a 6" steel rule held to the head of the machine by two magnets and a pointer mounted on the collar of the quill. It took Brian a couple of hours to make the one pictured using bits and pieces found laying around in his workshop.



Making Model Diesel Engines

Next month's talk by John Hoyle should be very interesting as he will be talking strictly about making simple model 'diesel' engines, rather than the wider field of model IC engines.

Luxury Coach To Ally Pally

The 55 seat coach that we were supposed to travel to Ally Pally in last month turned up as this luxury two deck vehicle instead, so we had room to spare.

Let's hope that next year we can get Dave Finn to pull off the same trick.



Other Events

Brighton Modelworld 2007

16th - 18th February 2007

Taunton Model Engineering Exhibition

14th - 15th April 2007

A Model Engineering Show is being held at **Milestones**, Hampshire's living history museum, Basingstoke on Saturday 21st and Sunday 22nd April 2007.

www.milestones-museum.com

Harrogate National ME Exhibition

11th - 13th May 2007

Bristol Model Engineering Exhibition

17th - 19th August 2007

Guilford Rally & Exhibition

21st - 22nd July 2007

Midlands Model Engineering Exhibition

To be announced

Luscombe Valley Happenings

Richard Knott tells me that he is planning to hold a couple of events for 'enthusiasts' during the year. This is give drivers a chance to play, rather than just hauling passengers round and round for charity. Full details will be published here when Richard has finalised the dates.

Next year's dates are as follows:

Cobweb Run 14th & 15th April

Grand Charity Weekend 28th & 29th July

Autumn Running Weekend 8th & 9th September

Humbug Day December 22nd

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Ronald Stanley Brookes - A Tribute by Brian Merrifield



February 2007
Page 5

Ron was a true Cockney, born within the sound of the Bow Bells at Hampstead in 1920 and was the second of three children. On leaving school he was apprenticed with Eversheds Engineering in Acton as a toolmaker, receiving the princely sum of 10/6 a week for the whole time of his apprenticeship.

It was during this time he became friends with a fellow engineer and soon found himself arriving at work early to help lift her bike into the cycle rack. Ron and Jean married some seven years later in 1947. They set up home in Chiswick then Twickenham and had three children Ann, Jan and Geoff.

A keen sailor since his days in the Sea Cadets, Ron owned various boats, one of which he built himself, an Enterprise sailing dingy called *Jeffus*. This was during the bitterly cold winter of 1963. He was still on the water well into his seventies sailing around Poole Harbour in an eighteen-foot cruiser. During his early boating days he taught a friend to sail and was given a chassis and wheels from an Austin Seven car in return. With the aid of his engineering friend Jean, he assembled a very nice Austin Seven painted British Racing Green.

When he was offered a job with The Rank Organisation, Jean had to persuade him to take it, which turned out to be the right choice. There he was trained to service and repair thirty-five millimetre movie cameras as used in the television and film industry. When Rank closed down they sold Ron the necessary equipment to enable him to start his own business maintaining these cameras, which he continued with until retirement. Over the years he got to know many of the cameramen who film the television programmes we watch. He used to like to read the credits at the end of a programme to see if he knew the camera crew.

When the time to retire came in 1985 it was obvious they would have to move out of London, otherwise the

work would not stop coming. A year later they moved to Broadstone an area they knew and liked, near the sea for his boating. By this time Ron had become a model engineer, building a *Hielan' Lassie* with his brother, Sid and also a *Princess Marina*. Because Ron was not a member of a model engineering club in London, neither of these engines had been run on a track.

After moving to Dorset he looked around for a local engineering society to join, but it was not until visiting the Wrexham ME Society that he found out that the B&DSME were based in Kings Park. Some of the first people they met were Derek and Lena Adams who made them welcome and became firm friends. A few years later, in 1991 or 92, Ron and Jean started to come to Poole Park Railway, together with Derek and Lena and many others, where I got to know them. At that time we were running the little 10¹/₄" Gauge *Holmside* on Saturdays and Wednesday evenings. Looking back these were pleasant days and many happy hours were spent running the railway together. Jean providing copious quantities of delicious cakes that Ron could never eat due to being diabetic. He never seemed to resent the rest of us enjoying his wife's handy work, though.

During this time Ron decided he wanted a 5" gauge loco and built a *Pansy* in less than two years. During recent years he and Derek would spend their Wednesdays at Littledown, always ready to make a cup of tea whenever someone looked like they might need one.

Ron passed away on 11th December 2006 and to quote his daughter Ann "typical of Dad he left this life as he lived it – with no fuss". Our condolences to Jean, his best friend for almost sixty years, their children Ann, Jan and Geoff, grandchildren and great grandchildren.

I would like to thank Derek and Lena Adams for talking to me about their friendship with Ron and to Jean who made Nicki and I so welcome the other day when we called to see her. She expressed much pleasure at being made an honorary life member of the Society and has promised to drive to Littledown in her blue three-wheeler during the summer. Of course she misses Ron terribly and the odd phone call from time to time would, I am sure, help to brighten her day; her number is in the Membership List.



Ron driving at Poole Park Railway

Speedy News

We now have the copper to build the new boiler for Speedy, I collected it from Blackgates at the London show last month. The other day Merlin and I unwrapped the pieces of metal and spread them across my bench. Seeing it like that brings home what a big job boiler making is, however I am quite sure my efforts will result in a boiler. Whether it looks like a Speedy boiler or is actually able to hold water is another matter!

I still have to source the silver solder and flux, though Ted Rouse has kindly provided some large section 3/16" sticks of silver solder to fill the extra large holes. The other items we will need quite soon are some formers for the firebox wrappers and Dave Martin has kindly volunteered to provide those, thank you Dave.

The wheels have been reprofiled, but axle boxes are still a problem with no volunteers to make a set, so once again I am asking for someone just like you. Bite the bullet and give me a call.

Norman Kitcher has been busy refurbishing the cylinders. He found the cylinder bores are in good condition but the piston valve bores are worn and now making a set of new ones. Perhaps you saw them at the Bits and Pieces last month, my thanks to Norman for his valuable help.

George Wheatly has offered to make a new safety valve and check the clacks over, thank you George.

Brian Merrifield (01202) 683701

For Sale

George Pyburn has a part completed Speedy that he wishes to sell and sent me the following e-mail describing what he has. The majority of the work has been carried out, but there are still a lot of hours left to finish, hence the disposal.

- 1) The boiler is fully assembled but needs some brazing
- 2) The regulator and Superheater Tubes are fully assembled
- 3) Cab, Smokebox, frames, axles, wheels and some gear fully assembled
- 4) One cylinder part machined, one as cast only

All other materials (except for the pannier tanks) are here with a full set of drawings. I only need to recover the cost of the materials and drawings, so the first one to come up with a copy of a quote/advert. for those costs can have the lot!

Many Thanks and Happy Running to all.

George.Pyburn@pwsLtd.co.uk

Annual Subscriptions

Our Treasurer, Mike Mortimer, would like to remind all members that Annual Subscriptions fell due on 1st January 2007. Subscriptions are the same as last year at £18, or £19 to include your partner. Cheques payable to B&DSME, please.

Richard's Brit

Brian Merrifield looks a trifle apprehensive as Richard Harvey clatters over the Bendy Beam with his 5" Gauge Britannia.

The date is 5th March 2006 - yes we do run all the year round at Littledown!



Nick Feast Builds a 'Charlie' in 3 1/2" Gauge Part I

I started this project in 2000 with the aim of having a loco on the track in time for the 40th anniversary of the LCGB rail tour of 19th March 1966, headed by 33006, which included a trip down the Lymington branch. I lived in Lymington at the time and travelled daily on the branch to school at Brockenhurst. When I started there in 1961 the branch was operated by Victorian 0-4-4 push-pull tanks. By the time I left in 1969, Ivatt tanks and Standard 4s had come and gone. We had a few months of DMUs until the 'juice rail' was turned on, and then the slam door electric units arrived, which are still running today.

Although the Q1 was primarily a goods engine, the Southern and BR often used them on secondary passenger trains and we did sometimes get one on our morning school special. Although it was usually a 'Standard' on this service, we also occasionally got a Q, and this was the basis for the Q1 design.

When I was researching for the model I noticed that the Q was quite similar in outline to the Derby 4F and it turned out that Don Young's design would also make a good basis for a Q1. I was able to get drawings and photographs from York that showed some minor differences in wheel spacing. The boiler was much larger on the Q1; in fact it fills the loading gauge completely.

Don Young's design uses Joy valve gear whereas the real thing, both Q1 and 4F, use inside Stephenson. On a 3 1/2" model it is just not practical to fit this in with inside cylinders and have reasonable bearing sizes. I know from constructing a 2" scale Clayton wagon that Joy valve gear works well and many of the parts including the cylinder casting are the same as the 4F, the main difference being that everything is upside down in the wagon!

I had the frames laser cut and used the rear frame stay from the 4F. The front stay/motion plate was 1/4" steel, and the front buffer beam the usual steel angle. Large diameter cast iron buffers and stocks were sourced from Reeves, I think they were for the 'Schools' 4-4-0 as were the tender axle boxes and cast springs.

Horns and loco axle boxes were as for the 4F and built in the usual way. The drag box was a steel fabrication and brazed in place. A small sub frame was produced to support the steam brake cylinder, and this fits in behind the back of the ash pan.



▲ Photo. 1



▲ Photo. 2



Photo. 3

The major difficulty was sourcing wheels. The Q1 used a unique Bulleid Firth Brown steel wheel, similar in construction to the type used on the Bulleid Pacifics. I have seen Q1 models built with the larger diameter Pacific wheel, but they are too large and spoil the proportions of the loco. Since there was nothing commercially available I made a plywood pattern after taking measurements from the full size Q1, at the time in use at the Bluebell Railway. This was then varnished to give a smooth surface. (Photo. 1) Bridport Foundry cast six wheels and they were pleasingly realistic, as the photographs show. (Photo. 2)

The Don Young 4F has a boiler feed pump driven off the centre of the middle loco axle by an eccentric. I decided that this was a bit inaccessible and in any case I wanted to incorporate a bit more inertia into the rotating masses for smoother and more realistic driving. By having a large central 'flywheel' the crank axle is also extremely rigid and slightly simpler to produce than the usual built up crankshaft. (Photo. 3)

A feed pump was fitted to the middle axle of the tender although the plunger diameter has to be rather small for it to work against boiler pressure, so it is less effective than a loco mounted one. This is not a problem if the injector is reliable, but that is not always the case!

The inside cylinders and valve chests were as for the 4F but cylinder bores were increased slightly to allow for the larger boiler that would be fitted. The Joy valve gear was copied, except for the slides, which were made straight instead of curved. The same feature was included on the Clayton wagon and as I still had the jig for making the slide shaft it seemed to make sense.

A screw reverser was designed to fit onto the left side of the footplate, with the operating rod concealed behind the boiler cladding and arranged to line up with a dummy steam cylinder mounted in the correct position. A ball detent was fitted behind the brass hand wheel to hold the wheel in any set position, unaffected by any vibration coming up from the motion.

Part 2 will appear in the March 2007 Newsletter.



Have The Sixteen Millers Gone Round The Bend?

Yes, it's true! But hopefully not in the way some would have it. The top return loop woodwork has been completed and now there will be a big push to get the whole lot covered with roofing felt prior to laying the actual track, but this will depend on help from the Weather Gods. We have had much help and encouragement from fellow Society members, which is much appreciated.



Gordon Miles and Dave White screw the final piece of plywood in place. Now they have to cover it all with roofing felt.

has resulted in a proliferation of tracks in modellers' gardens.

5. Tracks are nearly always built and operated outside and because of the space available do lend themselves to a more social atmosphere. In fact many wives/partners are also active 16mm followers.

6. Motive power is not limited to steam, batteries, and even internal combustion have been used, but track electrification is very rare.

7. Signalling, as in full-scale operation, is usually non-existent although a token system is usually in force to prevent operators using an identical radio frequency at the same time.

To sum-up, one can say anything goes in 16mm NG as long as it looks right, so join the happy band.

PS The Littledown track has been built with a minimum of 6ft radius curves, hence 0 Gauge modellers will also be very welcome.

Now for a few words about 16mm NG. (Narrow Gauge)

1. NG really means any railway can be modelled that operates on a nominal 2 to 3 foot gauge track. There is a wide range of prototypes available both here in the UK as well as worldwide to base your railway on. Within the scale of 16mm to the foot and with such a range to choose from the actual size of the model locomotives, rolling stock and line side buildings vary greatly. More than anything else this emphasizes the fact that there are few modellers who are scale fanatics among our ranks. In fact many aficionados of 16mm are quite happy to have locomotives and stock of different gauge prototypes operating on their garden railways at the same time, so anything goes.

2. On full size NG railways the loading gauges are relatively high and track curves are quite tight, so these attributes lend themselves to 16mm NG modelling in our smaller gardens. Also the scale of the locomotives, etc. gives rise to quite large models that can be worked on and operated with ease.

3. Garden Railways encourage landscape modelling using live planting to blend into the background

4. One can enjoy all the fun of a proper steam locomotive that can be lifted with one hand and does not cost a fortune. Costs can start as low as £150 for a simple, oscillating cylinder, manually operated, meths fired boiler, rising to many thousands for a highly detailed model of a complex gas or coal-fired locomotive. The cost of track, both in terms of time, labour, and finance, are usually low, which



The Wednesday Gang looked on!

Gordon Miles & Dave White



Have you let Dave Martin have the form with your name and address details yet? If not, why not? Without your correct details you might not be getting your monthly Newsletter.