#### Reading Society of Model Engineers www.prospectpark railway.co.uk

#### www.rsme.co.uk

# **The Prospectus**

# September 2018



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Free to members

JB148



A 1928 Lagonda Team Car designed to compete at Le Mans. This car was created from original components by the late Dick Sage. Photo John Billard

> DAWSON'S DIARY THAMES LINK SUCCESS 08 REPAINT IMPERMANENT WAT PHOTO ANALYTICS

# DAWSON'S DIARY

# kept by the President

Sunday 5 August was very warm. The members coped very well throughout the day with a steady flow of passengers. The raised track had a good number of engines ready to run. The electrics saved the day this time out. The station team doing a grand job. The tea bar again was very busy. We owe one kind lady who at very short notice stood in for Liz and Mike who could not make it. We owe you a very big thank you from us all. Jackie and Alf with the help of Mike Burke managed to keep cool drinks and tea flowing for the members and the public. Well done everyone!

The club Baldwin and Nigel's Baldwin and John Spokes NER S Class ran on the ground level. At one time John had some snag with the clack valves and had to withdraw his loco. Also, the club loco had problems which were soon sorted. While this was going on Nigel's had four trollies running to keep the passengers happy. Don't forget it is 5" gauge"! Dave Cole and Chas Benham with some help from other members managed to keep the car parking running smoothly.

Club members running day was so much cooler this month with a few steam and hydraulic tests etc for the boiler tester to do. I was pleased to see our young Jamie running his 7 <sup>1</sup>/4" Class 08 for its first time out since its overhaul and very good repaint with a lot of help and guidance from Rob Denton. With new BR green paint looking a treat with a GWR Toad used as a driving car Jamie is a very happy young lad. As mentioned before the loco was built by the late Bill Fry, one of the founder members of the RSME after World War 2. He made this loco from scratch. It has two Westinghouse signal motors and Renold chain drive to all wheels. It is in good hands.

## PONDERINGS

# by 61249

Looking back at my time in Thameslink (1995-7) I can recall success on several fronts. We ran the railway reasonably well, with many interruptions not of our making, we improved the railway, and we grew the passengers at a faster rate than London generally. We successfully sold the railway in the timescale required of us – that is before the election in May 1997. The one failure was our self set objective of making the Franchise a Management Buy-out.

Three improvements give me satisfaction looking back, staffing, stations and safety.

Regular readers will have absorbed the big message on railway finances, which is that the way to make a Franchise work financially (i.e. make a profit) is to grow the passenger base, or put crudely, get bums on seats. The general rule is to be nice to the customers you have (as getting a new one is more difficult) and make things as pleasant for them as you can. Reliability is number one in their perception, closely followed by getting a seat, cleanliness



Railway Technical

Centre Derby, 1980s Photo 61249

and pleasant treatment from the staff. There is another general rule which is that staff should be as close to invisible as possible for the regular customers, who do not really want their journey/sleep/reading or work interrupted by delay, or unnecessary instruction. New and unfamiliar customers, or those with special needs, are of course at the other end of the spectrum, and appreciate all the help they can get.

One improvement we made was the roving Revenue Protection Inspector – the second person on our DOO services. They could stay with a vulnerable customer seeing them on and off the train, which they just could not do if tied to train dispatch duties, as some folk claim is essential. Overall, in the two years up to privatisation, we increased the staff by 50 folk, or 10%, all of whom were in front line posts, booking office platform ar train. Not one more administrator. This action reversed decades of cost cutting reductions to staffing levels, opening hours etc. We were proud of it.

On stations, we set about improving the worst we had, which were on the Wimbledon loop and some of which had become scary places to see and visit. Run down and closed facilities, graffiti galore, and overgrown approaches were the norm after decades of BR's tender care. Long run we wanted to get the local communities more involved, but short term we defined how much of the station was really used and set about making sure it was acceptable and not threatening. We had made several quite acceptable by the time I left, with plans for quite a few others.

But the safety emphasis gave us all pride in our achievement. It was an early

decision to back the evaluation of our safety system and culture in accordance with the International Safety Rating System. (ISRS) Not particularly designed for railways, it gave us a benchmark for industrial and passenger safety that was truly international and worked across a number of high risk industries. Since then railway specific measures have evolved, but at the time it was the best we could do, and so we entered the system at the recommendation of our Safety team (which included the staff reps. as a matter of course). We set out our stall to achieve a level 4 rating, where 1 is entry level and 7 is world class, this was seen as a high aim for an entry player, but we were sure that our normal railway emphasis on safety would see us home. We were, in fact, guite advanced in relation to the major operational risk - that of SPADs (Signals Passed at Danger), with work on rosters that took alertness into account, and facilties provided for drivers to power nap between trains. (The vandalism of one of these rooms was one of the most puzzling and discouraging incidents we had, although it served to teach us that folk will react strangely if unconvinced of the management's good will. Management good will was often difficult to demonstrate in the constant cuts of the BR regime!)

We had a significant crew of cleaners at Bedford, where cleanliness standards were well maintained by a good manager and a committed team. The group dynamic in this team was interesting, and when I spent a couple of nights carriage cleaning a delight to learn. I well remember one revelation which that in the internal hierarchy of a train cleaning gang was (5 folk) the toilet cleaner was, believe it or not, top dog. The reasons were complex but included the fact that as the job was separate, so were the tools. Effectively the toilet cleaner got their own bucket etc! Everyone else managed with what there was. Also, toilets on trains are the most difficult things to keep clean, but very noticeable when you fail, so we spent a lot of time emphasising the importance of the task to those involved. This also improved their status. Nevertheless, to experience the internal regime first hand was not what I expected.

Small lockable rooms on trains are the first places to be visited by those who mindlessly mess things up for others, through graffiti or vandalism. On graffiti we developed a policy of not cleaning, which always damaged the paint or left a shadow, but of having vinyl sections of the right size that could be quickly applied to cover it all up leaving a nice shiny colour matched surface. The idea came from the team and it worked well, it is a wonder to me that it is not now standard practice for all, but my observations are that it is not.

The management of waste and toxic cleaning materials were risk areas that brought to cleaning team into the front line of the ISRS rating system and they revelled in it.

The result of the audit was that we did not achieve level 4, but level 5! This was at the time the best of any TOC in the country, or as far as we knew, in Europe. We were proud and delighted for all the effort, not just that which went into the audit, but into the everyday work that was constant and designed to protect everyone.

The importance of these examples in hindsight illustrate a number of issues that explain much of what has happened to our privatised operations. BR's cutting had gone too far, costs had become more important than customers, to the detriment of the service, and the surprise of new private operators who thought they would make money by further cost cutting, only to end up destroying service levels because they did not have enough drivers etc. (e.g. SWT in its early days). Driving new operators into cost cutting by denying them a good share of revenue improvement is a mistake.

Staff numbers were already increasing at privatisation and would continue to do so for good customer service reasons. The alarmist howls from some quarters that mass redundancies would result were just that – alarmist howls.

Similarly, with safety, the culture of continuous improvement was well embedded, operators needed a robust safety case to get a licence to operate, and the Regulator has real clout because there is always an alternative operator in the wings. National operators do not have this risk to their licence, it would be a very brave regulator that stopped the whole country's railway system because of a perceived safety failure, but that is the real risk for franchised and open access operators on our railway today. It is a very different regime and a great aid to safety discipline. I believe it is at least part of the reason we are getting safer much quicker than the French and the Germans. On current statistics from the Rail Safety and Standards Board, our overall passenger harm (death and injuries) per passenger kilometre is nearly 20 times better than both of these railways, both of which are better than the European average. Not many people know how good our privatised system has become!



A USA built Averyagricultural tractor used for direct haulage ploughing.

Great Dorset Steam Fair 24 August 2018

Photo John Billard



Jamie Perry-Giddings has written as follows

RSME club president Les gets to ride the 7 1/4 class 08 to restore. He gave me this wonderful locomotive on the 2nd September 2017 at the old oak common open day. When i first received the 08 it was in BR blue but When talking to Les he said he like them in original BR green. So that what i did. Thank you Les for the locomotive! Photo Jamie Perry Giddings.



## The Not So Permanent Way Part 2

# by John Spokes

In my earlier articles on this subject I talked amongst other things about RCF, Rolling Contact Fatigue, and the issue of Creep. The contact and consequent compressive load between wheel and rail always results in some form of RCF. This is true even when the wheel is rolling neutrally; however, when a driving or braking force is applied, or the wheel is negotiating a bend in the track, or slipping, then the forces lead to greater fatigue.

A definition of Fatigue is the progressive and localized structural damage and the weakening of a material that occurs when it is subjected to cyclic loading.

In the case of the rail, weakening of the material manifests itself as cracks in the surface. These are initially very small, micro-cracks would be a good description, but as trains pass over these cracks the train's weight bends the rail and the cracks grow. If not dealt with this can ultimately result in catastrophic failure as the rail breaks completely. This was the consequence of untreated gauge-corning cracking, the cause of the Hatfield disaster in October 2000. Gauge-corner cracking occurs at the inside corner of the outer rail on a bend where the wheel flange presses against it. (Figs 1 (a). (b) and (c) show the typical progression of untreated Gauge Corner Cracking).

Fig 1a









#### Fig 1c

1<sup>st</sup> Gauge-corner cracking is one example of rail damage caused by RCF.

Another is a defect called a Squat. The cause for this is not fully understood, but it's best described as a bruising of the metal just under the rail-head and this then propagates cracks upwards and along the rail which causes de- lamination of the rail surface (See Fig 2).



Fig 2 Another example Corrugation which is a

series of evenly space dents in the rail head on the inside rail at a curve This cyclic is а phenomenon and is thought to be result of lateral oscillation of the wheel set as it traverses a bend. The corrugations start very shallow, but

is

once started, the lateral oscillations synchronize with the corrugations making them worse

One more type is the Rail Burn, which is not really RCF, but a localised change in rail composition and surface tearing due to over-heating as result of wheel slip. Rail Burns are most commonly observed on rails where trains restart from stations and the Creep Control fails to prevent Wheel Slip. Fig 3 shows an extreme example from the USA where vandals over-rode the creep/slip control on a loco, applied brakes to the train and put the engine on full load.



Fig3

Because

these rail

problems begin as small cracks, which grow larger if untreated, the main method of mitigation is firstly inspection to identify problem areas and then regrinding of the rail-head before the micro-cracks propagate. These activities usually take place at night. Inspection involves video records, combined with ultra-sonics and the placement of faults through accurate distance mapping. Fig 4 shows a typical rail-grinding set-up.

It's not just the rail that wears, but also the wheel. Next month I'll conclude with a brief outline of problems with wheels and how they can be overcome.



All figures courtesy John Spokes

## **PHOTO ANALYICIA** Where WP looks at some old photos taken by the editor



#### No 2 Classes 37, 45, 40 and 47 stabled at York 1980

The picture (previous page) shows left to right a class 37 with its front bonnet hood open, two class 45s with split headcode boxes a class 40 and a 47.

This was fairly normal fare for York on a Sunday in 1980. However the two Peaks are interesting, in that although they worked Trans-Pennine services at times, back then most were hauled by class 40s and the occasional 47. It was not until 1983 that class 45/1s from the Midland Main Line took over the service. They remained allocated to Toton in Notts.

However, with the economic slow- down there was a general surplus of diesel locomotives on BR and a lot of the earlier steam heat only class 45 and 46 were being placed in store, surprisingly at Swindon Works. In 1978 York had 16 class 45/0s on its books but these went to Tinsley Sheffield at the end of 1979. My reason for this analysis is that the left hand class 45 appears to have lost its left hand drivers' window, suggesting it may already be in store.

According to the January 1980 observer 4 x class 46s were booked on the 07.35 ex York special to Swindon for storage on 18<sup>th</sup> November 1980. But this is a red herring as no class 46s had split headcode boxes! But it does



#### No 3 Classes 40, 47, 5x class 31 stabled at York 1980 (as above)

Again nothing unusual about a class 40 or a 47. 47195 was based at Crewe at the time of the picture formerly numbered D1845 it was delivered new from Crewe Works in May 1965 to 5A-Crewe North. It remained at Crewe (Western Lines in 1966 and D05 Stoke Division in 1967-1973 though still maintained ostensibly at Crewe). From 1974 to 1991 it was allocated to Crewe Diesel Depot and in 1991 it went to Immingham as part of the Petroleum Fleet, being finally withdrawn in November of that year. It ceased to exist in March 1994 courtesy of Messrs. Coopers' Metals, Attercliffe. Five

of its contemporises lasted the same time at Crewe. I first saw it at Glasgow Polmadie on 31<sup>st</sup> August 1967.

York had an allocation of about a dozen class 31s in 1980, but they were moved away by 1981. They worked local freight and engineering trains There is something else in the far distance. It could be a class 37 with a brake van in front of it.



### No 4 Class 33, No 33103 on Weymouth Quay Line 1977

The Weymouth Quay Line was operated by GWR panier tanks and then BR Drewry 0-6-0 shunters (class 03) based at Bournemouth. These were replaced by Crompton type 3 (class 33s) in 1973. The line ceased regular use in 1987 and has not been used as far as I know since 1999 for a special. The council want to buy it from Network Rail who have no further interest in it. However there is a campaign to keep it open, so I don't think anything further has happened, though I believe NR have removed it from operational use.

John's picture shows a boat train making its way along the quay towards Weymouth main station, where it will join the main line north of the platforms. 33103 was delivered new to Hither Green (73C) in July 1960. It was withdrawn in February 1997 and is preserved.

Head code 90 which it displays is not surprisingly the Waterloo-Weymouth description. In the 1977/78 South Western Division platform working booklet there were two trains a day each way during the summer only (May to October). Weymouth departures for Waterloo were at 07.30 and 16.00 or 16.30 depending on days/dates. The departures from Waterloo were 09.36 and 20.17, doubtless to connect with the Channel Island ferries. The trains were formed of 9 or 11 coaches again depending on days/dates. Judging by the shadows this is the 16.00 or 16.30 departure from the Quay.

# **SEPTEMBER DIARY**

Saturday 1 <sup>st</sup>	Birthday Party	11:00 to 13:30
	Birthday Party	14:30 to 17:00
Sunday 2 <sup>nd</sup>	Public Running	13:00 onwards
Saturday 8 <sup>th</sup>	Members Running	11:00 onwards
Sunday 9 <sup>th</sup>	Birthday Party	11:00 to 13:30
	Birthday Party	14:30 to 17:00
Monday 10 <sup>th</sup>	Trustees Meeting	19:30
Saturday 15 <sup>th</sup>	Birthday Party	11:00 to 13:30
	Birthday Party	14:30 to 17:00
Sunday 16 <sup>th</sup>	Birthday Party	11:00 to 13:30
	Birthday Party	14:30 to 17:00
Friday 21 <sup>st</sup>	Young Engineers	18.00
Saturday 22 <sup>nd</sup>	Young Engineers	11.00
-	Club Running	13:00 onwards
Sunday 23 <sup>rd</sup>	Birthday Party	11:00 to 13:30
	Birthday Party	14:30 to 17:00
Saturday 29 <sup>th</sup>	Birthday Party	11:00 to 13:30
	Birthday Party	14:30 to 17:00
Sunday 30 <sup>th</sup>	Birthday Party	14:30 to 17:00

Opinions expressed in PROSPECTUS are the personal views of the contributor and cannot be taken as reflecting the views of the club committee or editor.PR The deadline for the October PROSPECTUS is 18 September. This is the final date. Contributions from all members are greatly welcomed They may be submitted in hard or soft copy to the editor. John Billard Old Station House Twyford Reading RG10 9NA 01189 340381 john@jegbillard.plus.com