

THE COMMUNICATION CORD



60163 TORNADO
New Steam for the Main Line

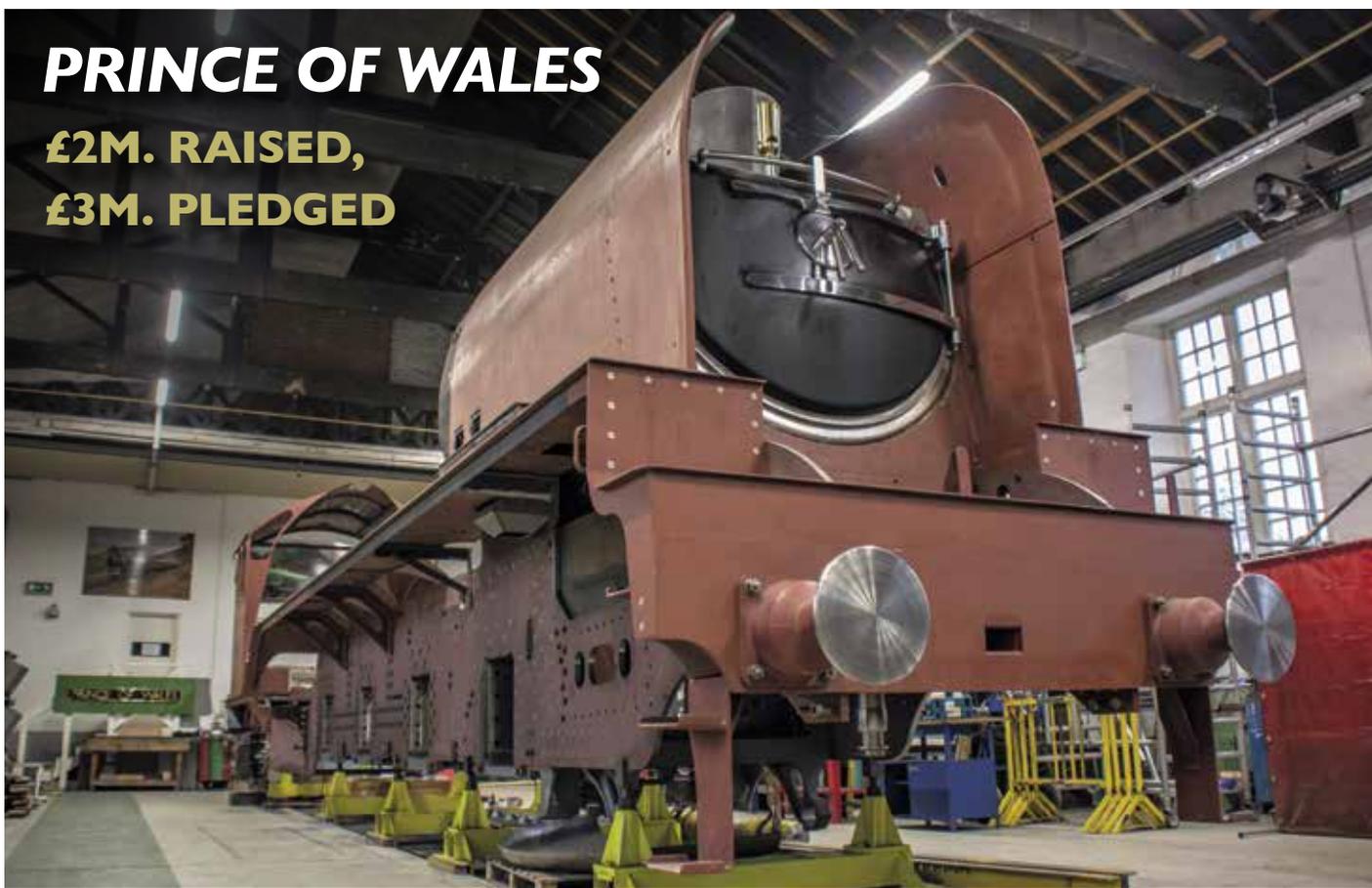


2007 PRINCE OF WALES
Building Britain's Most Powerful Steam Locomotive

No. 50 Spring 2018

PRINCE OF WALES

£2M. RAISED,
£3M. PLEDGED



Mandy Grant

● £200,000 MIKADO CLUB COMPLETE ● £100,000 CYLINDER CLUB COMPLETE

‘THE EBOR FLYER’ - TRIUMPH AND TRIBULATION

Tornado races through Biggleswade
with ‘The Ebor Flyer’.



Roger Hart

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EDITORIAL by Graham Langer



Welcome to the 50th edition of *The Communication Cord*! It is hard to believe that the publication has been appearing longer than *Tornado* has been gracing the main line but, as such, it has fulfilled its role, we hope, of informing, educating and entertaining supporters of *Tornado* and, now, *Prince of Wales*. It will be interesting to see what the headlines are for TCC 100!

This is certainly proving to be a “sweet and sour” year. Whilst the P2 continues to generate astonishing headlines our A1 has been less lucky and the tale of trouble has been well covered elsewhere; suffice to say we were deeply disappointed by *Tornado*’s failure on ‘The Ebor Flyer’ and it came on top of a very difficult start to the year. Following a very successful winter overhaul at Locomotive Maintenance Services in Loughborough, the engine ran faultlessly at the Great Central (North) prior to its departure to haul ‘The North Briton’; alas it was during the FTR examination before *Tornado*’s return to Network Rail that a problem with the locomotive’s upgraded TPWS system manifested itself, preventing the locomotive from hauling a ‘Belmond British Pullman’ (*Clan Line* substituted). This intermittent fault appeared to have been resolved and the locomotive ran light engine to Doncaster where, alas, the fault re-appeared meaning No. 60163 had to run with a Class 66 piloting the train. Following a scheduled move to the North Yorkshire Moors Railway the first weekend of a week’s planned running was cancelled due to heavy snowfall.

While she was based at the NYMR our engineers continued to burn the midnight oil as they worked their way through the entire electrical system before finally identifying the source of the trouble. We hope to release full details of this once clearance has been given by the component manufacturers responsible for provision of some of the TPWS equipment, but we can say that no blame lies with the Trust, and that the failure revealed a potentially serious problem that might have affected other members of the main line steam fleet, although, happily, it was a ‘fail safe’ error which would not have endangered the locomotive or passengers. With this resolved, arrangements were being made for the light engine move to the Severn Valley Railway (SVR) Gala when the news of a serious bridge strike on the Whitby branch broke, necessitating a road move to the SVR.....

Einstein said, “Out of clutter, find simplicity. From discord, find harmony. In the middle of difficulty, lies opportunity.” We can only hope for *Tornado*’s sake that we do manage to find opportunities in our current main line difficulties. We have had to revise the diary for May and June and details of changes will be passed on to passengers and posted on our website. One bright feature has been our supporters’ reaction to the locomotive’s woes and the past month has seen an uplift in Covenants and donations as well as an additional 500 people signing up to the A1 Facebook page! We are truly grateful for all your good wishes and continued support.

Turning to *Prince of Wales* the contrast couldn’t be greater; at Darlington Locomotive Works construction of No. 2007 forges on, the Cartazzi axle has been trial fitted to the frames, work continues to focus on wheeling the locomotive later this year and the wheelsets have been delivered to South Devon Railway Engineering for assembly. All this progress is possible because of the tremendous support being shown for the project. The first batch of P2 Roadshows of 2018 have attracted good audiences and a significant number of new Covenants and donations; the various ‘clubs’ have filled up, the big news being that the Cylinder Club reached the target two months early and that the extended Mikado Club has also topped out.



Goathland - 6th March 2018

TCC

Alan Weaver

SIR WILLIAM McALPINE – AN OBITUARY by Graham Langer

Alas we have to record the passing of another of the Trust’s great supporters, Sir William (Bill) McAlpine who died on 4th March 2018. Born into the famous family of contractors and engineers, Sir William attended Charterhouse before joining the family firm at the tender age of 16; he became progressively more involved with railway preservation during the late 1960s, saving the last McAlpine contractor’s locomotive before going on to acquire a share in *Pendennis Castle* and, more famously, rescuing *Flying Scotsman* from the receivers in California following the collapse of Alan Pegler’s second, failed attempt to tour the U.S.A. with a promotional train.

Sir William was involved in the Romney, Hythe and Dymchurch Railway and the creation of Steamtown, Carnforth, becoming a lynch pin in the setting up of the Steam locomotive Operators Association. Carnforth became the restoration base for many of the Pullman cars that were to become the foundation of the VSOE operation although at this time he parted with *Pendennis Castle* which was shipped to Australia, only for it to be re-united with *Flying Scotsman* when Sir William took the latter there for the Australian bicentennial in 1988.

In the 1990s he established a running shed at Southall for his main line fleet and over time supported dozens of railway organisations; he also acquired a huge collection of railway relics, from complete buildings to locomotive nameplates and found a home for them and a standard gauge railway in the grounds of his house in Buckinghamshire. Sir William was a long-term supporter of The A1 Steam Locomotive Trust, a Covenanter since the earliest days, his tie of choice for railway events was an AISLT one! In 2017 he unveiled the Transport Trust plaque on Darlington Locomotive Works. We will miss him. TCC



Sir William McAlpine unveils the Transport Trust plaque, Darlington 2017.

Bob Hughes

Colin Cragg



Tornado stands at Rawtenstall on the East Lancashire Railway.



Thank you to all those who attended the 2018 Covenantors' Day at the North Yorkshire Moors Railway.

You will shortly be receiving your invitations for a very special event in Darlington, at Darlington Locomotive Works, on Saturday 28th July 2018, *Tornado's* 10th Birthday Party. The day will consist of showings of both our

BBC documentaries, 'Absolutely Chuffed - the men who built a steam engine' and '*Tornado* - the 100mph steam engine' with Tom Ingall (presenter of these documentaries) being at the works too. We will also be looking at *Tornado's* achievements over the last 10 years, along with a bar, lunch, hog roast and band!

We will be sending invitations out in July for our 2018 Annual Convention which will be held in Darlington on Saturday 13th October.

General Data Protection Regulations

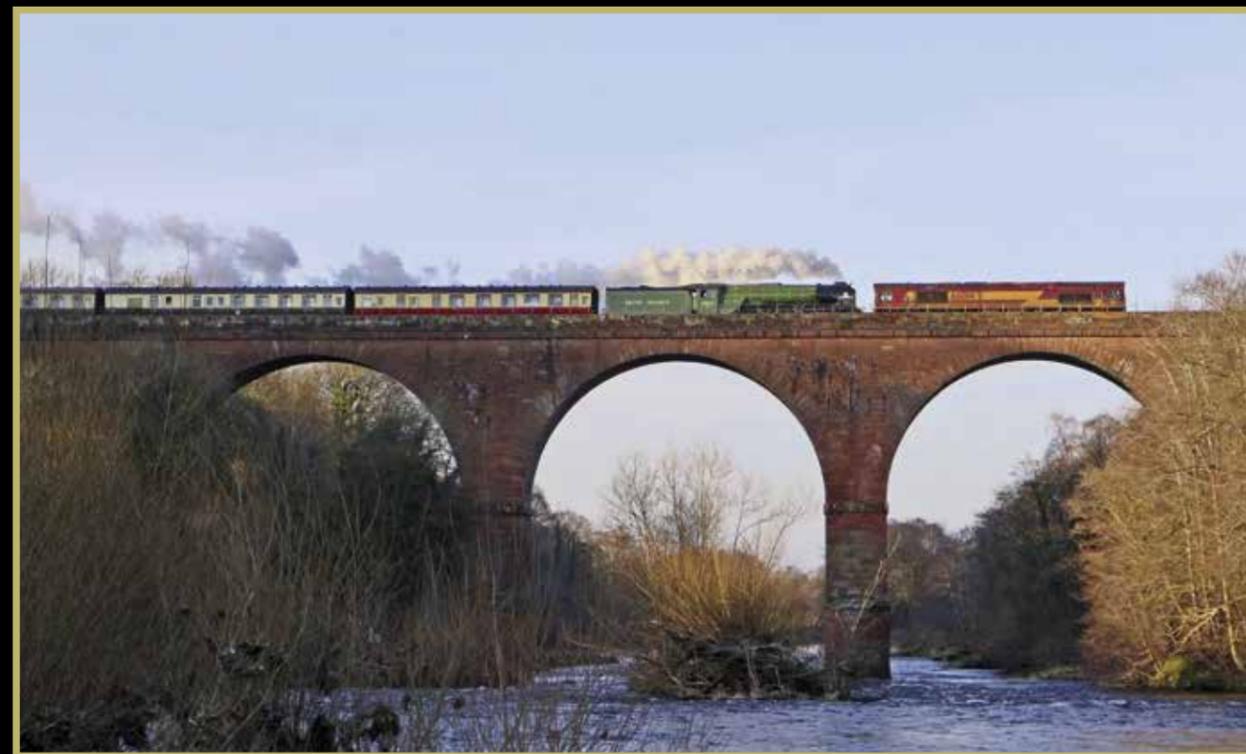
On Friday 25th May 2018, the law is changing around data and how it can be used. New data regulations mean we will only be able to contact you if you have given us your consent. You will recently have received an email from us or a postal letter if we don't have an email address for you, asking you to confirm you would like to 'opt in' to receiving correspondence from us. As we need to contact you as part of our promises to our supporters, i.e. newsletters and event invitations, please could I ask that all of you respond to this communication. If you haven't received your communication from us, please email enquiries@alsteam.com or write to us, confirming your details (name, address, phone number, email address) and also stating that you are happy for us to keep your details on our database and you are happy to receive communications from us via post, email and telephone. **TCC**

TORNADO TOUR DIARY - 2018

Below are the future operations *Tornado* is confirmed to be involved in. More details will be published on www.alsteam.com as trains are finalised. Contact details for tour companies are below.

- **Tuesday 10th July - New Tour**
RAF 100 CELEBRATIONS - Lincoln & Peterborough to London and return - bookings call 01325 460163
- **Saturday 21st July** - 'The Talisman' - London to Durham (Option: Beamish) and Newcastle. Return journey with Deltic diesel locomotive D9009 *Alycidon* - **SOLD OUT**
- **Saturday 28th and Sunday 29th July** - 10th Anniversary Party - Darlington
- **Sunday 29th July - New Tour**
Yorkshire Circulars - *Tornado* Tenth Anniversary specials
- **Saturday 1st August** - 'The Mad Hatter' - 10th anniversary train - Darlington, York and Wakefield to Chester - bookings through UK Railtours
- **Saturday 11th August** - 'The Settle & Carlisle Golden Tour I' - Bristol to Appleby via Carlisle - Pathfinder Tours
- **Wednesday 15th August** - 'The Settle & Carlisle Golden Tour II' - Didcot to Appleby, return via Carlisle - Pathfinder Tours
- **Saturday 18th August - New Tour**
'The Bard of Avon' - Manchester Piccadilly to Stratford-upon-Avon - bookings through UK Railtours
- **Bank Holiday Monday 27th August (Re-scheduled)**
'The Canterbury Tale' - Peterborough, St. Neots, Stevenage, Potters Bar and Finsbury Park to Canterbury and Dover Coast - bookings through UK Railtours
- **Saturday 8th September - New Tour**
'The Devonian' - Birmingham to Plymouth and return (*Tornado* Bristol - Plymouth - Birmingham) - bookings through UK Railtours
- **Saturday 29th September (Re-scheduled)**
'The Ynys Mon Express' - East Midlands and North Staffordshire stations to North Wales Coast (Option: Ffestiniog and Welsh Highland Railway) - bookings through UK Railtours
- **Sunday 7th October - New Tour**
'The Auld Reekie' - Doncaster & York to Edinburgh and return - bookings through UK Railtours
- **Saturday 13th October** - A1/P2 Convention - Darlington
- **Saturday 1st December - New Tour**
'The Christmas Border Raider' - West Midlands to Carlisle via the Settle & Carlisle Railway and return - UK Railtours
- **Saturday 9th February - New Tour**
'The North Briton' - East Midlands to Carlisle via the Settle & Carlisle Railway and return - bookings UK Railtours

UK Railtours 01438 715050 www.ukrailtours.com Pathfinder Tours 01453 835414 www.pathfindertours.co.uk



Tornado and No. 66014 cross Wetheral Viaduct.

As I sit to write some words about our recent achievements, I can only speculate that this has turned out to be our very own *annus horribilis*! If the year started poorly following our earlier period of winter maintenance, it unravelled fairly quickly once we looked to return to the main line and our first train of the year. Taking several paces back, in TCC 49, we reported a successful period of running in at the Great Central Railway (North) following some extensive maintenance to the cylinders, valves and motion. The engine seemed to run well with little sign of any of the issues that might follow.

The plan was to move locomotive and support coach to London ahead of the booked 'Belmond Pullman' on 16th February after running service trains at GCR (N) the weekend before. Unfortunately, *Tornado* failed the Fitness to Run exam, when it was discovered components in the TPWS/AWS did not meet Railway Standards and so had to be replaced. As part of the remedial action, the TPWS system was upgraded to the latest version. Believing all to be well, we were further disappointed to discover an intermittent fault when the AWS system failed to function correctly. Despite sterling efforts by the engineering team, it was not possible to identify the fault before the light engine move to

Doncaster Roberts Road and 'The North Briton' was forced to run behind a Class 66 pilot much to everyone's disappointment. However, this did allow us to position the locomotive at the NYMR to meet our commitments to their Gala at the beginning of March.

North Yorkshire Moors Railway 3rd - 11th March - We hoped that a period of running on a preserved line would ease the problems that had beset us, but 'The Beast from the East' had other ideas! With heavy snow falling over the North Yorkshire Moors from Wednesday 28th February, the NYMR was forced to cancel their planned weekend *Tornado* services, as locomotive crews, staff and members of the public struggled to gain access to the railway. The support crew made it to Grosmont on Monday 5th March to prepare the locomotive for the remainder of the visit. The locomotive ran well coping easily with the challenging gradients on the line, despite the occasional flurries of snow and poor visibility. Most days involved two return trips in charge of a rake of eight Mk1 coaches and on and on our Supporters' Day, *Tornado* looked magnificent in charge of the teak set for a return trip to Pickering. On Sunday, the locomotive achieved 100,000 miles in service since completion in 2008 as it departed Pickering, hauling the last train of the day.

TORNADO ON TOUR by Huw Parker



Mandy Grant

Above: Grosmont in the snow! An image that sums up *Tornado's* stay on the NYMR.

Right: No. 60163 is again caught in the snow, this time on the SVR.

The following day, the engineering team was preparing the locomotive for the Fitness to Run exam ahead of the light engine move to the Severn Valley Railway when the news came that a bridge strike at Castleton had closed the Whitby-Battersby branch, stranding *Tornado* at Grosmont. Early reports suggested the damage would close the line for several days, risking the rail move to Bridgnorth. Some swift planning identified that a road move from Pickering was the only way to guarantee our appearance at the SVR Gala. We were indeed fortunate that arrangements for the move were made quickly as it was discovered NYMR planned permanent way work that would have prevented access from Grosmont to Pickering the next day!



Ben Prior



Terry Waldron

Above: 'The Sulis & Sarum Express' storms past Hanging Langford.



Ian McDonald

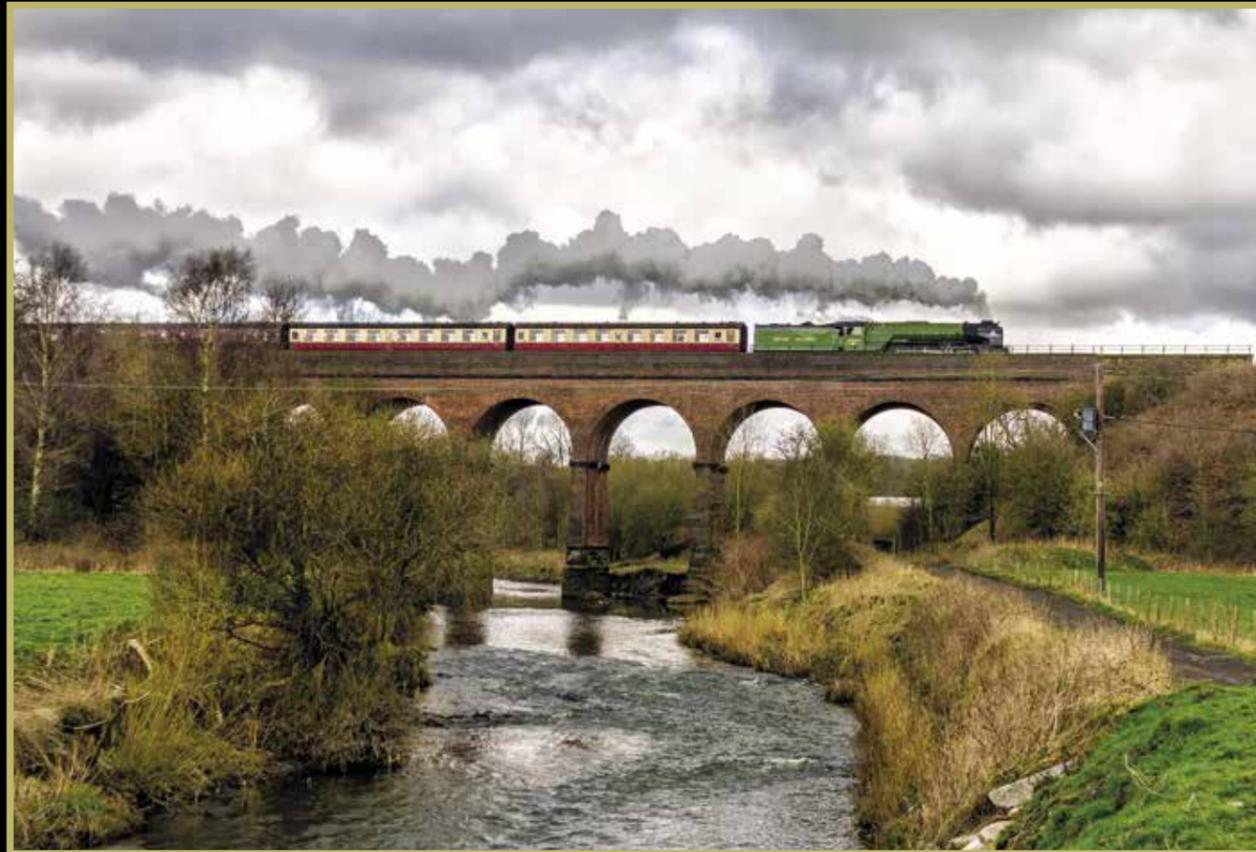
Left: *Tornado* tackles Broadfield Bank on the ELR.

Another excellent response from Allelys Heavy Haulage saw the locomotive and tender arriving at Bridgnorth by Thursday 15th March, just in time to operate the first Gala services the following day. The support coach was unloaded at Kidderminster on Friday and worked back to Bridgnorth behind *Tornado* after the last train.

Following 'The Sulis & Sarum Express', *Tornado* moved from Bescot to the East Lancashire

Railway for their Easter weekend Gala. The locomotive proved a popular attraction with visitors and crews; most of the pre-booked trains ran to capacity, with some seats available on the later trains. The diagram consisted of four trains each day with an evening diner on Good Friday and Saturday. The engine performed well throughout the weekend, tackling the Metrolink Bridge gradients and the climb to Heywood with ease.

TORNADO ON TOUR *by Huw Parker*



Alan Weaver

No. 60163 crosses the Roche Viaduct.

In the preceding weeks, we had noticed the tender had picked up a series of small flats on one of the leading wheelsets and the opportunity was taken to send it for turning before 'The Ebor Flyer' in April. As soon as the locomotive arrived back on shed on the evening of Easter Monday, the engineering team split the tender from the locomotive and, in the pouring rain, loaded it onto an Allely's trailer for the trip to Doncaster Roberts Road. After a very quick turnaround on the wheel lathe, the tender was loaded the next afternoon and returned to Bury to be re-assembled before heading South to Stewarts Lane in London.

Readers will probably be aware of the events leading to the unexpected failure of *Tornado* whilst in charge of 'The Ebor Flyer' on Saturday 14th April 2018. Whilst we are well aware of the disappointment and inconvenience caused to our own passengers and travellers that day, it is safe to say that the support crew and engineering team that had cleaned and prepared the locomotive for the previous two days were equally, if not more, disappointed. It took a day or so for this to sink in; as you might imagine we were exceptionally busy immediately after the damage occurred until quite late the following day.



Thomas Shrimpton

On 7th April, *Tornado* worked a 'Belmond British Pullman' on the Surrey Hills circuit and is seen here at Woking.

The team had started work at Stewarts Lane on Wednesday, and following some minor repairs, the fire was lit late Thursday afternoon. The FTR exam was successfully completed by late morning the next day and a visit to the sidings at Ferme Park confirmed arrangements for water prior to the run and stabling overnight afterwards. An early start on Saturday morning, *Tornado* and the support coach left Stewarts Lane Depot at 04:41 hrs and ran round to Ferme Park, where we took water and joined

the country end of the stock for the move into King's Cross. An early arrival allowed passengers and visitors alike to view the engine at the head of a rake of Mk2 coaches. We left King's Cross one minute late but were on time leaving Potters Bar and shortly after Biggleswade an unexpected reduction in speed was the first indication of the impending disaster, followed by the sound of ballast striking the underneath of the coach and then an emergency brake application.

After a short wait, the locomotive crew secured a block on the Down Slow line to allow us to leave the support coach and inspect the engine. From the initial description from the footplate crew and visual inspection between the frames, we knew it was not good. Our Duty Engineer crawled underneath the engine and recounted the grim news that the bottom of the combination lever, union link and drop link were missing. We would

not continue under our own steam and required assistance.

Well-practiced procedures for protecting our train and the railway were put into place and other trains were eventually allowed to pass with caution until it was clear no damage had been done to the infrastructure. A GBRf Class 66 was attached to the front of the train and we were moving again after just 1hr 45min, an astonishing feat under the circumstances! Unfortunately, travelling at reduced speed, this delay had increased to over three hours by the time we reached Peterborough where *Tornado* was taken off the train and thanks to our friends at the Nene Valley Railway moved to Wansford for further examination and investigation.

At the time of writing, an independent, forensic examination of the locomotive has been conducted and orders have been placed for the new parts required to be made. [TCC](#)



Rob Simmonds

On her way to 90mph (and an emergency stop!), *Tornado* dashes through Biggleswade.

THE BARD OF AVON

Saturday 18th August 2018 - Manchester Picadilly to Stratford-upon-Avon.



We are delighted to invite passengers to join *Tornado* on 'The Bard of Avon' for a nostalgic, summertime day trip to Shakespeare's Stratford. This railtour starts at Manchester Piccadilly, before calling to pick up passengers from Stockport, Wilmslow, Crewe and Shrewsbury.

For the first time, *Tornado* will depart from Manchester Piccadilly station. The train will then proceed on, before picking up passengers at Stockport and Wilmslow. Passengers can enjoy the lovely Cheshire scenery as the train takes the route via Sandbach to Crewe. We then cross through the beautiful countryside of Shropshire for our final passenger pick up at the county town of Shrewsbury. From Shrewsbury, we head by way of Wolverhampton and Birmingham New Street to join the Great Western Railway, where we will proceed on the scenic North Warwick Line to Stratford. Our return journey takes us on the alternative route to Birmingham via Lapworth and Solihull, before we branch off on the Sutton branch line to Walsall, and on to Wolverhampton. From there we return by way of our outward route. Offering a full day with *Tornado*, this train is steam hauled throughout.

STRATFORD-UPON-AVON

A visit to Stratford would not be complete without finding out more about the Bard that makes it famous. Shakespeare's Birthplace allows you to discover more about his early years by visiting the house where the world's most famous playwright was born and grew up. Nearby Holy Trinity church, where Shakespeare is buried, is one of the loveliest parish churches and well worth the short walk to visit. From quaint side streets with unique and individual shops to open parklands along the river, there's something for everyone. In summer, the River Avon becomes a playground for many, with boat trips affording views of the town, from beautiful riverside gardens to the Royal Shakespeare Company Theatres.



Robin Coombes

TIMES (PROVISIONAL)	OUTWARD	RETURN
Manchester Piccadilly	08:30hrs	21:30hrs
Stockport	08:45hrs	21:15hrs
Wilmslow	09:00hrs	21:00hrs
Crewe	09:30hrs	20:30hrs
Shrewsbury	10:00hrs	19:30hrs

TICKET	PRICES (STARTING FROM)
First Class Dining	£249.00
First Class Non-Dining	£165.00
Standard Class	£109.00

To make a booking visit www.ukrailtours.com or call 01438 715050

ONE LAST SHED BASH! by Mark Allatt

Only 34 Pacifics remaining in The (extended) 163 Pacifics Club

The last few months have seen tremendous progress in our campaign to raise £200,000 to pay for No. 60163 *Tornado's* tender. As you will recall, William Cook Cast Products Ltd, through its Chairman Sir Andrew Cook CBE, funded the construction of No. 60163's tender in 2006. *Tornado's* tender is currently owned by William Cook Cast Products Ltd (the Trust's Principal Sponsor) and it is leased to the Trust under a fifteen-year loan agreement which will come to an end in 2021.

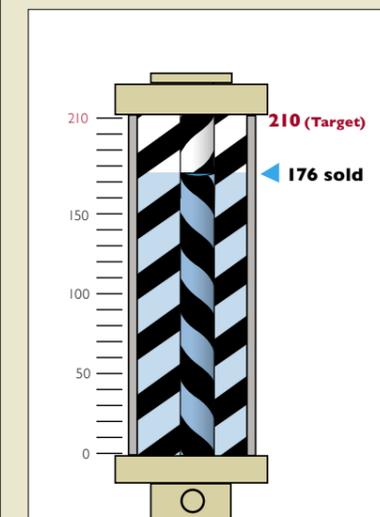
The 163 Pacifics Club was set up in 2013 to fund the purchase of *Tornado's* tender from William Cook Cast Products Ltd through the sponsorship of the 163 ex-LNER express passenger Pacifics from the Gresley class A3s/A4s, Thompson class A1/1 and Peppercorn class A1s. 163 people making a one-off donation of £960 (or £10 per month over eight years) with the addition of Gift Aid this would raise £195,600.

Given some of the wonderful names carried by the other LNER Pacifics from the Raven class A2s, Thompson classes A2/1s, A2/2s & A2/3s and the Peppercorn class A2s and our desire to

try to purchase the tender from WCCP before *Tornado's* 10th birthday later this year, we decided to extend The 163 Pacifics Club to include those as well. We also added in the ill-fated Gresley class A4 No. 4469 *Gadwall* (renamed *Sir Ralph Wedgwood* – name transferred to No. 4466/60006 formerly *Herring Gull*) which was destroyed during a Baedeker raid on York on the night of 28th/29th April 1942 and on request the honorary Pacific, Gresley class W1 No. 10000/60700 – un-named but the names *British Enterprise* and *Pegasus* were proposed. Any surplus raised will be used to fund the tender's next overhaul.

At the time of writing, 176 Pacifics have already found new shed allocations and over £200,000 pledged, leaving only 34 remaining for sponsorship. With *Tornado* having attained the magic 100mph and hauled her first 90mph passenger train, 'The Ebor Flyer', on 14th April 2018 (albeit breaking down at Sandy), let's complete the project we embarked upon in 1990 through the purchase of No. 60163's tender before the start of her 10th birthday celebrations in August 2018.

For more information on how you can become a member of The 163 Pacifics Club visit www.a1steam.com, email enquiries@a1steam.com or call 01325 460163. TCC



The 163 Pacifics Club Shed allocation Gauge.

No. 2401	City of Kingston upon Hull	No. 60516	Hycilla
No. 2403	City of Durham	No. 60517	Ocean Swell
No. 2404	City of Ripon	No. 60518	Tehran
No. 60053	Sansovino	No. 60519	Honeyway
No. 60066	Merry Hampton	No. 60520	Owen Tudor
No. 60073	St. Gatien	No. 60521	Watling Street
No. 60075	St. Frusquin	No. 60522	Straight Deal
No. 60083	Sir Hugo	No. 60524	Herringbone
No. 60095	Flamingo	No. 60526	Sugar Palm
No. 60503	Lord President	No. 60527	Sun Chariot
No. 60504	Mons Meg	No. 60528	Tudor Minstrel
No. 60507	Highland Chieftain	No. 60529	Pearl Diver
No. 60508	Duke of Rothesay	No. 60531	Bahram
No. 60510	Robert the Bruce	No. 60534	Irish Elegance
No. 60512	Steady Aim	No. 60535	Hornets Beauty
No. 60513	Dante	No. 60537	Bachelors Button
No. 60514	Chamossaire	No. 60538	Velocity

34 Names still available for allocation.

Following *Tornado's* failure on 'The Ebor Flyer' at Sandy on Saturday 14th April 2018, the locomotive was hauled to Peterborough by GBRf Class 66 No. 66744 *Crossrail*, removed from the train at Peterborough and immediately transferred to the nearby Nene Valley Railway where it was taken to their principal maintenance location at Wansford. 'The Ebor Flyer' then continued its journey to York diesel hauled.

On Sunday 15th April, in the presence of one of DB Cargo's appointed independent steam locomotive examiners, a thorough pit inspection and strip-down of the immediately affected components was undertaken. What we know so far is that the front valve on the middle valve spindle seized in the valve liner. This caused significant stresses to the combination lever which failed, causing the loss of the lower part of it, allowing it and the union link to flail which in turn caused the lower part of the drop link to separate from the crosshead. At the time of writing the evidence is pointing towards several areas of concern. The lubricating oil appears contaminated and further work using specialist chemical laboratories is required to understand why this is occurring and what is the full effect. Other engines have been noted to also suffer with this problem. An alignment error on the middle valve is also likely to have been a contributory factor and the investigation is also pointing towards a problem with the fit of the valve rings on the leading head. We are also examining all components and reviewing all relevant records and design and installation drawings. The nature of the failure suggests that even at 75mph the incident would have occurred. All damage thereafter is consequential and would readily explain how parts of the inside valve gear became detached in the manner they did.

The Trust is carrying out its own investigation alongside DB Cargo, our certification body and our insurers. The locomotive was carefully dismantled and as well as the obvious visual exams, Non-Destructive Testing (NDT) and other techniques have been used to check the geometrical and structural condition of components that may have been effected by the incident.

Independent of this, the Trust has secured the services of First Class Partnerships (FCP) to provide an overview and independent opinion on both the immediate causes and effect of the failure and the wider impact on the future main line running of No. 60163 *Tornado*.

We have been very fortunate that given the nature of the failure the collateral damage caused by the detached components bouncing off the underside of the locomotive is remarkably light. As to

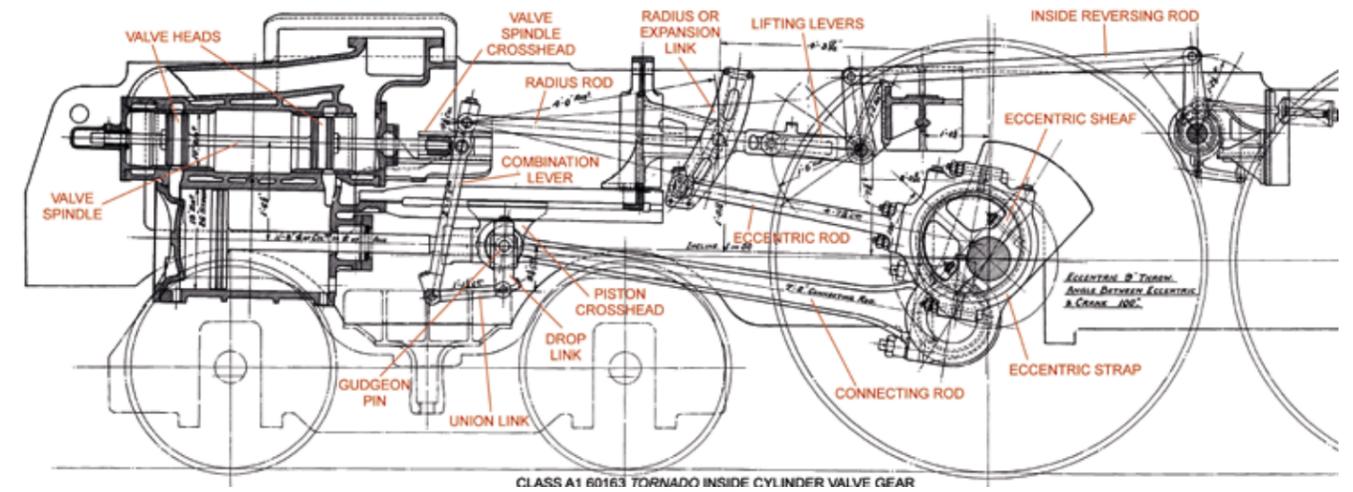


The damaged union link and combination lever.



The damaged valve piston head.

All photos and graphics David Elliott



CLASS A1 60163 TORNADO INSIDE CYLINDER VALVE GEAR



The inside union link forging ready for machining.



The heated billet for the combination lever.

repairs, the condition of the front middle cylinder valve liner is such that it requires replacement. As the rear liner has already been bored once and the front liner is designed to be larger in diameter to assist in removing valve heads and spindles from the valve chests, we have decided to replace the rear liner as well. Fortunately, Timsons Engineering of Kettering, have recently cast six new valve liners for Peppercorn Class A2 No. 60532, *Blue Peter*.

Jeremy Hosking's Royal Scot Locomotive and General Trust has kindly agreed to allow us to use two of *Blue Peter's* liner castings whilst we source replacements. We also require a new combination lever, union link and drop link. The first two are forgings and Stephenson Engineering at Atherton, have been able to rapidly forge and machine replacement components. Durham Precision Engineering of Newton Aycliffe, have finished machining a new drop link from a solid profile provided at short notice by SM Thompson of Middlesbrough. Hawk Fasteners also of Middlesbrough have quickly produced new motion pins for the union link and slide bar bolts and nuts. We are grateful for the way our friends and industry partners have rallied to help us in this impressive manner. All through this, Locomotive Maintenance Services of Loughborough (who are responsible for the routine maintenance of *Tornado*), have provided the resources to strip components from the locomotive and assist in the investigation and inspection work. The nature of the failure does not appear to be speed related, and would likely have occurred further in the trip. However, we are considering when to look at future 90mph operations and this will be part of the FCP review and will at the very least not be until 2019 until the loco is properly reinstated to service and thoroughly run in. **TCC**

THE CANTERBURY TALE

Bank Holiday Monday 27th August 2018 - Canterbury and the Dover Coast



Ian Bowskill

'The Canterbury Tale' promises to be a wonderful day trip; not only visiting one of the country's most historic cities where the sights and sounds of old England can be enjoyed, but also the beautiful journey will take the train along the foot of the iconic White Cliffs, providing passengers stunning views of the Kent coast.

Canterbury bound, the train departs from Peterborough station and heads south along the East Coast Main Line, with station calls at St Neots, Stevenage and Potters Bar. After a further passenger call at Finsbury Park the train takes the steep climb up onto the North London Line with views across the large development at King's Cross - St Pancras. The train then continues out of the capital heading East towards Maidstone and Ashford, before the final leg of our outward journey to Canterbury.

CANTERBURY

Passengers will have around three hours to explore Canterbury, a UNESCO heritage site brimming with thousands of years of history. Today the city famous for its traditional streets and buildings, including the ancient cathedral, which provided the backdrop to Chaucer's Canterbury Tales. After a few hours in Canterbury the train embarks on its scenic return journey, heading towards Minster and taking the Junction for Dover and the Cinque Ports. The steep climb of Martin Mill Bank affords good views of Dover castle and port before our route plunges under Shakespeare's Cliff and emerges along the famous White



Cliffs. Passengers will enjoy coastal views as we head back towards Ashford, picking up the outward route. In London, *Tornado* says goodbye and a diesel locomotive speeds the train back towards Peterborough.



TIMES (PROVISIONAL)	OUTWARD	RETURN
Peterborough	08:00hrs	22:00hrs
St Neots	08:30hrs	21:30hrs
Stevenage	09:15hrs	21:00hrs
Potters Bar	09:40hrs	20:30hrs
Finsbury Park	10:10hrs	20:00hrs

TICKET	PRICES (STARTING FROM)
First Class Dining	£245.00
First Class Non-Dining	£159.00
Standard Class	£109.00

To make a booking visit www.ukrailtours.com or call 01438 715050

KEEPING TORNADO ON THE TRACKS by Mark Allatt

Keeping No. 60163 *Tornado* in tip-top working order is an expensive business as we are being reminded following the locomotive's failure on 'The Ebor Flyer' on Saturday 14th April 2018. Whilst the profit from operating our programme of main line tours and *Tornado's* hire fees from heritage railways and working for other rail tour promoters currently covers her day-to-day and year-to-year maintenance costs (as I write *Tornado* is undergoing repairs at the Nene Valley Railway), they do not at present generate a sufficient surplus to fund her five and ten year overhauls, conservatively estimated at around £500,000 each. Therefore, it is vital for us to continue to maintain (and hopefully grow) *Tornado's* on-going covenant income.

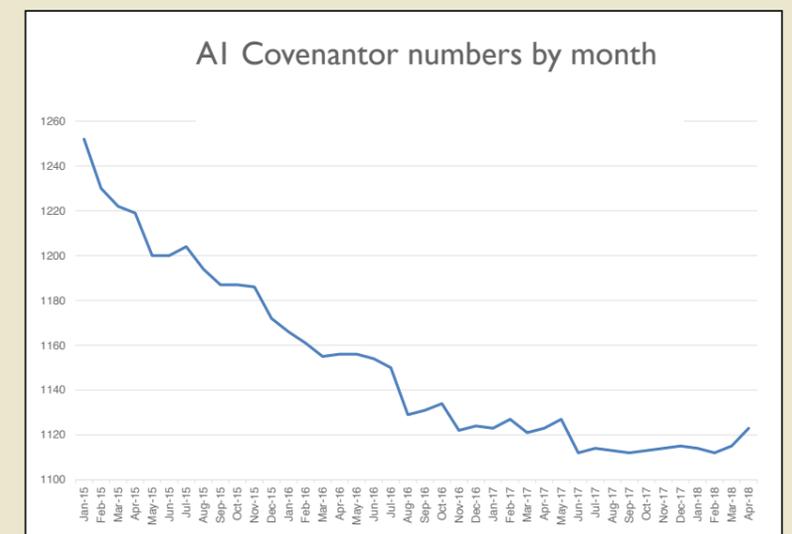
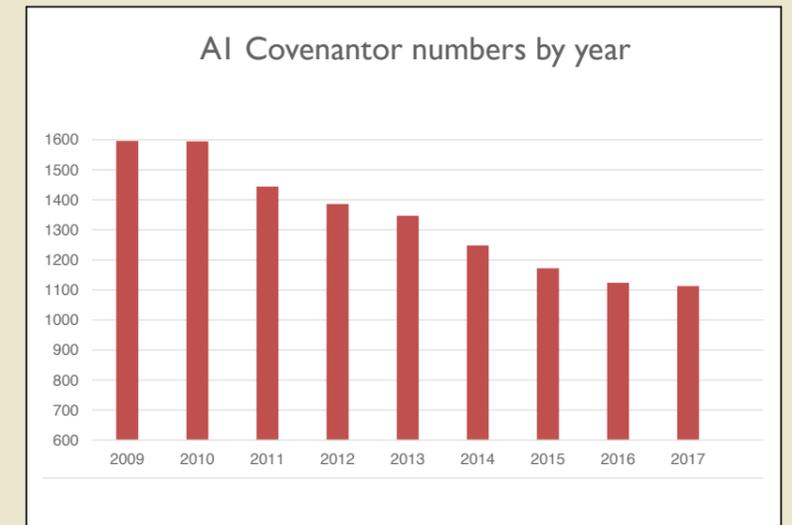
In the last couple of issues of *TCC* I have written about how the number of individual Covenants supporting *Tornado* had gradually declined since a peak of around 1,600 (many more £5pm equivalents) in 2009 to 1,120, today each person donating an average of around £10pm before Gift Aid. This decline has been mostly due to anno domini and new Covenantor recruitment failing to keep pace. We have issued over 2,700 Covenantor numbers since launch but only have 1,120 on our books, a loss of over 1,500 supporters over the past quarter of a century.

The last few months have seen this attrition stabilise with the loss of around six Covenantors per month being matched by the recruitment of around the same number of replacements. A sliver lining to the unfortunate events of Saturday 14th April is the number of people who have decided to become Covenantors following the publicity surrounding the breakdown. Hopefully the more positive profile generated by last year's 'I♥S&C' Plandampf, 100mph test run, Paddington 2 movie and our future 90mph operations will continue to help to grow this number. I would therefore urge all our existing AI Covenantors to help us to recruit new supporters and for P2 Covenantors (64% of whom are not also AI Covenantors) to come on-board if they are able to. **TCC**



Neil Whittaker

Tornado is seen at Besford with 'The Sulis & Sarum Express'.



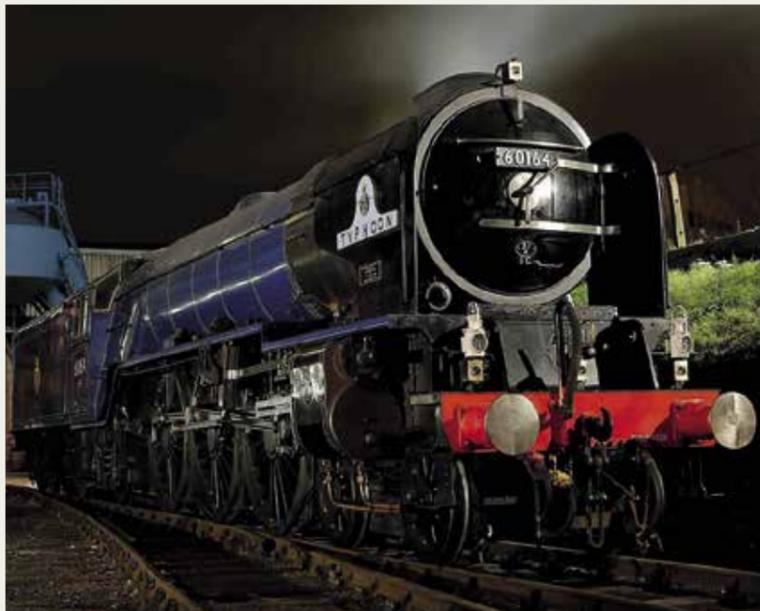
For more information on how you can help to keep Britain's only new-build main line steam locomotive on the tracks visit www.a1steam.com email enquiries@a1steam.com or call 01325 460163

TORNADO NOT TO BE RENAMED TYPHOON by Mark Allatt

On Sunday 1st April 2018 The A1 Steam Locomotive Trust, which built and now operates No. 60163 *Tornado*, announced that it would be renaming and renumbering the ten-year-old 4-6-2 'Pacific'.

The name "Tornado" was chosen to commemorate the RAF jets of the same name then on operational service during the first Gulf War. However, the announcement stated, with the Trust keen to maintain its strong links with the Royal Air Force which celebrated its 100th birthday on 1st April 2018 and the RAF's Tornado jets being withdrawn from service in March 2019 it has been decided to rename/renumber No. 60163 *Tornado* to No. 60164 *Typhoon*. The locomotive's new name would, it was claimed, commemorate the RAF's jets of the same name which will be in service for many years to come. With suitable quotes from Mark Allatt and Graeme Bunker-James the news was released to the press.

Quite a number of people were taken in by this year's April Fool.



Doctored image of No. 60164 Typhoon in blue and that of RHDR's Typhoon renumbered No. 60164 at Barrow Hill a few years ago. Photograph altered by computer by Alan Crofty, from an original by Jack Beeston.



TORNADO AT TEN – PHOTOGRAPHY COMPETITION

We would like to invite both budding and more established photographers to enter their photos of *Tornado* in her 10th year. The winner will receive two First Class dining tickets on a day's railtour of their choice. Our judges will focus on interesting angles, light and surroundings. *Tornado* is taking trains along some beautiful routes this year, so it is the perfect opportunity to get that seaside, countryside or even city landmark shot! Please send your photos, along with your name, and the date and location they were taken, to competition@a1steam.com

Photo: Tornado on the East Lancashire Railway
– Robert Batty

TORNADO HELPS BLUE PETER by Graham Langer

A new inside cylinder for Peppercorn Class A2 No. 60532 *Blue Peter* has been cast at the H. Downs foundry in Huddersfield, utilising the pattern from *Tornado*. The pattern was modified to provide a cylinder to replace *Blue Peter*'s life-expired one and will be fitted shortly as part of No. 60532's extensive overhaul at Crewe.



Blue Peter's new cylinder - Icons of Steam

AUCTION LOTS

Over the years we have gathered a number of headboards that No. 60163 *Tornado* has carried. We would like to enter these into a blind auction, with bids over £500. All of these headboards come with a plaque displaying the details of when *Tornado* carried it. If you would like to bid on any of the headboards below, please send your bid, along with your address, email address and phone number to enquiries@a1steam.com, post these details to Darlington Locomotive Works, Hopetown Lane, Darlington, DL3 6RQ or call Gemma on 01325 460163. These blind auctions will close on Saturday 30th June 2018 and the winners will be contacted week commencing Monday 2nd July 2018. If you are one of the lucky winners, you can pay for your headboard by either cheque, credit or debit card or bank transfer.



'The Talisman' – Saturday 7th February 2009 – Darlington to London



'The Silver Jubilee Talisman' – Saturday 26th September 2015 – London to York, Darlington and Newcastle



'The Robin Hood' – Saturday 13th August 2016 – London to Chesterfield



'The Devon Belle' – Saturday 2nd April 2016 – London to Devon



'The Severn Valley Venturer' – Thursday 8th September 2016 – London to Bridgnorth



'The Heart of Midlothian' – Monday 1st May 2017 - Peterborough to Edinburgh



'Tees Tyne Express' – Saturday 7th October 2017 – Dorridge to York, Durham and Newcastle



'The Border Raider' – Saturday 16th September 2017 – Birmingham to Carlisle



'The Christmas Cracker' – Saturday 25th November 2017 - London Euston, Watford Jct, Milton Keynes Central and Northampton to Chester



'The Sulis and Sarum Express' – Saturday 24th March 2018 - West Midlands to Bath and Salisbury



Tornado at the North Yorkshire Moors Railway, Goathland.

AI PROFILE - No. 60121 *Silurian* by Phil Champion

No. 60121, Doncaster Works No. 2038, was the eighth AI to be built there but the fifteenth to enter service for British Railways. It was first noted being moved from the erecting shop to the paint shop on 7th December 1948. Entering traffic from York shed 15 days later it proved to be one of a trio which remained shedded at 50A all their working lives. Livery was the customary LNER apple green with black and white lining with the owner's name on the tender in white block capitals.



Nigel Kendall

A superb study of No. 60121 at rest in York Shed in 1964.

The mere 17 years which No. 60121 was allowed to work were generally spent along the main line between King's Cross and Newcastle. On New Year's Eve it was noted at Darlington but no further details are available. However, on 15th January 1949 it hauled the 10:05hrs King's Cross – Aberdeen as far as York. The first non-passenger working logged was the York – Sheffield parcels on 19th December. One frequent train seems to have been the 13:38hrs Leeds – Newcastle observed leaving Stockton a number of times between February 1959 and January 1951; loads varied from five to seven bogie coaches in winter to nine or ten in summer. Naming took place in the same month as a repaint into BR express passenger blue, May 1950. Although No. 60121's name, *Silurian*, may have geological connotations it was one of 13 AIs to follow the fine LNER tradition of being named after racehorses. 'Silurian' was the name of the 1923 Doncaster Cup winner owned by Lord Derby; it was also placed second in the St. Leger for 1922. Only

two class members had been named so far and No. 60121 was one of a quartet named that month. Already eight AIs had received blue paint and *Silurian* was one of a further five so treated. Around this time the Flaman speed recorder fitted from new was removed and the plain chimney replaced by the lipped version.

Named trains featured early in No. 60121's career. The up 'Scarborough Flyer' was hauled on 5th June 1950, the up 'Capitals' from Newcastle to King's Cross on 18th July 1951 and the down 'Flying Scotsman' with 12 bogies into Newcastle on 6th September. Special workings included a football special into the capital on 2nd February 1952. Curiously *Silurian* was noted 'dead' on York's ex-LMS shed on 12th April. Runs between York and King's Cross were made as evidenced by a number of 08:00hrs KX – York workings noted that August and in July 1953. Workings in the opposite direction were made such as the 14:58hrs ex-Darlington to Newcastle on 28th February 1953. Haulage of the down

'Elizabethan' from Grantham to Edinburgh on 24th July 1954 was probably one of several occasions when AIs deputised for failed A4s. Newcastle was the destination for a number of trains like the 16:20hrs arrival from Liverpool on 5th February 1955 and the 15:25hrs arrival of the Colchester train recorded a number of times between April 1955 and June 1956. More named trains include bringing the down 'North Briton' into Newcastle on 26th November 1955 then leaving with the up 'Queen of Scots'. The autumn and winter of 1956 saw many runs on the 08:20hrs King's Cross – York/Hull. Other workings featured a number of times were the 07:50hrs from the capital to Newcastle/Bradford and the 13:18hrs from the 'Cross' to Leeds. That year ended with the midday down 'Queen of Scots' from London just as 1957's first day featured the same working. Transposition of the smokebox numberplate and handrail was made around this period.

The replacement of No. 60121's tender emblem by the later BR crest came in

April 1957. Main line work continued as normal with sightings at King's Cross, Newcastle and York shed plus servicing many times at Gateshead (52A). A Sunday diversion was made from the main line through Lincoln on 10th April 1960. Periodic visits were made to Doncaster Works for repairs as they had been since new. A Smith-Stone speedometer was fitted to a trailing coupled wheel. March 1962 found *Silurian* on a Hull-King's Cross hockey special on the 10th and the 12:56hrs Newcastle-Birmingham a week later. Named expresses featured less than in its earlier days but the up afternoon 'Talisman' was taken from York to Doncaster on 30th May.

From 1962, no doubt due to the onset of dieselisation, No. 60121 came increasingly to be used on non-passenger turns. First indications of this were a down goods seen at Newcastle on 19th May 1962 and the 08:20hrs King's Cross-Park Lane goods. Various types of goods trains were hauled; the up seed potatoes seen at Newcastle at 14:25hrs on 30th November; the 7F70 up Shell tanks on 18th January 1963 with the up BP tanks at 11:00hrs six days later. Parcels featured too with the additional down parcels into Newcastle on 18th December 1962 and the up parcels noted at Brancepeth on the Bishop Auckland-Durham diversion line on 18th October 1963. There were still passenger workings though, like 5th December 1962's IV47 16:05hrs



No. 60121 *Silurian* is seen in an undated but late image taken at York Shed.

Newcastle – Bristol, the extra 13:35hrs ex-King's Cross into Newcastle four days before Christmas or the arrival into Newcastle with the IS31 York to Edinburgh on 25th January 1963 then being put on the IV47 departure from Newcastle for Bristol. One special summer working was on Saturday 17th August 1963 when *Silurian* brought the 08:55hrs Filey-Glasgow as far as Newcastle for returning holiday campers, then took forward the ex-Glasgow train to its Scarborough destination before returning light engine

tender-first to York.

The last two years of No. 60121's life continued with a similar mix of traffic. Passenger trains from different locations appeared although No. 60121 presumably just hauled them on their final legs; IV67 from Manchester on 13th December 1963, 10th April and 22nd May 1964; arriving at 17:25hrs on 4th July that year with the train from Lowestoft; and bringing in the train from Bournemouth on 25th June 1965. We know that it pulled the ex-Liverpool train from York to Newcastle on 27th February 1965. The stopping 2G85 Newcastle-Berwick was run on 1st June 1964. *Silurian*'s final named express on record was the IA37 up 'Northumbrian' on 3rd March 1965. Goods trains included a down pigeons at Newcastle on the following 12th January. While the Bournemouth train referred to earlier is our last detailed log, we know that No. 60121 reached Edinburgh again as it was observed at St. Margarets shed (64A) on 3rd and 17th July. The final observation for *Silurian* was, appropriately, at its home shed on 30th August.

Withdrawal from service came on 4th October 1965. No. 60121 had carried seven boilers in its time. *Silurian* was one of the first AIs to be built and one of the last ones to survive. Already 36 had been withdrawn and No. 60121 was one of 10 to go that month. Scrapping took place at T.W.Ward, Killamarsh in November. Its racehorse name was certainly appropriate for much of its work speeding along the East Coast Main Line.

This history was compiled by Phil Champion based on a database compiled by Tommy Knox and with reference to the RCTS book "Locomotives of the LNER Part 2A" as background **TCC**



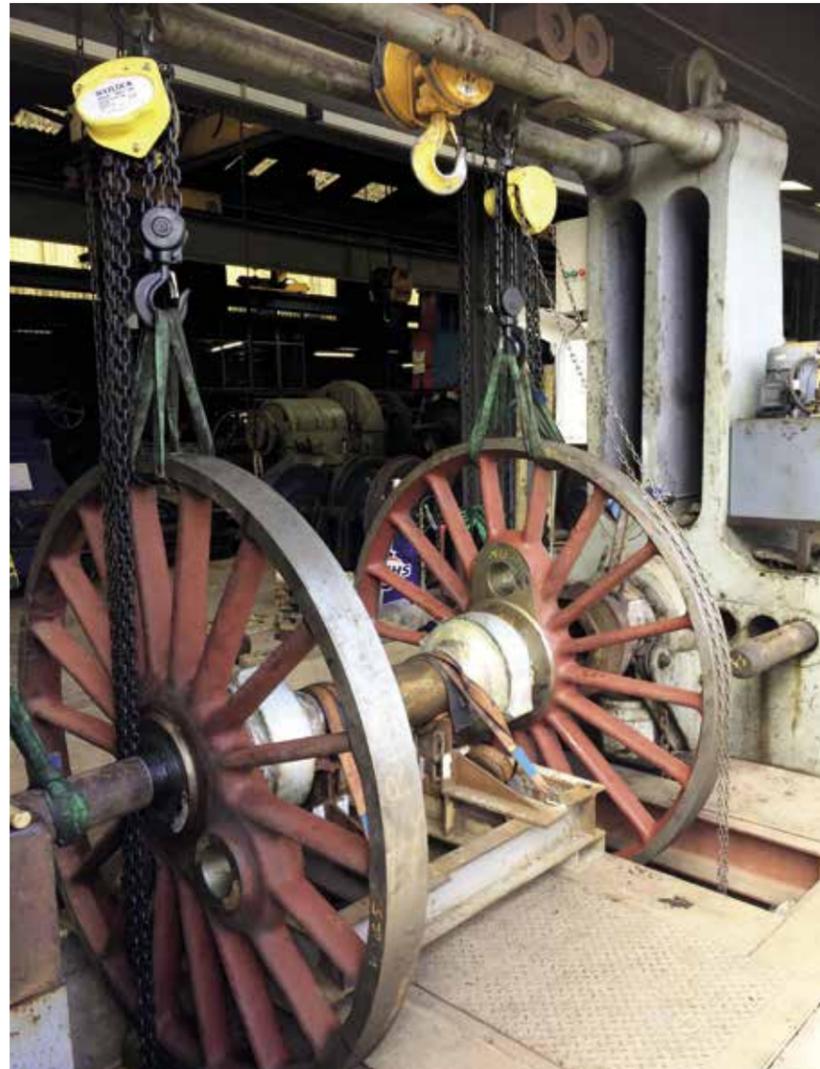
Alan Sharp

The end of the road. *Silurian* awaits her fate at York in 1965.

P2 ENGINEERING UPDATE *by David Elliott*

Orders have now been placed for brake pull rods and brake cross stays. Ian Matthews and the volunteers have been making brake pins and brake equalising levers at Darlington Locomotive Works. The axle mounted pulley for the tender alternator has been completed by North View Engineering Solutions, Darlington. Ian Howitt is making good progress with the tender frames and has made a number of detailed parts for them. The front dragbox for the tender has also been completed. The assembly of the wheelsets is underway at South Devon Railway Engineering.

Right and below: Wheelsets are assembled at SDR(E).



Rob LeCrenvillier

Although the headline-grabbing wheelsets are away at South Devon Railway Engineering, work continued at a fair pace at Darlington Locomotive Works, including the delivery of the spectacle windows and frames; the frames have been CNC machined from leaded gunmetal (bronze) castings by Durham Precision Engineering, the glazing retaining strips have been laser profiled from 6mm brass sheet by Holme Dodsworth of Newcastle. 20.5mm thick multiple laminated glazings with an anti-spall coating on the inside have been made to comply with current railway group standards by Romag at Consett. Meanwhile Ian Matthews has also been producing the fiendishly complicated compound curvature for the junction of the firebox cladding and that of the boiler barrel.

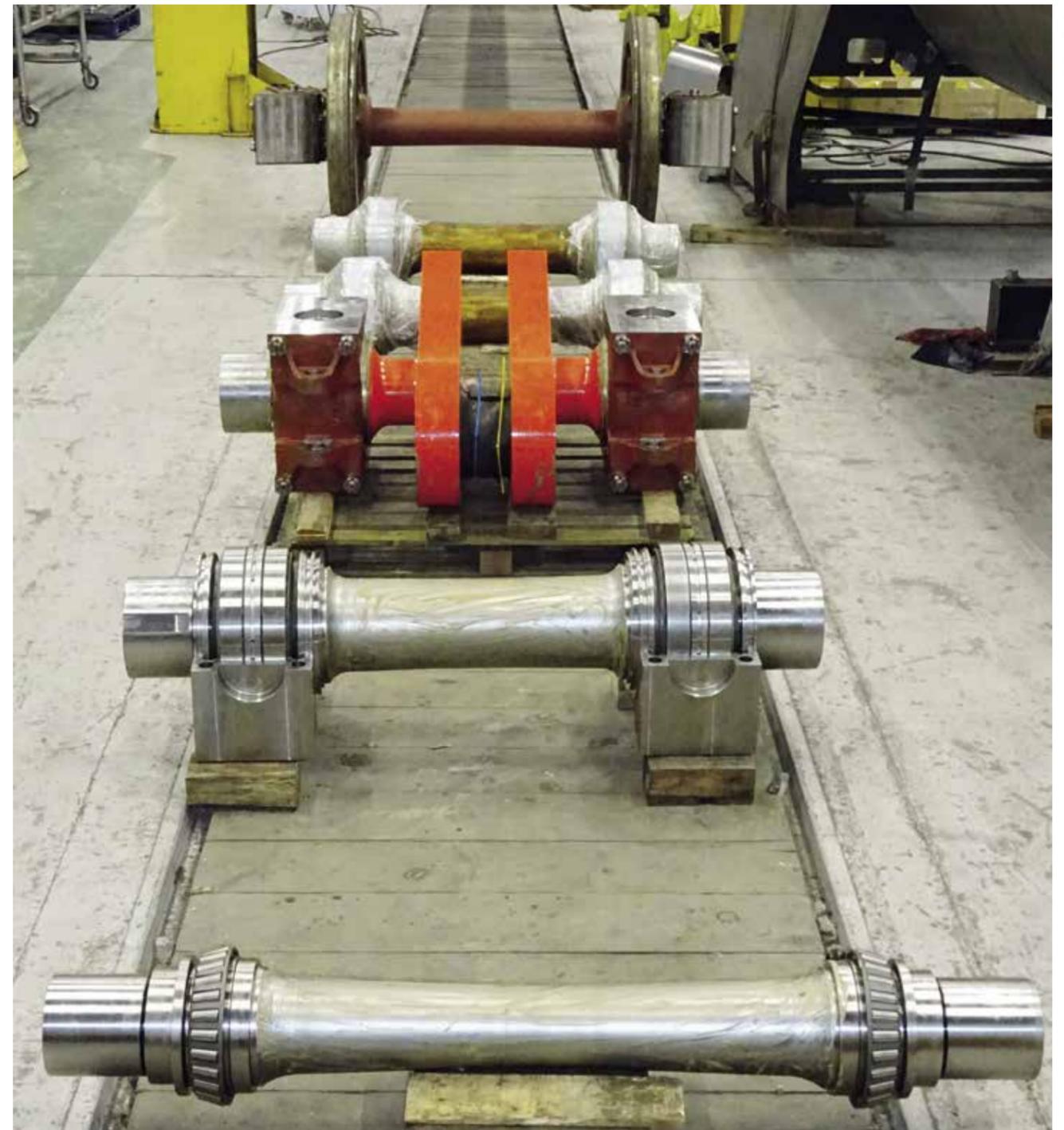


Cab spectacle windows.



The complex curvature of the firebox cladding.

David Elliott



All the axles together.

David Elliott

HARNESS THE POWER OF STEAM THIS FATHER'S DAY

by Mandy Grant

Sponsor a component and help to build Britain's most powerful steam locomotive.

As the project to build No. 2007 *Prince of Wales* prepares for the wheeling of the engine, only five years after its launch, a new batch of components has been released for sponsorship in time for Father's Day on Sunday 17th June 2017. You can see full details of components available for sponsorship here. Components sponsored through the Dedicated Donations

Scheme range in price from one of over 1,000 driven bolts & nuts for £25, to the complete exhaust steam injector for £15,000. If you would like to sponsor a component on No. 2007 *Prince of Wales*, or you know of a business owner or company who may be interested in sponsoring an item, please contact us at dedicated.donations@p2steam.com **TCC**



The alternator pulley.

A further new addition to the engineering team is Alan Parkin who, in collaboration with our Electrical Director Rob Morland, will be working on detailed electrical design for No. 2007 *Prince of Wales*. His first tasks have been to produce detailed drawings of the steam turbine alternator. This will enable us to manufacture new parts to refurbish old turbines and if necessary to make complete new ones. Alan has also been designing a replacement for the carriage type axle driven alternators that we are presently using on *Tornado* and her support coach. These 1960s designs are becoming increasingly rare and expensive to overhaul. The new design is intended to use a heavy duty 28 volt bus/truck alternator which is readily available and is likely to remain so for many years to come.



Tender bufferbeam brackets.



Tender brake cross shaft brackets.



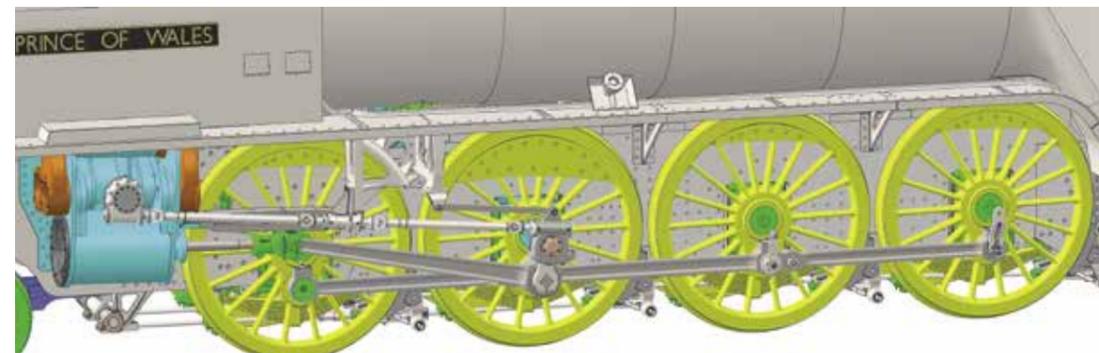
Tender brake hangers.

P2 PROGRESS TO DATE

- Frame plates for engine and tender rolled and profiled; engine's frames erected at Darlington Locomotive Works; all major engine frame stays, brackets, horn blocks, axle boxes and buffers cast (44 in total); over 1,000 fitted and driven bolts ordered and delivered, approximately 800 now fitted to the frames
- All 20 wheels for engine and tender cast and proof machined; roller bearings for all engine and tender wheelsets and engine axles (including crank axle), tyres and crank pins delivered, tender axles order, tyres delivered and first wheelset complete. All components for assembling engine wheelsets now at South Devon Railway Engineering
- Preliminary discussions held with boiler manufacturers and forged foundation ring corners manufactured and machined; start made on boiler fittings with castings for combined injector steam and delivery valves
- Study into ride and suspension completed using rail industry standard Vampire® software; finite Element Analysis completed on re-designed crank axle to ensure locomotive complies with modern standards; assessment and notified body appointed to oversee certification - first site visit made
- Cab erected and cab side window frames fitted; engine footplating and splashers kits delivered and permanently fitted to frames
- Smokebox door pressed details made and door completed, door frame manufactured, smokebox delivered and erected; chimney cast and fitted
- Crosshead castings received
- Boiler cladding assembly jig built, cladding crinolines and hoops rolled and fitted to jig, cladding sheets procured, rolled and being fitted to the jig
- Tender frame construction under way, axlebox and other tender castings ordered from William Cook Cast Products
- Nameplates and chime whistle delivered.

With the recent increase in design capacity at Darlington Locomotive Works, following the appointment of Daniela Filová, the output of manufacturing drawings has accelerated. This includes the redesign of the motion brackets from castings to welded fabrications and completion of the new drawings for the coupling and connecting rods, which has enabled us to seek firm quotations. With the successful launch of The Motion Club, we anticipate placing an order shortly for all the heavy motion forgings. **TCC**

CAD of the outside motion.



CAD of the inside connecting rod.



COME ON, COME ON, DO THE LOCO-MOTION WITH ME!

by Mark Allatt

At our P2 Roadshow on Saturday 7th April in front of No. 2007 *Prince of Wales* we launched a new £210,000 appeal to manufacture the motion for our new Gresley class P2. The A1 Steam Locomotive Trust has set itself the challenge of raising £210,000 through The Motion Club from 175 supporters each donating £1,000 (plus Gift Aid) to the project in up to eight payments of £125 by standing order.

If the project is to remain on schedule to complete No. 2007 by 2021, the Trust needs to order the motion in 2018. Following the success of The Founders Club (to get the project to the point of cutting the frames), The Boiler Club (to fund the construction of the boiler) and The Mikado Club (to wheel the locomotive), The Cylinder Club (to make the cylinder block), the Trust has decided to establish The Motion Club to raise an estimated £210,000 required to manufacture No. 2007's motion.

In return for supporting this appeal, special benefits for members of The Motion Club include:

- Opportunity to buy ticket (seat already reserved) on one of the first trains hauled by No. 2007 *Prince of Wales*
- Reasonable access to No. 2007 at all times
- Opportunity to buy exclusive Motion Club badge
- Opportunity to join one of the teams building No. 2007
- First choice of other components to sponsor
- Special Motion Club day with *Tornado*
- Special limited-edition version (signed/numbered) of Stuart Black's drawing of No. 2007 *Prince of Wales*.

The work involved in designing and manufacturing the motion includes:

- Redesign of coupling and connecting rods to use modern material (pre-war nickel chrome steel alloy proved prone to fracture

- Incorporation of late-pattern BR-type continuous white metal lined crank pin bearing bushes
- Use of the late-A1 design of inside connecting rod which overcame the tendency for the original design of inside connecting rods on LNER 'Pacifics' to big-end failure
- Open die forging of six coupling rods, two outside connecting rods and the inside connecting rod and strap
- CNC machining of all rods
- Manufacture of oil box lids, coupling rod knuckle pins, nuts and washers and bearing bush keys
- Casting of leaded gunmetal and phosphor bronze castings of crank pin bearing bushes
- Machining and white metalling of bearing bushes
- Fitting oil box tops
- Assembly of bearing bushes to rods
- Polishing rods.

We are delighted with the level of support that the project to build Britain's most powerful steam locomotive has received since its launch. Thanks to our supporters' continued generosity, £3m has now been donated or pledged. Recently we have been focused on preparing to wheel No. 2007.

We now want to turn our attention to the motion which is our next major design and manufacturing challenge. If we can raise £210,000 through The Motion Club over the next few months we are confident that we will be able to place order for the motion on No. 2007 *Prince of Wales* by the end of 2018 and remain on-track for completion of the new locomotive in 2021.

To become a member of The Motion Club, email enquiries@p2steam.com, call **01325 460163** or visit www.p2steam.com for more information. **TCC**

WE WANTED EIGHT – AND WE DIDN'T HAVE TO WAIT!

by Mark Allatt

We are delighted to announce the achievement of a significant milestone in the fundraising for No. 2007 *Prince of Wales* with the closure of The Mikado Club fundraising initiative to pay for the wheeling of the engine and tender.

The Mikado Club was launched two years ago to raise £200,000 from 160 members to wheel the engine and was extended in May 2017 to 200 members and £250,000 to also wheel the tender. The work involved wheeling the engine to create the first standard gauge 'Mikado' since 1945 includes:

- Machining axle and cannon box castings, manufacturing roller bearing details
- Boring eight coupled wheel bosses to finished size
- Assembling bearings and cannon box onto pony truck axle
- Assembling bearings, cannon and axle boxes onto plain coupled axles
- Trial fitting coupled axles to frame
- Pressing Cartazzi wheels onto axle,

fitting & machining tyres and fitting bearings & axleboxes

- Pressing plain coupled wheels onto axles, fitting and machining tyres
- Assembling crank axle, fitting bearings & axleboxes, pressing wheels onto crank axle, fitting and machining tyres
- Finish machining crank bosses & boring crank pin holes and machining & fitting all crank pins
- Trial fitting wheelsets to frames at DLW.

The past two years have seen 200 supporters joining The Mikado Club and pledging £1,000 each plus Gift Aid towards the wheeling of the new Gresley class P2. The delivery of the wheels, plain axles and bearings to South Devon Railway Engineering and the closure of The Mikado Club mark two significant milestones in the project to build our new Gresley class P2 'Mikado'. We are delighted with the level of support that the project to build Britain's most powerful steam locomotive has received



since construction started only four years ago.

We are confident that we will have completed the rolling chassis for No. 2007 *Prince of Wales* in summer 2018 and we remain on-track for completion of the new locomotive in 2021. **TCC**

P2 ROADSHOWS by Mark Allatt

As you will be aware, in 2018 we are holding a series of presentations in major cities associated with both the original Gresley class P2s and No. 2007 – a slight change from our journey along the route of the East Coast Main Line from London to Aberdeen during 2017.

Our second P2 Roadshow this year was held on Saturday 10th February 2018 at The Great Northern Hotel, Peterborough and was attended by 41 people and raised £6,900.

The third Roadshow went ahead on Saturday 3rd March at The Principal Hotel, York with Mark Grant standing in for Mark Allatt due to the snow and was attended by 19 people, raising £1,500 in spite of the bad weather.

Our fourth Roadshow was on home ground at Darlington Locomotive Works on Saturday 7th April where David Elliott was demonstrate the progress with No. 2007 to date and was attended by 56 people and raised £7,765.

Most recently, the Sheffield Roadshow was attended by 11 people, with a lot of interest shown in the project.

The next roadshows will run from 11:00hrs to 13:00hrs on:

- **Saturday 9th June 2018** – Glasgow Royal Concert Hall, Glasgow
- **Saturday 1st September** – DoubleTree by Hilton Bristol City Centre, Bristol
- **Saturday 8th September 2018** – Derby Conference Centre, Derby
- **Saturday 3rd November 2018** – Manchester Conference Centre, Manchester
- **Saturday 8th December 2018** – Hilton Leeds City Hotel, Leeds.

The presentations are given by David Elliott and Mark Allatt and are also attended by other volunteers and supporters. Please do come along to support the project, hear the latest news and ask any questions that you might have. Even better if you can bring a friend or two! For more information visit www.p2steam.com, email enquiries@p2steam.com or call **01325 460163**. **TCC**

Attention all Boiler Club Members!

P2 Boiler Club Exclusive Badges Are Now Available To Purchase

To purchase your badge please send a cheque for £5 made payable to 'The P2 Steam Locomotive Company' and send to The A1 Steam Locomotive Trust, Darlington Locomotive Works, Hoptown Lane, Darlington DL3 6RQ.



VOLUNTEERS by Mark Grant

I mentioned in a previous TCC, that we have started to use an online calendar and instant messaging system for our volunteers to express their interest in either stewarding or merchandising. It can all be done via a smartphone as well as a computer. Now that people are comfortable in using this technology, rostering the trips/events has become quicker, easier and more transparent. If there is an alteration to a particular tour - one quick amendment on my part and everyone is instantly notified of the change. Using email took substantially longer, plus you were never quite sure if the email arrived at its destination! We held a 'Volunteer Day' last October in Peterborough; here we had a little training session on this new tech, and also had a bit of social time together.

'The North Briton' rail tour started our 2018 volunteering year. A wonderful trip over the Settle and Carlisle, slightly marred by the unfortunate problem of an AWS failure which meant that we were piloted by a diesel! This did not on the whole detract from our passengers' enjoyment and we had good sales of merchandise. The stewarding was as always, very professional. *Tornado* then made her way to the North Yorkshire Moors Railway shortly before 'The Beast from the East'. After having people in place for the first weekend

of their Gala, I made the decision to cancel our event stand there. Grosmoor was looking like it may get 'cut off' from civilisation! Following that, the railway themselves cancelled that weekend's events!

Better weather (not by much) was in place for the week after - good news as we had our 'Covenantor Day' - plenty turned out in the cold conditions but enjoyed a trip along the scenic railway. It gave a number of our volunteers a chance to interact with our supporters. The second weekend of the Gala was very busy, so we could at last get some promoting going. As you may be aware, *Tornado's* move to the Severn Valley by rail was prevented by a vehicle striking a bridge on the Esk Valley line. She eventually got there by road in time for the start of their Gala. Due partly to the weather and availability of our people, we were unable to have a volunteer presence there.

'The Sulis & Sarum Express' followed on and was a successful tour. This trip also gave us an opportunity to try something different for merchandising. Not wholly successful, but we will look at how we can make this operation run a little more smoothly over the coming months. The East Lancashire Railway was a four day outing for our events team. Very cold weather over the Easter holiday period,

but lots of people around. We had an exceptional selling time - most of our goods were bought, so a restock will be in place shortly.

'The Ebor Flyer' was our first 90mph tour! A rake made up of largely Mk2 coaches, meant that the stewards didn't need to apply secondary door locking. Smoother running in an air-conditioned environment on a warm spring day, just what you need until - well, you all know what happened. We had special 90mph goods for sale. These sold exceptionally well and prior to losing the support coach, we took what stock we could into a free section of one of the coaches. This enabled us to continue promoting for the rest of the journey. Despite what happened on this trip, the comments the on board teams (stewards, merchandisers and support crew) received were amazingly supportive. We all felt very humbled and proud of who we are and what we are a part of.

My thanks to all our stewards. You do a sterling job of looking after the safety of our passengers, helping to keep the coaches tidy and providing information as needed. Thank you to all the volunteers in whatever capacity, who give up hours of their time to provide a level of service and support that I know is second to none!

TCC

CYLINDER BLOCK FOR No. 2007 PRINCE OF WALES FULLY FUNDED by Mark Allatt

We are delighted to announce that the cylinder block for No. 2007 *Prince of Wales* is fully funded and that considerable progress has been made on its redesign. The A1 Steam Locomotive Trust launched The Cylinder Club to raise £100,000 from 100 supporters each donating £1,000 (plus GAD) in up to eight payments of £125 by standing order to pay for the redesign and manufacture of the new steam locomotive's cylinder block in October 2017 and reached its target two months early thanks to the generosity of our supporters.

The funding of the cylinder block will help to ensure that the project remains on schedule for completion in 2021 and enable the Darlington-based team to complete the wheelsets, continue the boiler procurement, order the cylinder block, design & order the first motion parts, continue to progress work on the tender and commence the electrical design during 2018.

The work involved in designing and manufacturing the new cylinder block includes:

- Convert the original class P2 one-piece casting into a welded fabrication including Finite Element Analysis (FEA) to check for structural integrity
- Improve the layout of the valves to reduce the clearance volume (which affects cylinder efficiency)

- Re-route the steam and exhaust passages to physically separate them to prevent incoming steam from heating the outgoing exhaust
- Increase the size and improve internal streamlining of steam passages along Chapelon lines to increase maximum power and improve economy
- Reduce the overall width of the cylinder block to provide Prince of Wales with the widest possible route availability on the main line.

Manufacture the cylinder block including:

- Producing the welded fabrication
- Stress relieving
- Grit blasting and painting with high temperature paint
- Machining
- Fitting cylinder liners and valve seats
- Manufacturing and fitting cylinder and valve covers
- Hydraulic testing the assembly.

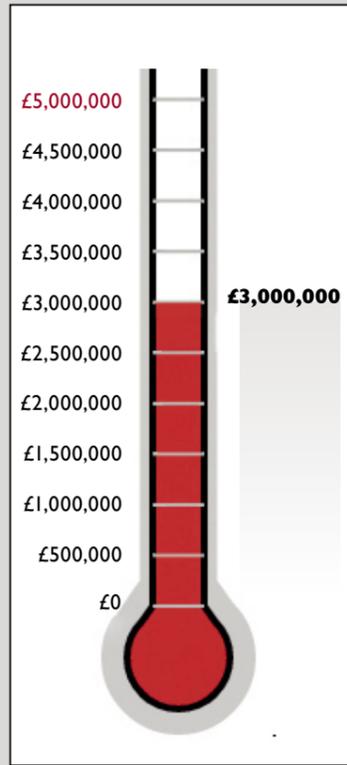
To date we have completed the conceptual design of the cylinder block and it is expected that the Trust will place of order for the fabrication of the new cylinder block in 2018 for delivery in Summer 2019 **TCC**.

FUNDRAISING FOR No. 2007 PRINCE OF WALES by Mark Allatt
Over £3m pledged, £2m donated and £1.7m spent of £5m target

Mandy Grant



P2 No. 2007 at Darlington.



Pledged P2 fund now £3m.

Our project to build Gresley class P2 No. 2007 Prince of Wales continues to make solid progress on all fronts and we are still on target to complete the new locomotive by 2021 provided we can keep up the current pace of income growth. A huge thank you to all our supporters who continue to give most generously to the project.

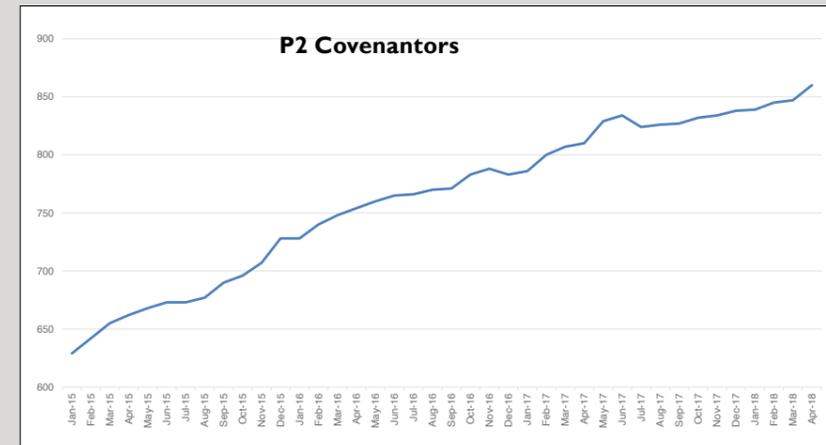
Pledges towards building No. 2007 Prince of Wales have passed £3m just four years after the frames were rolled at British Steel's plant in Scunthorpe. Public interest in seeing a new Gresley class P2 become a reality sooner rather than later remains high and 860 people have already signed up to the 'P2 for the price of a pint of beer per week' (£10 per month or more) Covenant scheme since its launch in March 2014. The average monthly donation is now around £17.30 per Covenantor (including Gift Aid) and the projected monthly income for our P2 project from the monthly Covenant scheme is now running at 109% of that of *Tornado* – a remarkable achievement in such a short period of time and all thanks to the generosity of our supporters. What is even more striking is that only 28% of A1 Covenantors (36% of P2 Covenantors) are regular donors to both locomotives, meaning that the overwhelming majority of the funds are being given by new supporters of the Trust.

In addition to this core scheme, funds have been raised through The Founders Club (over 360 members donated £1,000 each plus Gift Aid – target 100 people, now closed); The Mikado Club (launched in March 2016 with an initial target of 160 members to wheel the engine and extended in May 2017 to 200 members to also wheel the tender) is

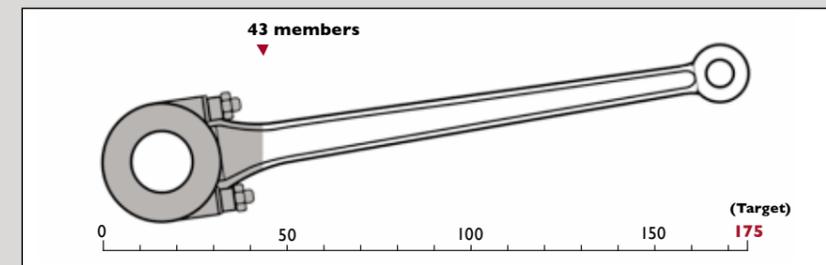
now fully subscribed with 200 supporters pledging £1,000 each plus Gift Aid and therefore potentially raising £250,000; The Cylinder Club (only launched at our last Convention in October 2017) is now fully subscribed with 100 people have already pledged £1,000 each plus Gift Aid and therefore potentially raising £125,000; The Boiler Club (154 people have pledged £2,000 each to fund the boiler - target of 300 people – meaning well over half of the £600,000 target now pledged); and Dedicated Donations (over £225,000 from existing supporters sponsoring a variety of components). The Gresley Society Trust has also sponsored the locomotive's distinctive front-end for which we are most grateful.

As you will have read in recent issues of *The Mikado Messenger*, we continue to be impacted by the incorrect machining of the keyways in the plain coupled axles meaning that we have had a long wait for the new axles to be supplied from South Africa. Although this has delayed the process of wheeling the frames of No. 2007, work is now well underway at South Devon Railway Engineering and extraordinary progress on other fronts means that this will have no effect on the overall timetable and Darlington Locomotive Works has been far from idle over the past few months.

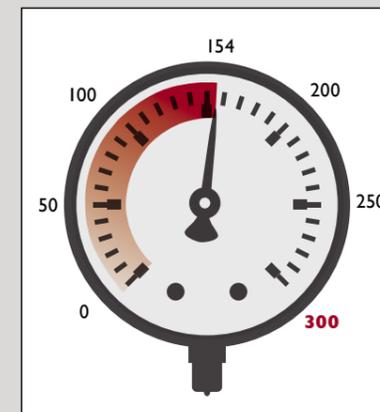
There are still a considerable number of wheeling-related



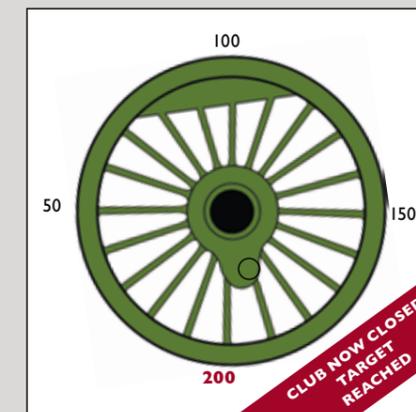
Graph showing P2 Covenantors.



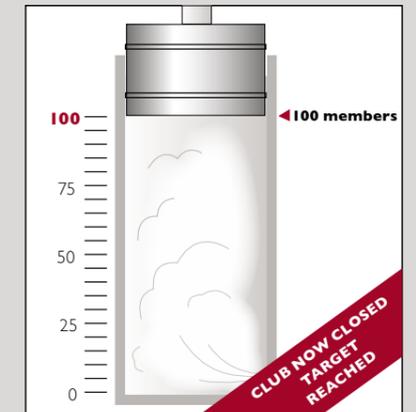
Left : Motion Club gauge - 43 Members.



Boiler Club gauge - 154 Members.



Mikado Club Wheel Chart - 200 Members.



The Cylinder Club gauge diagram - 100 Members.

Dedicated Donations still available for sponsorship, ranging from a driving wheel spoke at £600 (or from £25 per month for 24 months) to a Cartazzi axlebox casting at £1,300 (or from £50 per month for 26 months) to and driving wheel casting & proof machining at £12,000 (or from £200 per month for 60 months).

April 2018 saw the launch of The Motion Club, established to fund the manufacture of the heavy motion for No. 2007, where we have set ourselves the challenge of raising £210,000 from 175 supporters each donating £1,000 plus Gift Aid. In just ten days we had already signed up 24 members of The Motion Club, potentially worth £30,000 including Gift Aid – a remarkable achievement thanks to the generosity of our supporters. The Motion Club now has 43 members.

We are delighted with the level of support that the project to build Britain's most powerful steam locomotive has received since its launch. This means over £1.7m (over 34% of the total required) converted into metal, over £2m (over 40%) raised and £3m (60%) pledged.

We are now hopeful that we will have completed the rolling chassis for No. 2007 Prince of Wales in summer 2018 and we remain on-track for completion of the new locomotive in 2021. However, to maintain this rate of progress we need to raise more than £700,000 per year, which given the nature of the regular donation scheme becomes more challenging as each year passes. Last financial year we more than achieved our budget of £500,000 and this new financial year we have set a fundraising budget of £700,000.

We would encourage all our supporters who haven't yet contributed to this exciting project to help us to meet these deadlines by becoming a monthly 'P2 for the price of a pint of beer a week' covenantor; joining The Boiler Club, becoming a member of The Motion Club or taking out a Dedicated Donation. It's time to get on-board!

For more information on how you can help to build Britain's most powerful steam locomotive visit www.p2steam.com, email enquiries@p2steam.com or call 01325 460163.

TCC

Help Britain's most powerful steam locomotive to build a head of steam

Join The Boiler Club today and help us to complete No. 2007 Prince of Wales in record time!

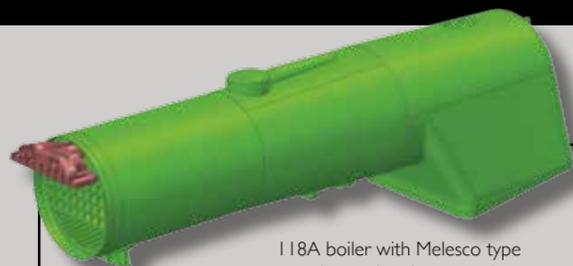


The boiler is the beating heart of a steam locomotive and to keep the construction of No. 2007 Prince of Wales on schedule for completion in 2021, we need to place the order for the boiler in 2019 for delivery in 2020. We have established The Boiler Club to fund the construction of Prince of Wales' boiler. It is our desire to leave No. 2007 Prince of Wales debt free upon completion and therefore our aim is to raise at least £600,000 for The Boiler Club from 300 supporters each donating £2,000 to the project (in up to 40 payments of £50 by standing order) – we are half way there!

Special benefits for members of The Boiler Club:

- Opportunity to buy ticket (seat already reserved) on one of No. 2007's first main line trips
- Reasonable access to No. 2007 at all times
- Opportunity to buy exclusive Boiler Club badge
- Opportunity to join one of the teams building No. 2007
- First choice of other components to sponsor
- Special limited edition version (signed/numbered) of the first official painting of No. 2007 Prince of Wales with No. 60163 Tornado
- Special Boiler Club day with Tornado.

Together we can build this remarkable locomotive - join The Boiler Club today!



118A boiler with Melesco type superheater header as used on Tornado

No. 2007's boiler in detail

- Use of diagram 118A Tornado boiler with detailed modifications to improve overhaul life
- Interchangeable with Tornado boiler
- Tornado boiler is 17in shorter than P2 boiler – No. 2007's smoke box will be extended within the cladding
- 250psi of No. 60163's boiler will be retained to improve economy and increase maximum power.



2007 PRINCE OF WALES
 Building Britain's Most Powerful Steam Locomotive

For further information please visit www.p2steam.com email enquiries@p2steam.com call 01325 460163 or write to The Boiler Club, P2 Construction Fund, Darlington Locomotive Works, FREEPOST RTJS-XECR-XARL, The A1 Steam Locomotive Trust, Hopetown Lane, Darlington DL3 6RQ

•WORKSHOP NOTES•

COUNCILLOR JANE'S VISIT

Cllr. Jane Hyldon-King for North Lincolnshire Council heard about the project to build No. 2007 through Cllr. Chris McEwan for Houghton and Springfield, Darlington. Jane and her husband Paul, had arranged to come into Darlington Locomotive Works to see the progress.

By complete coincident Cllr McEwan had arranged a meeting with Gemma Braithwaite, Daniela Filová, John Bignall from the Bignall Group and Mark Carrigan from Darlington Borough Council on the same day!

Pictured from left: Mark Carrigan, John Bignall, Gemma Braithwaite, Daniela Filová, Cllr. Jane Hyldon-King, Cllr. Chris McEwan.



Gemma Braithwaite

The NECC visit to DLW.

NECC VISIT by Gemma Braithwaite

Our 'Behind the scenes' North East Chamber of Commerce event was a great success! On Wednesday 18th April, The A1 Steam Locomotive Trust hosted a breakfast event to introduce local businesses to the project and allow us to make contacts within the local community. Everyone was suitably impressed by No. 2007 Prince of Wales.

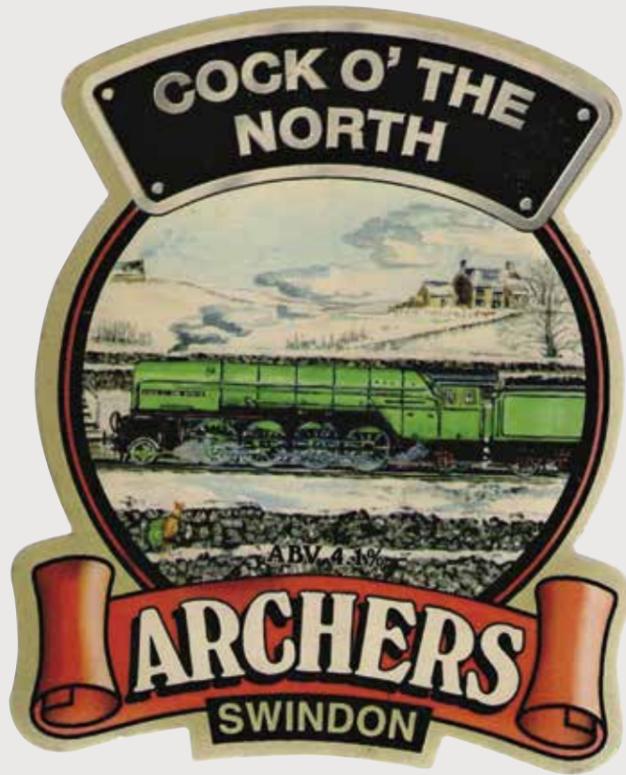


A LITTLE BIT OF BULLEID by Gemma Braithwaite

On Saturday 10th March 2018, The A1 Steam Locomotive Trust placed a bid on a speedometer which we believe to be from a Bulleid 'Pacific'. We were yet to find a speedometer for No. 2007 Prince of Wales and so when we saw this speedometer in auction with Great Central Railwayana Limited, we just had to bid! Someone else was bidding against us in this lot, but in the end our bid of £1,550 was the winning bid. A very appropriate acquisition given Oliver Bulleid's involvement with the development of the class P2 'Mikados' when he was Sir Nigel Gresley's assistant.

OPEN DAYS AT DLW - Darlington Locomotive Works are open to the public on the first and third Saturday of each month, the latter a day that coincides with NELPG also opening their doors to visitors.

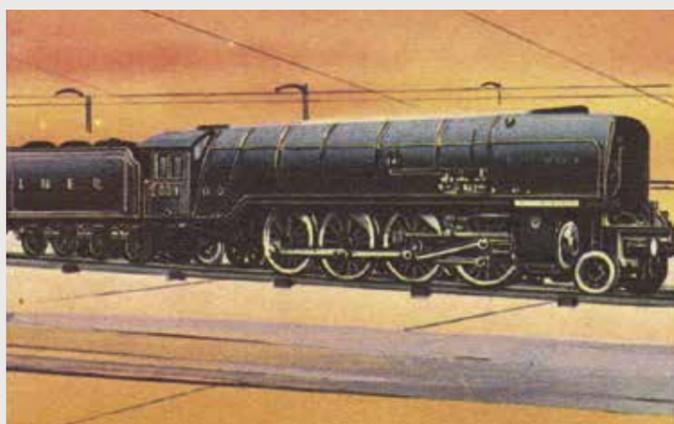
P2 MEMORABILIA - Mandy Grant



Above: A Cock o' the North beer pump clip.

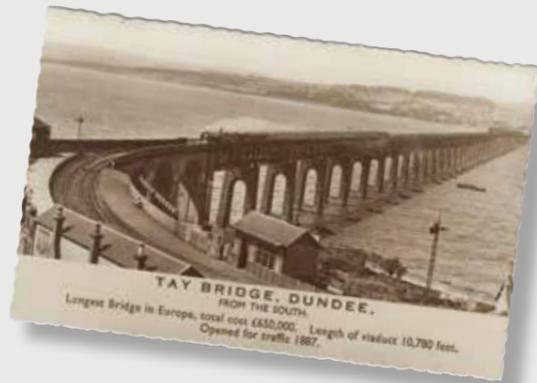


A postcard of No. 2006 at Edinburgh Waverley.



LNER Class P2 No. 2002 Earl Marischal, Class A1 No. 2552 Sansovino and Ivatt Atlantic Class CI No. 3288 - LNER official photo.

Left: Alli Dell Intrepido Microstoria Della Locomotiva Collector Card.



Above: No. 2002 on display at York.

A P2 on the Tay Bridge - a Valentines postally dated 1960!



An LNER luggage label for Edinburgh Waverley.



V4 - HISTORICAL IMAGES - Mandy Grant



No. 61701 at Glasgow Eastfield during September 1948 - Crown Copyright (expired 1998).



Newly out-shopped No. 61700 Bantam Cock at Eastfield in 1952.



Above: A LNER publicity photo.



Above: An original LNER press photo, dated September 1941.

Left: No. 61701, now sporting the early BR emblem, at Eastfield in October 1951.

Below: No. 61701 in 1950.



Crown Copyright - expired in 2001.



ERA/Wethersett

Red Photographs Co LTD

PROFILE – CHRIS WOODCOCK by Graham Langer

Chris Woodcock has been a covenantor since 1991 and an indispensable member of our imaging team since 2008. Chris was born in west London and his home was close to the former GW and GC Joint Railway, however, his primary school overlooked the four lines of track giving frequent views of polished ex-GWR Kings and Castles pulling clean chocolate and cream painted coaches including 'The Cambrian Coast Express'.

School holidays and weekends provided an opportunity with a cousin to visit a number of the London locomotive sheds particularly Old Oak Common where his highlight was clambering up on to the footplate of ex-GWR No. 3440, *City of Truro* shortly after its return to service in 1957. Both of his parents came from Grantham where his mother's family had a link with the railway by providing three generations of railwaymen for the GNR and LNER through to BR days. Family visits with his mother were usually taken by train from King's Cross but he was always disappointed that a grubby V2 was often allocated to the train. Luckily his grandmother lived very close to Grantham station allowing him to be one among the groups of train spotters on the platform to see the many 'top link' expresses that passed. Moving to a grammar school meant the viewing of the railway ceased apart from occasional Ian Allan steam specials to locomotive works at Swindon and Derby.

Chris left school wanting to become a civil engineer and joined Taylor Woodrow as a trainee engineer employed on the reconstruction of Euston station. During his first year the ICE announced that to become a chartered engineer you had to have a degree; a HNC qualification was no longer acceptable. Consequently, the following year Chris began a full-time degree course in civil engineering at Portsmouth College of Advanced Technology, graduating in 1969.

He joined Kier as an indentured graduate engineer and was sent as a site engineer to a section of the Midland Link Motorway (M6) under construction between Coventry and Coleshill. After a demanding and interesting year on site Chris was posted to their head office at Tempsford Hall for 12 months design training experience. 1972 saw him once again a site engineer constructing a canal bridge and viaduct for the new city of Milton Keynes. During this time he was involved in a serious car accident in which he received a severe spinal injury to his neck causing permanent paralysis. He was immediately transferred to Stoke Mandeville Hospital for three months stabilization of the spine followed by nine months rehab. It became clear this was a life-changing injury that would cost him his physical independence, his marriage and his career. Fortunately, he was visited in hospital by Kier's Director of Engineering who offered him a post in their design department provided he was physically capable and could commute to their HO. In a time of nationwide industrial unrest it was a wonderful philanthropic opportunity and he accepted.

Chris moved to live in a new Cheshire Home in Hitchin in 1973 from where he retook his driving test and gradually returned to full time work. The office was busy working on the design for three underground stations for the Mass Transit Railway in Hong Kong.

During his 30 years with Kier Chris worked on many interesting contracts often overseas and remote from HQ, however his final contract was at King's Cross designing temporary works for the various structures supporting the



Chris with HRH Prince Charles at the naming ceremony for *Tornado*.

HS1 rail link across the former site of 'Top Shed'. The work included three major bridge slides, 1 ECML + 2 MML, also construction of a temporary rail head for the removal of tunnel spoil by rail to a landfill site.

His father had been a keen amateur photographer with his own dark room in the loft at home. Chris took up B&W photography using his father's early 35mm Pentax SLR and his own darkroom. Through a local camera club Chris saw an impressive exhibition of photographs of the steam railway that reminded him of his former childhood interest. A friend introduced Chris to David Eatwell, the railway photographer, who gave advice on various accessible locations to photograph the SLOA steam specials of the 1980s.

During this time two friends from Kier, Robin Gibson and Peter Johnson, joined Chris to photograph and then later to travel in the cage of the brake on a number of SLOA specials. Reading of the proposal to build an AI, they all became Covenantors to the AISLT in 1991 and have remained so. In 2008 Chris volunteered to help take over the day to day running of AI photo archive with Keith Drury and Neil Whitaker. Keith gradually eased down his involvement and was ably replaced by Tony Watson who now organises and holds the archive while Chris has responsibility for arranging copyright release from the many photographers who offer their images for the AISLT to use. Neil meanwhile monitors Flickr and Facebook looking for images of *Tornado* that photographers may allow AISLT to use.

After 12 years in Hitchin Chris remarried and moved to rural Cambridgeshire. After retiring from Kier in 2005 he found time to research, write and publish a book on his father's wartime RAF Hawker Typhoon Squadron. It was a labour of love that led Chris to meeting a number of fascinating Typhoon veterans and to visiting Normandy to attend remembrance services at the Typhoon Pilots' memorial in Noyers Bocage.

If asked, his most significant memory of *Tornado* would be the inaugural 'Talisman' from Darlington to King's Cross in February 2009, travelling past hundreds of happy waving spectators who lined the snow-covered route then to arrive at Platform 1 King's Cross to the amazing sight of both Platforms 1 + 2 packed with cheering, smiling spectators. **TCC**

FROM THE ARCHIVES by Graham Langer

Spring 1998 - Rolls-Royce joins the team. The Trust announced that Rolls-Royce plc had joined its growing list of sponsor-partners. *Tornado* was named after the RAF fighter-bombers used in the 1990/91 Gulf War; coincidentally, Rolls-Royce built the RB199 jet engines that power the Tornado jet. Rolls-Royce would be helping the Trust by machining parts of the new locomotive's three sets of motion at its Hebburn works. The Trust estimated that when completed, *Tornado's* motion would have cost around £190,000 at full commercial rates.

Spring 2003 - With their tyres now fitted and turned the driving wheels were taken to North View Engineering in Darlington to have their crank pins finished. Having had the hornblocks welded in position the bogie wheelsets could be trial fitted. The cannon boxes and axleboxes for the coupled and bogie wheels had finally been fitted with their bearings and would now remain in place until the locomotive's first overhaul.

Spring 2008 - William Lane cast the cab front window frames from patterns produced by Elsfield Patterns. GN Steam continued with the modifications to the cab floor and under seat cubicles. By March the cab front window frames and side screen frames had been machined by an engineering company owned by a Covenantor at a very reasonable price. The Trust took delivery of the tender tank from North View Engineering on 6th February during which time it was tried in place and found to fit. It was then lifted again and placed on wood blocks to facilitate completion of work on the plumbing and electrical installation on the frames.

Spring 2013 - Following a successful re-entry into traffic after winter maintenance, on Saturday 20th April *Tornado* operated a 'Cathedrals Express' tour from London to Holyhead and return as far as Crewe. The outward journey was made in wonderful weather with an early arrival at Holyhead.

After departing on time and, collecting further passengers at Bangor, *Tornado* ran well as far as Abergele. It was noticed here that the brake



2003 - One of *Tornado's* driving wheelsets fully assembled at North View.



In a process recently repeated for No. 2007, Ian Howitt sets up the press to fit a roller bearing to the Cartazzi axle end in 2003.

pressure was not being maintained and the air pump had stopped running. Attempts were made to restart the pump but were unsuccessful so the train was stopped at Rhyl. Although

Tornado normally runs with two air pumps, on this occasion the second pump was defective and awaiting a programmed repair at Crewe.

TCC

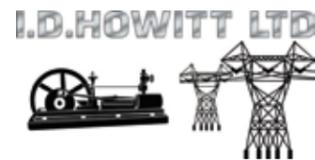
The A1 Steam Locomotive Trust is pleased to display the logos of organisations giving us their ongoing support. Their contribution is gratefully acknowledged.

WILLIAM COOK CAST PRODUCTS

PRINCIPAL SPONSOR



The Gresley Society Trust



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* All information correct at the time of going to press end-May 2018. For up-to-date information and dates please check the website www.a1steam.com.

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Darlington Locomotive Works is normally open to the public on the first and third Saturday each month (11am – 4pm).

Access to the works is via Head of Steam: Darlington Railway Museum where Covenantors are entitled to free entry (with Covenantor card). Charity registration No. 1022834.

The Trust respectfully requests that anyone wanting to see *Tomado's* main line passenger trains follows the rules of the railway and only goes where permitted.

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