



60163 TORNADO
New Steam for the Main Line



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



3403 HIGHLANDER
Recreating Gresley's last design

THE COMMUNICATION CORD

No. 69 Spring 2023



A/SLT

No. 2007 Prince of Wales safely installed in the new Darlington Locomotive Works, the building which will witness the completion of the locomotive's construction and the genesis of other new LNER design engines for many years to come.

CONTENTS

PAGE 1
No. 2007 Prince of Wales installed in DLW2

PAGE 2
Contents Editorial

PAGE 3
From the Chair Spring Raffle

PAGE 4
A1 overhaul report

PAGE 6
ETCS update

PAGE 11
The big move

PAGE 14
Shed notices

PAGE 16
The big picture

PAGE 18
Railtours

PAGE 19
Covenantors' Diary Tornado Tour Diary 2023

PAGE 20
A1 profile - No. 60140 Balmoral

PAGE 23
Join 'The P-Way Gang'

PAGE 24
P2 Engineering update

PAGE 26
P2 Fundraising progress

PAGE 28
DLW2 Update

PAGE 30
P2 Dedicated Donations update Workshop notes

PAGE 31
From the archives

PAGE 32
Sponsors and contact information

EDITORIAL by Graham Langer



We apologise for the late delivery of this edition of *The Communication Cord* but felt it was worth waiting until we moved into Darlington Locomotive Works on Bonomi Way so that we could bring you the latest news about the relocation. After more than 25 years of calling Hopetown Carriage Works home, we now have a purpose-built facility as part of Darlington Railway Heritage Quarter. Owned by Darlington Borough Council and funded by the Council, as well as TVCA and Central Government grants, the

£4.5m structure provides the Trust with a larger workshop space for constructing and maintaining locomotives. The building also offers superior energy efficiency, meaning that the larger facility is no more expensive to run than the previous space, possibly creating a saving over time. There is also a significant increase in office space, specialised electrical engineering spaces (recognising the new digital age on the national rail network) and, for the first time, dedicated meeting and training facilities.

The increase in workshop space will not only enable locomotive construction but also maintenance. The new shed can accommodate up to four large 'Pacific' or 'Mikado' locomotives, with facilities such as inspection pits and a high-pressure water supply for servicing steam locomotives, and a superior space for machine shops, spares holding and other essential materials. The Trust is planning to establish a main line railway connection in 2024, allowing locomotives to move by rail to and from the new Works, a game-changing development.

Although the news surrounding *Tornado's* protracted overhaul is disappointing, we felt it was worth sharing a further instalment (on page 6) of Rob Morland's record of the extraordinary work required to fit the European Train Control System (ETCS) equipment to the locomotive and tender. The scope and complexity of this undertaking has left many of us boggling at the task that Rob and his team have quietly persevered with, recently passing the milestone of successfully powering up the tender system and ancillaries. Currently *Tornado* is the only main line steam locomotive getting this treatment and it makes one wonder how many other owning groups or organizations would be willing to make the radical modifications required to fit ETCS to their heritage machines. We have the great advantage of already having a sophisticated electrical system with ample power generation capacity and a 21st Century locomotive that can accept the modifications as a further enhancement and development.

Since *TCC 68* was published, we have had a Coronation to enjoy and it is worth recording the King's continuing relationship with the Trust. We hope that, in due course, his son and grandchildren will also become friends of the organisation and look forward to welcoming them to our new building in Bonomi Way. We eagerly anticipate another chance to take The Royal Train out with *Tornado* and, in due course, *Prince of Wales*. **TCC**



Rob Morland.

The King, then Prince of Wales, in *Tornado's* cab during the naming ceremony at York in 2009.

FROM THE CHAIR by Steve Davies



My last contribution to *TCC* painted an optimistic picture, suggesting that we were moving forward satisfactorily with *Tornado's* overhaul. Well, to misquote Harold Wilson in

the 1960s, three months is a long time in railway heritage! I was rather hoping to be able to report the successful steaming of the boiler by now, but supplier problems have conspired against us with the effect that, at the time of writing, this is now likely to be another three to four weeks off. In summary – and without beating about the bush – the tubes fitted to the boiler at Meiningen were let down by poor welding on the tube installation which on arrival in Darlington was not approved by our boiler inspector. A confirmatory visit by our German partners reinforced and agreed this to be the case and a completely new set of tubes (small and flues) were subsequently dispatched from Meiningen. Unfortunately, these too had issues. Although the small tubes were fine (and indeed have now been fitted) the flue tube bottle ends were not. Accordingly, we ordered a new batch from a UK supplier and these have now been delivered. As you will read elsewhere, the boiler has been moved to our new home and will imminently be hydraulic and steam tested over the new outdoor servicing pit – thus giving the customers at the branch of McDonald's opposite the Works a view they probably did not expect! The locomotive's 'bottom end' is making excellent progress, with a significant milestone being reached with the new European Train Control System (ETCS). Power has now been successfully applied to some elements of the installation, much to the huge relief of Rob Morland! On the P2 front, the cylinder block for *Prince of Wales* is virtually finished with machining now completed by Howco in Irvine. Once pressure tested (again by

Howco) it will be delivered to our new Works to be married up with the frames. This too will be a significant moment as the engine will really start to look the part. The empty space where the cylinders will fit has been bugging me for far too long!

We are now in the process of completing the move from our old location at Hopetown Works to our shiny brand-new home in Bonomi Way. This is a hugely exciting moment in the story of the Trust and will set us fair for the next 30 years. It really is state-of-the-art, modern, spacious and a significant improvement over the venerable Stockton & Darlington Railway Carriage Works we have been privileged to call home for so long. Importantly it will provide our staff and volunteers with a degree of comfort and amenity hitherto unknown in railway heritage, including very smart shower facilities and a modern, clean kitchen and mess room. We must thank our partners at Darlington Borough Council for having had the confidence to invest so heavily in the Trust. We really are looking forward to showing off the

new 'Darlington Locomotive Works' to you all and I'm certain you will all be impressed with what has been achieved.

Railway heritage engineering can have its 'interesting' moments and challenges and the overhaul of *Tornado* is currently in that category. But as my old Army CO used to say, these things happen, and you will be judged solely on how you rise to the challenge and deal with them. The inherently resilient and supremely competent team serving the Trust is rarely, if ever wrong-footed by events, and always rises to the challenges. I am therefore fortunate as Chairman to lead such a fine group – both paid staff and volunteers - and to be supported morally and financially by our amazing Covenantors, donors and other contributors. To end on a high note, I do indeed look forward to reporting significant progress in the next edition of *TCC* but as ever (and at the risk of sounding repetitive!) we can only achieve all that we do through your considerable financial generosity. In the words of the famous Tesco advertisement "Every Little Helps!" **TCC**



Prince of Wales looks at home in the new Works.

SPRING RAFFLE

We were delighted with your response to the raffle this spring; a big thank you to all who participated. We received almost 200 entries, raising £5,000, with many supporters sending in additional donations, bringing the total to £5,700! This money has been earmarked for *Tornado's* return to steam. Our draw took place on Friday 2nd June, and all winners have now been contacted. We will be running another raffle this spring, to be drawn at the Convention, and if you are able to donate an appropriate raffle prize, we would love to hear from you! Please email enquiries@a1steam.com **TCC**

AI OVERHAUL REPORT *by Ben McDonald*

The work on *Tornado* continues in Loughborough and Darlington. At LMS's works, we are now on the final straight ahead of re-wheeling the frames. During the overhaul we were aware of a minor alignment issue with the Cartazzi frames which needed to be resolved during the work. This has now been carried out and final alignment checks are being completed on the frames and cannon boxes before re-wheeling. The pipework on the locomotive frames is now all but complete, with some remaining tasks only possible once the boiler is refitted. The current easier access means all the more difficult work has been completed without the need for our team to discover their inner contortionist, leading to a better-quality outcome. It is planned to re-wheel the locomotive using the Matterson jacks, moved down from Darlington for the task.

The motion is being fully refurbished at the Severn Valley Railway and the work is progressing well. This will allow swift installation on the locomotive soon after the re-wheeling when *Tornado* will become a Pacific once again. Final fitting up of pipework and other smaller components can then be completed to give an almost complete rolling chassis ahead of the boiler being put into place.

After a few logistical issues we eventually took delivery of the new boiler tubes and stay material, and the following images show you some of things we have been doing since. Using the newly delivered stay material our volunteer team of Steve Wood and George Bee immediately set about cutting the new boiler stays to length, the ends were then finished off by Ed Laxton on the lathe, before NSEL's Jack Harper tacked them all in position. Jack has just fixed the stays; they will be fully welded when the coded welder visits. This leaves only two stays to fit, a new flexible on the left-hand upper firebox side, and a new rigid in the throat plate which passes through the Everlasting blow down valve flange, both will be fitted when the coded welder visits.

NSEL have completed welding, inspection and adjustment of all boiler internal pipework and brackets.

When fitted the tubes are welded into the firebox tubeplate and expanded into the smokebox tubeplate, the smokebox ends of every tube need to be annealed and both ends need polishing to remove all scale before they are fitted. This process has been completed for the small tubes, and has commenced on



Jack Harper trial fitting small and flue tubes.



George Bee annealing small boiler tubes.



Trial fitting small and flue tubes.



The process of fitting the small tubes.



Keith Martin with his handiwork.

the flue tubes now that they have been returned from swaging. All the small tubes in the main nest area have been fitted to the boiler.

The process involved fitting every tube, setting each tube to the correct position (we made a gauge) so that they stick out into the firebox by only 3/16", they were then all measured and marked at the smokebox end to give 3/8" protrusion, each tube was then numbered before being removed from the boiler and cut to length, before being refitted in the boiler.

All the tubes were then lightly expanded at both ends to fix them into position before the firebox ends were tack welded into the tubeplate. The tubes will then be finally welded by the coded welder followed by a further and final expansion of tubes in the smokebox. This work will be completed by NSEL with assistance from DLW staff and volunteers.

Our new BES boiler inspector visited and he is happy with the boiler and how we are proposing to complete the repairs.



A flue end.

Other work mainly involved sorting and packing for the move to the new works, plus Keith Martin has completed the painting of the chimney. Ed Laxton also made a trip to LMS in a van to deliver the overhauled superheater header, the blastpipe, and several smaller items, the van was then used to deliver the first items into DLW2 - so we had officially started to move in.

At our supplier's depot in Bolton, the new flue tubes were loaded onto a lorry to be delivered to Techniswage in Dudley

to have their ends swaged. Having had the ends swaged, the tubes were delivered to the new Works.

Since arriving in the new works, we have made steady progress with the boiler. 73 small tubes have been welded into the boiler at the firebox end and have been expanded into the smokebox tube plate. The new flue tubes were delivered and we have already started the process of annealing and polishing the ends of the tubes, as can be seen in the pictures below. **TCC**



Flue tubes and boiler in the new works.



George Bee and James Percy annealing flue tubes.

ETCS UPDATE by Rob Morland

We have continued to make good progress on the electrical aspects of the overhaul and the fitting of ETCS to *Tornado*.

For ETCS we are working in partnership with SNC-Lavalin and Thales on system design and equipment provision. Thales has contracted Derby Engineering Unit (DEU) to carry out the installation and DEU is working closely with LMS to install all the wiring harnesses, enclosures and equipment on the engine and tender. The tender installation is approaching completion, and we are expecting to apply power to the tender ETCS installation for the first time during June. Work on the cab is also proceeding well, with enclosures now installed on the cab roof and first equipment mounted in the brake box under the cab floor. There is relatively little ETCS equipment on the engine frames – just the front combined AWS/TPWS and Balise antennas.

The mounting frame for these is complete and has been trial fitted, and the wiring is all in place. This makes use of the existing conduit run for the AWS/TPWS wiring, and a spare one that we thoughtfully included from new, but had never used before, for the special low-loss Balise antenna cable.

Our ETCS power supply has been fully built and tested on the tender. The heart of this system is the ETCS I/O Panel, which is located on the front of the tender, just behind the handbrake. In service it will normally be enclosed behind a removable door. The I/O Panel receives power from all the available sources (Shore Power, Support Coach, turbogens and Axle Driven Alternator) and uses this to charge the dedicated 100Ah ETCS batteries, located under the rear of the tender.

The batteries then power the ETCS. Based on experience with our existing Essential and Auxiliary Services supplies, we have incorporated into the panel design circuits to remotely monitor the individual battery voltages and indicators showing the state of the battery protection fuses.

To handle the increased load of ETCS we have designed and built a new Shore Power Supply. This incorporates solid state AC-DC converters and is able to deliver an output of up to 86A at 28V DC with mains input voltages between 80 and 264V AC. This allows all three battery systems to be charged from a fully discharged state and all the locomotive loads to be powered simultaneously.

Turbogen Switch Box

1. Layout of the lower level of components on the rear mounting plate of the Turbogen Switch Box.

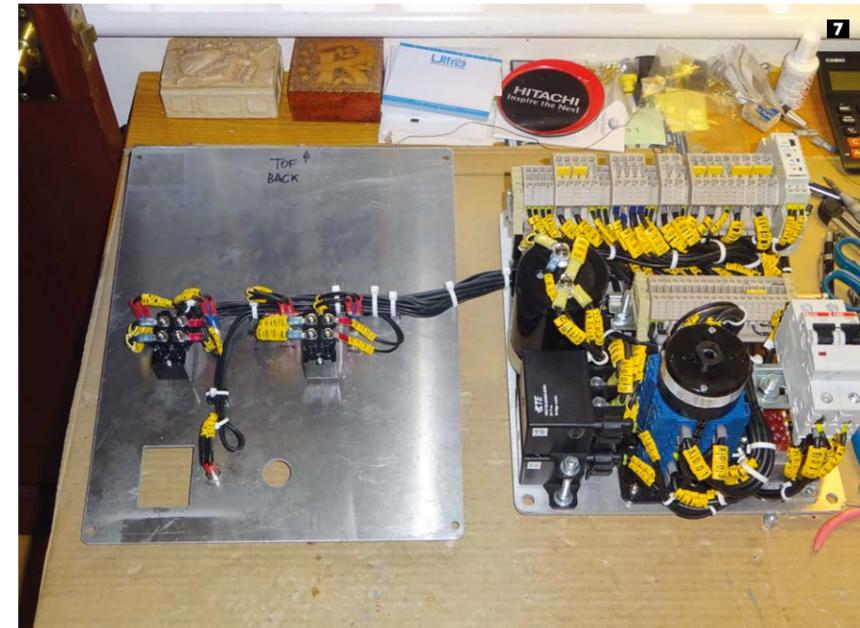
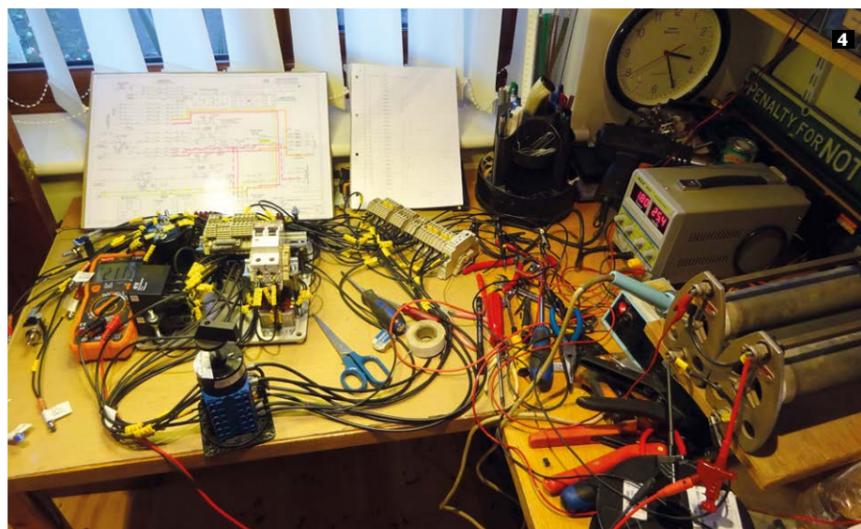
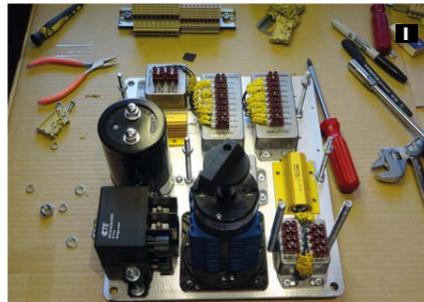
2. Rob Morland wiring up the Turbogen Switch Box.

3. Testing the rebuilt Steam Chest Temperature Gauge, the controller for which is now located within the TSB.

4. First tests of the Turbogen Switch Box electronics.



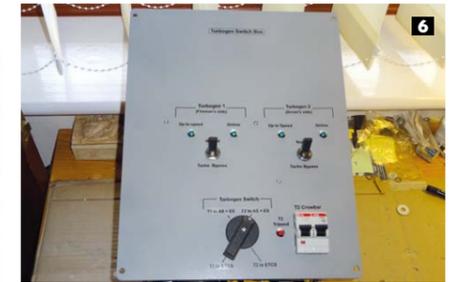
5. Completed TSB electronics in exploded form, ready for packaging.



6. The TSB front panel and controls.

7. Completed TSB panel and electronics.

8. Turbogen Switch Box panel in place in its enclosure behind the driver's side buffer beam.



On the engine, the new Turbogen Switch Box (TSB) electronics have been installed and will be wired up once all work on the frames has been completed. The Switch Box allows the output from the two turbogens to be directed either to the existing power supplies or ETCS. When a diagram includes running over an ETCS railway we will allocate one turbogen exclusively to power the ETCS equipment. The Switch Box also includes tachometers for each turbogen that will automatically connect them to their allocated loads once they are running at their design speed.

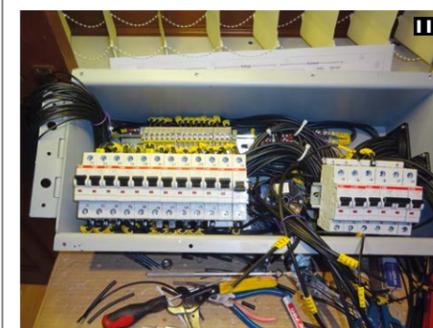
ETCS I/O Panel

9. Initial layout of Panel components.

10. First wiring is connected.

11. Commencement of MCB wiring.

12. Internal wiring approaching completion.



13. Silk screen printed front panel with panel-mounted components.



14. Panel component wiring in place.



15. Wiring one of the three MIL connectors that link the I/O Panel to the tender systems.



16. Trial fit of Panel in its final location behind the handbrake.



17. ETCS I/O Panel in its test location on the front of the tender and operating on shore power.



18. Using the new remote battery voltage monitor.

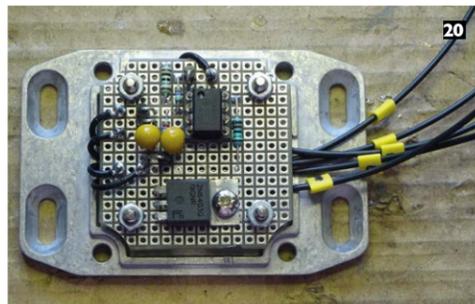


Shore Power Supply

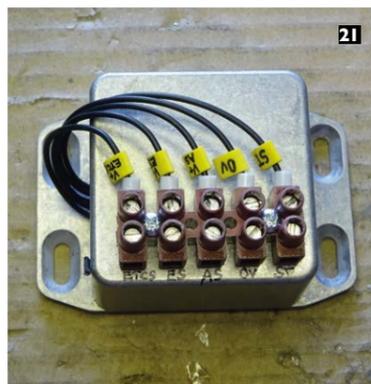
19. Preparing the power supply case.



20. Overtoltage crowbar protection circuit under construction.



21. Completed overvoltage crowbar module.



22. Start of assembly of the main AC-DC converter chassis.



23. Chassis with output busbars in place.



24. Preparing to assemble the main case.



25. Front panel meters and controls in place.



26. First test of the power supply system.



27. Completed converter chassis ready for fitting.



28. Fully assembled Shore Power Supply electronics.



29. Power supply under initial bench test.

30. New Shore Power Supply connected to coach power input on the rear of the tender and powering the ETCS system.



Headlamps Refurbishment

31. Headlamps dismantled ready for cleaning.

32. Cleaning solution applied to remove a year's front-of-the-engine grime.

33. Headlamp case having its annual bath.

34. Repainted headlamp case with refitted LED luminaire.

35. Day and night-time headlamps ready for another year of service.

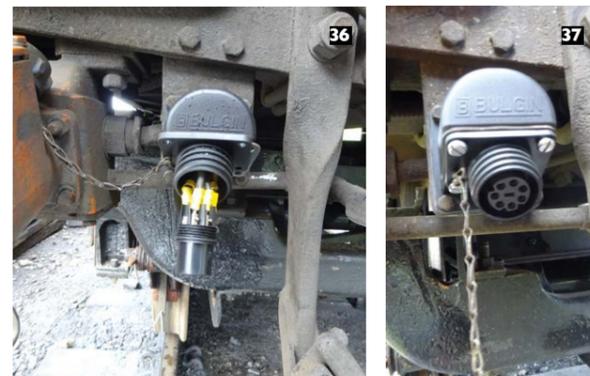


Coach ETCS and CET modifications

36. Wiring the new coach power to locomotive connector on the coach end.

37. Completed coach power to locomotive connector.

38. Reconfigured DC Distribution Board with updated 100A incomer and new MCBs for the CET and ETCS supplies.



In the cab, we have had to remove all our existing electrical systems to allow the cab to be prepared for ETCS. We are refitting all the systems like-for-like, with some being renewed where the existing installation was life expired. The original Control Panels and their boxes (on the cab roof above the crew seats) were made of aluminium. They have given good service over more than 13 years, but both back boxes have suffered cracks and the panels themselves are worn and heavily contaminated by coal dust and oil. They are therefore being replaced with new steel panels and boxes, which should survive better in the harsh cab environment. We are also changing the arrangement for illuminating the panels. A new directed LED light box is being fitted in the centre of the cab roof. This will throw light directly onto the fronts of the Panels, and onto the adjacent new ETCS panels on both the Driver's and Fireman's sides.

Our Support Coach No. 21249 has not escaped ETCS, as we have had to enhance the system for providing coach power to the locomotive to include the additional ETCS load. This has required new wiring from the Electrical Control Cabinet (in the guard's compartment) to each end of the vehicle, and the replacement of the connectors that allow the coach batteries to power all the locomotive systems with new 7-pin versions. New flexible conduit has been installed under the vehicle and the DC Distribution Board has been reconfigured to increase its capacity and include another 2-pole MCB to protect the ETCS circuit. A new contactor has been added to the DC rail to switch the ETCS supply. At the same time, we wired in the electrical supply for the new Controlled Emission Toilet.

Meanwhile, we have all the routine maintenance jobs to complete. These include the dismantling, cleaning, painting, reassembling and test of Tornado's LED head lamps. They lead a hard life on the front of the engine at 75mph, collecting dirt, flies and even the occasional pigeon. After a bath and a re-paint, they are good for another year of service. **TCC**

THE BIG MOVE by Richard Pearson

We had a scrap metal skip delivered to DLW1, and we managed to fill it in an hour with nearly 10 tons of scrap. Wilmott Dixon completed the 'haul road' at DLW2, as they called it, to allow the low-loader access for unloading into the workshop.

We now have our old fork truck from DLW1 and a hired fork truck in DLW2, so along with the loan of a van from DBC we were able to start moving some of the bigger and heavy items to DLW2, and by the close of play we had done over 25 trips.

The sheets were removed from the tender tank and the lifting brackets refitted ready for moving. The P2 was examined and a few things nipped up to stop us losing anything on the journey.



One of the most important jobs to facilitate the unloading of items at DLW2 was the preparation of suitable hard-standing.



The tender tank sees the light of day for the first time in a while, and together with its accommodation bogies, is loaded at DLW1.



The tender tank and accommodation bogies were then unloaded at DLW2.



Above and right: With the tender tank moved, *Tornado's* boiler was extracted from the old works, trundled through Darlington and off-loaded at DLW2.



Not Google Earth, but our drone photographer Ed Laxton captures the true scale of No. 2007 from above - the length of three terraced houses? [TCC](#)



Above and (following page): *Prince of Wales* leaves its birthplace prior to making the slightly convoluted trip round Darlington to a new home just a couple of hundred yards from the old Hopetown Carriage Works.

Left: A final image of No. 2007 in our original building.



The Trust and the King. Marking the Coronation.

The AI Steam Locomotive Trust has been privileged to have a firm relationship with the Monarch and his Queen since 2008. At this time consideration was being given to the naming of *Tornado* following completion. There has been a long tradition of Royal namings of locomotives and it was a great privilege when Prince Charles agreed to name *Tornado*.

After much careful planning the day came in February 2009 when the Royal Train made its way to York station conveying TRH The Prince of Wales and The Duchess of Cornwall. *Tornado* was attached to the front of the train, with a banner obscuring the nameplate ready for the unveiling, and a ceremony took place complete with military band and flypast by the Royal Air Force. *Tornado* then took the Royal Train to Leeds station with HRH taking a trip on the footplate to see how the loco performed for himself.

The Prince of Wales and Duchess continued to follow the story of *Tornado* and made a request in 2010 for *Tornado* to haul the Royal Train to the Museum of Science and Industry in Manchester. This aligned with a speech the Prince was giving there, and the Duchess of Cornwall was making a visit to the nearby Coronation Street TV Studios. On this occasion *Tornado* hauled the Royal Train from Preston, through flurries of snow, to arrive at the original Manchester Station dating back to 1830. Later on the same day *Tornado* was at Manchester Victoria station with the Royal Train, and carried the Prince on a trip to Crewe station for further engagements on board. Again, HRH took the chance to travel on the footplate, this time in the dark, which was a magical experience for all.

Perhaps the most ambitious steam hauled Royal Train ever undertaken in the preservation era was a very special trip from Wiltshire to Scotland in 2012, which included running through the night. *Tornado* attached to the Royal Train at Wembley and headed west. After collecting HRH the train then worked via Cheltenham, Birmingham and Derby before a stop for servicing south of York. The train then proceeded on to Darlington and along the original Stockton and Darlington Railway route on to Bishop Auckland



Geoff Griffiths

The Royal AI passes Church Fenton, conveying Their Royal Highnesses to Leeds.



Neil Whicker

TRH The Prince of Wales and The Duchess of Cornwall name *Tornado*.



The locomotive, bedecked for the occasion, leaves York.

where the Prince had appointments. The journey was then back to Darlington and on to Durham to collect Justin Welby, the Bishop of Durham (now the Archbishop of Canterbury), for a meeting on board. *Tornado* steamed north to Alnmouth where the Prince of Wales had further engagements. The train, with *Tornado*, then proceeded across the border into Scotland and to journey's end after more than 500 miles.

With the commencement of the Trust's second locomotive Buckingham Palace was approached for permission to use the name Prince of Wales on the new P2. It was a great honour that not only HRH Prince Charles supported this request but, as required, HM The Queen also approved its use. Thus No. 2007 *Prince of Wales* will be the seventh member of the P2 class and the King has been kept fully up to date with its progress, as with *Tornado's*, via regular correspondence and meetings.

An AI on the Richmond branch!

Our Chairman was recently handed some photos taken of military trains working to and from Catterick Camp including these remarkable shots of No. 60132 *Marmion* hauling a troop train along the Richmond Branch from Catterick on the 21st December 1963. Although they are poor quality, we reproduce them here for the sake of recording what must surely have been a unique movement – unless, of course, you know otherwise?



The troop train departing Catterick Bridge Station.



***Marmion* heading tender first through Moulton station.**

***Tornado* as Great Central**

We received the following letter from long-time supporter Ron Muggleton.

Your most recent article in *The Communication Cord* No. 68, Winter 2023 indicates that you like supporters of the Trust to contact you with memories etc. of the Trust so here goes.

To put you in the picture, on 5th April 2010 just before *Tornado* was due to return from the Great Central Railway, the GCR asked to change the locomotive's identity for a short while so as to represent No. 60156 *Great Central*. From conversations with members of the Trust at the time, my impression was that the members of the Board were not enamoured of the idea for the reason that they viewed the AI's identity, *Tornado*, as a brand which they wanted to foster and protect. Despite any reservations which might have existed, it was agreed that *Tornado* could be posed as *Great Central* on condition that it was done out of the public view and that it did not move in this guise. In order to achieve the change of identity, and because it was to be so short a change it was determined to use a wooden nameplate made by a gentleman who habitually manned a stand on the GCR at events. I knew him and asked him if he would be prepared to sell me the nameplate in question, which he did. After the photographs were taken, *Tornado* was quickly put back into its proper guise and I duly collected my nameplate which is now at home along with the two plastic, stick-on numbers which were used on the cabside.

With the Trust about to move into its new premises and as I am looking to "de-clutter", I thought it would be nice to offer the Trust this nameplate as it is a part of the *Tornado* history and this I duly have.



Peter Townsend

No. 60156 *Great Central* is seen at Gasworks Tunnel in 1957.



No. 2007 arrives at the new Darlington Locomotive Works. Our old premises, Hopetown Carriage Works, can be seen in the background. The proximity of the two buildings is apparent!

RAILTOURS UPDATE

With our Aberdonian tours less than two months away, the engineering team has been working to re-install the boiler in the frames as quickly as possible to get *Tornado* back in steam, and we have done everything in our power to return the locomotive to the main line ahead of our commitments in Scotland this summer. We now recognise that this will not be possible and have therefore taken steps to minimise disruption and disappointment for passengers, by working with West Coast Railway Company (WCRC) to run as many of these tours as possible. Whilst the trains won't be hauled by *Tornado*, we are pleased to confirm that they will have steam traction from WCRC's pool of locomotives.

However, due to operational constraints, alas, we must cancel three of our planned trains. We are very disappointed to need to make these changes, recognising that many passengers will have already altered their original plans to travel with us.

'The Aberdonian' trains that will run in Scotland this summer are:

- **From Edinburgh:**
Thursday 27th July – Saturday 29th July
Thursday 31st August – Thursday 7th September – Saturday 16th September
- **From Glasgow & Stirling:**
Thursday 14th September (The Clyde Aberdonian)

We sincerely apologise for any inconvenience caused by these changes, and hope that those who wish to, can still enjoy the fantastic steam hauled journey along the coast to **Aberdeen**.

With changes being effected for 'The Aberdonians', it is a good time to remind all potential passengers that your fare is held until after the train has safely returned on its day of operation. This means that you can book with confidence as your money is safe and can be returned to you in case of necessitated changes or cancellations.

Our autumn trains are unaffected, as *Tornado* will be back in steam for tests and certification this summer.

The standout tour this October is 'The Yorkshire Pullman', from **King's Cross** and **Potters Bar**. *Tornado's* first tour to **Harrogate** is sure to delight as the opulence of the authentic art deco carriages reminds us of the zenith of the golden age of travel. Nostalgia and luxury meet fine dining on this indulgent



A panoramic view Aberdeen harbour, taking in some of the unique architecture that towers over the city.



No. 60163 runs along Waterside, Goodrington Sands with the return working of 'The Torbay Express' from Kingswear on 3rd July 2011.

tour to Yorkshire's finest spa town, and passengers can expect a hearty run up the East Coast Main Line. Availability for 'The Yorkshire Pullman' was very limited, however additional tickets for this train have been now released. Early booking is advised to avoid disappointment.

Of course, it is hard to beat a trip to the good old British seaside and passengers from **Worcester**, **Cheltenham** and **Bristol** can look forward to just that as they wind their way down to Agatha Christie country as we visit **Dartmouth**. Travelling along the iconic sea wall, enjoy views out across the riviera before taking the steam ferry across the Dart from **Kingswear**. Tourist Class, First Class and Dining are all available on board.

The medieval Salopian towns of **Shrewsbury** and **Ludlow** both offer castles, river views, boat trips, and a plethora of shopping delights from big brands to delicatessens, but this day trip is as much about the journey as the destinations on offer. From **Wiltshire** and on to **Bristol**, our train makes its way through the the famously long Severn Tunnel emerging in South Wales, ready to wind its way along the border with England taking in the attractive rolling scenery of the Marches.

A brochure will be produced shortly, with the full programme for the second half of 2023, and we hope to see many of our supporters on our travels around the country. **TCC**

Geoff Griffiths

Covenantors' Diary by Dawn Phillips



As I am writing this, Spring is upon us. The clocks have finally turned back an hour, and we no longer leave the office under a dark sky. Everything feels possible! The 'Two-women team' here spins many plates, and even though we try our best, the odd plate does slip, but we ask that you all bear with us, and contact the office direct if you do not receive your regular communications on time. We will be happy to rectify this for you. The number is 01325 460163, and our email is enquiries@1steam.com.

As well as the above, Janet and I were preparing for the move. As you know, Darlington Locomotive Works has been home to the Trust for over 20 years. Preparation was ongoing with lots of sorting and packing to do, in between looking after our supporters, and managing 21st Century Steam bookings.

Although we are really looking forward to being in our new home, we will wave goodbye to this historic, dusty, interesting, sometimes cold, old building with a deep sense of nostalgia and a bit of a heavy heart. There is character in our old home, and I hope this is retained, to a degree, during the renovations as it becomes part of the Heritage Quarter. I remember the first time I stepped into the building,

laden with a box full of doughnuts. I was met by our chairman and brought through a rather dark hallway into a huge bright workshop, and my first glimpse of *Prince of Wales*. I could only describe this as completely unique. The next Works building will be equally impressive, and Janet and I look forward to showing you around when we open our doors again. Please note that our twice-monthly Open Days are now finished until we are settled into the new building. Please keep an eye on our website for updates.

The next few months will be busier than normal due to the move, and the overhaul of *Tornado*. I would like to personally thank all our volunteers, at DLW, and those further afield, for all their help and support they provide us daily. You are invaluable! I'd also like to thank my colleague Janet, for the fantastic job she does each day, supporting staff, Trustees, and our supporters alike. Janet has brought a lovely warm dimension to our office, which I am sure our supporters feel when making contact.

"I would like to take this opportunity to introduce myself in my role as Supporters' Administrator. As part of that role, I am your first point of contact to answer and action any queries that you may have regarding one-off and on-going donations. Also, if anyone is interested in visiting the new Darlington Locomotive Works, I

am more than happy to co-ordinate your visit. Please contact me if you have any questions or require further information, and I will endeavour to answer them."

DATES FOR YOUR DIARY!

- Exclusive Supporters Day at the New Works - Saturday 5th August
All supporters are invited to visit the new Darlington Locomotive Works on Bonomi Way, for the first Open Day. Be one of the first to take a look around our new home, before it opens to the public!
- The Trust's annual Convention will be held at Darlington Locomotive Works on Saturday 14th October this year. Further details and timings will be posted out in due course. **TCC**



Janet Preshous – Supporter Administrator.

TORNADO TOUR DIARY 2023

Below are future operations being run by the Trust. More details will be published on www.21stcenturysteam.co.uk as trains are finalised.

- **Thursday 27th July** – 'The Aberdonian' – Edinburgh to Aberdeen (via the Forth Bridge) and return
- **Saturday 29th July** – 'The Aberdonian' – Edinburgh to Aberdeen and return
- **Thursday 31st August** – 'The Aberdonian' – Edinburgh to Aberdeen and return
- **Thursday 7th September** – 'The Aberdonian' – Edinburgh to Aberdeen and return
- **Thursday 14th September** – 'The Clyde Aberdonian' – Glasgow and Stirling to Aberdeen via Dundee and return
- **Thursday 28th September** – 'The South Devon Express' – Worcester, Cheltenham and Bristol to Kingswear, including the ferry to Dartmouth
- **Sunday 1st October** – 'The Welsh Marches Express' – Salisbury, Bath and Bristol to Ludlow and Shrewsbury
- **Saturday 7th October** – 'The Yorkshire Pullman' – luxury train from London to Harrogate with Belmond British Pullman carriages

Tornado operates on the national network with West Coast Railways and DB Cargo and the Trust respectfully requests that anyone wanting to see *Tornado* follows the rules of the railway and only goes where permitted.

Book online at www.21stcenturysteam.co.uk, or call our booking office on 01325 488215



Nos. 60140 and 60146 Peregrine in York roundhouse, 1st January 1964.

Darlington Works No. 2059, equipped with boiler No. 3931 and tender 760, was completed in December 1948, one of five AIs from Darlington and three from Doncaster that month. This was about a third of the way through the class building programme. Livery was LNER apple green with black and white lining and old gold for numerals and letters. On the tender was 'BRITISH RAILWAYS'. Allocation was to York where it was one of a dozen AIs there. In time No. 60140 would become one of only three AIs known to have reached 100 mph (now four! Ed.)

It entered service from York (North – YK) on 24th December and was noted later at Darlington. The first recorded run for No. 60140 was the 14:12hrs Darlington-Leeds on 12th February 1949. It departed King's Cross with the 10:05hrs bound for Glasgow on 1st July. In October 1949 it was transferred along with Nos. 60141 and 60149 to King's Cross shed (KX) where they joined nine already there. Clearly it ran to Leeds as it was seen on Copley Hill shed on 19th February 1950.

A return to York (now 50A) with No. 60146 came in June 1950 to make a quartet of AIs there. Naming and repainting were done in July following a general overhaul at Doncaster and its appearance in BR blue with black and white lining was after the halfway stage of repainting the AIs with 30 already in this livery as No. 60140 and three others were repainted. Its naming was no less than one of seven that July to join the nine

previously named examples. Opinions are divided on its name *Balmoral*. Like several other AIs named after residences this is the Royal residence in Deeside, it was also the name of a nineteenth century Clyde steamer. There were many sightings between September 1950 and October 1951 of a regular turn of the Leeds–Newcastle train arriving at Stockton at 13:38hrs. Usually the load was five bogie coaches, sometimes with three four-wheel

John Amott-Brown

vehicles added while a few times it had six or seven coaches. In November 1951 No. 60140 along with two others was repainted into BR green with orange and black lining following another 'General' at 'The Plant' which included replacing the boiler with No. 29819. This livery change was quite early on in the class with just ten done so far. It did work further afield, noted arriving at King's Cross with an up passenger at 13:03hrs on 16th June 1952, leaving West Hartlepool on the Durham coast line at 15:30hrs on 17th March 1955 and bringing York–Edinburgh trains into Newcastle. During 1953 The 19:00hrs Edinburgh (Waverley) to Glasgow (Queen Street) Sundays only train was worked by number of York 50A locos, including No. 60140 three times. During this period it visited Doncaster for general overhauls during November 1953 (boiler No. 29822) and November 1955 (boiler No. 29813 fitted). Its first recorded named train was leaving King's Cross on 29th November 1956 with the up 'Flying Scotsman'.

The locomotive spent Christmas 1957 at Doncaster undergoing a further heavy general repair which included equipping the locomotive with boiler No. 29802 leaving with the later BR crest in January 1958. *Balmoral* left King's Cross with the Aberdeen-bound fish empties on 10th February 1958. Notable trains for No. 60140 were the up 'Queen of Scots' from Newcastle on 21st August 1958 and the down morning 'Talisman' from King's Cross on 7th July 1961. The locomotive again returned to Doncaster over the festive period in 1959 for an overhaul which included a boiler change (No. 29808). *Balmoral* took over from a failed Type 4 diesel with nine coaches at York in November 1961. Its driver was Dick Turner who did not like to be late if he could avoid it. It left over 26 minutes late but had regained six minutes in the first six miles, further cutting the deficit to 14 minutes at Grantham, 11 at Peterborough and 7¼ at Hatfield. It was notable for racing uphill at over 90 mph, reaching 100.5 mph at Essendine then over 90mph downhill. Arrival at King's Cross was just over two minutes late. It had covered 188.2 miles in 158¼ minutes. This led to Cecil J. Allen commenting that this confirmed that the AIs were as capable of 100 mph as the A3s and A4s.

As with other AIs the work in the early 1960s was a mixture of goods, parcels and passenger trains. Goods included an up train at Newcastle on 3rd February 1962, the up BP tanks at Newcastle at 13:15hrs on 19th December and a



Chris Nettleton

A distant view of No. 60140 at Brafferton, March 1964.

goods into London on 7th February 1963. Balmoral visited Doncaster one last time during May and June 1962 for a general overhaul which included the fitting and re-fitting of boiler Nos. 9658 and 29806 (history does not relate why), eventually leaving carrying boiler No. 29806. Parcel trains were usually the 3G34 York-Newcastle ones, often with a return run that evening with the up seed potatoes. An up parcels was worked into London on 31st December 1963. Passenger runs tended to be between Newcastle and King's Cross including some additional trains into the Tyneside city. 'Namers' were the up 'Tees Tyne Pullman' of 8th November 1962 and the down 'Scarborough Flyer' of 29th June 1963. York A1s were rarely seen on Leeds Holbeck shed but *Balmoral* was noted there on 15th September 1960. Scarborough was also reached with an ex-King's Cross train on 30th September, the locomotive returning light engine to York to be turned. There are many records of No. 60140 being serviced on Gateshead shed in 1964. That for 26th May shows it then working the 8S27 Tyne Yard-Millerhill while on the 30th it was back into Scotland taking forward the 1F75 King's Cross-Edinburgh from Newcastle. Its last recorded runs were the 2G85 Newcastle-Berwick stopping train on 20th June and



Bill Reed

An undated view of No. 60140 at York shed.

bringing a King's Cross-Newcastle train to its destination on 23rd December.

Withdrawal came on 11th January 1965, the 26th to go. No. 60140 had six boilers during its service of 16 years 1 month, all of them to diagram 118. That is nearly a year more than the class average. It was sold for scrap to A. Draper of Hull in March 1965, being seen on Hull

Dairycoates shed on 2nd April.

This history was compiled by Phil Champion based on the RCTS book "Locomotives of the LNER Part 2A", a database supplied by Tommy Knox of the Gresley Society and various published photographs. Revised and updated by Graham Langer, June 2020. TCC

JOIN 'THE P-WAY GANG' by Sophie Bunker-James

This spring we moved into our brand new, purpose-built locomotive works within the Darlington Railway Heritage Quarter (DRHQ). Owned by Darlington Borough Council and funded by the Council as well as TVCA and Central Government grants, the £4.5m building provides many of the facilities that we require for building and operating our steam locomotives. In order for the new building to reach its potential, The AI Steam Locomotive Trust has agreed to contribute to the project.



3D Illustration of the new site for the AI Steam Locomotive Trust.

This scheme will ensure that the site has a main line rail connection, running track, inspection pits and more. Such features will future-proof the activity of the Trust. There will be three phases for fundraising, the first for the running line, allowing movement around the site and live steam rides. With the Stockton & Darlington bicentenary fast approaching, we ask that you consider supporting this project as its legacy will ensure the future of new build steam in Darlington and ensuring that the DRHQ functions as a live steam destination for the UK, as well as a national and international visitor centre.

To cover the cost of materials and transport we are looking to raise £75,000. Any contributions are welcome, but for full club membership of 'The P-Way Gang' the minimum donation is £500, with £750 sponsoring a full 60ft rail with your name going next to that section on the track plan displayed in the new building. **TCC**



Sleepers being delivered to the new site.

Sign up online, or download forms at: a1steam.com/tornado/support-us/a-new-home-for-the-trust



Jack Bossett

P2 ENGINEERING UPDATE *by David Elliott*

General

Various events have conspired to affect progress on the P2, mainly associated with the protracted overhaul of and fitment of ETCS equipment to *Tornado* and the move to our new workshop.

Frames

The problem with the Philidas self-locking nuts used all over the frames showing defects in their locking devices has been resolved with replacements supplied for the defective specimens. Some of the easier to get at nuts have been replaced, however with the impending move to our new premises, it has been decided not to change the others until the frames are in their new home.

Cylinder block

The cylinder block is essentially finished and is presently being prepared for hydraulic testing. Howco discovered problems of porosity in the cylinder covers when machining them which has necessitated new castings to be made. A small adjustment to the casting process has resulted in castings which are free of porosity – Daniela Filova, through her company Daniela Works Limited, has machined the new castings which are now with Howco for the hydraulic test.

Meanwhile Daniela has completed machining of some sleeves required for certain of the valve chest covers and these are about to be dispatched to Howco. The original plan had been to have all the exhaust valve covers roughly the same as per the attached illustration for the exhaust valve outer cover. However out of the six similar covers, it proved almost impossible to remove them due to things such as wheels being in the way. To overcome this the design was changed on four of them to remove the cylindrical sleeve and replace it with two loose split halves. Once the outer flange is removed, these can be extracted as two halves in the space available.

Pony Truck

The replacement manganese steel liners for the pony truck cannonbox have been welded on by LMS at Loughborough whose welder Adam has a code for welding 11-14% manganese steel to plain carbon steel. The cannon box halves are now back at Darlington and require some further machining to complete the work. After this the liners on the frame can be machined to achieve the required fit of the cannon box in the frame.

Boiler

The P2 boiler has been further delayed pending resolution of some problems with the overhaul of *Tornado's* boiler which was carried out at Meiningen. However, we should have it later on this year.

Tender

Details for the tender frame have continued to be manufactured by I D Howitt at Crofton, Wakefield. The axleboxes are now at Darlington and Daniela Works has carried out the CNC machining of the tender spring hooks on behalf of Ian Howitt, as his own CNC lathe is out of commission at the present time. We have held off delivery of the frames pending completion of our move to our new workshops.

Right: The tender axleboxes at DLW.



Machined replacement cylinder cover.



3D CAD of the cylinder block showing valve covers and split sleeves.



Compound curvature CNC machined on tender spring hooks.



Daniela checking the tool for CNC machining of tender spring hooks.



Terry Graham and I ventured to Howco in Irvine to see progress on the cylinder block and to deliver some more items required to blank off all the holes to enable the hydraulic test to be carried out. By and large the results are satisfactory - almost everything we tried on the cylinder block fitted - we had to bring the release valve adapters for the cylinder covers back for a bit of thread easing. **TCC**



Rear inside exhaust valve cover assembly trial fit.



Trial fitting covers and blanks to rear of cylinder block.



Centre left: Front left-hand inlet valve trial fit.



Centre middle: Offering up rear inside exhaust valve cover assembly.



Centre right: A BR pattern cylinder relief valve fitted.



Right: David Elliott with his creation.

P2 FUNDRAISING PROGRESS *Sophie Bunker-James*



Mandy Grant

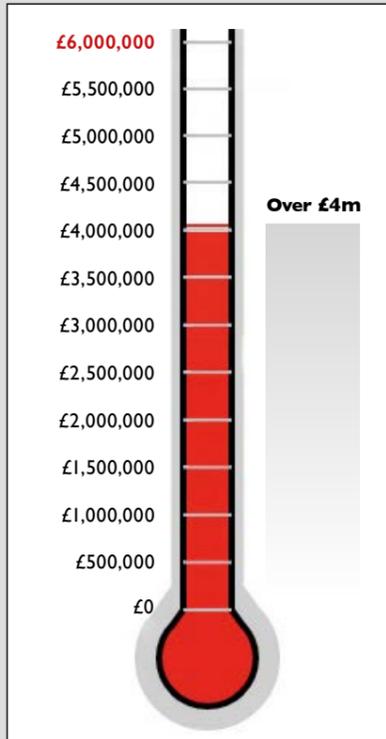
Gresley class P2 No. 2007 Prince of Wales outside DLW.

In April, we hit a momentous milestone in our fundraising for No. 2007. Of the £600,000 required to pay for the new P2 boiler, we have now raised in excess of half a million pounds. To each of our Boiler Club members, we thank you for your immense generosity. This plan is for the boiler to be delivered later this year, and before its delivery we must hit our target. We therefore ask, if you are able and inclined, that you join the Boiler Club without delay to get us over the line. This delivery will "fill the gap" and create the P2 silhouette. It won't be complete by any means, but it will be a huge milestone and a giant leap towards steaming *Prince of Wales*.

Of course, the big news in this issue of TCC is our move to the brand-new Darlington Locomotive Works in Bonomi Way. The £4.5m facility will allow us to house all our assets under cover, providing a superior workshop for building and maintaining our locomotives.

The indoor track is laid; however, we need to fund and install the track around the building, including our main line connection. Rails, sleepers and ballast have been acquired at preferential rates and track laying will commence this summer. If you would like to support this vital effort, please visit alsteam.com/newworks to contribute to the 'P-Way Gang'.

Our regular donations remain steady, and we hope to encourage more new faces to sign up as Covenantors in the coming months as we return to events, such as the much-enjoyed air show at Cosford. We look forward to inviting all our supporters, new and old, to our own event at the new locomotive works as soon as the dust settles after our move. We don't take your support for granted and deeply appreciate your loyalty and contributions: they are the reason we were able to build the first steam locomotive since the 1960s, and your continued support is the reason why we

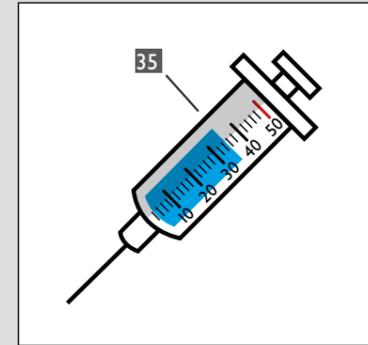


Donated to date.

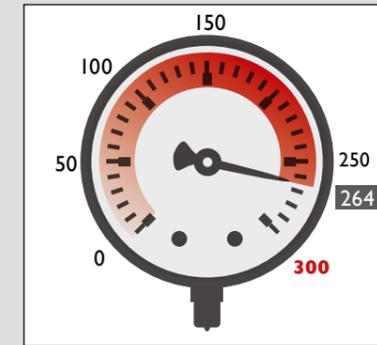
are able to do this again with No. 2007.

There will be subsequent events for Club members on the delivery of the three major components due this year. Members of the Tender, Monobloc and Boiler Clubs will enjoy exclusive access and discussion with our engineering team, getting the inside story from design to delivery – not to be missed!

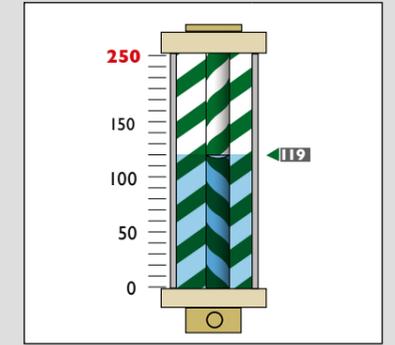
To sign up for any of our Clubs to help fund this Goliath's road to steaming for the first time, please visit p2steam.com/clubs or to make a one-off donation go to alsteam.com/p2donation



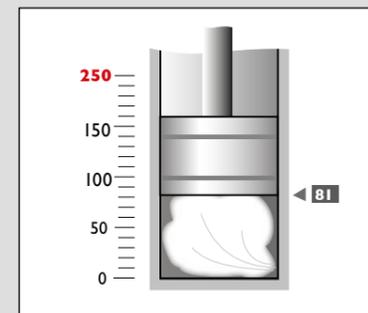
Injectors Club - 35 members.



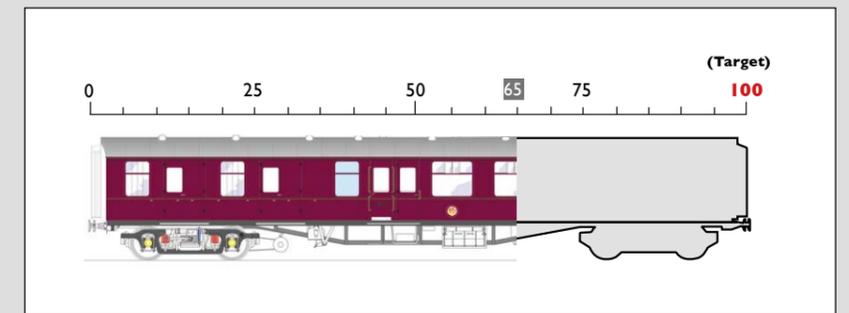
Boiler Club Gauge - 264 members.



Tender Club Gauge - 119 members.



Monobloc Club - 81 members.



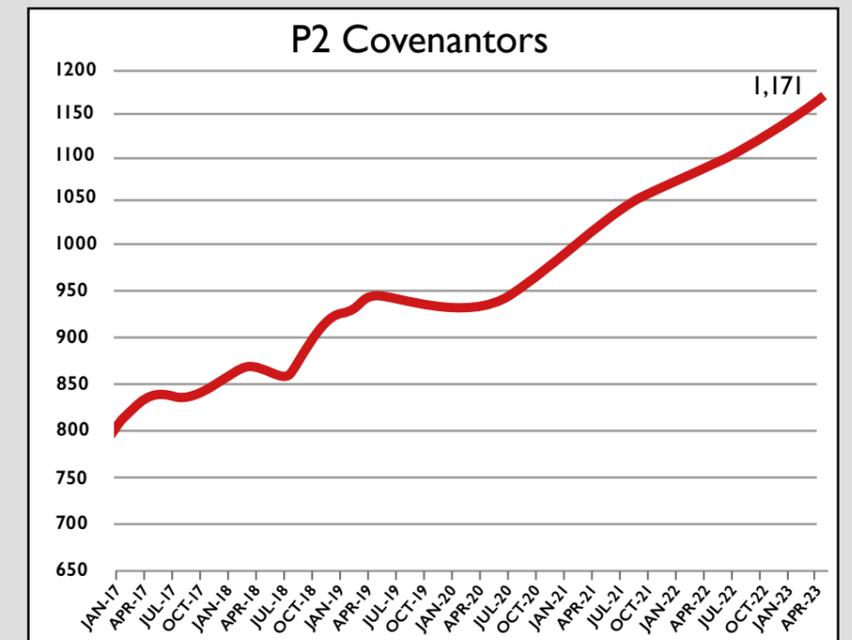
The P2 Coach Appeal - 65 supporters.

OTHER WAYS TO HELP

Legacies - This is not a subject that we like talking about, but the lasting impact from leaving a gift in your will is considerable. Leaving a legacy can help secure the P2's future for generations to come. See the article devoted to legacies. Please contact legacy.coordinator@alsteam.com or phone 01325 460163 for more information.

DLW Open Days - Open Days at the new site (Darlington Locomotive Works, Bonomi Way), will be starting later this summer - keep your eyes peeled for start dates!

Covenantors - From as little as £10 per month, your regular donation makes a huge difference. If you haven't already done so, please consider joining us today and become a part of something special. Visit our website at <https://www.p2steam.com/support/regular-donations> for more information.



Social Media - We're social creatures so please do follow us on Facebook, YouTube and Instagram and like us on Twitter. Don't forget to like, share and comment on our posts too as this helps our content reach a wider audience. **TCC**

CLUB FOCUS

The Boiler Club

The boiler is the beating heart of a steam locomotive. To keep the construction of No. 2007 *Prince of Wales* on schedule for completion within three years, in 2019 the Trust placed a £1m order with DB Meiningen for two new Diagram 118 boilers for our two new steam locomotives. The order is to supply the boiler for our new Gresley class P2 and a 'spare' boiler for use on both No. 2007 and No. 60163 *Tornado*.

The aim of The Boiler Club is to raise £600,000 from 300 supporters each donating £2,000 (in up to 16 payments of £125 by standing order) – we are over 80% of the way there!

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



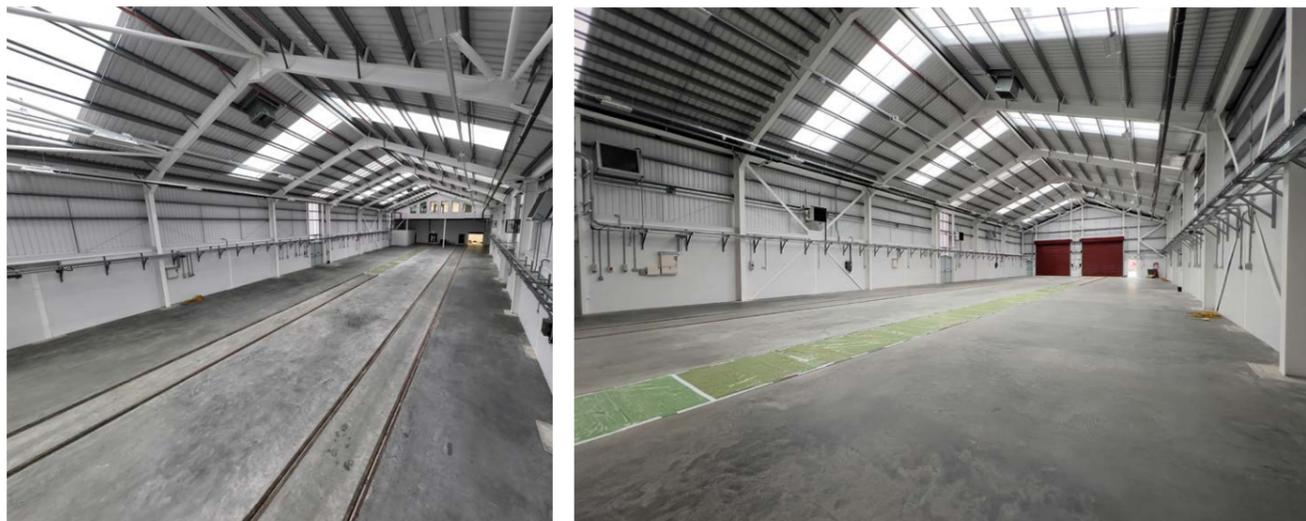
First new boiler being assembled at DBM.

DLW2 UPDATE *by Paul Bruce*

The Trust has reached a fantastic and long-awaited milestone. Almost six years after the dream began, we completed the snagging list and moved into our new home. It's a truly amazing base which transforms our operations and is designed to put us at the heart of Darlington's new Railway Heritage Quarter (RHQ) due to open in 2024.



The public face and entrance of the new Darlington Locomotive Works.



The massive interior of the works building.

After snagging, the Trust worked with the landlord, Darlington Borough Council, to take up occupation in May. The massive relocation preparations were finalised with *Prince of Wales*, its tender tank and all the heavy machines taken across from our existing works by low loader.

Our new building is a cavernous two road shed with internal and external pits, and it will be connected to the national rail network. The responsibility for the purchase and installation of the track sits with the Trust and any support, via the 'P-Way Gang', will be hugely appreciated.

The initial 1500 concrete sleepers to go with the 200 tonnes of rails secured last year, should be delivered by July. Ownership of the 2km of track now remains with the Trust and the phased installation is planned to begin in earnest later this year.



The outside (covered) inspection pit looking towards the Whessoe Road engine shed.

As well as administration and engineering offices and a large meeting room, the new Works includes a public viewing gallery on the second floor which is linked to the main RHQ buildings by a new footbridge due for installation in the Autumn.

Originating in 1850s, the Hopetown Carriage Works building always had access limitations which have restricted what we could offer. The new facility has been designed from the outset to be fully accessible, including lifts, accessible toilets and a fully accessible shower. This building transforms the Trust's operations and business and is vital for a successful delivery of the 2025 celebrations for the 200th anniversary of the Stockton & Darlington Railway. Along with the restored 1861 shed, it gives a servicing and stabling base for visiting locomotives and special trains. Although the Council's funding application for the turntable wasn't successful the work continues with them to secure that vital element of the RHQ. Looking forward to seeing you at the new Works for our 2023 Convention! **TCC**



The viewing gallery seen from the workshop floor.



The entrance to the reception and office block.



Above: Toilet, shower (both fully accessible) and the kitchenette.



Work in progress to restore the 1861 Whessoe Road engine shed, note the new roof trusses in place and preparations to pour the concrete floor.



P2 DEDICATED DONATIONS UPDATE by Liz Gibson



When writing my update for TCC 68 I hopefully chose the theme of 'Spring' as it seemed appropriate. At the moment the weather is making its presence felt outside; Spring seems to be continuing for all its worth which has blessed us with the dampest start to the year since 1981. It is worth reminding ourselves, perhaps, that a

lot of water does have some benefits, especially when it comes to steam locomotives! So for this edition's theme, I've chosen to go with a selection of items which all pertain to *Prince of Wales's* wet bits...

- For £15 you can sponsor a 4" top bowler hat pipe clip spacer
- The T-bolts and nuts for the superheater header are £95 each (there's lots of them too!)
- If you'd like 'your' part to help the wheels go round a little more directly then the Cylinder Drain Cock casting is £225
- For those who really want to 'splash out', for the princely sum of £3,000 you could sponsor the combined piston and rod machining for one of the three sets, or even cover the forging for £5,000!

Other, less moist parts are available of course!

If you're keener on process than function then how about narrowing things down by looking at a type of manufacturing method? Parts for the engine can be:

- Forged
- Welded
- Cast
- Laser cut
- Machined
- Rolled

...and all then expertly fitted together at the Works in Darlington.

Whatever the cost, size, placement or function, every sponsored item gets us one step closer to bringing this incredible locomotive to life. If you're interested in finding out more, please email Liz Gibson at: dedicated.donations@alsteam.com and ask for more information about the parts available.

If you know of a business owner or company who may be interested in sponsoring an item on No. 2007 *Prince of Wales*, please contact dedicated.donations@alsteam.com.

TCC

FROM THE ARCHIVES by Graham Langer



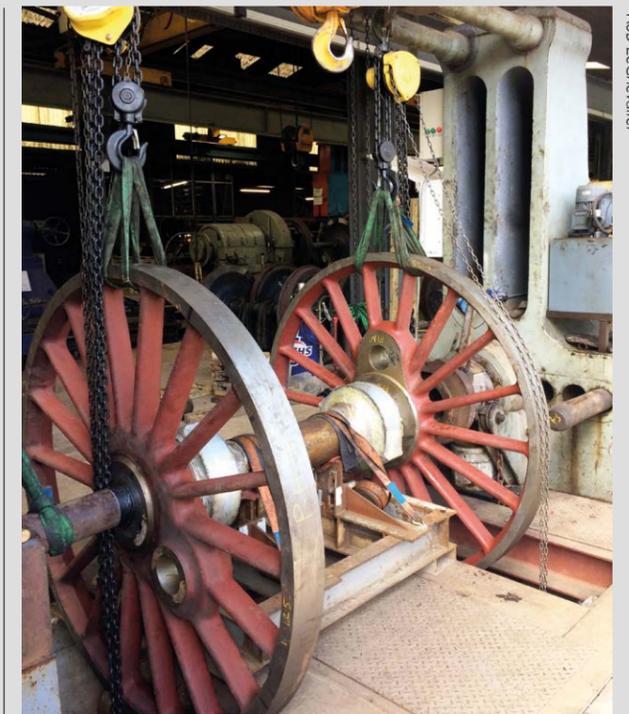
Fifteen years ago we were also moving tender tanks around the yard at DLW1. This is *Tornado's* being fitted to its frames.

Spring 2003 - With their tyres now fitted and turned the driving wheels were taken to North View Engineering in Darlington to have their crankpins 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 should now remain in place until the loco'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 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.

Spring 2018 - *Tornado* was presenting the Trust with some serious challenges, the TPWS system had thrown up errors



No. 2007's wheelsets are assembled at South Devon Railway Engineering.

sufficient to prevent the locomotive running and then No. 60163 herself failed whilst hauling 'The Ebor Flyer'. Turning to *Prince of Wales* the contrast couldn't have been greater; at Darlington Locomotive Works construction of No. 2007 forged on, the Cartazzi axle had been trial fitted to the frames, work continued to focus on wheeling the locomotive later this year and the wheelsets had been delivered to South Devon Railway Engineering for assembly. TCC

WORKSHOP NOTES.

Lawrie goes loco at DLW!

Lawrie Rose, a young YouTube blogger (vlogger?) recently visited DLW to view progress on the construction of No. 2007 *Prince of Wales*, you can view his entertaining episode by following this link: <https://www.youtube.com/watch?v=zChs7RLL-n4>



Lawrie presents to camera at DLW.



Bassett Lowke Cock o' the North

We have recently been sent these scans of a Bassett Lowke advertisement from the September 1938 edition of *The Railway Magazine*.

The AI 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



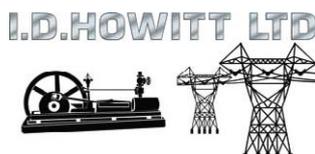
M. H. SPENCER LIMITED



TIMKEN



TOTAL



THE AI STEAM LOCOMOTIVE TRUST CONTACTS

President **David Champion** (david.champion@alsteam.com)

Vice Presidents **Peter Townend** (peter.townend@alsteam.com),

Ben Godfrey (ben.godfrey@alsteam.com)

Rick Peacock-Edwards (rick.peacock-edwards@alsteam.com)

Board of Trustees

Steve Davies Chairman (steve.davies@alsteam.com)

Paul Bruce Property Director (paul.bruce@alsteam.com)

Graeme Bunker-James Commercial Director (graeme.bunker-james@alsteam.com)

Richard Courteney-Harris P2 Project Coordinator (richard.courteney-harris@alsteam.com)

Liz Gibson Dedicated Donations (liz.gibson@alsteam.com)

Graham Langer Publications (graham.langer@alsteam.com)

Ben McDonald Group Engineering Director (ben.mcdonald@alsteam.com)

Huw Parker Operations Director (huw.parker@alsteam.com)

Chris Walker Finance (chris.walker@alsteam.com)

Advisers to the Board

Tom Benson Review Coordinator

Terry Graham P2 Project Manager (terry.graham@alsteam.com)

Andy Hardy Archivist

Gary Hughes Council & Board Business Coordinator (gary.hughes@alsteam.com)

Rob Morland Electrical (rob.morland@alsteam.com)

Graham Nicholas Professional Head of Engineering (graham.nicholas@alsteam.com)

Richard Peck Commercial (richard.peck@alsteam.com)

Charles Tremeer Volunteer Coordinator (charles.tremeer@alsteam.com)

Engineering

David Elliott P2 Engineering (david.elliott@alsteam.com)

Alan Parkin Electrical Design (alan.parkin@alsteam.com)

Richard Pearson Locomotive Manager (richard.pearson@alsteam.com)

Administration

Sophie Bunker-James Marketing and Communications Director (sophie.bunker-james@alsteam.com)

Dawn Phillips Office Manager (dawn.phillips@alsteam.com)

Janet Preshous Data Administrator (janet.preshous@alsteam.com)

Editor

Graham Langer (graham.langer@alsteam.com)

Picture Editor

Dave Cooper (photos@alsteam.com)

Design

Kevin Lumb (kevin@limegroveprintanddesign.co.uk)

* All information correct at the time of going to press June 2023. For up-to-date information and dates please check the website www.alsteam.com.

● The AI Steam Locomotive Trust, Darlington Locomotive Works, 9 Bonomi Way, Darlington DL3 0PY

● e-mail: enquiries@alsteam.com ● website: www.alsteam.com ● tel: 01325 460163

Darlington Locomotive Works is normally open to the public on the first and third Saturday each month (10am – 3pm).

Access to the works is in association with 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 *Tornado's* main line passenger trains follows the rules of the railway and only goes where permitted.

© 2023 The AI Steam Locomotive Trust except where shown. Views of contributors are not necessarily those of The AI Steam Locomotive Trust.