



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. 68 Winter 2023



Tornado's boiler is unloaded at Darlington Locomotive Works in less than clement weather on 12th December.

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EDITORIAL by Graham Langer



Frustratingly we have to record a further stumble in *Tornado's* protracted return to steam. On arrival in the U.K., and following inspection by British Engineering Services, concern has been expressed about the quality and installation of the small tubes in *Tornado's* boiler. At present we are not able to confirm if this is a material or welding issue, so all parties (AISLT, DB Meiningen and BES) have agreed that the most expeditious action is to replace the small tubes whilst we investigate the issue. This approach will not only ensure continued quality and reliability but will be the fastest route to complete the boiler ready for installation on the frames.

Whilst it is disappointing that there is additional work required in this area, we are working hard to return the locomotive to traffic as soon as possible. Our focus now is on completing the overhaul ahead of No. 60163's planned visit to the North Norfolk Railway and ETCS testing at RIDC (near Melton Mowbray) and we remain committed to running the first of the Aberdonian trains on 20th July 2023. The re-tubing itself will be covered by the boiler's warranty, however *Tornado* has been away from the main line longer than anticipated, which is having an impact on our earning capability. If you are able to help us at this time by making a donation, it will go directly towards the overhaul, ensuring *Tornado* returns to the rails in top condition.

However, it is not all bad news! We'd like to welcome Liz Gibson to the Board of Trustees where she will continue her role of taking the Trust's message to new audiences and looking after Dedicated Donations. Our appeal for new volunteers at the Convention and in the last edition of *The Communication Cord* has produced results with several of the positions now filled. Charles Tremeer provides further details in his volunteer update and we are extremely grateful to those people for coming forward. The

process of moving from the existing Hopetown Carriage Works to the new building, to be christened, rather unsurprisingly, 'Darlington Locomotive Works', will be complicated and challenging and any local assistance would be appreciated, see page 11.

In other good news 'The Boiler Club' is now blowing off well, having exceeded its 'working pressure' of 250 members, let's get it to the red line!

Sadly, whilst covering the roles of volunteers within the Trust, we have to record the death of Tony Watson, our long-standing photo archivist and former AI footplateman, an appreciation appears on page 10. It is worth reiterating that volunteers form the bedrock of this organisation and save it literally hundreds of thousands of pounds per annum and, like Tony, they are an essential part of the success of the Trust.

In this edition we have our usual overhaul and engineering updates, a comprehensive review of the ETCS installation by Rob Morland and an in-depth look at the fitting of the Controlled Emission Toilet (CET) in the support coach from Richard Pearson, who would have thought an humble lavatory could be so hi-tech? Whilst work on the P2 at DLW has been interrupted by the need to accommodate *Tornado's* boiler, good progress has continued to be made at Howco with the fitting of the cylinder liners into the monobloc and at Ian Howitt's engineering works on the tender frames. It is expected that these components will be delivered directly to DLW2 as soon as we have moved in to reduce the expense of double-handling them. **TCC**



Tony Watson.

Graham Langer

FROM THE CHAIR by Steve Davies

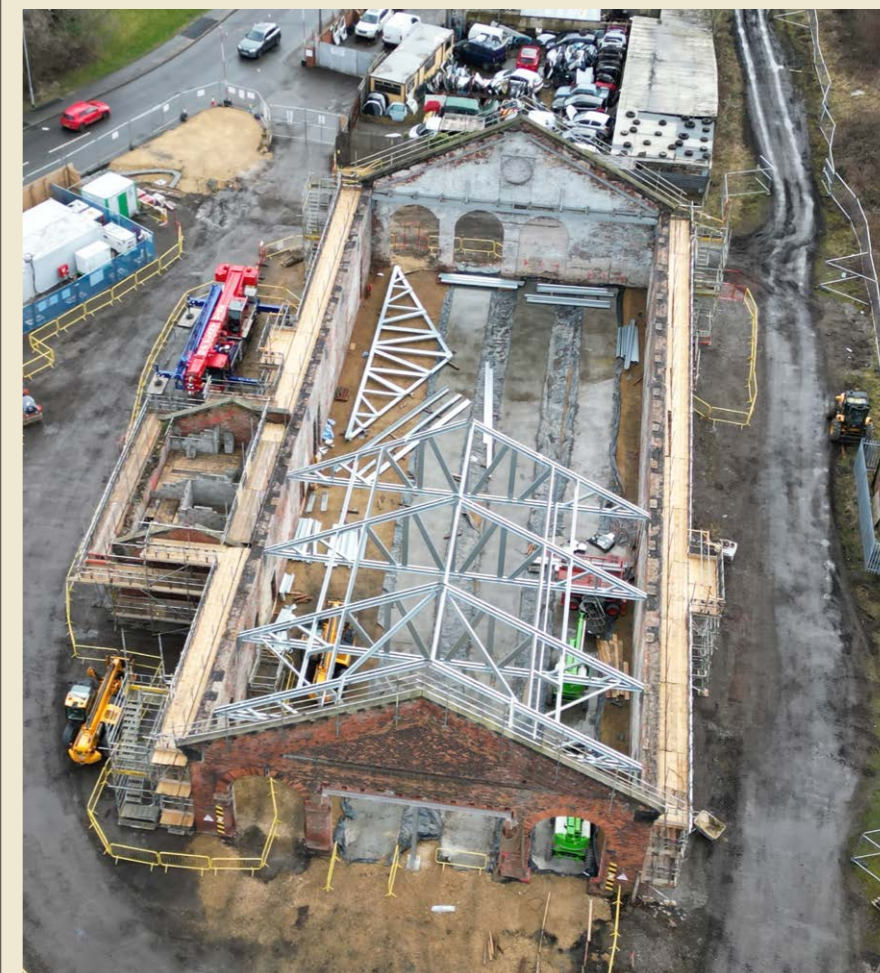


The finishing line is finally in sight! With the expectation that DB Meiningen can quickly resolve the issue affecting the small tubes in her boiler, *Tornado* is on the cusp of emerging into the daylight: gleaming, shiny in her refreshed apple green livery, mechanically fully overhauled, boiler as good as new, and literally bristling with the very latest digital signalling technology – the first steam locomotive in the world to receive this cutting-edge system, courtesy of our great friends at Network Rail. It's been a long old haul – and as I write we aren't quite there yet – but it will have been worth it. For too long we have all been starved of the sight and sound of our beautiful AI Pacific at work, for many of us the only reward we seek for the many hours of unpaid work and volunteer labour devoted to the Trust. But that's all about to change, and I hope you are all as excited about *Tornado's* phoenix-like return to the main line as we are. As with all steam locomotive restorations, you think you know what needs to be done when you start the process but it is only when you dig deep and strip the engine down that you actually discover the true extent of what the job is going to cost you! This time was no different. We have expended a significant amount of money on the overhaul but we feel that she is now set fair for a prolonged period of efficient running. Importantly, she will be well tried and tested by the time she is required to play her part at the Stockton & Darlington Bicentenary (S&D 200) events in 2025 – a mere two-and-a-bit years away!! We of course could not have afforded to commit to such an extensive overhaul without the full support and cooperation of our many contributors, to whom I offer my deep and very personal appreciation.

I never cease to marvel at the capacity of this organisation to plan and manage such a huge amount of activity across a broad front, and this is in many ways down to the efforts and unpaid volunteer contribution of the Trustees and Board advisors. *Tornado's*

overhaul would be enough to soak up all the energy of any organisation on its own, yet we simultaneously continue to manage the construction of the P2, plan the operation of trains through our 21st Century Steam tours arm, and of course plan and prepare for the move of the entire team and infrastructure into our new home, which we have decided to call, simply, Darlington Locomotive Works. Nothing fancy, the title says it all. Possibly less widely known is that we are also allocated approximately half of the floor space in the refurbished 1861 Engine Shed to provide the Trust with additional covered and secure storage space, thus ensuring that the main workshop does not become cluttered with non-operational vehicles or equipment. In a broader context, our move is of course a key component within the £35 million Darlington Rail Heritage

Quarter development – an exciting project with its roots firmly embedded in the S&D 200 celebrations but which will also deliver a significant legacy to the town and region well into the future. Although a turntable for our new home is not yet funded, we continue to make the argument that, without such a facility, the investment in our new rail-connected home will, in a way, remain unfinished business. I would contend that it is in Darlington's economic interest to be able to offer rail tour operators the ability to turn their steam locomotives, as well as service them, thus making the town an attractive rail tour destination in its own right. Moreover, it might also facilitate the use of the Shildon branch (and beyond onto the Weardale line?) for routine heritage operations but hey, that's an argument for another day!! **TCC**



Reconstruction of the 1861 Whessoe Road engine shed is beginning to make headway with steel roof trusses replacing the original, wooden ones. Some of the ugly modern additions have also been removed and its environs tidied up. The Trust will have the use of two roads in this shed.

AISLT



Photos AISLT.

Frame Alignment - The optical alignment of hornguides is complete, replacing the lengthy process of measurements and calculations from reference piano wire strung along the length of the locomotive frames. The hornguides have been ground to enable final positioning of the hornguides to ensure that the axle centres are in the correct locations.

Cylinders and Valves - Cylinder and valve bores are ready to receive the pistons and valves. Awaiting the return of the pistons which were sent for some re-work to correct a grinding error on the piston rod.

Motion –The refurbishment of the final motion components and bearings is now underway.



Wheelsets - All the wheelsets have been painted, lined, varnished, and await the fitment of the cannon boxes prior to re-wheeling the locomotive.



Frames - The locomotive frames are now painted -and the lining is nearly complete.



Brake Frame - Work has continued to re-design the locomotive brake frame and pipework in accordance with SNCL drawings. This included the reworking of pipework on the cab sides in preparation for the fitting of ETCS conduit and has taken key resource away from completing work on the locomotive.



Tender - Metalwork and rearrangement of the ETCS lockers at the rear of the tender is complete. Painting and lining of the tender is 95% completed. Modifications to the tender water valves is underway.





Boiler – The big news was the return of *Tornado's* boiler from Meiningen on 12th December, just the Christmas present we needed! Looking somewhat the worse for wear after its trip back from Germany, the boiler was rolled into the works for cleaning up and painting. Following a hydraulic test at DLW, further work was identified which will be conducted under DB(M)'s warranty. Work continued re-fitting all the boiler ancillaries that will be required for a steam test and insurance inspection. The cladding and insulation are waiting to be fitted once the steam test is complete and the boiler will then move to LMS to be reunited with the frames.



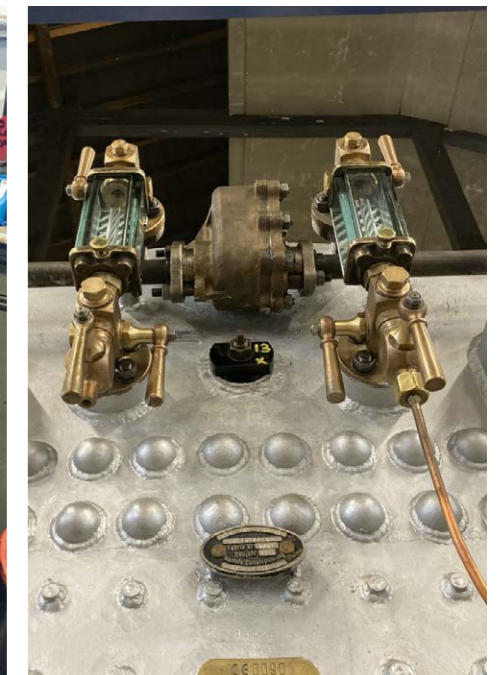
Top left: Looking a lot happier in a new coat of paint, the boiler sits in DLW.

Top right: The opportunity was taken to trial fit some of the cladding sheets.

Centre: Ian Matthews works inside the smokebox.

Bottom left: The manifold is prepared for re-installation.

Bottom right: Ancillary fittings, such as the water gauges, are reconnected.



SUPPORT COACH No. 21249 ENGINEERING REPORT

by Richard Pearson

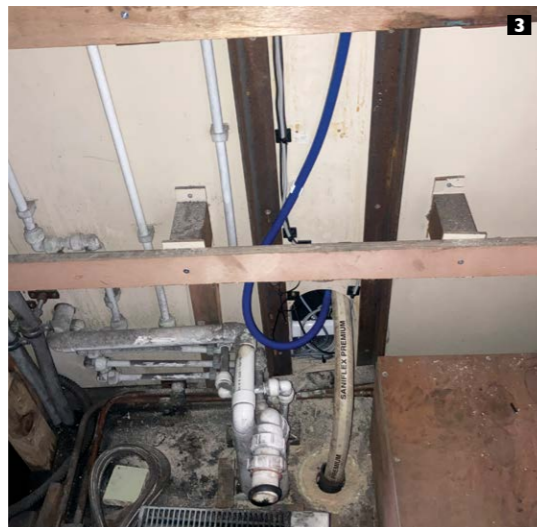
The refurbished bogies have been fitted to the support coach with the need for additional components to replace life expired pedestal liners and centre bearings and some minor unplanned repair work to corridor connections. No. 21249 is now at Carnforth for the Controlled Emission Toilet (CET) fitment. Rob Morland has been consulted about the electrical arrangements for power to the new toilet, which will be fitted with a water pump and macerator, discharging to a new stainless-steel tank already fitted under the coach. In future, effluent will have to be pumped out, either at an appropriate depot or through the hire of a honey-sucker. The No. 7 exam was passed successfully, and once CET work is complete, the coach is fully fit to resume mainline operations and will move to the Rail Innovation & Development Centre (RIDC) at Melton to support the ETCS testing. The two Commonwealth bogies removed from No. 21249 will be transported to DLW and can be refurbished in slower time at DLW2.

1. The new macerating toilet in position. In the base of the toilet is a stainless-steel fan blade, and when the rocker switch flush is pressed the fan spins at high speed which then turns everything to a liquid before forcing it out of the toilet and down the yellow hose to the tank at about 8 psi.

2. The plumbing in the wall space behind the toilet in the area which used to be hidden by the cleaning materials storage shelves. The pump on the top right is the toilet refill pump, the blue hose is the toilet refill hose.

3. The back of the toilet, the blue refill pipe, and the yellow waste pipe.

4. The flush and refill rocker switch, this has been mounted in place of the original flush handle. The rocker switch is self-explanatory, it is operated on one direction to empty and in the other to refill, new labels will be required as they don't come as part of the install. The toilet will take liquid and solid waste



and toilet paper only, WCR report that the biggest problem they are having is with members of the public who think they can put anything down the toilet, the biggest issue which is guaranteed to smash the macerator fans is the flushing of sanitary products, WCR have even changed to using white hand paper towels on all trains as the blue and green towels don't break up as well and can cause problems.

All photos - Richard Pearson



5. The tank from No. 2 end, from under the kitchen looking back, the tank and pipework have now all been painted black.

6. One of the tank drain valves, the fitting on the valve is an industry standard CET camlock, so the tank can drain on any depot which has the facility, but if we bring in an industrial tanker to empty the tank we will need to provide an adaptor.

7. The modified steam trap coupling. During the install everything went well as there wasn't a requirement to move any pipework or brackets, the only thing of note that needed doing been the shortening of the coupling on this piece of steam heat pipe so it would clear the top of the tank, as seen with a fresh coat of black paint.



The CET system will be filled with water and tested, they will then re-install the wooden wall and the top shelf of the cleaning storage area, a box with a maintenance hatch will then be built over the refill pump, the shelves will then need to be slightly adjusted to allow them to still accommodate the cleaning materials.

8. The coach sits on a refurbished set of Commonwealth bogies.

9. A close-up of one of the replacement bogies. TCC



TONY WATSON, A TRIBUTE by Graham Langer

We are saddened to report that Tony Watson, our long-standing photo archivist, passed away on 11th December after a period of illness. For many years Tony did sterling work sifting and cataloguing the mass of photos, either in the archive or that were sent to us in huge numbers once *Tornado* entered traffic. It was very much a 'backroom' role which nevertheless involved quite a lot of time-consuming admin work. The 'job' consisted of cataloguing and storing the many photographic submissions that are offered to the Trust from a variety of photographers. There are lots of semi-professional photographers out there who support the AISLT by donating photographs, which can then be used for publicity and fund-raising purposes.

A Leeds lad, Tony first became 'hooked' on railways and steam locomotives at an early age. Walks home from school in the mid-1950s involved crossing under the Leeds – Harrogate line. Diversions meant joining several other local lads to view the 'quarter-past-fourer' out of Leeds, which was a Liverpool to Newcastle express headed by a Pacific, usually an A3 or A1/A2 class often double-headed with a Starbeck-based 'Hunt' (D49) or later on a standard 2-6-4 tank. As Tony's parents were both at work, he was quartered with his grandmother until his mother, a tailor, got home. Grandmother soon got used to these after-school activities and nothing was thought of an eight or nine year-old being late home from school summer and winter.

On leaving school in 1961, Tony, following advice of his father and school authorities, took up a job as an engineering apprentice at William Shew's, located partly in an archway under the Leeds-Liverpool main line at Holbeck. The regular Liverpool – Newcastle expresses could be heard (and felt) overhead and lunchtime visits to the nearby Holbeck locomotive sheds were made, where one of his mates was working as an engine. The lure of steam proved too much and Tony applied for a job on the railways as a cleaner.

Starting at Neville Hill in August 1962, in what was eventually a 50 year plus railway career, moves to other depots for promotion means spells at Stourton, Holbeck, a couple of years on the Western region at Old Oak Common and Oxford, before the final Eastern region steam depot at Normanton. After the demise of steam, a spell as diesel second man proved unsatisfactory and redundancy on B.R. was on offer and was taken. He joined the Civil Engineer's department and this was the start of a new 40-year railway career, which saw Tony rise through the ranks of P.W. work and promotions to the Plant Department (tampers etc), rising to Supervisor, then Manager. With the onset of privatisation, new opportunities arose and a position of planning manager with one of the major infrastructure companies was secured, followed by retirement some ten years later.

Like many others, Tony had read about the proposal to build a brand-new 'A1' in the mid-1990s. When the frames were unveiled in the later 1990s, it became obvious that this really was going to happen with Tony becoming a covenanter shortly after. Tony offered his services to the photo archive



Tony Watson on the footplate of No. 60154 Bon Accord.

team, having an interest in computers and database systems. He joined the archive team which at the time consisted of Keith Drury, Chris Woodcock and Neil Whitaker. After working with, and learning from the team for a while, Tony took over Keith's role. Aside from this, Tony, being an ex-BR footplateman, was keen to get his hands dirty and joined the band of volunteers as support crew under Graeme Bunker in 2009. What a time he had, having witnessed many high-speed runs through Doncaster in the 1950s and 1960s, to be actually on the footplate doing nearly 70mph on these same centre roads!

Tony's active involvement tapered off around 2015 when health issues (loss of hearing) intervened, although the photo archive work continued until about eighteen months ago at which point he reluctantly relinquished this as well. Those of us who worked with Tony, both on the admin side and in the support crew, much enjoyed his company, the banter and humour and will miss all he contributed to the Trust. **TCC**

VOLUNTEERS! by Charles Tremeer

At present, aside from the bi-monthly Works Open Days, all is quiet on the general volunteering front, while we wait for *Tornado* to be back in action. As far as events are concerned, discussions are on-going as to which the Trust may wish to attend this year. The planned visit of *Tornado* to the North Norfolk Railway in late May gives us the opportunity to have a stand there.

An advance warning – the Open Days at DLW will need to be suspended for a period either side of the move to DLW in May/June. Once the dates for our move have been firmed up, more details will be posted on our website and mentioned in TCC.

One group of volunteers who have been busy is our workshop volunteers, who have been assisting with the efforts to finish the overhaul of the boiler and complete all the necessary tests, prior to installing the cladding and sending it to Loughborough to be installed. Their work assisting the Trust's staff and contractors is much appreciated.

We have been lucky enough to have had a number of offers to fill the vacancies detailed at the Convention and in TCC. Dave Cooper has put his hand up to take over the photographic archive and fill the role left vacant by Tony Watson (a hard act to follow!), Nicholas Lancashire has offered to help with the Trust's extensive physical archive and Tera Birchall joins the team as Deputy Website Editor.

We have just put out a call for someone to produce and edit *The Tornado Telegraph* and *The Mikado Messenger*, our two monthly electronic updates, if you think you can help, please contact the office team or myself. This is a role that doesn't need to be Darlington based.



Tera Birchall is joining the volunteer admin team and it looks like she wants to get her hands dirty as well!

If you would like to volunteer, please contact me at volunteer@a1steam.com **TCC**

• SHED NOTICES •

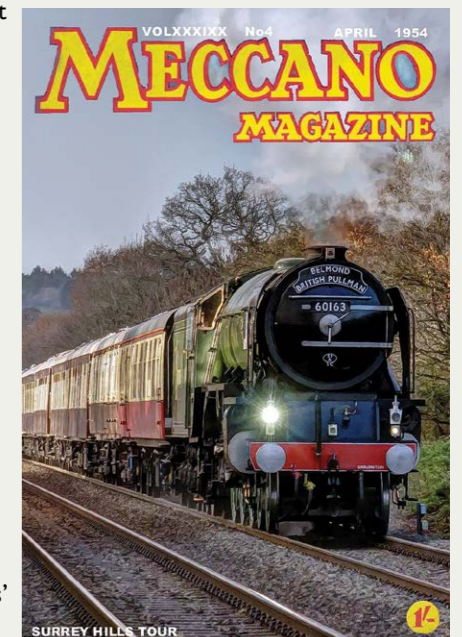
No. 60145 SAINT MUNGO – A PUZZLE!

Bruce Robinson enquired about smokebox numberplates carried by *Saint Mungo* (the last A1 in traffic). It appears that the locomotive carried a number of differing smokebox plates during her career with the final one gaining white edging, probably for a special train at the end of her career. The latter plate came up for auction recently and far from being a wooden replica (as some people thought), it appears to have been a cast BR one. Bruce assembled this collage of images of the smokebox plates carried by No. 60145 during her career. Can anyone shed further light on the subject?



TORNADO ON THE COVER OF MECCANO MAGAZINE??

David Ireland sent us this intriguing image and tells us, "Here's a bit of fun I've had with a picture of *Tornado* I took it some years ago at Albury on the Surrey Hills run. I've made it into a front cover of the *Meccano Magazine*. This publication was edited by Frank Hornby, the last issue was printed in 1981. It was dedicated to boys' hobbies of which trainspotting was a major one in the 1950s and 60s. It might confuse people to see a locomotive built in the 21st century on a magazine cover dated 1954!"



ETCS UPDATE by Rob Morland

Work continues on the project to fit ETCS to *Tornado* using the overhaul in Loughborough. SNC-Lavalin has completed all the major design work, with only a few updates being required to as-built status as the enabling works approaches completion.

We are now working closely with Thales, the ETCS technology provider, and their installation contractor, Derby Engineering Unit, to finalise the installation programme. The programme is divided into three parts. Most of the ETCS equipment is mounted on the tender, and installation of this has just started. The engine frames house cabling, together with the forward Balise antenna and new combined AWS/TPWS antenna. The antennas are all mounted under the bogie. The cab contains most of the driver interface equipment, together with the Mk4 TPWS, new On Train Data Recorder (OTDR) and Juridical Recording Unit (JRU).

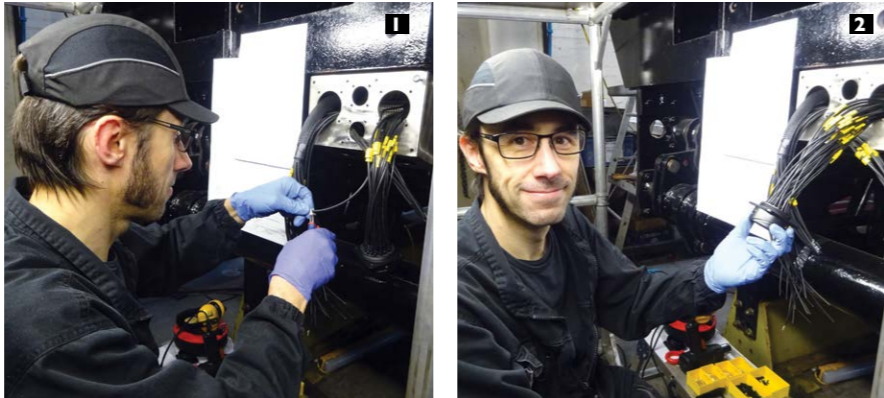
Enabling work on the tender is complete, and that on the cab is well advanced. Due to the extensive changes needed in the cab, it was decided to strip its contents completely so that it could be shot blasted and repainted in preparation for the work.

The brake box under the cab floor has been remodelled in order to fit the new ETCS brake components. The cab roof on both sides is being prepared for the mounting of driver and fireman side controls, and the under-seat cupboards are having new framework added to take the TPWS, OTDR and JRU equipment.

On the electrical side, the build is nearing completion on the three new electrical and electronic assemblies that fall within the Trust's scope of work:

- ETCS Battery Box – Comprising a pair of new 100Ah AGM batteries plus dual chargers and protection circuits
- Turbogen Switch Box – Containing all the interfacing, start-up control, protection and switching for the two turbogens
- ETCS I/O Panel – Providing control, protection and visibility of the whole ETCS power supply system

The ETCS Battery Box is complete and fitted to the underside of the tender. It just awaits installation of the new batteries, on its lower shelf.



1 & 2. Alan Parkin wiring the Essential Services tender umbilical connector.



3. Alan with the assembled tender umbilical connectors.



4. Completed tender umbilical connectors (the unused socket position is for the 'keep' for one of the socket protective caps, yet to be fitted).

Photos - Rob Morland

The Turbogen Switch Box is also complete, and has been trial-fitted in its new enclosure at the front of the engine, behind the driver's side buffer beam.

The ETCS I/O Panel is approaching completion and has also been trial-fitted in its new shelf on the front of the tender.

The next job is to build a new Shore Power Supply, which will have uprated outputs to power the ETCS in addition to the existing Auxiliary and Essential Services Systems. Once this is built it will be possible to start testing the system, initially by applying power to the tender equipment. Once work on the cab is complete we will be able to test the modified cab systems too. This will give us confidence that the main vehicle systems are working on their own, ahead of connecting the vehicles together for full system testing later in the programme.

5. Completed ETCS battery charger input connections.

6. The two chargers for the ETCS batteries installed in the top shelf of the new battery box.

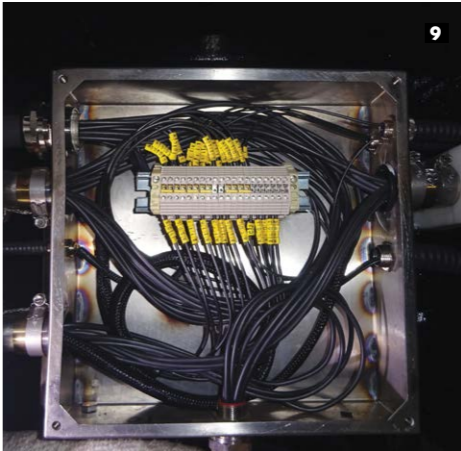
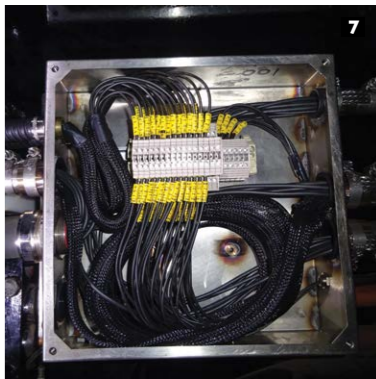
7. Completed wiring in the driver's side rear tender box – these are mostly connections to the tender rear essential lights.

8. One of the two tender rear buffer beam LED lighting strips being prepared for installation.

9. Completed wiring in the fireman's side rear tender box – these are auxiliary connections, including underframe and rear buffer beam lighting.

10. Enlarged opening in footplate floor for auxiliary connections between the engine frames and cab.

The statistics for the installation of wiring and the fitment of ETCS on *Tornado* are staggering. There were already three miles of wire on the locomotive and tender; over 9000 individual electric and electronic components, 52 military connectors containing more than 500 separate contacts, 250 individual wire runs and 36 MCB-protected circuits for



power supplies and connected loads. In fitting ETCS we have ordered about 2200 metres (1.36 miles) of additional wire for the tender rewiring and would estimate that about 0.4 miles is additional for the ETCS power supply, giving a total of 3.4 miles for our systems. This doesn't include the ETCS harnesses designed by SNCL and being made up by Huber & Suh ETCS has added another eight MIL connectors, so the total is now 50. It has also added seven electrical schematics to give a total of 73 actively used schematics. There are also an additional 20 MCB protected circuits, giving a total of 56.

12. Completed coach-locomotive power connector and rear handlamp plugin point.

13. Wiring harnesses under the front of the tender, ready to go up through the 'chimney' into the fireman's side locker space.

14. The Gland Box in place under the 'chimney' with the harnesses through it and up the 'chimney'.



15. Modifications underway to the engine umbilical connector boxes – repurposing the old TPWS connection box to take the new ETCS turbogen supply connector.

16. Completed engine side ETCS turbogen supply connector. TCC



11. ETCS supply connections added to the coach-loco power connector.



THE A1 STEAM LOCOMOTIVE TRUST IS YOUR LEGACY

You can ensure that Peppercorn class No. 60163 *Tornado*, Gresley class P2 No. 2007 *Prince of Wales*, No. 3403 *Highlander* or any other on-going project at the Trust, has a secure future for generations to come by leaving a legacy to The A1 Steam Locomotive Trust in your Will. When writing your Will, if your wish is for the legacy to go to a specific initiative of the Trust, please specify this and we will of course respect your wishes.

Donations via legacies during the 30 years that The A1 Steam Locomotive Trust has been in existence have been relatively limited when compared to other types of donation – although the Trust has always been extremely grateful for any gifts received. If legacy donations to the Trust were to reach the same level as those for the top UK based charities – where it represents around 40% of fundraising income – the Trust would raise an additional £80,000 per year. This would go a long way towards funding a five-year overhaul for *Tornado* or *Prince of Wales*.

Many Trustees have already made provision for No. 60163 *Tornado* and No. 2007 *Prince of Wales* in our wills by leaving a legacy to The A1 Steam Locomotive Trust. If you would also like to support the Trust through a legacy, then please take a look at www.a1steam.com or contact our Legacy Coordinator who will talk you through the process on legacy.coordinator@a1steam.com or 01325 460163.

How has Legacy funding been used by the Trust?

Legacies helped the Trust during the construction of No. 60163 *Tornado* by funding specific components and equipment in Darlington Locomotive Works. Since completion, generous gifts have helped fund the conversion of BR Mk I E21249 into *Tornado's* support coach and contributed towards the repayment of loans and the £500,000 bearer bond.

What will my Legacy go towards?

A bequest left in your Will will not be used for the general day to day expenses of running No. 60163 *Tornado* or No. 2007 *Prince of Wales* on the Network Rail main line and heritage railways. If you do not state a specific use, we will devote your gift towards the funding



Newly painted in apple green, *Tornado* outside Darlington Locomotive Works, 2015.

of *Tornado's* next major overhaul. If, however you would like your legacy to be used for something more specific, you will need to talk to our Legacy Coordinator in order to realise your contribution and by doing this we will be certain that your gift will be used for a specific purpose.

To whom do I make my bequest?

If the value of your estate is above a nil rate band threshold value, then it will be liable for inheritance tax (IHT). Any gifts made to UK registered charities are exempt from IHT and further tax savings can be made if you gift more than 10% of your net estate to charity as the IHT tax rate reduces to 36%. A gift to The A1 Steam Locomotive Trust would be classed as a charitable gift and therefore, attracts the favourable tax rules. If your estate is chargeable to IHT, specialist advice should be sought. The A1 Steam Locomotive Trust is the organisation that holds the funds for fundraising projects and has trustees that can accept bequests for any purpose linked to it. The Trust is governed by a Council and its Trustees will ensure your wish is fulfilled.

How do I make a Will?

You could simply fill out a form from a major stationer or online but if your

affairs are a little more complex it would be much better to take advice from a solicitor. It costs between £150 and £200 to make a Will.

Can I update my existing Will?

Yes, you will need to produce a document called a codicil; it is not that complicated and suitable forms are available from www.a1steam.com or from our Legacy Coordinator.

What wording do I use?

It depends on how you wish to divide up your estate. Details are available on www.a1steam.com or from our Legacy Coordinator.

So, please remember The A1 Steam Locomotive Trust in your Will and you too can help to ensure that No. 60163 *Tornado*, No. 2007 *Prince of Wales*, No. 3403 *Highlander* and our subsequent locomotives have a secure future on the main line for generations to come. **TCC**





A very recent view of the new Works building in Bonomi Way.

RAILTOURS by Sophie Bunker-James

We are counting down the days until *Tornado* will be back out on the main line and welcoming passengers on board. Our first opportunity will be in July, leaving Edinburgh on 'The Aberdonian'.

The core of our railtour programme since 2019, offering both 'The Aberdonian' and 'The Clyde Aberdonian' will be running through until September, following the scenic coastal route to Aberdeen.

This year we are refreshing our on-board offer, serving the finest local fare and delivering a fantastic passenger experience in all classes. The SRPS stock which we use for our trains has undergone significant improvements, having received both considerable maintenance work and investment. Premier Dining is already filling up, so please book early to avoid disappointment.

The tours that were originally planned for Spring will still go ahead later in the year, and dates for these will be released soon (around the

time that this issue of *TCC* goes to print), so do keep your eyes peeled on social media or on our website for updates. Unfortunately, due to the need for longer days, as well as a winter timetable for access to the Newquay branch line, 'The Cornishman' will be

pushed back to spring 2024.

Brand new tours will be announced amongst those re-scheduled dates, and we hope that supporters from all over the country will join us on board, or else come out to see our freshly overhauled locomotive steam past. **TCC**



P Backhouse

'The Aberdonian' passes Auchterarder.



Mark Sweeney

Tornado comes off the Forth Bridge with an 'Aberdonian' on 31st July 2021.

Covenantors' Diary by Dawn Phillips



Before the Darlington office and workshop team headed-off for their well-earned end of year break, we managed to get together for, what we hope will become, our annual Christmas quiz. The lucky winners of a 'fairly decent' box of chocolates, was

Project Manager Terry Graham, and Administrator Lorraine Heathwaite.

The office team has returned to work less one person, as Lorraine bade farewell to us at the end of 2022, you may have met Lorraine at our 2022 Annual Convention. We thank Lorraine for the contribution made during her time with us.

Reflecting on the past year, the office has made great strides to improve the management of our supporters and railtour passengers, by updating our IT and CRM (Customer Relationship Management) systems. With anything new, we have had slight teething challenges, however, the system is proving invaluable and allows the team to view and manage all our fantastic supporters and railtour passengers. Much hard work has been invested by Sophie Bunker-James, to help support the office team in learning this new system, thanks Sophie!

In 2022, we had around 700 people visit the No. 2007 *Prince of Wales*. Most visits took place during our Open Days (first and third Saturday of the month). We have also welcomed Covenantors seeking to view P2 when they were in our locality. We often give talks to groups of people interested in what we do, ranging from engineers, through to eager Covenantors. As always, we love meeting people who make the time and effort to visit our location.

I'd like to thank two amazing groups of people, firstly our supporters, without whom we would be in a completely

different position. As much as our time allows us, we try and get to know you, and love to hear why you support us. So many stories about family connections, or fond memories have been relayed to us by phone, email and face-to-face. We hope you continue to support us as you have done over these many years.

Secondly, I'd like to thank our volunteers for their help during 2022, and for the vital support they will offer us this year. As I write this, we are lucky to have the help of volunteer Jackie Morrice, a long-term supporter of the Trust, who is here helping us get organised for our pending move to our new home in May. This year will hopefully attract more volunteer help for the Trust. If anyone is interested in offering their time to us, please contact Charles Tremeer, you will find his contact details on the back of this issue.

We look forward to a healthy 2023, seeing *Tornado* doing what she does best, and welcoming existing and new supporters into our new home. Thank you. **TCC**



The office quiz in full swing!

TORNADO TOUR DIARY 2023

Below are the future operations *Tornado* is confirmed to be involved in. More details will be published on www.21stcenturysteam.co.uk as trains are finalised.

- **Saturday 27th May – Sunday 4th June** – North Norfolk Railway
- **Thursday 20th July** – 'The Aberdonian' – Edinburgh to Aberdeen and return
- **Saturday 22nd July** – 'The Clyde Aberdonian' – Glasgow and Stirling to Aberdeen and return
- **Thursday 27th July** – 'The Aberdonian' – Edinburgh to Aberdeen and return
- **Saturday 29th July** – 'The Aberdonian' – Edinburgh to Aberdeen and return
- **Saturday 19th August** – '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 and return
- **Saturday 16th September** – 'The Aberdonian' – Edinburgh to Aberdeen and return

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

AI PROFILE – No. 60139 SEA EAGLE by Phil Champion

No. 60139 was constructed about a third of the way through the class building programme. As Darlington Works No. 2058 it was coupled to tender 759, fitted with boiler No. 3930 and completed in December 1948. It was one of five Darlington-built examples that month while Doncaster turned out three. They joined the dozen already completed. Livery was LNER apple green with black and white lining and old gold used for lettering and numerals. The tender was lettered 'BRITISH RAILWAYS' but the top lining was not set as high as on most AIs (see photo). It was one of eight new to King's Cross shed (KX). While it was noted at Darlington on 31st December its first recorded train was on 19th April 1949 with the down 'Queen of Scots' from King's Cross. It again headed from the capital for Leeds with a passenger train on 14th May.



In original condition, No. 60139 runs through Haringay with 'The White Rose' in June 1949.

Naming and a repaint into BR blue with black and white lining came in May 1950 following a general overhaul at Doncaster. Appearing in blue was about halfway through the class and with 21 already done No. 60139 was one of five repaints that month. *Sea Eagle* was one of six AI names to have previously been carried by A4s, No. 60139 being one of the earliest AIs to be named, one of three that month to follow the first pair. Sightings along the main line included King's Cross station, leaving Newcastle with a train for the capital on 9th September and leaving King's Cross with the down 'Queen of Scots' on 7th October.

Reallocation to Copley Hill (37B) along with No. 60144 came in July 1951. A repaint into BR green with orange

and black lining was done in September 1951 when the locomotive returned to Doncaster for a general repair and replacement of its first boiler with No. 29850. *Sea Eagle* was one of these first repaints, three had been done by then and No. 60139 was one of another three repainted that month. Normal workings were now between Leeds and King's Cross. Of note were the down 'Tees-Tyne Pullman' on 10th February 1953, the up 'White Rose' on 20th June, logged as failed at Hitchin on 26th October 1954 with the up 'Queen of Scots' then hauling it from Leeds to King's Cross on 7th April 1955. Exemplifying its loads was the 11 coach 09:10hrs King's Cross-Leeds on 7th May 1954. An undated photo shows No. 60139 carrying the 'Yorkshire Pullman'

headboard. It was noted back in Newcastle on 29th April 1954. *Sea Eagle* was seen with nine Pullmans on the 16:35hrs Leeds-King's Cross on 20th January 1955 before spending February at Doncaster undergoing a general overhaul which included equipping it with boiler No. 29839. It brought the up parcels into King's Cross on 9th July.

In December 1955 *Sea Eagle* was transferred to Grantham (35B) along with No. 60119. The prestigious 'Flying Scotsman' was hauled in the down direction into Newcastle on 21st and 28th January 1956, then leaving King's Cross at 10:00hrs on 19th December. Many departures from King's Cross were observed in this period, the more common being 05:50hrs and 06:45hrs for Grantham



Sea Eagle at Retford on 20th June 1953.



No. 60139 emerges from Gasworks Tunnel with the down 'Tees-Tyne Pullman', 31st May 1957.

(the latter sometimes also diagrammed with the 17:35hrs for Newcastle), the 10:20hrs for Leeds usually with a 23:45hrs departure for Newcastle and the 20:20hrs train bound for Edinburgh. Another visit to Doncaster was made in October 1956

for a 'General' and boiler change, this time for boiler No. 29862.

No. 60139 joined No. 60136 in going back to King's Cross shed (now 34A) in April 1957. The later BR crest was applied to the tender in August 1958. Sightings

were generally between the North East and the capital like the down 'Flying Scotsman' from the capital on August 27th though the same train on October 28th was hauled by No. 60138 between Newcastle and Edinburgh.

It was on the move again, this time as one of six A1s to Doncaster in April 1959 following yet another general overhaul and the fitting of boiler No. 29785, a diagram 117 example. No. 60139 was back at Doncaster again during March 1960 for another general overhaul and boiler change, receiving yet another '117' in the shape of boiler No. 29786, thereafter most sightings were between Yorkshire and London but of note was taking the Hull-Kings Cross rugby special of 14th May 1960 forward from Doncaster. Sea Eagle had its final 'General' at Doncaster during March 1962, which included fitting its last boiler, No. 29858, a diagram 118 type, and by that summer it was back in the North East with sightings on Gateshead shed and taking Edinburgh-King's Cross trains forward from Newcastle.

Five times between September 1962 and January 1963 it arrived in Newcastle with the 1A12 from King's Cross destined for the Tyne Commission Quay, each time returning with the 3E22 up fish. Another goods working was the up seed potatoes leaving Newcastle at 12:37hrs on 14th December 1962. Less usual was heading south with new electric stock at York. There is an undated photo of No. 60139 on a High Dyke-Aldwarke fitted ore train. On 11th April 1963 it departed Newcastle with the 07:50hrs for King's Cross being back two days later with the 1N25 extra Derby-Newcastle train after which it was seen light engine Blaydon to Gateshead. On 24th April it worked the 3E20 Delaval-Holloway ECS. As well as being serviced at Gateshead shed it was seen at Heaton. The last workings recorded for *Sea Eagle* were an up class C goods at Newcastle at 15:00hrs on 4th December 1963 and the 16:49hrs Leeds-Doncaster train of 25th April 1964. It was noted at Northallerton station 2nd May then later that day in Gateshead shed yard.



Sea Eagle on King's Cross 'Top Shed' 19th August 1957.



Sea Eagle at Grantham in June 1962.



A careworn No. 60139 is seen at Great Ponton in this undated view.

No. 60139 carried six boilers in its life, two of them diagram 117 examples carried between August 1958 and March 1962. Its withdrawal on 7th June 1964 with No. 60149 was about a third of the way through the class with fifteen taken out of use earlier. It was in service for 15 years 8 months. It was sold for scrap to Cox & Danks of Wadsley Bridge in January 1965.

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

Peter Townsend

Cedric Clayson

P2 ENGINEERING UPDATE by David Elliott

General

Progress at DLW has continued to be limited due to the diversion of resources *Tornado's* overhaul and the ETCS project. The major area of progress has been the cylinder block culminating in it being the centrepiece of the 2022 Convention. Some other progress has been maintained – mostly in areas away from DLW.

Frames

Hawk Fasteners have now provided replacement Philidas nuts for the frame assembly. These will be fitted, and the defective items returned to Hawk when resource becomes available.

Wheelsets

Welder Adam at LMS, Loughborough, has welded on the new manganese steel liners to the pony truck cannon box, and it is now back at DLW. However, as was anticipated some additional machining is required to restore the geometry of the assembled cannonbox. This will be in the form of facing off the mating surfaces of the cannonbox halves and restoring the bearing seats to truly cylindrical and a contractor for this is being sought. At Triple T, Shildon, the pony truck frame is waiting completion of cannonbox repairs.

Balancing of the tender wheelsets is still required for installation under the frames when delivered. Timken tender cartridge bearings will be needed to fit the wheelsets to the tender frames

Boiler

Whilst on holiday in early September 2022 in Europe, I called in at Meiningen to observe progress on *Tornado's* boiler repair and the first new boiler which is destined for the P2. *Tornado's* boiler was the priority at the time and work on the P2 boiler had slowed accordingly. As soon as conditions allow, a visit to Meiningen will be planned to firm up on the process to complete the boiler for the P2.

Cylinders and valves

As will be known, the cylinder block was delivered to DLW for the 2022 Convention in and largely complete condition and has since been returned to Howco where machining and other work has been progressing.

Howco's first attempt to fit a cylinder liner failed due partly to a rather tight initial interference before the liner was cryogenically cooled coupled with the crane being used to lower the frozen liner into the block being slow. Hence the liner "picked up" when it was a little over halfway in. Fortunately, Howco were able to remove it without damage using large hydraulic jacks. The interference has been reduced to that use for *Tornado's* liners and the means of lowering into the block improved. All three liners are now in satisfactorily.

The six inner valve seats have been successfully shrunk into the block and finish machining of the liners and block is continuing. Once complete, valve cover castings, cylinder covers and blanking plates will be fitted and the block hydraulically tested.

Valve gear design

This has made some advances with Martin Shepherd correcting some of the drawings following checking (mostly by Alan Parkin). Daniela Works Ltd has been asked to provide budgetary estimates for the manufacture of a wide range of valve gear components to give us some numbers to work with.

Pipework and Fittings

Ed Laxton has made adapters for the BR type cylinder relief valves which have been adopted for the P2 as being less liable to damage when being removed from the cylinders compared with the screw in LNER type. He is also well on with machining the body and end castings for these relief valves and will make the innards for them.

Tender - Continued progress has been made on the tender frames with the axleboxes machining completed and further work on brake/hand brake components. The date for the delivery of the tender frames is dependant on the move to DLW2 to avoid a double move. TCC



The cylinder liners are inserted into the monobloc.



One of the machined cylinder liners in place.

Howco

P2 PROGRESS *by Richard Courteney-Harris*

In the last twelve months the motion has been successfully fitted to the RHS of the engine, the LHS was fitted in September 2021. The rotator was fitted and the wheels successfully driven. The cylinder block was brought to DLW for display at the Convention in 2022 then returned to Howco. The smokebox and smoke deflectors were moved from the front of the locomotive in late 2022 in order that measurements could be taken of the cylinder fit up areas to give Howco specific dimensions.

Tender - The tender tank was delivered in 2020. It was painted and mounted on accommodation bogies on the track outside the DLW workshop and a tarpaulin fitted to protect it. Last year we removed the tarpaulin to recover the lifting eyes to use on *Tornado's* tender and we replaced a couple of damaged tarpaulins before wrapping it back up again. Readers will be aware that the tender frame is under construction at Howitts and has been for a while now. I'm happy to report that it's nearly complete and ready for delivery. Whilst *Tornado's* overhaul remains ongoing, and we await the move to our new facility across the road, we'll hold off on delivery.

Cylinder Block - When we placed the order the agreed delivery date was 22nd March. Howco agreed to include final delivery, supply of all fasteners for the

hydraulic test and machining of most of the covers required for the hydraulic test in the original purchase price. Progress is behind schedule due to the complexity of the job, not fully appreciated at the time by the manufacturers. Machining is now almost complete and we have requested a visit this month to review and check all machining is as required. Then the assembly will be measured, then hydraulically tested. Machining the cylinder covers recently revealed that they have significant porosity, so were rejected. The foundry that originally made them in 2019, have agreed to manufacture replacements. We plan on a completion date towards the end of February. Again, it's worth noting that we are planning for a completion date in early March with Howco delaying final delivery of the block until we are safely installed in DLW2.

Frames - All the Philidas locking nuts holding the frames together have been found to have cracks in the locking feature, so were rejected. Replacement nuts were delivered by Hawk fasteners in October 2022. They will be replaced when the specific torque wrench is available after the overhaul at Loughborough is complete.

Funding - I remain inspired and humbled your continuing very generous support; people have rallied to the P2 cause and continue to do so. We are very conscious that the economic climate remains challenging which is why we're all the more appreciative of your firm commitment to P2. Whilst we're in a slight 'pause' on new work, the block, frames and valve gear continue to absorb your very generous donations at an alarming rate! If you're able to spread the word further, and increase our funding base, we would be very grateful indeed. **TCC**



Attention all Club Members! - Exclusive badges are available to purchase -



The Boiler Club, The Mikado Club, The Cylinder Club, The Motion Club, The Tender Club
All Club Badges **£5.00 each** (Badges shown actual size)

To purchase your badge please send a cheque for the relevant amount made payable to 'The P2 Steam Locomotive Company' and send to The AI Steam Locomotive Trust, Darlington Locomotive Works, Hopetown Lane, Darlington DL3 6RQ.

P2 DEDICATED DONATIONS UPDATE *by Liz Gibson*



While we toil through the depths of winter, thoughts occasionally turn to the potential that the coming year holds. Spring is, of course, a time for new beginnings, new life and the promise of sunnier days to come. So, what better way than to help our new P2 *Prince of Wales* spring into life by making a Dedicated Donation and cover the cost

of a vital component, one that will more than likely be fitted once we're safely installed in the new Works building!

I'm delighted to report that there has been a flurry of interest in Dedicated Donations recently, and several parts have been sponsored for the locomotive. Don't fret though, there are still hundreds to choose from. Prices range from a few pounds to thousands, so there's something for everyone's budget. As my theme here is Spring and I can't waste the opportunity, I'm going to stick with it for my pick of suggested parts!

- For £15 you can sponsor an axlebox bush for the spring hanger pins
- One of the small buffer springs is £65 while a large one comes in at £170
- If you want 'your' part to help keep the ride smooth, maybe consider sponsoring the engine (or tender) spring box pattern for £350

- For those with slightly deeper pockets, for a little shy of £2,000 you could help complete the buffers by providing the pattern, casting and machining for the spring casing!

Other, less springy parts are available of course!

If you're more keen 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

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



Some of the P2 components still available to sponsor.

P2 FUNDRAISING PROGRESS Sophie Bunker-James



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

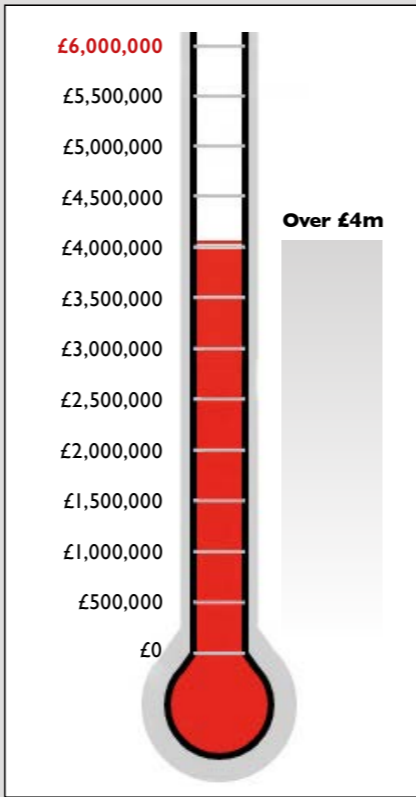
Let us start by saying a great big thank you to all of our supporters. Whether you are a Covenantor and/or a Club Member, we are grateful for every donation we receive, and the P2 project couldn't make the remarkable progress that it has to date without your help.

Whilst work on the P2 has slowed a little in Darlington whilst the team feverishly work to return *Tornado* to the rails, off-site, the monobloc, boiler and tender frames are all making great strides and are due for delivery in the coming six months. This will see three of our larger clubs close, but before they do, all members of the respective Clubs will be invited to come to the Works to closely view the incredible components that they have helped pay for and talk with Trustees and engineers about the process – from design to delivery, it hasn't all been plain sailing, and you won't

want to miss the story! However, none of these three clubs have yet reached their target, and with delivery comes the invoice! If you are inclined to join any of these Clubs, we would be happy to have you on board.

Other ways to help No. 2007 include joining The Support Coach Appeal, providing the living space and workshop when the locomotive is out on the network. The Injectors Club is another way to sponsor a vital component, and one-off donations are always welcome. Easy Fundraising and Amazon Smile are two simple ways to donate without any additional cost to you, so please check them out next time you're doing some online shopping.

We can only finish *Prince of Wales* as quickly as we can raise the money to fund the work, so every donation matters as



Donated to date.

we reach the final straight. From project launch in 2014, the last nine years have seen remarkable progress, and it's down to you that the pace of build has been so rapid. In comparison, *Tornado* was little more than a set of frames and wheels after a similar amount of time, whereas we are poised to see the majority of No. 2007 come together this year, but we can't reach the finish line without you. Please give what you can, we are grateful for all of your support.

CLUB FOCUS

The Monobloc Club

Launched in July 2021, 'The Cylinder Manufacturing Club' has been now been renamed 'The Monobloc Club'.

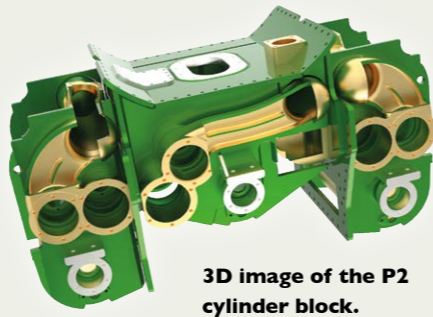
This is a shift in focus to draw attention to this unique fabrication and raise the profile of this bold undertaking. Machining of the cylinder block is well underway at Howco in Irvine, Scotland, and delivery is expected later this year. Whilst we are pressing forward with the manufacturing of the monobloc, donations are now needed to help fund the work. We do not want to slow the pace of the P2 build, so all contributions towards *Prince of Wales* are greatly appreciated. To-date, over £4m has been spent of the estimated £6m required to complete No. 2007 *Prince of Wales* within the next three years. This is testament to the generosity our loyal supporters.

In order to keep to this schedule, we must complete the cylinder block by the winter. Please consider joining 'The Monobloc Club' today and help us to complete Britain's most powerful steam locomotive in record time – we have a way

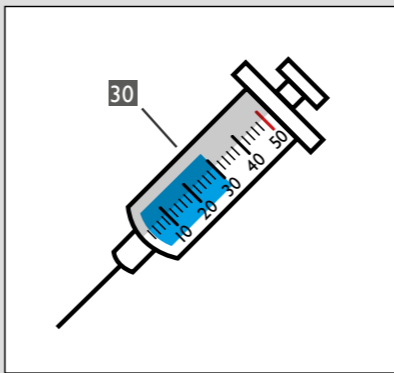
to go to reach our £250,000 club target! Donations of £1000 can be made as a lump sum or in four or eight smaller monthly payments. Thank you to those who have already donated.

Find out more about 'The Monobloc Club' on the p2steam.com website or contact the office by 'phone on 01325 460163, or email enquiries@p2steam.com.

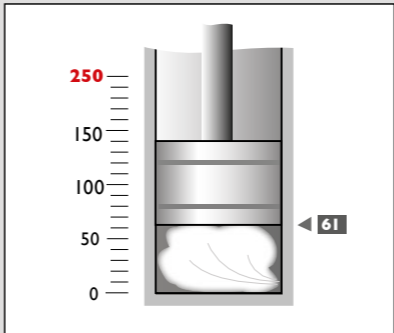
'Monobloc Club' members have already visited Howco and further exciting days are planned for supporters, perhaps a little further south next time! If this interests you, sign up today!



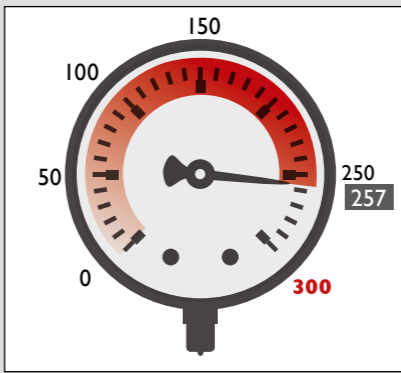
3D image of the P2 cylinder block.



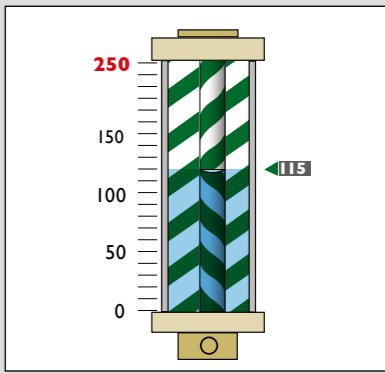
Injectors Club - 30 members.



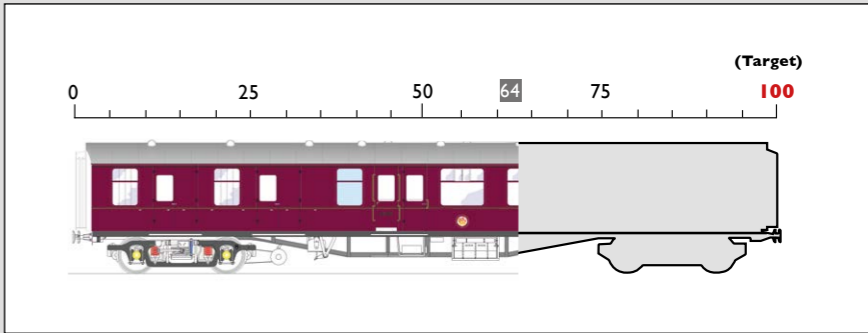
Monobloc Club - 61 members.



Boiler Club Gauge - 257 members.



Tender Club Gauge - 115 members.



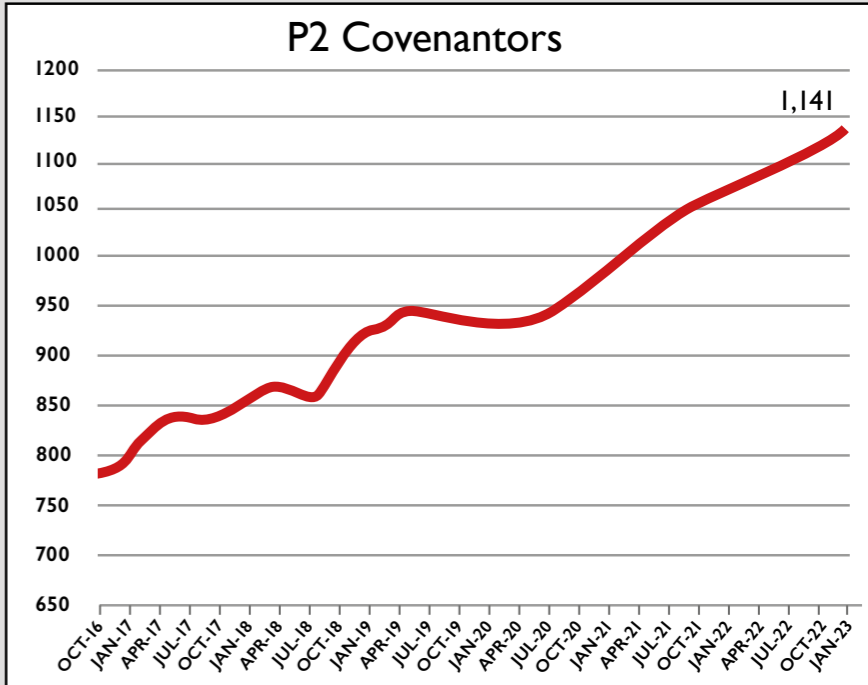
The P2 Coach Appeal - 64 supporters.


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 on page 15. Please contact legacy.coordinator@alsteam.com or phone 01325 460163 for more information.

DLW Open Days - Darlington Locomotive Works is open on the first and third Saturday of each month. Why not come in and see first-hand the progress we're making and bring a friend too? Please note our new opening hours, 10:00hrs until 15:00hrs.

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 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. 

DLW2 UPDATE – HERITAGE LOTTERY WIN FOR S&D 200

The following is culled from a press release from Darlington Borough Council.

An award from The National Lottery Heritage Fund will enable redevelopment of heritage buildings as well as a community engagement programme to celebrate the Stockton and Darlington Railway (S&DR). The award of £3,211,632, made possible by National Lottery players, will contribute towards the capital costs for Darlington’s new Rail Heritage Quarter (RHQ), as well as the delivery of an activity plan to engage with communities up and down the length of the route of the Stockton and & Darlington Railway.

Opening in 2024, RHQ will redevelop a cluster of heritage buildings around Darlington’s Head of Steam Museum and will attract over 360,000 visitors each year, playing a central role in the celebrations of the bicentenary of the S&DR in 2025. For RHQ, the funding from the Heritage Fund will enable:

- The creation of an immersive and exciting new experience in the restored Goods Shed, Museum, Carriage Works, and across the site.
- The creation of a new bespoke play facility designed to link with the heritage of the site.
- The animation of the whole site from the start through digital means, including virtual and augmented reality.
- The restoration of the Grade II listed Lime Cells
- The refurbishment of the Carriage Works building to create an exhibition space, open store and archive facility

The grant will also enable the delivery of a comprehensive activity plan along the 26 miles of the S&DR as well as a programme of small grants to empower communities

along the line to organise their own events and projects. Embedded in the community, DRHQ will create 30 new direct jobs, 300 indirect jobs and 37 construction jobs. 300 volunteers will engage with the Stockton & Darlington Railway over the life of the S&DR activity programme and young people will have the opportunity to engage in exciting activities and learn new skills. Local students will be able to gain valuable work experience in a number of areas and progress in their chosen careers with the creation of a new apprenticeships scheme. This exciting project will form the basis of the bi-centenary celebrations of the Stockton and Darlington Railway in 2025. The successful bid to the Heritage Fund was made possible through collaboration with Darlington Borough Council, Durham County Council, Stockton Borough Council and the Friends of Stockton and Darlington Railway. On 31st January Darlington Borough Council handed the keys to the Head of Steam Museum to contractor Willmott Dixon to enable redevelopment to continue onsite. Activities will continue throughout 2023.

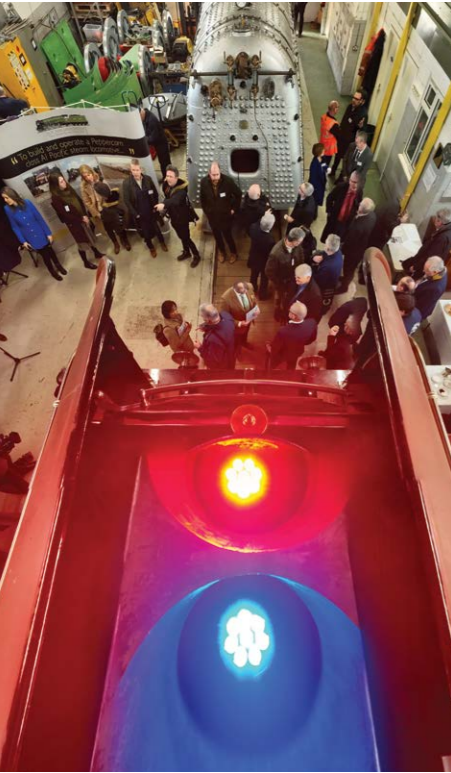


Helen Featherstone, Director, England, North at The National Lottery Heritage Fund & Councillor Jonathan Dulston, Leader of Darlington Council.



Above: Images of the proposed reception buildings for the new Heritage Quarter.

Below: Some recent images of progress at DLW2.



Above, the HLF event held at DLW, where the P2 seems to have developed an interesting exhaust!

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

By next summer we will have a 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 will provide many of the facilities that we require for building and operating our steam locomotives. For the new building to reach its potential, The A1 Steam Locomotive Trust has agreed to contribute to the project.



3D illustration of the new site for the A1 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

FROM THE ARCHIVES by Graham Langer



Don Brundell

No. 60163 departs Grosmont with the 12.35hrs to Pickering on 5th October 2013.

Winter 2003 – Progress in building *Tornado* continued apace. The crosshead machining was completed, the cab finished and substantial progress on the cylinder drain cock gear made. Measurement of the locomotive for the valve gear (including working mock-ups to test valve events) were largely complete. Most components for the reverser stand had been delivered.

Winter 2008 – *Tornado's* boiler test! After a day hydraulic testing valves and other smaller items to 400psi, fitting them to the boiler and filling it with water, pressure was applied as a prelude to the main inspection. On Monday 7th January boiler inspector John Glaze and Vehicle Acceptance Body engineer Paul Molyneux-Berry arrived to conduct the hydraulic test which was concluded at 12:20hrs when the boiler passed at 375psi. Then the team faced a rush to ensure the boiler was ready for a fire by the end of the following day. A busy day saw removal of blanking plates and application of appropriate fittings, pipework, etc. to enable the boiler to steam. First a good layer of coal was put under the firehole door and Trust Vice-President Malcolm Crawley put the first shovel of coal into *Tornado's* firebox. At 14:00hrs the honour of lighting the first fire could only go to one person, Mrs Dorothy Mather, the Trust's President and widow of designer Arthur Peppercorn. On Friday 11th January, the locomotive's boiler duly passed its steam test.

Winter 2013 – Following out-shopping in BR express passenger blue, *Tornado* completed the 2012 season and returned to Southall for routine winter maintenance. It had been a busy year with a Royal Train for HRH The Prince of Wales, 'The Elizabethan' railtour from King's Cross to Edinburgh and return jointly with D9009 *Alycidon* and, as ever, our annual convention which was held for the first time in Peterborough and at the Nene Valley Railway. We were delighted to be able to hold a special event on Sunday 25th November 2012 at the Didcot Railway Centre for Covenantors so that they could view the locomotive in its new plumage.



A1SLT

Dorothy Mather warms herself in front of *Tornado's* first fire.

Winter 2018 - At the annual Heritage Railway Association awards ceremony the Trust was honoured to be awarded not one but two national prizes. Firstly, we received the *Steam Railway Magazine* Award for "reaching out with *Tornado* to new and wider audiences" in recognition of the locomotive's adventures in 2017, initially on the 'Plandampf' series on the S&C, then the 100mph run and its associated television coverage and finally in her appearance in the PADDINGTON 2 film. Secondly, we scooped the John Coiley Locomotive Engineering award for the work associated with the 100mph run. Not a bad start to the year! **TCC**

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

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

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 *Tornado's* main line passenger trains follows the rules of the railway and only goes where permitted.

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