

THE COMMUNICATION CORD



60163 TORNADO
New Steam for the Main Line

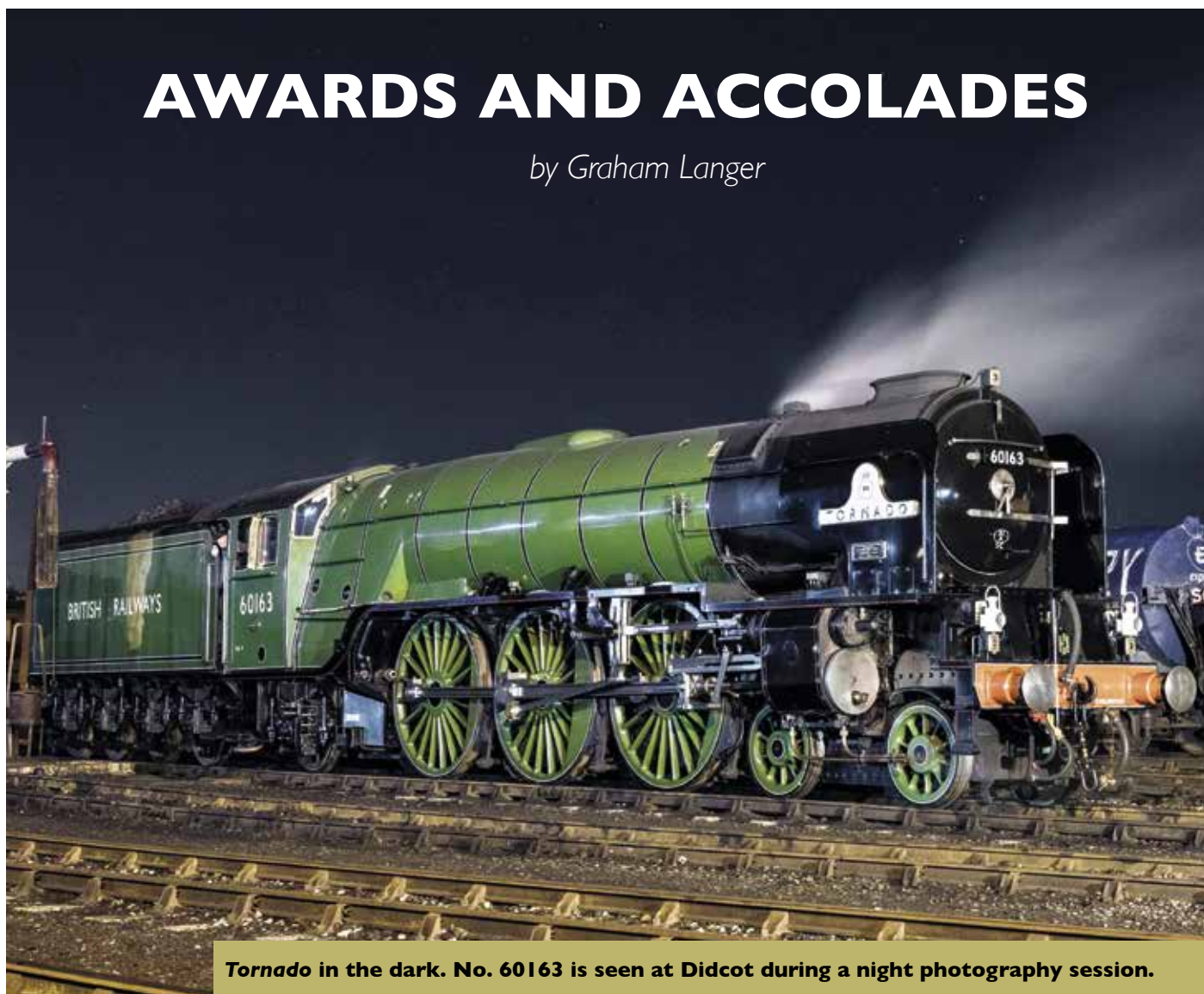


2007 PRINCE OF WALES
Building Britain's Most Powerful Steam Locomotive

No. 49 Winter 2018

AWARDS AND ACCOLADES

by Graham Langer



Tornado in the dark. No. 60163 is seen at Didcot during a night photography session.

At the annual Heritage Railway Association awards ceremony held at the Burlington Arcade Hotel in Birmingham on 10th February, the Trust was honoured to be awarded not one but two national prizes. Firstly we received the Steam Railway Magazine Award, presented by editor Nick Brodrick,

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 Settle & Carlisle railway, 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. Trustees and representatives of DB Cargo, Ricardo Rail, Resonate, Darlington Borough Council and the Royal Navy were among the Trust party who attended the event. **tcc**

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Gwyn Jones

Above: Nick Brodrick presents the Steam Railway Magazine Award to the assembled representatives of the Trust and bodies associated with it, Eddie Draper (Ricardo Rail), Huw Parker, Graeme Bunker-James, Mark Allatt, Jim Smith (DB Cargo) and Owen Evans (Resonate Group).



Lord Berkeley presents Rob Morland and David Elliott with the John Coiley Locomotive Engineering Award.

Right: The John Coiley Locomotive Engineering Award.



Photos: Sophie Bunker-James

Above: The Steam Railway Magazine award.



EDITORIAL by Graham Langer



Even while *Tornado* was safely tucked up at Locomotive Maintenance Services in Loughborough for winter overhaul, she continued to generate headlines for the Trust. Firstly Darlington Borough Council announced that a new relief road in the town would be named 'Tornado Way' in honour of our A1 and then we scooped two prestigious prizes at the Heritage Railway Association annual awards ceremony! Awards and accolades such as these are always very welcome and much appreciated by those at the 'sharp end' of the Trust but they also reflect the enormous contribution made by so many others, Covenantors, donors, sponsors and volunteers without whom *Tornado* would never have been built and No. 2007 would still be a twinkle in an engineer's eye. So, thank you, thank you all, take a collective pat on the back and realise the high esteem the Trust is held in among the heritage railway and wider community.

However, you will never get anywhere by standing still and to this end the Trust team has been strengthened by two recent appointments. Late last year Paul Bruce joined the Board of Trustees to steer the Whessoe Road project; a career railwayman who has worked as an independent for the past 12 years specialising in procurement and rail franchising consultancy, Paul lives in Darlington. He has been involved in the sale of High Speed 1 as well as the mobilisation of various rail franchises including East Midlands Trains, Northern Rail, Southern and more recently Caledonian Sleepers. Prior to setting

up his own company Paul was Head of Procurement for Northern Rail and previously Head of Property for Arriva Trains Northern.

Daniela Filová, from Pardubice in the Czech Republic, joined the Trust as Assistant Mechanical Engineer to David Elliott. Daniela started in advisory work and searches in the patent field and specialised in intellectual property but for the last ten years ran her own live steam engineering and foundry business, producing small scale steam engines and historic electrical generators as well as aluminium, brass and bronze castings. She is now concentrating on CAD for the new P2.

Meanwhile, *Tornado* is back in traffic after winter maintenance and is limbering up for another season of main line work including some very special trips to mark her 10th Anniversary – have you booked one yet? This will be the first season we will run trains at 90mph and the first of those to be announced sold out very quickly! In amongst these trips, No. 60163 will be visiting quite a number of preserved lines, so if you don't have an opportunity to travel on the main line, why not catch up with her on one of these? The calendar can be found on page 17 and full details can be obtained through our website.

At Darlington Locomotive Works construction of *Prince of Wales* forges on, the Cartazzi axle has been trial fitted to the frames and work continues to focus on wheeling the locomotive later this year. All this progress is possible because of the tremendous support being shown for the project. The first couple of P2 Roadshows have attracted good audiences and a significant number



Mandy Grant

A glimpse of the future? Tornado with Mk3 carriages at Ruddington on the Great Central (North) Railway during her initial steamings this year.

of new covenants and donations; the various 'clubs' are filling up and the Dedicated Donations programme continues to yield results. However, given the nature of covenanted income we need to keep banking funds at an ever-increasing rate to maintain the rate of assembly. If you are planning to attend one of the Roadshows, why not bring a friend?

Sadly we have to report the passing of two of our supporters, Tim Godfrey and Richard 'Dick' Hardy. One of Sir Nigel Gresley's grandsons, Tim became a Vice-President of the Trust a couple of years ago, coincidental with the Trust starting construction of its first Gresley design, No. 2007. Dick was friend to many in the Trust and followed the progress of *Tornado* with a keen interest, joining the footplate crew on a number of occasions including a jaunt round Kent, his old stamping ground. Both these men of steam will be greatly missed. **TCC**

TORNADO HELPS BLUE PETER by Graham Langer

Peppercorn class A2 *Blue Peter*, originally owned by the Drury family but now in the care of the Jeremy Hosking's Royal Scot Locomotive & General Trust, is undergoing a major overhaul at Crewe. Alas it was apparent that No. 60532 would require a new centre cylinder and The A1 Steam Locomotive Trust was delighted to help out by lending the pattern for *Tornado*'s centre cylinder, an almost identical component. Apart from some small differences that were easily



rectified (*Tornado* has one piece frames as opposed to the spliced frames of the original Peppercorn A1s and A2s) the patterns and cores could be used again. The new cylinder was cast at H. Downs & Sons Ltd in Huddersfield and weighs in at 2.8 tonnes! **TCC**

The newly cast cylinder for Blue Peter.

TIM GODFREY – AN OBITUARY *by Graham Langer*

It is with sadness that we have to record the death of Tim Godfrey, one of The AI Steam Locomotive Trust's Vice-Presidents. Tim was the eldest grandson of Sir Nigel Gresley and was also Vice-President of the LNER Society; he died in care on 7th December following a year's illness. He leaves a widow, Ann, and a daughter, Selina, while his younger brother, Ben, continues as a Vice-President for the Trust.

Tim's father, Geoffrey Godfrey, was the son of Sir Dan Godfrey who founded the Bournemouth Municipal Orchestra (now known as the Bournemouth Symphony Orchestra); he was a mechanical engineer who started his career by doing a Technical Apprenticeship with John I Thornycroft at their lorry division in Basingstoke. He spent five years in Australia working for Thornycrofts in the 1920s, was involved with the formation of the R.E.M.E. during the WW2 and spent many years working in the rubber industry. He was a Fellow of the Institution of Mechanical Engineers.

Tim Godfrey was born in January 1938, just a few months before *Mallard* set the world speed record for a steam locomotive. Tim was educated in Broadstairs, then Heath Mount in Hertfordshire before going to Haileybury. He then joined the Royal Army Veterinary Corps, serving for two years including a spell in Sennelager, Germany.

After National Service Tim joined his uncle's firm in Wolverhampton where he spent 19 years, 17 as a Director of the company. This was followed by a move to Deeley Construction in Stourbridge and then Second City Construction before retiring from Turriff Construction at the age of 60.

Throughout much of his business life, Tim enjoyed a connection with the railways, especially a close association with

Alan Pegler and *Flying Scotsman*. Like his brother, Tim was kept busy since his retirement, taking an active role in the LNER carriage group on the Severn Valley Railway and becoming a Vice-President of the North Yorkshire Moors Railway, assisting with the restoration of the Gresley graves and, more recently, unveiling the statue of Sir Nigel at King's Cross. A keen shooting man, Tim bred springer spaniels for many years and was an active member of the British Legion. **TCC**



Ben and Tim Godfrey at TATA Steel for the cutting of No. 2007's frames.

Andrew Hardy

RICHARD HARDY – AN OBITUARY *by Graham Langer*

Richard Hardy, better known as Dick Hardy, recently passed away after a short illness. Born in 1924, he was educated at Marlborough School and Doncaster Technical College and joined the LNER as a premium apprentice at Doncaster. His career spanned East Anglia, Woodford Halse, Stratford and Stewarts Lane steam sheds in London going on to management positions in King's Cross station and Liverpool where he was Divisional Manager. He also went to France to see what the French steam expresses could do.

After he retired in 1982, Dick embarked on a second career as an author; a prolific photographer, many of his books are an intimate record of shed life in the 40s, 50s and 60s. He was Chairman of SLOA until 1993, a member of the Festiniog Railway Board and involved in running the initial 'Steam on the Met' series. He was an able horseman, a keen cricketer and a good friend of The AI Steam Locomotive Trust. He will be greatly missed. **TCC**



'Doncaster Plant 150' in July 2003. Dick Hardy (second left) is seen with Peter Townend and Mike Roe.

Ken Woods

TORNADO ON TOUR DIDCOT RAILWAY CENTRE



Andrew Sheppard



Steve Blackman

From 27th – 29th October Tornado spent the weekend at the Oxfordshire depot, taking part in a very successful night photography session.

Above: Tornado basks in warm evening sunshine at Didcot Railway Centre.

Left: A father and son admire No. 60163 outside the four-road shed.

TORNADO ON TOUR

‘THE CHESTER CHRISTMAS CRACKER’ by Ben McDonald



Neil Whicker

‘The Chester Christmas Cracker’ alongside the canal at Ansty.

On 25th November the train slipped out of Didcot GWS depot around 05:00hrs, diesel-hauled, with the locomotive and support coach attached to the tail of the set while most of the Support Crew slept. On arrival at Euston, the tender tank was replenished and with passengers aboard departure was right on time. Fast running ensued along the West Coast Main line, and with passenger duties at Milton Keynes and Northampton dispatched, an on-time arrival at Rugby followed. After this, full use was made of the longer than expected access to the fast line, allowing for a ten minute early arrival at Stafford.

Instructed to await the allocated departure time, further good running resulted in an on-time arrival at Chester. Soon after arrival, No. 70013 *Oliver Cromwell* came in off the Welsh Marches route with another Charter. Both engines were serviced in the yard having to swap around to share access to both coal and water supplies. Servicing complete, the crew watched the ‘Britannia’ depart prior to shunting the set to the platform before our own departure. Further timely running and a swift water stop in the Rugby Up Goods Loop saw an on-time arrival back in Euston. Passengers disembarked, the train was hauled back to Wembley to allow the engine and support coach to detach and proceed to Stewarts Lane in preparation for the final Belmond trip, of 2017, over the Surrey Hills.



Peter Lovell

Tornado draws the train out of Chester station.

‘PADDINGTON 2’ ROUND THE SURREY HILLS by Andy Hardy



David Ireland

Tornado is seen at Redhill with the PADDINGTON 2 special.

On Saturday 2nd December Tornado was once again at Victoria station ready to work a ‘Belmond British Pullman’. As usual the engine was surrounded with admirers, fans and passengers. However, one notable character stood out, Britain’s favourite bear, Paddington. With both Tornado and the Pullmans being featured in the recently released PADDINGTON 2 film the usual Surrey Hills lunch train conveyed a number of families for afternoon tea, complete with marmalade sandwiches! Departing Victoria (and waved off by Paddington himself) Tornado took the train in usual fine form around the Surrey Hills, the only delay being a track circuit failure in the Redhill area. However, in the capable hands of Jim Clarke the engine made up the delay for an on-time arrival at Victoria allowing the families who had travelled on-board the train the opportunity to visit the footplate to see where, in the film, the Brown family saved Paddington.



Thomas Shrimpton

Safely back at Victoria, No. 60163 simmers at the buffers and happy children wend their way home.

TORNADO ON TOUR

THE MOVE TO LOUGHBOROUGH by Huw Parker

Straight after the final PADDINGTON 2 'Belmond British Pullman' on 2nd December, work began to prepare the locomotive, tender and support coach for a move by road from Stewarts Lane to Loughborough. Apart from the challenge of manoeuvring a convoy of two low loaders and a third 12 axle trailer through the streets of London, loading was relatively straightforward as the low loader and trailers can reverse right up to the loading bay and two short 300mm bridging rails later, the locomotive, tender and coach can be winched straight on.

Overnight, the convoy made its way from London to Loughborough and by lunchtime the next day unloading was well underway.

At Loughborough, a specially designed 'Porta-pit' was ready to receive the locomotive and tender. This design has made maintenance on the locomotive and tender much easier, with most components at just the right height and plenty of space to work underneath. All pistons and valves have been removed to receive attention and



Tornado was delivered to LMS by Alleleys.

motion bushes renewed in preparation for 90mph running next year. All the superheaters have been removed for inspection and to replace broken clips. These have now been replaced following hydraulic testing. In the smokebox, Kylchap components have been repaired or replaced along with elements of the self-cleaning apparatus. At the other end of the boiler, the brick arch has been renewed and improvements made to the ashpan to assist crews in servicing and disposing the locomotive in traffic.

Whilst the locomotive is separated from the tender, the intermediate buffers have been removed for renovation and the tender brake rigging has been taken down, inspected, pins and bushes renewed and refitted. Key components of the air and brake system have been removed for cleaning and calibration and spares refitted in their place. Final stages of the maintenance will involve careful testing of the boiler, AWS/TPWS and GSMR systems to meet insurance and annual certification requirements. Following a period of final testing and running in at GCR (North), Ruddington, Tornado should be in top condition to meet the demands of an exciting year ahead.



Various images taken at Loughborough during the overhaul.



Steve Bates

GREAT CENTRAL NORTH AT RUDDINGTON



Tornado leaves the tunnel at Barnston.



Paul Davies



Above: Stanford-upon-Soar viaduct, another new location for Tornado.

Left: No. 60163 at Rushcliffe Halt.

Paul Davies

Alan Weaver

THE CANTERBURY TALE

Saturday 19th May 2018 - Canterbury and the Dover Coast



Richard Fraser

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

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

CANTERBURY

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

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



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

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

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



ONE LAST SHED BASH! by Mark Allatt

Only 38 Pacifics remaining in The (extended) 163 Pacifics Club

The last few months have seen tremendous progress in our campaign to raise £200,000 to pay for No. 60163 *Tornado*’s tender. As you will recall, William Cook Cast Products Ltd, through its chairman Sir Andrew Cook CBE, funded the construction of No. 60163’s tender in 2006. *Tornado*’s tender is currently owned by William Cook Cast Products Ltd (the Trust’s Principal Sponsor) and it is leased to the Trust under a 15 year loan agreement which will come to an end in 2021.

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

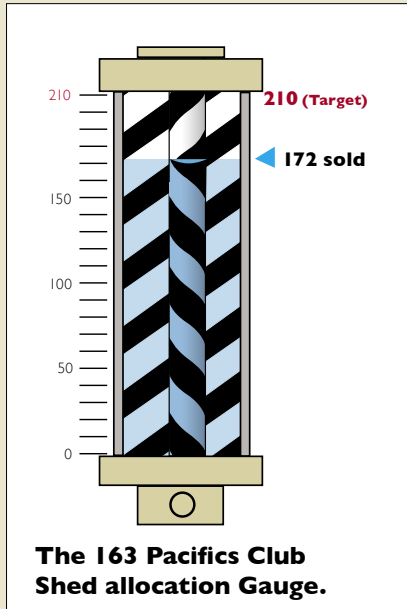
Given some of the wonderful names carried by the other LNER Pacifics from the Raven class A2s, Thompson classes A2/1s, A2/2s & A2/3s and the

Peppercorn class A2s and our desire to try to purchase the tender from WCCP before *Tornado*’s 10th birthday later this year, we decided to extend The 163 Pacifics Club to include those as well. We also added in the ill-fated Gresley class A4 No. 4469 *Gadwall* (renamed *Sir Ralph Wedgwood* – name transferred to No. 4466/60006 formerly *Herring Gull*) which was destroyed during a Baedeker raid on York on the night of 28th/29th April 1942 and on request the honorary Pacific, Gresley class W1 No. 10000/60700 – un-named but the names *British Enterprise* and *Pegasus* were proposed. Any surplus raised will be used to fund the tender’s next overhaul.

At the time of writing, 172 Pacifics have already found new shed allocations and over £200,000 pledged, leaving only 38 remaining for sponsorship. With *Tornado* having attained the magic 100mph and scheduled to haul her first 90mph train, ‘The Ebor Flyer’, on 14th April 2018, let’s complete the project we embarked upon in 1990 through the purchase of No. 60163’s tender

before the start of her 10th birthday celebrations in August 2018.

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



No. 60053	<i>Sansovino</i>	No. 60519	<i>Honeyway</i>
No. 60066	<i>Merry Hampton</i>	No. 60520	<i>Owen Tudor</i>
No. 60073	<i>St. Gatien</i>	No. 60521	<i>Watling Street</i>
No. 60075	<i>St. Frusquin</i>	No. 60522	<i>Straight Deal</i>
No. 60083	<i>Sir Hugo</i>	No. 60524	<i>Herringbone</i>
No. 60088	<i>Book Law</i>	No. 60526	<i>Sugar Palm</i>
No. 60095	<i>Flamingo</i>	No. 60527	<i>Sun Chariot</i>
No. 60503	<i>Lord President</i>	No. 60528	<i>Tudor Minstrel</i>
No. 60504	<i>Mons Meg</i>	No. 60529	<i>Pearl Diver</i>
No. 60507	<i>Highland Chieftain</i>	No. 60531	<i>Bahram</i>
No. 60508	<i>Duke of Rothesay</i>	No. 60534	<i>Irish Elegance</i>
No. 60510	<i>Robert the Bruce</i>	No. 60535	<i>Hornets Beauty</i>
No. 60512	<i>Steady Aim</i>	No. 60536	<i>Trimbush</i>
No. 60513	<i>Dante</i>	No. 60537	<i>Bachelors Button</i>
No. 60514	<i>Chamossaire</i>	No. 60538	<i>Velocity</i>
No. 60515	<i>Sun Stream</i>	No. 60539	<i>Bronzino</i>
No. 60516	<i>Hycilla</i>	No. 2401	<i>City of Kingston upon Hull</i>
No. 60517	<i>Ocean Swell</i>	No. 2403	<i>City of Durham</i>
No. 60518	<i>Tehran</i>	No. 2404	<i>City of Ripon</i>

38 Names still available for allocation.

RICHARD PECK IN INDIA



On the night of 11th / 12th April 2017, *Tornado* ran its famous 90mph test run from Doncaster to Newcastle and back. As part of that testing process, the speed of 100mph was accurately recorded. This gave rise to a fair bit of publicity, and this publicity went far and wide around the world – including India. On 21st September 2017, Mr L K Sinha, President of the Indian Steam Railway Society, wrote to Mark Allatt at The A1 Steam Locomotive Trust, “We have heard a lot about your team’s achievement in building a new *Tornado* steam locomotive. We would like to invite you or any other person you nominate to the Congress as the Keynote speaker at the XVth Congress to tell us about this. We will appreciate a 30 minute presentation.”

The Indian Steam Railway Society describes itself like this, “Indian Steam Railway Society (ISRS) was formed on 23rd October 1999 when a group of like-minded people met and discussed the present position and future possibilities regarding the preservation of Indian Steam. Subsequently, a formal non-profit Society was formed and it has been registered with the Registrar of Societies, Delhi. The President of the society is Sri L.K. Sinha, who retired as Member Mechanical of Indian Railways. Mark Tully is the Vice-president, Ashwani Lohani is the Working President, G Shankar is the Secretary and Dileep Prakash is the Joint Secretary. P.J. Singh is the Treasurer and Vikas Singh is the Editor of the Newsletter of the Society. The objective of the Society is to form a

common platform for the Indian Steam Railway Enthusiasts to exchange views and further their knowledge on the subject of Indian Steam Railway. The Society will make representations to the Indian Railway Board for more and more tourist special trains hauled by steam locomotives in the near future”.

None of the AI Trustees were available for a trip to India in December, so my offer to attend was accepted. Accordingly, I flew out from Heathrow to New Delhi at the end of November 2017.

On the evening of 1st December, I was invited to the President’s Dinner at the Delhi Gymkhana Club, along with, and to meet, the other delegates for the Congress. The Delhi Gymkhana Club is one of the oldest clubs in India, moving to its present site in 1913. It was then called the ‘Imperial Delhi Gymkhana Club’. When India gained independence in 1947, the word ‘imperial’ was dropped, but it has certainly not lost any of its former grandeur. Mr L K Sinha, the ISRS President, began his career working at Chittaranjan Locomotive Works for 10 years whilst they were still building 15 steam locomotives per month.

The 15th Annual Congress of the Indian Steam Railway Society was held in the Auditorium at the National Rail Museum, Delhi on 2nd December. The National Rail Museum in India is different to the UK, in that it is run as a part of Indian Railways. The Director of the NRM has often been a traction and rolling stock engineer,



Photos from the Congress.

moving into this post from a rolling stock maintenance background, and later promoted back into the railway.

The opening speech at the 15th Congress was made by Mr Ashwani Lohani, the ‘Working President’ of the ISRS. Mr Lohani is a mechanical engineer, and a past Director of the NRM from 1993 to 1998.

His career has included Chief Mechanical Engineer of Northern Railways, and he was appointed Chairman and Managing Director of Air India in 2015. He moved from there to become Chairman of Indian Railways Board in August 2017. The current Director of the National Rail Museum, and the current Chief Mechanical Engineer of Northern Railway were also present at the Congress.



I was then invited to give the ‘Keynote Address’. They had asked for a talk of 30 minutes including questions. I suggested an hour might be more suitable in order to do justice to *Tornado*, but they had a busy programme, so 45 minutes including questions was agreed upon. I felt it important to put *Tornado* in some context for the Indian audience, so I started with a map of the LNER East Coast main line, and explained this was the racing ground for which all the LNER Pacifics were built, pointing out both Doncaster and Darlington Works. I briefly mentioned the unsuccessful *Great Bear* of 1908 on the GWR, and then showed the first successful Pacific in the UK, the gloriously well-proportioned lines of the original Great Northern Railway No. 1470. This was quickly followed by all the Gresley improvements to long travel valves, increasing boiler pressure, larger superheater, 9in piston valves, double Kylchaps through A3 and A4 of which examples still running.

I then introduced the A1 incorporating

all the previous improvements, with larger boiler and firebox, as the ultimate development of LNER Pacific, of which there are no survivors. With a room full of mechanical engineers, I laid the emphasis largely on that side of the ‘*Tornado* Story’, and it seemed to go down very well. Our fundraising was of particular interest to them - in India the Indian Railways sponsor the very few working steam locomotives. The audience was around 100, and there were some good questions afterwards.

On Sunday 3rd December the delegates were invited to travel by special train from Delhi Cantt to Rewari. This train was formed of the two coaches borrowed from

the ‘Palace on Wheels’ train, and they were pulled by the famous *Fairy Queen*. Built by Kitson, Thompson and Hewitson in Leeds in 1855, this 5ft 6in gauge 2-2-2WT locomotive is listed in the Guinness Book of Records as the world’s oldest working steam engine. With a water capacity of only 3000 litres in an underslung tank, we had to stop twice during the 68km journey to take on more water. Space was found on the footplate for part of the journey for the special visitor from the UK!

After these events, with the digestive system objecting, I flew back home on Tuesday 5th December. **TCC**



Fairy Queen herself! Richard bagged some footplate time.

‘TORNADO WAY’ NAMING

Darlington Borough Council has officially named a road in Darlington ‘Tornado Way’. The naming puts *Tornado* firmly on the Darlington map. The name of the road was chosen by public vote and The A1 Steam Locomotive Trust was honoured that *Tornado* Way is now the new name for a major commuter road. The Darlington Eastern Transport Corridor will now be known as *Tornado* Way after it scooped almost 50% of the votes in a social media poll. *Tornado* Way follows the track bed of the original Stockton and Darlington railway from 1825.

The new name was unveiled on Thursday 8th February by Paul Bruce and Graeme Bunker-James of The A1 Steam Locomotive Trust and Councillor Nick Wallis, Darlington Borough Council’s Cabinet Member for Leisure and Local Environment. *Tornado* Way was first opened to motorists in 2007, linking the A66 with Darlington town centre and providing a reprieve for congested Haughton Road. **TCC**



Councillor Nick Wallis, Graeme Bunker-James and Paul Bruce and the ‘Tornado Way’ road sign.

Stuart Bolton.

THE MAD HATTER

Wednesday 1st August 2018 - *Tornado's* Tenth Anniversary Railtour to Chester



Robin Coombes

Tornado's tenth anniversary train will take passengers from Darlington, where the locomotive steamed out of the Works for the first time in 2008, to the beautiful city of Chester. Be a part of *Tornado's* history by joining the celebrations on 'The Mad Hatter'. This railtour will take passengers through stunning rolling countryside to the ancient roman city. The train name reflects the *Alice in Wonderland* author's connection to both Cheshire, where Lewis Carroll was born, and the North East, where he lived for part of his childhood. That, and the fact that one must be a little bonkers to undertake the building of a steam locomotive – let alone do it twice!*

Picking up passengers at both Darlington stations, York and Wakefield Kirkgate, the outward journey will take a spectacular route via Copy Pit and Blackburn, before returning via the splendid scenery of the Hope Valley through the Peak District.

CHESTER

Passengers can enjoy over three hours in Chester, which provides ample time to explore the compact city centre, famed for its beautiful half-timber rowed shopping arcade. Famed as a walled city, Chester has many venues of historic interest: from the Roman amphitheatre to Chester Castle. In the summer, visitors to Chester can take time for a stroll and an ice-cream by the river Dee, while the more adventurous may wish to hire a rowing boat and take in another view of the city.



TIMES (PROVISIONAL)	OUTWARD	RETURN
Darlington North Road	08:30hrs	22:15hrs
Darlington Bank Top	08:40hrs	22:00hrs
York	09:30hrs	21:00hrs
Wakefield Kirkgate	10:10hrs	20:15hrs

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

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* for more information about our latest project see www.p2steam.com

Covenantors' Diary by Gemma Braithwaite



2018 is set to be a busy year for The A1 Steam Locomotive Trust! Our Annual Convention will be in Darlington on Saturday 13th October 2018. The arrangements will be slightly different to last year due to the increasing numbers of attendees, we are looking at some larger premises for the day time; that being said, the evening meal will be at the Mercure Darlington, Kings Hotel and rooms have been reserved for our supporters at £68 single occupancy, £78 double occupancy,

bed and breakfast. In previous years the rooms have been taken very quickly so I would advise an early booking. As this year will be *Tornado's* 10th birthday, we anticipate an even higher attendance rate! Your invites will be send out in the post later in the year.

We will be holding a supporters day on Wednesday 7th March 2018 at the North Yorkshire Moors Railway. *Tornado* will be hauling the teak set.

There was a slight delay in producing our supporters cards for 2018, as we used our new system for the first time to produce these. You should all have received your cards in the post by the time you read this. **TCC**

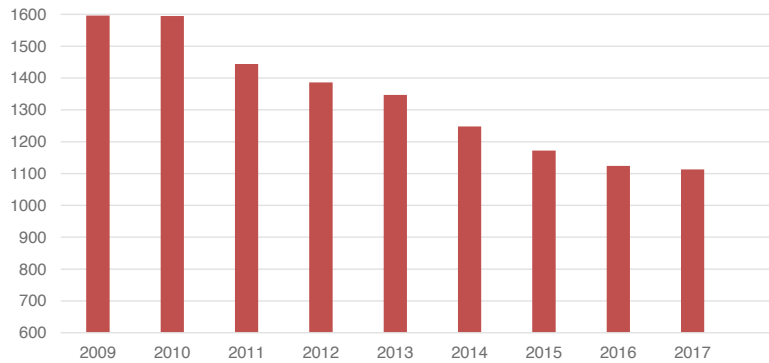
KEEPING TORNADO ON THE TRACKS by Mark Allatt

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

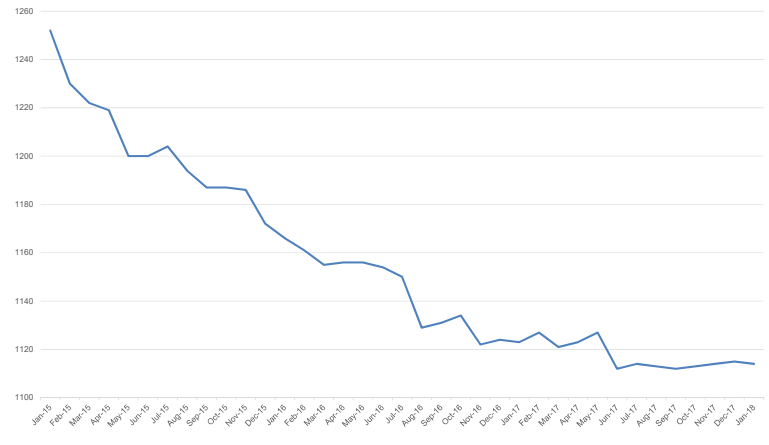
In the last couple of issues of *TCC* I have written about how the number of individual covenantors supporting *Tornado* had gradually declined since a peak of around 1,600 (many more £5pm equivalents) in 2009 to 1,114, today each person donating an average of £9.98pm before Gift Aid. This decline has been mostly due to anno domini and new covenantor recruitment failing to keep pace. We have issued almost 2,700 covenantor numbers since launch but only had only 1,114 on our books, a loss of over 1,500 supporters over the past quarter of a century.

The last few months have seen this attrition stabilise with the loss of around six covenantors per month being matched by the recruitment of around the same number of replacements. Hopefully the publicity around last year's 'I ♥ S&C' Plandampf, 100mph test run, Paddington 2 movie and our 90mph operations will help to grow this number. I would therefore urge all our existing A1 covenantors to help us to recruit new supporters and for P2 covenantors (64% of whom are not also A1 covenantors) to come on-board if they are able to. **TCC**

A1 Covenantor Numbers



A1 Covenantors



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

THE TORNADO TALISMAN a variation on the theme!

Tornado Cars Ltd was founded in 1957 by Bill Woodhouse and Tony Bullen based in Mill End, Rickmansworth, Hertfordshire, UK. In 1962, the company introduced the Talisman 2+2 coupe carrying an attractively styled fibreglass body on a more sophisticated tubular steel chassis with Ford 1,340 cc or 1,500 cc engines in various states of tune. This model was available either in component form or factory finished and was praised for having lively performance combined with good ride and handling characteristics, and a high standard of finish. Cash-flow problems forced the company into liquidation in 1964 after just approx. 186 Talismans had been made.



AUCTION LOTS

PATRICK STIRLING

In October Great Northern Railway Auctions put a nameplate from No. 60119 *Patrick Stirling* up for sale. Built at Doncaster Works number 2036, emerging to traffic November 1948 to, by now, British Railways. It was allocated to Copley Hill (Leeds), then reallocated to Grantham 1955. King's Cross followed in 1957 and finally Doncaster in 1958 from where this locomotive was withdrawn on 31st May 1964 after just 15 ½ years in service. This locomotive carried LNER livery from new then the BR blue & finally BR green and the other nameplate is in the National Collection. The red-backed nameplate reached £8,000.

REDGAUNTLET

In November Talisman Auctions sold a nameplate from No. 60137 *Redgauntlet*, a Darlington-built A1 (2056 of 1948) named in June 1950. A Gateshead, Heaton and Tweedmouth locomotive, it was withdrawn from the latter in October 1962, stored at Blaydon and cut up at Doncaster Works in May 1963. The name was derived from the Laird of Redgauntlet Castle a character in a Walter Scott novel set in Dumfries-shire in 1765. The black-backed 'plate fetched £7,500 and was accompanied by a smokebox numberplate from the same machine which reached £1,700.



WHESOE ROAD by Paul Bruce

We are eagerly awaiting the announcement around 31st March of the application for the Northern Cultural Regeneration Fund awards. This potential route for the funding our new facility awards up to £4m to each of the projects put forward.

The preferred site for our new rail facility has been included within the land for one of eight national Heritage Action Zones ('HAZ') for 2018 announced in December by Historic England. This classification is intended to unleash the power in England's historic environment to create economic growth and improve quality of life in villages, towns and cities. In preparation for the 200th anniversary recognising Darlington as the birthplace of the modern railway, the 26 miles of the Stockton & Darlington Railway has been designated as a HAZ. This will help to restore some of the historic features, like bridges and old railway buildings, along the

line with the aim of boosting tourism and creating jobs - all in the build-up to the 2025 bicentenary.

Both the 2025 preparations and the NCRF application are being coordinated by the Tees Valley Combined Authority and we continue to work closely with them to refine proposals for each. In anticipation of a successful bid the process of design ratification and feasibility studies for the Whessoe Road depot has begun. This includes such things as how we best comply with public procurement regulations, boreholes to understand potential land contamination as well as ecological considerations with the reports of a major colony of great crested newts nearby.

At the Trust's January strategy weekend, the Trustees worked through the list of facilities required to create a fully functioning depot including how best to position the likes of material stores as well

as electrical and electronic workshops to support the need for modern systems on our locomotives; these core facilities need to blend with conference facilities provided for public use as well as providing safe and engaging access to our site for visitors and tourists.

We are working with Network Rail to achieve a solution for our occupation of the not insignificant parcel of land we require and we are expecting a detailed proposal soon. This includes how we work fairly and sensitively with their existing tenant who currently occupies a sizeable part of the planned depot.

Under our funding bid the start of construction is scheduled for December 2018 and there is a huge amount to do before then. With all that now starting in earnest with little openly visible the project is firmly in the 'swan' stage - the outwardly serene appearance masking legs paddling manically below the surface! **TCC**

TORNADO TOUR DIARY - 2018

Below are the future operations Tornado is confirmed to be involved in. More details will be published on www.a1steam.com as trains are finalised. Contact details for tour companies are below.

- **Saturday 3rd to Sunday 11th March** – North Yorkshire Moors Railway
- **Friday 16th to Sunday 18th March** – Severn Valley Railway
- **Saturday 24th March** - 'The Sulis and Sarum Express' - West Midlands Stations to Bath and Salisbury
- **Friday 30th March to Monday 2nd April** – East Lancashire Railway
- **Saturday 14th April** - 'The Ebor Flyer' - First 90mph train - London to York **SOLD OUT**
- **Saturday 21st April** – Midland Railway Centre
- **Saturday 28th April** - 'The Ynys Mon Express' - East Midlands and North Staffordshire stations to North Wales Coast **SOLD OUT**
- **Tuesday 3rd to Sunday 13th May** – Nene Valley Railway
- **Saturday 19th May** - 'The Canterbury Tale' - Peterborough, St. Neots, Stevenage, Potters Bar and Finsbury Park to Canterbury and Dover Coast
- **Saturday 2nd June** - 'The Yorkshire Pullman' - Belmond British Pullman luxury train from London to York and Scarborough
- **Saturday 21st July** - 'The Talisman' - London to Durham (Option: Beamish or Darlington Locomotive Works) and Newcastle. Return journey with Deltic diesel locomotive D9009 *Alycidon*
- **Saturday 28th and Sunday 29th July** – 10th Anniversary Party - Darlington
- **Wednesday 1st August** - 'The Mad Hatter' - 10th anniversary train - Darlington, York and Wakefield to Chester.
- **Saturday 18th August** - 'The Bard of Avon' - Manchester to Stratford-upon Avon - **NEW TOUR!**
- **Saturday 8th September** - 'The Devonian' - West Midlands, Worcester and Bristol to Plymouth via Brunel's sea wall - **NEW TOUR!**
- **Saturday 13th October** – A1/P2 Convention - Darlington

UK Railtours
01438 715050 www.ukrailtours.com

North Yorkshire Moors Railway
01751 472508 www.nymr.co.uk

Severn Valley Railway
01562 757900 www.svr.co.uk

East Lancashire Railway
0333 320 2830 www.eastlancsrailway.org.uk

Midland Railway Centre
01773 570140 www.midlandrailway-butterley.co.uk

Nene Valley Railway
01780 784444 www.nvr.org.uk

Bluebell Railway
01825 720800 www.bluebell-railway.co.uk

Belmond British Pullman
020 3117 1300 www.belmond.com/british-pullman-train



No. 70013 *Oliver Cromwell* and No. 60163 *Tornado* together at Chester.



Kittiwake is seen at Grantham on New Year's Day 1962.

The seventh of Arthur Peppercorn's AIs, No. 60120 emerged from Doncaster as Works No. 2037 in December 1948 – the first of a trio to emerge that month. Resplendent in the customary LNER-style apple green with white and black lining but with its owner's name in white block capitals on the tender sides, it entered service from King's Cross shed (34A) on the 12th. It was the second AI to be allocated to 'Top Shed' when new and was to be followed by another six over the following year. The first reported sightings were at Cambridge ten days later then at

West Hartlepool on the 30th. The first visit back to its birthplace came on 23rd January 1950 from where it emerged on 31st March after general repairs, now carrying BR express passenger blue. Already four AIs had been repainted and No. 60120 was one of three more to be done that month. Naming came in May; just two had been named before then but *Kittiwake* was one of a quartet so embellished that month. Only half a dozen AIs were called after birds. Nevertheless this choice of topic for naming maintained a fine LNER tradition. Around this period the Flaman

speed recorder was removed and a lipped chimney replaced the plain original.

Transfer to Copley Hill shed came on June 4th. Workings settled down to trains between west Yorkshire and London. Again, it was one of three to be repainted in the same month; this time in BR green with the early emblem on the tender, in October 1951. Four others had been repainted earlier. *Kittiwake's* first recorded train in this guise was the 07:30hrs from Leeds to King's Cross on February 10th 1953. The up 'Yorkshire Pullman' of November 15th 1955 is the first recorded

named train and the down 'Queen of Scots' was noted several times in October and November 1956. Between then and January the following year a number of King's Cross – Leeds trains were logged with the most common being the 15:40hrs. In May 1957 the later style of tender crest was applied. The 'White Rose' was worked at various times in the second half of 1959. Of note was 20th June when *Kittiwake* hauled the 09:10hrs down 'White Rose' and returned to the capital on the 11:00hrs 'Queen of Scots'. The only other named train for No. 60120 was the down



No. 60120 is again seen at Grantham, this time in June 1962.

17:52hrs 'West Riding' on 1st August which followed its 11:15hrs working of the up 'Yorkshire Pullman'.

The 1960s show a wider range of work. West Yorkshire was still the main focus as exemplified by a round trip from Bradford to the capital on 29th April 1960 and the 10:37hrs Harrogate – King's Cross on 23rd July. A less common appearance was the 08:55hrs from Filey to Newcastle on 18th June. Several sightings on Tyneside now appear. A number of times between 1960 and 1962 *Kittiwake* was serviced at Gateshead shed (52A). On 14th October 1961 it hauled the 08:05hrs ex-Birmingham into its destination of Newcastle and departed later with an up class C express goods – the first non-passenger logging for No. 60120. 14th April 1962 saw *Kittiwake* work the additional 12:00 noon passenger King's Cross – Newcastle, be serviced at 52A then leave Newcastle on the 22:25hrs departure. Other workings of note that year featuring the Tyneside city were; arriving with the down Anglo-Scottish Car Carrier on 1st September; coming in on the 24th at 17:52hrs with the 1F50 Scarborough – Glasgow; and leaving the next day with the 1E14 'Queen of Scots'. Other non-passenger work was the 18:28hrs King's Cross – York parcels of 15th May and 13th June 1963. An unusual visit was to Lincoln shed on 6th July. A Smith-Stone speed recorder was fitted during this period.

The final stage in No. 60120's life came with a transfer to 50A (York) on 8th September 1963. Most sightings now were along the ECML. For example, the 1A79 Edinburgh – King's Cross was taken forward from Newcastle on 17th September while No. 60120 was seen in the same city with the 3S46 York – Edinburgh parcels on 8th October. Three days before the latter *Kittiwake* was observed at St. Margarets shed in Edinburgh. After 25th October's haulage of the 4E01 Millerhill – King's Cross goods from Newcastle and subsequent stabling on York shed, the last three workings noted were parcels. However, the final one was back in its old west Yorkshire territory when No. 60120 was seen at Mirfield on a York parcels on 7th January 1964. No. 60120 was withdrawn due to damage sustained in a collision with the rear of an up freight train stopped for examination at North Otterington (Nr Northallerton) on the ECML in the early hours of 16th January, 1964. The AI was running south light engine at the time. Along with No. 60153, *Kittiwake* had the fewest boilers in its lifetime with only four. Entry into Darlington Works was for scrapping which took place on 28th January. *This history was compiled by Phil Champion based on a database compiled by Tommy Knox and with reference to the RCTS book "Locomotives of the LNER Part 2A" as background. Extra information from T.D. Whittaker. TCC*

P2 ENGINEERING UDATE by David Elliott

General

The rate of progress on construction has been limited by two issues, firstly by continuing delays in delivery of plain coupled axles and cannonboxes, which by the time you read this should have been resolved, and secondly by the demands of *Tornado's* annual maintenance programme which, whilst not being undertaken at Darlington, has diverted some engineering and manufacturing resources for a while. Notwithstanding these challenges, some useful progress has been made.



Above: Trial lift of frames.

Right: Spring brackets and frame stay combined.

Frames

The spring hanger bracket frame stay has been permanently fitted into place. The frames have been set up on our Matterson synchro jacks and a test lift undertaken in preparation for fitting the first wheelset and the crank axle. This also demonstrated that we can achieve sufficient height to roll the coupled wheels under the frames without the need to remove the smokebox and or cab as was the case with *Tornado*. This is due to the wheels being 6' 2" diameter as opposed to 6' 8" on the A1.

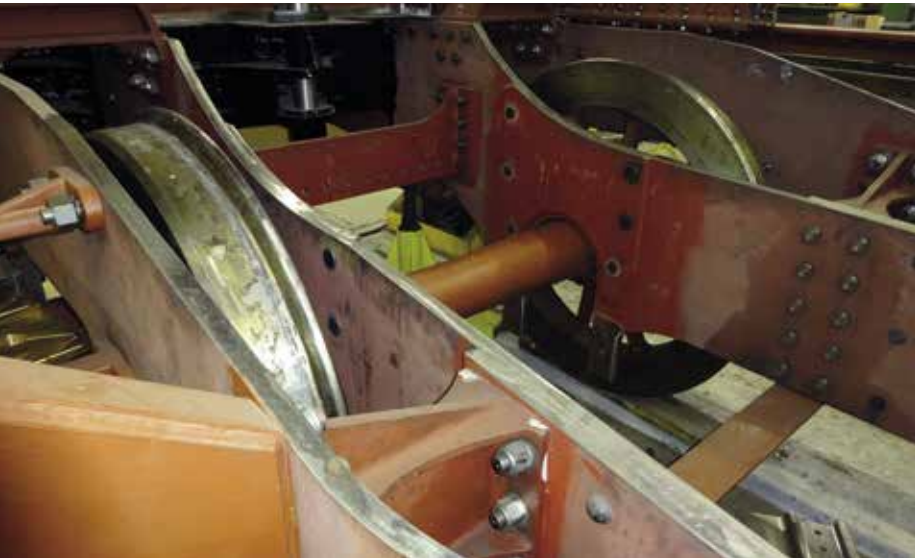


Wheelsets

Under the watchful eyes of Mark Leatherland, Timken Service Engineer, we have assembled the roller bearings onto the crank and Cartazzi axles and have finalized the sizes of the adjustment rings in for the bearings and fitted the axleboxes. This process was considerably assisted by our acquisition of an electric induction bearing heater which warms up the bearings or spacer rings to 110°C so that they can be slid onto the bearing seats on the axle rather than relying on pressing alone. The induction heater warms up each component in turn in about two minutes and has a heat sensor which prevents the components from being overheated. We still apply our 50 tonne press to the components as each one is shrunk on to ensure they are fully home, as if heating and shrinking alone is used, when the component cools, it is not possible to know where it has first gripped the axle. If the innermost end has gripped first, all is well, however if the outer end grips first, the component leaves a gap. A nudge from the press ensures that it settles in the right place! Adjustment of the bearings is undertaken to achieve a tightly defined end float. In the case of the crank axle bearing assemblies, this is carried out after the bearings and spacers are fitted but before the axle boxes go on. This is done by using nuts and bolts as small screw jacks between the inner faces of the outer part of the races (known as cups) until they are truly parallel and the end float has disappeared. The gap between them is measured using an inside micrometer and the adjustment rings are finish machined to this distance less the desired end float (in the case of the crank axle, between 0.0025" and 0.0095" – the target is



The Cartazzi axlebox in place.



The first wheelset under the locomotive!

0.006"). When the adjustment rings (in two halves) are fitted between the cups, the clearance is checked – I am pleased to report that both sets of bearings on the crank axle came within 0.0005" (half a thou.) of the desired 0.006". For the Cartazzi bearings, the process

is slightly different. As the bearings are outside the wheels, the axleboxes are in one piece and are slid onto the bearing assemblies, and the adjustment rings are solid, which means they have to be fitted as part of the pressing sequence. As they cannot be removed without pulling the bearings off, it is essential that they are the right thickness before fitting. Fortunately, when the original design was done by the Timken company in 1948 for the roller bearing A1s, an alternative procedure known as bench setting was specified. To do this the bearings are stacked up on a measuring table with no adjustment rings such that the weight of the bearings eliminates the end float. The gap is then measured using slip gauges (which are highly precise metal blocks calibrated in 0.001"). The finished rings are then machined to provide an end float of 0.020". When the bearings are fitted to the axle ends, the interference between the inner race (cone) and the axle causes the cone to expand a small amount which reduces the final end float to the required specification. As the remaining axles arrive, the bearings and axle/cannonboxes will be fitted in the same way.



New SKF bearing induction heater.



One of the Finnish air pumps.

Air pumps

As part of a batch of components sourced from David Buck including the V4 tyres, two Finnish air pumps of similar type to the German and Swedish pumps used on *Tornado* have been acquired. As David obtained these from stock in Finland, they have not suffered the corrosion and degradation experienced with pumps removed from locomotives in scrapyards. They been sent to Meiningen for overhaul.



Tender

All the castings for the tender have now been delivered including hornguides, spring hangers, tank brackets, axleboxes and buffer housings (pictured above).

Fittings

Further boiler fitting castings have been ordered and will be subjected minimal machining to enable hydraulic testing prior to full machining. This is being done to avoid the excessive machining costs involved if a casting fails on final test. This is a not infrequent occurrence – on *Tornado* roughly one in three non-ferrous castings failed and we have had a similar experience with P2 castings so far. We have considered changing the foundry, however having discussed this with other makers of fittings, the experience is not uncommon, and our present foundry at least promptly recasts the component free of charge when there is a problem. The blower valve has proved a particular problem in this respect. Having passed the initial hydraulic test, it subsequently failed on final test. It would appear that the leak only showed up after the main port in the valve had been bored to finished size. The pattern has been modified to reduce the risk of this happening again and the replacement is being cast shortly. The steam heat valve on *Tornado* has been found to have excessive wear in the thread in the valve body, so a new one is being cast along with one for the P2.

Cladding

Some further progress has been made on the cladding in the firebox area, however this has been affected by Ian Matthews visiting Loughborough to repair the paintwork on *Tornado*.

Electrics

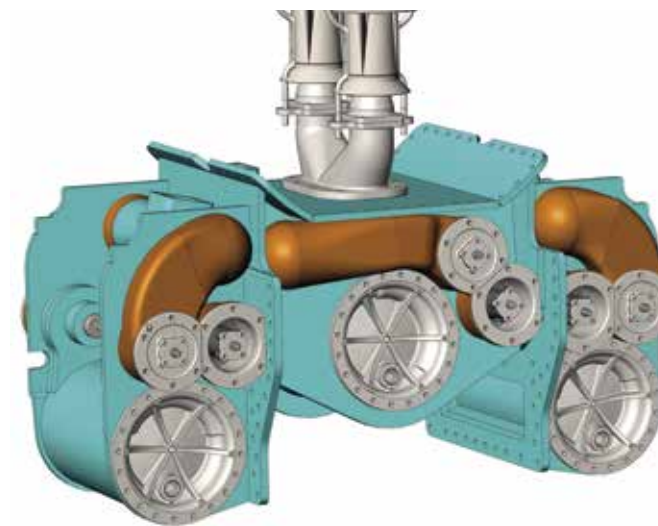
Rob Morland has started the overall definition of the electrical system for 2007. This will be similar in principle to that on *Tornado*, however, the shape of the P2 and need to make provision for the new ERTMS in-cab signalling will require some of the equipment to be located in different places compared with *Tornado*. We have also acquired two 08 shunter speedometer generators which are the correct type to modify to suit Smiths Stone steam locomotive speedometers.



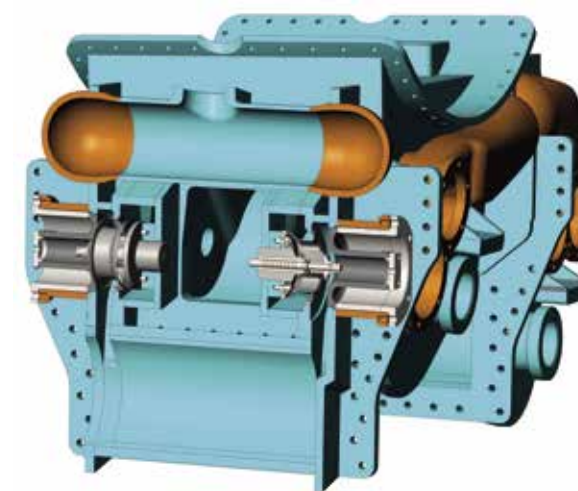
Speedo generators.

Design and Engineering Management

Work has continued to support the Works with detailed drawings, particularly for the cladding. The main area of primary design work has been the cylinder block and valve gear. A section through the cylinder block shows the exhaust valves, springs and covers. The blast pipe and Kylchap cowls have been added to the model.



Cylinder assembly.



Cylinder cross-section.

It has become increasingly apparent that with the impressive fundraising results, the engineering function is struggling to produce manufacturing drawings fast enough to maintain progress. It was anticipated at the outset that extra resources would be required as the build developed. The decision was taken last September to seek an Assistant Mechanical Engineer to expedite production of drawings and, following a recruitment process carried out in collaboration with Teesside University, we are pleased to welcome Daniela Filová who comes from the Czech Republic and who started with us on 17th January 2018. As I write this Daniela is making good progress with the manufacturing drawing for the cylinder covers and has also proved useful on the shop floor!



Daniela at work on the cylinder cover drawing.

P2 DEDICATED DONATIONS UPDATE *by Mandy Grant*

November to January has seen another huge increase in component sponsorship, with 39 individual components being sponsored, raising a further £20,970.00 before gift aid. Some of the higher value components sponsored include the Leading RH Coupled Wheel Casting and Proof Machining, Crosshead LH Casting, Splashers over LH and RH Trailing Wheels, LH 6 Way Oil Box (slide bars, piston rods and pony truck slide), LH Driving Coupled Hornblock Oil Box Complete, Chime Whistle Valve (complete), Fire Hole Mask Plate, Cladding Sheets Rear Firebox Corners LH and RH lower.

We are most grateful to all of our supporters who have responded to the Dedicated Donations campaign!

Since its launch in 2014, 324 individual components have been sponsored as part of the Dedicated Donations Scheme, this is in addition to many of the smokebox components which have been sponsored directly by The Gresley Society Trust. Components sponsored through the Dedicated Donations Scheme range in price from one of over 1,000 driven bolts & nuts for £25, to the complete exhaust steam injector for £15,000

If you would like to sponsor a component on No. 2007 *Prince of Wales*, or you know of a business owner or company who may be interested in sponsoring an item, please contact us at dedicated.donations@p2steam.com **tcc**

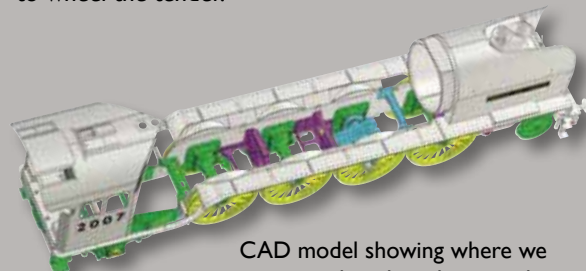
“We want eight and we won’t wait - let’s make a Mikado!”

Help us to wheel new Gresley class P2 2-8-2 No. 2007 Prince of Wales during spring 2018

Following the success of The Founders Club (to get the project to the point of cutting the frames) and The Boiler Club (to fund the construction of the boiler) we have decided to establish The Mikado Club to fund the wheeling of No. 2007 *Prince of Wales*.

We set an initial target for The Founders Club of at least £100,000 from 100 ‘Founders’ but due to the overwhelming generosity of our supporters we actually raised £450,000 from 360 donors. Our aim for The Boiler Club is to raise at least £600,000 from 300 supporters each donating £2,000 in up to 40 payments of £50 and we are already we are already half way there.

If we are to remain on schedule to complete No. 2007 *Prince of Wales* in 2021 we need to wheel the engine in winter 17/18. We have therefore set ourselves the challenge of raising £200,000 through The Mikado Club from 160 supporters each donating £1,000 (plus Gift Aid) to the project in up to eight payments of £125 by standing order. In June 2017 we reached this target and have extended The Mikado Club to 200 to wheel the tender.



CAD model showing where we expect to be when this appeal is successful.



Special benefits for members of The Mikado Club

- Reserved seat on one of No. 2007’s first main line trips
- Reasonable access to No. 2007 at all times
- Opportunity to buy exclusive Mikado Club badge
- Opportunity to join one of the teams building No. 2007
- First choice of other components to sponsor
- Special Mikado Club day with *Tornado*
- Special limited edition version (signed/numbered) of Stephen Bainbridge’s new painting of No. 2007 *Prince of Wales* at Darlington station



Join The Mikado Club today!

Thank you for your valued support.

Together we can build this remarkable locomotive!



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

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

P2 ROADSHOWS by Mark Allatt

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

Our first P2 Roadshow of 2018 was held at the London Transport Museum on Saturday 13th January and was attended by a record 80 people – both old faces and new. In the afternoon around the same number stayed on to hear the BBC’s Tom Ingall talk about the two documentaries he has made about *Tornado* and then we were fortunate to have the opportunity to see ‘Absolutely Chuffed: The Men Who Built a Steam Engine’ and ‘*Tornado*: the 100mph Steam Engine’ again.

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

- **Saturday 3rd March 2018** – The Principal Hotel, York
- **Saturday 7th April 2018** – Darlington Locomotive Works, Darlington
- **Saturday 19th May 2018** – Sheffield Hallam University, Sheffield
- **Saturday 9th June 2018** – Glasgow Royal Concert Hall, Glasgow
- **Saturday 8th September 2018** – Derby Conference Centre, Derby



Andy Taylor

The impressive crowd at the London Transport Museum.

- **Saturday 3rd November 2018** – Manchester – venue to be confirmed
 - **Saturday 8th December 2018** – Hilton Leeds City Hotel, Leeds.
- The presentations are given by David Elliott and Mark Allatt and are also attended by other volunteers and supporters. Please do come along to

support the project, hear the latest news and ask any questions that you might have. Even better if you can bring a friend or two! For more information on the P2 roadshows visit www.p2steam.com, email enquiries@p2steam.com or call 01325 460163. **TCC**

•WORKSHOP NOTES•



At the end of November, Tennants Auctioneers sold a nameplate from No. 2003 Lord President. P2 nameplates are fairly rare and this one fetched £18,000.

Attention all Mikado Club Members!

P2 Mikado Club Exclusive Badges Are Now Available To Purchase

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



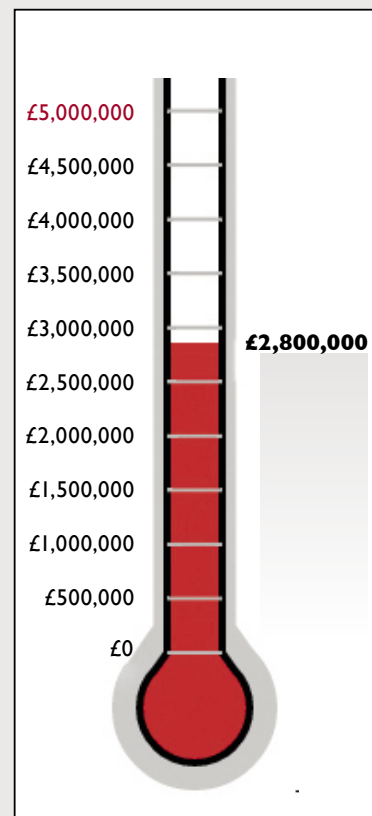
FUNDRAISING FOR No. 2007 PRINCE OF WALES by Mark Allatt

Over £2.8m pledged and £1.5m spent of £5m target

Mandy Grant



P2 No. 2007 at Darlington.



Pledged P2 fund now over half way.

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

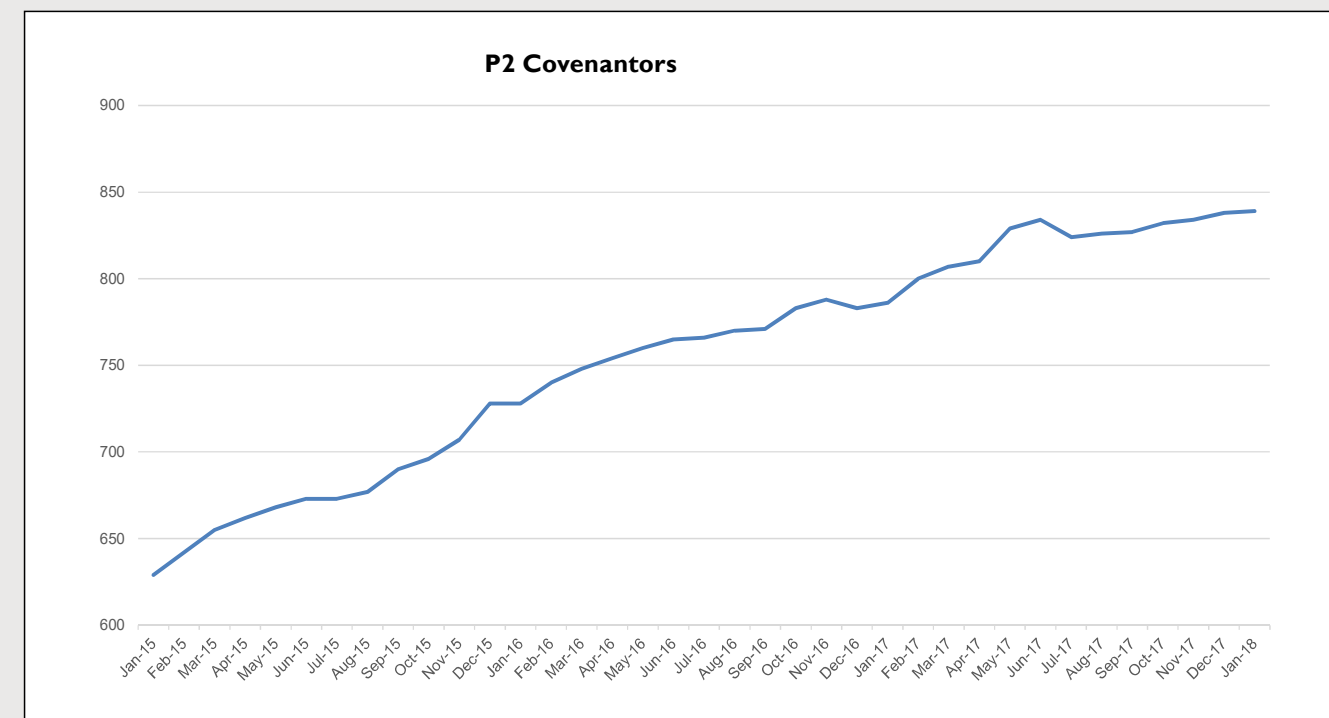
Pledges towards building No. 2007 Prince of Wales have passed £2.8m less than four years after the frames were rolled at British Steel's plant in Scunthorpe. Public interest in seeing a new Gresley class P2 become a reality sooner rather than later remains high and over 840 people have already signed up to the 'P2 for the price of a pint of beer per week' (£10 per month or more) covenant scheme since its launch in March 2014. The average monthly donation is now around £17.40 per covenantor (including Gift Aid) and the projected monthly income for our P2 project from the monthly covenant scheme is now running at 105% of that of *Tornado* – a remarkable achievement in such a short period of time and all thanks to the generosity of our supporters. What is even more striking is that only 27% of A1 covenantors (36% of P2 covenantors) are regular donors to both locomotives, meaning that the overwhelming majority of the funds are being given by new supporters of the Trust.

In addition to this core scheme, funds have been raised through The Founders Club (over 360 people have donated £1,000 each – target 100 people, now closed), The Boiler Club (136 people have pledged £2,000 each to fund the boiler - target of 300 people – meaning half of the £600,000 target now pledged), The Mikado Club (181 people have

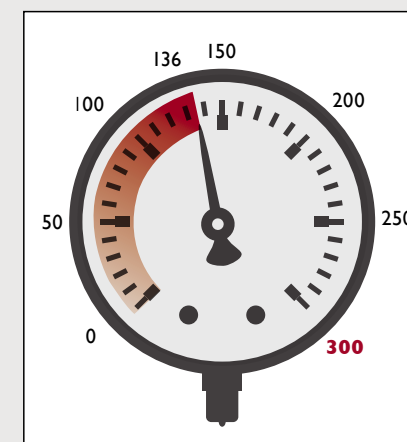
pledged £1,000 each – initial target 160 extended to 200 to wheel the tender in addition to the engine – meaning that £226,250 now pledged), The Cylinder Club (only launched at our last convention, target 100 people achieved and now closed) and Dedicated Donations (over £200,000 from existing supporters sponsoring a variety of components). The Gresley Society Trust has also sponsored the locomotive's distinctive front-end for which we are most grateful.

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

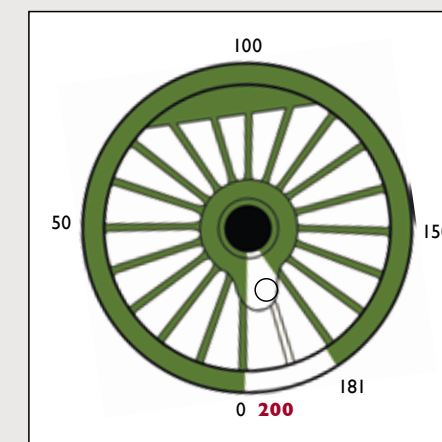
We do however still need to complete our funding of The (extended) Mikado Club as soon as possible so that we can wheel both the engine and tender. As I write this article in late January 2018 we have already recruited 181 members (21 over the original 160 target) to the club and are looking for just another 19 members to reach the new target of



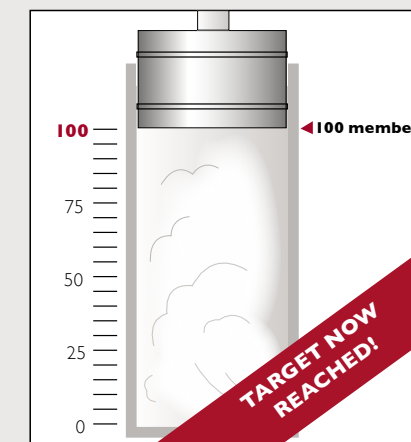
Graph showing increase in P2 Covenantors.



Boiler Club Gauge (136 Members).



Mikado Club Wheel Chart (181 Members).



The Cylinder Club gauge diagram (100 Members).

200 – so if you haven't already joined please do consider coming on-board and help us to make a Mikado (with wheeled tender)!

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

We are delighted with the level of support that the project to build Britain's most powerful steam locomotive has received since its launch. This means over £1.5m (over 30% of the total required) converted into metal, over £1.8m (over 36%) raised and more than £2.8m (over 56%) pledged.

We are now hopeful that we will have completed the rolling

chassis for No. 2007 Prince of Wales in winter 2018 and we remain on-track for completion of the new locomotive in 2021. However, to maintain this rate of progress we need to continue to raise more than £700,000 per year, which given the nature of the regular donation scheme becomes more challenging as each year passes.

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

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

TCC

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

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



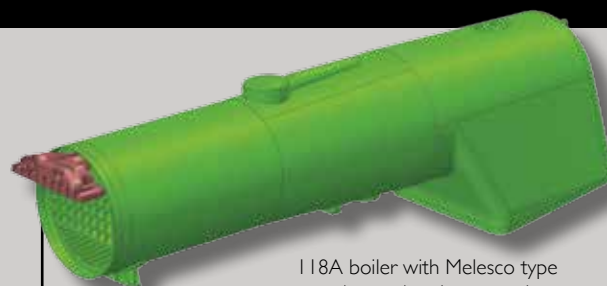
The boiler is the beating heart of a steam locomotive and to keep the construction of No. 2007 *Prince of Wales* on schedule for completion in 2021, we need to place the order for the boiler in 2019 for delivery in 2020. We have established The Boiler Club to fund the construction of *Prince of Wales*'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

Special benefits for members of The Boiler Club:

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

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

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



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

No. 2007's boiler in detail

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



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

FIRST V4 COMPONENTS ACQUIRED by Mark Allatt



V4 No. 3401 ex-works at Doncaster in 1941.

We are pleased to announce that the first components have been acquired for the Trust's third new steam locomotive – Gresley class V4 No. 3403. The London and North Eastern Railway (LNER) class V4 was a class of 2-6-2 steam locomotive designed by Sir Nigel Gresley for mixed-traffic use. It was Gresley's last design for the LNER before he died in 1941. The class V4s had similarities in their appearance and mechanical layout to the class V2s of which pioneer No. 4771 *Green Arrow* is preserved as a part of the National Collection. The class V2s, introduced in 1936, had limited route availability and the class V4 was a lightweight alternative, suitable for use over the whole of the LNER network.

Two locomotives were built at the LNER's Doncaster Works in 1941. The first locomotive, No. 3401 *Bantam Cock*, had a scaled-down version of the Gresley Pacific boiler with a grate area of 27½ sq. ft. Its tractive effort of 27,000 lbs was produced by boiler pressure of 250 psi and three cylinders of 15in diameter. The second locomotive, No. 3402, incorporated a fully welded steel firebox and a single thermic syphon for water circulation. It was not named but was known unofficially as "Bantam Hen". The class was tried on the Great Eastern section of the LNER, and was well received, with more power than the existing Gresley class B17 4-6-0s and better riding qualities. It was anticipated

that many more would be produced, but after the sudden death of Gresley in April 1941 and his succession by Edward Thompson, no more were built. Instead, the simpler two-cylinder Thompson class B1 4-6-0 was adopted as the LNER's standard mixed-traffic locomotive and 410 were built between 1942 and 1952. The two locomotives were sent to Scotland for use on the West Highland Line, although their wheel arrangement was not particularly suitable for the line's steep gradients. The two class V4s were renumbered Nos. 1700/1 in 1946 and later became British Railways Nos. 61700/1. Both locomotives were scrapped in 1957 when their boilers became due for renewal.

At its Silver Jubilee Convention in October 2015, The A1 Steam Locomotive Trust announced that it would follow its Peppercorn class A1 4-6-2 No. 60163 *Tornado* and Gresley class P2 2-8-2 No. 2007 *Prince of Wales* with the construction of further extinct LNER steam locomotives – a Gresley class V4 2-6-2, a Gresley class V3 2-6-2T and a Gresley class K3 2-6-0. At its Annual Convention in September 2017, the Trust confirmed that it has started work identifying and scanning the original drawings for the Gresley class V4 at the National Railway Museum in York in order that the design book for new locomotive could be created within 3D Computer Aided Design (CAD).



A complete set of tyres for the new V4.

The Trust has since acquired and taken delivery of a complete set of fully-certified tyres for the new Gresley class V4's pony, Cartazzi and 5ft 8in driving wheels. They have been purchased from David Buck, owner of Thompson class B1 4-6-0 No. 61306 *Mayflower*, along with a chimney, two BR class 08 shunter speedometer drive generators and two two-stage single spindle air pumps of Finnish origin including lubricator pumps and check valves for use on No. 2007. The tyres were originally manufactured in South Africa in the late 1990s for Malcolm Barlow, a Doncaster scrap dealer who launched the Gresley V4 Society in 1994 to build a new example of the class. David Buck acquired the parts six months ago in a job lot of items that Malcolm Barlow had salvaged from Doncaster Works on its closure – including a number of class B1 components. **TCC**

Attention all Boiler Club Members!

P2 Boiler Club Exclusive Badges Are Now Available To Purchase

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



P2 MODEL HISTORY *by Andy Hardy*



The P2 Steam Locomotive Company was recently sent a photo from Aidan Hannah of a model of an original style-streamlined P2 made from Lego. This captured the interest of the Trust's researcher who, when not researching the P2's is also a fan of Lego trains! This led to a delve into the archives to see what other models, especially unusual ones, have been built over the last eight decades since the original P2 *Cock o' the North* left Doncaster works in 1934.

One of the first models was issued by the London and North Eastern Railway Company in late 1934 in the form of a paperweight to accompany similar models of *Flying Scotsman* and the 'Hush Hush'. These cost half a crown and were often on sale at LNER rolling stock exhibitions at which No. 2001 sometimes appeared. The LNER publicity department also worked in conjunction with a specialist woodworking magazine to create a fretwork model of No. 2001, the plans of which were issued in the December issue of the magazine; also in December 1934 one of the most unusual models

of a P2 was constructed, the model was so unusual that the local newspaper, The Dundee Courier reported on it. So, what could be so unusual? It was made of Chocolate and measured over four feet long!

The first working models appeared in 1935 from the firm of Marklin, the German model train manufacturer. These large, 20V models have become very collectable with only a few examples known of in the UK today. However, one is on public display at Brighton Toy and Model Museum. Although the model was released in the normal Apple Green



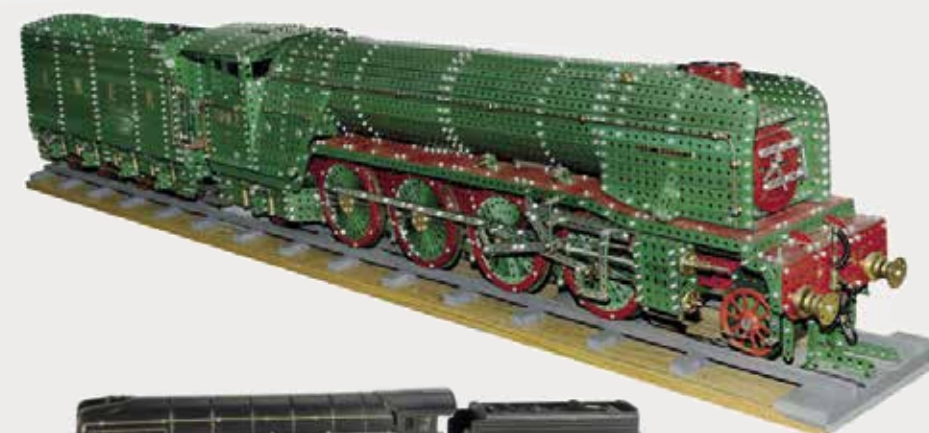
P2 Lego model.

livery applied to its full sized counterparts Marklin produced a "special-order" model of the locomotive carrying a black and red livery with the number 2001 and *Cock o' the North* name, a livery never carried on the originals, but interestingly seen on some stamps sold in Europe. The last example of this model sold raised a staggering £22,705 at a Christies auction in December 2004.

Some larger scale, working steam models have also been built by model engineers. A particularly fine example of No. 2003 *Lord President* can be seen in the photos built by a member of Maidstone Model Engineering Society. However much earlier live steam models of *Cock o' the North* were produced by Bassett Lowke in the mid-thirties, an image of which in their catalogue sparked P2 project engineer's David Elliott's interest in the class. A wonderful photo was sent to the author by Richard Linkins showing an example that belonged to the famous



Lord President at Maidstone.



One of the Marklin models.



'LBSC's model.



The Hornby model of No. 2001.



LNER paperweight of *Cock o' the North*.

model locomotive designer 'LBSC'.

Similar to the LEGO model is a photo of a Meccano P2. Made from several thousand components and several feet long it really is a masterpiece of construction. However even larger models, or part models have been built, including a full-size model of the locomotives cab, firebox and the front portion of the tender for the (unfortunately lost) film titled *Cock o' the North*. In 2014 Hornby released the latest working of No. 2001 in 00 gauge. The model was an instant success with model makers and is certainly the most detailed mass-produced model of a P2 ever made. It also benefits the *Prince of Wales* project with a donation to the project with every model sold.

Over the last eighty years it seems the P2's have inspired model makers across the world to look at creative ways to build their own locomotive. This is true even today with people like Aidan still creating their own models in their own unique way! **TCC**

Left: The Meccano model.

PROFILE – TONY WATSON by Graham Langer

Tony is the Trust's Photographic Archivist. Very much a background role which nevertheless involves quite a lot of time-consuming admin work. The 'job' consists of cataloguing and storing the many photographic submissions that are offered to the Trust from a variety of photographers.

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 through the local park (Burley Park), 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 Neville Hill or Gateshead-based 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. This was inevitably followed by a wait to see the 'quarter-to-five' in the opposite direction, again with a pacific/hunt combination. As Tony's parents were both at work, his grandmother's was where he was quartered until his mother, a tailoress, 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.

A year or two later, this interest developed into full-blown trainspotting with the purchase (birthday presents) of Ian Allan's ABCs and visits to local sheds Holbeck, Neville Hill, Copley Hill and Farnley, all of which were 'bunked' eventually, despite being regularly thrown out of most, particularly Copley Hill! Then followed trips to various 'far-flung' places as Doncaster and York, at first, then magical places like Crewe, Derby, Darlington, Manchester and almost everywhere else of railway interest in efforts to 'cop' those essential steam locomotive before they disappeared!

On leaving school in 1961, Tony, following advice of his father and school authorities, took up a job as an engineering apprentice. Leeds was still very much a heavy engineering centre in those days. The firm he was employed by, William Shew's, was located partly in an archway under the Leeds-Liverpool main line at Holbeck. The regular Liverpool – Newcastle expresses could be heard (and felt) overhead, often leading to a swift 'loo' visit, to note the locomotive numbers, 'copping' the occasional rarity. Lunchtime visits to the nearby Holbeck locomotive sheds were made, where one of his mates from the train-spotting schooldays was working as an engine cleaner (and earning double Tony's £1.10 shillings apprentice wages). 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, doing everything from engine-cleaner, fireman and chief cook and bottle-washer (shed labourer, steam raiser, fitters assistant on washouts, coaling plant 'spillage attendant' and other often dirty tasks). 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, steam by now was well and truly 'in the blood'. Weekends were spent at the Worth Valley Railway as a volunteer fireman and other roles. Redundancy on B.R. was on offer and was taken, £320 being pocketed, an impressive sum at the time. A Friday walk out the door of the motive power department was followed by a knock on the door of the



Tony Watson

Tony Watson in the cab of BR Standard 4 No. 75008.

Civil Engineers department and a start there on the following Monday!

This was the start of a new 40-year railway career, which saw rises through the ranks of P.V. work and promotions to the Plant department (tamperers etc), rising to Supervisor, then manager. With the onset of privatisation, 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. At first this was dismissed this as a pipe-dream, but this hadn't reckoned on the drive and determination of the team behind it. When the frames were unveiled in the later 1990s, it became obvious realised that this really was going to happen! A visit to DLW was undertaken, becoming a Covenanter shortly after.

Getting to know some of the team, Tony volunteered his services at various events, helping to man the Trust's display at events at Barrow Hill and other locations. Getting to know David Bedding, who lived local to him, and others including Keith Drury, who had established a library archive of Trust-related images. Tony offered his services in this department, having an interest in computers and database systems. He joined the archive team which at the time consisted of Keith, Chris Woodcock and Neil Whitaker. After working with, and learning from the team for a while, Keith moved on, whereupon Tony took over the 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. Many very enjoyable runs were made, although the work was dirty and the hours long, involving several days at a time away from home and long trips to such as Hither Green, Southall and other locations. Rewards there were though. What a joy it was, 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! This tapered off around 2015 when health issues (loss of hearing) intervened, although the photo archive work continues. **TCC**

FROM THE ARCHIVES by Graham Langer



A1SLT

The moment so many had waited for, Tornado's safety valves roar as the boiler reaches full pressure.

● **Winter 1998** - The start of 1998 saw construction of the smokebox started. The smokebox barrel, the first part of its boiler, was delivered to Darlington Locomotive Works on Tuesday 24th March 1998 for fitting to the locomotive's frames. The smokebox door was being manufactured by pioneer Covenanter Ian Howitt. The door's fittings were paid for through the Trust's dedicated covenants scheme.

● **Winter 2003** - The main activity in early 2003 was the fitting of the Cartazzi hornblocks and hornstays. A great amount of adjustment and re-adjustment was required to ensure the necessary clearances were adhered to. It became apparent the the LNER had modified the working of the Cartazzi slides when the A1s were in

service but these changes had not been recorded on the original drawings. In consequence the Trust opted to increase the nominal clearance of the axleboxes in the hornblocks from 0.025" to 0.050".

● **Winter 2008** - By the start of 2008 the end of the project was within sight. With the boiler in the frames and the key ancillaries attached to it the hydraulic test was successfully completed on Monday 7th January 2008. The boiler was lit up for the first time by Dorothy Mather on Wednesday 9th January and allowed to warm slowly. Pressure was raised initially to 100PSI on the following day and the live steam injector tested. Pressure was subsequently raised to 175PSI to further test the injector which continued to function correctly.

On Friday 11th January, the formal steam test was carried out under the direction of John Glaze and Paul Molyneux-Berry and was successful.

● **Winter 2013** – *Tornado* was at Barrow Hill for winter maintenance and a 'C' exam. In addition to boiler work, much attention was paid to the areas under the footplate and tender front which routinely get hosed down by the crew with an unlovely mixture of water and coal dust leading to corrosion of these areas. Much of the copper pipework from the cab was removed and annealed to extend its life and prevent it going brittle. The safety valves and injectors were removed from the locomotive for annual inspection and maintenance again, these tasks being carried out to ensure reliability in operation. **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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* All information correct at the time of going to press end-February 2018. For up-to-date information and dates please check the website www.a1steam.com.

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Darlington Locomotive Works is normally open to the public on the third Saturday each month (11am – 4pm).
Access to the works is via Head of Steam: Darlington Railway Museum where covenantors are entitled to free entry. 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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