

Our President
Dorothy Mather
1916-2015



60163 TORNADO

New Steam for the Main Line

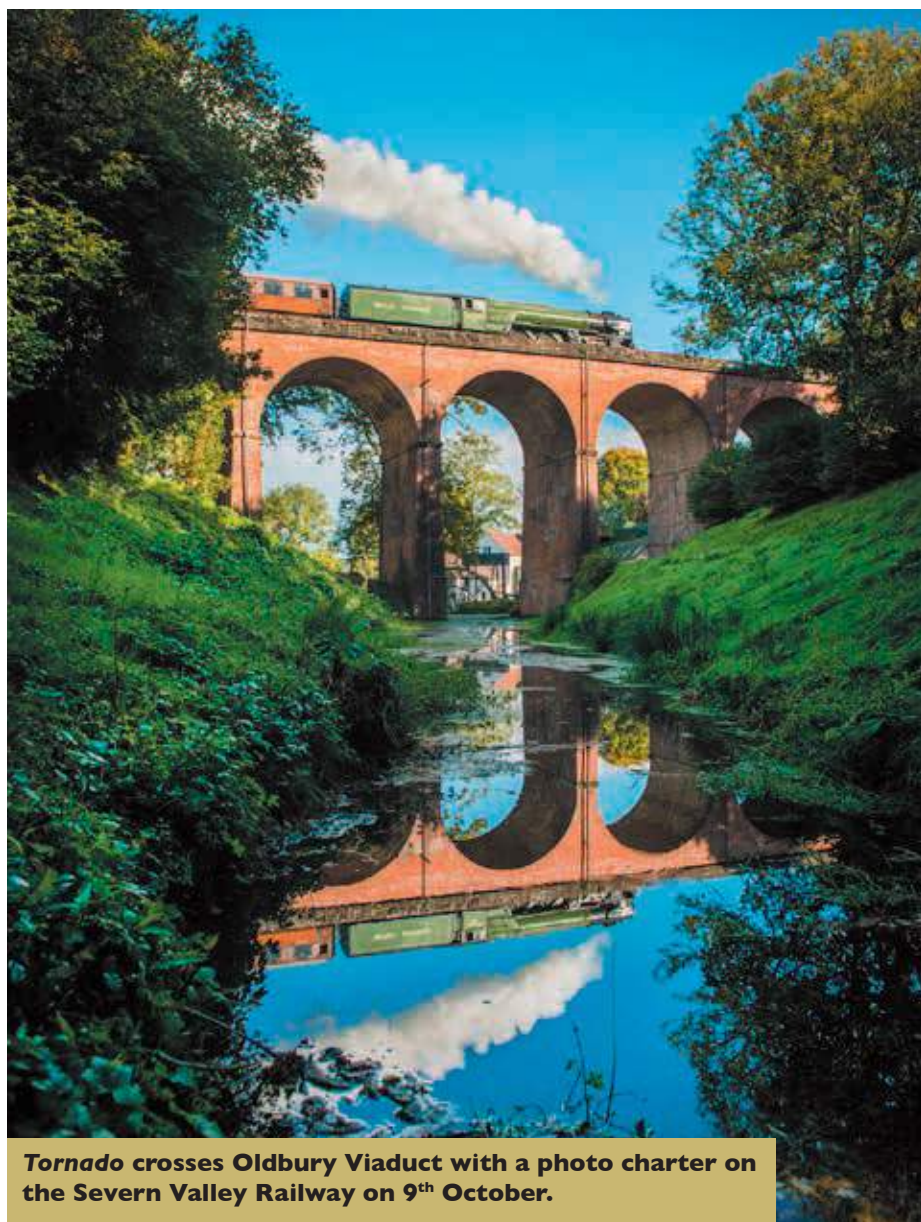
THE COMMUNICATION CORD

No. 40 Autumn 2015

2015 CONVENTION REPORT

by Graham Langer

Jack Boskett



With nearly 200 people attending this year's Convention at the Mercure King's Hotel in Darlington it was standing room only by the time everyone had filed into the ballroom. Mark Allatt opened proceedings by welcoming the throng to the 25th Anniversary meeting of The A1 Steam Locomotive Trust. He was shortly joined by David Champion who reviewed the early years of the Trust and how he was provoked into action by a statement in a railway magazine which promoted the idea of making models as the best way to 'preserve' lost classes of locomotive. Following speculation in *Steam Railway News* about the possibility of building an A1 or P2 but frustrated by the lack of any coherent business plan, David sat down and penned the now famous scheme to 'build an A1 for the price of a pint a week' on two sheets of A4 paper. Having covered some of the highlights and low moments from 1990 onwards, David turned to his audience and simply said, "Thank you for making it possible". At this juncture he presented Mark with the famed, framed (albeit wine-stained) document to be entrusted into the Trust's safe-keeping in perpetuity.

Once the applause had died down, Chris Walker stepped up to cover the financial side and present an annual report for the last year; although this showed a 'loss' of over £300,000 the reality was that this figure represented part of the intermediate overhaul costs, provision for which had been made in previous years. To have concluded such a major 'shopping' in just five months reflected well on all involved, many other main line groups

Tornado crosses Oldbury Viaduct with a photo charter on the Severn Valley Railway on 9th October.

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Mandy Grant

Mark Allatt accepts the framed, hand-written scheme for building an A1 from David Champion.

would be overjoyed to have the wherewithal to complete such work in so short a period of time. Chris recorded that there were 1,187 A1 Covenantors on the 'roll', a slight fall, accounted for by 'natural wastage' as anno domini catches up with members. It is important that we recruit new blood! The 163 Pacifics Club membership had risen to 63 (*a figure which increased by over 10% later that day – ed*) and efforts in the Trust's Silver Jubilee year were being directed towards paying for the tender. The increased number of trains run in 2015 was already generating a much better income stream than 2014 and promoting and filling our own (AISLT) trains was proving critical to helping this.

David Elliott took over from Chris to present an engineering report for No. 60163. He outlined the work carried out during *Tornado's* seven year, intermediate overhaul which required the boiler to be removed from the frames and a full internal inspection to be carried out; David warned that in future insurers may require a five year inspection! The boiler had been returned to Meiningen for this work and while it was there it was fitted with forged foundation ring corners and had 280 plain stays replaced with flexible stays, thus increasing the pattern of flexible stays to encompass areas of the firebox where plain stays might be prone to failure. While the wheels were out the frames were checked, the hornguides re-shimmed and the annual 'C' exam carried out. Unfortunately due to a delay in the boiler work (due to an outbreak of 'flu in East Germany) and the need to replace a number of roller bearings on the driven axles (which required the wheels to be removed at the South Devon Railway) the overhaul over-ran by several weeks and *Tornado* missed her first booked engagements for 2015.

David handed over to Rob Morland so that the latter could update everyone on the latest additions to our locomotive's ever-expanding electrical system. Recent work has seen the fitting of further LED strip lights under the frames and to the tender, lights in the tender lockers, analogue clocks in the cab, a pyrometer in the steam chest and the addition of a beacon to the AWS 'sunflower' in response to the Wootton Bassett Junction SPAD, reinforcing the audible warning with a visible lamp. All the lighting was overhauled and the electrical umbilicals renovated. Rob confirmed that Interfleet Technology had approved our scheme for fitting ERTMS signalling equipment with an application date now fixed for 2019.

Graeme Bunker now gave his appraisal of '*Tornado on tour*', noting that the locomotive had covered some 2,500 miles during her first four weeks in traffic and was likely to complete sixteen main line tours this year in addition to working on several preserved lines. Graeme thanked all those involved in supporting these trips, some of which had been scheduled at very short notice. Looking ahead he predicted between fifteen and twenty outings next year involving better choices of route, and more cost effective trains such as the 'Belmond British Pullman'. Work on getting the 90mph derogation continued, mainly involving structure studies by Network Rail. Graeme also highlighted the work by the Trust in conducting greater competency management to ensure that members of the support crew are well trained.

Gill Lord reviewed the work of the merchandise department over the previous year, commenting that a difficult season in 2014 had contributed to a slightly lower retained profit, even then this was nearly

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DOROTHY PATRICIA MATHER *by Mark Allatt*

It is with great sadness that we have to record the passing of Dorothy Mather, widow of Arthur Peppercorn, on the 10th November at the age of 99.

Born Dorothy Patricia Louch, she grew up in a railway family near Doncaster and, following a stint of voluntary work during WW2 and working for the regional coal board, she ended up in the Doncaster Works drawing office; it was here that she met Arthur Peppercorn and they married in 1948. It was during this period that the A2s and the A1s entered traffic. Leaving the Eastern Region of BR in good shape, Arthur retired at the end of 1949, much loved and admired, only to die prematurely in 1951.

A few years later, she met Colonel W. H. Mather, OBE, TD and ex-LNER. In due course they married, bought a country house near Stokesley and settled down. As Bill's health failed, they moved to a more modern house and Dorothy nursed him. He died and she became a widow again, albeit with an ever-wider circle of friends and Bill's many nephews and nieces.

In August 1993, Dorothy was approached by the Trust about the A1 Project. She was sufficiently impressed to join us informally and from there her involvement grew. She was there at BSD Leeds on 13th July 1994 to start the CNC machine that cut *Tornado's* frameplates, at the Trust's



Nick Brodick

Trust president Dorothy Mather waves from the footplate during *Tornado's* first public moves.

first convention that September and at Tyseley in December for the ceremony marking erection of the frameplates. She attended many A1 Trust occasions since then, always immaculately dressed, always interested and courteous to everyone she met. In September 1995 she became joint vice-president, later president.

Not just a figurehead, she did a tremendous job for the Trust in

countless interviews with press and television. She proved quite as vital as our ISO 9000 quality standard because, if *Tornado* was good enough for her, it would be good enough for Arthur Peppercorn. Those of us who knew her will miss her quiet dignity, kindness and valued contributions to any conversation about the work of her first husband. **TCC**

EDITORIAL *by Graham Langer*

As this edition was being 'put to bed' we heard the very sad news that the Trust had lost its President. Dorothy will be a hard act to follow and many of us will personally miss her as well.

There has been no sign of the pace slackening this summer, either for *Tornado* or *Prince of Wales*! No. 60163 has continued to clock up incredible mileages and since the last edition of *The Communication Cord* has visited Kingswear, Peterborough, Edinburgh, Tweedbank (for the first time), London, Newcastle, Minehead and Bridgnorth. This flurry of activity has continued to stretch our volunteers, many of whom were also involved in running this year's highly successful convention in Darlington.

It is interesting to note that the final steam train over the Borders Railway in 1967 was worked by *Tornado* (albeit 'Britannia' No. 70022) and although 'our' *Tornado* was not required for the opening train of the new Borders Railway she was able to work a trip over the route on 13th September, once again breaking new ground. There has been much positive comment about the incredibly clean

state No. 60163 is being kept in, not easy with the apple green livery, so full credit to the support crew for that!

In this edition we cover the amazing tale of *Saint Mungo's* 100mph dash from Newcastle to York in 1966, related by Geoff Bird, a trip we had intended to repeat with 'The Peppercorn Phoenix', which, alas, has been cancelled because of a poor level of bookings. The diary has continued to fill up for 2016, however, with two more Trust sponsored runs, 'The Red Rose' and 'The Devon Belle'. If you intend to travel behind *Tornado* next year, please ensure you support our own Trust sponsored outings.

Apart from a round up of the Convention, this edition also contains a review of recent progress on *Prince of Wales* as construction forges ahead and fundraising tops the £2m mark. While all this success is massively encouraging we mustn't let the pace slacken! Please encourage your friends to sign up as covenantors or sponsor a component since a regular flow of cash is the only thing that will guarantee a regular pace of manufacture and assembly. **TCC**

£29,000, an amazing total. She emphasised that the Trust needed more volunteers, particularly in this area of activity.

Mark Allatt regained the microphone at this juncture to cover the subject of fund-raising, dealing with The 163 Pacifics Club and appealing for more covenantors and members of The Tornado Team, ensuring that the Trust acquires young blood to keep it going. Having dealt with schemes such as 'Easyfundraising', 'Easysearch' and the legacy programme, Mark moved on to talk about the success of P2 fund-raising, the The Founders Club and The Boiler Club proving that people had got behind the project from the outset although a greater level of commercial sponsorship would be important as well. Having mentioned some of the P2 highlights in 2014 and 2015 he concluded that good progress was being made.

David Burgess gave an overview of the P2 finances and fleshed out some of the figures and then said how the Trust had spent the money! Graeme Bunker concluded the meeting at the hotel by looking forward, acknowledging that *Prince of Wales* would soon fill Darlington Locomotive Works! In addition we will need to start looking for a second support coach and an expansion of facilities in Hopetown will be required, built on the great relationship the Trust has with the Council and local businesses. The Trust now has 25 years of history to archive and this may be possible in the central 'tower' of the works building; then there is the question of a main line connection and a

train to match each of our locomotives... Sophie James wrapped up the session by briefing covenantors about the vintage bus transfer to the works and the meeting moved to Hopetown.

Having re-grouped at Darlington Locomotive Works, covenantors found themselves dwarfed by No. 2007's frames, now sitting on supports at roughly their finished height. After a chance to look round the Works and gaze at the many intriguing P2 artefacts assembled by Andy Hardy, beautifully displayed in glass cases, the assembled company enjoyed lunch before the P2 session began.

As ever, Mark Allatt led off, welcoming those present, before handing over to Andy Hardy who had created a slide show of P2s and some extremely rare movie footage of the class in action. Much of his recent activity has been devoted to amassing a huge collection of hitherto unpublished material which is now being edited into a major new book on the class (available to pre-order from the Trust).

David Elliott stepped up to cover the engineering aspects of the project, acknowledging that 'Lot 1' had taken up rather more time and space than had been anticipated, delaying progress on No. 2007 somewhat. Despite this enormous strides had been made, design efforts were currently centred on the torque calculations affecting the driven axles to ensure that *Prince of Wales* did not suffer a crank axle failure like members of the original class! Timken had been most helpful in this process. Following

the announcement that the The Gresley Society Trust had agreed to sponsor the smokebox, the door and doorframe had already been ordered, indeed the South Devon Railway had just finished pressing the door itself. In addition the chimney pattern has been ordered, the pony wheels machined, the tyres sent to the SDR and the first bronze castings, the injector valve and Cartazzi slide, had been ordered.

Following David, Rob Morland talked about the electrical prescription for No. 2007 (much the same as for No. 60163) before David concluded with a round-up of the next steps in this incredible project.

Mark Allatt invited questions from the floor and topics covered included the use of apprentices, a discussion about the development of the Lentz valve gear, the need for a main line connection at Darlington and opportunities for redundant steel workers from Redcar at the works.

Covenantors and founders later assembled at the King's Head for the Trust's Silver Jubilee dinner, over fifty people enjoyed a three course meal and, in the absence of Nigel Harris, members of the Trust recounted early tales of their involvement. Unfortunately much of what was said would have to be 'redacted' by the editor but needless to say it was highly entertaining; last to speak was our archivist and support crew member Andy Hardy who stole everybody's thunder by proposing, there and then, to his girlfriend Gemma Seville – that has to be a first for The A1 Steam Locomotive Trust! **TCC**



The packed ballroom at the Mercure King's Hotel in Darlington.

Mandy Grant

AI ENGINEERING UPDATE by David Elliott

Locomotive - *Tornado* has continued to operate reliably and with consistent performance, in no small part due to the quality of maintenance provided by David Wright and his team who have been retained to fulfill the travelling fitter role and to carry out routine maintenance. There have been a few issues over and above routine scheduled maintenance, however.

Injector valves - During the work in Scotland following the overhaul, the right-hand (exhaust) injector started playing up, which was eventually traced to a problem with the combined steam and water valve on the backhead. When the valve was made, a less than perfect pattern resulted in the water delivery port being slightly oversize and not on the correct centreline relative to the steam port. To overcome this, a concession was granted bore out the valve and press in a sleeve from the same bronze material (this is a normal repair for this sort of valve). Although during the overhaul, the valve passed an hydraulic test following re-cutting the seats and valve heads during the overhaul, it appears that shortly after re-entering service, the sleeve in the valve started to migrate outwards, reducing the opening of the clack shut off valve to the point where it was throttling the water going into the boiler.

David Wright has bored out the valve and pressed in a new sleeve, with the addition of two brass locking grub screws which should reduce the likelihood of the sleeve moving in the future and the valve is now working properly.

The left-hand valve also gave trouble, this time with the steam valve blowing through when shut. This is a common problem and prior to refitting to the engine during the overhaul, the valve and seat were trued up on a lathe and the complete injector valve successfully hydraulically tested. David Wright's team attempted to cure the problem using a seat cutter in situ, however the valve still leaked. When David removed the valve from the engine, he found that the seat was so far into the casting (due to repeated re-cutting) that the valve was not able to seat properly. He bored out the valve body and fitted a sleeve similar to that in the exhaust injector valve, and it is now working properly.

This highlights that we are beginning to see the consequences of wear and repeated refurbishment of these valves. During operations they are used frequently and suffer regular thermal shocks, being at or near boiler temperature (208°C. at

250psi) when not in use and then suddenly cooled to 80-90°C. by the water when the injector is on. They do suffer casting failures eventually - our patterns have been used by the The Gresley Society Trust for a new valve body for the N2 and recently a request has been received for the pattern for a new valve body for the NELPG K1.



David Elliott

An injector valve pattern.

Partly for this reason we have ordered one left-hand and one right-hand body for the P2 (plus an additional right-hand body for NELPG) along with some hand-wheels from South Lincs Foundry at Spalding.

With the castings in stock if there is a problem with a *Tornado* valve, it should not take more than 48 hours to have a casting machined as a replacement. However, it is intended that the new valves are machined

and finished over the next few months so that we have complete valves in stock.

Hand brake - The tender hand brake has been becoming increasingly stiff (the tender received relatively little attention during the overhaul). David Wright dismantled it and found one of the intermediate bell crank bearings seized, probably due to it having rotated in the housing and cutting off the port from the grease nipple. He has made and fitted a new bush with an external groove to ensure that even if it does rotate, the grease will still reach the journal.

Whilst apart, the hand brake nut was found to be badly worn, so with dimensions transmitted by text, Tom Jones at M Machine made a new nut in five hours which was then directly transported to Wansford to fit (which it did).

Turbogen - The turbogen had become very noisy, so a precaution, the spare was fitted. On stripping the one removed from the locomotive, it was found that the rubber bushes in the alignment coupling between the alternator and the turbine had disintegrated. Also the turbine blades are significantly eroded, although still useable.

We are designing a modification to the alternator to provide it with tightly constrained location on the end of the turbogen casing, as at present it relies on lining up by eye as the clearances in, and position accuracy of, the bolt holes on what is a Bosch truck alternator are generous. We are also investigating fitting a filter in the turbine exhaust to prevent pieces of char entering the turbine casing when the turbogen is not in use, which is causing excessive abrasion of the turbine blades. **TCC**



David Elliott

Tom Jones machines the new handbrake nut for *Tornado*.

TORNADO ON TOUR

by Huw Parker



Gerry Hurfurt

Tornado returned to the 'English Riviera' in July, working 'The Torbay Express' on the 12th, 26th and 2nd August, reprising a role she played when she first carried apple green. Although the series did not enjoy perfect weather she handled her duties with aplomb and our team enjoyed re-visiting the Paignton and Dartmouth Railway. No. 60163 is seen at Dawlish with 'The Torbay Express' on 12th July.

On the 8th August, **Tornado** handled a 'Surrey Hills Excursion' for the 'Belmond British Pullman', a lunchtime tour round the home counties. This is never a very taxing job but the support crew turned out the locomotive to the very high

standard set by the *Clan Line* team! A sunny day ensured that No. 60163 arrived back at 'The Lane' in reasonable condition, facilitating her preparation to move to the Nene Valley Railway a couple of days later.

After the short series of 'Torbay Expresses' in July and following the very successful 'Belmond British Pullman', **Tornado** moved up to the Nene Valley Railway to fulfil a brief spell of operations there throughout the middle of August. The locomotive ran seven days in traffic at the NVR, including the Bank Holiday weekend and, despite some very wet weather, the support crew managed to keep the engine in great order. **TCC**



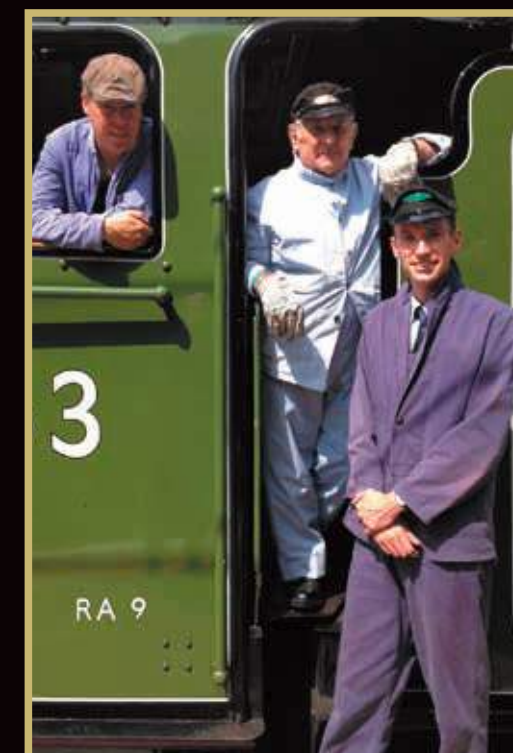
Ian McDonald

Apple green in duplicate! N2 No. 1744 pilots **Tornado** at Longueville Junction.



Roger Kirk

Tornado threads her way among modern traction at Clapham Junction while working a 'Surrey Hills Excursion' for the 'Belmond British Pullman'.



Peter Maynard

The 'Belmond British Pullman' Fireman Rob Binstead, TI Colin Kerswell and driver Jim Clarke.

‘THE SILVER JUBILEE TALISMAN’ by Huw Parker

‘The Silver Jubilee Talisman’ celebrated 25 years since the birth of an idea that led to *Tornado* and the iconic status that she enjoys today. As usual, the immediate preparations for the King’s Cross to Newcastle trip began 36 hours previously with the support crew gathering at Stewarts Lane Depot near Battersea in London. Here the locomotive and coach were stabled under cover and the facilities allowed us to raise steam inside the shed, protected from the rain and weather. As a result cleaning the engine was much easier since it had not deteriorated since the last ‘Belmond British Pullman’ around the Surrey Hills the previous Tuesday. Nevertheless, the fire was lit on the Thursday evening and the next morning the support crew began preparations to clean the engine and present it for the Fitness to Run (FTR) exam later in the day.

In addition to cleaning Rob Morland conducted some urgent electrical repairs to correct some defects identified earlier in the week and these were concluded in good time prior to the FTR. Coaling was completed using a forklift truck to bring one tonne bags of coal into the shed on pallets, before lifting these above the tender using an overhead gantry crane. By the end of Friday, the locomotive had passed the FTR and was cleaned to a high standard ready for the run to Newcastle the next day.

An early departure from King’s Cross meant an even earlier departure from Stewarts Lane Depot and three members of the crew were up at 02:30hrs to ensure everything was ready to hand over to the DB Schenker crew for a 04:10hrs



David Sherrington

Tornado is seen at Newton Hall on the return run.

departure off the depot. Right time, the engine left Stewarts Lane to collect the train already waiting in Battersea Loop; after a brake test, we headed off through the South London suburbs round to King’s Cross where we arrived thirty minutes early, allowing us to fill the tender with water prior to our departure time.

We left King’s Cross and headed north under blue skies and early morning sunshine with a good run up to Peterborough. Even with thirteen coaches behind, *Tornado* made easy work of Stoke Bank and arrived at York slightly ahead of time. This was our second water stop, and was completed to make an on time departure towards Darlington, where guests left the train and headed to Hopetown Locomotive Works to view the P2 *Prince of Wales*’ frames and hear about

progress thus far. Meanwhile, *Tornado*, with the remaining passengers, set off on the final leg of the journey to Newcastle, arriving just a few minutes down after an outward journey of 270 miles.

After everyone had alighted, *Tornado* headed up to Heaton Yard for servicing. This involved taking more coal and water, cleaning the fire, oiling the motion and a thorough visual inspection ahead of the return leg of the journey. At Heaton, we turned both the engine and coach on the turntable before re-attaching them to the train and heading back into Newcastle to collect passengers who had spent a couple of hours exploring the city.

Tornado took the train back to York and, after a brief call at Durham to collect those who had opted to visit Darlington, we arrived back at York to pick up the remaining passengers and hand over the responsibility of hauling the train back to King’s Cross to a DB Schenker Class 90 electric locomotive. *Tornado* and her support coach then headed to stable at the National Railway Museum, although it took two attempts to gain entry due to some confusion between the York Signaller and Fuel Depot Manager. After some to-ing and fro-ing, we finally arrived outside the museum and began to shut down for the night. Whilst finishing off, we were pleased to meet members of a wedding party celebrating the end of their day with a private reception in the Great Hall. After hearing that many of the party were active *Tornado* covenanters and support coach sponsors, we met their requests for a few blasts on the chime whistle (with apologies to neighbours at the NRM). Very best wishes to the newly married David and Caroline Watt at the end of their special day! **TCC**



Chief Petty Officer Jonny Noble, Wing Commander Rich Davies and Lieutenant Colonel Huw Parker at York celebrate the AISLT links with HMS Prince of Wales (the new aircraft carrier under construction) and RAF Marham (home of the RAF’s Tornado GR4 aircraft).

‘THE DEVON BELLE’ - a wonderful spring trip to Exeter

by Graeme Bunker

On Saturday 2nd April 2016 No. 60163 *Tornado* will set out from London Waterloo station and head for Devon and the historic city of Exeter. With the assistance of our friends at South West Trains we will be making a fast turn from London to Woking via Surbiton and on through Surrey and Hampshire to pick up more passengers at Basingstoke. We then head via Andover to Salisbury where the locomotive will take water. Our route is then via the former LSWR route via Yeovil including the steep climb to Honiton Tunnel, a real test for *Tornado*.

After a break in Exeter our return route starts with the climb to Whiteball tunnel which marks the border between Devon and Somerset. Heading back towards the capital we take the former GWR route via Castle Cary, Westbury and Newbury, a beautiful scenic route as well as one that will challenge *Tornado* with its fast running and long climbs. At Reading passengers who joined us at Basingstoke leave us for a short trip by service train to Basingstoke. *Tornado* steams on taking us back to London Victoria station via Ascot and Twickenham. **TCC**



Online and telephone bookings are handled by our booking agents UK Railtours. Go to www.alsteam.com to make an online booking or call 01438 715050 to book over the phone. In the event of cancellation or haulage problems please see our full terms and conditions of carriage.

● **First Class Dining**
Seats at a table for two* or four in a First Class carriage. Includes a silver service full English breakfast and a light lunch on the outward journey and a four course dinner on the return leg from Exeter.

● **First Class Non-Dining**
Seats at a table for two* or four in a First Class carriage. Includes complimentary teas and coffees, as well as afternoon tea during the return journey.

● **Standard Class**
Seats at a table for four in a heritage carriage. An on-board buffet serving snacks and hot & cold beverages will be available.

* Guaranteed ‘tables for two’ in First Class Dining and First Class Non-Dining are available for a supplement of £25.00 per person.

CLASS	PRICES
Standard Class	£95.00
First Class Non-Dining	£149.00
First Class Dining	£225.00

Provisional Timings for ‘The Devon Belle’ on Saturday 2 nd April 2016 are as follows:		
STATION	OUTWARD	RETURN
London Waterloo	07:55hrs	****
Basingstoke	08:45hrs	****
Exeter	13:30hrs	16:30hrs
Reading	****	20:45hrs
London Victoria	****	22:00hrs

Terms and conditions are available on request. All profits from this tour go towards keeping *Tornado* on the main line in future years.

The Trust respectfully requests that anyone wanting to see *Tornado* follows the rules of the railway and only goes where permitted.

TORNADO WANDERINGS from Somerset to Shropshire

by Huw Parker

No sooner had we completed 'The Silver Jubilee Talisman', than *Tornado* was on the move again from York NRM to Bishops Lydeard on the West Somerset Railway. A good turn out by locally based support crew saw the locomotive smartly cleaned and ready for the run down through Birmingham and Bristol to Taunton behind a Devon & Cornwall Class 56 diesel. Traction Inspector Bob Hart and John Wilkinson looked after the locomotive with support from our own team and the move ran easily to time, although they were delayed slightly through Parkway to Bristol Temple Meads as a result of some late running trains due to the Rugby World Cup game at Cardiff! Finally, just as the light was fading, *Tornado* and support coach arrived at Bishops Lydeard, which was to be our base for the next week.

The following day, the locomotive was booked

for a driver experience and ran two round trips to Minehead and back before the start of the Autumn Gala. The diagrams over the four days saw a mixture of early starts, but the cleaners and crews at Bishops Lydeard depot worked with our own support crew to ensure No. 60163 was smartly turned out each day. The weather throughout our visit was kind with blue skies most of the time, which the photographers clearly took advantage of. Saturday saw a more leisurely start, with the engine scheduled for just one trip to Minehead. This meant that we could put the locomotive into the bay and the depot cleaners helped to give both sides some real attention. On our return from Minehead, we ran light engine to turn on the triangle at Norton Fitzwarren and took the opportunity to blow down the boiler whilst we were in the middle of nowhere. A blow down involves opening a 2in valve on the boiler foundation ring, discharging a large volume of boiler water under pressure which helps remove the build-up of dissolved salts and sludge formed during the evaporation process.

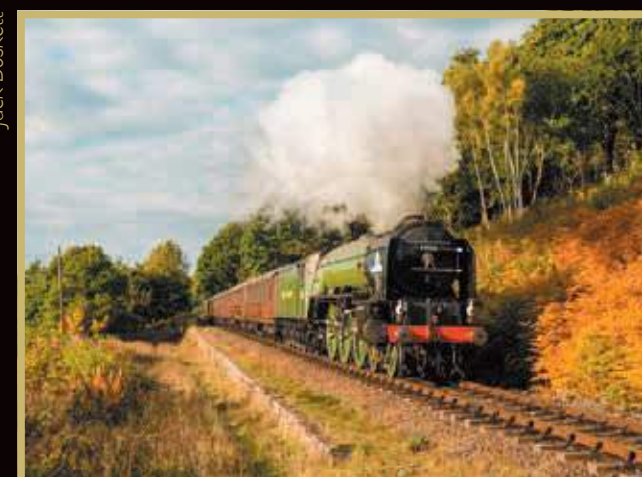
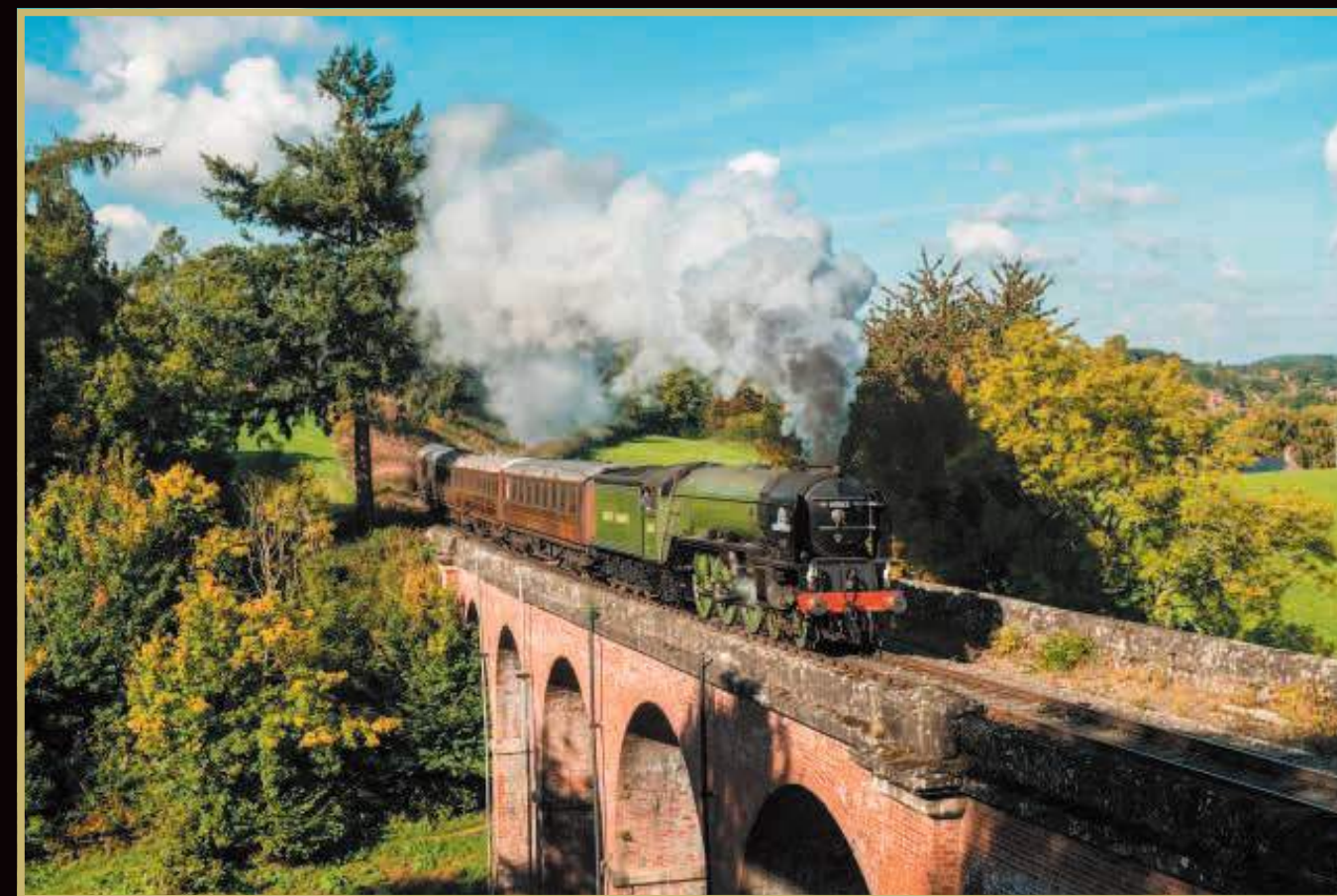
The Sunday turn was not quite so kind, with a 05.00hrs start and the weather turned out to be quite damp and misty. After cleaning the grate, Jorge Gorman relit the fire and then, with Mike Abbott, started below the running board to clean the wheels and motion. The first trip set off in heavy mist, which did not clear until around Williton, visibility was so poor, we ran with a high intensity headlamp on the tender lamp bracket. The remainder of the day was overcast, with some brief appearance of sunshine for the second trip and we finally arrived back at Bishops Lydeard as darkness fell.



Tornado stands at Bishops Lydeard during her sojourn on the West Somerset Railway.



'Season of mists and mellow fruitfulness...?' 9th October, the day of a photo charter on the Severn Valley Railway, dawned very foggy but those photographers who braved the chilly start captured some memorable scenes such as this one near Bewdley.



Three superb images of *Tornado* on the Severn Valley Railway.

The move to the Severn Valley Railway was again managed by DCR with the same Class 56 that had stabled at Taunton for the week, delivering the locomotive and coach safely to Bewdley by the middle of the afternoon. This left a small support crew a little bit of time to prepare the engine and this was focussed on cleaning the fire and ashpan, oiling the motion and a good inspection of the engine. Three days of photo charters saw *Tornado* at the head of a rake of teak coaches looking resplendent in some favourable autumn sunshine. The first weekend of our visit, we ran the service trains starting from Kidderminster each day. The

shed team at Bewdley helped the support crew clean the engine and for a short period of time, the running board was full of cleaners polishing the boiler barrel. Once again the engine was wonderfully presented and ran well throughout the weekend.

Monday 12th October was the first day that the engine had neither been in traffic nor being prepared for a move for more than a fortnight. Despite this, a support crew turned out to start cleaning the engine to a very high standard ahead of the Covenanters' Days at the end of the week....but that, as they say, is another story of *Tornado* Wanderings yet to come

TCC



As I write this column in early November, No. 60163 *Tornado* is working 'Belmond British Pullmans' out of London following her successful visit to the Severn Valley Railway in October. This leaves our locomotive with only two more main line trains this year to round off an extremely busy season which has seen *Tornado* visit almost every corner of Great Britain.

Unfortunately, as you will probably have read elsewhere, the Trustees have had to take the difficult decision to cancel 'The Peppercorn Phoenix' which was due to run on New Year's Eve commemorating No. 60145 *Saint Mungo's* historic run from York to Newcastle 50 years ago. Although this tour had been heavily promoted, it failed to attract sufficient passengers and faced with a five figure loss we had no alternative but to cancel the train and give passengers sufficient time to make alternative New Year's Eve arrangement. Whilst we all very much wanted 'The Peppercorn Phoenix' to run for historical reasons, it has proved to be a stark reminder that our tours have to be commercially viable in order to generate sufficient profit to keep *Tornado* operating on the main line and that this will limit our choice of starting points, routes and destinations to those that will generate a sufficient return. A further consequence of this cancellation is that *Tornado* will now no longer be at Locomotion in January but we do hope to be able to organise replacement events in January elsewhere in the

country and at a later date at Shildon. As the majority of our main line trains for the foreseeable future will be promoted by the Trust, it is vital that we fill them and so I would ask that you look at next year's developing programme to see which trains you are able to support and also encourage friends and family to experience some of *Tornado's* magic. The next two Trust promoted railtours are 'The Red Rose' from London Paddington to Worcester on Sunday 14th February 2016 and 'The Devon Belle' on Saturday 2nd April 2016 from London to Exeter – both of which are already open for bookings.

As you know, 2015 marks the 25th anniversary of the launch of the project to build a new Peppercorn class A1 with the launch meeting at The Railway Institute in York on 17th November 1990. The fourth and final part of David Champion's enthralling history of the Trust appears in this issue of *TCC* and reading it brought back many happy memories of our early years and reminded me of the many supporters that we have lost along the way, including David's charming late wife Gill who was also a dear friend of mine.

The A1 Steam Locomotive Trust has been celebrating this milestone throughout the year – the first of which was 'The Silver Jubilee Talisman' on Saturday 26th September with No. 60163 *Tornado* from London King's Cross to York, Darlington and Newcastle. It was good to see so many supporters on this railtour and you can read Huw Parker's report on this train elsewhere in *TCC*.

Our other celebrations have included our annual convention and dinner on

Saturday 3rd October and the special days for supporters on the Severn Valley Railway with their LNER teal train on 15th/16th October and the dining train on the Friday – thank you to all of you who supported these events and especially those who brought along family and friends to introduce them to the Trust.

Most importantly we wanted to use our 25th anniversary as an opportunity to highlight the importance of The 163 Pacifics Club – our desire to complete what we set out to do 25 years ago and purchase *Tornado's* tender. Thanks to your most generous support we now have 71 members of The 163 Pacifics Club, which is almost triple its size at the start of the year. Tremendous progress but we still have a long way to go.

Meanwhile in Darlington Locomotive Works the construction of No. 2007 *Prince of Wales* continues to race ahead with the fitting of parts of the footplate and the arrival of the cab 'flat pack'. We have also seen the manufacture of the locomotive's distinctive smokebox door which means that it won't be too long before both cab and smokebox are fitted to the frames. With £2m now pledged to our P2 project, we need to keep up our fundraising efforts if we are to achieve our 2021 target.

Thank you all for your continued support for both *Tornado* and *Prince of Wales* throughout our 25th anniversary year.

As this issue was being finalised we learned of the death of our President, Dorothy Mather, at the age of 99. I'm sure like me many of you have your own special memories of Dorothy. She will be greatly missed by us all. **TCC**

'THE RED ROSE' - A SPECIAL EXCURSION FOR VALENTINE'S DAY by Mark Allatt

We are delighted to announce the recreation of 'The Red Rose' express. This special Valentine's Day main line steam railtour will run from London Paddington to Worcester and back by two different routes, picking up passengers at both Slough and Reading. The original 'Red Rose' was specially named in celebration of the Festival of Britain and ran from London Euston to Liverpool and return from 1951 to 1966. This unique railtour will feature *Tornado* hauling historic carriages in carmine and cream livery with those passengers in First Class Dining receiving a traditional silver service throughout the journey.

We are pleased to be able to offer a main line steam railtour on St. Valentine's Day, featuring No. 60163 *Tornado* all the way from London Paddington to Worcester and back, by two different routes. Highlights of the day will be a fast run from London to Bristol along the Great Western Main Line and the ascent of Sapperton Bank on the way home. You will have around three hours



Sir Edward Elgar

in the City of Worcester, with the option of a visit to the Elgar Birthplace Museum. With *Tornado* in charge we depart from London Paddington at a very civilised hour, calling at Slough (which is convenient for the M25) and at Reading. Our route takes us through the railway town of Swindon to Bristol East Loop where we pause to take water.

We then traverse the Rhubarb Loop and head north, via Bristol Parkway and Yate where we join the former Midland Railway line through Charfield. We avoid Gloucester and at Abbotswood Junction we diverge left to arrive at Worcester Shrub Hill at around 13:30hrs. From here it is about a ten minute walk into the city centre with its fine medieval buildings along with some lovely old pubs and an excellent shopping centre. The Cathedral, founded in AD680, has been described as possibly the most interesting of all England's cathedrals and towers above the peaceful River Severn. Passengers have three hours to explore the city.

Optionally, a ten minute coach journey from the station takes us to The Elgar Birthplace Museum which offers a fascinating insight into the life and music, family and friends, and musical inspirations of Sir Edward Elgar, whose masterpieces include the Dream of Gerontius, the Enigma Variations, and many more. The museum comprises two



buildings, the modern Elgar Centre and the atmospheric Birthplace Cottage. Together they reveal the great man behind the music.

Our return route, still with *Tornado* at the head of the train, is via Stroud and Sapperton to Swindon and after a watering stop at Vantage Road we duly arrive back at Reading, Slough and Paddington.

The train will comprise First Class Dining and First Class Non-Dining carriages, ideal for those wishing to celebrate Valentine's Day in style. For those more interested in main line steam performance, there will be Standard Class accommodation available also. Space on this train is likely to be at a premium and so an early reservation is recommended. Please note that on this tour the supplement for a guaranteed 'table for two' in either First Class Dining or First Class Non-Dining is £25 per person. All timings are provisional and are intended only as a guide - bookings are through UK Railtours. **TCC**

Standard Class
A buffet car is available.

First Class Non-Dining
Includes complimentary tea or coffee and an afternoon tea. Guaranteed Table for Two for a supplement of £25.00 per person.

First Class Dining
The First Class Dining fare includes the Great British Breakfast and a four course dinner. Guaranteed Table for Two for a supplement of £25.00 per person.

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

DIARY 2015 / 2016

Right are the future operations *Tornado* is confirmed to be involved in. More details will be published on www.a1steam.com as trains are finalised. P2 events will also appear in this section with further details on www.p2steam.com. Tour company contact details below.

- 8th December – Surrey Hills Excursion – Belmond British Pullman
- 12th December – Surrey Hills Excursion – Belmond British Pullman
- 31st December – 'The Peppercorn Phoenix' York to Newcastle and return – CANCELLED
- 14th February 2016- 'The Red Rose' - Paddington to Worcester and return -AISLT promoted tour with bookings through UK Railtours
- 2nd April 2016 - 'The Devon Belle' - Waterloo to Exeter and return - AISLT promoted tour with bookings through UK Railtours
- Easter 2016 - Didcot Railway Centre (dates TBC)

Belmond British Pullman	Didcot Railway Centre	UK Railtours
Tel: 020 3117 1300	Tel: 01235 817200	Tel: 01438 715050
Web: www.belmond.com/british-pullman-train	Web: didcotrailwaycentre.org.uk	Web: www.ukrailtours.com

SAINT MUNGO’S FINEST HOUR by Geoff Bird

On 31st December 1965, Peppercorn class A1 No. 60145 Saint Mungo hauled a relief train between York and Newcastle, one of the last runs of an A1 in British Railways’ service. With no preservation scheme likely to be successful, everyone thought that this fine class of locomotive would simply fade into history. It wasn’t until 2008 when No. 60163 Tornado hauled passenger trains for the first time, that anyone had again experienced A1 haulage and it was 2009 with the ‘Peppercorn Pioneers’ before true express speeds were once more experienced. Geoff Bird was shed master at York at the time of Saint Mungo’s escapade and takes up the tale.



John Arnott-Brown

Of the quintet of people involved in the setting up and execution of the *Saint Mungo* run on 31st December 1965, I am the only one left and having been actually on the engine during that journey I thought an account of my experiences may be of interest. I suppose my story really starts with my appointment at York as shed master in 1965.

I took over York from my good friend and colleague Lawrence Reeves who had occupied the post for twenty three years. I had a very happy fifteen years at York depot and between us we had notched up thirty eight years as the chief and many of the men at the depot had only known two chiefs, Lawrence and myself. Could that happen now?

When I arrived at York there was still a residual allocation of steam including A1s, V2s, B1s and K1s and I must of course mention No. 65894, the shed pilot (now preserved on the NYMR). However they were all slipping through my fingers pretty quickly. 31st December 1965 heralded the withdrawal of steam from East Coast Main Line services and also the retirement of the remaining V2 and A1 class locomotives.

I cannot remember exactly how many A1s there were at York at the time, possibly three including No. 60145.

By the end of 1965 the V2s had gone, the A1s had also technically gone and there were no big engines left, the biggest being the B1s and this created a problem when it was necessary to pass firemen out as drivers. Hitherto this had always been done on steam and there were no agreed arrangements in place for the job to be done otherwise, so passing out, as it was called, still had to be done on steam. The turn used for this function was required amongst other to work a class C train routed via the up main line from Newcastle to York. Initially, B1s were used on the turn but they were unable to do time on the main line. The question arose then as to how to overcome the problem. Thoughts then went to reinstating an A1 on a temporary basis and No. 60145 was chosen to fill in.

At this time it so happened that the LMS Jubilee class locomotives were extant at Holbeck and opportunity arose to borrow one of these for the advents of the York ‘passing out parade’ on the basis

that they were able to do time on the main line. There was a tendency at York for the ‘borrows’ to be extended for fairly long periods and until the problem of the passing out parade was resolved most of the remaining Holbeck Jubilees had done a stint at York.

Be that as it may, New Year’s eve 1965 heralded the withdrawal of steam on the East Coast Main Line and rather unbeknown to me a gentleman by the name of John Arnott-Brown had made approaches to York HQ that the event should be commemorated by changing the engine on a York turn to Newcastle in the late afternoon with a suitable steam engine then returning from Newcastle with the Aberdeen-York terminator. Much to my surprise this approach had been accepted by Arthur Dytch, who, at that time, was the Assistant General Manager (technical). Arthur Dytch telephoned me to explain and asked me to select a suitable engine to do the job. I am not sure whether *Saint Mungo* had been mentioned as a possibility in preliminary talks but having got the message I went into the shed and spotted No. 60145 fizzing in one of the

shed roads (about where *Evening Star* now stands in the NRM). I had a good look round and decided it was fit for purpose and instructed my shift foreman to prepare it for the turn. I had also decided to accompany it with my men to Newcastle and return only to find out that Arthur Dytch had issued an engine pass in Mr Arnott-Brown’s favour for the York to Newcastle leg. This of course precluded me from doing the north bound trip on the engine, rather much to my annoyance. The engine change at York on the outward turn went without notice, perhaps. However, the footplate was vacant on the return so I went north on a service train to return with *Saint Mungo* on the Aberdeen-York.

The driver was Harry Vincent and the fireman was Ronnie Fenwick. Vincent was an old Selby man and Fenwick was a very experienced York passed fireman. I joined *Saint Mungo* and the men at Newcastle Central before backing on to the train. After doing so, just before we were ready for away, John Bellwood approached me asking if he could have a ride to Darlington. Still working for the railway he had an engine pass in his own right, so there was no issue with agreeing to this request.

At that stage there was no hint that anything special was likely to happen, the enginemen seemed happy and so was I and the journey between York and Darlington was without any particular incident with *Saint Mungo* executing a normal A1 turn in usual A1 fashion. John took his leave of us at Darlington and we proceeded after getting the tip away, as far as I can remember, on time. However, when getting stuck into the bank from Croft Spa to Eryholme, Harry Vincent turned to the fireman and asked, “Are we going to have a go then?” to which Fenwick replied, “Aye, alright.” Now, at this stage, I had no idea what the remarks implied.

After topping the bank at Eryholme the road is easy all the way to York, much being virtually level and mostly straight. After slowing for the troughs at Wiske Moor and passing Northallerton, it soon became apparent that we were gathering speed and were going quite fast. At this stage I should point out that *Saint Mungo* was not fitted with a speedometer so we had no idea what speed was being achieved. The engine was behaving in normal A1 fashion, at the 80/90mph mark moving about quite a bit with the occasional lurch. Not knowing that this was to be an outstanding performance I had taken no details of cut off, regulator opening, boiler pressure or anything else, it was just another of my many engine rides except for this particular occasion. Ron Fenwick was rather busy although apparently not over taxed. I was sitting on the fireman’s

seat bashing my ribs on the sliding cab window rail. We were still accelerating through Thirsk and I reckon the speed was in the early 90s and still gathering. I can’t remember exactly where but I would judge between and Pilmoor and Alne the engine was shaking, moving about, and bouncing quite a bit and then suddenly all the shaking and vibration subsided and it was as if we were skating along on a sheet of ice, quite clearly having passed through the critical speed barrier, to give a wonderful ride for the next several miles until it was time to shut off to reduce speed for the approaches to York.

After a perfectly normal arrival in old No. 8 South platform at York several people from the train came up to the engine reporting that we had been doing speeds of 101, 102, 103 mph, but my reply to these was that I did not think *Saint Mungo* was capable of that and dismissed the remarks (knowing in my mind that we probably had). We were booked into York at, I think, 23:55hrs but we were a bit early. The crew and myself had not discussed what had happened and after a few words with some passengers the engine detached and trundled off to the shed. I left the station then and adjourned to the Adelphi Hotel on the corner of what is now George Hudson Street and Micklegate, a place where many a railway problem had been solved or made worse over the years in the Westminster Bar. What an appropriate name being on the doorstep of York HQ!

Saint Mungo was then technically registered as withdrawn as from midnight of that day 31st December 1965. When

the locomotive was, eventually, scrapped the ‘passing out’ problem had still not been resolved. It was fortuitous that the A1 continued on its duty until I went on holiday but when I came back to work after that the A1 had been sent for scrap during my absence. Curious?

So, steam went out with a bang (though thankfully not literally!) on the East Coast with an epic performance by one of the finest Pacific locomotives produce by the LNER. I consider myself being very fortunate in being one of the five principal players in the arrangements and execution of this event along with John Arnott-Brown, Arthur Dytch, Harry Vincent and Ron Fenwick. From the point of view of the men involved in the *Saint Mungo* affair I must pay my tribute to the enginemen at York depot who were doing this sort of thing every day of their lives with their expert skill achieved over a lifetime of experience.

I might point out here that the only other occasion when I had done over 100mph on the footplate of a steam engine was on *King John* when working out of Paddington one morning with the Bristolian during my sojourn onto the Western in 1959. I was stationed at (G) WR. HQ at Paddington and had an all stations Western Region engine pass and always put it to good use. Needless to say the incident took place down Dauntsey Bank. I was discussing with the driver as to how to keep time and his reply was, pointing at the speedometer, “All you’ve got to do mate is to si’ ‘ere and keep that ***** needle above 80 all the ***** way, it’s easy!” He was an Old Oak salt. **TCC**



Geoff Bird on the footplate of *Green Arrow*.



Job done! *Tornado* prepares to come off 'The Silver Jubilee Talisman' at York.

MERCHANDISE UPDATE by Gill Lord



Mandy Grant

The merchandise team at Wansford.

Since last writing we have had a busy time with merchandising. We attended the gala at the Nene Valley Railway over the August bank holiday. I decided to take a good size team down there with me. As merchandise volunteers, we all get on very well and when we are not selling merchandise and chatting to customers about *Tornado*, we spend the time catching up with each other. On this occasion, we had a get together with the support crew, trying to sort out a restaurant that would be able to accommodate twenty persons was no mean feat, but we did and a good evening was had by all. The sales at the Nene Valley were as usual very good; we are always made very welcome. The weather was good to us for the most part but the rain on Sunday did not dampen the enthusiasm of either the visitors or the volunteers.

Our next event with the merchandise team was 'The Silver Jubilee Talisman'. This was an awkward train to work, as there were a couple of added on trips, one to Castle Howard and one to the Darlington

Locomotive Works. Difficult since once seats had been vacated at York and Darlington, other passengers boarded which meant the team took the opportunity to trundle past with the trolley and gain more sales!

Now that our stock is running down, I can concentrate on securing different items for the 2016 season. Stock levels were higher than I would have liked due to having only a few runs in 2013 and then being out of service for the seven-year overhaul until June, so now, I can enjoy sourcing again! Please remember to look at our eBay site and our shop on our web site.

Once again I am putting out a request for volunteers to assist with on-train sales and stands at events. I am very much hoping to have another volunteers' day early in the New Year and if you have been pondering about joining us then a day seeing what we do may just sway you in our direction. We are all very much looking forward to the Severn Valley Railway visit, we have not been there for a couple of years so I am sure we will do very well. **TCC**

60163 FOR SALE SMOKEBOX NUMBERPLATES

as carried by No. 60163 *Tornado*

- **20th June 2015** 'The Highland Rambler' – Sterling to Inverness
- **22nd June 2015** 'The Highland Caledonian' – Inverness to Stirling
- **27th June 2015** 'The Border Reivers' - Carlisle - Glasgow-Carlisle
- **5th July 2015** 'The Fife Circle' - Edinburgh return to Edinburgh

Note – 'The Highland Caledonian' plate was carried by *Tornado* for The Prince's Trust special on the Forth Bridge.

Each smokebox numberplate is for sale for £200 including postage & packaging. Please email shop@alsteam.com for more details.

A ROYAL TRAIN SUBSTITUTE? by Huw Parker

Plans were in place to make a surprise appearance at the NVR Autumn Gala, when we received a call to support the opening of the Borders Railway on 9th September. At very short notice *Tornado* was moved back to Millerhill to act as the standby locomotive for No. 60009

Union of South Africa which was to haul the Royal Train on the opening day. Fortunately we were not required to deputise and the A4 performed its duties as planned. As consolation, *Tornado* took charge of one of the Border Charters and made an outstanding run to

Tweedbank from Edinburgh Waverley on Sunday 13th September. By Tuesday 15th September the locomotive was heading back south down the East Coast Main Line to take up her Pullman duties once again on 23rd September. Around 1,700 miles in six weeks! **TCC**

Maurice Burns



Preceded by No. 60009 *Union of South Africa*, *Tornado* unexpectedly heads back to Scotland on 8th September.

Dave McLaren



***Tornado* at Waverley Station, Edinburgh, with a Borders Railway special.**

THE BOILER CLUB

Following the success of The Founders Club, which was designed to get the P2 Project to the point of cutting No. 2007's frames, we have decided to establish The Boiler Club to fund the construction of *Prince of Wales's* boiler. 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 £460,000 from 370 donors. 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 delighted that 95 people have already signed up as members of the Boiler Club.

Special benefits for members of The Boiler Club:

- Opportunity to buy a ticket (seat already reserved) on No. 2007's first main line train
- 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



Chris Ludlow unveils his new painting.

- 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*.
- For more information visit www.alsteam.com, email enquiries@alsteam.com or call 01325 460163. Thank you. **TCC**

Rob Morland

THE 163 PACIFICS CLUB - IT'S TIME TO GET ON BOARD

by Mark Allatt

As I am sure you know by now, in this our 25th anniversary year, we are focusing our fundraising for *Tornado* on the purchase of her tender. The tender is currently owned by William Cook Cast Products, the company owned by Andrew Cook and the Trust's Principal Sponsor. Andrew kindly offered to fund the construction of the tender in 2006, allowing funds being raised at the time to be spent on the engine.

The tender is leased to the Trust under a fifteen year loan agreement which will come to an end in 2021. *Tornado's* tender is a development of those built for the original Peppercorn class A1s with changes mainly down to the different operating environment on the modern Network Rail main line. Due to the lack of surviving steam infrastructure, water capacity is at a premium and so *Tornado's* tender carries 6,200 gallons (as opposed to 5,000 gallons) and 7½ tons of coal (rather than nine tons in the original A1s). The tender is also the home for many of *Tornado's* other unique features including an alternator, Timken cartridge roller bearings (pre-greased sealed self-contained units which do not have to be fitted in enclosed axleboxes), Train Protection & Warning System (TPWS), National Radio Network (NRN) radio, Global System for Mobile Communications - Railway (GSM-R) radio, GPS tracker and of course the mobile phone charger!

We need to raise £200,000 by 2021 to purchase *Tornado's* tender – thereby making the Trust debt-free - and finally completing the project we embarked



The newly overhauled tender in Darlington Locomotive Works.

upon 25 years ago. Following the success – thanks to your generosity – of our Regular and Dedicated Donation schemes for the construction of *Tornado* and the 'Use Your Loaf' appeal for the support coach, the Trust has decided to follow a similar route for the purchase of *Tornado's* tender. However, instead of “an A1 for the price of a pint” and “use your loaf”, we've decided to raise the funds in a different way, The 163 Pacifics Club:

- We need to raise £200,000 to purchase *Tornado's* tender.
- Although *Tornado* carries the number '60163' - the next in the Peppercorn class A1 series following No. 60162 *Saint Johnstoun* – her pre-nationalisation LNER number would have been '163'
- There have therefore existed 163 ex-LNER express passenger pacifics with 6ft 8in driving wheels - the Gresley class A3s/A4s, Thompson class A1/I and Peppercorn class A1s.
- A numbered certificate (1-163) will record the details of your donation

and the number/name of your favourite pacific.

- If 163 people were to donate £10 per month over the eight years until we need to purchase the tender (or alternatively make a one-off donation of £960) with the addition of Gift Aid (£2.50 per month or £240 one-off) this would raise £195,600.

As with the previous schemes, this initiative comes with special benefits for those who generously take part:

- A numbered certificate (1-163) recording the details of the donation and the number/name of your favourite ex-LNER express passenger pacific from the Gresley class A3s/A4s, Thompson class A1/I and Peppercorn class A1s.
- Name inscribed on the official Roll of Honour in Darlington Locomotive Works which will detail the pacific sponsored.
- Entry into a draw for a main line footplate ride on No. 60163 *Tornado*.

Forms to join 'The 163 Pacifics Club' can be found on www.alsteam.com in the 'Supporting *Tornado*' section. Membership of The 163 Pacifics Club has grown steadily since its launch and following our convention 71 of the available 163 ex-LNER express passenger Pacifics have already received new 'shed allocations'. It really is that simple! Help us to celebrate our 25th anniversary by sponsoring your favourite Pacific today and making *Tornado* debt free with her paid-for tender behind her by 2021. Thank you. **TCC**

No. 60002	Sir Murrough Wilson	No. 60067	Ladas	No. 60102	Sir Frederick Banbury
No. 60008	Dwight D. Eisenhower	No. 60071	Tranquil	No. 60108	Gay Crusader
No. 60015	Quicksilver	No. 60076	Galopin	No. 60118	Archibald Sturrock
No. 60033	Seagull	No. 60080	Dick Turpin	No. 60122	Curlew
No. 60042	Singapore	No. 60085	Manna	No. 60132	Marmion
No. 60051	Blink Bonny	No. 60089	Felstead	No. 60140	Balmoral
No. 60056	Centenary	No. 60095	Flamingo	No. 60144	King's Courier
No. 60060	The Tetrarch	No. 60097	Humorist	No. 60150	Willbrook

Here are some of the names still looking for 'allocations' – there are some surprisingly popular ones still left!

EVENTS ATTENDANCE REPORT by Mandy Grant

Background - The Aln Valley Railway project is currently in its infancy and their main aim is to restore and operate the railway line between Alnmouth and Alnwick.

In a few short years, what this group of dedicated volunteers have achieved is incredible and well worthy of a visit! So far, they have successfully constructed a museum, gift shop, café, engine shed, station and platforms, a footbridge and the beginnings of a network of track which will shortly link up the newly built infrastructure with that of the original trackbed and it's amazing to think that several years ago the whole area was just a field, prior to that we understand that it was a council refuse tip! The group already have an interesting collection of locomotives and rolling stock, once the track is complete and a mainline connection established, they hope to be able to accommodate a wider variety of visiting engines. More information can be found at www.alnvalleyrailway.co.uk.

The Event - We arrived at the Aln Valley Railway in glorious sunshine at 09:00hrs on Saturday morning. We met up with Andrew Taylor, one of our volunteers and proceeded to set up the stand ready for the exhibition.

By 10:30hrs we had already welcomed our first new covenantor on board. We were kept busy all day with visitors to the stand, some of whom had not heard about the project and being local, were interested that we were building the locomotive

at Darlington just as we did with *Tornado*. There were others who were already signed up members and wanted to find out more about progress with the construction. Our events folder contained up to date pictures and information about the project and was a useful aid when talking to visitors about the build. As usual, we handed out many leaflets and hopefully once visitors went home and read about the project, they may at some point feel inspired to come on board. We packed up for the day at 16:30hrs and went out for dinner together.

At 09:30hrs on Sunday we were joined by Andrew Taylor and Gemma Braithwaite, it was to be Gemma's first time on the stand. We had another busy day and once again, the glorious weather brought lots of visitors to the exhibition. We signed up another covenantor and spoke to lots of interested people about the project, the vast majority were very supportive of the project! At the end of the day and after our complimentary brake van ride, we packed up the stand and headed off home.

The model railway exhibition was a new venture for the railway and one which, to his credit, Roger Germy had meticulously planned and executed. The end result was an enjoyable and productive weekend for ourselves and for the railway, as it turned out to be their most successful event to date, with visitor numbers on the Saturday alone exceeding previous gates over a two day period! Thanks to all concerned. **TCC**

Covenantors' Diary by Sophie James

As another busy year draws to an end, it is time to look forward to next year's Covenanter events.

It was wonderful to see so many of our supporters at this year's Convention and 25th Anniversary Celebrations. The day proved a great success and we continue to be grateful for all of your generosity. The

Convention and Convention Dinner are proving to be more popular each year, and it is with this in mind that I am pleased to announce that the 2016 Convention will be held in Darlington on Saturday 1st October. Save the date!

Owing to the cancellation of 'The Peppercorn Phoenix' it will not be possible to take *Tornado* to Shildon as

planned but we will try to find another date in 2016 when she can attend the venue.

Watch this space in future editions as there promises to be many other exclusive opportunities to see No. 60163 *Tornado* in action and view the progress on No. 2007 *Prince of Wales* during 2016. See you there! **TCC**



Supporters at this year's Convention fill Darlington Locomotive Works.

THE WINDS OF CHANGE THAT BECAME A TORNADO

by David Champion

Part 4 - Unstoppable progress

The first visit of *Tornado's* frames to the National Railway Museum in Spring 1997 had been a huge success, attracting much positive media coverage, and more importantly encouraged more Covenantors to join and assist the build. The heady pace continued as the year progressed. Covenantors were promised that they would see an appreciable difference from its 'York' condition when they saw it next in September. With the frames back at Tyseley, work in progress included casting the cannon boxes, axleboxes, orders placed for roller bearings, splashers fitted to the frames, the cab manufactured and the complex machining of the outside cylinders was nearing completion. Bob Meanley and Ian Storey were working out the logistics of the move to Darlington which would have to be by road, as the additional work carried out meant that *Tornado* would now be out of gauge for shipment on top of a rail wagon.

Work at Darlington had been continuing to convert the old Stockton & Darlington Railway carriage works for our use as Darlington Locomotive Works. The work costed £300,000 and was supervised by Darlington Council; this included removing asbestos, repairing the roof and adding sound insulation, new window frames and sliding main access door, rendering the walls internally, digging out the old floor and laying a new floor a metre lower so that *Tornado* would fit in, installation of an

inspection pit, trackwork, and an office, toilets and mess room. Ian Storey laid a 60' panel of track outside the works and a method agreed to crane the locomotive onto accommodation bogies supplied by Tyseley. The locomotive would then be winched in and the frames jacked onto our frame stands with the bogies returning to Birmingham on the Low Loader.

It falls to very few people to organise the opening of a new locomotive works, and I was very honoured to be in the right place at the right time. I felt it should feel like a very special and historic occasion when we welcomed *Tornado* to her new home. Preparations were made for the locomotive to arrive by low loader on Thursday 25th September 1997. Darlington Council closed Hopetown Lane for the day so the massive crane that Ian had organised could get into position for its historic task. The low loader arrived early morning and parked at the south end of Hopetown Lane. As it stood there, a couple of elderly gentlemen, obviously former North Road Workshops staff, were over-heard having the following conversation,

"Hey – isn't that an A1 on that low loader?"

"Yes, you're right, it is an A1" A short pause then,

"I wonder where they got it from?"

I arrived about 08:30hrs, and I can best describe the impact by quoting the words I wrote at the time,

"How do you feel when after seven years

hard work you round a corner early one morning and come face to face with a giant locomotive you have helped create? First, the back of your neck tingles, followed by a moistening eye, then a broad grin breaks our which you wear for the rest of the day. You could feel the tension in the air in Hopetown Lane as the giant crane painstakingly transferred *Tornado* over several hours to the length of track outside the Works, 'til at one o' clock the working party stood inside the Works with the locomotive waiting apprehensively just outside the door. A whisper went round, as we remarked that the atmosphere was electric, hardly daring to believe the evidence of our eyes: that an LNER design Pacific was about to enter the last surviving portion of the famous North Road Works."

Painfully slowly, *Tornado* crept forward snail-like as Mathew Storey laboriously turned a manual winch while a small number of us pushed as hard as we could. I thought to myself "This is going to take all day!". That is until Bob Meanley, using all his tact and inter-personal skills, drew himself up to his full height and addressing the small group of camera toting onlookers called out, "Oi! You Lot! This engine isn't going anywhere until you so-and-so's put down your cameras and get behind it!" Cameras were downed in an instant, and with a dozen shoulders behind it, *Tornado* moved in at a slow walking pace. And this was one of the golden memories I shall always treasure, my shoulder to the front step and Bob behind me pushing on the right hand cylinder as *Tornado* majestically progressed through the doors at Hopetown for the first time.

As we delighted in the sight of our A1 just come to rest in the Works, someone said, "Well, she's home now". A contemplative silence was followed by someone else saying softly in awed tones, "Have we REALLY done all this?" We had much to do, the opening of the Works was just two days away and we were expecting 400 Covenantors and guests to join us on the Saturday afternoon. Friday, the next day, was spent setting up the Works for the Grand Opening.

Knowing that we needed to make a big impact on both the printed and TV media, I 'borrowed' the wherewithal to make a bit of a show from Darlington Civic Theatre; a set of four theatrical curtains to conceal *Tornado*, a disco smoke machine which I hid in the pit under the loco, a sound system and a massive amount of 'event' lighting gave a sense of occasion. We held a rehearsal to time the raising of the curtain which I wanted to be tantalisingly



Tornado's frames on display at the national Railway Museum.

slow to gain maximum effect. Half a dozen volunteers had been press-ganged to operate the curtains including our long term supporter, Derek Scrafton. As we went through the rehearsal I mused that it was quite something to have Derek, then Director General of Transport for South Australia, on curtain-pulling duties for us! As we finished off on Friday night a friend of Ian's brought a stencil with which we proudly painted 'A1 – Darlington' on the bufferbeam.

Saturday dawned and a record attendance gathered for the Convention in the Central Hall. Mark Allatt opened the meeting with the theme of 'this most historic Convention' citing the 172nd anniversary of the opening of the

Stockton and Darlington Railway, the 62nd anniversary of the inaugural run of the Silver Jubilee and the opening later the same day of Darlington Locomotive Works. The Covenantors were regaled with the story of how construction had accelerated, with so much having happened in the last two years. There were memorable talks by broadcaster Bill Weeks and our late friend Andrew Dow. Presentations to acknowledge Dedicated Covenantors were made by Dorothy Mather and Peter Townend. Covenantor Mr. Scotney was surprised to be presented with a John Wigston print of an A1 (arranged by his wife) to mark his 50th birthday that day, and Mark shocked my wife Gillian by inviting her onto the stage in order for me to

present her with a bouquet, as unknown to her I had worked out that this day marked exactly 30 years since the day we met.

Then a fleet of vintage buses took us to Hopetown. At two o'clock Barry Wilson opened proceedings and emphasised the historic moment that was upon us. I described the delivery of the locomotive two days earlier then the Leader of Darlington Council mounted the dais and unveiled the works sign, declaring Darlington Locomotive Works open. Dorothy Mather spoke of her pleasure at being part of the A1 Trust and bringing the locomotive to a part of the North Road complex Works where her late husband, Arthur Peppercorn, had worked. Dorothy then turned to the shrouded giant with all



"Isn't that an A1? I wonder where they got it from?" Tornado arrives in Darlington in 1997.

those hundreds of Covenantors gathered round it, and announced, “I welcome *Tornado* to her new home” At this, the grand music started and smoke began to emanate from the pit. Slowly, slowly, the curtains eased up, taking a full two minutes to clear *Tornado*’s cab. The looks of surprised delight on the faces of the Covenantors was really something to behold. I led three cheers for *Tornado* and introduced Bob Meanley, who, in his inimitable way remarked that he had never been at the opening of a fog bank before!

Bob told of the night before the locomotive left Tyseley, looking down at it and thinking, “Have we really built this?” and said that everyone at Tyseley Locomotive Works was tremendously proud of it. Bob was presented with an inscribed plaque by Stuart Palmer to reflect the Trust’s grateful thanks for all he had achieved.

But there was more... it seemed a shame not to make a weekend of it for Covenantors who were staying over, so that night I had arranged for a dining train, the ‘Causey Rambler’ on the Tanfield Railway. Much of the detail and preparations for the night out were capably worked out by Steve Alder. It had been arranged for 70 people, but so many wanted to come we ran two trains, a

Dining Train and a Beer Train. The idea was for passengers to move from one train to the other during the course of the night. It’s all a bit of a blur.... Paul Ambler of Black Sheep Brewery gave us two barrels of beer to help the evening along, there seemed to be lots of laughter and fun and singing, and if I remember rightly the evening ended with Gillian and I leading a last chorus of the Everley’s ‘Dream, Dream, Dream’ on Andrewshouse platform with the two trains simmering alongside. I have no recollection of how, or when, we managed to get home.

It was just a well we had Sunday off as the finale of the Works opening was set for the Monday night – a ‘black tie’ evening event for Industrialists (including those that were already sponsoring us) – broadcast directly into the BBC evening *Look North* news programme. It nearly went awry. The BBC outside broadcast van was all set up with plenty of time to spare, but no presenter, who it appeared was stuck in traffic. As it ticked closer to 18:15hrs the cameraman informed me that as there was no-one else available, I was going to have to do the presenting. With less than a minute to spare the presenter raced through the door resplendent in white dinner jacket and bow tie, grabbed the microphone off me, seamlessly turned to

the camera and began his introduction at the instant we went live to the studio.

We re-staged the curtains and smoke unveiling with AI Board members, industrialists and spouses resplendent in evening dress enjoying wine and canapes. Bob Meanley and David Elliott gave a detailed talk to the industrialists in technical language. Bob remarked that the saying “They don’t make them like that anymore” was clearly wrong – **they evidently do!** He finished by remarking that this night marked the first ever ‘black-tie’ reception held in an engine shed! I have a very pleasant and abiding memory of the AI Trustees and their wives ‘chilling out’ afterwards in the ‘snug’ of the Central Borough pub opposite the Works. The pub locals had grown quite used to us over the last year, but quite what they thought when a large group invaded their pub on a Monday night, dressed as if we were heading for the Ritz in London’s West End, goodness only knows.

After all this excitement Mark got to work on ensuring that the excellent media attention on TV, radio and newspapers also translated itself into the specialist and technical press. *The Northern Echo* described the Works opening as ‘spectacular’ and ‘momentous’ and BBC *Look North* described it as a

‘unique moment in railway history’. And as designed, the exposure drew in yet more supporters which in turn allowed the progress on the locomotive to further accelerate. Indeed, over the next year the covenanted income was to rise by 22.5%.

The beauty of our covenant scheme was that it provided a substantial regular cash flow allowing contracts to be let and components manufactured when needed. Steady progress continued over the winter as the smokebox was rolled, orders were placed for the patterns for the blastpipe, chimney top and internal steam pipe extensions, with the patterns going forward to a new sponsor, Charles W. Taylor Iron-founders of South Shields (an ‘Industrialists Night’ attendee) for casting. The smokebox door was being manufactured by Israel Newton at Bradford, Ian Howitt was making the door fittings, while famous local bridge builder Kvaerner Cleveland Bridge shot-blasted the smokebox. Wheels and axles were on order and the decision was taken to sell the old A3 tender frames back to Flying Scotsman Services. This made eminent sense as we realised the frames would have required major surgery to convert them to roller bearings, and it set us on course to have a locomotive that was brand new (and with brand new reliability) from buffer to buffer. This ‘brand new’ reliability feature won us many friends among those who control access to the railways, and is something that some of the ‘me too’ projects in our wake may regret not following.

As 1998 went on major new items included the tyres, and parts for the crank axle. Kvaerner Cleveland Bridge kindly followed up their free shot-blasting of the smokebox by cutting the smokebox ring out of 2in plate free of charge, while Tyseley manufactured the smoke deflectors. As always, a myriad of small components were steadily manufactured alongside the ‘big ticket’ items. Darlington Works was steadily building up its engineering equipment and we had a visit from Fred Dibnah with attendant film crew, who crawled all over the locomotive and declared it “Brilliant!”

Our autumn 1998 Convention at the East Lancashire Railway reflected the fact that there was much AI activity at Ian Riley’s works at Bury. As we moved into 1999 all the major wheel components, wheels, axles, bearings, crank webs and pins were at Bury for assembly and completed later that year. Ian Howitt had finished the smokebox door assembly and the first tranche of motion forgings were ordered from Heskeths. We were saddened to lose a link with the past: Vince Dunnington who had been involved with the building of the



Visitors in black tie gather for the industrialists’ evening at Darlington Locomotive Works.

original Darlington AIs had become one of the ‘Saturday Crew’ showing visitors around DLW. In addition to being a lovely man with a ready smile, his background and technical skill were of material assistance.

By September 20th 1999 all the driving wheels had been pressed on to their axles and bogie parts were accumulating at Darlington. As we went into 2000 equipment at DLW was now adequate to start assembling the bogie while manufacture of the motion parts was well under way. The East Anglian group led by Alan Lusby made a terrific job of the cab seats, construction of the cab doors and the hardwood cab floor.... simultaneously many more items were being ordered in the right sequence according to Rob Morland’s ground-breaking Project Plan. As the finished wheelsets began arriving at Darlington and were placed under the locomotive (marking the fact that the engine was now 50% complete by weight) I received the tragic news that my beautiful wife and soul mate Gill, was terminally ill with cancer and would become progressively paralysed as the illness progressed. After the support she had given me both in my career and with the AI Trust, the right course of action was to give her 100% of my time for however long she had left. The obvious course of action was to give up my career and recommend to the Board that Mark Allatt take over the AI Trust Chairmanship from me. The subsequent ground breaking history of

Tornado, and the brilliant launch of *Prince of Wales* is a testament to how Mark was the right person at the right time to take over the baton.

I would like the closing words to my account of the ten most exciting and exhilarating years of my life to be Gill’s, written in *The Pioneer* No.35 when I handed over to Mark.

“When David said this was his final article for ‘The Pioneer’ I felt it was time I had my say. I vividly remember the first meeting of the AI Project. As I did my wifely bit with refreshments I listened to five men who, I might add, had no prior experience in this field (nobody had), propose to build from scratch a life-size AI Pacific. I thought “These people are mad and it will never happen”, but what I did recognise was the excitement and passion that would prove me wrong... when I was diagnosed with cancer last year, I was uplifted by the concern and encouragement of so many Covenantors, some of whom I have never met. It was a difficult time for us both and your good wishes are most appreciated.

Next time you go to Darlington Loco Works, do reflect that everything you see, Tornado, the Works, and the whole organisation, had to be created by the Trust for itself. In 1990 all we had was a piece of paper and a dream. Good luck to you all!!!” TCC



Bob Meanley, Dorothy Mather and David Champion stand in front of *Tornado*’s newly delivered frames.

FUNDRAISING FOR No. 2007 PRINCE OF WALES by Mark Allatt

Pledges towards building *Prince of Wales* reach £2m just two years after project's launch

Pledges towards the building of new Gresley class P2 steam locomotive No. 2007 *Prince of Wales* have already reached £2m in just two years since the launch of the project in September 2013. The new locomotive is already over one-third complete by weight. This rapid construction has been fuelled by the project's successful fundraising campaigns which have seen pledges of 40% of the £5m required to complete Britain's most powerful steam locomotive by 2021. In only 18 months since the launch of the project's 'P2 for the price of a pint of beer a week' (£10 per month) regular donation - or covenant - scheme, funds either already donated or pledged by Standing Order have already reached £2m.

Public interest in seeing a new Gresley class P2 become a reality sooner rather than later is high and over 700 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 a year ago. 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 (95 people have pledged £2,000 each - target of 300 people), Dedicated Donations (£160,000 from existing supporters sponsoring a variety of components) and the sponsorship of the locomotive's distinctive front-end by The Gresley Society Trust. This means that the project has already received pledges of £2m (including Gift Aid) of the £5m needed over the next seven years.

Construction progress to-date includes:

- Frame plates for engine and tender rolled and profiled
- Engine's frames erected at Darlington Locomotive Works
- All 20 wheels for engine and tender cast; eight 6ft 2in driving wheels proof machined; engine's tyres delivered
- All major engine frame stays, brackets, horn blocks, axle boxes and buffers cast – 64 in total
- Roller bearings for all engine and tender wheelsets and engine axles and crank pins ordered
- Over 1,000 fitted and driven bolts ordered



Sarah Anne Harvey

How your money is being spent - the superb smokebox door for No. 2007, formed at the South Devon Railway.

- Preliminary discussions held with boiler manufacturers and forged foundation ring corners manufactured and machined
- A start has been made on the boiler fittings, with castings for the two combined injector water and delivery valves ordered from existing *Tornado* patterns
- Vampire study into ride and suspension completed and Finite Element Analysis of crank axle to ensure locomotive complies with modern standards nearing completion
- Assessment and notified body appointed to oversee certification
- Cab sides, roof and cab side window frames ordered
- Locomotive footplating delivered and being fitted
- Smokebox door tooling complete and ready for pressing, doorframe ring and smokebox platework ordered
- Chimney pattern and casting ordered
- Nameplates delivered and chime whistle ordered!

The project's use of the latest Computer Aided Design (CAD) technology means that the weight of all of the components now in existence can easily be calculated. The weight of the engine parts now in existence stands at 37.2 tons (39% of an estimated completed empty weight of 96 ton) and the tender at 4.8 tons (17% of an estimated completed empty weight of 28.4 tons) giving a figure of 34% for the whole locomotive by weight.

Mark Allatt commented, "We are delighted with the level of support that the project to build Britain's most powerful steam locomotive has received since its launch. Thanks to our supporters' continued generosity £2m has now been donated or pledged which has been converted into over one third of the new locomotive being now in existence by weight. With No. 60163 *Tornado's* overhaul now complete, our team at Darlington Locomotive Works has resumed the erection of No. 2007 *Prince of Wales's* frames, fitting the frame stretchers, horn guides and other components manufactured by external contractors over the past few months.

"We are hopeful that we will have completed the rolling chassis for No. 2007 *Prince of Wales* next year 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 in excess of £700,000 per year, which given the nature of the regular donation scheme becomes more challenging as each year passes.

"I would encourage all of our supporters who haven't yet contributed to this exciting project to help us to meet these deadlines by becoming a monthly covenantor or joining The Boiler Club. It's time to get on board! This year will see further major announcements as the construction of new Gresley class P2 No. 2007 *Prince of Wales* gathers pace."

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

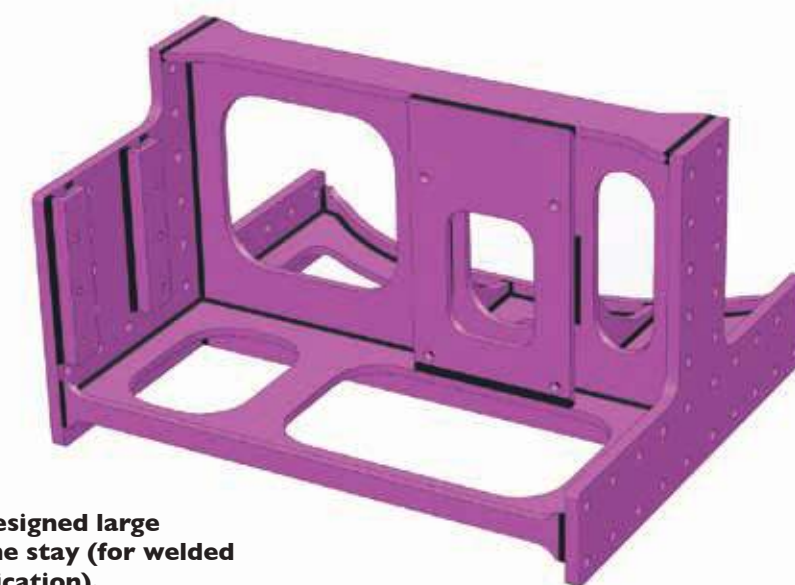
P2 ENGINEERING UPDATE by David Elliott

The extended overhaul of *Tornado* resulted in a dramatic reduction in work on No. 2007 at Darlington from October 2014 to June 2015 with both the workshop space and labour resource being fully occupied by No. 60163. Work off-site continued, although not necessarily at the desired pace due to the Director of Engineering being diverted to reassembly of *Tornado*.

Frames

We now have almost all the cast frame stretchers and brackets in fully machined form which have been trial fitted to the frames and are in the process of final fitting with driven bolts and Philidas nuts to his usual high standard by Mick Robinson. The exceptions are the pony truck top centre and the new (A1 design) frame stay and front boiler support castings which are presently being machined. The outside motion brackets which are the last of the frame castings are awaiting 3D drawings and final design of the shaft work for the reversing mechanism before poly patterns can be ordered.

The larger frame stays which are inappropriate for poly patterns (and would be excessively expensive as wood patterns for what are one-off castings) have been redesigned in 3D CAD as welded fabrications, with modifications where necessary to accommodate air brake cylinders and air pumps. However demonstration that these structures in their modified form are acceptable from stress and fatigue point of view was proving difficult. The complexity of their shapes meant that manual calculation of stresses is ambitious, and beyond our in-



David Elliott

Redesigned large frame stay (for welded fabrication).

house mathematical capability. This is further exacerbated by the difficulty in knowing what the actual loads applied to these structures are.

It has been agreed in principle with Ricardo Rail (formerly Lloyds Register Rail), our Assessment Body (the modern equivalent of the Vehicle Acceptance Body used for *Tornado* certification) that the comparative approach would be

acceptable. Rather than trying to predict the actual loads applied to each frame stay, as it would appear that the original cast frame stays were satisfactory, comparison of stresses in the new structures with the old when applying arbitrary but realistic loads to demonstrate that the new structures are no more highly stressed than the old would suffice.

During discussions with Graham Nicholas, our in-house certification guru, suggested that an add-in Finite Element Analysis (FEA) simulation module for the Solidworks 3D CAD package being used for the design work would enable such comparisons to be made. Your Director of Engineering, David Elliott, was sceptical about his abilities with FEA (as in the past it has been regarded as highly specialised area of design requiring years of training). However having visited Solid Solutions, the local Solidworks distributor and seen a demonstration, it would appear that the software has moved on in leaps and bounds and is now within our grasp to use effectively. Having agreed a good price for the package, Solid Solutions have also donated a well specified Solidworks 3D CAD training computer which will ease the load on David's laptop.

In the meantime, Multi-Tech Engineering at Ferrybridge are making steady progress with machining the coupled wheel horn blocks and horn stays. They should have been delivered to Darlington and should be being installed on the frames by the time you read this.

David Elliott



Mick Robinson torques a lin nut.

Wheelsets

All the wheels are cast, the eight tender wheels, two pony truck wheels and two Cartazzi wheels are at Multi-Tech for finish machining of wheel bosses and proof machining of the rims. Discussions are taking place with South Devon Railway Engineering (SDR) to agree the assembly procedure which will then be submitted to Ricardo for their approval. This will enable the axle holes in the wheels to be bored to the finished size. The proof machined coupled wheels have been at Darlington and following final machining of the centres, will be laser scanned for balancing before being sent to SDR for wheelset assembly. The locomotive's tyres have been delivered to SDR.

In the case of the crank axle we are also awaiting the outcome of the FEA study by Mott MacDonald. This has taken rather longer than originally expected as the original comparative methodology we proposed (as per the frame stays) was not thought by them to be adequate in this case. Instead they wished to use actual figures. Fortunately Andrew Hemming (of *Tornado* balancing fame) has come to our rescue and has produced a large spread sheet and a series of diagrams showing the expected torque in the crank axle at any angle and at a range of cut-offs and speeds resulting from both piston and inertia forces. This has now been submitted to Mott MacDonald for incorporation in the model and the results should be available by the end of October. Once the results of the FEA are available, axles can be ordered. If further work on the



Proof machined driving wheels at DLW.



Roller bearing cannonbox and axleboxes ready for machining.



With footplate brackets in place, the signature curved frames appear.



Steve Wood machining a buffer casing on our lathe at Darlington.

crank axle design is needed, the other axles will be ordered anyway to enable assembly of the other wheelsets.

We now have a quote for the axlebox and cannonbox machining work including all the spacer and thrust rings and special bolts.

Cylinders and valve gear

Now that the basic layout of the valve gear (Lentz as improved by Franklin) has been defined, detailed design of the cylinders and valve gear has resumed.

Footplating With the delays in finalising the frame design, the manufacture and fitting of footplating has been brought forward and all the laser profiled plate work and footplate support brackets and angles have been acquired and where necessary rolled into curves. They are in the process of being fitted (to a high standard) by Ian Matthews.

Smokebox

With the exceptional offer of sponsorship by the Gresley Society, the smokebox has been started. South Devon Railway Engineering has been contracted to make the smokebox door, a difficult (and expensive) shape due to the flat on the top of the door. The male and female press tools and test pressings made. The door frame is also difficult to make due to the flat on the top of the top of the door. It has been ordered from Timsons Engineering at Kettering who are CNC machining it from a piece of 80mm thick boiler plate, incorporating the grooved door seal ring. Manufacturing drawings for the smoke box barrel have been prepared to enable plates to be profiled and rolled.

We have ordered a wooden pattern for a Spheriodal Graphite (SG) iron casting of the double Kylchap chimney.

Cab

Again with the delays in other areas, a set of manufacturing drawings for the cab laser profiles and rolled angles have been produced and a kit of laser profiles, rolled where necessary delivered to Darlington for assembly. **TCC**



Male and female smokebox door tools at the SDR.



PROFILE – GILL LORD *by Graham Langer*

Gillian has been the Merchandise Director and a Trustee since 2009. She was born in Morecambe in Lancashire where her father worked for British Railways and her mother ran a guesthouse. In 1961 the family moved from Morecambe to Loughborough after her father gained a post with the railway as a booking clerk at Loughborough Central Station. Gillian can well remember visits to the booking office, the huge fire in the grate, the always-singing kettle ready to make the endless cups of tea required by all railwaymen! One morning in 1963, she can remember standing on Loughborough Central Station with her father and brother waiting for a train to pass through; it was, according to her father, a very special occasion which soon became clear when *Flying Scotsman* passed through the station on her 'last' run. As we know, the former Great Central Main Line was closed soon afterwards, and the family had to move once again, eventually to Surrey and finally Nottinghamshire.

On leaving school Gillian joined the Westminster Bank (now Nat West), staying in banking until the late 1990s when she decided to start her own business in Family History research which ran successfully for a number of years. During all this time, Gillian retained a love of railways, taking her family to just about every Heritage Railway available during holidays – much to her children's dismay as they grew older! In 2004 Tony, her husband, attended a couple of talks about the new steam locomotive being built in Darlington and before she knew it, she had been volunteered to attend events to sign up new covenantors! This in turn led to Gillian becoming a covenantor herself in 2008.

The turning point to becoming more involved happened

in January 2009 when she worked on *Tornado's* first main line runs, selling raffle tickets and talking to passengers, then in April 2009 when *Tornado* visited Barrow Hill she was surprised to see how little commemorative merchandise there was available to sell

to the hundreds of people who had gone along to see the locomotive. Gillian decided to have a little chat over coffee with Mark Allatt and the rest they say is history! Mark asked if merchandise could be procured in time for the visit to the North Yorkshire Moors Railway, just three weeks hence. As time went on, the list of suppliers grew and Gillian now has a good working relationship with them, insisting that as far as possible all items are sourced and made in the U.K. In the first twelve months the merchandise choice grew and sales were phenomenal, so much so that to keep track of stock a till had to be purchased and all items given a PLU number. A large heavy duty till was purchased for Heritage Railway visits and events and smaller portable ones for use on the trains. The Trust already had a chip and pin machine, but due to the amount of use a second machine was acquired.

With such a large turnover of stock, it was decided to find a store to keep the entire stock safe and secure and for the last five years it has been held in a storage unit in Cannock under the supervision of fellow Trustee Chris Walker. Chris deals with all the on-line sales, selecting items and posting them out very quickly once the orders have been received and once a year a team travels to Cannock for a stocktake. *Tornado* is a Registered Trademark and as such anyone making profit from images of *Tornado* in whatever form must pay royalties to the Trust. The operation of this aspect of the Trust is in the capable hands of her husband Tony.

Gillian worked on the majority of *Tornado* hauled trains in 2009, 2010 and 2011 then in 2012 she decided to enlist other volunteers to work as team leaders, these people would be in charge of the merchandise team for that day, liaise with the R.O. and balance to books at the end of the day. This system has worked well and Gillian can now work fewer trips and therefore keep on top of all the other Trustee activities. Once a year Gillian arranges a Merchandise Volunteers Day, a social get together with learning workshops and a chance for volunteers to discuss anything merchandise, the day is always enjoyable and can sometime carry on until the following day!

In 2011 Gillian re-located to County Durham so has been on hand to assist at Darlington Locomotive Works when required. The move has also been useful to Trustees and Volunteers alike as there are always a couple of spare rooms for overnight stays when a meeting or *Tornado* is in the area!

All this seems a long way from the little girl standing on the platform at Loughborough all those years ago, but as Gillian says, railways and locomotives are in her blood, you cannot be the daughter, granddaughter, great granddaughter of railwaymen, be married to an ex-railway man and nothing rub off! **TCC**



Gill Lord with Simon Kohler and the new Hornby model of *Tornado*.

Tony Lord



Gill Lord with No. 2007 *Prince of Wales* under construction at Darlington Locomotive Works.

David Elliott

FROM THE ARCHIVES *by Graham Langer*

● **Autumn 1995** - An historic agreement was brokered with Darlington Borough Council, the owners of the 1853 former Stockton & Darlington Railway Carriage Works at Hopetown. The A1 Steam Locomotive Trust would be able to set up its permanent base in what is to become the new Darlington Locomotive Works early in 1997. The announcement was followed by a brief ceremony in front of *Locomotion No. 1*, the world's first public railway locomotive, now preserved in Darlington Railway Museum; at this ceremony, Councillor John Williams, Mayor of Darlington and Leader of Darlington Borough Council, presented the key to the new locomotive works to Mrs Dorothy Mather.

● **Autumn 2000** - The long-term loan of a set of Matterson jacks from the Severn Valley Railway (SVR) further boosted progress at the works. A representative of Matterson worked with the Trust to bring the jacks up to full working order, including a complete rewire. In addition Matterson's produced drawings of jacking brackets (for the Trust to fabricate) to enable a straight "in one go" lift. The existing beams would require two lifts. The jacks were restored and put into service.

● **Autumn 2005** - In the November *Communication Cord*, David Elliott recorded that work at DLW had included completing the fitting of the crossheads, and fitting of the outside



The Matterson jacks are seen in operation lifting *Tornado's* frames in 1995.

connecting rods was nearing completion. Further work had been done on the reversing gear with the reverser stand was now complete and working. Progress had been made on grinding valve gear components with the radius

links so treated. In other news, the boiler design had been finalised with Meiningen and a model of the tender tank had been made to clarify its conversion to welded construction.

● **Autumn 2010** - October found over 200 guests attending the Convention at Barrow Hill with *Tornado* the centre piece in the roundhouse. It was noted that the immediate financial objectives must include finishing the support coach, setting aside funds for the five year intermediate overhaul, rebuilding the contingency fund and establishing a pool of spares while accumulating the necessary reserves to repay the £500,000 bond by the end of 2016. Happily all these targets were met! During the year *Tornado* had visited Barrow Hill, stayed at the Severn Valley Railway, run numerous 'Cathedrals Expresses', operated The Royal Train (again!), hauled the VSOE 'British Pullman' train, and fitted in visits to the MHR, the GCR, Shildon, the Swanage Railway, the WSR and increased her accomplished mileage to almost 30,000 miles. **TCC**



Coupling and connecting rods at DLW in 2005.

Al SLT

Al SLT

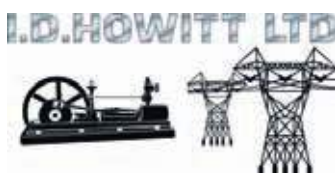
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Darlington Locomotive Works is normally open to the public on the third Saturday each month (11am – 4pm).

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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