

THE COMMUNICATION CORD

60163 TORNADO

New Steam for the Main Line

No. 38 Spring 2015



Last few seats available!
'The White Rose'
Tuesday 7th July 2015
London King's Cross to York and return
D9009 Alycidon and No. 60163 Tornado - Book at
01438 715050 or www.ukrailtours.com

Heading north again! *Tornado* crosses the Royal Border Bridge at Berwick in 2009.



Geoff Griffiths

SCOTLAND BOUND!

We are delighted to announce that *Tornado* will be travelling to Scotland in June to operate four trains for Abellio ScotRail, Scotland's national train operating company. Whilst *Tornado* has visited Scotland previously this will be the first time it will travel as far north as Dunrobin and further west to Ayr and Dumfries.

Graeme Bunker, operations director, commented, "We are very pleased to have been asked by Abellio ScotRail to operate

these trains and bring the locomotive to Scotland once again. We look forward to visiting new places for the loco as well as returning to places like Stirling and Perth where we have visited before, most recently for the 150th anniversary of The Highland Mainline to Inverness, and hope as many people as possible can join us on a trip."

Mark Allatt added, "We couldn't wish for a more exciting start to the 2015 season,

with *Tornado* back on the main line in Scotland and resplendent in her glorious apple green livery."

Tickets for these trips are available from www.scotrail.co.uk/steam-trains or by calling the booking agent Steam Dreams on 01483 209888. The ticket includes train travel on ScotRail services to and from the steam train and, for one way steam trips, return travel being via ScotRail services.

TCC

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From the chair by Mark Allatt



As I write this column in late-May, No. 60163 *Tornado* is nearing the end of her intermediate overhaul in Darlington Locomotive Works

and No. 2007 *Prince of Wales* is under construction alongside her – what a magnificent sight!

We are all very disappointed by the delay to *Tornado*'s return to service following her first intermediate overhaul. This delay is due to the unfortunate combination of a number of different problems discovered during the overhaul, the rectification of which was not possible in time for the locomotive's planned return to service.

The boiler was sent to DB Meiningen in October 2014 with an expectation of it being completed by the end of February 2015. Some additional work was identified including changing some flexible firebox stays, and the replacement of flue tubes. In addition staff shortages due to illness resulted in the boiler not arriving in Darlington until 21st April 2015.

During inspection of the roller bearings which forms part of the overhaul, a Timken service engineer identified problems with both crank axle bearings and one bearing on each bogie wheelset. Replacements and repairs were put in hand, and with the help of Timken and their new subsidiary Revolve we were able to bring forward the initial delivery date from October 2015. However, additional problems with the forged rings for the new bearings for the crank axle meant that delivery was further delayed until 22nd April. South Devon Railway Engineering which had been contracted to change the bearings responded quickly and returned the crank axle wheelset to Darlington on 29th April.

However, despite previous inspection by Timken, a problem was identified with trailing coupled axle bearings when preparing to re-wheel the locomotive on 29th April. Thanks to the recent delivery of similar bearings for No. 2007 *Prince of Wales* and excellent cooperation from South Devon Railway Engineering, the wheelset and new bearings were dispatched there immediately and returned to Darlington on 19th May. Replacements for the class P2 bearings have been ordered and this will not impact on No. 2007 *Prince of Wales*'s construction programme.

This additional work meant that *Tornado*'s loaded test run had to be postponed from 25th May and alternative arrangements made for No. 60163's first three main line trains

– 30th May 'The Cumbrian Fells Express' (Pathfinder Tours) with No. 70000 *Britannia*, 2nd June 'The White Rose' (AISLT booked through UK Railtours) re-dated 7th July with No. 60163 and 4th June The Railway Children charity fundraising train with No. 35028 *Clan Line*.

Tornado's engineering team is hugely disappointed not to have delivered the locomotive back into traffic on schedule and is working around the clock to complete her first overhaul as soon as possible. The Trust is very sorry to have let down its customers, passengers and supporters by not completing *Tornado*'s intermediate overhaul in time to meet her first commitments of the year. It is expected that No. 60163 *Tornado*'s loaded test run will now take place w/c 8th June 2015.

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 second part of David Champion's enthralling history of the Trust appears on page 8 of this issue of *TCC* and reading it brought back many happy memories of our early years. The A1 Steam Locomotive Trust will be celebrating this milestone in several ways throughout the year – the first of which being 'The Silver Jubilee Talisman' on Saturday 26th September with No. 60163 *Tornado* from London King's Cross to York, Darlington and Newcastle. Passengers disembarking at Darlington will have the opportunity for a guided tour of Darlington Locomotive Works and progress update on No. 2007 *Prince of Wales*.

Most importantly we want 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 (see page 16 for details). Other celebrations will hopefully include an Open Day/Weekend with *Tornado* and *Prince of Wales* in the next few weeks, (please keep an eye on the websites for details), a dinner following our annual convention on 3rd October and a special train with No. 6063 *Tornado* to commemorate No. 60145 *Saint Mungo*'s final run from York to Newcastle and return on 31st December 1965. More details will follow but please pencil these dates in your diary.

As you will recall, last year was very challenging for the Trust with regards to lack of main line running. And 2015 has proved to be challenging for much of the main line steam movement with the suspension of West Coast Railway Company in the aftermath of No. 34067 *Tangmere* passing a

signal at danger near Wootton Bassett on 7th March. I don't intend to repeat what has been written elsewhere in both the railway and national press about WCR. However, I would remind you of the difficult situation the Trust was put in by WCR back in 2011 when it proved to be impossible to reach an acceptable working arrangement with them in spite of many attempts over the preceding three years. I suspect, in retrospect, that we are all breathing a deep sigh of relief and are glad that it wasn't *Tornado* hauling 'The Cathedrals Express' on 7th March. Looking forward, *Tornado* will continue to be operated on the Network Rail main line by DB Schenker, which has worked successfully with the Trust since the locomotive's completion in 2008.

With *Tornado*'s intermediate overhaul now nearing completion we are focused on getting this year's programme together and although still in development due to the overrun of the overhaul and the fallout from the WCR ban, it is looking significantly better than 2014. As you know, we are delighted to have been chosen to stand in for No. 35028 *Clan Line* on the Belmond 'British Pullman' whilst the MNLPS carry out her next overhaul, with the first train, a Surrey Hills Circular, now on 8th August 2015. We are also very pleased to be returning to the West Country for the first time in four years with three 'Torbay Expresses' in July. June will also see *Tornado* return to Scotland for three trains promoted by the new ScotRail franchise now being operated by Abellio.

As I am sure you have read in the railway press, our project to build Gresley class P2 No. 2007 *Prince of Wales* continues to gain traction with

construction progressing rapidly on many fronts. The Founders Club signed up almost 370 members since its launch at the AISLT convention in September 2013 – potentially worth up to £460,000 with Gift Aid added. We launched the 'P2 for a price of a pint' covenant scheme at the first of the P2 Roadshows in London on 8th March 2014 and over 670 people have already signed up, worth over £1m over the duration of the project. If we add in the £120,000 pledged to the dedicated donation scheme since its launch last July and 80 members of The Boiler Club so far our total pledged to-date has already passed £1.8m – but there is still a long way to go to reach the magic £5m.

One of the sad consequences of having been around for so long is the number of supporters and volunteers who have now departed. Many of us will remember the late Andrew Dow, who died aged 71 on 24th April, with great respect and admiration. Son of the renowned railway author George Dow, Andrew had a career in aviation before becoming head of the National Railway Museum from 1992 to 1994. The A1 Steam Locomotive Trust owes a huge debt of gratitude to the late Andrew Dow. As a Trustee for ten years from 1994 to 2004, Andrew gave the Trust credibility by his willingness to serve and brought rigour and clarity of thought to our board deliberations. Andrew was passionate about everything he got involved with; he had boundless energy and dedicated an enormous amount of time to his railway related interests, yet never ceased to find time to mentor those younger and less experienced than him. It was an honour to have Andrew on board – the building of No. 60163 *Tornado* would undoubtedly



Andrew Dow.

have taken longer and been more challenging without him. I am personally very fortunate to be one of many people in the heritage railway world who were able to count Andrew as a friend and as such I will miss him greatly.

It is vital for our future success that we continue to grow our supporter base by recruiting more people as covenantors for both *Tornado* and *Prince of Wales* and, thinking further into the future, I especially urge you to encourage any children that you know who share our passion for *Tornado* to join the *Tornado* Team.

Thank you all for your continued support. Your kind and often moving letters and emails always help to keep the team motivated. I hope to see as many of you as possible at our planned events in Darlington with both *Tornado* and *Prince of Wales* and on our trains in our 25th anniversary year. **TCC**

EDITORIAL by Graham Langer

"If you can meet with Triumph and Disaster; and treat those two impostors just the same..." Kipling must have had supporters of the A1 Steam Locomotive Trust in mind when he penned those words! Needless to say *Tornado*'s intermediate overhaul has turned out to be more challenging and complex than first envisioned and the need to replace roller-bearings has caused the project to over-run, impacting on the first trains No. 60163 was scheduled to haul this year. Apart from the monumental effort being made at Darlington Locomotive Works, much behind the scenes activity took place to re-schedule those initial runs with alternative motive power or revised dates and we are pleased to say that 'The White Rose' will now run on 7th July.

It has not all been bad news however. Following WCR's much publicised suspension from main line running, Scotrail (now run by Abellio) has chosen *Tornado* to operate a series of trains in June and a reduction in the number of Belmond British Pullman trains will enable No. 60163 to return to her happy hunting ground over the Devon banks to Kingswear during July with

'The Torbay Express'. In consequence we can look forward to an action packed summer taking the apple green machine from the far North to the deepest South West.

In the past the Trust has been accused by some of running 'London-centric' operations due to our past contract with Steam Dreams but the developing programme for 2015 features a wide variety of starting points, commencing in the North and North West and culminating in a run from York to Newcastle. Now is the chance for supporters of *Tornado* outside London and the south east to demonstrate that there is a strong demand for these trains and ensure that bookings for these tours are healthy!

As soon as *Tornado* has moved out of the Works, No. 2007's frames can be skated back again and work will once again commence on this most exciting of new builds. Even while the building was occupied by our A1, design and assembly work, as well as the machining of parts for *Prince of Wales*, continued elsewhere and we expect to see rapid progress during 2015. **TCC**

MERCHANDISE UPDATE *by Gill Lord*

It had been a very quiet time on the merchandise front, and then suddenly everything happened at once! After the annual stock take had been carried out, I could see how much stock I needed to order, which items were not selling well and will be discontinued and which items we will have to increase the price of due to manufacturers increasing their cost to us. One or two items I have upgraded, as they seemed not up to standard. Due to popular demand, this year I am introducing caps for children, T-shirts for ladies and T-shirts for the very young *Tornado* followers.

Even though our first run is not until late June and it is now early May, I have to think about sourcing new items, getting the at seat ordering brochure to the printers but not before taking photographs of any new stock, designing and printing the on-board photograph and blind auction forms and the most difficult part, getting all the stock, tills, card machines etc. back on to the support coach in time for the first run. With the help of my good team of volunteers it will be done!

The Trust had an amount of railway memorabilia donated, this is now available to purchase on our eBay site, there is everything from British Railway ties to Intercity key rings to reproduction carriage prints. If you have a couple of minutes to spare, do have a look and see if anything takes your fancy, 100% of the monies goes to the Trust. **TCC**

60163

FOR SALE SMOKEBOX NUMBERPLATES

£200 each including a commemorative plaque and postage and package

- **17th July 2011** 'The Torbay Express'
- **23rd March 2013** 'The Cathedrals Express' - London Paddington to Kingswear
- **21st June 2013** 'The Cathedrals Express' - Tonbridge to Ely
- **9th July 2013** 'The Cathedrals Express' - London Waterloo to Swanage

Email: shop@alsteam.com
for more details

DIARY 2015

Below are the future operations *Tornado* is confirmed to be involved in. More details will be published on www.alsteam.com as trains are finalised. P2 events will also appear in this section with further details on www.p2steam.com Contact details for tour companies are below.

- **20th June** – 'The Highland Rambler' – Stirling to Inverness – Scotrail/Steam Dreams
- **21st June** – 'The Seaforth Highlander' – Inverness to Brora and return – Scotrail/Steam Dreams
- **22nd June** – 'The Highland Caledonian' – Inverness to Stirling – Scotrail/Steam Dreams
- **27th June** – 'The Border Reiver' – Carlisle to Glasgow and return – Scotrail/Steam Dreams
- **7th July** – '**The White Rose**' London King's Cross to York (with D9009 *Alycidon*) and return (with No. 60163 *Tornado*) –AIST with UK Railtours
- **12th July** – 'The Torbay Express' - Bristol to Kingswear and return - Torbay Express
- **26th July** – 'The Torbay Express' - Bristol to Kingswear and return - Torbay Express
- **2nd August** – 'The Torbay Express' - Bristol to Kingswear and return - Torbay Express
- **8th August** – Surrey Hills Excursion – Belmond British Pullman
- **11th August - 2nd September** – Nene Valley Railway
- **23rd September** – London Victoria to Bristol and return – Belmond British Pullman
- **26th September** – '**The Silver Jubilee Talisman**' – London King's Cross to Newcastle and return – AISLT with UK Railtours as booking agent, further details in this edition
- **6th November** – Surrey Hills Excursion – Belmond British Pullman.
- **8th December**– Surrey Hills Excursion – Belmond British Pullman
- **12th December** – Surrey Hills Excursion – Belmond British Pullman
- **31st December**– York to Newcastle and return – AISLT with UK Railtours, as booking agent, details TBC

Contact details

Belmond British Pullman

Tel: 020 3117 1300
Web: www.belmond.com/british-pullman-train

Nene Valley Railway

Tel: 01780 784444
Web: www.nvr.org.uk

Pathfinder Tours

Tel: 01453 835414
Web: www.pathfinder-tours.co.uk

UK Railtours

Tel: 01438 715050
Web: www.ukrailtours.com

Steam Dreams

Tel: 01483 209888
Web: www.steamdreams.co.uk

Torbay Express

Tel: 01453 834477
Web: www.torbayexpress.co.uk

TORNADO OVERHAUL UPDATE *by John Wilkinson*

With the tender delivered during February the opportunity was taken to release its wheels, remove the roller-bearings for inspection and start the process of cleaning and preparing it for a new coat of apple green paint.



Once cleaned and stripped, the wheelsets were painted by Ian Matthews.



A David Elliott designed patent cutter, welded by Mick Robinson and manufactured by M Machine of Darlington, was used to refurbish the main steam pipes.



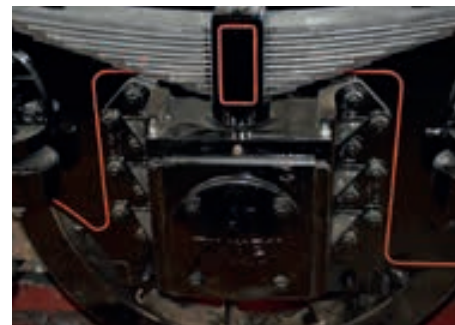
With the wheelsets re-painted the tender was re-united with them and work started on stripping the blue livery. ➤



Assisted by members of the team, Ian was soon applying the lettering to the tender.



Some of the many new and refurbished components ready for fitting to Tornado.



Meanwhile, work continued on stripping and repainting the engine's frames, all the while checking and testing components and installing improved pipe runs with quick connectors to the cab. The frames steadily turned black and were then lined out.

In short, the past couple of months have seen pipework under the tender fettled, the refitting of the wet tank to the compressed air system, fitting the tender gauge box, fitting the valve gear, tender brakes and pipework, the tender drawbar, tender balance weights, tender alternator and belts and the rear air pump. Work has also entailed cleaning and servicing the air pump non-return valves, the stripping, cleaning, refurbishment and reassembly of the atomisers, the rebuilding and fitting of the tender brake cylinders, the tender drawhook and tender brake linkage.

The team made a test fit of the middle big end, and refitted the pipework and brackets from the air pumps to the wet tank as well as the tender handrails and brackets. Work on the air system included air pump lubricator pipework alterations, air pump feed pipes, air pump lubricator pipework alterations and the air pump feed pipes.

Painting has continued in parallel with all the refurbishment and has amounted to top coat on the tender, lining the tender body and frames, signwriting the tender and preparing the latter for varnishing. The underside of the tender was prepared for priming, primed, undercoated and gloss painted. The bogie frame was stripped to bare metal, primed and painted and the repainted bogie wheels were lined ready for re-fitting. The cab was prepared for painting, as was the locomotive brake gear, which was also primed and top-coated. In readiness for the return of the boiler, the

cladding sheets were prepared for repair and painting. In addition to all the 'big stuff' many small components were prepared for paint and painted.

On 22nd April, Allelys returned the boiler from DB Meiningen to Darlington Locomotive works where GHS Crane Hire unloaded it for an out of frames steam test. Once this had been successfully conducted the boiler could be replaced in the frames, clad and piped up. **TCC**



THE WINDS OF CHANGE THAT BECAME A TORNADO

by David Champion

Part 2 - From 'Nowhere' to Darlington

I observed at the beginning of Part 1 that the memory had played tricks and anaesthetised memories of the struggles around the inception of the Trust. Recently re-reading notes of subsequent events simultaneously made me proud of the achievements that many of us fought so hard for, but it also brought back half-forgotten memories of how focused I had to be, to the extent of building *Tornado* becoming an all-consuming part of my life.

Taking up the story, 1991 had seen lots of work on presentations around the country, recruiting new Covenantors and team members. David Elliott and Gerard Hill led initial work on acquiring drawings, which fortunately were known to be intact at the NRM, but unfortunately they were somewhere in the middle of a massive pile of Doncaster drawings dumped in the basement of the NRM. Our team of six volunteers sorted all the drawings for the NRM so that what we needed could be identified.

In 1992 Mike Wilson, who with Carol Wilson and Steve Marshall had shouldered a very heavy load in the early days handling enquiries, covenant forms and administration, felt it was time for them to stand down. There had also been a slowdown in newsworthy activity and I was worried that this would affect our credibility. But the first job was to get the vital enquiries and covenant administration into new hands. Fortunately Jim and Fiona Kirkman from Leicestershire volunteered to take this over, carrying out a most efficient job until the Trust move to

Darlington five years later. As a chartered accountant, Jim was also a very useful addition to the Board of Trustees.

With the administration sorted, it was necessary to focus on these priorities:

a) Professionalism and Passion: we had to show the world we were a serious, professional business-like organisation that was highly motivated and capable of building a brand new main line express locomotive.

b) Making tangible progress with the locomotive and a place to erect it.

In raising the profile of the Trust I was greatly helped by the professional calibre of the Management Team that had assembled, all professionally qualified, I could go with them into a meeting with any organisation and we would have 100% credibility. Particular credit must go to Mark Allatt who by now had got into his Marketing/PR stride and all of a sudden positive articles started appearing in the right places, such as national newspapers and engineering journals. It has always been the hallmark of the Trust, right from inception, that we have always had a very positive reception from the general media. I cannot recall a single instance in 25 years where we were treated to the common journalese of 'puffer nutters'.

Tangible progress with the locomotive and the search for our own premises led us down several false starts, but fortunately everything worked out in the end or rather, in typical AI Trust fashion, we made it work out in the end. We were never ones to be daunted by adversity; in fact, overturning adversity was what we were all about.

During 1992 the Engineering Team continued preparatory work, research into modern equivalents for materials, the build flow-chart, meeting certification engineers, measuring up common components on *Blue Peter*, and Gerard interviewed J. F. 'Freddy' Harrison, the head of the design team on the AIs. He was well into his 90s but gave a fascinating account of his work and the AIs which he regarded as an excellent locomotive. He was also responsible for *Duke of Gloucester*, and said that if dieselisation hadn't come along he would have simply ordered more AIs and *Duke of Gloucesters*!

Around this time word about what we were doing had reached Argentina and the ears of L. D. Porta, the famous Argentinian steam development engineer. His request for general arrangement drawings was rapidly met when a friend of a team member delivered them to his door in Buenos Aires within days. His subsequent comprehensive report was keenly studied by the Engineering Team but the Trust wisely decided against his proposed comprehensive alterations for two very good reasons. The first was that such a large number of innovations in steam technology had never before been tried together in a single locomotive so certification, and possibly reliability, was an issue. Secondly, the amount of variation from the original design was such that it would only be a look-alike Peppercorn class AI, under the cladding there would be immense change. And after all we were a legally constituted body whose articles specified building a Peppercorn class AI, and this was what good people were giving us their hard earned money for. It would have been simply wrong for us to have used Covenantors' money to build the Porta proposal. In any event, time was to prove what a superb locomotive we would get by sticking to Arthur Peppercorn's design, only modified where necessary to comply with the rigours of today's railway.

We had been eyeing up the spare tender from No. 4472 *Flying Scotsman* for some time. The tank was known to be life-expired, but we hoped to use the chassis, and thus get us started on construction. A purchase price was agreed and Ian Storey arranged transport to his works on 17th November 1992. The life expired tank was removed and some considerable work was done renovating the chassis, which later went to Darlington Locomotive Works to sit behind *Tornado's* frames awaiting a new tank. Eventually, it was wisely decided to build a brand new chassis and we can now

say – unlike many other projects that are currently in the pipeline – our locomotive was brand new from buffer to buffer.

As 1993 dawned, there was much activity. Bob Meanley from Tyseley joined the Engineering Team, John Wigston produced an excellent painting showing *Tornado* at York Roundhouse surrounded by her predecessors. My copy was swiftly framed and hung on my bedroom wall, so that the first thing I would focus on every day when I woke up would be to work out the next small step to be made in pushing this huge project forward [*Chairman – mine is still there along with the one I commissioned of two class P2s also by Jon Wigston*]. My mantra was that this job was like eating an elephant, and if that is the task, the best way to do it was to eat a little every day. In other words break all large problems down into their constituent parts and tackle them one at a time in the right order. A meeting was set up in London with Macready's, the steel bar stockholder. Mark, Ian and I made a presentation to their Directors which went well and they agreed to be our first materials sponsor. I remember we celebrated the coup immediately afterwards in the nearest restaurant, which happened to be a Pizza Hut!

Ground breaking developments were to follow in the acquisition of the drawings. As many of them were fragile, the NRM were unhappy with us copying them using traditional methods. David Elliott proposed an innovative and safe solution - scan them on to computer. This also allowed the drawings to be cleaned up and on 13th April 1993 our team commenced work. The resulting scans of 800 drawings were transferred to two cassette tapes (remember them?). This set us out on the road where we led the field in the use of computerised draughting and design of steam locomotives and their components.

The matter of a place to erect the locomotive was increasingly pressing, and as Doncaster was one of the AI's birthplaces, a meeting was arranged with the town council. At the meeting I was immensely proud of the calibre of our Management Team, they shone professionalism. I told the Council that when *Tornado* emerged in steam for the first time, it would get a similar media profile as the recent raising of the *Mary Rose*. (In this I was wrong, on the day of its unveiling *Tornado* probably had much greater world-wide media attention). They agreed to work in partnership with us to find a suitable location in the town.

A grand ceremony to mark this partnership agreement (and gain valuable publicity) was arranged in the town's Mansion House for 9th July 1993. Peter



Officials from the Trust, Darlington Council and Steam Railway magazine.

Kelly, then editor of *Railway Magazine* and a keen cyclist, organised a solo John o' Groats to Land's End ride to raise the profile of the Trust. En route it was arranged that he carry the Partnership Agreement from my home to Doncaster and appear at the right point in the ceremony clutching it in his hand.

It was a good 'do'. We had 100 guests and a supporter who owned a Californian vineyard sent across 20 cases of wine (240 bottles!) to ensure it went with a swing. Mike Satow, (creator of the replicas of *Locomotion No 1*, *Rocket* and *Sans Pareil*) wished us well and hoped he might live long enough even just to make the bolts for the nameplate. We met Dorothy Mather, our now President, for the first time, and in a speech Nigel Harris, then editor of *Steam Railway* magazine called us the 'best organised railway group in the world'. Then Peter Kelly arrived with the Partnership Agreement, dressed to the nines in an Edwardian cycling outfit and riding a vintage bike he had restored after finding it dumped in a hedge! As the Californian wine flowed at the subsequent reception Nigel Harris remarked "I may have previously doubted your ability to build steam engines, but there's no doubt you organise the best p--- ups in the business!"

Nigel Harris also commented that his greatest wish as a driver on the Great Central Railway was to walk into the running shed one day and find his name chalked next to No. 60163. (In 2008 on *Tornado's* first day on a passenger train at the Great Central Railway I rode *Tornado's* footplate with Nigel driving. As I mounted the footplate Nigel remarked "do you remember what I said back then, it's all come true, when I walked in this morning there was my name chalked next to No. 60163"). As it was the pre-internet age, Mark rushed out over 100 copies of the press release and had them in that afternoon's post. Confidence was high, we

could feel the momentum increasing – what could possibly go wrong?

As we went into 1994 things seemed to go on nicely, enquiries were to be made about sites in Doncaster. When HM The Queen made a visit I was honoured to be asked to represent the Trust, and was surprised to find she had been briefed about our mission. Bob Meanley began playing an increasingly important part in the Management Team, and arrangements were made to roll the frame plate blanks at British Steel, Scunthorpe, on keen commercial rates and paid for by *Steam Railway*.

The frame plates were rolled on 22nd April. Several days later off we travelled to 'The Plant' at Doncaster where they still had the frame profiling apparatus that had cut all the Pacific's frames, and it had been arranged that ours would be profiled there also. Bob Meanley, Ian Storey and I excitedly visited the premises to settle the date for profiling, and as we entered the building we could feel the historical significance of our locomotive starting out where half of its sisters had been born. Imagine our horror minutes later when an official shamefacedly admitted that due to internal lack of communication, the frame profiler had been scrapped that week and had left the premises in bits the previous day.

What followed was a text book example of the Trust turning a negative into a positive. Through business contacts it was arranged that we could be the very first profiling job to go through a massive new facility at BSD Leeds. What was even better was that we could use the digital information from our drawing database to feed the computer controlled profile cutting plant. Mark produced one of his set-piece media events at a formal ceremony at Leeds, when Dorothy Mather started the profiling machine to commence construction of *Tornado* commenting that "Arthur would be so proud". There was



Covenantors with the frames at Tyseley.



**'The Talisman' on 7th February 2009,
Tornado races past Gamston.**

large scale media attention on TV and national newspapers.

Given that we still had no home, Bob Meanley kindly offered to erect the frames at Tyseley. Without his kind intervention at this time we would have been in quite a spot. Ian Storey made a set of erecting stands and Bob set about the manufacture of frame stretchers. This was where another A1 innovation occurred with the use of polystyrene patterns for casting, which took another twenty years for other groups to cotton on to (and then think they were first!). I vividly remember visiting Bob to discuss progress and visiting TM Engineers at Kingswinford where the frame plates had been sent for machining. They were about to have the bend in the frames formed for the Cartazzi in a process Bob jokingly described as “putting a lot of heat in the right place then getting two hairy men with sledgehammers to hit it”. Next Bob took me to Kings Heath Patterns whom he had commissioned to make the cylinder patterns. In discussion with the pattern-maker, who was to extend his retiring date to finish the patterns, it became clear to me what an intricate craft he practised whose complexity could scarcely be grasped by mere mortals like me.

On a high note we held our very first Convention at Doncaster, attended by 210 Covenantors and guests, on 17th September. But underneath all the good news we were getting frustrated with the lack of action from Doncaster Council in helping us find an erection site. There were lots of vague promises, but progress was ‘zilch’. As the hardware tonnage was mounting the position became desperate, and Stuart Palmer and I decided to have one more meeting with them to ascertain if the officials could possibly deliver. We reluctantly came away thinking the position was hopeless (some Council officials we were dealing with were subsequently caught up in the ‘Donnygate’ corruption scandal - in retrospect it would have done the Trust no good to still be involved there). Casting of the first driving wheels occurred in December, plus the nameplates, and as the tonnage manufactured relentlessly mounted, the need for a home of our own grew in urgency.

Then fate intervened. In December 1994 Barry Wilson called me at my office the week before Christmas. He had been reading the GNER house magazine on an East Coast train and noticed it had an advert from Darlington Council saying the town was eager to attract entrepreneurial and engineering concerns. As Darlington was the birthplace of the A1s, why not contact them? Five

minutes later I had made a call to the town’s Economic Development Manager, he said he was interested, and was sure Darlington Council would be interested. It was arranged that he come to my office in Newcastle the following morning. He arrived accompanied by Darlington’s Head of Leisure Services and over the space of an hour I told them the Trust’s story to date and its future plans. They were enthusiastic and said our project was the perfect blend of modern engineering and business skills which would also chime beautifully with the town’s heritage. They would go back and talk to their colleagues, but were sure that they could help us with a build site, somehow.

The following morning I made an excuse to make a business trip to Teeside, and in the afternoon I called at Darlington Railway Museum to ‘suss’ the district out. After looking round the Museum I made conversation with the person on the admissions desk. First I asked about the vacant green area in front of the museum. “That was the site of the old scrapyards”, I was told. I had heard so much about that site, where many locomotives, including A1s, met their fate). Next I asked about the forlorn old building backing on to the green. “That’s the old Stockton & Darlington Railway Carriage Works, it’s been sitting empty for ages”.... “That’s it” I thought to myself, about the right size and on a very appropriate site. The next day, Christmas Eve, I brought my wife Gill and Stuart Palmer down to Darlington. Good, it wasn’t just me that thought the site was perfect.

After advising the rest of the Trustees, immediately after Christmas I again contacted Darlington’s Economic Development Manager and asked if we could have the Carriage Works. He too thought it was a good idea but would obviously have to talk to his colleagues in the Council. I invited him and the Head of Leisure Services ‘incognito’ down to Tyseley for another ‘do’ we were planning on 5th January 1995.

Meanwhile, on 27th December Gill and I picked up Dorothy Mather and we travelled to Tyseley to discuss arrangements for 5th January with Bob and other members of the team. Dorothy had a great day. She was delighted to see the frames erected, enjoyed the bacon butties and strong mugs of tea in the bothy, and posed for photographs in front of the frames – even borrowing Bob’s cap for one photograph I recall. What a star she is. Being brought up on Tyneside area I was aware that when building a ship there was usually some ceremony for laying the keel. It seemed like a good idea to extend this idea to ‘christening’ the frames of our

locomotive. This was to be the basis of the 5th January media event, and what an event it was!

There was a large invited guest list of journalists and rail industry people, and it was this, that got the senior British, French and Italian Tornado pilots from RAF Cottesmore to attend. Then Bob played a blinder by asking Pete Waterman (who then owned 50% of *Flying Scotsman*, if we could borrow his locomotive for the day so our guests could take turns driving it on Tyseley’s demonstration line. Covenantor Paul Ambler was then Head Brewer at Black Sheep Brewery and offered to make a special limited run of *Tornado* ale in 100 numbered bottles, to be given to guests. (I was given bottle number 001, which still unopened, now awaits a place in the Trust’s museum collection)

The day started off with speeches and Richard Tesh of British Steel smashing a bottle of *Tornado* ale over the buffer beam. The pilots posed with the nameplates followed by a buffet lunch and guests taking turns driving *Flying Scotsman*. One of the cylinder patterns was on display together with many of the polystyrene frame stretcher patterns. As the day ended, and everybody on the teams jaws were aching with talking to guests, the last visitor went home – and we had *Scotsman* to play with for a little while. Once again we got terrific publicity which helped the Covenant and sponsor bandwagon to continue to roll. An added bonus was that our new friends from Darlington had indeed turned up ‘incognito’, were very impressed with what they saw and told me that they had conferred with their colleagues, Darlington Council was fully with us, and yes..... we could have the Hopetown Lane Carriage Works. **TCC**



Richard Tesh of British Steel ‘christens’ *Tornado*’s frames at Tyseley.

‘THE SILVER JUBILEE TALISMAN’

***Tornado* is returning to the North East on Saturday 26th September 2015 with ‘The Silver Jubilee Talisman’ - celebrating 25 years since the project to build a new Peppercorn class A1 was launched by what was to become The A1 Steam Locomotive Trust.**

Departing from London King’s Cross ‘The Silver Jubilee Talisman’ will head north, calling at Potters Bar and Peterborough, before speeding to York at 75mph. For those leaving there you might choose to take in the Minster, visit the world famous National Railway Museum or simply explore this historic city.

Tornado will then take our train across the Plain of York and over the River Tees to her Darlington birthplace. Those disembarking here will have the opportunity of a guided tour of Darlington Locomotive Works where *Tornado* was completed and the Trust’s second new steam locomotive, No. 2007 *Prince of Wales*, is under construction. Once completed in 2021, this new Gresley class P2 ‘Mikado’ will be Britain’s most powerful steam locomotive.

On departing Darlington, our train will cross the legendary 1825 Stockton & Darlington Railway and continue north to Durham, where the railway viaduct offers a superb vista of the Cathedral and Castle. It will then descend to the Tyne Valley, welcomed by the Angel of the North, where *Tornado* will cross the Tyne on one of the many bridges that lead to Newcastle-upon-Tyne, and where passengers are able to take a 2½ hour break.

No. 60163 *Tornado* will take charge of

‘The Silver Jubilee Talisman’ for our return journey to York where modern traction will take over for the rest of our journey to London King’s Cross.

The A1 Steam Locomotive Trust is proud that *Tornado* will continue to be operated on the Network Rail main line by DB Schenker, which has worked successfully with the Trust since the locomotive’s completion in 2008.

All profits from this tour will go towards maintaining *Tornado* in future years. **TCC**

Provisional Timings for ‘The Silver Jubilee Talisman’ on Saturday 26 th September 2015 are as follows:		
STATION	DEPART	RETURN
London King’s Cross	07:50hrs	22:15hrs
Potters Bar	08:15hrs	21:55hrs
Peterborough	09:30hrs	21:00hrs
York	12:35hrs	18:00hrs
Darlington	13:20hrs	17:15hrs
Newcastle	14:00hrs	16:30hrs



Online and telephone bookings are handled by our booking agents UK Railtours. www.ukrailtours.com or call 01438 715050 to book over the phone. Please note credit card payments will attract a 2.5% administration charge.

Geoff Griffiths

P2 ENGINEERING UPDATE *by David Elliott*

Design

Some further work has been carried out on the 3D model of the locomotive, in particular the rest of the brake rigging has been added to demonstrate that it will fit when modified to be driven by air cylinders that push downwards rather than vacuum cylinders that pull upwards. This has involved rotating the cranks that operate the brake pull rods through 180 degrees to correct for the air brake cylinders operating in the opposite direction. This has had the useful effect of improving the overall geometry of the brake rigging. The chance has been taken to move the various pull rods outwards to provide wider gaps for maintainers to climb up into the frames to gain access to air pumps and the middle big end.

Frames

The decision has been taken to change the manufacturing method of four of the large frame stays which provide substantial resistance to 'racking' of the frames - this is the tendency for one

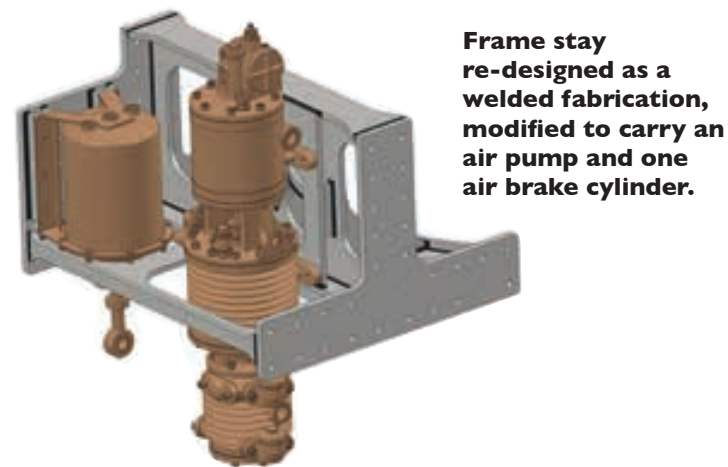
frame to try to move fore or aft relative to the other one under heavy piston forces - *Tornado* only has one of these!

The original components were made as steel castings. The shape and size of them precludes the use of expanded polystyrene patterns and the cost of using wooden patterns is very high as all four frame stays are different, meaning that we would only cast one off each pattern. Compared with what was available when the P2s were first built, welding techniques have improved enormously enabling reliable fabrications to be made to replace castings. To produce high integrity fabrications full penetration welding to boiler standards is specified and the fabrication is fully stress relieved by taking it up to an elevated temperature for a period of time and then cooling it slowly. This enables the metal microstructure in the welds and surrounding areas to relax. Because the welding process involves adding metal quickly and cooling rapidly, the contraction of the welds leaves significant

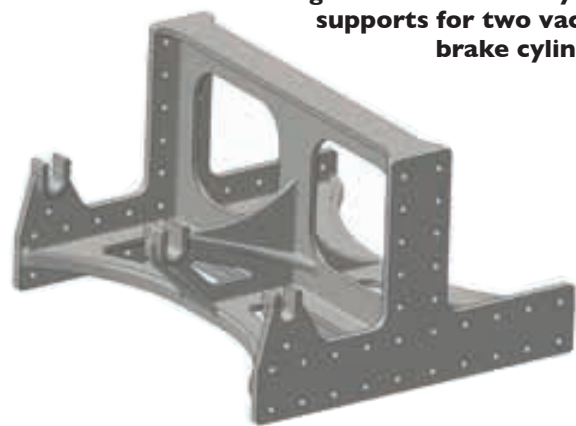
residual stresses in the surrounding metal which in a high fatigue environment can result in cracking. Stress relieving as the name implies releases these stresses in the structure which will give it strength and fatigue properties at least equal to and in many cases better than the equivalent casting.

Some changes to the shape of the frame stays are necessary to enable them to carry air pumps and air brake cylinders instead of the vacuum brake cylinders fitted to the original P2 class. The illustrations show the original design of the frame stay between the intermediate and driving wheelsets and the modified version showing the location of the leading air pump and air brake cylinder for the rear two coupled axles.

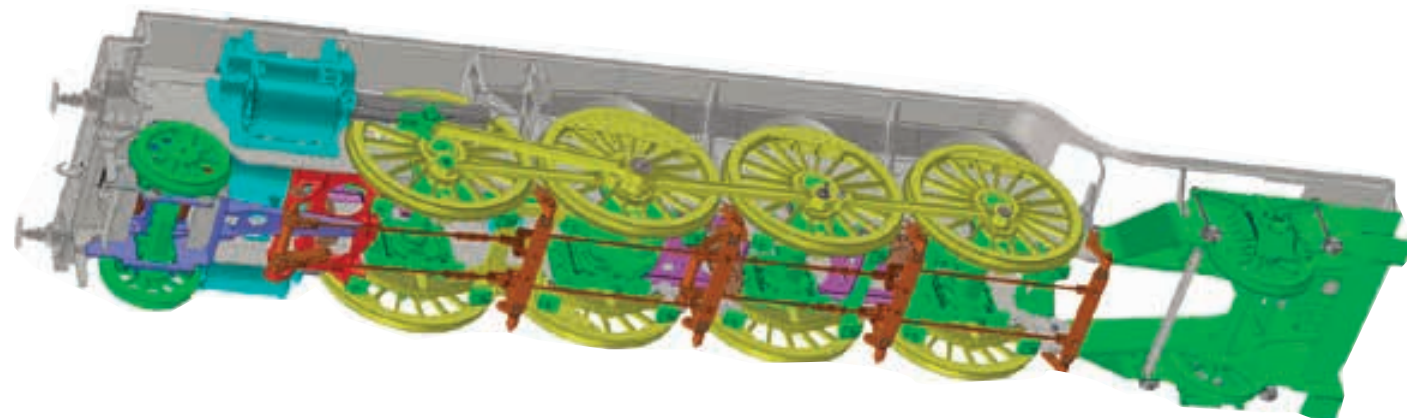
Now that a decision has been made to use an improved form of the original Lentz valve gear, design work for the cylinders is advancing. At present it is expected that the monobloc (3 in 1) cylinder block will be mostly fabricated with steel castings used for some of



Frame stay re-designed as a welded fabrication, modified to carry an air pump and one air brake cylinder.



Original cast frame stay with supports for two vacuum brake cylinders.



On the P2 locomotives the rear two and front two coupled axles were braked separately, although both pairs are subjected to the same brake force. The brake rigging is coloured brown on the underside view of the frames.

the more complex shapes such as steam pipe bends in order to achieve optimum internal streamlining.

Boiler and Smokebox

One of the more difficult manufacturing challenges is the smokebox. In particular the smokebox door and its door frame being 'D' shaped with a straight top and both the door and frame sloping backwards are difficult to make. The original drawing of the door fitted to No. 2001 shows that the shape was not new to the LNER in 1934. The same shaped door had already been used in connection with smoke lifting trials on two A3 class locomotives. No. 2747 *Coronach* was first altered in 1931 and No. 2751 *Humorist* in 1932 (photos on pages 66-71 in *East Coast Pacifics At Work* by P. N. Townend, one of our Vice Presidents).

Quotes are being sought for manufacture of the door and frame ring (see illustrations). The door may be made as a hot pressing or by hand forging over a cast iron former, or possibly by machining out of solid 8 thick plate using a large CNC vertical milling machine. The door ring frame will also be machined from a 'D' shaped flame cut profile by CNC milling. The machine will be programmed directly from the Solidworks 3D models.

Wheelsets

The proof machining of the eight coupled wheels is complete and quotes are being sought for finish machining these ready for pressing onto axles. The Timken roller bearings for the intermediate and trailing wheelsets which use cannon boxes have been delivered (*fortuitously as it happened, for without these No. 60163's overhaul would have been further delayed – Ed*)

William Cook Cast Products are making progress with casting the coupled wheel and trailing carrying wheel (Cartazzi) cannon and axle boxes. Mott MacDonald at Derby have built the preliminary Finite Element Analysis model of the proposed improved crank axle design, and work is in hand to predict the forces acting on it as accurately as possible so that realistic stresses will be produced in the model.

Manufacturing

Machining of frame stay castings continues at North View Engineering Solutions at Darlington for the smaller components and at Multi Tech Engineering UK Ltd at Ferrybridge for the larger items.

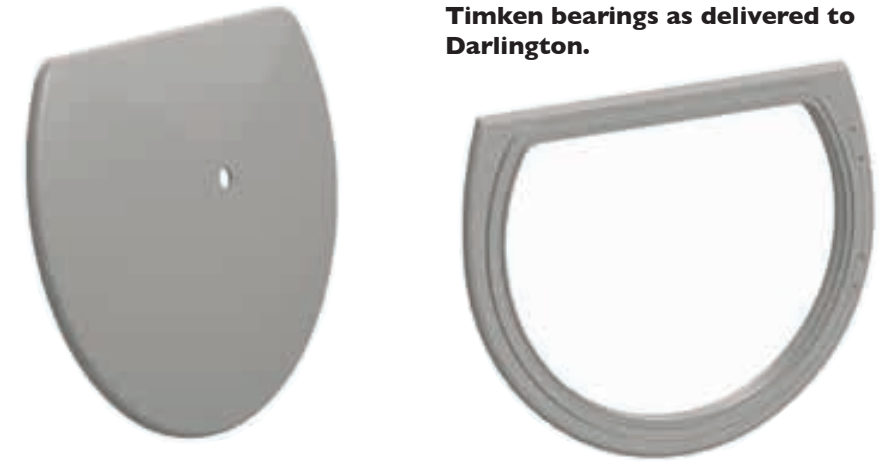
William Cook Cast Products at Sheffield are nearing completion of the castings for the pony truck top frame stay, front boiler support stay and double-spring buffer cases for the front buffer beam. Hawk Fasteners at Middlesbrough has manufactured the

driven and fitted bolts (over 1,000) for assembling the frames and have supplied a corresponding number of Philidas self-locking nuts.

With the completion of the overhaul of *Tornado* it is expected that assembly of the frames will proceed quickly. **TCC**



Timken bearings as delivered to Darlington.



Cartazzi horn block on horizontal borer at North View Engineering Solutions.



Completed items (two each of double spring buffer casings, frame stay between inner and outer rear frames, firebox support and brake hanger bracket).

SILVER JUBILIEE APPEAL -THE 163 PACIFICS CLUB

-Time to get on-board!

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 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 "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 were therefore 163 ex-LNER express passenger pacifics from 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 Club' can be found enclosed with this issue of TCC and on the website in the 'Supporting *Tornado*' section. Membership of The 163 Pacifics Club has grown steadily since its launch and almost a third 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**



FUNDRAISING FOR No. 2007 PRINCE OF WALES by Mark Allatt

Public interest in seeing a new Gresley class P2 'Mikado' become a reality sooner rather than later is high and over 670 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 (370 people have donated £1,000 each – target 100 people, now closed), The Boiler Club (over 80 people have pledged £2,000 each - target of 300 people) and Dedicated Donations (£120,000 from existing supporters sponsoring a variety of components). This means that the project

has already received pledges of over £1.8m (including Gift Aid) of the £5m needed over the next seven years.

Mark Allatt, chairman, 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 over £1.8m has now been donated or pledged.

"We are hopeful that we will have completed the rolling chassis for No. 2007 *Prince of Wales* next winter 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 steam enthusiasts 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 details of how to help visit www.p2steam.com, email enquiries@p2steam.com or call 01325 460163 **TCC**

EVENTS ATTENDANCE REPORT by Mandy Grant

Nottingham & East Midlands Model Railway Exhibition 21st & 22nd March

We arrived early on the Saturday morning and met up with Andrew Taylor, one of our volunteers. We were next to 'Grantham the Early Years' layout, in the lower balcony area.

As well as the stand and DVD presentation, we also had our new N-gauge model railway layout on display, which Graham Nicholas has been working on. This proved very popular, especially with the younger visitors!

The day was very busy and we had the opportunity to speak to a lot of people about No. 2007 *Prince Of Wales*. Some having heard about the project previously but many people were unaware of the great deal of progress having been made to date and were surprised at just how far on we had got in such a short space of time! Lots of leaflets were handed out, with several stating that they would be interested in signing up as a covenantor in the near future.

The following morning we met up with John Rawlinson, another of our volunteers who came to help on the stand. Although Sunday wasn't as busy, there were still some interesting

conversations to be had with members of the public, and again, lots of leaflets handed out and most importantly, awareness was raised about the project. We also received a couple of one off donations over the weekend, which were gratefully accepted.

The Festival of British Railway Modelling, Doncaster, 7th & 8th February 2015 by Andrew Taylor

The venue was Doncaster racecourse, home of the St Leger, which is itself the source of the names of many Gresley Pacifics. We were upstairs in the Nijinsky suite alongside some fine models including a layout with many 00 scale live steam A3s and A4s. The stand was manned by John Rawlinson, Peter Chambers, Charles Tremeer and Andrew Taylor.

There were many interesting conversations over the weekend and many enquiries about our progress in making No. 2007 a reality. There were some fascinating tales from people who had worked at 'The Plant'. Further progress was made in raising funds for the construction of *Prince of Wales*. To finish an enjoyable weekend, Doncaster provided us with a glorious sunset. **TCC**

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 80 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.a1steam.com, email enquiries@a1steam.com or call 01325 460163.

Thank you. **TCC**

PROFILE – DAVID BURGESS by Graham Langer

David has been Company Secretary of the Trust since 2001 and a Trustee since 2002. Born in Mitcham, Surrey in 1948 he was brought up in South London and was fascinated by trains almost from birth according to his mother. David recalls, “One of my first fleeting memories, at about six years old, was seeing a blue engine passing Oldfield Park in Bath when visiting mother’s relatives – it must have been a King and was the last BR blue engine I saw until *Tornado* two years ago. I became a train spotter as soon as I was allowed out on my own. Living in London, with the Southern line at Clapham on my doorstep I remember ‘The Golden Arrow’ as a daily sight. I was able to see all of the “big four” easily and had no particular inclination to any one of them. King’s Cross, platform 10, was one of my favourite locations and I saw many AIs on a regular basis until the end of steam there”.

On leaving school he had an “unspectacular” career for 20 years in the administrative side of the oil contracting industry but did qualify as a Company Secretary. Upon moving to Guernsey in 1989 he worked in the finance industry in Trust and Company Administration, retiring in 2011.

David has been an AI covenantor since 1994, “I was never involved in any railway organisation while living in England, particularly due to family commitments, but I was still a keen railway enthusiast. When the AI project was launched I thought it was a fascinating idea, but was dubious about its prospects at first, but I kept an eye on it through the railway magazines; when the *Tornado*’s frames were produced I thought the project might have some merit and that it was worth becoming a covenantor. I could afford to lose £5 per month then if it all went wrong! I could also be involved with the project in a small way considering that where I lived prevented me from being involved physically. How wrong I was!”

When the Trust was seeking someone to replace the late Wreford Voge as Secretary of the Trust because of his declining health David stuck his head over the parapet and was appointed. He picks up the story, “I had a long conversation with my wife about the commitment required, particularly regular travel to Board meetings, and she has been hugely supportive of me and my involvement in the Trust ever since and has graciously accepted my frequent



David Burgess.

absences from home on Trust matters as they usually involve at least two nights away from home.”

Since becoming Secretary he has also been appointed a Trustee and his work has increased significantly over the years. David says that because of the way the Trust is structured, much of his work is done from home using email as the main form of communication which works well considering those involved live all over the country. He admits to being the least well known of all the Trustees as his work is largely in the background

and covers not just the formal role of Secretary but such areas as insurances, purchasing and accounting functions, and all the boring but essential work that any organisation has to cover, but no one really wants to do. Self-deprecating, David said, “I may not have helped much in the physical aspects of building *Tornado*, but watching it come together and enter service and being part of the team has been exciting and undeniably one of the highlights of my life”.

He has been a member of *Tornado*’s support crew for some years which provides the antidote to the administrative work. “Cleaning the engine and other duties of preparing the engine for a run is not glamorous, but very satisfying and being out and about with the engine is the enjoyable part of my involvement in the Trust. I was not able to do it when younger, but I will enjoy it while I can. I particularly get a kick out of the interaction with the public and seeing the pleasure on peoples’ face when they see *Tornado*, especially if it is unexpected. Particularly poignant for me is being on the lines round south London with *Tornado* over 50 years since I just stood by the lineside watching the trains go by.” **TCC**



“David often works as a member of the support crew”.

FROM THE ARCHIVES by Graham Langer



Dorothy Mather and David Champion with the cylinder castings.

● **Spring 1995** – The patterns for the coupled wheel hornblocks and hornstays were being prepared for moulding by Lloyds and castings from them were expected to be completed in early 1995. Pattern equipment, consisting of two main patterns and 31 core boxes, *Tornado*’s inside cylinder, had been delivered by Kings Heath Patterns of Birmingham who had also commenced work on the two outside cylinder patterns. The three ton inside cylinder was duly cast in mid-June from grade 450/10 spheroidal graphite cast iron. The modular pattern for the six 6ft 8in driving wheels of the new locomotive had now been completed by Master Patterns, a subsidiary of the Trust’s principle sponsor, William Cook plc of Sheffield.

● **Spring 2000** - At the start of the year the rear coupling rods had the machining completed by Ufone, meanwhile the machining of further rods was underway. Work continued at DLW to fit the manganese steel liners to the hornblocks to enable the wheelsets to be located in the frames. Serco Railtest conducted the mandatory ultrasonic inspection of the axles and crank pins to confirm their metallurgical integrity and to provide reference traces against which future scans could

be compared. The development of Darlington Locomotive Works, home of *Tornado*, continued to accelerate. Recent equipment acquisitions included a new 6mx6m five tonne overhead crane funded by a £10,000 grant from Darlington Borough Council, enabling DLW to take delivery of the 6ft 8in driving wheelsets without complication.

● **Spring 2005** – *The Communication Cord* No. 3 was able to report that HSBC Rail had donated two sets of ex Class 86 control and sanding gear, duly salvaged from members of the class in bitter March weather. Work on machining the motion continued at Ufone and most of the footplating had been completed. In other news the Trust announced its first railtour, ‘The Talisman’, to be run in July with No. 60009 *Union of South Africa*. Graham Nicholas had led a quality assurance visit to DB Meiningen Works to conduct a supplier assessment of the facilities there.

● **Spring 2010** – Headline news in *TCC* No. 18 was that the Trust had launched a feasibility study into the possible construction of a Gresley class P2 Mikado and decide if there were any barriers to the operation of such a locomotive on Network Rail. Meanwhile

Darlington Locomotive Works was busy with *Tornado*’s support coach which, by spring 2010, had been completely stripped back to bare metal and was just beginning to be re-assembled. Topically we also reported on BBC’s *Top Gear* run from King’s Cross to Edinburgh, the late Mike Notley recording that it was “the fastest steam-hauled run between London and Edinburgh in the preservation era”. **TCC**



In this view from 2005 the five ton overhead crane is visible.

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



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* All information correct at the time of going to press on 31st May 2015. For up-to-date information and dates please check the website www.a1steam.com.

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● e-mail: enquiries@a1steam.com ● website: www.a1steam.com

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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