

# THE COMMUNICATION CORD



60163 TORNADO

New Steam for the Main Line

No. 32 Autumn 2013



**Tornado is seen during a night photography shoot at Barrow Hill.**

Jack Beeston

## CONVENTION 2013 REPORT

*by Graham Langer*

The AI Steam Locomotive Trust's annual Convention found the Trust back at the Chesterfield Hotel, convenient for Barrow Hill Roundhouse where *Tornado* had arrived the night before. An audience of around a hundred and fifty listened to Mark Allatt open the proceedings by welcoming those present, in particular David Champion who has just accepted the role of Vice President to the Trust.

Mark then went on to cover some of the highs and lows of the period since last year's convention, briefly recording some great work on 'The Cathedrals Express', the well-documented problems with the air pumps, the launch into traffic of the support coach, 'The Elizabethan' and a terrific tour of Scotland. Mark concluded by paying tribute to Barry Wilson who has recently stood down as a Trustee and

finance director after being involved in the project since almost the beginning.

It therefore fell to David Burgess to present the financial statement to the assembled company. David revealed that Covenantor income was holding steady but overall income had been considerably boosted by legacies, particularly that of the late Peter Haddon, and even after over half a million pounds of expenses the Trust ➤

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was still in the black. David explained how this had enabled the Trust to accelerate the repayment of the bond, allowing the complete repayment of outstanding bond holders. Income has been boosted by excellent merchandising returns and this has helped the accumulation of a repair contingency fund although the tender, currently leased from William Cook Cast Products, still has to be paid for.

David Elliott took over to cover the engineering aspects of the last year. *Tornado* is beginning to show her age, he said, and after 70,000 miles this was hardly surprising. An intermediate overhaul will be undertaken this winter in consequence. Recapping on an eventful year, David told the assembled company that *Tornado* had been fitted with a replacement chime whistle valve, an additional mechanical lubricator reservoir and, during the winter maintenance programme, new cylinder liners; at the same time the opportunity had been taken to re-metal the motion bearings, grind the slide bars and fit new piston and valve rings. David went on to explain that the failure at Rhyl had its origins in the fitting of the third, refurbished, air pump earlier on; this had given up the ghost on its second outing, forcing the engineering team to refit a tired pump while they tried to repair the 'new' one. Investigations into these failures led to a change in the oil used to lubricate the pumps and a thermocouple has been fitted to monitor the temperatures the pumps are operating at. A couple of weeping stays have been dealt with during the year but this has involved the welds rather than the stays which, when changed, showed no distress. The locomotive paid a visit to the Mid Hants Railway to enable the use of their wheel-drop in order to re-shim the horn guides on the rear driven axle, the liners of which had come adrift.

Next to take the floor was Rob Morland who briefly covered the electrical work undertaken on the locomotive in the last year. Thankfully all the systems are holding up well with few, if any, problems appearing. One thing that had to be done was the fitting of the GSMR radio and this is working well. Rob reported that we had leant our high intensity head lamps to two high profile locomotives, Met No. 1 for her historic runs under London and *Bittern* for her 90mph dashes on the ECML.

John Wilkinson took over from Rob to cover the locomotive's operational year. He said it had been a good season involving some very long days and he paid a warm tribute to the hard-working support crews who made it possible. John expressed his gratitude to Crewe Heritage Centre for their help fettling

the air pumps and assisting with correctly setting the safety valves. In addition to the work outlined by David Elliott he related how minor repairs such as re-metalling a crosshead had been dealt with. John told those present how the support crew was being enhanced with the addition of new members, a developing competency matrix and the benefits of a purpose built support coach. Turning to the impending intermediate maintenance he assured covenantors that many of the smaller matters had been 'managed away' during the course of routine repairs thus minimising the amount of time required for the overhaul itself. Summing up John said that the agreement with Southall, now 18 months old, was working well, Locomotive Services Ltd. were a good business partner and the availability of fitters to help with occasional work (such as casting a new concrete brick arch in 30 degrees heat with Jon Pridmore in charge) has been invaluable.

At this point Richard Peck took over the microphone to present a summary of *Tornado's* work in the previous year, including a total of 22 trips for Steam Dreams, becoming the first steam locomotive to work a passenger train north through Birmingham New Street (without setting off the fire alarms!), the epic run to Inverness with twelve coaches on and the SRPS circular tour. Although five trips had been lost for a variety of reasons, five additional trips had been gained. Heritage railways to be visited in 2013 included the North Yorkshire Moors Railway, the Mid Hants, Crewe Heritage Centre, Barrow Hill and, of course, an historic visit to the Bluebell Railway. With *Tornado* undergoing an intermediate overhaul until June next year and no more planned work for Steam Dreams in 2014, the Trust is aiming to run around six of its own trips in the latter part of next year.

David Elliott then resumed his engineering brief, this time covering the support coach. David revealed that the coach had been in a very 'tired' state and had required a considerable re-build as part of its conversion to a fully-functioning service vehicle. The requirement for power generation, hot water on demand and increased water capacity had all been met and a thoroughly useful vehicle had been delivered to Crewe for uniting with the locomotive. Rob Morland took over here to detail some of the work needed on the complex electrical network in the coach including AC and DC lighting circuits, LED lamp fittings, fluorescent lighting, fixed head and/or tail lamps, a five litre tea boiler and mobile 'phone charging facilities. This work required 4.1 miles of wiring, 52 connectors, *continued overleaf*



It's difficult to believe that it is now five years since *Tornado* hauled her first passenger train on the Great Central Railway – a milestone we celebrated at our annual convention on 21st September. 70,000 miles and countless adventures later *Tornado* continues to do what she was built for – hauling express passenger trains on Network

Rail at speed, thrilling and enthralling passengers and line-siders alike. Highlights of the past five years include:

**A star is born:** having been launched to the world on 1st August 2008, *Tornado's* progress was followed every step of the way by the British public who turned out in their thousands to travel behind her on her first passenger trains on the Great Central Railway in September 2008, watch her final night-time main line test run from York to Newcastle and back on 18th/19th November 2008 and her historic first train from Darlington to a packed London King's Cross on 7th February 2009.

**By Royal appointment:** *Tornado* was officially named by TRH The Prince of Wales and The Duchess of Cornwall 19th February 2009 at York station witnessed by thousands of members of the public and the celebrations included an RAF band and flypast. The locomotive then went on to haul the Royal Train to Leeds with Prince Charles on the footplate for part of the journey. *Tornado* made her second appearance on the Royal Train on 4th February 2010 when she took TRH The Prince of Wales and The Duchess of Cornwall from on Preston to engagements in Manchester and then on to Crewe. Her third appearance on the Royal Train on 22nd/23rd July 2012 was with the momentous first overnight Royal Train for over 50 years when *Tornado* took The Prince of Wales from Kemble to Bishop Auckland and then Alnmouth. A surprise guest on this train was the soon to be appointed Archbishop of Canterbury, The Most Reverend Justin Welby.

**Record breaker:** as well as being the first new main line steam locomotive to be built in Britain for over 50 years, *Tornado* is also the first steam locomotive to have been paid for by public subscription. Performance wise, from the earliest days *Tornado* has been a record breaker. On her test run on the East Coast Main Line (ECML) on 18th November 2008 the locomotive averaged over 70mph from York to Chester Le Street. This was a first for preserved steam, and is exceptional given the 75mph speed ceiling for steam locomotives on Network Rail. And it isn't just sustained high-speed running, but also power output records that have been set, with over 3,000idhp produced on a magnificent climb of Beattock Bank on 'The Caledonian Tornado' on 21st September 2011. Finally, haulage wise on big hills the ex-LNER Pacifics were considered to have too large wheels, but those who witnessed *Tornado* over the GWR's South Devon Banks, or its two unforgettable runs over the Highland Main Line to Inverness would suggest something different. With the potential of an increase to 90mph for *Tornado*, what new records await?

**Media celebrity:** following her first moves, test trains and Royal naming, *Tornado* continued to remain in the public eye, hauling the commemorative 'Winton Train' from Harwich to London Liverpool Street to mark the 70th anniversary of the 'Kinder Transport', hauling the only working trains in Kent during the heavy snowfalls of December 2009, starring in 'The Race to the North' on *Top Gear* with Jeremy Clarkson on the footplate watched by an estimated seven million people first

time around and the subject of her own TV documentary *Absolutely Chuffed* which was the most watched programme on BBC2 on Christmas Eve 2008.

**Paying her way:** the overwhelming majority of the £3m needed to build *Tornado* was raised through regular donations (covenants), dedicated donations to sponsor particular components, legacies, a £500,000 bearer bond issue, corporate sponsorship and some bridging finance from Venturesome and generous supporters. In addition to overhauling and converting Mark 1 BCK coach E21249 into *Tornado's* dedicated support coach, all of the borrowings have been repaid and notice given for the repayment of the bond some three years earlier than required. This leaves only *Tornado's* tender which is on a 15 year lease from principal sponsor William Cook Cast Products to be purchased, leaving the Trust debt free. Read more about how you can help the Trust to purchase *Tornado's* tender on page 5. None of this would have been possible without the dedication, professionalism and generosity of our covenantors, volunteers, contractors and other supporters.

Looking forward, we have new challenges to address and opportunities to seize. Apart from the purchase of *Tornado's* tender we still have a few slices left on the support coach to hit our fundraising target before we close this initiative at the end of the year.

We also have the opportunity to do something new with *Tornado's* main line operations from the next season following the decision of Steam Dreams, the promoters of 'The Cathedrals Express', to transfer its train operating contract from DB Schenker to West Coast Rail. In the short term Steam Dreams' decision will mean that *Tornado* will be hauling fewer trains on the main line. However, the Trust had already been looking at different and better ways of running *Tornado*, plans which will now be brought forward. *Tornado* will also be undergoing her scheduled five year intermediate overhaul in the first half of 2014 which will allow time for a full plan to be developed.

We have also decided to press ahead with a second locomotive, Gresley class P2 No. 2007, though a separate subsidiary The P2 Steam Locomotive Company, more of which you can read about on page 6. As I write The Founders Club has already raised in excess of £70,000 of its £100,000 minimum target to get the project to the point of laying the frames.

The secret of the Trust's success remains the loyalty and support of our covenantors and the professionalism and dedication of our volunteers - without whom none of this would be possible. It is in that vein that I would like to pay tribute to Barry Wilson who has recently stood down as a Trustee and our finance director after being involved in the project since almost the beginning – you can read more about Barry's outstanding contribution to building and operation of *Tornado* on page 16. And I would also like to welcome back my predecessor, David Champion, who has just accepted the role of Vice President to the Trust and made a truly inspirational contribution to the launch of The Founders Club for the P2 project.

It is vital for our future success that we continue to grow our supporter base by recruiting more people as covenantors 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. **TCC**



3,600 components and the creation of sixteen custom made LED reading lamps, much of it installed by Paul Depledge. All of it was then tested and pronounced fit for main line use by York EMC Services who conducted the electro-magnetic examination of the coach.

To explain where some of the money for the Trust is coming from, Gill Lord gave a presentation on behalf of the sales team. She said they had run a very successful training day in February (despite the snow) and that the team was enjoying the new coach, especially the 'Tardis' – the cupboard into which an amazing volume of sales items disappears!

Alexa Stott carried on from Gill

to cover the associated subject of volunteering. Alexa re-asserted the Trust's need for more volunteers which are required in assorted roles and paid tribute to Roger Aves, the Trust's presentations guru who is handing over to Chris Hardy. Alexa said that the next priorities were to finish paying for the coach and 'get (a tender) behind *Tornado*' by purchasing the latter from William Cook Cast Products who have been leasing it to the Trust. As ever the mantra is 'Carry on Covenanting' and to help this process the gold, silver and bronze badge scheme will be refreshed as will the Easy Fundraising web-based format. The *Tornado* Team was continuing to thrive with the first

'graduate' soon to join the support crew. Alexa finished by thanking Covenantors for raising £1200 towards the cost of getting *Tornado* to Barrow Hill for the Convention.

Mark Allatt wrapped up proceedings by reminding all present that the day was the fifth anniversary of *Tornado*'s first public runs on the Great Central Railway and to celebrate Alexa produced a suitable cake bearing a likeness of *Tornado*'s smokebox number plate (although we won't try to sell this one!); the five candles were blown out after a chorus of 'Happy Birthday'. A lively Q & A session covered topics as varied as the cost of coal, 90mph running, livery and air pumps. **TCC**



**Covenantors with their locomotive and Mallard at Barrow Hill.**

## TOURS DIARY

Below are the future operations *Tornado* is confirmed to be involved in. More details will be published on [www.allsteam.com](http://www.allsteam.com) as trains are finalised. Contact details for tour companies appear at the bottom of the page.

- **Friday 1st - Sunday 10th November**  
– The Nene Valley Railway, Peterborough

- **Saturday 23rd November** – 'The Cathedrals Express' - London to Shrewsbury and return – promoted by Steam Dreams

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

The following tour operators and preserved lines are involved with the operations listed above:

**Steam Dreams** Web: [www.steamdreams.com](http://www.steamdreams.com) Tel: 01483 209888 Email: [info@steamdreams.co.uk](mailto:info@steamdreams.co.uk)

**Nene Valley Railway** Web: [www.nvr.org.uk](http://www.nvr.org.uk) Tel: 01780 784444 Email: [nvrorg@nvr.org.uk](mailto:nvrorg@nvr.org.uk)

## GET (A TENDER) BEHIND *TORNADO*: Join the I63 Club



The tender tank is united with its frames in 2008.

Join the I63 Pacifics Club and make *Tornado* debt free. Since *Tornado*'s first moves in 2008 all of us have worked hard to repay the debt incurred during the locomotive's construction as well as funding the overhaul and conversion of support coach E21249. The first debts to be repaid by the Trust were the bridging and personal loans that financed the final dash to completion. In July 2013 we were able to announce the early repayment of the £500,000 Bearer Bond at the end of the 2013. The final step to make *Tornado* debt-free is to purchase 60163's tender, which is currently on a 15 year lease from William Cook Cast Products Ltd.

Back in 2006 Andrew Cook, chairman of William Cook and our Principal Sponsor, generously offered to pay for the construction of *Tornado*'s eight-wheeled tender to enable the funds being raised to be spent on other parts of the locomotive. We now need to raise £200,000 to purchase the tender from WCCP when the lease expires in 2021. *Tornado*'s tender is a development of those built for the original Peppercorn class A1s - mainly due 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* 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!

How you can help - 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 in 1990. Following the success - thanks to your generosity - of our Regular and Dedicated Donation schemes for the construction of *Tornado* and the 1,524 slices appeal for the overhaul and conversion of E21249, her dedicated support coach, the Trustees have 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 I63 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 60162 *Saint Johnstoun* - her pre-nationalisation LNER number would have been '163'.
- If I63 people were to donate £10pm 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 (£2.50pm or £240 one-off) this would raise £195,600.

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

- A numbered certificate (I-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 A1/1 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 *Tornado*.

It really is that simple! With your help *Tornado* could be debt free with her paid-for tender behind by 2021. Please complete the form today. Thank you. **TCC**



## THE LAUNCH OF THE FOUNDERS CLUB FOR THE P2 *by Graham Langer*

“To develop, build and operate an improved Gresley class P2 Mikado steam locomotive for mainline and preserved railway use”.

Proceedings opened with Mark Allatt introducing an inspiring video presentation by Tom Ingall of *Absolutely Chuffed* fame. Having shown this, he welcomed David Champion, newly appointed vice president of The A1 Steam locomotive Trust, who enthused the assembled company with the tale of the early days of the A1 Trust. In the beginning the builders of *Tornado* had nothing, but, he said, fortune favours the brave and they had the method, if not the means to get started. Using the best professionals and the best technology the process was one of simply “eating the elephant, one manageable piece at a time”. In many ways the construction of No. 60163 and now No. 2007 was like reviving the Beatles who, when they disbanded in the mid-sixties, were missed by millions; the difference here that although there is no chance of the latter getting back together, the possibility of building a new P2 is achievable! David concluded by stating that the P2 project was a ‘brave and audacious concept and that fortune still favoured the brave’!

Mark Allatt took over to give a brief history of the original Gresley ‘Mikados’, from the early trials of the two P1s through the development of the P2s to their rebuilding by Thompson and scrapping by British Railways. The P2s had many new features and were extensively tested on the rolling road at Vitry in France and on the East Coast Main Line but insufficient time was spent developing the class before World War II and Gresley’s death intervened. Britain’s most powerful express passenger locomotive remains one of the most significant missing links represented in the canon of preservation. It is impossible to ignore the ‘procession to the plinth’ slowly catching up with older examples

of preserved locomotives and if main line steam is to have a future then new builds still have an important role to play. Mark reiterated the P2 mission statement and assured all present that we have the right team in place and are keen to involve a new generation in the excitement of creating another iconic locomotive.

At this point Huw Parker introduced himself as a project manager. Huw assured his audience that the agreed design principles would produce a finished locomotive that was aesthetically similar to the original Gresley design but which benefited from some sensible technical changes. No. 2007 would have many components in common with *Tornado* and all decisions would be based on value for money and predicted running costs. In the design phase the Vampire modelling had been used to inform many of the design changes and this process would continue throughout the build.

Graham Nicholas took over from Huw to cover aspects of certification and running on the main line. He said there was little technical evidence left about the original class so it will be necessary to demonstrate that it will be acceptable on Network Rail. Owen Evans had now produced three computer models of the P2, No. 2001, No. 2007 v.1 and No. 2007 v.2! The fitting of spring control and hydraulic dampers to the latter had produced a design that performed as well as the model of No. 60163.

David Elliott carried on from Graham, adding further detail to the way in which computer modelling (with CAD design) will be used to produce No. 2007. There would be improvements to design, construction methods and materials used with a higher pressure boiler feeding smaller cylinders to improve economy and increase power output. David showed an initial CAD rendering of the frames,

illustrating how much *Tornado* technology will be incorporated into the design. The aim is to have the locomotive completed within seven years of cutting the frames.

Standing in for Tim Beere (marketing), Mark Allatt confirmed that such a timetable would be possible if the cash flow matched the engineering. £5m is a lot of money but the Vulcan project raised £5m for their aircraft and the Welsh Highland Railway found £25m. To raise this sum he said that a number of schemes would be used, initially The Founders Club to raise a minimum of £100,000 to formally launch the project and pay for the frames followed next year by the usual methods employed so successfully by the AISLT to date; however, a ‘P2 for the price of a pint’ would have to be adjusted up to £10 per month to allow for inflation! The P2SLC would be seeking commercial and private sponsorship, loans, legacies, grants and gift aid where possible.

Graeme Bunker then addressed the question, “How you can help” by reviewing the work done to date, the business plan, the structure already in place, the sponsors already on board and the establishment of The P2 Steam Locomotive Company. He revealed that James May, of BBC’s *Top Gear*, was already involved and had offered to make the first component! Graeme stressed how important The Founders Club was in kick-starting both the engineering and fund-raising sides of the operation. He briefly outlined an attractive range of benefits Founders would be entitled to and officially launched the Club!

It fell to Mark Allatt to wrap the presentation up and there followed an interesting Q & A session which covered the question of a name for No. 2007 (the high-profile name has already been agreed but is yet to be announced), wind tunnel testing, valve gear choices, boiler builders and the feed-water heater. **TCC**

## LOCOMOTIVE MANAGER’S REPORT *by John Wilkinson*

The last report found us back at Southall following our Scottish adventure. In reality that left three days to spare until the next run on 21st June following which there were a number of runs up to the 7th July. On a number of occasions this year we have found ourselves stranded in the DB Schenker yard at Wembley as a combination of factors worked against us as we found ourselves trapped in the yard by engineering works. After the run on 7th July we were trapped at Wembley and eventually we got back Southall at 05:00hrs on the 8th July. We then started preparations to run the loco out again on 9th July, the preparation was all but complete when we were advised that the train would not be able to run due to fire risk in the hot weather.

Once the July running was complete attention turned to the need to replace the brick arch which was eventually

completed by Jon Pridmore, Mick Robinson and myself in 33 degree temperatures at Southall. We also decided to use the break caused by the steam ban to investigate a knock which had developed in the back driving axle and how to repair it.

After looking at the options arrangements were made to get the loco to the Mid Hants Railway at the end of July and repairs were effected in time for *Tornado*’s programmed visit to the North Norfolk Railway. Unfortunately, this visit did not take place as the loco was trapped on the Mid Hants Railway by signalling problems for several days. On the 3rd September *Tornado* moved back to Southall and commenced a series of runs some of which had been booked for some time and some extra ones as well. All runs were completed successfully and *Tornado* moved to Barrow Hill for another very successful Convention. **TCC**

# Covenantors' Diary by Alexa Stott

I must start my column in this edition of *The Communication Cord* with a thank you to all those Covenantors who attended this year's Convention and Annual Dinner. Once again we had good weather – well it didn't rain and the sun actually managed to find a way through the cloud in the afternoon. The 'Tornado Team' basked in glorious sunshine the following day! The Convention is reported on in more detail elsewhere in the magazine but I must make particular mention of the fantastic response to our special appeal for donations towards the cost of moving *Tornado* to Barrow Hill. Those of you who attended – as well as some who weren't able to – donated £1,200 – thank you!

In the course of my part of the Convention presentation I announced a re-launch of the Covenantor donation scheme. Covenantors will still receive all the following benefits:

- A copy of "The Tornado Story" book and a photograph of *Tornado* when they become a Covenantor
- *The Communication Cord* and *The Tornado Telegraph* magazines by email
- *Top Link* by post
- Invitation to Annual Convention and other events at preserved railways
- Privileged access to *Tornado* at special Covenantor events
- Opportunity to volunteer
- Exclusive Covenantor tie, scarf and badge to buy
- Annual Convention team photograph to buy

All the above will still be available for £5 per month. However, to encourage a minimum donation of £10 a month (a pint of beer in Newcastle is now £3.10, it was £1.25 in 1990) we are introducing a Covenantor Awards scheme:

- **Bronze** Pay £10 per month and recruit 1 new Covenantor – certificate, bronze badge
- Silver: Pay £25 per month or recruit 5 new Covenantors – certificate, silver badge, heritage railway cab ride
- **Gold** Pay £50 per month or recruit 10 new Covenantors – certificate, gold badge, main line support coach ride
- **Platinum** Pay £100 per month or recruit 20 new Covenantors – certificate, platinum badge, main line cab ride

There will also be a Volunteer Recognition scheme.

Many of you will also be aware that at the Convention we announced that the commencement of construction of the P2, No. 2007, had been agreed. I do hope that many of you will be as supportive of this project as you have been of the construction and operation of *Tornado*. The Founders Club has already been launched and the opportunity to covenant will start in 2014. However, I would like to stress that the construction of the P2 will be undertaken by a separate subsidiary company and all fundraising will be kept separate as well. Those of you who only wish to support *Tornado* may continue to do so in the knowledge that your money will only be put towards *Tornado*. We are determined that in embarking on this new project there should be no risk to our first locomotive.

Going back a few weeks before the Convention, unfortunately we were not able to attend the North Norfolk Railway's Grand Steam Gala at the end of August due to *Tornado* being 'landlocked' at the Mid Hants Railway because of over-running engineering works on Network Rail. We were all very disappointed at this turn of events. However, I am very pleased to announce that, when we are able to reschedule this visit,



Alexa Stott



**Tornado Team members at work with *Tornado* at Barrow Hill.**

the North Norfolk Railway has very kindly agreed that the previously arranged Covenantor discounts will be extended to a new date. I will let you know as soon as we have finalised the arrangements.

So what did the Tornado Team get up to on their Team Day on the Convention weekend? I am delighted that fifteen of the 51 members of the Team, together with their families, attended the Tornado Team Day. Not only did they have great fun cleaning *Tornado* and inspecting the new support coach but the Barrow Hill team allowed them to operate the turntable (by hand!), visit the newly overhauled signal box and – perhaps the best treat of all and a special surprise for the children – spend time in the cab of A4 No. 4468 *Mallard* which was at Barrow Hill as part of a special tour to celebrate the 75th anniversary of its world record breaking speed run in 1938.

As always, I must thank those Covenantors old and new for their commitment to, and support of, the work of the Trust. **TCC**







Recalling evocative memories of an AI on shed in the 1950s, 60163 *Tornado* stands outside Barrow Hill's roundhouse on 25th September 2013.

# TORNADO ON TOUR

by Graham Nicholas (assisted by John Wilkinson & Jon Pridmore!)

## Mid Hants Railway 16th August

72 miles run

Taking advantage of a lull in booked mainline workings, *Tornado* travelled to Ropley on the Mid-Hants Railway on 2nd August (with 37901 for company, due to the summer fire risk). The prime reason for the visit was to make use of the excellent wheeldrop facility there, to give some much needed attention to the rear axleboxes which had started to develop an unpleasant 'knock'. Repairs duly completed, the favour was repaid by the AI appearing as 'Gordon the Blue Engine' on 16th August as part of the line's Thomas gala (and to run in following repair), which prompted some not-so-discerning enthusiasts to refer to her as *Gornado*!



Joseph May



Alan Weaver

## 'The Cathedrals Express', 5th September Surrey to London & Lincoln and return charter for Steam Dreams 300 miles run

Originally scheduled to be run with 4464 *Bittern*, *Tornado* was herself subject to a substitution of sorts when a diesel pilot locomotive had to be attached for this run to the heart of Lincolnshire due to fire risk conditions that had built up following the prolonged dry spell on the east side of the country.





### **‘The Cathedrals Express’, 7th September**

**London (Waterloo) to Salisbury and Cardiff charter for Steam Dreams 399 miles run**

*Tornado* got the chance to check out if her recent surgery at the MHR had been successful on this run to the principality (via Bath). On a day where the sun shone brightly, the ‘fire risk’ conditions were deemed not to be too severe so she was entrusted with the train on her own. And the verdict from those who rode the locomotive? A big improvement, so a ‘well done’ all round to those who worked on the repairs at Ropley.

### **‘The Cathedrals Express’, 10th September**

**London (Victoria) to Sheffield Park (Bluebell Railway) charter for Steam Dreams 172 miles run**

After several false starts, it fell to *Tornado* to be accorded the notable honour of being at the head of the first through steam-hauled railtour onto the Bluebell Railway using the new mainline link (most appropriate, being a blue locomotive herself!). The run down to East Grinstead was uneventful and, as soon as the train was on Bluebell metals, AI crew John Wilkinson and Jon Pridmore were straight on the footplate (under the supervision of a Bluebell Railway conductor driver) with 12 coaches and a class 66 diesel in tow. A sizeable crowd looked on from most locations on the railway and there was a further nice touch as the AI was adorned with original ‘Blue Belle’ headboard (as formerly carried by Caledonian Single No. 123 – another blue locomotive (!) – on the original train in 1963). The headboard remains in original condition and is owned by NYMR footplateman Ian Foot who joined the team in the support coach for the day.





# TORNADO ON TOUR *continued*

## **'The Cathedrals Express', 14th September** London (Euston) to Worcester charter for Steam Dreams 329 miles run

Deputising for the doyen of the BR standard fleet (unavailable 70000 *Britannia*), another unusual 'first' was clocked up on this tour, being the first steam hauled train to run northbound through the nominally 'underground' Birmingham New Street station since the end of steam. The fire alarms remained silent and it appears that *Tornado's* latest 'first' was another success. Running was good all day and an early arrival back at London Euston on the return was appreciated by all. The turbo alternator (the primary source of on board electrical power) failed during the day but the back-up tender mounted axle driven alternator more than kept up with power demand so no-one other than the few 'in the know' were any the wiser (which is as it should be). Repairs have since been completed.

## **'The Cathedrals Express', 17th September** London (Staines) to Kingswear 1Z23 charter for Steam Dreams 480 miles run

A long day out to the English Riviera for locomotive and support crew. Sadly the weather didn't live up to the seaside billing, but the train ran pretty much to time during the day nonetheless, the only delay of any note (14 minutes leaving Salisbury) being recovered by Bristol. A good run back saw the train arrive at Westbury on time, from where locomotive and support coach ran back light to Southall. There were problems with a dirty fire but despite this *Tornado* steamed well all day.



Gerry Hurfurt





Anthony Noble

**‘The Cathedrals Express’, 19th September** Canterbury to Salisbury 1Z41 charter for Steam Dreams 400 miles run *Tornado’s* time-keeping was exemplary throughout another overcast, misty day, when the previous month’s fire-risk restrictions seemed a world away. Locomotive and crew were spared the last leg to Canterbury and back, coming off the train at Willesden. This move was especially appreciated as 60163 had to head north the very next morning for her all-important annual convention appearance.



# ENGINEERING AND SUPPORT COACH UPDATE

by David Elliott

## General

The locomotive has been running well requiring only routine maintenance. This has been helped by the relatively quiet period of operations resulting from fire risk cancellations and being boxed in at the Mid Hants Railway due to overrunning engineering work on the Network Rail Alton branch. The main activity has been the rectification of a problem with the fireman's side trailing hornblock.

## Rear coupled cannonbox/ hornblock clearance

For some time a distinct knock has been coming from the fireman's side of the engine towards the rear accompanied by increased vibration. Investigations indicated that there was excessive clearance in the rear coupled cannonbox and the RH (fireman's side) hornblock.

Thanks to an offer from the Mid Hants Railway, the loco was taken to Ropley the beginning of August and following removal of the rods, horn keeps and springs the rear coupled wheelset was dropped sufficiently to give access to the horn faces. In summary the rear RH hornblock liner was found to be loose and had fretted the adjustment shims. The alignment of the rear axle was checked relative to the middle axle and new shims fitted to get the cannonbox back into the correct position and within acceptable clearances.

## Annual maintenance/ intermediate overhaul

Further work led by Huw Parker has been done to define the scope and timescale for the intermediate overhaul starting in January 2014.

## 21249 Support Coach

The new support coach has continued to work well with only a few teething problems.

## Alternator

The problem of the non-working alternator was investigated at the Mid Hants Railway where the opportunity was taken to use their alternator test rig. However, no further progress was made with rectifying the fault, the conclusion being that the regulator has stopped working. The MHR kindly lent us a spare regulator which we have since fitted and this has cured the fault.

Rob Morland has offered to investigate the defective regulator so that we can find out how it works and fix it. This will



David Elliott

The rear axle is dropped out at Ropley.

“...the rear hornblock liner was found to be loose and had fretted the adjustment shims.”

make future problems with the alternator/regulator (which are the same types as fitted to the tender) quicker to solve.

## Leaking doors and droplights

Problems have been experienced with water coming in around the tops of body side doors and through the tops of droplights in heavy rain or when washing

the coach with a hose. On examination the rubber seals between the door frames and the droplights were found to be perished. Thanks are due to the Severn Valley Railway C&W workshop at Kidderminster who have supplied set of replacement rubber seals which have been fitted. The water entering over the top of one door has not shown an obvious



cause so an experiment of forming a temporary drip on the lintel of the door frame using silicone sealant has been carried out.

### Water pump

To provide mains water pressure for the two water heaters and the tea boiler the coach is fitted with an automatic water pump with a small diaphragm type reservoir. The pump draws water from the tanks over the kitchen and the compartment end vestibule and operates when the pressure drops below about 2 bar and cuts out at around 3.5 bar. Thus in normal operation, it only runs occasionally. However we have discovered the hard way that if the tanks run dry the pump ran continuously and eventually damaged its seals. The pump was repaired, but in order to reduce the risk of this happening again, an electronic pump controller has been fitted to the outlet side which will shut the pump off if the pressure drops below 1.5 bar for more than 40 seconds.

### Central heating system

The new heating system which works like a conventional domestic central heating system was commissioned with plain water with corrosion inhibitor added. With the winter approaching and the system demonstrated as leak free, 25 litres of antifreeze has been added to give frost protection down to -14 degrees C. the alternative is to drain the system every time the coach is left unused in freezing weather which given the time it take to refill the system and bleed all the air out of it is not a practical solution. **TCC**

### Outstanding work to finish the coach

The remaining minor tasks are being completed as time and resources permit.

**Right: The chef (Graham Nicholas) cries with happiness at the wonderful new kitchen facilities? No - he was chopping onions at the time.**



Graham Nicholas

## SUPPORT COACH FUNDRAISING – ONLY £6,500 TO GO!



**Your support for 'Use your loaf' has now reached £69,700. Your help is still urgently needed to help us complete the job.**

**The coach is now complete and fulfilling its purpose as a service vehicle to *Tornado* on the main line. However, we still need to raise the balance to pay for the work involved in restoring and equipping the vehicle.**

- Make a personal subscription to 'Use Your Loaf'
- Introduce Friends & Family to 'Use Your Loaf' and more people hooked on *Tornado*.

**Use Your Loaf:** Following the success of our dedicated donation scheme for the construction of *Tornado*, "an AI for the price of a pint" we decided to raise the bread for the support coach in a different way:

'Use Your Loaf':

- The coach is 63ft 6in in length – 762 inches – or 1524 'slices' at ½ inch each.
- Each 'slice' can be sponsored for £50; £100 for a 'doorstep'; £1,000 for 'half a loaf'; and £2,000 for a 'loaf';
- If all are sponsored, it would raise £76,200; if we assume 80% of the donations come with Gift Aid, this rises to over £93,000

And, as with the dedicated donation scheme, our 'Use Your Loaf' initiative comes with benefits for those generous enough to take part:

- A certificate recording the details of the sponsorship and a copy of a drawing of the coach noting which slice(s) have been sponsored

- Name inscribed on the official Role of Honour carried on the coach which will detail the slice(s) sponsored
- Entry into draw for main line footplate ride on *Tornado*
- Opportunity to purchase Bachmann model of E21249 (a perfect companion to the models of *Tornado*) with appropriate one of 1524 certificates produced for sponsors. The model costs £30.00 plus £3.00 postage & packing.

As of September the 'Use Your Loaf' campaign has raised £69,700 which translates to 58 feet 1½ inches of the coach's length, an increase of £2,600 since the last *TCC* was published, as illustrated on the diagram. Please help us complete the project. **TCC**

## BARRY WILSON – A PROFILE

by David Burgess



**Graeme Bunker and Barry Wilson enjoy the first meal cooked on *Tornado's* fire.**

Barry stood down from the role of Finance Director of the Trust prior to this year's Convention having filled the position since 1994 but got involved with the Trust at its inception. He was one of the first covenantors and attended the second public meeting held at King's Cross in 1990. Born and raised in Hull he was a keen trainspotter in the 1950s along with many of his generation and naturally developed an interest in all things LNER. On leaving school he qualified as a chartered accountant and it was while on an audit that he met his wife, Linda. They have two sons and two grandsons. Barry's career eventually led him to work for accountants in Jersey, where he still lives, in 1978, later moving into the banking sector until retirement a couple of years ago. Apart from his activities for the Trust Barry is keen on most sports, particularly cricket, soccer and Rugby Union, and played the first a few and squash until problems with his knees forced him to give up.

His qualifications and experience made him an ideal person to become the Trust's finance director and the work he did, though not glamorous or in the public eye, was most crucial to the Trust. The day to day work involves maintaining the books, liaising with the banks, preparing cash forecasts, approving purchase orders, paying bills, raising sales invoices, debt collection and regular

reporting to the Trustees. Preparation of annual budgets from information provided by the engineering, marketing and merchandising teams, reporting to HMRC, doing group VAT returns, making bond interest payments, preparation of the annual accounts and liaison with the Trust's auditors are all part of the regular mix of activities. All these functions have increased significantly since completion of *Tornado* as there are now two active subsidiary companies covering operations and merchandising.

Barry came up with the concept of dedicated covenants, which became a major source of donations in the early years of the project, and the idea of raising funds to buy the boiler by the issue of the bearer bond in 2004. This raised enough money for the Trustees to be able to order the boiler, which in turn provided the catalyst for a major surge in covenant income and therefore reduced the time to complete construction significantly. In the early years Barry very generously advanced loans to the Trust and he and Linda purchased and donated the support coach which was overhauled and converted at DLW. As a volunteer he assisted with aspects of construction of *Tornado* and since 2009 has been a member of the support crew.

Having given of his time, money and ideas over the years, clearly, he has been invaluable member of the team! **TCC**

## SITUATIONS VACANT!

We have two voluntary roles to fill within the Trust. If you are interested in helping us please contact David Burgess [david.burgess@alsteam.com](mailto:david.burgess@alsteam.com)

### Finance Director

The main functions are: Liaise with book-keeper/accountant on day to day financial matters and prepare clear reports to the board for bi-monthly meetings and additionally as requested. Produce monthly 'flash report' and annual long term projection. Prepare annual budgets from departmental information provided and monitor expenditure and income against them. Monitor cash position. Prepare statutory accounts for group companies for audit from information provided by the book-keeper/accountant and liaise with auditors and Company Secretary. Submit Charity Commission annual return. Liaise with bankers and HMRC as necessary.

The FD must be a collaborative team player who can report effectively to the board and work effectively with the book-keeper/accountant and have good communication skills. Most work is done via email but the FD will be required to attend board meetings and other meetings on occasions.

### Accountant / Book-keeper

The main functions are: Maintain the books of the group companies (currently using Quickbooks), prepare income and expenditure accounts, cash summary and other reports as necessary for the bi-monthly board meetings and other as requested. Prepare and issue sales invoices and manage debt collection. Pay invoices approved by budget holders and board members and manage Standing Orders and Direct Debits. Liaise with the Finance Director as necessary. Prepare and submit group VAT returns and deal with HMRC returns, including liaison with auditors.

The book-keeper/accountant must be able to work on their own initiative with accuracy and attention to detail, be a collaborative team player and be an effective communicator with the FD and the rest of the board.



## MERCHANDISE UPDATE *by Gill Lord*

Since I last reported, our merchandise teams have worked eight mainline trips, and four stands at events. A favourite trip amongst the merchandisers was the run into the Bluebell Railway and another was *Tornado* chuffing her way through the tunnels at Birmingham New Street station, these are the perks of being involved with the sales team!

The stands were all mounted at Barrow Hill, firstly for our annual convention, where sales were very good on convention day, well over £2,000. This year the convention was actually held on the 5th Anniversary of *Tornado* carrying passengers for the first time at the Great Central Railway so I decided to have a few special 5th anniversary mugs made, these proved very popular.

The second time was the following day with a few more sales to the *Tornado* Team who had a great day washing and polishing *Tornado*, a few merchandise volunteers for the future? The 3rd and 4th were the next weekend, attending 'Barrow Hill Live' where our stall attracted many visitors.

We have had a busy autumn with events at heritage railways, starting at The North Yorkshire Moors Railway at the beginning of October, the Mid Hants Railway at the end of October and one week later to the Nene Valley Railway. The merchandise teams always enjoy working on the stand as we have more time to talk to people about and recruit more covenantors. Sometimes the weather can be rather inclement but it all adds to the fun of the occasion - unless the rain gets into the till, or a leaky roof means we have to strategically place items for sale, as I say all good fun!

Please remember to look on our web site for that special Christmas present for the discerning *Tornado* follower, or Christmas cards to send out to them or even the 2014 calendar, which once again is full of glorious photographs of *Tornado*, back by popular demand to the usual format, A4 size opening up to A3 (see page 18). We try very hard to make sure our orders are sent out quickly, especially around the Christmas period, but please order early!

I look forward to saying hello to as many of you as possible who can get to one of our stands.

60163

### FOR SALE 9 TORNADO SMOKEBOX NUMBERPLATES

- **21st/22nd August 2010** Mid Hants Railway
- **9th October 2010** Barrow Hill Convention
- **3rd July 2011** 'Torbay Express'
- **10th July 2011** 'Torbay Express'
- **17th July 2011** 'Torbay Express'
- **8th December 2012** 'The Cathedrals Express' - Southend to Oxford and return
- **29th November 2012** 'The Cathedrals Express' - London Victoria to Bath and return
- **23rd March 2013** 'The Cathedrals Express' - London to Kingswear and return
- **21st June 2013** 'The Cathedrals Express' - Tonbridge to Ely and return

**To secure your number plate (all profits to *Tornado*) email [shop@a1steam.com](mailto:shop@a1steam.com). Please allow 28 days for delivery.**



### ACCUCRAFT PRODUCES A GAUGE 1 TORNADO

Accucraft and The A1 Steam Locomotive Trust are delighted to announce the production of a live steam, Gauge 1, model of *Tornado*. Accucraft's model faithfully captures the elegance and power of the Peppercorn class A1 design and features all the unique details carried by *Tornado*. The model is gas-fired with slide valves and has all the features the Gauge 1 fraternity has come to expect from an Accucraft locomotive. The cylinders are fitted with drain cocks. The fully sprung chassis is

constructed from stainless steel. The boiler is copper, the cab and tender are constructed from etched brass. The UK RRP will be £2895.00 with a release date of 2014 and the model will be available in apple green, BR blue and BR green. The model will be available from The A1 Steam Locomotive Trust and Accucraft UK. The retail profit from sales of this superb model will go to The A1 Steam Locomotive Trust to keep *Tornado* operating on the main line and heritage railways. **TCC**

## CHRISTMAS SHOPPING *by Chris Walker*

As the supermarkets already rearrange their shelves to display Christmas items, perhaps now is the time to remind those of you who are more organised than I that there are only a few weeks left to Christmas (frightening isn't it!). If you are doing your shopping on-line, please use Easyfundraising to buy your gifts where possible.

At the moment we have only 85 of our many supporters registered to support the Trust through Easyfundraising and Easysearch. So far, at no extra cost to themselves, they have raised almost £1,300 for *Tornado* by remembering to log into their favourite retailers via Easyfundraising or by using Easysearch to find information. The latter has the advantage that search results that involve a participating retailer in Easyfundraising are flagged so that you can see which ones to choose.

Most of the big names, such as Debenhams, John Lewis, Marks & Spencer, Currys, participate, as do the big on-line retailers such as Amazon, ASOS, Littlewoods, Isme, Next, Argos, iTunes, etc. The big supermarkets (ASDA, Tesco, Sainsbury, Waitrose) all participate so if you do your grocery shopping on-line, you can even help *Tornado* when you buy your Christmas dinner.

On a less seasonal note, perhaps at work you have responsibility for purchasing irregular items on-line. If so, why not do so via Easyfundraising if your supplier is part of the scheme? Our leading Easyfundraiser is in a position where they often need to purchase ad hoc items on behalf of their employer. As the cheapest suppliers are usually in the scheme, they use Easyfundraising and help *Tornado* at the same time as getting the best deal for their organisation.

If you are not registered, go to <http://www.easyfundraising.org.uk/>. Search for "The A1 Steam Locomotive Trust" in the list of participating organisations and set it to be your supported organisation. Then just find your favourite retailer or use the Easysearch function to look for what you want and away you go, raising money for *Tornado*.

If you are already registered, please remember to do your shopping via your Easyfundraising login.



**The great 2014 *Tornado* Calendar. With a different high quality image of *Tornado* for each month, this is a must have item or Christmas present for all fans or followers of the big, currently blue, machine! This year the format reverts to landscape A4 with a top spiral wire binding. Each day has space for your notes and reminders. The image is of the front cover.**

## Significant legacy received by trust

*by Roger Dye*

This year's Convention was advised of a very significant legacy made in favour of the Trust. Earlier this year, we were advised by the Executors of the estate of Mr Peter Haddon of Rearsby, Leicestershire, that the Trust would receive this legacy. This was indeed a magnificent gesture on the part of Mr Haddon and one that will be remembered for many years to come. The safe receipt of the cash enabled the Council to take the decision to redeem the Bearer Bonds issued to build *Tornado*'s boiler at the end of this year. A fitting tribute indeed to Mr Haddon's generosity!

We already have a number of supporters whom we know have also put legacies in place in favour of the Trust. Their generosity is also very welcome and helps the Council plan *Tornado*'s future. If you are considering such a gesture, we would like to hear from you. We can supply initial advice and forms are available for you to complete – it is usually quite a straight forward process which can be cancelled in the future if your circumstances were to change.

**Please contact me at**  
[roger.dye@a1steam.com](mailto:roger.dye@a1steam.com)

## Bearer bond redemption

*by David Burgess*

Since we announced the redemption of the Bearer Bond issue we have received several queries from bondholders. We therefore wish to clarify them as follows:

- Although the bonds were issued at various times between 2004 and 2009 the whole issue of £500,000 is being redeemed on 31st December 2013. Bondholders wishing to claim repayment must ensure their bond certificates (and interest voucher if claiming interest) are received by the Trust no later than 30th June 2014. Any bonds received by the Trust after that date cannot be redeemed.
- As they are Bearer Bonds, repayment will be made to whoever submits the certificate, but no payment can be made without the surrender of the certificate to the Trust. Repayment cannot be made to bondholders who have lost their certificates.
- Interest is payable only if claimed by submitting voucher No. 10 in respect of 2013. Interest for previous years (and 2014 or later) is not payable. **TCC**



## FROM THE ARCHIVES *by Graham Langer*

**Autumn 1993** – The AISLT continued to recruit experts to the engineering team including Bob Alderman, from Westland Helicopters; Steve Bell, a safety consultant with the nuclear industry; Eric Layfield, a former premium apprentice at Doncaster works, who had recently retired as an engineer with Railfreight Distribution; and Ray Pettit who was a consultant in engineering information management systems. Issue 11 of the Trust's magazine was now called 'The Pioneer' and was a big improvement in printing quality!

**Autumn 1998** – The Pioneer No. 28 carried an article about Trust presentations, Bob Alderman detailing how valuable these were in promoting the work of the Trust and winning new Covenantors. Timken delivered 16 roller bearings to Tyseley, 12 of which were sent on to Bury for fitting to the driving and bogies axles, the rest, the Cartazzi boxes remaining for machining by Bob Meanley.

**Autumn 2003** – The trial fit of the wheelsets in the hornblocks was satisfactory, with the liner side faces making contact with the corresponding faces on the cannon boxes simultaneously on both sides of the bogie. A revised Network Rail height limit meant that the cab had to be reduced in size and the boiler design also needed re-working to bring the dome within the new loading gauge. The final valve gear forgings had



been delivered and orders placed for machining these.

**Autumn 2008** – Following her tumultuous debut in Darlington, *Tornado* was moved to the Great Central Railway for running and her first public trains. A fair number of small tasks remained to be completed, centred around the braking system and electrics. While at the GCR, the opportunity was taken to record dynamic measurements and conduct loaded and 60mph test runs. With the

**Above: The Cartazzi wheelset with roller bearing being pressed home.**

**Below: In autumn sunshine, No. 60163 was a real crowd-pleaser at the GCR gala.**

locomotive working 'straight out of the box' the Trust was able to host a special day for Covenantors on the 21st September. **TCC**



AISLT

Gareth Griffiths

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



**PRINCIPAL SPONSOR**



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Designed by Debbie Nolan

\* All information correct at the time of going to press on 21st October 2013. For up-to-date information and dates please check the website [www.aisteam.com](http://www.aisteam.com).

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

Access to the works is via Head of Steam: Darlington Railway Museum where covenantors are entitled to free entry. Charity registration No. 1022834.

The Trust respectfully requests that anyone wanting to see Tornado's main line passenger trains follows the rules of the railway and only goes where permitted.

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