

THE COMMUNICATION CORD



60163 TORNADO

New Steam for the Main Line

No. 33 Winter 2014

**Tornado departs Grosmont
for Pickering with the teak
set in October 2013.**

Don Brundell



WINTER MAINTENANCE UPDATE

by David Elliott

With the exception of missing what was to have been the last run of 2013, *Tornado* has operated well in the latter part of the year. As described below a problem with stays prevented us from operating our last train of 2013. However better news is that the general condition of the locomotive is such that we have been able to postpone the five year intermediate

overhaul until the end of 2015.

When *Tornado* first entered main line service in November 2008, the boiler inspector issued a document known as the 'Written Scheme' which summarises the basic routine inspection of the boiler. As *Tornado's* boiler was new and had some novel features to British eyes, a recommendation was made that the

Written Scheme should be reviewed after five years, which coincided with 2nd November 2013. Thus to complete the year's operation this review had to take place and the boiler inspected by our insurance company/VAB boiler inspector, and a new Engineering Acceptance Certificate issued by our VAB, Lloyds Register Rail.

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The boiler inspection showed the boiler to be generally in good condition, so the possibility of extending the time to the boiler intermediate overhaul was examined, and both the boiler inspector and VAB were in agreement to this subject to the normal inspections required in the new year to renew the annual Engineering Acceptance Certificate.

Thus we re-planned the programme to be the annual 'C' exam and other yearly tasks which is now underway at Barrow Hill, with some heavier maintenance on the boiler.

Whilst the boiler is considered to be in good condition given its usage, we have experienced a small number of leaking stays or stay welds over the last twelve months. These were initially plugged or repaired. The regulations allow us to run with defective stays provided that no two leaking stays are adjacent, and that the total number of defective stays does not exceed 5% of all the stays in the firebox.

The affected stays were each replaced at the next planned maintenance period, however when the locomotive was being prepared for its move from Wansford on the Nene Valley Railway back to Southall in readiness for the final Steam Dreams train to Shrewsbury on 23rd November, steam was noted emerging from the cladding around the top of the firebox. An externally leaking crown stay was suspected so some of the cladding was removed and indeed a total of three stays were showing signs of slight leakage. As they were well away from each other and in collaboration with a visit from the boiler inspector, it was intended to plug the affected stays. As the boiler continued to cool down, two stays in the back lower left hand corner started leaking. As these were adjacent, they had to be replaced before *Tornado*

went back into traffic.

This could not be achieved in time for the 23rd November trip so plans were made to go directly to Barrow Hill. This was arranged in the normal way being hauled by a DCR diesel, and to maintain lubrication, permission was obtained to steam the boiler a reduced pressure during the move.

Once *Tornado* had arrived at Barrow Hill and cooled down, the cab was taken off and the cladding round the firebox removed. In order to check for any other stay leaks, a short hydraulic test was conducted. This showed up some more leaking crown stays.

Given our experience back in 2010 when we first experienced stay problems, it has been decided to change more stays than just those that have been leaking to reduce the risk of more individual stays having to be changed during 2014.

Applying the principle of changing the defective stay and all those immediately round it, and changing a region of stays in the lower corners on both the back and sides as was done in July 2010, a percentage has been identified for renewal. After considering a number of options as to how to achieve this, Meiningen Works have been contracted to carry out the work at Barrow Hill and should have it finished before the end of January provided no further problems discovered.

In the meantime routine annual work including annealing the large copper pipes in the cab between the boiler and the frames is being undertaken. This is necessary as the boiler increases in length by up to $\frac{3}{4}$ " compared with the frames each time it is steamed which flexes the copper pipework for the injectors, air pumps, steam heating etc. Copper work hardens in these conditions and if it is

EDITORIAL by Graham Langer

2014 promises to be an exciting year for the Trust and one which will bring a raft of new challenges for both engineering and management teams. *Tornado* is currently in the throes of a winter overhaul from which she will emerge to take charge of our first train of the new year, 'The White Rose' from London to York and back, the start of a series of excursions run by The A1 Steam Locomotive Trust with profits going back to *Tornado* herself.

In March we launch the regular donation scheme for the new P2, No. 2007 *Prince of Wales*. This enterprise has already got off to an astoundingly successful start with over 250 people signing up as Founders to prime the financial pump that will get this locomotive built. Speaking personally, I am sure that I am not the only one who has thoroughly enjoyed running *Tornado* on the main line while secretly hankering for the thrill of a new construction. It is remarkable that there has been no reduction in support for No. 60163 and the loyalty of Covenantors to 'their' locomotive is extraordinary but this doesn't seem to have prevented a good number of them electing to help finance the building of No. 2007 as well. We are very grateful to all those who contribute, either physically, financially or voluntarily, to both projects and hope you continue to enjoy the ride! **TCC**



As I write this column I recall that today (31st January) is the 5th anniversary of 'The Peppercorn Pioneer' which was the first of two trains specially organised for our supporters. And of course *Tornado* was officially named by TRH The Prince of Wales and The Duchess of Cornwall 19th February 2009 at York

station and then went on to haul the Royal Train to Leeds with Prince Charles on the footplate for part of the journey.

Of course not all anniversaries are happy ones. *Tornado* has covered over 73,000 miles since her completion in 2008 and has a bright and long future ahead of her - which is in stark contrast to the fate that befell class 9F No. 92220 *Evening Star*. Having been released to traffic on 25th March 1960, *Evening Star* was withdrawn from service on 29th March 1965 after only five years in service. So another milestone is passed as *Tornado* has now been in traffic than the last steam locomotive to be built by British Railways.

It's also hard to believe that Arthur Peppercorn, the designer the A1s, was born 125 years ago in Leominster on 29th January 1889. Arthur died on 3rd March 1951, but his widow, Dorothy Mather, President of The A1 Steam Locomotive Trust, is still a very active supporter (see profile on page 16).

Tornado continues to pop up in the most unlikely of places. Earlier this month, *Tornado* played a cameo role in the hit BBC crime drama series 'Sherlock' starring alongside Benedict Cumberbatch, albeit in 00 gauge model form! *Tornado* was one of the locomotives to be featured on screen in the first episode of the new series. Now Hornby is giving away this exclusive on screen prop to one lucky winner. Visit www.hornby.com for find out how you could win.

With the repayment of the £500,000 bearer bond three years early and, thanks to your generosity, the success of

the 'use your loaf' campaign which has helped to fund the overhaul and conversion Mark I BCK coach E21249 into *Tornado's* dedicated support coach, all of the borrowings have been repaid. This leaves only *Tornado's* tender which is on a 15 year lease from 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 4.

Looking forward, we have new challenges to address and opportunities to seize. We have the opportunity to do something new with *Tornado's* main line operations from the next season and the first of our trains is 'The White Rose' from London King's Cross to York on 12th April. We need to make a success of running our own trains so please support this and the other main line trains when they are confirmed.

Our project to build Gresley class P2 No. 2007 *Prince of Wales*, though a separate subsidiary The P2 Steam Locomotive Company, continues to gain traction. The Founders Club raised its first £100,000 in just four weeks after the launch of the project at the AISLT convention in September last year - in contrast it took us four years to raise the same amount for *Tornado*. As I write The Founders Club has already raised in excess of £300,000 to get the project to the point of laying the frames, more of which you can read about on page 17. Also see www.p2steam.com for how to get involved with this exciting new 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. Your kind and often witty letters and emails always help to keep the team motivated. I hope to see as many of you as possible over the coming year. **TCC**

allowed become very hard is more liable to fracture. The remedy is to periodically anneal the pipes by heating them to dull red heat and cooling them. This restores them to their 'soft' condition.

A further task has been to improve

the fixing of the clamps for the electrical conduits which run down both sides of the locomotive under the footplating. The saddles which support the conduits have started to work loose, so Paul Depledge is fitting additional bolts to secure them.

The Annual 'C' exam is being undertaken by Jon Pridmore and the team. Fortunately with the extensive work on the motion and cylinders last winter at Southall, few additional significant repairs are anticipated this year. **TCC**

STOP PRESS - BOILER PASSES STEAM TEST!

John Wilkinson



Above: With the cab removed, some of the copper pipework is visible.

Right: After a short space of time the pipes and cladding had also been removed.



John Wilkinson

Covenantors' Diary *by Alexa Stott*

Even though currently undergoing winter maintenance, *Tornado* is often on my mind as I remember some of the fabulous days out we had in 2013: 'The Elizabethan' run to Edinburgh (followed by an incredible return run to King's Cross by D9009 *Alcydon*), visits to the Watercress Line, Nene Valley and North Yorkshire Moors and of course Covenantor and *Tornado* Team get-togethers at Crewe and Barrow Hill.

I do not actually see the beautiful blue engine that often: like many of my fellow Trustees, much of my work for the Trust takes place under cover of darkness in between the day job and a hundred and one other domestic matters. At the moment I am very lucky as she is on my doorstep, so to speak, at Barrow Hill Roundhouse. I have to say that, surroundings apart, I am very much reminded of those years we spent watching *Tornado* gradually taking shape at Darlington Locomotive Works. With the tender in another part of the Roundhouse and the cab and cladding off, exposing some of the incredible engineering that has gone into making her, the years have rolled back. And yet, come March, she will once again be back in one piece, and ready to start another operating season, details of which you will already have read elsewhere in this edition of *TCC*. If you haven't already done so, please pop along to Barrow Hill to see the work that is taking place and say hello to our hardworking engineering team.

So, how many Covenantors are there out there who have never seen *Tornado* at all, either in construction or operation? I know what a dedicated group of supporters you are and you often contact me to tell me about the miles you have travelled, sometimes to catch only a glimpse of her as she speeds through the British countryside. In late December I was contacted by Gerry Riley, one of our overseas Covenantors who, I was amazed to learn, had never seen *Tornado* in the flesh. I will let Gerry continue his story...

"I became a Covenantor for the *Tornado* project at the Doncaster meeting in, I think, 1992 but living in France and rarely visiting England I had never succeeded in actually seeing *Tornado*. I wonder how many twenty plus year Covenantors have never had the pleasure of seeing the locomotive either in

construction or in service? Am I the only one?

"However in November I noted that *Tornado* would be spending a week at the Nene Valley Railway which would only involve a small detour from my intended route on a visit to Lincoln. Therefore my wife and I duly arrived at the NVR, in the rain, and spotted *Tornado* in the yard. Approaching and explaining who I was and why I was there, we were made most welcome by the support crew and had a conducted tour of the locomotive and support coach by Chris Calvert, including a cab visit.

"Thanks to their kindness, at last my long term wish came to reality. The locomotive is superb, thanks to all who have contributed either financially or with hands on. May she have many more successful years."

I am so pleased that Gerry has at last been able to see the project that he has been supporting for so many years!

Another part of the project that many of you have been supporting for the last three years is the 'Use Your Loaf' campaign to raise funds for *Tornado's* support coach. As announced at the 2013 Convention, this campaign finished on 31st December and I am delighted to be able to tell you that every single slice of support coach was bought – a total of 63' 6" of coach and £76,150 of money raised. On behalf of the Trust, I would like to thank everyone who supported this fundraiser. Our support crew and merchandising team are particularly grateful! As those of you who have had an opportunity to look round will appreciate, we have been able to provide a working environment for our volunteers that is second to none.

We are now focussing our fundraising on another vital part of the *Tornado* operation – her tender. As many of you will know, the tender is 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 locomotive itself. 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 - 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 7 ½ 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 in 1990.

Following the success – thanks to your generosity – of our Regular and Dedicated Donation schemes for the construction of *Tornado* and now the 'Use Your Loaf' appeal for the 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 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 60162 *Saint Johnstoun* – her pre-nationalisation LNER number would have been '163'.
- 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 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



A delighted Don Brundell looks out of Tornado's cab during his turn on the driver experience course on the Nene Valley Railway. When operating on preserved lines there are sometimes opportunities for would-be drivers to get their hands on the regulator, keep an eye on the driver experience page on the website for more details.

which will detail the pacific sponsored.

● Entry into a draw for a main line footplate ride on *Tornado*.
Forms to join 'The I63 Club' can be found on the website in the 'How You Can Help' section.

In the last Covenantors' Diary I gave details of the re-launch of the Covenantor donation scheme. In 1990, a pint of beer in the North East was £1.25; it is now £3.10. Although Covenantors receive many benefits for their £5 per month donations, we are introducing a Covenantor Awards scheme to recognise people's contribution.

To remind you, for £5 per month you get:

● A copy of *The Tornado Story* book and a photograph of *Tornado* on becoming 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

However, the Covenantor award scheme brings the following additional benefits:

BRONZE: Pay £10 per month or recruit one new Covenantor – certificate, bronze badge

SILVER: Pay £25 per month or recruit five new Covenantors – certificate, silver badge, heritage railway cab ride

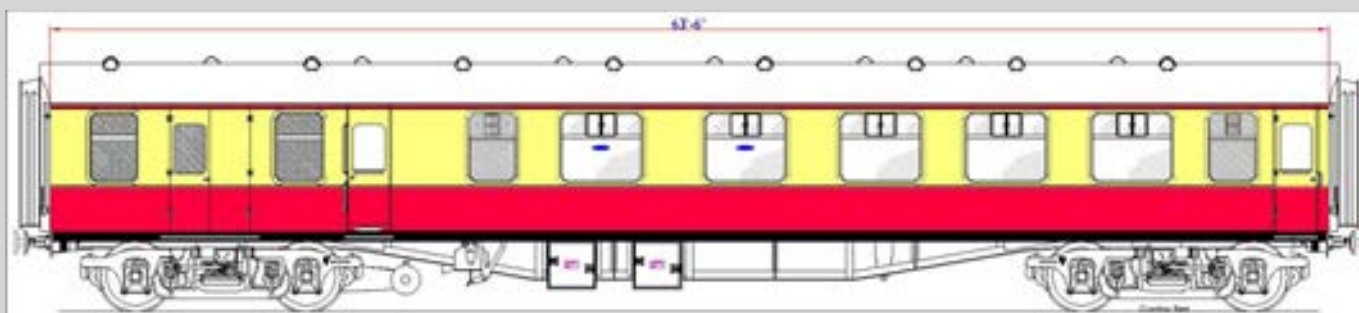
GOLD: Pay £50 per month or recruit ten new Covenantors – certificate, gold badge, main line support coach ride

PLATINUM: Pay £100 per month or recruit twenty new Covenantors – certificate, platinum badge, main line cab ride

As a New Year's resolution (although this magazine will arrive after many resolutions have already long been forgotten!) might I suggest that you consider supporting *Tornado* in one of the new ways described above?

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

P.S. Please let us know if you haven't received your Covenantor's membership card for 2014. **TCC**



TORNADO ON TOUR

by Graham Nicholas (assisted by John Wilkinson & Huw Parker!)

Barrow Hill (Annual Convention) 21st September - Mallard was there as well.

Tornado visited Barrow Hill for the Annual Convention this year and was seen in steam and operating by covenanters. During the week following, two days of driver experiences were operated with Locomotive Manager, John Wilkinson taking charge of the loco. All the driver candidates enjoyed themselves thoroughly and the loco picked up a number of new friends. **Tornado** was then in steam for the Barrow Hill live weekend which followed with some running on the demonstration line.



Alan Weaver



Don Brundell

NYMR service trains 4th to 6th October. 319 miles run

On 3rd October **Tornado** left Barrow Hill and steamed to Grosmont on the NYMR for a three day visit. We were warmly welcomed at the NYMR and the loco operated faultlessly over the three days working long diagrams. We left Grosmont on 8th October for Wembley, finally arriving back at Southall on the 9th due to engineering works in the Wembley area.

MHR service trains 25th to 27th October. 218 miles run

Tornado left Southall on the afternoon of 22nd October in the company of *Braunton* and *Britannia* hauling the 2 support coaches for the move to MHR, arriving that evening. Under the watchful eye of Andy Hardy over the next two days, the support crew cleaned and polished to a very high standard and the less experienced members benefitted from some basic tuition in the workings of the locomotive. The first day of the gala provided visitors with the best weather and the platforms all seemed full to capacity. Although the weather was less kind on the Saturday and Sunday, our sales team appeared to benefit from the conditions as visitors sheltered from the wind and rain in Ropley station. Despite the wet weather, we were well received by the MHR crews who handled the engine well and their enjoyment was clear for all to see.



Anthony Noble

NVR 1st to 8th November. 357 miles run

For the second time this year *Tornado* became trapped on the Mid Hants Railway, this time due to adverse weather conditions. We finally got away two days late and travelled direct to the Nene Valley Railway at Peterborough. *Tornado* ran two days at the Gala event and then two midweek days of driver experience courses with a brief photographic session during the middle of the first driver experience day. Once these commitments were completed the locomotive was moved to Barrow Hill for Winter Maintenance.



Paul Davies

LOCOMOTIVE MANAGER'S REPORT *by John Wilkinson*

On arrival at Barrow Hill from Southall the locomotive was thoroughly cleaned in preparation for the very successful Annual Convention. *Tornado* was in steam for covenantors on the convention day and as usual was very popular with all concerned. Later in the week two days were run at Barrow Hill for driver experience courses and the opportunity was taken to do some work on the support coach alternator which had been in difficulties. The work was successful and the alternator is now working reliably.

The next move was to the North Yorkshire Moors Railway for the LNER weekend where *Tornado* was the star and, for the first time in many years, two LNER Pacifics were seen side by side in BR Blue Express Passenger livery. *Tornado* ran successfully on all three days and moved away from Grosmont on 8th October heading for Southall and a washout and an 'A' Exam. The move was completed on 9th October as it was not possible to get further than Wembley due to engineering works on Network Rail on the 8th. With the washout and exam completed *Tornado* moved to the Mid Hants

Railway for a successful visit to the Autumn Gala and then for the second time this year became trapped on the MHR, this time as a result of adverse weather conditions and fallen trees. We finally got away for the Nene Valley Railway two days late.

A successful visit to the Nene Valley Railway included appearances at the Gala, a brief photoshoot and some driver experiences. Before we left Wansford we took the opportunity to take some photographs with *Tornado* in steam with the *Prince of Wales* P2 nameplates.

Towards the end of November the locomotive was moved to Barrow Hill for annual maintenance. Good progress has been made and since arrival the cladding around the firebox has been removed along with most of the cab fittings. A successful visit from boiler inspector has resulted in a plan of work to ensure we have reliable performance from the boiler during the next operating period. In addition the 'C' Exam is underway and maintenance work is being carried on fittings such as injectors and safety valves. **TCC**

TOURS DIARY 2014

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

- **5th and 6th April** – Didcot Railway Centre – Blue locomotive weekend with No. 60007 *Sir Nigel Gresley* and No. 6023 *King Edward II*
 - **12th April** – The White Rose – London King's Cross to York and return (bookings through Pathfinder Tours)
 - **Provisional – 7th June** – London to Canterbury
 - **Provisional – 5th July** – London King's Cross to York and return
 - **12th and 13th July** – Swanage Railway
 - **28th July to 3rd August** – Bluebell Railway
 - **Provisional – 16th August** – Hampshire Luncheon and Surrey Evening circular trains.
 - **29th to 31st August** – North Norfolk Railway Gala
 - **13th and 14th September** – Nene Valley Railway Gala
 - **4th October** – Annual Convention – Barrow Hill Roundhouse
- The Trust respectfully requests that anyone wanting to see *Tornado* follows the rules of the railway and only goes where permitted.**

Contact details

Pathfinder Tours Tel: 01453 835414/834477 web: www.Pathfindertours.co.uk

Didcot Railway Centre Tel: 01235-817200 web: www.didcotrailwaycentre.org.uk

Swanage Railway Tel: 01929 425800 web: www.swanagerailway.co.uk

Bluebell Railway Tel: 01825 720800 web: www.bluebell-railway.co.uk

North Norfolk Railway Tel: 01263 820800 web: www.nnrailway.co.uk

Nene Valley Railway, tel: 01780 784444 web: www.nvr.org.uk

Barrow Hill Roundhouse Tel: 01246 472450 web: www.barrowhill.org

12TH APRIL 2014 – 'THE WHITE ROSE'

Following her Winter maintenance period, *Tornado* will be hauling her first mainline railtour of 2014 on the 12th April from London King's Cross to York and return with 'The White Rose'. Heading North covering 189 miles along The East Coast mainline, *Tornado* will stretch her legs along the line once frequented by the AIs, taking in the magnificent sights of the Spring countryside heading towards picturesque and historic York. Pick ups will be made along the way at Potters Bar, Stevenage and Peterborough. Passengers will have time to explore the wonderful City of York, with its famous Minster and National Railway Museum, before boarding 'The White Rose' for its return leg to London.

Mainline tours with *Tornado* during 2014 will be less frequent than in the past, so space on the train is likely to prove popular, with seats ranging from First Class Dining to Standard Class on offer. Bookings can be made via The Trust's ticket agents Pathfinder Tours on 01453 835414 / 834477 or by visiting their website www.a1steam.com. All profits from this tour go towards maintaining *Tornado* in future years.

Mark Allatt, Chairman of the AI Trust said "Following our planned maintenance period, with everything currently going according to plan and against expectation, we are very pleased to announce our first mainline tour of the year with 'The White Rose'. *Tornado* will be hauling fewer mainline railtours during 2014 than in previous years as we look to expand our own exciting railtour offerings, so we anticipate seats to sell fast for this train". He added "This is a classic AI run from London King's Cross to York, offering magnificent sights and sounds that will accompany fast, express working - not to be missed!"

The pick up points and **provisional** timings for this tour are:

STATION	DEPART	RETURN
London King's Cross	08:20hrs	22:00hrs
Potters Bar	08:45hrs	21:35hrs
Stevenage	09:05hrs	21:15hrs
Peterborough	10:15hrs	20:30hrs
York	12:45hrs	17:15hrs

Class	Adult	Junior
Premier Dining	£225	£168
First Class Plus	£139	£104
Standard Class	£99	£74

Tickets are available in Premier Dining, First Class Plus and Standard. Junior fares are available for children aged 15 and under. A limited number of tables for two are available in Premier Dining and First Class Plus for an additional supplement of £25 per person. Premier First Class Dining passengers will be served a full English breakfast and elevenses on the outward journey and a four course Dinner on the return. First Class Plus ticket holders will enjoy at-seat servings of hot drinks and light refreshments through the day. A buffet car will also be available, serving sandwiches, cakes, hot and cold drinks and other light refreshments. **TCC**



60163 TORNADO
New Season for the Main Line

Photo by Mick Rogers



PHOTOGRAPHERS WE NEED YOU !

Tornado will once again take to the rails during 2014 on various main line railtours. When out and about, we want your help to capture *Tornado* at her finest for use in our ongoing publicity efforts.

Be it lineside or on one of our trains, if you have any digital images of *Tornado* that you would be happy to have published (with appropriate credit added), please send our way.

What do you see ? From classic 3/4 shots to more abstract and contemporary, original images to digitally altered artworks, whatever you capture and you think it worthy of sharing, please send to us. You could win a table on one of our trains during 2015 ! All images submitted enter our Free Prize Draw.

Please ensure that any images provided are as high a resolution as possible (this is for printing purposes so we can make it as big and beautiful as we can !).

You can submit your photos either by email to photos@a1steam.com or on a CD/USB drive our office at The AI Steam Locomotive Trust, Darlington Locomotive Works, Hopetown Lane, Darlington. DL3 6RQ

Please ensure that you include your name, contact details and where possible which tour, location and date the image(s) were taken on. If images have been enhanced, please state accordingly.

When taking pictures, please abide by the rules of the railway. Stay safe. We look forward to seeing your entries. Terms and conditions available online at www.a1steam.com

THANK YOU !

SHOOT AND WIN !

As well as seeing your work up in lights, you could win 2 x Premium Dining tickets on one of *Tornado*'s main line tours during 2015 !!!



Photo by David Greenhalgh Photo by Oliver Ridge





**Tornado is seen running under stormy skies at the NVR
- a perfect recreation of a 1950s Eastern Region train.**

THE A1 STEAM LOCOMOTIVE TRUST PHOTOGRAPHIC ARCHIVE

by Neil Whitaker & Chris Woodcock

Volunteering for The A1 Steam Locomotive Trust and helping to keep *Tornado* on the rails does not necessarily involve travelling with the locomotive and getting covered from head-to-toe in grease and soot! There are many people volunteering behind the scenes and all are essential to keep the Trust running for the sake of the engine, our customers, enthusiasts, public relations and the media.

From the inception of the Trust in 1990 a photographic record of the major milestones of *Tornado's* build was kept, from the public launch of the project through to the last railtour run. Supporters of the Trust and the public naturally took photographs of these now historic events and these have proved invaluable over the ensuing years. Not only were key events covered but all aspects of the engineering and *Tornado's* build were comprehensively photographed by the Trust's Director of Engineering David Elliott and Electricals Director Rob Morland. Newly built parts and their consequent fittings to *Tornado* were all catalogued in the library.

On top of this, a valuable collection of historic images of Peppercorn A1s were added to the library from the likes of the Trust's Vice President and former shed master of the King's Cross 'Top Shed' Peter Townend. These images, all digitised, cover roll-outs of immaculate un-named examples at the 'plant' in 1949 to heart-breaking photographs of class members being stripped by the cutters torch during the mid-60s. In between are priceless images of the class hauling the prestigious 'Tees-Tyne Pullman' out of Kings Cross and shots of the class sitting on shed that just ooze atmosphere of the period.

The Trust's photographic library was administered for



Bill Reed

Above: No. 60115 Meg Merrilies at Haymarket Shed, Edinburgh.

many years by Keith Drury who handed over the reins to myself, Chris Woodcock and Tony Watson in 2008. This was certainly a baptism of fire as *Tornado* had only just made her first moves and this had really caught the attention of the public and the media in an unprecedented way. Chris and Tony were responsible for image intake whilst I looked after image distribution. The media from the UK, Japan, Russia, Australia, Germany and Spain all took a keen interest and we were supplying images for top magazine titles such as *Steam Railway*, *Heritage Railway* and even *Top Gear*! In addition we were supplying print orders for enthusiasts and images for numerous books, DVDs and even computer simulation.

The momentum of photos being received and distributed grew to overwhelming levels once *Tornado* had entered service in 2009. Once we had a portfolio of operational *Tornado* images we could then put the Trust's archives of twenty years to very good use. Haynes published their *Tornado Owners' Workshop Manual*; Tom Ingall published his *Tornado Story* and Jonathan Glancy his book *Tornado: 21st Century Steam* in quick succession. All three books drew heavily from the Trust's libraries of historic, construction and operational images. Such is the size and variety of the archive that very few images were duplicated in these publications!

We work in closely in partnership with the A1 Trust's merchandising arm supplying the cream of images for calendars, mugs, tea towels and postcards to name but a few of the many varied items for sale. Along with our on-board photos, where we can sell passengers a photographic keepsake of their day out with *Tornado*, this becomes a major factor in fundraising for the locomotive.

Keeping the website, *The Tornado Telegraph* and this, *The Communication Cord*, supplied with images is an on-going operation but one that is invaluable to the Trust's public relations exercise, and to keep you, our supporters, up-to-speed on what *Tornado* has been up to on her travels around the country.

As you can now appreciate the Trust's photographic archive is far from being a dormant library. It is very much at the forefront of public relations and helping with fundraising, not only for No. 60163 but also now for No. 2007 *Prince of Wales*. The standard of images received of *Tornado* from around the country has been outstanding and it is with warm gratitude that we must thank everyone who has contributed images to the Trust. **TCC**



Robin Combes

Bound for Gloucester, *Tornado* crosses the Severn in 2009.

TORNADO, THE INTERNET AND SOCIAL MEDIA

by Graham Langer

The title of this article sounds a bit like a book by C. S. Lewis! In reality The A1 Steam Locomotive Trust owes much of its success to the growth of the internet during the time that *Tornado* was under construction. At the time No. 60163 was conceived almost all the initial Trust communications were steadfastly 'analogue' in format, printed or photocopied newsletters sent by post. However, anyone reading the runes of the project would quickly have seen signs of the electronic revolution coming, the digital scanning of the original LNER drawings at the NRM being one of the first instances that this technology had been used for this purpose. As the number of Covenantors grew so an increasing volume of information started to be transmitted by email and the Trust website became the clearing house for updates and the latest images from Darlington Locomotive Works. When she was unveiled to the world's press in 2008, *Tornado* had the Trust's website address emblazoned across her tender,

a first for a steam locomotive.

Following the spectacular debut of No. 60163 in traffic in 2009 the Trust launched a monthly electronic newsletter, *The Tornado Telegraph*, distributed by email to thousands of those interested in the project, achieving mass circulation at minimum cost. Similarly online store and travel promotions are now sent to more people via the internet than by the Royal Mail and over half the readership of the quarterly magazine, *The Communication Cord*, receive their copy the same way thus saving a huge amount in printing and postage costs.

Tornado has also entered the world of Twitter and regularly tweets messages to her followers with 140 character morsels of news and updates, a habit that No. 2007 has also acquired. In 2012 the Trust opened a Facebook account for *Tornado*; the group now numbers over 2,300 (growing by an average of 150 members each month) and allows supporters of the locomotive an opportunity to exchange views and news in a relaxed and informative manner. The

P2 Facebook page, launched to promote and support *Prince of Wales*, has acquired over 350 new members every month since it appeared and is a major point of contact for people interested in Darlington's latest new build.

More recently the Trust has established YouTube channels for both the A1 and the P2 projects and these are also proving to be a major source of new recruits to the cause. At this stage both channels are in their infancy but we hope they will become a showcase for AISLT videos documenting *Tornado* in service and the construction of No. 2007, indeed the promotional video for the latter has already had over 5,000 views and multiple 'shares'. In addition to all these online venues, both No. 60163 and No. 2007 have dedicated group pages on the LinkedIn professional network, allowing the Trust to spread the word among industry experts. As for the future, who knows what new technology will appear but whatever guise it takes The A1 Steam Locomotive Trust will take full advantage of any opportunity to exploit it. **TCC**



Ian Matthews applied the website address to the tender.

Graham Langer

Evidence of the extent of the repair and re-plastering at DLW.



PREPARING DARLINGTON LOCOMOTIVE WORKS FOR NO. 2007 *by Tony Lord, Premises Manager*

The building of our new locomotive *Prince of Wales* is going to take at least seven years and will involve a lot of labour and materials, all of which will need room and facilities at Darlington Locomotive Works. There is a lot to do to make the existing building ready to enable this project to start and be successfully completed. A few examples are explained below.

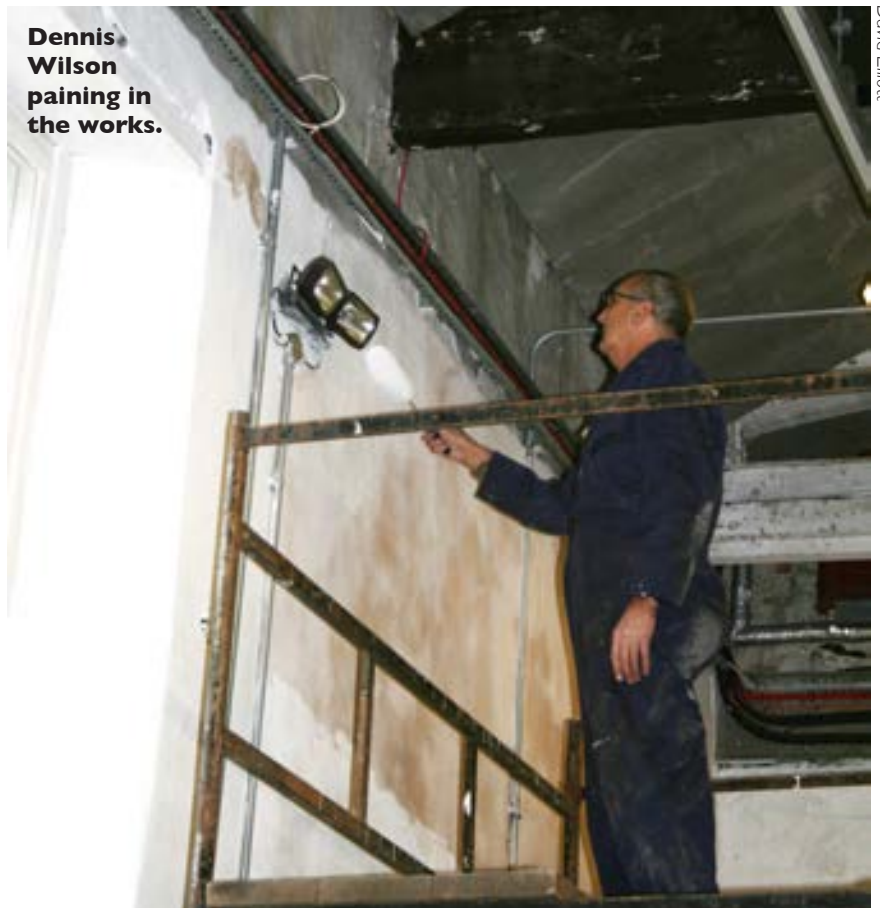
Work has already started on the internal fabric of the building. The plaster on the walls has gradually been deteriorating to the extent that portions have been falling from the walls over the years and besides looking messy, this would cause contamination of new parts being brought into the building. We have now started rectifying the situation and the walls have been re-plastered and painted.

As the works is a Grade Two Listed building, we have to consult with Darlington Borough Council regarding this and all the other material alterations to the building we propose, most of which involves tidying up the existing fabric. In addition, we will be creating new storage space, refurbishing staff facilities and purchasing new equipment as necessary and will be looking for volunteers and sponsorship for various aspects of this work.

If you feel you would be able to contribute in any way to this project, please let me know.

tony.lord@alsteam.com

Dennis Wilson
paining in the works.



FROM THE ARCHIVES *by Graham Langer*

● **Winter 1994** - At the start of 1994 The A1 Steam Locomotive Trust announced a major sponsorship agreement with Macreadys, the leading steel bar stockholder, part of the steels and engineering division of Glynwed International plc. Under the agreement, Macreadys would provide The A1 Steam Locomotive Trust with a variety of steels from its wide stock range. The initial delivery would comprise bright round bars for use as pins, bushes and shafts on the locomotive. The Trust also announced a major sponsorship agreement with Sheffield-based William Cook plc, the world's largest steel foundry group. Under the agreement, William Cook would make the pattern equipment, cast and machine the new steam locomotive's six 6ft.8in. diameter driving wheels on very advantageous terms. The Trust estimated that the six driving wheels would normally have cost around £60,000.

● **Winter 1999** – The year saw a start made on forging the motion components. These massive steel forgings included the three connecting rods, formed from one foot square, cast steel billets weighing a total of five tons and were forged into shape using a one ton air hammer whilst at between 860 and 1200°C by John Hesketh & Son at Bury. The total cost of the three sets of motion (including valve gear) was estimated to be around £130,000. The shell of the smokebox was also approaching completion, with the smokebox door, door fittings and ring (built by Ian Howitt at Crofton near Wakefield) assembled in Darlington Locomotive Works in readiness for fitting to the locomotive. The chimney, chimney liner and blastpipe had been cast by Charles W Taylor at North Eastern Foundry, South Shields through a very generous sponsorship arrangement.

● **Winter 2004** – Top Link No. 9 reported progress on a bewildering number of fronts. Invitations to tender for the construction of the boiler had been returned although the Trust was still looking at the possibility of oil-firing at this stage. At Darlington Locomotive Works the foot-plate was being finished, the Cartazzi assembly was now complete and the bogie had been fettled and trued up. Elsewhere Ufone Engineering were machining the inside connecting rod and valve chest liners and North View Engineering were working



By early 1999 Tornado's smokebox had been completed by Ian Howitt.

“The total cost of the three sets of motion (including valve gear) was estimated to be around £130,000”

on the cylinder covers. A technical advisory panel had been established to offer advice as the engine neared completion.

● **Winter 2009** – Following a series of highly successful main line test runs during November 2008, *Tornado* moved to the paint shop at the National Railway Museum so that Ian Matthews could once again perform his magic on the

paintwork. The immaculate locomotive was unveiled to Covenantors in December and in January she was able to take to the East Coast Main Line with two trains especially for Covenantors and sponsors; these were followed by an historic run from Darlington to King's Cross and a Valentine's Day Special before the tumultuous events of 19th February – her official naming at York. **TCC**



Over Christmas 2008 and the new year, Tornado was displayed at the NRM.

A1SLT

David Elliott

DOROTHY MATHER – A PROFILE by Gerard M-F Hill

Anyone who attended earlier AISLT Annual Conventions would have seen the diminutive figure of the AI Trust's President, Mrs Dorothy Mather, but they might have wondered about her connection with the AI. Perhaps it might be timely to share a few facts about this wonderful lady. Her father was a hydraulic engineer with the LNER and she was an only child, born Dorothy Patricia Louch. She grew up in a railway family and naturally every holiday began and ended with a train journey. They lived in a village near Doncaster and she went to private schools.

Life was uneventful until her father died, aged only 49. When the Second World War began, she helped provide refreshments for the many military convoys that stopped in Doncaster at all times of the day and night. Like the other volunteers, she paid a weekly subscription towards the cost of the soldiers' food and drink, as well as giving her time. That traffic had begun to slacken when she was invited to lunch one Saturday by her best friend, whose father was chairman of the regional coal board. When he found that she was not working, he invited her to come and fill one of their vacancies. Dorothy went home to tell her mother that she had got her first job, at the coal board office in an old manor house at Warmsworth. She rose to become Assistant Surveyor.

With that experience behind her, she moved to Doncaster Works drawing office. Long before this, though, she had already met Arthur Peppercorn socially. He was an able and engaging man who had every quality needed to reach the top, except for self-advertisement. Despite this, he succeeded Edward Thompson as Chief Mechanical Engineer of the LNER on 1st July 1946. He was an effective but considerate boss who never raised his voice or swore. With their great sense of fun, he and Dorothy had soon hit it off – she describes him as “a lovely man” – and they eventually married in 1948. Within weeks, the family doctor took her aside to say she should prepare for the worst, “Arthur's heart might give out at any time. I don't want to tell him, he's got enough on his plate.” The post of CME was stressful anyway, even without the turbulence caused by nationalisation. By this time, the Peppercorn A2s and two A1s were already in traffic.

For two and a half years Dorothy lived with the knowledge that



Chris Milner

Dorothy Mather gives Tornado her seal of approval at the press launch.

her husband might die at any time. They were both very busy, attended railway occasions together and visited his family in Herefordshire; Arthur had several brothers and sisters. Leaving the Eastern Region of BR in good shape, Arthur retired at the end of 1949, much loved and admired, only to die prematurely in 1951.

After the joy of being married to Arthur, life was bound to seem empty. Still, Dorothy pressed on with life. A few years later, through a friend she met Colonel W H Mather, OBE, TD and ex-LNER. In due course they married, bought a country house near Stokesley and settled down. Like Arthur Peppercorn, Bill Mather was a thorough gentleman with a strong sense of duty.

Dorothy recalled that, when he was president of the local agricultural show in 1959, they were up very early that morning. By 07:00hrs they were walking round, making sure they spoke to every exhibitor. People were delighted and one said to Dorothy, “This is t'first time we've ever seen t' president. They allus sweep in five minutes before t' lord-lieutenant arrives.” As Bill's health failed, they moved to a more modern house and Dorothy nursed him. He died and she became a widow again, but now with an even larger circle of friends. She became a byword for a busy life among

Bill's many nieces and nephews.

In August 1993, David Champion wrote to Dorothy to suggest a meeting at which he could explain to her all about the AI Project. She was sufficiently impressed to join us informally and from there her involvement grew. She was there at BSD Leeds on 13 July 1994 to start the CNC machine that cut Tornado's frameplates, at the Trust's first convention that September and at Tyseley in December for the ceremony marking erection of the frameplates under the supervision of Bob Meanley. She has been at every major AI Trust occasion since then, always immaculately dressed, always interested, kind and courteous to everyone she meets. In September 1995 she became joint vice-president, later president.

Not just a figurehead, she has done a tremendous job for the Trust in countless interviews with press and television. She proved quite as vital as our ISO 9000 quality standard because, if Tornado was good enough for her, it would be good enough for Arthur Peppercorn.

She remains alert and active, making light of periodic ill-health. After the first convention she wrote, “I went to sleep dreaming of what Arthur would have thought about it all. He would have been so touched and proud”. **TCC**



A lot has happened since the last edition of TCC. We have had the announcement that No. 2007 will be called *Prince of Wales*, the new locomotive being named in honour of HRH Prince Charles, The Prince of Wales, to coincide with his 65th birthday celebrations and The Queen has kindly approved the use of His Royal Highness's name for the locomotive. Mark Allatt commented, "HRH The Prince of Wales has been a fantastic supporter of *Tornado* and along with HRH The Duchess of Cornwall formally named the new locomotive in 2009. Since then, *Tornado* has hauled the Royal train on no less than three occasions on behalf of Prince Charles, so we are only too delighted to be able to confirm the name for No.2007 in his honour. It is well known HRH has a passion for our heritage and a particular interest in steam, but also in the skills and craftsmanship required to build a steam locomotive from scratch. It is a

clear demonstration that the UK can still turn its hand to quality heavy engineering, making use of modern techniques design and construction techniques whilst engaging and inspiring a new generation that nothing is beyond the realms of possibility."

Founders - having set an initial target of raising £100,000 (100 people donating £1,000 each) seed funding by May 2014 to give the project a kick-start and get

"With income for the P2 now in excess of £300,000 it may be possible to order some large components during 2014 as well"

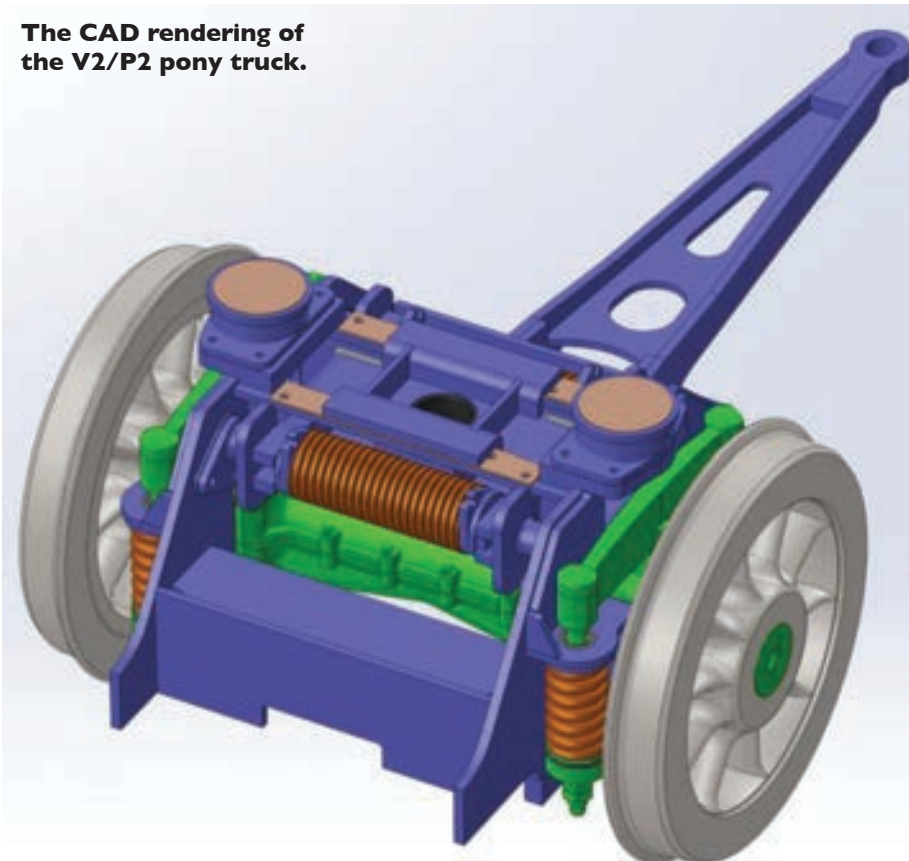
the main frames laid, over 250 people have now joined which has accelerated the timetable for cutting the main frames, thus reducing the time left available to become a Founder – don't miss out! With income for the P2 now in excess of £300,000 it may be possible to order some large, critical components during 2014 as well. Work is progressing on the main covenanting scheme which will be launched in February.

Design & certification - contracts are now in place with Delta Rail and Lloyds Register Rail. The former will complete the engineering studies needed to enable No. 2007 to operate on the national network, and the latter is the organisation that will approve the process and principles of construction. Both are critical steps. Following a meeting with Owen Evans at DeltaRail to re-start the dynamics work, wheels have been drawn and added to the frame model. Crossheads, slide bars, coupling and connecting rods will also be added to enable analysis of limits of increased lateral clearances on coupled wheels to permit transit of sharp curves without excessive flange scuffing

Frames - work has continued on the main frames in 3D Solidworks with the Cartazzi hornblocks and additional details of spring gear added to the drawing. Materials have now been specified and an order for the main frames is imminent. The main frame plate thickness has been set at 30mm in lieu of 1 1/8" as was done on *Tornado*. At the moment the distance between the frame plates has been kept to the original dimension, however this may need reducing slightly as a result of the on-going work with DeltaRail to ensure that the insides of the coupled wheel tyres do not foul the frames if additional lateral clearance between axleboxes and hornblocks is incorporated to facilitate negotiation of small radius curves.

A major change to address ride and reduce risk of derailment is the adoption of the post war V2 spring side control pony truck. This has now been drawn in

The CAD rendering of the V2/P2 pony truck.

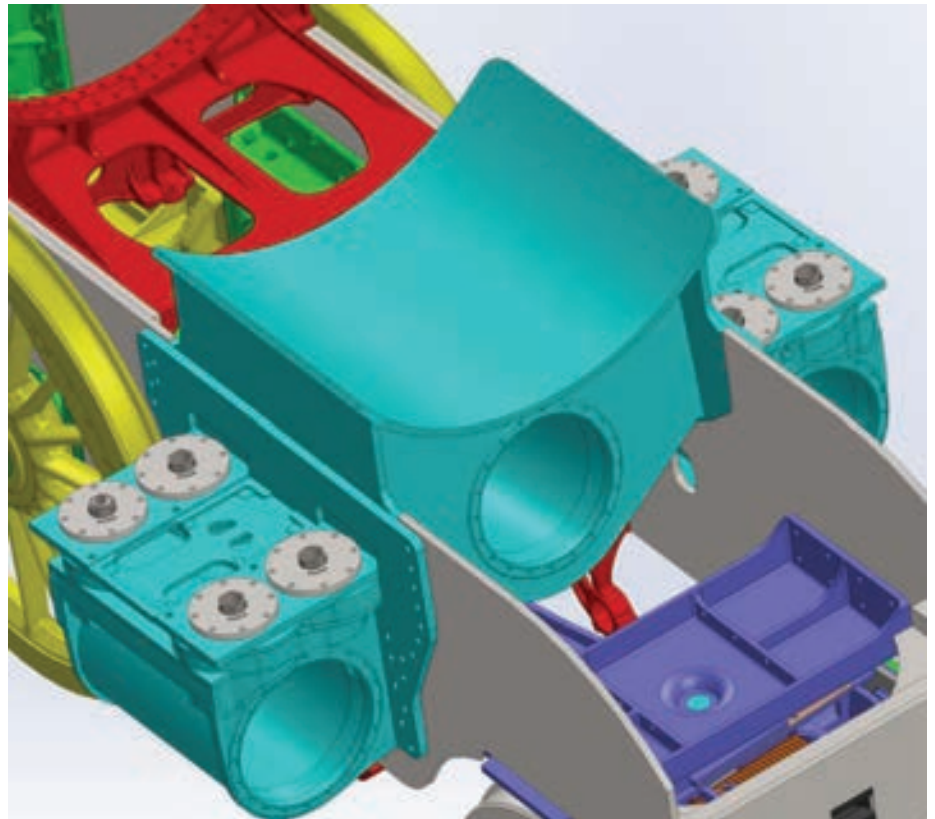


“The original frame profile in the area of the cylinders can be retained, regardless of whether Lentz, Caprotti or even Walschearts valve gear is eventually adopted.”

3D and has involved significant changes to the V2 design.

Cylinders & motion - we are now in the final stages of the examination of both the Lentz and British Caprotti options for No. 2007's valve gear. Drawing work has continued on the Caprotti option to work up a design that would fit on the P2. At the same time we are investigating the original Lentz gear and its development by The Franklin Railway Supply Company (a subsidiary of Lima Locomotive Works) of the USA where evidence shows that locomotives worked successfully with infinitely variable cams to the end of steam in the USA. To date a basic layout for a fabricated monobloc has been created. This demonstrates that the original frame profile in the area of the cylinders can be retained, regardless of whether Lentz, Caprotti or even Walschearts valve gear is eventually adopted.

Darlington Locomotive Works - work continues to prepare the building to receive No. 2007's frames, including further renovation of the interior of this



Then monobloc for the three cylinders.

historic Stockton & Darlington Railway carriage works.

Sponsorship - we have held a number of meetings with potential sponsors and hope to be making some major announcements in the New Year.

Roadshows - a series of roadshows in London, York, Darlington, Edinburgh and Aberdeen will be held in March – May next year. (see panel)

Research - as part of the design process we are researching the history of the P2s and No. 2001 *Cock O' the North* in particular. We have already discovered a number of unpublished gems but think that there is a lot more out there. If you have any documents relating to or photographs of P2s we would be delighted to hear from you – even more so if you have first-hand experience of them before they were rebuilt in 1943/44. **TCC**

NATIONAL P2 ROADSHOWS

We are delighted to announce the following dates and venues for the P2 Roadshow. Booking details will follow but please ensure you have the dates in your diaries!

All presentations will start at 11.00am with a second presentation at 2.00pm if numbers require it.

● **Saturday 8th March – London**

Venue: The Drawing Room
Landmark Hotel
(former British Rail HQ),
222 Marylebone Road,
London, NW1 6JQ

● **Saturday 22nd March – York**

Venue: Duchess of Hamilton
Suite, National Railway Museum,
Leeman Road, York, YO26 4XJ

● **Saturday 5th April – Darlington**

Venue: The Studio Room
The Dolphin Centre,
Horse Market,
Darlington, County Durham
DL1 5RP

● **Saturday 26th April – Edinburgh**

Venue: Beaulieu or Esk Suite
The Balmoral,
1 Princes Street,
Edinburgh,
EH2 2EQ

● **Saturday 17th May – Aberdeen**

Venue: School of Engineering,
Garthdee Campus
Robert Gordon University

MERCHANDISE UPDATE *by Gill Lord*

Time does seem to fly when you are having fun! I cannot believe that it is nearly five years since I was asked by Mark Allatt to 'sort out some merchandise'. How things have changed! When I first started I did not know which suppliers to contact, who would give us the best deals, what on earth did dye sublimation meant and how many teddies do you order! Our range of items has grown quite considerably over the years but I am always being asked for more. I still try to get all our merchandise made in the UK or at the very least printed or embroidered over here.

Since my last report, we have spent weekends at the North Yorkshire Moors Railway, the Mid' Hants Railway and the Nene Valley Railway, all weekend were very successful and sales were excellent. Our happy band of volunteers all had a great time, the usual panic situations occurred, such as

"I have never seen a group of people leap into action to lift boxes out of the way so quickly!"

a telephone call saying "Err, Gill, the till has stopped working and we have a big queue" or at the North Yorkshire Moors Railway when we had just started setting up on the platform the railway staff were filling up a water tank on a coach in front of us which unfortunately had a bit of a problem, instead of going into the coach at the top and staying inside the tank it kept running and ended up on the platform cascading down a small incline towards our stand, I have never seen a group of people leap into action to lift boxes out of the way so quickly! Luckily no damage was done.

I am intending to hold another training/ social day for our volunteers, I am not sure at the time of writing when it will be but whenever or wherever we will, I am sure have a lot of fun once all the important discussions regarding working practices have been addressed. Our first event of the 2014 season was at the Barrow Hill Roundhouse for the 'East Coast Giants' event on 8th and 9th February. It was a very exciting occasion with two A4's in attendance along with *Blue Peter* and *Tornado* plus 'Grantham - the Streamliner Years' the 'OO' gauge exhibition layout owned by Graham Nicholas. Before we attended this event we undertook an interim stock take, we always like to do this at the beginning of each season as well as at the end of the financial year.

During the next few weeks, we will be relocating our merchandise stock to the Works at Darlington and sending out the orders from there. This means that in the future when we have open days at the works we will have our stock easily accessible and create another revenue stream!

Graham Langer tells me that forward orders for the Accucraft Gauge 1 live steam *Tornado* are accumulating well and half the initial batch of these superb models is now spoken for. If you don't want to miss out, download the order form from the website and return it to us at Darlington or direct to Accucraft. The quicker the batch is filled the sooner the models will be delivered!

I have still to finalise new items for the next season but I do know that I will be stocking the New Hornby R3245TTS *Tornado* in blue with sound and R3207 *Cock O' the North*, the

date for delivery is not yet available but keep a look out on the website if you have that facility.

I still have some smoke box number plates for sale, all these have been used on *Tornado*, should you decide to purchase one, it will arrive still covered in coal dust, flies and in some cases leaves! Please contact me direct at gill.lord@alsteam.com - the plates retail at £200, which includes package and postage and a small commemorative plaque. **TCC**

60163

FOR SALE NINE TORNADO SMOKEBOX NUMBERPLATES

- **3rd July 2011** 'Torbay Express'
- **17th July 2011** 'Torbay Express'
- **29th November and 1st December 2012** The Cathedrals Express' London to Bath and Ipswich to Bath (one plate did both runs)
- **23rd March 2013** 'The Cathedrals Express' - London Paddington to Kingswear and return
- **21st June 2013** 'The Cathedrals Express' - Tonbridge to Ely and return
- **5th July 2013** 'The Cathedrals Express' - Lewes to Salisbury and return
- **7th July 2013** 'The Cathedrals Express' - London King's Cross to York and return
- **14th September 2013** 'The Cathedrals Express' - London Euston to Worcester and return
- **17th September 2013** 'The Cathedrals Express' - Staines to Kingswear and return

To secure your number plate (all profits to *Tornado*) email shop@alsteam.com. Please allow 28 days for delivery.



ALSLT sales team members rush to save their stand at the NYMR.

Gill Lord

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 14th February 2014. 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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