

# THE COMMUNICATION CORD



The A1 Steam Locomotive Trust  
New Steam for the Main Line

No. 14 January 2009

## *Peppercorn pair*



On November 6 'A1' No. 60163 *Tornado* was posed together with Peppercorn relation 'A2' No. 60532 *Blue Peter* at Barrow Hill.



# Editorial

Without doubt, 2008 was the most significant year for the Trust.

It seems almost unreal to think that so much happened in the space of just 12 months:

its first steaming, first moves, running in trials, main line testing and launch in apple green. Not bad going for a brand new locomotive, eh?

The locomotive has achieved these milestones with little fuss for such an imposing locomotive; inspiration in itself for other new build project groups around the country.

It was great to meet some of you at the launch of *Tornado* in green at



York in December. It was the kind of event that shows our movement off at its very best, so there will, of course, be a great number of people eagerly awaiting *Tornado's* naming ceremony early next

year.

This will be the last issue of TCC that I will have the pleasure of editing. Regretfully, owing to circumstances beyond my control, it has become impossible for me to continue the role – so my apologies that my spell at Editor has been quite so short lived.

Thanks for your support over the past year. All the best for the future – and take care. *Nick Brodrick, Editor*

## MAIN LINE MAGIC No. 60163 rolls onto the national network in fine style By Nick Brodrick

*Tornado's* done it! Since the last issue of *The Communication Cord* was published, No. 60163 *Tornado* has undertaken – and completed – three successful main line test runs.

East coast seaside town Scarborough was the first destination on November 4, originating from York, where the locomotive is currently based at the National Railway Museum. With just the locomotive's support coach in tow, the 'A1' comfortably coped with her 50mph maximum speed timings.

Humble beginnings perhaps, but nothing takes away from the significance of the event which saw a myriad of milestones chalked off in a single evening: first new main line passenger locomotive to run on the national network since '9F' No. 92220

*Evening Star*; the first built 'Pacific' since 'Britannia No. 70054 *Dornoch Firth*'; and the first 'A1' in traffic since No. 60145 *Saint Mungo*, to name but a few!

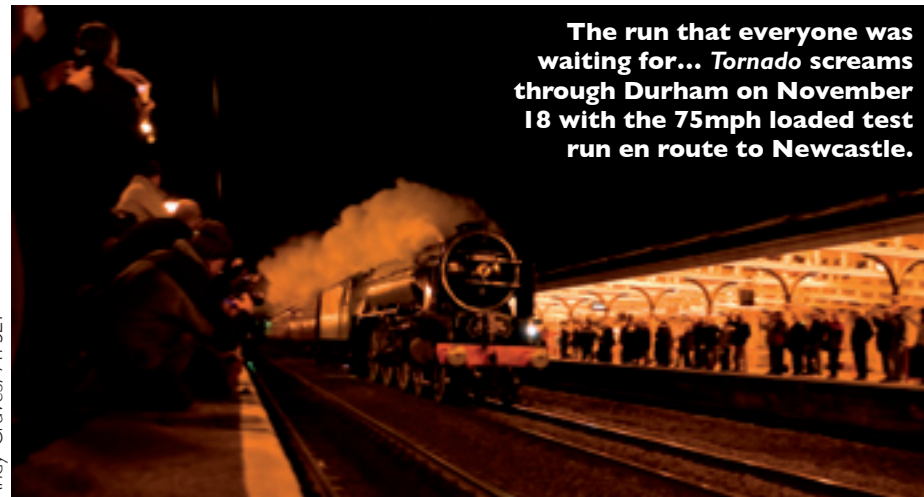
Just two days later, on the evening of November 6, *Tornado* not only hauled her loaded 60mph trial train, but was also briefly united with smaller 'sister' 'A2' No. 60532 *Blue Peter* in a remarkable evening's events at Barrow Hill Roundhouse. With the requirement to service the 'A1' during her brief time at the preserved Midland Railway-built shed, the chance was gratuitously taken to pose the Peppercorn-pair together for a special photo-call.

The monthly railway magazines have had a tough job knowing which angles to cover!

For many however, the *big night* was the 75mph loaded trial from York to Newcastle...

Immediately prior to the trip, the locomotive's tender lost the A1 Trust

**The run that everyone was waiting for... *Tornado* screams through Durham on November 18 with the 75mph loaded test run en route to Newcastle.**



## FROM THE CHAIR

By Mark Allatt

I must admit that even I am running out of superlatives! What a past few months it has been. Elsewhere in this edition of TCC Nick Brodrick talks about our move to the National Railway Museum in York, our successful test runs and finally the launch of *Tornado* in her first proper livery of apple green with 'British Railways' on the tender.

The people of the National Railway Museum have gone out of their way to make *Tornado* most welcome during her stay. Nothing has been too much trouble – thank you Andrew Scott and your superb team. If it hadn't been for the NRM having the original drawings for the Peppercorn class 'A1s' our project would have been still-born. It has been such a pleasure to bring an 'A1' back to York 43 years after the last one - 60145 *Saint Mungo* – left for the final time.

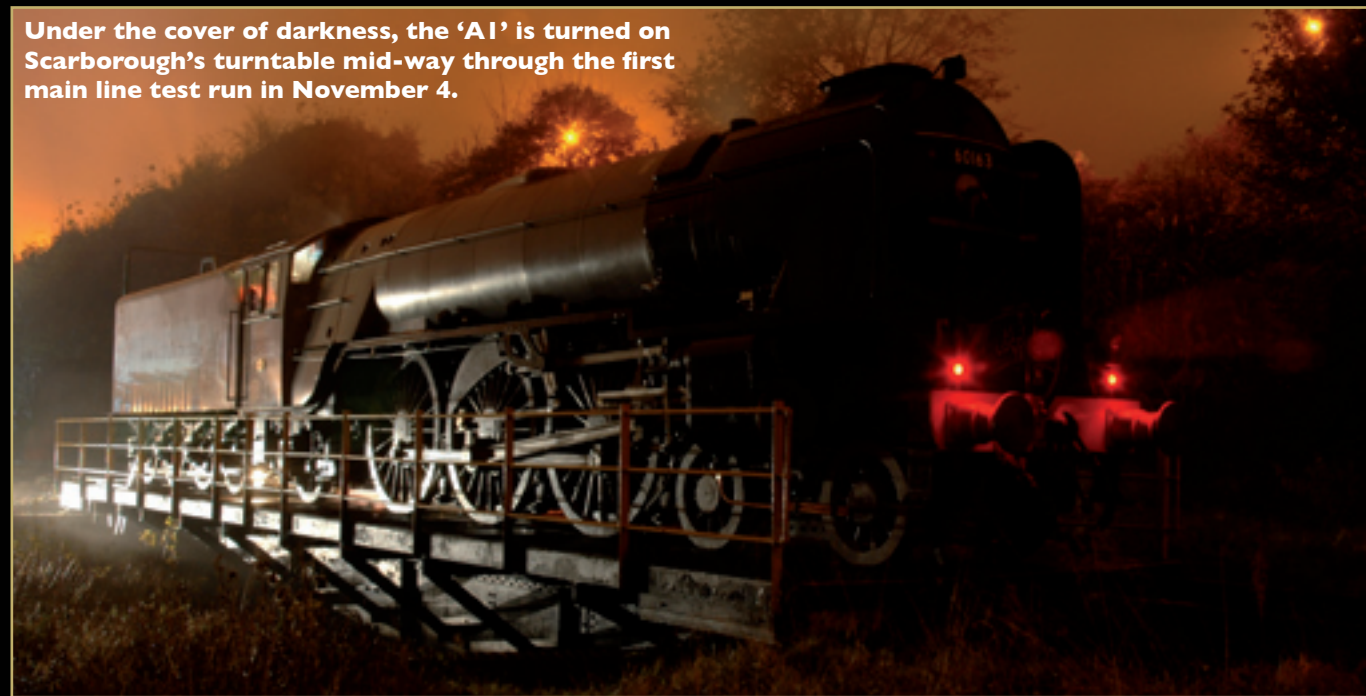
As you can read elsewhere in TCC14 our locomotive's performance on the Network Rail main line has been phenomenal. We were witness to the extraordinary sight of hundreds, if not thousands, of people turning out to see all three of our test runs. However it was the final run on November 18/19 that I found most moving; I'm not sure when York, Thirsk, Northallerton, Darlington, Durham, Chester-le-Street and Newcastle stations hosted so many people! As November 19 was my birthday, I can think of no better way to have celebrated it!

December 13 brought over 500 covenantors and their guests in York to attend our annual convention and then descend on the National Railway Museum for *Tornado's* launch. It was a real honour to be alongside Arthur Peppercorn's widow and our president, Dorothy Mather, as she led the unveiling of *Tornado* in the Great Hall. The Trustees also presented Dorothy with a photographic record

website transfers ([www.a1steam.com](http://www.a1steam.com)) to make way for the application of National Express' corporate logo, in recognition of its sponsorship of the train.

Watched by huge crowds at stations and various locations on the 76 ¼ mile East Coast Main Line route, *Tornado* covered the distance in a mere 81 minutes (information sourced from Mike Notley's

**Under the cover of darkness, the 'A1' is turned on Scarborough's turntable mid-way through the first main line test run in November 4.**



of the project compiled by our archivist Keith Drury. I'd like to express my thanks to Alexa Stott and her team of helpers for handling the day's logistics and making the launch such an enjoyable experience.

It is thanks to your continued generosity that we have come this far. However, once *Tornado* enters service on Network Rail we will need to raise in excess of £800,000 to service the loans taken out and Bond issue taken up to ensure the locomotive's long term operations. Then there is the matter of at least £50,000 needed to put our own fully equipped and certified support coach behind the locomotive.

We are therefore more keen than ever to encourage as many supporters as possible to join us by either becoming a Covenantor, making a donation, taking out a dedicated donation to sponsor a part of the locomotive (there are still many components left to support even though almost all of them are already on the locomotive!) and/or subscribing to our Bond issue. If you know anyone who wants to become part of *Tornado* please encourage them to come on-board. Details on all of these can be found in the 'how you can help' section of our



**Expectant trust supporters and the media await the unveiling of No. 60163 in her freshly applied British Railways apple green livery.**

new website [www.a1steam.com](http://www.a1steam.com).

Finally, our first trains on the Network Rail main line will be from York to Newcastle and return on Saturday January 31 and Sunday February 1 2009. As usual this will be for Covenantors and their guests only. This will be followed by the 'Talisman', running from Darlington and York to London Kings Cross (returning with modern traction), on Saturday February 7 and the 'Yorkshire Pullman', running from London Kings Cross to York (returning with modern

traction) using the VSOE's British Pullman train on Thursday February 26, so please put these dates in your diary and help us to fill these trains... with all profits to the Trust. We will inform you of details of future events and milestones as soon as we can – please keep an eye on the events section of our website for the latest information. I look forward to seeing you in York for yet another momentous occasion. In the meantime I'd like to take this opportunity to wish you all a happy and prosperous New Year. **TCC**

applied by the father and son duo of Ian and Dan Matthews of M Machine (who had previously applied the grey livery at Darlington) with Tony Filby, the NRM's painter, applying the lettering and Mike 'Tomo' Thompson the lining. On December 13, the locomotive was revealed to Covenantors and the assembled media by president Dorothy Mather, widow of

'A1' class designer Arthur Peppercorn, observing that "he would have been so proud."

*Tornado* was launched inside the Great Hall on the same road as *Mallard* and the dynamometer car.

All is now set for her official naming and much-anticipated covenantors' trains between York and Newcastle. We've





**‘AI’ No. 60163 Tornado powers through Swinton with its 60mph loaded trial run to Barrow Hill on November 6.**

waited almost two decades for this, but – all being well – the wait will soon be over. **TCC**

## IN THE MEDIA, by Mark Allatt

Press interest in our locomotive since the first moves continues at an unprecedented level. Newspapers and magazines from overseas as well as back in the UK are still fascinated by our project. Our move from the GCR to the National Railway Museum was covered at both ends by local radio, television and newspapers and this has also been followed by the specialist press. *Tornado* appears many times in almost every edition of every railway magazine you can buy at the moment hauling test trains, with ‘cousin’ *Blue Peter* and now in apple green.

*The Daily Mail* has continued its extensive coverage of *Tornado* and it has been joined by *The Daily Telegraph*, *Metro* and *The Yorkshire Post*.

*Tornado* has also become something of a TV star away from the news programmes. As well as BBC4’s *Time Shift* and Channel 5’s *How do they do it?*, Tom Ingall and his team’s documentary *Absolutely Chuffed: the Men Who Built a Steam Engine* was first shown on BBC4 at 8pm on 16th October and after being repeated on the same channel a couple more times it was shown again at 11am on BBC2 on Christmas Eve.

New media has also become a significant channel for publicising *Tornado* and attracting new supporters and hence funds. Most of our new supporters now contact the Trust through our website at **www.a1steam.com**. Some extraordinary video coverage of *Tornado*’s

test runs have been posted onto **www.youtube.com**. I hate to think about how many times I’ve watched the one of her speeding through Durham! If you’ve never taken a look at **www.youtube.com** I suggest that you do. Just type ‘60163 Tornado’ into the search function and enjoy the sight and sound of our locomotive on the Network Rail main line.

To keep up to date with *Tornado*’s press appearances go to the ‘in the media’ page within the news section of our website **www.a1steam.com** and click through to the actual articles and recordings.

Finally I’d like to thank Catherine Farrell and her team at the press office at the NRM for all of their help since we arrived there. **TCC**

## SEIZING THE MOMENT – Part 3 by Duncan Ross

The Christmas mailing to our Covenantors marked the end of our Mile a Minute Moment sponsorship. Although not as popular as the First Turn of the Wheel sponsorship, Mile a Minute has raised over £2000 towards the testing programme. Certificates of gratitude will be sent to all sponsors in the January.

As the saying goes, ‘All good things happen in threes’. With that in mind, we will complete the trilogy with a final sponsorship under the banner of ‘*Tornado*’s Top Speed’. At some point during the year *Tornado* will be tested to run at her 90 mile an hour design speed.

The actual speed and the time it occurred will be officially monitored and recorded. The Certificates of Gratitude will show the speed and the moment that another historic event occurred in

the life of *Tornado*.

Some time around the beginning of November I mused to myself whether 2008 could get any better? Lighting a fire in *Tornado*’s firebox for the first time in January, a Spring Convention with a locomotive so close to moving for the first time the tension was tangible, then at last the First Moves at the beginning of August. I thought that a certain spectacularly sunny Sunday on the Great Central Railway in September might be the ultimate but how wrong I was. Once again *Tornado* has gone on to bigger things: the main line runs which I was so privileged to be a part of, the transformation by the wonderful painting team in the National Railway Museum’s paint shop and finally the Unveiling in the Great Hall – there could be no more appropriate place – after our Annual Convention on December 13. What a fabulous year and one that I hope will remain long in the memory for all our Covenantors. **TCC**

## ENGINEERING by David Elliott

The following report is a bit disjointed as it covers both the end of our time at the Great Central and our early weeks at the NRM at York. I would like to take the opportunity to thank our friends at the Great Central Railway, who could not have been more helpful and understanding as we moved from construction to operating our locomotive. Overall the entry into service has been fairly painless although a few teething problems have been encountered.

### Brakes

Keith Nicholson of the Interfleet Technology VAB conducted light engine (actually engine and coach) brake tests on the Great Central Railway on October 14 2008 from 20mph to 60mph, which have indicated that the locomotive is well within the composite braking curve. In fact the results were very good considering that during the first run a part of brake mechanism broke on the LMS designed inspection saloon which was being used for the test equipment. After checking that the handbrake still functioned, the remainder of the tests were carried out with the vacuum brake on the coach isolated, thus *Tornado* was stopping a further 32 tons of coach in addition to her own weight.

When writing these notes I try to maintain a dispassionate style as befits the engineering profession, however I am searching for superlatives when describing these runs. Owing to an early evening speaking engagement (on the ‘A1’) I did not have time to travel on the test car

for the brake tests, however I did have 40 minutes to spare in the company of Paul Molyneux Berry, our VAB man from Deltarail who had visited earlier in the day to carry out an in-steam inspection as part of the NoBo (Notified Body) engineering approval process for main line running. Paul (who drives on the Festiniog when not doing the day job) ‘clocked off’ after the inspection and came with me to ‘grice’ at Quorn station. The sight and sound of an ‘A1’ ‘Pacific’ accelerating hard with a single coach in the hands of an enthusiastic crew takes some beating. The engine was reaching 60mph in about three quarters of a mile from a standing start on a rising gradient and the noise was magnificent with the sharp even exhaust beat a tribute to John Graham from the North Eastern Locomotive Preservation Group who set the valves for us. Such performance is explained by the fact that *Tornado* with one coach has the power to weight ratio of a modern ‘Voyager’ train! Suffice to say that I had a lump in the throat and the hairs on the back of my neck standing up!

Subsequently 75mph brake tests were carried out on the Newcastle test run on November 18 which demonstrated that with a train the locomotive stops well inside the braking curve.

Back on the Great Central a problem occurred with the non-operation of the Baldwin valve which drops the air in the brake system when de-energised by the AWS/TPWS (and hence stops the train). When we switched on the TPWS the brakes went on hard and stayed there. On the strong recommendation of Mandy Sharpe who fitted the TPWS/OTMR equipment for us, the specification was changed from a modern Electro-Pneumatic (EP) valve to the traditional Baldwin type valve, of which we had four that had been stripped from class ‘86’ electric locomotives along with the brake control gear.

However, initially I had not appreciated that the Baldwin valve is servo operated – the electrical input just operates a small EP valve which admits air to a larger shuttle valve which controls the brake system air. Fitting of an additional direct air supply to the Baldwin valve cured the problem and enabled Paul Molyneux-Berry from Deltarail to test it during his hot FTR (fitness to run) exam and on a loaded test train on October 14.

### Steam fittings

A departure from the original design is use of the tender water valves to control the supply of water to the injectors as opposed to the original arrangement where each injector used a built in water control valve. The main reason for this

## WHERE’S THE MONEY? By Barry Wilson

Well, now we are within a hair’s breadth of *Tornado* strutting her stuff on the main line we have to deal with the debt incurred to achieve that.

Very early on in the build the Trustees decided that we needed to be within sight of completion before any substantial borrowing took place. It was not until 2005 that the bond issue was launched to raise the funds for the construction of the boiler. This was perhaps earlier than the Trustees had anticipated, but the decision was driven by the fact that we would have to purchase the boiler in one go, so as to speak, rather than piecemeal as funds were available. This actually turned out to be a far better decision than we ever thought as given the movement of sterling against the Euro, German inflation and the spiraling cost of raw materials it would

have cost twice as much had we ‘saved up’ and ordered it in January 2008.

Throughout the build the cost of construction had stayed reasonably close to the original projections as adjusted for ongoing inflation; that all changed in the last two years for three reasons. The first was the dramatic price increases that we were seeing in material prices worldwide, which put our cash resources under severe strain; for example an indicative price for super heater tubes at £13,000 became £22,000 four months later when they ordered!

The second was the finishing-off which took twice as long and cost three times as much as we had first anticipated – apparently we are not the first group caught out by this one! When you think that we have two miles of piping and four miles of

electrical cabling fitted, out of sight, on the locomotive, the time and cost of fitting everything in becomes more understandable.

Finally testing the locomotive for main line certification was an unknown quantity – not just for us but also the organisations involved in the process as there had not been another steam

locomotive which had to comply with many of the new build requirements for use on Network Rail. The costs involved in these processes was huge.

These items were only achieved with assistance in the form of loans from covenantors and the Charities Aid Foundation, to whom we are very grateful, over and above our regular covenanted income and donations.

As to repayment, the bonds, presently totaling some £400,000 are due for

repayment between 2012 and 2016 at the Trustees discretion, so are not of immediate concern; ever increasing numbers of bond holders are donating their holding back to the Trust and thus the figure which will ultimately require repayment is uncertain.

However, the other loans fall due up to the end of 2010. With the continued support of our covenantors and donors and the earnings from operations of *Tornado* we are confident we can meet these liabilities.

For those of you who are, quite rightly, concerned about the economic recession remember the launch of the project to build a new ‘A1’ took place in the last recession and we got there!

With apologies to those of you who were present in York on December 13 2008 and have heard much of this already! **TCC**



**Barry Wilson presents Dorothy Mather with a book of images from the past 18 years of the ‘A1’ construction project at the locomotive’s apple green launch.** Chris Milner/  
*The Railway Magazine*

is the difficulty in routing the handwheel spindles for these valves up through the cab floor now we have filled the space with brake and electrical equipment. This new arrangement works well with the live steam injector, with the tender water handle handy for when the fireman is looking over the cab door at the injector

overflow pipe to trim the injector. It would have also worked correctly on the exhaust steam injector if we had used the Davies and Metcalfe class J injector fitted to the original ‘A1s’. However, we fitted the class H exhaust steam injector from ‘A4’ No. 60007 *Sir Nigel Gresley* which works on a slightly different principle. Instead of a





Stephen Wright / A1 SLT

An ex-works, apple green Peppercorn design 'A1' rests on the site of the former York roundhouse.

You simply couldn't script it! *Tornado* proudly wears her new paint at the NRM on December 13.



manual water valve, the injector has an automatic water valve operated when steam pressure is applied to the injector. In order to regulate the rate of water feed (normally done with the water valve), a moveable cone is fitted operated by a cam which in turn is connected to a handle in the cab. At the moment we can set the water regulator manually in advance of a run, but not whilst the engine is moving. This is not a major issue at present, but as we chase the best efficiency and hence water consumption by making maximum use of the exhaust injector, controlling the flow rate will become important. Thus a slightly tortuous route for a control spindle has been established and this will be fitted before the locomotive hauls its first revenue earning train.

### Electrics

Mandy Sharpe returned to Loughborough and successfully commissioned the TPWS and OTMR systems. I would like to place on record our thanks and gratitude to Mandy who has gone out of her way to fit in with our schedule to install and commission the AWS/TPWS/OTMR systems and has come to our aid in locating components at the last minute. The resulting system is installed to a high standard, which should bode well for future reliability.

A problem had been experienced with the cam operated microswitch which we fitted to change over the TPWS aerals according to the direction of travel – there are two aerals, one under the bogie and the other under the tender and the system uses whichever one is leading at the time. The switch also informs the OTMR of the direction of travel and illuminates forward and backward lights on the side of the AWS sunflower box. It had been observed that when winding into forward gear, the lights would change from forward to reverse and back. This was initially put down to a flexible conduit resting on the arm of the switch, and on re-routing the conduit, the problem disappeared until the light engine test run to Scarborough, when it re-emerged, causing three TPWS actuated stops on the way back.

A further examination after that run revealed that the switch was out of adjustment, such that when in forward condition with the roller on the switch resting on the reverser bell crank shaft, only half a millimetre of movement was needed to change the state of the switch. Two paint runs on the shaft were causing the switch to change over intermittently, resulting in the incorrect indications. Re-adjustment of the switch to give the designed 3-5mm lift before changeover

has rectified the problem, and no further incidents were experienced on the November 6 and 18 loaded test runs.

### Lubrication

At the end of the first loaded test run to Barrow Hill, the inside slidebars were noted as being rather hot on arrival back at York. Small slivers and particles of white metal had appeared around the slide bar area and the gap between the top of the crosshead and the upper slide bar had become excessive.

On November 10, with assistance from David Wright of Locomotive Maintenance Services (LMS!) who we encountered at Loughborough, Peter Neesam removed the inside crosshead, David took it to Loughborough where the team in the shed replaced the white metal and machined it back to size in two days, returning with it on November 13 and it was refitted by that evening. This represents a response of the highest order and thanks are due to the GCR team for helping us out at very short notice.

The cause of the failure was quickly identified with the aid of John Graham (who seems to have taken a bit of a shine to our engine) as lubrication failure, and subsequent tests showed that almost no oil was arriving down the two oil pipes from the oil box on the right hand footplate. On making enquiries, it emerged that all the Gresley 'Pacifics' and the 'V2s' have an additional independent oil pot on the inside slide bar, so the specimen off *Flying Scotsman* has been copied and fitted to ours to reinforce the oil supply.

On further investigation, I came to the conclusion that the six tail trimmings that we were using were forming a restriction to the flow of oil. As an experiment, I disconnected the oil pipes to the outside slide bars on both sides of the locomotive, pointed them into clear plastic cups and fitted one six tail and one four tail

trimming on each side. The result was that the four tail trimmings delivered slightly more oil than the six tail trimmings, demonstrating the restricting effect of the six tail trimming in the ¼inch bore holes of the siphon tubes, however the delivery rate was rather low. On trying the same on the inside slide bar oil pipes the delivery was worse still.

This caused a reference back to drawings of the oil boxes and their components where I discovered on the drawing of the siphon tube that the bore had been altered from ¼inch to ⅜inch in 1955 for all syphon tubes. Following on from this, all 20 syphon tubes on the four main oil boxes went back Darlington where Steve Wood bored out the existing ¼" bore siphons and fitted ⅜inch bore tubes instead. Once they were re-fitted further tests demonstrated much improved oil flows.

### Right hand crosshead

On return from the second loaded test run, the right hand crosshead showed evidence of the white metal moving out between the crosshead and the lower slide bars. After dismantling it became clear that the whitemetal had not adhered properly to the steel and was peeling off in several pieces. When all three crossheads had been whitemetalled and machined in the first place, the left hand and middle crossheads were found to have loose whitemetal and had to re-metalled. The right hand crosshead appeared to be OK, but as this incident has shown, was not. Again the expertise of the Great Central Railway shed was contracted to re-metal and machine the crosshead and it is now back on the engine.

### Boiler/Smokebox

A set of self-cleaning smokebox screens to the US Master Mechanics design with details based on the installation on

'Britannia' No. 70013 *Oliver Cromwell* have been designed and fitted. At the same time spark arrestor screens have been fitted inside the damper door and grilles welded onto the cab roof ventilators, again with assistance from David Wright and over the weekend, from James Hazell, an apprentice from Loughborough, to complete the work. The system appears to be working very well as after both the loaded test runs, there was less than a shovel full of char in the smokebox. During observations whilst the locomotive was working hard, there were very few sparks visible from the chimney and none of these reached the ground still alight. The efficacy was further demonstrated by the black countenance of our Chairman after the test run to Newcastle having had his head out of the window most of the way!

### Tender

From first moves at Darlington, it was apparent that the third axle on the right-hand side spring is fouling the lug on one of the spring safety brackets. A possible cause is the spring being slightly asymmetrical; so we tried turning it round. This significantly worsened the problem, confirming that the spring is indeed asymmetrical but also caused me to look more closely at the geometry of the spring plank which sits on the top of the axlebox. It soon became apparent that this one was different to the other three intermediate spring planks to the extent that the boss which locates the spring is slightly further away from the frames than the others. This appears to be the result of a manufacturing error so the contractor concerned has been lined up to correct it as soon as we can drop the wheelset out to release the spring plate. This is planned using the NRM wheeldrop during the two week period that the locomotive will be in the workshops from January 12.

### Painting

Following satisfactory negotiations with M Machine whose staff painted the locomotive in grey, the father and son team of Ian and Dan Matthews were contracted to paint the locomotive into apple green in the NRM paint shop. It had been agreed that the NRM painter Tony Filby would number and letter the locomotive and tender (no mean task with BRITISH RAILWAYS on each side of the tender). When the original painting plan was put together the final main line test run was scheduled for the first week in November; allowing us approximately five weeks to paint the engine before the unveiling on December 13. In the event the last main line trial was on the November 18 which after

# Covenantors' Diary By Alexa Stott

**It has been a privilege to meet so many of you at these events throughout the last year. My review of 2008 would not be complete without sending a huge thank you to all my helpers throughout the year, especially those who could not be at the Annual Convention to hear my thanks then. I must also put on record my thanks for the help given to me by the Great Central Railway and the National Railway Museum.**

### So what is in store for 2009?

**I'm still looking for eager volunteers as you will see in the Appeals section. There are many good reasons why...**  
**● April 2009 – this is already being billed as one of the biggest steam events taking place in 2009. *Tornado* will meet her smaller sister' or 'cousin' (dependent on whose column you are reading in this edition of TCC) *Blue Peter* at Barrow Hill and they will be joined by not one but TWO A4s – Sir Nigel Gresley and Union of South Africa – and a host of supporting engines. Although the event will be officially open to the public on April 4/5, *Tornado* will be at Barrow Hill for most of the previous week for driver experience days and a photo charter. Covenantors will be entitled to a £50 discount on the £550 price of a day driving and firing *Tornado*. Please contact me at [alexa.stott@alsteam.com](mailto:alexa.stott@alsteam.com) if you would like further information on the very special day packages being offered.**  
**● May 2009 – from May 1-10 *Tornado* will make her first appearance at the North Yorkshire Moors Railway for their Spring Gala. Further details will follow but this**

**promises to be another wonderful opportunity to get up close to *Tornado* during the event.**

**As *Tornado's* 2009 itinerary is confirmed, there will no doubt be further events at which we will need help. We mustn't forget our home base in Darlington where the Open Days continue as part of our commitment to the town and the railway heritage there.**

**But before all that of course we have the First Main Line Trains for Covenantors on January 31 and February 1. I do hope you have all booked your tickets and I look forward to seeing you on one of the trains.**

**Can we beat the excitement of 2008 in 2009? I certainly hope so!**

### APPEALS Volunteers

**The Trust is still appealing for volunteers to help at various events it is attending throughout this year and when *Tornado* is operational on the main line. If anyone can spare a day or two to help and would like to join the Trust's events team, do get in touch with me via [alexa.stott@alsteam.com](mailto:alexa.stott@alsteam.com).**

**With the long term, profitable main line operation of *Tornado* at the heart of its future activities the Trust is always looking for enthusiastic and experienced volunteers, especially younger people. At the moment the Trust has a particular requirement for people with experience of finance, marketing & fundraising, retailing, commercial contracting and newsletter editor. Please contact Mark Allatt via [mark.allatt@alsteam.com](mailto:mark.allatt@alsteam.com) for more information. **TCC****



**Mike Thompson skillfully lines-out *Tornado's* tender freehand.**

Ken Woods / A/SLT

draining and cleaning the engine left us only three weeks to the unveiling (thanks to everyone who helped prepare the engine for painting). To give us a sporting chance of completing at least one side of the loco in the time available, further

assistance was sought in the form of Mike (Tomo)Thompson of Sign Art who was recommended to us by Phil Speight, the Managing Director of Craftmaster Paints who has kindly donated all the paint for the final livery.

Thanks are due to the painting team pulling out the all the stops, one side of the locomotive was fully lined by the December 13 convention. By the end of the following week the other side had been lined and the whole of the green areas varnished. Your Director of Engineering was accused of being rather sad when he calculated that there is about 1,270 feet of 3/16 inch or 1/4 inch white and red lining on the engine! It was also pointed out that it was a very long time since an engine this size had been painted apple green, as both *Flying Scotsman* and *Green Arrow* were partially sprayed and had stick-on lining tape applied. *Tornado* is entirely hand coach painted and the results are there for all to see.

### Electrical system

The electrical system designed by Rob Morland has worked very well for the most part, although we had been unable to persuade the alternator under the tender to generate whist at Loughborough. Once at York, Rob and our ace electrician Paul Depledge set up a test rig using an electric motor and belt to drive the alternator. Two characteristics were soon discovered. Firstly the regulator took 30 seconds to go on line after the alternator was rotating fast enough to generate (presumably to stop it going on and off line frequently when the train is around the speed where the alternator first produces output), and secondly the system was looking for a battery directly connected as a load – in our system the batteries are charged by electronic chargers tailored specifically to the type of battery, so the alternators do not ‘see’ the batteries directly. Some extra design work is underway to connect a small set of batteries across the regulator to convince it that a battery is there. In the mean time the steam turbo-alternator has worked faultlessly and on our last main line run we ran using the first of the high powered LED headlights (designed by Alan Green and Rob Morland and built into traditional oil light cases), which gave rise to favourable comments from the EWS crew.

Other work includes design and installation of the National Radio Network (NRN) radio system. The core of this has been obtained secondhand off withdrawn rolling stock, as in principle the system will be superseded in 2011 by the new GSMR radio system which uses mobile phone technology. We have been most fortunate to be offered sponsorship by Hima Sella Ltd who are currently working to certificate the German Funkwerk GSMR system on Network Rail. Hima Sella is donating a complete set for our use when it is approved. In the meantime a housing is

## SOMETHING FOR THE WEEKEND

Now that *Tornado* is up and running, a range of commemorative merchandise is being prepared – all of which raises money towards the locomotive.

Some of the products are directly produced by the Trust, others are collaborations with outside bodies, but together they make a range to suit all pockets! We do hope you’ll find something you like... safe in the knowledge that sales are helping the ‘A1’.

### Tornado First Day Covers

Renowned First Day cover producer Buckingham has produced *Tornado* covers (sale price £9.95) and ‘Cinderella stamps’ (£4.00/7.50 dependent on version) with a percentage of the profits going to the Trust. Click on the

### Worksplates

Those of you who have seen the locomotive close-up will have spotted its distinctive LNER-style brass builder’s plates on the cabsides. You can have a perfect replica – the ideal high-quality memento - for £165. All profits to the Trust.



You can own a replica worksplate...

### The Tornado Story

The official story of how *Tornado* was built, produced by the Trust itself using its unique photographic archive. Printed on high-quality paper, this 40-page pictorial album costs £10 – all profits go straight to the project!



Trust’s website [www.a1steam.com](http://www.a1steam.com) for details.

### Sterling silver Tornado relief

*Tornado*’s profile in Sterling silver is the subject of this limited-run collectors’ piece, mounted on a BR totem-shaped varnished piece of wood and in a special box with certificate of authenticity. Each costs £295, with all sales including a donation to the Trust. More details at [www.ibexgoldltd.com](http://www.ibexgoldltd.com)

being designed to take either the NRN or GSMR radio kit with a simple changeover when the time comes. **TCC**

## ENGINEERING RESOURCE

I would like to convey the thanks to all the volunteers and contractors who have worked on the engine over the last 14 years – your input has been crucial to the success we have achieved to date.

With the transition from construction to operation, the number of engineering personnel working in the locomotive has reduced substantially, however, in order to maintain her in a suitable condition to fulfil the busy schedule currently being planned, a significant on-going engineering input will be required. As of the beginning of 2009, Peter Neesam is to be retained as the ‘keeper’ of the engine and will be in charge of day-to-day preparation and

maintenance. As Director of Engineering, my role is reducing, and from the New Year I will be contracted to the Trust on an as required basis. However, I expect to continue to volunteer in order to carry out the engineering design and management function. In addition to Peter and my limited input, we have approached certain highly skilled “peripatetic” engineering contractors to assist when heavy work is required (for example when the inside crosshead had to be removed as described above). However, we will be dependent on volunteers to help with much of the day-to-day preparation, cleaning and disposal work if *Tornado* is to be commercially successful and the debt is to be reduced quickly. If you have thought about volunteering and have some experience in the engineering field, we would love to hear from you. The work often lacks glamour, but the feeling when

## ON THE MAIN LINE? By Graeme Bunker

### First trains

With the locomotive painted and the test runs concluded it is now time to turn our attention towards our main line programme, beginning at the end of January.

The locomotive will operate her first tours exclusively for our covenantors who have paid for the locomotive on January 31 and February 1. On each day *Tornado* will haul a train between York and Newcastle replicating the final tour of the last original class ‘A1’ No. 60145 *St Mungo* 42 years ago. Prices are £69.00 for standard class and £95.00 for First Class seats and by the time you read this the first train on the January 31 will be very nearly full so hurry to ensure your seat on this ground breaking weekend. Both trains depart York around 1100hrs and arrive back there around 1800hrs, leaving over three hours to enjoy Newcastle.

On the February 7 *Tornado* will join

the ranks of the main line fleet as she ventures further onto the East Coast Main Line heading from Darlington to King’s Cross. Carrying The ‘Talisman’ headboard, the AISLT’s tour trademark, this trip is a date with a destination some 18 years in the making and is selling well so ensure you get on-board and secure your seat. The train will depart from Darlington a little after 0900hrs and calls at York before heading for King’s Cross arriving around 1430hrs. With around four hours to enjoy the sight and experiences of the capital: the return departs around 1830hrs arriving into York around 2030hrs and into Darlington around 2100hrs. Prices for this tour are £79.50 for standard class, £119.00 for First Class (non-dining) and £175.00 for First Class Dining.

The highlight of the initial programme of tours for *Tornado* will be her first departure from King’s Cross, hauling

the luxurious Orient Express British Pullmans. Departing from London around 0920hrs this is the ultimate in rail tour experience as you will be pampered by the onboard staff. The outward journey will include a champagne breakfast and on arrival in York there will be the chance to see *Tornado* at close quarters. Our return is hauled by modern traction with an exquisite dinner served in the ultimate surroundings onboard probably the most luxurious train in Britain. This train is a true one-off, a unique experience and event so ensure you are part of it. Prices are £449 per person including on-board meals.

Booking details for all of these trains can be found under ‘Diary of Main Line Tours’ and can be booked by calling our booking agent Steam Dreams on 01483 209886. Please have your covenantor number to hand as this will be taken by booking staff where necessary. **TCC**

the engine is in steam and gleaming ready to haul a train is very satisfying. Whilst steam engines are principally mechanical devices, we have a lot of plumbing, electrics and electronics on board, all of which will benefit from continuing tender loving care!

Please contact us via the web site ([www.a1steam.com](http://www.a1steam.com)), hot line (01325 460163) or direct to me at **david.elliott@a1steam.com** **TCC**

## CERTIFICATION by Graham Nicholas

In order to support the mainline test running from November 4, the requisite Engineering Acceptance certification was issued by Delta Rail VAB on October

31, followed by Network Rail Route Acceptance certification on November 3.

Behind these two simple pieces of paper lie a huge amount of effort over the preceding months, led by Graham Nicholas, Quality Engineering Director, together with a team of Trust people putting together the necessary submission paperwork. Thanks are due particularly to Rob Morland, Tony Broughton, Mandy Sharpe and David Elliott for their assistance in this unseen but vital area.

The best analogy is to say that *Tornado* now has the railway equivalent of an ‘air-worthiness’ certificate to support its mainline operations.

In actual fact, the first round of paperwork was only valid for the three

mainline test runs and has already elapsed! So a further, final push is in hand to enable issue of the permanent certification paperwork to support mainline running in 2009 and beyond. A large part of this focuses on *Tornado*’s planned maintenance arrangements and once again another vote of thanks is due, this time to covenantor Joe Brown who has spent a large part of 2008 painstakingly compiling this documentation, using best industry practice.

By January 31 (preferably a few days prior!) this work should all be complete and necessary paperwork issued so we can all enjoy *Tornado* where she truly belongs – at the head of a mainline train! **TCC**

## Obituary

It is with great sadness that we have to inform you of the death of Wreford Voge on December 19. Wreford had supported the Trust almost since inception and his vast knowledge was invaluable in setting up the structure of the Trust and in dealing with the intricacies of taxation of all kinds with which the Trust was involved.

Until his health problems meant he had difficulty travelling I don’t think I can recall a Trustees meeting which Wreford did not attend - and some of these a great distance from his home in Edinburgh. His board reports were

always succinct and invariably tinted with his wry Scots humour. Many will remember his early contributions to the annual conventions which were always humorous

Sadly, Wreford felt it was right for him to step down from the Board of Trustees in April 2007 owing to his ill health making it impossible for him to attend meetings; his resignation was accepted with regret but Wreford did accept the invitation to become a Vice-President.

We know that Wreford continued to follow progress on *Tornado* and was particularly pleased with the many contributions to You Tube of the main line test runs. He was so looking forward to seeing the ‘A1’ in Waverley Station and travelling behind her; this event was so close but tragically too far away for Wreford to realise his wish.

He will be missed by all of us who had the privilege of knowing him and our sympathies are extended to his widow, Elisabeth and his two sons and their families.

Barry Wilson



The A1 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 January 5 2009. For up-to-date information and dates please check the website [www.a1steam.com](http://www.a1steam.com).

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● Daytime hotline: 01325 4 60163 ● Works: 01325 4 60022 ● e-mail: [enquiries@a1steam.com](mailto:enquiries@a1steam.com) ● website: [www.a1steam.com](http://www.a1steam.com)

Darlington Locomotive Works is normally open to the public on the 2nd Saturday each month (11am – 4pm).

Access to the works is via Head of Steam (the newly refurbished Darlington Railway Museum) where covenantors are entitled to free entry.

Charity registration No. 1022834.

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