

# THE MIKADO MESSENGER



2007 PRINCE OF WALES  
Building Britain's Most Powerful Steam Locomotive

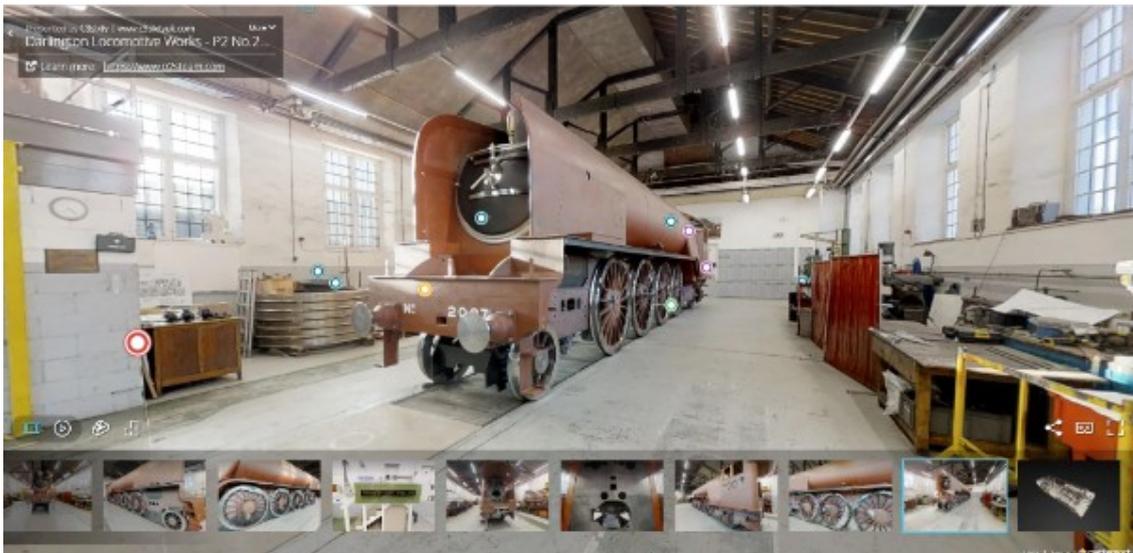
Welcome to edition No. 49 of *The Mikado Messenger*. The *Messenger* aims to provide a regular bulletin of news about the construction of No. 2007 *Prince of Wales*.

With Christmas round the corner, why not sponsor a component for No. 2007 *Prince of Wales* for the ideal Christmas present? Work has continued throughout November on preparing the wheelsets for painting along with much design work on the valve gear and cylinders in the background. This issue of *Mikado Messenger* also includes a detailed engineering update.

## NEWS BRIEFS

**3D VIRTUAL TOUR OF DARLINGTON LOCOMOTIVE WORKS UPDATED** - C3Sixty have updated the virtual tour around No. 2007 *Prince of Wales* at Darlington Locomotive Works. If you were unable to join us for our Annual Convention, you can use this tour to see the wheeled P2 up-close! David Elliott also gives some information about various components on videos linked to the tour.

You can take the virtual reality tour [here](#).

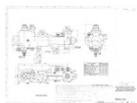
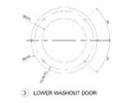
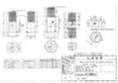


No. 2007 *Prince of Wales* 3D virtual tour

**BUY THE POWER OF STEAM THIS CHRISTMAS** - This is your opportunity to sponsor a component throughout the 12 days of Christmas and help to build Britain's most powerful steam locomotive. This Christmas, members of the public will once again be able to sponsor a component on Britain's newest and most powerful express passenger steam locomotive. For a limited time only, parts for giant new Gresley class P2 No. 2007 *Prince of Wales* will be available for sponsorship to people who are neither 'P2 for the price of a pint' monthly Covenantors or other registered supporters. Components sponsored through the Dedicated Donations Scheme range in price from one of over 1,000 driven bolts & nuts for £25 to the complete exhaust steam injector for £15,000 - an ideal Christmas present for the railway enthusiast in your family.

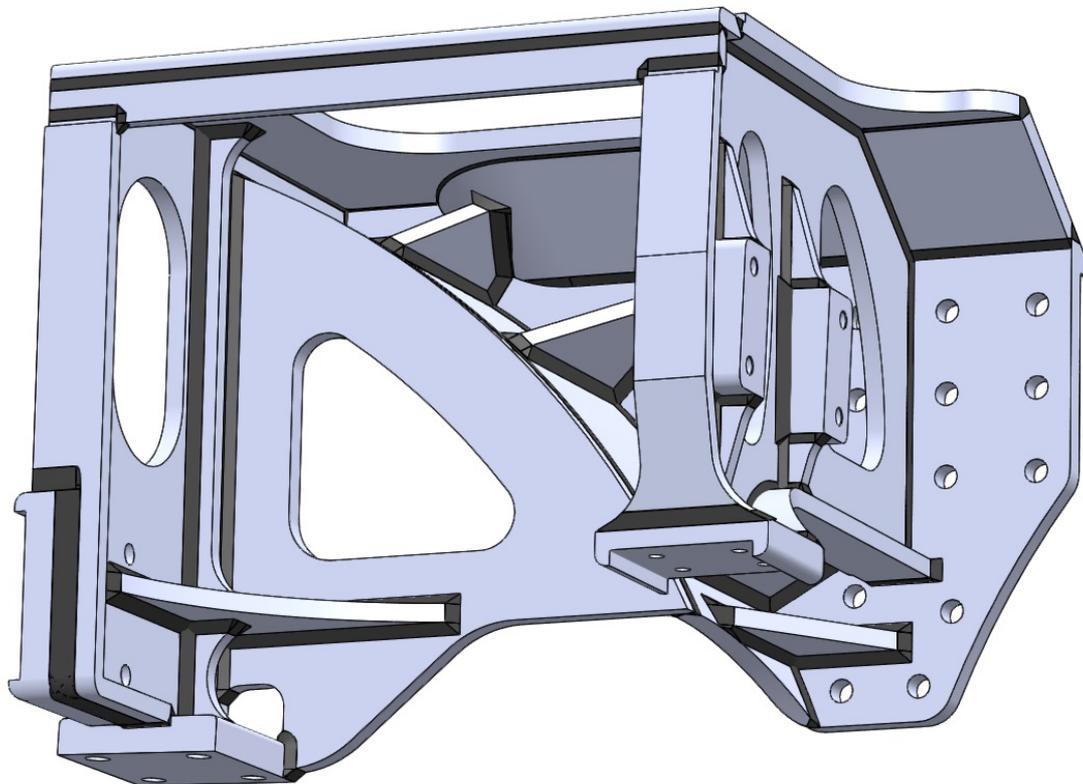
You can discover how you can do this [here](#).

**12 Days of Christmas Component Sponsorship**

			
1 <sup>st</sup> day of Christmas – one exhaust steam injector at £15,000	2 <sup>nd</sup> day of Christmas – two pony truck tyres at £1,200 each	3 <sup>rd</sup> day of Christmas – three piston crosshead cotters at £300 each	4 <sup>th</sup> day of Christmas – four pony truck adjustment ring halves at £250 each
			
5 <sup>th</sup> day of Christmas – five foundation zing wash out door escutcheons at £70 each	6 <sup>th</sup> day of Christmas – six inlet valves from £1,200 - £1,800 each	7 <sup>th</sup> day of Christmas – seven upper superheater elements at £900 each	8 <sup>th</sup> day of Christmas – eight footplate brackets from £350 – £700 each
			
9 <sup>th</sup> day of Christmas – nine buffer springs from £65 to £170 each	10 <sup>th</sup> day of Christmas – ten hornstay lin BSV driven bolts & slotted nuts at £30 each	11 <sup>th</sup> day of Christmas – eleven frame stays from £300 to £6,900 each	12 <sup>th</sup> day of Christmas – twelve valve cover castings at £100 each



**FRAMES** - Daniela Filová has completed the re-design from castings to fabrications of the outside motion brackets that support the slide bars and the reversing gear. The manufacturing drawings have been sent out for quotation. The pony truck frame drawings will be finished shortly and the design submitted to our Assessment Body (ASBO!) Ricardo Certification for approval prior to seeking manufacturing quotations.



No. 2007 *Prince of Wales* motion bracket - Daniela Filová/A1SLT

**WHEELSETS** - Since the Convention, Ian Matthews has completed the sculpting of the balance weight plates and has ground and sanded the spokes and rims back to bare metal followed by application of filler and a start on sanding the spokes to an exhibition finish. The final cannonbox for the pony truck axle has been problematical as it has been the subject of a machining error. This has been recovered by welding and stress relieving and is in the process of being machined to the correct size. Meanwhile work has continued to set the correct running clearances of the roller bearings of the intermediate and trialing coupled axles.

**AIR PUMPS** - An order has been placed with Damflokwerk Meingingen (manufacturers of *Tornado's* boiler) to overhaul the second Finnish air pump that we acquired last year. The first Finnish pump was overhauled earlier this year and has since been fitted to *Tornado*. We have a total of five air pumps for the two locomotives (they are or will be fitted with tow pumps on each engine). As a matter of course we exchange each air pump on *Tornado* every two years and will do the same on *Prince of Wales* to

keep them operating reliably. The pump that has recently been removed from *Tornado* is presently at Meiningen and will be overhauled in due course and used to pipe up *Prince of Wales*' frame.

**BOILER** - Graeme Bunker-James and David Elliott visited Meiningen on 17<sup>th</sup> October to finalise the scope of the order we have placed on them for the update of the boiler design. It is intended that the boiler for *Prince of Wales* is the same as that on *Tornado*, and the update is necessary to formally incorporate into the design various modifications and improvements made to *Tornado*'s boiler over the last 10 years. These include increased numbers of flexible stays, use of forged rather than machined-from-solid foundation ring corners and re-routing of the live steam supplies for the lubrication and whistle away from the inside of the smokebox. A meeting has been held with a potential UK boiler builder following their response to our request for quotations.

**MAJOR BOILER FITTINGS** - The superheater header has been sent to Multi-Tech Engineering at Ferrybridge for machining. Quotes are being sought for castings for the regulator assembly.



Superheater header casting - Daniela Filová

**BRAKE RIGGING** - The remaining brake rigging components are in the course of manufacture.

**TENDER** - Following receipt of a number of quotations for building the tender tank, discussions are being held with the potential manufacturers with a view to placing an order in the New Year. Three of the tender axles have arrived from Unilathe of Stoke-on-Trent. As soon as the final axle is delivered, all four will be sent along with the wheels to South Devon Railway Engineering to be assembled and to have tyres fitted. I D Howitt Ltd at Crofton continue to make progress with the tender frames.

**ELECTRICAL** - The new turbo-generator turbine wheel is complete apart from balancing for which our electrical designer, Alan Parkin is seeking out contractors who can do this work. Alan has completed detail drawings for the new belt driven alternator design and these are due to go out shortly for quotation to manufacture.

## PROGRESS TO DATE

- Frame plates for engine and tender rolled and profiled; engine's frames erected at Darlington Locomotive Works; all major engine frame stays, brackets, horn blocks, axleboxes and buffers

cast (44 in total); over 1,000 fitted and driven bolts ordered and delivered, approximately 800 now fitted to the frames

- All 20 wheels for engine and tender cast and proof machined; engine wheelset assembly complete, balance weights manufactured and fitted, tender axles delivered
- Preliminary discussions held with boiler manufacturers and forged foundation ring corners manufactured and machined; start made on boiler fittings with castings for combined injector steam and delivery valves; order placed with DB Dampflokwerk Meiningen to update the design to incorporate modifications and improvements fitted to *Tornado's* boiler over the last 10 years
- Study into ride and suspension completed using rail industry standard Vampire® software; Finite Element Analysis completed on re-designed crank axle to ensure it complies with modern standards; assessment and notified body appointed to oversee certification - first site visit made
- Cab erected and cab side window frames fitted; engine footplating and splasher kits delivered and permanently fitted to frames
- Smokebox door pressed, details made and door completed; door frame manufactured, smokebox delivered and erected; chimney cast and fitted
- Crosshead castings delivered; connecting and coupling rods ordered and manufacture started
- Boiler cladding assembly jig built, cladding crinolines and hoops rolled and fitted to jig, cladding sheets made and trial fitted to the engine's frame
- Tender frame construction under way, axleboxes and other tender castings delivered from William Cook Cast Products; tender tank procurement process underway
- Nameplates and chime whistle delivered
- Over £2m spent, £2.5m donated and over £3.1m pledged.

## FUNDRAISING

**'P2 FOR THE PRICE OF A PINT OF BEER A WEEK'** - Throughout November, we have welcomed almost 30 new P2 Covenantors on-board. We are pleased to have seen an increase in the number of supporters donating through our core scheme.. If you haven't yet signed up to our monthly donation scheme we would encourage you to get on board - you can find more information [here](#).

**THE MOTION CLUB** - The Motion Club has welcomed over 100 members, meaning we are over half way to our 175 member target. With the order placed for the coupling and connecting rods, these should start to arrive at Darlington in quarter one of 2019.

**THE BOILER CLUB** - The Boiler Club is now approaching the 170 member mark, leaving just over 130 spaces available. With a decision being made on the boiler manufacturer towards the end of 2019, we would urge those who haven't yet contributed towards the purchase of No. 2007 *Prince of Wales'* boiler to join us. This is the single most expensive component on the locomotive, meaning it is vital to increase the donations towards the boiler so we can place the order with confidence.

**DEDICATED DONATIONS** - With Christmas fast approaching, why not buy a truly unique gift? You can sponsor components on No. 2007 *Prince of Wales* from as little as £25.00 ranging up to £15,000! This scheme has already raised in excess of £265,000. If you would like to sponsor a component, please email [dedicated.donations@p2steam.com](mailto:dedicated.donations@p2steam.com), detailing the amount you would like to donate and/or if you had a specific part of the engine in mind, we will then send you some component recommendations to suit your donation.

For more information on how you can help to build Britain's most powerful steam locomotive visit [www.p2steam.com](http://www.p2steam.com), email [enquiries@p2steam.com](mailto:enquiries@p2steam.com) or call 01325 460163.

## AN AUDIENCE WITH THE *PRINCE OF WALES*

We will be holding a series of presentations on the project to build new Gresley class P2 No. 2007 *Prince of Wales*. Each presentation will feature key team members including Mark Allatt and/or David Elliott and will cover the background to the project, progress to-date, future plans and details of how to get involved. We would encourage you to attend one of these Roadshows and bring along some

friends and family members who would be interested in hearing about the project. The two hour presentation will start promptly at 11:00hrs and run until 13:00hrs on each of the days listed below and are open to existing supporters and interested members of the public:

- Saturday 8<sup>th</sup> December 2018 - Hilton Leeds City Hotel, Leeds

NEW 2019 ROADSHOW PROGRAMME:

- Saturday 12<sup>th</sup> January 2019 - Great Northern Hotel, Peterborough
- Saturday 9<sup>th</sup> February 2019 - London Transport Museum, London
- Saturday 2<sup>nd</sup> March 2019 - Darlington Locomotive Works, Darlington
- Saturday 6<sup>th</sup> April 2019 - Principal Hotel, York
- **AMENDED DATE** Saturday 1<sup>st</sup> June 2019 - Dundee Heritage Trust, Dundee
- Saturday 8<sup>th</sup> June 2019 - Royal Station Hotel, Newcastle
- Saturday 6<sup>th</sup> July 2019 - Darlington Locomotive Works, Darlington
- Saturday 14<sup>th</sup> September 2019 - Leeds - venue to be confirmed
- Saturday 2<sup>nd</sup> November 2019 - Darlington Locomotive Works, Darlington
- Saturday 7<sup>th</sup> December 2019 - Pendulum Hotel (Manchester Conference Centre), Manchester.

For more information on the P2 Roadshows visit [www.p2steam.com](http://www.p2steam.com), email [enquiries@p2steam.com](mailto:enquiries@p2steam.com) or call 01325 460163.

## PRESENTATIONS

If any railway society - or indeed other interested groups - would like a presentation on the project they should contact us by emailing [enquiries@p2steam.com](mailto:enquiries@p2steam.com)

## EASYFUNDRAISING

Now is the time of year when many people start thinking about Christmas shopping. Why not help the Trust at the same time by doing your online searches through EasyFundRaising, painlessly raising cash for The A1 Steam Locomotive Trust every time you spend online? You can find details of how to do this [here](#).

## VOLUNTEER

As ever we are looking for more volunteers. It takes a lot of people to both keep *Tornado* on the main line and also to build *Prince of Wales*. There is always so much more that we can achieve with the right volunteers, with the right skills and can-do attitude. If you have a passion for raising money or engineering please do get in contact. For more information, please [email us](#).

## TRAVEL WITH *TORNADO*

For more information on *Tornado's* tours and where you can see her, click [here](#).

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

# OPEN DAYS AT DARLINGTON

We hold public open days at Darlington Locomotive Works on the first and third Saturday of every month from 11:00hrs to 16:00hrs. Come and see the progress of No. 2007 *Prince of Wales*.



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