

# THE MIKADO MESSENGER



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



Our unclad No. 2007 *Prince of Wales* - A1SLT

Welcome to edition No. 59 of *The Mikado Messenger*, our monthly eNewsletter which aims to provide a regular progress update on the construction of new Gresley class No. 2007 *Prince of Wales*.

Further good progress has been made on detailed parts and fitting them to the engine, as well as some major components. We look forward to welcoming you to this year's annual convention on the 12<sup>th</sup> October where you will have the opportunity to see progress for yourself.

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.

## FUNDRAISING

A P2 for the price of a pint of beer a week: over 930 supporters have signed up as Covenantors for No. 2007 *Prince of Wales* from as little at £2.50 per week and are now kindly donating over £205,000 annually including Gift Aid. We aim to reach 1,000 regular donors by the end of the 2019. If you haven't yet signed up as a Covenantor we would encourage you to get on-board. You can find more information

[here.](#)

The **Motion Club** has now welcomed 147 members, with only 28 members remaining of our 175 members target. You can find more information about The Motion Club [here](#) - help us to fund the manufacture of No. 2007's motion!

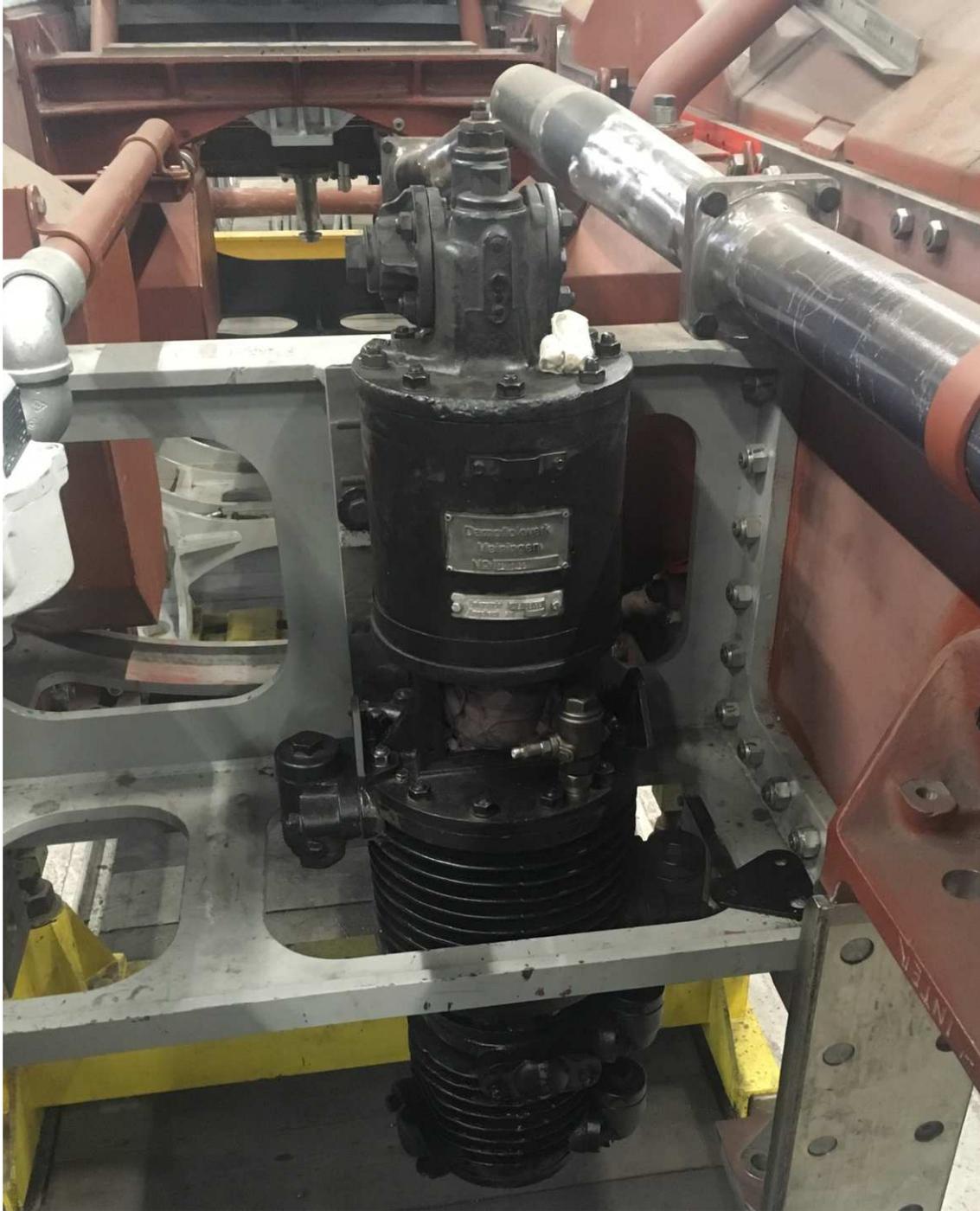
The **Boiler Club** has hit the 180 members mark, leaving just 120 spaces available. As we have now placed our order for the boiler, we would urge those who haven't yet contributed towards the purchase of No. 2007 *Prince of Wales*' boiler to join us. This is the single most expensive component on the locomotive and is due to be delivered to Darlington Locomotive Works in July 2021. More information about The Boiler Club can be found [here](#).

Our newest club, **The Tender Club**, is starting to fill up with 35 places already taken. In order to keep on schedule to complete No. 2007 within three years, we need to have the tender frames and tender tank delivered to Darlington Locomotive Works in 2019. Our target for The Tender Club is 250 members, contributing £1,500, so if you would love to contribute towards the tender more information can be found [here](#).

You can sponsor No. 2007 *Prince of Wales* components from as little as £25 ranging up to £15,000! The **Dedicated Donations** scheme has already raised over £400,000. 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.

To-date, over £2.1m has been spent, £2.7m raised and £3.4m pledged of the required £5m to complete No. 2007 *Prince of Wales* within the next three years.

## ENGINE FRAMES UPDATE



One of the airpumps trial fitted inside the frames - A1SLT

**Summary:** engine's frames erected; all frame stays, brackets, horn blocks, axle boxes & buffers cast and fitted using around 1,000 driven bolts.

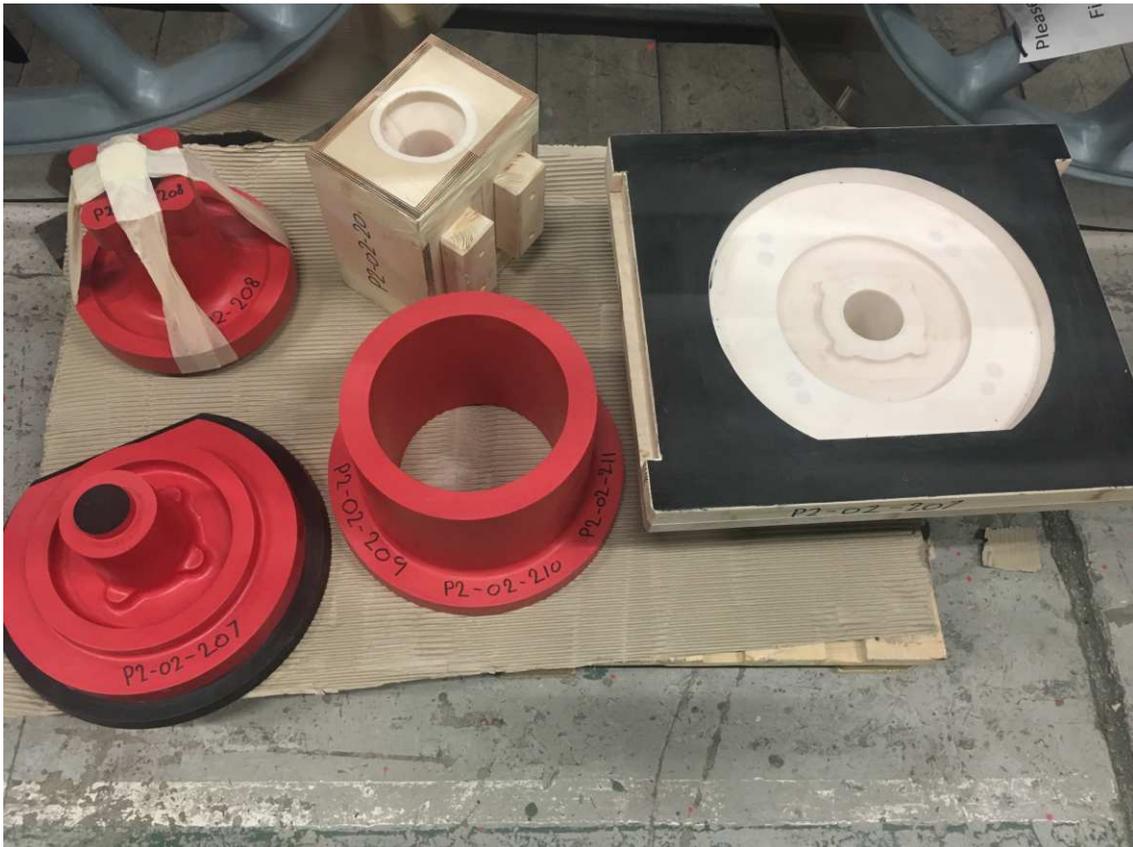
**Progress update:** the left-hand motion bracket has been delivered by North View Engineering Solutions (NVES) and they have made good progress with the 10 spring brackets; the fabricated spring brackets are being stress relieved prior to finish machining; the fitting of the handrails to the cab has been completed; the rest of the handrails and cladding have been removed from the frames and the cladding has had protective paintwork applied and is now in storage in a container until the boiler arrives; with the cladding off the frames, the two air pumps have been trial fitted to facilitate routing of pipework; machining of the Cartazzi spring guide has been started by North Bay Railway Engineering in Darlington.

**Next steps:** both motion brackets and the boiler support stay can now be permanently bolted to the frames and we await the imminent completion of the machining of the Cartazzi spring guides.

**Fundraising:** The Founders Club was established in September 2013 to give the project a racing start

and get it to the point of erecting the engine's frames with a target of raising £100,000 plus Gift Aid from 100 supporters each donating £1,000. The Founders Club closed in July 2014 having attracted 360 members and raised around £450,000.

## CYLINDERS UPDATE



Cylinder steam chest cover patterns - A1SLT

**Summary:** design studies into cylinder block manufacture and selection of valve gear complete; 3D CAD design of the cylinder block and valve gear substantially complete.

**Progress update:** we are currently seeking best and final offers for the cast steel steam passages for the cylinder block; David Elliott is continuing with detailing the welds on the cylinder block so that quotes can be sought; the cylinder steam chest cover patterns, made by John Hazlehurst of Swineshead, Lincolnshire, have been delivered to Darlington.

**Next steps:** completion of the cylinder block welds, manufacturing drawings of valves and valve gear details so that quotes can be obtained; quotes are also being sought for casting the steam chest covers.

**Fundraising:** The Cylinder Club was founded in October 2017 to fund the redesign and manufacture of the cylinder block with a target of raising £100,000 plus Gift Aid from 100 supporters each donating £1,000. The Cylinder Club closed in March 2018 having achieved its target.

## BOILER UPDATE



CAD image of No. 2007 *Prince of Wales*' boiler - David Elliott/A1SLT

**Summary:** boiler design study completed; forged foundation ring corners manufactured & machined; regulator castings delivered; superheater header cast & machined; boiler cladding manufactured, trial fitted to frames and now in storage; boiler order placed with DB Meiningen for delivery in July 2022; foundation ring forgings and regulator castings despatched to Meiningen; the minor re-design of the banjo dome to suit the P2 cladding by has been completed by DB Meiningen.

**Progress update:** with approval of the modifications to the profile of the banjo dome, the revised detail design has been sent by DB Meiningen to their Finite Element Analysis (FEA) Consultants CIDEON for stress analysis; regulator castings and forged foundation ring corners have been sent to DB Meiningen for incorporation into the new boiler.

**Next steps:** completion of the detailed design by DB Meiningen.

**Fundraising:** The Boiler Club was founded in October 2017 to fund the design modification and manufacture of the boiler with a target of raising £600,000, plus Gift Aid, from 300 supporters each donating £2,000 in up to 40 payments of £50. As of today, The Boiler Club has attracted 180 members who have generously donated almost £450,000. For further information click [here](#) - we must reach our 300 members target by July 2021 at the latest.

## WHEELSETS UPDATE



Balancing wheel weights being riveted to the leading coupled wheelset by Ian Matthews and volunteers  
- A1SLT

**Summary:** study into ride & suspension completed using Vampire<sup>®</sup>; software; crank axle re-designed to comply with modern standards, approved and manufactured; all engine wheelsets complete and trial-fitted to engine; a full drawing set for the pony truck frame has been produced and checked.

**Progress update:** South Devon Railway Engineering have completed pressing the wheels and the tender alternator drive pulley onto the axles and are in the process of machining the wheel rims and tyres; at DLW, a rivet gun has been procured to facilitate fitting of balance weight rivets; Ian Matthews has completed polishing the coupled and pony truck wheel rims as *Prince of Wales* will enter traffic with polished wheel rims as did *Cock o' the North* in 1934; quotes are being sought to fabricate the pony truck frame.

**Next steps:** the tyres are to be shrunk onto wheels to complete tender wheelsets and the balance weight plates are being riveted to the coupled wheel spokes.

**Fundraising:** The Mikado Club was founded in March 2016 to wheel the engine with an initial target of raising £200,000, plus Gift Aid, from 160 supporters each donating £1,000. This was extended in May 2017 to 200 supporters raising £250,000 plus Gift Aid in order to also wheel the tender. The Mikado Club closed in May 2018 having achieved its target.

**MOTION UPDATE**



An inside coupling rod - *Robert Stephenson (Engineers) Ltd/A1SLT*

**Summary:** all heavy motion ordered from order with Robert Stephenson (Engineering) Ltd of Atherton, Manchester; work started with first delivery due in autumn; updated poppet valve gear design almost complete with first components in manufacture.

**Progress update:** Robert Stephenson have completed the forging of the two middle coupling rods and are sending them for heat treatment.

**Next steps:** seeking forging and machining quotes for the valve gear return cranks; the forging of the leading and trailing coupling rods and machining of the middle coupling rods at Robert Stephenson.

**Fundraising:** The Motion Club was founded in May 2018 to fund forging and machining of the heavy motion, with a target of raising over £210,000 including Gift Aid, from 175 supporters each donating £1,000 in up to eight payments of £125. As of today, The Motion Club has attracted 147 members who have generously donated over £175,000. For further information on how to become a member and help us to reach our target before the convention click [here](#).

**TENDER UPDATE**



The tender base plate being trial fitted to the tender frames at I D Howitt, at Crofton - A1SLT

**Summary:** axlebox and other tender castings produced by William Cook Cast Products; frames being assembled by ID Howitt at Crofton; tank construction under way by North View Engineering Solutions (NVES), in Darlington; parts for tender wheelsets delivered to South Devon Railway Engineering for assembly.

**Progress update:** Ian Howitt has completed the trial fit of the tank baseplate to the tender frames including tack welding 96 blind nuts to the baseplate to ensure that, when the tank is finally fitted to the frames, the bolt holes line up and the tank does not leak through the holes.

**Next steps:** return of the tank base plate to NVES, to erect the tank, whilst at Crofton work will continue to fit detailed components to the frames and to machine the hornblocks.

**Fundraising:** The Tender Club was launched in April 2019 to fund the construction the tender, with a target of raising £450,000, including Gift Aid, from 175 supporters each donating £1,500 in up to eight payments of £125. As of today, The Tender Club has already attracted 35 members who have generously donated almost £50,000. For further information on how to become a member click [here](#).

## MISCELLANEOUS FITTINGS



Ian Matthews machining one end of a handrail - A1SLT

### **Miscellaneous engine platework**

**Progress:** cab erected and cab side & spectacle window frames fitted; footplating & splasher kits fitted to frames; completed the cab seat cubicles; the handrails have been fitted to cab.

**Progress update:** Alan Parkin has designed the installation for the mounting of the electrical control gear and TPWS units in the driver's seat cubicle.

**Next steps:** to fit the stainless steel window catches to the cab spectacle windows.



Special stud adapters, nuts and cones for the air pumps - A1SLT

## Fittings

**Summary:** many non-ferrous fittings are being cast and machined.

**Progress update:** North Bay Railway Engineering, Darlington, have manufactured special stud adapters, nuts and cones to standardise connections on the new air pumps with those on *Tornado* to ensure interchangeability; hydraulic testing of the cylinder drain cock castings has been completed and various details ordered to enable hydraulic testing of the superheater header.

**Next steps:** the hydraulic testing of the cylinder drain cock castings and superheater header.



Terry Graham and James Heginbottom, two volunteers, drilling BR1 brake blocks - A1SLT

## Brakes

**Summary:** work is well advanced on the manufacture of the brake rigging; the brake blocks for the engine have been machined.

**Progress update:** the brake blocks for the tender have been ordered.



The DV2 valve has been fitted in the frames - A1SLT

## Pipework

**Summary:** the design is well advanced and installation under way.

**Progress update:** Ian Matthews has continued with the vacuum pipework and has installed the DV2

air/vacuum proportional valve and its associated isolating valve; Alan Parkin has routed the air brake and reservoir pipework through the length of the engine frames.

**Next steps:** to prepare a detailed list of copper pipework and fittings leading to requests for quotation.



Structure trunking couplers - Alan Parkin/A1SLT

## Electricals

**Summary:** significant progress on design and manufacture of electrical system; belt driven tender alternator nearing completion, turbine wheel for steam turbo alternator manufactured.

**Progress update:** Alan Parkin continues to detail the electrical trunking installation, in particular the boxes which carry the sockets for the engine/tender umbilicals; we now have almost all the parts for the belt driven alternator including the toothed belts for the internal step up drive.

**Next steps:** a major design review of the electrical system has been completed which will enable freezing of the design of several areas of the electrical system.

## Fundraising

The Dedicated Donations scheme was founded to fund numerous components including the non-ferrous fittings and has raised over £400,000 to-date with new parts being frequently made available for sponsorship. For further information click [here](#).

# 2019 ANNUAL CONVENTION

Our Annual Convention is on **Saturday 12th October 2019** and will be held at the Mercure Darlington Kings Hotel for both the morning presentations and the evening dinner. Supporters, and their guests, will also have the opportunity to visit Darlington Locomotive Works to see the progress of No. 2007 *Prince of Wales*, with David Elliott conducting a guided tour. Invitations, with the full details, have been sent out. If you have not received yours or would like further details please call the office on 01325 460163 or email [leigh.taylor@p2steam.com](mailto:leigh.taylor@p2steam.com)



Progress on No. 2007 *Prince of Wales* - Mandy Grant/A1SLT

## AN AUDIENCE WITH THE *PRINCE OF WALES*

Following on from the success of our 2018 Roadshow programme, we will be continuing the Roadshows in 2019. 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 presentations 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:

### NEW 2019 ROADSHOW PROGRAMME

- 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.

## 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.

- Saturday 5<sup>th</sup> October
- Saturday 19<sup>th</sup> October

- Saturday 2nd November - this is also a P2 Roadshow. The presentation will start promptly at 11:00, run until 13:00 hrs with a Q & A afterwards.

Come and see the progress of No. 2007 *Prince of Wales* for yourself!

## PRESENTATIONS

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

## EASYFUNDRAISING

Users of Easyfundraising to support the Trust should please note that the relationship with Amazon is changing. Rather than Amazon donating via Easyfundraising, they will now do so via their own Amazon Smile process. The A1 Steam Locomotive Trust is registered as a charity with Amazon Smile so please ensure that next time you use Amazon, you opt to join Amazon Smile and select the Trust to benefit from anything that you buy.

For anyone who doesn't use Easyfundraising but does use Amazon, please help by selecting the Trust. Just type "The A1 Steam Locomotive Trust" into the search box the click to select when it is displayed as the result.

Please contact us at [enquiries@a1steam.com](mailto:enquiries@a1steam.com) if you have any problems.

## 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. **We are currently looking for more volunteers to join the Open Days team at Darlington Locomotive Works.** If you have a passion for fundraising or engineering please do get in contact. For more information, please [email us](#).

## TRAVEL WITH *TORNADO*



No. 60163 *Tornado* at Invergowrie, 7<sup>th</sup> September 2019 - Allison McMahon/A1SLT

For more information on *Tornado's* 2019 Railtour programme tours click [here](#) or call Tornado Railtours on 01325 488215.

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



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**Our mailing address is:**

The A1 Steam Locomotive Trust, Darlington Locomotive Works, Hopetown Lane, Darlington. DL3 6RQ