



Newsletter

Keeping Shareholders Informed



Issue 22

Autumn 2023

The 4253 Locomotive Company Limited, based in Rolvenden, Kent, is a non-profit, non-political organisation. Reproduction of photos by permission of The 4253 Locomotive Company.

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Doubters have been proved wrong!

After many long years and countless hours of searching and labour, we have finally, against all the odds, fitted two complete sets of rods to the locomotive.

This is indeed a milestone achievement for volunteers and shareholders alike.

To mark the occasion, we have decided to once again revisit the rods story in this special newsletter from start to finish, to remind ourselves of the long and tortuous road that has led us to this successful conclusion.

When our loco ended its BR days at Barry Island scrap yard in 1963, all its rods were cut off and thrown on the scrap heap — sacrilege today, but sensible then. This was standard procedure to enable ease of shunting within the yard whilst awaiting the cutting torch.

So, when 4253 eventually arrived to us at Rolvenden, it meant we now had to find eight rods — six coupling and two connecting rods. This was a daunting task and one that many doubters said could not be done. ***How wrong they were!***

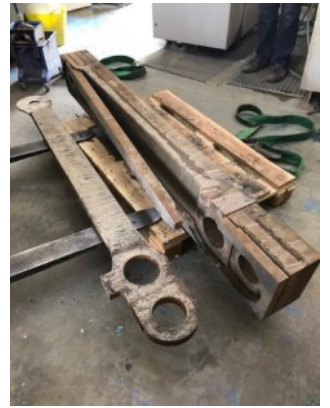
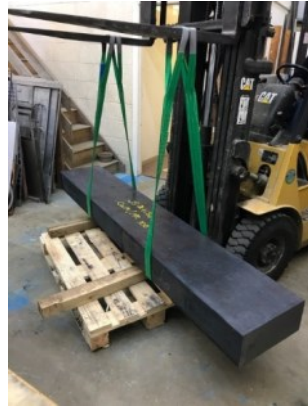
Yes, it has taken us years to achieve the near impossible, but we've got there in the end.

The complete set of rods are now fitted, along with all new brass white metal bearings, new nuts and pins, new thrust washers and new spherical bearings. It has been a mammoth task involving very many experienced and talented people who have freely given their time and expertise over the years. These people, along with all shareholders who (don't forget) supply the money, all get a huge ***Thank You***.

What a brilliant outcome

— and one that should be celebrated by every single shareholder of 4253.

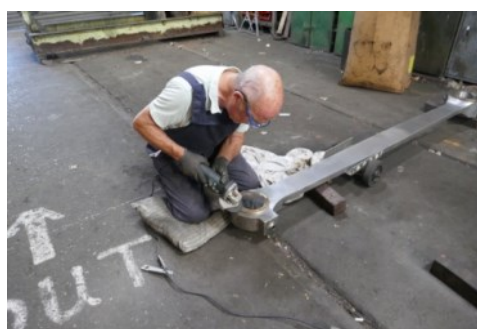
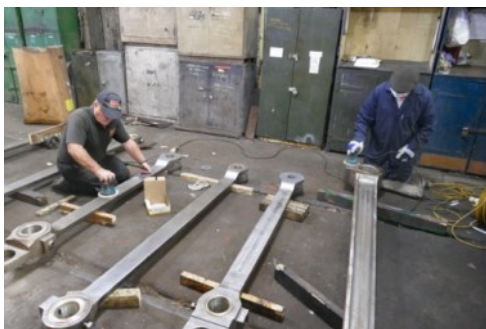
4253 The 'Rods' Story — A Milestone



Finding replacement rods for the loco was like looking for a needle in a haystack — the haystack being the whole of the UK! We were convinced they were lying in sheds, garages or undergrowth somewhere, but where? After many years of phone calls and searching the length and breadth of the country we managed to acquire six rods, but we were still unable to find one coupling rod and one connecting rod. As the years ticked away and the loco got nearer to completion the only option left was to have new ones made — a decision which was not for the faint hearted in many ways, not least the cost! The first two pictures show the initial forging at Sommers Forge, West Midlands and an ingot ready for water jet cutting at SCISS Ltd, Staplehurst, shown in the third and fourth pictures.

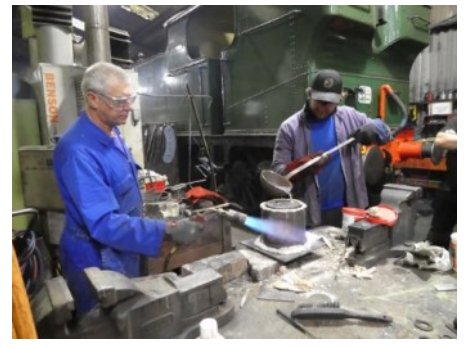
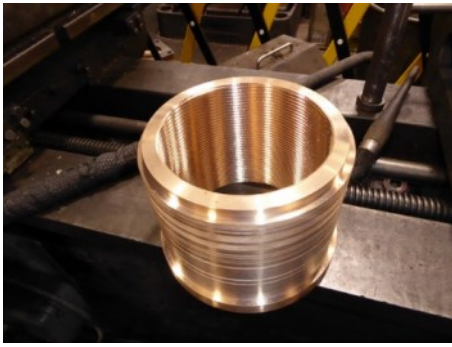


Once the basic shape of the rods was achieved at SCISS, the rods were then transported to Automation Technologies in Brede, East Sussex. Carefully following the original GWR drawings for specifications and measurements, they were machined to their final profiles and exact duplicates of the original rods were produced using computer controlled milling machines. The resultant rods were a triumph.



Once back at our workshop in Rolvenden, the rods were given a final clean-up and polish and we at last had a complete set of eight rods. Now the real work began with the long process of machining and making all the brass white metal bearings, nuts, pins, washers and joints that would be needed.

4253 The 'Rods' Story *continued*



The first picture above, shows one of the many newly machined brass bearings that would need pressing into the rods. The inner part of this bearing requires a molten white metal bearing surface to be cast into it, as can be seen in the second and third pictures. The white metal then also has to be machined to produce a bearing surface for each rod. A huge amount of work.



Some of the team in the first picture are unable to resist touching the (hopefully) cooled white metal casting. The second picture shows some of the rough cast bearings safely in the cupboard before the final machining has taken place. In the third picture, Henry can be seen cutting the lubrication slots in the 'big end' bearing on the milling machine.



First picture: Mark and Jake from Automation Technologies Ltd., discuss the spherical bearings with our 'chief drawings decipherer' Chris. Chris has the onerous task of trying to make sense of the original early 20th century GWR drawings and then relay that information so that a 21st century working reproduction can be made. Thanks to these three gentleman the new spherical rod joints are a great success and allow the rear loco axle to move from side to side. With a long eight driving wheel configuration on 4253, the ability for the rear axle to move was essential. The spherical joints allowed flexibility along the length of the rods whilst negotiating tight curves and uneven track when working in the Welsh coal fields.

4253 The 'Rods' Story *continued*



Even more fiddling and adjusting the spherical joints before they finally fitted perfectly. They had to be pressed in, then out, back in, then back out again and so on. The problem was that when out of the rod they swivelled perfectly but once pressed in they tightened up! The second two pictures show an intermediate rod bearing being pressed into place. The newly machined white metal bearing surface can be seen in the last picture.



The first picture shows both bearings now in place on the fireman's side intermediate rod. The larger of the two is the main bearing and the smaller one is the spherical ball joint that connects this rod to its neighbouring rod. The second picture shows a lot of heaving (and no doubt swearing) to push the rod onto the wheel journal, with the third picture showing it in place. Note the very large locking nut screwed onto the end of the journal.



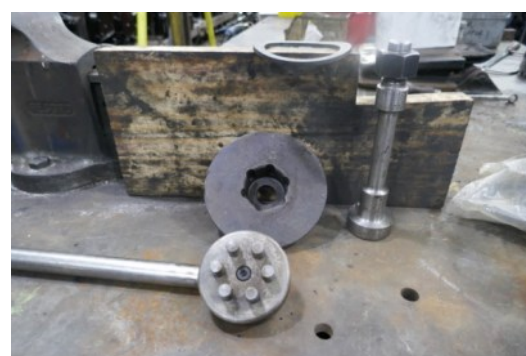
Here we see the rods finally assembled with very temporary holding pins (we also do woodwork!). To get to this stage the rods were trial fitted, taken off for adjustment, refitted, taken off again for further adjustment, etc, etc, until a perfect fit was achieved. These rods are very heavy and require lifting gear to safely get them on and off each time, together with a huge amount of time and effort spent by the team of 4253 volunteers over many months.

4253 The 'Rods' Story *continued*



This last set of pictures shows some of the items that keep the rods from falling off the loco!

Dave Ham is shown in the first picture with the jig he made especially to clean and recut the journal threads on each of 4253's eight wheels. With the loco being over 100 years old you can imagine that time had not been kind to these essential very large threads. The second and third pictures show the finished newly made journal nuts. In the second picture the Belleville spring washer can also be seen — this fits between the nut and the rod.



If you've got a big nut then you need a big spanner. In the first of the above series of pictures the newly made 'very large spanner' for the main journal nuts, that was fabricated in-house. The second and third pictures show some of the other bits and pieces that go into the spherical joints, together with the gradient pins. All these items had to be specially made to very fine tolerances and they are all essential to the smooth and safe running of our locomotive's rods at speed.

Hopefully the pictures in this article give some idea of what was involved just to get our sets of rods onto the loco. The skills and teamwork over a considerable length of time have enabled us to get one more major step forward to the day when our loco moves down the track again.

4253 Please Donate via our new QR code!



Our latest QR Code above, allows you to quickly and easily donate an amount of your choice.

Just scan this QR code with either your phone camera or QR app, to donate any amount of your choice towards the restoration of your loco.

Alternatively you can use this link:

<https://pay.sumup.io/b2c/QOZ2ZVRN>

Thank You!

Every £ counts towards the restoration of your locomotive.

Don't forget, we are non-profit making, so every single penny goes towards getting 4253 back in steam.



“When will the boiler be finished?”

If we had been given a couple of quid for every person that has asked that question over the last three or four years, we'd be *“millionaires Rodney”!*

Although it's a very valid question, there's not a simple answer. Even when the boiler is back, it won't be 'finished' as such. It will need to have the smoke box fitted, drilled and riveted (which is not an easy task); the superheater header fitted and all the pipework and fittings put into place along with anything else that is necessary to do an initial steam test. There will be a huge amount of work to do.

Only then, when the boiler inspector is happy and writes out the '10 year ticket' will the boiler itself be finished.

We have deliberately never given any estimated date for the boiler's arrival back at Rolvenden, or a finish date, because we know how schedules and dates can easily slip away due to 'this problem' or 'that problem', not to mention paying the monthly bills to HBSS in Liverpool! Look what happened when Covid struck — it knocked the whole boiler schedule out of the window by many months.

Also recently, there have again been delays with the outstanding final items such as crown stays/nuts and special foundation ring rivets. This year material costs have sky-rocketed along with everything else and when you need 100s of something even a small unitary increase becomes expensive indeed.

. . . but to answer the question . . . let's just say we are now seeing a considerable amount of sunlight at the end of a very long tunnel

. . . watch this space!

Don't forget our website and online shop!

We're always open - 24/7 at:

www.4253.co.uk

Find out how you can help with buying
Shares, Stays, Mugs, Plugs,
Donations and much more!

Also, see past Newsletters and the
weekly Facebook progress reports . . .

it's all there, just go to our website and
support *YOUR* locomotive restoration.



4253 In the next newsletter

**Hopefully in the next newsletter before Christmas,
we will have articles on:**

All That Brass

Continuation and explanation of all the shiny bits in the cab

Progress on Rother Valley Railway's 'Charwelton'

This is 4253's special volunteer help with the loco's renovation

News on the K&ESR Santa Specials

... our main fundraising event of the year

*and of course ... **The Boiler Report!***

**Don't forget to keep up-to-date with what's going on
— read the weekly update on
4253 Locomotive Company Facebook page**

Come and join the 4253 friendly Sales and Tombola Team!

We are looking for a volunteer Events Co-Ordinator to run
our fundraising events.

This entails taking charge of approximately 9 events throughout the year,
culminating in the K&ESR Santa Specials.

You would not be alone! We have teams of experienced 4253 volunteers
always eager to help with setting up and packing away after events.

It just needs someone in overall charge with an oversight of what's happening
and who's doing what.

If you fancy joining our 4253 team, which includes free entry to a host of
premier steam and classic events, please let us know.

Email Charlie: fog49@live.co.uk

Stay With Us!

A COMPELLING OPPORTUNITY TO HELP BRING TO FRUITION THE NATION'S MOST EXCITING LOCOMOTIVE RESTORATION PROJECT - SPECIFICALLY TO COMPLETE OUR BOILER!

WE ARE PLEASED TO INVITE YOU TO SPONSOR

CROWN STAYS RIGID STEEL STAYS COPPER STAYS

Your chance to help finish the boiler

2019 saw major inroads into our boiler restoration.

However, as the year progressed we realised that we had an opportunity to accelerate the refurbishment work on our locomotive to an earlier conclusion than originally envisaged.

So, with the blessing of our shareholders present at the January 2020 AGM, we immediately arranged for our boiler to be dispatched to Heritage Boiler Steam Services of Liverpool, where work has been progressing steadily ever since.

We had the financial resilience, we had the confidence in our own decision making ability, we had projects in the pipeline and we knew our team could cope with and close the funding gap that existed at that time.

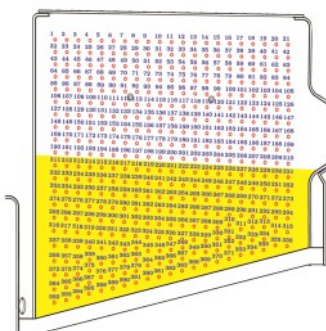
The Layman's Guide to Boiler Stays

Of all the components found in the construct of a locomotive boiler, the humble stay is probably the most important.

The thrust of our 'Stay With Us!' campaign is aimed at those encompassing the burning heart of any steam locomotive - the firebox. A seemingly innocuous piece of engineering, boiler stays are generally composed of a steel or copper rod, threaded at each end and depending on location, vary approximately between 6" & 16" in length. In keeping with Swindon practice 4253's firebox area has a copper inner and steel outer wrapper, with a water space between them - in front of, behind, above (the crown) and on the sides.

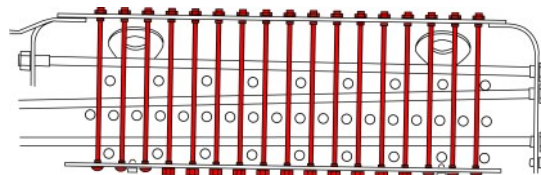
The stays are braced between the two in all these areas, strategically providing rigidity and flexibility to what is essentially a massive pressure vessel. The material used is in accordance with the relevant stress design criteria. They are basically screwed into position and riveted over to finish and seal.

Outwardly they have a neat and innocent looking domed appearance - inwardly they present a structural forest. About 70% of the 4253 firebox stays are to be renewed and installed by our contractors at HBSS, Liverpool – all we have to do is supply them! *That's where you come in!*



Firebox wrappers

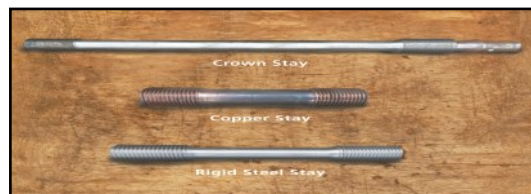
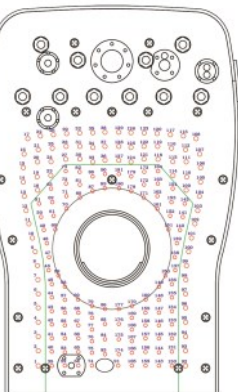
A combination of copper and rigid steel stays. We are renewing all throatplate stays, backhead stays, crown stays and a percentage of the side wrapper plate stays. The stays within the



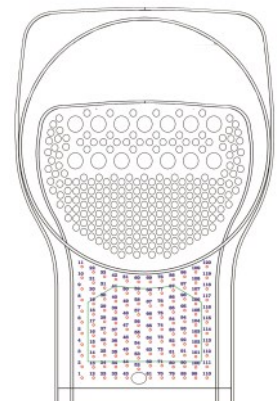
Cross section of firebox
Side view showing crown stays and nuts (in red). 174 stays are required to

How You Can Help

You can sponsor a set of 3 stays for £99. Each set comprises 1 crown stay and 2 nuts, 1 copper stay and 1 rigid steel stay. Two or more sets can be sponsored by Standing Order, spread over 6 months. Alternatively, you can sponsor individual stays.



	Per Stay	Per Set of Stays	Total No. of Stays
Rigid Steel Stay	£17.50	} £99.00	412
Copper Stay	£35.00		288
Crown Stay & Nuts	£50.00		174



By sponsoring any of the above you will receive a personalised certificate and be entered into a draw for a footplate ride on GWR 4253 on the earliest available date after launch into service.

Please visit www.4253.co.uk for further information and online payment details.

If you wish to set up a bank Standing Order, please print the form and post to the address shown.

Please help get YOUR boiler back into steam!



GWR 2-8-0T Locomotive No. 4253 'Stay With Us' Application Form

Please complete the form below in BLOCK CAPITALS and return to:

The 4253 Locomotive Company Limited, Old Chilmington Oast, Chilmington Green, Ashford, Kent TN23 3DP

Full Name: _____

Address: _____

Telephone Number: _____

Email Address: _____

I hereby make an application for _____ Rigid Steel Stay(s) _____ Copper Stay(s) _____ Crown & Nuts Stay(s) and / or _____ Complete set(s) of Stays.

I enclose a cheque made payable to The 4253 Locomotive Company Limited / a completed Bankers Standing Order (*please delete as appropriate*).

STANDING ORDER OPTION ONLY AVAILABLE IF SPONSORING COMPLETE SETS OF STAYS - MINIMUM 2 SETS.

I am a member of The Kent and East Sussex Railway: Yes / No (*please delete as appropriate*).

☐ I consent to being contacted by 4253 Locomotive Co. via email/post with information updates about 4253 progress and activities.

Signed: _____ Date: _____

Bankers Standing Order Form ('Stay With Us')

(if you wish to pay by monthly Standing Order over 6 months)

To the Manager: _____ (Your) Bank

Your Bank Address: _____

Please make 6 payments of £ _____ on the _____ day of every month commencing on _____ / _____ / _____ to:

The 4253 Locomotive Company Limited, Account Number 47817011 National Westminster Bank Plc.

20 High Street, Ashford, Kent TN24 8SH. Sort Code 60-01-21.

Account Name: _____

Your Address: _____

Sort Code: _____ Account Number: _____

Signed: _____ Date: _____

*Please quote Reference Number in all payments _____ * to be entered by 4253 Project Staff.

The 4253 Locomotive Company Limited, Old Chilmington Oast, Chilmington Green, Ashford, Kent TN23 3DP