



Newsletter

Keeping Shareholders Informed



Issue 24

Winter 2024

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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Included in this issue:

4253 AGM Report

As is now the custom, the Tenterden Town Station Buffet room was full with shareholders, with standing room only at the back. It proved, as usual, to be a very informative meeting, not only from Jerry Preston-Ladd's yearly income and expense figures flashed onto the screen, but with Henry Mowforth's detailed engineering and yearly progress report.

Read Kelvin Williams' article on Pages 2— 4, which outlines the meeting for those that were unable to attend.

The Boiler Situation

The boiler is now undergoing final assembly at HBSS and with labour costs continuing to rise, a visit was made before Christmas to Liverpool by three directors to see progress and discuss the situation at first hand.

Read Jerry Preston-Ladd's Boiler Report on Page 5 and 6.



And All That Brass

Part 3 of Kelvin's rundown of all the shiny bits and what they do, both in the cab and around the loco.

Read Kevin's continuing article on Pages 9 — 11.

The Vacuum Braking System

The braking system was fitted to the loco some years ago, so it was time to test all the components of the all important vacuum braking system, particularly while it was still reasonably accessible from above. As was expected, a number of issues were found.

Read the detailed report of what we found on Page 13.

4253 AGM Report and Work Done

Good attendance at the Annual General Meeting

Our 11th AGM was held on Saturday 13th January and approximately 60 shareholders were in attendance to hear from the board regarding our finances, the locomotive and boiler progress. So what follows are some notes on how the meeting went for those shareholders that were unable to attend.

Charlie Masterson opened the meeting welcoming everyone who had travelled to be there, and was swiftly followed by Neil White, our recently appointed Company

Secretary, who introduced himself and then highlighted the need for everyone to keep him informed of their most up-to-date contact details. He also informed the meeting that we now have 484 shareholders and explained the procedure for transferring any shares to someone else, should someone wish to do so.

Jerry Preston-Ladd (Finance Director), explained the financial situation as at July 2023, which basically showed an improved situation at that time - the accounts had £17,876 more in them than at the end of July 2022. However, since then costs had risen and as it stands now there is an approximate financial shortfall of £12,000 which is the sum needed to finish the rebuild of the locomotive to steaming.

Henry Mowforth (Chief Engineer) provided a very detailed report (*Henry's detailed work list can be found on the next two pages*) on the progress made during the last 12 months; especially the preparation and fitting of the eight rods. No date was given at the meeting for the return of the boiler at the moment, as it depends on various factors and options, which the board are discussing. *Please read*

Basic figures at end of the financial year to July 2023:

INCOME - 12m to Jul 2023

• Fully paid shares	£34,250
• Partly paid shares	£23,730
• Fundraising	£ 3,801
• Sponsorship	£ 986
SUB TOTAL	£62,767

INCOME - 12m to Jul 2023

	B/Fwd	£62,767
• Donations	£	555
• Sales		<u>£31,351</u>
TOTAL		<u>£94,673</u>

EXPENDITURE - 12m to Jul 2023

• Boiler refurbishment	£42,968
• Materials	£15,769
• Services	£12,814
• Consumables	£ 5,021
• Bank and Accountancy charges	<u>£ 973</u>
SUB TOTAL	£77,545

EXPENDITURE - 12m to Jul 2023

	B/Fwd	£77,545
• Administration	£	786
• Carriage		<u>£ 786</u>
TOTAL		<u>£79,117</u>
INCREASE IN CASH HELD (after Allowance for VAT owed)		£17,876



the Boiler Report on page 5.

He also mentioned the successful build of two 'BR Standard 2' water tanks for the Bluebell Railway, which were completed and delivered in the summer. This brought in much needed funds for our locomotive

At the end of the meeting the atmosphere had a positive feel and despite the challenges still to be faced, there was confidence from those attending, that we will finish rebuilding 4253 in the not-too-distant future.

4253 AGM Report and Work Done *continued*

Apologies for this very long list of work done last year, but it does show shareholders the detailed progress and work completed with their loco.

Mechanical jobs done - 2023 *(Not in chronological order).*

Coupling and connecting rod eyes cleaned out and keyways cut in the bearing holes of the new rods.
Finish white-metaling of the bronze bearing bushes.
Finish machining all the bronze rod bushes for coupling and connecting rods.
Mill keyway and oil slot/holes in the bearings.
Make new anti-rotation keys for the big end bearings.
Press in all the new bushes into the requisite rod eye ends.
Drill bearings to accept the new anti-rotation bolts and fit the bolts.
New thrust rings made and shrunk onto the various rod bearings.
New oil restrictors made and fitted into the oil pots.
Gudgeon pins fettled to fit.
New lids for the oil pots on the new rods, now finally installed.
Final measuring, hardening and grinding of the gradient pins to size.
Fitting of the coupling rods to the loco, with many trial fittings on and off.
Fitting the gradient pins to connect the coupling rods.
Connecting rods fitted onto the crank pins and into the crossheads.
Piston bump marks have been established.
Crank pin nuts have been finish machined and drilled for the locking taper bolts.
Crank pin nuts fitted and reamed to accept the locking taper bolts.
Combined brake ejector and blower unit machined.
Finishing work to the front footplating and valance which included sorting the pony oil pot pipework.
Making and installing flaps in the front running plate to allow access to the valve tail rod oil pots.
Lamp brackets made and installed on the front.
Side tanks removed to allow better access to motion and inside.
Boiler expansion brackets test fitted.
Vacuum pump and retaining valve stripped, cleaned, checked and finish assembled.
Some vacuum pipework porous so new section made and welded in.
Vacuum tank was found to be leaking through welds and old joints so a new one has been made, tested and installed.
Vacuum tank side pipework has been made, up to footplate level.
Bunker removed to allow access to brake cylinder for removal and remedial work.
Vacuum system has now been successfully tested, but some remedial work remains on the brake cylinder itself.
Wheels and frames have been cleaned down following the loco being outside and re-painted.
Bunker has been sanded down and a number of finishing coats of paint and undercoat applied.
Tanks have had some of the minor leaks repaired, sanded down, painted and sheeted over against the weather.
Cab has been sanded down and repainted.
Cylinder cladding has been fettled and more painting done .
Inside motion has been finish painted.
Various nuts, bolts split pins etc. underneath the loco have been made to the correct length and general security of all the brake gear and springs etc. All now checked.
New wooden gauge bezels made and varnished, now in store.

Boiler jobs done - 2023 *(Not in chronological order).*

Fire hole riveted.
All remaining steel and copper firebox stays fitted, together with remedial copper welding.
Crown stay holes tapped and sized.
Superheater flues made and delivered to Liverpool.

4253 AGM Report and Work Done *continued*

Crown stays are currently being fitted.

Front tubeplate has been fitted.

Internal copper pipework has been fitted, including the main regulator feed pipework.

Front and rear of the foundation ring has been riveted using a particular rivet type that we had to have specially made.

New studs made by us have been fitted.

New crinoline bands have been made.

Crinoline joining cleats milled, bent and drilled.

Crinoline joiners/standoff parts made.

Boiler band cleats made ready to be fitted to the bands.

The 4253 group has also had a busy year helping on a few other projects for outside railways and the K&ESR, including:

Building a pair of BR Standard 2 hot riveted side tanks to the original drawings for 84030, which is being built at the Bluebell Railway — they fitted on the loco first time without any fettling!. This job brought in much needed funds which went towards the cost of 4253's boiler overhaul.

Preparing and painting most of Rother Valley Railway's 'No 14 Charwelton' in its component form, including frames, cab, bunker and wheelsets. Repairing Charwelton's cab roof, moving the water filler from the middle of the tank to the front end (which included much work and welding), together with many other jobs on the locomotive.

Various ongoing jobs on Mike Hart's 'No 15 Hastings' including fitting some steps to either side at the front end and a recent washout.

Various, mainly painting jobs, on the USA tank locomotive.

Fabrication work for the K&ESR's 'GWR W20 Railcar'.

Strip, overhaul and paint K&ESR's plate rollers, now awaiting updating of electrics.

Strip down track lifting units for the K&ESR Permanent Way department.

With volunteers only working three days a week, this volume of work is a huge achievement.

We now look forward to this year, when we hope to make further great strides with our loco towards its first steaming!

The current boiler situation

With many shareholders naturally asking about the situation with the boiler and “when is it coming back”, here is a review of where we are at present, *by Jerry Preston-Ladd.*



Our boiler has now been refurbished with new platework fitted as necessary including the backhead, throatplate and lower half of the firebox side wrappers. The front section of the barrel is new and repair patches have been fitted to the crown where the whistle is mounted and the bottom section of the barrel adjacent to the throatplate. New palm stays have been fitted together with all new steel and copper firebox stays. A new manifold pad has been cast, machined and fitted and new pads for all the backhead fittings welded into place.

The remaining work is purely on-going assembly followed by hydraulic testing. To that end, the foundation ring is currently being riveted up and the crown stays are being fitted. After that, the main steampipe and internal pipes will be fitted followed by riveting in of the new front tubeplate. The new longitudinal stays, fire tubes and flue tubes will then be fitted after which it will be ready for hydraulic testing and, following that, a return to Rolvenden.

Despite the costs, it is considered vitally important that the boiler be returned to us only after it has been successfully hydraulically tested and passed by the boiler inspector as this guarantees the final product. Work can then immediately commence on re-assembling the loco and getting it finished and ready for service. And that's where we need your help to get us over this last remaining hurdle. We are almost there and the faster we can raise this money with your help, the sooner we'll have the loco finished.

With all the materials to finish the boiler having been bought and paid for, our remaining costs are labour and return transportation and both these elements have seen large increases over the last 18 months driven in the main by the escalating cost of gas, electricity and diesel. It was announced at the recent AGM that we had just received the requested information on future costs and have now been able to revise our budget forecasts to see the whole project through to completion. This shows a shortfall in round figures of **£12,000** – a figure that would be covered by the sale of an additional 48 new shares.

Thus far, the volunteers have cumulatively spent literally tens of thousands of workshop hours, given up weekends to help with fundraising events and personally put thousands of pounds into the 'pot' to see 4253 finished.

Please therefore help them to complete the task and get what is, after all, *YOUR* loco finished and back in steam.

We just need 48 people to buy an additional share and the boiler will then be on its way back to Rolvenden.

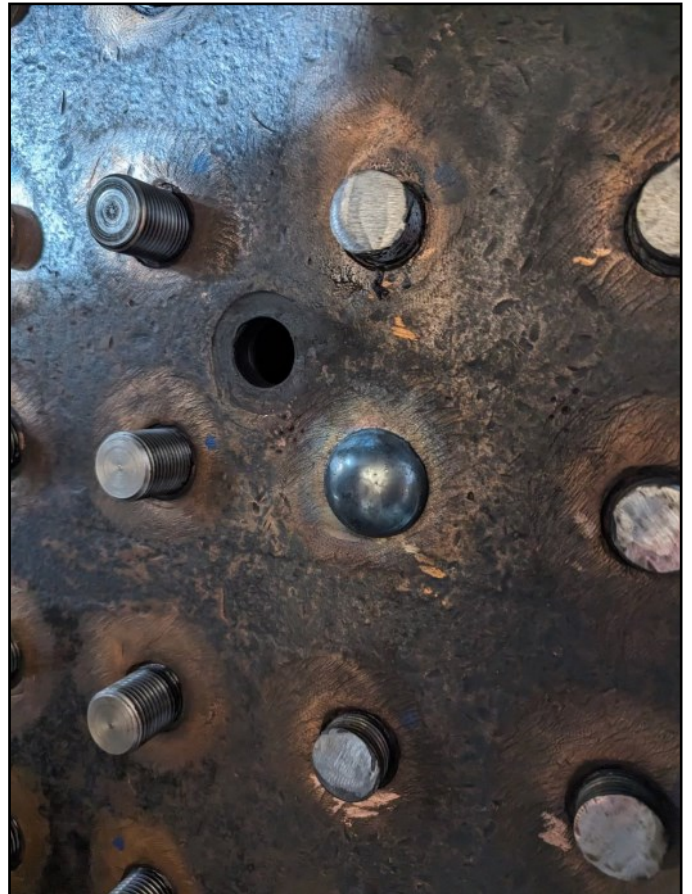
Please step up and be one of them!

4253 The Boiler Report *continued*

Latest pictures from HBSS Liverpool.



All the crown stays are now in place. This picture shows the top of the boiler (on its side) with the many rows of stays that had to be made especially for our boiler.



A close up of some of the stays, above, awaiting nuts and washers.



The picture left, shows Rob finishing the final crown stays inside the firebox.

In common with all the stays, they have a thread at each end. They have to first pass through the outer thread and then continue to screw into the inner thread at the other end.

4253 K&ESR Santa Specials Fundraising

As many of you will be aware, we once again braved the elements and set up the 4253 marquee on Tenterden Station platform at the end of November, for the annual K&ESR 'Santa Specials' weekends.

We had a good turnout of volunteers who put their hands up to do shifts manning our stall over the four weekends (plus the Christmas weekend of Friday, Saturday and Sunday). The resultant fund raising was most welcome as it dropped into 4253's account.

Many prizes were won on our tombola which did a brisk trade and at only £1 a go it's good value. While a quid-a-go doesn't sound much on its own, across the whole event it certainly all adds up!

Together with our sales of 4253 merchandise such as beer, clocks, hats, books, penknives, pens, mugs etc, etc, it is an event that certainly helps our ever ailing bank account.

Many thanks go to all volunteers that came out (and in all weathers), to help with the fundraising during this important event for 4253.



Charlie keeping the flood waters at bay. He said: "I've had this broom for 20 years, mind you it's had 17 new heads and 14 new handles". We've heard that before somewhere?



Dai, Marlene and Colin manning the tombola. They were kept busy throughout the event. This photo caught them during a breather between trains.



Queues quickly formed as punters were keen to have a go on the tombola and purchase our merchandise.



Charlie, Dick and Dave seem a bit too happy, or maybe it was the wind? Dick is caught in a rare photo of him actually on the stall, before he disappeared again!



Kelvin and Jerry manning the merchandise end of our stall on a cold day. Kelvin always tries to keep a low profile so as not to draw too much attention!

A gentle reminder to all shareholders

Can you please let us know of any changes to your telephone number, address or email address, so that we can keep our mailing database up to date.

Be assured that 4253 Locomotive Company never shares any information with any other third parties.

It is important to us that we remain in contact with all our shareholders and that our mailing database is accurate.

**If you haven't told us about your new email address
... then you are probably not reading this!**

Email: gwr4253news@gmail.com

Come and join the 4253 friendly Sales and Tombola Team!

We are looking for a volunteer Events Co-Ordinator to run fundraising events throughout the year.

This entails taking charge of a number of 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

4253 And All That Brass — Part 3

Firstly, not all the brass will now be included in these bitesize articles. Quite a few were included in the newsletter regarding the installation of the rods, which was recently published. However, there are plenty more yet to be explained.



Vacuum Brake Ejector

For instance, in the cab we have the vacuum brake ejector; simply put, it applies or releases the brakes. The brakes are released by creating a vacuum of 25 inches (*maximum vacuum = 30 inches of mercury, but that's a whole different subject!*). By allowing the loss of this vacuum causes the brakes to be applied.

Steam Manifold

This impressive cluster of valves and levers are controls to many functions:

The top two 'levers' are attached to the locomotive's whistles. The valve on the left controls the steam to the Masons Valve, with the one bottom centre and the one to the right controlling the water to the boiler.



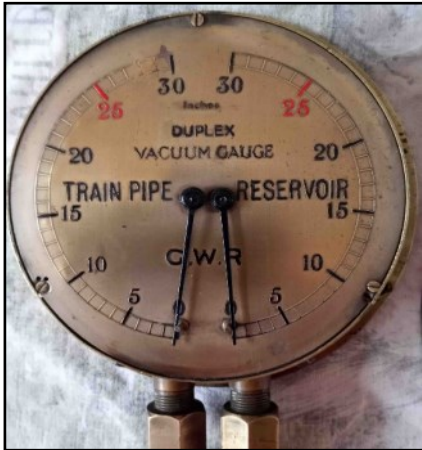
Also in the cab are various brass dials. The first is the boiler pressure gauge, showing the 200 psi (red arrow), needed to operate 4253 efficiently. The second is the steam heat pressure gauge, showing the steam pressure required depending on the number of carriages being pulled.



4253 And All That Brass *continued*

The third gauge (*below*) is the duplex brake gauge, which has two needle pointers.

The needle on the left indicates the amount of vacuum in the train pipe, which runs from the front to the back of the entire train as part of the vacuum braking system. Note the '25' in red, which is the amount of vacuum required to release the brakes, *as mentioned previously regarding the Vacuum Brake Ejector*.



When the brakes are applied, due to the train pipe having no vacuum, the left needle will drop to (or near) zero.

The pointer on the right shows the amount of vacuum available in the reservoir, ready to be used to release the brakes.

The Blower Valve

We also have a blower valve in the cab.

A blower ring is located in the smokebox and is used to create a 'venturi effect' causing a draft to flow from the bottom of the firebox, up through the fire itself, into the boiler tubes and then out of the chimney. This is used when the engine is 'coasting' or stationary to maintain the flow of air through the firebox when the engine is not working. It is operated in the cab by a turn on this blower valve.



The Jay Cock

This is connected to the hydrostatic lubricator system, which we looked at in an earlier article.

Away from the cab there are more brass bits:

Cylinder Pressure Relief Valves

At each end of the piston cylinders we have the pressure relief valves. There are four of these, one for the back and front of each piston cylinder. They are there to prevent excess pressure buildup within the piston cylinder. They also allow ejection of any water (*that, as you will know, cannot be compressed*) to prevent damaging the pistons, rings or cylinder covers and seals.



'Snifting' Valves

At the front of the locomotive are two snifting valves.



They are situated one on each side of the smokebox and are connected to the steam chest. These have a free moving piston inside them.

When steam is shut off to the cylinders while the locomotive is in motion and 'coasting', the moving pistons could create a partial vacuum in the cylinders. This would give rise to two problems.

Firstly, the pumping action would absorb energy and prevent the engine from coasting freely. Secondly, when the exhaust valve opens, soot and cinders from the smokebox could be sucked down the exhaust pipe and into the valve chest or cylinder, causing damage. (*The exhaust is open to the smokebox because in normal running the exhaust steam is sent through the blastpipe to draw the fire and eject the combustion products from the chimney*).

These problems are avoided by using snifting valves to allow air to be drawn into the cylinder when the locomotive is coasting. The 'snift' name comes from the sound they make while in operation, 'sniff', sniff, sniff" . . .

Vacuum Relief Valves

Hidden away out of sight within the frames are two very important brass bits; the Vacuum Relief Valves (or 'pepper pots', as they are known). They are set within the Vacuum Brake System, with one mounted on the vacuum pump and the other fitted to the train pipe. They are set to 25 inches of vacuum and prevent too much vacuum being created in the braking system.



A 'pepper pot' vacuum release valve complete (left), with the right-hand picture showing the inside of the valve.

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.

4253 Vacuum Braking System

A few weeks before Christmas, it was the turn of the loco's vacuum braking system to be checked out, most of which had been fitted some years ago. A number of problems were found.

All the vacuum pipe sections, together with flanges and gaskets, were taken off the loco and bench tested under pressure. These tests revealed a number of deficiencies in both welds and gaskets.

In light of these partly foreseen discoveries, and after setting up a temporary vacuum test rig on the loco, we removed the vacuum reservoir tank for test, which sits directly under the cab floor and is normally inaccessible when the cab and floor is in place. Pressurising the tank independently revealed numerous pin-hole leaks in the tank itself and around the main vacuum pipe flange rivets. After many hours trying to make the tank airtight, we reluctantly gave up and ordered a new one to be made. This was more money that had not been anticipated, but given its normally inaccessible position underneath the loco and its importance to the braking system, it had to be totally sound and 'bomb proof'. We wouldn't get another chance when the floor and cab were back in place, as the tank can only be removed upwards out of the frames!



Having received (*and at lightening speed*) the new custom made tank components, it was welded together along with a newly cast pipe flange (*above right*). It passed its vacuum test with flying colours. So far so good.

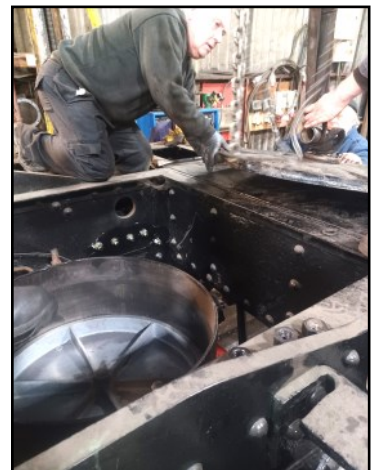


The only item left to test in the whole system was the large main brake cylinder which sits between the frames under the bunker and yes, you've guessed it, the cylinder can only be removed upwards! We seemed to be going backwards with all of this but everything has got to be right, so off came the bunker once again (*left*), and we removed the cylinder for inspection. Not only was it found that the inner surface was pitted in places, but we also found a hairline crack in the side wall, something that had not been spotted when the cylinder was put in some years ago. As we write, a new cylinder has been ordered and once put back together and tested we should hopefully, at last, have a sound and fully functioning braking system.

Volunteers swarm over the loco trying to get a glimpse of the brake cylinder, just before it is removed for testing and eventual replacement.



The faulty brake cylinder can be seen sitting in between the frames. The cylinder has a top 'lid' which has been removed to reveal the piston beneath.





GWR 2-8-0T Locomotive No. 4253 Share Application Form

**Please complete the form below in BLOCK CAPITALS and return to:
The 4253 Locomotive Company Limited. 28 Archer Road, Folkestone, Kent CT19 5RZ**

Full Name: _____

Address: _____

Telephone Number: _____

Email Address: _____

I hereby make an application for _____ share(s) in The 4253 Locomotive Company Limited.
I enclose a cheque made payable to The 4253 Locomotive Company Limited (£250 per share) / a completed
Bankers Standing Order *(please delete as appropriate)*.

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
for information updates about 4253 progress and activities.

Signed: _____ Date: _____

Bankers Standing Order Form

(if you wish to pay by monthly Standing Order)

To the Manager: _____ (Your) Bank

Your Bank Address: _____

Please pay £ _____ 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.**

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

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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.

