



Newsletter

Keeping Shareholders Informed



Issue 13

Summer 2021

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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Sales stand and tombola back in action

AFTER many months of inactivity due to Covid, our sales stand and tombola were once again back out on the road at the Weald of Kent Steam Rally (see the full report on page 2).

As this steam fair is one of the major fund raisers in our calendar, it came with much relief that we were once again able to hear our tills ringing to the sound of cards being swiped! As always, the tombola was a great attraction, with queues often forming in the thankfully dry, but blustery conditions.

All the events we attend during a normal year produce much needed funds for the locomotive and in line with many other organisations, 4253 have lost a considerable amount of revenue due to over 12 months of non-eventing. If we are able to attend the remaining planned events this year, it will certainly help prop up 4253's balance sheets, fingers crossed!

As you may know, our boiler is the most expensive element of the locomotive to repair and refurbish, so as the HBSS guys in Liverpool continue working hard towards its completion, so the money continues to drain out of our bank account. What we don't want is to falter just as we near the finishing line, so every stay you can buy, every share you can buy and every donation you can make, will all help towards getting your locomotive back into steam.

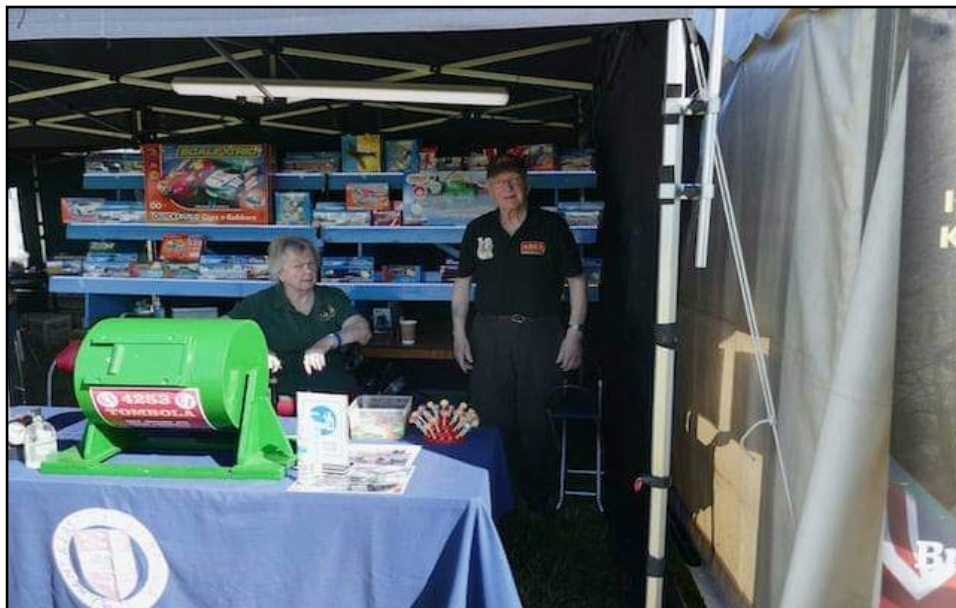
Please take a look at the Stay With Us appeal on pages 9 and 10 to see if you can help.



**NOW THAT THE HOLES ARE DRILLED IN THE FIREBOX PLATE,
ALL WE NEED NOW IS A COMPLETE SET OF STAYS TO SCREW INTO THEM!
TO FIND OUT HOW YOU CAN HELP WITH THE COST OF
BUYING THE HUNDREDS OF STAYS FOR THE BOILER
... PLEASE SEE THE 'STAY WITH US' APPEAL**

4253 Weald of Kent Steam Rally

AS mentioned in our previous newsletter article, the biggest challenge we faced in 2020 was the loss of income through steam fairs, country shows etc., which had all been cancelled. This stayed the same throughout 2021, until Bill Giles took the brave decision to go ahead with the Weald of Kent Steam Rally. This was originally arranged for the weekend 7th-8th August, but due to bad weather and a wet field was postponed until the 14th-15th August.



Colin and Marlene on the 4253 Tombola stand alongside our display in the marquee.



Promoting the Kent & East Sussex Railway alongside our display.

So, with not much warning, it was all hands to the pump to load up the trailer with everything required and get ourselves off to Woodchurch to set up on the Friday afternoon and prepare the display marquee. A great two days was had by all who manned the stand, and our thanks goes out to them for giving up their time at the weekend to support this major event.

It was also the first time since early 2020 that we were again able to go out and raise much needed funds for the locomotive restoration, as well as promoting the K&ESR alongside our own stand.

As always,
we send out a plea . . .
If you can help us, by
buying a boiler share,
sponsoring a boiler stay
(see pages 9/10) or donating,
please go to the *How to Help* page on our website:
[https://www.4253.co.uk/
how-to-help/](https://www.4253.co.uk/how-to-help/)
If you have the form,
but have not yet
completed it, Charlie is
offering a free 4253 pen to
fill it in with!



Locomotive progress photos and components on display in our marquee.

4253 Piston Power!

Another milestone in the restoration of 4253

by Kelvin Williams

Well, here we are! Another major step forward in 4253's restoration, with Sunday 22nd August seeing the final fitting of the pistons!

"What's so special about the pistons?", I hear you ask. Anyone who has stripped their old internal combustion engine, be it bike, mower or car, or even a light aircraft, will know that when it comes to refitting the pistons with their new rings it can be quite a fiddly exercise.

So, imagine your 3 inch diameter pistons are now 19 inch diameter and require an electric winch to lift and manoeuvre them, you'll appreciate what I am about to describe.



Henry measures the location of the pegs before drilling.



Not for the faint hearted!
The peg holes being drilled into the hollow pistons.



Dave cleaning one of the pistons.

Firstly, the cylinders had to be cleaned and inspected to ensure they were ready to receive the pistons, then oiled to allow for easy installation.

The pistons were manufactured by the Tyseley Locomotive Works. The piston heads are constructed hollow to reduce weight and screwed on to the piston rods, which were then turned by Tyseley, who also cut the ring grooves into the heads. This meant that they were ready for installation except for one very important component: the 'pegs' that prevent the rings



This shot shows a piston with the pegs now threaded in and finished perfectly smooth to the surface.

4253 Piston Power! *continued*

from moving around the circumference of the piston. This is to prevent the ends of the rings lining up with the port, springing out and being broken.

These had to be precisely measured, drilled, tapped, screwed in and filed down, before the rest of the work could proceed.

In the meantime, while this was going on, the rings themselves had to be inserted into the cylinders, the space between the ends measured, then 'trimmed' to ensure the correct gap before fitting into each piston's ring grooves.

With the assistance of an electric winch, each piston was positioned at the entrance to the cylinder, oiled ready and rings inserted.



Dick, cleaning and trimming the rings before fitting on to the pistons.



Fireman's side piston awaits insertion.



Looking at the end of a piston, now installed in its cylinder. It's not often you get a chance to see the hidden things that do all the work on a steam locomotive.

Using steel extension tubes fitted to two of the lower cylinder cover studs, the piston was pushed in, to the point where the rings contact the entrance. Then, with the assistance of four thin pieces of tin shim measuring 4 inches by 1 inch inserted between the rings and the cylinder walls, the piston was gently 'tapped' into the cylinder using a long handled 5lb copper-headed hammer.

Simple, you might say, except the rings fought all the way, with not only the four shims, but several screwdrivers being employed by Henry and Jerry, while Kelvin did the tapping. Eventually the fireman's side piston slid home. Repeat the process for the driver's side piston and job done! Alas not so!

The piston almost made it, but the rings refused to compress enough, so it came out again and the rings were 'trimmed' a bit more. Start again, and a shim disappears! Out again, retrieve the wayward shim and go again. Finally with several taps of the hammer it slid home, much to the relief of everyone involved.

The next step is to prepare the cylinder covers for refitting and hopefully that will be the last time we see the pistons until a major overhaul many years from now. A job well done by all those involved on Sunday.

4253 Boiler Report

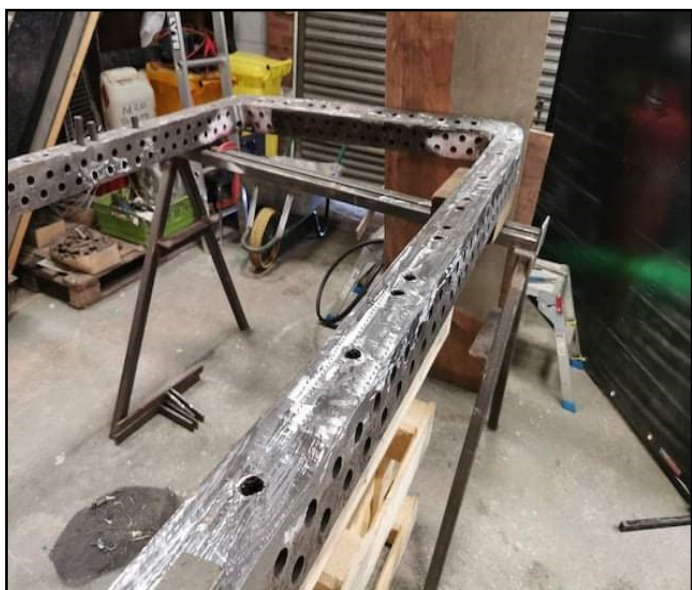
All pictures in our Boiler Reports are kindly supplied by Heritage Boiler Steam Services, Liverpool.

LOOKING back over the past *Boiler Reports*, we found we have not focused too much on the foundation ring, so an update is overdue.

For those unfamiliar with this vital piece of the boiler, its job, basically, is to fill the gap between the base of the copper firebox and the base of the outer firebox plate, held in place with (you've guest it), many rivets. The ashpan then bolts on to the foundation ring. It is vital in many ways, not least to hold water and not to leak!

Our foundation ring was in need of some serious TLC as it was showing signs of heavy corrosion over its once smooth surfaces. Having already done much work to build up the surface with weld, once it arrived in Liverpool it was decided that more work needed to be done to bring it up to the standard required by the guys at HBSS.

They have recently spent about a week working to make the surface sufficiently accurate enough to give a good watertight seal between the firebox and the outer boiler plate. These pictures show the progress they have made with our foundation ring, which is now finally ready to rivet into place.



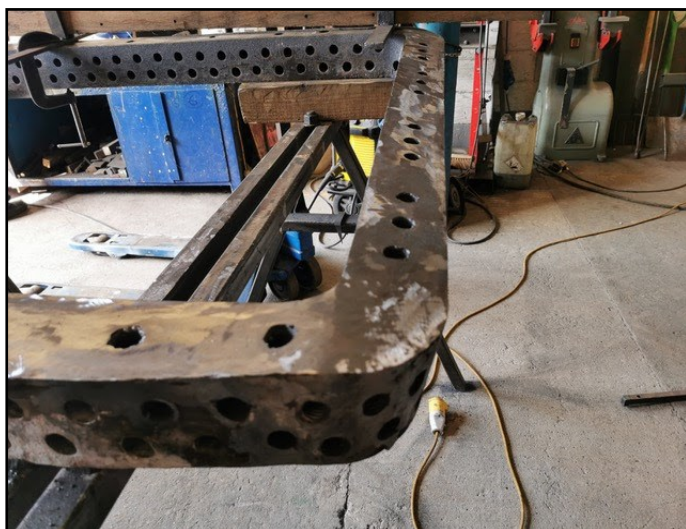
Looking better already!



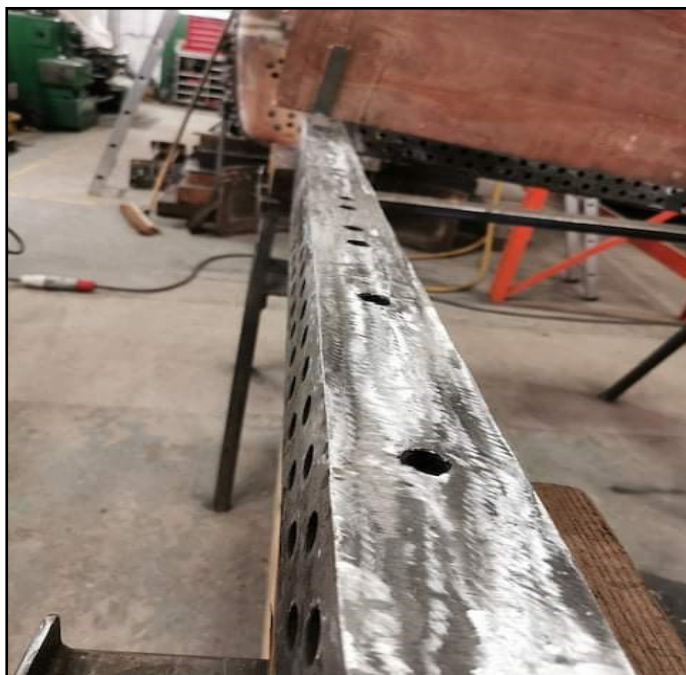
Detail of the finish on one corner.



Many years in steam has taken its toll on the water side of the 'ring'.



This shot shows its complicated shape.



The finished article.

4253 Boiler Report *Continued*

Meanwhile, the boiler continues its rebuild with further riveting now completed.

All riveting between the side wrappers and the rear backhead and front throatplate of the boiler has now been finished, with the foundation ring and firebox hole now awaiting their turn.

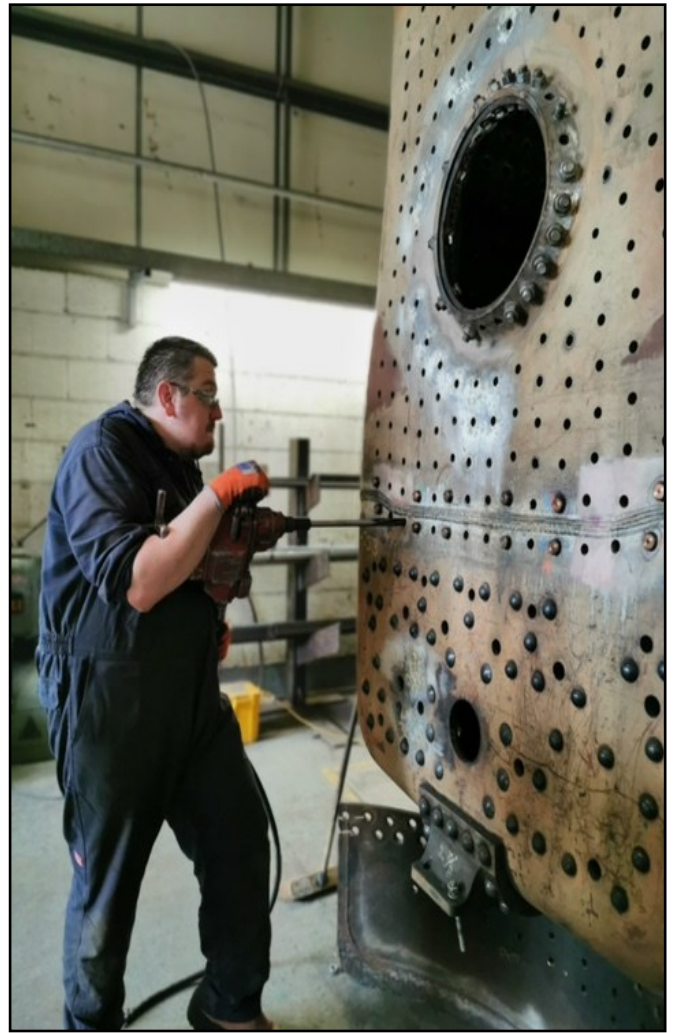
A hot rivet requires both sides to be accessed at the same time, one side to 'hold up' and the other side to 'knock down'. So, given that there is very limited, or no access to some of these side rivets with the firebox in place, a number of 'patch' screws are often used in these inaccessible areas. HBSS have had to use around 20 of these on the side wrapper lap joints.



The three pictures show all the riveting completed on the corners of the firebox. You may be able to make out the patch screws, on the right, which have a slightly flatter head.

4253 Boiler Report *Continued*

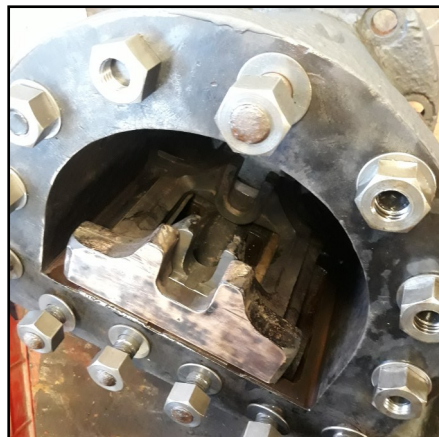
These pictures show Rob at HBSS, reaming the firebox stay holes to the correct size. This is the last procedure to undertake before threading each one of the hundreds of holes, ready to take the stays.



4253 Regulator

THE regulator, which sits in the smokebox and controls the amount of steam to the cylinders via the regulator control in the cab, has just been retrieved from our store and appears to be in a pretty good condition. When the main cover was taken off, there was still oil on the surfaces from when it was last in steam in 1963!

Having cleaned the whole thing up, given it a coat of heat resistant paint and renewed all the nuts and bolts, it now awaits inspection by our chief engineer Henry, for signs of any wear.



4253 Cylinder Pressure Relief Valves

THE pressure relief valves for the cylinders are an important safety feature on all locos, so we thought it worth explaining in detail why they are there and the important job they do.

During the history of steam locomotives it has no doubt been learnt the hard way, that without some sort of relief valve fitted to either end of the main cylinders, at some point or other cylinders are likely to experience pressures way above what the end covers can normally withstand. If steam condenses or water enters the cylinders without a valve, it will explode the cover off at one end with obvious devastating consequences, not only to the loco but to anyone that happens to be nearby at the time!

So, to avoid this unpleasant disaster, a special relief valve is fitted into each cylinder cover, one at each end. If, as the pistons travel back and forth, pressure for some



One of the valves having its release pressure tested on the hydraulic rig.



Here we see one of the valves screwed onto the hydraulic adaptor (at the bottom) ready for testing. You might be able to make out the spring inside and the threaded adjuster at the top.

reason builds up above approximately 210 lb per sq in, then the relief valves are activated and the steam and water is released harmlessly into the atmosphere.

The valves are machined in brass and comprise a seated valve at one end, a large spring in the middle and a screw adjuster and lock nut at the end.

The valves have to be set to the correct setting on a hydraulic pump before fitting to the covers, which is achieved by screwing the valve onto the hydraulic test rig via an adaptor, pumping water up to the required pressure and setting the valve to release the water at around 210 lb per sq in. Given that the boiler pressure is set at 200 lb per sq in, this allows for maximum steam pressure in the cylinders to run the loco, but guards against anything too high.

All four valves have now been fitted to the cylinder covers of our loco and are ready for service.



Another major step forward!

This picture shows the driver's side brass relief valve now fitted to the rear cylinder cover and is ready for use.

Also note the end of the piston shaft, together with its slot, ready to fix the crosshead in position.

Stay With Us!



Boiler Stays Appeal



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. Unfortunately, Covid-19 arrived almost immediately thereafter and, as a result, we have been unable to undertake any of our usual fundraising activities. Therefore, we now need as much financial help as possible to keep 4253 on schedule and, accordingly, have launched this sponsorship scheme.

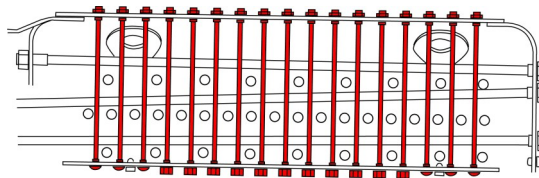
The Layman's Guide to Boiler Stays

Of all the components found in the boiler of a locomotive, the humble stay is probably the most important. The stays in our 'Stay' set encompass the stays in the firebox. A stay is a rod that is used to support the boiler at each end of the boiler between the crown and the firebox. The stays are braced together by providing a massive pressure on the stay with the stay stress. Outwardly they have a neat appearance - inwardly they press on the 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!

HURRY!
Stays and Stay Sets are still available — but going fast.
Buy yours now, while 'stocks' last!

That's where you come in!

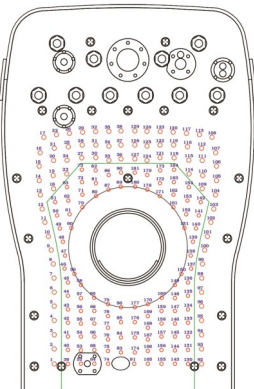
Firebox wrappers
A combination of copper and rigid steel stays. We are renewing all throatplate stays, backhead stays, crown stays and a percentage of the side wrapper plate stays. The stays within the yellow shaded area require replacing.



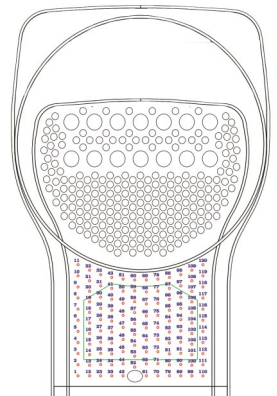
Cross section of firebox
Side view showing crown stays and nuts (in red). 174 stays are required to complete the task.

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 bankers Standing Order, please print the form and post to the address shown.

Please help get YOUR boiler back into steam!

Application to set up a Bankers Standing Order for 'Stay With Us' appeal (minimum 2 sets).
Please print, complete the form and post to the address shown below.



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
for 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, 25 Winsor Road, Rolvenden Layne, Tenterden, Kent TN17 4NL - Stays

4253 Before and After - Celebrating 10 years



4253 at The Pontypool and Blaenavon Railway in 2011, just before being moved to Rolvenden on the Kent and East Sussex Railway.



4253 at Rolvenden works in 2021 (can you spot the missing part?) . . . what a difference 10 years of hard work makes!

Covid-19 arrangements at Rolvenden and future post-lockdown 4253 visits to Rolvenden

Rolvenden Station is once again open to the public. Rolvenden Works is currently under usual restricted access.

**We would be happy to see you at 4253! But it is essential you please make
prior arrangements by emailing: gwr4253@gmail.com**

A 4253 mask is for life - not just for lockdown!

4253 specially commissioned Face Masks



These can be used as general face coverings for dust/allergies and also to aid in complying with current Government Covid-19 measures.

Made to last from triple layered cotton for easy care and hand-made in Kent.

Available in: **4253 Red**, **4253 Black**, **4253 Blue** and **4253 Green**

All individually packed. Availability subject to stock.

Priced at £5.25 + 75p postage each.

Order yours today from our online shop at www.4253.co.uk

Colours may appear slightly different from images above, due to photographic limitations.

4253 Pen and Torch Set



*This superb gift set comes in
a presentation box and
includes a 4253 pen and
LED torch with key ring.*

***Priced at just £6.00
including FREE p&p***

**Order yours today from our online shop at
www.4253.co.uk**