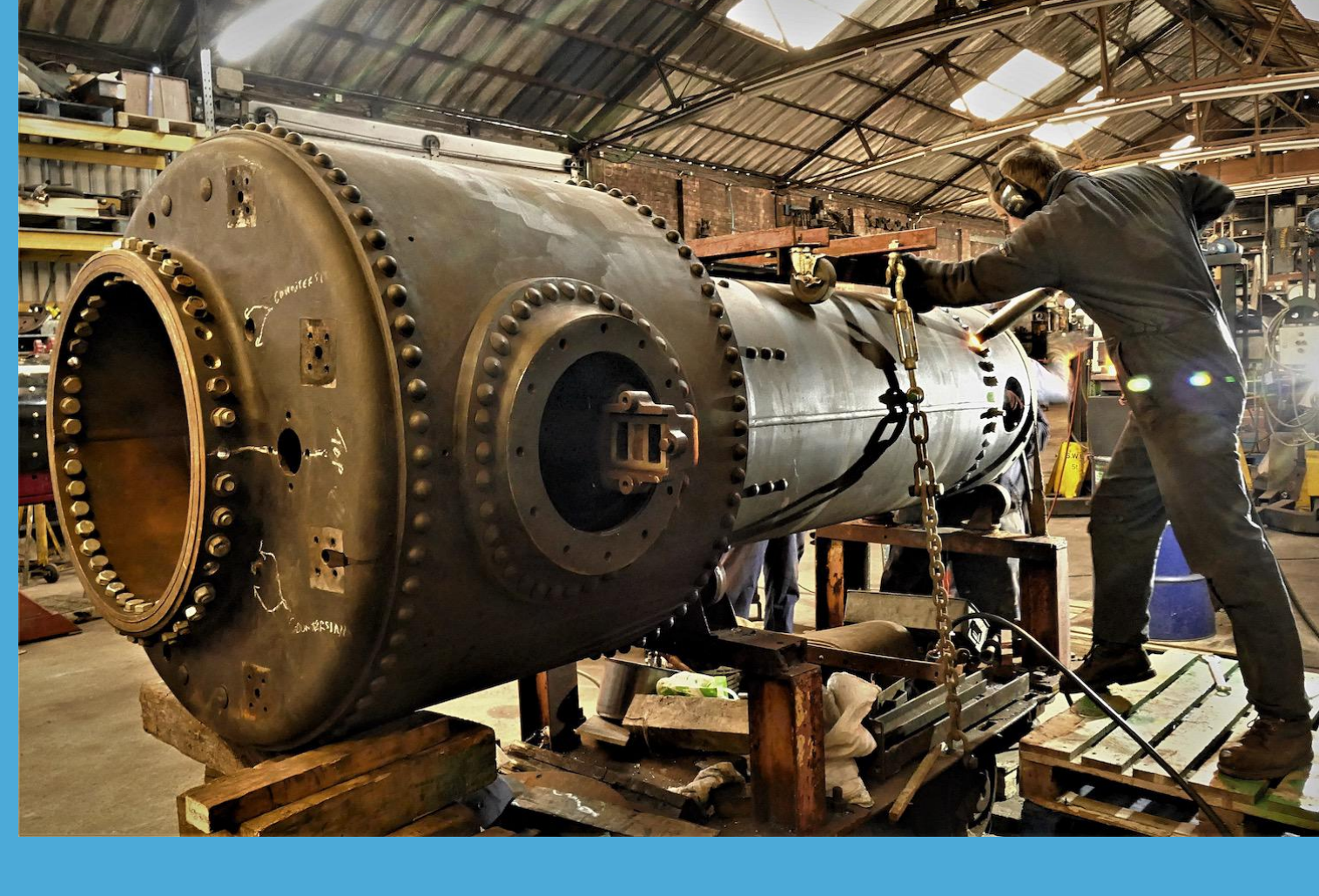


THE WEST LANCs LETTER



The Newsletter of the West Lancashire Light Railway



WELCOME to a SYBIL special edition!

As a change from general news of the Railway, this edition focuses on one project, the restoration of our Quarry Bagnall 0-4-0ST locomotive Sybil.

Sybil spent her working life at the Dinowic slate quarry in North Wales, the only Bagnall amongst about a score of Huntslets and a few of other types. She worked there from 1906 to 1965, when she was sold to the Evans family and moved to her retirement home in Cornwall, the Inney Valley Railway.

In 2013 ownership was transferred to the newly-formed Sybil Locomotive Trust and Sybil moved to her new home at Heskest Bank for restoration, the main item being replacement of her 1930's boiler. The big news is that the new boiler, made to a traditional Bagnall riveted design, is complete and on the loco!



Two rare shots of Sybil, working in Dinowic quarry and at the Inney Valley Railway.

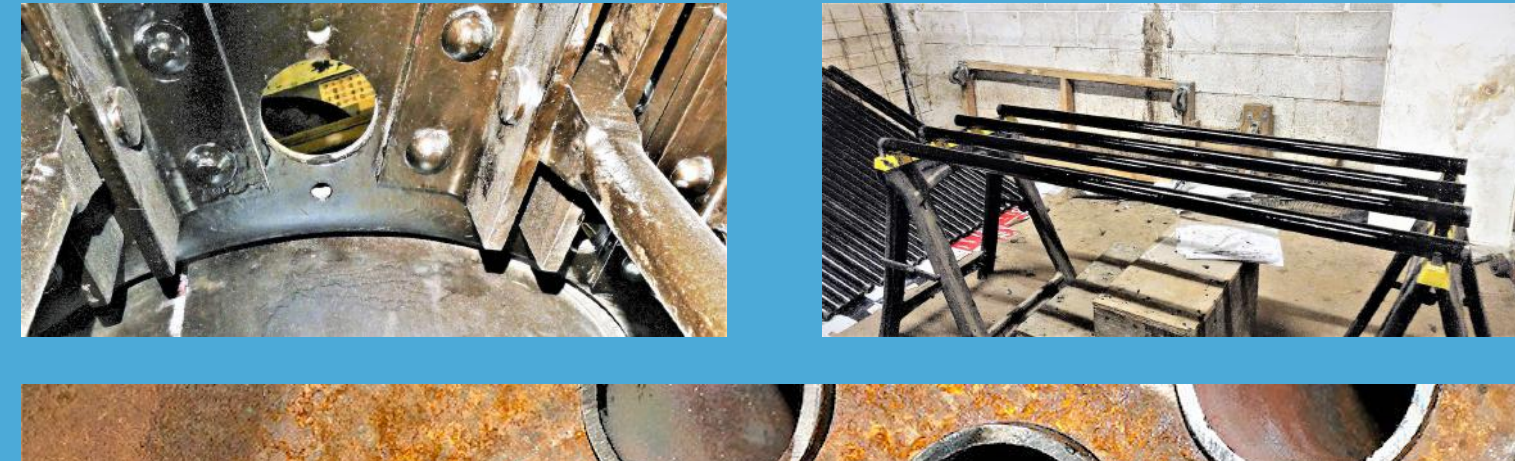
Keith Nichols, the Trust's chairman, describes the recent work:

'Despite the impact of Covid 19, considerable progress has been made on Sybil this year. There are two basic components of the loco, the boiler and the 'bottom end' consisting of the frames, wheels, cylinders, motion and running gear.

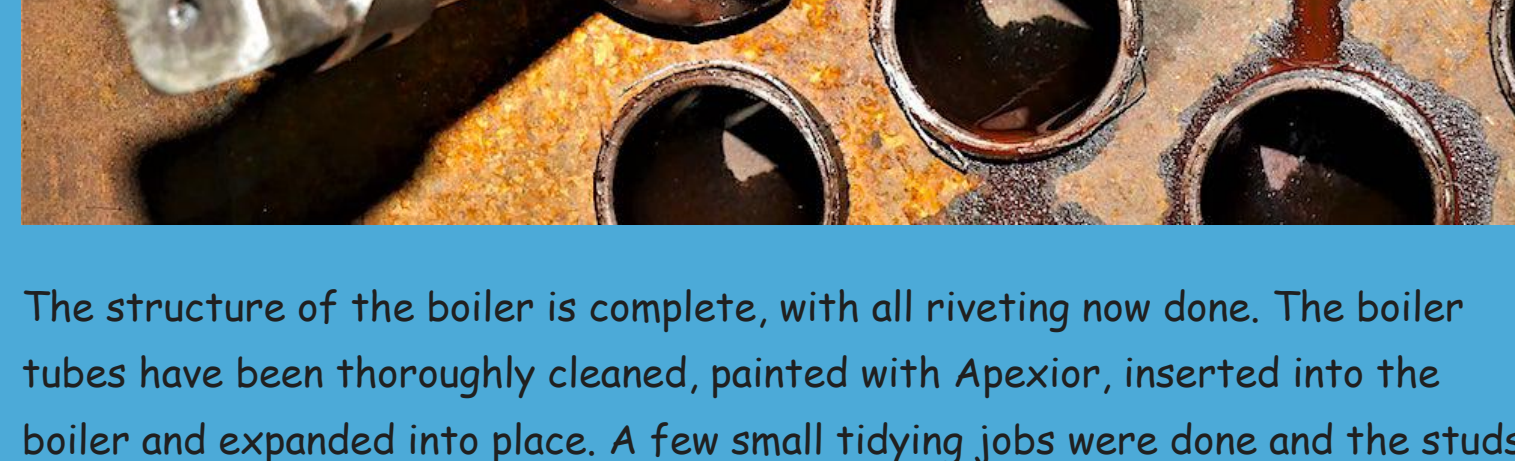
Dealing with the new boiler first, the end of the construction phase is here. A recent visit by the boiler inspector resulted in no adverse comments, in fact he seemed impressed by our work. Without his approval the boiler could not be used, leaving us with a very expensive ornament!



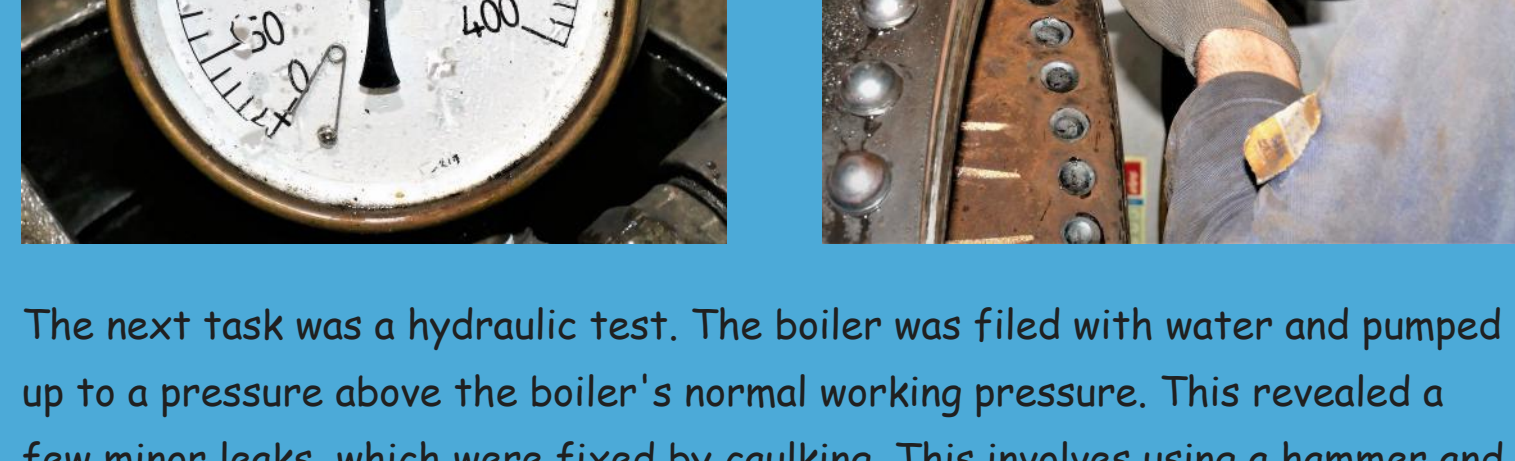
Earlier in the year the major components were grit-blasted inside and out and then painted to help protect the new boiler from corrosion. The insides, i.e. the parts of the boiler which will be in contact with water or steam, were painted with Apexior Number 1, a long-established anti-corrosive paint specially formulated for use inside boilers. It should also increase thermal efficiency, as it is claimed to increase heat transfer through the boiler plate and tubes. The outsides were painted in a suitable heat-resistant paint.



The structure of the boiler is complete, with all riveting now done. The boiler tubes have been thoroughly cleaned, painted with Apexior, inserted into the boiler and expanded into place. A few small tidying jobs were done and the studs for the fittings then installed.

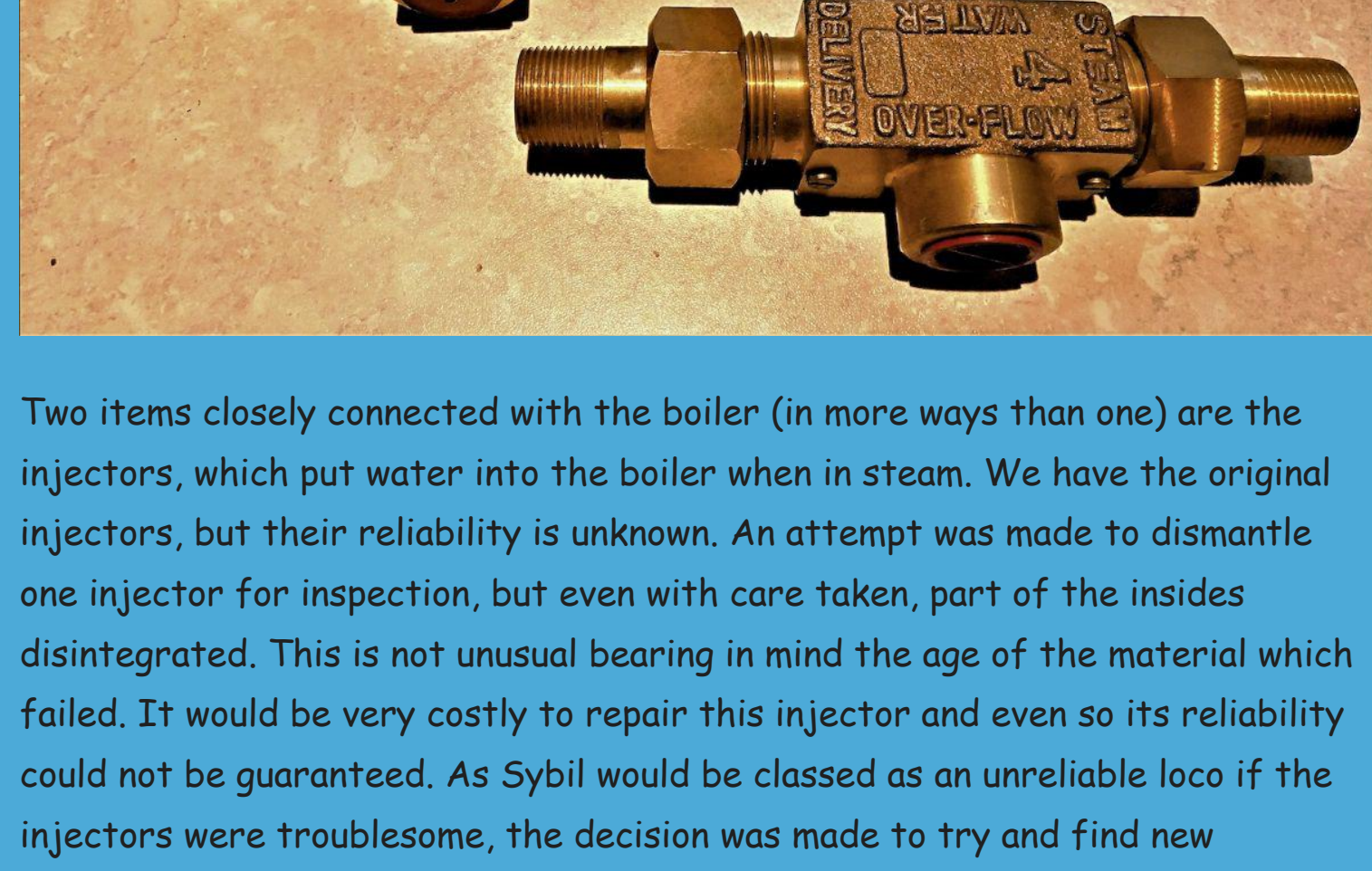


The next task was a hydraulic test. The boiler was filled with water and pumped up to a pressure above the boiler's normal working pressure. This revealed a few minor leaks, which were fixed by caulking. This involves using a hammer and chisel to move a little of the metal in the boiler plate around the leak, to seal the gap.



Two items closely connected with the boiler (in more ways than one) are the injectors, which put water into the boiler when in steam. We have the original injectors, but their reliability is unknown. An attempt was made to dismantle one injector for inspection, but even with care taken, part of the insides disintegrated. This is not unusual bearing in mind the age of the material which failed. It would be very costly to repair this injector and even so its reliability could not be guaranteed. As Sybil would be classed as an unreliable loco if the injectors were troublesome, the decision was made to try and find new injectors. As a result, two brand new injectors have been purchased at a very reasonable price. Although these are of a different shape to the original ones, they will not look out of place. For reliability, we could hardly do better.

We have also borrowed a wooden pattern for casting a new firebar/brick arch support, and found a source for making the new arch. The pressure gauge has been cleaned and recalibrated, new glass fitted in the water gauge protectors and the gauge frame cocks renovated. Small detail jobs, but essential for safe operation.



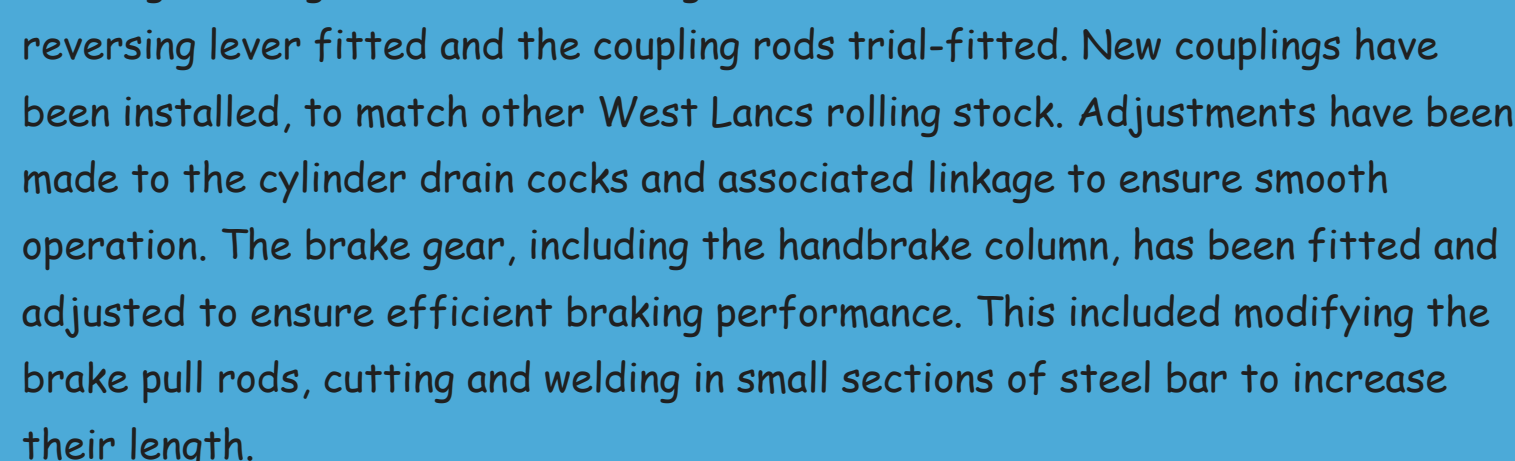
The 'bottom end' has also progressed well, being very much complete and forming a rolling chassis. The valve gear has been assembled, the refurbished reversing lever fitted and the coupling rods trial-fitted. New couplings have been installed, to match other West Lancs rolling stock. Adjustments have been made to the cylinder drain cocks and associated linkage to ensure smooth operation. The brake gear, including the handbrake column, has been fitted and adjusted to ensure efficient braking performance. This included modifying the brake pull rods, cutting and welding in small sections of steel bar to increase their length.

A steam-brake cylinder to the standard West Lancs design has been added, to provide a power brake on the loco. A steam brake is not an original feature, but is essential to enable Sybil to safely haul passenger trains at Heskest Bank. To check all was well, the steam brake cylinder was tried out using compressed air instead of steam. The results of this test were good, even though the piston rings have still to be fitted.



The next job will be to remove the brake gear and valve gear. We haven't made any mistakes, it's just to allow for final painting of the components. After re-assembly the 'bottom end' should look very tidy.

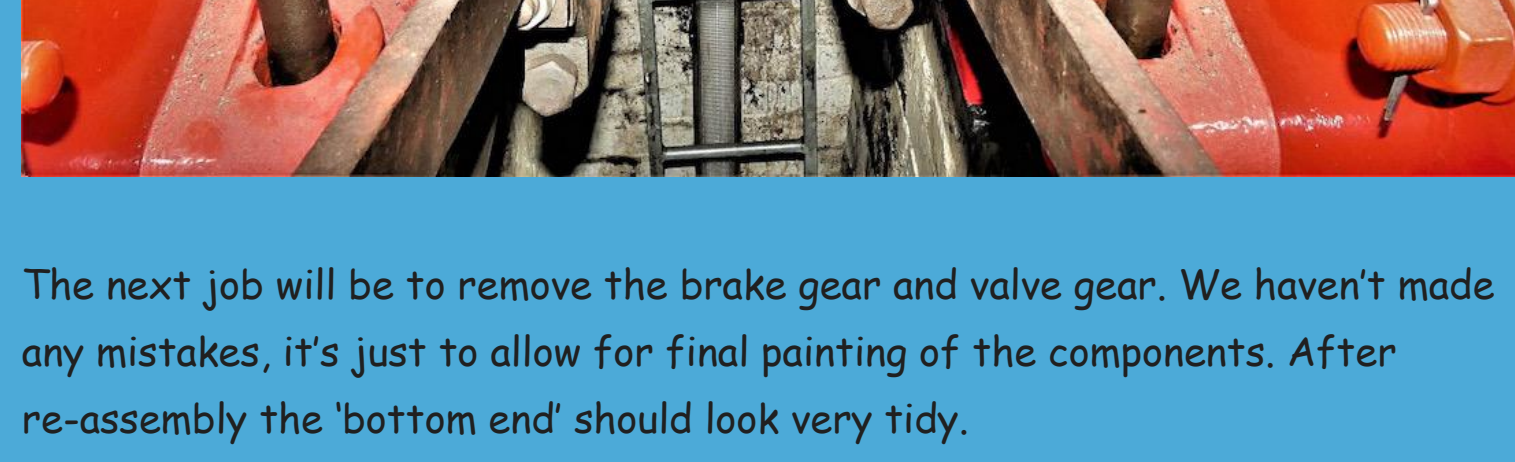
If all goes well, next summer is likely to see Sybil's return to service. This is something good for us all to look forward to during these gloomy times!



The final rivets go into Sybil's boiler. We would have had an official Golden Rivet ceremony, with assorted minor royalty in attendance, but for a certain pandemic. Would only have been gold paint anyway.



Positioned does it... Rob moves the completed boiler towards the loco frames, carefully and equally carefully by Andy driving Tawd.



Top end meets bottom end! Only for a while, as the boiler will need to be removed for some minor rivet-smoothing to make a snug fit. But quite a milestone!



And finally, it's not too late to help complete the restoration of this historic locomotive! We still need to raise funds to pay some bills and complete the loco.

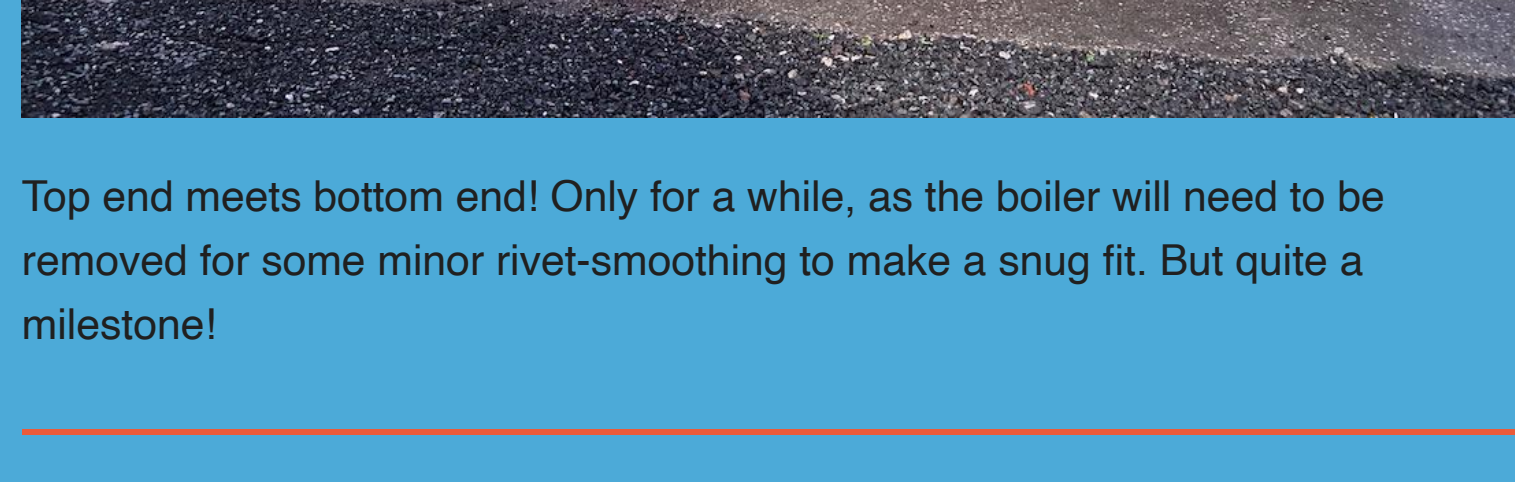
You can become a shareholder in the Sybil Locomotive Trust, either by a lump sum payment or by instalments. Details are on the Trust's website: www.sybillocomotivetrust.org.

Or you can donate any amount by clicking [here](#).

Thank you for your support!



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