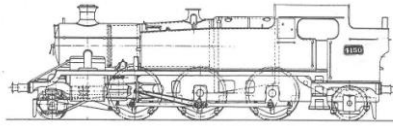


# The 4150 Fund 2014 Newsletter



[www.4150.org.uk](http://www.4150.org.uk)

**The aim of the Fund is to restore the steam locomotive to full working order to run on the S.V.R.**

**Chairman's Report:** For the most part this has been a good year for the fund with the all new bunker now complete except for riveting and welding.

The tanks are progressing at quite a rate, we now own virtually all of non-ferrous fittings, of which the vast majority are machined, more information in the engineering report.

Share applications & donations coming in should once again be more than we are spending on the loco, thus enabling us to build up a boiler fund.

We are still awaiting quotations for the considerable amount of work that has to be placed out for contract so I am unable to go into detail except to say we will be acting in the best interest of the Shareholders.

We continue to keeping a watching brief on the negotiations between the Severn Valley Railway and the locomotive owning groups, which are slowly moving forward 2 years on.

This is a big year for the fund as major decisions have to be taken, as soon as we have written confirmation of the commencement of boiler work we will be able to draw up a time scale for completion of the locomotive.

A big push will be required to raise the rest of the money necessary to complete the project, so please be ready to help out all you can with this.

Your committee will be doing all they can to tap into any income streams available.

**Secretary's Report:** I know it seems a contradiction that in my letter I refer to the cost of producing and mailing the Newsletter and you then receive it by post, but it is an essential one off exercise and is being subsidised. The main reason for this mailing is to test the new database and make sure the information within it is correct. By sending a personalised letter to each of you which is now done at the touch of a button I have the chance to get feedback and rectify any anomalies in the records, I can image there will be quite a few. With the day of steaming **4150** getting ever closer the need to keep you all fully informed becomes even more important. That final push begins now and will slowly but surely gather momentum, exciting times lay ahead. As well as our **Peep Behind the Scenes Day on Saturday 19<sup>th</sup> July** we are hoping to have a publicity table at the Gala weekends, assistance and suggestions are as always welcomed and will be very much appreciated. The 2014 AGM is on Saturday 22<sup>nd</sup> February at Kidderminster Railway Museum.

**Engineering Report:** The last 12 months began with a lot of work on what might be termed 'infrastructure', not directly work on the loco, but work to facilitate what we'd be doing later. The first task was to erect a substantial 25 foot long shelter under which we could build our new tanks without being affected by the weather. Work on the bunker had to be stopped every time it rained (not infrequent at Bewdley), and we were determined not to have the same problem with the tanks. It has turned out to be quite some structure, with a framework of scaffolding tower panels supporting a pitched roof made up of surplus cladding sheets from Bridgnorth shed, complete with proper gutters and a downpipe. As a bonus, the pitch of the roof is such that condensation, of which there is a lot, runs harmlessly down the sheets and into the gutter, so the tanks remain dry in all weathers. The best thing about this shelter is that it hasn't cost a penny, using surplus materials which would otherwise have been lying around making the place look untidy. We have spent a modest amount on providing 110 volt lighting, but that's been well justified in enabling us to work after dark during the winter. A 30 amp power supply has also been installed to allow us to use our welders and plasma cutter.

The second job was to erect a scaffolding framework around the loco to provide a safe environment for working on the boiler and firebox cladding. Planks have been bolted to the loco frames to provide a solid platform to walk on, and scaffolding provides handrails, kick boards and anchorage for a safety harness. Work on the tanks has taken precedence to date, but we hope to put this structure to good use during 2014.

From spring onwards we've been concentrating on building our new side tanks, on a solid base formed of sleepers, on which sit two lengths of flat-bottomed rail provided by Bewdley Permanent Way Department, topped by transverse RSJ's. This has enabled us to erect the tanks side by side under the shelter, at a very sensible working height – we can drill the base angles for example without scrabbling around on the floor! Our first purchase was £700 worth of 60x60x10mm angle to form the heavy 'skeleton' to which all of the steel sheets are attached. As with the bunker, we are working on the principle that anything visible will be riveted (proper rivets, not stick-on!), but that internal joints and those which are out of sight can be welded. The inside sheets for 5164's new tanks were directly butt-welded when they were fabricated in 2002, but we plan to stick as closely as possible to the methods Swindon used on our original scrap tanks, i.e. sheets attached to the flat outside faces of their joining angles. This has the great advantage that there's a bit of leeway in the event of the sheets being slightly over- or under-sized if we need it, given that we've got 60mm of angle to locate them onto. It means our tanks will be heavier than those on 5164, but we don't anticipate being restricted to red routes!

So far we have taken delivery of the tank bases, all of the outside sheets, and the sheets which form the ends which protrude into the cab. These were rolled and bent where necessary by Accurate Section Benders of Kingswinford, and very accurate they've proved to be. The tank bases are over 19 feet long, and we are fortunate that Accurate have a guillotine large enough to cut them. This vast area of steel has taken an equally vast amount of paint, as we've endeavoured to get two coats of Rustoleum primer on all the sheets as soon as possible after they arrive on site. Put on with a roller, this provides brilliant protection against the weather and a good base for future coats, being easily flattened. Our paint supplier must have wondered where all those 5 litre tins were going!

Terry Howes devised an ingenious system of clamps and threaded bar which gives us an infinitely adjustable means of ensuring that the tank sides are held firmly in position and kept at 90 degrees to the tank bases at all times. This means we have been able to drill the sides in an upright position using our magnetic drill, without having to dismantle the tanks and lay the individual sheets flat.

Terry has also made a superb job of cutting the six baffles to shape using our plasma cutter and a jig he designed for cutting perfect radiused for the large access holes which allow very thin people to crawl through the baffles once the tanks are assembled. It remains to be seen how many of us can manage it! At the cab end, Terry has been assembling the complex curved sections adjacent to the cab window cut-out, and cutting what the Swindon drawings describe as 'armholes' which provide access to the bolts holding the balance pipes to the bunker in position. These armholes might also prove crucial when we come to put the final row of rivet into what will be



effectively a box-section just 10 inches wide – a challenge for the future! Like the bunker, the tanks contain a lot of radiused angles, and Dave Link has become very adept at fabricating these, cutting out a section of the 'base', bending the remaining flat section through 90 degrees using much heat, and then welding in a curved insert to replace the missing section of the base. Five of these have been fabricated for attaching the driver's side splasher to the baffles and to the front and rear sheets, and four for the outside front corners of the tanks. All of these are to an outside radius of 4 inches, as are most of the ones on the bunker – wonderful Swindon standardisation. Dave has also plasma cut the downward sloping section at the front of both tanks, and it's pleasing to report that the original beading from the old tanks – one of the few bits we can re-use – fit very nicely on the new sheets. Always a good sign! Virtually all of the holes we need to drill for rivets have now been drilled (around 1800), as the sheets we haven't yet

got, for the splashers, and the inside faces and tops of the tanks, will be welded to their supporting angles rather than riveted. Also still required are a variety of flanges for pipes going through and from the tanks, and we anticipate that all of these remaining items will be ordered very shortly. Away from the tanks, we have purchased a set of superheater elements from Tyseley Locomotive Works, as they were manufacturing a batch for various locos including 7802 and 7812, using Swindon-specification cast 'bullet' ends rather than the plain bent ends which have caused problems in the past. We've also invested in a set of boiler cladding sheets, rolled and cut to size by Accurate from Swindon drawings to match the offset taper of our boiler. The steel sheets for the firebox cladding



have been purchased, but these we will roll and cut ourselves. Alan Atkinson has made good progress with the cladding around the valves and cylinders, and Ian Bromley has been busy at Bridgnorth machining the castings for the cylinder drain cocks. Carl Jones has machined the coal watering cock from a casting and repaired two oil reservoirs for the inside motion, replacing the corroded steel delivery pipes and taper pins on both. We've got a newly machined vacuum release cock thanks to an exchange deal with Tyseley (with a number of other fittings still to come), and Alan Baines in our Wiltshire outpost has produced some superb dome-headed bolts for bolting down the running plates, by machining down surplus coach bolts from the SVR's Kidderminster stores, and has also machined the complicated bolts which support the sliding cab window covers. These are all too good to put on the engine really, and deserve to be on display in a museum, but at least we'll try and bring some to the AGM in February for a brief moment in the limelight!