

Improving a sliding firehole door

By Roger Stephen

As some of you know I am attempting to finish building a Winson locomotive kit, specifically a GWR 1400 class 0-4-2 tank engine in 5 inch gauge. You may have noticed it on display at our last exhibition and at Ally Pally this year. These kits have a rather poor reputation and I can see why having wrestled with various problems with mine. I acquired it, part built, from our late chairman Dr Michael Dyer but I am not sure he was the first owner as there are many things on it which I doubt Michael would have done. Anyway, I am slowly getting somewhere although I have more or less given up any hope of actually getting it running. Fortunately it will look lovely on someone's sideboard!

I am planning to put all the steam fittings on the boiler soon but before that I needed to fettle the firehole door – it's the lever operated sliding type. Most of the components of the kit are actually very well made (it's in the assembly of them that the trouble starts!) but unfortunately the two firehole door runners are not. Those that came with the kit are crudely stamped out of sheet steel in four pieces which are fiddly to assemble and the sliding doors kept jamming. I decided to scrap them and make new ones, each runner as a single piece of steel.

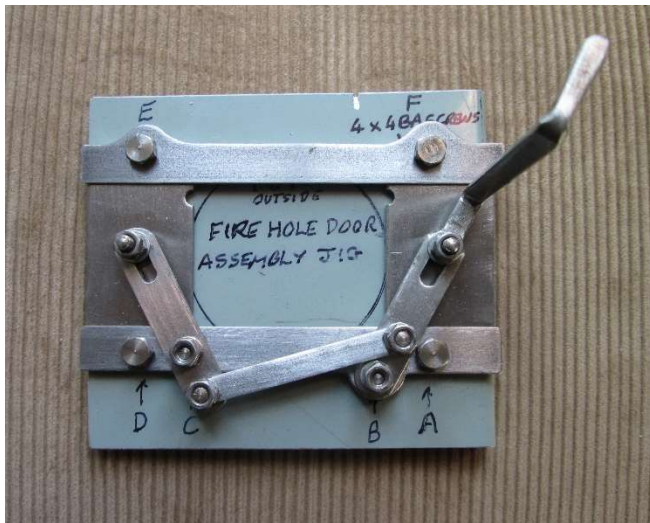
The starting point was a piece of 1" wide steel strip 1/8" thick I had in stock, a bit wider than necessary but that's all I had. Firstly I set up my milling vice on my mill/drill machine with the jaws exactly parallel with the longitudinal slide. Using a piece of round bar in the chuck and a piece of cigarette paper (instead of a DTI) that took some time I can tell you. Once satisfied I then put my bit of steel strip in the vice and milled a rebate all the way along one edge about 1.5mm deep and 2.3mm wide. The doors are 2.0mm thick so that decided the width of the rebate. The photo of the old and new runners shows what it looks like. Then it was just a simple matter of using the original runners and back-head cladding sheet as templates to drill the pivot and mounting holes, and doing a lot of sawing and filing.



The reverse side of the original door runner components and the new one piece runners. The rebates in the new runners that the doors slide in can be seen clearly.

Whilst making and fettling the components I made up an alloy mounting plate jig with the mounting holes in the same position as the bushes on the boiler back-head. That was so that I could finish fettling the components, assemble and test them without having to put the door on and off the boiler all the time. I still have to sort out some of the pivot screws & lock nuts but the door runners

now look much more neat than the originals and the doors slide nice and freely. Another little job nearly done.



The fire hole door assembled with new runners on the mounting plate jig for testing. The lower four pivot screws and nuts still need sorting out.

Ideally four of the pivot joints would be riveted for a neat appearance but I am worried they would end up too stiff in operation. However, if any member knows how to rivet the pivot joints such that the components still move freely I would be pleased to hear their advice via the Newsletter.