

## Workshop Wrinkles: How to shorten BA Screws - Roger Stephen

Some of you know that I am in the process of rebuilding another Princess Marina locomotive which has no tender. This one will become a Stanier 2-6-2T tank engine which requires extending the frames, which in turn requires a lot of 5BA screws to bolt the extensions onto the existing frames. I had bought a stock of 1/2" hex-head screws but needed to shorten them to make a neater job. In the past I have shortened screws by nipping the end in a vice, cutting off the required amount with a hacksaw and tidying up the cut end with a fine file while holding the screws in my finger tips. This is OK for the odd screw but I didn't fancy shortening 44 screws that way - I needed a jig. Now I dare say the old hands have an elegant way of doing this in one operation but I don't know it, so here is what I did.

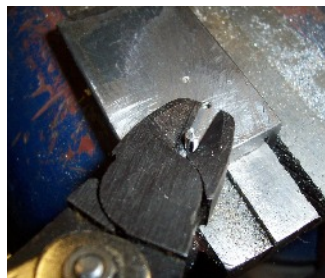
To make the basic jig I took an off-cut of angle iron from my scrap box, drilled a hole through it tapping size for 5BA, and ran a tap through nice and square. That's it, job done. I also put a clearance hole through another bit of steel to use as a packing piece such that the combined thickness of the packer and angle iron was the same as the length of screw I wanted to finish up with. The photos below show how its used and before and after shots of my frame extension joint. You don't actually need the packing piece if you run a nut down the screw before you put it in the jig and use it as a locknut to adjust the amount of screw that sticks out to be trimmed off. Of course the same jig can be drilled and tapped for other screw sizes too.



1. Put the screw in the jig with the amount you want to cut off sticking out.



2. Clamp the jig in a bench vice with the excess screw end sticking upwards.



3. Snip off most of the excess with a pair of wire side cutters.



4. Remove the remaining excess with a fine file leaving the screw flush with the jig.



This was my frame extension joint with 1/2" 5BA screws fitted. They are a bit long.



The frame extension joint with the screws shortened. That looks better!