

Grinding and Sharpening Jig.

I saw a jig like this on Youtube and decided to make my own version. It is based on a knife grinders jig.



Benefits are:

- Repeatabile and accurate set up.
- Fast change of angles using the blocks of wood.
- Set the same angle for the coarse and for fine wheels or set grinding on the coarse and honing on the fine.



Make the leading edge of the base the reference for setting up.

Angle of plate is 125 degrees or 55 degrees depending on how you measure.

The vertical tubes and the horizontal tubes are 340mm or just under 14". No science to this measurement but it works fine for me. I made the base from some old bench top. None of the dimensions is particularly critical as you set the precise grinding angles using a slip then make the spacing blocks. What is important is referencing the wheels to the front of the base and having the grinder parallel to the base.

Select tubes so that one will fit snugly into the other. I found square were best and used 30 x 30 for the outside and 25 x 25 for the inside. Both about 2mm thick.

Only spot weld the corners of the tube to the flat plate otherwise it will distort. It won't go anywhere with spot welds. If you don't have a welder you can use a metallic epoxy. I tested some joints and found them strong. Epoxy is a bit more expensive but also more forgiving if your welding skills are not up to the mark, or you don't have a welder. Just make sure the epoxy fillet is substantial and make a jig to hold the plate whilst the epoxy sets.

Set clamping screws on the corners to cut down on potential play in the tubes.

I welded some flat bar to fix the tubes to the base. You can set 1/4" or 6mm threaded rod directly into the wooden sides. The friction of the wood on the thread seems to be enough to hold them. Make sure your flat bar and clamping screws are clear of each other not like in this picture. It works but is fiddly to set up (duhh!).



Use one of the inner tubes to make the side fixings parallel to the base.

Use the verticals set against the base to align the grinder as shown in the first picture.



Make up slips for the angles you want to grind

Then cut a block to set the height and the distance out from the base. This needs a reasonably hard piece of wood so it doesn't wear. The block in the picture below has been built up after I had to replace the grinder.

Mark the blocks and keep them in a drawer under in the base. You can see the drawer in the first picture.



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