

Building a Moxon Vice

In order to raise the level of my bench and make it easier for me to work with my ongoing hip and back pain I decided to install a Moxon Vice. [Axminster Tools](#) sell a simple version for over £170 and kits of parts from [Benchcrafted](#) to make your own are available or about the same price. That price doesn't even include the wood. There are cheap Chinese copies available but I prefer my components to be made from steel rather than cheese. This seems to me a lot to pay for a couple of handwheels, some threaded rod and a few nuts and bolts so I decided to make my own.

I began by sourcing the metal components. I used M14 threaded rod rather than the 20mm in the kits but this is more than adequate for the sort of work I plan to use it for, handwheels came from Ebay and needed to be drilled and tapped to M14, and the 12mm nuts bolts and washers came from Screwfix. The M14 domed nuts are an added optional safety feature and the handwheel handles are also optional. All these parts including the optional extras and the M14 taps to thread the handwheels cost me less than £50.



The wooden components were made from offcuts of various hardwoods that I had in the workshop and consist of front and rear jaws, two supporting sections and a “bench top”



The front support has extended ends so the vice can be clamped to the bench with hold downs or cramps. The two supporting pieces are glued and dowelled to the “bench top”.



The rear jaw is bolted to the body of the vice with three M12 bolts so it can easily be replaced if and when it becomes worn or damaged



The only turned parts are the bench dogs which fit into holes drilled into the tops of the jaws and the vice body.



The threaded bars are fastened to the rear jaws. The nuts at the front are recessed into the face of the jaw.



Normally the jaw opening required will only be a couple of inches, but I left sufficient threaded rod to the rear of the jaw so that it can be extended if necessary, to increase the jaw capacity.

The front jaw slides freely on the threaded rod and is tightened by spinning the two handwheels. The handwheel handles are an optional extra and the vice works perfectly well without them, they just give a little extra grip for tightening if needed. The dome nuts are also optional and are there to prevent injury from the ends of the threaded rods.



An M14 flat washer behind the handwheel is necessary to minimise wear. Without it the handwheel would soon wear the wooden jaw body.



As a working tool the vice does not really need a finish but I added a light coat of Drechseln und Mehr Natur-Öl as protection. The finished vice is held to the bench with a pair of hold-downs. It does not need to be attached to a workbench but could be clamped to any suitable flat surface

