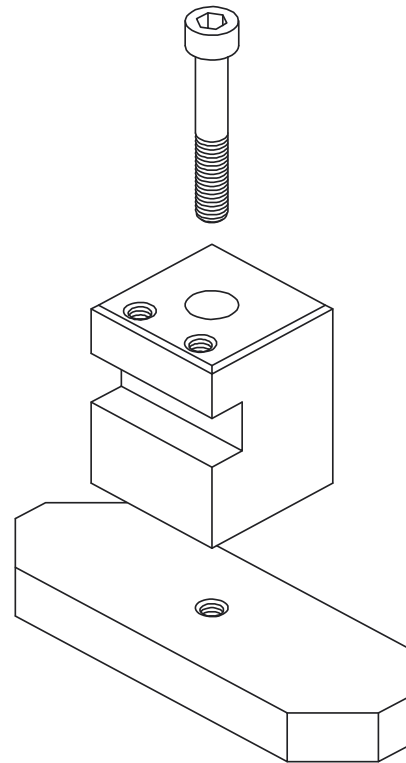


Free-Hand Turning on the Taig Lathe

by Keith Brooke

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Often there are occasions when you want to cut a profile that is hard to do smoothly with etch-a-sketch-like hand cranking of the carriage and cross-slide. What you really want is a way of holding the cutter mechanically rigid at the spindle center line on the Z-axis while moving it smoothly by hand on the X and Y axes. It should be as easy as changing a cutting tool and without the bother of setting up a tool rest to use a graver. This article describes my technique for doing this kind of operation.



A Free-motion Tool Post

This is simply a standard Taig tool post shortened to allow it to be mounted on a flat base which can be pushed around on the surface of the cross-slide by hand. The base projects to the front and rear providing a toe-like solid support directly below the cutting point of the tool. Any stock or custom cutter can be mounted pointing whichever way gives the best approach for left or right hand movement. It can be shimmed in the normal way to cut on center and will not tilt or alter its height in any way under load.



Making It

You need a Taig tool post, a 3" length of 3/8" x 1" bar stock and a 1 1/2" long 10-32 socket head cap screw. Cut 3/8" off the bottom of the tool post. The easiest way is to hack-saw off most of it and face off square to length in the four jaw. Chamfer the ends of the CRS (or not, as you choose), drill a hole in the center and tap 10-32. Attach the tool post to the base and you're done.

Using It

The photos tell it all. Just about any cutter can be used for convex arcs. Taig's round-nose shape is pretty good for concavities.

