

Sharpening Taig Tools the Easy Way

by Keith Brooke

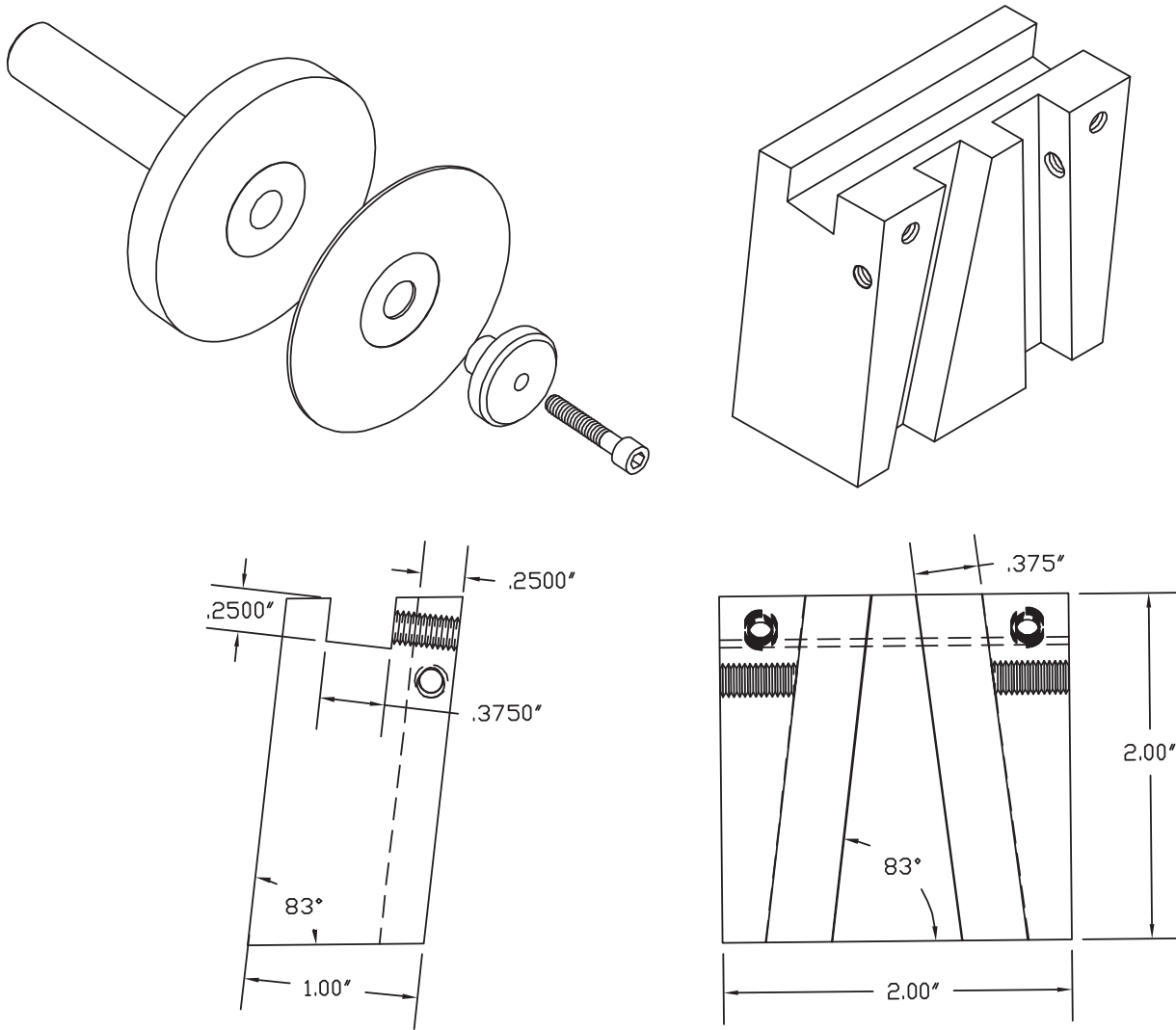
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I've often seen in catalogues those wheels for tool and cutter grinders, the steel flaring cups coated with cubic boron nitride (CBN) for high speed steel or diamond for carbide. In home shop practice, diamond works perfectly well for both but is very expensive in the industrial versions. In recent years, however, there have come on the market small diamond wheels that work beautifully as cup wheel substitutes when mounted appropriately. The 1 3/4" diameter size is just about ideal for Taig tooling, lasts a long time and, where I live, sells for less than five dollars.



At left is the product I'm talking about and above the mounting for it's intended use in radial cutting. Below is an alternative arbor designed to provide support for combined radial and axial cutting when used in the same way as a cup wheel.





With the wheel mounted, a simple aluminum jig allows the grinding of all edges of both right and left turning tools. With it, and a drill press, you can make high speed steel cutters from scratch or sharpen both HSS and carbide as needed. You get exactly the same angle

every time so a minimum of material need be removed.

This one jig handles probably 80% of my sharpening. But other jigs are easily made to suit the other cutters one needs. For example, I made my own set of boring



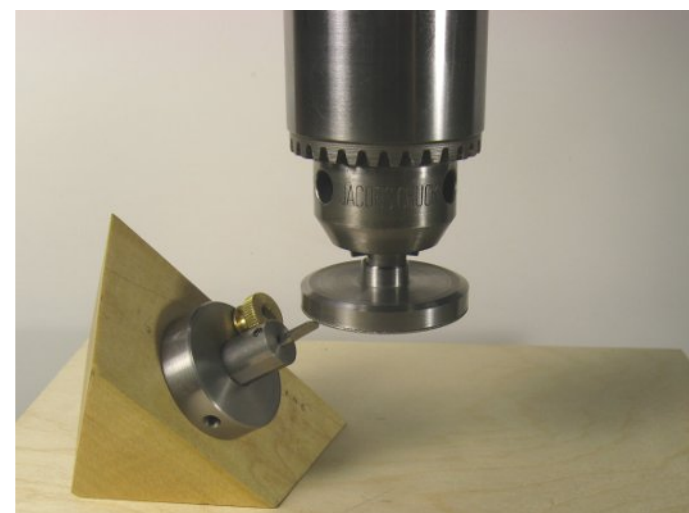


bars which take custom cutters in three different sizes. These could be a nightmare to make and maintain without a jig. To hold them, I made this simple adapter and set of bushings to accommodate 1/8", 3/16" and 1/4" HSS round and square tool bits.



I make bases out of maple to hold this adapter, bushing and cutter in whatever orientation is needed. The one I use to make and sharpen each of the boring bar cutter's edges is shown here. Such bases can be made for

whatever bizarre set of angles a cutter may require. Once made, you get the same angles each and every time.





The idea for these bases came originally from an end mill sharpening jig I bought. The diamond wheel is especially good for end mills because it holds the perfectly crisp edge needed to get right up to the center cutting gash. Unfortunately, the purchased jig will only do the primary end angle and not the secondary or gash angles. But even doing just the primary angle a few times dramatically reduces the cost of end milling.

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