

## Special Ring Tools

To widen the hole in the wood blank to fit the ring insert, you can make a special tool. The first option is a 3/16" square tool steel cutter ground as a square end scraper mounted in a 1/2" diameter rod holder that can be held in a handle adapter. Figure 1 shows the 3/16" square bit grind and the 1/2" tool holder. This type of tool is more flexible because several different cutter profiles can be used in the same 1/2" rod holder. However, it requires some machining. The second option is a 3/8" or 1/2" wood chisel that is reground with the same grind as the first option. The reground chisel is a single purpose tool, but only requires grinding to make it. Figure 2 is the unground chisel, Figure 3 is a top view of the reground chisel and Figure 4 is a left side view of the reground chisel. The grind profile is the same scraper shape for both tools. It has a 70° bevel ground on the end and the left side so it can cut in both places. This is necessary to produce the required flat sided hole with a square bottom shoulder. You can sharpen either tool by honing the top surface.

To make the cut, position the tool parallel, both vertically and horizontally, to the centerline of the hole you are going to widen. Start with the tool about 1/16" into the hole and slowly move to the left to start scraping. Widen this first 1/16" until the ring blank fits with a very small amount of movement. Then increase the hole to a little more than 1/4" deep to the same width. Be sure to slowly sneak up on the correct diameter so you do not accidentally make it too large and create a sloppy fit. When widening, it is easiest to watch your progress at the 4 o' clock position of the hole instead of where the tool is making contact. The best fit allows the ring blank to easily fit into the hole just a little deeper than the width of the ring blank, but can also easily be removed. If it is hard to remove, the fit is too tight and the CA will take longer to cure.



Figure 1. Specially Ground Tool



Figure 2. Wood Chisel



Figure 3. Top View of Chisel Regrind



Figure 4. Bottom/Left Side View of Chisel Regrind