

Making a Corner Radius Tool For a Lathe, Version 1.0

By **R. G. Sparber**

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Recently I was blown away by the idea of using a corner radius end mill on a lathe presented by “Retro Steam Tech” of Homemadetools.net. I immediately went to eBay and bought a corner radius end mill. Great price but it appears it will be hand carried from China so I won’t be able to play with it for a few weeks.



That got me thinking about making my own corner radius tool. The radius here is about $\frac{1}{4}$ inch. The cutter is made from water hardened rod but since I’m cutting aluminum, I didn’t harden it.



After sawing off a 2-inch piece of rod, I clamped it into my small vise which was then clamped into my drill press vise. I chucked up a piece of $\frac{1}{4}$ inch diameter rod and lowered it into the gap between the vise jaws. This gave me my center. Using plenty of CoolTool, I drilled this divot with my spotting drill.

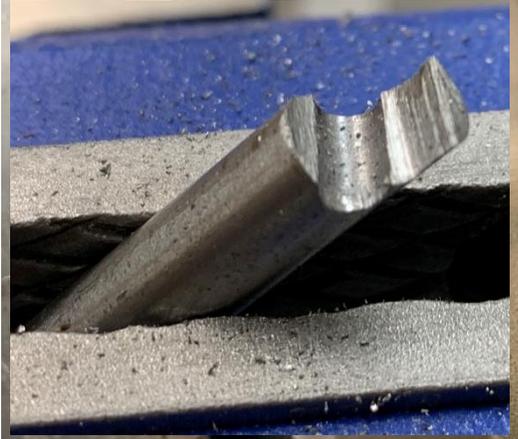
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Next, I cross drilled with a sharp 1/8 inch drill. Used plenty of CoolTool.



Using my bandsaw in the vertical position and the rod still in the small vise, I sawed away excess metal.



I know it looks ratty but just wait.



Using a fine file $\frac{1}{4}$ inch in diameter, I cleaned up the cut.



A little work on my bench grinder to form the relief and some clean up on my belt sander did wonders.

I now have front and top relief for my curved cutting edge. It is far from perfect but good for a proof of concept.



This cutter rounds the inside of a bore,

And the cutter shown on page 1 cuts the outside of round stock.

These cutters should give me some practice before my rounded corner end mill arrives.

I welcome your comments and questions.

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