

# Making a Really Nice Nut Driver, version 1.1

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**By R. G. Sparber**

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Once in a while, having a 2-56 nut driver would be really nice. I get the urge just often enough that I can't justify the cost. But what if I can make one out of scrap material and have fun doing it? Well, that certainly sweetens the deal.

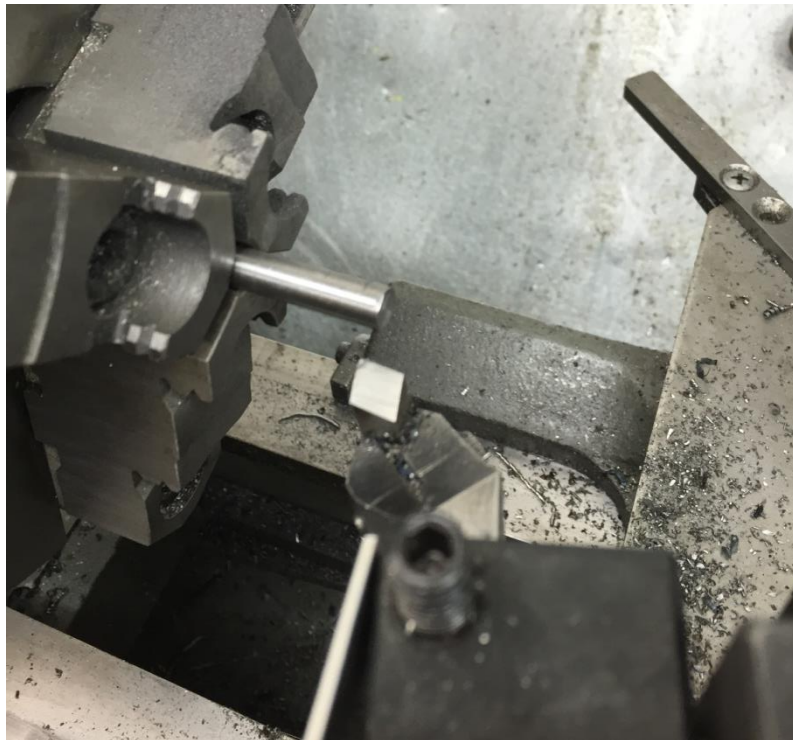
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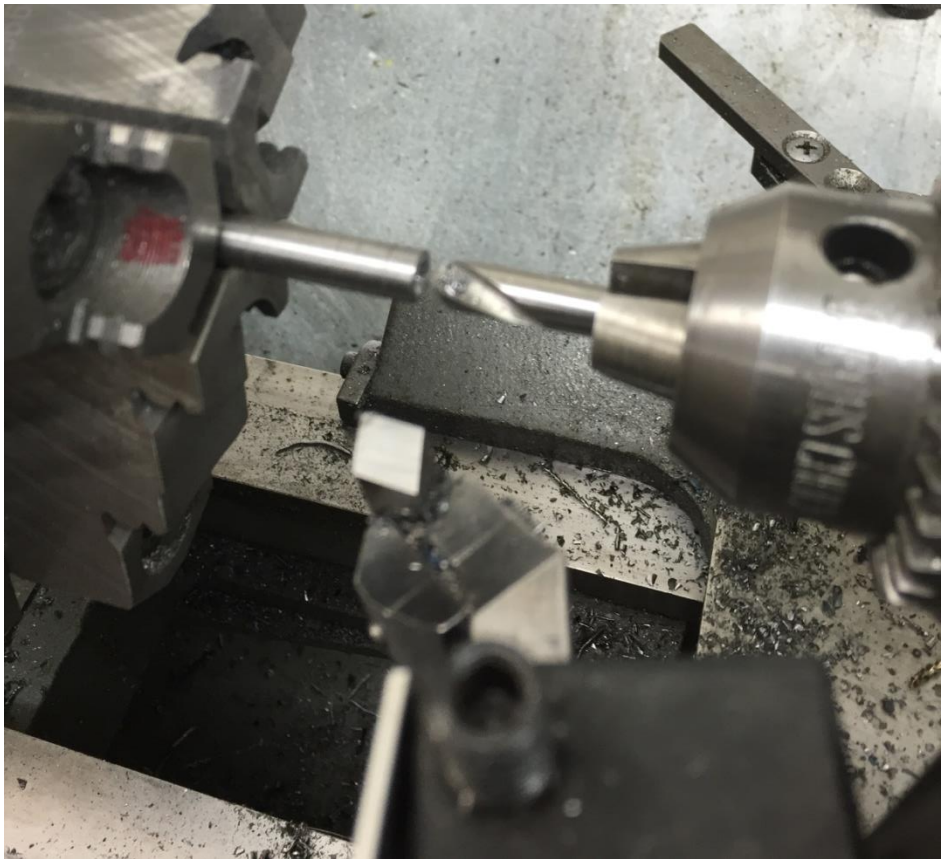


The first discovery was that I had a hex drive bit that was the same size as a 2-56 nut. When I measured the flat to flat distance, it turned out to be 0.185". That is also the same as a #13 drill. All I then needed was some scrap 1/4" diameter mild steel.

I'll explain the drill size selection later.



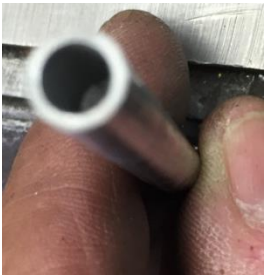
I chucked the steel into my lathe and faced off the end.



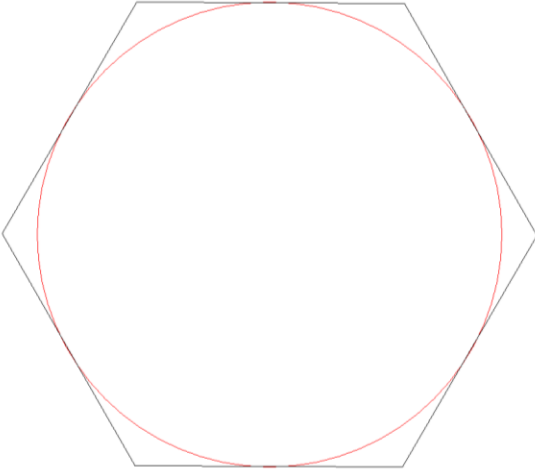
Then I used a spotting drill to cut a cone shaped hole. This helps to steady the #13 drill that comes next.



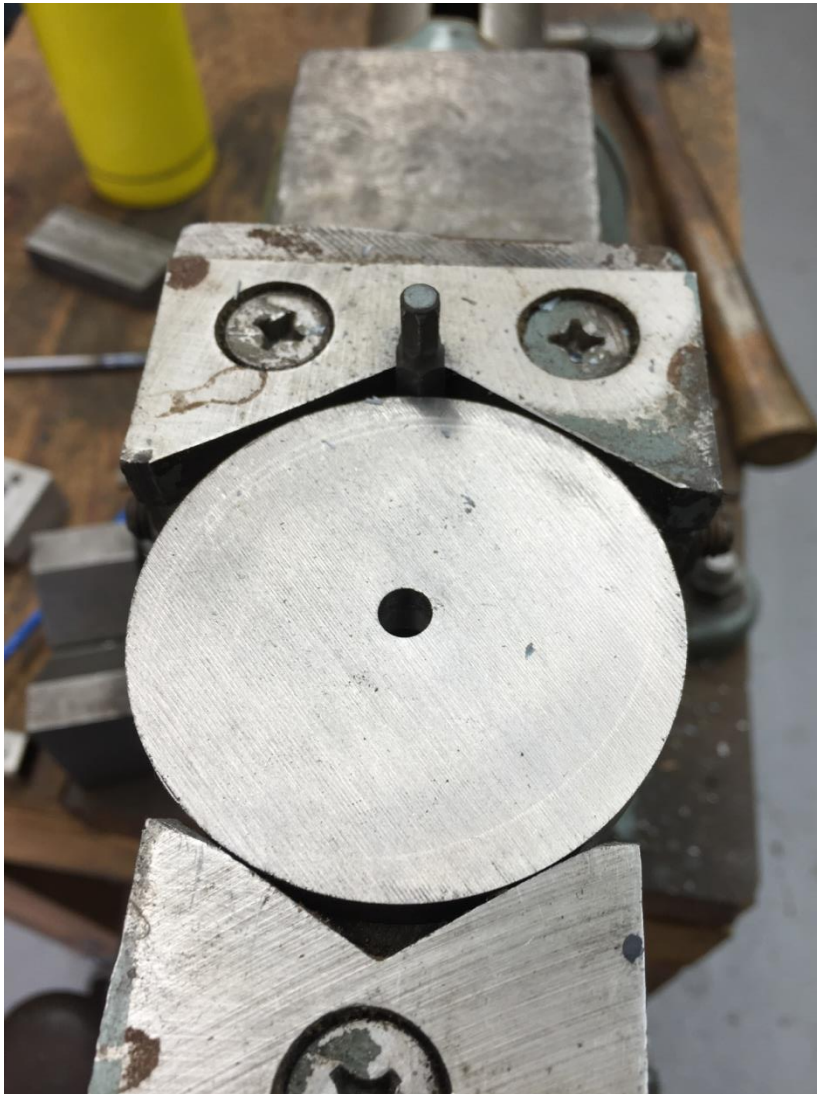
I drilled in about 1/2". At this point, I had a wall thickness of  $\frac{0.250-0.185}{2} = 0.033"$ .



Here is an end view of the rod.

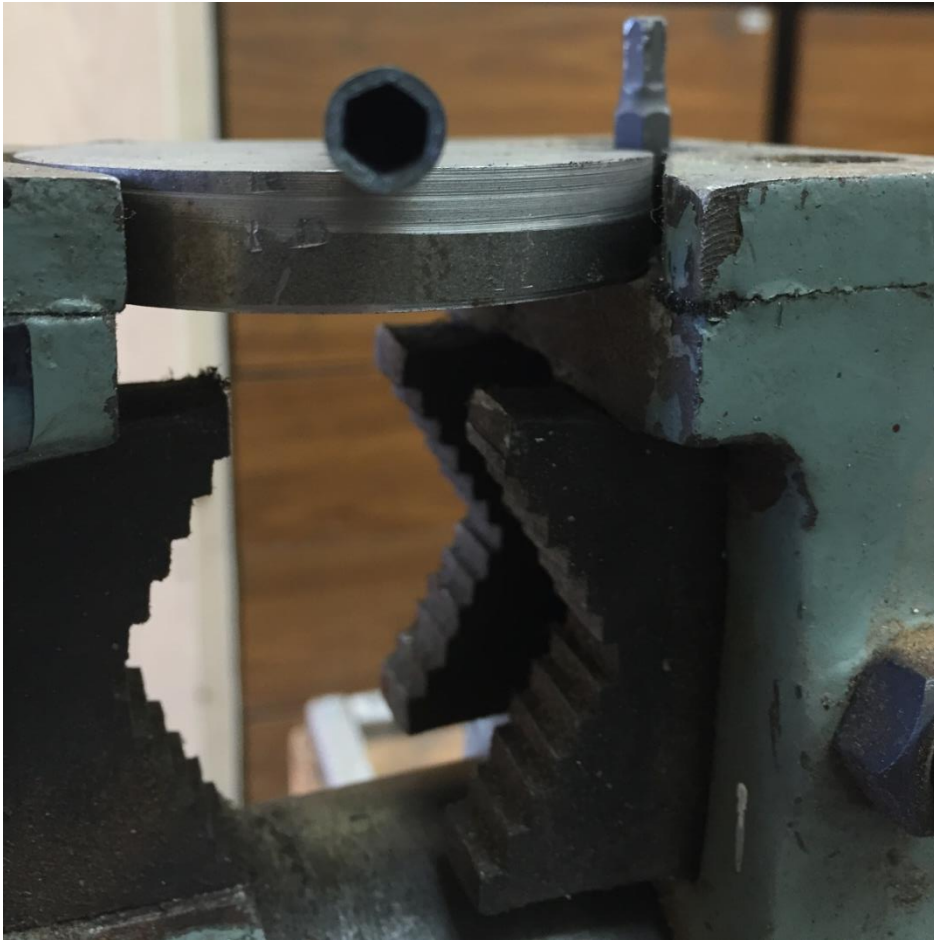


The red circle represents the hole I just drilled. The black hexagon represents the recess I want when I'm done. I just needed to mush around a bit of metal to get this to work. I do not need to remove more metal.



My bench vise has an odd set of jaws on the "bottom" side which lets me grab round things. This let me put the hex drive in the fixed jaw V and secure it with a round piece of scrap steel. In this way the hex drive is securely held vertical plus can't slide down because the vise jaws are supporting the end.

The end of the 1/4" rod was heated with my MAPP<sup>®</sup> torch until cherry red. Then I hammered it onto the hex drive bit. Alignment was by eye.



Here is a side view of the bottom jaws plus how the hex bit is secured. You can also see the formed hex drive.



A few seconds on my polishing wheel and the results look almost store bought.

For now, I am happy with having the nut driver without a big handle on it. That may come later.

## Design Improvements

Karl\_H of [homemadetools.net](http://homemadetools.net) came up with two brilliant design improvements:

*“I suggest that you start the drilling (after the center drill) with a hole to provide #2 free fit so you have a hollow shaft to use on longer bolts.*

*Also, it is worth considering adding a counter sink to the end to help with alignment<sup>2</sup>. This could then be faced off after the hex is formed.”*

If you make improvements to this idea, please let me know and send pictures! I welcome your comments and questions.

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<sup>2</sup> Karl is referring to alignment of the shaft to the hex bit while forming the recess.

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Rick Sparber

[Rgsparber.ha@gmail.com](mailto:Rgsparber.ha@gmail.com)

[Rick.Sparber.org](http://Rick.Sparber.org)

