

Drilling a Hole In the Center of a Rod without a Lathe, Version 1.0

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Without a lathe, drilling a hole dead center in a rod is hard to do. Making the hole follow the major axis is even harder.

Well, here is a trick that might be of help.

Say I want to drill a 1/8-inch diameter hole in a 1/2-inch diameter rod.



The best accuracy will be achieved if you have a drill press to make the tool. If not, a hand drill and bench block will do.

I'm going to drill a 1/2-inch hole in a piece of scrap aluminum. The hole will go in about halfway.

If you think you will use this tool again, consider making it from mild steel.

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I want to have at least 3/16-inch of bore. The drill will provide a cone at the bottom of the hole.



Next, I chuck up a 1/8th inch drill. Using the bottom of the cone for alignment², I drill through. The custom tool is done.



I clamp the bar in my vise.



My custom tool will fit over the end.



² The two drills should have the same included angle in their points.



With my 1/8th inch drill chucked into my hand drill, I use my custom tool as a form of bench block. It gives axial and radial alignment.



Not too shabby.



I had previously faced this piece in my lathe, and you can see a series of concentric circles that confirm the hole is centered fairly well. The hole should be as well centered as the point of the 1/2-inch drill.

To check axial alignment, I fit the end of the drill bit into the hole and placed it on my reference plate. It should be as good as my drill press alignment between the spindle and the table.



I'll let you be the judge.

I welcome your comments and questions.

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