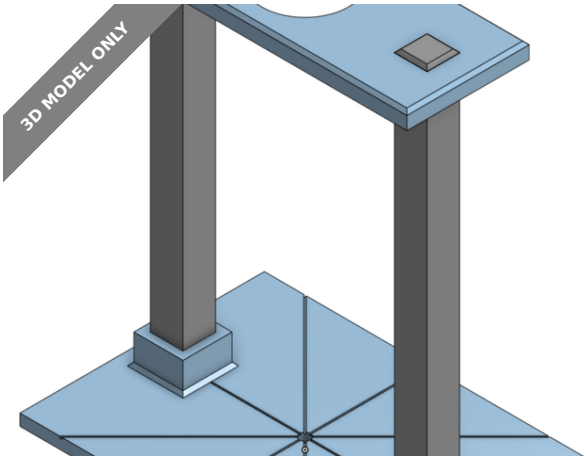

Drill Press for Dewalt drill

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VIEW IN BROWSER

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Summary

A manually operated drill press/guide that is designed to be simple to print & operate. Sized for DeWalt 20V drills.

Hobby & Makers > Tools

Basics

I wanted a drill guide that was closer to a drill press, in that it had a solid base that could be clamped down to a workbench for use. I saw a bunch of really complex versions with hand cranks, etc, and I didn't have the time or patience to deal with them.

Design

The model consists of a base, a pair of 20mm wide extrusions, and a gantry that slides up and down while supporting the DeWalt cordless drill. The central hole has a slight taper to force the drill to “wedge in” and not move. **For that reason, I added a chamfer to the top face so you can tell which side goes up.**

The baseplate has a 1⁄4 in hole in the center as well as centering grooves that are 1mm deep. (I also threw an N for Nikhil on there since I was rather proud of myself.) If you want a bigger or smaller hole, you can just Boolean cut with cylinders in PrusaSlicer. I have included two lengths of the

extrusions for added stability when you don't need a lot of vertical travel but remember to account for your drill bit and chuck length.

Print Setup

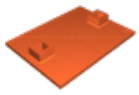
I advise printing in a strong material and using around 15% infill. I used grid, and the end result is very sturdy. For the gantry and baseplate, I highly recommend 4 perimeters to guarantee structural rigidity.

The baseplate and gantry are designed with a 0.1mm clearance in the extrusion sockets (they are 20.1 mm square vs the 20.0 mm square extrusions). **If your printer or filament lacks dimensional precision, you may need to print a small test section of the extrusion and scale accordingly.**

Version History

- v1.0 - Initial version.
- v1.1 - PLANNED: Add a solid gantry with a tiny center hole to allow you to boolean cut the exact diameter for your own drill.
- v1.5 - PLANNED: I plan to add a collar with a hole for a thumbscrew to act as a bottom stop to limit drill depth. I probably will not screw with threaded inserts (pun intended) as I just don't want to spend the money buying them.

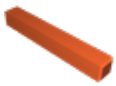
Model files



baseplate.stl

gantry.stl

extrusion-250mm.stl



extrusion-150mm.stl

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