



## Pocket Hole Jig w/ sleeve bearings (openscad)

 renschler

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### Summary

I made some modifications to the original design by Spoonless <https://www.thingiverse.com/thing:1489845> I set the...

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I made some modifications to the original design by Spoonless <https://www.thingiverse.com/thing:1489845>

I set the pocket hole angle to 18 degrees. (Still not sure what the best angle is).

I added measurements on the top of the jig, so when you are drilling into a board of a given thickness, you align the line for that thickness with the edge of the board.

I added a penetration depth parameter, this allows you to set how much of the board thickness you want to drill through. The default is 60% so if you use the measurement lines on the top of the jig, your screw will come out 60% of the way down the board's thickness.

I'm not sure what the best penetration setting would be for the best joints.

You can further tweak things in the openscad file, you can uncomment the section to visualize the drill bit when it's inside the jig. This is useful for

making sure you have the right length sleeve bearing, and that your drill bit is long enough.

I use a 3/8" pocket hole drill bit.

Here's the depth stop I have on my drill bit: <https://www.thingiverse.com/thing:2783491>

I used oil embedded bronze sleeve bearings from McMaster-Carr in this jig <https://www.mcmaster.com/catalog/125/1232>

Inner Diameter = 3/8"

Outer Diameter = 1/2"

Length = 7/8" or 1"

The fit is fairly tight so I just pressed them in.

When I use the pocket hole jig, I first set the depth stop collar on my drill bit so that the bit comes 1/8" of an inch from penetrating out of the board (as shown here <https://www.woodmagazine.com/woodworking-tips/techniques/joinery/pocket-hole>). I have a picture attached that shows me aligning the drill bit next to the board - I should have pulled the bit back a little so that the tip of the bit is at least 1/8" away from the edge of the board.

Print Settings:

I printed in PLA with 0.2mm layer height. But I can't remember what infill I used. Probably 20-25%...

The length sleeve bearing length you want will depend on the penetration setting and angle that you set. You basically want the longest length possible that doesn't peak out the bottom of the jig. To visualize you can uncomment the section in the code that says "uncomment below to visualize drill bit" and you can play with different length drill bits.

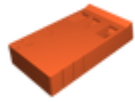
I would advise printing a single hole jig first to make sure the bearing fits, this will probably vary printer to printer. I attached a single hole jig STL, but the openscad file gives you freedom to tweak everything if it doesn't work.

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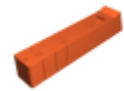
## Model files



**open\_jig\_renschler.scad**



**pocketholejig\_3\_8ths\_18degrees\_06boardpenetration\_3... .stl**



**pocketholejig\_3\_8ths\_18degrees\_06boardpenetration\_1... .stl**

## Other files



**sources.txt**

[Find source .stl files on Thingiverse.com](#)

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