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Project: Drying Rack

Overview: This drying rack pushes flat against the wall and extends out to withstand the weight of wet towels. Great for limited space areas. Simply screw into the studs of the wall and let this rack hang out of the way when not in use.

Materials: 3/4" Baltic Birch Plywood
12- 1/2" dowels 24" long

Minimum Cutting Area: 28"x41"

Bit Size: 1/4"

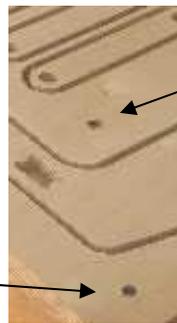
Finishing: Minwax Wipe On Polyurethane
and Minwax Spray Polyurethane



Always read the entire project details before starting to cut the file yourself

Account for the thickness of the physical material on hand and the material thickness in the file

This file is zeroed to the tables surface, Zero your bit to the tables surface



As the file starts cutting the profile of the parts make sure the cut is going all the way through the work piece and into the table surface. If you need to adjust any part of the file make sure you do not remove the hold down or you will loose position.

Included with the cut file is a hold down toolpath that shows where it is safe to put screws. Run this file separately from the cut file so you can screw down the work piece, or if you have a different size board or different type of hold down disregard the file.

Tab are use to hold all the pieces to the scrap wood attached to them. Use a utility knife to score these edges. Never try to push a piece out without cutting the tab, it will tear the grain on your project. Sand remaining tab flat.



Before assembly takes place route needed edges with a 1/4" roundover bit and thoroughly sand all of the parts to this project.



Cut 11 of the dowels to the distance in-between the to sides. Add the distance of each hole depth to the length of the final dowel to be cut.



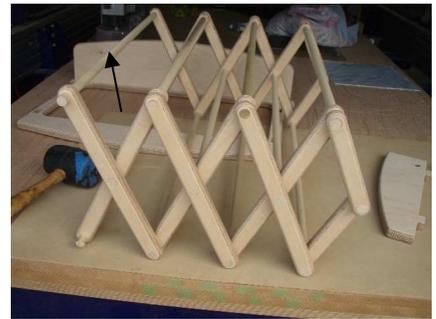
Here is a close up of how the 11 dowel lengths should be measured. Just to the inside of the sides. The final (12th) dowel is this length plus the depth of the two holes it goes into.



Start assembling the 11 dowels and slats. Notice the short slats go towards the front. Start assembling here by building one side then going to the next.



The longest dowel should be the last dowel inserted into this assembly.



The longest dowel goes into the top of the assembly. There should be dowel sticking out on each end past the slats. This is what will stick into the sides.



This is the where the longest dowel should go. Match this image to the next one to see why the long one goes here.



The long dowel will go into each side, that is why the longer length is needed to hold the project together.



Check that all of your dowels are flush with the slats except for the bottom two. If they are not, one can use a rubber mallet to get them close then touch them up with a sander.



Pushing the dowels flush with the slats with a rubber mallet.



A pin nailer can be used to help hold the outer slats in place.



Before assembling the back half of the project rub all the parts with several thin coats of Min-wax WipeOn polyurethane. The folding dowl fixture can be opened and closed and sprayed with polyurethane.



Lay the pieces out like shown above after the finish has had some time to dry. The next step will be assembly so make sure everything is in order.



Fill the bottom of the mortise slots with glue. A small brush is useful to spread the glue on all edges of this joint to ensure a proper glue joint.



Push the two sides onto the dowl assembly.



Then push the tenons on the side pieces into the mortises on the back piece.



A rubber mallet may be needed to push the assembly together. Also check for excess glue that has pushed out.



Attach the top in the same fashion as the side pieces by gluing the mortise and tenon joints together. Also add some glue to the top edge of the sides.



Let the assembly dry before pushing and pulling the dowels out. One will simply pull it all apart if the glue has not setup.



The drying rack will store flat against the wall when the dowels are all pushed in.



Pull the center dowel that is farthest away from the back of the project. It will bring all of the dowels out together.

Things to consider when cutting your own file is how you are going to mount it to the wall. Depending on the wall type you are mounting to one might want to modify the size of the back piece for stud spacing, masonry wall, etc.

