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Project: Smoker

Overview: Smoking meat has been around for hundreds of years. Now with this simple smoker one can bring back to life the ancient methods of preserving meats and adding the smoky flavor.

Materials: 3/4" plywood, 7-48" of 1/2" dowel, 24" of 1/4" dowel

Minimum Cutting Area: 4' x 8'

Bit Size: 1/4"

Finishing: There is no need to finish this project. The interior will be sealed up on its own by the smoke. The exterior will not be able to handle a finish due to the higher temperatures. Leave the exterior bare. It is recommended that the smoker be covered or under a roof if left outside for a long period of time.



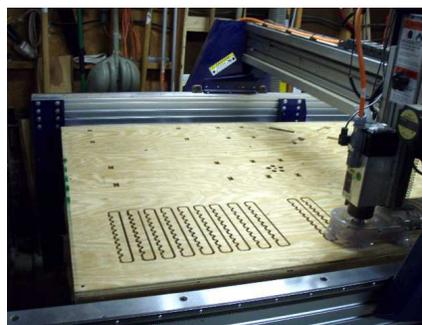
Always read the entire project details before starting to cut the file yourself

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



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.



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 lose position.



Tabs are used 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.



Start by gluing the main box together. Apply a heavy duty construction adhesive to all of the box joints along the edges.



Have clamps ready so assembly goes together smooth. The front piece has two openings, the larger one is up and the smaller one is down.



The right side of the assembly will have all of the pocketed pieces towards the outside.



Remember that the adhesive should be applied along all joints, this will help make sure the entire assembly is sealed up.



The top of the assembly has one set of holes in the center of its piece, this is for the vent.



Flip the entire assembly over and attach the bottom piece. The pocketed slots need to be facing up like the picture above shows.



The legs are doubled up for strength purposes. Glue and nail these pieces together.



Apply construction adhesive to all of these pockets before inserting the legs.



Push the legs into place by hand, also use a rubber mallet to ensure these pieces are seated all of the way into their slots.



Apply some weight to help keep the legs into place until the adhesive has setup.



All of the accessory pieces should be sanded before they are assembled.



Dry fit all of the hinge pieces to make sure they fit properly. After dry fitting apply some construction adhesive and start hinge assembly.



Attach the four hinge pieces to the right side of the smoke box. Push them into place and allow the adhesive to setup. Stainless steel screws can also be used from the inside to help pull this hinge into place and speed up dry time.



Apply the hinge pieces to both doors. Again, allow to dry or add some screws from the backside to hold the pieces together until the adhesive has had time to setup.



Custom cut some of the 1/2" dowels to each hinge assembly. This length will be determined by the actual thickness of the plywood used.



This should be a tight fit so a rubber mallet may be needed to push the dowels into place.



To help secure the 1/2" dowels into place, a 1/4" drill bit is used to drill a hole both above and below the hinge, and a short 1/4" dowel is inserted to hold the assembly together.



One long dowel can be used on the lower door instead of the two shorter pieces. See the overall smoker picture at the end of this assembly for full view.



There are four vents for this project, cut four 1/2" dowels to a length that goes into the box assembly, through the vent and enough length to install a 1/4" dowel to hold into place.



Glue the 1/2" dowel into all of the center holes on the main box.



Install the vent, add the 1/4 hole and make sure it turns freely.



Cut a section of 1/4" dowel so it can work as a handle.



An old grill thermometer works great or a new one can be bought at your local hardware store. A temperature of around 250 degrees is what will be needed for smoking so make sure the thermometer can read this.



A pocket hole may need to be manually drilled to accommodate the thermometer that is being used.



Center a spot on the upper door between the hinges.



To help ensure a strong handle drill a hole that accepts the 1/4" dowel. Then cut off the dowel flush with the handle latch.



A spring on the front side of the door will really help ensure a tight fitted door. Any spring that fits over a 1/2" dowel will work.



As done in the inside, drill a 1/4" hole into the outer handle, glue in the dowel and sand flush. This really helps add a strong latch to the smoker.



Once assembled this spring loaded handle will always keep the doors shut and tight against the smoke box. Simply pushing in and twisting unlocks the handle so one can open the smoker.



If you decide to use an electric burner, drill a hole in the rear side of the smoker toward the bottom.



Cut a round plug with a small groove in it to accept the width of the cable cord.



Reinstall the plug and push tight with a hammer.



The smoker is now together minus the racks. Space the racks out evenly on both sides and glue and nail them into place.



Either a charcoal or electric base is recommended for a burner for this unit. Propane has too much power and could lead to fire of the entire smoker.



Measure the distance between the smoker walls, take away 1/8" of an inch and cut all of the dowels to that length.



Cut as many dowels as one thinks they may use. Hanging jerky or sausage not as many will be needed. However if laying a chicken or pork shoulder one will want all of the dowels in place.



The insides of the smoker will char up and seal the wood together.



The vents on the side of the smoker will allow more or less airflow.



The vent on the top of the smoker regulates the amount of flow of smoke.



Place chunks of cherry, maple or oak on top of the coals to administer some great flavors of smoke.



Burn the smoker out several times before every applying food to the unit. All of the impurities need to be cooked out and a seal on the inside needs to be formed.

For someone that has no experience smoking meats needs some guidance before lighting up this unit. The www.smokingmeatforums.com is a great source for smoking enthusiast and rookies alike. A temperature of 250 degrees is the highest one would ever need while smoking meat. Another recommendation is wrapping the inner firebox with a stainless or aluminum material to protect the inside wood. Spend some time on the website, read, learn, experiment.... Smoking meat is a fun and rewarding hobby.

