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Project: Patio Chair

Overview: Assemble this chair with nothing more than a rubber mallet and a bottle of glue. This chair folds up for easy storage and transportation to ones favorite beach or camping location.

Materials: Exterior grade plywood 3/4"

Minimum Cutting Area: 48" x 48"

Bit Size: 1/4"

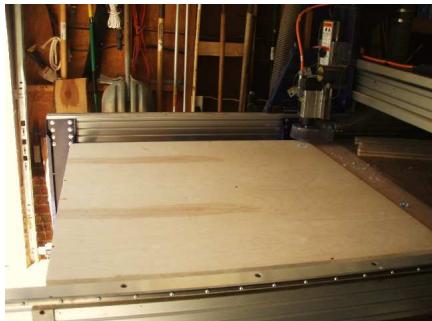
Finishing: Most people use this chair outdoors so Minwax SparUrethane is recommended for this project. Or for the end users who want to paint these to match their porch deco will should use an exterior latex based paint. Easy to apply and cleanup.



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.



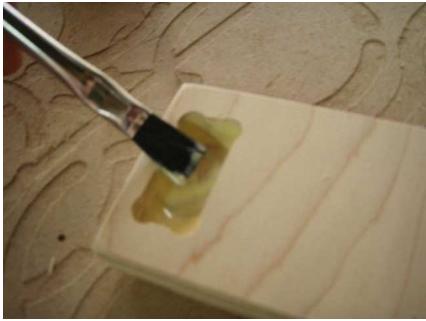
Routing a 1/4" roundover on all of the edges adds a lot to the look of the project and makes it nicer on ones hands when transporting the chair.



These chairs will be handled by many and sat on by many, a thorough sanding job on all faces and edges is highly recommended.



Fill the mortised pockets with a healthy amount of glue. This chairs will take a lot of abuse over the years, and without any outside fasteners the glue joints are the only thing that holds these chairs together.



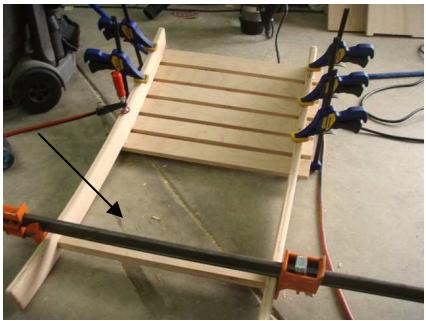
A small brush or your finger should apply the glue to all surfaces inside the mortise. This will ensure a properly glued joint.



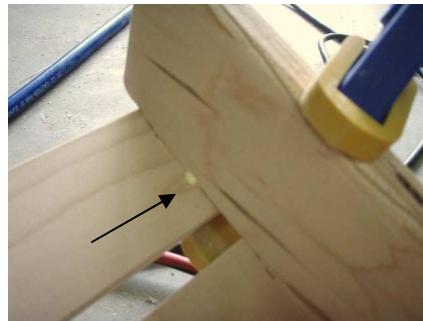
Start by gluing the back support onto the upper curved pieces. Clamp and allow glue to dry. Flipping the project over from here can allow wet glue to spill out of the dogbone corners on the mortise pockets.



Move over to the seat portion of the chair. Fill all of the mortise pockets and start pushing the chair pieces together. Note the distance of the pockets from the end of the slats. The ones with the longest distance are used on the seat portion.



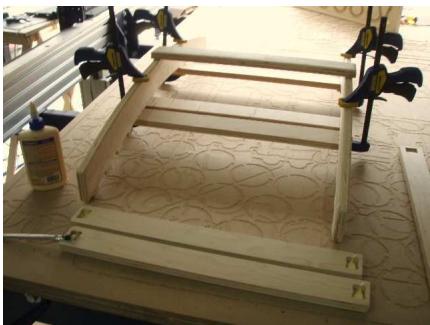
Add the lower support and clamp all of the pieces and let this assembly sit upside down while the glue dries.



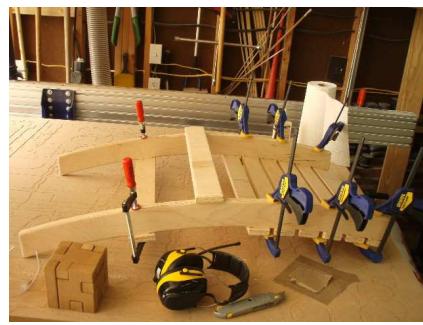
Excess glue is fine, just wipe it off with a damp towel. If you miss wiping the glue off and it dries, a sharp chisel will pop the glue heads off from your project.



After the back slat has had time to setup, flip the assembly over and prepare to glue up the remaining parts of the chair.



Work your way from one side to the other filling the tenons with glue, spreading the glue with a brush and applying a clamp to hold the pieces together until the glue sets up.



Clamping pressure should be kept on the assembly for a couple hours, this also means the chair should lay like it is pictured above during this time so glue does not run out of the dogbone corners.



Ideally painting this chair would be easier done before assembly, it is easier to get to all of the pieces. However, it is not too much extra work to stain or paint the project after it is assembled. One can also venture into the spray finishes.



Once all the glue has setup, push your chair in to place and pull apart making sure everything looks and feels right before you sit on it.



Two chairs can easily be cut from a 4' x 8' piece of plywood. Simply increase the quantities in the file and re-toolpath.

This chair design was found on Minwax.com and that originally came from American Woodworker Magazine. It is recommended to look up how this chair was traditionally cut, with the long band saw curves, and all of the countersinking and plugging. It really helps one appreciate the world of CNC and what the ShopBot is capable doing.

