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Project: Marble Madness

Overview: Create a marble game to keep your family and friends entertained during different gatherings.

Materials: Any wood you can get that is 1.5" thick. Poplar was used for this example. Also one marble 1/2" to 5/8" diameter.

Minimum Cutting Area: 18"x18"

Bit Size: 1/4"

Finishing: The wood is sealed with Minwax Spar Urethane. A bristle brush, foam brush or piece of clean rag make it easy to get down in the grooves to apply a nice coverage. The Plexiglas does not need any finishing.



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



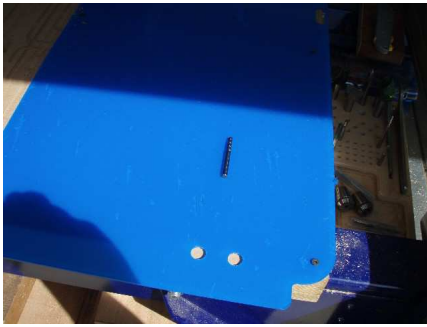
If you have a 18"x18" blank you can safely run a screw into each corner of your work piece, since you will be cutting a circle the screws will be far away from the cutter.



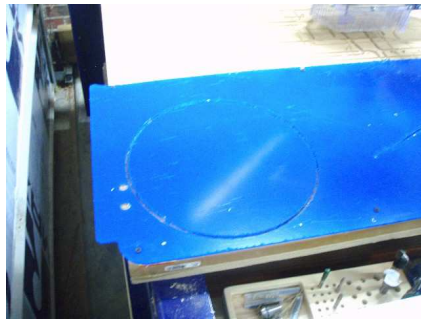
Keep your eye on the project, anytime you are cutting a file for the first time make sure it is dialed in for the machine you are cutting it on.



Once the piece has been cut, pop it out and sand all of the edges and faces. Make sure it is smooth for the marble to move around on.



Clear plastic or Plexiglas can be used for this project. This was cut from a scrap piece, if your thickness is different then the one described in the file simply change the depth. 1/4" "O" flute from the router bit starter kit is used here.



Plastic need to be cut at a much higher RPM. Note the feeds and speeds in the file and also follow manufactures of the plastics recommendations.



Before applying the finish it is a good idea to route all of the handles and outside edges of this project with a round over bit. This will make the project more comfortable to handle.



Finish the material with several coats and make sure all of the grooves are stained, once the glass is installed you will not be able to get back into this area.



Make sure your marble floats around your project freely before moving to the next step. This project can be upsized or downsized depending on the size marble you want to use. Up to a 5/8" diameter marble will work for this file.



No glue is used for the glass because it will show through. Make sure the glass or plastic is clean on both sides before installing.



A rubber mallet may be needed to push the glass or plastic down into the groove. Try not to scuff the material.



If desired, screws can be added to help keep the glass seated. Evenly space as many holes as you want and predrill the plastic or glass only.



Use a small wood screw to push down into the wood material and hold the plastic in place.



As seen above the marble game is complete. There are four screws, once centered over every handle. Some small brass screws were used to help add to the “eye” appeal of the project. Remember to route or sand all the handles so it makes the project more comfortable to use. One idea is to cut two of these projects and have races to see who can complete the puzzle before their competitor.

Marble Madness PartWorks
Marble Madness Toolpath
Plexiglas Circle PartWorks
Plexiglas Circle Toolpath