



This Free Next Wave CNC project is a nautical themed Lazy Susan. With 2 glue ups, and 8 machining operations.

The samples were made using cherry and maple however, you might use a hardwood of your own choosing. This is a nice project to give as a gift or make for yourself.

The Instructions, crv.files are found on Next wave Automation Website nextwaveautomation.com This project is aimed at the woodworker with moderate skills. You will need access to the

current version of V-Carve with updates, the tools are listed below.

The main topics today are:

- Project Materials
- Designing
- Machining
- Finishing and Assembly

Project material list for Marble Game:

- 2 - 18"x18" hardwood blank

Project Tool List:

Tools that you will need for this project are:

1. 1/4" up spiral bit
2. 60-degree V-Bit
3. 1/8" up spiral bit
4. 1 1/2" surfacing bit

Project CNC Files:

- LAZY SUSAN VCARVE.crv
- Lazy Susan base.crv

Project: **Lazy Susan**



Creating the Tap Files:

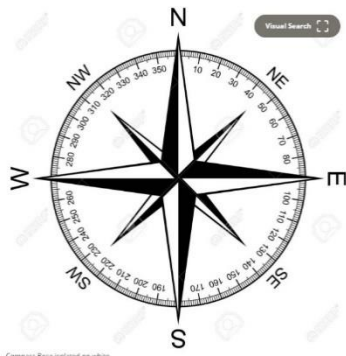
With the V-Carve software, open the project CNC files. Carefully review all the toolpaths and make necessary changes to suit your tools and machine. The toolpaths are currently set with tool, feeds and speeds that were used in designing the original project. Be sure to review them for your machine. Edit the tools and change the settings to fit your own

machine and requirements. It is very important to recalculate all toolpaths after making any changes. Once having made the necessary recalculations for your own machine and tools, reset the preview, and then preview all toolpaths, again, to visually verify the project outcome. Create the tap files for your machine by using the correct post processor. Once satisfied with your settings, save the tool paths using the appropriate post processor for your machine. Check tool paths by air cutting the project or use rigid foam board to run a sample tool path. Now you're ready to make your own **Lazy Susan!**

Designing information:
Step 1: Design

This month's project is a Nautical Themed Lazy Susan. This is be an 18 x 18 Lazy Susan. We're going to create a new file.

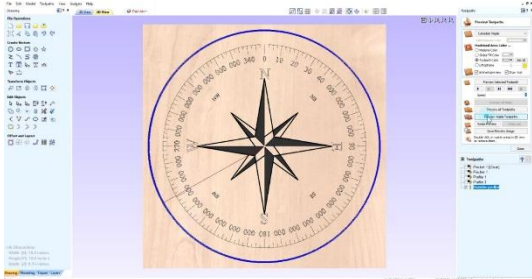
- 18 x 18 x 0.75 of an inch thick. Single-sided job
- the material surface for the Z position
- X and Y datum position is in the center



After a little research and I found some pictures of compass points to get an idea of how to place the points, number and letters.

First, bring in a bitmap of the compass.

Project: *Lazy Susan*



Then, using the bitmap as a guide, design your Lazy Susan. For details on how I designed my Lazy Susan, watch the Lazy Susan Designing Video on nextwaveautomation.com. So, we're done designing our board. It's ready to go



Step 2: Machining the Lazy Susan

Now that we have a 18" x 18" blank and our designing done. We are now ready to take our 1 ½ inch surfacing bit and surface the blank. We want the surface of our blank to be parallel with the gantry. So, when we do our v-carve, they all come out at the right depth.

The 1st bit, we use is a 1/4 inch up cut spiral bit this particular bit is used to cut out a lot of the area. So, we don't have to use a small v-carve bit to do it. After we have used the 1/4 inch up cut spiral bit, the 2nd bit that were going to use is an 1/8 inch up cut spiral bit. This is used to clean up all the areas. The 3rd bit that were going to use is an 1/8 inch up cut spiral bit. This is used to clean up all the areas, so that we have a very nice graphic inlay. That takes care of all of our machining of the graphic.

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Lazy Susan



The next machining operation we are going to do is to machine out all of the text, numbers and degree lines on the board. This is done with a 60° V bit. Load the program for the text. Last take a ¼ inch spiral upcut bit and machine the circumference of the Lazy Susan. That's the machining that we need to do for our top part.



The bottom is pretty simple. All we have to do is surface it with our 1 1/2 surfacing bit. Then pocket out an area of for the Lazy Susan mechanism with 1 1/2 surfacing bit. Pocket out 2 holes with a ¼ inch spiral upcut bit, do a profile on the circumference of the bottom with a ¼ inch spiral upcut bit. For details on how I machined my Lazy Susan, make sure you watch the Lazy Susan Machining Video on nextwaveautomation.com.

Step 3: Sanding and Finishing



Now the next step is to fill in the inlays letters and numbers, the inlays letters and numbers will be filled in with multiple coats of glitter and CrystaLac Top Coat mixture. After you have gotten good coverage with the mixture, we will put down 3 coats of CrystaLac Top Coat, allowing it to cure 4 hours between coats. The idea is to fill in the inlay area. After the inlay is sanded down flush with the rest of the board, apply 4 coats of CrystaLac Top Coat on both the top and the bottom.



The last step that we have in this project is the sanding and finishing. Now we surface sand the rest of our board lightly 220 grit sandpaper to knock down all the dust nibs. Seal with final coat of CrystaLac Top Coat.

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Step 4: The assembly of the Lazy Susan



Assemble the top, the bottom and the Lazy Susan mechanism. Install the Lazy Susan mechanism to the bottom. Then install the Lazy Susan mechanism and the bottom to the top through the access holes in the bottom. For details on how I finished and

assembled my Lazy Susan, watch the Lazy Susan Finishing and Assembly Video on nextwaveautomation.com.

Now you're done with your Lazy Susan and you're ready to use your Lazy Susan for your next get together.



I hope you enjoyed this project. I hope that I have created an interest in doing these kinds of projects. Until next time keep on carving

Rick Frazier