

# Project Tutorial

Featuring compatibility with nearly all CNC Machines

It is our pleasure to provide our customers with fun and useful projects to enjoy!

Vetric Project Tutorial  
www.vetric.com

Compatible with  
Current Version of:



Sample Carved with:  
**ShopBot Buddy**  
PRSalph BT48



## Peanut Shell Dish

Designed for Vetric™ by Michael Tyler

This Peanut Shell project features 2-sided machining and uses several new features introduced with Aspire version 8!  
*(See page 5 for a list of some of the new features used when creating this project.)*

The files are laid out for 5.5" -wide material. This was done intentionally so that all files could be machined from the same 1x6 board for CNC's large or small. The main idea was to "match" the grain when the part slices were glued together. Each material length for the sample was cut in succession from the same board and kept in the same order and grain orientation when placed on the machine bed. This is not essential to do, but I rather liked the 'grain match' effect. The finished dimensions are: 5" Wide x 13.2" long x 2.25" Tall

Main items you will need:

**1) The Project Files (included):**

- 1a\_Peanut\_Neg\_1.crv3d } File Pair
- 1b\_Peanut\_Pos\_1.crv3d }
- 2a\_Peanut\_Neg\_2.crv3d } File Pair
- 2b\_Peanut\_Pos\_2.crv3d }
- 3a\_Peanut\_Neg\_3.crv3d } File Pair
- 3b\_Peanut\_Pos\_3.crv3d }

**2) Boards with these dimensions:**

**Three Boards: 0.75" x 5.5" x 15"**  
*(Three two-sided carvings)*

**3) Two short 0.25" dia. dowels, glue, sandpaper, clamps, stain and clearcoat**

**5) A Dremel-type rotary tool with assorted sanding wheels and bits to sand small details and speed up preparation for finishing.**



Top View



Bottom View



Side View

**CNC Bits used for the Sample:**

- 0.25" Up-Cut End Mill
- 0.25" Down-Cut End Mill
- 0.125" Ball Nose

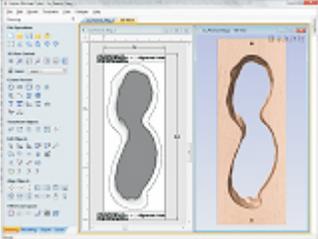
# Peanut Shell Dish

(cont.)

## STEP 1 - Open and Review the Project Files

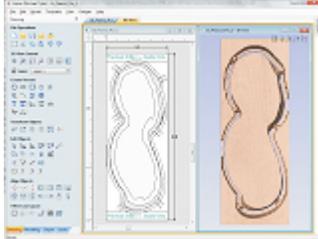
Start your Aspire software and open the project files. (fig. 1)

### Pair 1a-1b



**1a\_Peanut\_Neg\_1.crv3d**

Run this file first. Set Z-Zero at TOP of Material.

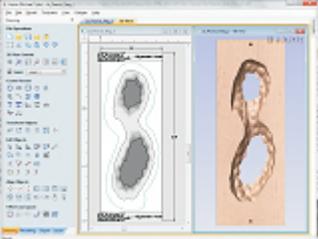


**1b\_Peanut\_Pos\_1.crv3d**

Flip over material, then run this file second (on the back of 1a). Set Z-Zero at the BOTTOM of Material.

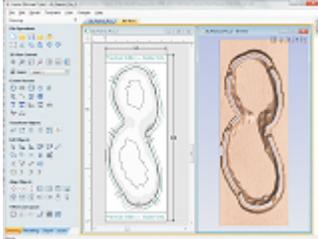
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### Pair 2a-2b



**2a\_Peanut\_Neg\_2.crv3d**

Run this file third. Set Z-Zero at TOP of Material.

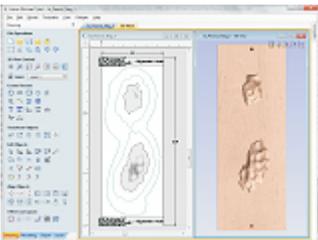


**2b\_Peanut\_Pos\_2.crv3d**

Flip over material, then run this file fourth (on the back of 2a). Set Z-Zero at BOTTOM of Material.

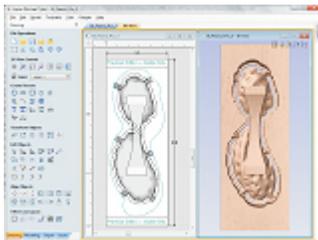
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### Pair 3a-3b



**3a\_Peanut\_Neg\_3.crv3d**

Run this file fifth. Set Z-Zero at TOP of Material.



**3b\_Peanut\_Pos\_3.crv3d**

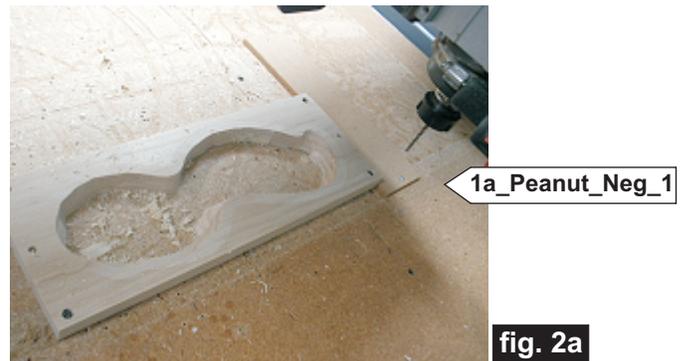
Flip over material, then run this file sixth (on the back of 3a). Set Z-Zero at BOTTOM of Material.

Carefully review all the toolpaths and make any necessary changes to suit your particular bits and machine. The toolpaths are currently set with feeds, speeds and pass depths that were used in creating the original sample. Please don't use them directly until you review them for your own setup.

You can edit the tools and change the settings to your own preferences and requirements. **It is very important to recalculate all toolpaths after making any edits/changes.** Once you have recalculated for your own machine and bits, reset the preview, then preview all toolpaths again to visually verify the project outcome on-screen.

## STEP 2 - Run the Project

When you are satisfied with your settings, save the toolpaths to the appropriate Post Processor for your machine, place your material on your machine bed and proceed to run the files in the order specified in Step 1. The files are arranged in 2-sided pairs. Run one pair per board. Pair 1a-1b, pair 2a-2b, pair 3a-3b (fig. 2a, 2b)



Machine the 1a\_Peanut\_Neg.crv3d file first. After machining that side, flip the board over across the (shortest) width. Insert the two alignment dowel pins into the holes in the spoilboard and replace the board onto the pins with the plain side up and re-apply your hold-down method. Run the 1b\_Peanut\_Pos\_1.crv3d file to complete the first pair. Repeat the process for pairs 2a-2b and 3a-3b

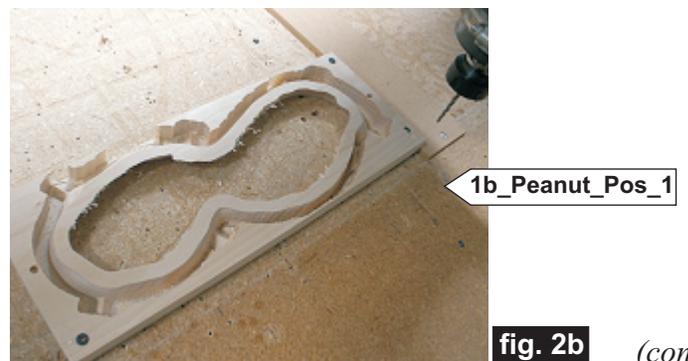


fig. 1

fig. 2b (cont.)

# Peanut Shell Dish

(cont.)

## STEP 2 - Run the Project (cont.)

Additional information for two-sided carving...

For the alignment holes of the prototype sample, I set the depth of the drill toolpaths to 1.1" when I ran the first file (i.e., the **1a\_Peanut\_Neg\_1.crv3d**). This drilled all the way through the 0.75"-thick material and into the spoilboard, creating the two alignment holes in the spoilboard about 0.35" deep to insert the 0.25" dia. alignment dowels for placing the flipped board upon. (fig. 2c)

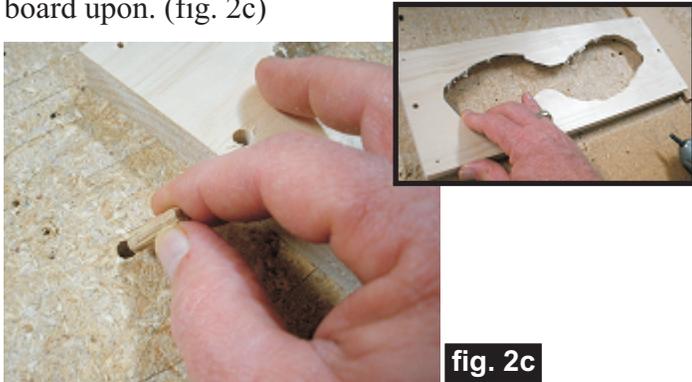


fig. 2c

When I ran the **next two pairs** of files (2a-2b and 3a-3b) the spoilboard holes were already present, so I reduced the depth of the drill toolpaths to just go through the material and used the existing spoilboard holes. Of course, I maintained the same X,Y zero location on the machine bed throughout the complete project run. Inserting a couple dowels into the holes in the spoilboard and into the material holes, yields perfect alignment between the back and front of the material.

Alternatively, you can set up a drilling toolpath on the first side of the material that is ~0.55" deep. Then after completing the first side, rezero the bit to the machine bed and drill the same holes giving you a total depth of 1"+. Using 1"-long glue dowels, this works great.

Another consideration with this alternate technique is you don't have to maintain the same X,Y zero location. You can move the spindle to a different location, rezero X and Y and then continue with drilling the holes in the spoilboard, placing the material and machining the second side.

For more detailed information about 2-sided machining, visit <http://support.vec tric.com/> and view the "2-Sided Machining Guide Tutorial".

## STEP 3 - Release Parts from Material

Separate the parts from the material. Don't worry too much about any rough edges. You'll clean those up after gluing the parts together. Just make sure nothing interferes with the flat glue surfaces. (fig. 3a)



fig. 3a

## STEP 4 - Part Assembly and Finish Prep

Glue the three sections together. Clamp and/or weigh down until dry. (fig. 4a, 4b)



fig. 4a



fig. 4b

After glue has cured, sand off any tab remnants and undesirable toolmarks. Blend all seams using a rotary tool with an assortment of sanding drums/bits and hand sanding where necessary. (fig. 4c, 4d)



fig. 4c



fig. 4d

(cont.)

# Peanut Shell Dish

(cont.)

## STEP 5 - Finish Application

Apply your choice of finish. Here's what I used on my Peanut Dish made from Select Pine (fig. 5a, 5b, 5c):

- Brushed several coats of Zinnser Bulls Eye Seal Coat and lightly sanding between coats
- Three coats Zinnser Bulls Eye spray Shellac (both SealCoat and spray shellac are 100% wax-free)

Brushing on Sealcoat



fig. 5a



Peanut Shell Underside

fig. 5b

Spray Shellac



fig. 5c

## IN CONCLUSION

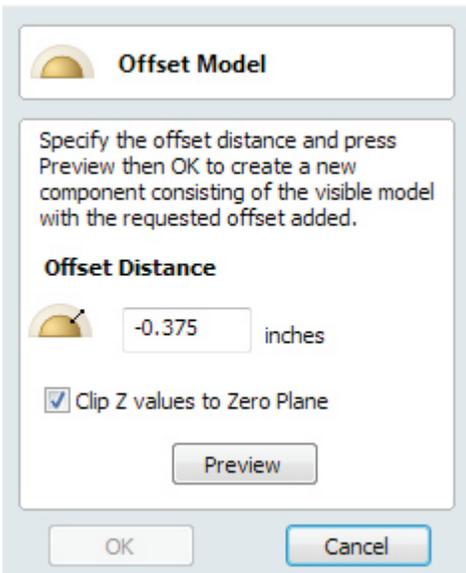
I hope you enjoyed the Peanut Shell Dish Project!  
Happy Carving!

*Michael*

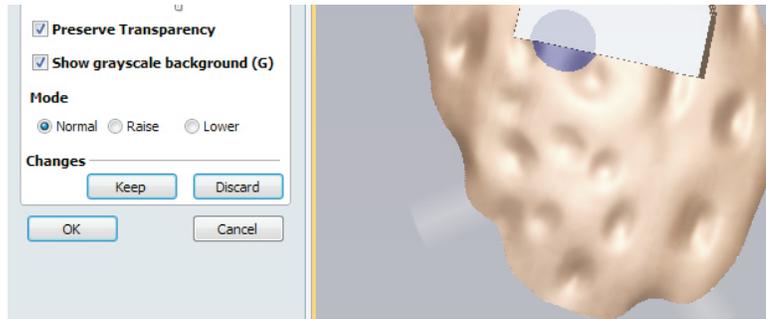


# Peanut Shell Dish

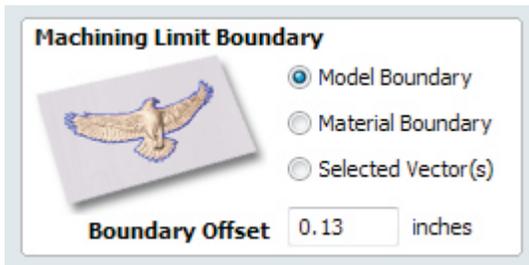
These are some of the NEW Aspire 8 features used in creating this project:



Offset Model (to create the dish recess with a consistent .375" overall wall thickness)



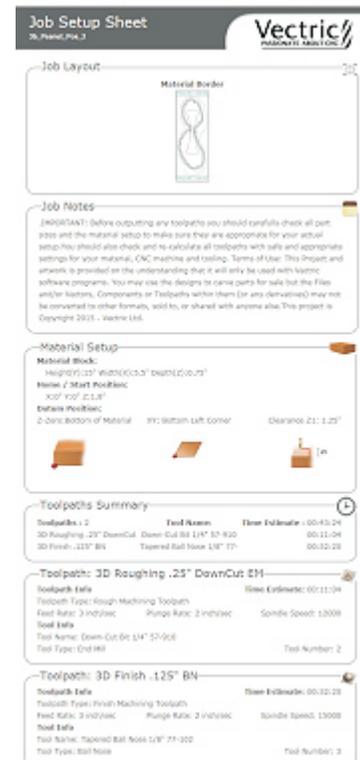
Sculpting with the Show Grayscale Background in the sculpting window. Can help visualize position of other components while sculpting.



Rough/Finish using Model Boundary



Moving components in the 3D View. You can now manipulate models in both the 2d and 3d views.



Create Job Sheet creates html files showing a summary of all bit and job details.

# Materials Source Page

- **3M Radial Bristle Discs** from [www.mcmaster.com](http://www.mcmaster.com)  
(stack 3 discs at a time on your rotary tool mandrel)
  - **80-grit:** part # 4494A19
  - **220-grit:** part # 4494A18



## Miscellaneous Items Purchased at Home Depot™ or Lowes™

- **Zinsser Bullseye SealCoat and Denatured Alcohol**
- **Zinsser Bullseye Spray Shellac (100% wax-free)**
- **0.25-inch Diameter Dowels**
- **Sandpaper**
- **Disposable Brushes and Paint Rags**



# Additional Resources

## RESOURCES...

There are numerous resources for Vectric software owners to make their experience with their products more enjoyable. The Vectric website includes video tutorials and more, to provide a good overview of the software products and how to use them. Please visit the Support page for a complete listing of available resources for you.

**Vectric Support:** <http://support.vectric.com/>

## Vectric User Forum

Every owner should join the Vectric User Forum (<http://www.vectric.com/forum/>) where fellow users share their experience and knowledge on a daily basis. It is a FREE service that you will surely appreciate. A handy Search Feature helps you find answers to any questions you may have. There are Gallery sections as well, where you can post and view photos of projects created with Vectric software.

**IMPORTANT:** Before outputting any toolpaths you should carefully check all part sizes and the material setup to make sure they are appropriate for your actual setup. You should also check and re-calculate all toolpaths with safe and appropriate settings for your material, CNC machine and tooling.

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