

# 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

## Shoe Cubby

Designed for Vetric™ by Michael Tyler

Compatible with:

VCarvePro 6.5  
(or greater)

and

Aspire 3.5  
(or greater)

Sample Carved with:

ShopBot Buddy  
PRSalph BT48

ShopBot®  
www.shopbottools.com

This handy Shoe Cubby makes an attractive and useful accessory for your home entrance area, a bedroom or anywhere you need to stow shoes! It can be configured as a 2-tier or 3-tiered unit, depending upon your needs (the 3-tier version has a top storage area for smaller, youngster-sized shoes).

This project features 2-sided machining. Pocket cuts are performed on the inside of each side panel and a detailed v-carve design is cut on the outside of each panel.

The 2-tiered finished dimensions are:  
9.25" Deep x 28" Wide x 15" Tall.

The 3-tiered finished dimensions are:  
9.25" Deep x 28" Wide x 19.5" Tall



Main items you will need:

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

- LEFT\_Inside\_Panel.crv
- LEFT\_Outside\_Panel.crv
- RIGHT\_Inside\_Panel.crv
- RIGHT\_Outside\_Panel.crv

**2) Boards with these dimensions:**

**LEFT Panel:** 0.75" x 11" x 21.5"

**RIGHT Panel:** 0.75" x 11" x 21.5"

**3) Two 0.625" diameter dowels, wood for shelves and rails, hardboard or ply for a backboard...See detailed list of these materials on page 5**

**4) Small brads, 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.**



**CNC Bits used for the Sample:**

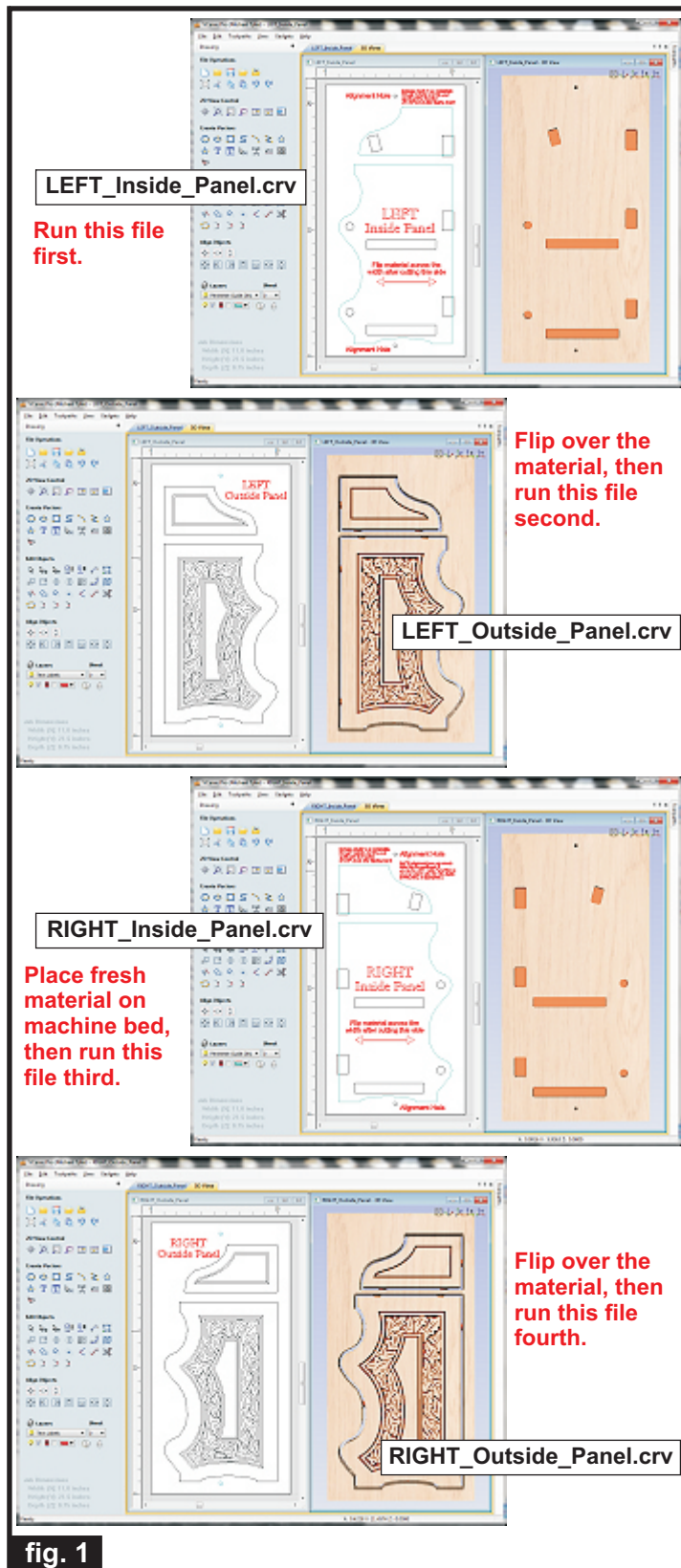
- 0.25" Up-Cut EM
- 0.25" Down-Cut EM
- 60° V-Bit

# Shoe Cubby

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## STEP 1 - Open and Review the Project Files

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

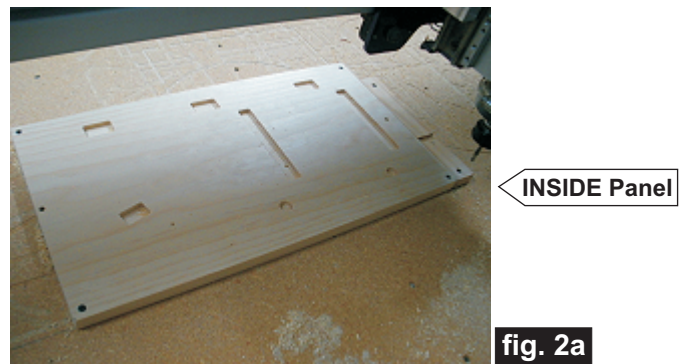


Carefully review all the toolpaths and make any necessary changes to suit your particular bits and machine. The toolpaths are currently set with feeds, speeds and pass depths that were used in creating the original sample. Please don't use them directly until you review them for your own setup.

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. The project is designed with tabs to hold parts in place during the final part cut outs. You may delete the tabs if you use some other reliable hold-down method.

## 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. (fig. 2a, 2b)



Machine the INSIDE panel 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 OUTSIDE panel file to complete the job.



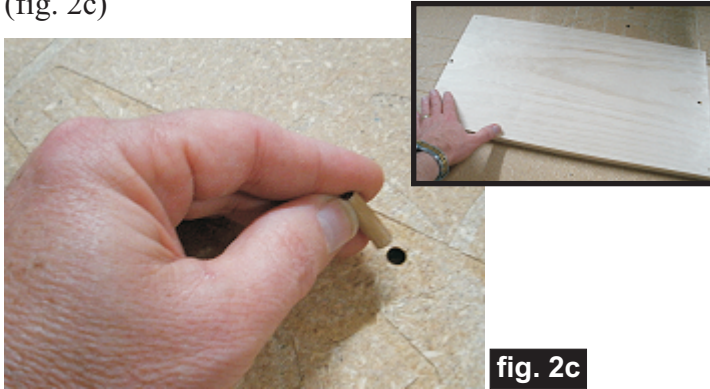
(cont.)



## 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 LEFT\_Inside\_Panel.crv). 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)



When I ran the RIGHT\_Inside\_panel.crv, 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.

If you have a 'pristine' spoilboard and don't want to drill into it, this approach would help by not drilling through the material on the first side. Instead, secure a sacrifice sheet of mdf (or whatever) on top of your spoilboard and drill the holes into that for aligning the second side.

## STEP 3 - Release Parts and Cut Additional Material

Separate the parts from the material, then sand off any tab remnants and undesirable toolmarks. (fig. 3a)



fig. 3a

Square-off the inside corners of the rectangular pockets with a hand chisel. (fig. 3b)



fig. 3b

Cut the shelves, rails and dowels to size with your table saw. (see detailed list of these materials on page 5) (fig. 3c, 3d)



fig. 3c



fig. 3d

(cont.)

# Shoe Cubby

(cont.)

## STEP 4 - Part Assembly

Test-fit the parts, then glue-up the bottom section components and the top section components. Clamp and/or weigh down until dry. (fig. 4a, 4b, 4c, 4d)



fig. 4a

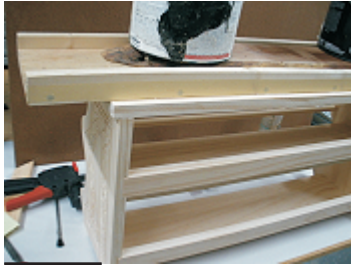


fig. 4b

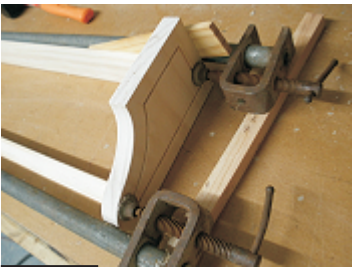


fig. 4c



fig. 4d

## STEP 5 - Finish Application

Apply your choice of finish. Here's what I used on my Shoe Cubby made from Select Pine:

- One coat of thinned Zinnser Bulls Eye Seal Coat (50% denatured alcohol and 50% Seal Coat), lightly sanding when dry
- Minwax water-based Vermont Maple stain
- Two coats Zinnser Bulls Eye spray Shellac (Zinnser spray shellac is 100% wax-free)
- Several coats of Krylon Crystal Clear Acrylic spray



Sealcoat



Stain



Clear Coat

## STEP 6 - Final Assembly

Use epoxy to glue the Top Section to the Bottom Section. (fig. 6a)



fig. 6a

After the epoxy has set, fasten the hardboard or ply backboard using small brad nails. (fig. 6b)



fig. 6b

## IN CONCLUSION

The Shoe Cubby width can easily be customized by cutting the shelves, rails and dowels to a length of your choosing. You can also opt not to use the top section at all, for a two-tiered cubby instead of the three tiers.

I hope you enjoyed the Shoe Cubby Project!  
Happy Carving!

*Michael*

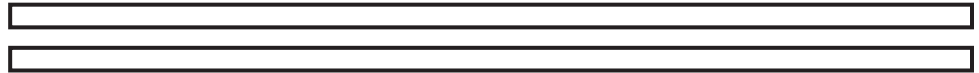


# Dowels, Rails and Shelves Parts List

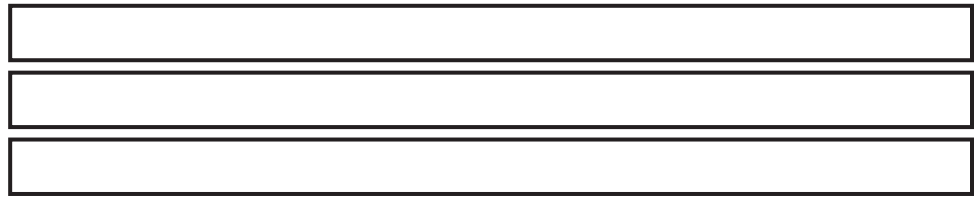
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(These components can be cut to size with your Table Saw.)

Dowels  
0.625 x 26.5" Long (two)



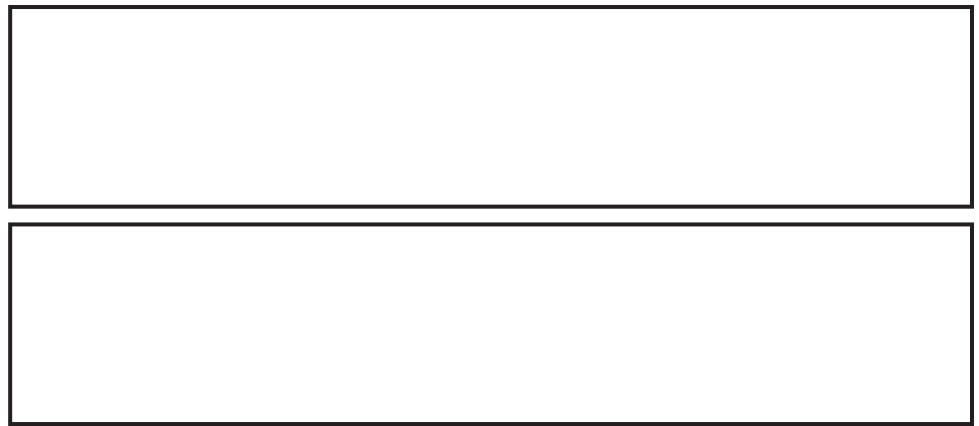
Span Rails (three)  
0.75" x 1.5" x 26.5"



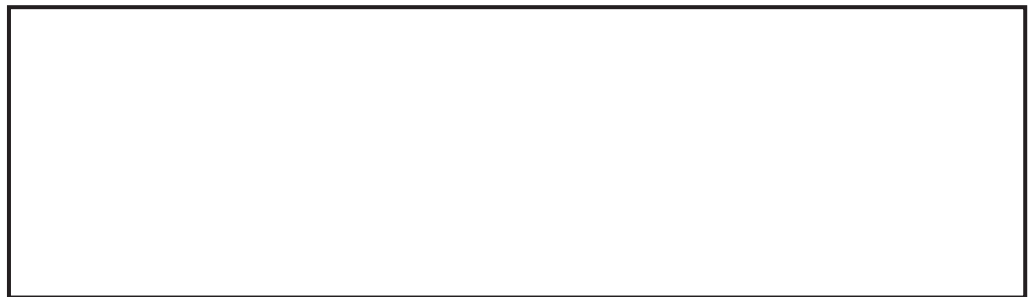
Top Front Rail (one)  
0.75" x 1.25" x 26.5"



Interior Shelves (two)  
0.75" x 5.5" x 26.5"



Lower Section Top Shelf (one)  
0.75" x 8" x 28"



Upper Section Top Shelf (one)  
0.75" x 4.25" x 28"



Hardboard or Ply Backboard  
0.125" to 0.25"-thick x 19" x 27"  
(not drawn to scale)





# 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



Krylon Clear Gloss Acrylic  
from WalMart™

## Miscellaneous Items Purchased at Home Depot™

- Zinsser Bullseye SealCoat and Denatured Alcohol
- Zinsser Bullseye Spray Shellac (100% wax-free)

## Miscellaneous Items Purchased at Lowes™

- 5/8-inch (0.625-inch) Diameter Dowels
- Sandpaper
- Minwax water-based Vermont Maple Stain
- 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.

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