Project Tutorial

Featuring compatibility with nearly all CNC Machines

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

Compatible with Current Version of:

Aspire

Sample Carved with:
ShopBot Buddy
PRSalpha BT48

ShopBot®
www.shopbottools.com

Basket Weave Table Caddy

Designed for Vectric™ by Michael Tyler

The Basket Weave Table Caddy is a convenient tote tray for carrying eating utensils, plates, napkins and/or condiments to a serving table. The project features a "weaved" design created with Aspire's powerful Extrude and Weave Tool. This tool is a lot of fun to experiment with, and you may want to make your own custom weave design!

The sample was made using kiln-dried Select Pine and finished with a glazing technique. A glazing instruction article is available for download directly from the Vectric Forum Technical Archive.

This project is an example of how beneficial two-sided machining is for creating the side panel dado slots on the interior surfaces. Alignment is easy and uses just two dowel pins for accurate alignment between the front and backsides of all the side panels.

The size of the Table Caddy allows for storage inside a kitchen drawer when not in use.

The dimensions are: 12"W x 16.5" L x 3.375"H

Main items you will need:

1) The Project Files (included):
- BACK-A_Panels.crv3d
- FRONT-A_Panels.crv3d
- BACK-B_Panels.crv3d
- FRONT-B_Panels.crv3d
- Bottom-and-Dividers.crv3d

2) Material with these dimensions:
BACK-A, FRONT-A*: 0.75"x 9"x 18.5"
BACK-B, FRONT-B*: 0.75"x 9"x 18.5"
Bottom-and-Dividers**: 0.25"x 20"x 23"

** (2-sided files use one board for machining)*
***(use 0.25" -thick MDF or Plywood panel)*

3) Two 0.25" diameter dowel pins, glue, sandpaper, clamps, stain or paint and clearcoat

4) A Dremel-type rotary tool with assorted sanding wheels and bits to sand small details

CNC Bits used for the Sample:

0.0625" Ball Nose (BN)
0.25" Up-Cut End Mill (EM)
0.25" Down-Cut End Mill (EM)

Basket Weave Table Caddy (cont.)

STEP 1 - Open and Review the Project Files
Open the files in your Aspire software. (fig. 1)

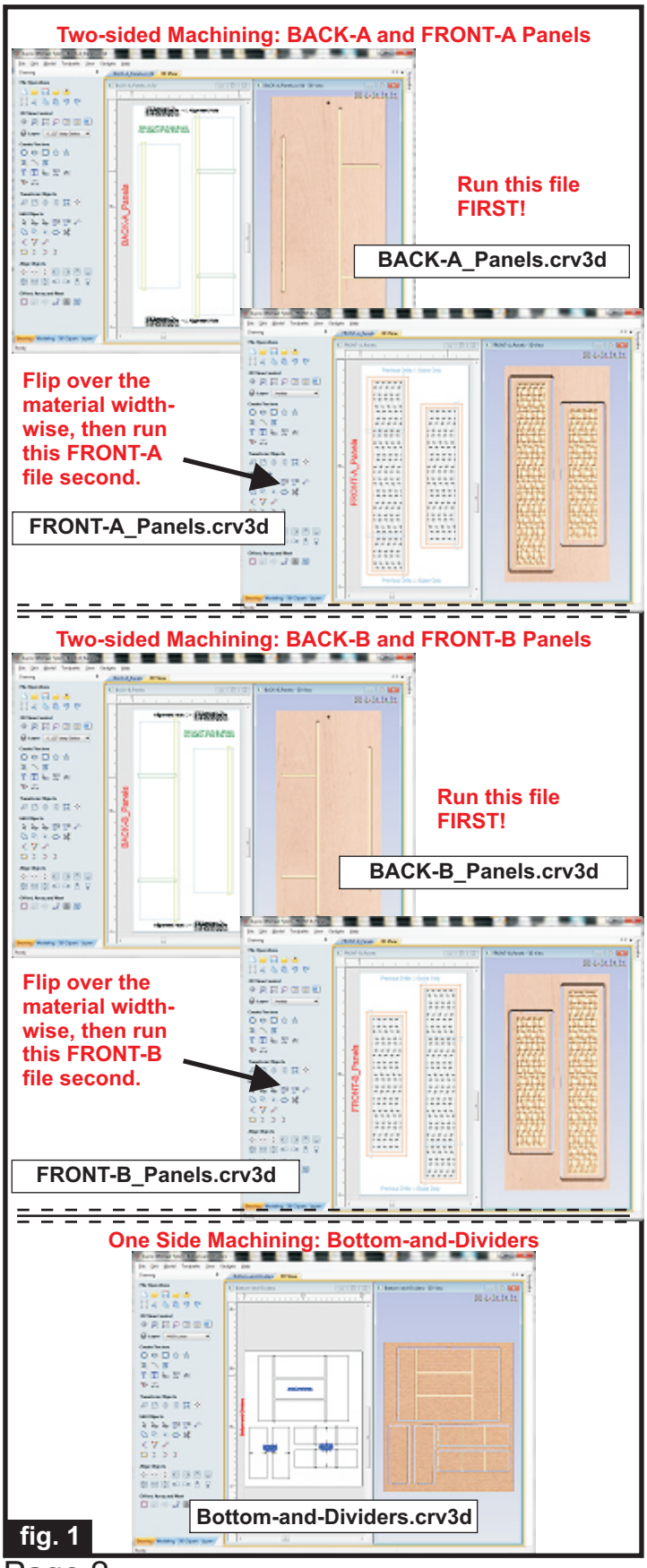

fig. 1

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. **It is VERY IMPORTANT to recalculate all toolpaths after making any edits/changes.** 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. Here are some pointers on running the 2-sided files...
(fig. 2a, 2b, 2c)

BACK-A_Panels.crv3d

Run the BACK-A file first, then flip over to run FRONT-A.

Follow the same procedure for BACK-A and BACK-2 files.


fig. 2a

After machining the first file parts, flip the board over across the (shortest) width.

Insert two alignment dowel pins into the holes in the spoilboard and replace the board onto the pins with the plain side up.

Re-apply a secure hold-down method.

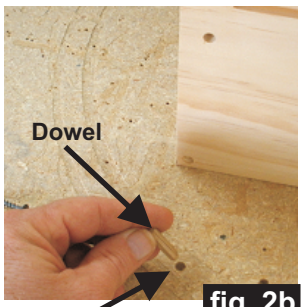

fig. 2b

Push board onto the dowel pins for perfect alignment between BACK and FRONT

After flipping the material width-wise, run the next file in the sequence specified

FRONT-A_Panels.crv3d

fig. 2c

(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 alignment drill holes to 1.1 "when I ran the first file of the 2-sided board (i.e., the BACK-A_Panels.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. 2d)

fig. 2d

When I flipped the board over for FRONT-A_Panels, I pressed the board onto the dowels and resecured the hold down (screws driven through the material and into the spoilboard). 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. For BACK-B, the spoilboard holes were already done, so I didn't need to drill all the way through, and set the depth shallower. (After flipping, I inserted the dowels in the existing holes and pressed down the board to machine the FRONT-B file.)

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.

This alternate technique means 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' table, you can secure a sacrifice sheet of mdf (or whatever) on top of your spoilbard and drill the holes into that for aligning the second side.

STEP 3 - Release Parts from Material
Separate the parts from the material, then sand off any tab remnants and undesirable toolmarks. (fig. 3a, 3b)

fig. 3a

fig. 3b

STEP 4 - Parts Prep and Assembly
Cut each end of all four side panels at a 45-degree angle, using a chop saw, table saw, or hand-miter box. "Creep up" the saw blade on the ends of each part so the blade **meets perfectly with the front surface corner edge** so as not to alter the overall length of the parts. The side panels are already the finished length, so there is no margin for error. Cut carefully. (fig. 4a)

fig. 4a

Dry-fit the parts, then glue parts together. Use a small brush to spread glue into the dados.

fig. 4b

Clamp until dry. (fig. 4b, 4c)

fig. 4c

(cont.)

STEP 5 - Finish Application
Remove the clamps, then apply your choice of finish. Here's what I used on my Basket Weave Table Caddy made from Select Pine and MDF (fig. 5a, 5b,5c, 5d):

- Two coats thinned Zinsser Bulls Eye SealCoat (50/50 SealCoat and Denatured alcohol)
- Three coats full-strength SealCoat
- Applied Acrylic Burnt Umber Paint as a glaze on the exterior panel surfaces only
- Several light coats of Krylon Clear acrylic spray

Apply thinned SealCoat. Sand between coats

fig. 5a

Apply full-strength SealCoat.

fig. 5b

Apply brown paint as a glaze.

fig. 5c

Finished glaze treatment. Apply final clearcoats when dry.

fig. 5d

IN CONCLUSION
I hope you enjoyed making your Basket Weave Table Caddy! You can customize the project using your own weave or v-carve design, or with relief models. You could even make or buy a pair of handles to mount to the tray sides, if desired.

Happy Carving!

Michael

(cont.)

Materials Source Page

• 3M Radial Bristle Discs from 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™

Items Purchased at Home Depot™ or Lowes™

- **Zinsser Bulls Eye SealCoat (100% wax-free clear shellac)**
- **Denatured Alcohol**
- **Wooden dowel glue pins**
- **0.25 "-thick MDF**
- **Sandpaper**
- **Disposable Brushes and Paint Rags**

Learn about the stain-glazing technique by downloading the PDF article by Tim Merrill from the Vectric Technical Archive:

http://forum.vectric.com/download/file.php?id=13901

NOTE: Direct weblinks were valid at time of this writing, but can change at any time. If links don't work, then try visiting the manufacturer's home page and do a Search for the item to get directed to a current/valid page.

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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