

Project Tutorial

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Vetric Project Tutorial
www.vetric.com

Compatible with
Current Version of:

Aspire

Sample Carved with:
ShopBot Buddy
PRSalph BT48

ShopBot
www.shopbottools.com

Petit Gothique Wall Shelf

Designed for Vetric™ by Michael Tyler

This month's project was inspired by an antique Gothic-style niche shelf. The Aspire project is similar to the original in several ways, but redesigned to be a bit smaller. I call this one the "Petit Gothique" which means "small Gothic" in French.

The back has two keyhole slots created with the Vetric Keyhole Toolpath Gadget. This makes a convenient method to securely hang the shelf unit on your wall.

The finished dimensions of the sample Petit Gothique Wall Shelf are about: 10.65" W x 19.5" T x 6.875" D



Main items you will need:

1) The Project File(s) (included):

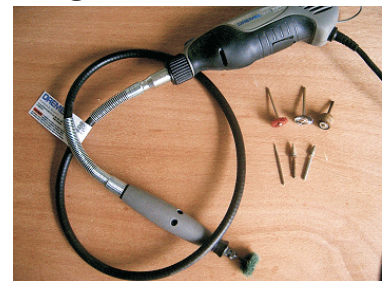
- FRONT_Panel.crv3d
- BACK_Panel.crv3d
- Shelf_and_Bracket.crv3d

2) Board(s) with these dimensions:

- FRONT: 0.75" x 11.2" x 21"
- BACK: 0.75" x 11.2" x 21"
- Shelf and Bracket: 0.75" x 7" x 20"

3) Two #8 x 1.25" wood screws, a drill, glue, sandpaper, clamps, stain/paint and clearcoat

4) 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:

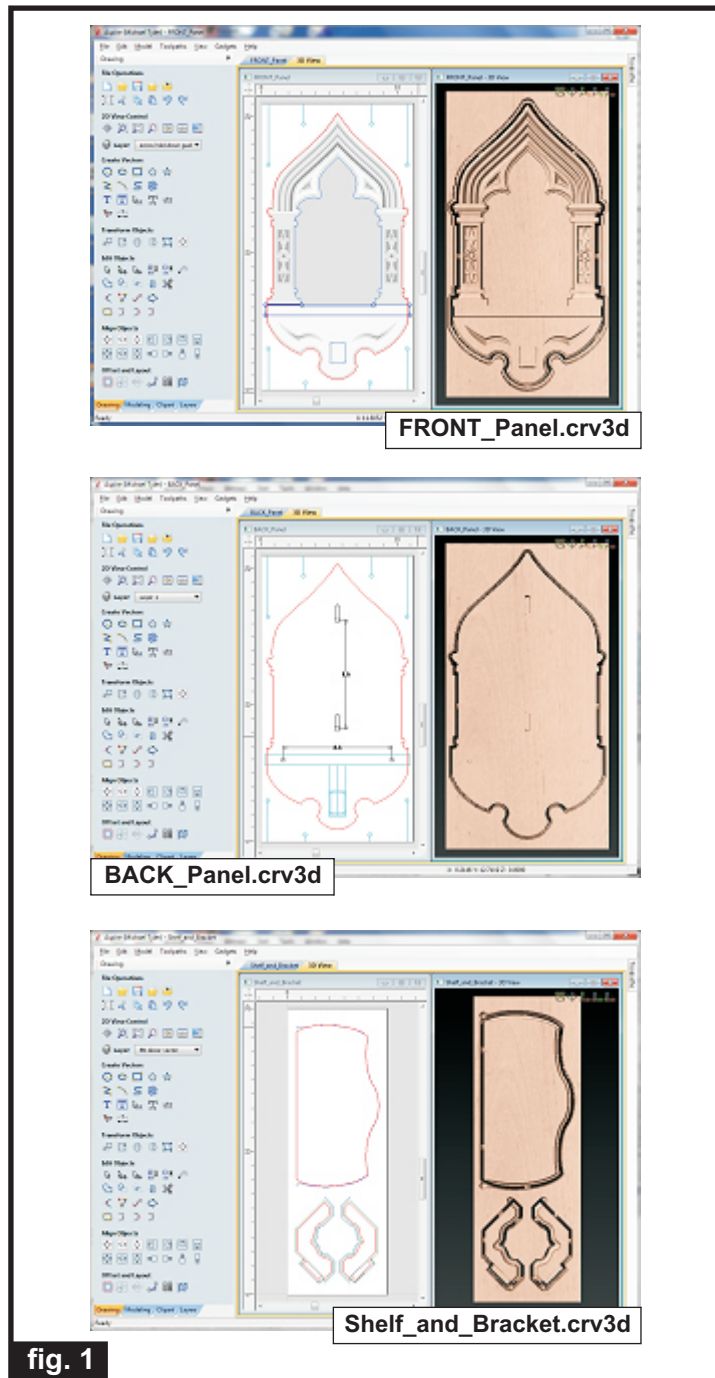
- 0.25" UP-Cut End Mill (EM)
- 0.25" Down-Cut End Mill (EM)
- 0.125" Ball Nose (BN)
- 0.5" Ball Nose (BN)
- 0.375" Keyhole Bit

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STEP 1 - Open and Review the Project File(s)

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

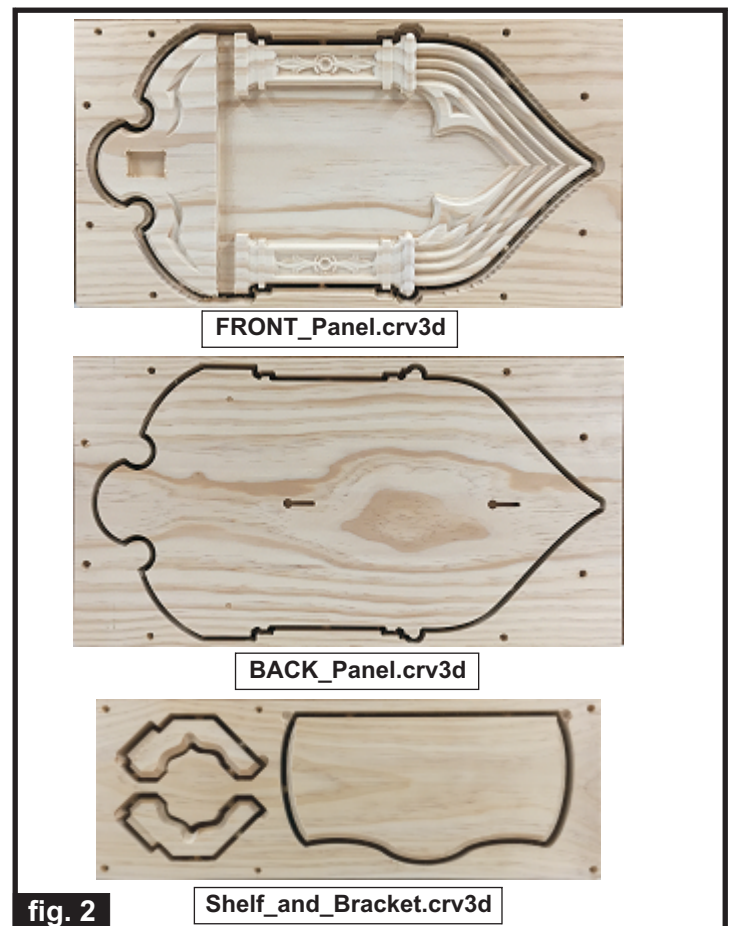


You can edit the tools and change the settings to your own preferences and requirements. **It is very important to recalculate all toolpaths after making any edits/changes to any values.**

IMPORTANT NOTE: The BACK_Panel.crv3d file uses the Keyhole Toolpath Gadget to create the keyhole slots. If you perform a global toolpath recalculation, the keyholes must be recreated using the gadget as the keyhole toolpaths are not recalculated like normal toolpaths. This is available from the Gadget drop-down menu in the software. The gadget calculates the actual toolpath for keyhole slots - not the regular toolpath window. (No worries - it takes less than a minute to create keyhole toolpaths using the gadget!). 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 Files

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 file(s). (fig. 2)



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.

(cont.)

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STEP 3 - Separate Parts from Material and Sand

Separate the parts from the boards with a utility knife or hobby saw. Sand the mating surfaces of the panels and shelf bracket parts so no “fuzzies” will interfere with glue-up in the following step. (fig. 3a, 3b)



fig. 3a



fig. 3b

STEP 4 - Glue-up and Finish Prep

Glue the front and back panels together, as well as the shelf bracket halves. Clamp until dry. (fig. 4a, 4b)

Glue Front and Back Panels together



fig. 4a



Glue bracket halves together

fig. 4b

After the glue is dry, remove clamps and sand overall to remove tabs, undesirable toolmarks and blend glued edges. (fig. 4c, 4d)

A Dremel-type tool with 3M sanding discs can speed up the sanding process.



fig. 4c



A spindle sander is handy for smooth sanding interior circular areas

fig. 4d

Square-off the two ‘rounded’ inside corners of the shelf bracket tenon. I used my bandsaw to do this, but a hand chisel could be used instead. (fig. 4e)

Square the two rounded corners on the shelf bracket tenon so it will fit flush into the panel slot



fig. 4e

Drill two countersunk holes in the back panel (about 0.375-inches deep), using the pre-drilled ‘markers’/created during the machining process as a location guide. (fig. 4f)

Drill countersinks about 0.375” deep for the #8 x 1.25” wood screws



fig. 4f

(cont.)

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STEP 5 - Final Assembly

Dry fit the shelf and bracket into the panel. Sand if necessary to allow a snug fit, but not too tight. (fig. 5a)



The fit should be snug but still allow room for a layer of glue

fig. 5a

When satisfied with the fit, glue the shelf and bracket into the front panel. (fig. 5b)

Apply glue to the contact areas, including top of the shelf bracket (not visible in photo from this angle).



fig. 5b

After the glue has set-up for a little while (to help hold the shelf in position), drill two pilot holes through your panel countersunk holes from the backside panel and into the rear of the shelf to accept two #8 x 1.25" wood screws. Drive the screws into the shelf edge from the backside and allow the glue to fully cure. (fig. 5c)

Drill pilot holes (through the pre-drilled countersinks) into the back edge of shelf and drive in the two #8 x 1.25" screws



fig. 5c

Your assembled shelf will look like this



STEP 6 - Apply Finish

Apply your choice of finish. Here's what I used on the Petit Gothique sample made from Select Pine (fig. 6a, 6b, 6c):

- Applied Rust-Oleum Ultimate Stain - Wheat
- Several coats of Krylon Crystal Clear Acrylic spray

Apply Stain



fig. 6a

Wipe Stain



fig. 6b

Apply Clearcoats



fig. 6c

IN CONCLUSION

I hope you enjoyed making your "Petit Gothique" Wall Shelf!

Happy Carving!

Michael



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



Items Purchased at Home Depot™ or Lowes™

- **Rust-Oleum Ultimate Stain - Wheat**
- **Disposable Brushes and Paint Rags**
- **#8 x 1.25" wood screws**



Krylon Clear Gloss from WalMart™

Items Purchased from Amazon.com

- **Whiteside Keyhole Bit #3050**

This is the bit used for keyhole calculation in the project sample. Any suitable keyhole bit will do fine and you can enter your particular bit's dimensions when creating keyhole toolpaths using the Vectric Keyhole Toolpath Gadget. Of course you can also cut your keyhole slots independently with a hand router, if desired.



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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