

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:

Aspire

Sample Carved with:
ShopBot Buddy
PRSalph BT48

ShopBot®
www.shopbottools.com

Neoclassical Mantle Clock

Designed for Vetric™ by Michael Tyler

In response to numerous requests, this month's project is an elegant mantel clock exclusively for Vetric Aspire users!

This clock was designed with an American 18th century neoclassical style in mind to adorn your mantelpiece, a side table or shelf. The interleaved flourish reliefs were derived from the Vetric clipart models included with Aspire 8. The tools in Aspire made it easy to slice-and-dice the existing models to create custom versions suitable for the clock. Sculpting, smoothing, tilts and fades allowed for blending and merging the components nicely.

The traditional coved arch top with the delicate recessed fan motif was modeled in another instance of the software, then imported into the front layout file to complete the project design.



The finished dimensions are about:
9" W x 3.625" D x 12.5" T

Main items you will need:

1) The Project Files (included):

- Vetric_Mantle_Clock_FRONT.crv3d
- Vetric_Mantle_Clock_ARCHES.crv3d
- Vetric_Mantle_Clock_PANELS.crv3d

2) Boards with these dimensions:

FRONT: 0.75" x 9.5" x 13"

ARCHES: 0.75" x 9.5" x 21"

PANELS: 0.75" x 11" x 21"

3) Clock insert with 3.5" total diameter and 3" mounting diameter (I used style #15500 from www.klockit.com)

4) #6 x 1" wood screws, drill and bits, glue, sandpaper, clamps, stain/paint 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:

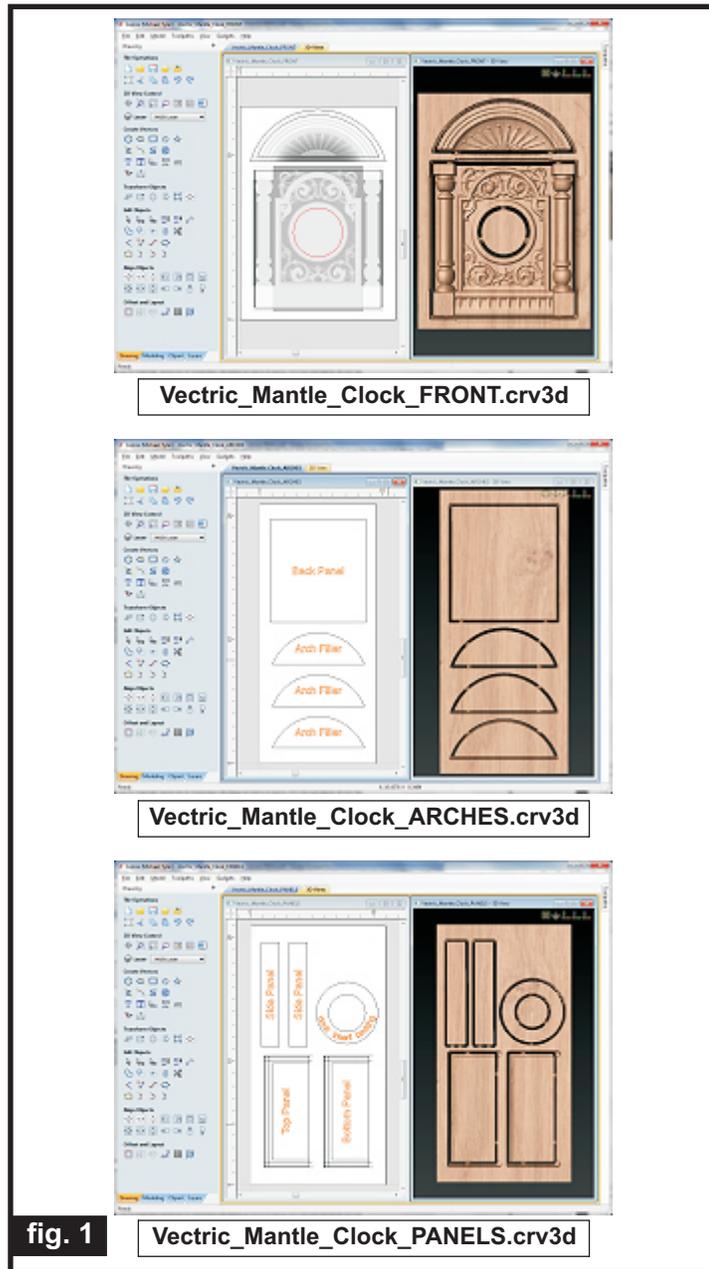
- | | |
|---------|------------------------|
| 0.25" | Down-Cut End Mill (EM) |
| 0.0625" | Tapered Ball Nose (BN) |
| 0.5" | Ball Nose (BN) |

Neoclassical Mantle Clock

(cont.)

STEP 1 - Open and Review the Project Files

Open the file(s) in your Aspire software. (fig. 1)



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. (fig. 2a, 2b)



STEP 3 - Release Parts from Material

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



Carefully review all the toolpaths and make any necessary changes to suit your particular bits and machine. The toolpaths are currently set with ordering and 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 before running the files.

(cont.)

Neoclassical Mantle Clock

(cont.)

STEP 4 - Assembly

Glue the clock insert backing ring onto the backside of the front panel. Position the grain direction of the ring perpendicular to the panel grain direction (helps reduce warping tendency).

Weigh down or clamp until dry. (fig. 4a)



fig. 4a

Glue the arch parts together. Clamp until dry. Sand to blend the seams after the assembly is dry. I used a 1" belt sander to make the job go faster. (fig. 4b)



fig. 4b

Test-fit the clock insert into the front panel. Sand to fit, if necessary. I used a spindle sander to "ease" the fit slightly, so it was snug, but not too tight. (fig. 4c, 4d)



fig. 4c



fig. 4d

Glue the front, back and sides together. Clamp or weigh down until dry. Sand the clock body assembly to blend the side and front/back panel seams when the assembly is dry. (fig. 4e, 4f)



fig. 4e



fig. 4f

Glue the top and bottom panels to the clock body assembly. Weigh or clamp until dry. The top panel can be glued with the molding edge facing "up" or facing "down"...no "correct" way - it's a matter of personal taste. I glued the top panel with the molding edge facing "up". (fig. 4g, 4h)



fig. 4g



fig. 4h

Neoclassical Mantle Clock

(cont.)

STEP 4 - Assembly (cont.)

Drill countersunk holes all the way through the top and bottom panels (two for the top, two for the bottom). Position these holes so they will penetrate centered with the back panel end grain. (fig. 4i)



fig. 4i



Drive #6 x 1" wood screws through the holes and into the back panel edges. (fig. 4j)

fig. 4j

Glue the arch assembly onto the top panel. Clamp or weigh down until dry. (fig. 4k, 4l)



fig. 4k



fig. 4l

STEP 5 - Finish Application

Apply the finish of your choice. Here's what I used on the sample Neoclassical Mantle Clock made from Red Oak: (fig. 5a, 5b, 5c)

- Rust-Oleum Ultimate stain - Traditional Cherry
- Several coats Krylon Clear acrylic spray

Final Sanded and Ready for finish



fig. 5a



Applying the Stain

fig. 5b

Applying Clearcoats



fig. 5c

(cont.)

Neoclassical Mantle Clock

(cont.)

IN CONCLUSION

You may want to apply self-stick felt, cork or silicon bumpers on the underside of the base to protect surfaces it is placed upon. Another option is to add wooden or metal feet to the clock base. I hope you enjoyed making your Vectric Neoclassical Mantle Clock!

Happy Carving!

Michael



Materials Source Page

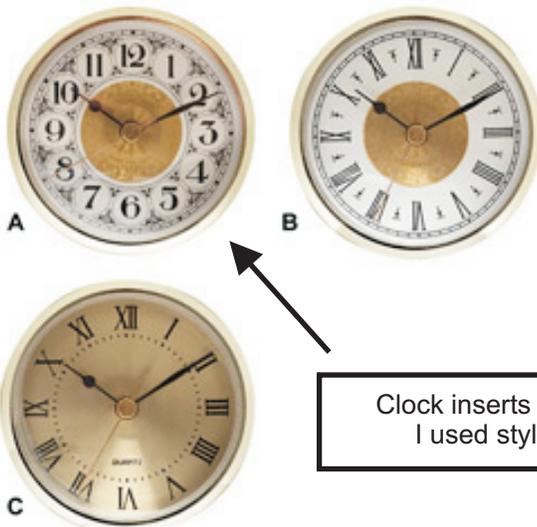
- 3M Radial Bristle Discs from www.mcmaster.com
(stack 3 discs at a time on your rotary tool mandrel)
80-grit: part # 4494A19
220-grit: part # 4494A18



Krylon Clear Gloss and Flat Acrylic from WalMart™

Miscellaneous Items Purchased at Home Depot™ or Lowes™

- Rust-Oleum Ultimate Wood Stain - Traditional Cherry
- #6 x 1" Wood Screws
- Sandpaper
- Disposable Brushes and Paint Rags



Clock inserts from www.klockit.com
I used style A (part # 15500)

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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