

# Project Tutorial

Featuring compatibility with nearly all CNC Machines

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

Vectric Project Tutorial  
www.vectric.com

Compatible with:  
**VCarve Pro 7**  
(or greater)

and  
**Aspire 4**  
(or greater)

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

**ShopBot®**  
www.shopbottools.com

## Dutch Country Wall Clock

Designed for Vectric™ by Michael Tyler

This month's project was inspired by a reminder/request from a Vectric customer for a wall clock that both VCarve Pro and Aspire owners could enjoy making. I hadn't created a v-carved wall clock before and thought now was a good time to do it!

This project features front and back panels with a Pennsylvania Dutch "tole" painting style. According to Wikipedia, tole painting became most popular during the 18th century in New England and "was extensively carried on among German immigrants in Pennsylvania".

I used to do a lot of tole painting myself and the Vectric software made it fun and easy to adapt this popular folk art style to a CNC machinable v-carved design. Tole painting is often referred to as 'one stroke painting' because each design element is painted with a single stroke of the brush. I tried to mimic that doctrine in this clock design.

The overall finished dimensions of the Dutch Country Wall Clock are about 1.5" D x 10.375" W x 14" T.



Main items you will need:

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

- Dutch\_Clock\_BACK\_Panel.crv
- Dutch\_Clock\_FRONT\_Panel.crv

**2) Boards with these dimensions:**

- BACK Panel: 0.75" x 11.2" x 15"
- FRONT Panel: 0.75" x 11.2" x 11.5"

**3) Two small screw eyes, picture hanger wire**

**4) Wood glue, clamps, sandpaper, wood stain and/or paint and clear finish**

**5) Klockit 5 7/8" round clock insert**  
(I used model #15340 from www.klockit.com)

**6) 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:**

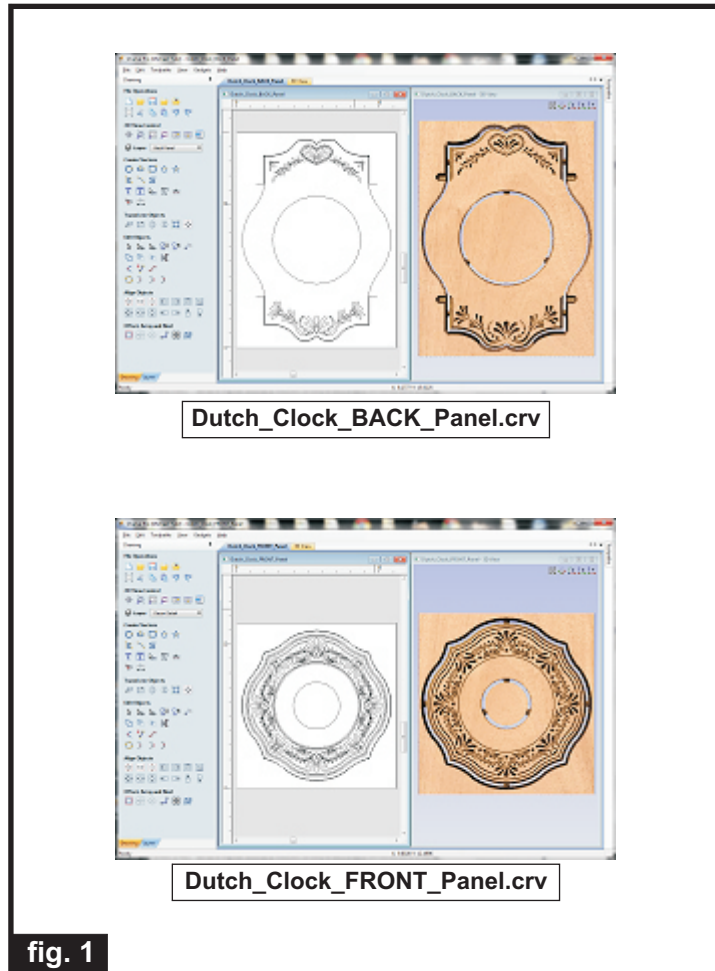
- 0.5" Ball Nose
- 0.25" Down-Cut EM
- 60° V-Bit

# Dutch Country Wall Clock

(cont.)

## STEP 1 - Open and Review the Project Files

Start your VCarve Pro or Aspire software and open the project files. (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.** 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 project files. (fig. 2a, 2b, 2c)



fig. 2a



fig. 2b



fig. 2c

(cont.)

Dimensions for the clock insert cutout is based upon the one purchased for the sample. Be sure to measure your own clock insert to make certain the cutout is suitably sized. If necessary, you can easily adjust the circle cutout dimension(s) to fit your particular clock insert. (Recalculate the toolpaths if any changes are made!)

**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.



# Dutch Country Wall Clock

(cont.)

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

Your boards will look something like this: (fig. 2d, 2e)



fig. 2d

Dutch\_Clock\_BACK\_Panel.crv



fig. 2e

Dutch\_Clock\_FRONT\_Panel.crv

## STEP 3 - Release and Sand Parts

Separate all the parts from the boards with a utility knife or small saw and sand off the tab remnants. (fig. 3a)



fig. 3a

Glue the front and back panels together and clamp until dry. (fig. 3b, 3c)



fig. 3b



fig. 3c

When dry, remove the clamps. Sand the edges to blend, then sand overall to remove any undesirable tool marks and prepare for finishing. Sand by hand or use a power sander to make the job go faster. (fig. 3d)



fig. 3d

**A spindle sander is great for sanding curved edges**

# Dutch Country Wall Clock

(cont.)

## STEP 4 - Finish Application

Apply the finish of your choice. Here's what I used on the sample Dutch Country Clock made from Select Pine:

(fig. 4a, 4b, 4c)

- Two light coats Zinnser Bulls Eye spray Shellac, sanding between coats (slightly sealing the wood)
- Rust-Oleum Ultimate stain - American Walnut (brushed on, wiped off, blew out excess stain from the crevices with compressed air, then "stippled" the stained surface and dry-brushed to even out the color)
- Several coats Zinnser Bulls Eye spray Shellac for final topcoat

Brushing on the Stain



fig. 4a



"Stippling" and dry-brushing the Stain

fig. 4b

Spray Shellac Clear Coat



fig. 4c

## STEP 5 - Install Hanger and Clock Insert

After the finish is dry, insert the 2 screw eyes into the top area of the center cavity on the back. Twist/fasten a short length of picture wire to the screw eyes. (fig. 5a)



fig. 5a

Push the clock insert into the front center hole - it's a friction fit. (fig. 5b)



fig. 5b

## IN CONCLUSION

I hope you enjoyed your Dutch Country Clock Project!

Happy Carving!

*Michael*





# 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™

- Zinsser Bullseye Spray Shellac (100% wax-free)
- Small Screw Eyes and Picture Hanger Wire



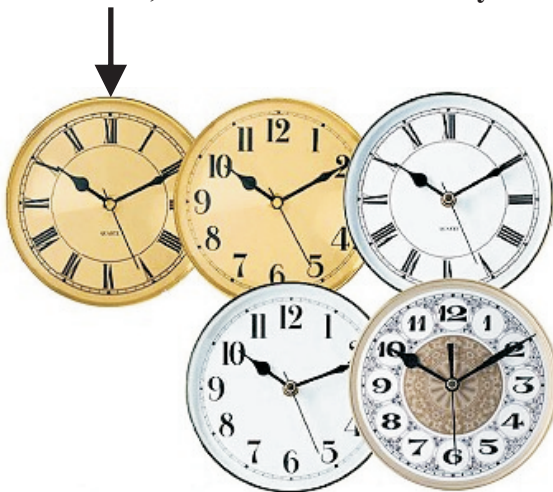
## Miscellaneous Items Purchased at Lowes™

- Sandpaper
- Rust-Oleum Ultimate American Walnut Wood Stain
- Disposable Brushes and Paint Rags



## Clock Insert Purchased Online from www.Klockit.com

- I used model #15340, but there are several styles to choose from



# 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.

**Terms of Use:** This Project and artwork is provided on the understanding that it will only be used with Vectric software programs. You may use the designs to carve parts for sale but the Files and/or Vectors, Components or Toolpaths within them (or any derivatives) may not be converted to other formats, sold to, or shared with anyone else. This project is Copyright 2013 - Vectric Ltd.

*The trademarks, service marks and logos used and displayed in this document are registered and unregistered Trademarks of Vectric and others.*