

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



The overall dimensions of the Gatekeeper's Padlock Key Hanger are approximately: 12" wide x 9" tall x 1.25" thick

Gatekeeper's Padlock Key Hanger

Designed for Vetric™ by Michael Tyler

This project features four padlock models finished to look like aged metal, then incorporated with a wooden plaque as a truly unique and convenient wall-mounted key hanger for you to enjoy!

The padlocks were created in Aspire using reference photos of actual antique padlocks as guides during the modeling process. The padlocks are machined separately from the plaque and are inserted as onlays into shallow pockets for precise positioning on the plaque. Thanks to the software's handy "Inlay Toolpath" feature, the padlock cutouts and corresponding receiving pockets are automatically adjusted to compensate for bit diameters and yield a perfect fit.

The plaque features v-carvings and a beveled edge that compliment the overall vintage appearance. The powerful vector node editing features in the software were put to very serviceable use when creating the v-carve designs and customizing the lettering.

Main items you will need:

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

- Four_Padlocks.crv3d
- VERT_Padlock_Plaque.crv3d

2) Material with these dimensions:

Four Padlocks: 0.5" x 5.5" x 18"
Padlock Plaque: 0.75" x 11" x 13"

3) Epoxy, four brass cup hooks, two dowel buttons, paint and/or stain and clearcoat

4) Drill and bits

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:

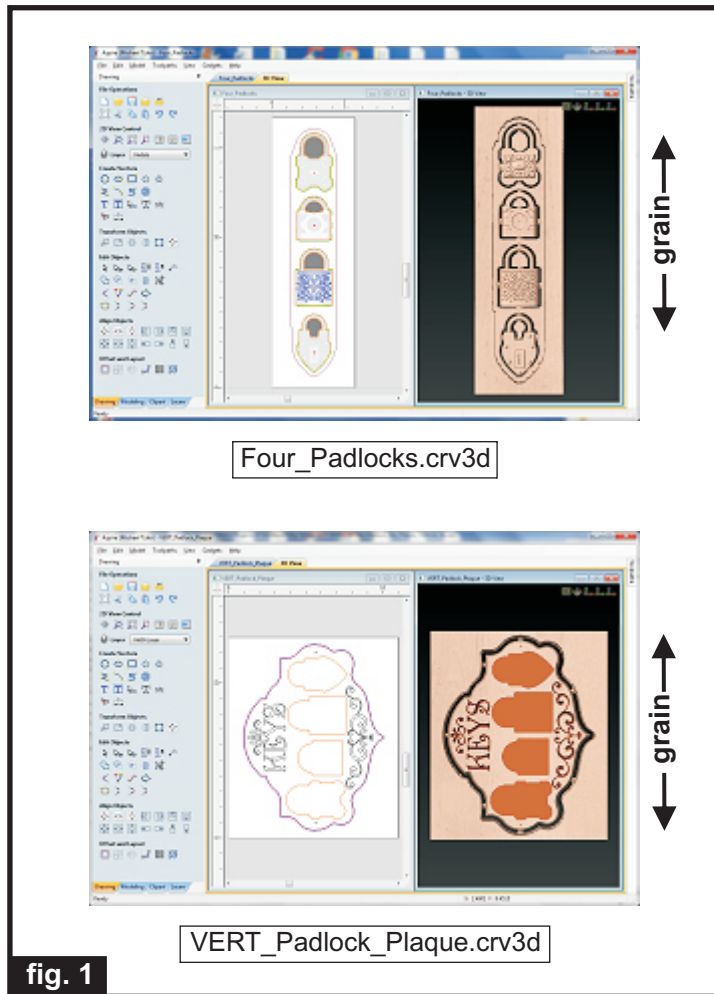
- | | |
|---------|------------------------|
| 0.25" | Up-Cut End Mill (EM) |
| 0.25" | Down-Cut End Mill (EM) |
| 0.125" | End Mill (EM) |
| 0.0625" | Tapered Ball Nose (BN) |
| | 60-degree V-Bit |

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STEP 1 - Open and Review the Project Files

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

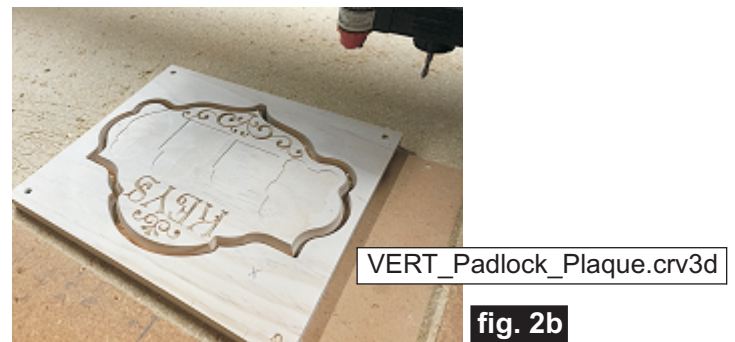
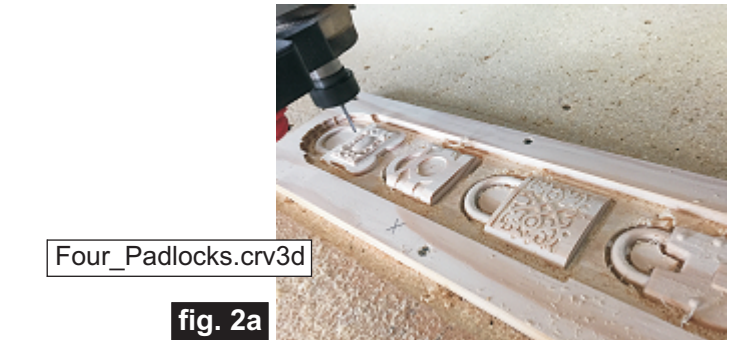


Carefully review all the toolpaths and make any necessary changes to suit your particular bits and machine. The toolpaths are currently set with feeds, speeds and pass depths that were used in creating the original sample. Please don't use them directly until you review them for your own setup.

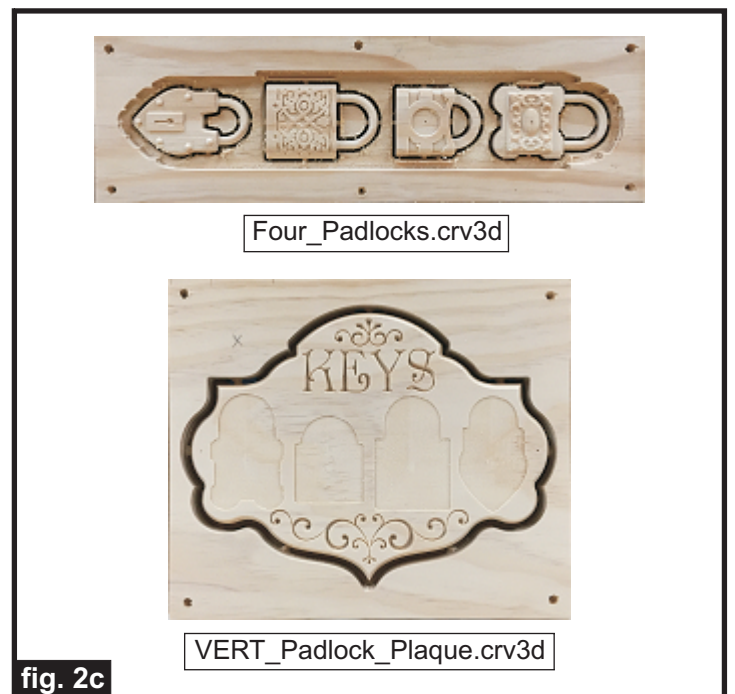
You can edit the tools and change the settings to your own preferences and requirements. **It is very important to recalculate all toolpaths after making any edits/changes.** Once you have recalculated for your own machine and bits, reset the preview, then preview all toolpaths again to visually verify the project outcome on-screen.

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)



Your boards will look something like this: (fig. 2c)



(cont.)

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(cont.)

STEP 3 - Separate Parts from Material

Separate the parts from the boards. Sand off tabs, "fuzzies" and undesirable toolmarks. (fig. 3a, 3b)



Separate the parts from boards

fig. 3a

Sand off tabs and toolmarks



fig. 3b

STEP 4 - Drilling Plaque Holes

Drill two countersunk pilot holes in the plaque to accept wall mounting screws later. There are two small divots at each end of the plaque to indicate drill locations. I used a #6 countersink, but use whatever size is appropriate for your particular mounting screws. (fig. 4)



Drill countersunk screw holes using the small divots as a placement guide

fig. 4

Alternatively, you may opt for an altogether different mounting method such as brass roundhead screws that won't require countersinking, or perhaps using hidden keyhole slots on the backside -it is your choice. If using backside keyhole slots, you can delete the divot guides on the plaque before machining.

STEP 5 - Apply Finish

Apply your choice of finish. Here's what I used on the sample Gatekeeper's Padlock Key Hanger made of Select Pine: (fig. 5a, 5b, 5c)

Padlocks

- Applied two coats thinned Bulls Eye SealCoat (50/50 SealCoat and denatured alcohol)
- Sanded when dry
- Applied various Sculpt Nouveau-brand metallic paints and patina liquids
- Two coats of Sculpt Nouveau Smart Coat Clear

Plaque

- Applied ONE coat thinned Bulls Eye SealCoat (50/50 SealCoat and denatured alcohol)
- Sanded when dry
- Applied Rust-Oleum Ultimate Stain - Wheat
- Several coats of Krylon Clear Acrylic spray

Apply thinned SealCoat. One coat on plaque...two coats on padlocks. Sand when dry.



fig. 5a



Apply Stain and Krylon clearcoats to plaque and two dowel buttons.

fig. 5b

Apply metallic paints, patinas and clear coats to padlocks



fig. 5c

(cont.)

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(cont.)

STEP 6 - Assembly

Epoxy the padlocks into the plaque pockets. Allow the epoxy to set. (fig. 6a)



Apply epoxy to the back of the padlocks and insert them into the plaque pockets.

fig. 6a

Drill pilot holes into the padlock/plaque assembly for the brass cup hooks to be inserted. There is a guide divot on each padlock showing where to drill. (fig. 6b)



Drill pilot holes for the brass cup hooks.

fig. 6b

Screw in the four brass cup hooks. (fig. 6c)

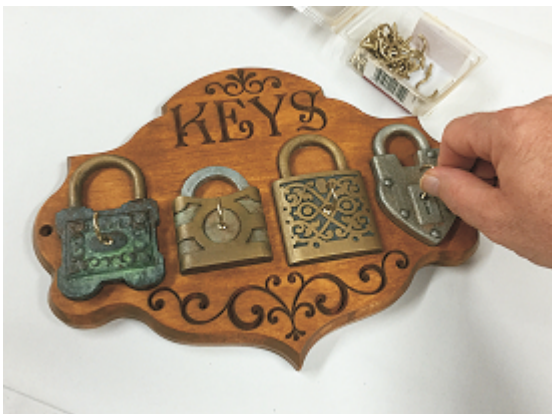


fig. 6c

IN CONCLUSION

Mount your key holder onto the wall using drywall screw inserts, if necessary. The mounting holes are spaced at 11.125" on centers. Hide the countersunk screws by inserting the two dowel buttons that were finished to match the plaque.

I hope you enjoyed making your Gatekeeper's Padlock Key Hanger!

Happy Carving!

Michael

Michael Tyler



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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™

- 0.25" diameter dowel buttons
- Bulls Eye SealCoat and Denatured Alcohol
- Rust-Oleum Ultimate Wood Stain - Wheat
- Sandpaper, Epoxy
- Disposable Brushes and Paint Rags



Krylon Clear Gloss
from WalMart



Metallic Paint & Finishing supplies
ordered from www.sculptnouveau.com



- Brass B
- Bronze B
- Pewter B
- Silver B
- Tiffany Green Patina
- Vista Rust Patina
- Black Smart Stain
- Smart Coat Clear Satin



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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