Vectric

Passionate About CNC

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:

Aspire 3.5
(or greater)

Sample Carved with:
ShopBot Buddy
PRSalpha BT48

ShopBot ®
www.shopbottools.com

Better Than Sliced Bread!
Designed for Vectric™ by Michael Tyler

The Better Than Sliced Bread! bread box project is based upon a standard "box" container with a decorative dished relief design and v-carving motif on the door. It will make a wonderful addition to any kitchen (hint: makes a great house-warming gift for newlyweds!).

The finished Bread Box is about 16½ " W x 13 "D x 8.25 " H.

Main items you will need:

1) The Project Files (included):
• BreadBox_Door.crv3d
• Plywood_Shelf.crv3d
• Rear_Panel.crv3d
• Side_Panels.crv3d
• Top_Panel.crv3d

2) Boards with the following dimensions:
Door: .75 " x 9.2 " x 18"
Ply Shelf: 0.5 " x 12 " x 18"
Rear: .75" x 9.2" x 17"
Sides: .75" x 9.2" x 29"
Top: .75" x 11.2" x 18"

3) Decorative knob, one small birthday candle, edge-banding for ply shelf (optional)

4) Two thin .5" OD fiber washers with .25 " ID hole, two 0.25" dia. dowels and dowel buttons

5) Drill, sandpaper, glue, clamps, wood stain and/or paint and clear finish

6) A Dremel-type rotary tool with assorted sanding wheels and bits to sand small details and speed up preparation for finishing.
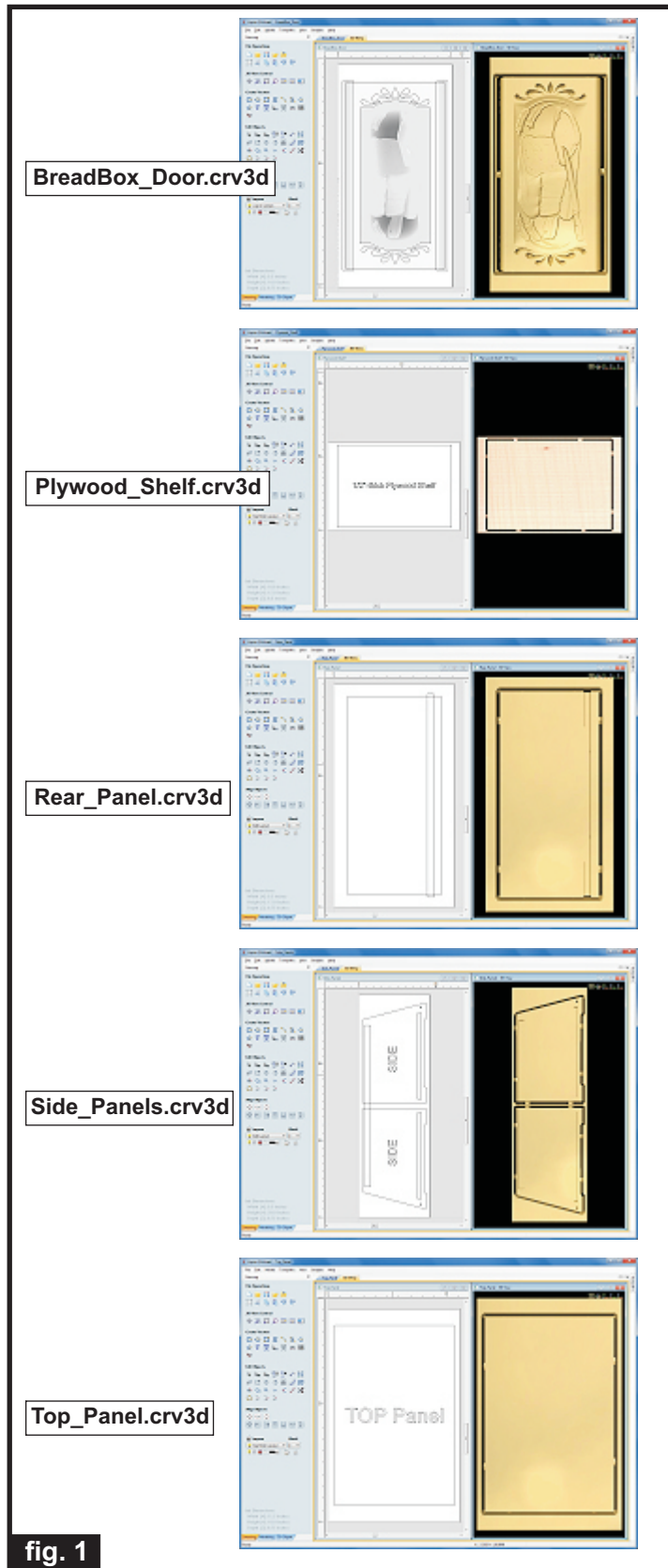
CNC Bits used for the Sample:

V-Carve:	90° V-Bit
Roughing :	0.25" Down-Cut EM
Finishing:	0.125 "Ballnose
Pocket, Drills, Cuts:	0.25 "Down-Cut EM

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 (feed/speed, RPM settings, etc.) to suit your particular bits and machine.

The toolpaths are currently set with feeds, speeds, pass depths and so on, 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.**

Once you have recalculated the toolpaths 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. (fig. 2a, 2b)

BreadBox_Door.crv3d

Plywood_Shelf.crv3d

Rear_Panel.crv3d

Side_Panels.crv3d

Top_Panel.crv3d

fig. 1

fig. 2a

fig. 2b

(cont.)

STEP 2 - Run the Project (cont.)

Your machined material will look something like this. (fig. 2c)

fig. 2c

STEP 3 - Release and Prep Parts

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

fig. 3a

I use 3M Radial Bristle Discs (80-grit and 220-grit) to remove fuzzies from carvings. I stack 3 discs at a time on a 3/32" dia. mandrel.

fig. 3b

Square-off the inside corner radius' of the slots with a hand chisel. (fig. 3c)

fig. 3c

Edge-band the front of the plywood shelf, if desired. (fig. 3d)

fig. 3d

(cont.)

STEP 4 - Main Assembly

Dry fit the parts to make sure everything lines up properly. Place the front door in position as a spacer. After verifying proper fit, apply wood glue to the components and re-assemble. Clamp until dry. (fig. 4a, 4b)

fig. 4a

NOTE: Do not apply glue to the door front! You're just using it as a spacer at the moment.

fig. 4b

After the glued assembly has dried, remove the clamps and arrange the door so that the edges are flush with the sides' angle (use wooden wedges to help align), then tape or clamp the door securely in place. (fig. 4c, 4d)

fig. 4c

fig. 4d

STEP 4 - Main Assembly (cont.)

We need to drill holes into the door sides for the dowel hinges. Before drilling, put a masking tape 'flag' around a 1/4" bit at 1½" from the bit tip so you can tell when the bit has gone into the front door sides about ¾" deep. (fig. 4e)

fig. 4e

With the door still secured in position, drill 1/4" holes into the door ends, using the side panels' pre-drilled holes and the bit flag marker as your guides.

The door must not shift position while drilling - so be sure it is secure before drilling the dowel hinge holes. (fig. 4f)

fig. 4f

Hole Closeup

Cut two lengths of 1/4" diameter dowels to about 2½" long. These will be the hinge pins. Sand each dowel so they slide easily through the side panels and fully into the door holes.

Remove the clamps and door. Tack the flat washers in place on the inside panels. Use a scrap dowel as a guide to line up the washers with the holes. I used a tiny drop of CA glue to tack the washers in place. Be careful - don't glue the alignment dowel in! (fig. 4g)

fig. 4g

(cont.)

STEP 4 - Main Assembly (cont.)

Remove the door and sand each of the ends so there is no binding at the side panels and enough clearance to allow for the thickness of the flat washers. Reinstall the door with the dowels and test the door action.

When satisfied with the fit, remove the door and set aside. (fig. 4h)

fig. 4h

STEP 5 - Apply Finish

Apply stain/paint and clearcoat of your choice. (fig. 5) Here's what I used on my Better Than Sliced Bread Bread Box made from Select Pine:

- Rust-Oleum Ultimate Stain - Golden Mahogany
- Spray Shellac on the interior surfaces
- Krylon clear acrylic on exterior surfaces

fig. 5

STEP 6 - Final Assembly

Once your finish is completely dry, re-install the door and mark the excess dowel length with a pencil. (fig. 6a)

fig. 6a

Remove the dowels and cut them about 1/4" shorter than your mark. (fig. 6b)

fig. 6b

Use a small diameter birthday candle to wax the inside of the door holes. (fig. 6c)

fig. 6c

Replace the door, insert the dowels fully into the holes. Glue the dowel buttons over the holes. (fig. 6d)

fig. 6d

(cont.)

STEP 6 - Final Assembly (cont.)
Install a decorative knob, if desired
(fig. 6e)

fig. 6e

IN CONCLUSION
I hope you have enjoyed your Better Than Sliced
Bread! bread box project. There is room for
customization of this project. For example, you may
want to customize the plain side panels with your own
creative design(s) to make a variety of unique versions!

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 Acrylic
from WalMart™

Miscellaneous Items Purchased at Lowes™

• **1/4" wooden dowel**

• **Flat Fiber Washers**

• **Decorative knob**

• **Rustoleum Ultimate Stain - Golden Mahogany**

• **Zinsser Bulls Eye 100% wax-free Clear Spray Shellac**

• **Denatured Alcohol**

• Disposable Brushes and Paint Rags

Vectric Project Tutorial
www.vectric.com

Additional Resources

RESOURCES...

There are numerous resources for Vectric software owners to make their experience with their products more enjoyable. The Vectric website includes videos and tutorials to provide a good overview of the software products and how to use them. (http://www.vectric.com/WebSite/Vectric/support/support_vcw_tutorials.htm)

As well as the resources available from the Tutorial page, please also visit the 'FAQ' and 'How To' pages for more support information...

'How To' webpage
http://www.vectric.com/WebSite/Vectric/support/support_how_to.htm

'FAQ' webpage
http://www.vectric.com/WebSite/Vectric/support/support_faq.htm

Vectric User Forum
Every Vectric software 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.