

CHAPTER 3 – DYNAMIC SURFACE

There are many tools in the Project Designer Software that allow for a lot of variety in your carvings. The ability to carve all the way through your board, merge carvings and surfaces to each other, clip carvings to fit within a shape, and more.

What's in this Section?

This section will cover using domes, textures, piercing, clip carving and merging. These procedures will cover both Project Designer BASIC and Project Designer PRO, Centerline Text, and Conforming Vectors.



TUTORIALS

Summer Sun – Learn more about layering using depth and height and the pierced carving tool.

Pierced Wind Grill - This project shows how to use the pierced carving tool, clip carving & drill holes.

Carving Cutouts – No Cutting Bit Required – This technique demonstrated how to carve your project all the way out of the board with using only the carving bit. This technique is perfect for doing appliques and other pieces where a bit change isn't needed.

Red Rooster Coffee Sign– Project Includes many techniques including import image and clip carving. Use this image for importing the sunrise.

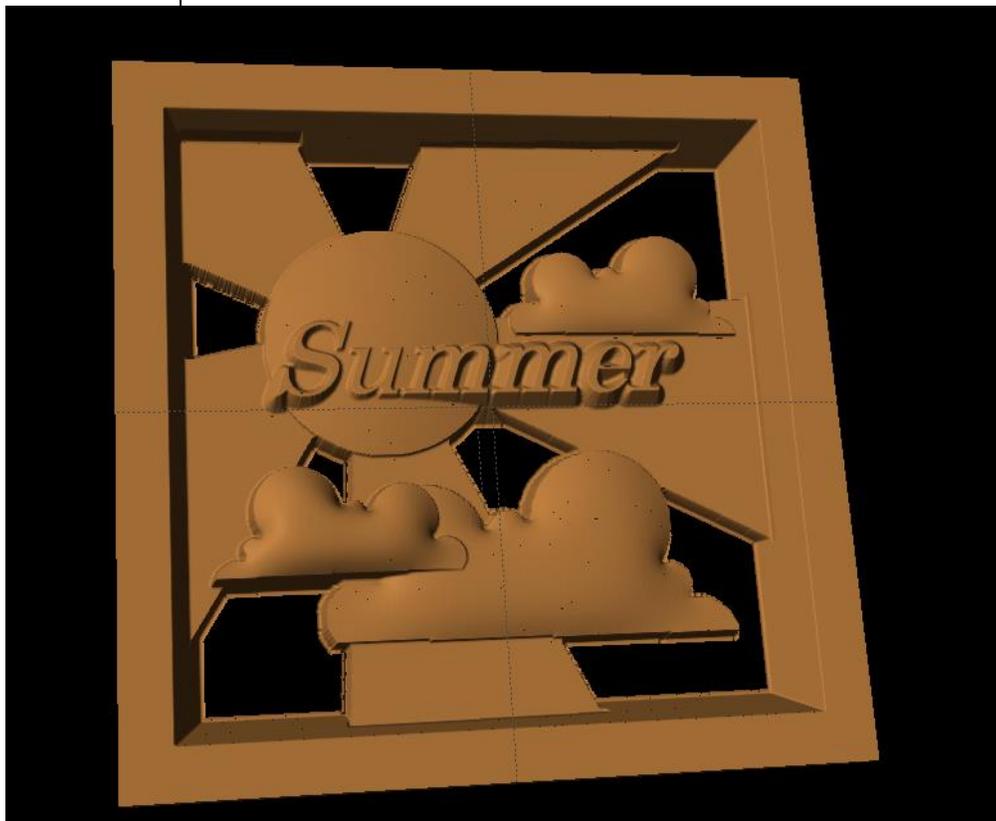
Home of the Brave- This project shows how to use the pierced carving tool, clip carving & drill holes.

Curved Box Side – This project reinforces previously learned features and adds the surface tool, attachments, and the merge features.

Lighthouse Welcome - Sign This 2 part project introduces several tools such as merging, clip carving, Conforming Vectors (sold separately), and cut path.

This project covers the following design concepts:

- ✓ STARTING SOFTWARE
- ✓ MENUS, TOOLBARS, SHORTCUT KEYS OR MOUSE BUTTONS
- ✓ MANIPULATING THE WORKPIECE
- ✓ SNAP TO GRID
- ✓ DRAWING TOOLS
- ✓ CARVE REGION
- ✓ FEATHERING
- ✓ PATTERN PLACEMENT
- ✓ ROTATE ELEMENT
- ✓ COPY & PASTE
- ✓ ADJUSTING HEIGHT
- ✓ TEXT TOOL
- ✓ FINE TUNING
- ✓ ADJUSTING DEPTH
- ✓ TEXTURE
- ✓ BOARD SETTINGS
- ✓ MANAGING DATA
- ✓ UPLOADING TO MEMORY CARD
- ✓ SELECT QUALITY SETTING
- ✓ NAME PROJECT



INSTRUCTIONS:

✓ STARTING THE SOFTWARE

Open the CarveWright Project Designer Software

The Welcome screen appears with project options.



Select "New Project"

Set your project board dimensions.

Length: 7"

Width: 7"

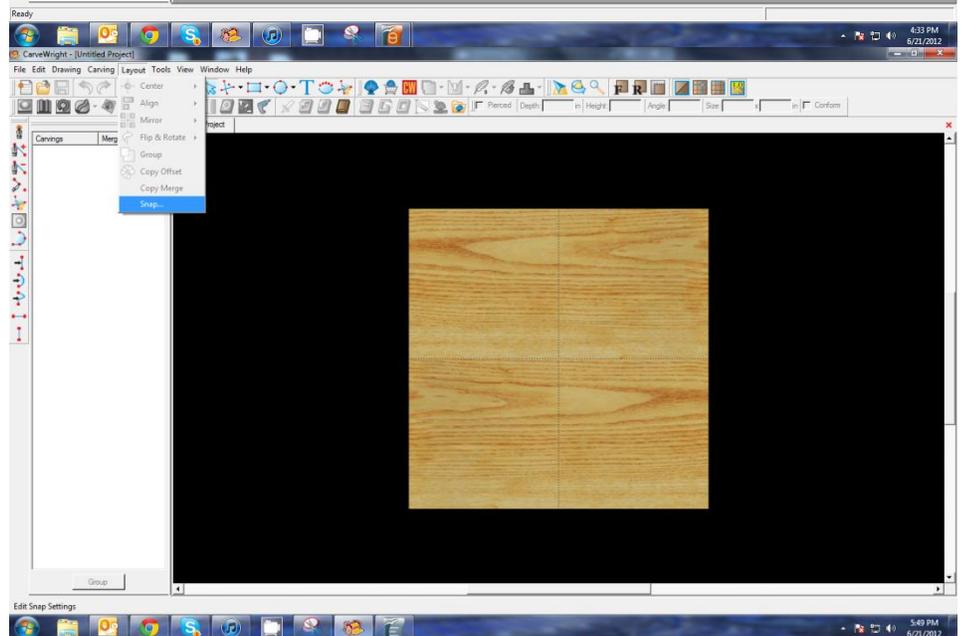
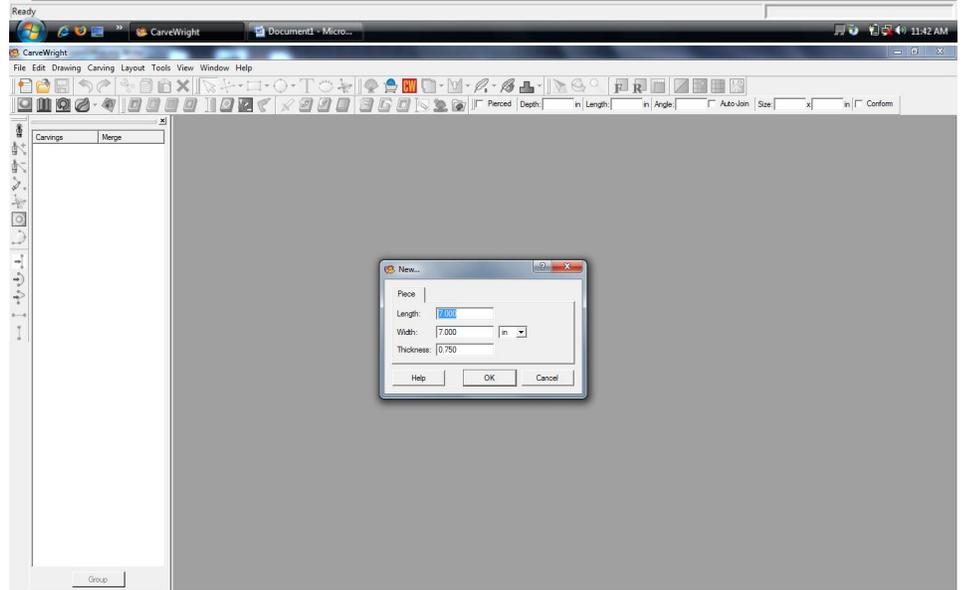
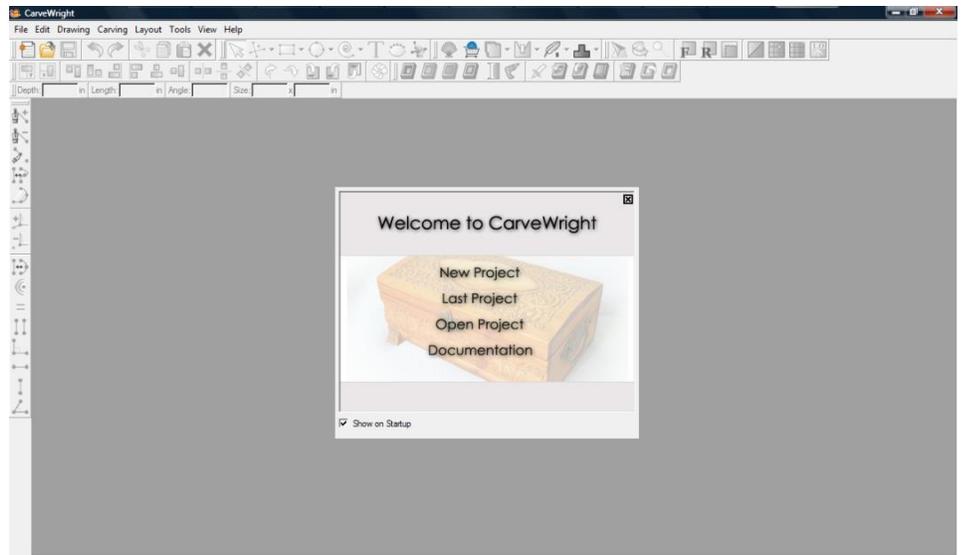
Thickness: .75"

Click OK

The project board size is not necessarily the actual size of the board being put into machine.

✓ SNAP TO GRID

Under LAYOUT menu, select SNAP.

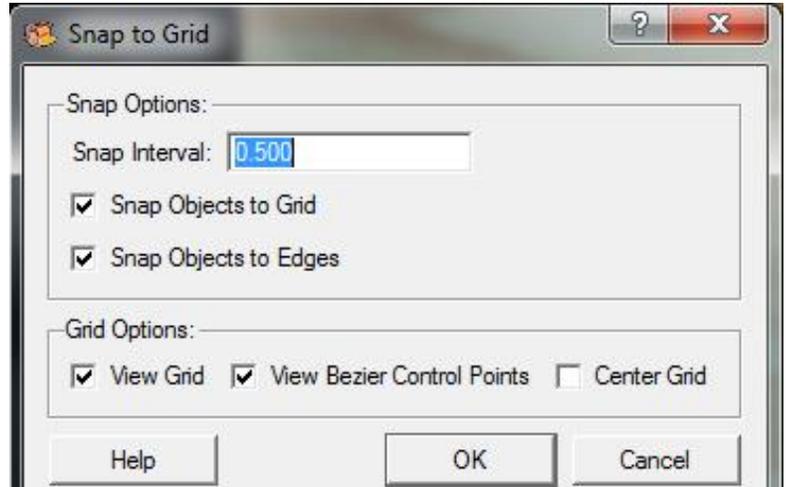


Snap Interval should be .5 inch interval by default.

Check boxes:

- Snap to grid
- Snap to edges
- View grid
- View Bezier Control Points (should already be selected as default)

Click ok

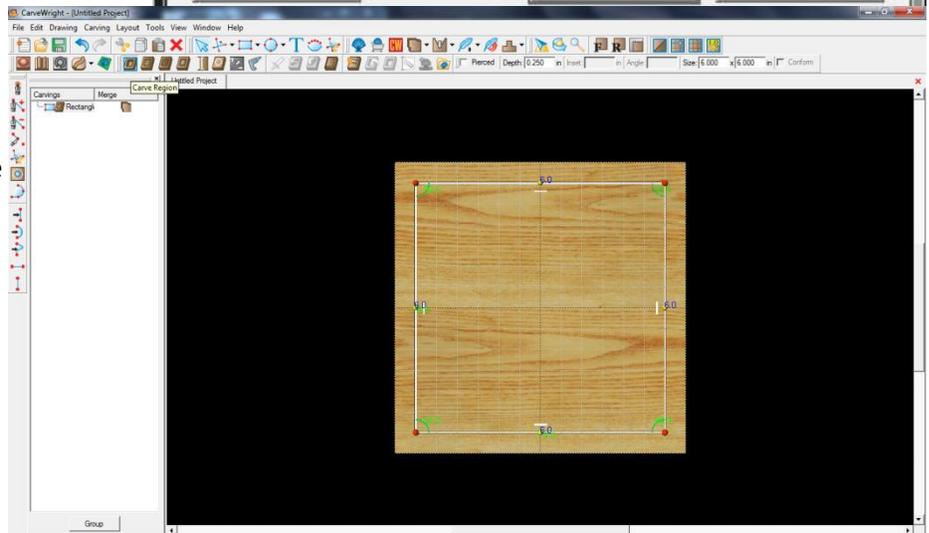


✓ DRAWING TOOLS



Using the grid, draw a box or rectangle .5" inside the project board, which should give you a box that is 6" x 6".

Select the "Pattern Tool" icon to open the pattern library along the right side.

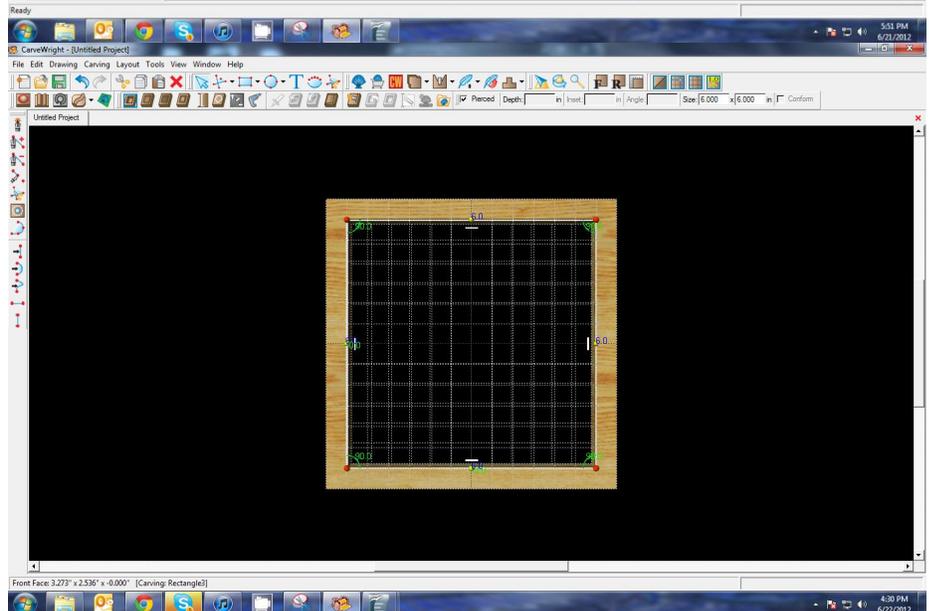


✓ PIERCED CARVE



Check the "Pierced" box on the toolbar.

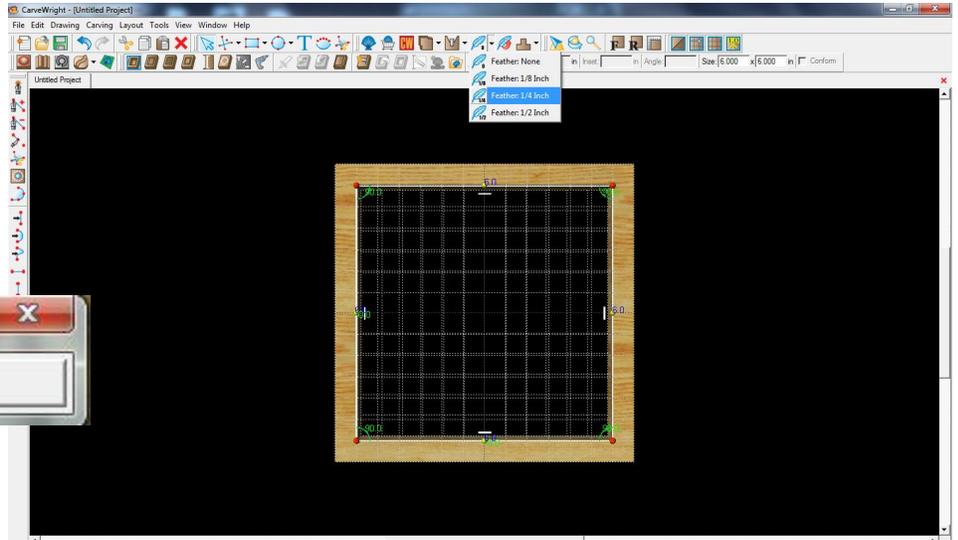
If you cannot find a certain icon on your tool bar, click on View > Toolbars to make sure they are all selected.



✓ FEATHERING

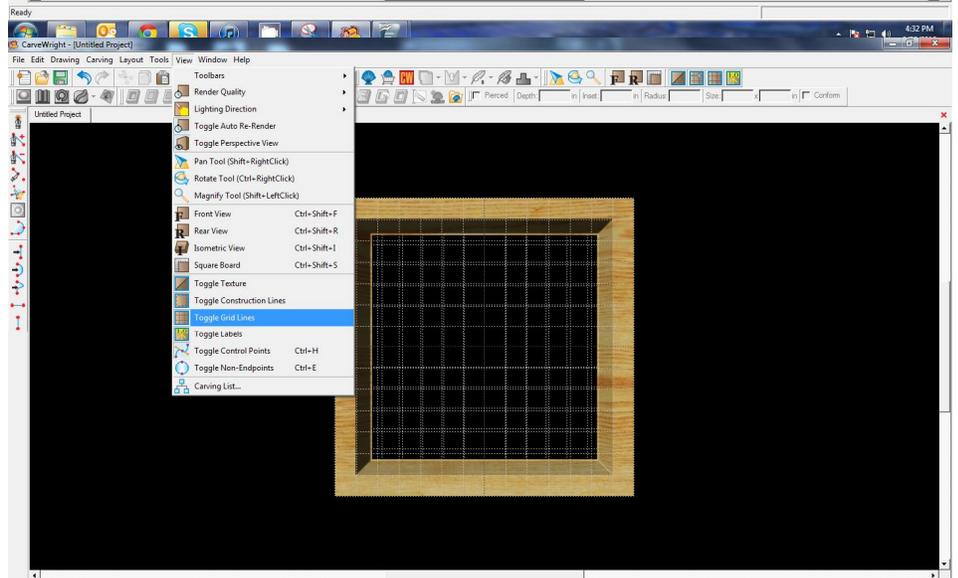
Select the drop-down Feather menu and select 1/4" feather.

Select "Accept"



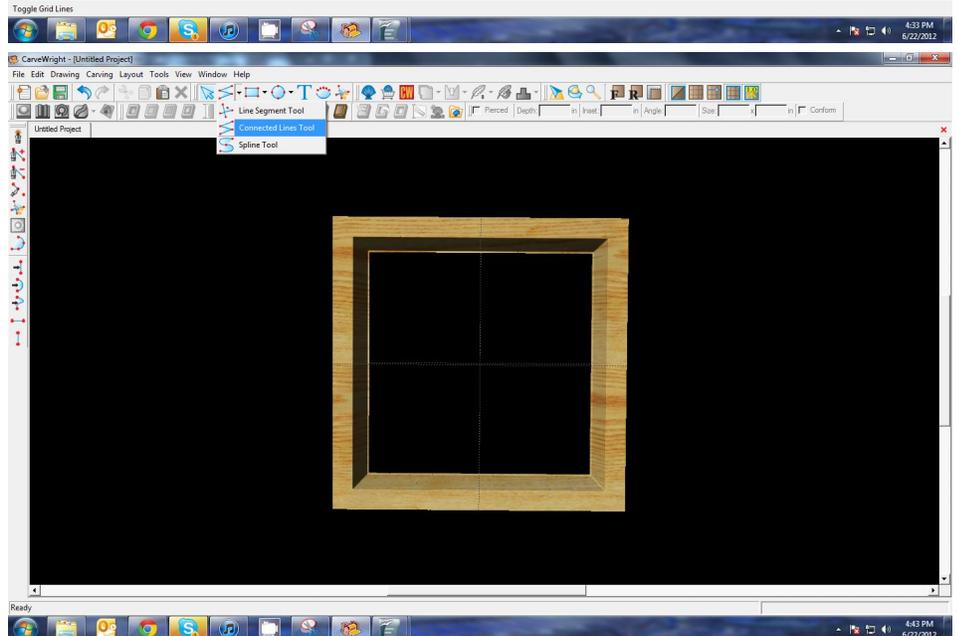
✓ SNAP TO GRID

Click "Toggle Snap to Grid" & "Toggle Gridline" icons to turn OFF.



✓ DRAWING TOOLS

Select the "Connected Lines" tool.



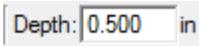
Draw the Sun Rays by clicking in one area to create the first point, move to the next point and click once, so on until you come back to the first point. To make a closed region hover over the first point until you see the "star burst" and click.



Click Carve Region



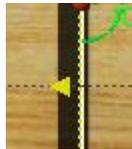
Set depth to .05"



Center Both

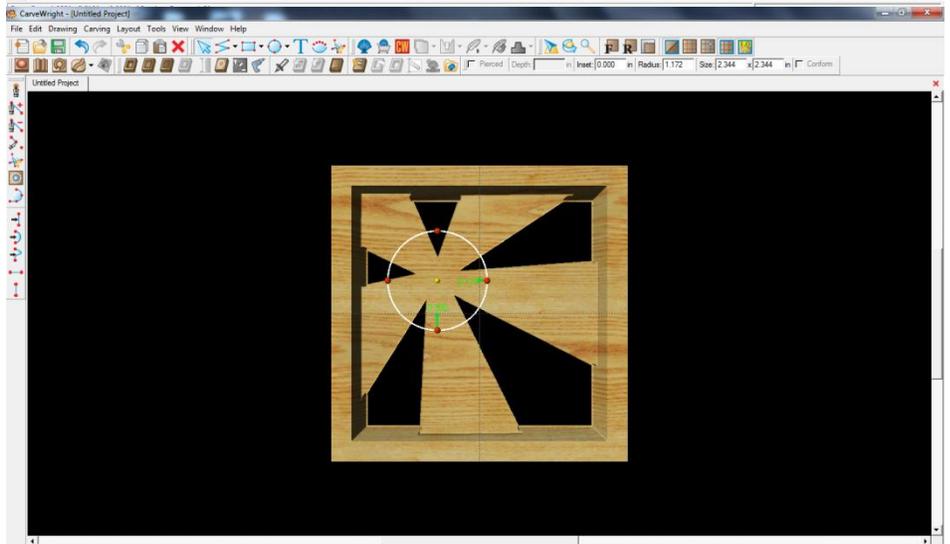
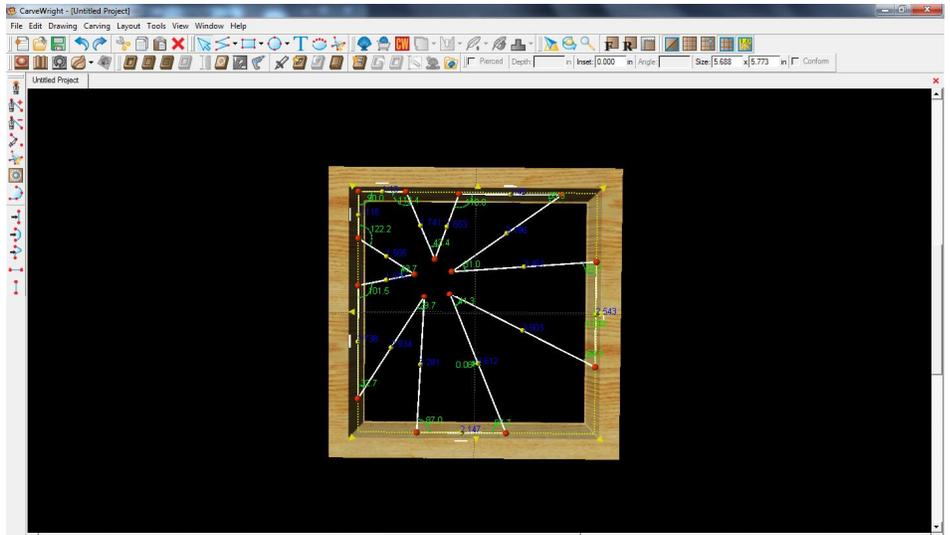


Adjust size so that the rays slightly overlap the sides.



✓ DRAWING TOOL

Draw a circle at the intersecting point of your rays.



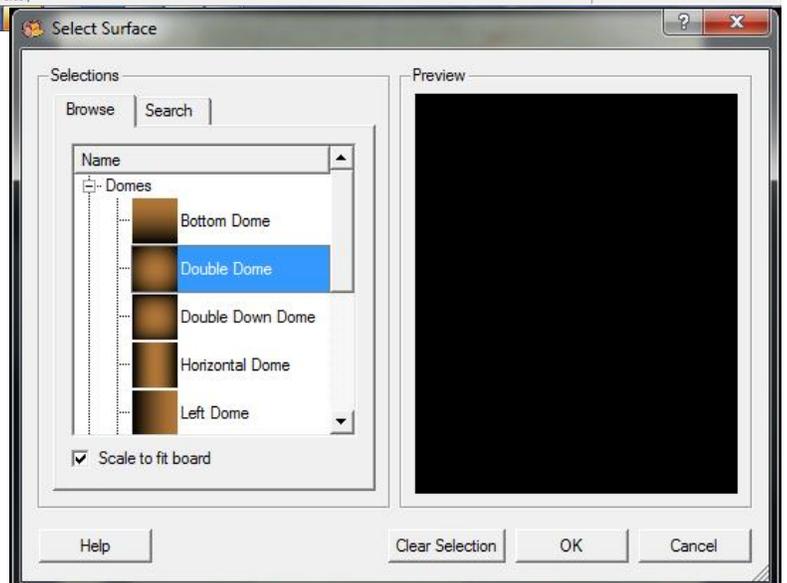
✓ SURFACE

Select "Surface" Icon



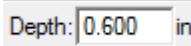
Select "Double Dome"

The darker area is the deepest.

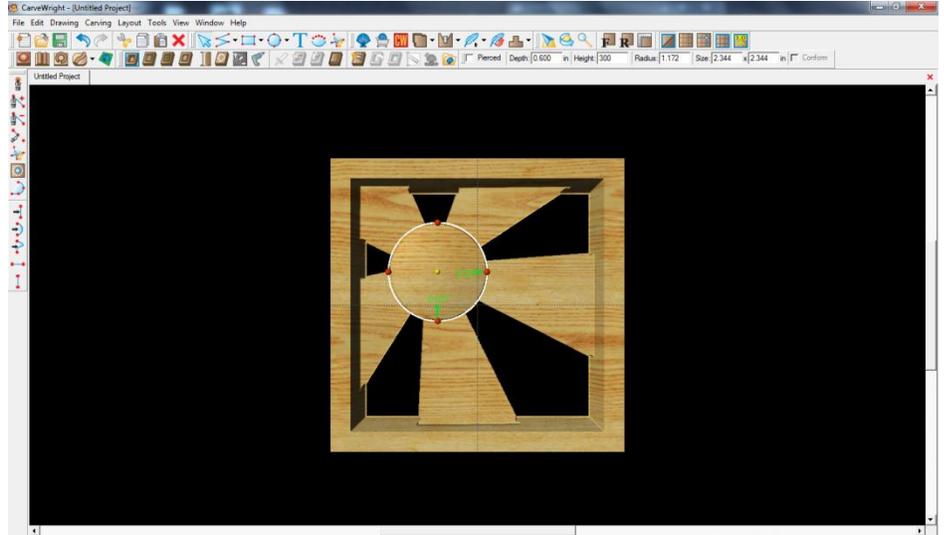


✓ FINE TUNING

Set Depth to .06"

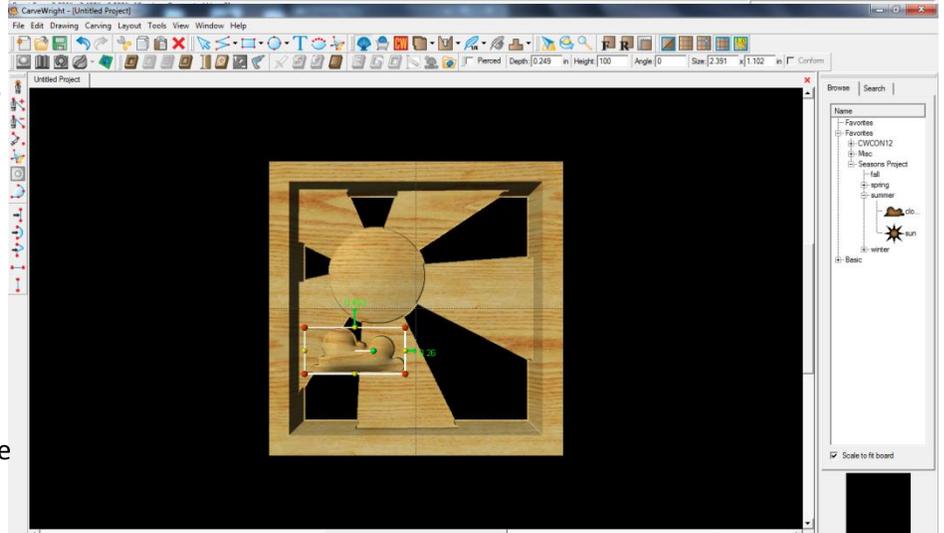


Set Height to 300.



✓ LAYERING PATTERNS

Patterns merge with one another and can be arranged using even the same pattern by overlapping, changing the orientation and varying the size, height and depths you can create your project.



✓ PATTERN PLACEMENT



Select the "Pattern Tool" icon to open the pattern library along the right side.

Select "cloud" under "Season Patterns" in your Favorites library from the summer folder.

Place on project board.

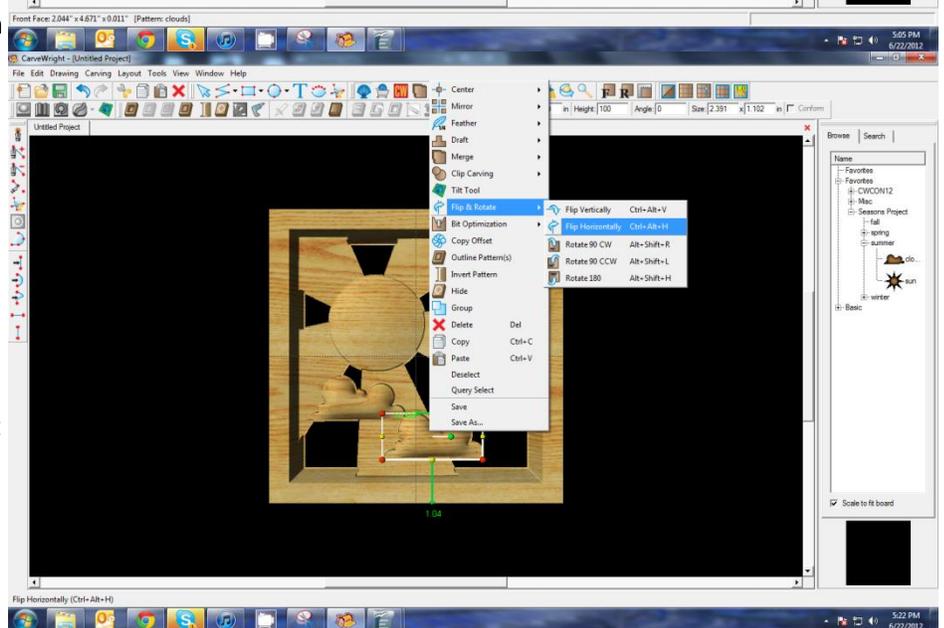
Copy & Paste to add another cloud.

✓ FLIP & ROTATE

Right click on the second cloud and select Flip Horizontally.

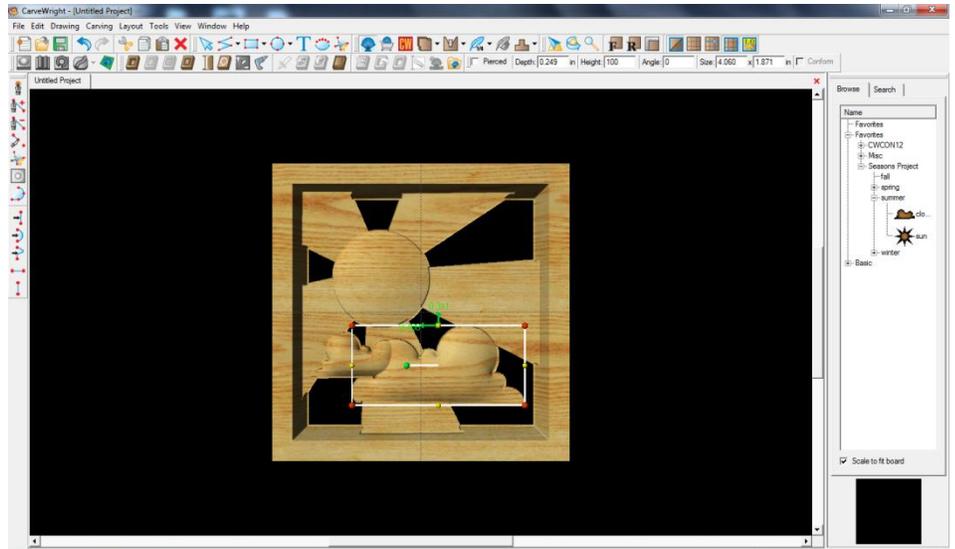


Resize larger than the first cloud and position slightly overlapping first cloud.

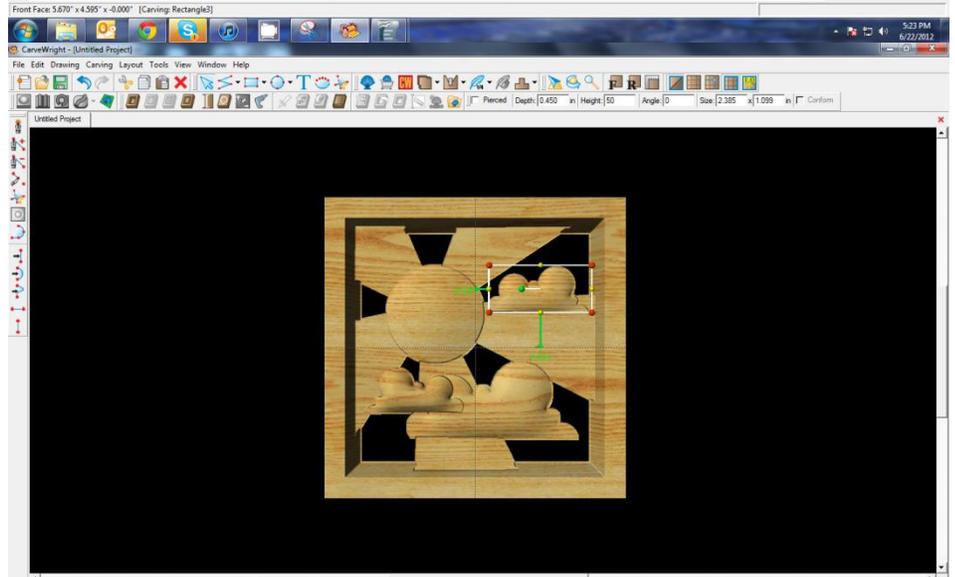


Adjust the depth of the larger cloud to .45" and the height to 50.

Depth: 0.450 in Height: 50



Right Click on the larger cloud; then paste and move to the upper right quadrant of the project.



✓ TEXT TOOL

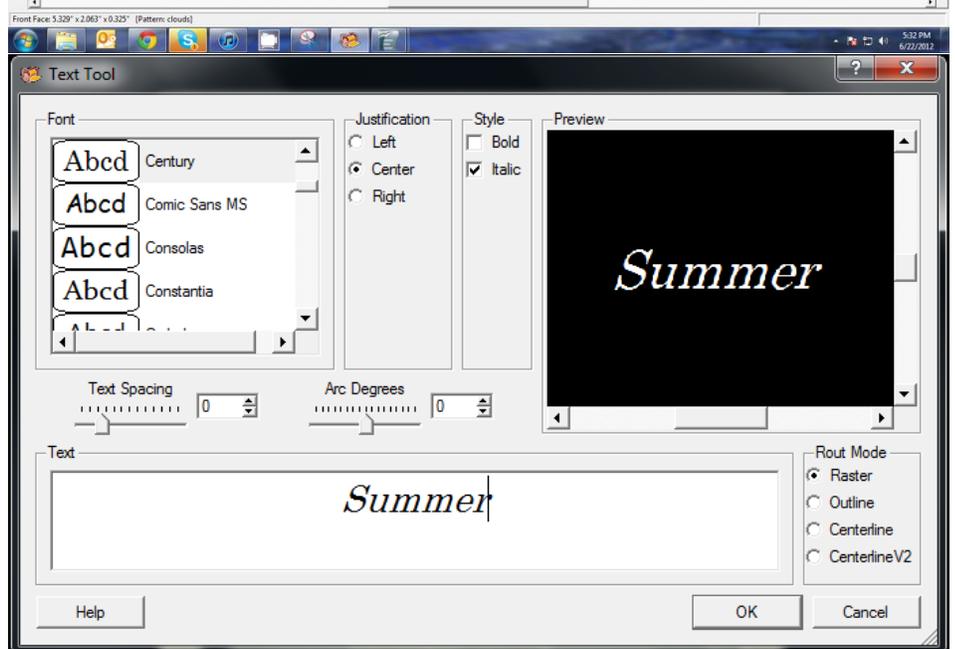


Next, select the "Text Tool" and click on board.

Text dialog box will appear. Select from any of the true type fonts that you have on your computer. *Some work better than others.*

Type the word "Summer"

Select "Raster" from one of the available Rout Modes.

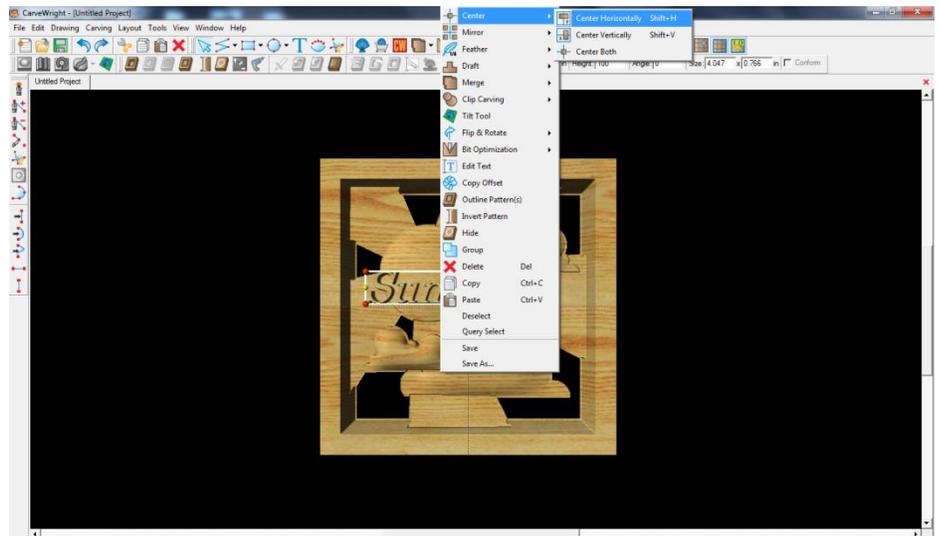
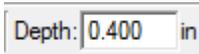


Center Horizontally



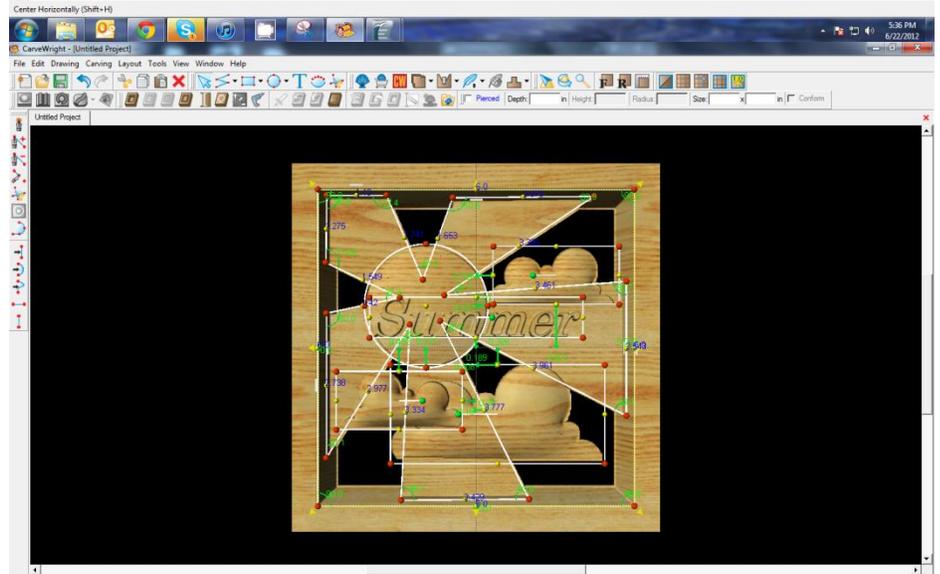
Position the word to go across the Sun and into the Sunray. The entire word should have a background behind it.

Set Text Depth to .04"

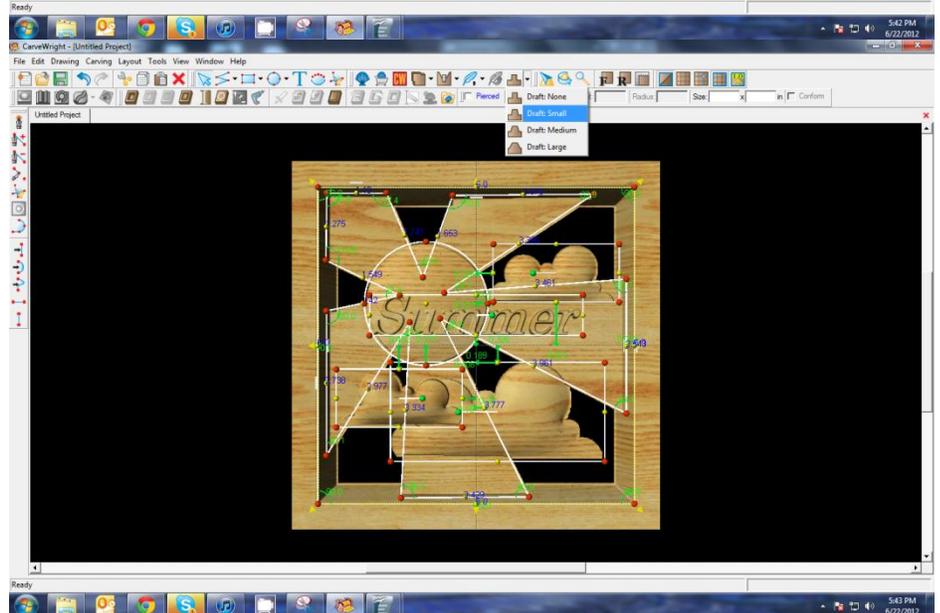


✓ SELECT ALL

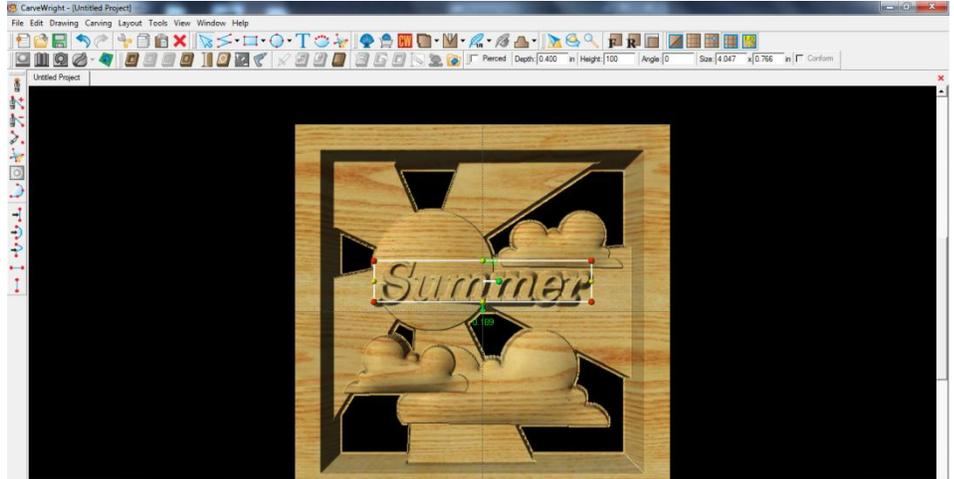
Select all by clicking once on one corner and then holding down the mouse button, drag your mouse to the opposite corner. *You can also right-click on the board (no element selected) and then select Select All.*



With everything selected, click on the "DRAFT" drop-down menu and apply a "Small Draft".



With just the word selected, apply a MEDIUM draft.



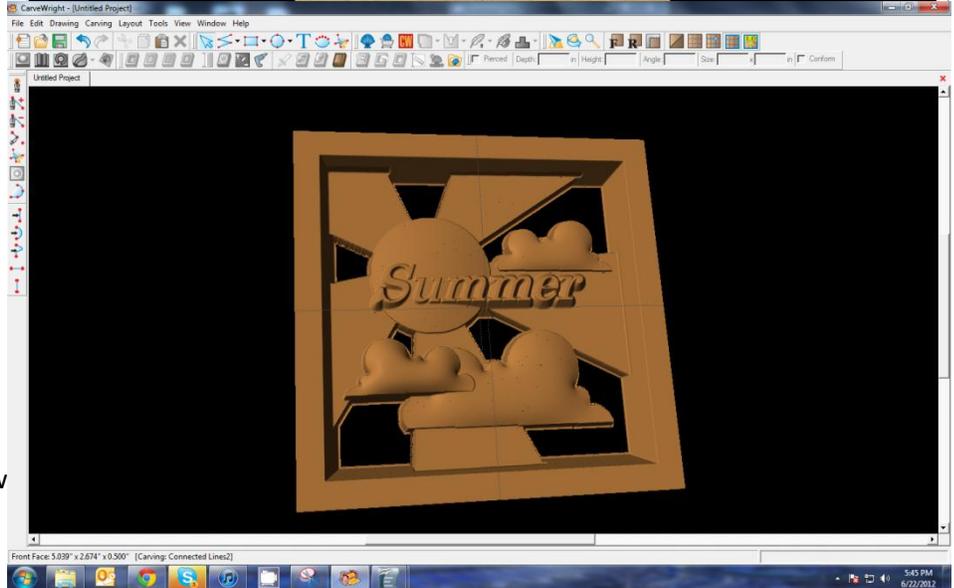
✓ BOARD SETTINGS

Go to View > Toggle Texture to remove wood grain for better viewing.

Also look at View > Board Settings > Stain/Finish to see how you can change the Wood Type/Stain or Wood Finish. This is a great way to present a proposal to a potential customer.



Rotate or zoom in on your project to view it from different angles and make any necessary adjustments.



REMEMBER THESE FUNCTIONS FROM PREVIOUS STEP-BY-STEP PROJECTS

✓ MANAGING DATA

Select "File" > "Save"



*****IMPORTANT*****

Once a project is uploaded to a memory card, it cannot be brought back from the memory card into the software. Always SAVE YOUR PROJECT on your hard drive. A Projects folder is recommended and you should know where you saved it.

✓ UPLOADING TO MEMORY CARD

Make sure your Memory Card



& Programmer are properly attached via your USB port, Select "File" > "Upload" to save to your memory card.

Select Quality Setting

- *DRAFT*
- *NORMAL*
- *BEST*
- *OPTIMUM*

These settings determine the number of passes the machine makes to carve your project. The more lines the better the surface finish. Make your decision based on material type, fondness of sanding vs. machine time, & test carve vs. final. Notice the estimated carving time differs by quality setting.

Name Your Project

Example:

Summersun_B_3h30m

(recognizable name_quality setting_estimated time to carve)

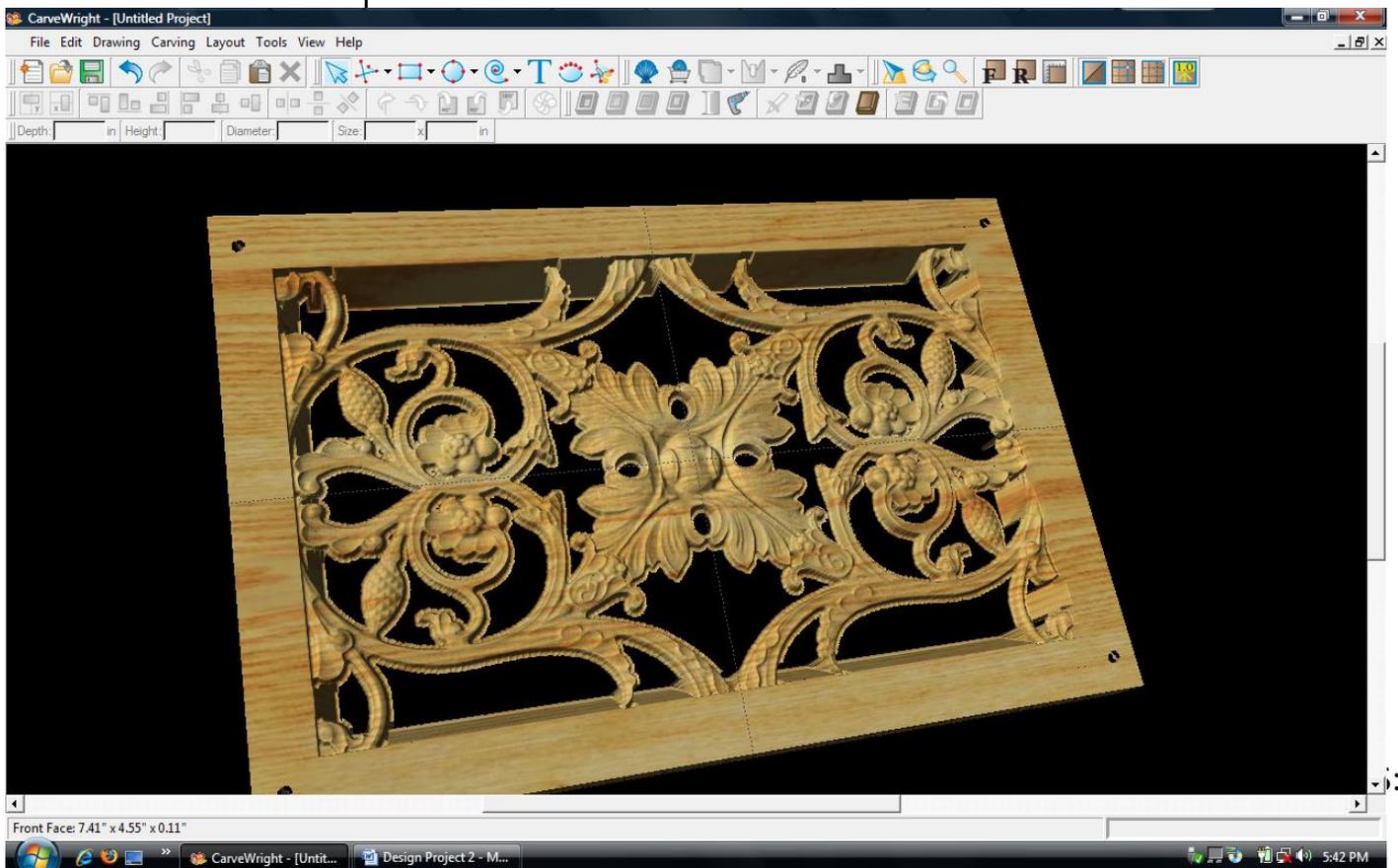
Click "Upload"

NOTE: Actual board to be placed in machine should be 7" longer or you should use a sled that has 3.5 extra inches on each end to STAY UNDER THE ROLLERS.

PIERCED WIND GRILL

This project covers the following design concepts:

- PATTERN PLACEMENT
- PATTERN MANIPULATION
- FINE TUNING
- ADJUSTING DEPTH & HEIGHT
- DRAWING TOOLS
- REGIONS
- CARVING OPTIMIZATION
- FEATHERING
- CARVING LIST
- BOARD SETTINGS
- MANAGING DATA
- UPLOADING TO MEMORY CARD
- QUALITY SETTINGS
- PIERCED CARVING
- DRILLING HOLES
- CLIP CARVING



➤ STARTING THE SOFTWARE

Open the CarveWright Designer Software

The Welcome screen appears with project options.

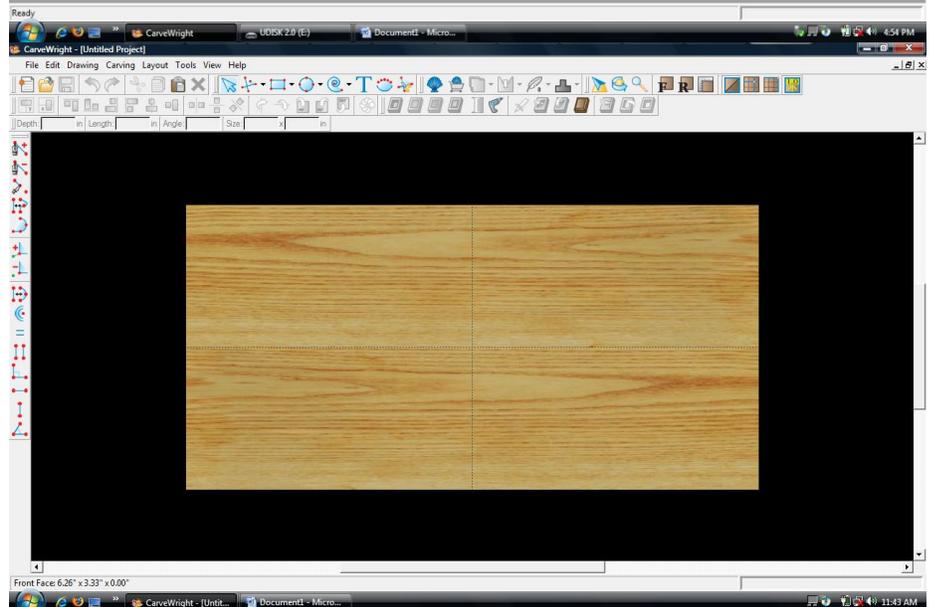
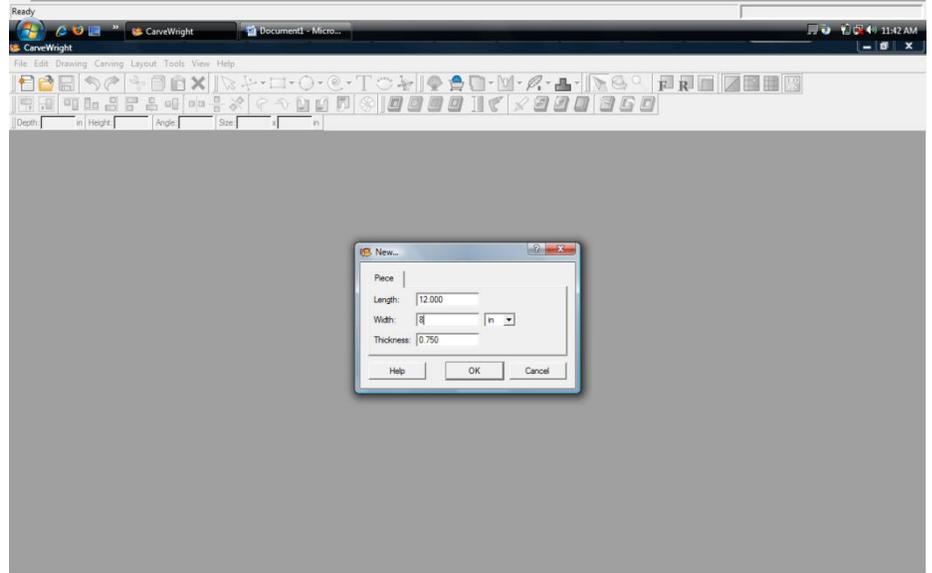
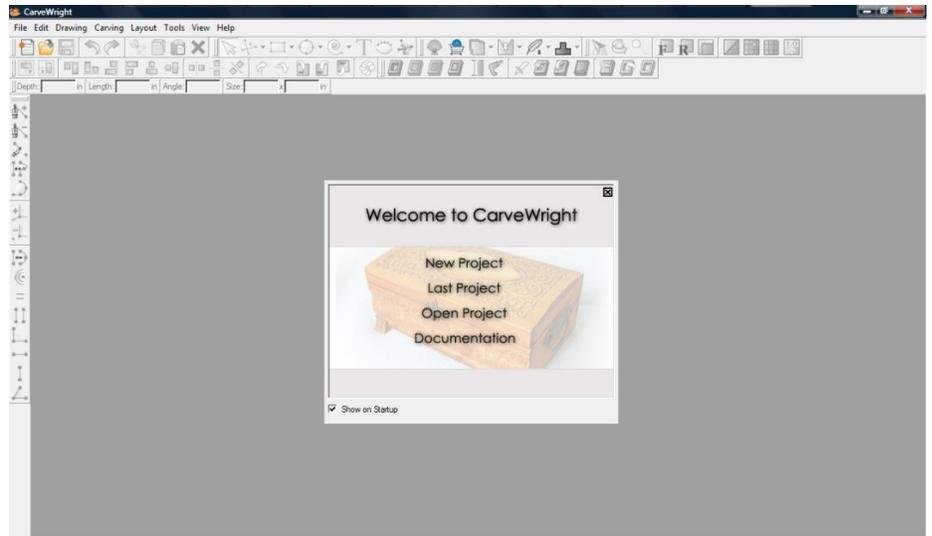


Select “New Project”

Set your board piece dimensions.
Length: 12”
Width: 8”
Thickness: .75”

Click ok

➤ MENUS, TOOLBARS OR MOUSE



➤ MANIPULATING THE WORKPIECE

Board piece will display on screen in three dimensions.



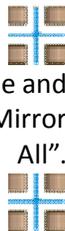
➤ DRILL HOLE TOOL



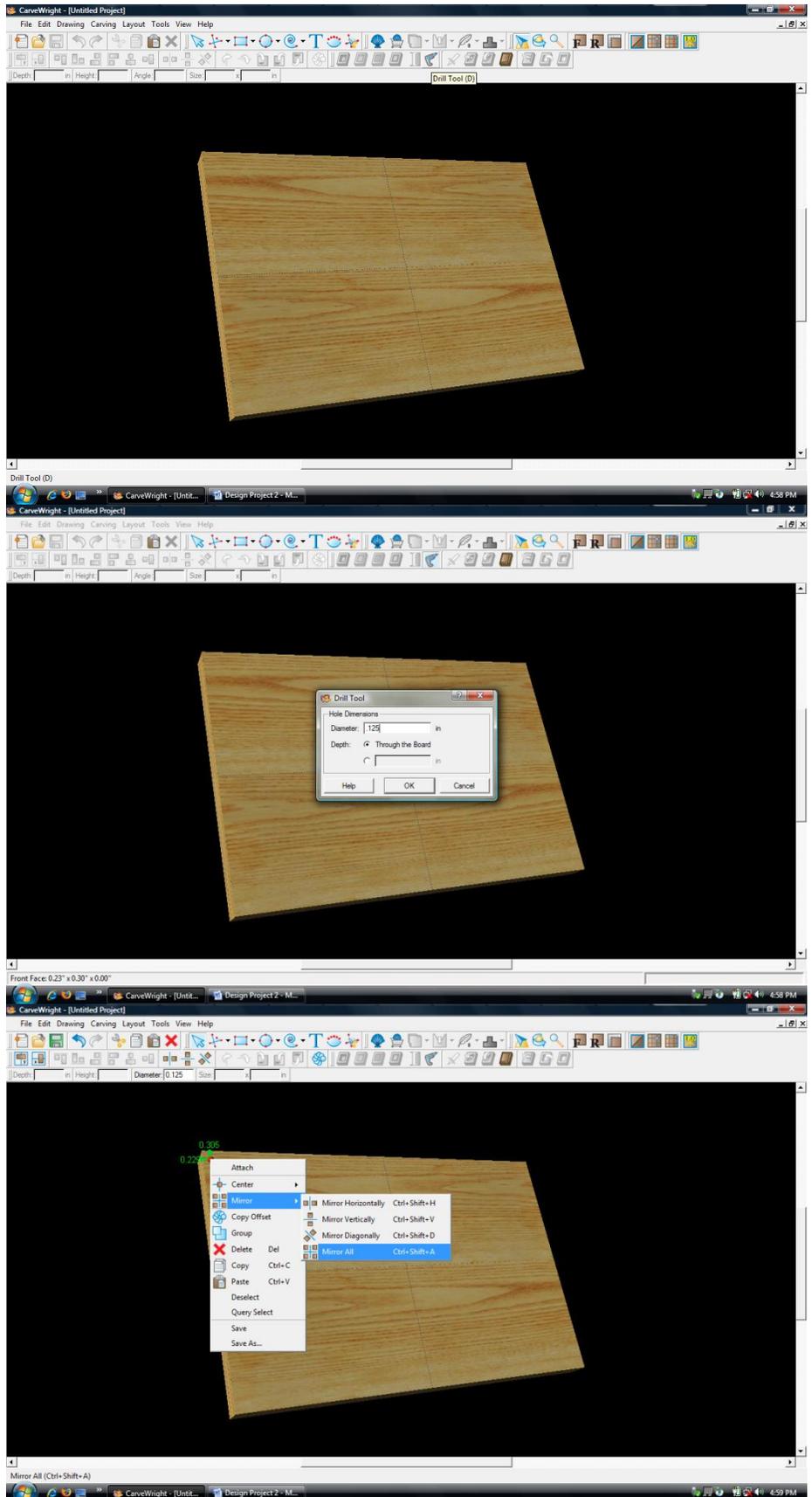
Select the “Drill Hole Tool” and click on the top left corner of the workpiece.

Drill Hole Tool dialog box appears. Type “.125” inch for the diameter of the hole.

➤ MIRROR



Right click on the hole and select “Mirror”, “Mirror All”.



Holes should now appear in all four corners.

➤ PATTERN PLACEMENT



Select the “pattern tool” to open the pattern library along the right side.

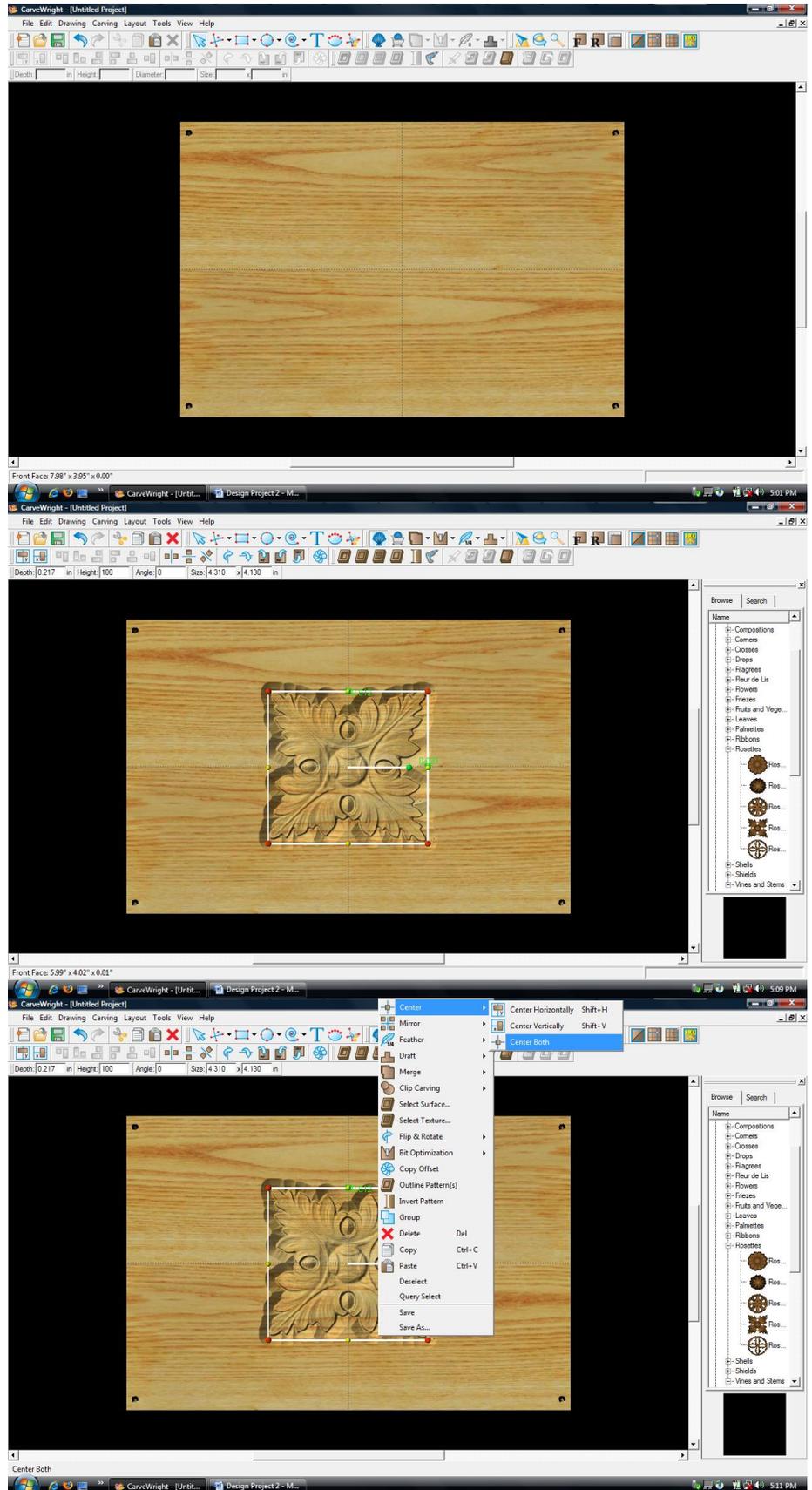
Select “Rosett04” under “Rosettes” and place on board by clicking or drag & drop.

➤ CENTERING

Right-Click on “Rosett04” to bring up menu of available options.

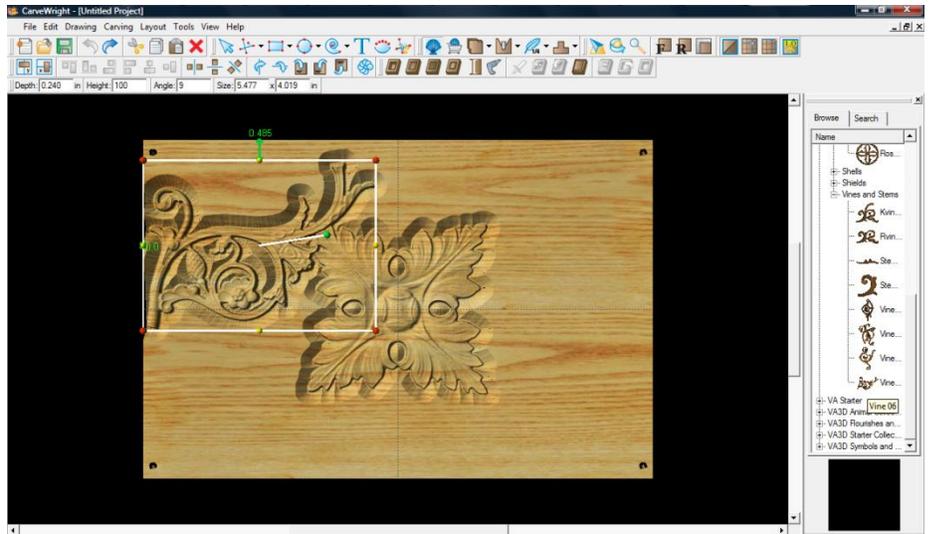


Select “Center”, “Center Both”.

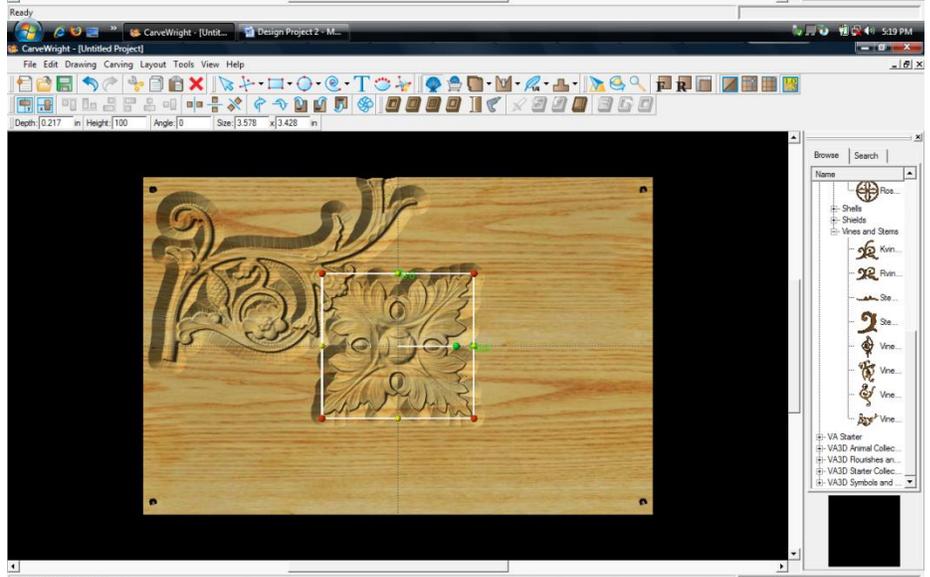




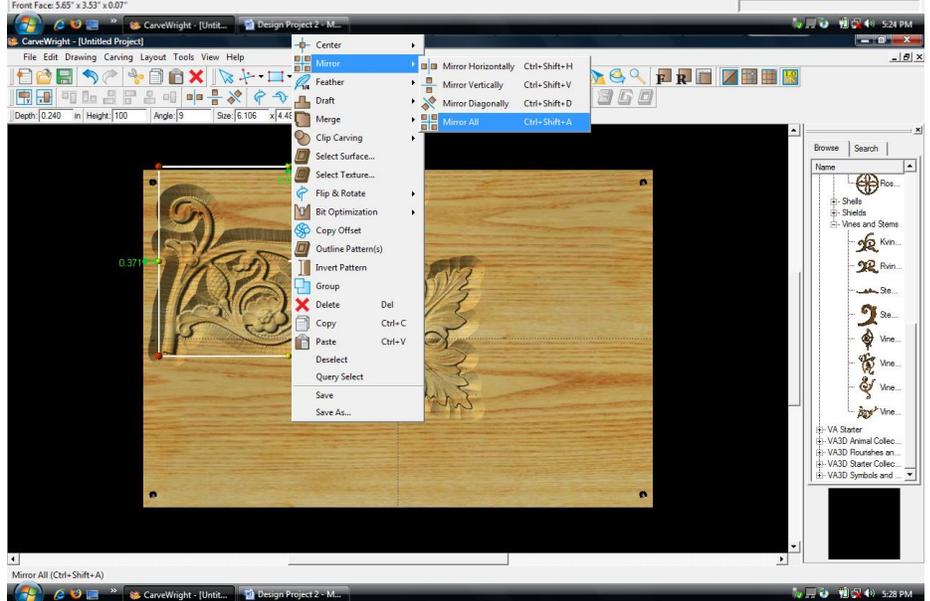
Select "Vine06" under "Vines and Stems" in the Basic Library. Place it onto the board.



Select the "rosette" and scale down the size. Use the Red node to maintain scale.



Select the "vine" pattern, right click and select "Mirror All".

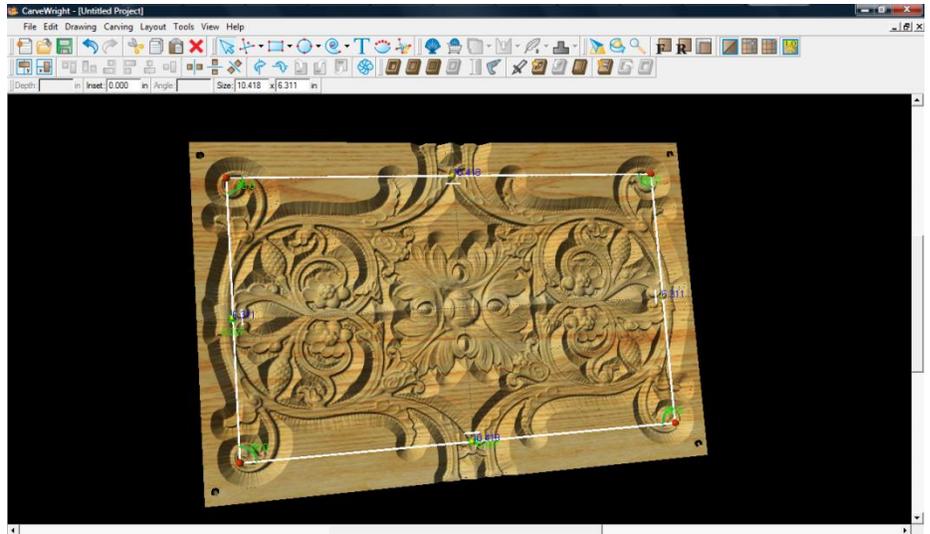


✓ DRAWING TOOLS



Select the "Rectangle Tool".

Draw Rectangle across the entire board, leaving a 1" border as shown.

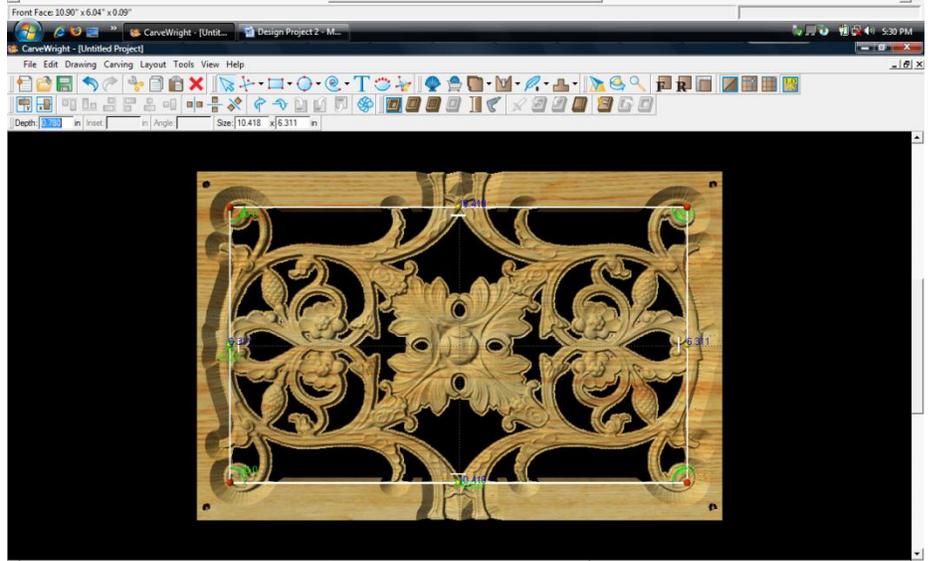


✓ REGIONS



Select "Carve Region".

This applies a carved area to the rectangle with a default depth of .78".

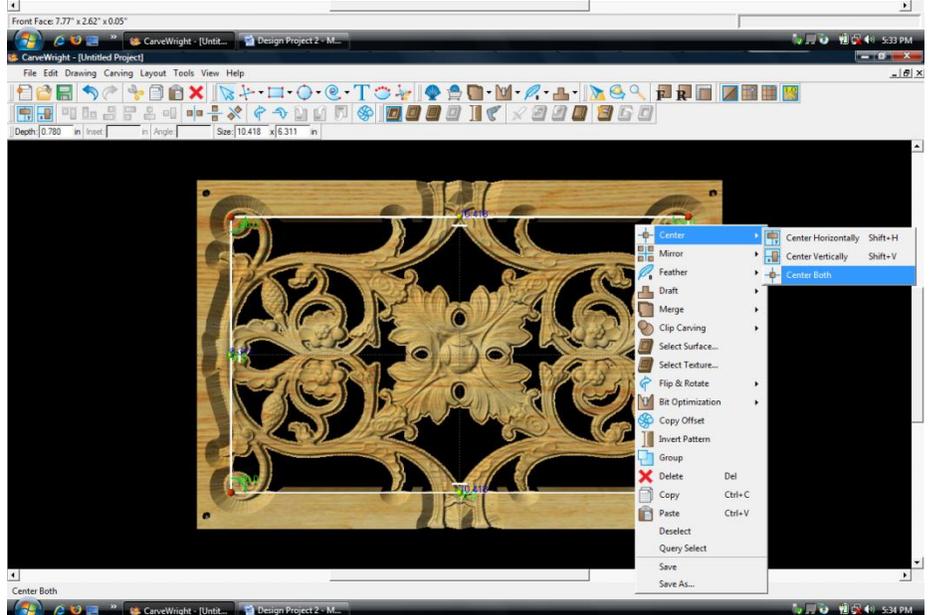


➤ CENTERING

With the rectangle selected, right click to bring up menu of available options.



Select "Center", "Center Both".

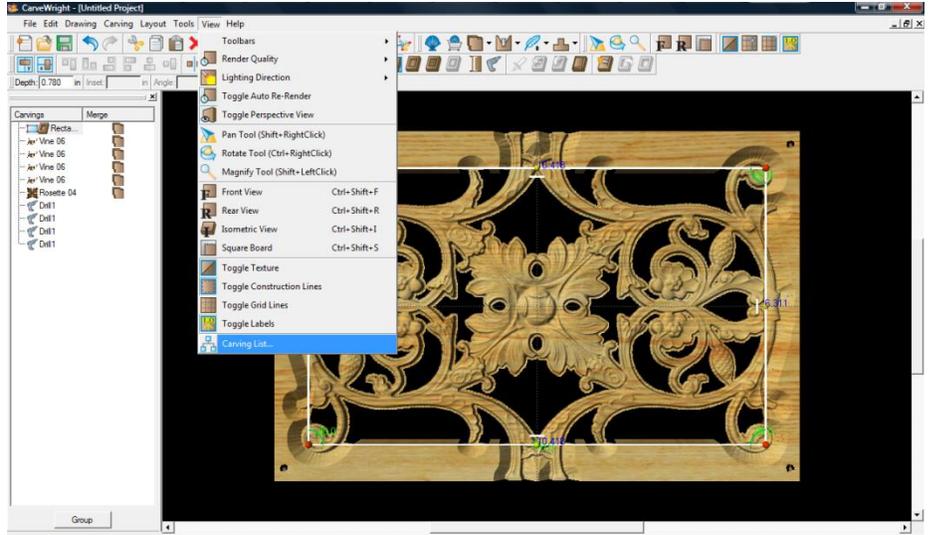


➤ CARVING LIST



Select "View" and then "Carving List"

The Carving List opens on the left displaying every element on the virtual design board.



➤ CLIP CARVING



Select all of the pattern files in the Carving Lists, right click and choose "Clip Carving Inclusive".



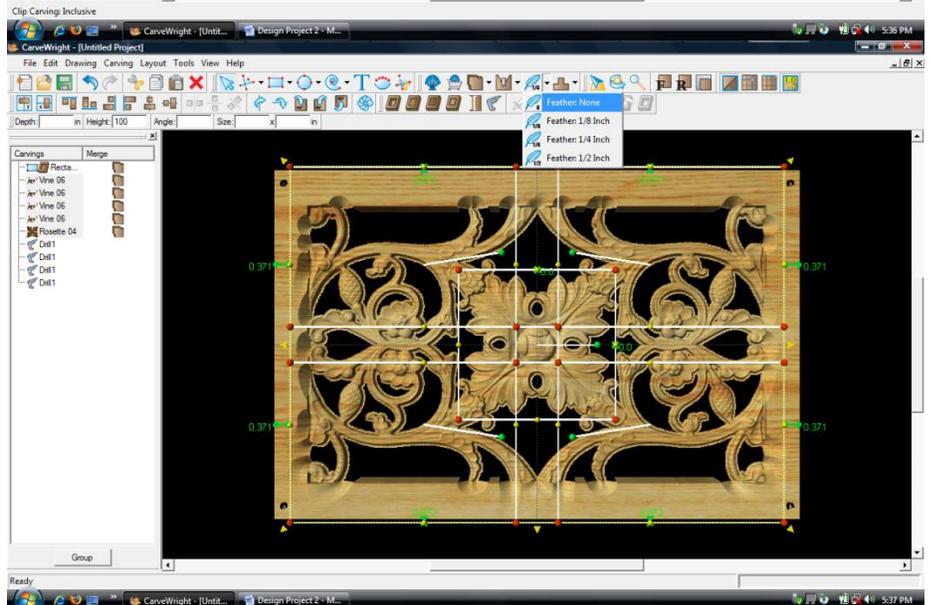
➤ CARVING OPTIMIZATION

➤ FEATHERING



With the all still selected, click on the "Feather Tool".

From the drop down menu, select "Feathering None".



➤ CARVING OPTIMIZATION

➤ FEATHERING



Select the Rectangle, right click and select "Feather 1/4 inch".

➤ MANIPULATING THE WORKPIECE



Rotate and/or zoom your workpiece to see your design board more clearly.



Select "File", "Save"

*****IMPORTANT*****

Name file and click "Save" to hard drive.

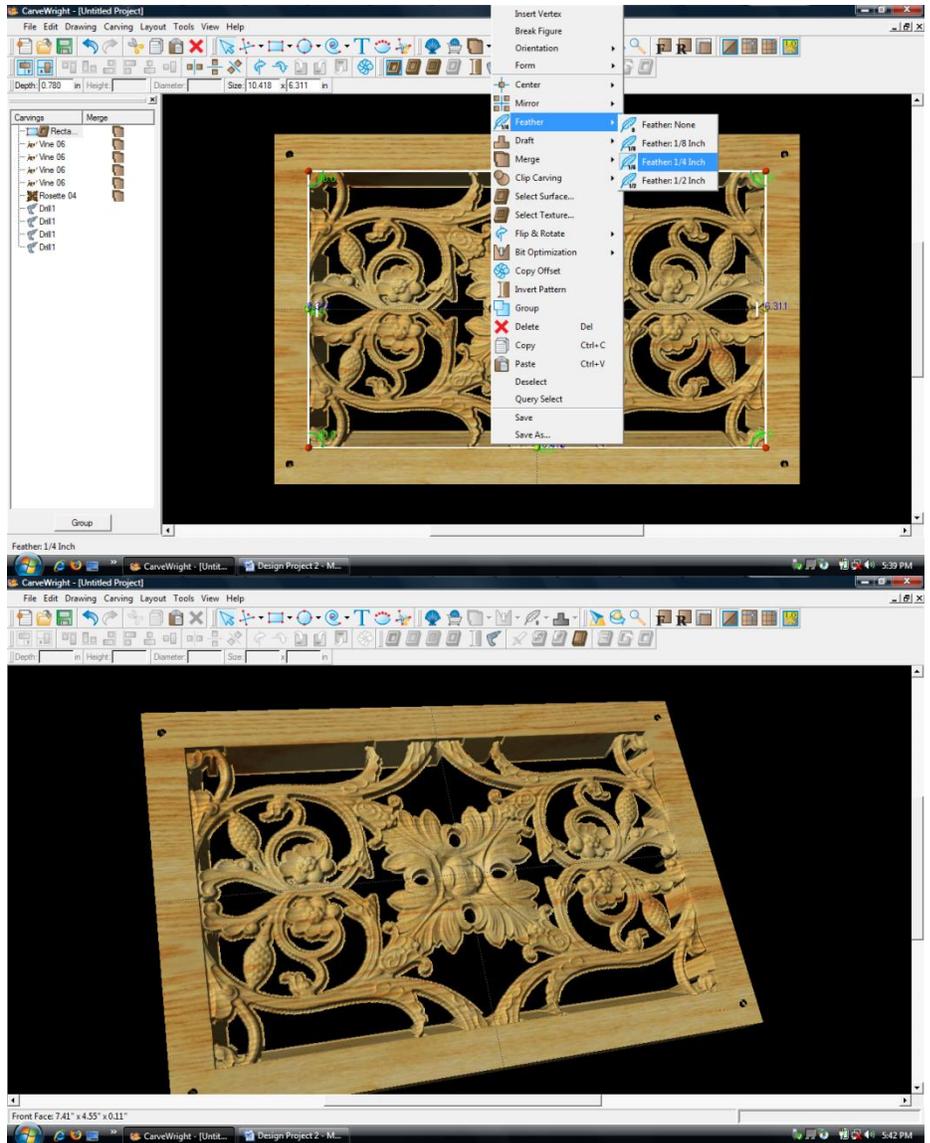
➤ UPLOADING TO MEMORY CARD



Select "File", "Upload"
Save to memory card.

Example:

piercedrosette_N_45
(recognizable name_quality
setting_estimated time to
carve)

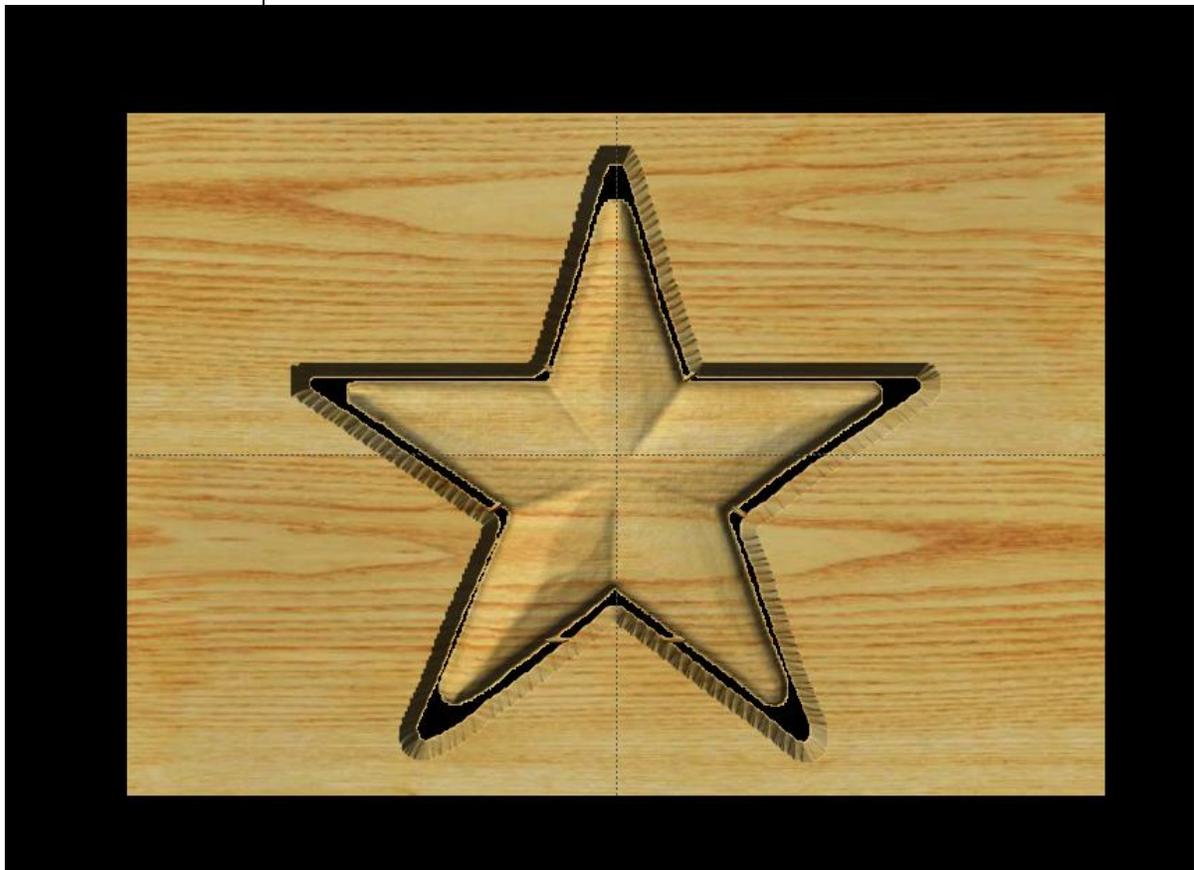


CARVING CUTOUTS

This project covers the following design concepts:

- ✓ STARTING SOFTWARE
- ✓ PATTERN PLACEMENT
- ✓ PATTERN MANIPULATION
- ✓ PIERCED PATTERN
- ✓ OUTLINE PATTERN – 3 OPTIONS
- ✓ PATH OFFSET
- ✓ CONNECTED LINES TOOL
- ✓ PIERCED CARVE REGION
- ✓ ADD FEATHERING
- ✓ CREATE TABS
- ✓ LINE SEGMENT TOOL
- ✓ SET TABS
- ✓ FINETUNING
- ✓ SAVE & UPLOADING TO MEMORY CARD

This technique, generally, means your project will be done with only the carving bit. There would be no need for the measuring of both the carving & cutting bits during setup, or bit changes. It eliminates the chances of the cut path not lining up with the pattern and avoids the use of the cutting bit altogether.



INSTRUCTIONS:

✓ STARTING SOFTWARE

Open the CarveWright Project Designer Software

*The Welcome screen appears with project options.
Select "New Project"*

Set your project board dimensions.

Length: 20"

Width: 14"

Thickness: .75"

*Remember your actual board should be bigger than
your virtual board unless you are using a sled.*

Click OK

✓ PATTERN PLACEMENT

Open the Pattern Library Tool and select the STAR
from the BASIC folder under CENTERS AND FILLS.

*To place a pattern, you can either click once on the
pattern and then once on the virtual board or you
can click and drag it onto the board.*

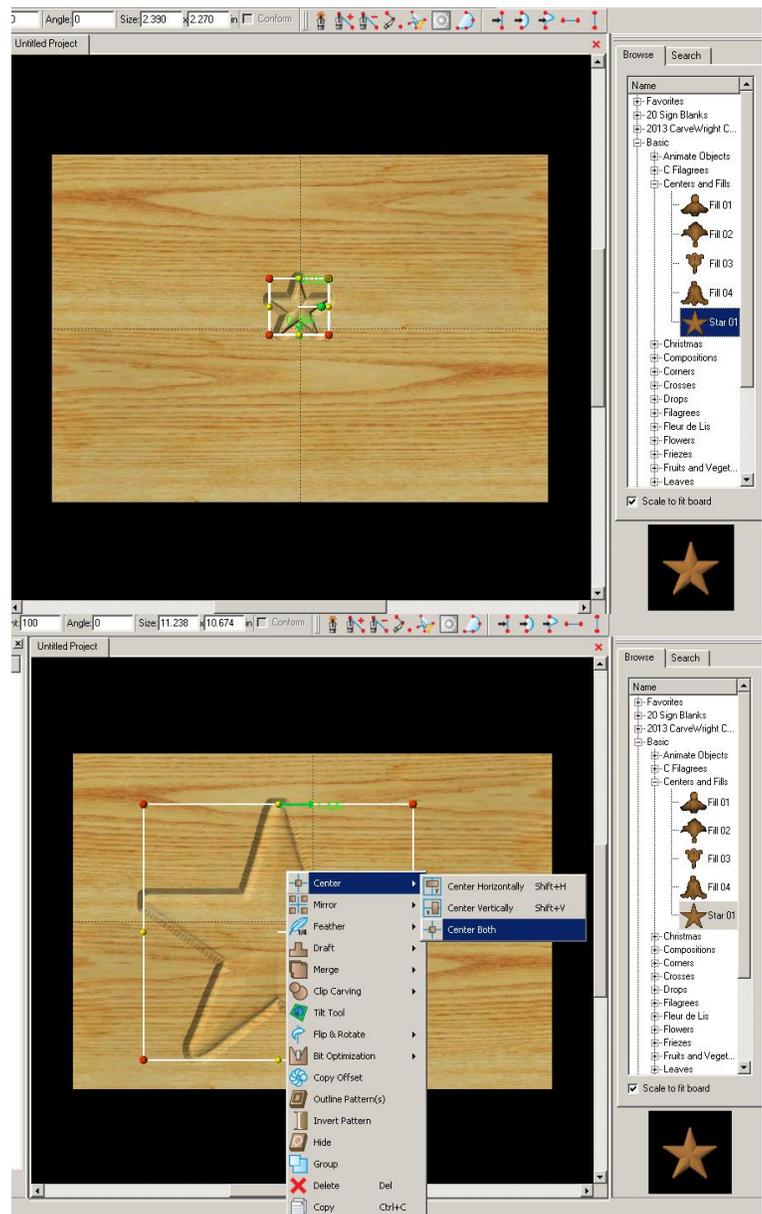
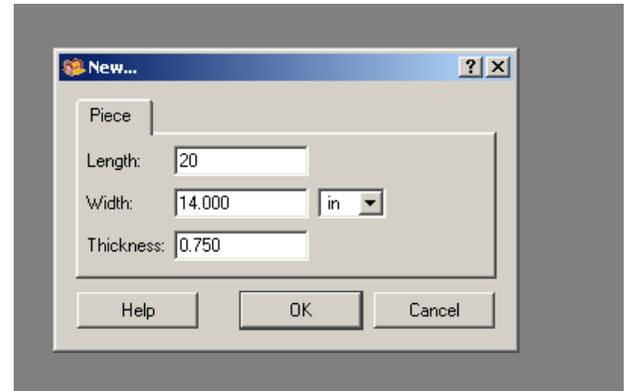
*If you double click on the pattern, it will attempt to
open it in Pattern Editor software and give you a
message that "You may only edit unlicensed
patterns, which you have authored." Pattern Editor
is also an advanced feature that you may not have
purchased or activated.*

✓ PATTERN MANIPULATION

Resize to fit using one of the corner red knobs, so
that your pattern stays proportional and is not
skewed.

*Remember to keep at least a 1/2" away from the top
portion of the board, so as not to interfere with the
tracking roller.*

Right-click on the pattern and select CENTER &
CENTER BOTH to center it on the board both
horizontally & vertically.

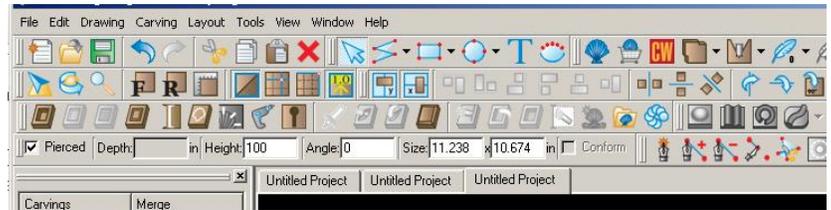


This will lock the pattern into place and you will not be able to move the pattern placement until you go back and select again to toggle that feature off.

✓ PIERCE PATTERN

With the pattern selected, click the Pierced button on the Input Toolbar.

This sets the depth of the pattern to the bottom of the board.



Change the FEATHERING to NONE.

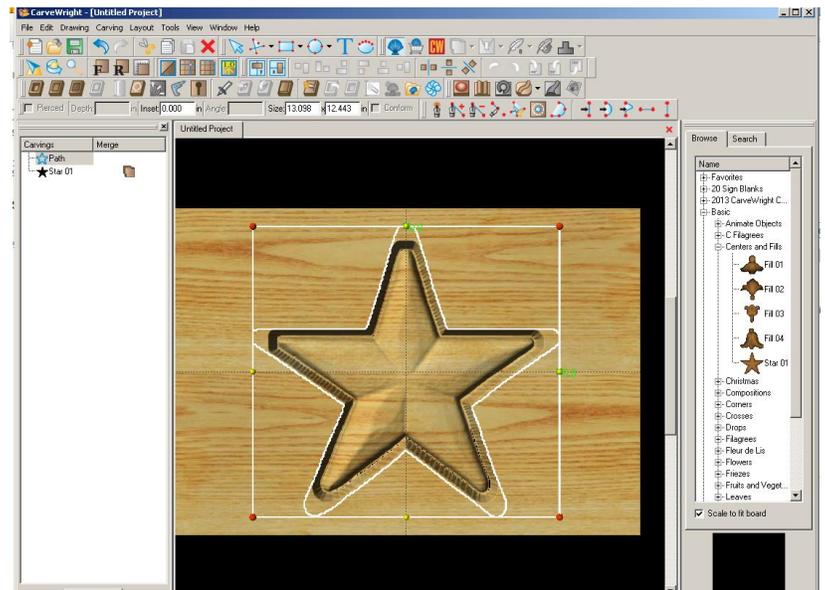
✓ OUTLINE PATTERN

THREE WAYS TO OUTLINE:

Option 1: Uses the drawing tools in the Designer Software (1.X & 2.X)

With some patterns, you can right-click on the pattern and select OUTLINE PATTERN and then enlarge it to fit around the pattern.

Center outline path.



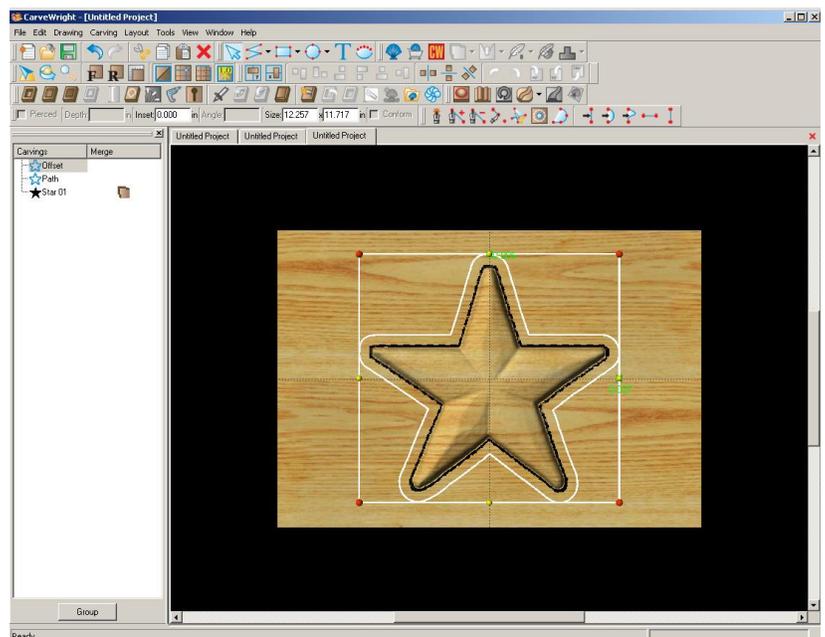
Option 2: Uses the PATH OFFSET tool that is part of the advanced 2D Vector Drawing Suite (purchase required).

With the pattern selected, right-click and select OUTLINE PATTERN. Then select the PATH from your Carving List.

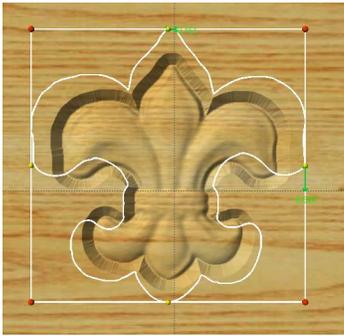


✓ PATH OFFSET

Click on the PATH OFFSET tool and set the distance from the path to offset the outline. I selected .5 and hit OK.



Option 3: Uses the drawing tools in the Designer Software (1.X or 2.X)



Because of the shape of some patterns, it is not always possible to use options 1 or 2. You will instead need to manually draw a path around the pattern using the CONNECTED LINES TOOL.

✓ CONNECTED LINES TOOL

Click on the Connected Lines Tool from the DRAWING TOOLBAR. Outline around the shape close to it, but not touching or crossing the pattern.

To close the shape make sure you get the STARBURST. When you have a closed path, the CUT PATH Tool will become an option. If it is not, play with the ends of the connected lines until they become closed.

✓ PIERCED CARVE REGION

Now that you have a closed region, we are going to select the Carve Region tool and then select PIERCED.

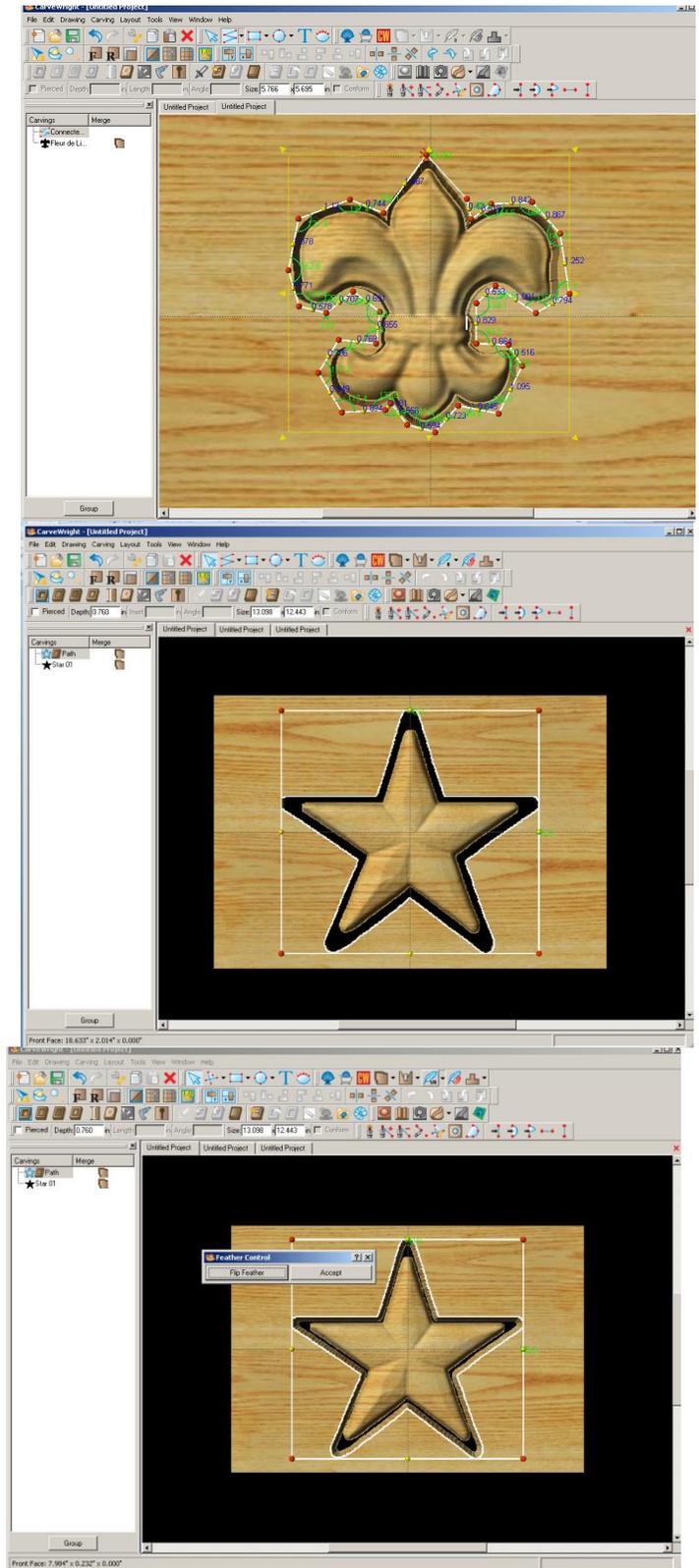
Remember, because there are two separate belts pulling your board through and a space between them, your carving bit will NOT carve into the belts or machine. You will need to make sure that it does not interfere with the tracking roller. If you are closer than a 1/2", it will give you a warning message.

✓ ADD FEATHERING

Cliffs are straight up and down edges that the top part of the tapered carving bit may hit. To avoid this, add a feathering to give it a ramped area to carve.

Select path & Feathering tool, feathering size that gets you close to pattern, but not connected, and Accept it on the inside of the path.

You may need to look at the back of the board to see how close you are and make adjustments.



✓ CREATE TABS

To keep from having a loose piece floating around in your machine, we will create tabs to hold the pattern to the project board.

✓ LINE SEGMENT TOOL

First, you will need to use the LINE SEGMENT TOOL from your drawing toolbar.

Draw lines across the pattern and carve region to connect the pattern to the board.

✓ SET TABS



Click on the Tabs icon and select the settings. (I usually just let it default and hit OK.)

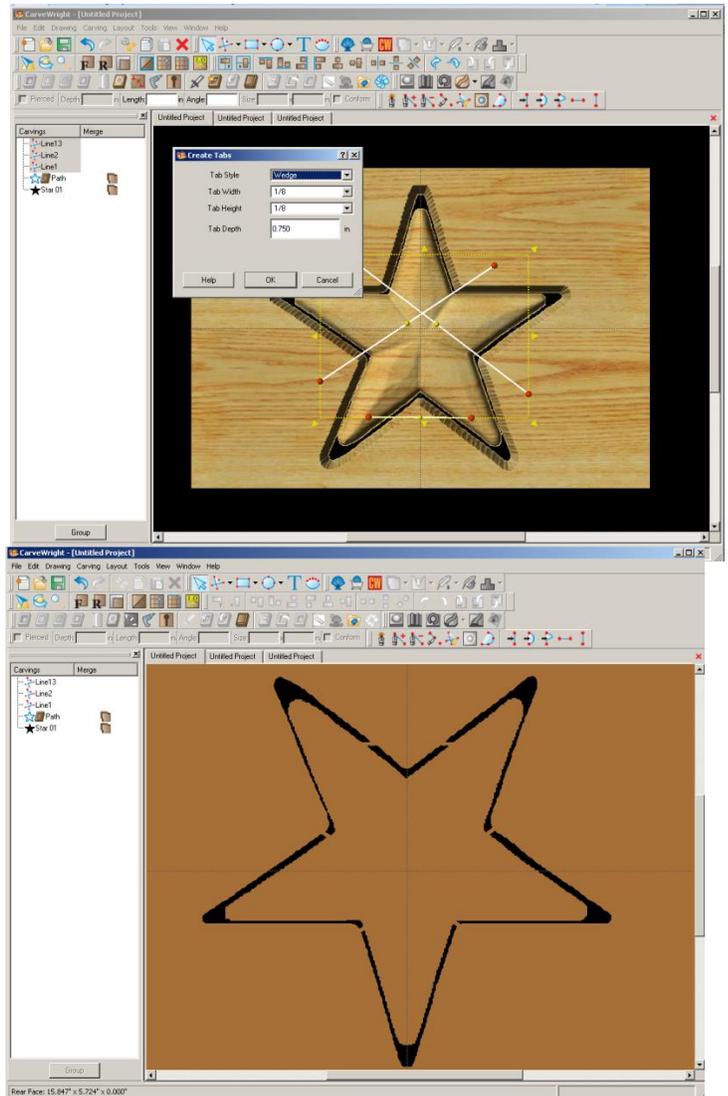
✓ FINETUNING

You can look at the REAR of the board to see the tab placement and if there are any changes you would like to make. Don't forget to consider adding DRAFT or BIT OPTIMIZATION to your pattern.

✓ SAVE & UPLOAD TO CARD



Select "File" > "Save"



*****IMPORTANT*****

Once a project is uploaded to a memory card, it cannot be brought back from the memory card into the Software. Always SAVE YOUR PROJECT on your hard drive. A Projects folder is recommended and you should know where you saved it.

✓ UPLOADING TO MEMORY CARD

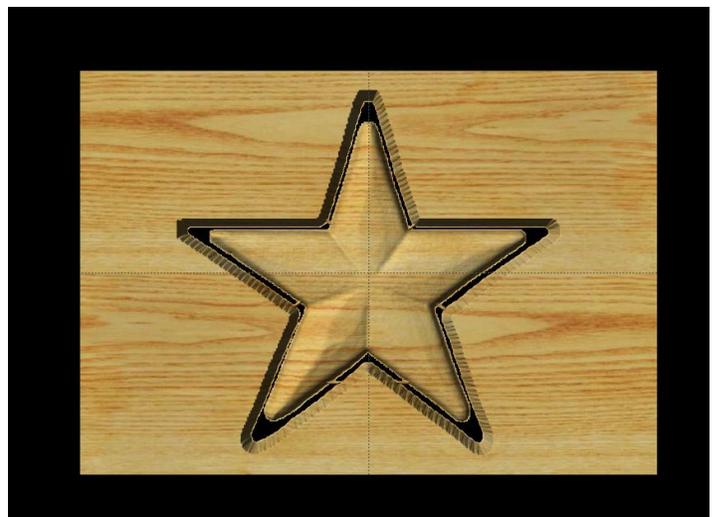


Make sure your Memory Card & Programmer are properly attached via your USB port, Select "File" > "Upload" to save to your memory card.

Select Quality Setting

Name Your Project

Click "Upload"



RED ROOSTER COFFEE

This project uses only PROJECT DESIGNER SOFTWARE and covers the following design concepts:

- ✓ STARTING SOFTWARE
- ✓ MENUS, TOOLBARS, SHORTCUT KEYS OR MOUSE BUTTONS
- ✓ MANIPULATING THE WORKPIECE
- ✓ SNAP TO GRID
- ✓ DRAWING TOOLS
- ✓ CARVE REGION
- ✓ FEATHERING
- ✓ DOWNLOAD PATTERN
- ✓ PATTERN PLACEMENT
- ✓ COPY & PASTE
- ✓ FINE TUNING
- ✓ TEXT TOOL
- ✓ CENTERING
- ✓ ADJUSTING DEPTH
- ✓ MIRRORING TEXT
- ✓ UNDO
- ✓ COPY & PASTE
- ✓ CONSTRAINTS
- ✓ IMPORTING IMAGES
- ✓ CLIP CARVE
- ✓ MANAGING DATA
- ✓ UPLOADING TO MEMORY CARD
- ✓ SELECT QUALITY SETTING
- ✓ NAME PROJECT



INSTRUCTIONS:

✓ STARTING THE SOFTWARE

Open the CarveWright Project Designer Software

The Welcome screen appears with project options.

 Select "New Project"

Set your project board dimensions.

Length: 24"

Width: 14"

Thickness: .75"

Click OK

The project board size is not necessarily the actual size of the board being put into machine.

✓ MENUS, TOOLBARS, SHORTCUT KEYS OR MOUSE BUTTONS

For every software function, we provide you three distinct ways to access that function. They are usually menu, icon or right-click. Some common functions, such as Copy and Paste, also use shortcut keys. These will also work in Project Designer.

✓ MANIPULATING THE WORKPIECE

Board piece will display on screen in three dimensions. You can use these tools to get a different view of your project board.

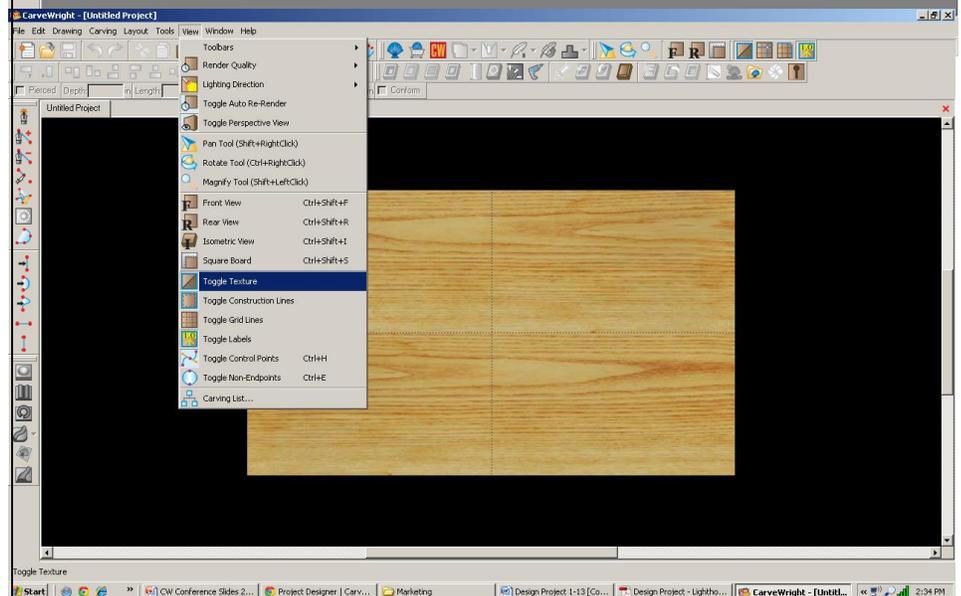
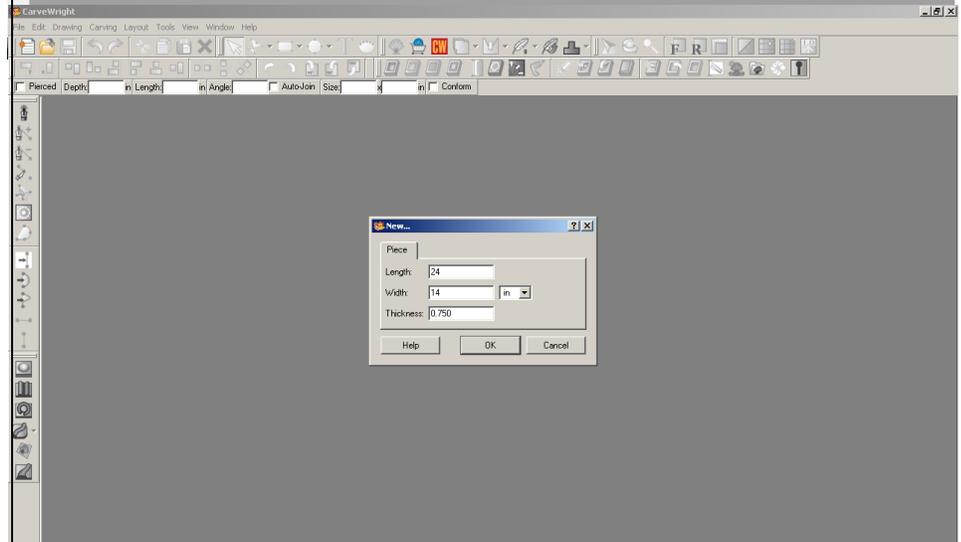
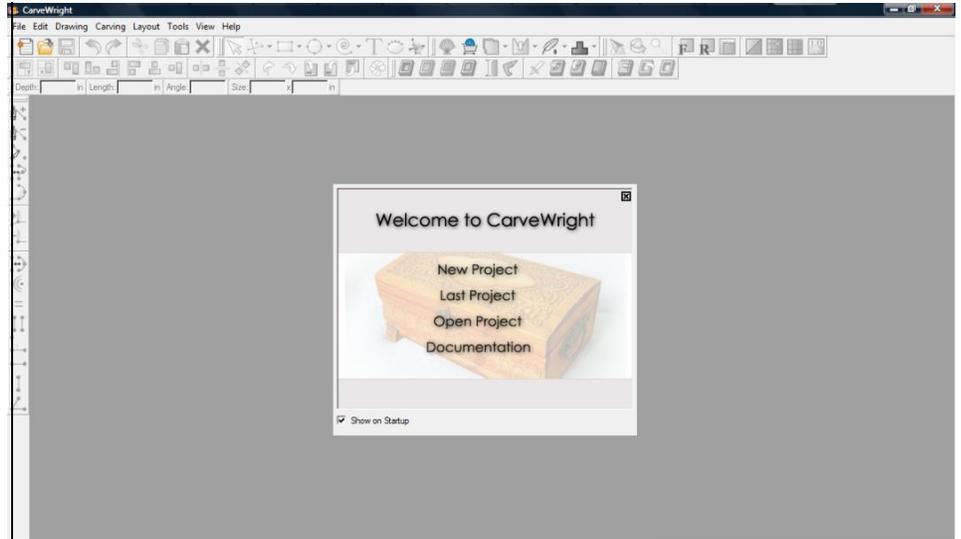
 Zoom

 Rotate

 Pan

 Front

 Rear



Toggle Texture to turn off the wood grain.

✓ SNAP TO GRID

Under LAYOUT menu, select SNAP.

Snap Interval should be .5 inch interval by default.

Change interval to: 1 inch

Check boxes:

- Snap to grid
- View grid
- View Bezier Control Points (should already be selected as default)

Click ok

Click the Front icon and zoom in to get closer to the project board.

✓ DRAWING TOOLS



Using the grid, draw a rectangle 1" inside the project board from sides & top. Make it 22" long & 9" tall.

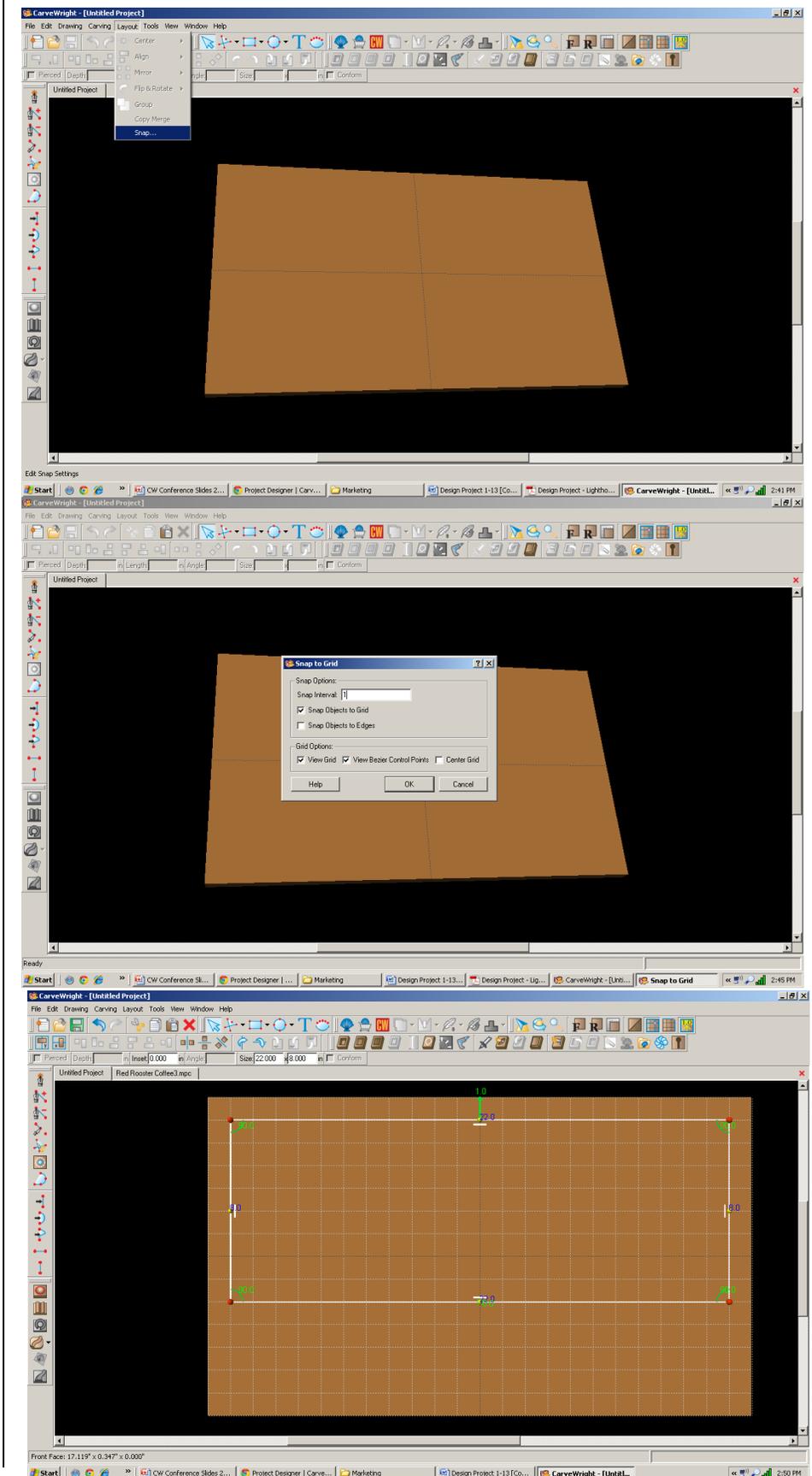
Select the "Pattern Tool" icon to open the pattern library along the right side.

✓ CARVE REGION



Select "Carve Region" icon.

This creates a carved out region inside the boundary. Automatically defaults to .250" depth. Remember depth of pattern & how depth effects carve time.



✓ FEATHERING

Select the drop-down Feather menu and select 1/8" feather. Select "Accept"

Select "Decorative Rooster" under "2013 Conference Collection".



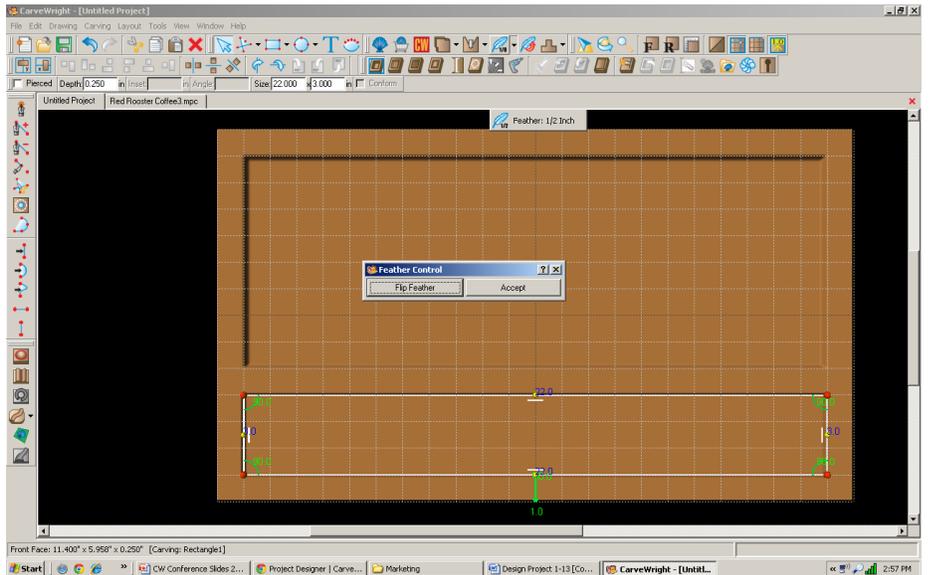
Click once on pattern and once on board to place or click and drag to the board.

Double-clicking will attempt to open it in Pattern Editor Software, which you

✓ DRAWING TOOLS



Using the grid, draw a rectangle 1" inside the project board from sides & bottom. Make it 22" long & 2" tall.

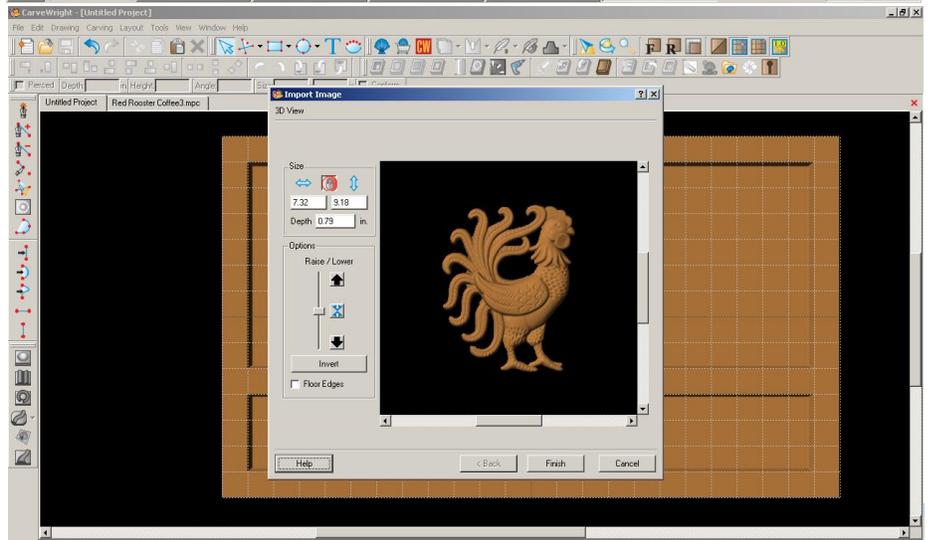


✓ CARVE REGION



Select "Carve Region" icon.

This creates a carved out region inside the boundary. Automatically defaults to .250" depth. Remember depth of pattern & how depth effects carve time.



✓ FEATHERING

Select the drop-down Feather menu and select 1/8" feather. Select "Accept"

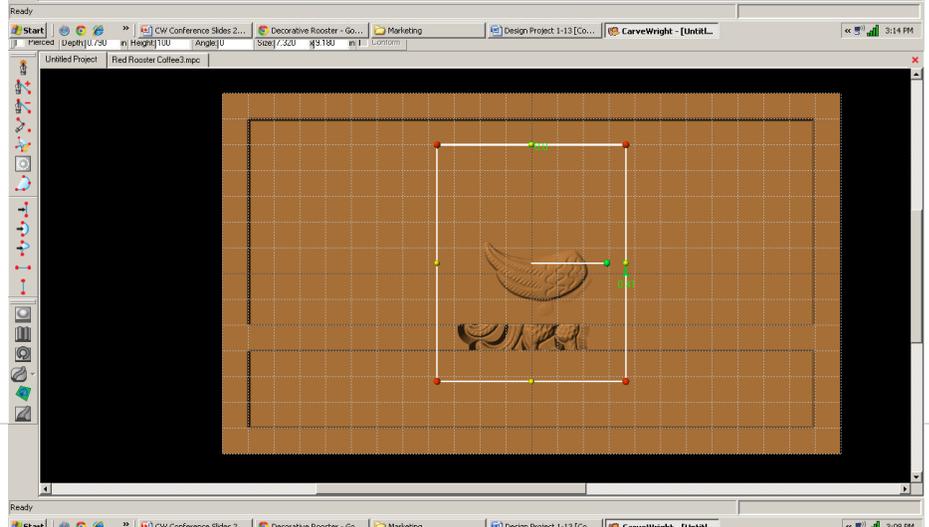
✓ DOWNLOAD PATTERN

Patterns must be placed into your Pattern Library Favorites folder either as an individual pattern or as a collection. The TRY button lets you play with a pattern to see if you want to buy it. It will have a red background until it is purchased and activated (licensed).

✓ PATTERN PLACEMENT



Select the "Pattern Tool" icon to open the pattern library along the right side.



cannot do since it is licensed and you are not the author of the pattern.

✓ FINE TUNING

Manipulate the size and placement of the pattern by scaling to size from a corner.

Place it near the middle of the top rectangle and make smaller. We can adjust size & placement later.

Set depth of rooster to .250”.

Turn off Snap to Grid & View Grid under Layout > Snap

✓ TEXT TOOL



Next, select the “Text Tool” and click on board.

Text dialog box will appear. Select from any of the true type fonts that you have on your computer. I used “Elephant”. *Some work better than others.*

Type the word “Red Rooster Coffee” and arch to about 143 degrees.

“Raster” is selected by default.

✓ FINE TUNING

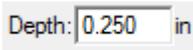
Manipulate the size and placement of the word, just as you would a pattern by scaling to size from a corner.

✓ CENTERING



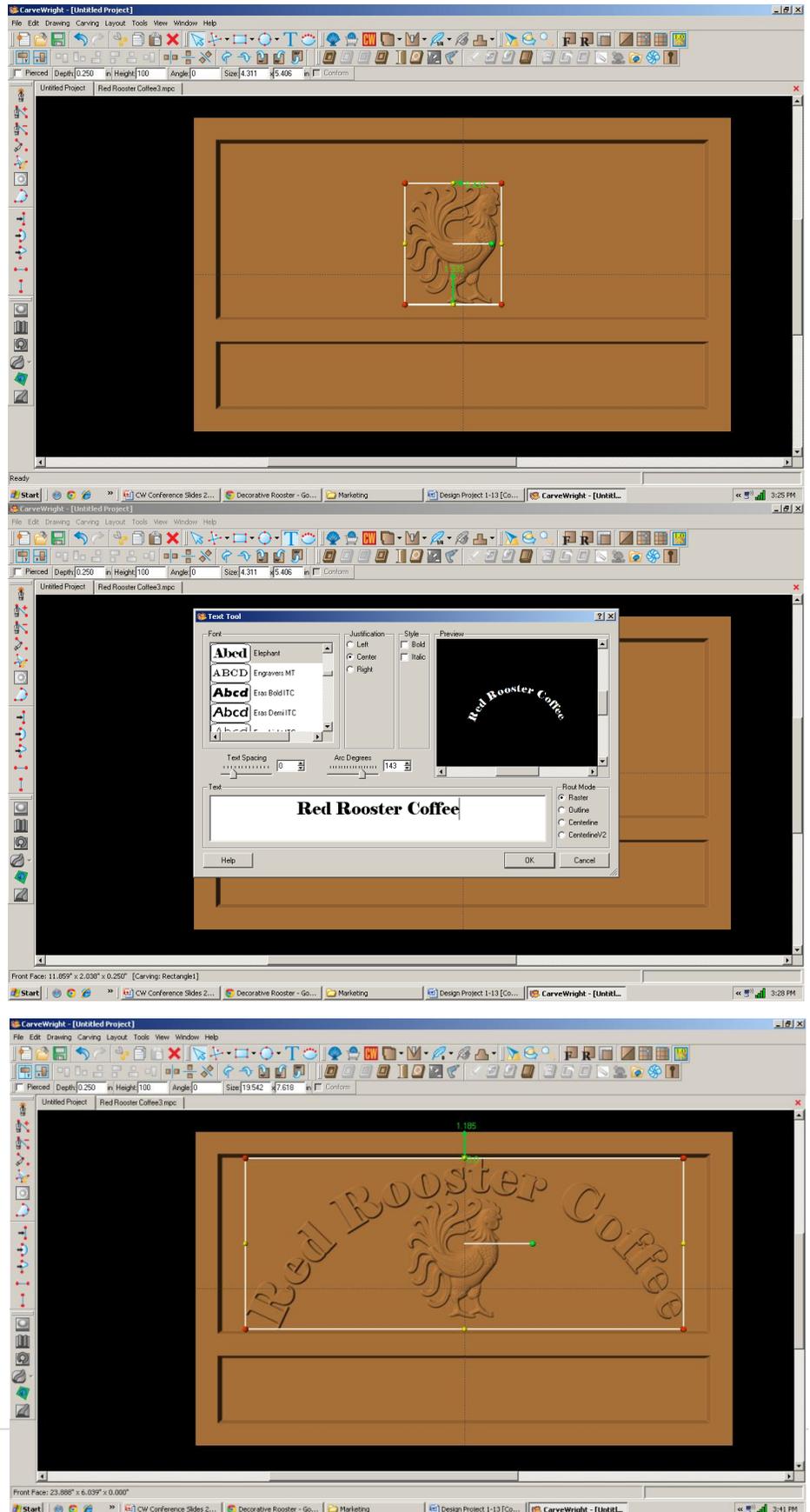
Right-click to see available options and select Center > Horizontally.

✓ ADJUST DEPTH



✓ FEATHERING: None

✓ DRAFT: Medium



✓ TEXT TOOL

Select the “Text Tool” and click on board.

Type the word “Since 2007” and change arch to 0 degrees and Text Spacing to 60.

“Raster” is selected by default.
Font: I used “Papyrus”

Thin fonts tend to chip out, so to avoid this lower the height and add draft or select a fatter font.

✓ FINE TUNING

Manipulate the size and placement of the word to under the rooster’s feet.

CENTERING: Horizontal
ADJUST DEPTH: 250
ADJUST HEIGHT: 75
FEATHERING: None
DRAFT: Medium

✓ TEXT TOOL

Select the “Text Tool” and click on board.

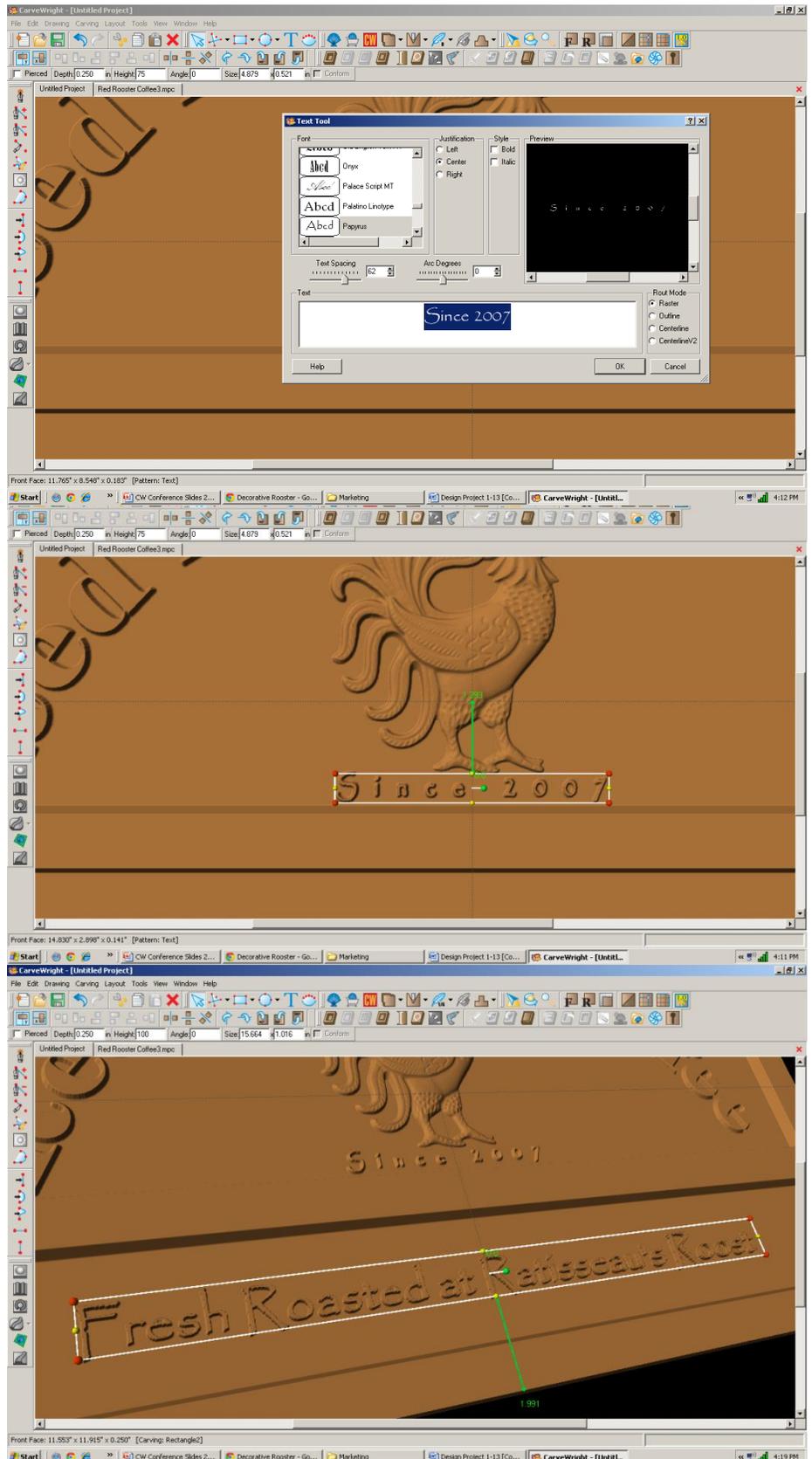
Type the word “Fresh Roasted at Ratisseau’s Roost” or your own personalized message and change Text Spacing to 0.

“Raster” is selected by default.
Font: I used “Papyrus”

✓ FINE TUNING

Manipulate the size and placement of the word to under the bottom rectangle.

CENTERING: Horizontal
ADJUST DEPTH: 250
FEATHERING: None
DRAFT: Medium



✓ TEXT TOOL

Select the “Text Tool” and click on board.

Type the number “5”.

Font: I used “Elephant”, again.

Open your Character Map and copy the “cent” sign for your font.

START > ALL PROGRAMS > ACCESSORIES > SYSTEM TOOLS > CHARACTER MAP on my Windows XP. You can select & copy or use the shortcut key Alt+0162.

✓ FINE TUNING

Manipulate the size and placement to left hand side of bottom rectangle.

ADJUST DEPTH: 250

FEATHERING: None

DRAFT: Medium

✓ MIRRORING TEXT

Note: Be careful mirroring text because the letters will be backwards.

✓ UNDO



The UNDO tool w/Ctrl- Z will undo previous done functions, as will CTRL-Z.

✓ COPY & PASTE

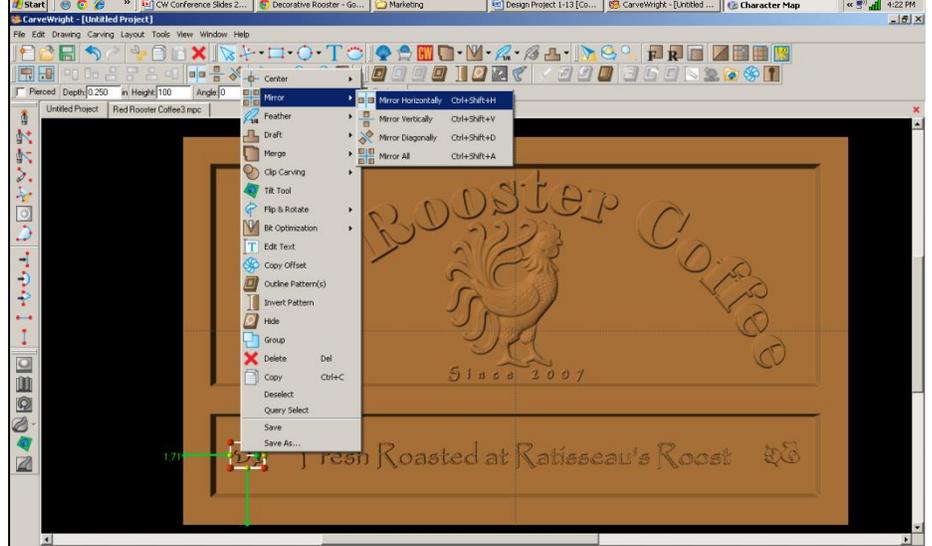
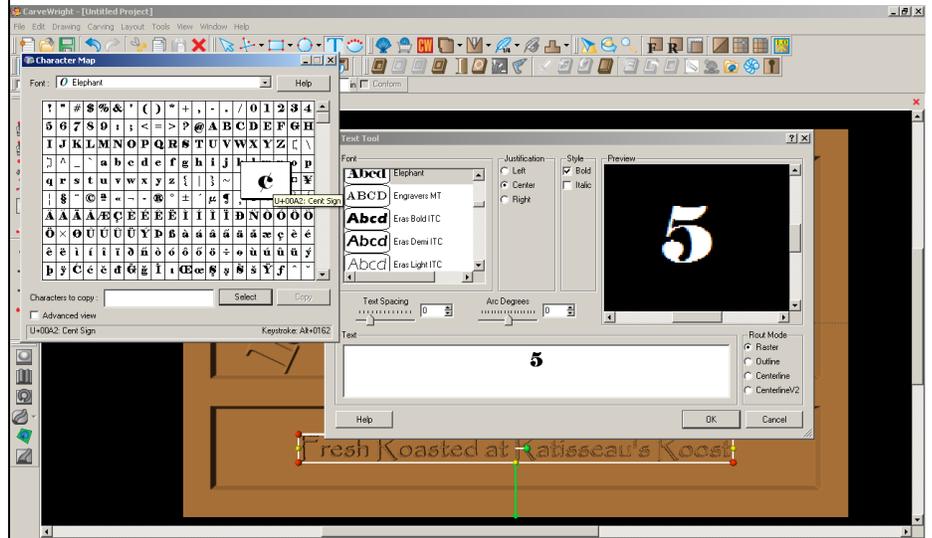
Designer pastes the new item on top of the old item.

Copy and Paste then move to right side of bottom box.

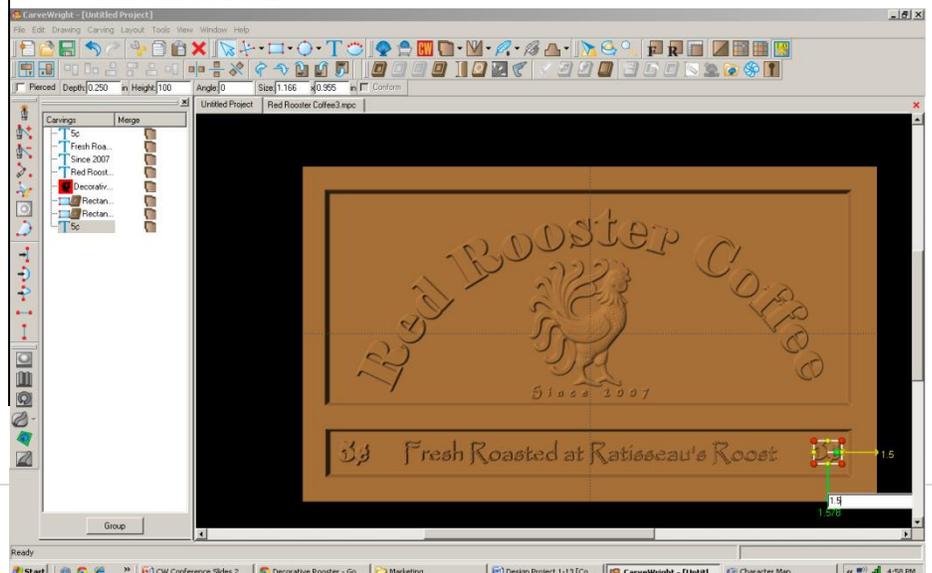
✓ CONSTRAINTS

Use the constraints to get them both the same distance from the bottom

and edges. Set both to 1.5”. Hit enter in the constraint box. *If you ever get in this box by mistake, escape will get you out.*



✓ IMPORT IMAGE



Designer can import several file formats. Remember that trash in will be trash out, so select images with high resolution. This is not usually found on the internet for purposes of speed in uploading.

Some images are also copyrighted and should not be used.

Most images will come in as a square or rectangle, even if the background is white. If given a choice between format, PNG will not give you the white background.

Search on the internet for “sunrise clipart” Images. I used Google search engine. Select your image to see bigger view. Right click and select SAVE IMAGE AS to your Desktop.

Back in Designer go to FILE > IMPORT > IMPORT IMAGE > FROM FILE and navigate to your desktop. Select your sunrise image.

Adjust the yellow dotted lines to crop the bottom of the image.

Click NEXT.



✓ IMPORT IMAGE

The software automatically converts the image to grayscale. White gets the deepest carve and black the shallowest carve. This is the way you want to keep it for Lithophanes as the deeper carve allows more light flow and shallower carve restricts it.

Use the options to adjust SIZE, if necessary. Make sure to Lock to keep correct proportions of the image.

Change the depth to .2" to lessen the distance between white & black levels.

Use the OPTIONS bar to remove from the top or bottom of the image. One click on the down arrow took away the unwanted background for me.

Click NEXT, name and save into your FAVORITES folder.

✓ PATTERN PLACEMENT



Select the "Pattern Tool" icon to open the pattern library along the right side.

Select imported image from your FAVORITES folder.

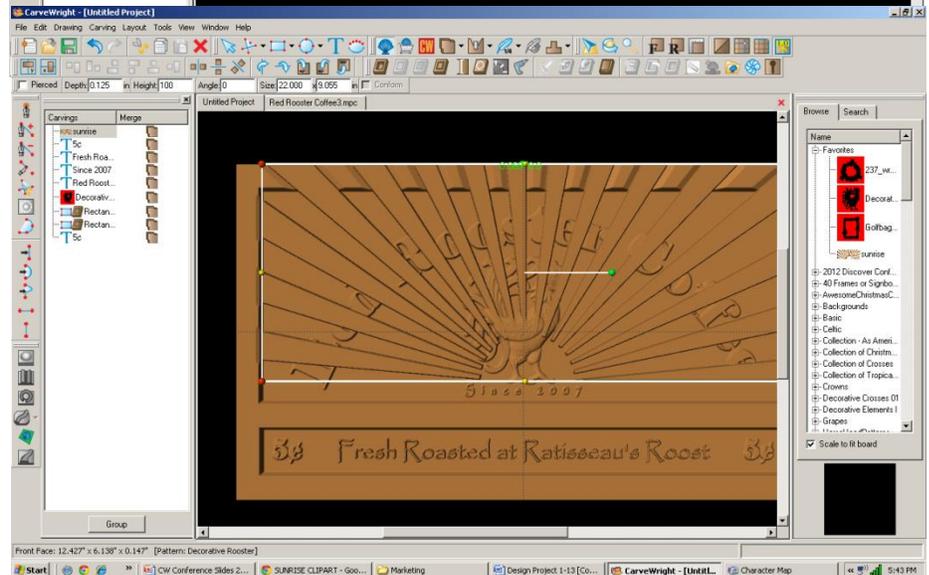
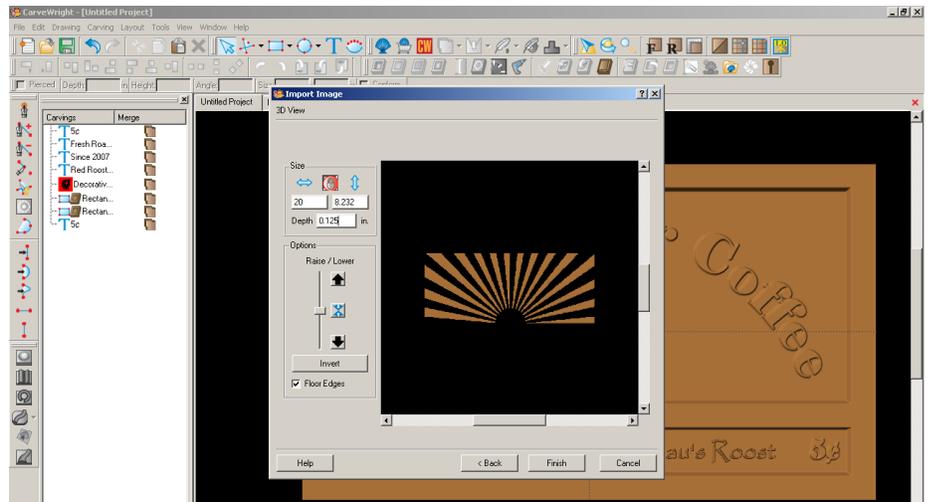
If you need to edit the image and have the Pattern Editor license, double-click on it to open the tool.

✓ FINE TUNING

Manipulate the size and placement to the top rectangle. I wanted the sun larger, so I am using the corners to stretch the image and maintain proportion until the sun is as big as I want it to be.

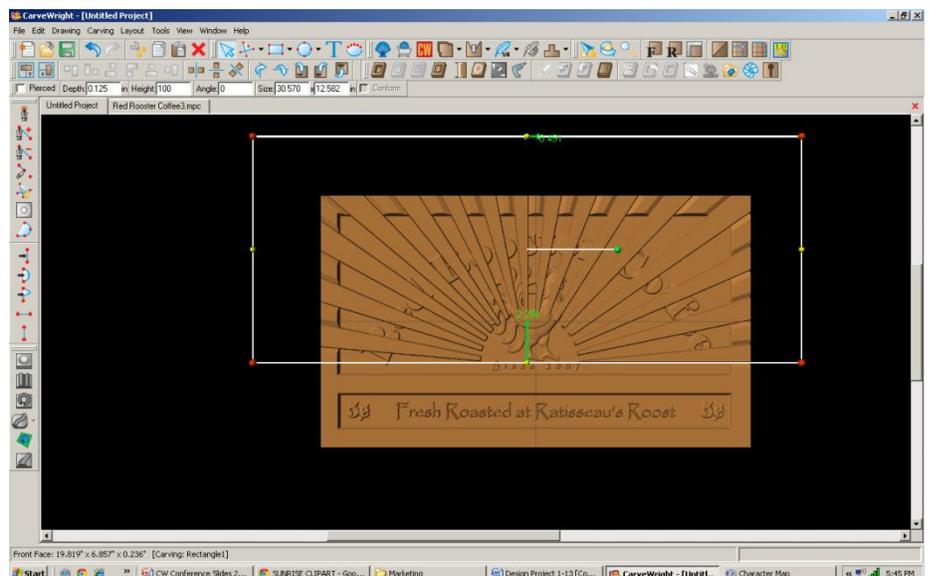
ADJUST DEPTH: 250

FEATHERING: None



DRAFT: Medium

ADJUST HEIGHT: 30



✓ CLIP CARVE

Right-click on the image and select Clip Carving > Inclusive.

Clip Carving must have a closed & carved region below it. Inclusive shows image inside. Exclusive shows image outside.

✓ CARVING LIST

The Carving List is very useful especially when there are lots of elements on your project board.

Go to VIEW > CARVING LIST.

✓ FEATHERING

Select both rectangles and select Flip Feathering.

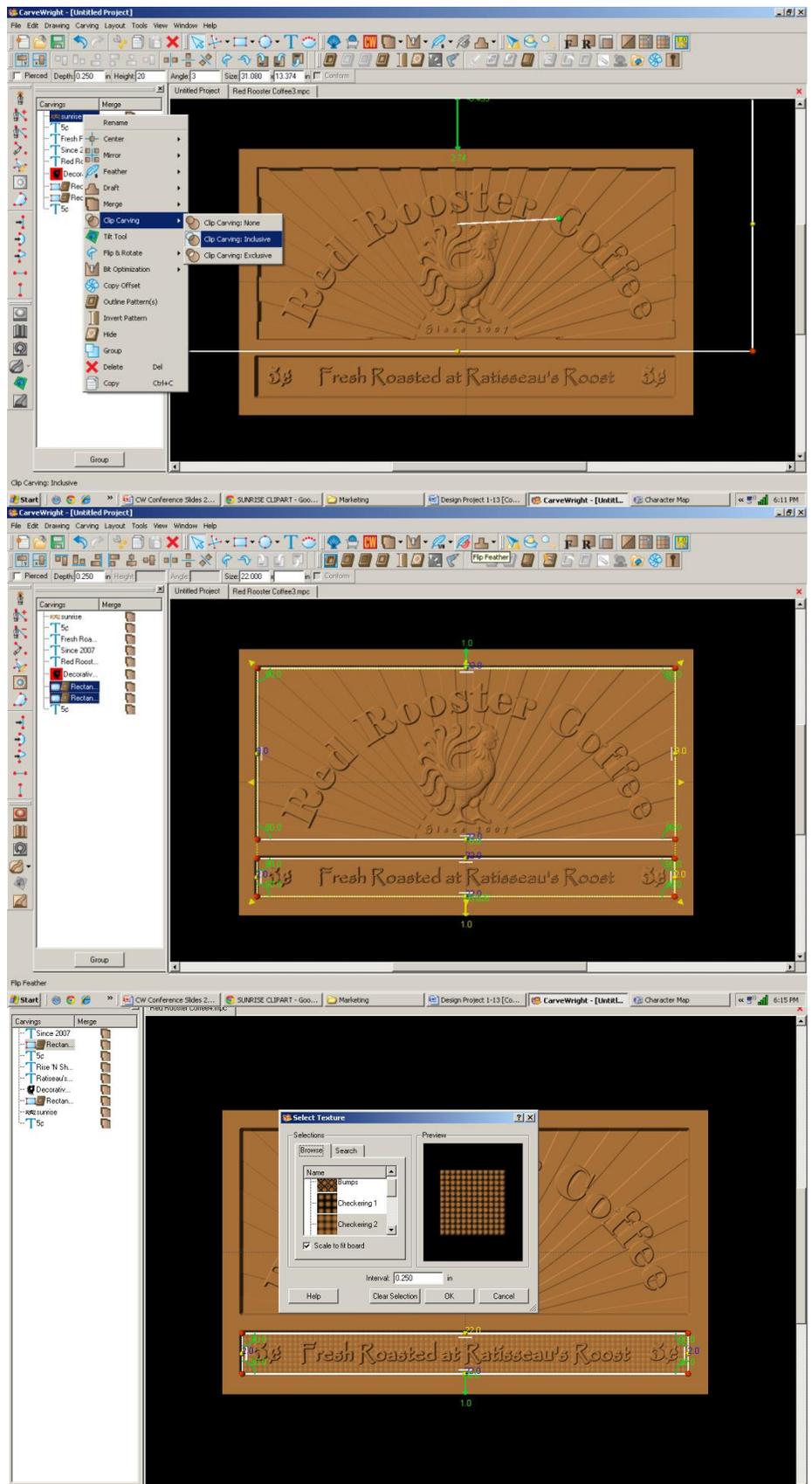
✓ TEXTURES

Select bottom rectangle and click on Select Texture Tool.

Select Checkering 2 and change interval to .25

Click OK
Change Height: 25

Fine Tune any elements and do a test carve to check heights.



REMEMBER THESE FUNCTIONS FROM PREVIOUS STEP-BY-STEP PROJECTS

✓ **MANAGING DATA**

Select "File" > "Save"



*******IMPORTANT*******

Once a project is uploaded to a memory card, it cannot be brought back from the memory card into the software. Always SAVE YOUR PROJECT on your hard drive. A Projects folder is recommended and you should know where you saved it.

✓ **UPLOADING TO MEMORY CARD**

Make sure your Memory Card & Programmer are properly attached via your USB port, Select "File" > "Upload" to save to your memory card.



Select Quality Setting

- *DRAFT*
- *NORMAL*
- *BEST*
- *OPTIMUM*

These settings determine the number of passes the machine makes to carve your project. The more lines the better the surface finish. Make your decision based on material type, fondness of sanding vs. machine time, & test carve vs. final. Notice the estimated carving time differs by quality setting.

Name Your Project

Example:
redroosterN_2h45m

(recognizable name_quality setting_estimated time to carve)

Click "Upload"

NOTE: Actual board to be placed in machine should be 7" longer or you should use a sled that has 3.5 extra inches on each end to STAY UNDER THE ROLLERS.

HOME OF THE BRAVE

This project covers the following design concepts:

- ✓ STARTING SOFTWARE
- ✓ DOWNLOAD PATTERN
- ✓ INSTALL PATTERN
- ✓ ACTIVATE PATTERN
- ✓ PATTERN PLACEMENT
- ✓ VIEW GRIDLINES
- ✓ CENTER HORIZONTALLY
- ✓ MANIPULATE VIEW
- ✓ FINE TUNING
- ✓ CARVING LIST
- ✓ OUTLINE PATH
- ✓ CARVE REGION
- ✓ SNAP TO GRID
- ✓ DRAWING TOOLS
- ✓ SELECT TEXTURES
- ✓ GROUPING
- ✓ MERGE ADDITIVE
- ✓ CUT PATH
- ✓ SAVE & UPLOAD



INSTRUCTIONS:

✓ STARTING THE SOFTWARE

Open the CarveWright Project Designer Software

*****PLEASE NOTE*****

Since, we are going to be messing with licenses, open with "Run as Administrator", if using Win 7 or 8.

The Welcome screen appears with Options – New Project; Last Project; Open Project or Documentation

Select "New Project"

Set your project board dimensions.

Length: 20"

Width: 11"

Thickness: .75"

Click OK

Determining board length: finished, virtual or actual board. See 7" Rule in Tips & Tricks – "Handy Tips for Everyone!" – ISSUE 3 December 2007"

✓ DOWNLOAD PATTERN

3 ways to Download a Licensed Pattern:

1. Click the green TRY
2. Click on Download link in email
3. Log into Customer Account and click on DOWNLOAD PATTERN link

PAY ATTENTION TO WHERE YOU ARE PUTTING THE PATTERN

Downloads typical go into your "Downloads" folder, unless you specifically direct it to another folder or to your DESKTOP.

16 BIT refers to a higher resolution pattern.



The screenshot shows the CarveWright software interface. At the top, a window titled "Welcome to CarveWright" displays options: "New Project", "Last Project", "Open Project", and "Documentation". Below these options is a checkbox labeled "Show on Startup" which is checked. In the background, a 3D model of a wooden box is visible. Below the welcome window, a "New..." dialog box is open, showing the "Rotary" tab. The dialog box has input fields for "Length: 20.000", "Width: 11", and "Thickness: 0.750". The "Measurement System" is set to "in". Buttons for "Help", "OK", and "Cancel" are at the bottom.

Below the software interface, a navigation bar includes links for "CarveWright", "Software", "Accessories", "Bits", "Materials", "Service & Parts", "Third-Party", and "PatternDepot". A banner for the "2014 CarveWright Conference" is displayed, followed by a large green banner that reads "JUNE IS BIT MONTH!".

The bottom section shows a product page for "Allamandra" on PatternDepot. The product is a 3D model of a plant with large, detailed leaves and a cluster of small flowers. A red circular badge in the bottom right corner of the product image says "16 bit". The product details include the price "\$5.00", the SKU "0002-01-0002838", and buttons for "Add to cart", "Try", and "Add to wish list". The page also features social media sharing options (Like, Tweet, +1, Pin it) and a "Be the first to review/rate this product" prompt.

✓ INSTALL PATTERN

In Designer Software, Go to FILE > OPEN

Navigate to where you downloaded the pattern.

Again, it usually goes to your DOWNLOADS FOLDER. You may want to sort that folder by Date Modified ↓ for most recent download.

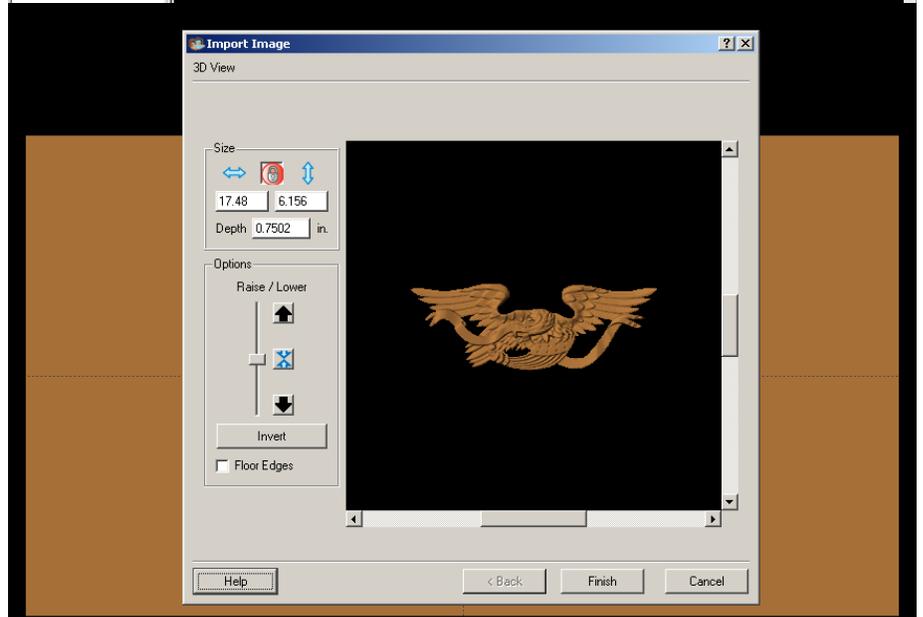
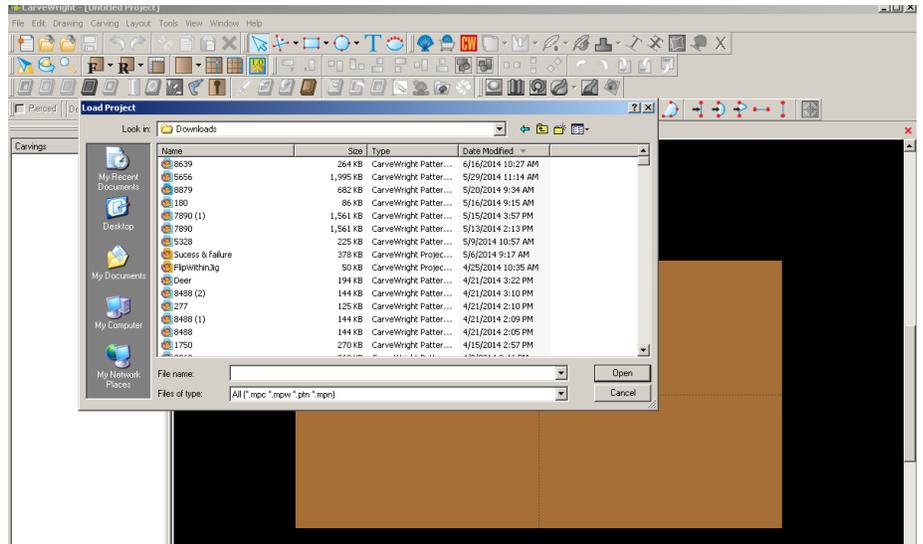
Numbers after it in parenthesis means you have downloaded it before.

Select the pattern (.ptn) and Open.

Pattern will open in an Import Image window.

Select “Finish”, then “Next”.

You do not need to make any adjustments to a licensed pattern or rename them. It will be put into your FAVORITES folder in the Pattern Library Tool. (Blue Shell)



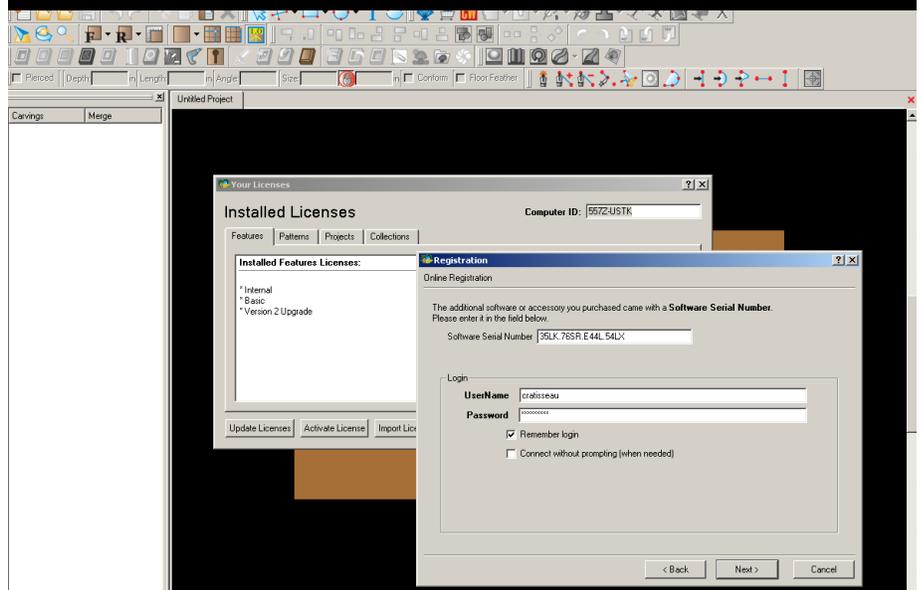
✓ ACTIVATE LICENSE

Go to HELP > MANAGE LICENSES > ACTIVATE LICENSE

Select “License Online Now”

Enter Serial Number with capital letters and decimal points. It will be in the follow format using both letters & numbers. XXXX.XXXX.XXXX.XXXX

Customer Account Username & Password Required.



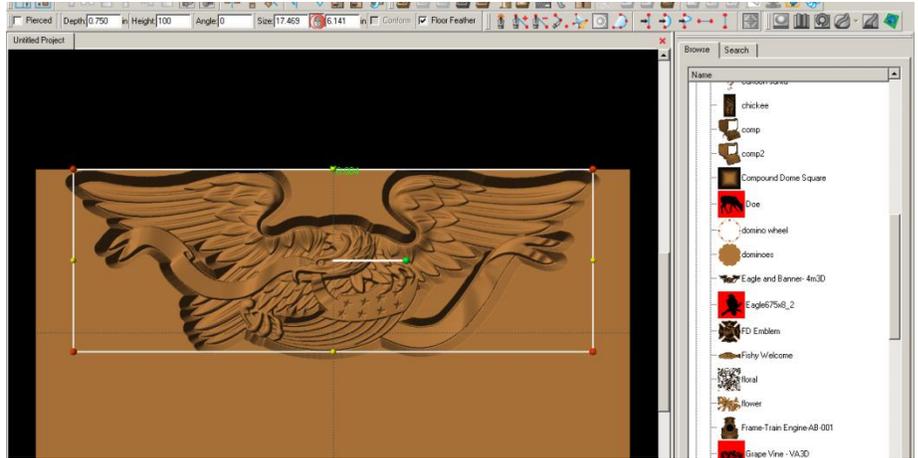
✓ PATTERN PLACEMENT



Open Pattern Library

Notice in Pattern Library:
Red background = unlicensed.
White background = licensed or licensed not required.

Place “Eagle & Banner – 4m3d” pattern onto board by clicking and dragging to the board or by clicking ONCE on pattern to select and ONCE on board to place .



Conference attendees received this pattern complimentary from one of our Sponsors - CNC Mini Projects. Please contact LHR Technologies to find out how you can purchase this pattern.

✓ VIEW GRIDLINES

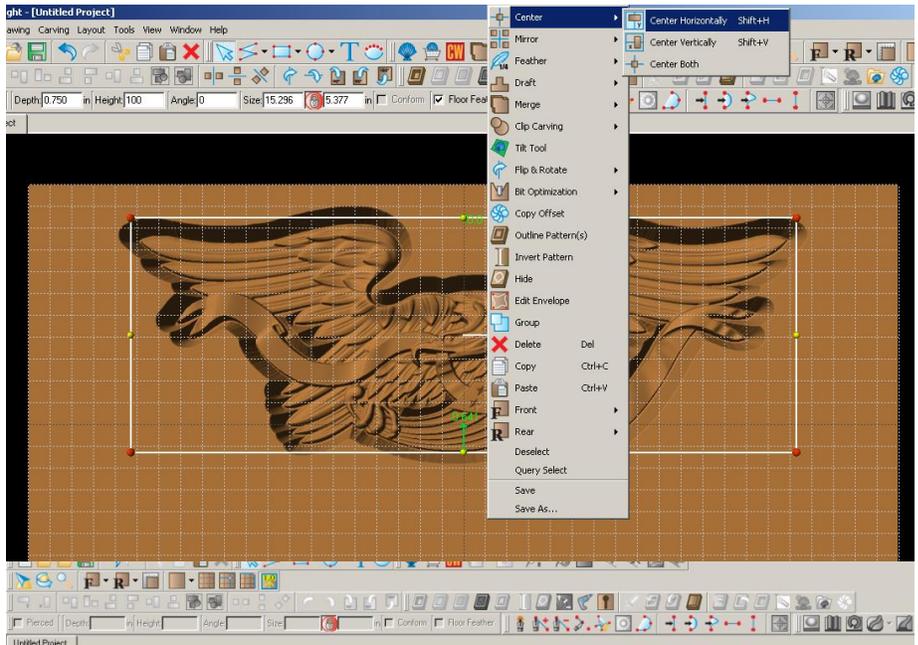


Go to Icon or VIEW menu > Toggle Gridlines.

To set the interval of the gridline, go to LAYOUT > Snap and set interval to .5”.

Move your pattern down from top at least 1/2”. This is to avoid contact with tracking roller unless you are going to use a sled. See Tips & Tricks – “Carving Jigs – Carrier Boards, Sleds and Rails – ISSUE 7 April 2008”

Select Toggle Gridlines, again, to turn it off.



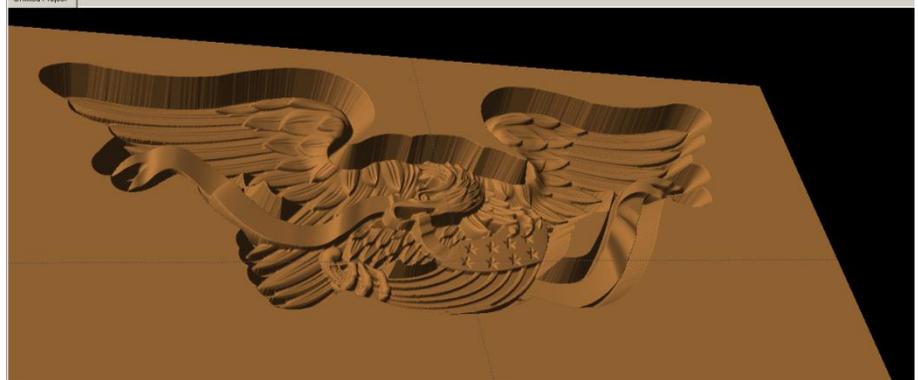
✓ CENTER HORIZONTALLY

Right click on element to see available options for this pattern. Select Center > Center Horizontally.

✓ MANIPULATE VIEW

Zoom and Rotate board to get a better view of your pattern and what fine tuning needs to be done, such as depth, height, peaks, & draft.

Mouse with roller wheel can be used for this too. Use to go back to front view.



✓ FINE TUNING

Resize pattern to 14.5" length.

Change Depth to .25".

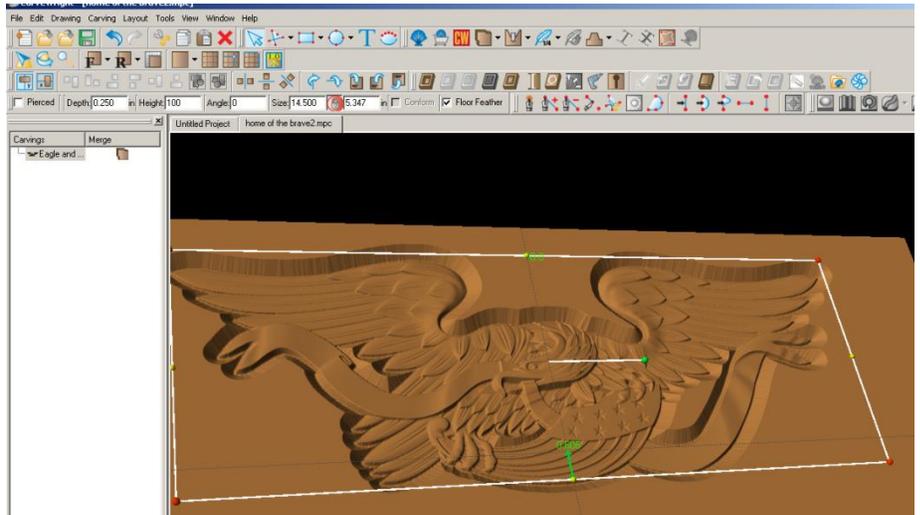
Add Draft to medium.

Add Bit Optimization to Pattern

✓ CARVING LIST

Open your Carving List, if it is not by going to VIEW > CARVING LIST.

Carving List shows every element on that side of the project board.



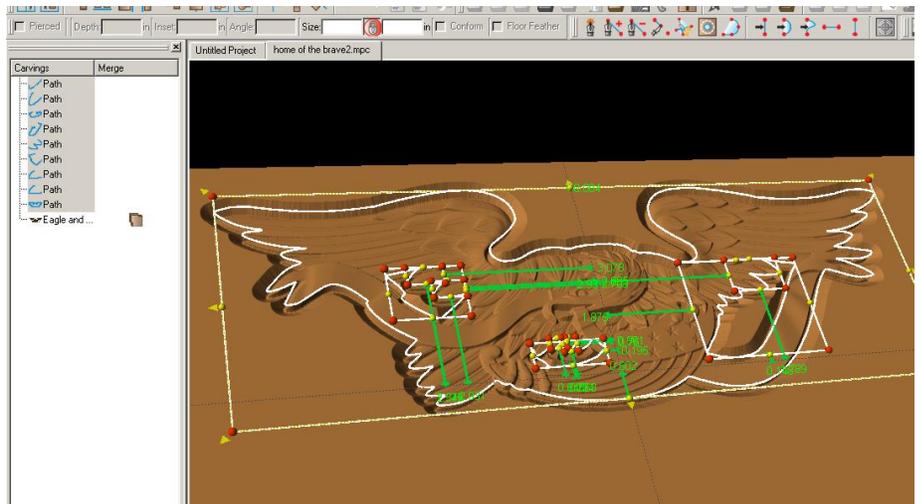
✓ OUTLINE PATH

Removing the peaks in the open areas of the pattern can be done a couple of ways.

Right click on pattern and select OUTLINE PATH.

Delete all paths from Carving List, except main eagle path.

Hit Delete key to delete them from the Carving List and your project board or select the delete icon. ❌

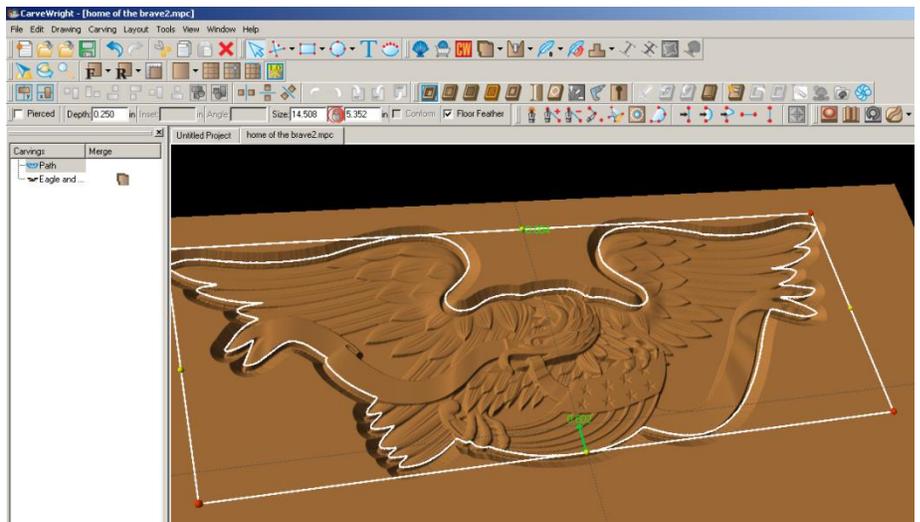


✓ CARVE REGION

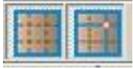


Select the eagle path
Click the carve region tool.

It will default to .25", which is the current depth of our pattern taking away the peaks in our open areas of the pattern.



✓ GRIDLINES & SNAP TO GRID



Toggle on your Gridline

Toggle on your Snap to Grid

✓ DRAWING TOOLS

Select Connected Line tool



Draw an area that includes the paths inside the pattern.

Leave enough room for .5" border at bottom.

Make sure you get the "starburst" when connecting final point.

Notice when you have a "CLOSED REGION", icons like carve region and cut path are no longer grey. This indicates that they are available for use with the element currently selected.

Assign a CARVE REGION and leave at .25".

Add medium Draft to region.

✓ SELECT TEXTURES

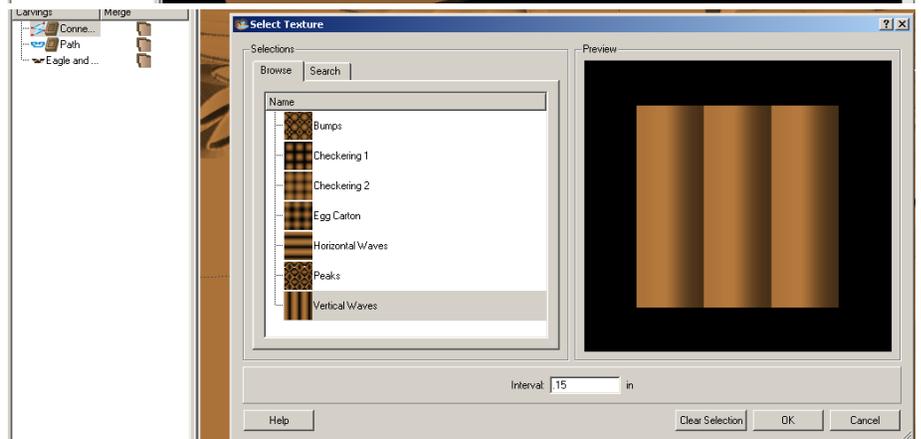
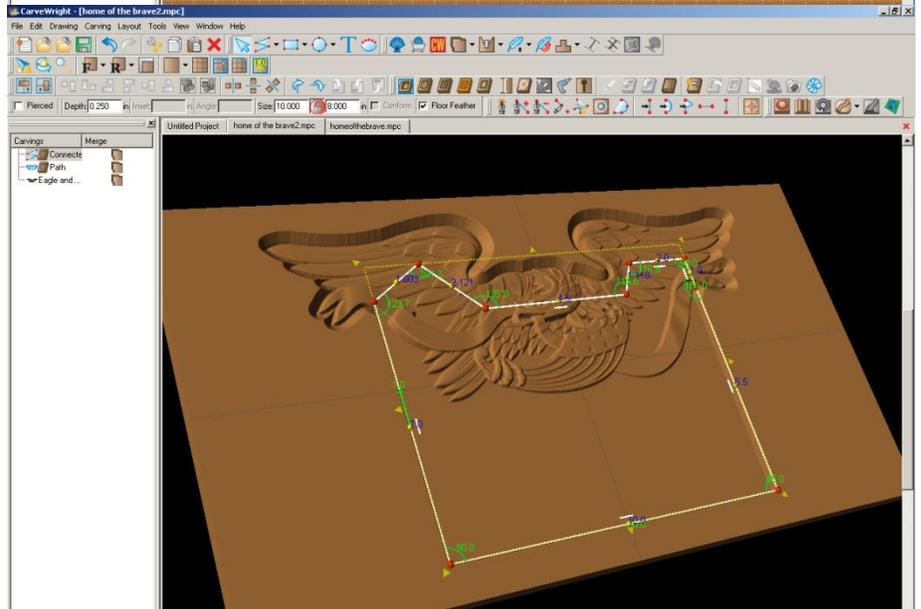
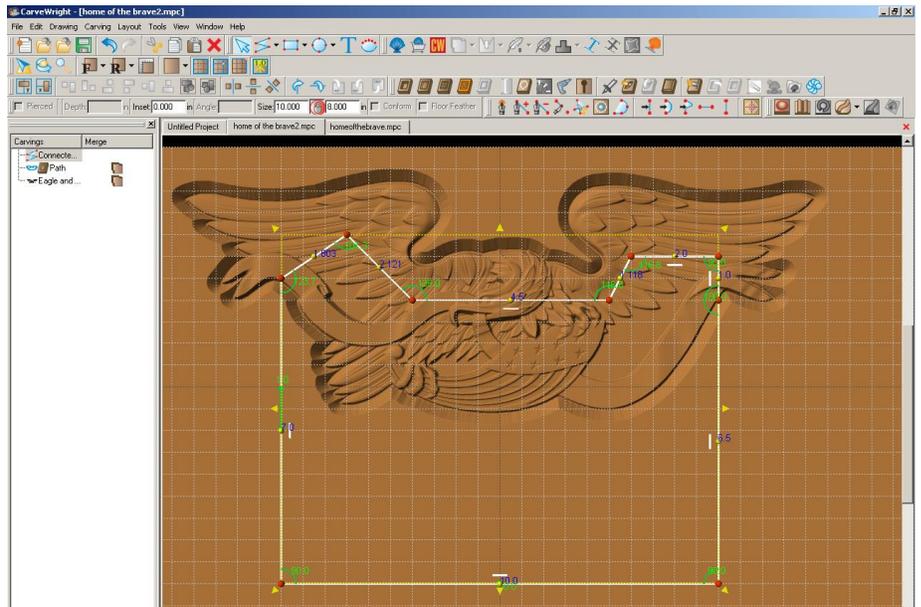


Click on the Select Textures tool.

Select Texture to use.

Change the interval of pattern to .15"

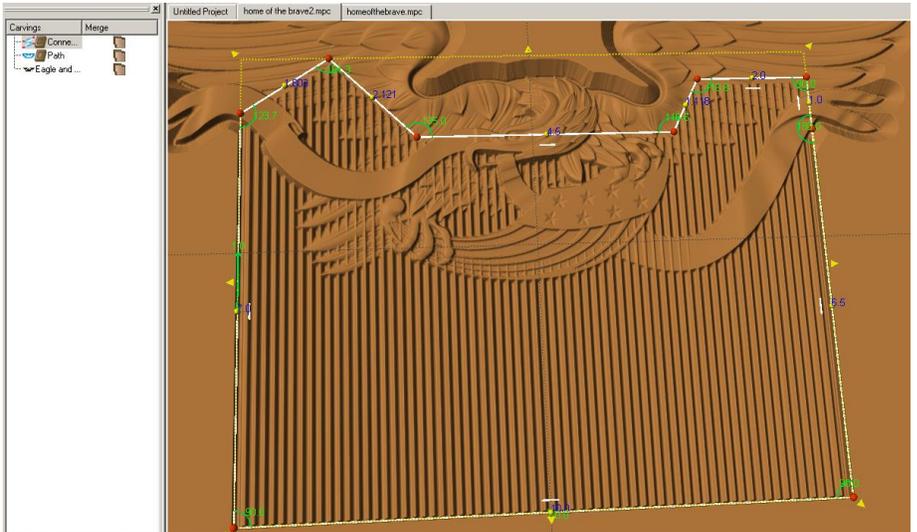
Click OK



✓ HEIGHT

Notice how the vertical texture interferes with the pattern.

Change the height to 10 for subtle effect and pushes it below the main pattern.

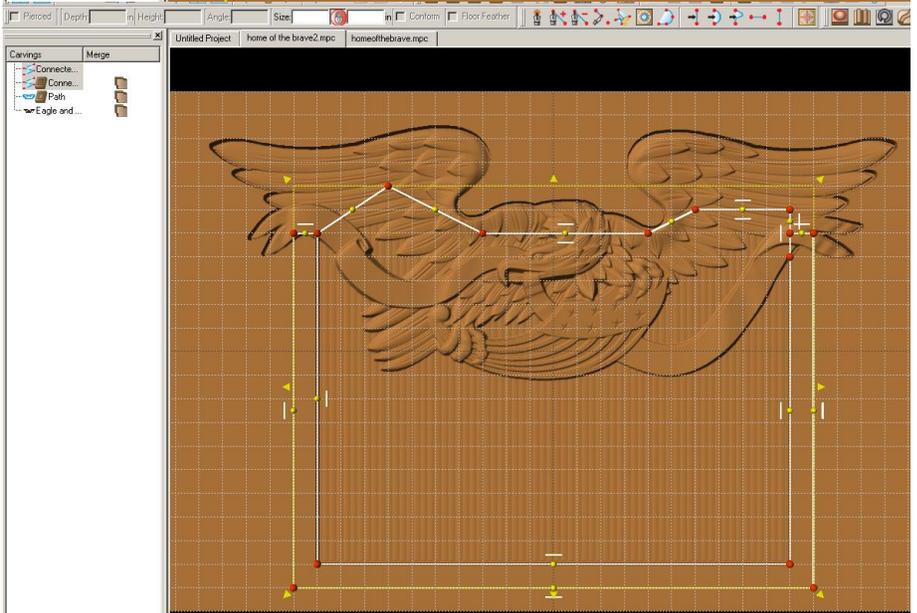


✓ DRAWING TOOLS

Turn back on Gridlines. Snap to grid should still be set.

Select Connected Line tool to draw .5 outside of textured carve region. Follow the line of the top of the first box where it goes through the eagle pattern.

Make closed region with "starburst".



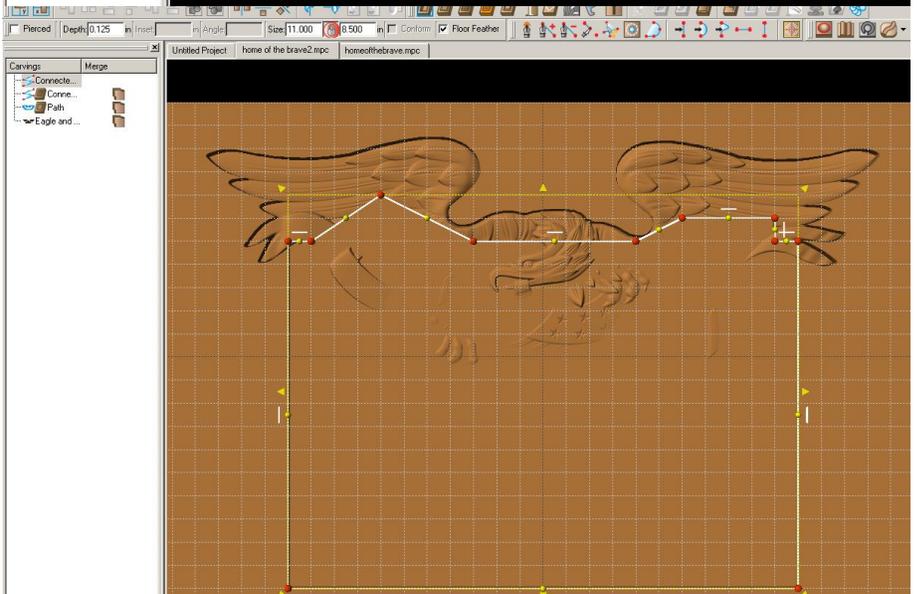
✓ CARVE REGION

Select CARVE REGION

Change depth to .125" to put below banner of pattern, but above textured middle to give a border to our project.

Notice how the pattern and middle panel is overwhelmed, again, by the carve region.

Toggle Gridline off.



✓ GROUPING

Select the two connected line areas that we want to merge.

Right click and select Group, so that the merge does not affect other elements.

✓ MERGE ADDITIVE



Click on the Merge Additive icon of the outside Connected Line region.

Merge sets the conditions on how patterns or surfaces overlap one another.

✓ CUT PATH



Select Path of eagle & outside Connected Line.

Drawing tools must have carve region assigned to them. You can add a carve region, outline element, then remove the carve region after you have the path.

Right click and select OUTLINE PATTERNS.

Flip Cut to outside of path and accept.

Customize with text.

✓ SAVE & UPLOAD TO CARD

Select "File" > "Save"



*****IMPORTANT*****

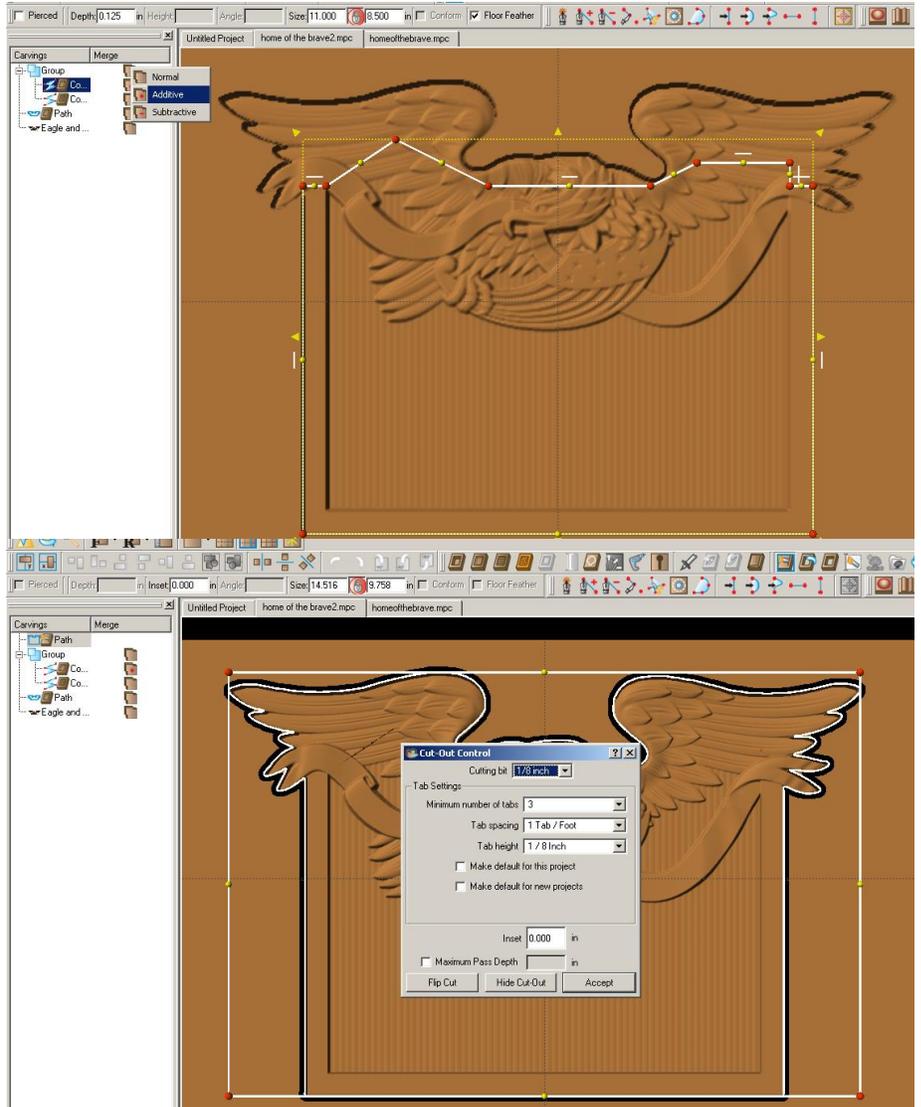
Once a project is uploaded to a memory card, it cannot be brought back from the memory card into the software. Always SAVE YOUR PROJECT on your hard drive. A Projects folder is recommended and you should know where you saved it.

✓ UPLOADING TO MEMORY CARD



Make sure your Memory Card & Programmer are properly attached via your USB port, Select "File" > "Upload" to save to your memory card.

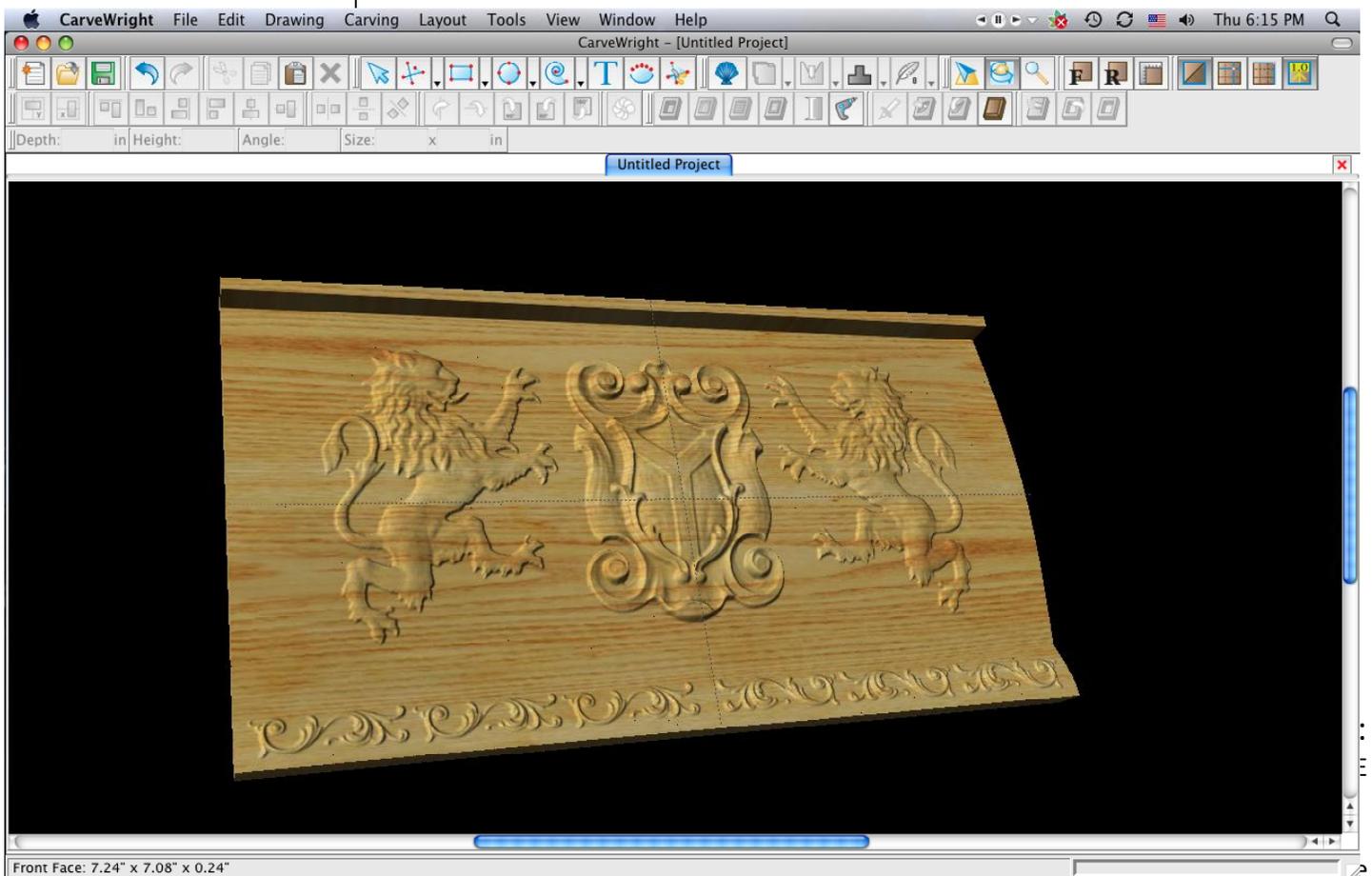
Select Quality Setting > Name Your Project > Click "Upload"



CURVED BOX SIDE

This project covers the following design concepts:

- DRAWING TOOLS
- REGIONS
- SURFACES
- ADJUSTING DEPTH & HEIGHT
- CONSTRAINTS & ATTACHMENTS
- CARVING LIST
- MERGE
- MANAGING DATA
- UPLOADING TO MEMORY CARD



The Welcome screen appears with project options.



Select "New Project"

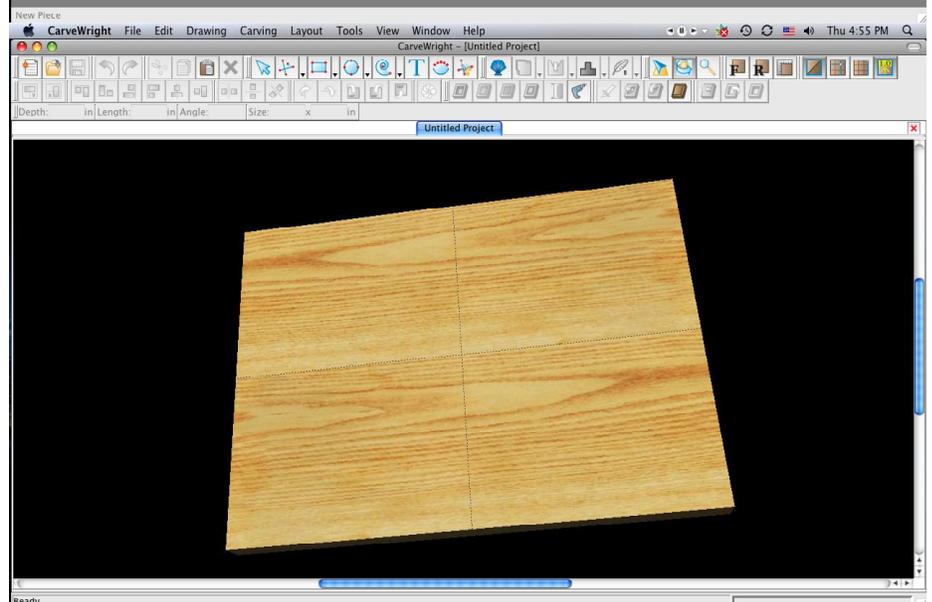
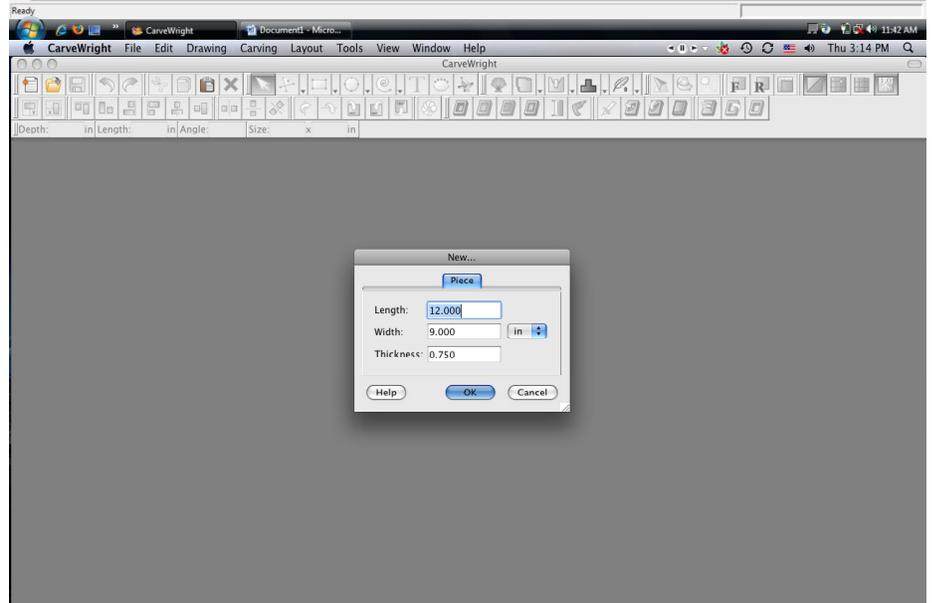
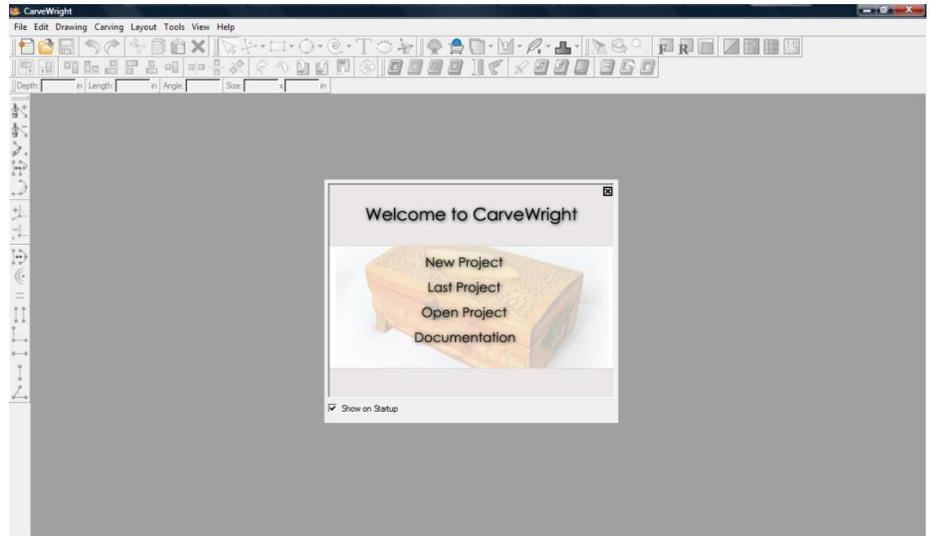
Set your board piece dimensions.
Length: 14"
Width: 7.5"
Thickness: .75"

Click ok

➤ MANIPULATING THE WORKPIECE

Board piece will display on screen in three dimensions.

-  Zoom
-  Rotate
-  Pan
-  Front
-  Rear

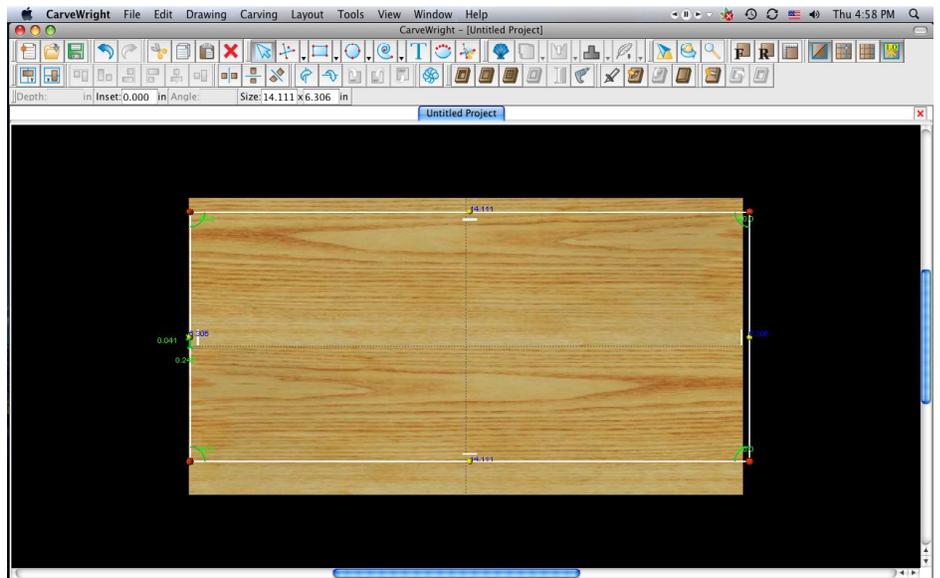


✓ DRAWING TOOLS

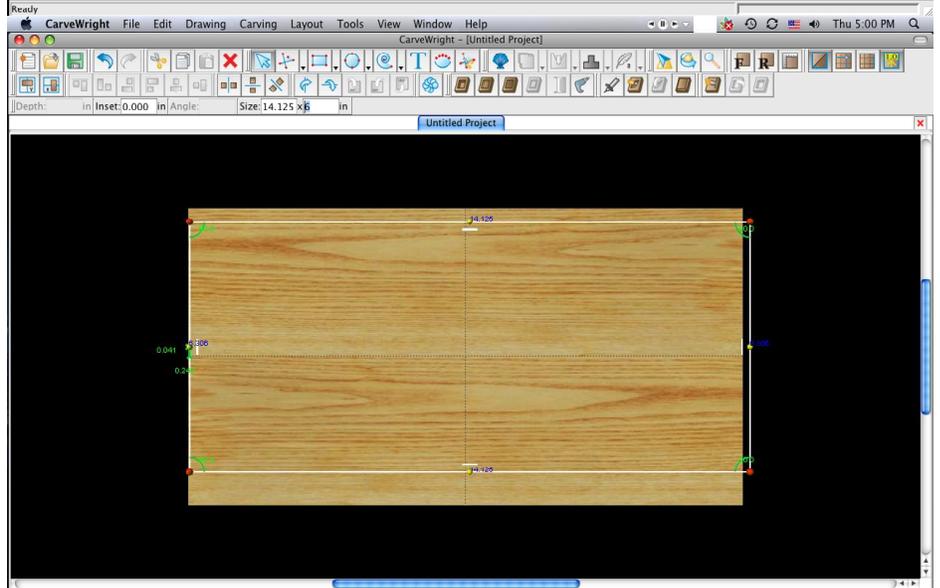


Select the "Rectangle Tool".

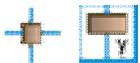
Draw Rectangle across the entire board, as shown.



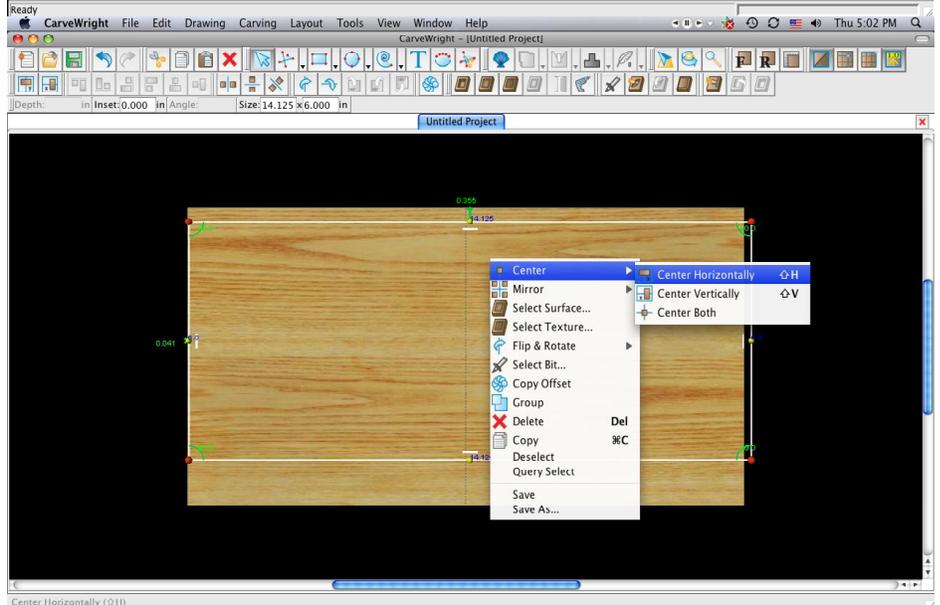
Set size of rectangle to
Width: "14.125 inch"
Height: "6 inch"



✓ CENTERING



Right Click and select
"Center", "Center
Horizontally"



➤ SURFACES



Use Select Surface Tool and choose “Domes” & “Vertical Dome”

➤ ADJUSTING THE HEIGHT & DEPTH

With the rectangular region selected, change the depth to “.5” and the height to “999”.

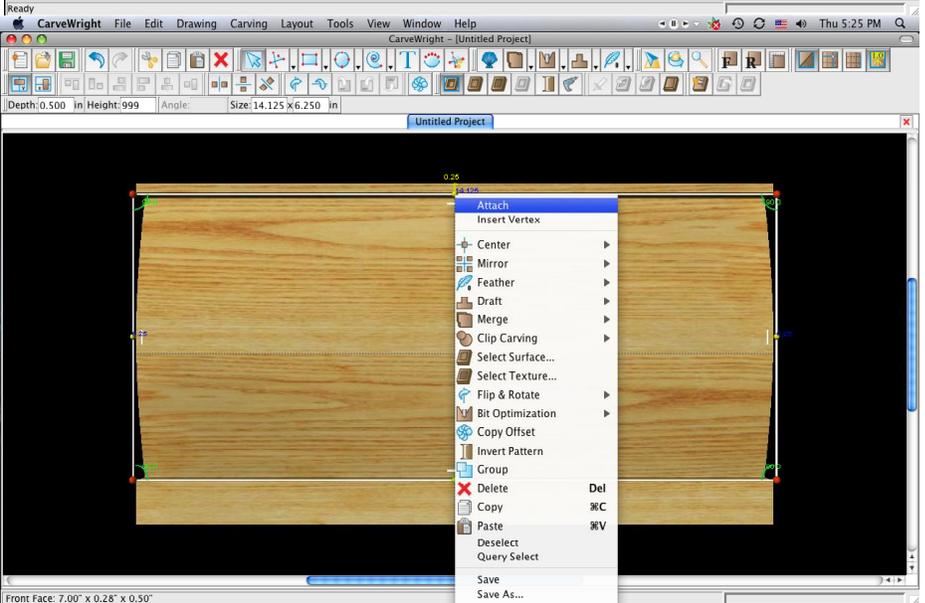
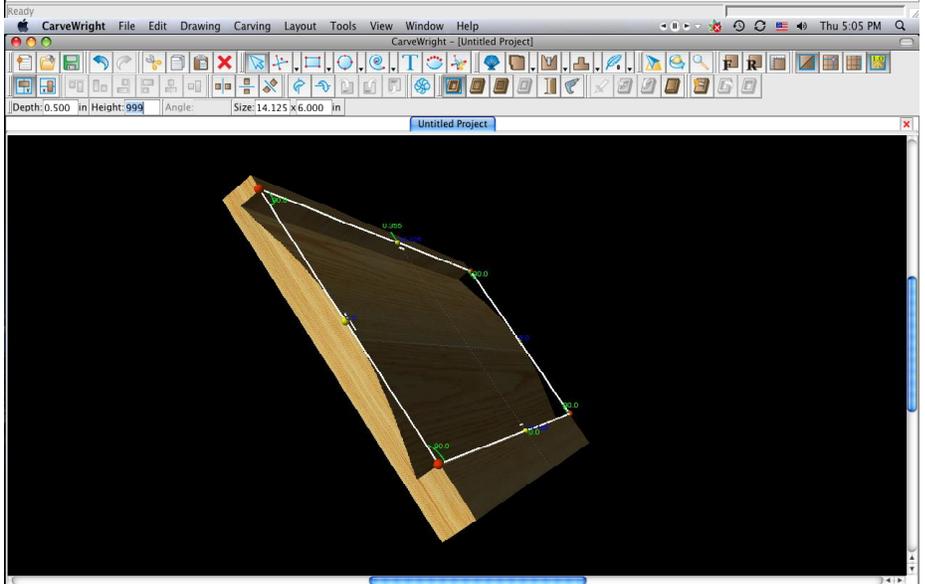
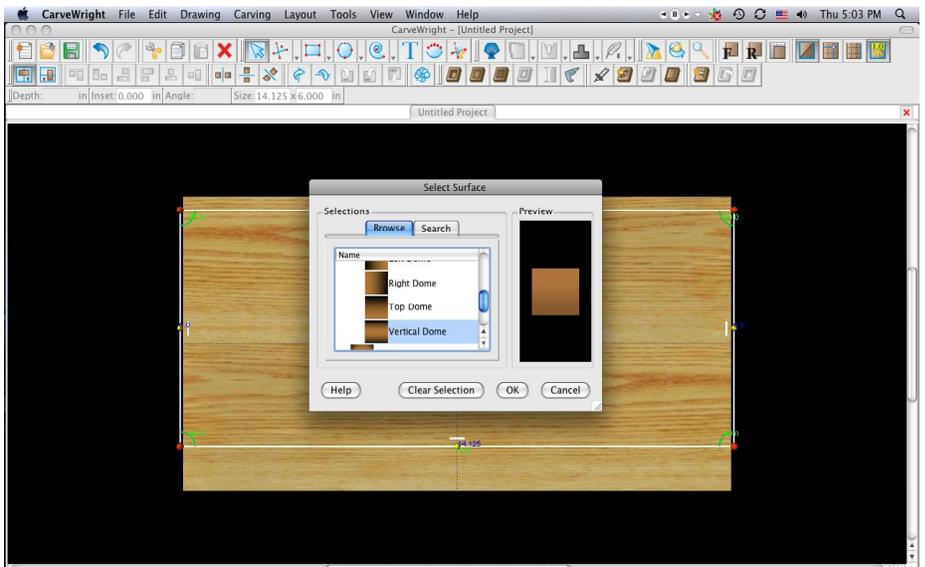
➤ MANIPULATING THE WORKPIECE



You will see the curve become much more defined if you rotate it and look from a side angle.

➤ CONSTRAINTS & ATTACHMENTS

Right Click the Yellow Node at the top of the rectangle and choose attach.



Attach it to the top edge of the board and type in “.25”. This locks the rectangle in place at a ¼ inch from the top border.

✓ DRAWING TOOLS

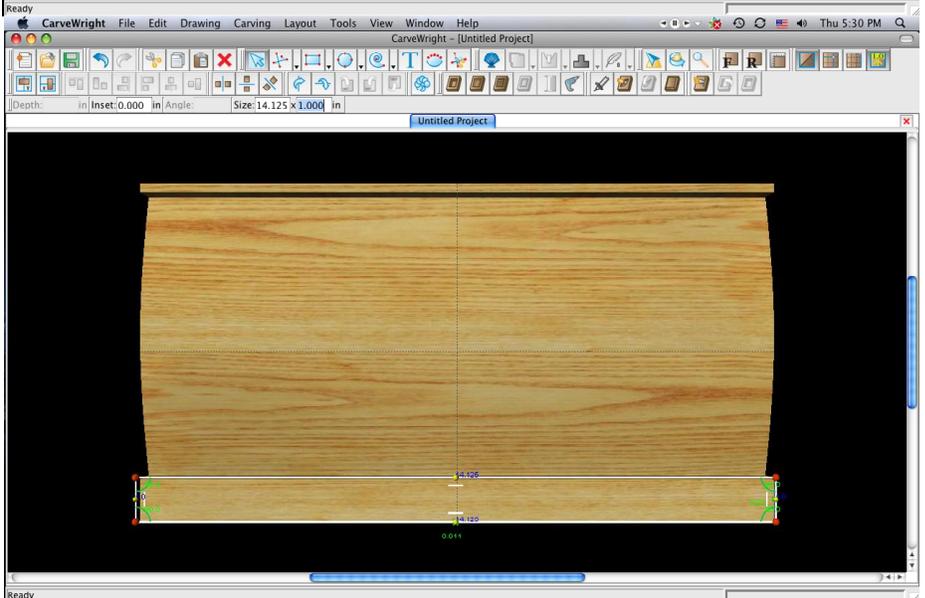
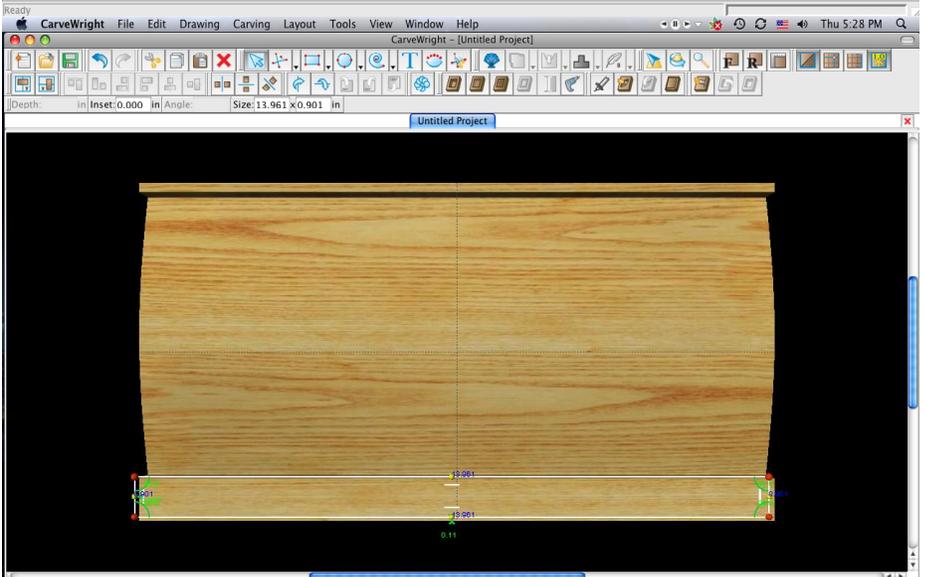
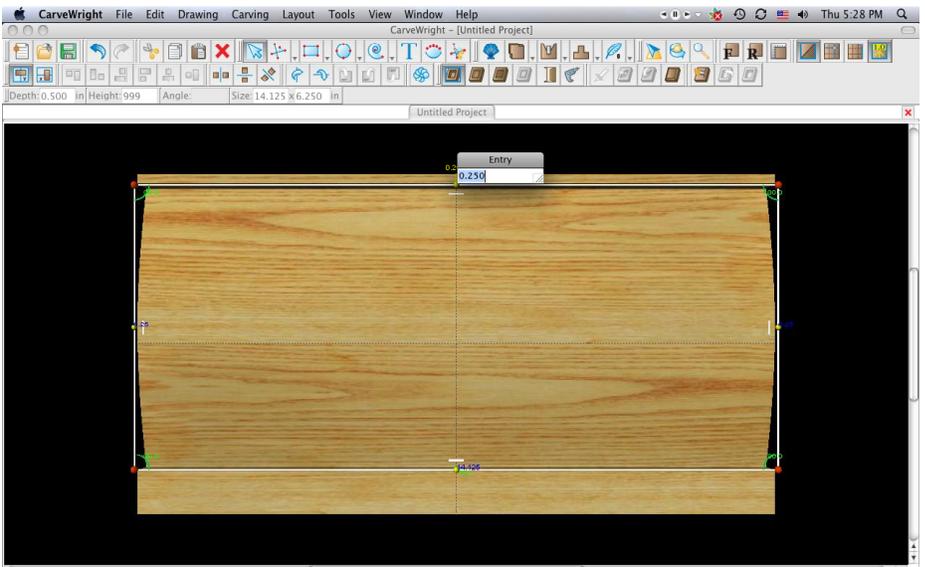


Select the “Rectangle Tool”.

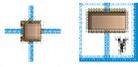
Select rectangle tool again and draw another rectangle along the bottom of the board.

➤ CONSTRAINTS & ATTACHMENTS

Set the dimensions to “14.125 inch x 1.25 inch”



✓ CENTERING



Right Click and select
“Center”, “Center
Horizontally”

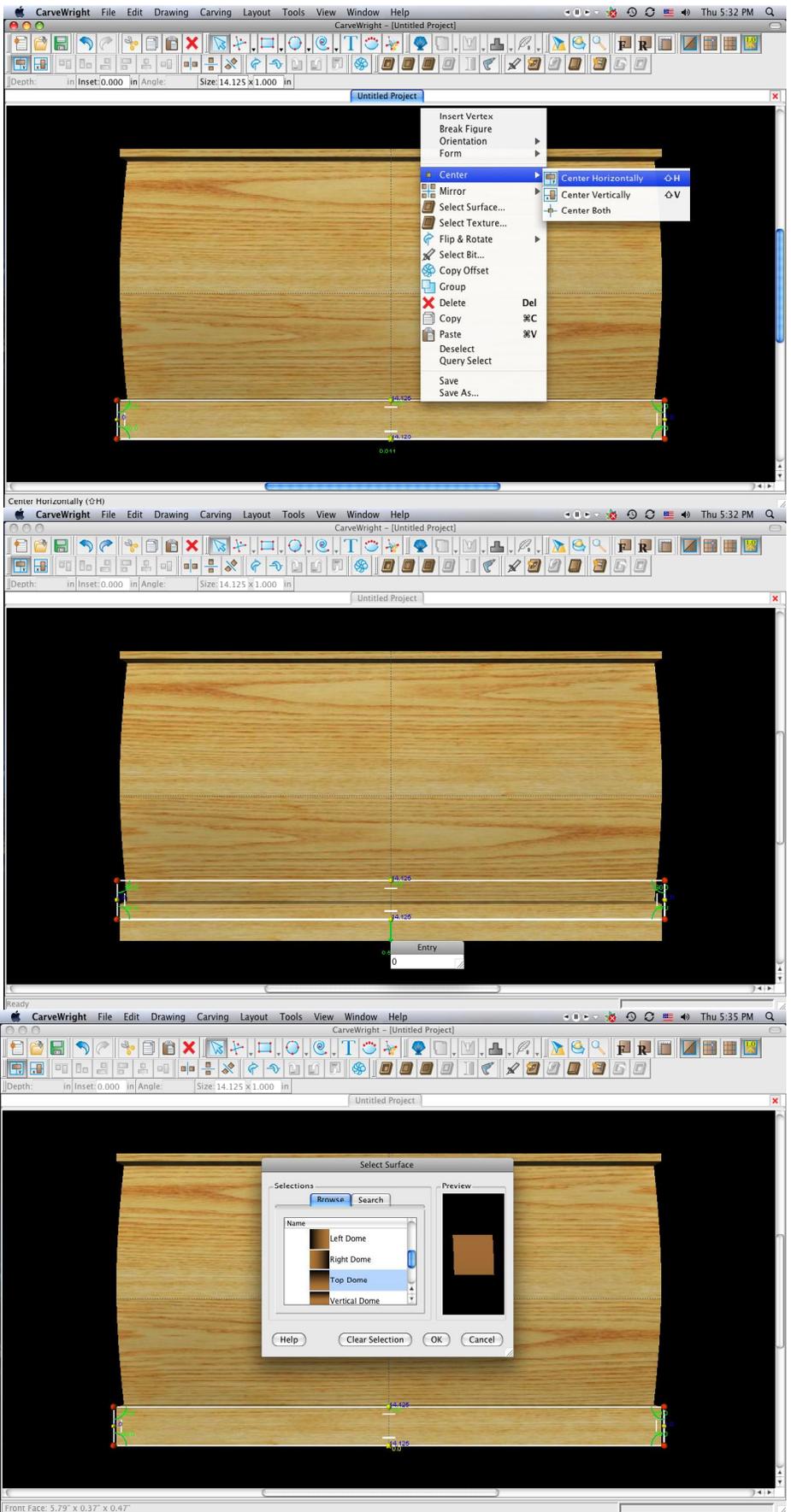
➤ CONSTRAINTS &
ATTACHMENTS

Attach the box to the
bottom edge of the board
by setting the distance to
“0”.

➤ SURFACES



Choose Select Surface and
select Top Dome under
Domes.



Change the depth to .5”
and the height to 999.

➤ MANIPULATING THE WORKPIECE

-  Zoom
-  Rotate
-  Pan
-  Front
-  Rear

Again you can see how this changes the contour from a side angle.

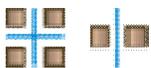
➤ PATTERN PLACEMENT

 Select the “pattern tool” to open the pattern library along the right side.

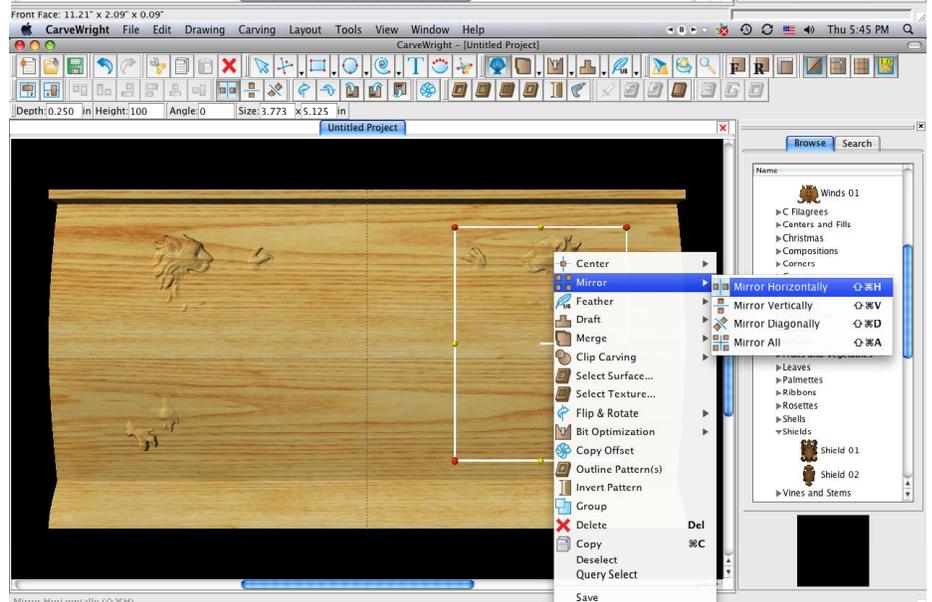
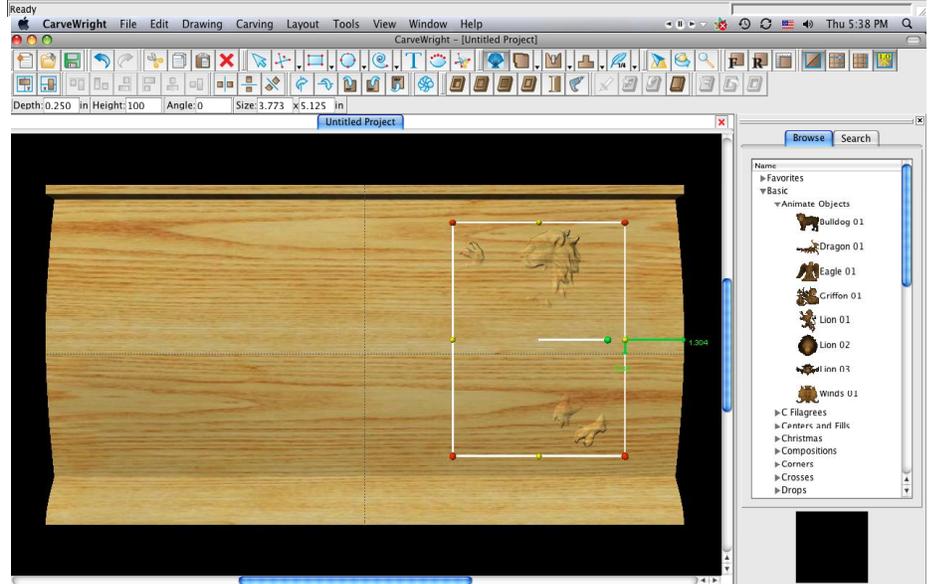
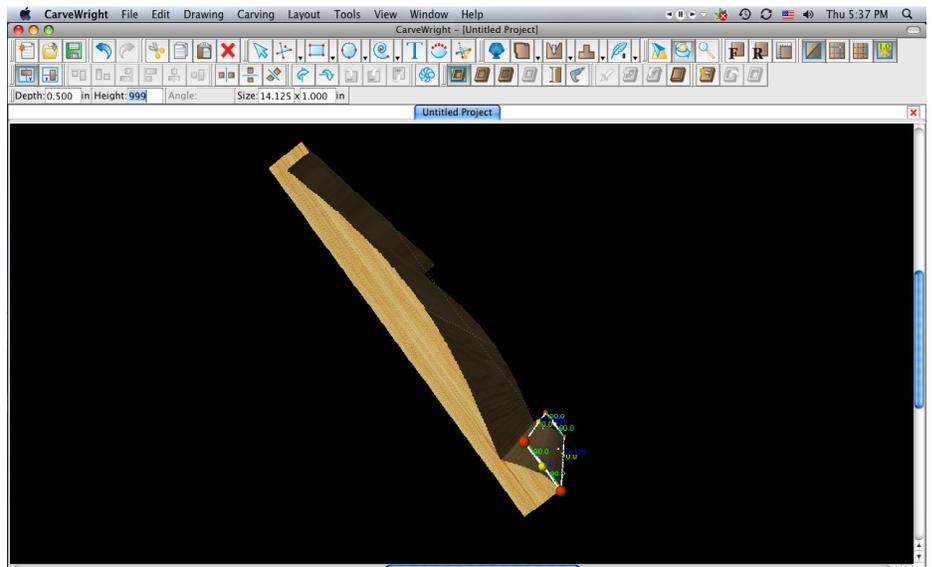
Select “Lion01” under “Animate Objects” and place on board by clicking or drag & drop.

Size to fit within the bigger rectangle dome.

➤ MIRROR



Right click on the lion and select “Mirror”, “Mirror Horizontally”.



Note: The patterns are not showing up all the way. We need to fix this by using our merging tools. Select the Carving list under View on the top menu bar.

➤ CARVING LIST



Select "View" and then "Carving List"

➤ MERGE



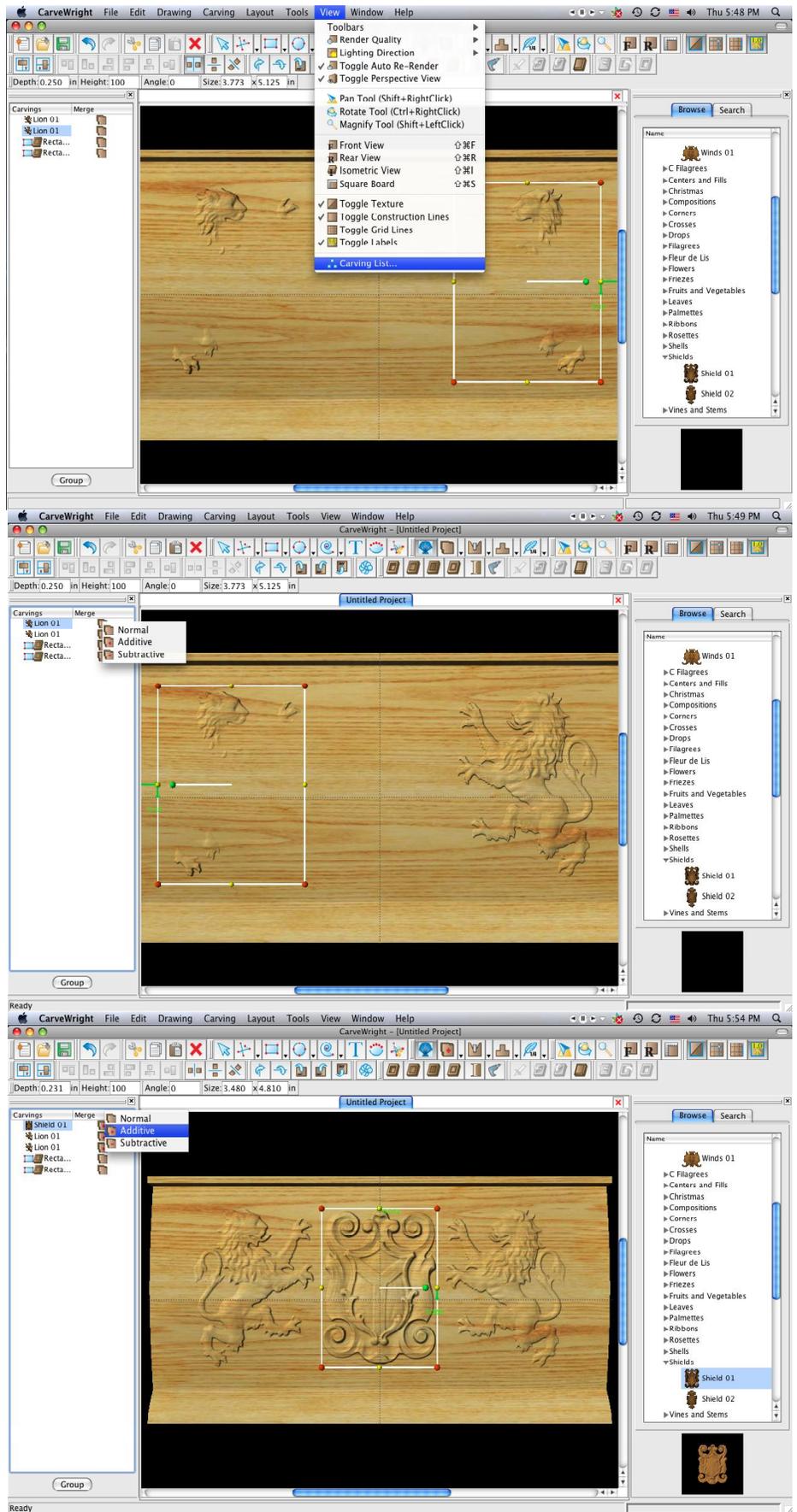
Select the "Lion" patterns in the carving list. Click on the merge style and select Additive.



➤ PATTERN PLACEMENT



Select "Shield01" under "Shields" and place in the middle of the board.



➤ MERGE



Select the “Shield” pattern in the carving list. Click on the merge style and select Additive.



✓ CENTERING



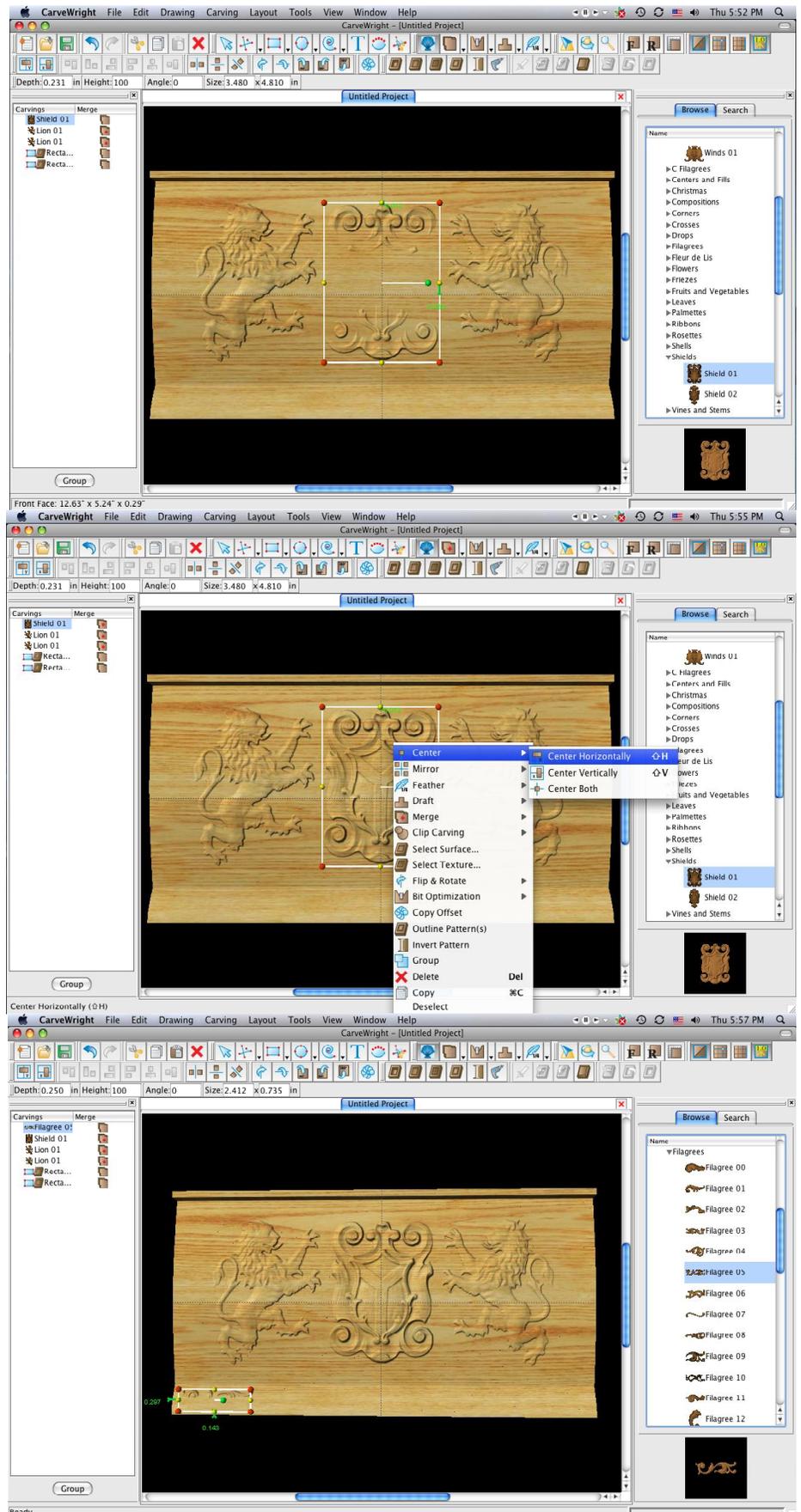
Select the “Shield01” pattern and select “Center”, “Center Horizontally”.

➤ PATTERN PLACEMENT

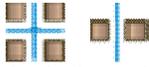


Under “Filagrees”, select “Filagree05” and place in the bottom corner of the board.

Size to fit within the smaller rectangle along the bottom.



➤ MIRROR



Right click on the hole and select “Mirror”, “Mirror Horizontally”.

➤ CARVING LIST



Select “View” and then “Carving List”

➤ MERGE



Select the “Filagree” patterns in the carving list. Click on the merge style and select Additive.

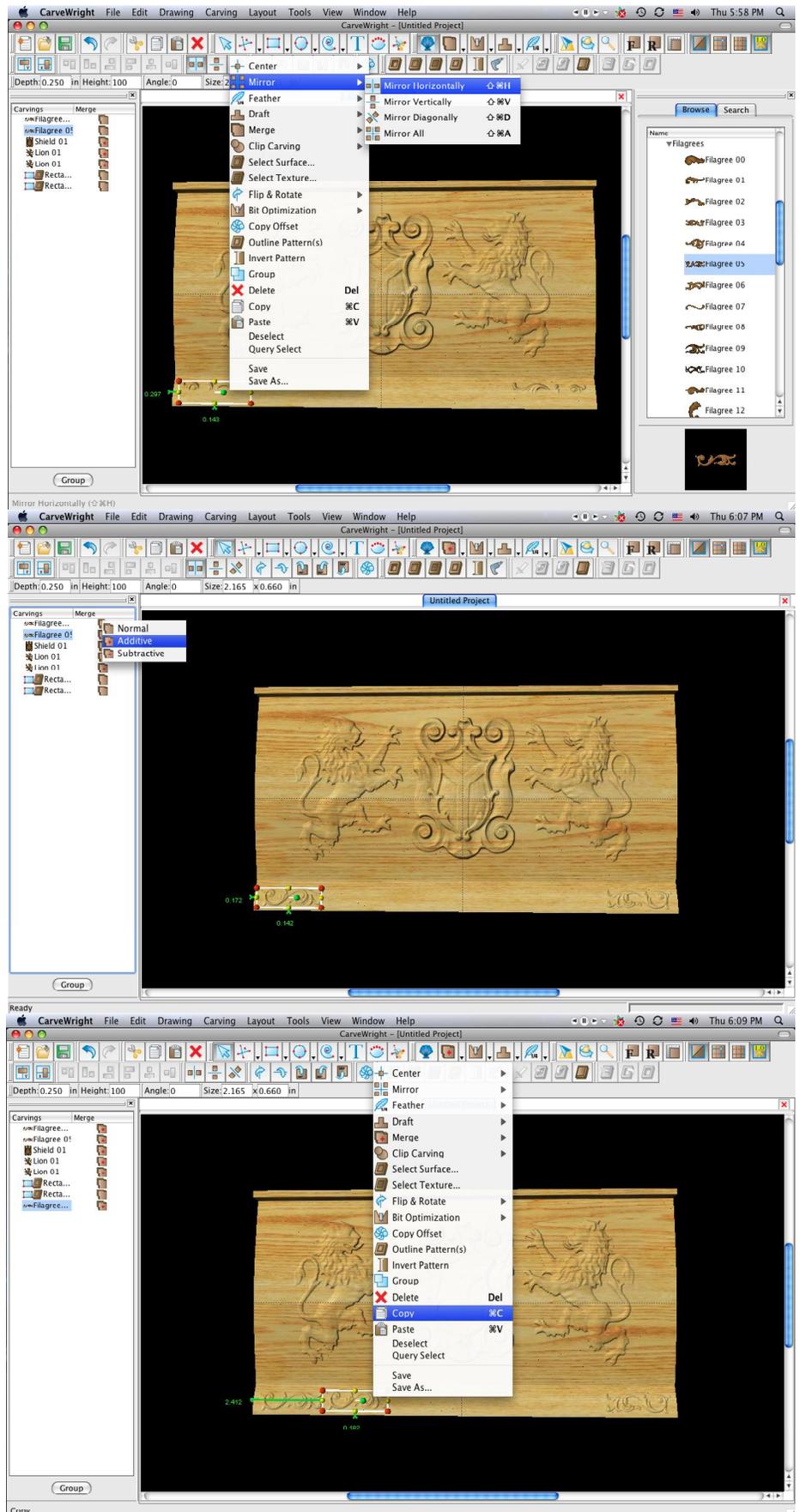


➤ COPY & PASTE



Right Click, choose “copy” and “paste” to put another filagree next to the existing filagree and again Mirror Horizontally.

➤ MIRROR



Repeat this step again so the pattern is mirrored across the entire bottom of the board.

➤ MANIPULATING THE WORKPIECE



Rotate and/or zoom your workpiece to see your design board more clearly.



Select "File", "Save"

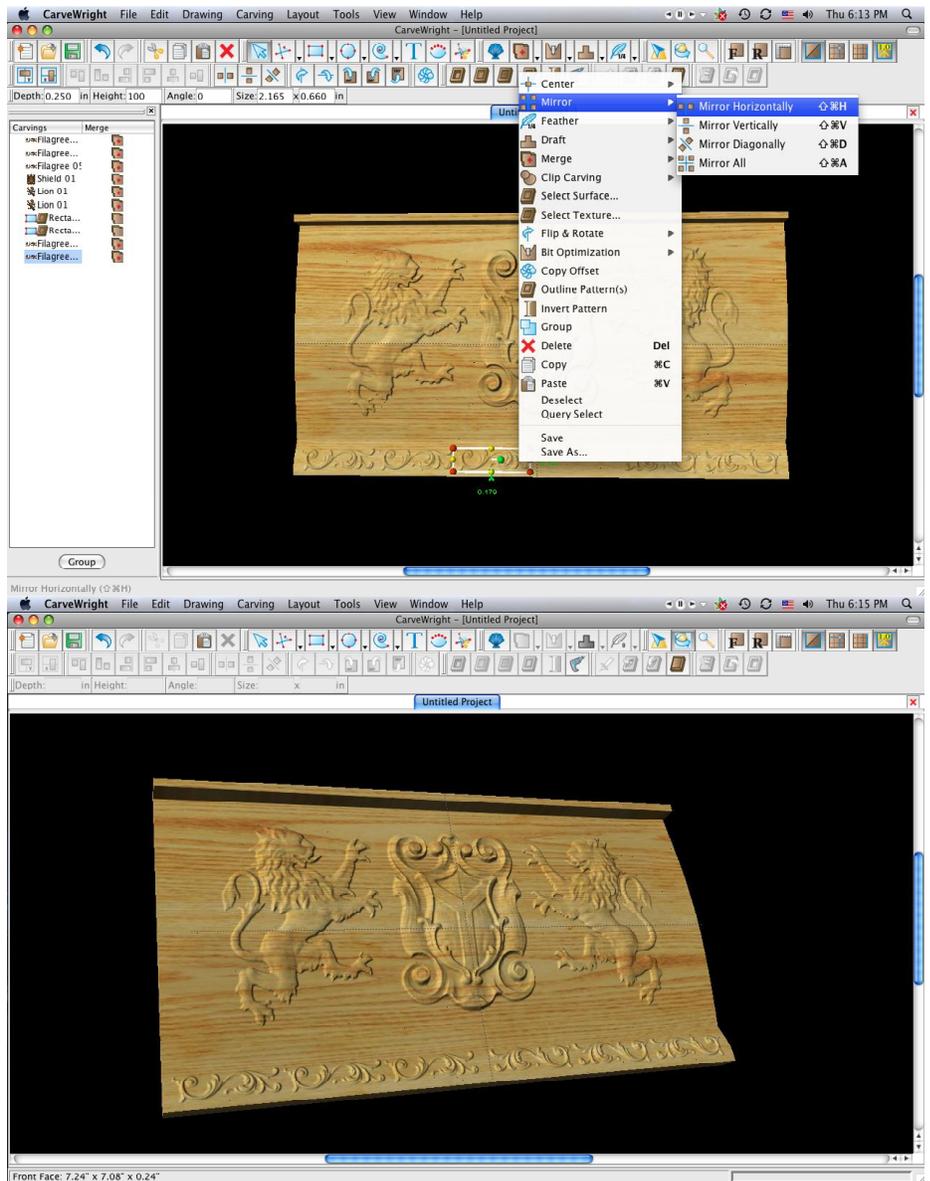
*****IMPORTANT*****
Name file and click "Save" to hard drive.

➤ UPLOADING TO MEMORY CARD



Select "File", "Upload"
Save to memory card.

Example:
lionboxside_N_45
(recognizable name_quality setting_estimated time to carve)



LIGHTHOUSE WELCOME PT 1

This project covers the following design concepts:

- ✓ STARTING SOFTWARE
- ✓ DRAWING TOOLS
- ✓ CARVE REGION
- ✓ MERGE - SUBTRACTIVE
- ✓ TEXTURE
- ✓ CLIP CARVING – EXCLUSIVE
- ✓ TEXT TOOL
- ✓ CONFORMING VECTORS
- ✓ CUT PATH
- ✓ SAVE & UPLOADING TO MEMORY CARD



INSTRUCTIONS:

✓ STARTING THE SOFTWARE

Open the CarveWright Project Designer Software

The Welcome screen appears with project options.

Select "New Project"

Set your project board dimensions.

Length: 14"

Width: 14"

Thickness: .75"

Click OK

✓ DRAWING TOOLS

Draw two circles using the drawing tool making one smaller than the other.

Center both circle on the board.

✓ CARVE REGION



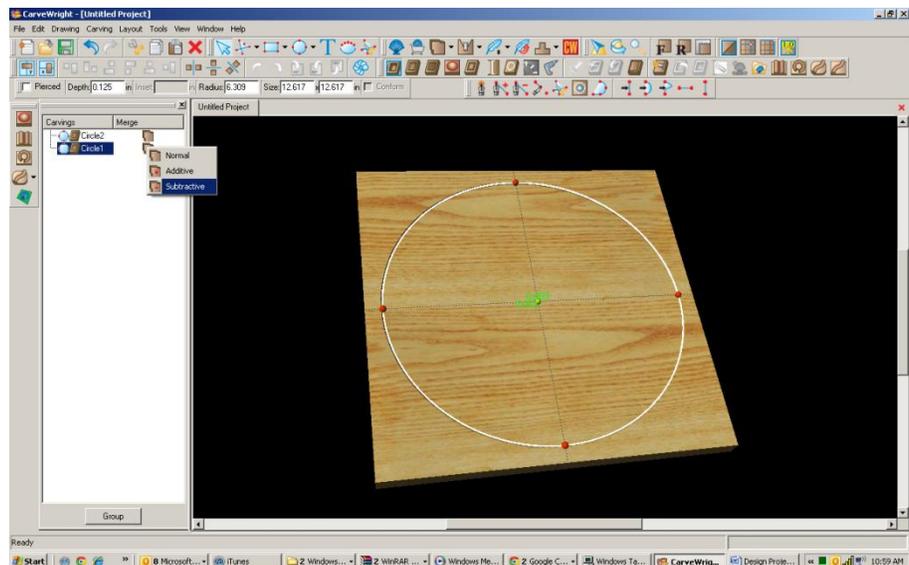
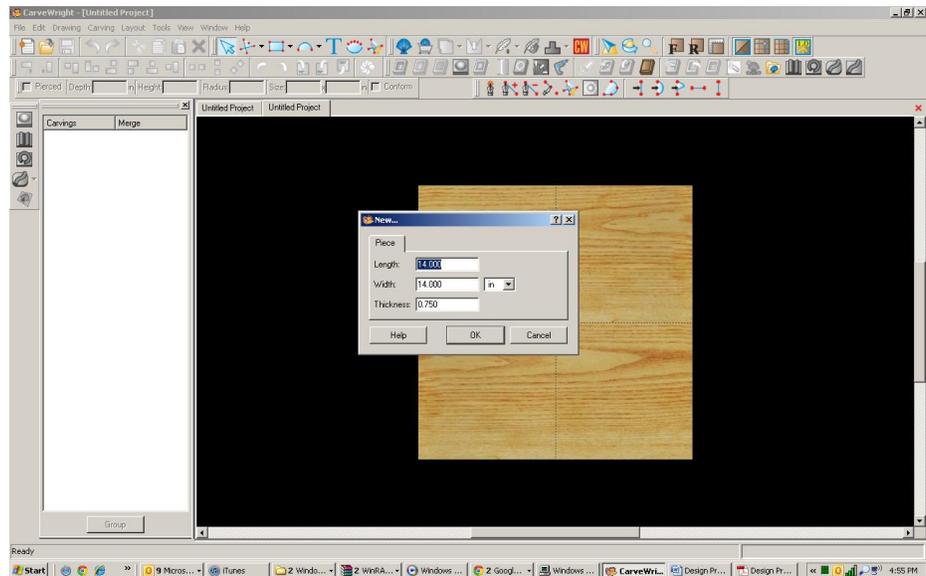
You can make the carve region whatever depth you like.

I selected the following:

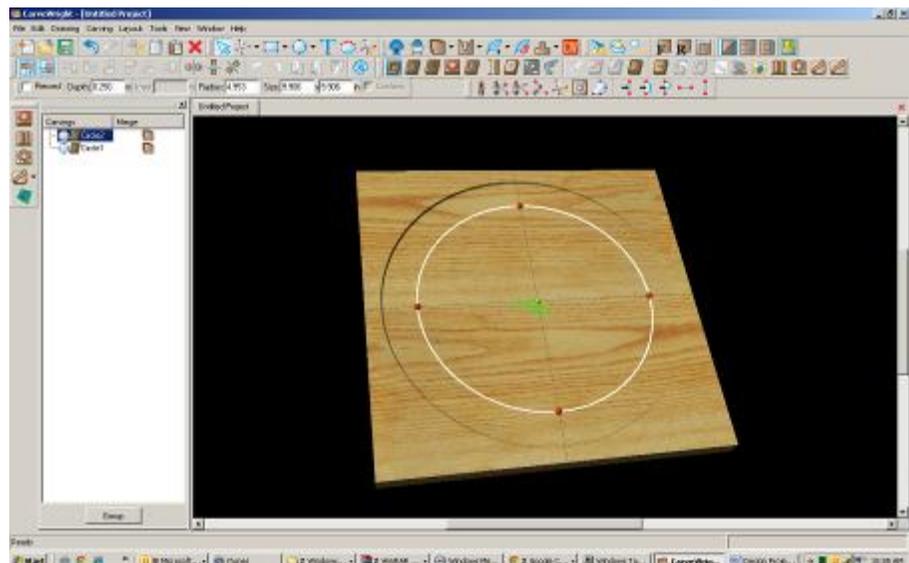
Larger circle depth: .125"

Smaller circle depth: .250"

Notice that the center (smaller circle) does not show a carve region .250".



tool

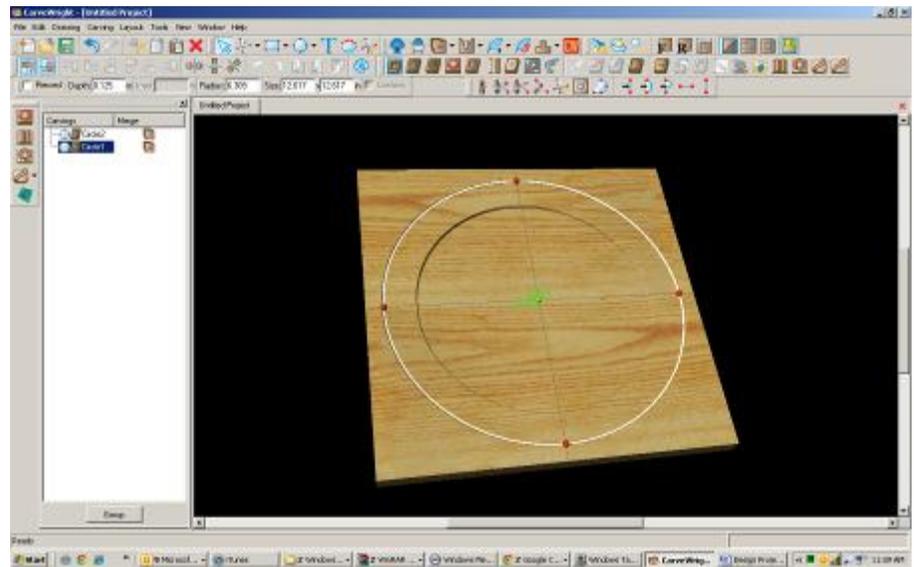
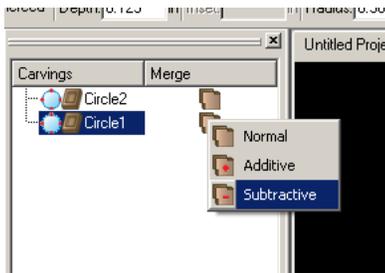


of

✓ MERGE - SUBTRACTIVE

Open your Carving List, if it is not by going to VIEW > CARVING LIST.

Select the outer circle, right click on Merge Icon and select Subtractive.

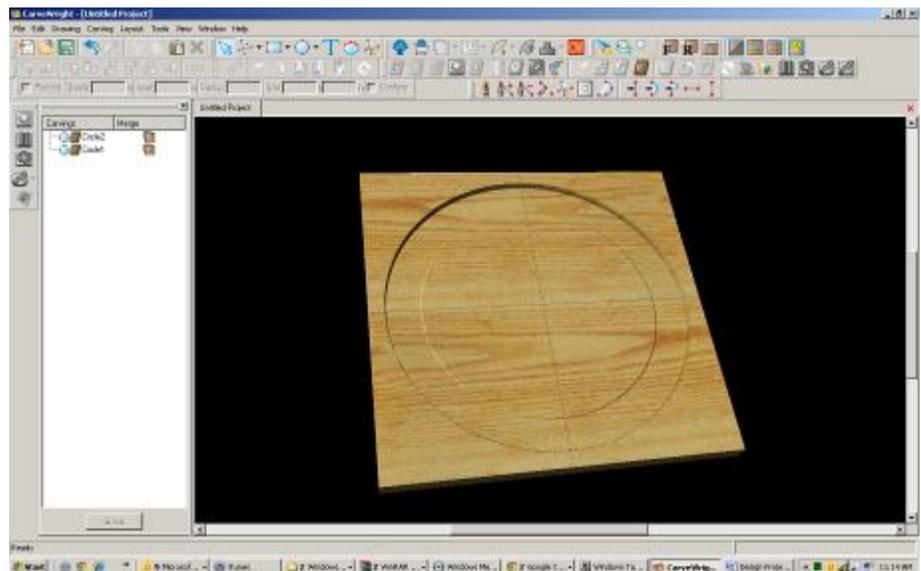


Now you can see the inner circle with a slightly deeper carving depth.



Alternative uses of this same technique:

Both circles could actually have the same carving depth or the outer circle could have a deeper carving depth than the inner circle.



✓ TEXTURES

Select "Texture" tool.

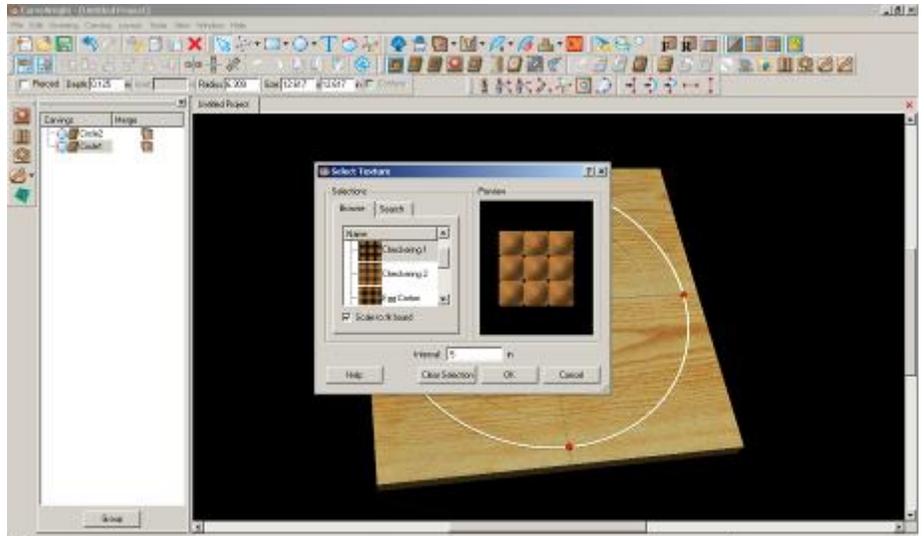


Texture dialog box appears displaying a variety of available textures.

Select "Checkering1" and change the interval to .5"

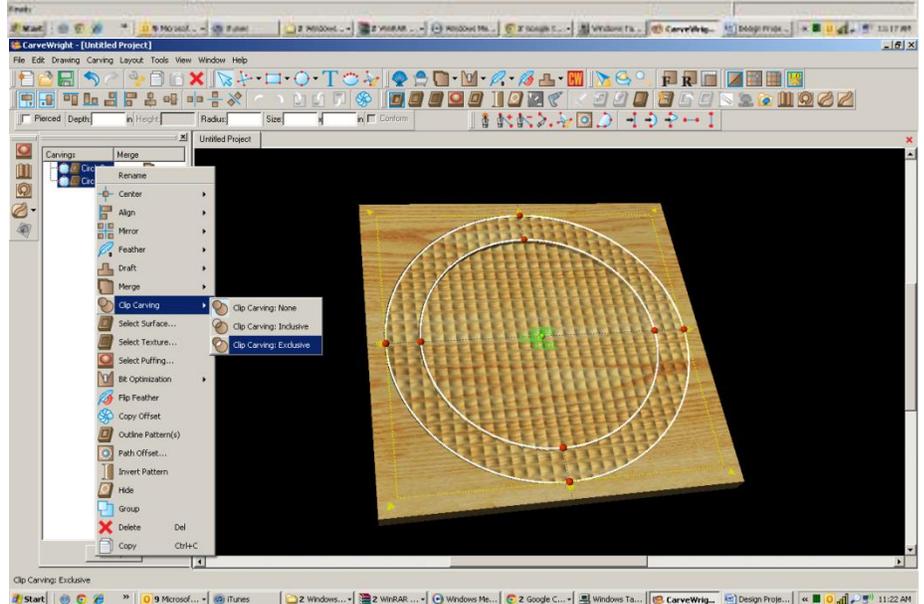
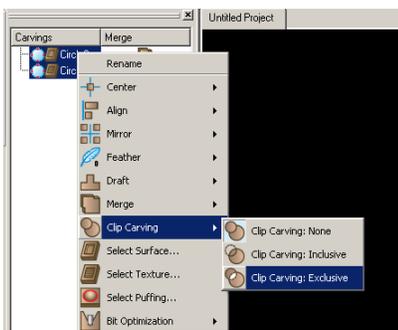
Click OK.

Notice the texture is applied to both circles.



✓ CLIP CARVING

Select both circles then apply Clip Carving – Exclusive



Now you have your circle inside a textured circle.

✓ FINE TUNING

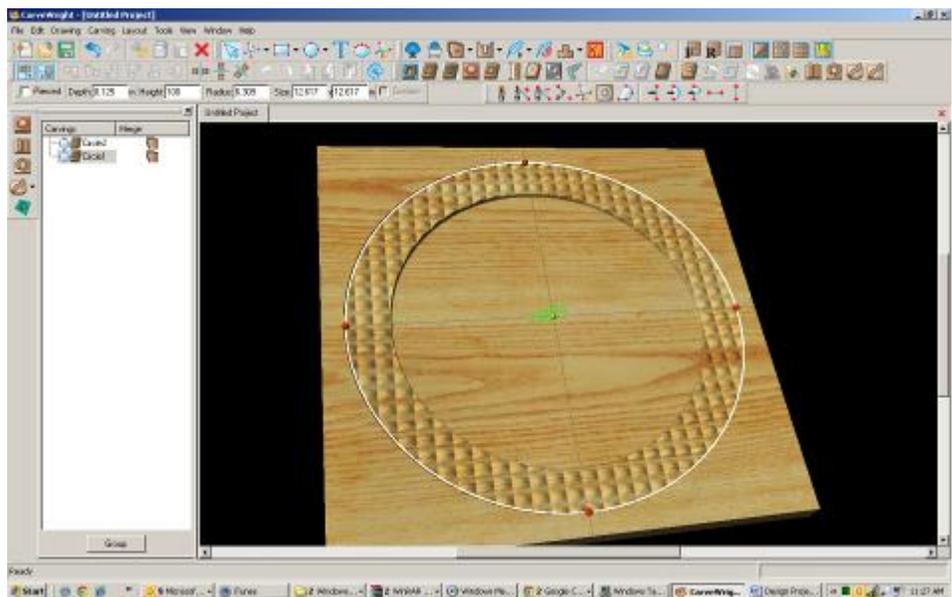
I would do a few other things to this project before carving.

HEIGHT

I selected the following:
Larger circle height: 40"

✓ GROUPING

Group these two circles.



✓ PATTERN PLACEMENT

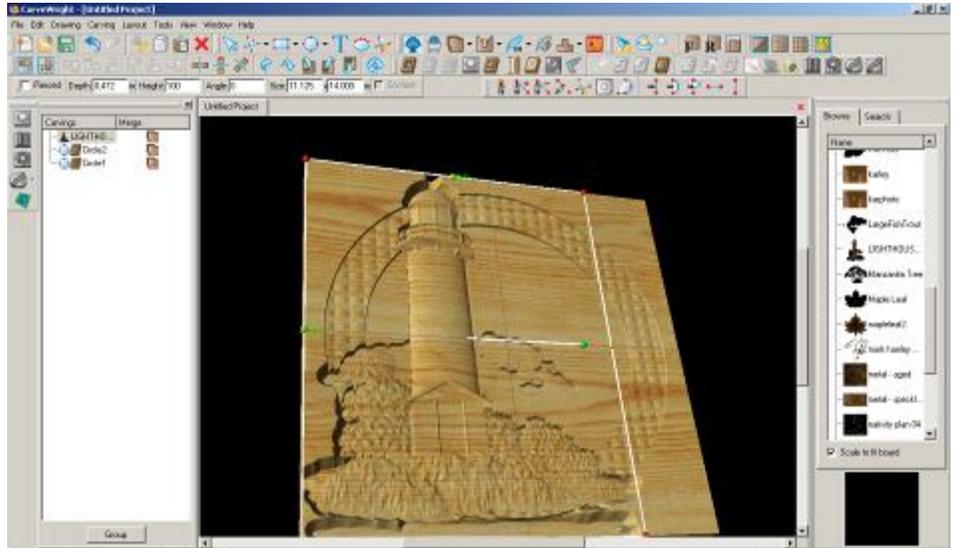
Place a pattern on the board. Not sure where I got this one, but it is nice.

Select a pattern and place it on the board.

Resize to fit where you would like it.

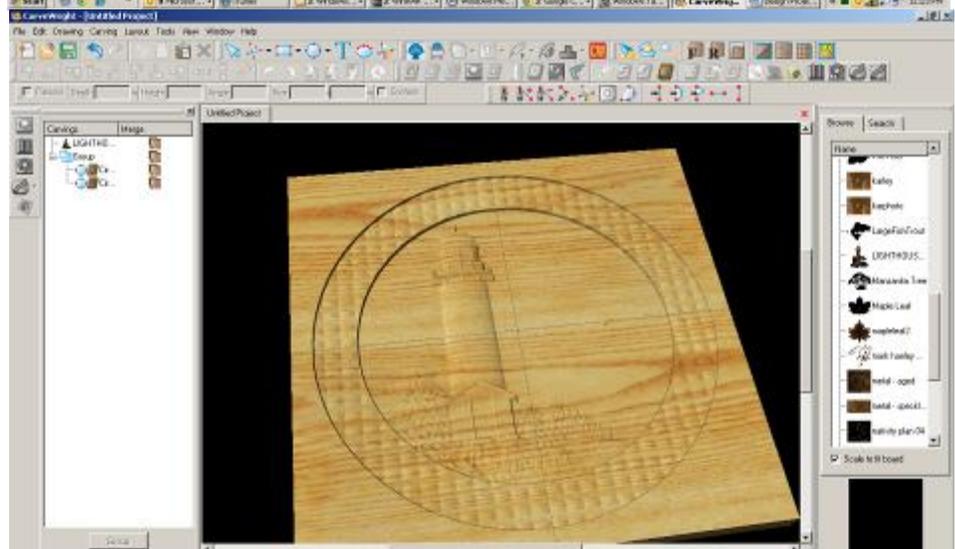
Change depth to meet the inner circle - .250"

Change feather to NONE.



✓ CLIP CARVING - INCLUSIVE

With the pattern selected, right-click and select Clip Carving – Inclusive.



✓ TEXT TOOL

Open your Text Tool and make your selections.

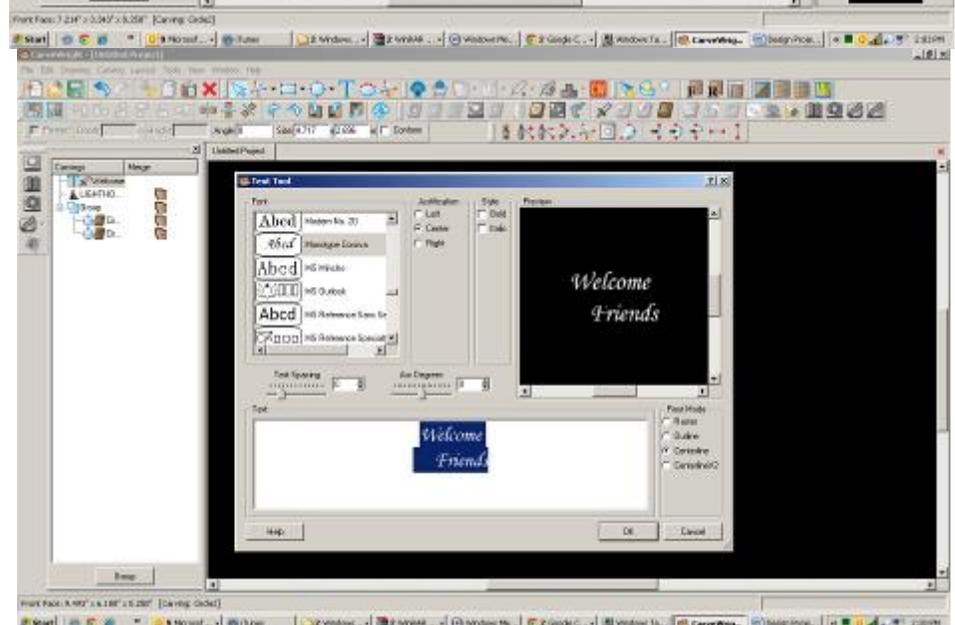
I used the following:

Font: Monotype Corsiva

Justify: Center

Rout Mode: Centerline

I added both lines of text to one screen, but added spaces before the word Friends to offset it slightly. When using multiple lines, it may be easier to manipulate if you do them as separate items, however getting the fonts to the same size is a bit trickier.



Click OK.

✓ CONFORMING VECTORS

Because we are placing text over a carved region and Centerline by itself only works on the top surface of the board, I am applying Conforming Vectors. Centerline is a vector.

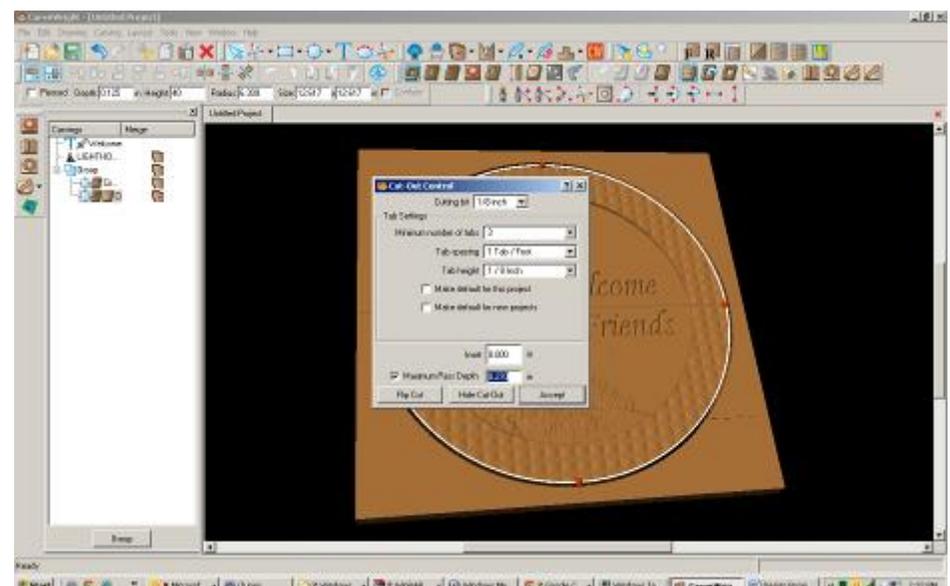
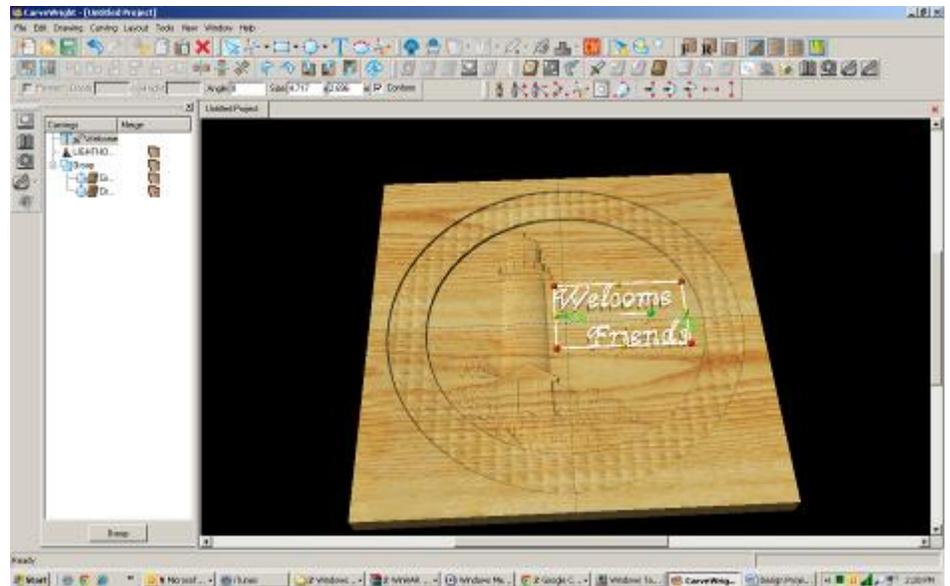
With the vector (Centerline) selected, click on the Conform box.

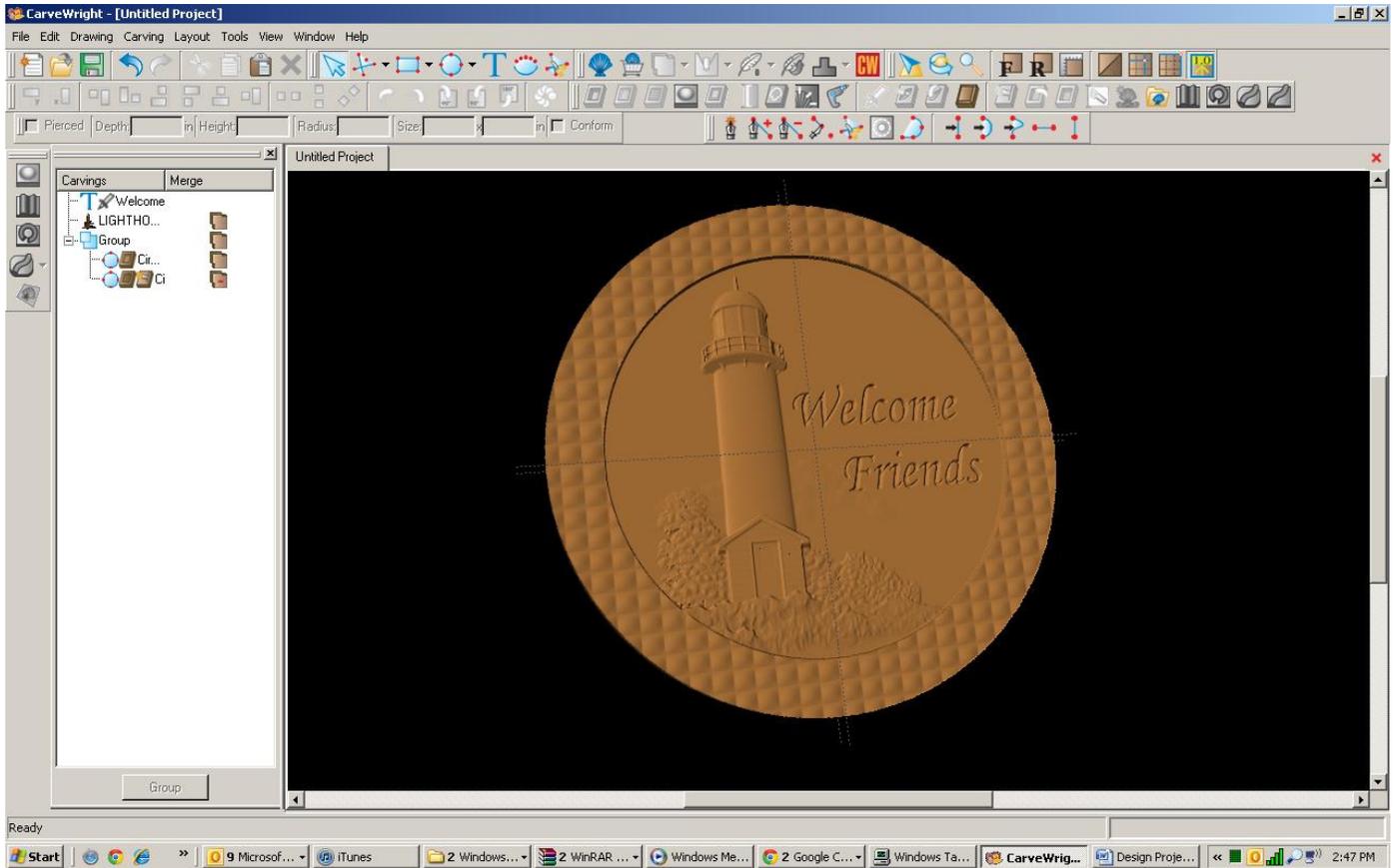
Resize and place where it looks best.

✓ CUT PATH

Select outer Circle and click on Cut Path Tool. Assign Maximum Pass Depth to .27" Flip Cut to cut outside of the path and Accept.

I turned off my wood grain to see my project better.





✓ SAVE & UPLOAD TO CARD

Select "File" > "Save"



*****IMPORTANT*****

Once a project is uploaded to a memory card, it cannot be brought back from the memory card into the software. Always SAVE YOUR PROJECT on your hard drive. A Projects folder is recommended and you should know where you saved it.

✓ UPLOADING TO MEMORY CARD



Make sure your Memory Card & Programmer are properly attached via your USB port, Select "File" > "Upload" to save to your memory card.

Select Quality Setting

Name Your Project

Click "Upload"

LIGHTHOUSE WELCOME PT 2

This project covers the following design concepts:

- ✓ OPEN PROJECT
- ✓ DRAWING TOOLS
- ✓ REVOLVE TOOL (PATTERN MODELING SUITE)
- ✓ CUT PATH
- ✓ SAVE & UPLOADING TO MEMORY CARD



INSTRUCTIONS:

✓ OPEN PROJECT

Open the CarveWright Project Designer Software

The Welcome screen appears with project options.



Select "Open Project"

Browse to find the Lighthouse Welcome project.

✓ DRAWING TOOLS

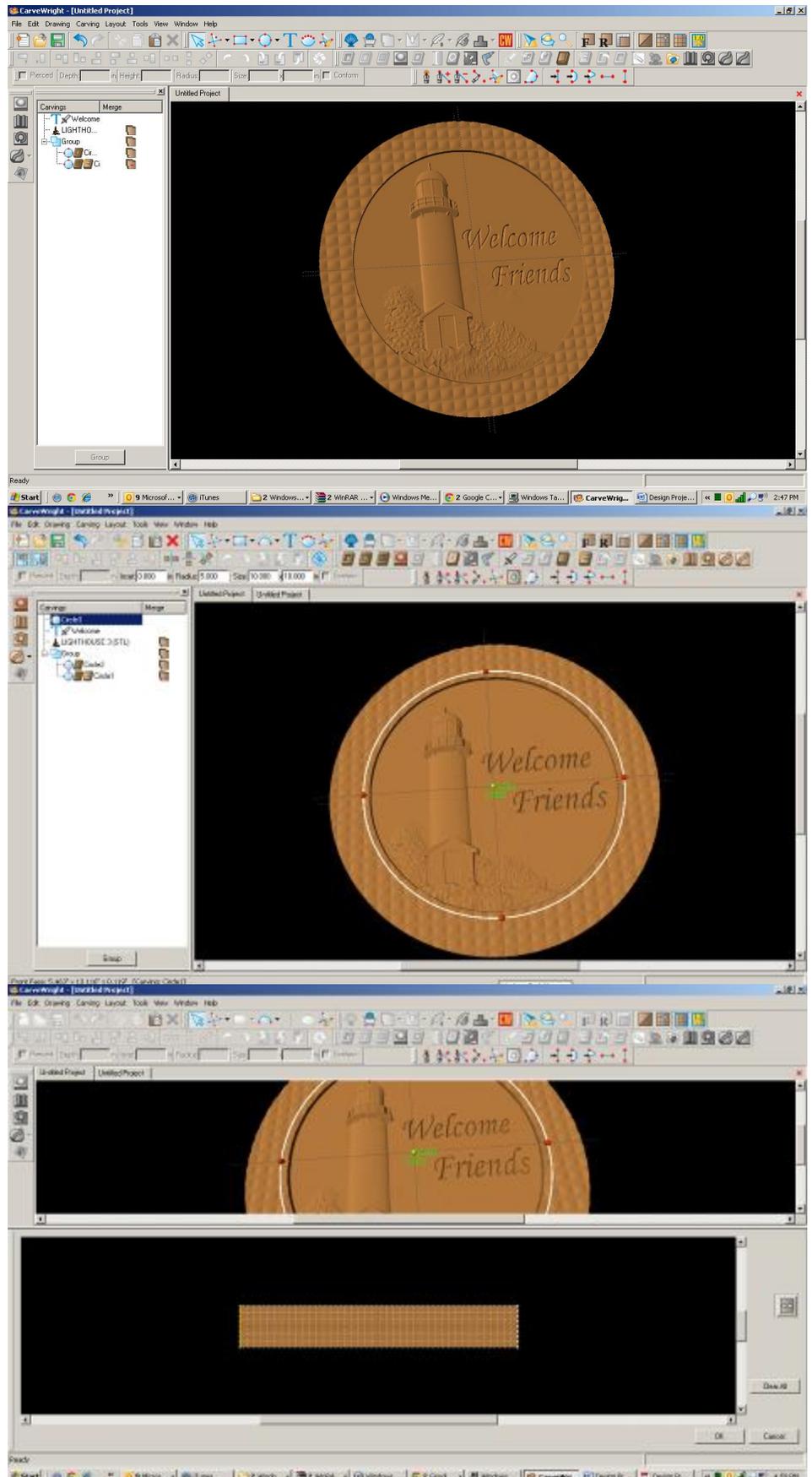
Draw a circle that is slightly larger than the inside circle.

Center on the board.

✓ REVOLVE TOOL (Pattern Modeling Suite)

Select the Revolve Tool, which will open a window at the bottom of your screen.

This is a slice of the circle with the right side being the outer portion and the left side being the center of your circle.



✓ ARC TOOL

Select the Arc Tool (drop down menu with Circle tool) and draw an arc on the far right side.

You will need to move the arc from the bottom to the top, by clicking on the yellow radius node and dragging upward. Place as desired or similar to as I have done.

Click OK.

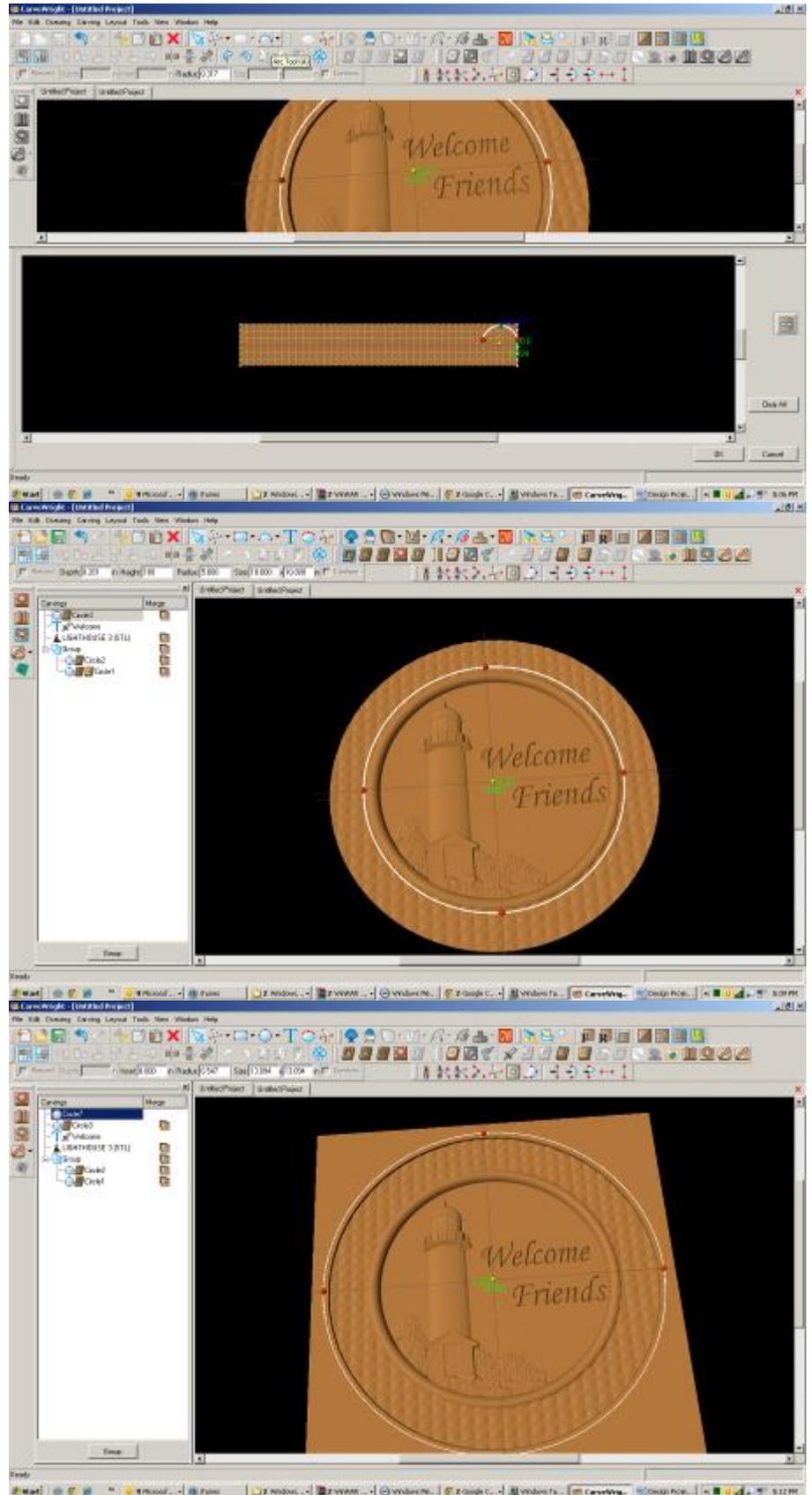
Notice the result of the Revolve tool.

✓ TOGGLE OFF CUT PATH TOOL

I am then going to remove the Cut Path on my design by selecting the outside circle and clicking on the Cut Path tool again to remove it.

✓ DRAWING TOOL

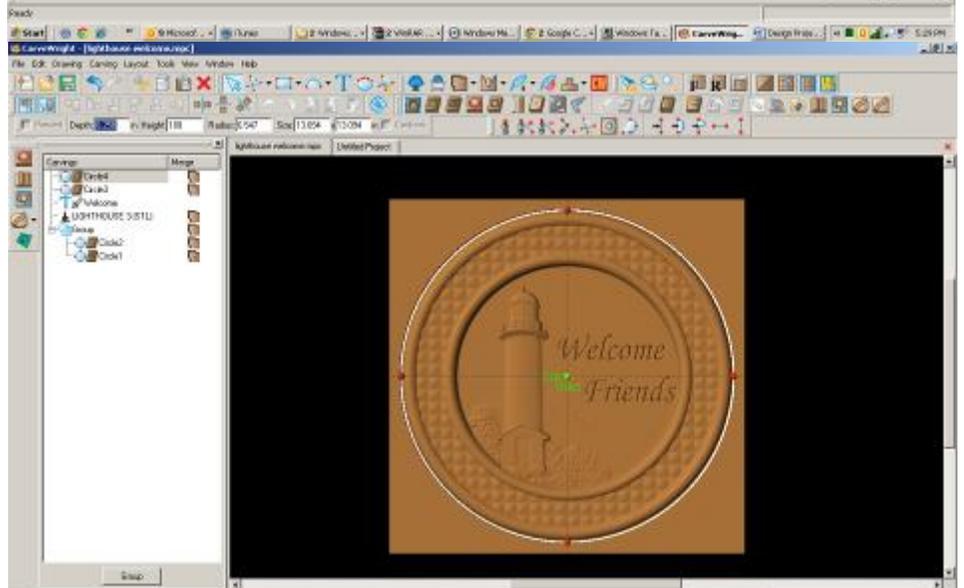
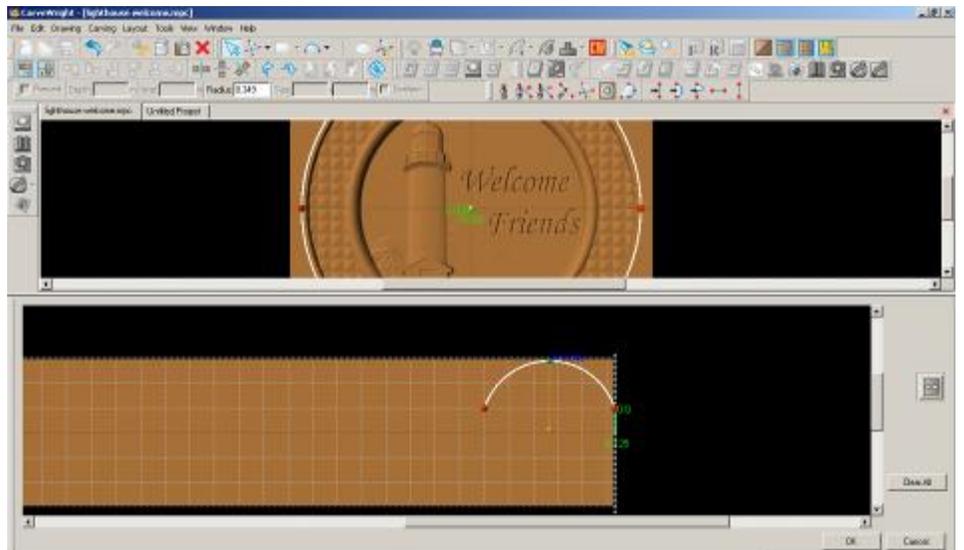
Create a new circle that is slightly larger than the outside circle and center on board.



✓ REVOLVE TOOL

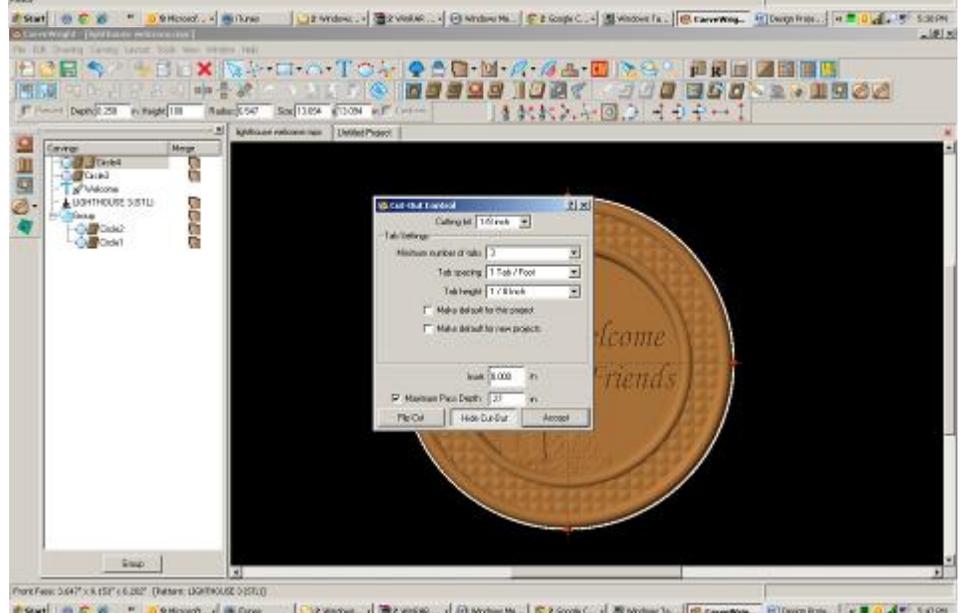
Repeat the arc on the outside circle.

Click OK.



✓ CUT PATH TOOL

Reassign cut path tool to new outer circle.





✓ SAVE & UPLOAD TO CARD

Select "File" > "Save"



*******IMPORTANT*******

Once a project is uploaded to a memory card, it cannot be brought back from the memory card into the software. Always SAVE YOUR PROJECT on your hard drive. A Projects folder is recommended and you should know where you saved it.

✓ UPLOADING TO MEMORY CARD



Make sure your Memory Card & Programmer are properly attached via your USB port, Select "File" > "Upload" to save to your memory card.

Select Quality Setting

Name Your Project

Click "Upload"

