

Rose Frame Project



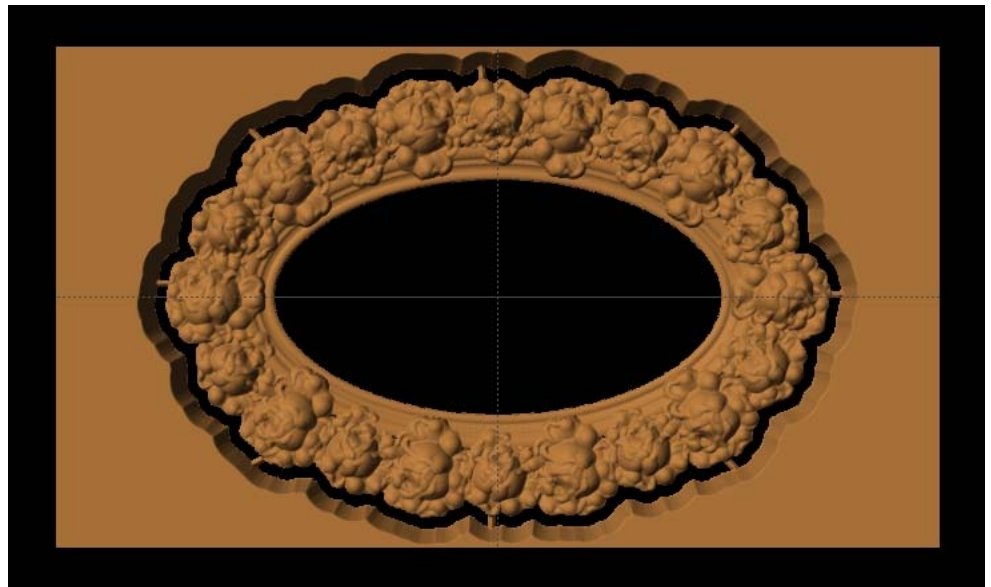
PATTERNING AN ELEMENT ALONG A TRAJECTORY

IN THIS EXERCISE WE WILL SHOW YOU HOW TO CREATE AN OVAL PICTURE FRAME USING THE PATTERN ALONG TRAJECTORY TOOL AND ROSE PATTERN.

NOTE: THIS PROJECT USES A ROSE PATTERN FROM THE BASIC PATTERN LIBRARY AND AN EXTRUDED MOLDING PATTERN THAT WAS CREATED SPECIFICALLY FOR THIS TUTORIAL. IT CAN BE DOWNLOADED FOR FREE ON THE SUPPORT PAGE OR CAN BE CREATED USING THE PATTERN MODELING SUITE (3D ADVANCED).

This project covers the following design concepts:

- CREATING A TRAJECTORY PATH FOR THE PATTERN TO FOLLOW
- ADDING A CARVING ELEMENT TO THE TRAJECTORY
- SPECIFYING THE NUMBER OF PATTERN INSTANCES
- ADDING A SECOND CARVING ELEMENT TO THE TRAJECTORY
- APPLYING A BORDER TO THE COMPOSITION
- FILLING IN THE BACKGROUND
- PIERCING THE CENTER OF THE FRAME
- USING THE CARVING MODE TO CUT-OUT AN OBJECT
- LAYING OUT TABS



The Welcome Screen will appear upon starting of the Designer Software.

Select **New Project** and create a board that is 11-1/4" wide by 20" long by 3/4" thick.

➤ CREATING A TRAJECTORY PATH FOR THE PATTERN TO FOLLOW

Using the **Oval Tool** from the **Drawing Toolbar**, place an oval on the board. Size the oval to be 13" along its major axis and 8" along its minor axis.

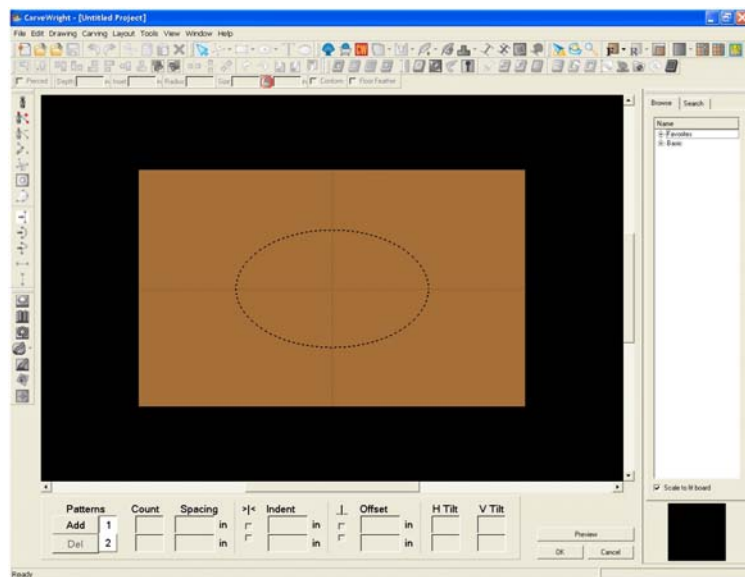
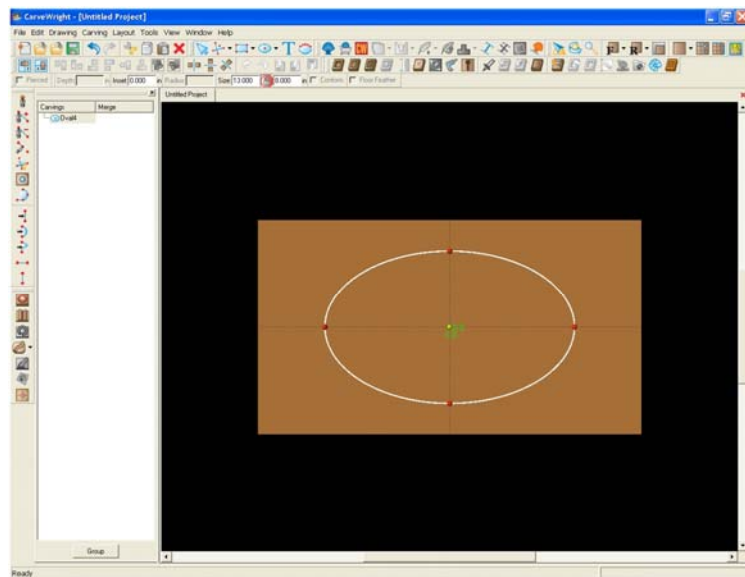
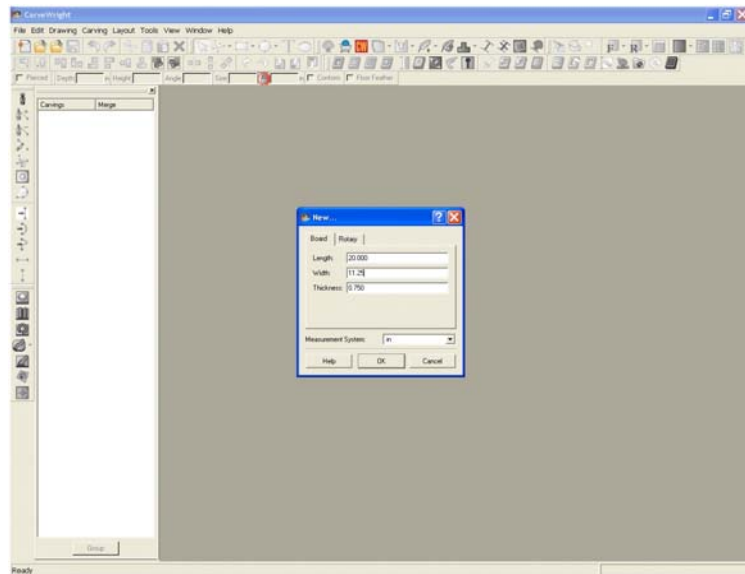
Center the oval on the board using the **Center Both** option.

➤ ADDING A CARVING ELEMENT TO THE TRAJECTORY

With the oval path highlighted, select the **Pattern Along Trajectory** icon.



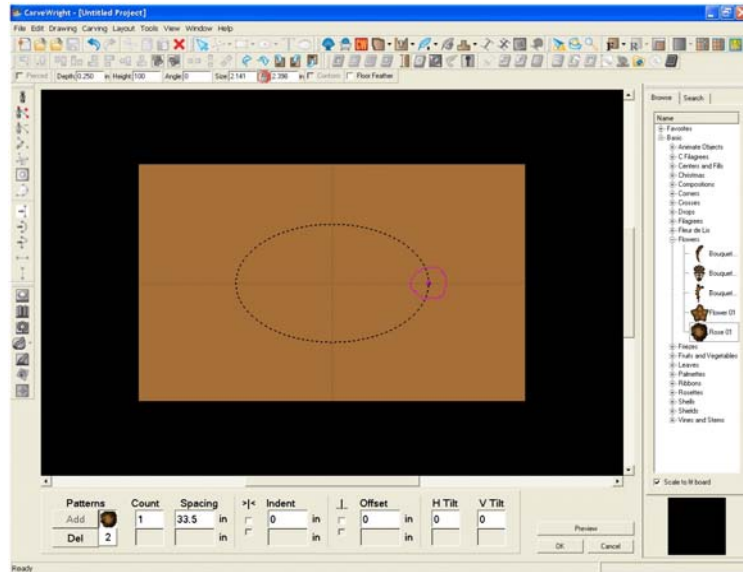
The Pattern Along Trajectory window will now be displayed with controls along the bottom of the window.



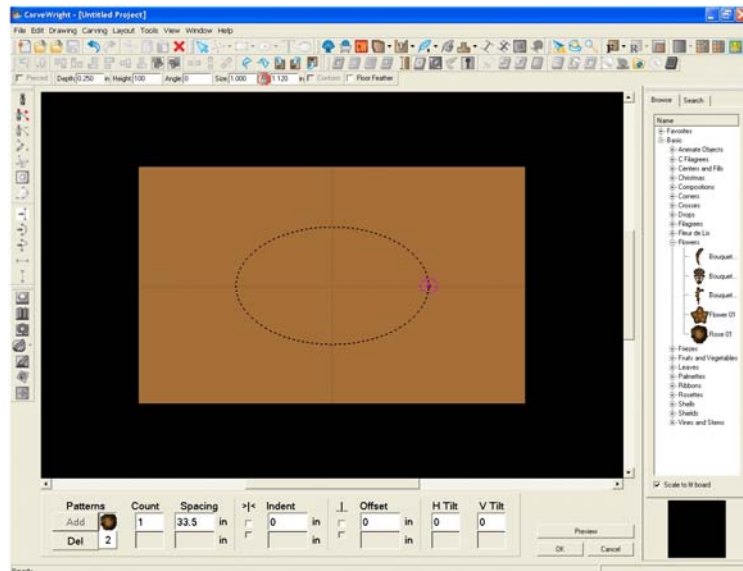
On the right side of the screen, open the **Basic** pattern library and select the **Rose 01** pattern from the **Flowers** folder.

Select the **Add** button on the left side of the controls box (directly under the display window).

The dashed outline of a single instance of the pattern will be displayed on the board in pink.



At this point the rose pattern can be positioned, sized (2.000"), and rotated (0) as desired. Positioning can be done by dragging or by using the **Indent** and **Offset** controls. The depth of each pattern (.500") and the height (999) can also be set at this point.

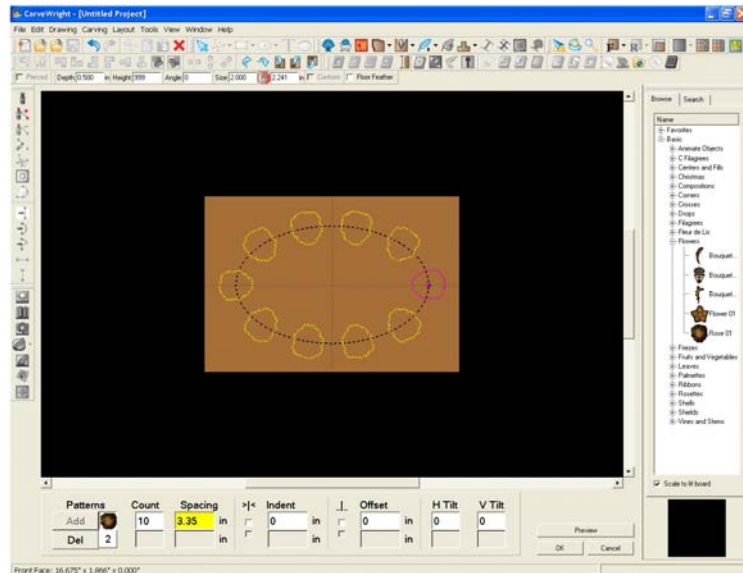


➤ SPECIFYING THE NUMBER OF PATTERN INSTANCES

Once the initial rose pattern is sized and positioned, the number of instances can be specified by inputting a number in the **Count** box.

Alternately, spacing between instances can be specified and the software will calculate the correct number of instances.

The instance outlines will display on the board in yellow.



Select the **Preview** button to view what the finished pattern will look like on the board. Press **Preview** again to return to the layout window.

➤ **ADDING A SECOND CARVING ELEMENT TO THE TRAJECTORY**

Add a second rose (or other pattern) to the trajectory by selecting the **#2** button under the thumbnail of the first pattern in the controls area, selecting the rose from the library, and selecting the **Add** button.

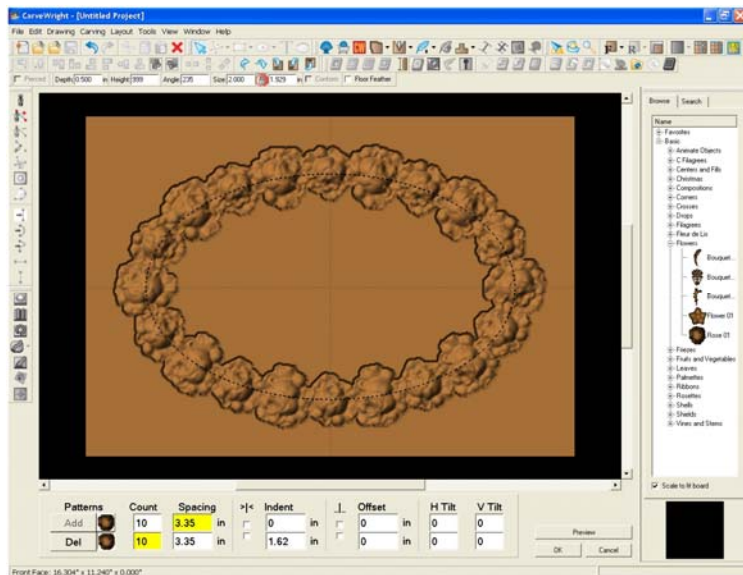
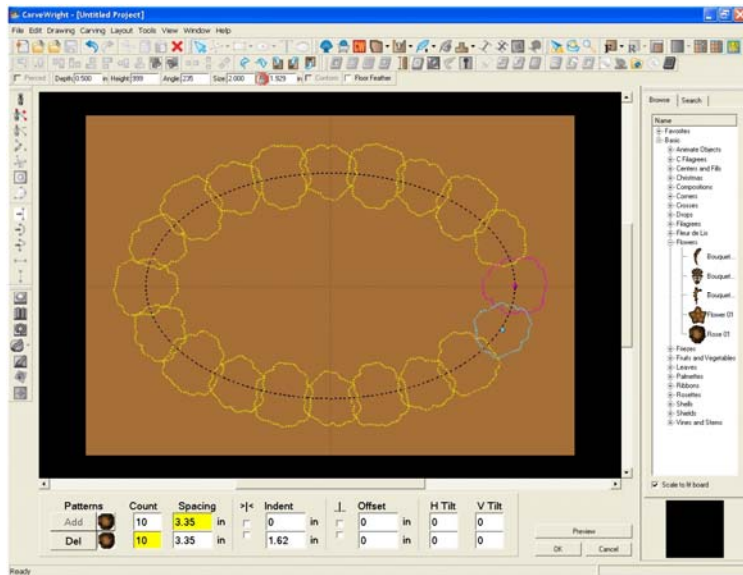
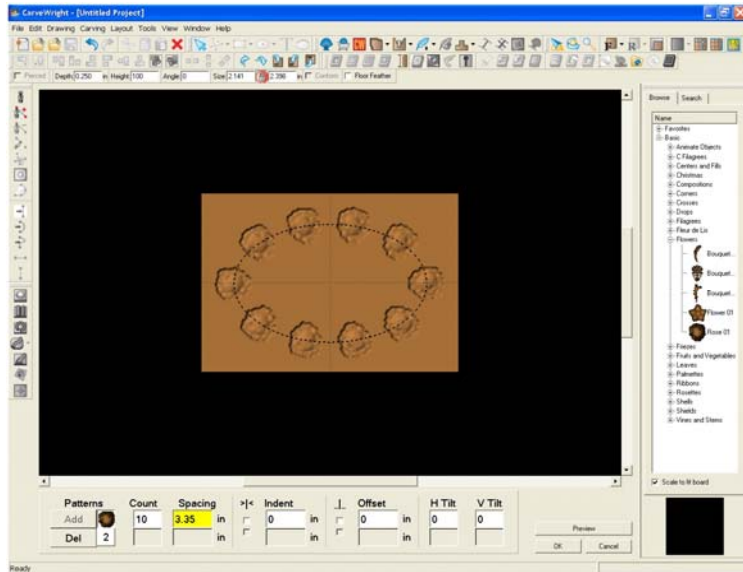
In the **Indent** box of the second pattern, enter a number equal to half the spacing of the first pattern.

This will move the second pattern along the trajectory into the space between the first pattern instances.

Adjust the size (2.000"), rotation (235), spacing (3.35), Depth (.500") and height (999) of the second pattern.

Select the **Preview** button to see the result. Select **OK** to finalize the design and return to the board view.

Note that the trajectory and pattern controls can always be edited later using the same steps.



➤ APPLYING A BORDER TO THE COMPOSITION

From your **Favorites** folder in the pattern library, locate the **Swept Molding** pattern and add it to the board. Center is in both directions and set its depth to .625".

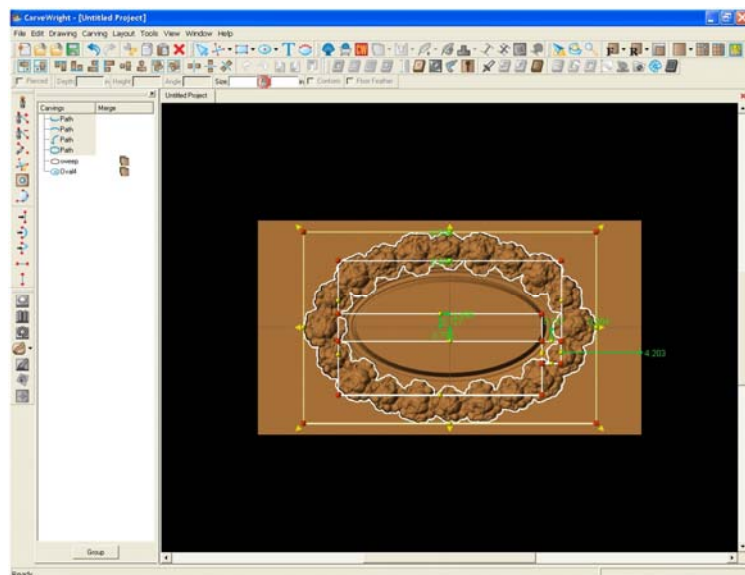
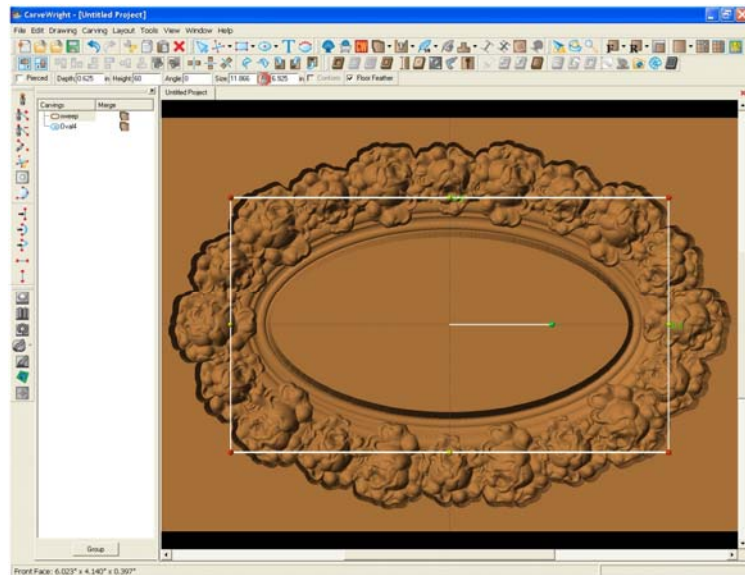
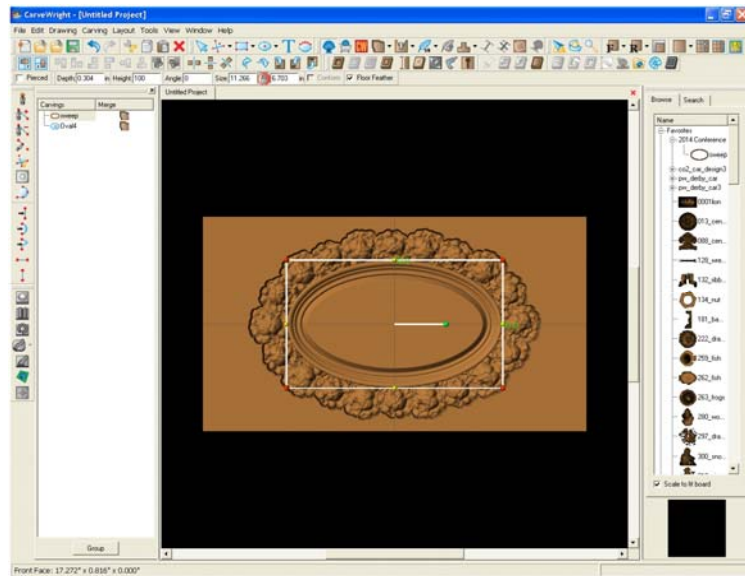
Stretch the boarder outline until it matches the shape of the roses.

Adjust the **Height** (60) until the overlapping effect of the roses is accomplished.

➤ FILLING IN THE BACKGROUND

In order to fill in the small voids around the roses we will make a background region.

Begin by selecting the oval that was the basis for the rose pattern and select the **Outline Pattern** icon.



The **Outline Pattern** tool will generate at least two paths and maybe many more. In this exercise we only need the outer outline. Delete all other generated outlines. Select outline and press the **Carve Region** icon.

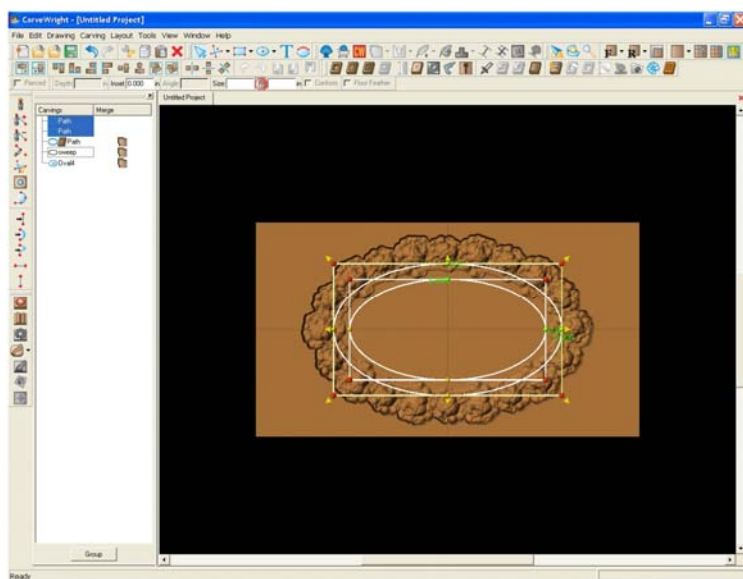
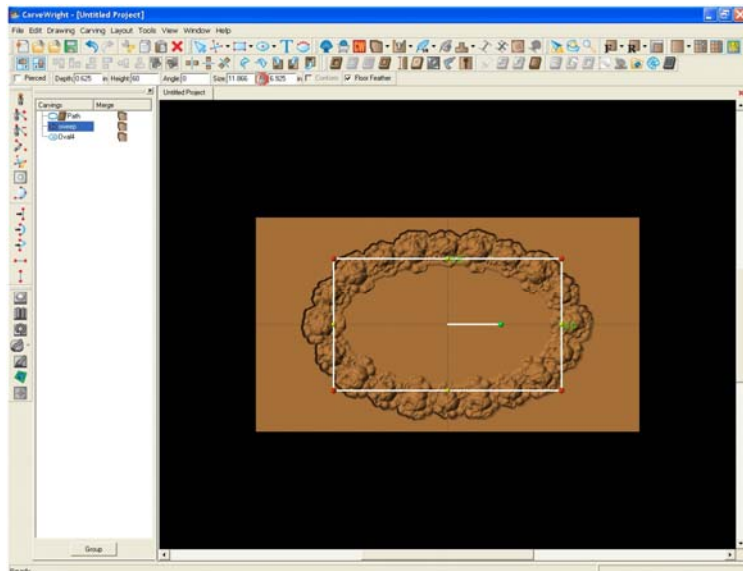
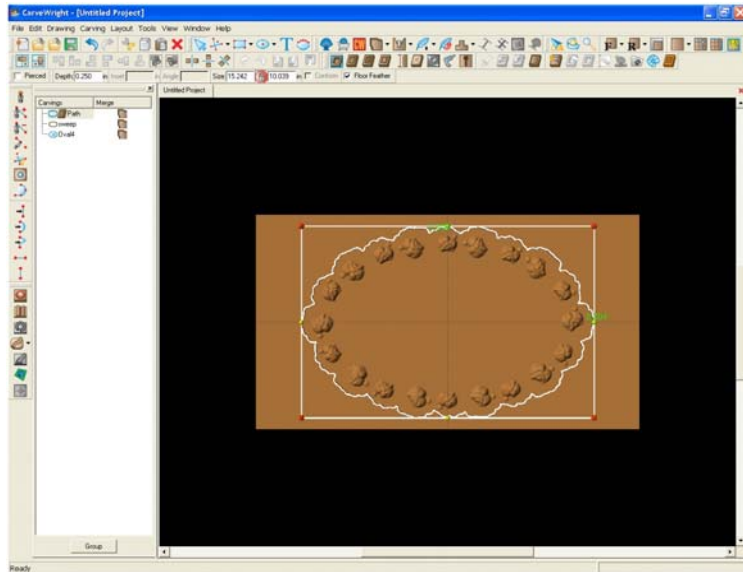
The default depth of the region is .250" and covers up much of the rose detail.

Set the depth of the region to .500", which is the depth of the rose pattern. The background that was just added still obscures the molding profile that we added earlier (because highest surface wins). To address this we need to pierce the center region and then use the use the clip carving function.

➤ PIERCING THE CENTER OF THE FRAME

First we will pierce (or cut-out) the center part of the frame. Select the molding pattern that we added to the center of the board and select the **Outline Pattern** tool again. It will create two paths.

Delete the inner path and highlight the outer path.



Click the **Carve Region** icon and select the **Pierce** checkbox. This will set the region depth of the board and it will carve all the way through. Notice that the material in the center was not removed by the piercing. This is because the region that we created earlier dominates the area.

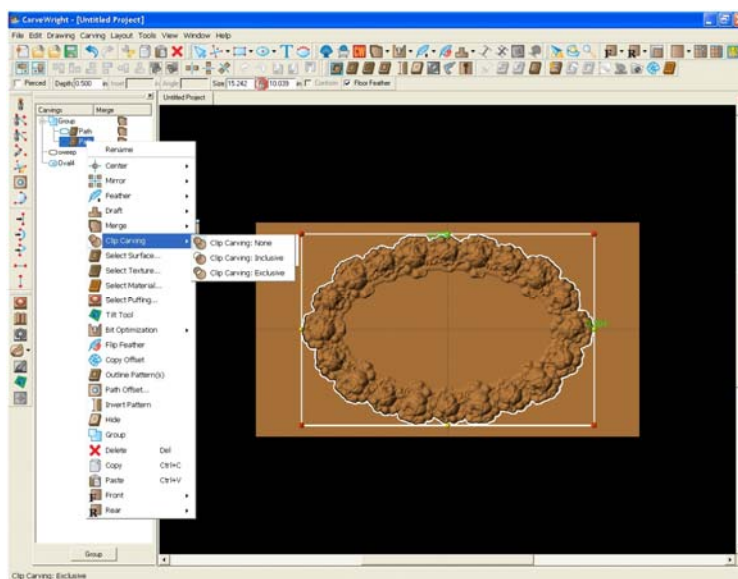
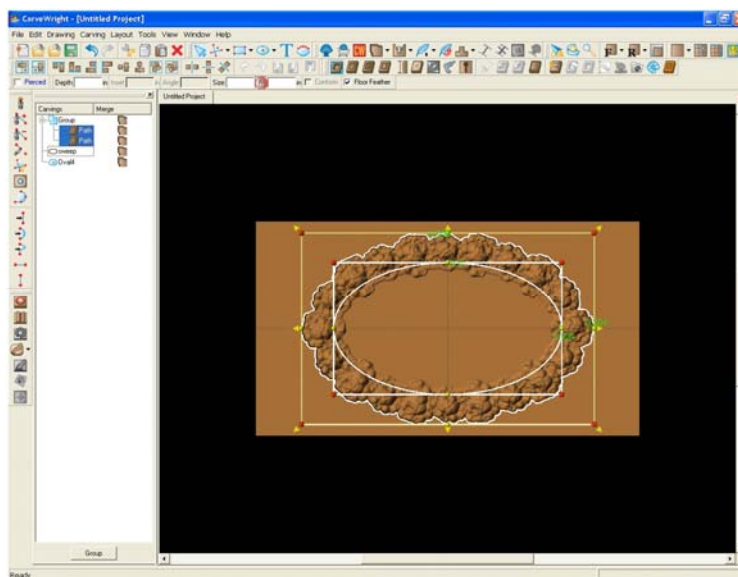
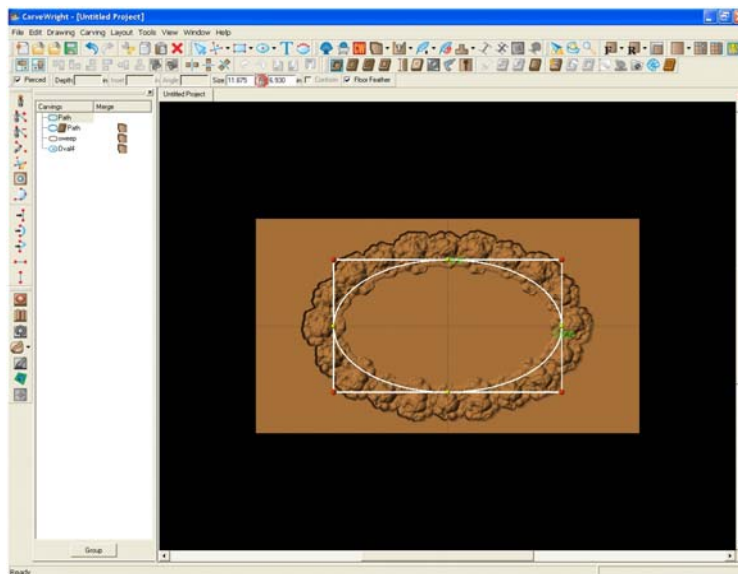
Clipping the outer region to the inner region will allow the piercing to show.

Select both the outer region (created using the rose pattern) and the inner region (created using the molding pattern) and right click. Select the **Group** option from the drop-down menu. These two regions are now grouped and are displayed under a group heading in the carving list.

Select the outer region from the group and right click. Select the **Clip Carving/Clip Carving Exclusive** from the drop down menu.

The inner pierced region can now be seen.

Experiment with the Clip Carving options. Many times it takes a few tries to achieve the effect desired.



➤ USING THE CARVING MODE TO CUT-OUT AN OBJECT

We want to separate the finished frame from the board. We can use the **Cut Path** function to do this in this case it will be faster to use the cutting bit in raster mode. Since we will already be carving the entire surface of the frame it makes sense to do a little extra work to carve a region around the frame.

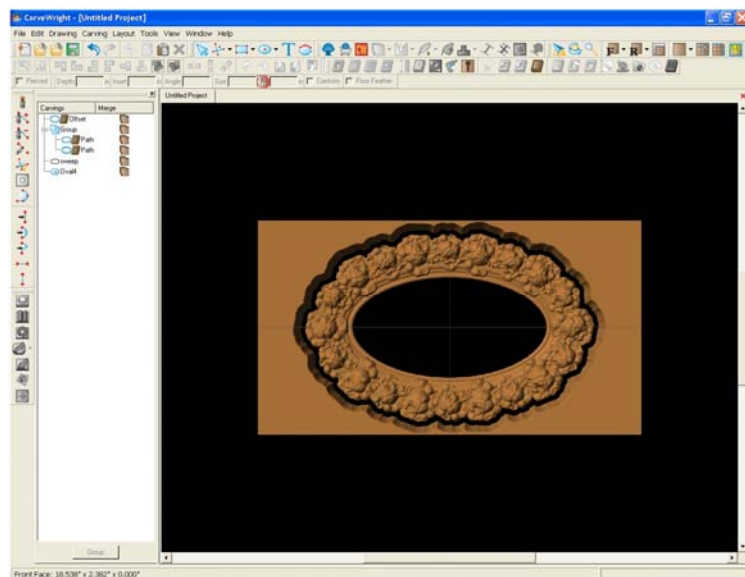
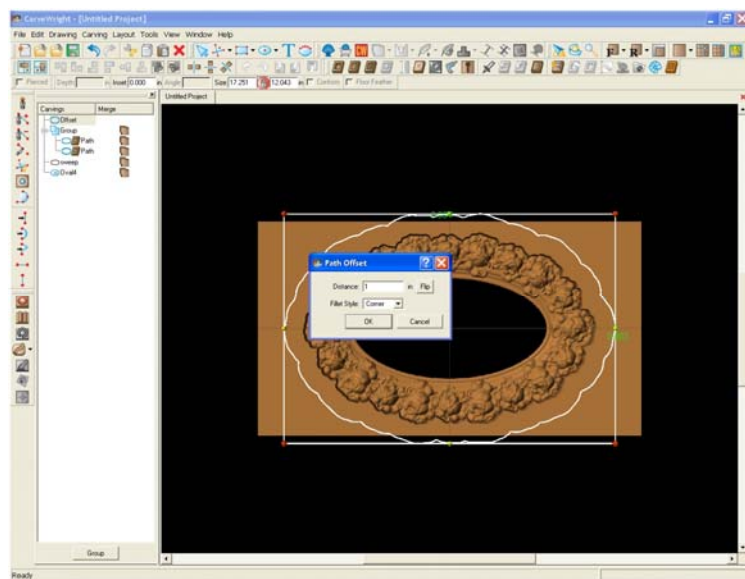
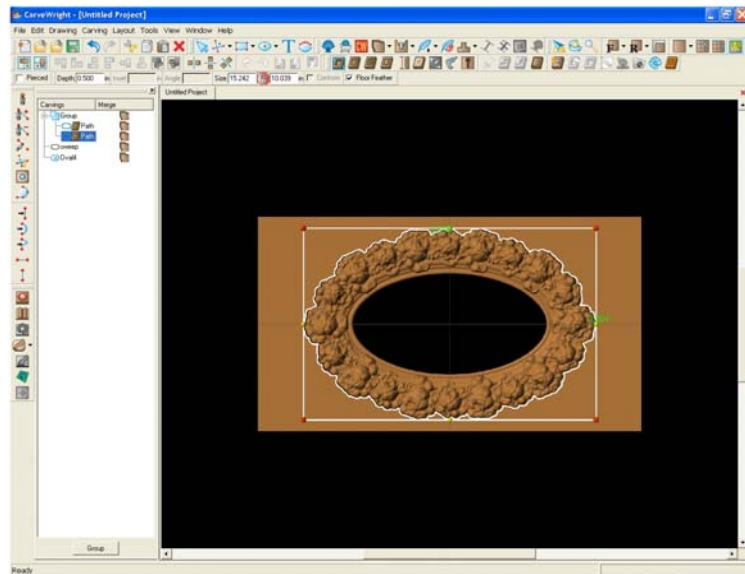
Select the previously created region outline that encompasses the entire project (Hint: it is in the group). Right click and select **Path Offset** from the drop down menu.

Set the offset at .25" and select **OK**.

Select the **Carve Region** icon again and select the **Pierce** checkbox.

Add a feather to the region to assure a gradual ramp-in for the bit.

There is now a pierced region around the entire project which will allow for it to be easily removed. However, we want to make sure that the carving is still attached to the board in a couple spots so that it does not wedge in the machine. This can be done with tabs.



➤ LAYING OUT TABS

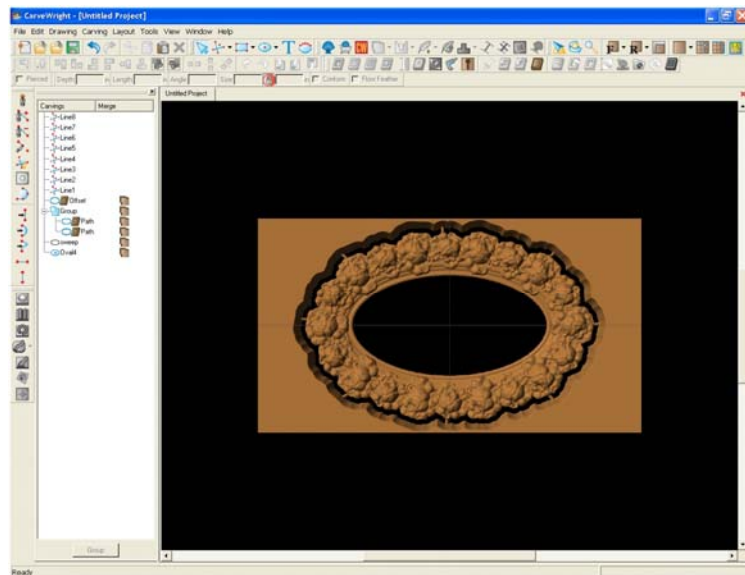
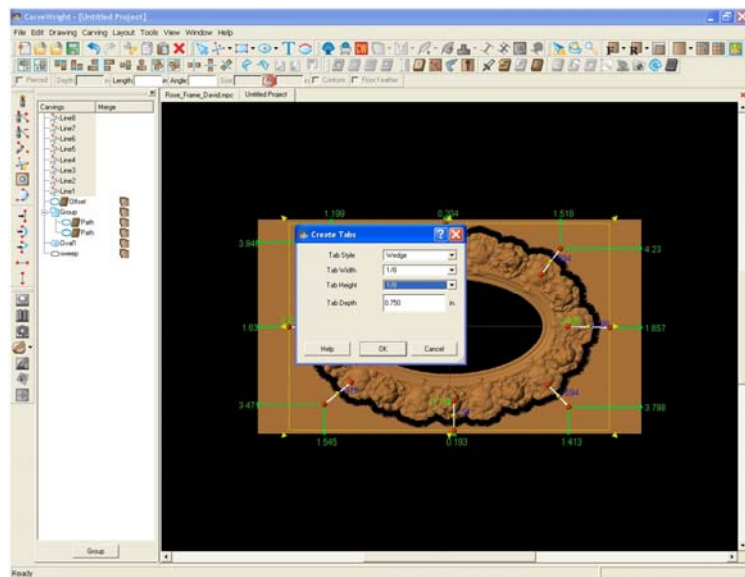
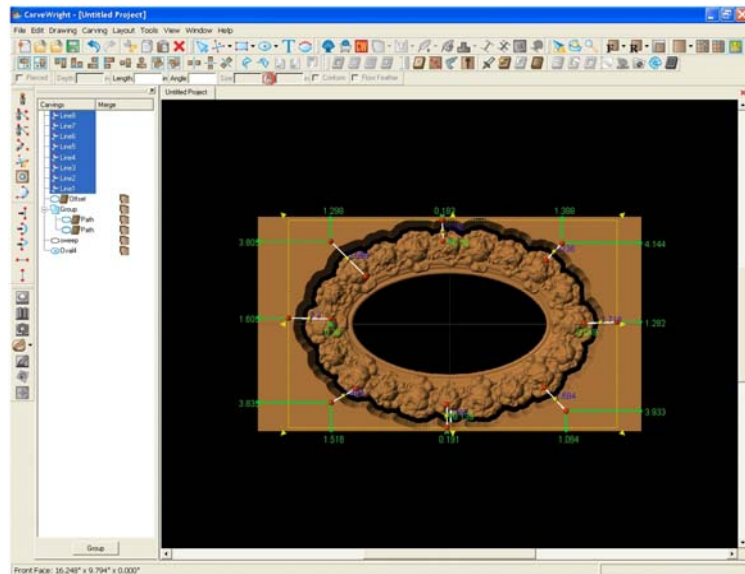
Start by drawing lines in the locations that the frame will be attached to the board. Place attachments every 6 inches or so, depending on the size and weight of the piece. Once all lines are drawn and highlighted, select the **Place Tabs** icon.



Select the tab Style (Wedge), Width (3/16"), Height (1/8") and Depth (.750").

Hit **OK** to proceed.

The tabs are now securing the frame in the larger board. Select the lines again to adjust the tab parameters.



The last step is to add a recess on the back side of the frame for the picture and/or glass.

Hit the **Rear** icon on the **View Toolbar** to see the back side of the board.

Draw an oval using the **Oval** tool. Stretch the axes to get the right size (you can also use the size input boxes).

With the oval highlighted press the **Carve Region** icon.

Set the depth of the region to .100”.



Select “File”, “Save”

*****IMPORTANT*****
Name file and click “Save”
to hard drive.



Select “File”, “Upload”
Save to memory card.

