



CARVEWRIGHT™

WOODWORKING SYSTEM

TIPS & TRICKS

October 2009

Pattern Editor - Episode III

by Jeff Birt of Soigeneris.com - Michael Tyler, Editor



Editor Preface: Please join me in welcoming Jeff Birt as the author for this month's Tips & Tricks newsletter! It has been more than a year since the Tips & Tricks covered the Pattern Editor and in that period of time several things have changed and new tools have been added. This month, Jeff will cover changes to the Pattern Editor since the July and August 2008 editions of Tips & Tricks were published. Now...here's Jeff!

Pattern Editor Episode III

Just in case you're not familiar with CarveWright's Pattern Editor let's take a few minutes to talk about what it is and what it can help you do.

The Pattern Editor, also called PE, is an additional software package used to create and edit patterns for use by CarveWright's Designer. A PE license is included when you purchase the CarveWright Scanning Probe and it can also be purchased separately. (visit www.carvewright.com for more information on purchasing the probe or Pattern Editor.) The Pattern Editor works with three main types of files which can be identified by their three letter file type extension: MPW, PTN, and image formats such as GIF, BMP, PNG. As you may already know, the PTN (pattern) file type denotes a type of 3 dimensional clipart that is unique to the CarveWright system, the MPW file is an artwork file used to store patterns being edited.

Pieces Of Eight, or Is It 16?

One of the most exciting new features of Pattern Editor is one that might not be readily apparent at first.

A pattern can be thought of as a matrix of points. The height of each point used to be described by a number from 1-255 (8 bits in computer jargon). While this worked fine the majority of the time when a pattern was carved full depth (0.8") it could lead to a slightly visible stepped effect. To prevent the stepped effect, both Pattern Editor and Designer now make use of 16-bit patterns. When you load in an older pattern it will be automatically upgraded to the new 16-bit format. The use of a 16-bit pattern format makes for smooth patterns. There are a few other changes related to the shift to 16-bit patterns.

In order to improve ease of use, several of the controls in PE now displays in inches instead of pixel weights. This makes it much easier to specify exactly the height you want. These modified controls include: Tool Height, Raise/Lower filter, and the selection Tolerance. You can change the value in these controls in the same old way by clicking on the Up/Down arrows or by typing in a new value. (fig.1)

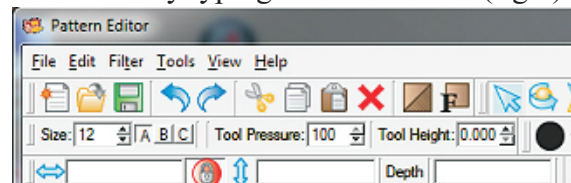


fig. 1

Please visit the manufacturer's website for more information about the CarveWright machines and see the new Pattern Depot at: www.carvewright.com

For Additional Patterns you can add to your Designer software library, please visit: www.carvebuddy.com

Launching The Pattern Editor

Before you can edit a file with Pattern Editor you have to be able to launch the program itself. In the past you had to start up Designer and then 'Open' a file type that was native to the Pattern Editor (MPW or PTN). Now to make things easier from within Designer you can simply select 'File->Launch Pattern Editor'. In addition you can also launch Pattern Editor by double clicking on a pattern you have authored in your Favorites Library. (fig. 2)

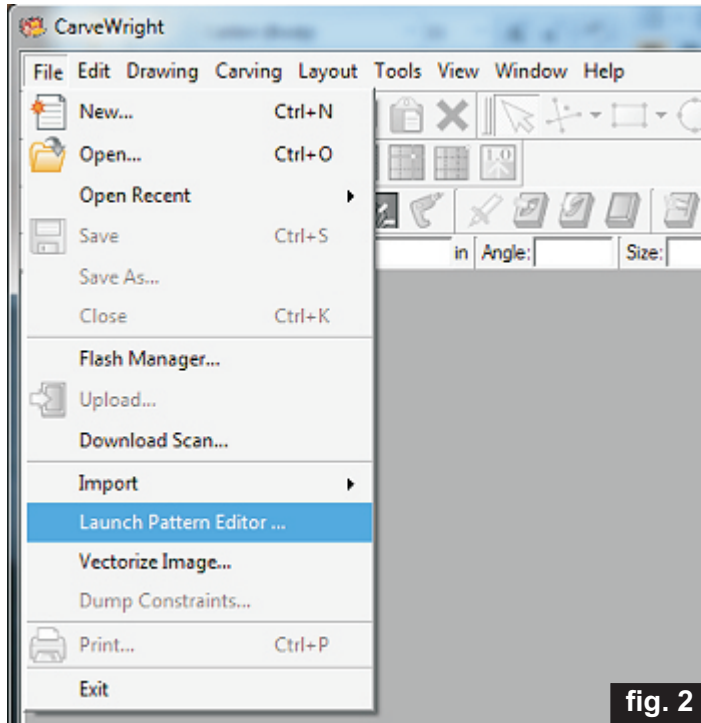


fig. 2

Opening A File To Edit

The Pattern Editor is designed to edit two different CarveWright System native file types: MPW and PTN.

An MPW file is a raw file format, its job is to hold all the unique pieces that might make up a pattern. The MPW file can only be opened in Pattern Editor and it can be freely edited by other users.

A PTN file on the other hand should be thought of as a finished work; it can be used by others in Designer but can only be edited by the *original creator* in PE. While the user may not see a difference when loading a PTN vs. a MPW file, under the surface there is a difference.

A good rule of thumb is to save your works in progress as MPW's and when you are finished editing save the finished work as a PTN file for use in Designer.

Since the MPW and PTN files are the native file types of the CarveWright system you simply use the 'Open' selection from the 'File' menu to load in the file of your choice.

Remember that if you are not the original creator of a PTN file you will not be able to edit it, whereas a MPW is freely editable by others. Pattern Editor also has the ability to import common image file types such as PNG, GIF, BMP and JPG.

This brings us to one of the recent changes in the Pattern Editor's File menu. In an effort to more closely follow the convention of other graphical editing software these non-native image file types are 'Imported' into Pattern Editor.

Using the 'File->Import' selection you can import an image into PE where it is converted internally into an MPW file. (fig.3) Thus when you are editing an imported image you are editing the MPW that was created from that image.

In a similar manner you can export the current file being edited as an image file by using the 'File->Export' selection.

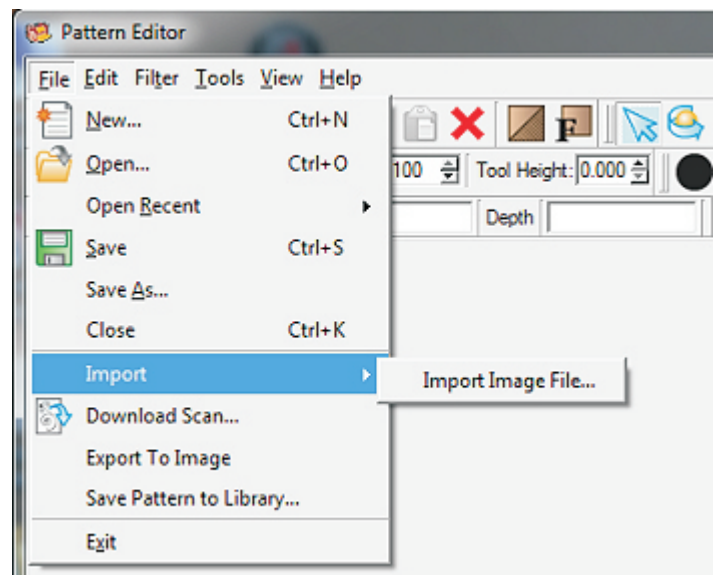
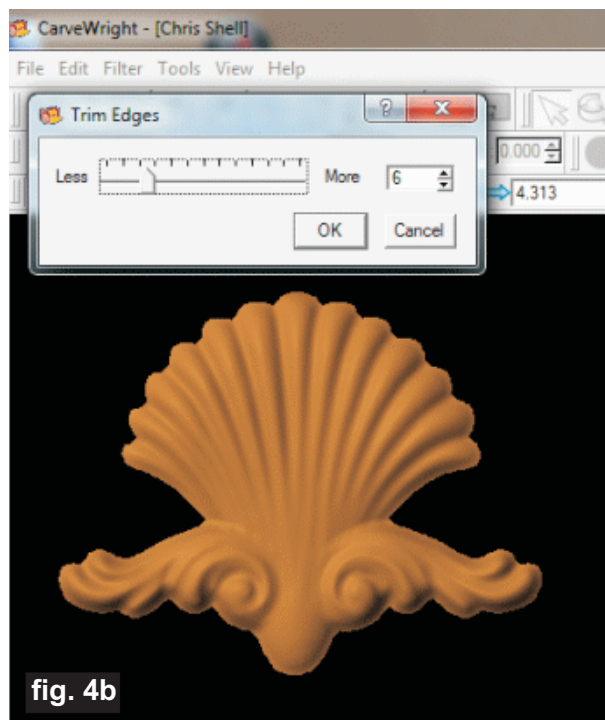
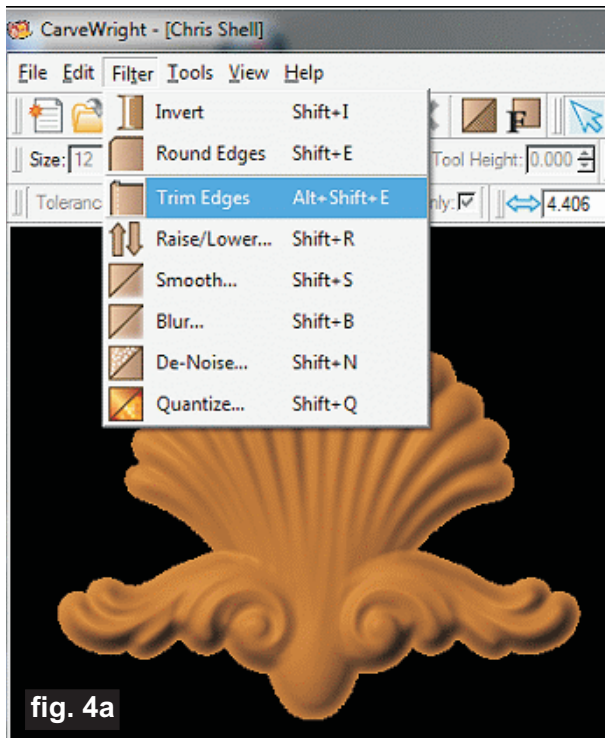


fig. 3

You Can Never Have Too Many Tools

If you have taken a recent look at the Filter Menu you may have noticed that there is a new 'Trim Edges' filter. 'Trim Edges' works by walking around the edges, both interior and exterior, of a pattern and removing the number of pixels selected by the user. This makes cleaning up the jagged edges of a scan or other artwork a very easy. (fig. 4a, 4b)

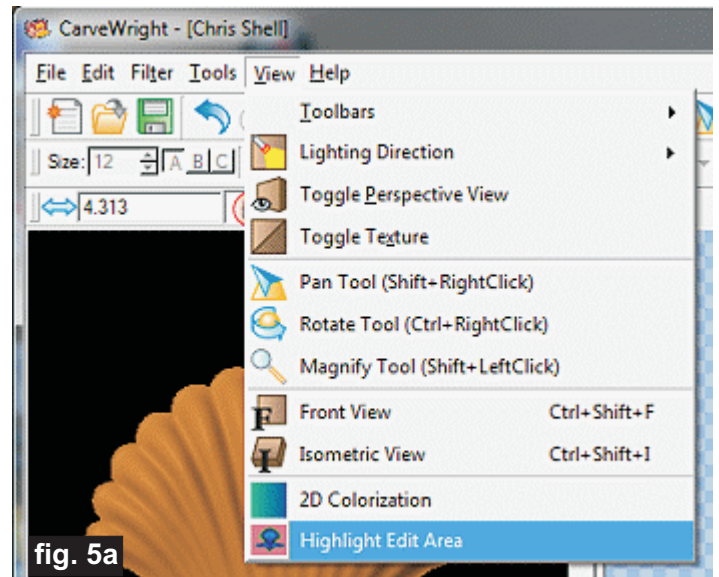


As you can see, applying the 'Trim Edges' filter removed the extra halo from the shell pattern. It's a good idea to follow up the 'Trim Edges' filter by applying the 'Round Edges' filter. This will ensure a smooth transition from the pattern's edge to the pattern's floor.

Extra Room To Work

In the past, some users ran into a problem trying to edit the edges of a pattern. If the pattern had been cropped in tight there were no 'free pixels' left at the pattern's edge. This made it impossible to fill in missing sections and applying filters like Smooth and Blur could cause a more pronounced edge as there was no place left for them to work. To overcome this problem PE now automatically adds a blank canvas behind the pattern as it is loaded. In addition, this canvas is automatically sized to provide a border around the pattern giving you (and any filters) room to work.

To get an idea of how large the canvas is you can use the new 'Highlight Edit Area' tool which is available in the 'View' menu. (fig. 5a)



This tool highlights the blank editable canvas in a translucent red color. This will show you how much room you have to work in. When you save your artwork, PE will automatically crop to just the visible area of the pattern itself this helps to prevent the large box that used to surround some patterns when placed on the board in Designer. (fig. 5b - next page)

Extra Room To Work (cont.)

With this new larger canvas to work in, how do you know what the size of your pattern really is? Pattern Editor keeps track of the visible extents of your pattern and this 'effective size' is the size displayed in the Width and Height boxes. All of the extra working room provided by the canvas is not included. If you reduce or enlarge the pattern only this visible area is scaled. This way you are ensured that your pattern will be accurate and 'Life Sized' when used in Designer.

Notice that the Width and Height size boxes display the actual pattern size itself - also referred to as the pattern's "visible extents".

The size of the background canvas has no effect on the actual size of the pattern. The background canvas (in translucent red color) simply provides additional workspace around the perimeter of the pattern.

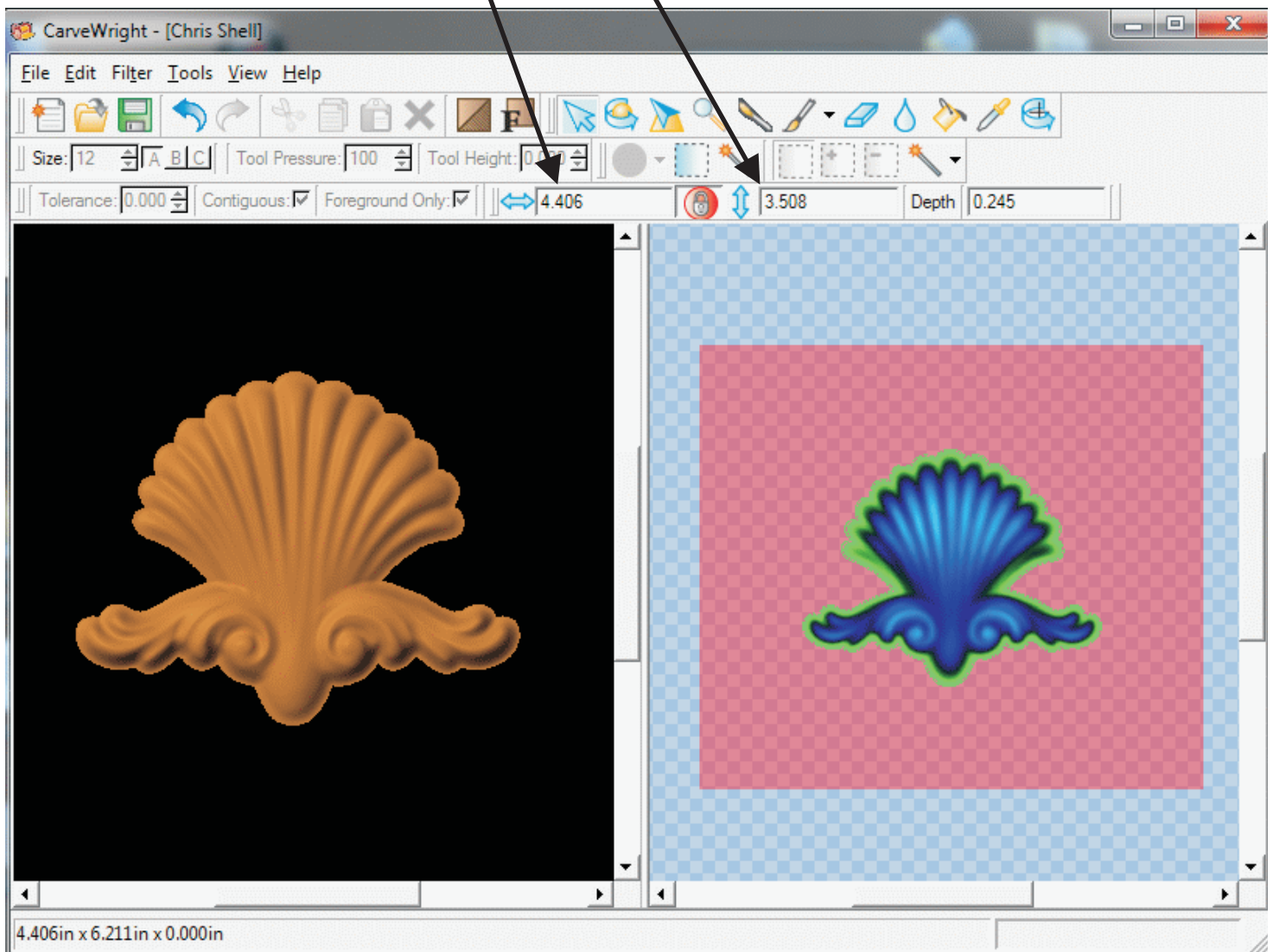


fig. 5b

Selection Perfection

There have been improvements to the selection tools as well. The selection tools such as the 'Magic Wand' and the 'Rectangular Selection' area allow you to choose only certain areas of the pattern to be modified.

The Magic Wand, which is used to select all pixels within a height range (Tolerance) of the selected pixel, now has a few new friends; the 'Magic Wand-Upper' and 'Magic Wand-Lower' tools make it easy to select all pixels above or below the pixel you select. (fig. 6a)



fig. 6a

In the picture below, I used the 'Magic Wand - Upper' tool to select all the pixels above where I clicked. It was then very easy to use the eraser tool set to 0.1" to flatten the top of the pattern. (fig. 6b)

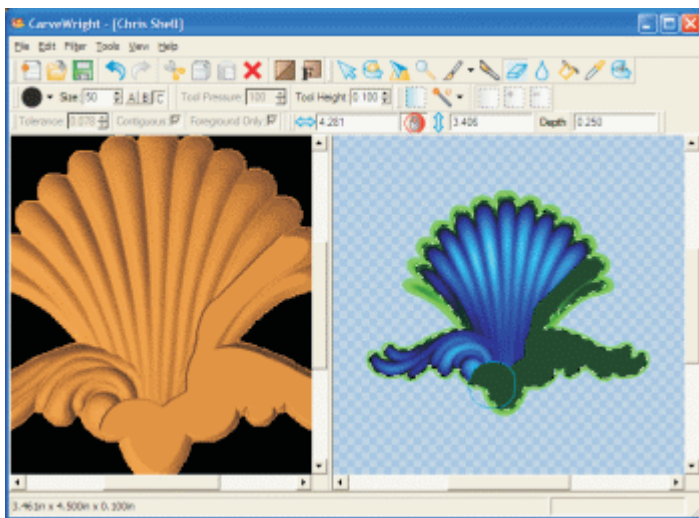
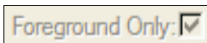


fig. 6b

To make it easier to select only what you are after there is also a new selection related option. The 'Foreground Only' check box tells PE to ignore any parts of a selection area that are blank, that way you can avoid filling in blank areas while editing a region.



Ride the Magic Paint Brush

When filling in small missing in sections of a scan it could be a bit frustrating to try and manipulate the paint tool into just the right area. If you're not careful you can accidentally lower the surrounding region. To make jobs like this easier the Magic Paint Brush was developed. The Magic Paint Brush works just like the regular paint brush except it can only paint *higher* levels; it cannot lower existing areas of a pattern. It's perfect for filling in holes and 'dents'. In the images below, I have a small divot to fill in (fig. 7a). When I used the 'Paint Brush' tool, I accidentally made things worse because I painted the surrounding area lower than it already was (fig. 7b). Using the 'Magic Paint Brush' I was able to work from the lower part of the divot upwards doing just a few fills and having very little effect on the surrounding area (fig. 7c). To finish the repair up I used the 'Blur' to smooth things out (fig. 7d).

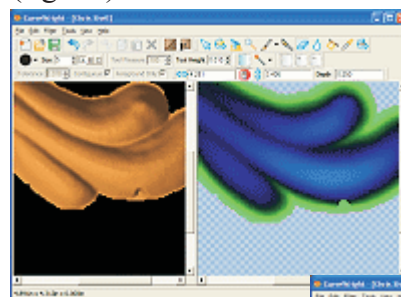


fig. 7a

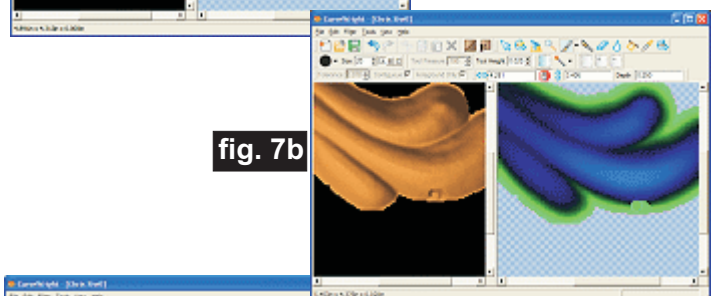


fig. 7b

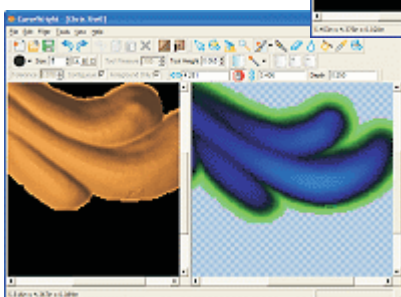


fig. 7c

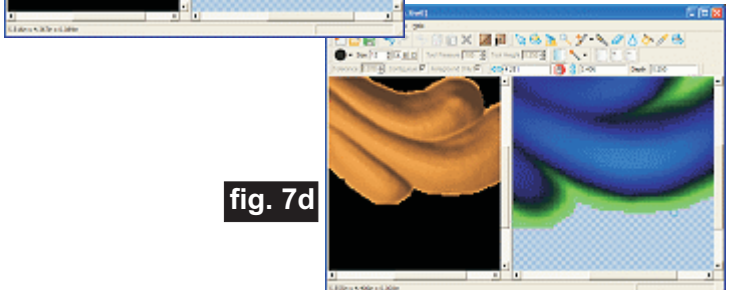


fig. 7d

Eraser Tool

The 'Eraser' tool is certainly not new but it does seem to cause some confusion at times. The 'Eraser' not only allows you to completely erase an area it also allows you to set the level that it erases down to. For instance if the tool height is set to 0.000" it will completely erase an area, but if you set the tool height to 0.100" you can erase an area down to the level of 0.100".

You might be thinking that being able to erase down to a level sounds an awful lot like the 'Paint Brush' or 'Magic Paint Brush' tools but there is an important difference. Remember that the 'Paint Brush' will paint over anything; it changes anything underneath the brush to the level of the brush. The 'Magic Paint Brush' can raise the level of the pattern underneath it but not lower it. The 'Eraser' can lower the level of the pattern underneath the brush but not raise it. This gives you, the user, complete control over how you alter the pattern. (fig. 8)

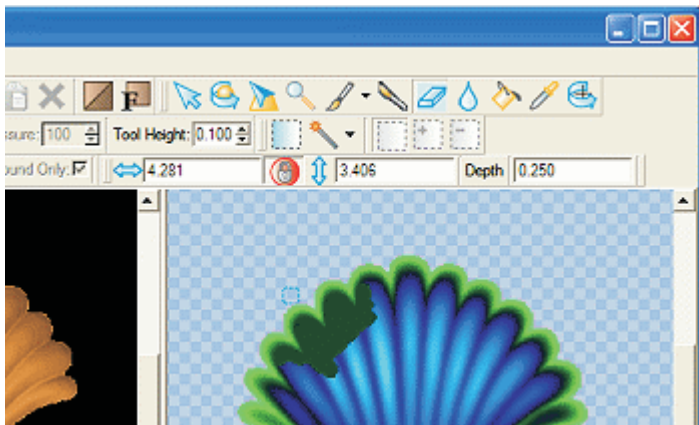


fig. 8

The Carving Tools

While all the painting type tools are great, they all draw flat and level. If you want to modify a contoured area it can be quite difficult.

To make touching up contours easier the Carving Tool was developed. The Carving Tool follows the contour of the underlying pattern and carves in a selectable profile. The 'Tool Pressure' control can also be used to control the depth of the carve.

The Carving Tool (fig. 9a) was designed to mimic the process of carving a piece of wood with carving knives. You can select the profile of the virtual carving knife and the pressure used to apply it (fig. 9b). The more pressure you apply the deeper you will carve. You can also control the size of the knife using the same 'Size' control that you use for the brush type tools (fig. 9c).

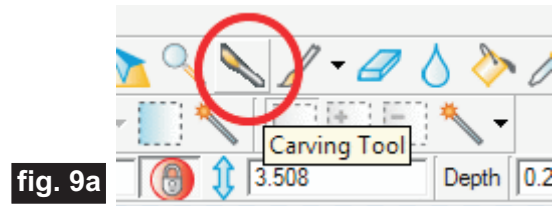


fig. 9a

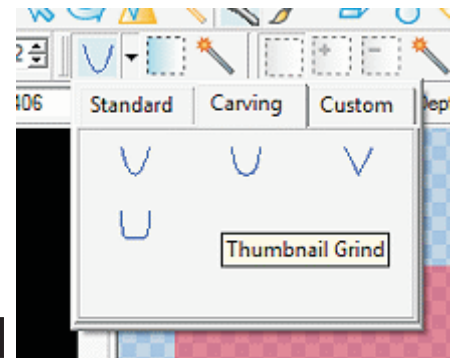


fig. 9b

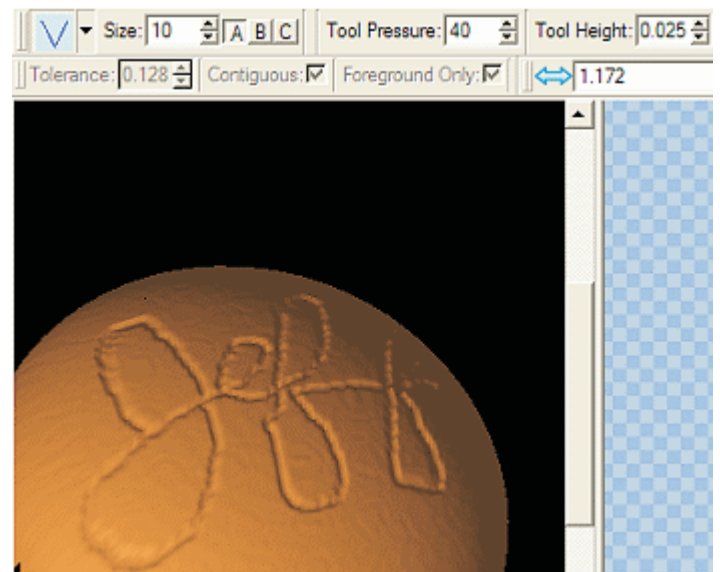


fig. 9c

Help!

One item that has been conspicuously missing from Pattern Editor, namely the Help File, has now been added to the 'Help' menu.

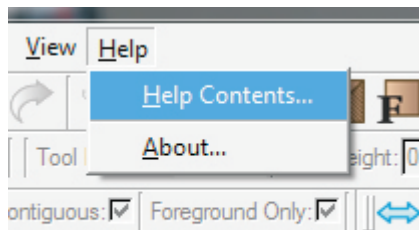


fig. 10a

At this time only a basic description of each tool is given, but it is nice for a quick reference and the help file will be updated over the course of time.

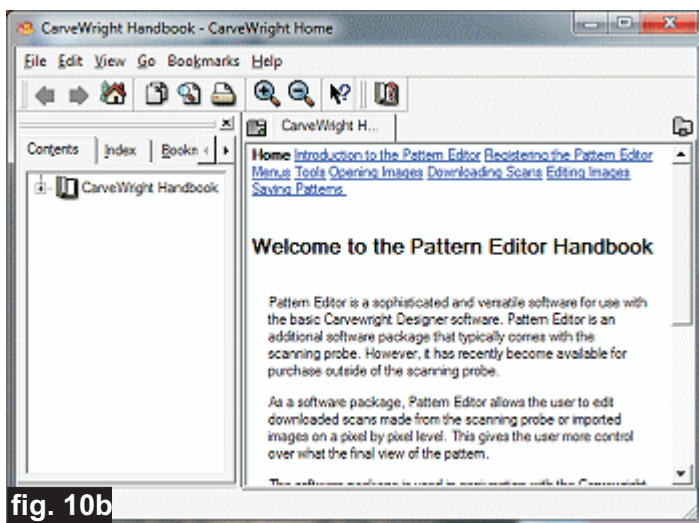


fig. 10b

This Tips & Tricks issue should help fill in a few more details for you in the meantime.

CONCLUSION

Thank you, Jeff for writing up this Pattern Editor tutorial for us! Be sure to show your appreciation for Jeff's contribution by visiting his website at: <http://soigeneris.com>

Jeff's website has numerous items that you may find interesting, including a Backlit LCD Kit for the CarveWright and Compucarve!

I hope you have found this article helpful! Please sign up on the [CarveWright Homepage](#) to have the monthly newsletters automatically delivered to your email address each month. You'll see a "Join Our Mailing List" section. Just fill in the form and you'll be all set!



Michael Tyler - Editor

**Special thanks to
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Additional Resources

RESOURCES...

There are numerous resources for the CarveWright/CompuCarve owner to make their experience with these machines much more enjoyable.

Every owner should join the [CarveWright User Forum](#) where fellow users share their experiences and knowledge with these machines 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.

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