

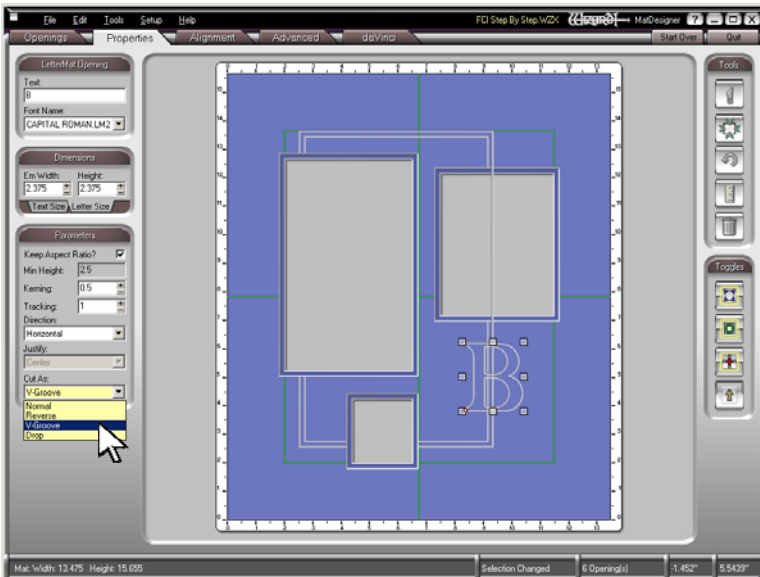
Blending Letters into V-Grooves

Monograms are a great decorative touch. This treatment runs a pair of V-Grooves through the letter, but each groove breaks and forms half the letter.

As you are designing, consider that some letters will be better suited to the grooves running through them horizontally and some letters will work better with the grooves running through them vertically.

Make sure the design will read nicely and cut nicely.

This particular example is a multiple opening design and the V-Grooves intersect the openings. Try this monogram idea with more normal arrangements, too.

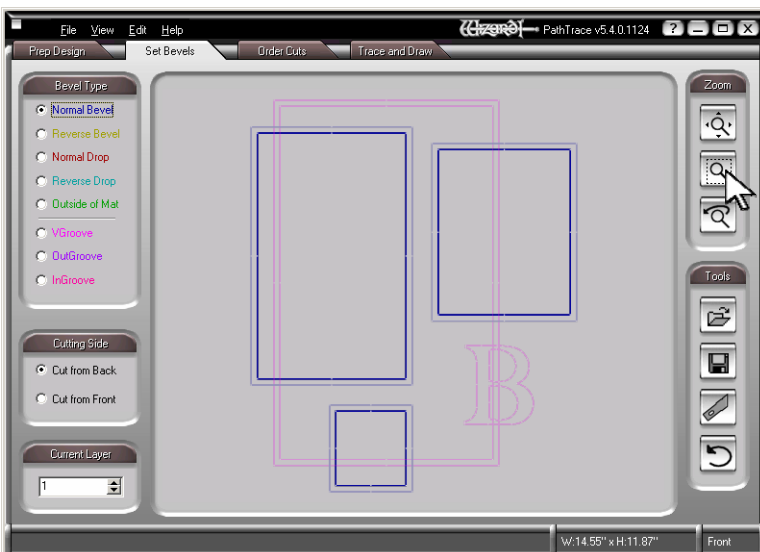


Design the openings and place the inner groove where you want it. Select the V-Groove and add the second groove. In this design the outer groove is 0.18 inch away from the inner groove.

The monogram can be a LetterMat or a TrueType font. In this example it is 2.375 inches high and **Keep Aspect Ratio?** is checked so the letter maintains its proper proportions.

Notice that the monogram is set to cut as a V-Groove.

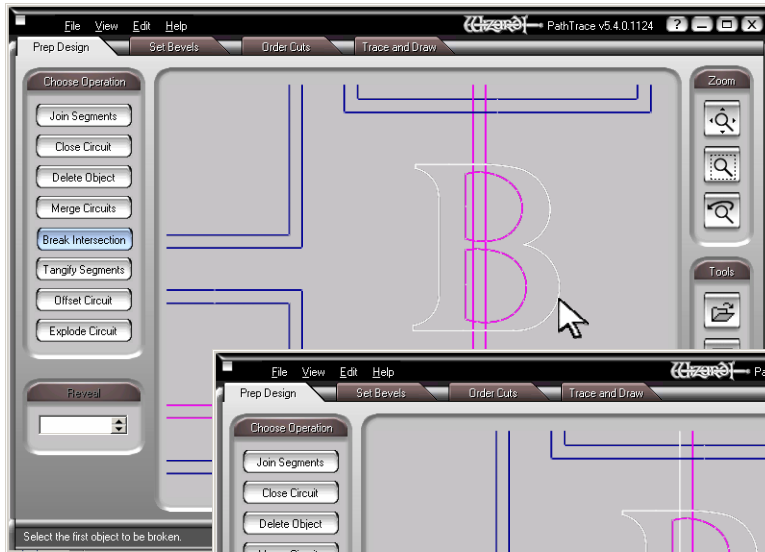
Under **Cut As** at the bottom left, select **V-Groove**.



Once the design is complete, send it to the cut preview screen and click the **PathTrace** tab along the top.

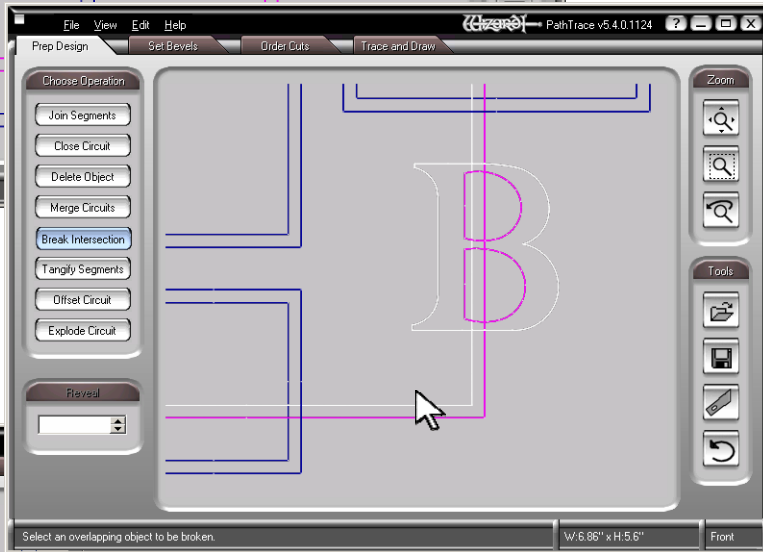
The tabs along the top tell you about the various functions of PathTrace. If you are unfamiliar, click the **Help** button at the top to open the manual. There are also many project oriented articles about PathTrace in Education section of the website

To get a closer look at your work, click the middle button under **Zoom** at the upper right then draw a box around the area you'd like to see more closely.



Click the **Prep Design** tab at the top then click **Break Intersection**.

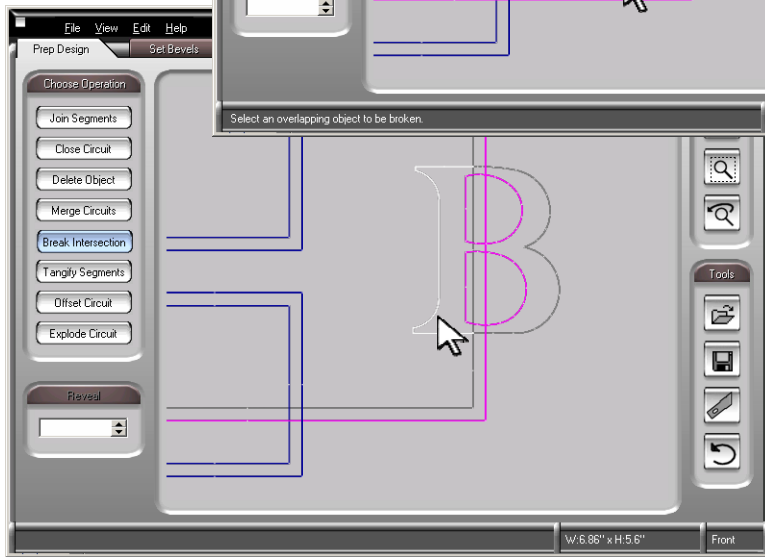
Here is how Break Intersection works: You want to break the intersections that *this object* – roll the cursor near it and it will turn white, then click once –



has with *that object* – roll the cursor near the overlapping object, when it turns white, click once.

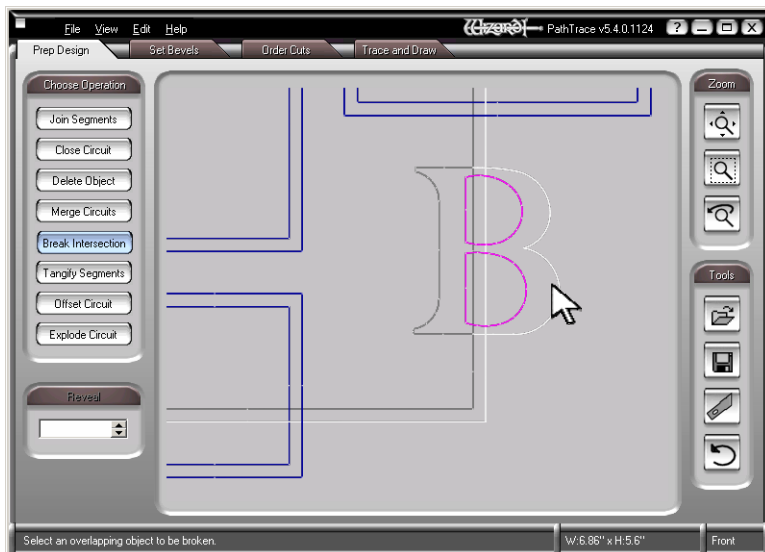
Notice the status bar at the lower left of every screen. It is always a handy reminder of the next step.

Here we are breaking the **B** against the inner V-Groove.



When the objects are broken, the segments will be gray.

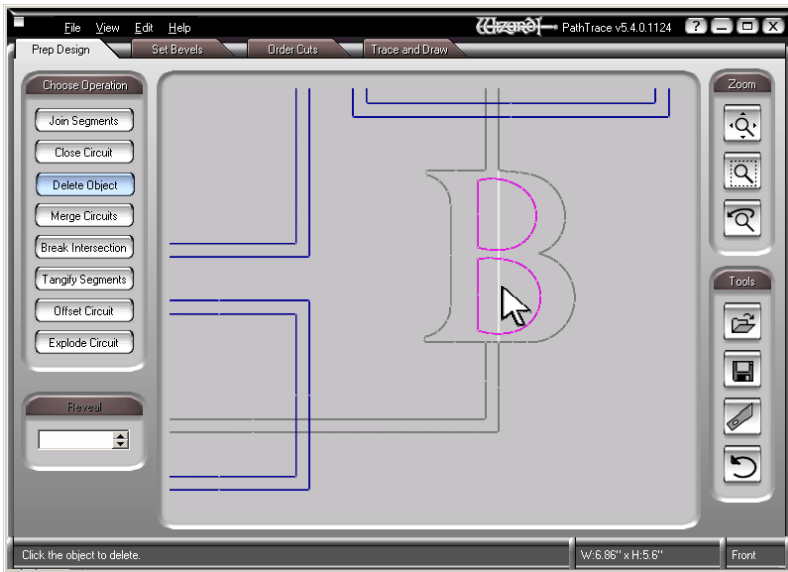
In this example the segments are: the gray half of the **B**, the white half (because the cursor is near it and it is selected), the large portion of the inner groove outside the **B**, and the small vertical segment of the groove inside the **B**.



Now break the intersections that the right half of the **B** has with the outer V-Groove.

Troubleshooting Note: If you are having problems breaking intersections, most often it is because you click twice on one item. Make sure to move close to an object and when it turns white click once. It will remain white as you move close to the second object.

When the second object turns white, click once and the intersections will break.

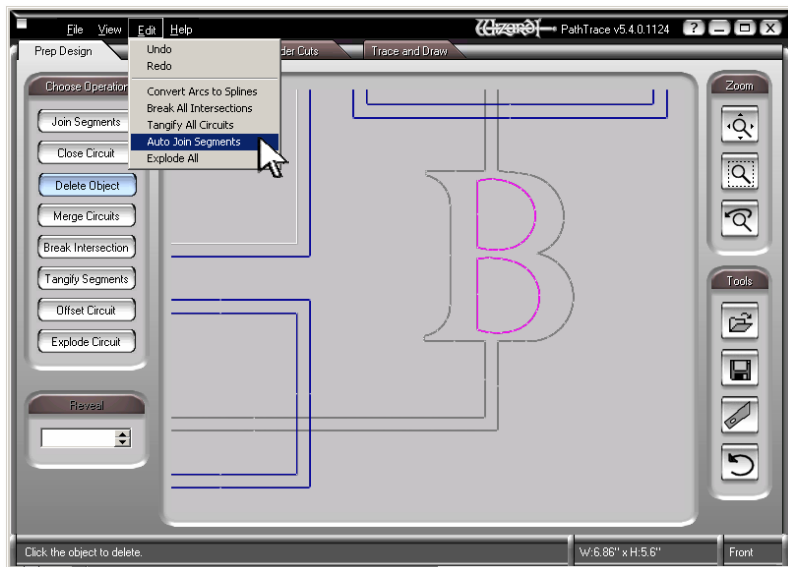


We will now delete the pieces of the monogram and the V-Grooves that will not be part of the final design. There are two small horizontal pieces of the **B** between the grooves and two vertical segments of the grooves in the **B** that need to be deleted.

Click the **Delete Object** button on the left.

Move the cursor close to one of the vertical pieces. Click when it turns white and it will disappear.

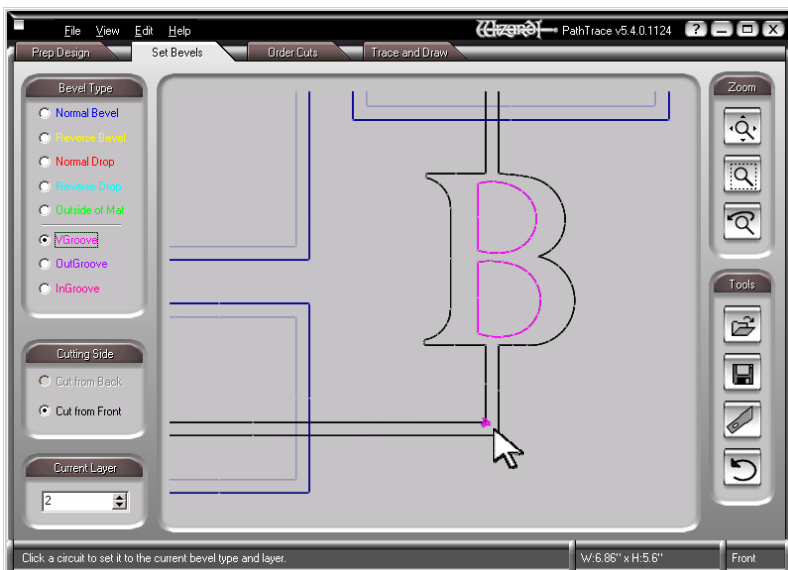
Here, one of the vertical pieces and one of the small horizontal pieces are already deleted.



Once all the unnecessary pieces are gone, click **Edit** at the top, then click on **Auto Join Segments** from the drop down selections.

All the segments that are touching each other will automatically be joined together. Most times when you simply break the intersections, this is all you need to do.

Once you click **Auto Join Segments**, the circuits will turn from gray to black. When a circuit is black, it is a closed path, but it needs cutting instructions.

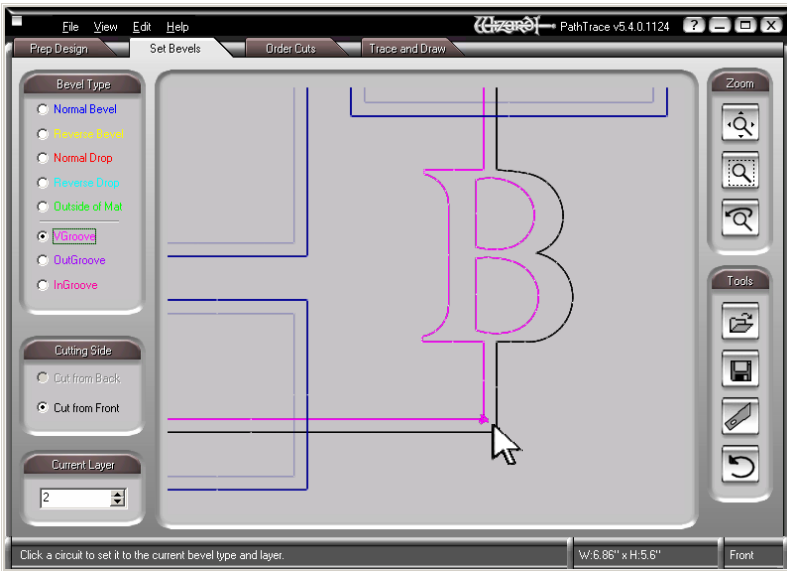


We now need to set the newly joined shapes to cut as V-Grooves.

Click the **Set Bevels** tab at the top. Under **Bevel Type** at the left, select **VGroove**.

Under **Current Layer** at the bottom left, make sure it will cut the grooves on the top layer – usually Layer 2 for a double mat.

As you move the cursor around, you will see a pink arrow point move from spot to spot.



This pink arrow point indicates the proposed starting point of the cut. Click, and that will be the starting point. The entire circuit will turn pink.

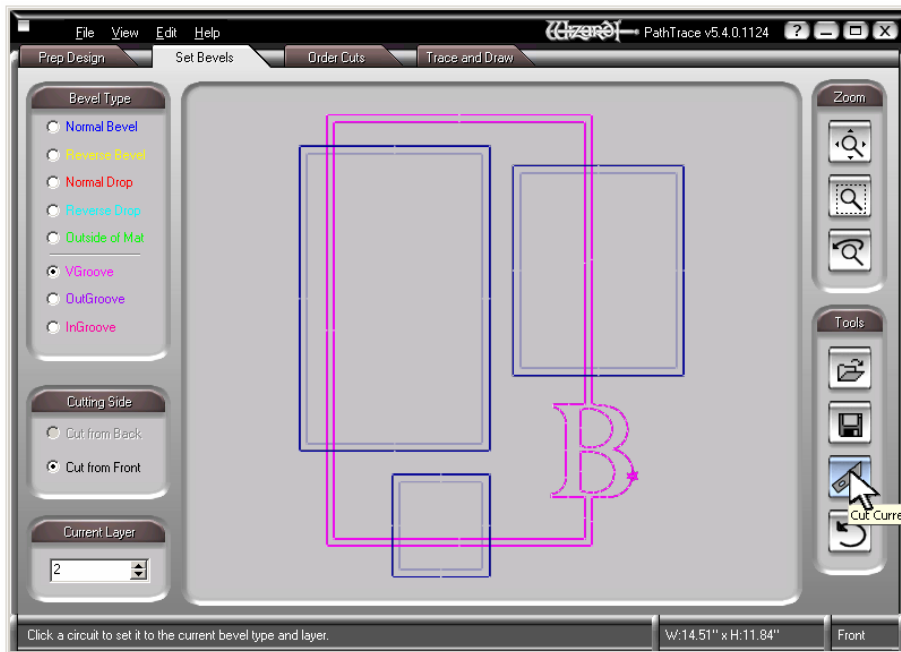
Notice that under **Bevel Type** on the left, **Normal Bevel** is written in blue, **Reverse Bevel** is yellow, **VGroove** is pink, etc.



If **Normal Bevel**, for instance, is selected, the arrow will be blue and once you click a starting point, the entire circuit will turn blue.

Set the outer V-Groove to cut.

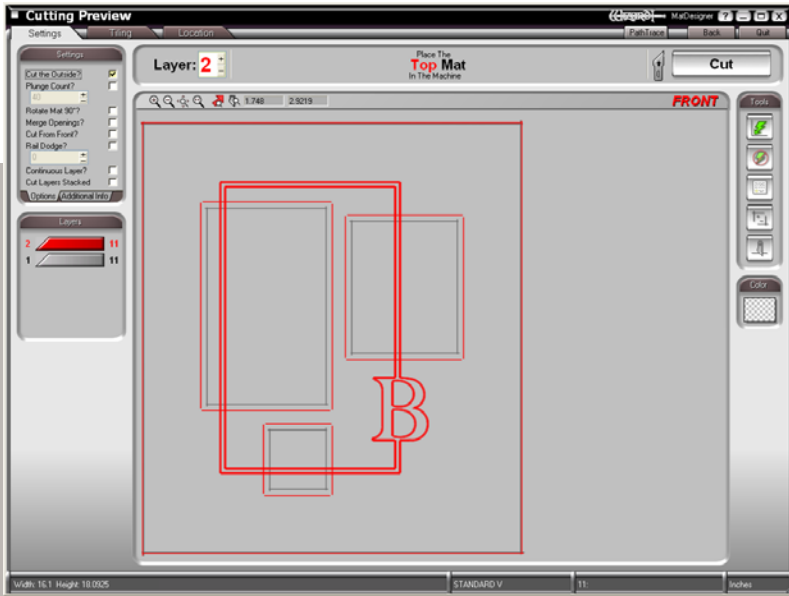
You will notice that as you continue to move the cursor around, the colored arrow point continues to move around, too. Do not be alarmed, nothing will change unless you click.



Click the top button under **Zoom** at the top right to see the full design.

You can save the design by clicking **File** at the top left if you like. After a few of these exercises, though, you will end up just saving the pre-PathTrace mat.

To cut the design, click the **Cut Current Design** button under **Tools** at the lower right.



On the cut screen it will be like any other mat with a V-Groove. As you are cutting, pay attention to the small pieces of the groove that will be cut free. Blow or brush them away so that they do not become trapped under the footblock. They could possibly indent the matboard as they are dragged around.

Some testing might be in order to make sure they cut nicely. If the letters are too small, the narrow spots between the grooves could peel away as they are being cut. Watch that the intersections between letters and grooves do not create sharp angles that disintegrate too easily.

The **M** is an example of a monogram that is better suited to grooves intersecting it horizontally.

The **L** is an example of a letter that may not be well served by this idea. You might consider just breaking the V-Groove and floating the letter in the broken spot.

There are many design options with multiple letters, too.

