

— Silhouette 101 —

PIXSCAN LIKE A PRO

Learn to unlock the power of your
Silhouette PixScan™ mat with
this essential guide



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Introduction

The PixScan™ mat is a versatile tool you can use with your Silhouette digital cutting machine to expand its capabilities beyond simply cutting, sketching, and Print & Cut. In this eBook, you'll learn many of the ways you can use this special mat as we present examples of its use.

Follow along with step-by-step instructions for how you can use the PixScan™ mat in various applications. We hope you can see how to use it in these ways—and more—to meet your own needs. Because PixScan™ technology is used most often with pre-printed designs or unique scraps, you'll need to adapt the instructions to fit your own projects.

The projects and instructions in this book use the Silhouette Cameo® 3 PixScan™ mat, but you can purchase PixScan™ mats for the Cameo®, Portrait®, or Curio™ machines.



What is PixScan™?

- ▶ PixScan™ technology lets you cut precisely with your Silhouette machine around printed images or position cut lines in specific locations on your material.
- ▶ Any material placed on the PixScan™ mat can be imported into Silhouette Studio® via scanner or camera, and then have cut lines assigned through tracing, drawing tools, or library designs.
- ▶ The PixScan™ mat comes with its own registration marks, which allows it to use the Silhouette's optical scanner to find the right place to cut.
- ▶ You need the correct size of PixScan™ mat for each Silhouette machine (Cameo®, Portrait®, or each Curio™ base).

What can it do?

PixScan™ technology has a variety of uses to add to the “toolbox” of each Silhouette machine.

- ▶ Cut from scraps of paper with exact placement of cut designs on those scraps
- ▶ Cut out images that are already printed—such as pattern paper, photos, fabric, or commercial cards
- ▶ Cut out stamped images or digitize your collection of stamps into cut files
- ▶ Cut around original artwork or digitize hand-lettered or hand-drawn items
- ▶ Extend your Print & Cut capabilities
- ▶ Sketch on pre-printed and/or pre-cut tags and shapes

Basic steps

The steps for using PixScan™ are virtually the same each time.

1. Place your material onto the PixScan™ mat
2. Import an image of the material on the mat using a scanner or a digital camera
3. Assign cut lines (Trace, Draw, or use Library shapes)
4. Cut on the PixScan™ mat

Let's go through a series of examples step-by-step, so you can see how to use your PixScan™ mat in various applications.



If you put it on a PixScan™ mat, you can place the cut design exactly where you want on that scrap, and then cut it with your Silhouette machine.

You need to import a picture of this mat with all its registration marks into the software. You have two options for importing the image into Silhouette Studio®: use a digital camera or a scanner.

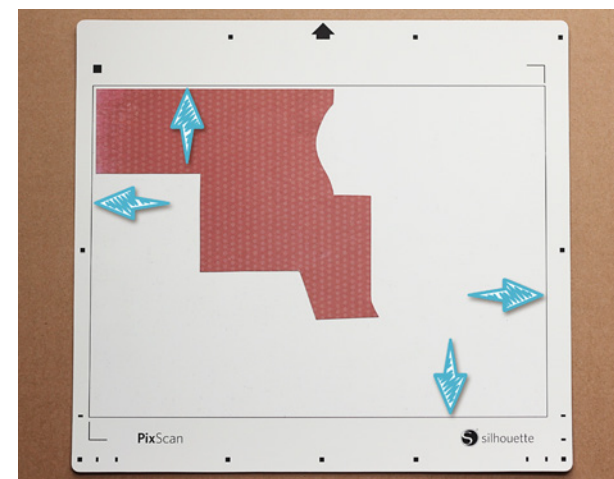
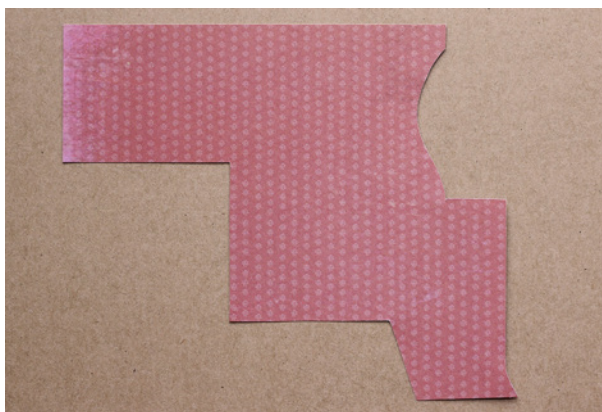
You'll learn how with a camera first.

First, physically place the paper scrap on your PixScan™ mat. The material must fit entirely inside the rectangular cut border on the mat.

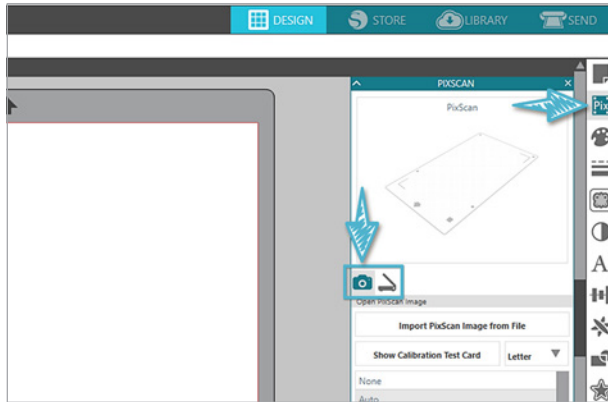
Cut from odd-shaped paper scraps

We'll go over a very basic way to use the PixScan™ mat first. This method allows you to make the most out of odd-shaped paper scraps by nesting designs inside the scrap paper.

Here's an example of a scrap of paper left over from another project. Let's say you want to use what's left for a calendar page title. A rectangular piece of scrap paper would be easy to cut designs using a normal cutting mat, but this one has quite an odd shape.



Next, open the PixScan™ panel in Silhouette Studio®. You can see icons for a camera or a scanner.



We're going to use the camera method first, so leave the camera icon selected, then take a picture of the mat and its contents.

In a well-lit area, take a picture of the mat.

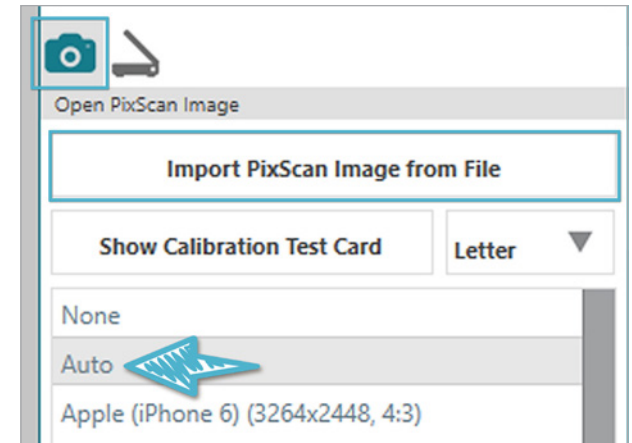
- ▶ The mat must lay flat.
- ▶ Don't zoom in.
- ▶ Leave a border so you know the entire mat is clearly visible.
- ▶ A camera PixScan™ image does not need to be perfectly even; the special marks on the mat will correct imperfect angles.



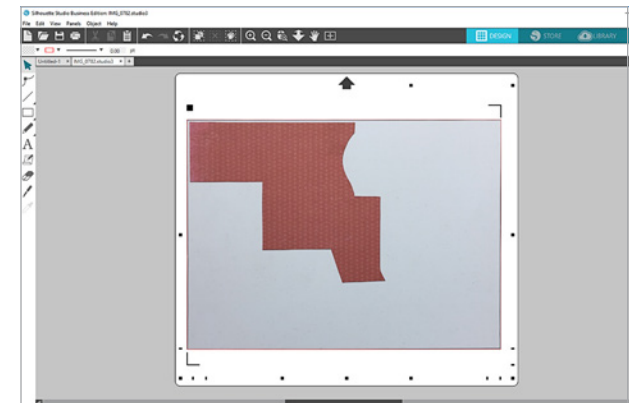
Import and SAVE the photo onto your computer. You'll need to connect via cable, email it to yourself, or use some kind of cloud sharing to retrieve that photo.

Once the photo has been saved onto your computer, in the PixScan™ Panel's camera tab:

- ▶ Choose Auto
- ▶ Click "Import PixScan Image from File"
- ▶ Navigate to where you've saved the photo and select it
- ▶ Give it time to import completely and show the virtual PixScan™ mat



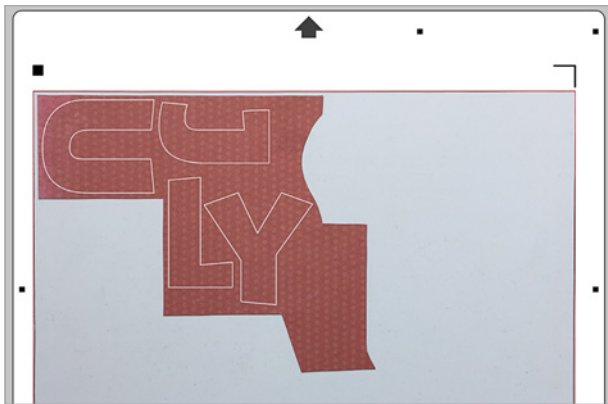
The PixScan™ mat appears on your work page with the paper scrap exactly as you see it on the real mat. Do not move anything on the physical mat once the image has been imported, and the software won't allow you to accidentally move the scanned material on the virtual mat.



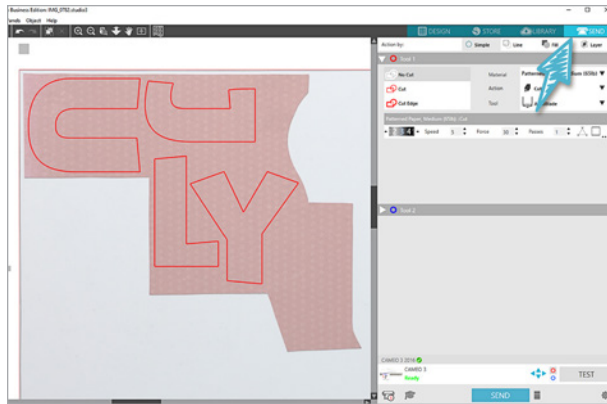
The colors on screen don't matter, so don't worry if it looks dark or ugly. You're not printing this.

Note: Turn off your Grid (Ctrl/Cmd G) when using PixScan™ images so it doesn't interfere with the image visibility.

Now add a cut design. In this example, we're adding letters. Rotate and rearrange the design(s) to fit. In this example we've changed the line color to white so it's easier to see. Notice how you can nest those letters closely together in this odd-shaped scrap, made simple because of the PixScan™ image.

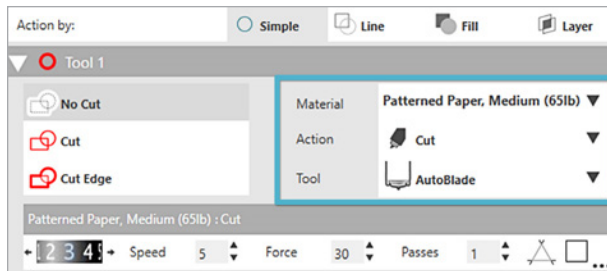


When it's ready to cut, go to the Send Panel. Notice how any active cut lines on your page show with a bold line color in the preview area.

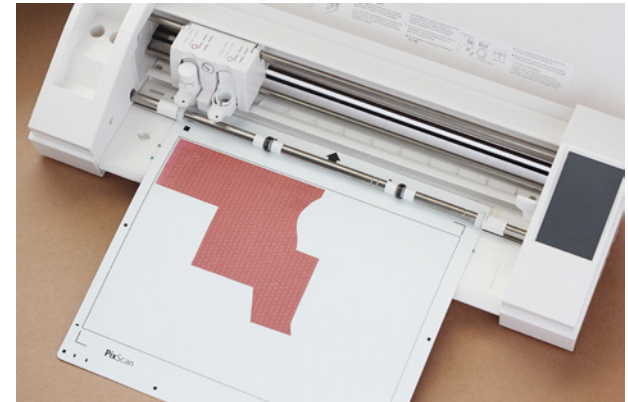


Choose the settings for the material you are cutting.

- ▶ Material = Patterned Paper, Medium (this will vary depending on your own material)
- ▶ Action = Cut
- ▶ Tool = AutoBlade or Ratchet



Insert the blade into your machine's tool holder, and load the PixScan™ mat with its paper scrap still in place.



Note: If you are going to test cut, which is good if using unfamiliar materials, we recommend doing that on a regular mat to determine appropriate settings before placing it on your PixScan™ mat.

Press SEND when ready. The optical eye on your machine will read the PixScan™ mat's registration marks, then cut where you have cut lines set up.

Remove the cutout and add it to your project.



You do not need to save this document. Any time you import an image on the PixScan™ mat for cutting, it's a one-time use. Once you move the paper, adding something new to the mat requires a new import.

This example used letters, but you can use this same process of importing your image, then use the drawing tools or your library designs on any material for cutting exactly where you want on that material.

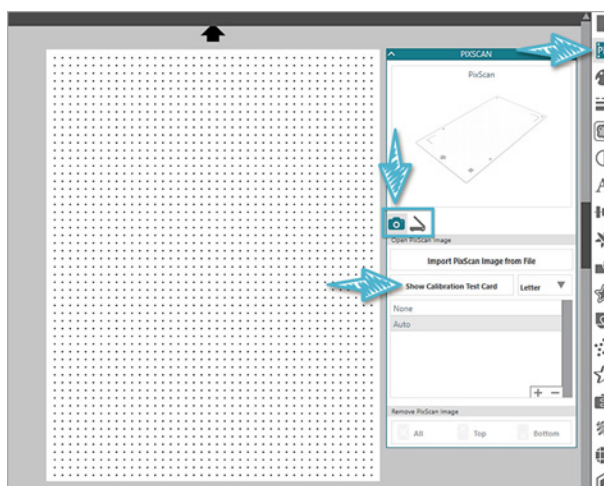
Calibration

Let's talk briefly about calibrating your camera.

Many current cameras and smartphones are already in the software, so choosing "Auto" is a good place to start when importing photos.

If your camera is not recognized or if your cuts seem consistently skewed, that's when you'll perform a calibration.

In the Design View, open the PixScan™ Panel and stay in the camera tab. Click "Show Calibration Test Card". That opens a new document filled with small dots. Print this page.



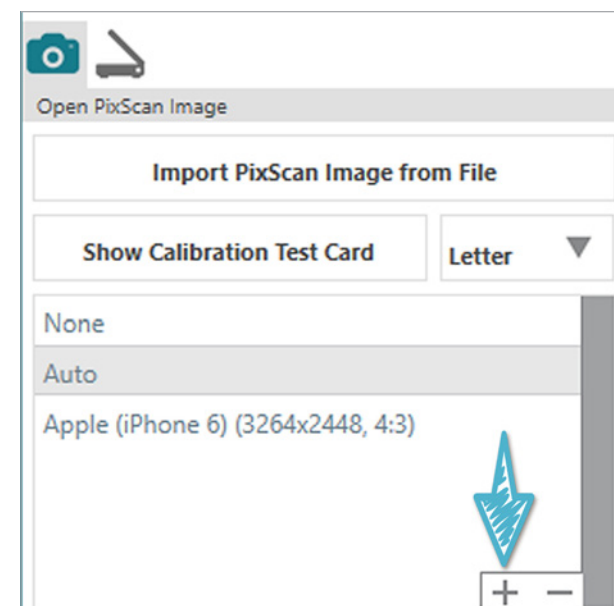
Take a picture of this calibration printout with your digital camera, using the following guidelines:

- ▶ Do not place this calibration printout on the PixScan™ mat.
- ▶ You should be in a well-lit area without harsh shadows.
- ▶ Make sure the dots fill the entire image. You do not need to leave a border around the edge of the paper.
- ▶ Avoid holding the camera at an angle for a calibration page; it should be directly above the page.

Tip: if you have trouble with shadows or getting your page to lay flat, tape it to the wall and take a picture there.

Save this photo onto your computer.

Click the (+) icon in the PixScan™ Panel, navigate to, and select the photo you saved of the calibration page. It will save that camera into your list so you can select it when importing PixScan™ photo images.



You only need to calibrate once per camera, if at all.



Cut around images on pattern paper

Another great use for PixScan™ is cutting exactly around pre-printed or stamped objects. In this case you usually don't have a cut line already available to fit the design. To create cut lines for pre-printed images, you'll need to use the Trace feature of Silhouette Studio®.

In this example, we'll cut out a few designs from pattern paper to add to the calendar page we started in the previous section.

Instead of using a camera this time, you'll learn how to import an image on the PixScan™ mat via scanner.

Place the pattern paper onto the PixScan™ mat. Trim down the paper, if necessary, to be sure it fits completely within the PixScan™ border.



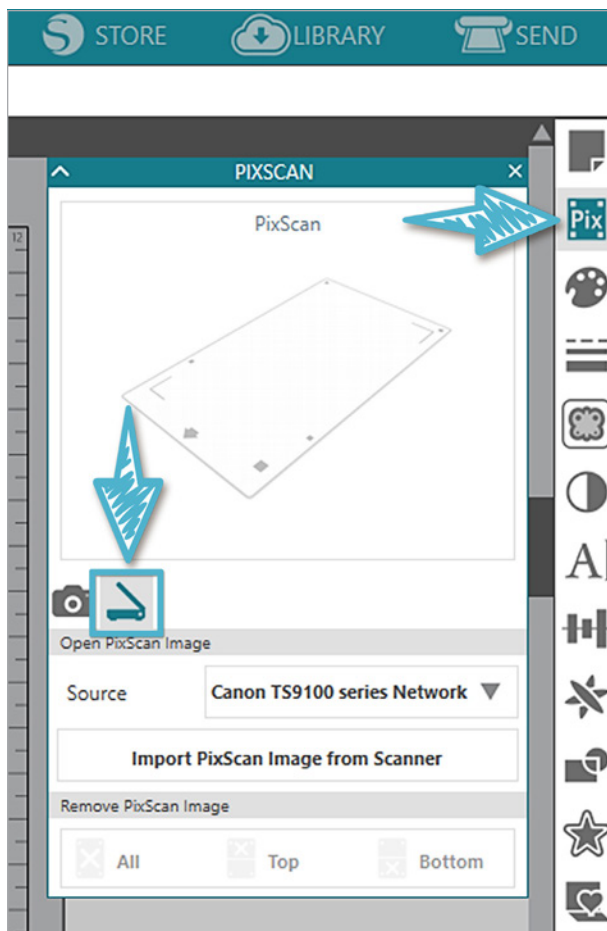
Place the PixScan™ mat face down on the scanner. If you have a large-format printer/scanner, you can fit the entire mat at once. But the Cameo, Portrait, and large Curio PixScan™ mats need two passes if your media fills most of the PixScan™ mat and you are working with a standard-size scanner.

Position the mat in the upper left corner of the scanner bed, or where you usually place documents for your particular scanner. Your large mat will hang off the side of a standard-size scanner bed.

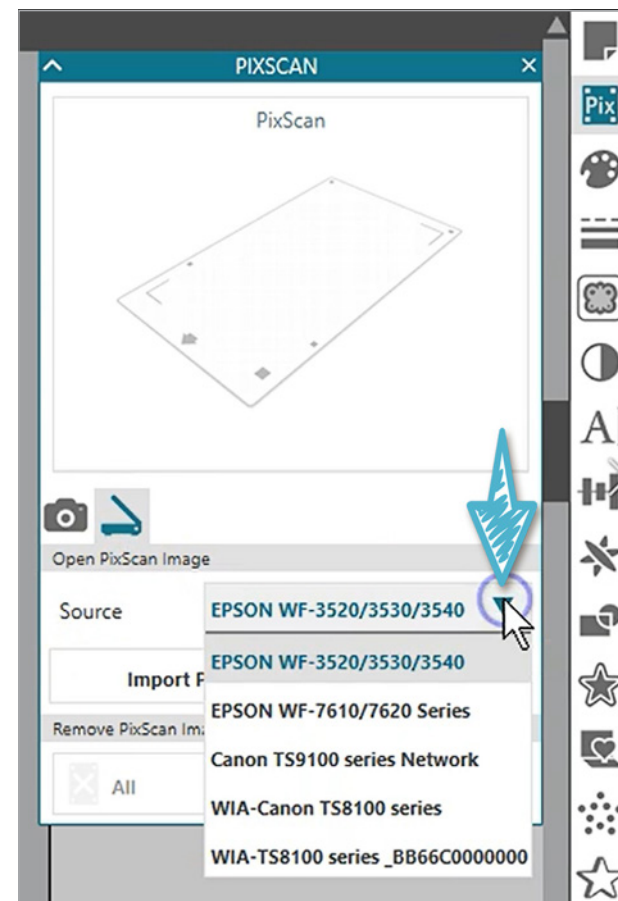


Close the scanner lid.

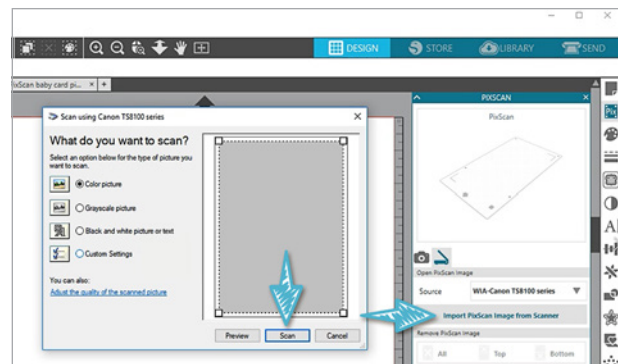
While the PixScan™ mat is in place on the scanner, open the PixScan™ Panel in Silhouette Studio® and click on the Scanner tab.



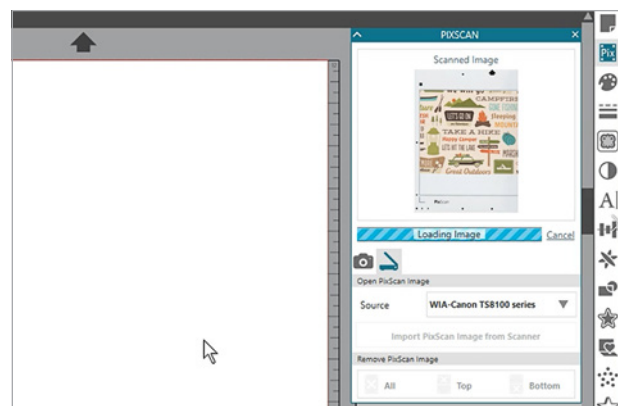
Choose a source, which is your model of scanner with the PixScan™ mat positioned on it.



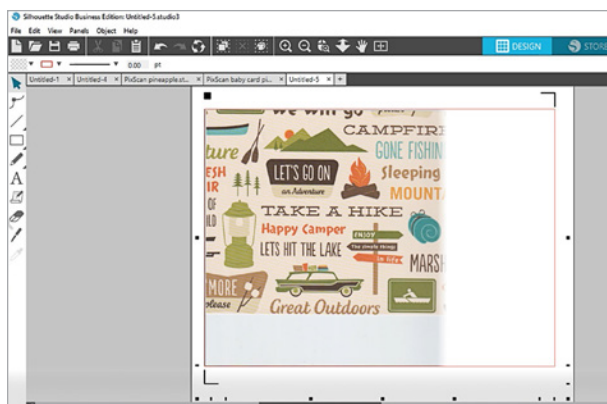
Click “Import PixScan Image from Scanner”, and review your scanner settings with the scanner dialog box that pops up. Choose the largest scan area possible, if it’s an option. Click “Scan” on the scanner dialog box. (The look of the scanner dialog box will vary by scanner.)



Let the image fully load. It will only include the portion of the mat that was scanned.



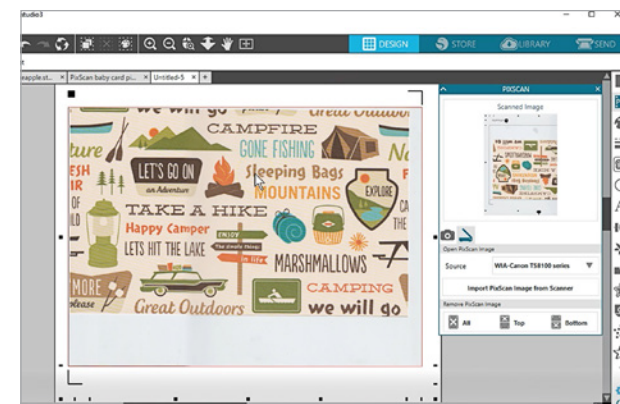
The progress bar will disappear, and your regular mat view will turn into a view of the PixScan™ mat when it’s ready.



Only half of the image is here on this example, so we need to scan the other half of the mat’s contents. Rotate the mat on the scanner 180 degrees and place it in the same position on the scanner as before. The software is able to stitch the two parts together.

Open the PixScan™ Panel again and choose “Import PixScan Image from Scanner” to capture the image on the other half of the mat.

The software automatically stitches the image together to make a complete image of what’s on your mat.

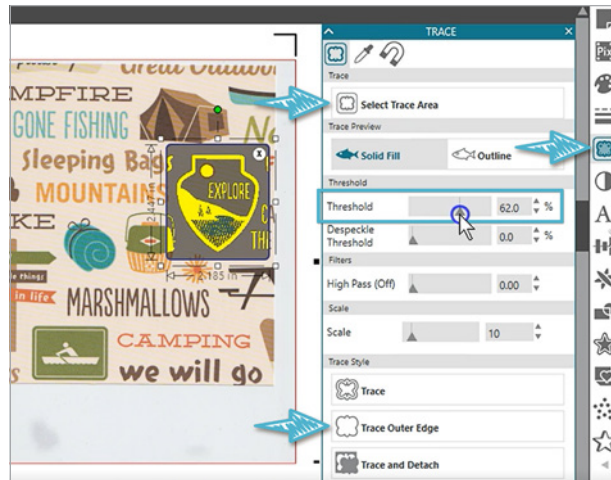


Once the PixScan™ image is ready, you need to perform a Trace to assign cut lines. The machine doesn’t know where to cut until it has cut lines.

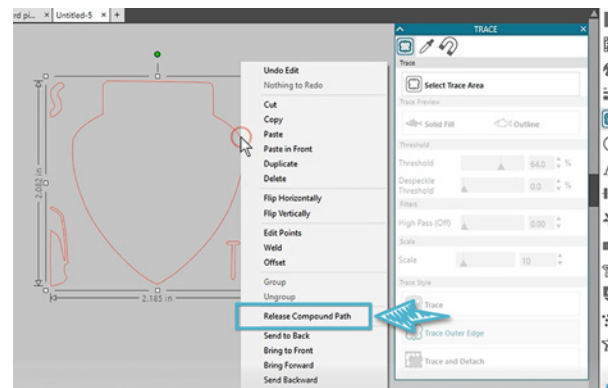
Open the Trace Panel.

- ▶ Select Trace Area.
- ▶ Drag a selection box around the area you want to trace.
- ▶ You want the area to trace to fill with yellow. Increase the Threshold until the part you want traced fills with yellow.
- ▶ In this example we’re only looking for a clean line around the outer edge.

- ▶ Click Trace Outer Edge to capture the outline and ignore the inner detail.

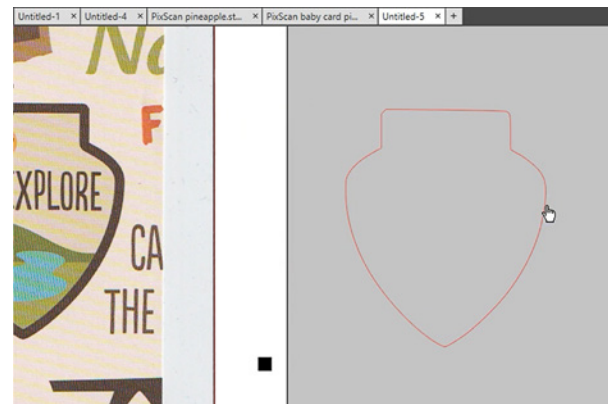


Cut lines from a Trace are all one object; a compound path. To break the pieces apart, right click and choose Release Compound Path (or find it in the Modify Panel).



Now we have red cut lines because of the Trace action, but we need to clean up on this design. Drag them away to the side where you can see the lines better.

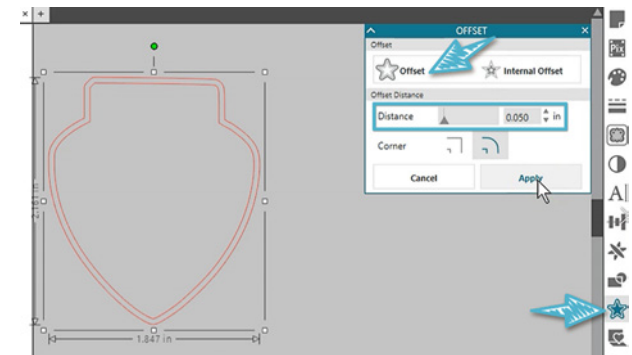
Drag away just the icon's outline and delete the rest.



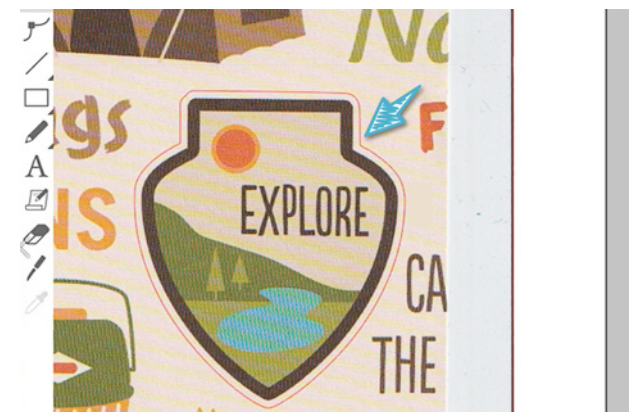
We can now use this cut line to place over the Explore icon, and cut exactly around it, but let's go one step further. If you want it to have a small border around it, create an Offset.

Open the Offset Panel.

- ▶ Choose Offset
- ▶ Distance = 0.050 (or whatever looks good to you)
- ▶ Apply

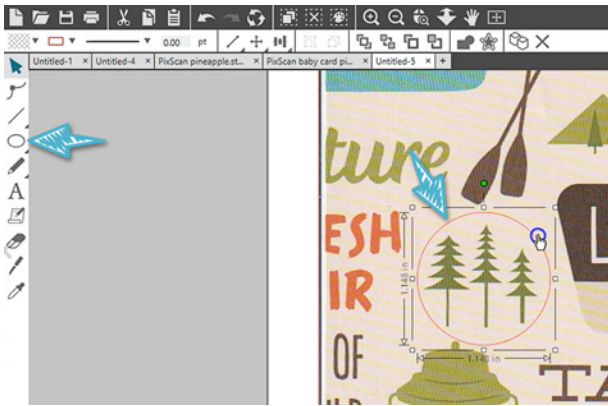


Now drag the offset cut line over the Explore icon, and it will cut exactly where you see the cut line.



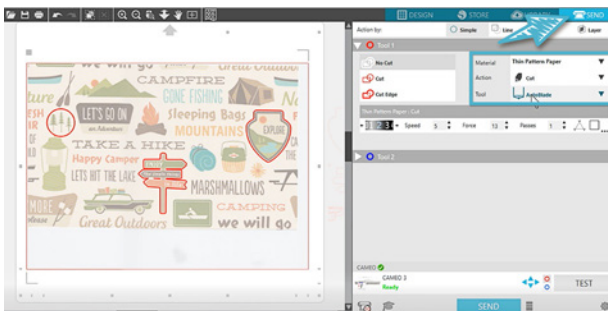
You can do the same thing with any other design on this page, if you want to use other parts, as well.

Remember, you don't have to trace. You can use simple drawing tools like a circle to create cut lines.



Now go to the Send Panel to set this up for cutting.

- ▶ Material = Choose the material you are cutting
- ▶ Action = Cut
- ▶ Tool = AutoBlade or Ratchet blade



Load the PixScan™ mat with its paper still attached into Silhouette machine.

Click Send in the software.

When it's finished cutting, carefully remove the cut pieces from the mat and apply them to the calendar page.



Other Examples of Tracing

This same process of tracing the PixScan™ mat's contents can be used on pattern paper like we've just shown, but also to cut out designs in fabric, or to cut out bits you like in commercial cards or any other cuttable material.

In this example, we used fabric interfacing on a piece of pineapple fabric before attaching it to the PixScan™ mat. We imported it, traced a single pineapple, cut it with the fabric blade on the PixScan™ mat, and applied it to a card front.



And in this example, we used the PixScan™ mat to cut around just two of the cute elements on this commercial card to use in our own way. We can even use this same card later if we want to use any other sections at another time. Simply apply it to the PixScan™ mat again, import again, and trace additional portions of the card.



Troubleshooting PixScan™

Here are some common issues you might encounter when working with your PixScan™ mat in Silhouette Studio®. You can find additional solutions on the Silhouette America website under PixScan™ FAQ.

Scanner: Error message about not reading markings

- ▶ Verify your material is completely within the border, and no dark marks are outside of the cut area
- ▶ Make sure your correct machine is selected before importing (e.g. Cameo is connected if trying to read the Cameo PixScan™ mat, Portrait is connected if trying to read the Portrait PixScan™ mat, etc.)
- ▶ Reposition your mat on the scanner bed so all marks are visible (sometimes not all the way to top edge)
- ▶ Increase the scan area in the scanner dialog box, if available
- ▶ Reposition items on the mat

Scanner: Error message regarding poor visibility

- ▶ Update or install printer/scanner drivers

PixScan™ Panel doesn't seem to register

- ▶ Restart Silhouette Studio®
- ▶ Restart Printer/Scanner
- ▶ Restart Computer

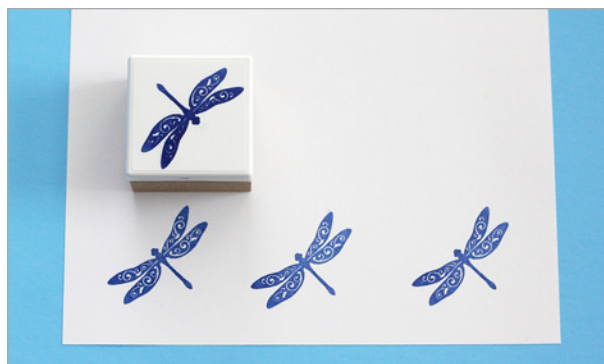


Cut out stamped images

Let's talk about another great use for the PixScan™ mat. So far in these lessons we've cut from paper scraps, pattern paper, and other printed materials. What if you want to cut around stamped images? PixScan™ is great for that, too!

This next example uses a stamp created with a Silhouette Mint™ machine, but you can use this same process for any stamp in your collection.

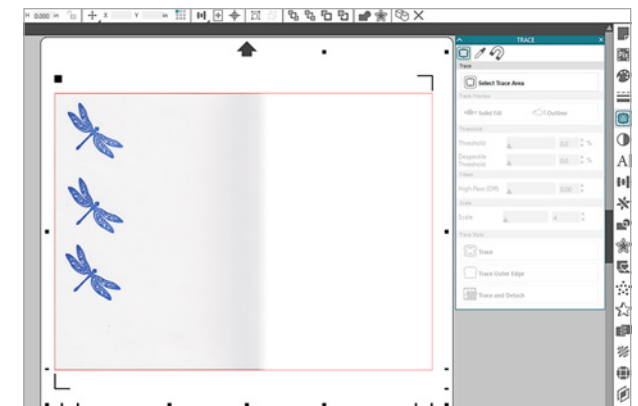
Stamp your image onto paper. Don't worry about getting it in any particular spot. The image should be dark and crisp for a good traced image.



Instead of cutting these out with scissors, you can import them on your PixScan™ mat and have your Silhouette machine do all the cutting!

Import by scanner or by camera, just like we've done previously.

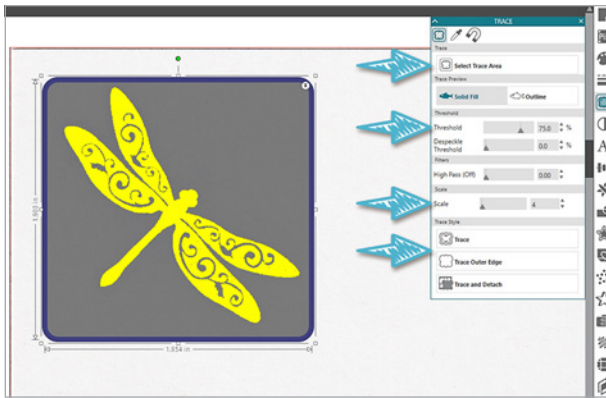
Once it's loaded on your screen and shows the virtual PixScan™ mat, you just need to Trace the image to assign cut lines.



Open the Trace Panel.

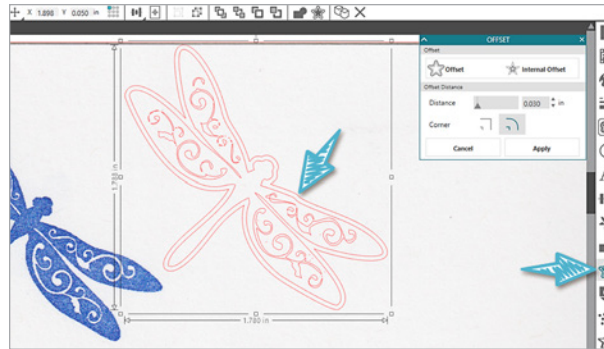
- ▶ Select Trace Area
- ▶ Drag a selection box around the area you want to trace
- ▶ Increase the threshold up or down until the part you want traced fills with yellow
- ▶ Adjust the Scale up or down (optional)

- ▶ Click Trace or Trace Outer Edge. Trace will put cut lines around all the yellow areas with holes in unfilled areas. Trace Outline will ignore those inner holes and will only cut the outline. The one you choose will depend on your particular design and the detail you are trying to capture.

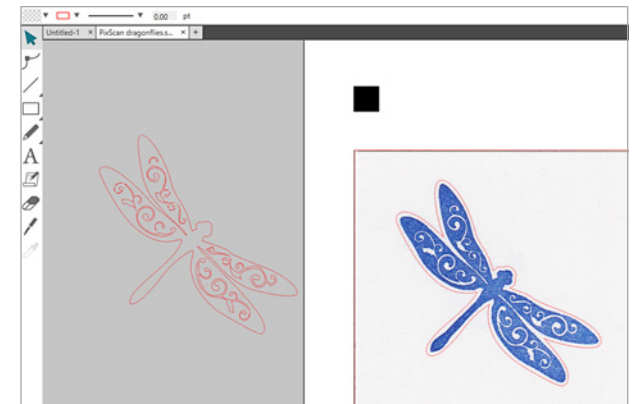


Create an Offset of the original trace line, if you want. Select the original trace line, then:

- ▶ Open the Offset Panel
- ▶ Choose Offset
- ▶ Distance = 0.030 (or whatever looks good to you)
- ▶ Apply

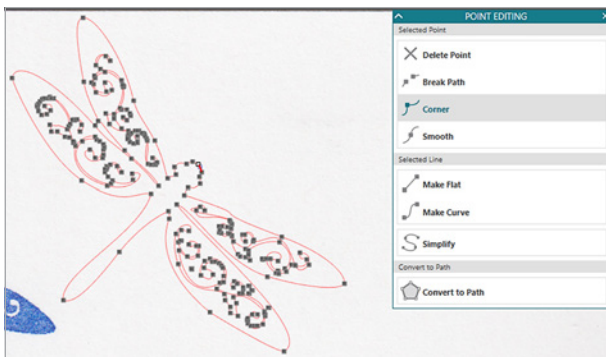


If you want to use the Offset instead of the original cut line, make sure to delete or set aside the original cut line. Position the cut line you want to keep over the PixScan™ imported image.



Tip: the larger the offset you create, the less you may notice any slight imperfections in precise cutting around the edge.

If you need to clean up your trace lines for your stamp design, you can do so with Point Editing. (Double click the red cut line to enter Point Editing, where individual nodes can be manipulated).



Here's a nice thing about stamps. You can make copies of the one successful cut line and place the copies around any other identical stamped images on the page. You'll probably need to rotate it a little to fit each stamped design. Or you can trace each individual stamp, if that's quicker for you.

Tip: You can also use shapes for your stamped images; they don't have to be traced.

Once all the stamped images have cut lines around them, go to the Send Panel, and choose the correct material and action.

Load the PixScan™ mat into your machine, then press Send in the software.

Your Silhouette will cut precisely around your stamped designs.

Save Stamp Cut Lines

If you want to save just the cut line you created by tracing, you can. That way you'll have it for any future stamping you do with that stamp. You won't have to trace each time.

- ▶ Copy and paste the cut lines to a blank page, if you don't want the PixScan™ image saved as well.
- ▶ Save As > Save to Library > (name) > OK
- ▶ These end up in your User Designs when saved this way

Note: If you are saving the cut lines for a lot of your stamps, you may want to create your own library subfolder for stamp cut lines.

Now you can stamp on paper, emboss it, use white ink on black paper, and more. The cut lines you've already created are ready and waiting for you to add to your fresh PixScan™ imported images.

You can also save the full traced image, not just the outline, to recolor and print or cut from some other material without even stamping.

We'll show you that process in a different context in the next segment with hand lettering.



Digitize hand lettering

This page has original lettering on it drawn with markers. In this example, we'll digitize it to save as a cut file.



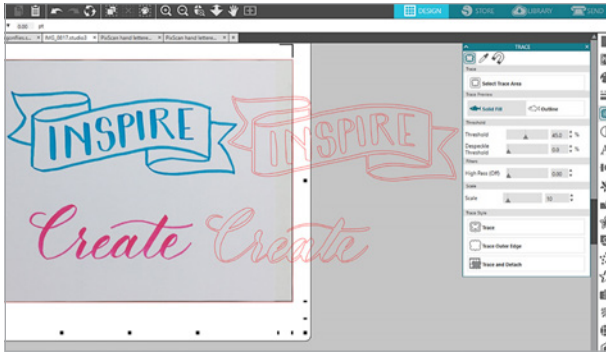
Import by scanner or camera on the PixScan™ mat, as described in the previous sections.



Now Trace each word individually to create a separate cut line for each.

- ▶ Select Trace Area
- ▶ Adjust Threshold
- ▶ Adjust Scale (optional)
- ▶ Trace

We could cut these out from the paper they are drawn on, but in this instance, we just want them as cut files.



You could do something similar just by scanning in your lettering, but PixScan™ ensures it opens at its true size, and the camera import option for PixScan™ compensates for any skewed angles.

Note: Although we just digitized this lettering, and can digitize stamps in the same way, PixScan™ is also a great option for cutting out original artwork.

Drag the cut lines away, and now they are cut files!

Copy each design onto its own page, rotate, fill with color, resize, and point edit to clean them up before saving to your library or to your computer.

Now you can cut the hand-lettered designs with vinyl, or print, or use them however you want, as many times as you want.





Compare/Contrast PixScan™ to Print & Cut

As you can see by now, the PixScan™ mat is not the same thing as a Print & Cut. PixScan™ is great for designs that are already printed, and it uses registration marks on the mat to recognize where everything is.

Print & Cut is for printing documents directly from Silhouette Studio® with registration marks on

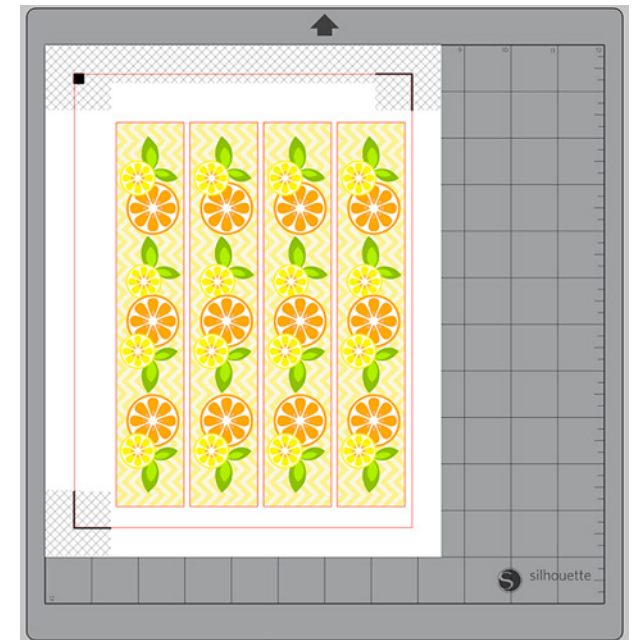
the printout itself to tell the Silhouette machine where to cut.

In general, you'll have more precision with cut lines when using Print & Cut, but the PixScan™ mat can add to the flexibility of your Print & Cuts from Silhouette Studio®.

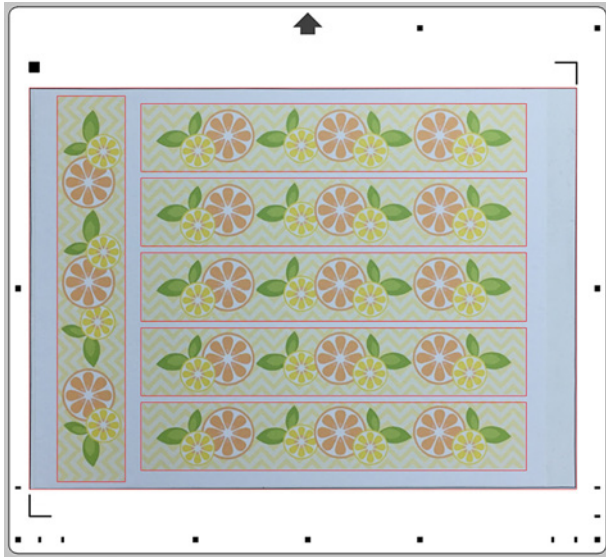
Margins

With a Print & Cut, the registration marks require a border of unusable space on the page. Four

of these labels fit on this Print & Cut page with registration marks. There's a wide cut border and crosshatch areas where images can't be placed in order to make room for the optical eye to read registration marks.



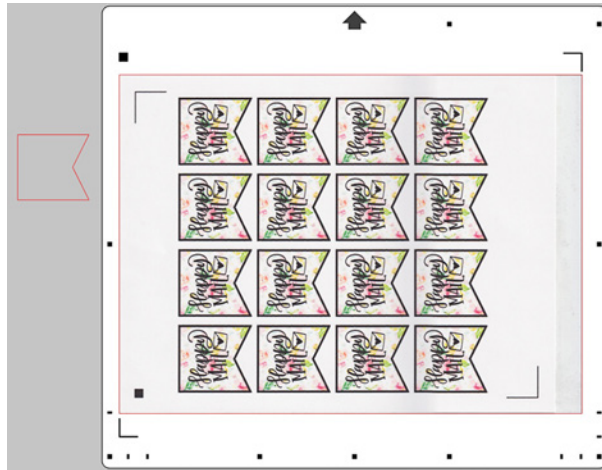
But with the PixScan™ mat, you can print a document with designs that cover the whole page, place it on your PixScan™ mat, and assign cut lines to the entire page. (This is for the Cameo or large Curio PixScan™ mats that can fit an entire letter-size page.) Six of these same labels can be cut from this page when the PixScan™ mat is used instead of Print & Cut.



Salvage a Print & Cut

From time to time you may also create a Print & Cut that, for whatever reason, fails to read the registration marks. You don't have to throw it away as a lost cause. You can use your PixScan™ mat to salvage the project.

Place the printout on your PixScan™ mat and import it. In many cases you can use the same cut lines from the Print & Cut page to place on the images on the virtual PixScan™ page. Or trace and draw shapes like normal.

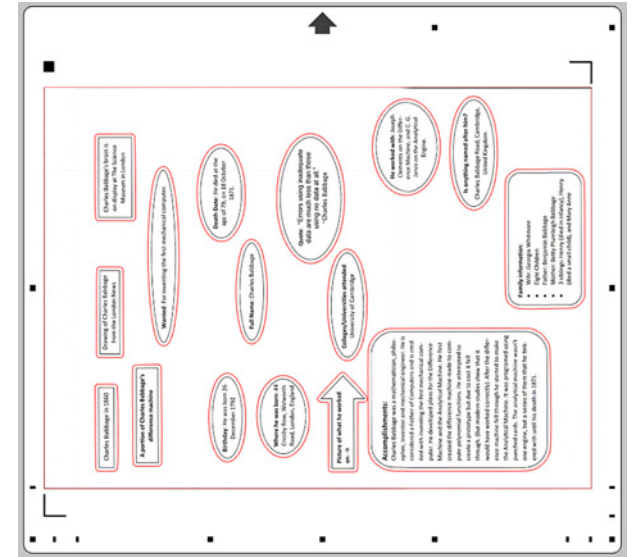


When you send it to cut, the Silhouette's optical eye will read the PixScan registration marks instead of the printed page's registration marks.

Other Software Printouts

PixScan™ is great for placing cut lines around documents you create and print from other programs, too.

This page is full of text as labels for a school project that was created in a different software program. We printed the page from the other program, then placed it upon and imported it into Silhouette Studio® on the PixScan™ mat. Then we created shapes in Silhouette Studio® to cut it all out.

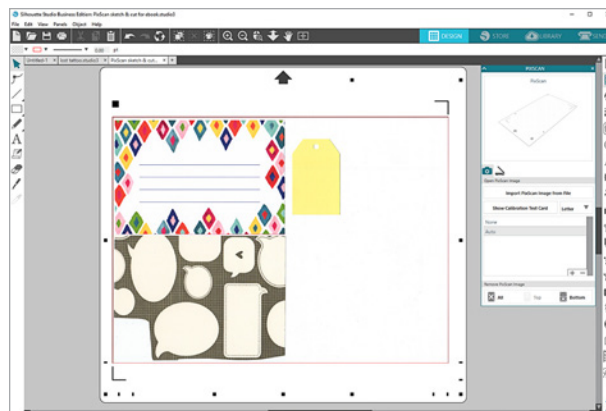




Sketch on tags and labels

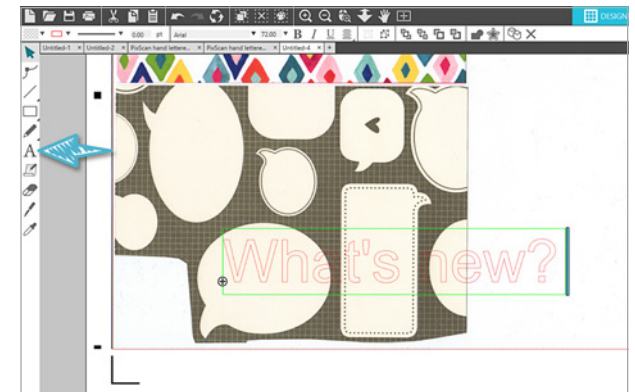
Finally, you can use existing tags, labels, and scrapbook paper to add sketched text to a specific area with the help of a PixScan™ mat.

In this example, we've imported some labels from scrapbook paper and a precut tag on the PixScan™ mat as described in previous sections.

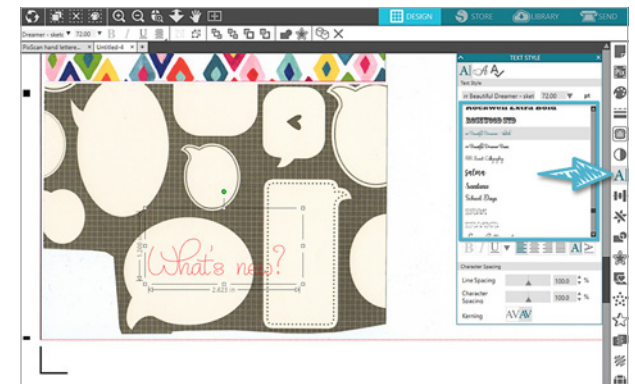


Use the Text Tool to add text with some sketch fonts.

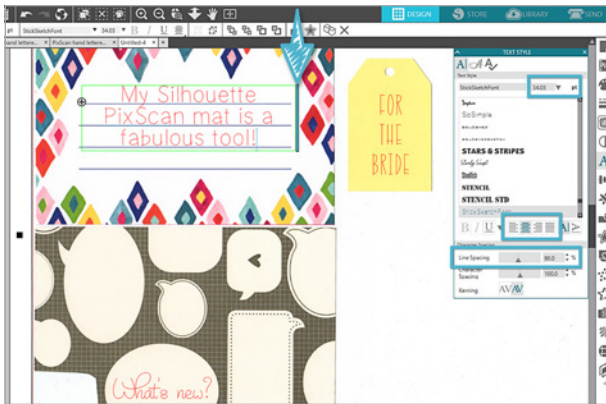
- ▶ Click the Text Tool on the left side of the screen.
- ▶ Click the cursor onto the page and type your text.



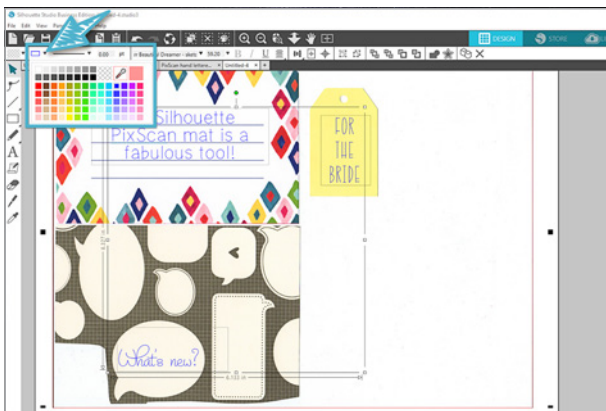
- ▶ Select the text and open the Text Style Panel on the right to choose a sketch font.



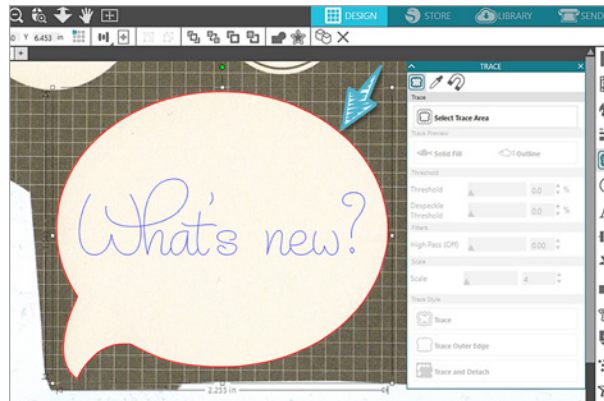
- ▶ Adjust the text size, alignment, and line spacing in the Text Style Panel to fit the imported PixScan™ design. Drag the blue slider bar on the right side of the text box to create line breaks, if necessary.



Once your text is in place, select all of the text and change the line color to blue for all of the sketched text.

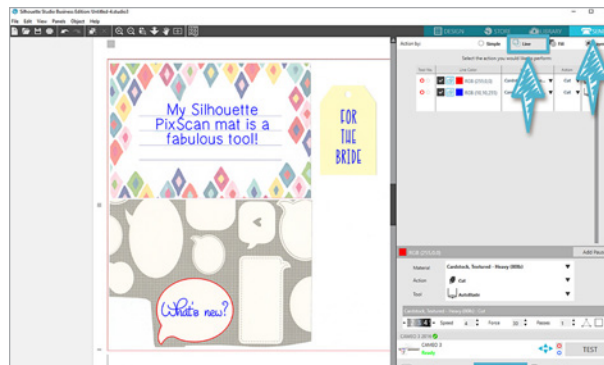


Add shapes or trace to add cut lines to areas you want to cut out, such as the outer edge of the word bubble.



Keep the cut lines red.

In the Send Panel, go to the Line Color action tab.



Set the blue lines to sketch with a sketch pen, and the red line to cut as follows:

Drag the blue line color (blue square) to the top to sketch first.

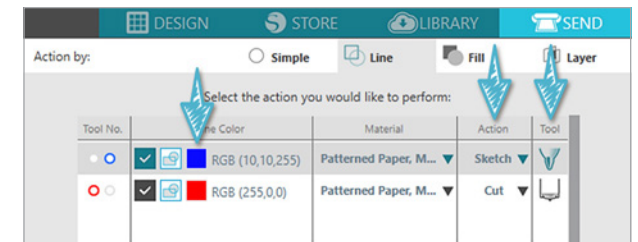
- ▶ Material = choose whatever material you are using
- ▶ Action = Sketch
- ▶ Tool = Sketch Pen

For the red line color (red square):

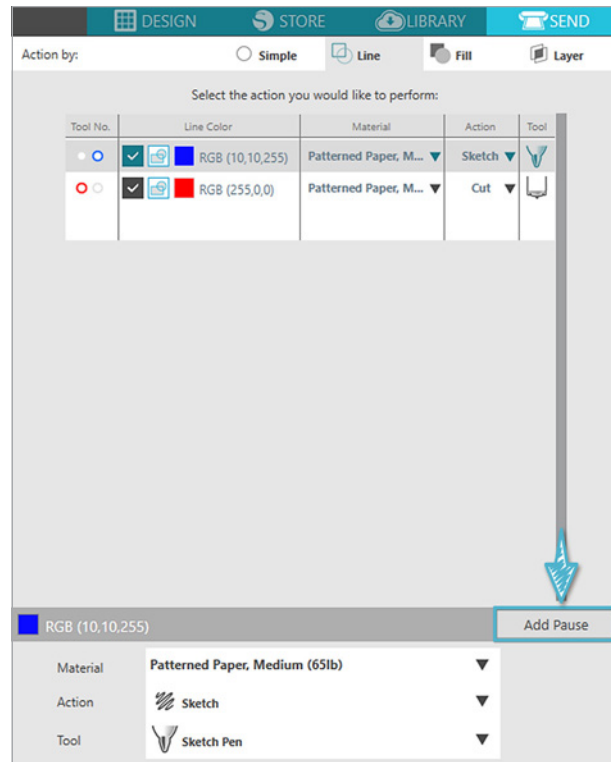
- ▶ Material = Patterned Paper, Medium

Note: cutting different types of paper on the same job should each have their own line color so you can assign a variety of materials.

- ▶ Action = Cut
- ▶ Tool = AutoBlade or Ratchet blade

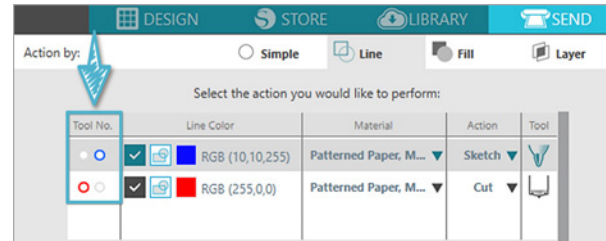


If you are cutting with a single tool holder, add a pause between line colors with the “Add Pause” button so you can physically switch from pen to blade between line colors.



With the Cameo 3, you can use two tool holders consecutively, with no pause between tools.

- ▶ Set the blue line color to Tool 2 (right/blue).
- ▶ Keep the red line color with Tool 1 (left/red).



Put a sketch pen in the blue/right tool holder and a blade in the red/left tool holder.

Load the PixScan™ mat into your machine and click Send to sketch then cut.



Conclusion

We hope you've learned a variety of ways to use your PixScan™ mat to expand the capabilities of your Silhouette machine. And remember, you're not limited to what we've covered here.

If you want more inspiration, check out the Silhouette Blog. For troubleshooting help, visit [SilhouetteAmerica.com](https://www.silhouetteamerica.com) or reach out to the support team at support@silhouetteamerica.com. And don't forget to visit our Silhouette YouTube channel for more help with the Silhouette Studio® software.

We hope your PixScan™ mat becomes an enjoyable part of your Silhouette toolbox!

Designs Used:

Stars & Stripes font | Design ID: 253507 | Page 5

Be A Pineapple | Design ID: 198748 | Page 13

Dragonfly | Design ID: 26646 | Page 15

Citrus Slices | Design ID: 138755 | Page 20

Carousel Paper Collection | Design ID: 126932 | Page 20

Happy Mail | Design ID: 242938 | Page 21

Pink Watercolor Flower Pattern | Design ID: 238627 | Page 21

Stick Sketch font | Design ID: 73966 | Page 22

Beautiful Dreamer Sketch font | Design ID: 75389 | Page 22

Scotch Tape Sketch font | Design ID: 75223 | Page 23