

UV Printer Basics

Ultraviolet (UV) printing is when a special ink can be applied to many different material types and then cured with ultraviolet light.

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The library has a **Roland LEF2-300 UV printer** that uses Versaworks software. Accepted files types include: **PDF, EPS, or AI**. Any image can be printed using CMYK ink. White can be added underneath the design to make it opaque instead of transparent. Gloss can be added on top as a special effect to give a finished look or add texture. The **bed is 30" x 13" x 4"**, so all items must fit those dimensions.



Set Up Media

Make sure your media is clean before printing. Bumps or imperfections may occur from dirt on the item.

1. Turn on the exhaust.
 - a. Do not turn the knob.



2. Press Setup

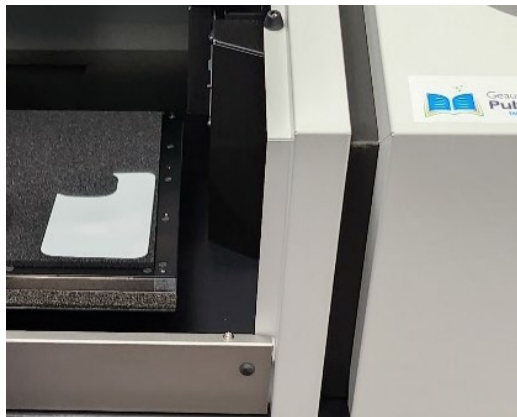


3. Place media on table

- a. If your media is small, place a mat underneath it to protect the bed.



- a. Bottom right corner is most efficient

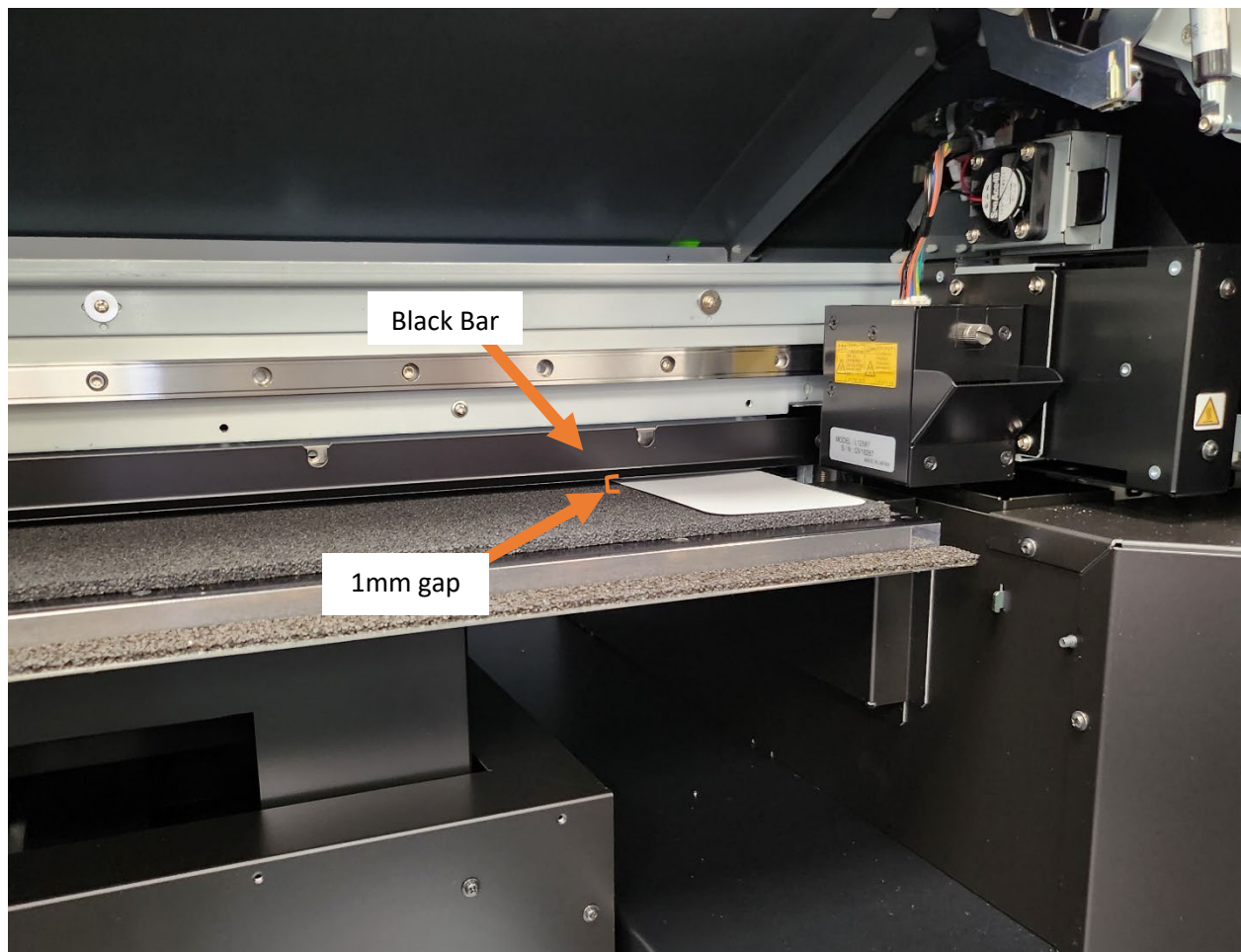
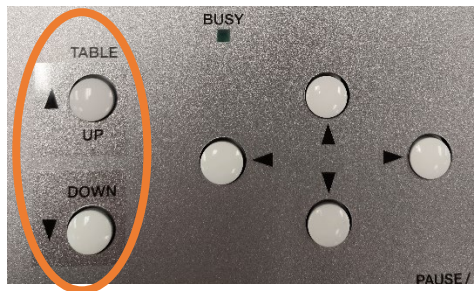


4. Set the Table height

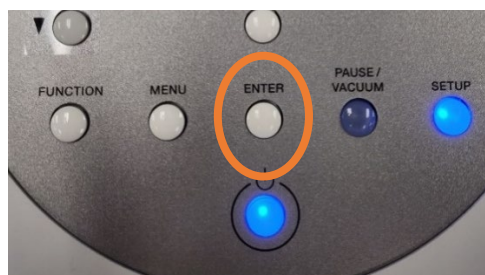
- a. Move the table back until the object is under the black bar



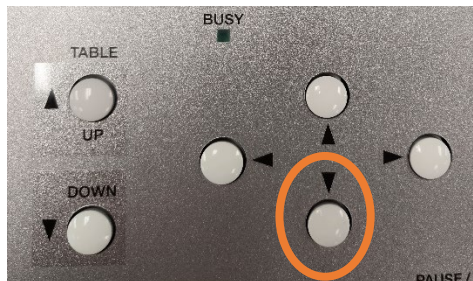
- b. Press table up and down until there is a 1mm gap between media/object and the black bar



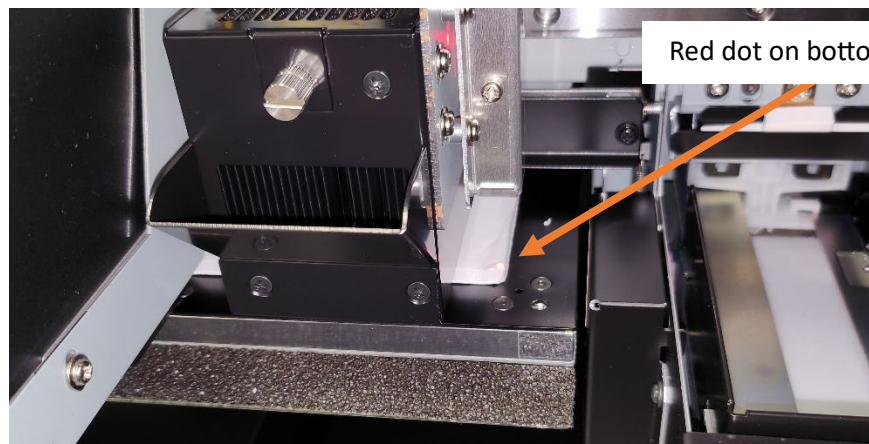
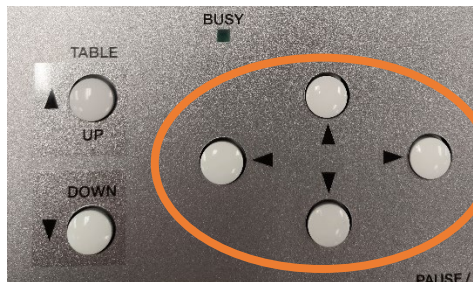
- c. Press **Enter**.



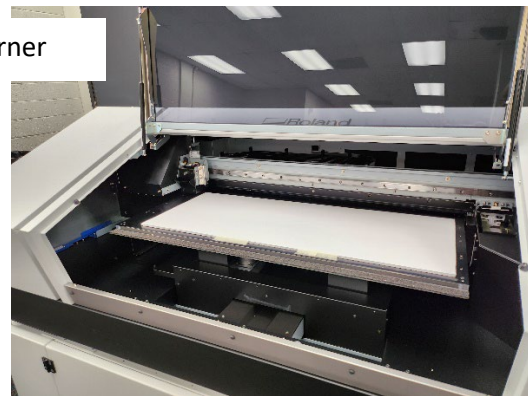
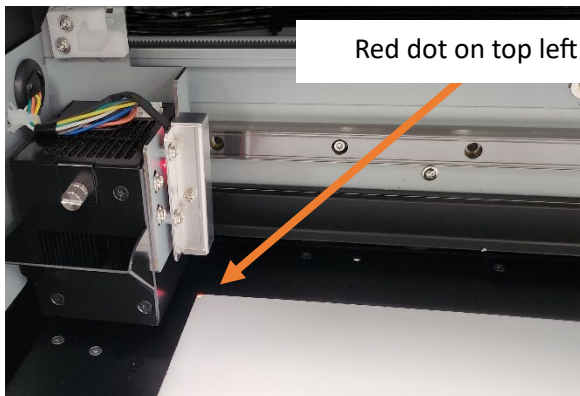
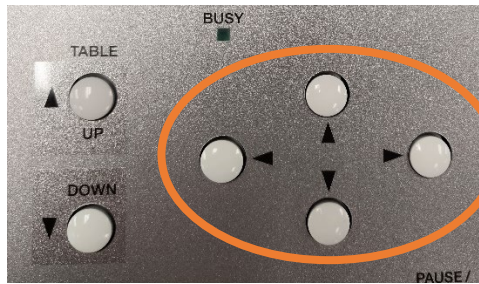
- d. Instead of manually setting the 1mm, the UV printer can set it for you to make sure it is the correct distance for proper focus on your media.
 - i. To use the autodetection for height, press the right arrow instead of moving the table.
 - ii. Press **Enter**. The printer will measure and set the table to the correct height.
 - iii. This option takes longer than manually moving the table.
 - iv. It will not set the size of the media.
 - v. Proceed to Step 5.
5. Set the bottom right corner
 - a. Press the **DOWN** arrow to begin the process.



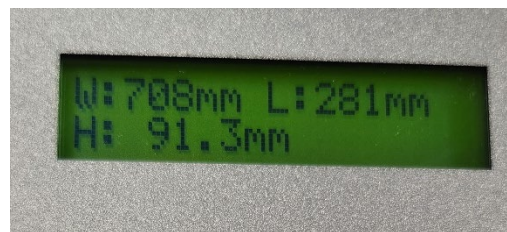
- b. Use the direction arrows to line up with the bottom right corner



- c. Press **Enter**.
6. Set top left corner
 - a. Press the **DOWN** arrow to begin the process.
 - b. Use the direction arrows to line up with the top left corner



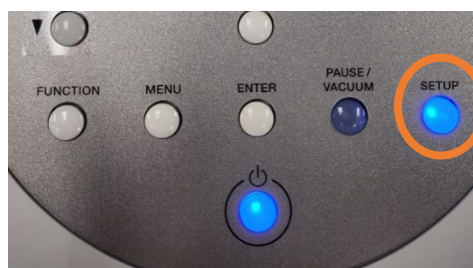
- c. Press **Enter**.
7. The Yellow light should come on and the screen should show width, length, and height.



8. The printer is ready to print.

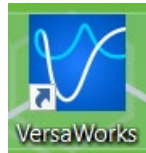
Reset the Media Setup

To change the media size for a new media, press and hold **Setup** until the machine processes. You may need to do this if you have more than one project or if someone used the machine before you.

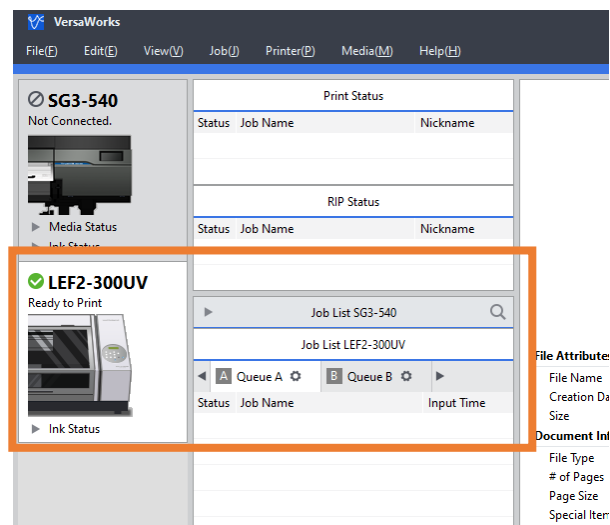


Upload Design

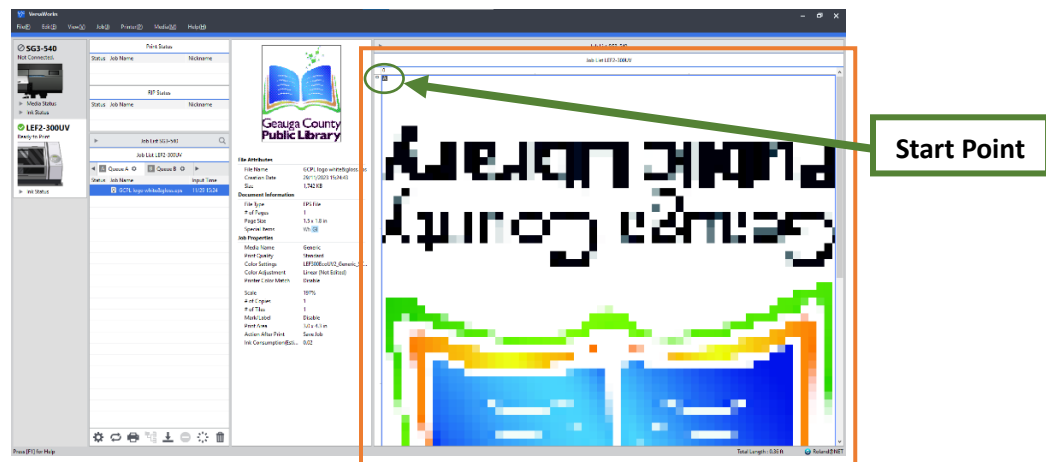
1. Open VersaWorks



2. Make sure the LEF2-300UV is the chosen printer

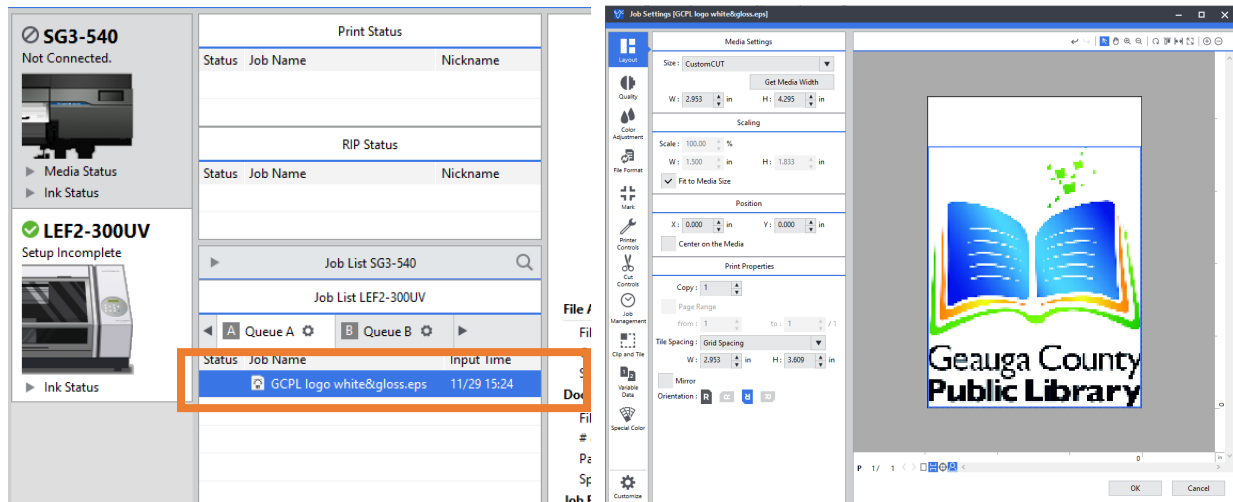


3. Click on the Job List LEF2-300UV
4. Add Job to Queue A
 - a. File → Add Job to Queue → Queue A
 - b. Find your file and click Open
5. Design should always be upside down as the printer will start at the bottom.

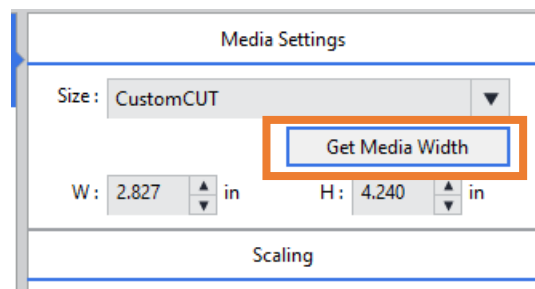


Printing

1. Double-click on the Job in the Job List to open Job Settings



2. Click Get Media Width.
 - a. This gets the size of the media from the printer.

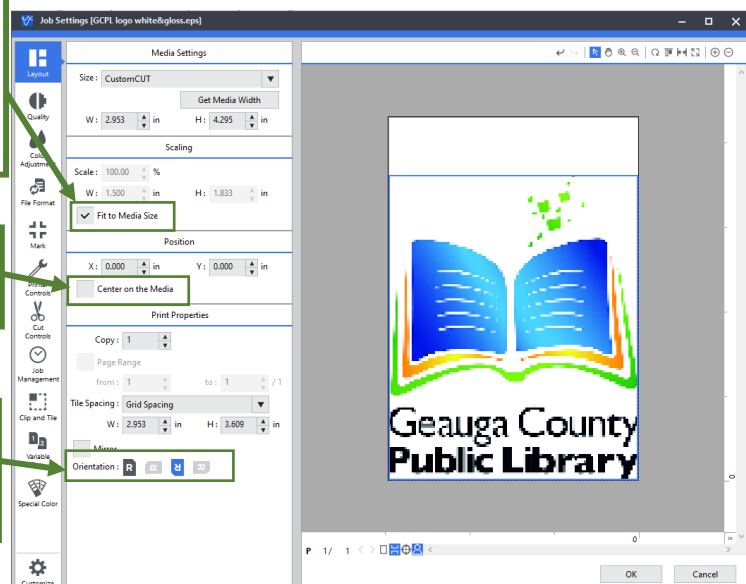


3. Edit the settings as desired

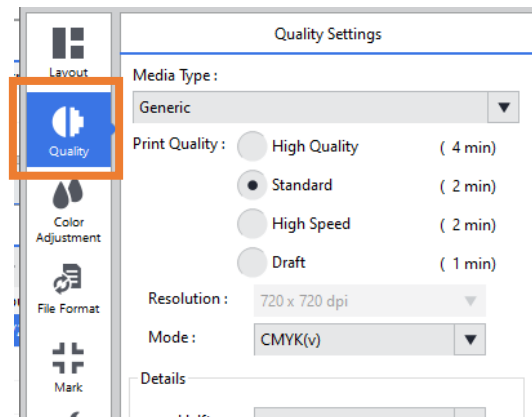
Fit to Media: Make the size of the design match the measurements you got from setting up the printer. Size may vary slightly from your estimate design size.

Center on the Media: Place your design in the center of the media.

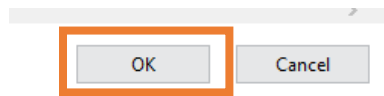
Orientation: Flip the design to make sure it matches the way you want it to print on the media.



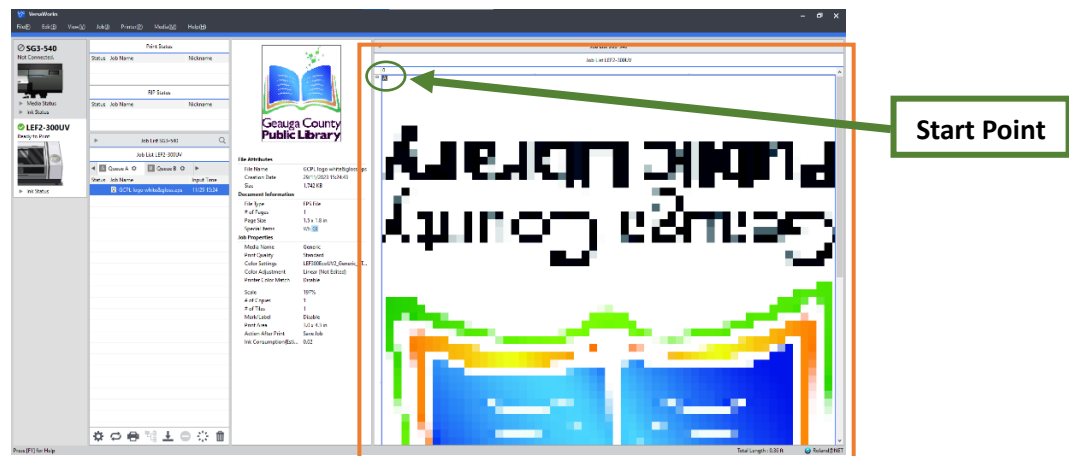
4. Click the tab for Quality Settings and choose the **Media Type**.



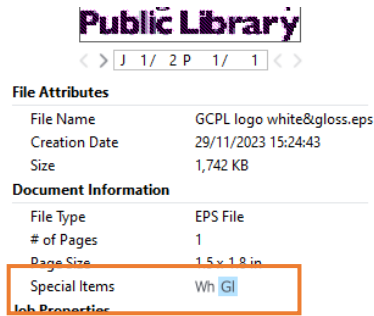
- a. Generic = CMYK color printing
 - i. White → CMYK = print the white layer first and then CMYK
 1. White layer must be included in design.
 2. Adding a white layer underneath makes your image opaque.
 - b. Special Effects = Glossy printing
 - i. Print multiple times to add texture.
 - ii. Glossy layer must be in your design.
 - iii. See **Create a Special Effect** to make sure the layer in the design exists for the printer to recognize.
 - iv. Print Glossy after printing CMYK colors as a separate print job.
 1. Do not move the media and use all the same Job Settings. Change the print from Generic to Special Effect and then choose Glossy.
5. Press **OK**.



6. Make sure the design in upside-down in the preview. The printer's start location is the bottom right corner.
- a. If right-side up, it will print the design upside-down.



- b. You can also check and make sure the glossy or white layers are recognized by the machine.
 - i. If these symbols are not shown, it will not be able to print a white or glossy layer and may skip them.
 - ii. Under **Document Information**, there should be an icon next to **Special Items**
 1. Wh = White layer
 2. Gl = Glossy layer



7. When ready, click **Print**



8. Choose the amount of copies.
 - a. If printing Generic CMYK, leave it as **1**.
 - b. If wanting to create a texture with gloss, increase to more than one copy.
 - i. You will need to press **Enter** between each glossy layer, so make sure to pay attention! You can pull the item out too early and the copies will not be finished.
9. Click **OK**.
10. The job will be sent to the printer and the printer will print.
11. If finished, remove print and press Enter
 - a. If continuing with a glossy finish, press Enter and do not remove the media.

Create a Special Effect

The UV printer can print in white underneath the CMYK layer to make it opaque instead of transparent. If printing on the back of a clear material like glass or clear acrylic, you can add over the CMYK layer to make it opaque. Glossy layers can be added to give a shine to the design or add texture.

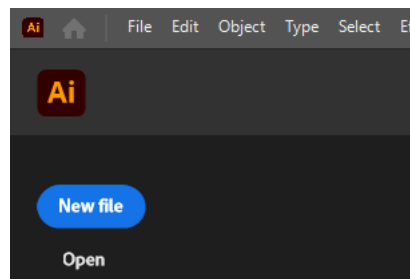
This can be done in advance at Bainbridge or Chardon Creativity Center.

Create White Layer

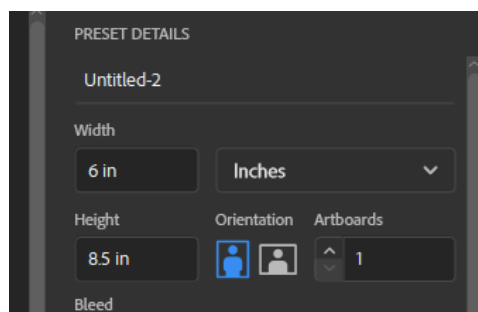
1. On the computer, open Adobe Illustrator.



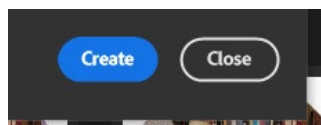
2. Click **New File**



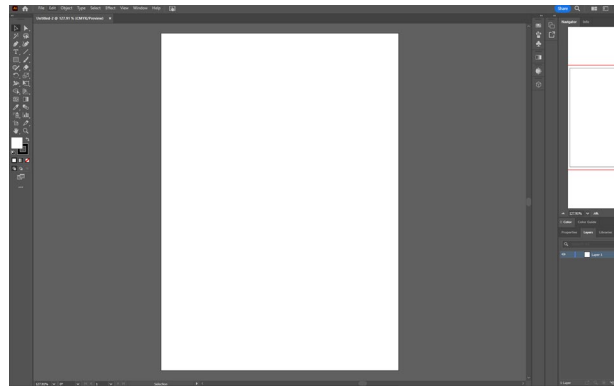
- a. Add the size of the media.



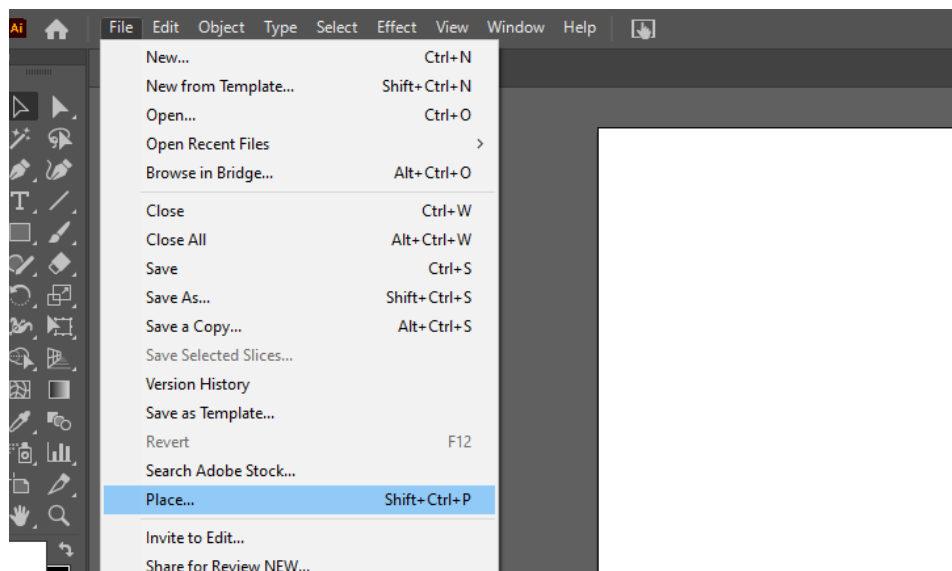
- b. Click **Create**



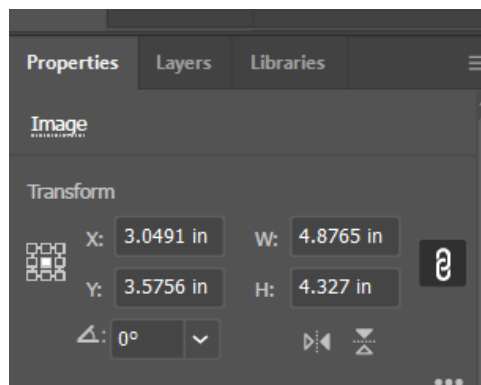
3. A new workspace opens.



4. Under **File**, click **Place** and access your file from your USB drive.

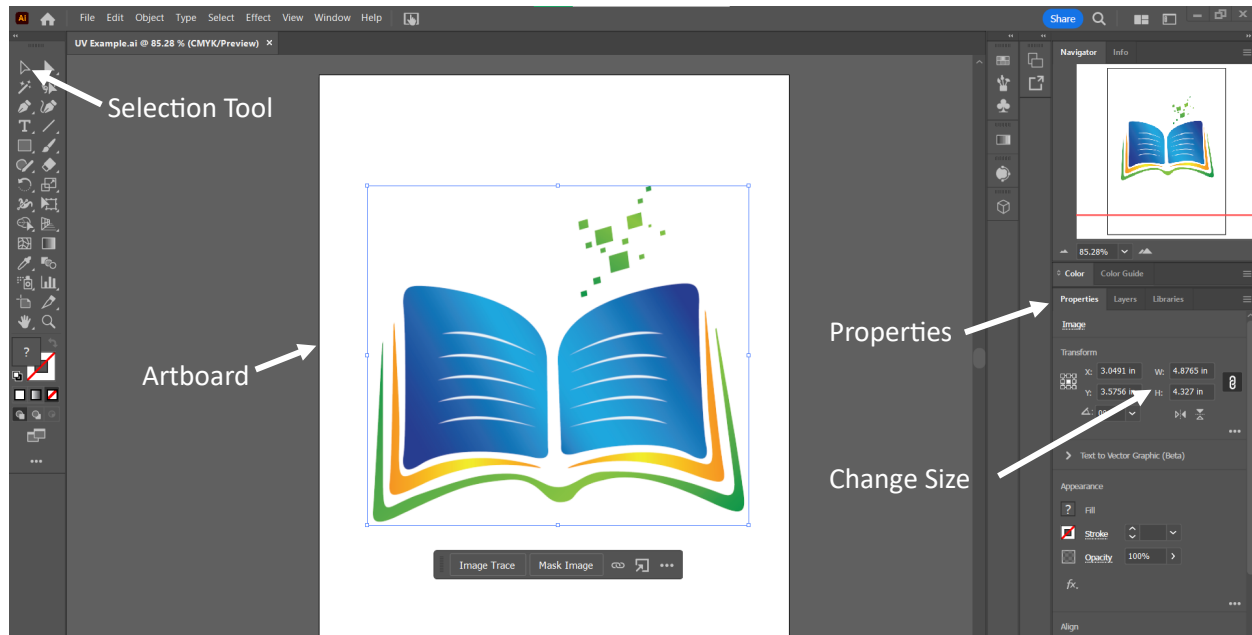


- a. It can be any image file type: JPG, JPEG, PNG, SVG, PDF, AI, etc.
 - b. Click **Open** again.
5. Click and drag the mouse to drop your image onto the artboard.
- a. You may need to reset or change the size of the object to how you want it.

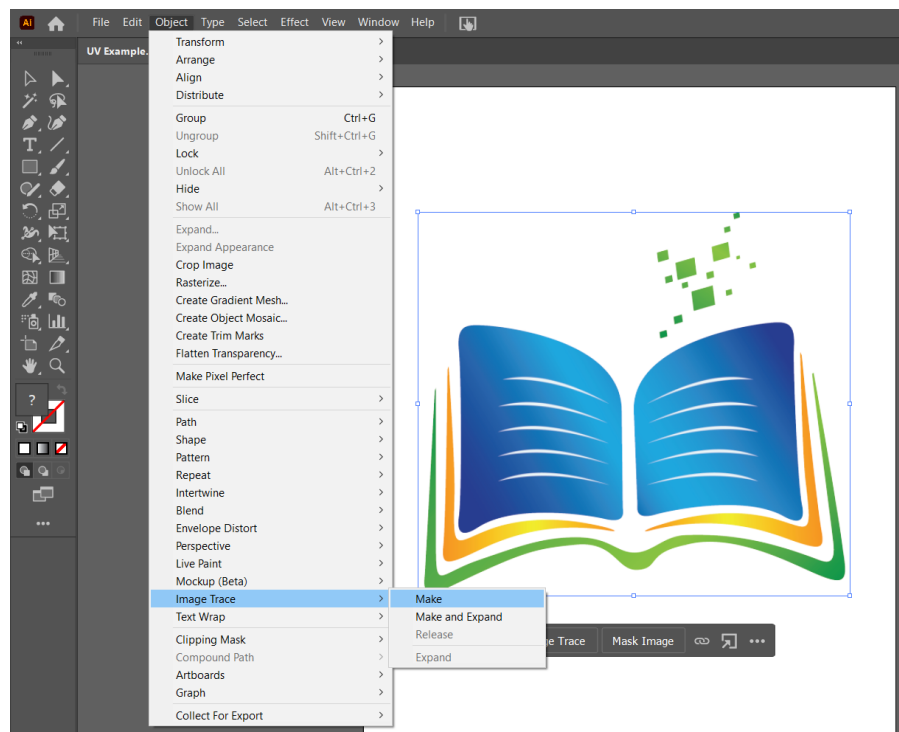


- i. Under Properties, you can edit the size and place (don't see Properties? Click Window and then Properties and it will be added)

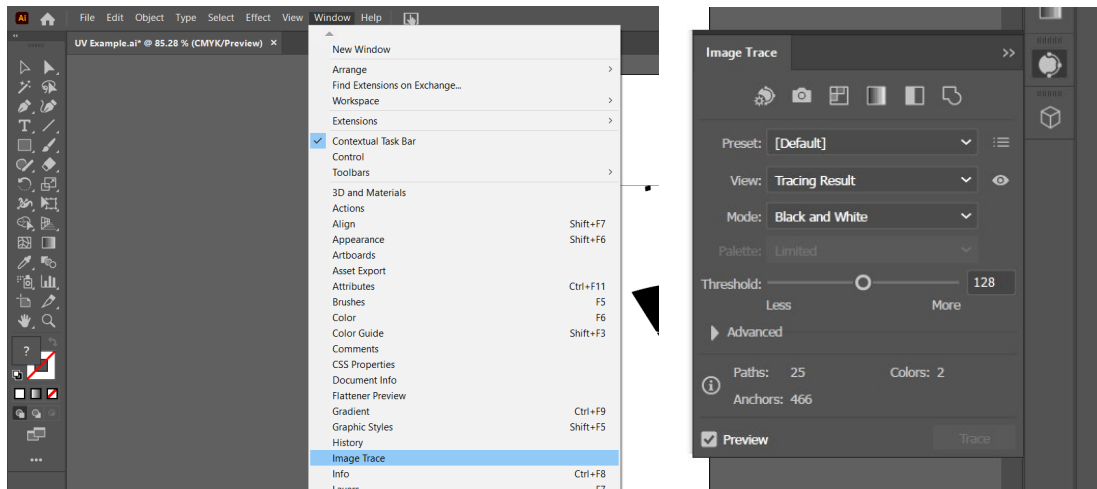
b. Make sure you are using the Selection Tool:



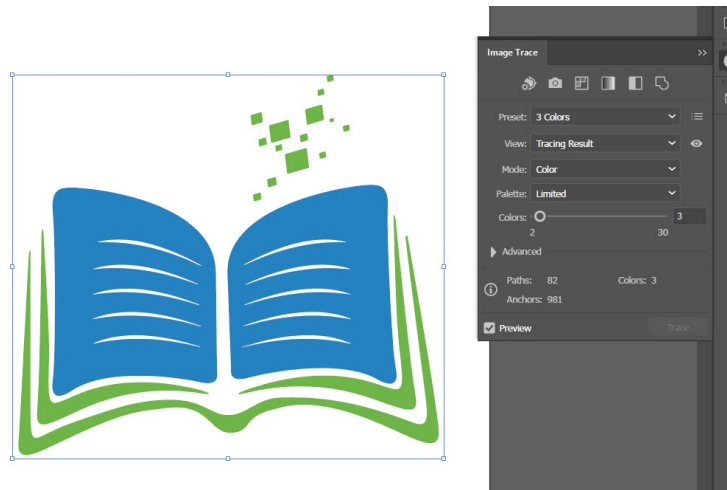
6. Once satisfied with the space, make sure it is chosen (there should be a blue square around it as shown above) then copy and paste the object to make a second layer.
 - a. Press SHIFT+CTRL+V to paste the second layer exactly over the first.
 - b. This second layer will become the white layer.
7. With the second layer chosen, click **Object** → **Image Trace** → **Make (or Create)**



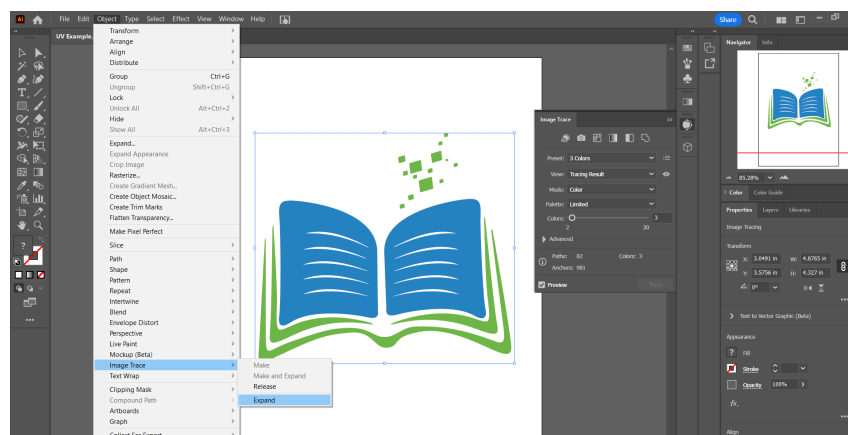
8. There is a window to help set the Image Trace. If it does not appear by clicking **Make** (or **Create**), you can choose it under **Window** → **Image Trace**.



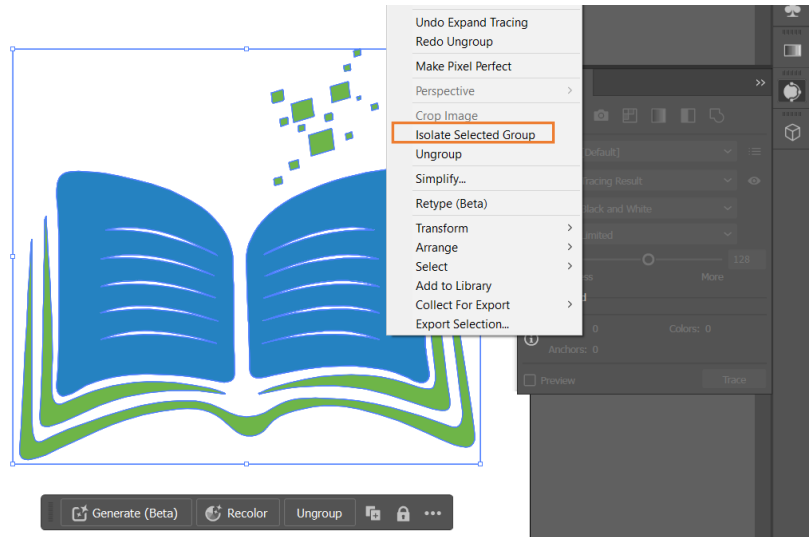
9. In the Image Trace window, change the preset until it looks as much like the original image.
a. In this example, changing the preset to 3 Colors is sufficient.



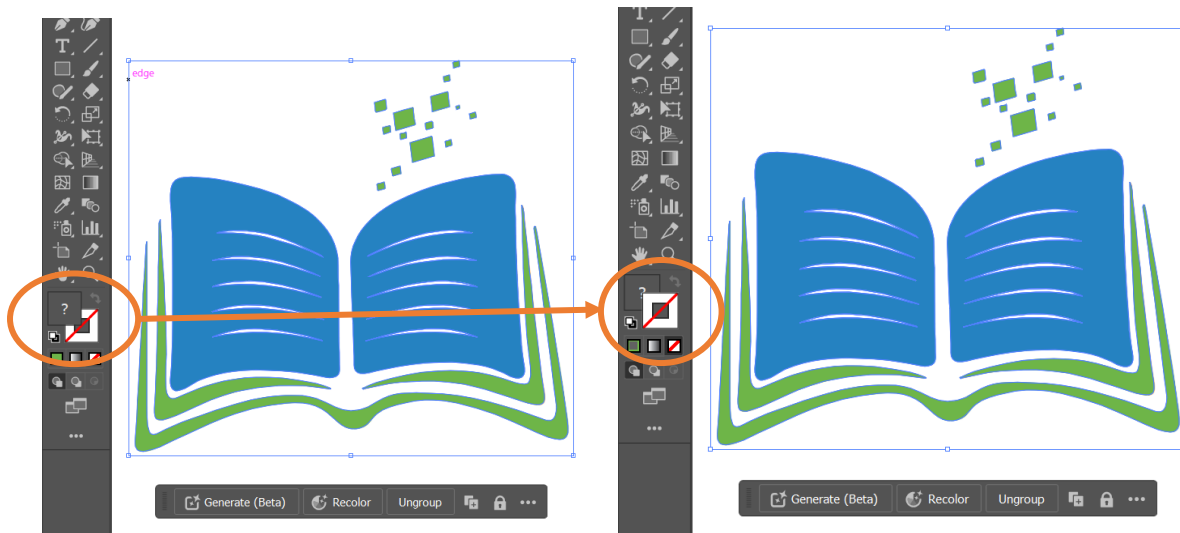
10. When satisfied, click **Object** → **Image Trace** → **Expand**.



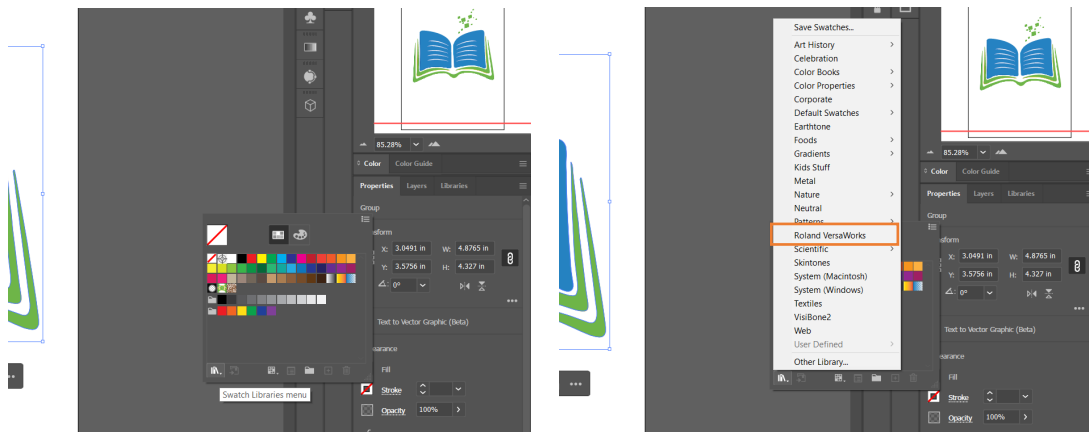
- a. This will turn the image into vectors that can be edited.
- 11. Right-click on the image and choose “Ungroup”
 - a. You can now remove any parts of the image you do not want.
 - i. In this example, there is a white background that will get in the way of final results. It needs to be deleted.



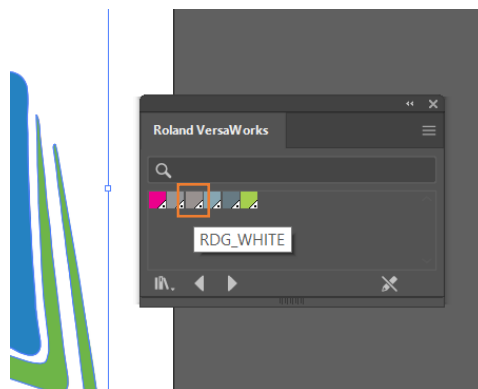
- 12. Click and drag to choose all parts left of the design. You can re-group the parts if you want.
- 13. Click the Border Square on the left side to bring it to the front.



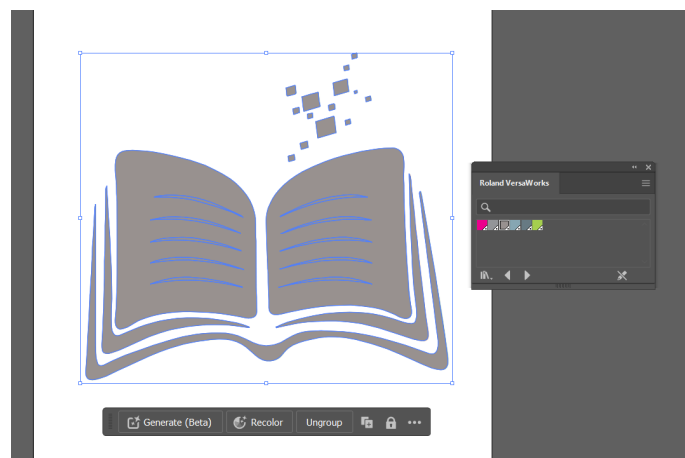
- 14. On the right side under Properties, click on the matching Border Square. Then click the icon that looks like library books to view the Swatch Library.
 - a. Choose **Roland VersaWorks**



15. A new window appears. Click on the gray square named **RDG_WHITE**.



16. Your design should turn gray. If any part is not what you want, Ungroup again and remove those parts.



17. Your white layer is ready! You can leave it on top or change the order in the window called **Layers**.

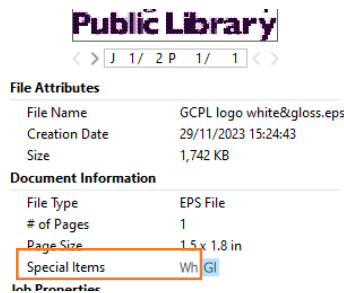
- a. Layer order does not matter as long as the correct color from the Roland VersaWorks swatch was used. The printer will recognize the different layers.

18. Save your file as an EPS or PDF file.

- a. Click **File → Save As**

19. Check and make sure the white layer is recognized.

- a. When you add the file to Queue A, you should see under Special Items, there should be a Wh to signify the white layer.



20. Depending on your design, you can put a white layer on top or underneath the CMYK layer

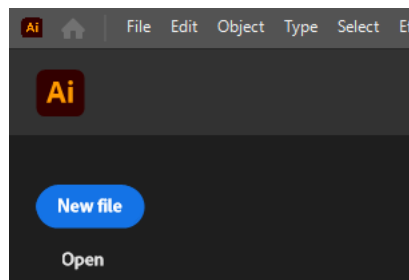
- a. If you are printing on the back side of clear acrylic or glass, putting a white layer on top will make the design opaque and the glass will become a cover so the paint cannot be scraped off.

Create Glossy Layer

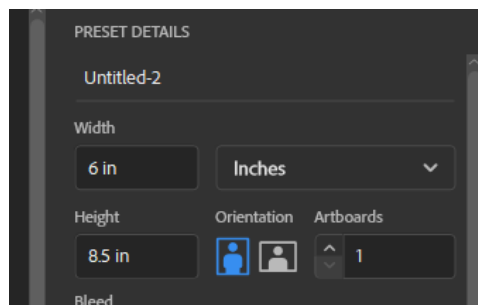
1. On the computer, open Adobe Illustrator.



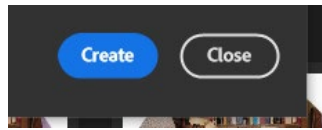
2. Click **New File**



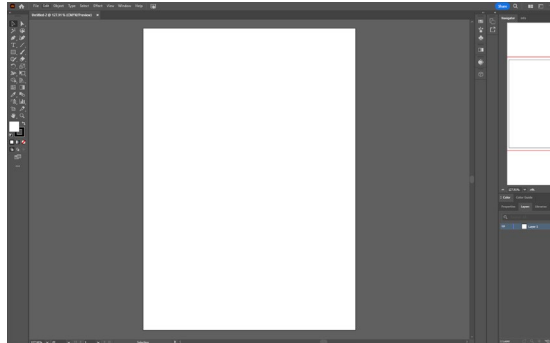
- a. Add the size of the media.



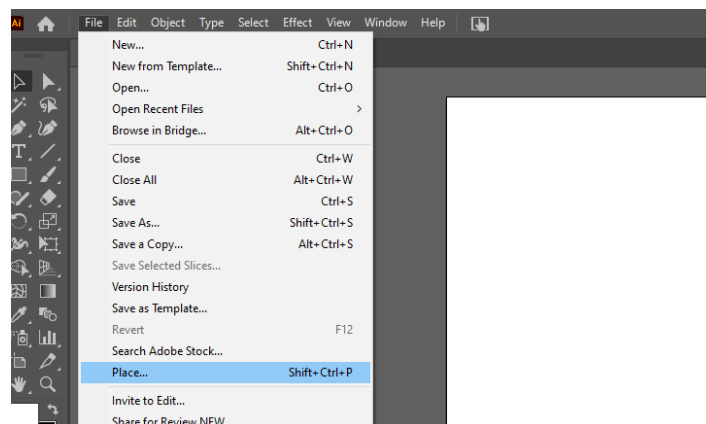
- b. Click **Create**



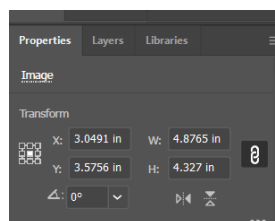
3. A new workspace opens.



4. Under **File**, click **Place** and access your file from your USB drive.

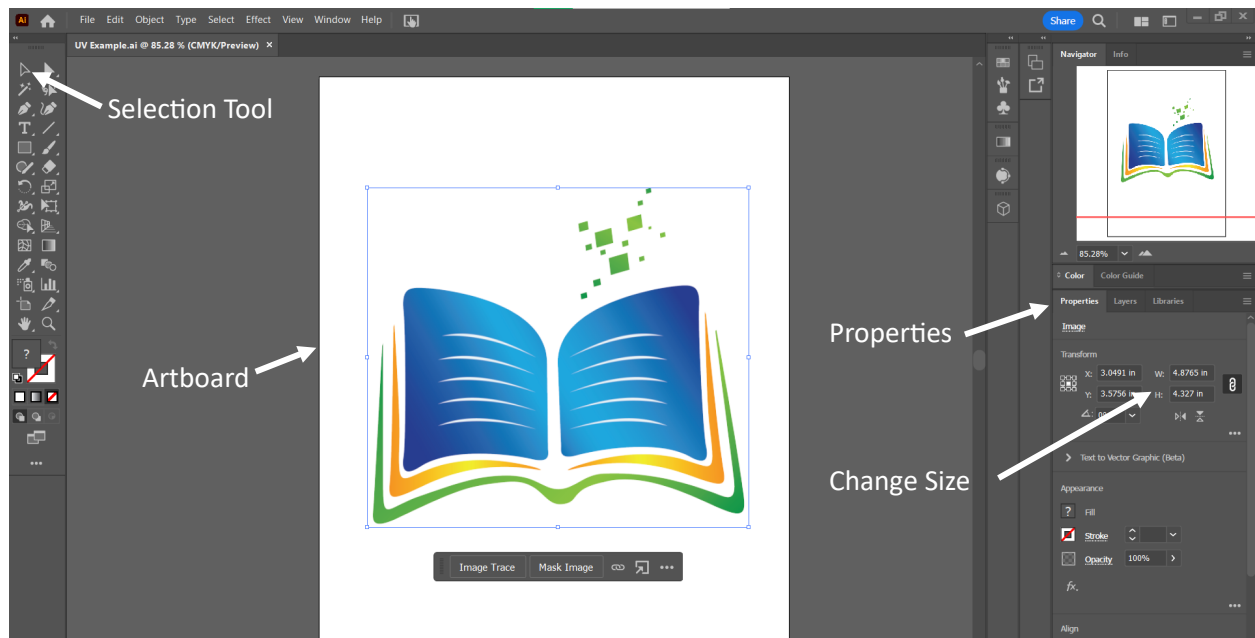


- a. It can be any image file type: JPG, JPEG, PNG, SVG, PDF, AI, etc.
b. Click **Open** again.
5. Click and drag the mouse to drop your image onto the artboard.
- a. You may need to reset or change the size of the object to how you want it.

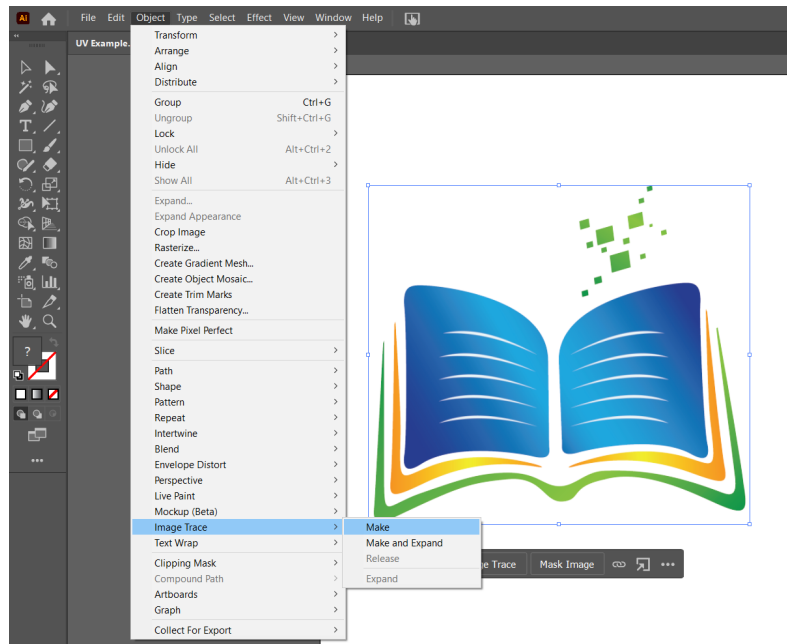


- i. Under Properties, you can edit the size and place (don't see Properties? Click Window and then Properties and it will be added)
- b. Make sure you are using the Selection Tool:

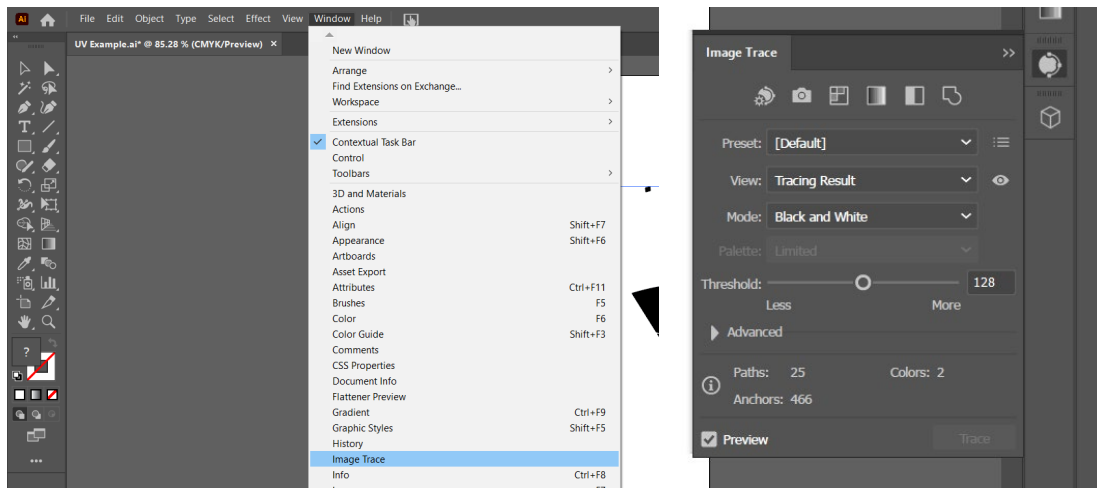




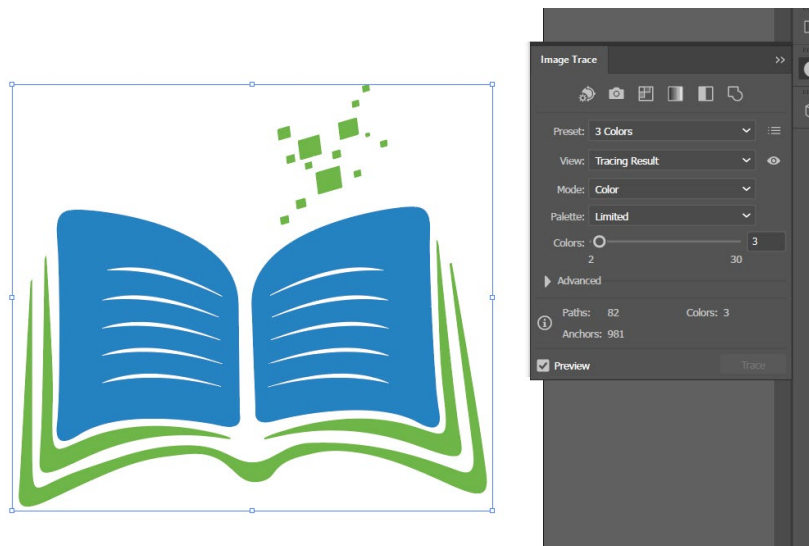
6. Once satisfied with the space, make sure it is chosen (there should be a blue square around it as shown above) then copy and paste the object to make a second layer.
 - a. Press **SHIFT+CTRL+V** to paste the second layer exactly over the first.
 - b. This second layer will become the white layer.
7. With the second layer chosen, click **Object → Image Trace → Make**



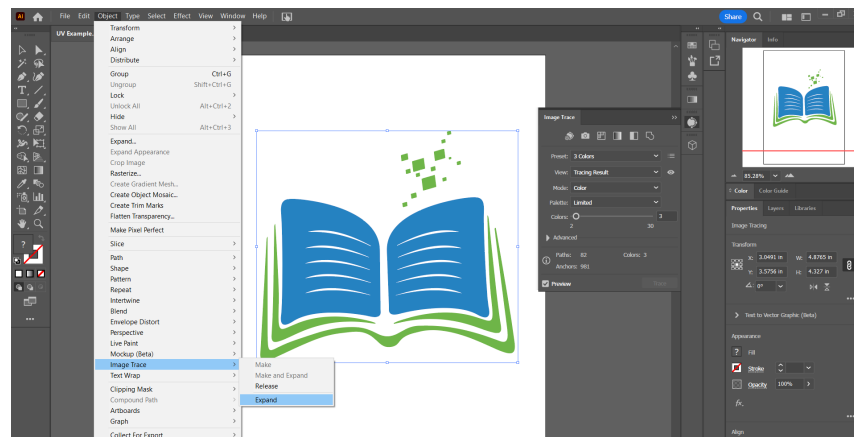
8. There is a window to help set the Image Trace. If it does not appear by clicking **Make**, you can choose it under **Window → Image Trace**.



9. In the Image Trace window, change the preset until it looks as much like the original image.
 a. In this example, changing the preset to 3 Colors is sufficient.

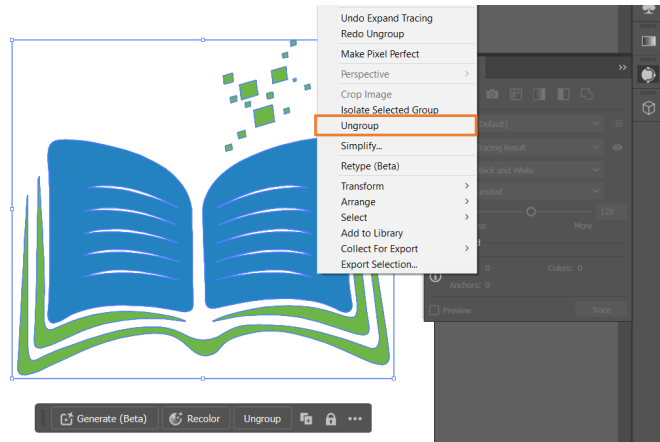


10. When satisfied, click **Object** → **Image Trace** → **Expand**.

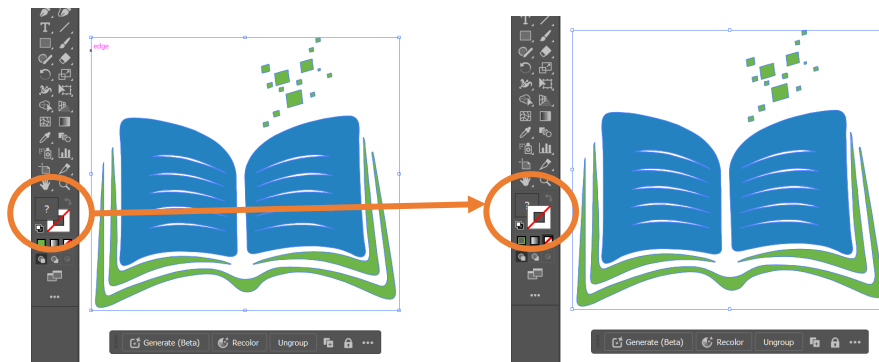


- a. This will turn the image into vectors that can be edited.

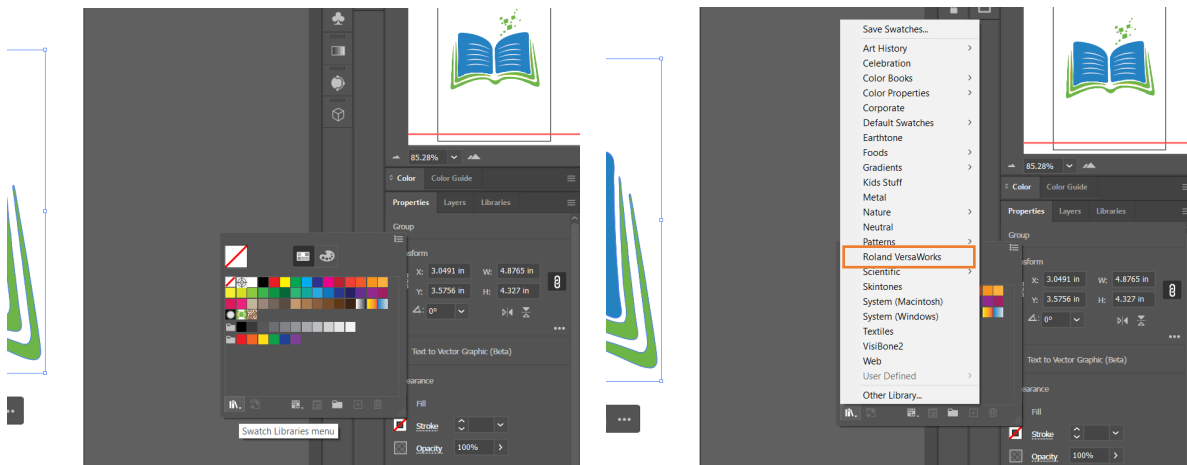
11. Right-click on the image and choose “Ungroup”
 - a. You can now remove any parts of the image you do not want.
 - i. In this example, there is a white background that will get in the way of final results. It needs to be deleted.



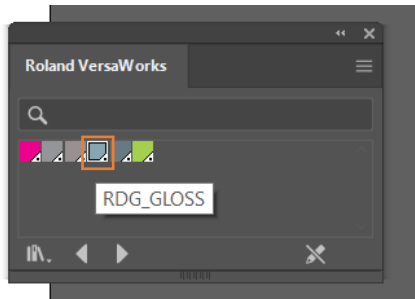
12. Click and drag to choose all parts left of the design. You can re-group the parts if you want.
13. Click the Border Square on the left side to bring it to the front.



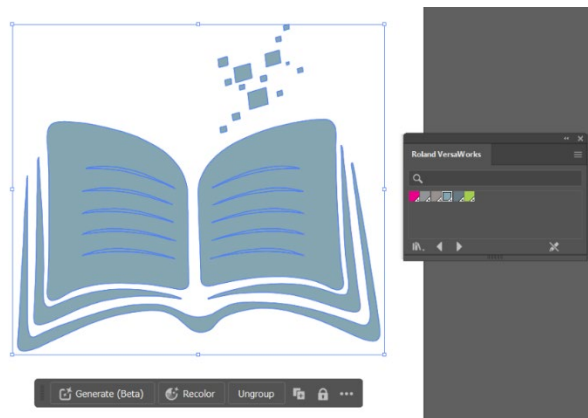
14. On the right side under Properties, click on the matching Border Square. Then click the icon that looks like library books to view the Swatch Library.
 - a. Choose **Roland VersaWorks**



15. A new window appears. Click on the slate blue square named **RDG_GLOSS**.



16. Your design should turn gray. If any part is not what you want, Ungroup again and remove those parts.



17. Your white layer is ready! You can leave it on top or change the order in the window called **Layers**.

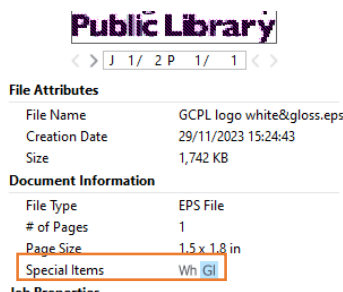
- a. Layer order does not matter as long as the correct color from the Roland VersaWorks swatch was used. The printer will recognize the different layers.

18. Save your file as an EPS or PDF file.

- a. Click **File → Save As**

19. Check and make sure the white layer is recognized.

- a. When you add the file to Queue A, you should see under Special Items, there should be a GI to signify the glossy layer.



20. Glossy layers do not need to match a design. You can do them on top in a different design to add texture. The CMYK layer will still be visible beneath it.