

Cutting Out A Metal Sign

- 1) Obtain a silhouette image. Use an editing program like Photoshop or Illustrator to edit your silhouette to your liking.

-In this image we are going to cut out anything that is white thus leaving the black as the metal for our sign.

-Get rid of anything that is of fine detail as the plasma cutter will not cut these out accurately. It's tough to see it on a screen but anything less than ¼" (6mm) may need to be cleaned up.



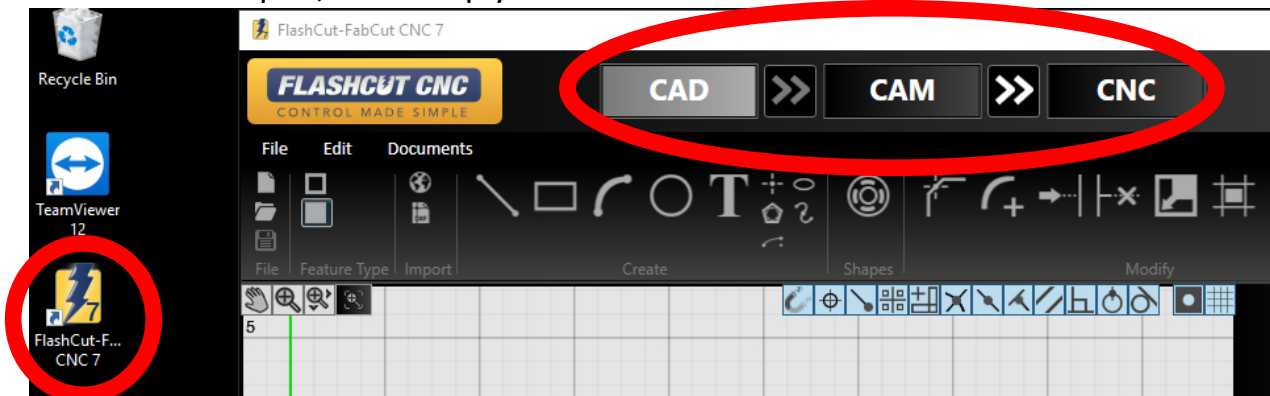
Show your teacher!

-IMPORTANT!! – Make note of any internal structures that will be cut out like the “D” in this image. It will need a **BRIDGE** to link it to the rest of the sign. Otherwise, when the outside of the “D” is cut, the inside will fall out. We will do this **BRIDGE** later on.

- 2) Export or save the image as a **.jpeg**
- 3) Save the image to a flash drive so it can be transferred to the plasma cutter PC.

NOW ONTO THE PLASMA CUTTER PC...

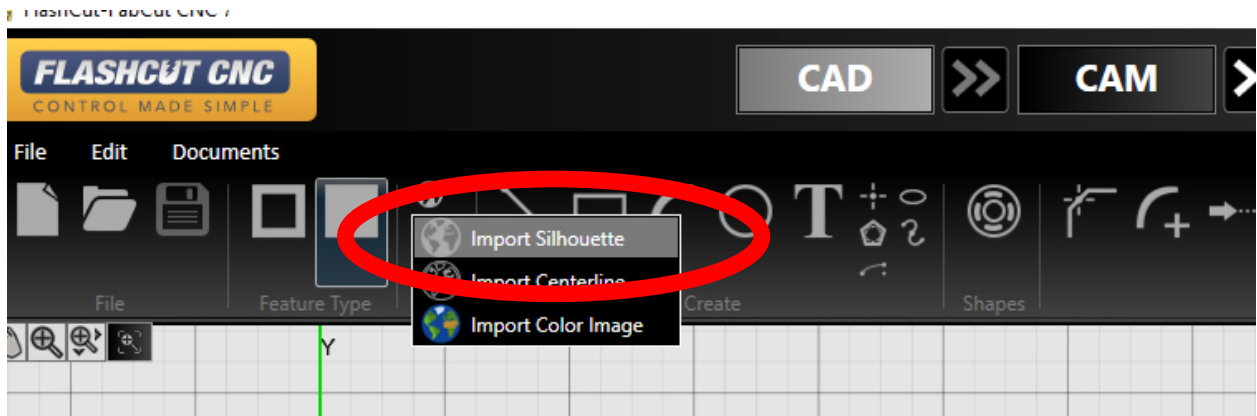
1. Open up the application “FLASHCUT-FabCut CNC 7”
2. Once open, at the top you will see a toolbar that looks like...



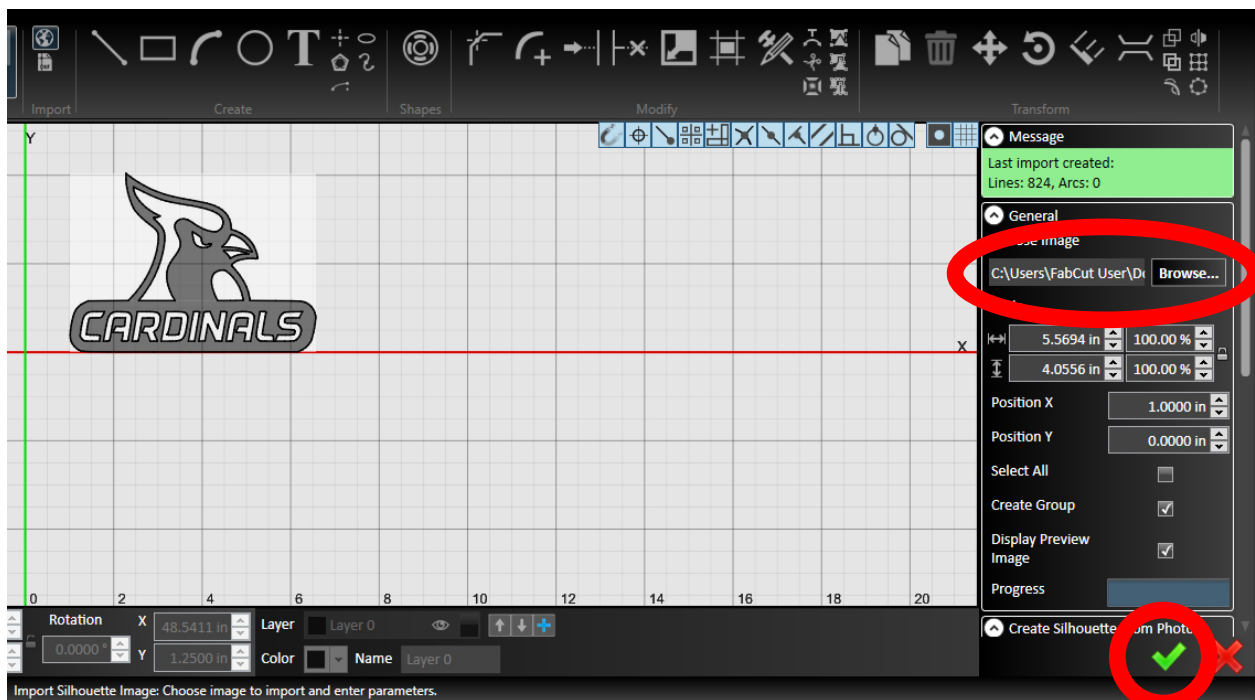
3. The “CAD” is used to alter and/or design your project.
4. The “CAM” is used to apply / plan the cutting path the machine will make along with settings about the cut.
5. The “CNC” is used to link up to the plasma cutter and cut/control the plasma cutting operation.

IMPORTING YOUR SILHOUETTE into CAD

6. Find the “world/earth” menu item and “import Silhouette”



7. On the right hand side use the “browse” tab to find your .jpeg image you want to cut out.
8. Click on the green checkmark on the bottom right side of the screen.



9. This places the image and also defines a path along the black edges of your silhouette. By moving your mouse on top of the edges they will flash green which shows where the paths are.

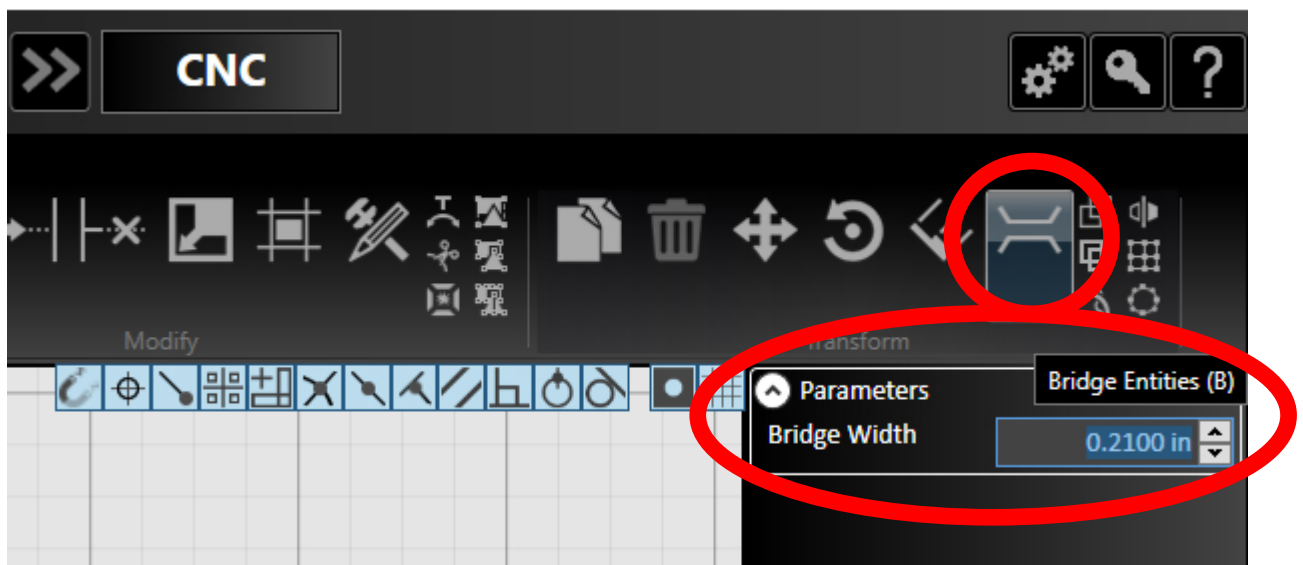


EDITING YOUR IMAGE

1. There are several tools you can use to edit your silhouette however we will just use a few key ones for your first project.

BRIDGE

2. We are going to fix that "D" now by choosing "**Bridge Entities**" in the top right corner. Choose a width (around 0.20"...this will vary depending on sign size)

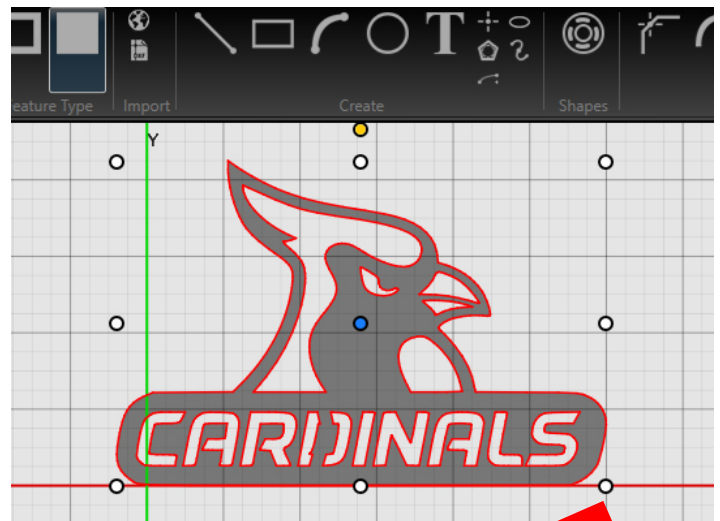
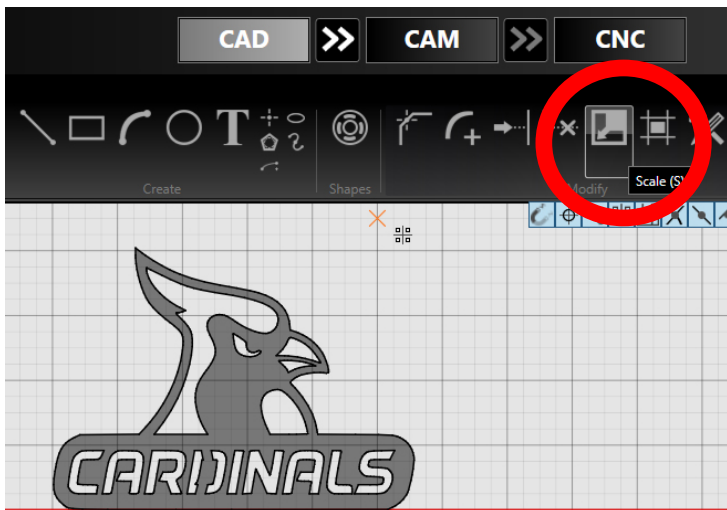


3. Click, drag, click where you want the bridge to go. Press the green check mark to confirm the change.

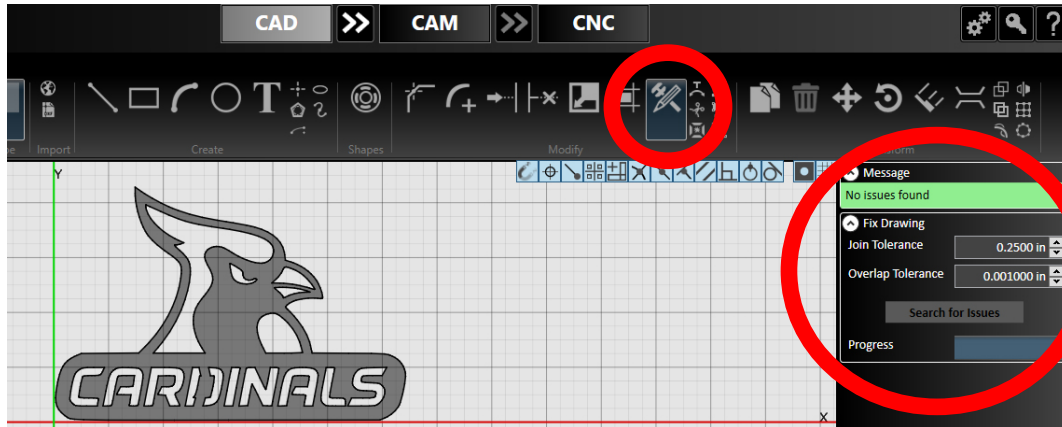


SCALE

4. Check the size of your image and alter it with the scale button or click and drag one of the corner toggles around your image while holding shift to scale it proportionately.

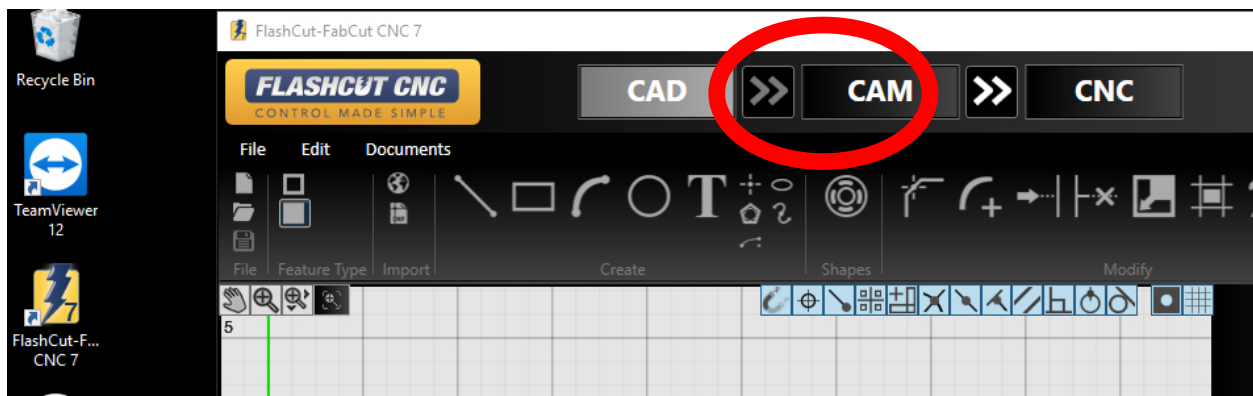


5. Click the “fix drawing” tab and search for issues. This looks for problems like lines crossing and/or lines not meeting up all the way. If there are issues, it will circle them in green(ones fixed) or red (not fixed). Make any necessary adjustments.



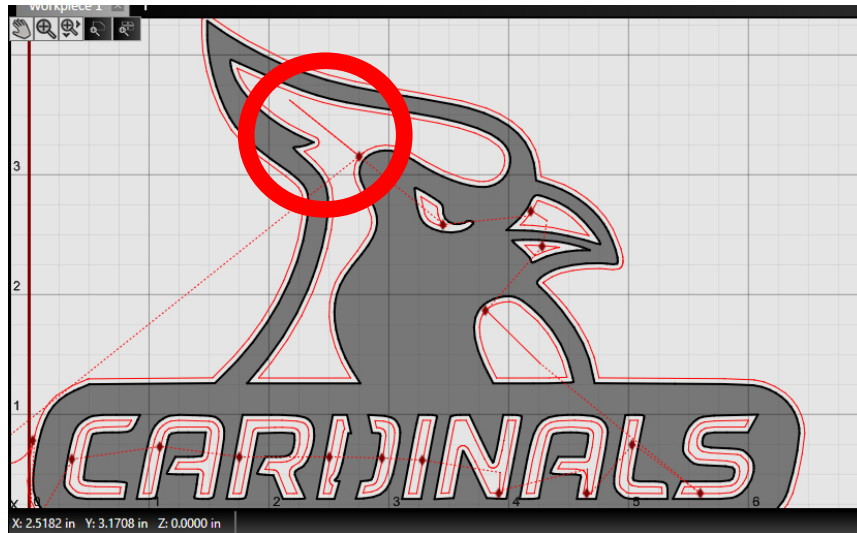
IMPORTANT

6. Closely inspect your silhouette one last time before moving on by following every line. Look at each line, letter, piece, etc., to be sure there are no errors.
7. CLICK THE DOUBLE ARROW ON TOP TO MOVE THE IMAGE INTO CAM.



IN CAM MODE

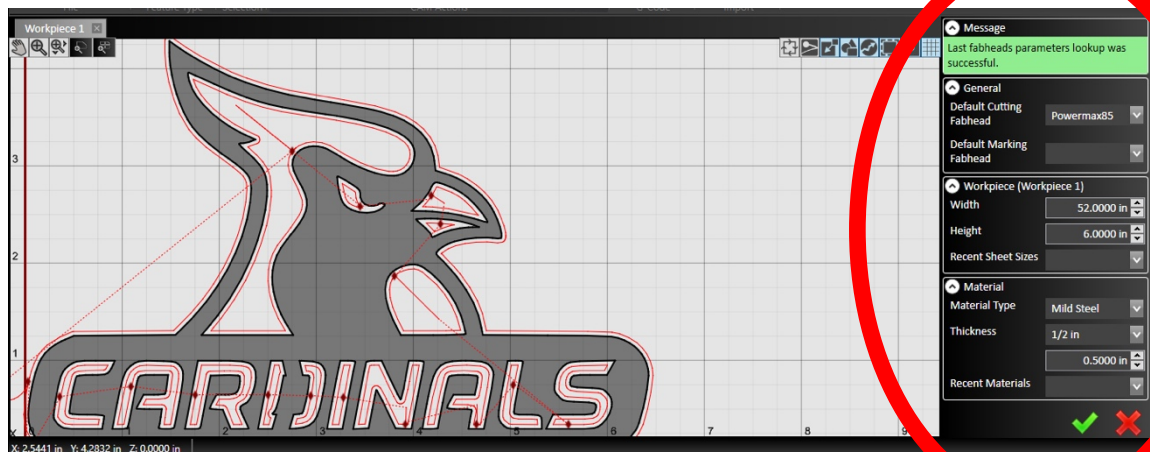
1. Once in CAM, the computer has now drawn a path in red around each part beginning with start points. We can edit these start points if we feel they are not in a good spot. Just click and drag them around the edge if they need moving by clicking at the base of the starting line.



SETTINGS

2. Click on the setting tab to bring out a few setting options. Change the following:
 - a. WORKPIECE
 - i. Change width
 - ii. Change height
 - b. MATERIAL
 - i. Mild steel (leave it at this)
 - ii. Change to your metal thickness

CLICK THE GREEN ARROW to apply settings



SAVE YOUR FILE TO A FLASH DRIVE TO BRING TO THE PLASMA CUTTING PC.

IN CNC MODE

CLICK THE DOUBLE ARROW ON TOP TO MOVE THE IMAGE INTO CNC

DO THE FOLLOWING EVERY TIME!!

SETUP checklist before cutting.

1. Click CONNECT and agree to warnings.
2. Jog plasma tip to start position on table
3. "ZERO ALL" in Program
4. "ZERO ALL" in Machine
5. CLICK TO DO A "DRY RUN"
6. Press "PLAY" to do the dry run
7. TURN ON PLASMA CUTTING MACHINE and set amperage
8. RESET "G-CODE" (arrow around in circle)
9. Get safety gear on
10. **FINAL: PRESS PLAY to cut out shape**

