GCC Jaguar Cuttingplotter

User Guide & Maintenance Manual

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Preface

This tutorial aims at giving you the basic insights and knowledge to safely work with the GCC Jaguar IV 132 cuttingplotter.

Symbols

Ask the lab-manager to supervise your progress

Be attentive, possible dangerous situation

Complete a task

01 Preparing a design Drawing guidlines

Using Illustrator to check the designs before opening them in CutPro

Adjusting the design

In your CAD application (Illustrator, Inkscape, Autocad, Vectorworks,...) you will differentiate between cutting, engraving, inner and contour lines. This will be done by assigning a distinct colour to parts of your design. Each colour will then correspond in LaserWork with a specific setting and order. Your document must be set up in RGB colour-mode!

Colorcode Jaguar IV 132

- Drawing (pen): **black** RGB 0,0,0 (#000000)
- Line engraving (foldinglines): **red** RGB 0,255,0 (#FF0000)
- Cutting lines in order:
- **Blue** #0000FF
- **Petrol** #336699
- **Cyan** #00FFFF
- **Green** #00FF00
- **Magenta** #FF00FF
- **Yellow** #FFFF00

Working-area

The maximum width of the working-area is 1320mm, normally the lenght doesn't matter. (**ATTENTION!** Always check the dimensions of the material present in the lab, these dimensions are not the same as the working-area). When drawing your design, take in account that you have to stay **40mm** from the back-edge of your material.

Groups and layers

Make sure that there are no groups in your file, so ungroup them. And work in one layer (also when you use different colors).

Scale

Make sure your document setup is in **millimetres**, this prevents scaling issues when exporting to other programs.

Lineweight

The lineweight of all lines should be **0,000001mm** in Illustrator!!! If the lines are thicker, CutPro will not recognize the lines as lines, but as shapes.

Double lines

Always check your drawings for double lines! Every line drawn will be cut. Repeating the same line is not efficient and increases the chances of faillure.

Text

Always convert text to **outlines**. Always ungroup them.

Saving

Save your file as an **Illustrator-file**.
When saving, make sure you know in what unit and scale your document is saved. It is wise to have a reference shape in your design in order to spot possible scaling issues. Scaling between applications is always your responsibility.

Saving your file in different CAD programs:

Adobe Illustrator We always use Adobe Illustrator to check your designs. Afterwards, we import the file in FlexiSign.

Autocad Export your drawings to pdf and open them in Illustrator.

Vectorworks Be aware that the educational version of Vectorworks locks a PDF with a password when exporting. You can find PDF unlock applications online to address this issue.

02 Checking a design in Illustrator

Making a design cut-ready

Open Document

Open your file in Illustrator before opening it in FlexiSign.

Checklist

- Is the artboard the right size? (**size of the materials in the lab,** stay 40mm from the border)?
- Is the document set in RGB colour mode?
- Are all lines in the correct colour?
  - Drawing (pen): **black** RGB 0,0,0 (#000000)
  - Line engraving (foldinglines): **red** RGB 255,0,0 (#FF0000)
  - Cut lines (inside): **blue** RGB 0,0,255 (#0000FF)
  - Cut lines (outside): **cyan** RGB 0,255,255 (#00FFFF)
  - Cut lines (horizontal*): **green** RGB 0,255,0 (#00FF00)

    *because your material moves through the machine vertically, it is safer to cut the horizontal lines last. This ensures that your design stays in it's place and prevents obstructions from occuring.
- Is the stroke width correct (0,000001mm)?
- Are there any double lines?
- Did you put all the text pieces in outlines?
- Is everything ungrouped?

Speed course Illustrator

The following pages provide you with a quick course needed to accomplish the above tasks.

Document Colour-mode

Adjusting the colour-code is done via:
File > Document color-mode > RGB Color

Check Art-board

Activate the art-board tool.
Make sure the art-board measures maximum 1320 x 2640mm.
Select the selection tool to leave the art-board tool.

Adjust colours

Select the selection tool.
Select a text object (black).
Make the fill-colour active by clicking it once.
Go to *Select-> Same -> Fill-colour* to select all black elements.
Double-click the fill colour and make sure it is black (#000000)

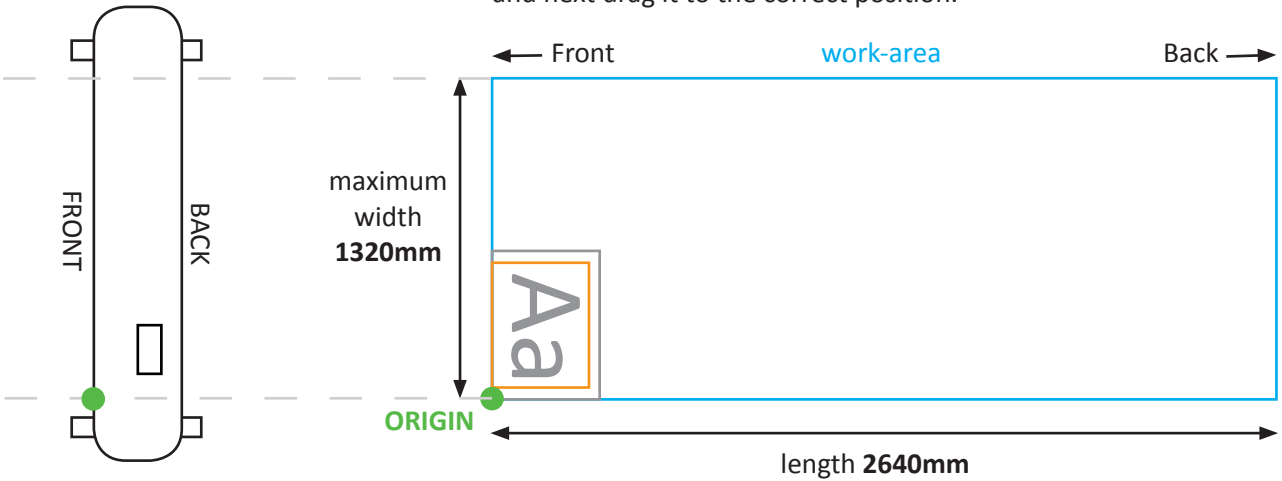
Do the same for the other colours. Red should become RGB-red, green RGB-green etc. Take note that you will adjust stroke colours here instead of fill colours.

Adjust stroke width

Adjust in the upper menu the stroke width accordingly (0,000001mm).

Position artwork

The origin of the Jaguar is on the **bottom left.** Move your design to the lower-left corner taking the advised **40mm margin** into account. You can drag a frame around the artwork with the selection tool and next drag it to the correct position.



Call the supervisor

Ask the lab-manager to evaluate your progress.

03 Preparing the material

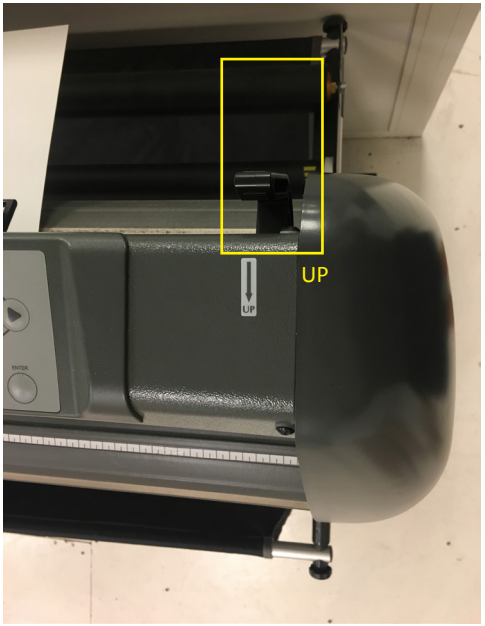
Securing the material on the transferfoil.

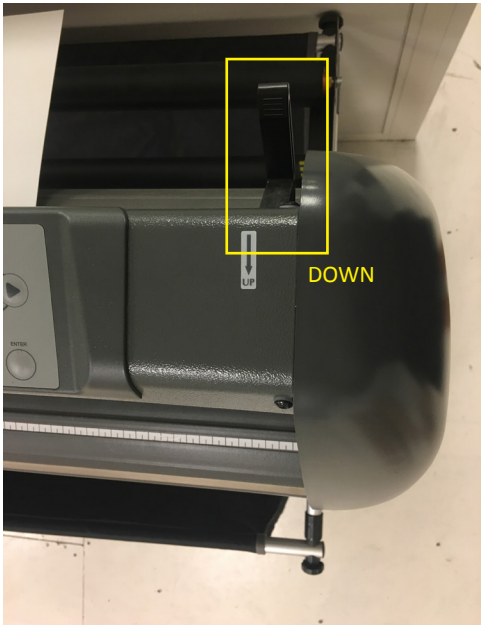
We always place the material on a trasferfoil. This ensures for good grip for the rollers whilst executing the job.
You spray a layer of glue on the back of your material (shake before usage, spray-distance of about 10 cm) and press it down firmly on the transferfoil.

TIP: cover the edges of your material with some tape.

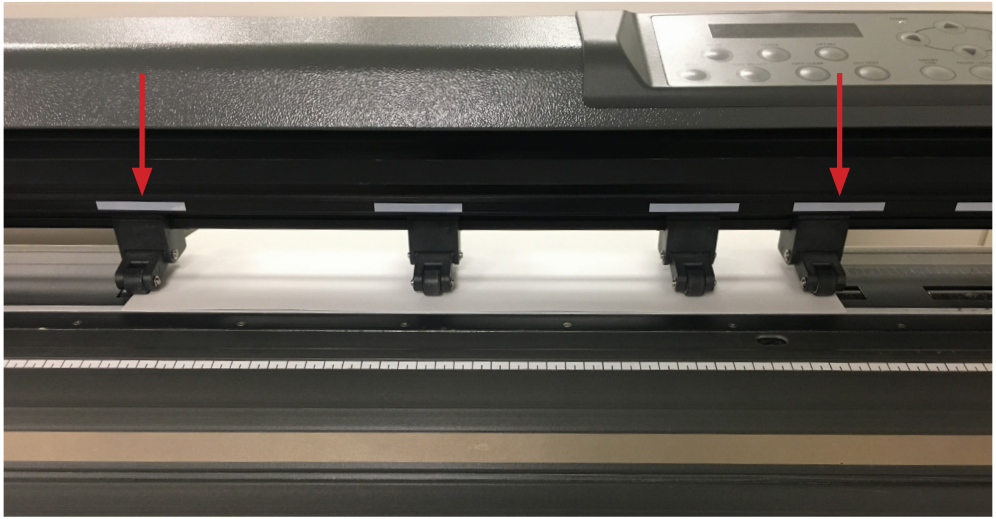
04 GCC Jaguar Machine settings

Placing the rollers and the material



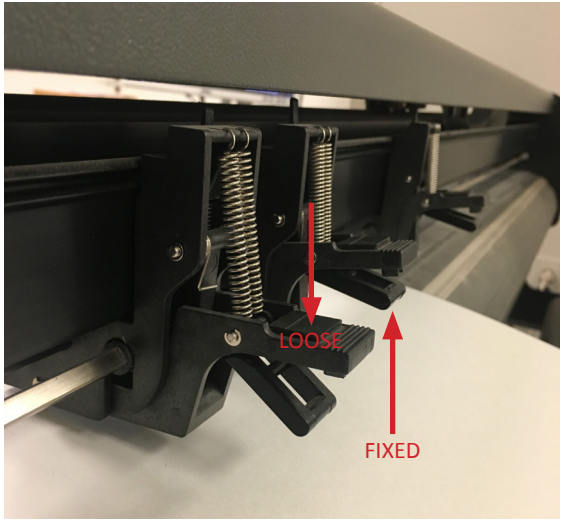


At the right side of the machine you find a lever. Putting it in the upright position will levetate the rollers which makes it possible to place the transferfoil with your material. After you placed your material you lower this lever, clamping your material between the rollers.

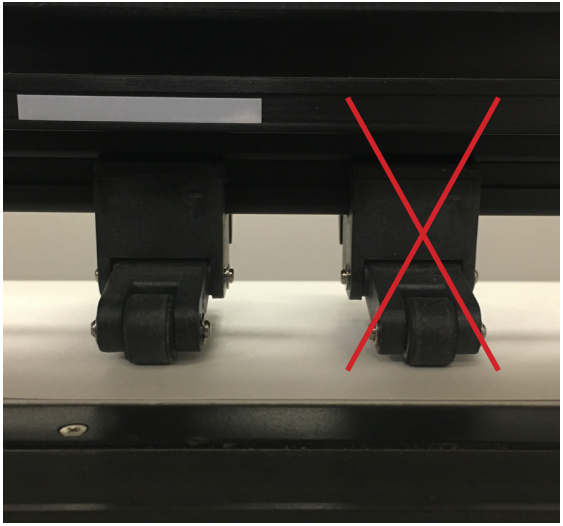


There are four rollers which you place on your material. You have to place the two outer rollers respectively on the right and left side border of your material. You devide the two remaining rollers over the middle of your material.
The machine measures in between the insides of the two outer rollers. It is crucial that they are placed correctly.

Place the bottom border of your material at the front of the white line.

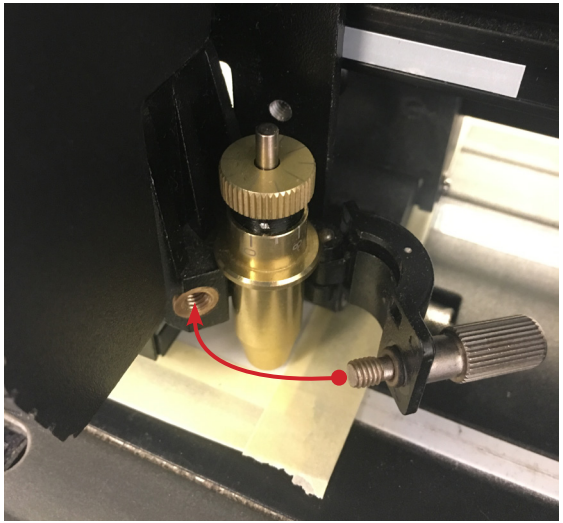


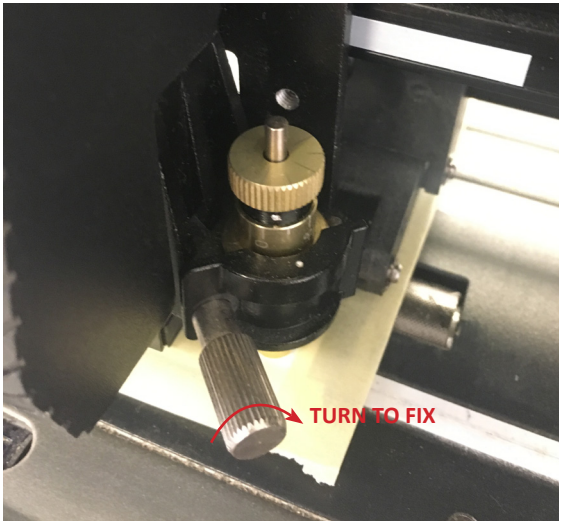
You can move the rollers by pushing down the clamps on the back of the machine and moving them to the left of right. Pulling them back up fixes the position of the rollers.



PAY ATTENTION! You can't just place the rollers anywhere you want. They always have to be within a white zone. If they are within these white zones, they will correspond with the rollers under your material and ensure an optimal grip and rolling-movement.
Not placing these rollers in the right position increases the chances of faillure drastically.

Placing the knife or pen

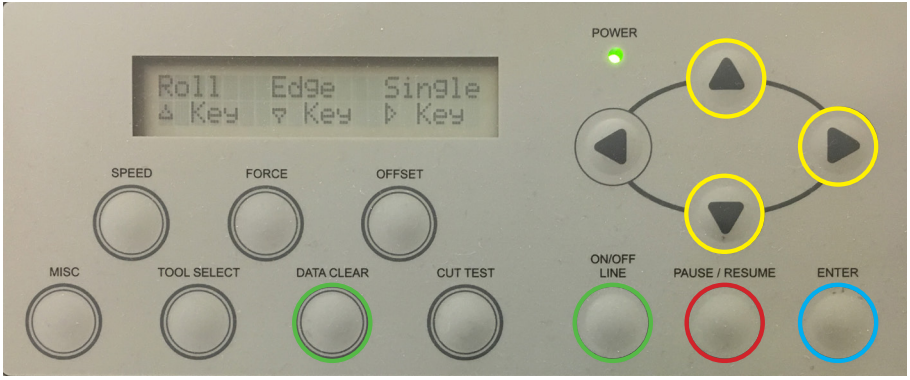




To place the knife or pen, call the lab-manager. They will show how to do this the correct way.

Machine controls

Turn on the machine by turning the switch on the left side of the machine. Before we send the design we will run over the most important buttons on the controlboard.



When you turn on the machine the screen will read ‘Roll, Edge and Single’. You will choose for the option ‘Roll’ so you push the upper arrow.

Controls:

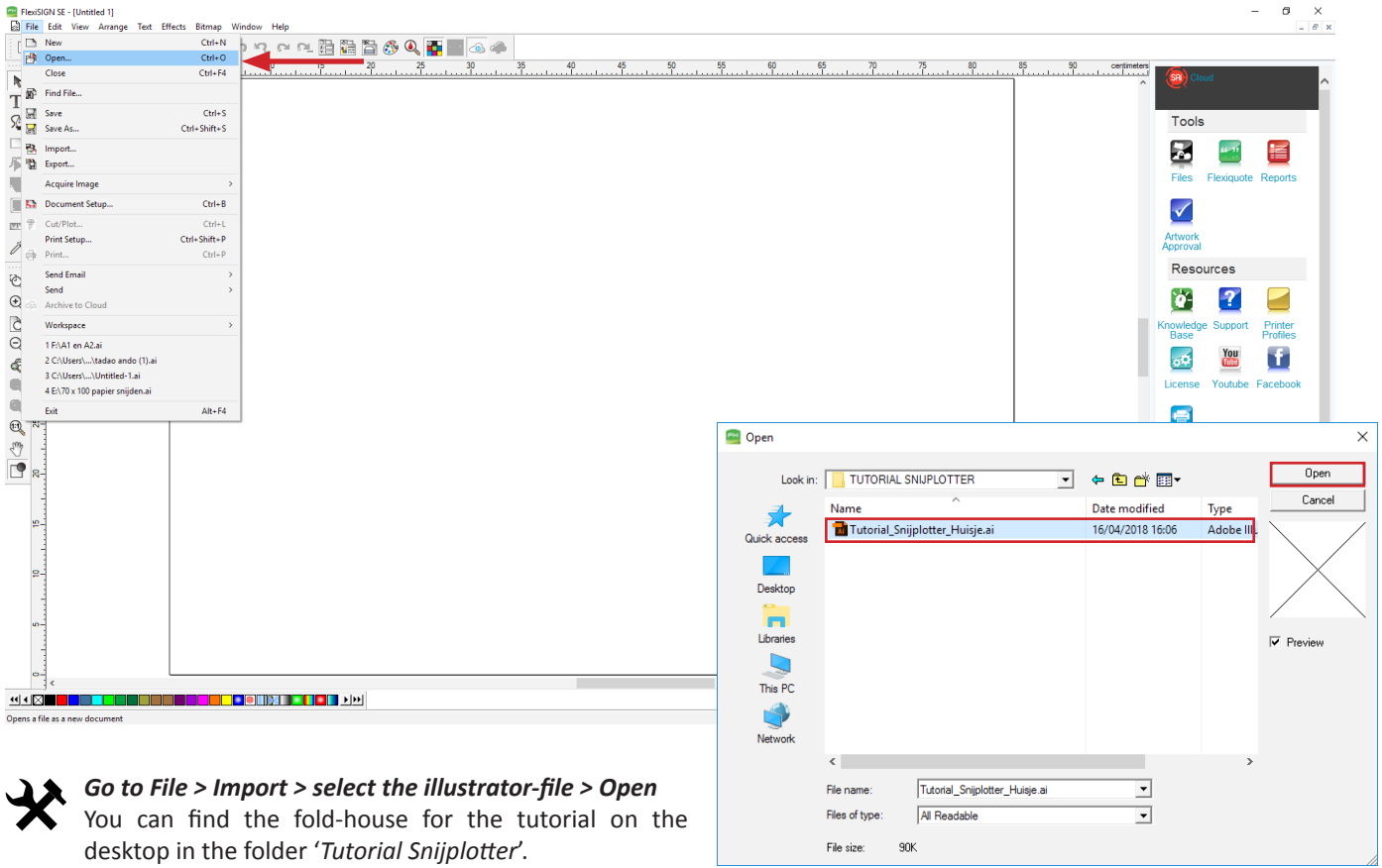
- ▲ _ Roll, meaures the width of your material.
- ▶ _ Single, meaures the width and lenght of your material.
- ▼ _ Edge, meaures the width of your material and places it on the front border.
- PAUSE/RESUME _ pauses and resumes your job
- ON/OFF LINE _ see later
- DATA CLEAR _ see later
- ENTER _ see later

05 Executing the design

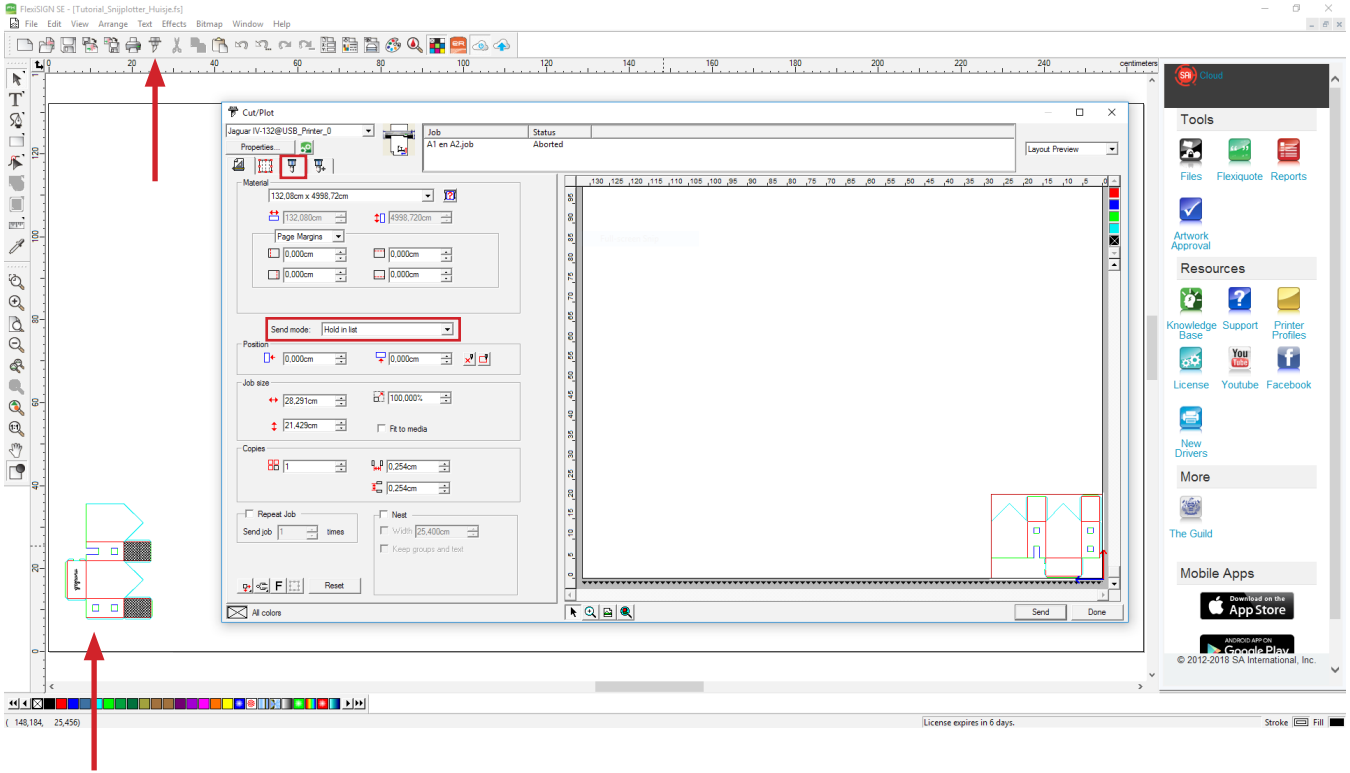
Opening and executing the design

Now that you finished and saved your design, we can import it into the cuttingplotter-software: FlexiSign. Search for the icon below on the desktop or in the toolbar on the bottom of the screen, and open the program.

Follow the instructions to safely complete this tutorial. When in doubt, ask for help from the lab-manager.

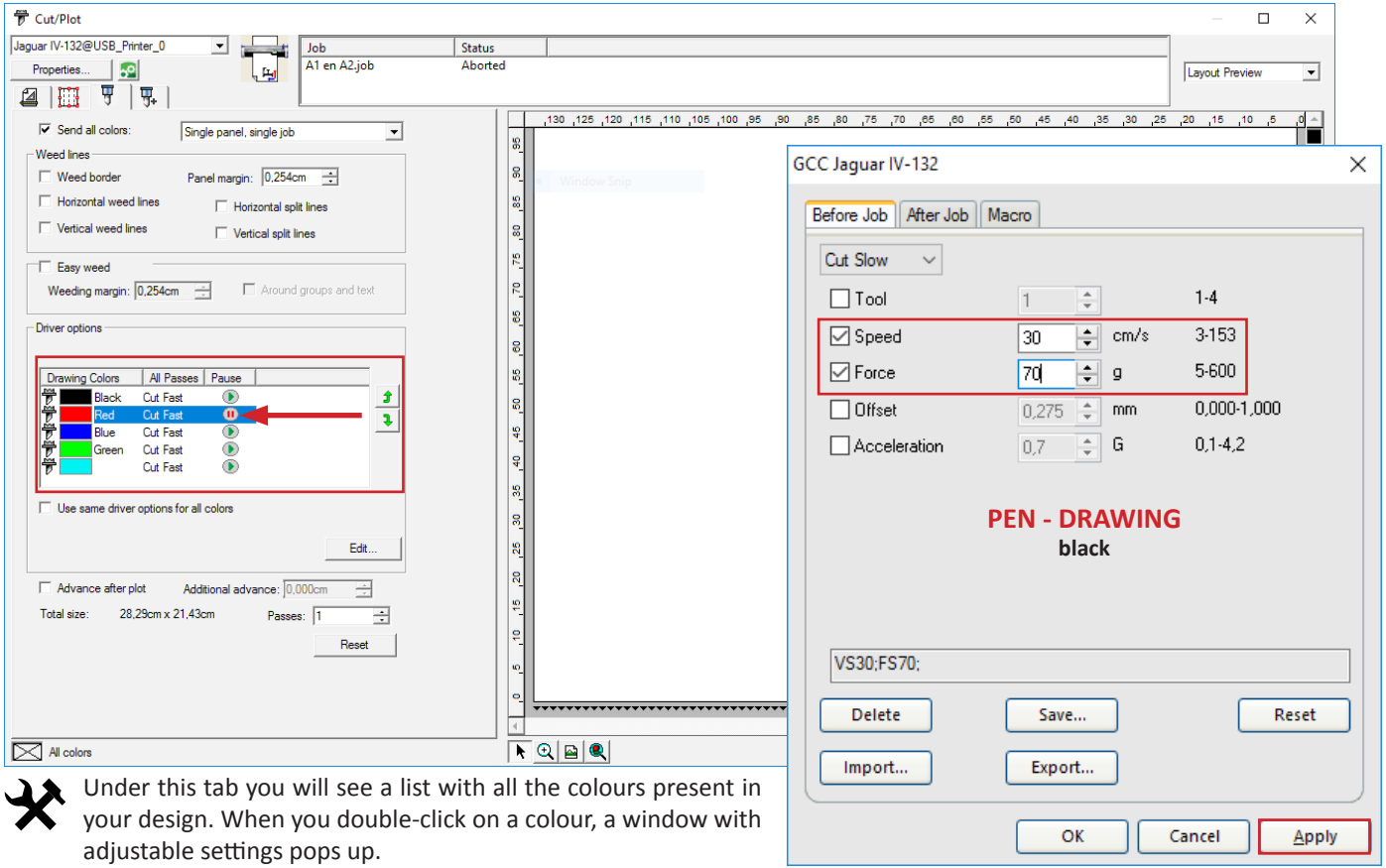


Go to File > Import > select the illustrator-file > Open
You can find the fold-house for the tutorial on the desktop in the folder '*Tutorial Snijplotter*'.

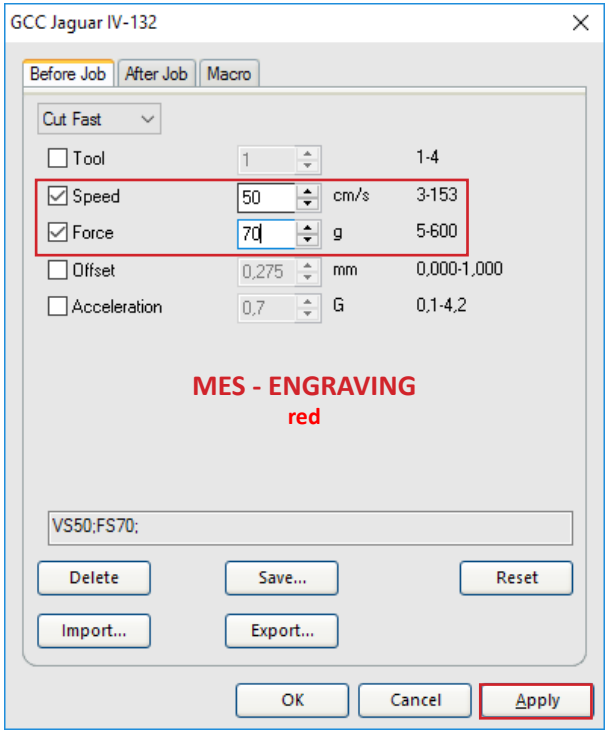


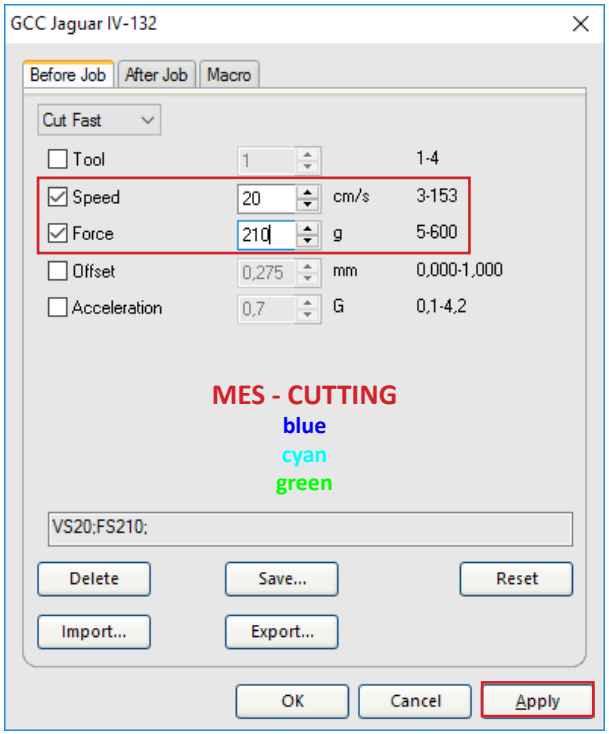
Your design will appear in the working-area in the lower left corner
> Go to the knife (Cut-tool) on top

In the new window that appears, you check if the option *Send mode* is listed as '**Hold in list**'. Then go to the third tab with the knife-icon.

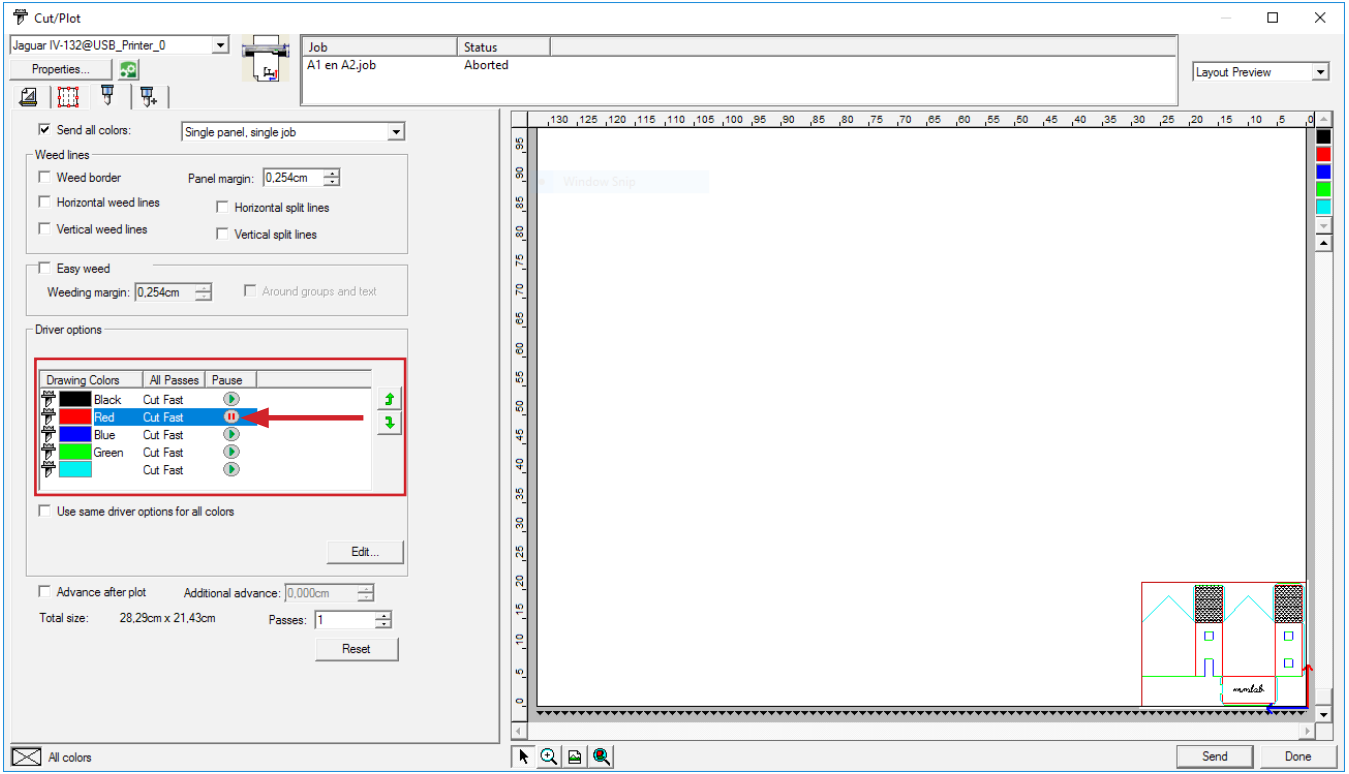


Under this tab you will see a list with all the colours present in your design. When you double-click on a colour, a window with adjustable settings pops up.

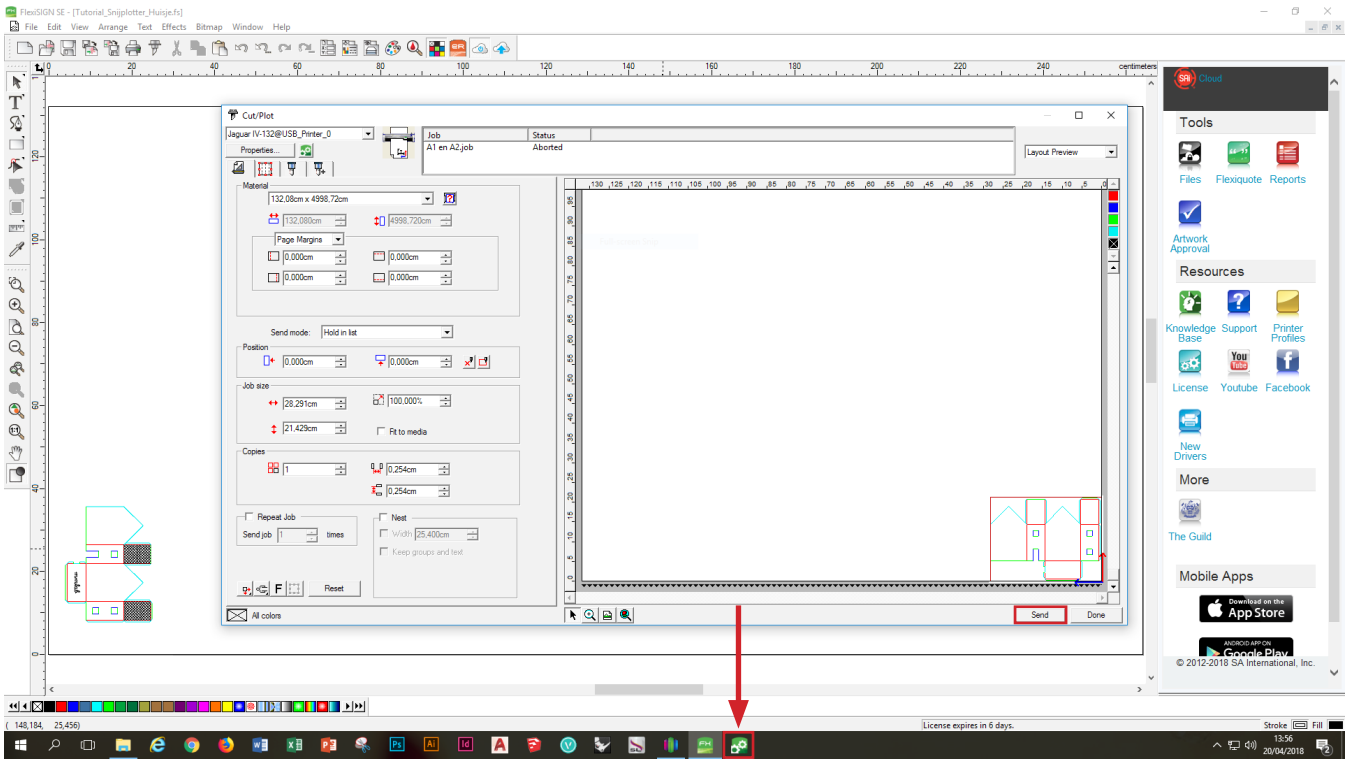




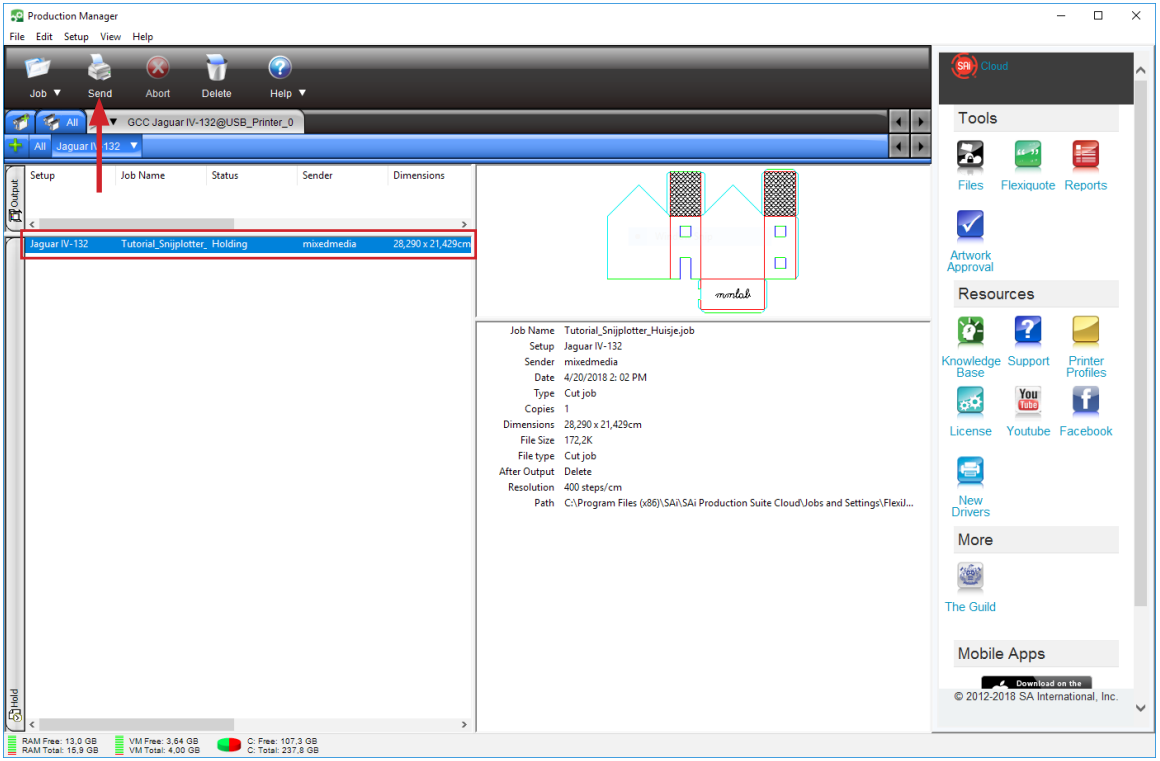
Check if the settings for *'Speed'* and *'Force'* are the same as displayed above.
In the last chapter of this tutorial we will go into detail on how to change these settings according to your material.
After adjusting the settings choose ***Apply > OK***



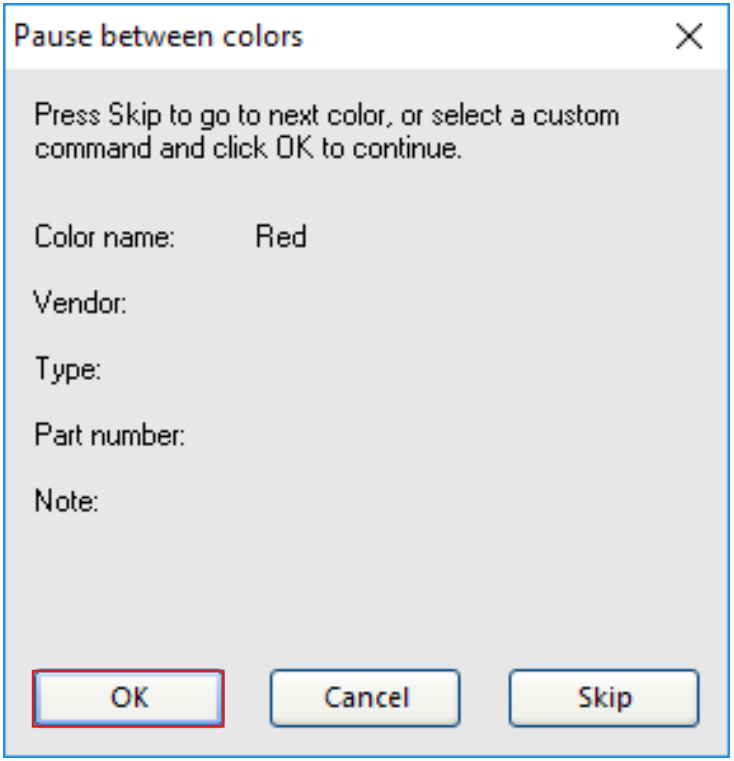
If you want to use multiple different pens it is important that you pause in between colours. When you activate this option the machine will pause before executing that colour, giving you the chance to replace the pen or knife



Once we adjusted all the settings we can send our design to the **Production Manager** via '**Send**'.
When we opened FlexiSign at the beginning of this tutorial, the Production Manager also automatically opened.
Search for the icon on the bottom of your screen and go to the Production Manager.



You can see that your design appeared in the waiting list of the Production Manager
Select the design > Choose Send
The cuttingplotter will now execute the colour '**black**' with the pen.



While executing the first colour, a new screen pops up because earlier, we set to pause befóre the colour **red**.
This gives us the opportunity to replace the pen with the knife after the colour **black**.

When the machine pauses you can replace the pen with the knife. Call the lab-manager and let them check if you placed the knife correctly.

Choose **OK** and the machine will execute the colours **red**, **blue**, **cyan** and **green**.

Once you executed all the colours, and the design is finished, you can remove the transferfoil from the machine by pulling the lever as described on page 15. When you leave the machine keep the lever in the upright position so the rollers stay raised.

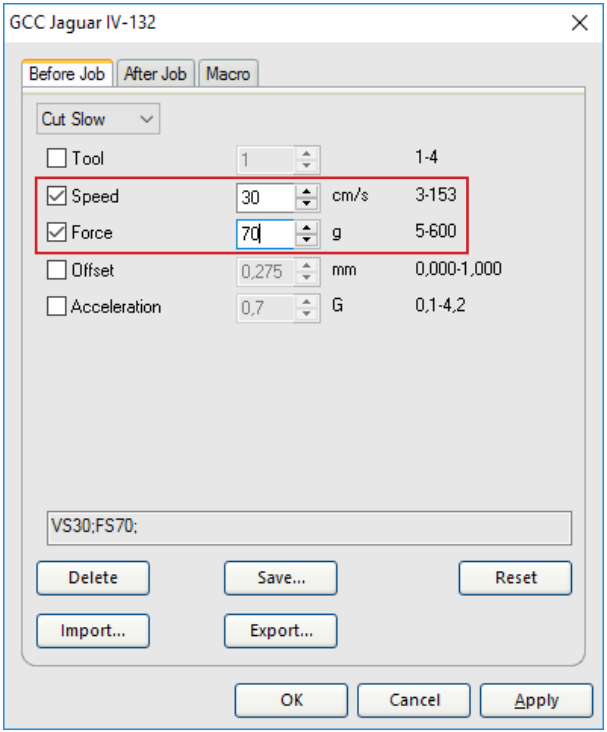
The next chapter explains how you can change the settings according to your material and other files.

06 Modifying the settings

Paperweight

In this chapter we will explain what settings you can modify and how, according to your material.

It’s important you know how ‘**thick**’ your material is. This is usualy expressed in an X-amount of grams. So don’t forget to ask for the paperweight when you buy single sheets of paper in the store.



There are 2 settings dependant on your paperweight, namely *'Speed'* (velocity) and *'Force'* (pressure).

The pressure is mostly dependant on your paperweight. For **cutting** the paper you apply the formula **weight+10** and for **engraving weight/3** (rounded up). For drawing with a pen we generally use the settings you can find on the next page.

If you want to use multiple different pens and or tools, it is important that you activate the pause-option correctly. This option makes the machine pause before certain colours, giving you the chance to change the pen or the knife.

Overview

X = paperweight (gram)

	velocity	force
Cutting	20	X+10
Engraving	50	X/3 (round up)
Drawing*	30	X/3 (round up)

* If you notice your lines are being drawn too light you can lower the velocity to 12. To be sure of a good endresult it is best to make a small test-file first.

Example tutorial: Steinbach 200 gram

	velocity	force
Cutting	20	210
Engraving	50	70 (round up)
Drawing	30	70