

USER MANUAL

**GEMINI**

**Digital die cutter for sheets**

THIS PRODUCT IS CERTIFIED:





**IMPORTANT:** Please keep the original packaging in case you need to return the material. If we receive the system in non-original packaging, the warranty will be void.



**IMPORTANT:** The latest version of the Scorpio Series software is available on our websites **[www.dpr-srl.it](http://www.dpr-srl.it)** or **[www.dpr-llc.com](http://www.dpr-llc.com)**, section "Download".

# GEMINI USER GUIDE - TABLE OF CONTENTS

---

## **Overview**

<i>GEMINI - Digital Cutting Software</i> .....	1
<b>Unpacking the contents of the GEMINI</b> .....	2
<b>How to install the Cutting Manager software</b> .....	2
<b>How to update the Cutting Manager software</b> .....	2
<b>Assembly of your GEMINI</b> .....	3
<b>Setting up the GEMINI Feeder</b>	
<i>Cable connections and aligning the feeder</i> .....	4
<b>Pinch Roller Position - Paper Size/Format Adjustment</b> .....	5
<b>Cutting options - Blade Positions</b> .....	6
<i>Changing blade positions</i> .....	8
<b>Daily Operation Start-up</b> .....	9
<b>Cutting Manager software</b> .....	10
<b>Creating Your Cut Files</b> .....	11
<b>Graphics file design</b> .....	13
<i>Layers for printing</i> .....	14
<i>Layers for cutting</i> .....	14
<b>Printing the Artwork / Graphic file</b> .....	15
<b>File properties for cutting</b> .....	15
<i>Graphic file Compatibility</i> .....	15
<b>Basic operations</b>	
<i>Startup</i> .....	16
<i>Sheet and camera alignment</i> .....	16
<i>Adjust plotter's knife</i> .....	18
<i>Black-marks settings</i> .....	19
<i>Cutting parameters</i> .....	19
<i>Cut test</i> .....	20
<i>Copy mode</i> .....	21
<i>Press start to launch the cutting series</i> .....	21
<b>How to replace cutting mat</b> .....	21
<b>How to replace the knife</b> .....	22
<b>TroubleShooting</b> .....	23

# GEMINI - DIGITAL CUTTING SOFTWARE

---

GEMINI has been designed primarily to cut sheet labels effectively.

There are also additional functions enabling the management of die cutting sheet material, using cross cut (Cut through) and dashed cut features, so that greeting cards, POS and packaging board material may be also cut.

The GEMINI solution consists of 2 parts.

## **Hardware**

An GEMINI Engine

A high resolution CCD Camera for registration and accurate positioning

An Automatic sheet feeding system for up to 150 sheets of media

A Paper exit Tray

and

## **Software**

The cutting manager allows you to cut lines or paths of a pdf vector graphics

Your files must contain **FOUR** reference black-marks (Described later).

The high resolution CCD video camera included in your GEMINI hardware detects the black-mark in a fraction of a second and adapts the cut path to any variations in the origin, scale or skew distortion of the print.

The software runs with the operating systems Windows XP, 7, 8, Vista, 10.

Most of old Windows XP computers can be used, but not all of them.

Please use this guide to set up your GEMINI and to assist you in designing and cutting your files.

## **UNPACKING THE CONTENTS OF THE GEMINI**

---

Your GEMINI is packed in 2 boxes.

The first box contains the GEMINI Cutting engine.

The second box contains:

- The GEMINI Exit tray (ii)
- The GEMINI Feeder (iii)
- And the power adaptor, plus USB cables, manual and drivers. (iv)

The GEMINI Exit tray sits under the GEMINI cutting engine, take care to position the vertical tabs under the recesses on the front of the cutting engine.

The GEMINI Auto-Feeder, clips on to the front of the GEMINI cutting engine, and lines up next to paper size guides along the front left edge.

The final items found inside the small box in the second one contains the power adaptor that powers the Feeder, and the power cables for the adaptor. Plus you will find the Mini USB cable that connects the USB hub integrated under the feeder to your computer.

Also in addition a USB cable to connect the GEMINI cutting Engine to the integrated USB Hub under the feeder.

## **HOW TO INSTALL THE CUTTING MANAGER SOFTWARE**

---

The Cutting manager software for the GEMINI needs to be downloaded from our websites [www.dpr-srl.it](http://www.dpr-srl.it) / [www.dpr-llc.com](http://www.dpr-llc.com)

Execute the installation's program Cutting manager-setup.

The setup's program requires various confirmations for the installation of the program.

On some computers you could be asked the system administrator's password to execute the installation, in the case you do not have this information; contact the technician who administrates the system.

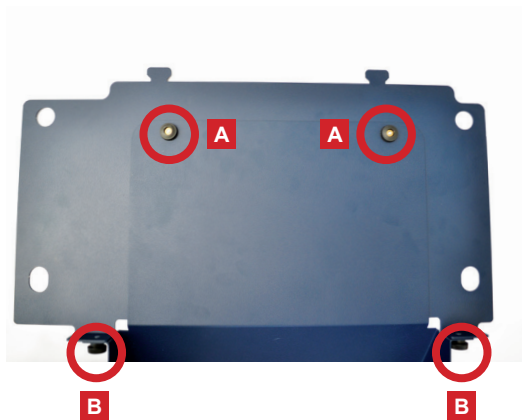
After the installation you will have the software's shortcut in your desktop, and a folder that contains the report of all the cuts in your documents.

## **HOW TO UPDATE CUTTING MANAGER SOFTWARE**

---

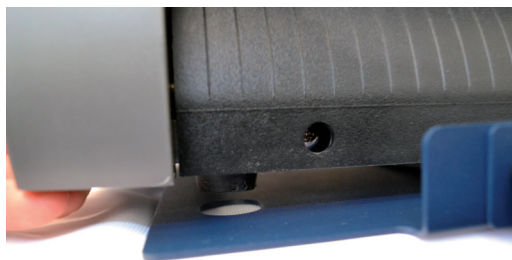
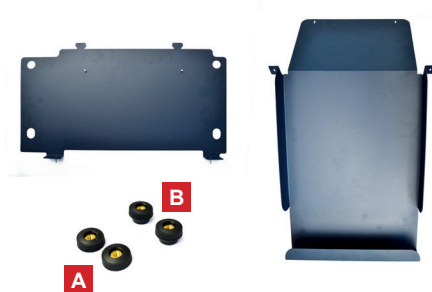
To update your cutting manager you just have to download the newest installer and accept all the confirmations as a normal installation.

# ASSEMBLY OF YOUR GEMINI



## STEP 1

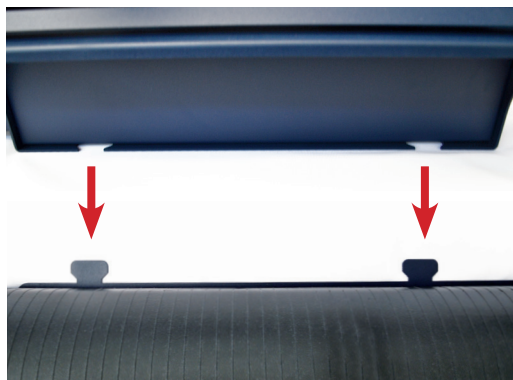
Join the plotter base with the sheet tray.



## STEP 2

Fix the plotter on the base.

Insert the plotter feet into the holes.



## STEP 3

Unit the feeder with the plotter base.

**Pay attention!**

## SETTING UP THE GEMINI FEEDER

---

### CABLE CONNECTIONS AND ALIGN THE FEEDER

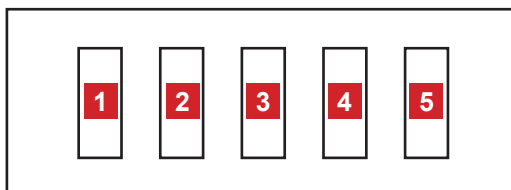
The last item to connect is the feeder, but you need to make the USB connections before aligning the feeder.

The GEMINI system requires 4 USB connections:

- The Plotter requires a USB cable (supplied in the box).
- The high resolution cameras used for the GEMINI vision registration system use a USB connection (Integrated to the cameras).
- Dongle

To avoid requiring 4 USB ports, and to simplify connection, on the back of the feeder you will find an integrated USB hub this enables you to connect all your GEMINI USB connectors.

Plug the cables as shown.



- |            |             |
|------------|-------------|
| 1. CAMERA  | 4. DONGLE   |
| 2. CAMERA  | 5. FREE USB |
| 3. PLOTTER |             |

**To connect the GEMINI to the pc, plug the USB cable exit on the front of the feeder (where is the control commands) to the pc.**

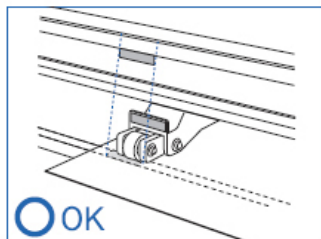
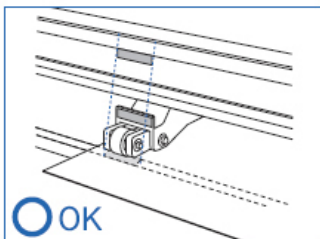
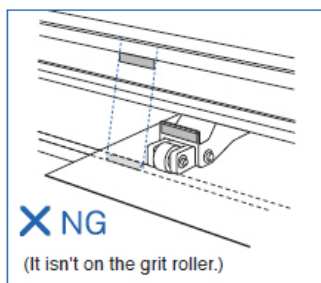
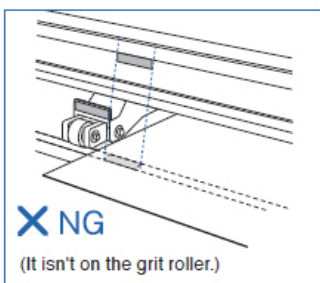
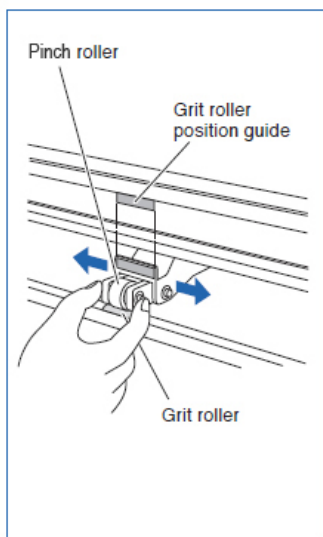
## PINCH ROLLER POSITION - PAPER SIZE/FORMAT ADJUSTMENT

After adjusting the paper guides width with the knob, you should manually advance one sheet in order to correctly position the pinch rollers.

**NOTE: The pinch rollers MUST sit over the grit rollers.**

Typically the Left Pinch wheel is not moved, instead you adjust/slide the feeder to ensure the left side of the sheet is correctly under the 'static' left pinch wheel.

Then adjust the right pinch rollers so that they are positioned above both the media and the grit rollers.



### **MOST IMPORTANT:**

If you need to move the right Pinch wheel to suit your media size, the relocation of the pinch roller must be made only when the lever is lowered.

Once you have relocated the right pinch wheel to accommodate your media, lift up the lever to engage the rollers.



# CUTTING OPTIONS - BLADE POSITIONS

The GEMINI cutting engine uses a contour cutting system.

The cutter has a dual position blade holder enabling two different types of cutting.

## (i) Kiss Cut (For adhesive labels)

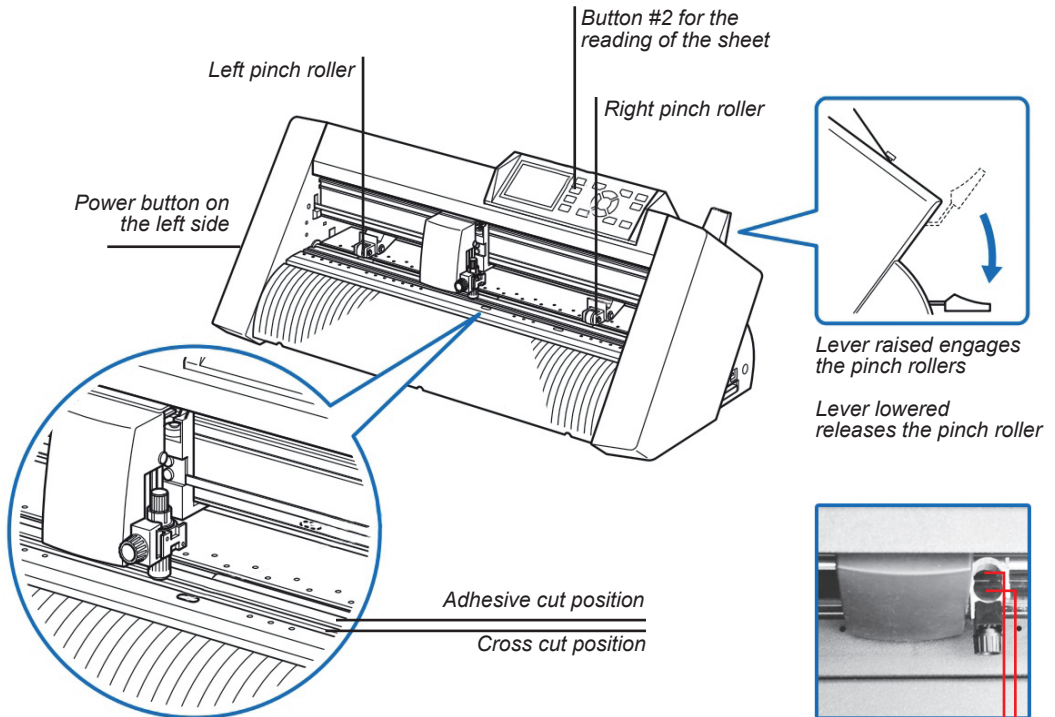
In this mode, you cut over a cutting strip which provides a surface to cut against, and you **ONLY** cut the top layer of your substrate.

You do not cut all the way through the media.

## (ii) Die Cut / Cross Cut (For Packaging or Cutting all the way through substrates)

In this mode, you cut over a groove which provides a recess so the knife can cut through your substrate and not cut into the machine.

In this mode you **DO** cut all the way through the media.



*In this position we cut against the cutting strip, and do not cut all the way through the media.*

*In this position we cut over a groove on the cutter bed. This enables the blade to cut all the way through the media. (For cutting card shapes or packaging).*

Out of the box, the Blade tool has been set up to cut labels (It is in the Kiss Cut position, rear), nearest the exit tray and the knife exposure set to the correct setting for label stocks. You need to leave the blade in this position for making an alignment calibration on the GEMINI cutting engine or for cutting labels.

However if you have already performed a calibration and wish to Die-cut card, you will need to adjust the knife position to the front position (Nearest the feeder) and you will need to adjust the blade exposure.

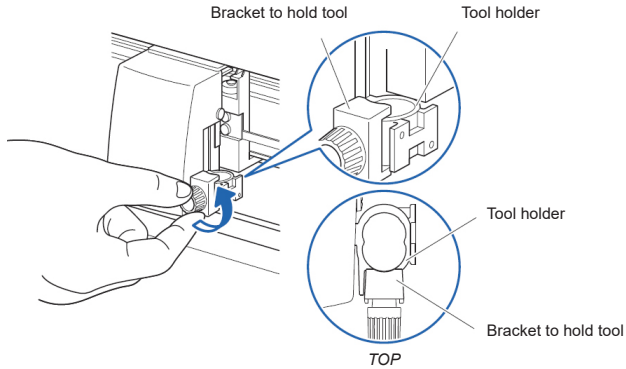
**MOST IMPORTANT:**

To save adjusting knife depth when switch between labels and card stock, you can order a second blade holder and blade.

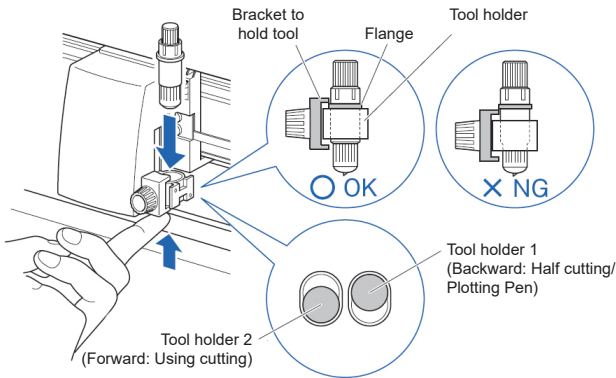
Then simply adjust one for labels and the other for card.

# CHANGING BLADE POSITIONS

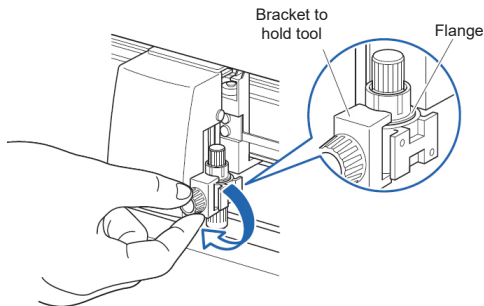
1. Loosen the tool holder screw.



2. While pushing up the holder, push until its flange completely touches the upper part of the holder.



3. Make sure that the tool bracket is engaged on the tool's flange, and then tighten the screw.



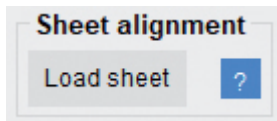
## **Removing the tool**

When removing the tool, turn it counterclockwise to remove the tool.

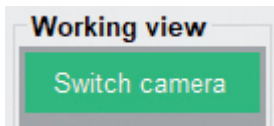
## DAILY OPERATION START-UP

---

1. Turn on the Graphtec. When the loading is completed press 2 (ROLL-2 CURRENT POSITION).
2. Turn on the Feeder.
3. Open the Cutting Manager.
4. Lower the media lever.
5. Press "**Load sheet**".



6. Once the sheet is loaded, check the camera positions. The green square in the camera preview must contain the black-mark (for label cut) or the ENTIRE sheet (for boxes). Check both cameras. To switch from one to the other, press "**Switch camera**".



7. When you have completed the alignments, remove the sheet, raise the lever and press 2.

**\* The default position of the Blade holder is already in the label cutting position upon delivery. Ready for immediately cutting sheet labels or making any alignment calibrations.**

### **IMPORTANT:**

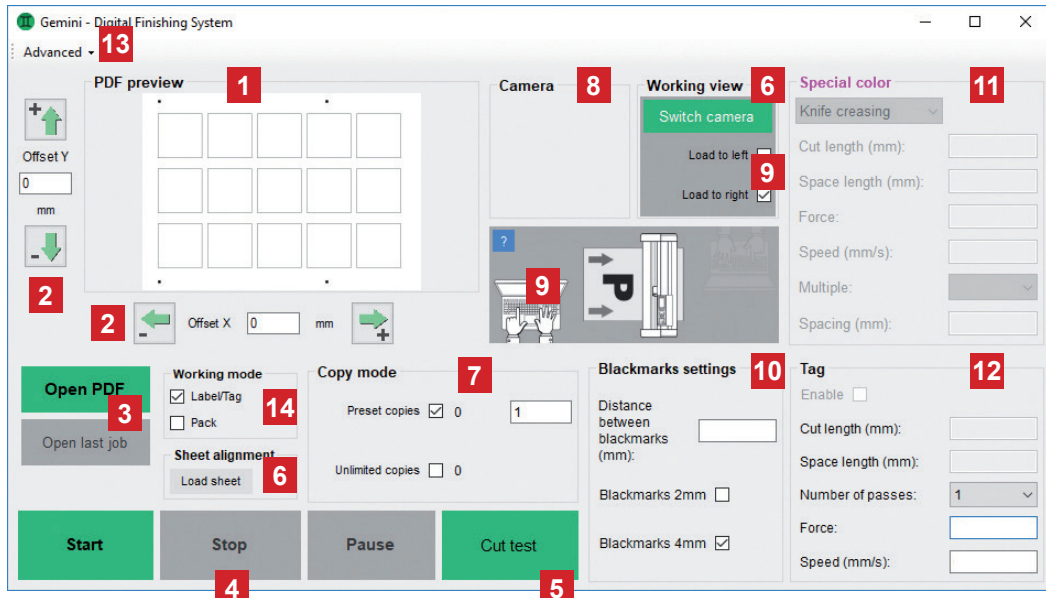
- Left pinch wheel should always be aligned over the grit roller to avoid any error messages.
- Right pinch wheel should be adjusted accordingly with the paper width.
- Lever raised engages the pinch rollers. Lever lowered releases the pinch roller.
- Button #2 turns the plotter 'On-Line' and the reads the available cutting width for your sheets.

# CUTTING MANAGER SOFTWARE

## OVERVIEW OF CUTTING MANAGER SOFTWARE PANEL LAYOUT

The Cutting Manager software allows you to adjust and control all the functions and parameters for the digital cutting process.

The cutting manager allows you to cut lines or paths of a pdf vector graphics.



1. This area displays a preview of your PDF cut file
2. The offsets allow the user to align the cut to the artwork
3. **“Open PDF”** and **“Open last job”** buttons permit the user to choose a file  
“Open last job” opens the last file used on the cutting manager
4. Operation buttons to help control the cutting series
5. “Cut test” launches a single cut
6. Controls for the sheet and camera alignment
7. In this area the user chooses the number of copies per job run
8. Camera preview of the black-mark
9. Working perspective controls and preview
10. Blackmarks settings
11. Magenta lines settings (for boxes)
12. Border lines settings
13. Advanced controls
14. Label’s or Pack’s mode switch

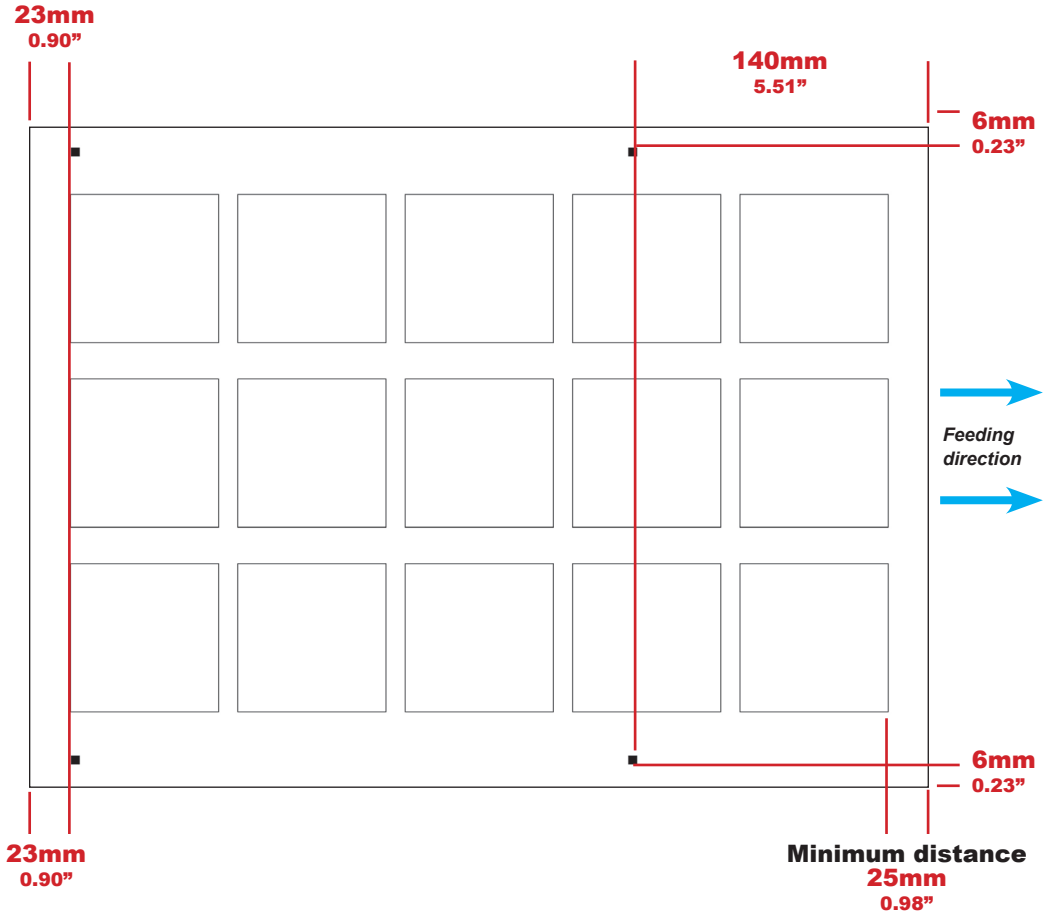
# CREATING YOUR CUT FILES

Your files must contain 4 reference marks, known as black-marks, the GEMINI's high resolution cutting manager video camera detects the black-marks in a fraction of a second and adapts the cut path to any variations in the origin, scale or skew distortion of the print.

The first couple of black-mark is placed 140mm (5.51") from the lead edge of the sheet. The second is positioned 23mm (0.90") from the tail of the sheet.

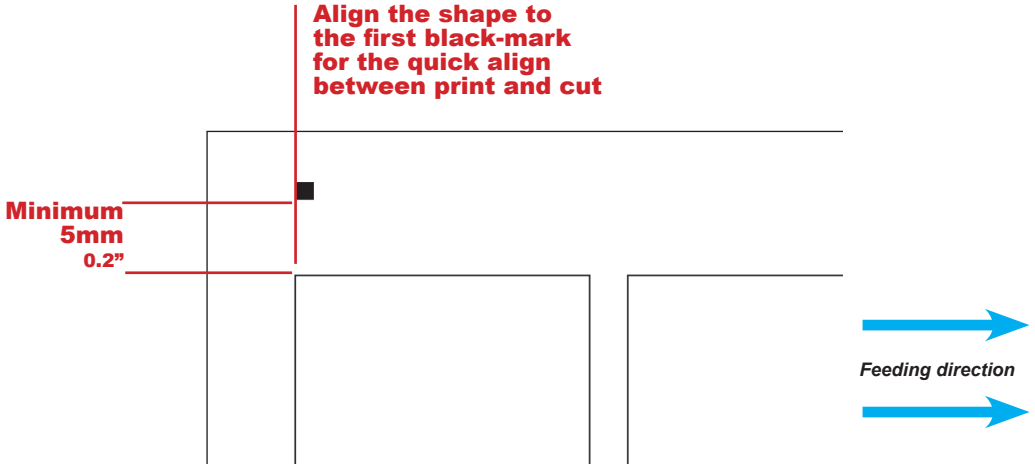
Most of digital printers can print up to 5mm (0.2") from the border of the sheet, we recommend a minimum distance of 6mm (0.23") between the black-mark and the bottom border of the sheet.

**Each black-Mark can be 4x4mm or 2x2mm square, and should be 100% K black (Not CMYK black) and should have no outline.**



**The minimum distance between the black-mark and the printed graphics is 5mm (0.2").**

If the graphics on your job are too close to the black-mark you can get the error: “*Marker not found*” because the software won’t be able to distinguish your registration mark from the graphics content on your print.



**NOTE:**

*If a cutline is too close to the lead edge of the sheet then the GEMINI engine will reverse the sheet out of the pinch rollers while trying to cut the line. When the GEMINI engine subsequently tries to advance the sheet for the next cut line element, it may no longer accurately feed your sheet and may skew the rest of your cutlines.*

# GRAPHICS FILE DESIGN

When printing you don't want your cut lines to appear on your printed sheet. Equally when cutting you don't want to confuse the cutter with lines that may be in your printed design. But, in both cases, you need to have available the registration marks.

Therefore it is advisable to organize the graphic design in different layers:

- **One or more layers for the main graphics (the Printed artwork).**
- **One layer for the contour (the lines to be cut).**
- **One layer for the SmartMarks (the marks that are used for registration).**

Before sending the file for printing you should enable the graphics layer and the black-mark layer.

## NOTE:

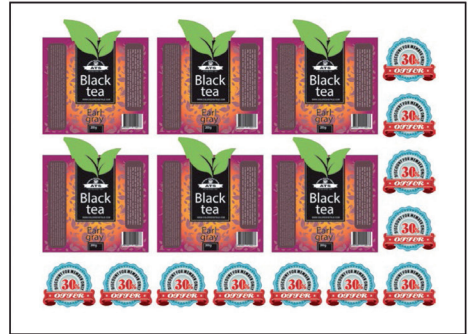
*The most common error is to print all the layers including the cutline (contour) layer that make the prints unusable in most of cases.*

Similar commands are available in Adobe Illustrator and CorelDraw to enable and disable the layers.

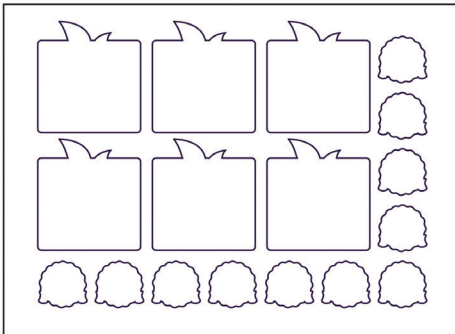
In the pictures shown on this page there is an external frame to indicate the border of the sheet making it easier for you to see the page. Note: That this is for illustration purposes only.

Also please note: When you open some PDF format files directly in Illustrator or CorelDraw, very often you may also find an external frame on the graphics. You will need to delete the external frame if it exists, for the file to operate correctly with the software.

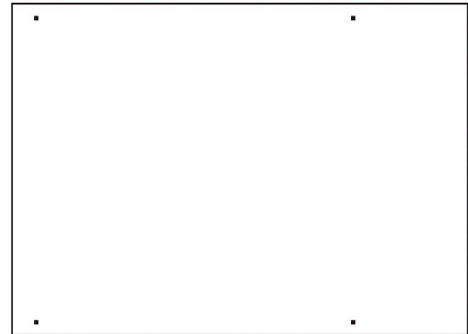
**Graphics layer**



**Cut contour layer**



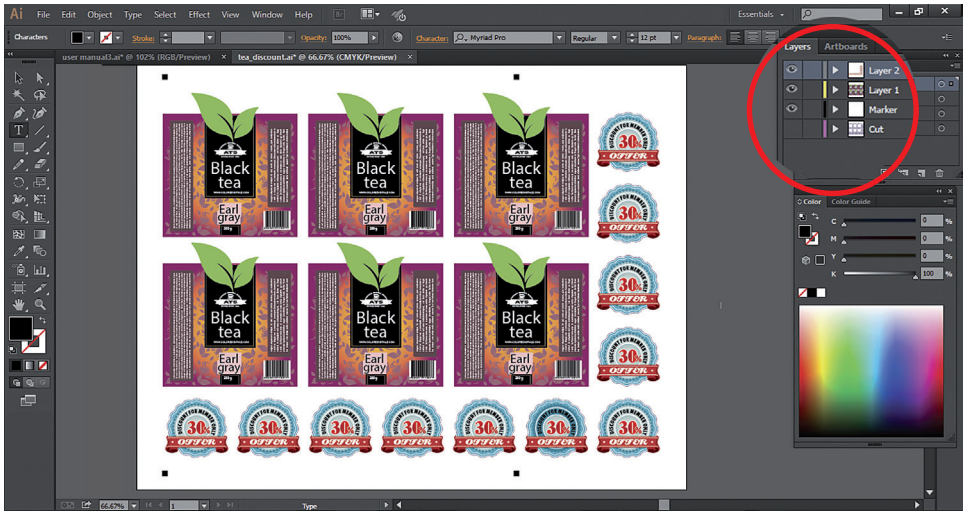
**Markers layer**





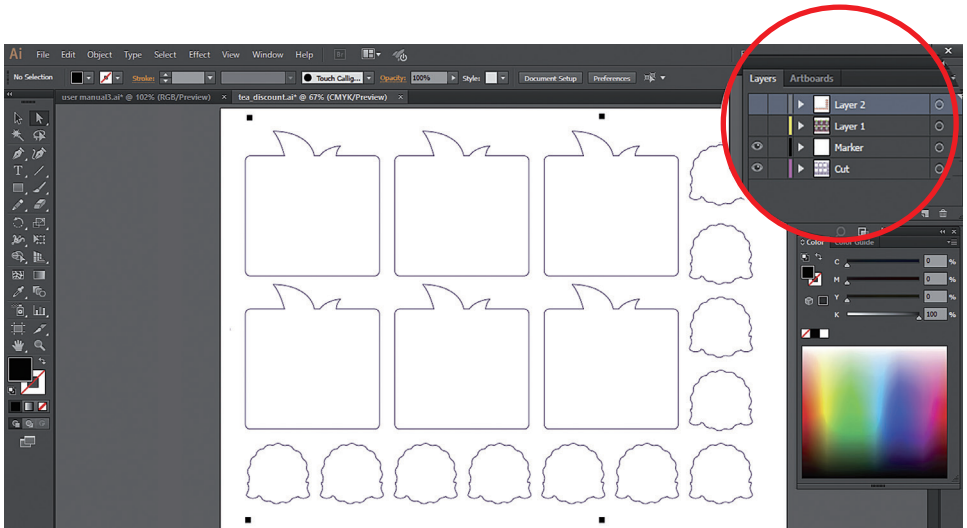
## LAYERS FOR PRINTING

In this example, the main graphics layers and the markers layer are active.  
The cut contour layer is disabled.  
This drawing is ready for printing.



## LAYERS FOR CUTTING

In this example, the main graphics layers are disabled.  
The cut contour layer and the markers layer are active.  
This drawing is ready for cutting.  
If you used the guidelines, remember to hide or remove them before saving.



## PRINTING THE ARTWORK / GRAPHIC FILE

---

The printed file for use with software must contain four squares black-marks of 4mm or 2mm size (black-marks). The cutlines should not appear on your printed job - when using Adobe Illustrator, or CorelDraw you can use layers control, for the Cutline and the Artwork, then hide the cutline before printing.

You can use every version of both Adobe Illustrator and CorelDraw.

Remember your black-marks must be placed at least 6 mm from the printed graphics, to avoid reading interferences.

## FILE PROPERTIES FOR CUTTING

---

You can design jobs in every version of both Adobe Illustrator and CorelDraw.

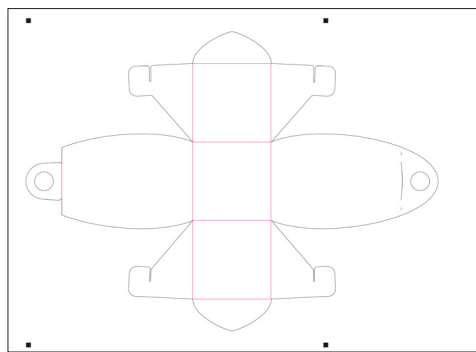
The graphics must be saved in horizontal (landscape) view.

### NOTE:

Your Cut Lines should be 100% K. You do not have to use a particular thickness for the cut profile.

If you wish to use a second line for creasing/ scoring or for perforated lines. Use the color **100% Magenta**.

Lines in magenta color are treated separately on software, enabling to change cutting depth/ pressure for these lines, or to change the type of cut.



## GRAPHIC FILE COMPATIBILITY

The GEMINI cutting manager software can open files in the following formats: **Vector PDF**.

**Please ensure when saving your cut lines you ensure there are no guides or rulers on the page, and that there are no borders on the page. Then ensure you save in one of the above formats.**

# BASIC OPERATIONS

This section explains how to use the cutting manager and the plotter for a proper cut.

## 1. STARTUP

Turn on the plotter. Once the display brings you to the “**SELECT**” menu, press 2 and wait for it to read the media and inputs width into the width settings.

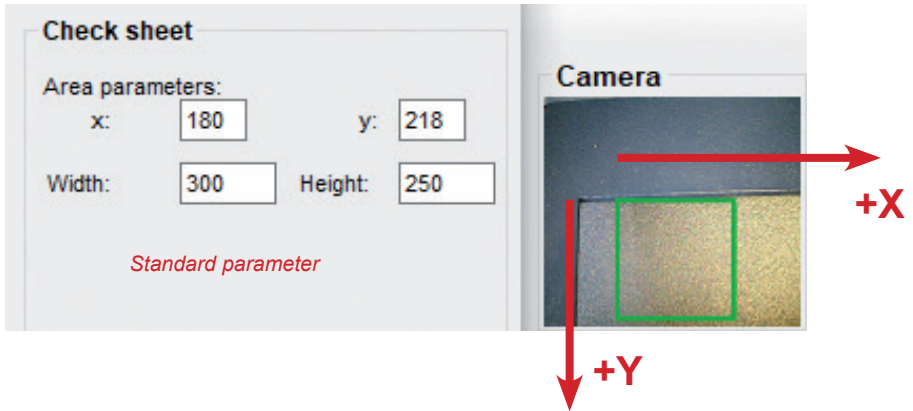
Turn on the feeder and wait until the sheet loader is full lowered. Plug the Gemini’s usb cord into your pc, then open the cutting manager.

## 2. SHEET AND CAMERA ALIGNMENT

First of all, check the green square position in camera preview. Control both the cameras by pressing the “**Switch Camera**”.

If the feeder’s guide fits in the green square go to “*advanced*” >> “*settings*”.

Now adjust the Y and the X until the feeder’s guide is out of the green square.



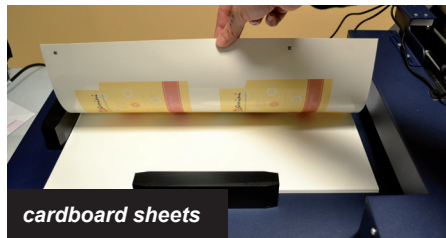
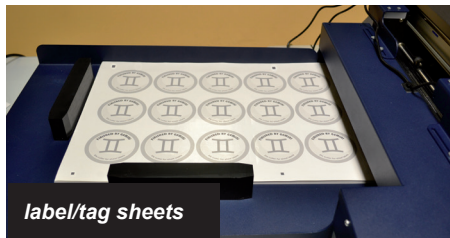
Then press “**Open**” or “**Open last job**”, to choose your file (“*Open last job*” selects the last job used by the cutting manager).

Now, in working view select your actual perspective.

A picture under this area shows how you should watching the gemini according to this setting, and how the sheet should be placed.

“Set then in “Working mode” if you want to cut labels or packages.

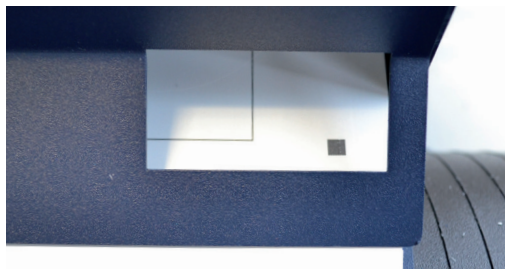
Add the sheets according to these pictures.



**WARNING** "When they are loaded sheets mustn't be bent over or damaged".

Now lower the plotter's lever, then press "Load sheet". Once the sheet has reached the final position align the pinch rollers to the material.

For the label's sheet, manually move the material until the blackmarks are under the feeder's guides holes.



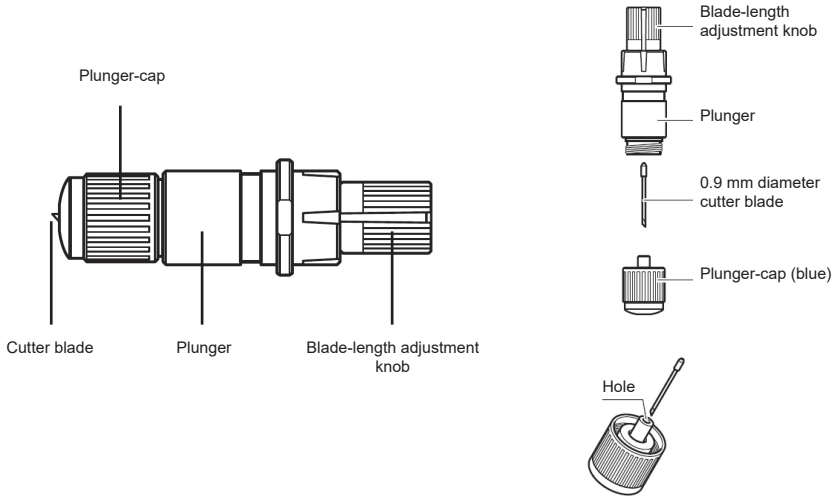
Now align both the cameras. When cutting labels, move the cameras until the blackmark is directly in the center of the green square.

When cutting boxes, move the cameras until the Entire paper is contained in the green area.

### 3. ADJUST PLOTTER'S KNIFE

The GEMINI cuts using a cutter blade mounted in a Blade Holder. There are two different Blade Holders to suit the diameter of the cutter blade to be mounted (the 0.9 mm cutter Blade Holder (is BLUE) and is provided as a standard accessory).

Ensure you mount the cutter blade in the corresponding cutter Blade Holder.

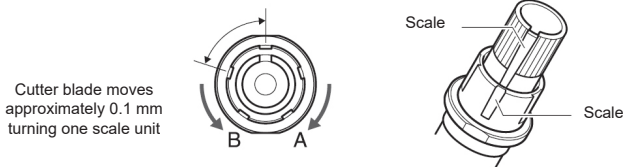


#### **CAUTION:**

To avoid bodily injury, handle cutter blades with care.

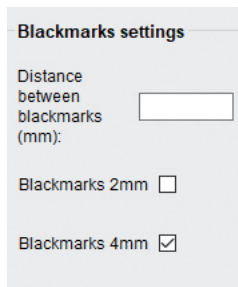
**WARNING:** It may result in damaging the cutter blade or the cutting mat if the blade is extended too much. Make sure the blade length is set less than the thickness of the media.

Adjust the blade length by turning the blade-length adjustment knob. Turn the knob in direction “A” to extend the blade, or in direction “B” to retract the blade. When the knob is turned by one scale unit, the blade moves approximately 0.1 mm. One full turn of the knob moves the blade approximately 0.5 mm.



For the blade position, refer to “*CHANGING BLADE POSITIONS*”

## 4. BLACKMARKS SETTINGS



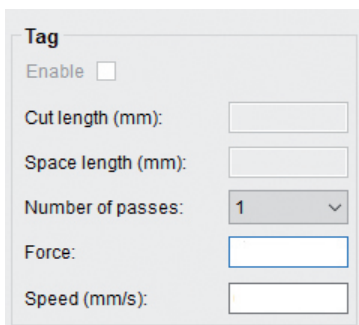
The screenshot shows a settings panel titled "Blackmarks settings". It contains three items: "Distance between blackmarks (mm):" with an empty text input field; "Blackmarks 2mm" with an unchecked checkbox; and "Blackmarks 4mm" with a checked checkbox.

Set the distance between the bases of each blackmark, and their actual size (2x2mm or 4x4mm)

## 5. CUTTING PARAMETERS

### LABEL'S CUT

Set in the tag area:



The screenshot shows a settings panel titled "Tag". It contains six items: "Enable" with an unchecked checkbox; "Cut length (mm):" with an empty text input field; "Space length (mm):" with an empty text input field; "Number of passes:" with a dropdown menu set to "1"; "Force:" with an empty text input field; and "Speed (mm/s):" with an empty text input field.

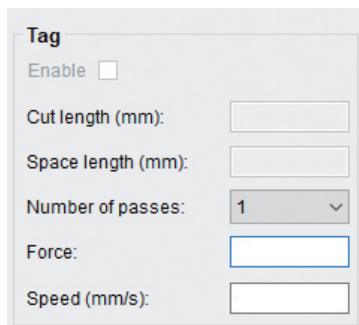
**Force:** This controls the force of the cutting blade.

**Speed:** This controls is the cutting speed.

**WARNING:** If the force and speed are too high, the cutting result may be inaccurate. In that case, lower the speed".

### BOX'S CUT

Set in the tag area:



The screenshot shows a settings panel titled "Tag". It contains six items: "Enable" with an unchecked checkbox; "Cut length (mm):" with an empty text input field; "Space length (mm):" with an empty text input field; "Number of passes:" with a dropdown menu set to "1"; "Force:" with an empty text input field; and "Speed (mm/s):" with an empty text input field.

**Enable:** When this is checked, the contours will be divided into segments. So, even if the blade passes the paper during the cut, the material won't separate.

However, the spaces between each segment are thin, so the diecut can be separated manually easily.

**Cut length** and **Space length:** When "Enable" is checked, these controls are activated.

**Cut length:** Impose the length of the segments

**Space length:** Is the distance between each one of them.

**Number of passes:** This sets the number of the times the blade passes on the diecut contours. This function is useful in case you want a high blade speed but you are restricted by a low force to have an accurate cut. With more number of passes, the blade can pass through the material even with low force.

**Force:** This controls the force of the cutting blade.

**Speed:** This controls is the cutting speed.

**WARNING:** If the force and speed are too high, the cutting result may be inaccurate. In that case, lower the speed".

## SPECIAL COLOR AREA

The “Special Color” panel allows a separate cutting control for lines designed using the color magenta in your graphics file.

When you design your jobs including a 100% magenta line in your graphic, it is recognised by the Scorpio CM software and the “Special color” panel is enabled. You can see these lines on the preview they are drawn in magenta on the whilst all the other colors are drawn in black.

**Special color**

Knife creasing ▾

Cut length (mm):

Space length (mm):

Force:

Speed (mm/s):

Multiple: 1 ▾

Spacing (mm):

**Knife creasing** (default mode): This mode creates creases. It is useful for made box's creases without pass through the material and damage it (so special force should be not too high).

Related commands to this mode are:

**Multiple:** sets the number of parallel lines to each side of the magenta segment

**Spacing:** sets the space between each parallel line

**Dashed line:** This mode replaces magenta lines with dashed line. The length of each segment and the spacing between each one of them are set by the cut length and space length commands in this area.

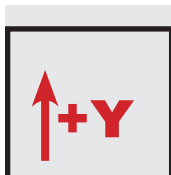
## 6. CUT TEST

Before launch a cutting series, we recommend to do a cut test, to check if there is any parameter to adjust. If the cut is not aligned, use the offsets to adjust it.

### LOAD TO THE RIGHT



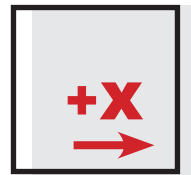
MOVE DOWN THE CUTTING FILE



MOVE UP THE CUTTING FILE



MOVE TO THE LEFT THE CUTTING FILE



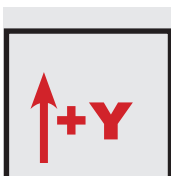
MOVE TO THE RIGHT THE CUTTING FILE



### LOAD TO THE LEFT



MOVE DOWN THE CUTTING FILE



MOVE UP THE CUTTING FILE



MOVE TO THE LEFT THE CUTTING FILE



MOVE TO THE RIGHT THE CUTTING FILE



## 7. COPY MODE

Choose if you want to cut a determined number of copies, or an unlimited

## 8. PRESS START TO LAUNCH THE CUTTING SERIES

Choose if you want to cut a determined number of copies, or an unlimited

## HOW TO REPLACE CUTTING MAT

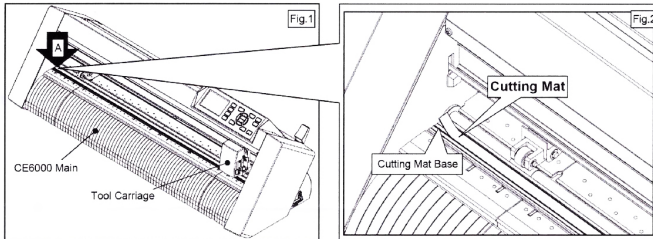


### CAUTION:

Please turn off the power when replacing the cutting mat.  
Please move the tool carriage to "A" position allowing for ease of work.

### 1. Remove the cutting mat.

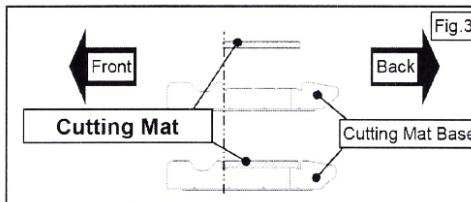
- The cutting mat is attached to the cutting base (fig.2)
- Please remove only the cutting mat from the cutting mat base from the location shown by the arrow (A) (fig.1)



- After removing the cutting mat, please make sure that there is no adhesive tape or other adhesives left on the cutting base.
- Please clean the cutting mat base before installing the cutting mat.
- Installing the cutting mat with the remaining adhesive may affect cut quality.

### 2. Installing the cutting mat.

- Fit the cutting mat with the front cutting base grooves (fig.3) and attach it from the location shown by the arrow (A) (fig.1) while peeling off the release paper.



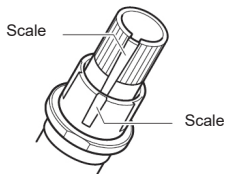
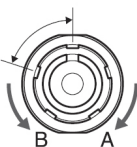


## HOW TO REPLACE THE KNIFE

---

1. Turn the blade-length adjustment knob in the direction of the B arrow and pull the blade into the plunger.

Cutter blade moves approximately 0.1 mm turning one scale unit



2. Turn the plunger cap in the counter-clockwise direction to remove it from the plunger.

3. Remove the blade from inside the plunger cap.

4. Remove a new blade from its pack. Insert the new blade into the hole provided in the plunger cap.

5. With the blade inserted into the plunger cap, screw on the plunger from above.

6. Fix the plunger cap by turning it clockwise.

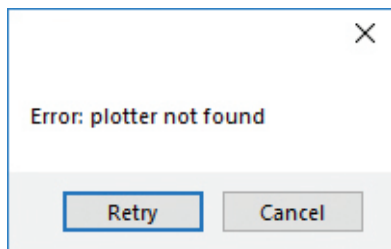


**ATTENTION:** In order to preserve the lifespan of the plotter knife and not to wear it out quickly, it is best to properly calibrate the knife exposure and cut force depending on the media thickness.

# IF YOU ARE EXPERIENCING THE FOLLOWING ISSUES WITH THE ANY OF OUR GEMINI UNIT, PLEASE FOLLOW TROUBLESHOOTING STEPS BELOW

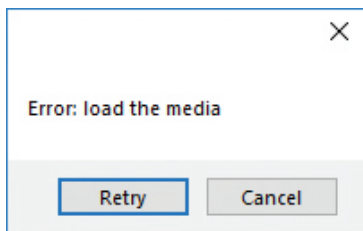
---

## **Plotter not found**



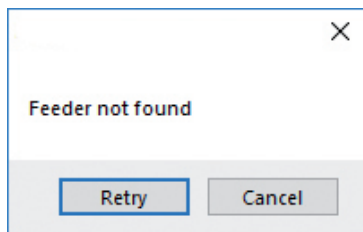
When you launch cutting manager and see this message, make sure that the plotter is connected to the hub, and the hub to the pc. After that if the error persists make sure the plotter is on. If it isn't, switch on and after the display has loaded press 2, then retry.

## **Load the media**



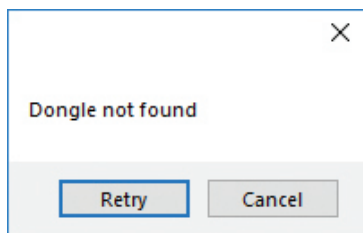
Rise up the plotter's lever and press 2. Wait until the loading on the display has completed. Click now retry on the cutting manager.

## **Feeder not found**



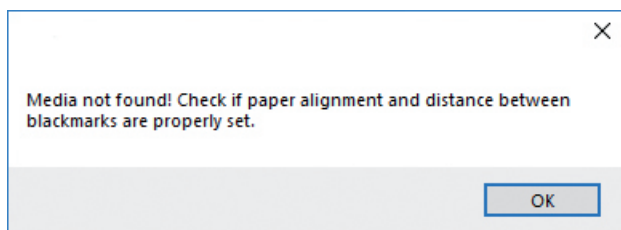
Check if the feeder is supplied and on. If the error persists, check if the hub is connected to the pc.

### **Dongle not found**



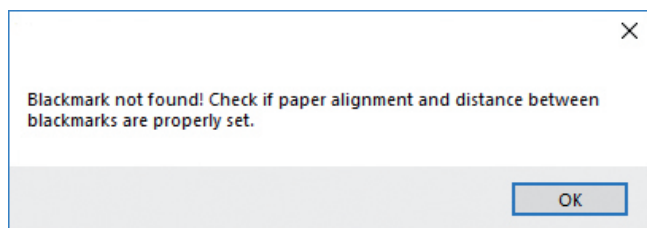
Check if the dongle is plugged to the hub, and if the hub is plugged to the pc.

### **Media not found**



Check if paper alignment and distance between blackmarks are properly set.  
For paper alignment refer to section 2 of "BASIC OPERATION"

### **Blackmark not found**



Check if paper alignment and distance between blackmarks are properly set.  
For paper alignment refer to section 2 of *BASIC OPERATION*