

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** or **www.dpr-llc.com**, section "Download".

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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

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 (service pack 3), 7, 8, Vista, 10.

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 / www.dpr-llc.com

Execute the installation's program Cutting manager-setup.

The setup program requires various confirmations to complete installation process.

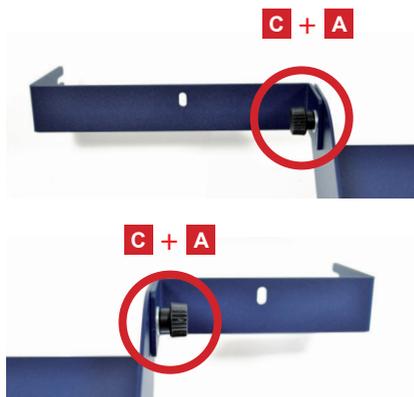
On some computers you could be asked for the system's administrator's permission to execute the installation. In the case you do not have this information; contact the technician who administrates the system.

After the installation you will have the software's shortcut on your desktop, and a folder that contains the report of all the cuts in **C:\Gemini Cutting Manager\Report**.

HOW TO UPDATE CUTTING MANAGER SOFTWARE

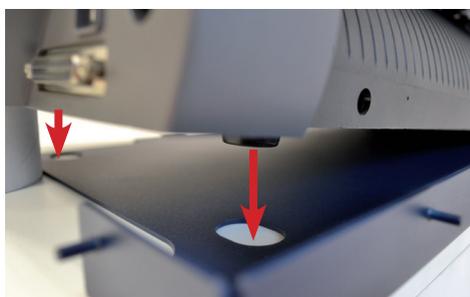
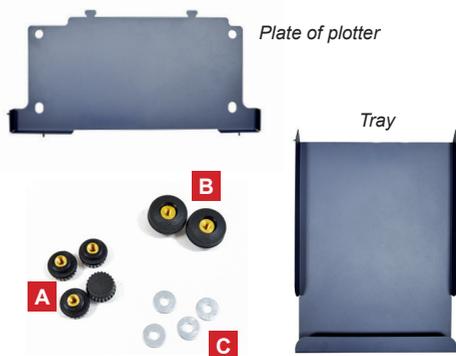
To update your cutting manager you just have to download the newest installer and accept all the confirmations as a normal installation.

ASSEMBLY OF YOUR GEMINI



STEP 1

Install the "S" support onto the tray.



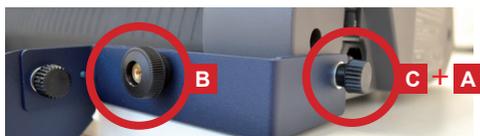
STEP 2

Insert the plotter feet into the holes of plate.



STEP 3

Fix the tray with the plate of plotter.



STEP 4

Unit the feeder with the plate of plotter.

Pay attention!



SETTING UP THE GEMINI FEEDER

CABLE CONNECTIONS AND ALIGN THE FEEDER

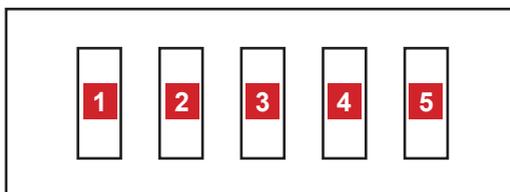
The last item to connect is the feeder, but you need to make the USB connections before aligning the feeder.

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 uses a USB connection (Integrated with the camera).
- 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. DONGLE | 4. FREE USB |
| 2. CAMERA | 5. FREE USB |
| 3. PLOTTER | |

To connect the GEMINI to the pc, plug the USB cable exiting the front of the feeder (where the control commands are located) to the PC.

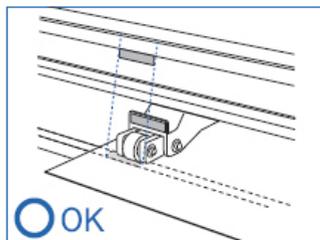
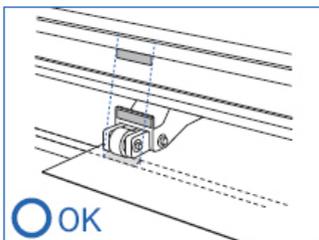
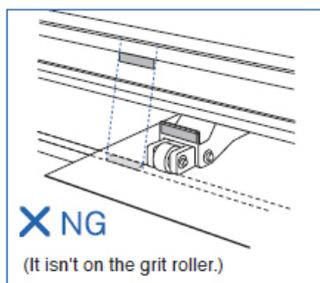
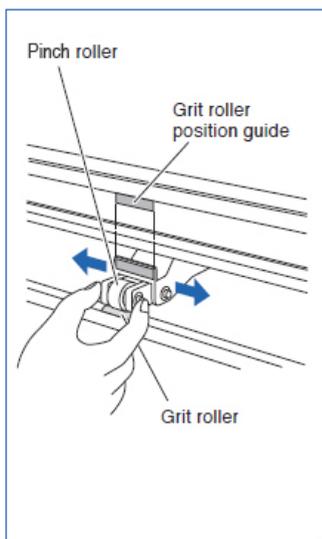
PINCH ROLLER POSITION - PAPER SIZE/FORMAT ADJUSTMENT

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 Plotter's rear 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)

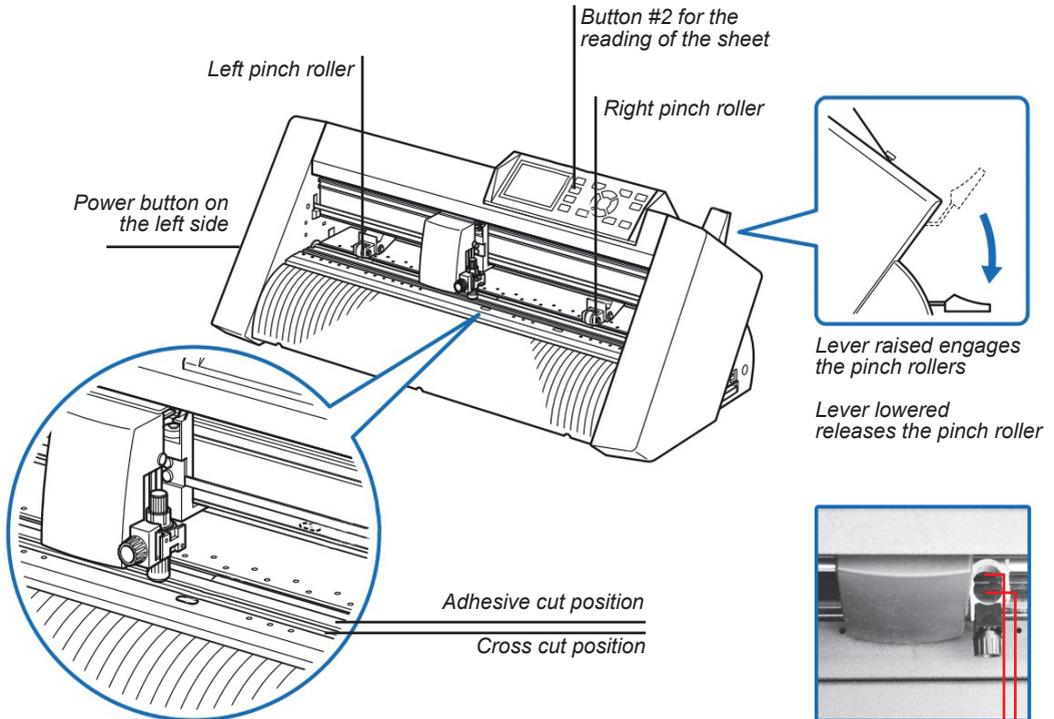
In this mode, you cut over a cutting strip which provides a surface to cut against, and you **ONLY** cut the top layer of your substrate.

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.

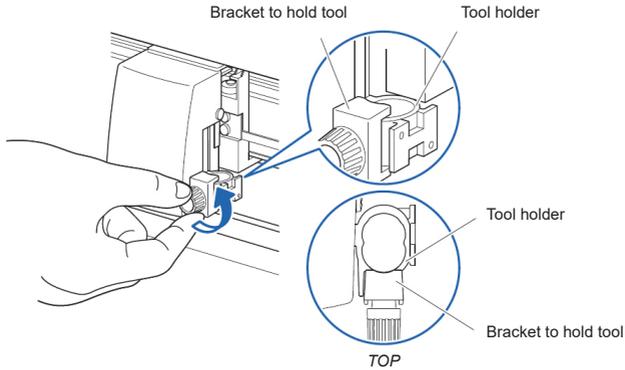
MOST IMPORTANT:

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

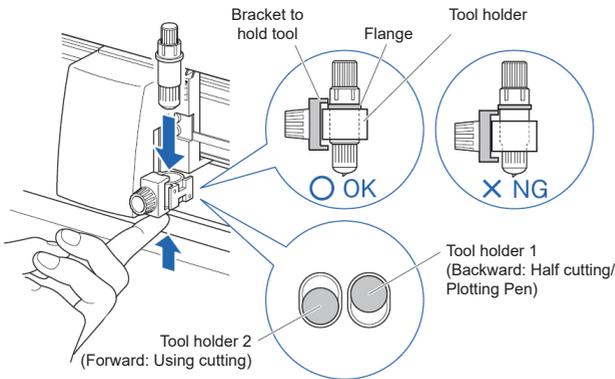
Then simply adjust one for labels and the other for card.

CHANGING BLADE POSITIONS

1. Loosen the tool holder screw.



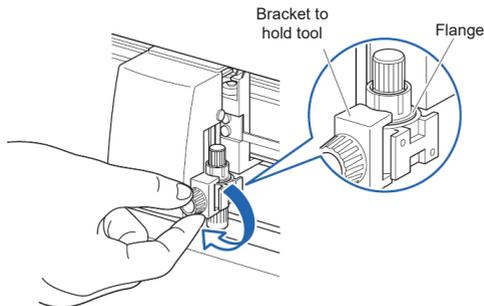
2. While pushing up the holder, push until its flange completely touches the upper part of the holder.



SUPPLEMENT:

When using kiss cutting (for labels), place the Blade Holder in Tool Holder 1 position (backward), and when using Die-cut (Card cutting), set the blade holder in Tool Holder 2 position (forward).

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

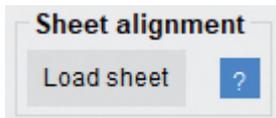


Removing the tool

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).

MOST IMPORTANT:

Align the plotter's pinch rollers. They must be placed at 2mm from the sheet's edge.

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:

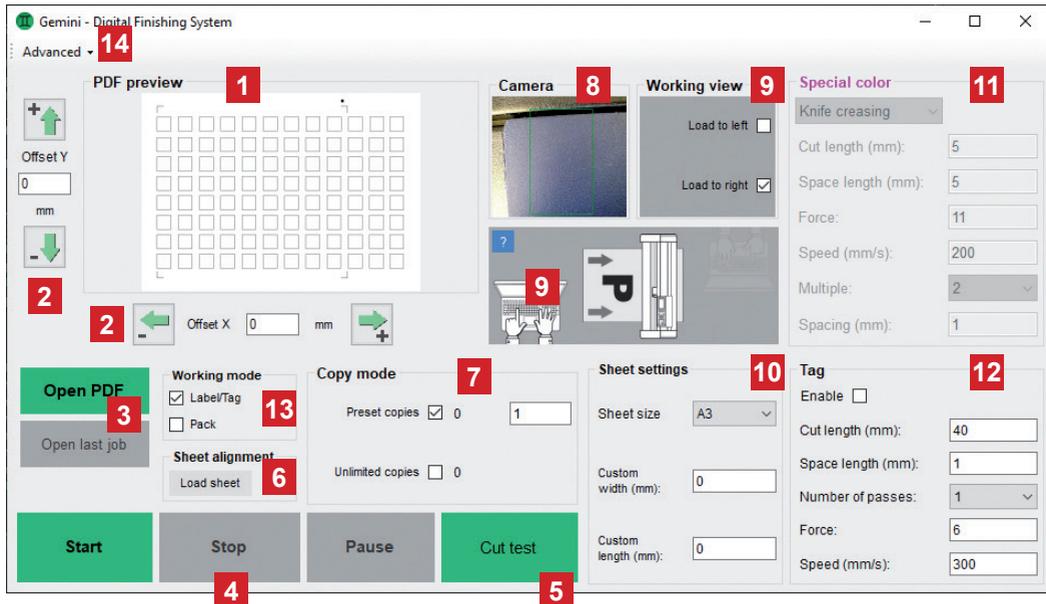
- Left pinch wheel should always be aligned over the grit roller to avoid any error messages.
- Lever raised engages the pinch rollers. Lever lowered releases the pinch roller.
- Button #2 puts the plotter into “Ready” mode and to then read the cutting width for your sheets.

CUTTING MANAGER SOFTWARE

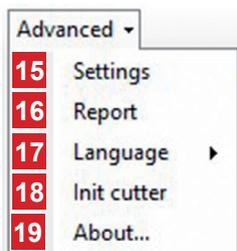
OVERVIEW OF CUTTING MANAGER SOFTWARE PANEL LAYOUT

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.

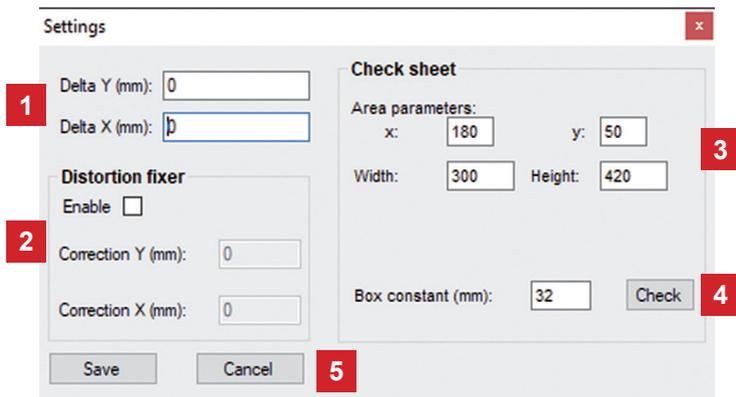


1. This area displays a preview of your PDF cut file
2. The offsets allow the user to align the cut to the artwork
3. **“Open PDF”** and **“Open last job”** buttons permit the user to choose a file
“Open last job” opens the last file used on the cutting manager
4. Operation buttons to help control the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



- 15. Settings
- 16. Report
- 17. Set the language interface
- 18. Restore of plotter settings
- 19. Shows the software version

Settings (15)



1. Saved alignment offset values.
2. Sometimes your printer may give distortions to your artwork. In that case the cut doesn't fit the printed images. When the distortion fixer is enabled you can extend (positive value) or compress (negative value) the cut, to let it fit your artwork.
3. The area parameters change the size of the green recognition area you can see in the camera preview. We suggest to don't change them.
4. The box constant is used during the box's cutting process. If you see alignment issues during a box's cutting series, load a sheet, and press the "check" button
5. Everytime you make any change in this menu, press "Save" to confirm, otherwise "Cancel" to discard the changes

Report (16)



When you complete a cutting series, you can find its report in this menu. If you press “Save as” you can save where you prefer the report of all the cuts done during the last session.

If you go at the “C:\Gemini Cutting Manager\Report” folder, you can find the “CutHistory.txt” that contains the report of all the cuts done since the software installation.

Language (17)

You can switch between the english and italian language in this menu. If you would like to have another language pack for the cutting manager, contact us.

Init cutter (18)

The init cutter loads the plotter settings necessary to the graphtec. This procedure has to be done whenever the plotter has been reset.

About (19)

The “About” button shows you the current software version, and other additional information.

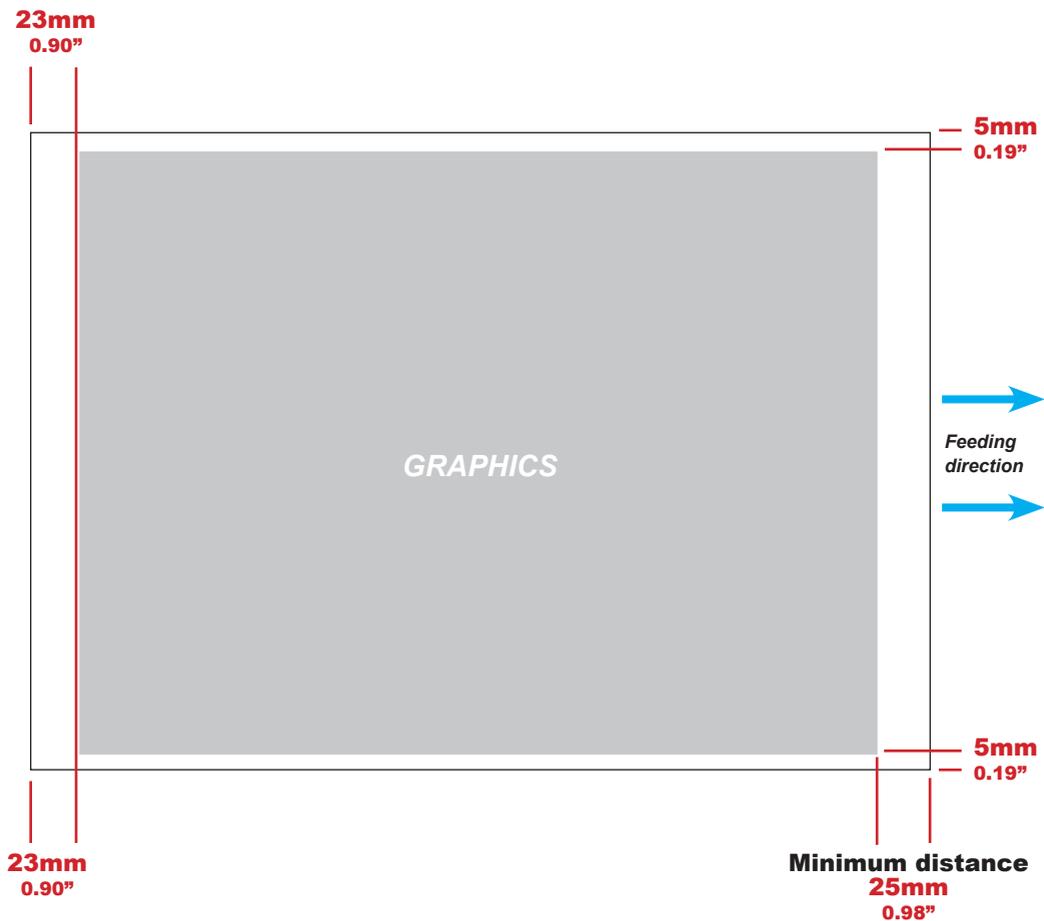
CREATING YOUR FILES

MOST IMPORTANT:

The **cut file** must include only the contour lines (or the creasing/scoring lines as explained at PAG.17)

The graphic must be:

- From the left edge: 23mm
- From top and bottom edge: minimum 5mm
- From the right edge: minimum 25mm



GRAPHICS FILE DESIGN

The printed artwork differs from the cut file design. It includes:

- The main graphics
- The Black markers (In the layer/tag artwork)

Therefore we suggest 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 BLACK Markers (the black markers used for registration). NOT NEEDED WITH BOXES!**

Before sending the file for printing you should enable the graphics layer and the black-mark layer (in case of a layer/tag artwork).

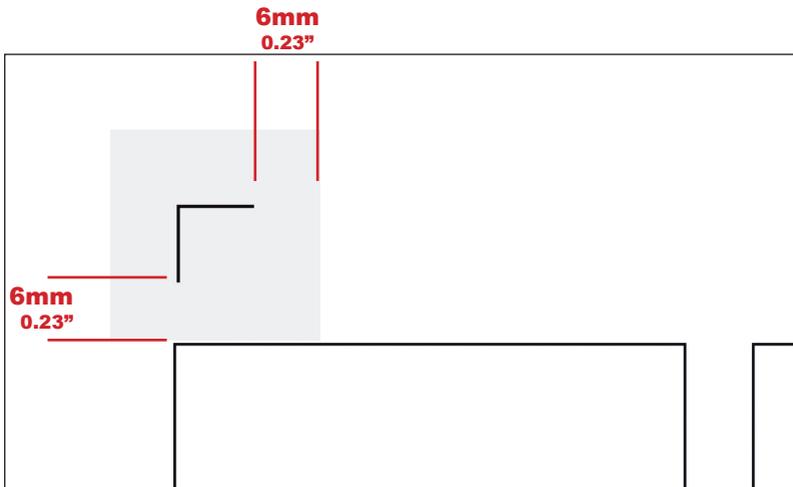
NOTE:

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.

MOST IMPORTANT:

The figures in the main graphics must be at least far 6mm from each side of the marks (Picture below).



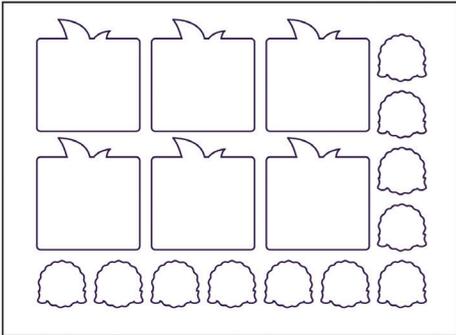
In the pictures shown on this page, there is an external frame to indicate the border of the sheet making it easier for you to see the page.
 Note: This is for illustration purposes only.

Also please note: When you opening a PDF file directly in Illustrator or CorelDraw, very often you may 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.

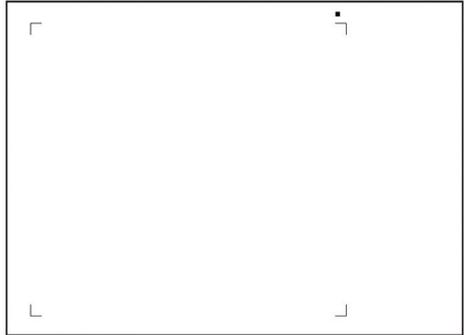
Graphics layer



Cut contour layer



Markers layer

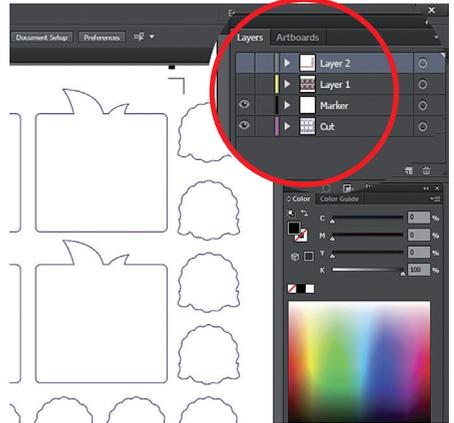
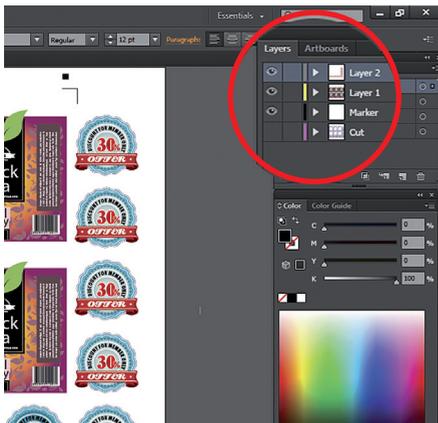


LAYERS FOR PRINTING

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 guide lines, remember to hide or remove them before saving.



PRINTING THE ARTWORK / GRAPHIC FILE

LABEL/TAG READING MARKS:

When creating label/tag artworks, you must add 4 marks and a blackmark to your artwork file.

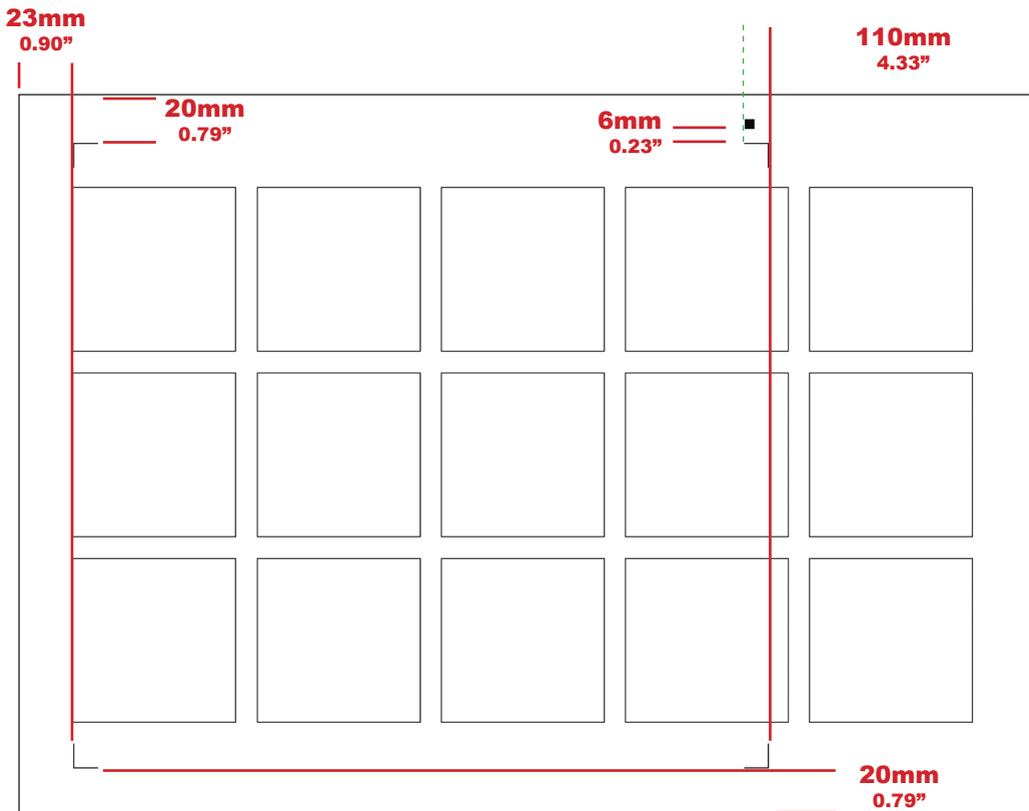
The dimensions of mark is 10mm x 10mm (0.39" x 0.39").

The marks thickness must be between 0.3mm (0.01") and 1mm (0.04").

The first couple of marks is placed 110mm (4.33") from the right of the sheet.

The second couple of marks is positioned 23mm (0.90") from the left of the sheet.

The blackmark (4X4mm) must be aligned to the top left mark with a distance of 6mm (0.23") from it.



BOXES READING MARKS:

In case of a pack artworks, the files don't need marks.

NOTE:

You can also find samples files for the formats (A4, A3, SRA3, CUSTOM SIZE) inside the website (download area). You can create your label/tag artworks on these files.

FILE PROPERTIES FOR CUTTING

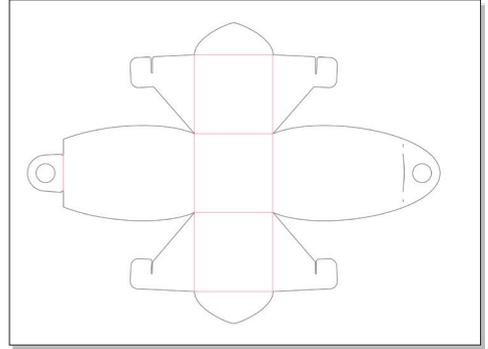
You can design jobs in every version of Adobe Illustrator and CorelDraw.
The graphics must be saved in horizontal (landscape) view.

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.

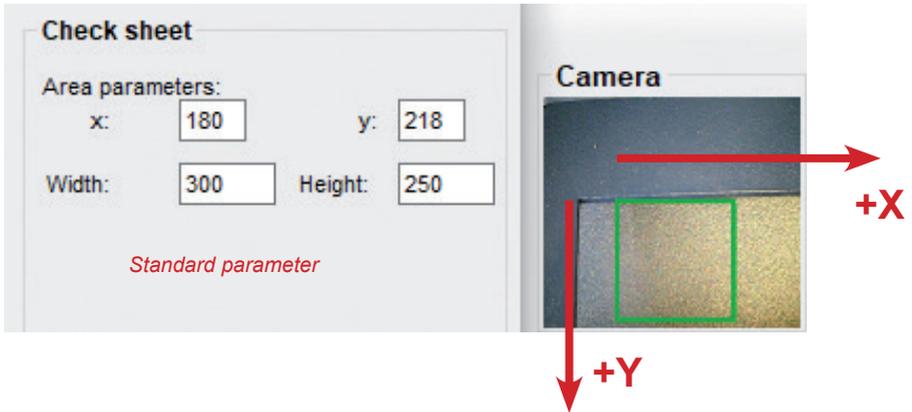
Turn on the feeder and wait until the sheet loader is full lowered. Plug the Gemini’s usb cord into your pc, then open the cutting manager.

2. SHEET AND CAMERA ALIGNMENT

First of all, check the green square position in camera preview.

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 in area shows your viewpoint of the job and how the sheet should be placed according to this setting.

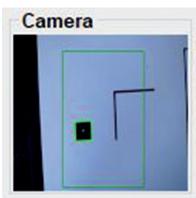
“Set then in “Working mode” if you want to cut labels or boxes.

Add the sheets according to these pictures.

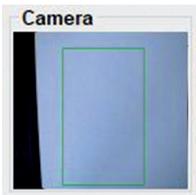


WARNING "When loading, sheets must not be bent over or damaged".

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



For the label's sheet, manually move the material until the blackmark is visible on the camera preview.



For the cut of small boxes, manually move the material until the blackmark is visible on the camera preview.

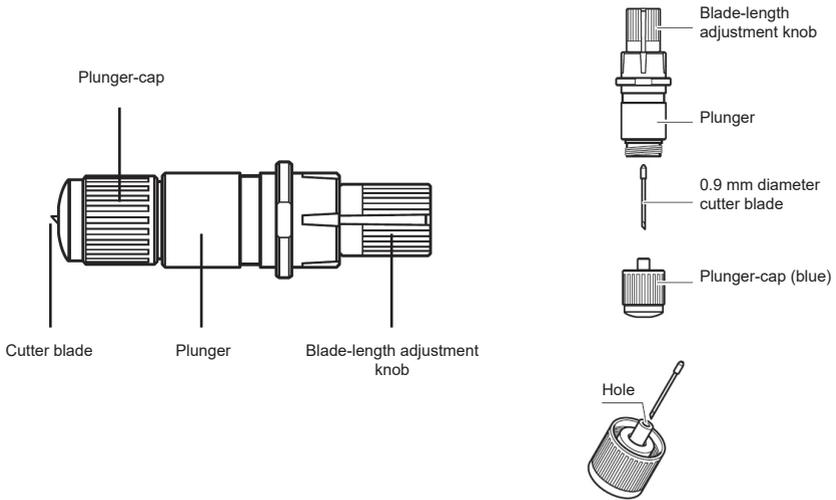
Now align the camera. When cutting labels, move the cameras until the blackmark is directly in the center of the green square.

When cutting boxes, move the camera 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.

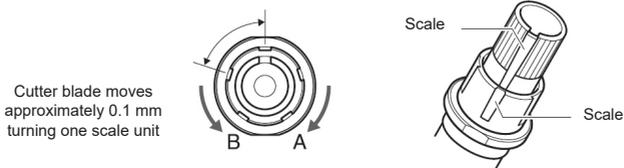


CAUTION:

To avoid bodily injury, handle cutter blades with care.

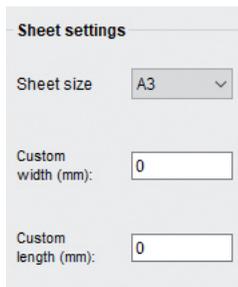
WARNING: Ensure that the blade length is set less than the thickness of the media. If the blade is extended too much, it may result in damaging the cutter blade or the cutting mat.

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. SHEET SETTINGS



Sheet settings

Sheet size: A3

Custom width (mm): 0

Custom length (mm): 0

Set the size of the sheet you are using.

If you select “custom”, enter the width and the length.

5. CUTTING PARAMETERS

LABEL'S CUT

Set in the tag area:



Tag

Enable

Cut length (mm): 40

Space length (mm): 1

Number of passes: 1

Force: 6

Speed (mm/s): 300

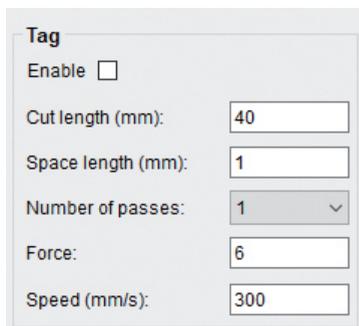
Force: This controls the force of the cutting blade.

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:



Tag

Enable

Cut length (mm): 40

Space length (mm): 1

Number of passes: 1

Force: 6

Speed (mm/s): 300

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 cut.

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 recognized by the Gemini CM software and the “Special color” panel is enabled. You can view these lines on the preview panel while all 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

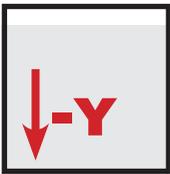
Spacing: sets the space between each parallel line

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.

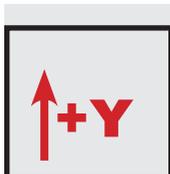
6. CUT TEST

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



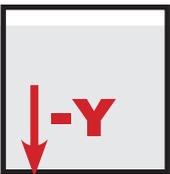
MOVE TO THE LEFT THE CUTTING FILE



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

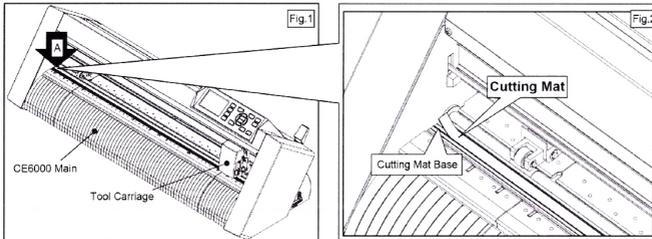


CAUTION:

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.

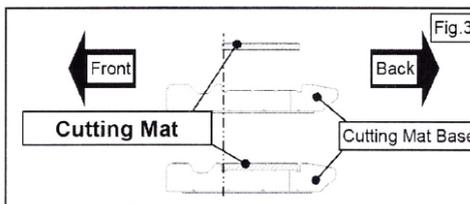
- The cutting mat is attached to the cutting base (fig.2)
- Please remove only the cutting mat from the cutting mat base from the location shown by the arrow (A) (fig.1)



- 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.

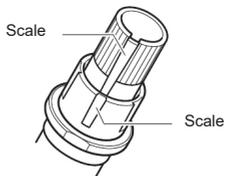
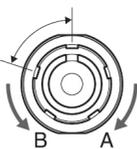
- Fit the cutting mat with the front cutting base grooves (fig.3) and attach it from the location shown by the arrow (A) (fig.1) while peeling off the release paper.



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



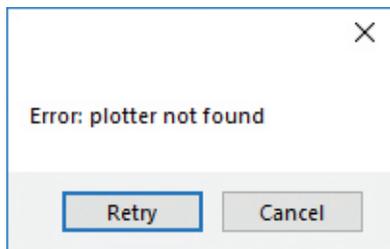
2. Turn the plunger cap in the counter-clockwise direction to remove it from the plunger.
3. Remove the blade from inside the plunger cap.
4. Remove a new blade from its pack. Insert the new blade into the hole provided in the plunger cap.
5. With the blade inserted into the plunger cap, screw on the 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.

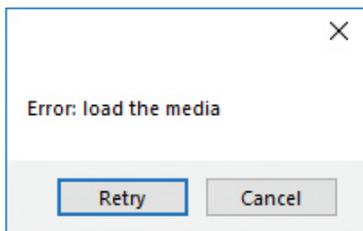
IF YOU ARE EXPERIENCING THE FOLLOWING ISSUES WITH THE ANY OF OUR GEMINI UNIT, PLEASE FOLLOW TROUBLESHOOTING STEPS BELOW

Plotter not found



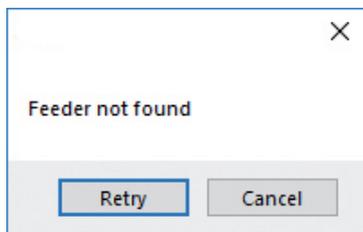
When you launch cutting manager and see this message, make sure that the plotter is connected to the hub, and the hub to the pc. After that if the error persists make sure the plotter is on. If it isn't, switch on and after the display has loaded press 2, then retry.

Load the media



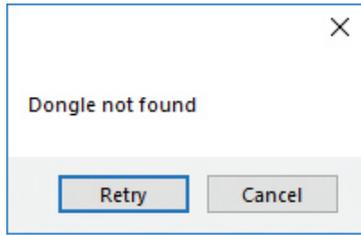
Rise up the plotter's lever and press 2. Wait until the loading on the display has completed. Click now retry on the cutting manager.

Feeder not found



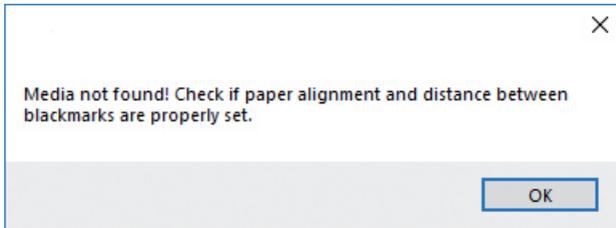
Check if the feeder is supplied and on. If the error persists, check if the hub is connected to the pc.

Dongle not found



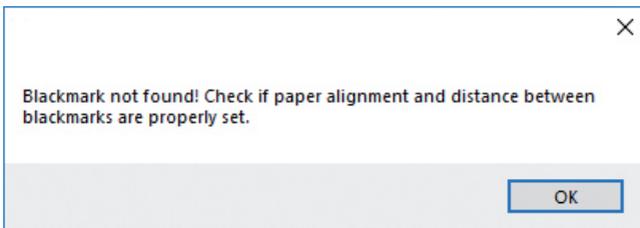
Check if the dongle is plugged to the hub, and if the hub is plugged to the pc.

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*