Océ ProCut

Vision Software

User Manual

Océ ProCut Vision is a user-friendly and advanced production system to control the Océ ProCut Digital Cutting Table to enable accurate and fast cutting of a variety of shapes on a wide range of materials.

This user manual will introduce you the many features and procedures that will enable you to cut typical display graphics jobs. It will guide you through how to install Océ ProCut Vision software, operate the system and use the media library to streamline your workflow.

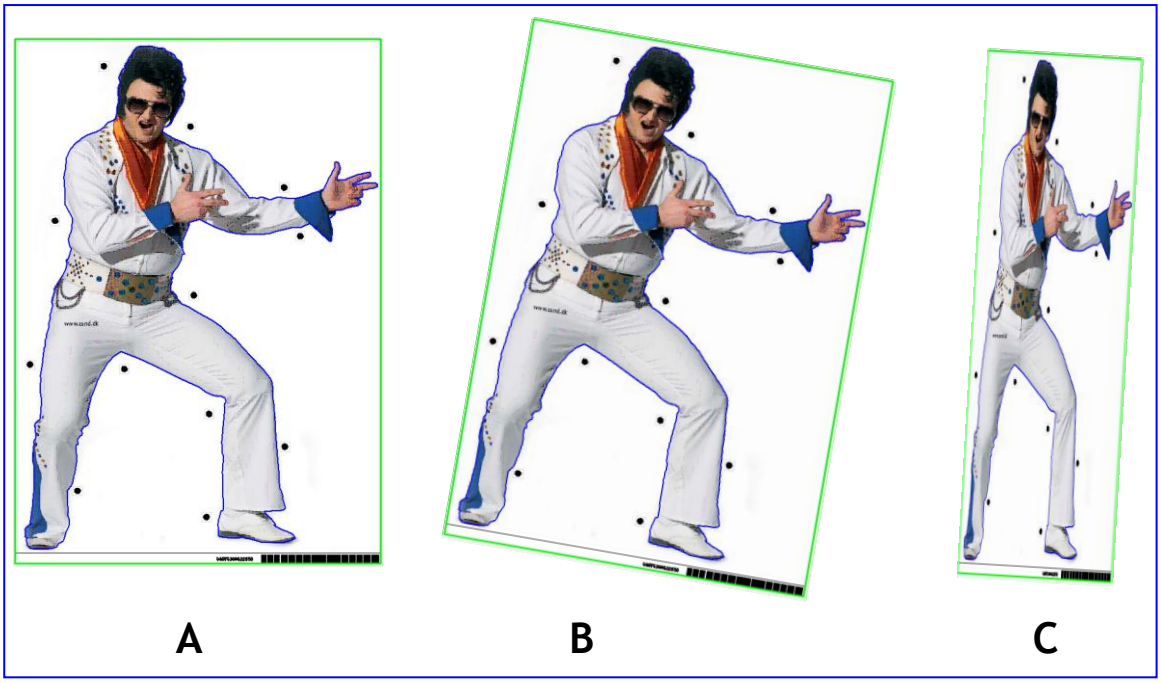
For further information on documentation and support, contact your local Océ representative.

Introduction

Océ ProCut Vision is a very user-friendly and an advanced production system to control a cutting plotter for precise and fast cutting of all kind of shapes. Océ ProCut Vision will typically get production ready files from the program Océ ProCut Prepress, but it can also import files from all other kind of standard design and layout programs. In such cases Océ ProCut Prepress has all the necessary tools to check and prepare the files for production.

The main purpose of Océ ProCut Vision is to trim or contour cut around digital printed images on both sheets and roll material. With use of a digital camera the system will read the pre-printed register marks and cut the graphics very precise even if the printed image is distorted or misplaced compared to the original curve data.

The concept



(**A** no distortion, no misplacement, **B** misplacement, **C** misplacement and distortion)

The main concept of Océ ProCut Vision is to cut exactly the contour of the printed graphics no matter if it is misplaced and/or distorted.

The image and the outline are fitting 100% together when it is created, but after the image is printed in Screen Print, Offset Print or in Digital Print it might be distorted from the original shape due to inaccuracy in the printing method and/or stretch or shrinkage of the media after it is printed. Even if there is no distortion it is difficult to place it exactly at the reference point and without any rotation at the cutting plotter. With other words the image and the contour does not any more match completely.

The printed image is placed on the cutting table and with the bar code scanner Océ ProCut Vision picks up the cutting files matching the printed image. The camera reads the register marks and Océ ProCut Vision compensates for any kind of misplacement and/or distortion and cuts extremely accurate.

Océ ProCut Vision Users Guide

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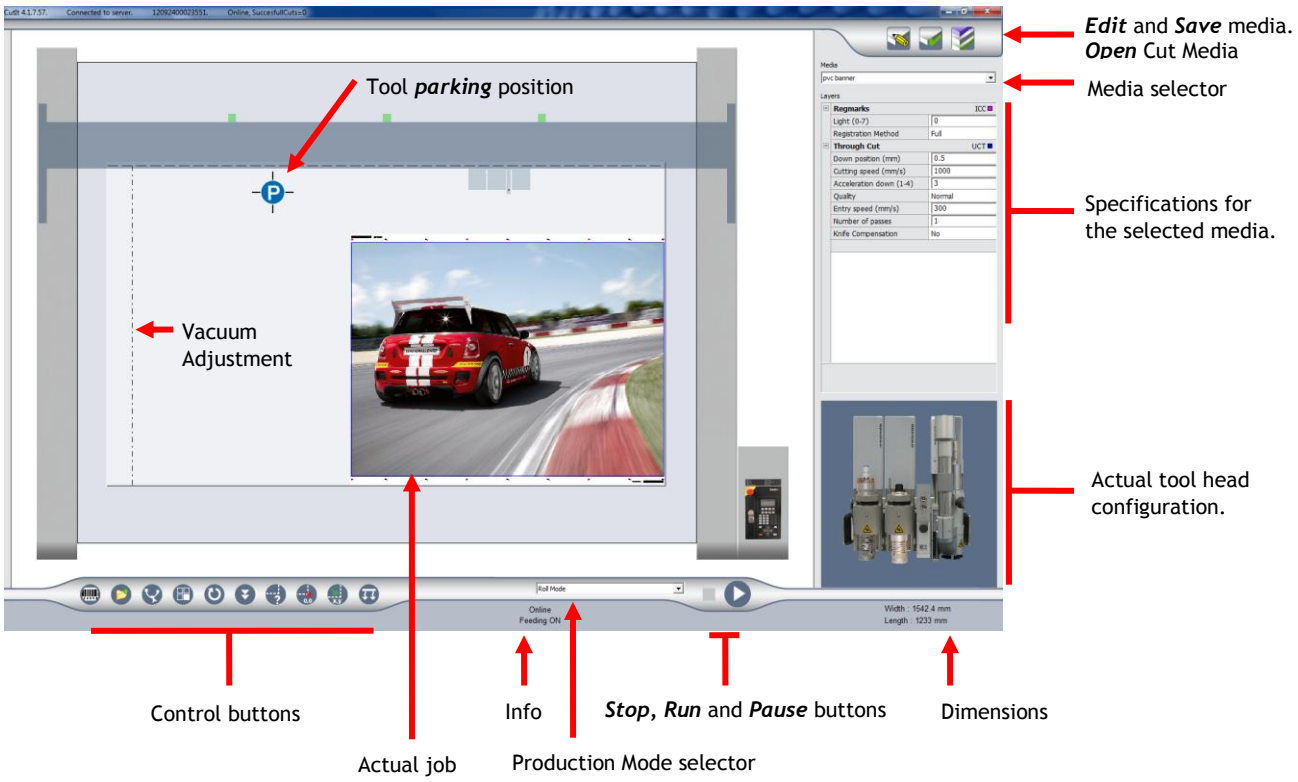
1. General operation of Océ ProCut Vision

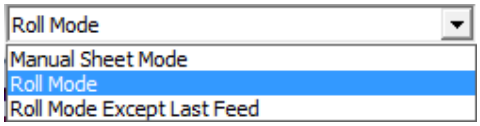
Main Dialog

In the main dialog you find a schematic of the actual cutting plotter. From this dialog it is possible to load jobs, check and prepare them for production. The main dialog will help the operator of the cutting plotter to plan and run the production in the most efficient way and it will help the operator to select the right cutting tools and settings in order to avoid errors and waste of materials. While the production of the current job is running it is possible to load, check and prepare the following jobs and save them in the job queue in order to keep the cutting plotter running continuously.



Production Modes

Production modes can easily be selected from the Main dialog. These three modes are standard shown with regular graphic jobs on a conveyor equipped cutter.



The drop-down menu lists the possible production modes that a user has for a certain job with the available hardware. The modes are automatically changing depending if a job has data in the register mark layer, if the media is enabled for backside operations, if the cutter has conveyor transport, board loading feature etc.

Control buttons (default)

The control buttons in the Main Dialog is default defined in the following sequence for Screens 4:3 resolutions and with the following functionality. The dialog is limited to six enabled control buttons out of thirteen possible buttons.


Open / Import files via barcode


Open / Import (.ai, .cut, .pdf, .dxf, .eps, .ps, .hpgl, .gdc) files


Edit the current job


Set copies dialog


Rotate job 90 degrees clockwise


Switch vacuum on/off

Control buttons (optional)

The following control buttons is default disabled from the Main Dialog and can be activated instead of the active control buttons shown above. On Screens 16:9 resolution it is possible to have up to ten active control buttons shown. The number of buttons shown is controlled from **Setup**, **R-Keys Dialog**.


Feed backwards feeds the media one page (plotter length) backwards


Feed forward feeds the media one page (plotter length) forward


Rotate job 90 degrees counter clockwise

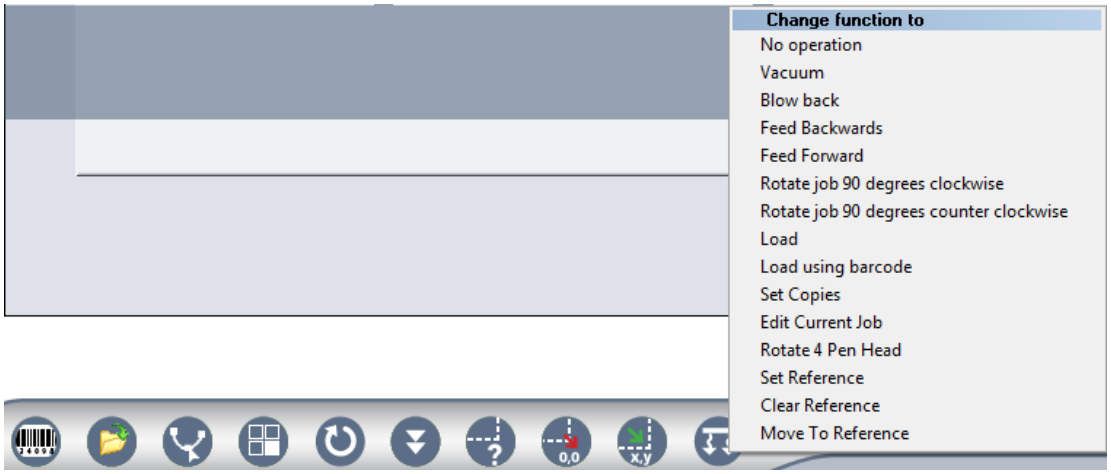

Blow back activates air blowing in order to release the media (only PN-Line plotters)

Set reference start position

Clear reference start position (and go to machine start position)


Move to reference start position

Customize the Control buttons from Main dialog



Hold ***Shift*** and right click at the ***Control Key*** you want to change. Select the new function from the list.

Configuration of the Tool Head

Configuration of tool head is only necessary with all the PN-Line plotters and for the G3 plotters with firmware version 1.40.1 or older versions. In later versions the configuration is done automatically.

Click at the Tool Head in the Main menu to enter the tool configurator.

Tool Configurator

In the top of the dialog you find the possible heads (PN-Line) and modules (G3). With the G3 line you only find one head with a camera and three tool holders. In the left side of the dialog you see the actual tool head configuration, in this case mounted with ***Kiss-Cut***, ***EOT*** and ***Router*** tools.

In the right side you see the different tools available.

Change tools

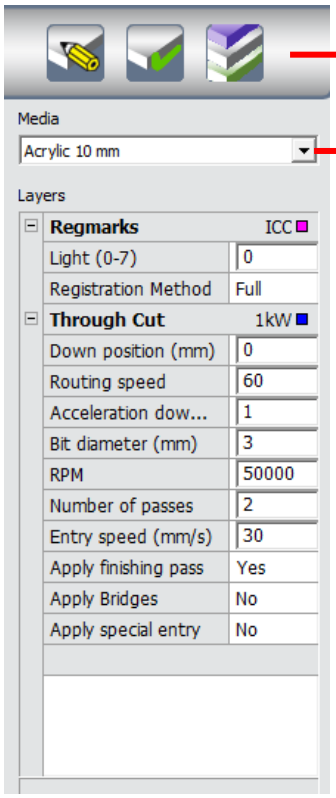
Click at the tool from ***Possible Tools*** and then click at the tool holder where you like the selected tool to be placed. Click ***OK*** to exit the dialog with the new tool configuration.

Important

Make sure that this configuration matches the actual tools mounted at the cutting plotter.

Tool settings

The different tool settings for the current job are displayed in the Main Dialog. It gives the operator a good chance to check if everything is right before the actual cutting is started. From this dialog it is possible to change the settings on the fly for the actual job and also possible to change it in the media library for future use.



Edit and **Save** media. **Open** Cut Media Manager

Media Selector

This example is showing the parameters for the current job which is a 10 mm Acrylic cut with a Router Tool with a 3 mm router bit at a speed of 50000 RPM and a routing speed of 60 mm/s.

Change settings in the current job.

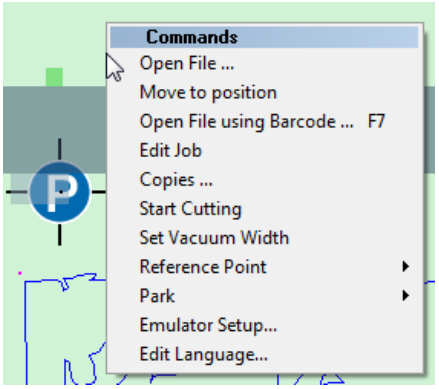
The settings for the current job can be changed at the Main Dialog shown above. These changes will affect the current job only, not the general settings for the media. When this particular job is re-opened all settings from last production will be present in the “layers” dialog.

Change media at the current job.

If the current job is to be produced on a different media, then click at the media selector and choose the new media from the list.

Use of the command dialog in the Main Dialog

Activate the Command Dialog with a right click in the work area of the main dialog.



Function	Description
Open File	Imports AI, Cut, PDF, DXF, EPS, PS, HPGL and GDC files
Move to position	Displays the actual tool position and allow you to enter coordinates for a new position
Open File using Barcode	Import files/jobs identified by barcode
Edit Job	Opens the current job in the editor dialog
Copies	Enter number of copies in the Step & Repeat dialog
Start Cutting	Starts cutting plotter when Online
Set Vacuum Width	The vacuum width will be set to position of the pointer
Reference Point	Setting and resetting the reference point at the cutting plotter
Park	Setting the park position of the cutting plotter to the position of the pointer
Emulator Setup	Only available with a service key. Used for setup of the cutting plotter emulator
Edit Language	Only available with a service key. Used for text customizing

Show tool head or camera in the main menu

In the right hand corner of the main dialog you see either the actual tool head or the camera image

Right click at the tool head to activate dialog where you can change between tool head and camera.

Camera Calibration

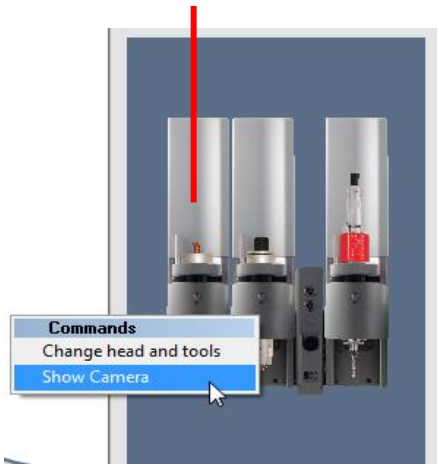
Camera Calibration is a function to enter the distance x and y between tool position 1 (the reference) and the camera. The calibration is done by the technician first time the system is configured. After this you only need to calibrate if you realize an inaccuracy in the registration.

The process is the following:

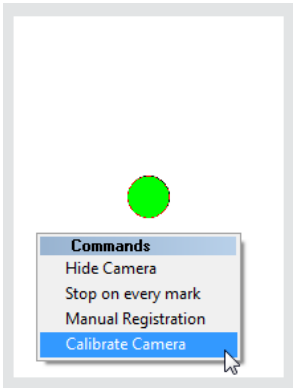
1. Place a piece of media (usually paper or self adhesive vinyl) at the cutting table
2. Move tool 1 (usually a Through Cut or Kiss Cut knife) to a position at the media where you want to cut
3. By activating Camera Calibration the cutting plotter will cut an 8 mm circle in the media
4. The operator are asked to remove the circle and press “ok”
5. The plotter will move the camera in position, automatically enter the correct distances.

Camera Calibration step by step

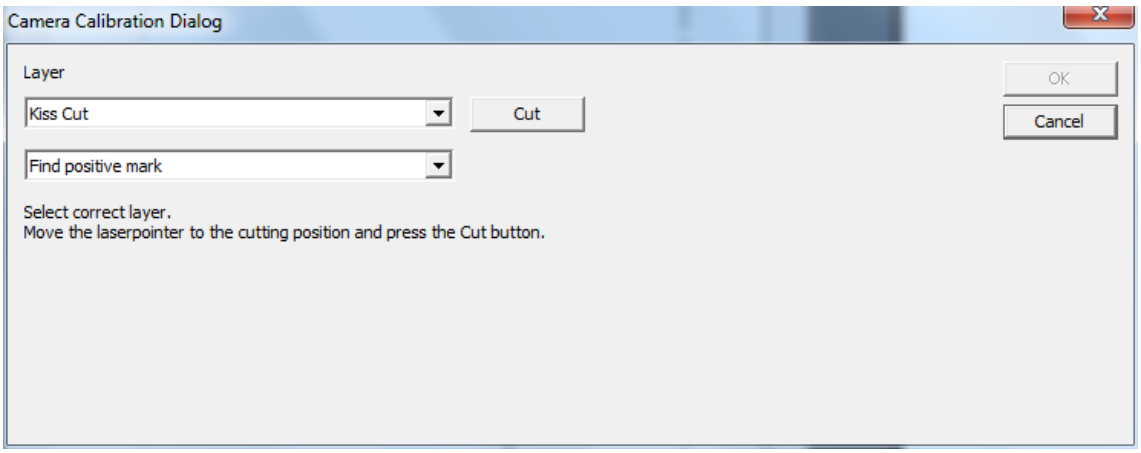
Tool position 1



Right click at the tool head in the Main Dialog and select “Show Camera” to open the next dialog.



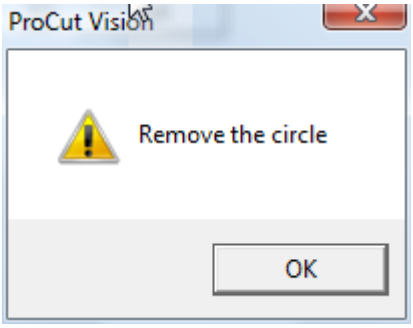
Select “Calibrate Camera” to open the Camera Calibration Dialog



Select the layer in correspondence with the tool mounted in position 1 (in this case Kiss Cut)

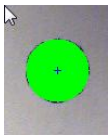
Place the media at the cutting table and move the laser pointer (manually from the keyboard) in position to cut the circle.

If the media is coloured vinyl you will get a lighter register mark, then activate “Find negative mark” and click “Cut” button. If the media is white paper you will get a darker register mark, then leave “Find negative mark” inactive and click “Cut” button.

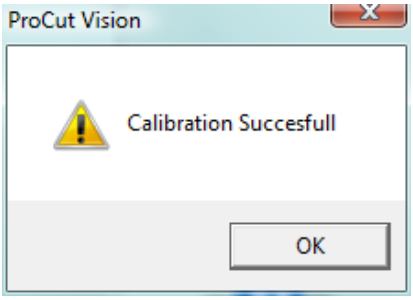


The cutting plotter will cut a circle and ask the operator to remove the circle and press “OK”

The plotter will move the camera over the circle and automatically enter the correct distances.



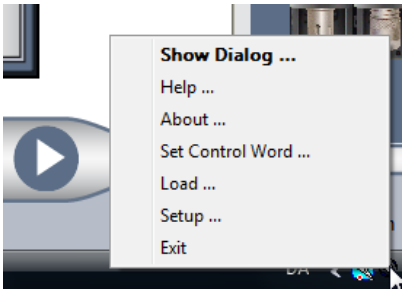
The circle will turn green



A new dialog will show “Calibration Successful” and when you press “OK” the Camera Calibration is finished.

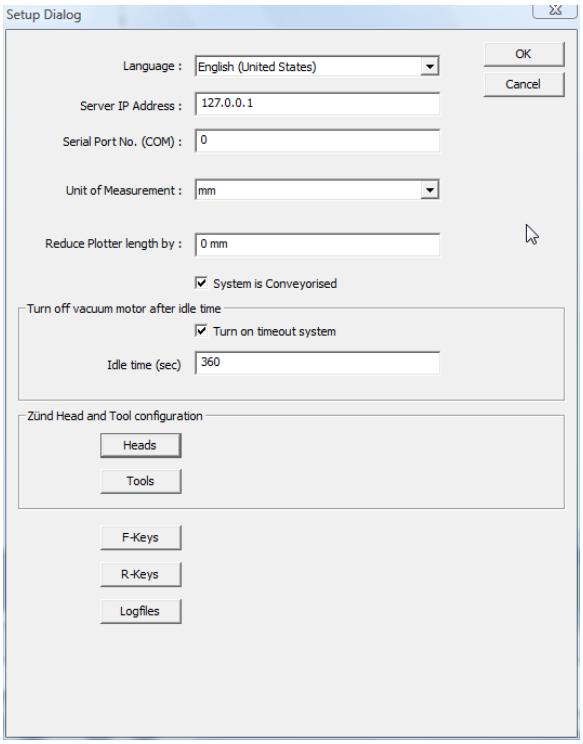
Setup dialog

Right click at the Océ ProCut Vision icon in the task bar to open the setup dialog



Function	Description
Show Dialog	Opens the Main Dialog
Help	Opens the Océ ProCut Vision User Guide
About	Opens a dialog showing the version number and dongle ID
Set Control Word	Opens a dialog showing the current key number and give you access to enter a new control word to activate a new version or new rights for the software
Load	Imports AI, Cut, PDF, DXF, EPS, PS, HPGL and GDC files
Setup	Opens the setup dialog for system setup
Exit	Exits the Océ ProCut Vision software

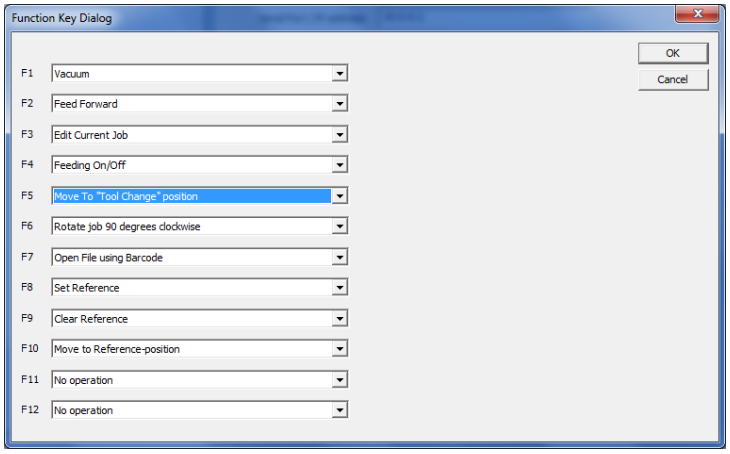
Description of the setup dialog



Language: Select the language for the Océ ProCut Vision software
Server Address: The IP address for the Océ ProCut Vision Server this client is attached to
Port: The number of the serial port connected to the cutting plotter
Units of Measurement: Select mm or inch
Reduce Plotter Length: To reduce cutting length of the cutting plotter.
System is Conveyorised Active if the cutting plotter includes a conveyor belt
Turn off vacuum motor after idle time. The vacuum motor will automatically turn off after the specified time (sec) in idle mode
Heads & **Tools** are used by the technician during installation to specify which heads and tools are available at the actual cutting plotter
F-Keys open a dialog to customize the twelve function keys at the computer keyboard
R-Keys open a dialog to customize the six control buttons in the Main Dialog
Logfiles is a function to create a number of logfiles with production data for diagnostic purposes.

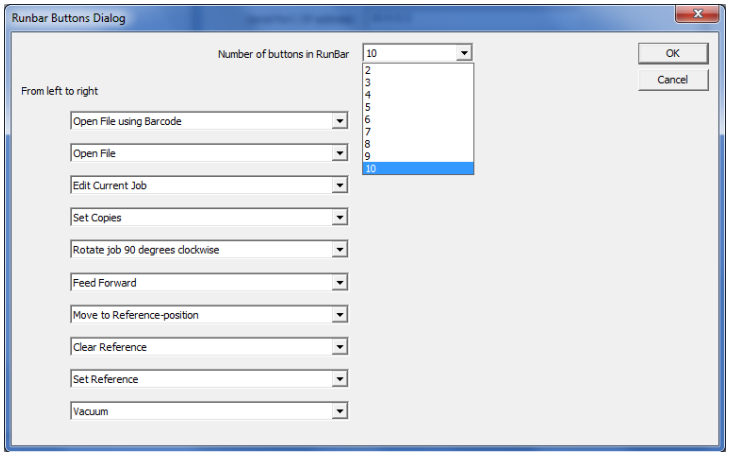
Customize the twelve Short-Cut Function Keys at the computer keyboard

Open the F-Keys dialog in the Setup Dialog. Select the function you want for each of the twelve keys in the list of functions for the actual key.



Customize the control buttons in the Main Dialog

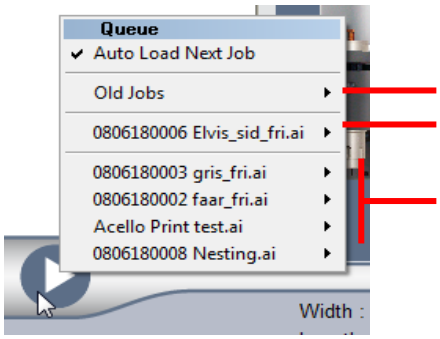
Open the R-keys dialog in the Setup Dialog. Select the function you want for each of the six to ten buttons in the list of functions for the actual button.



Production Queue

The job queue is giving the operator of the cutting plotter the possibility to check and prepare jobs while the plotter is running. The purpose of this is to be prepared before the plotter finishes the current job in order to keep it running all the time to keep the throughput as high as possible. The job queue contains a number of the **latest jobs** that are cut, the **current job**, and a number of **new jobs** ready for production.

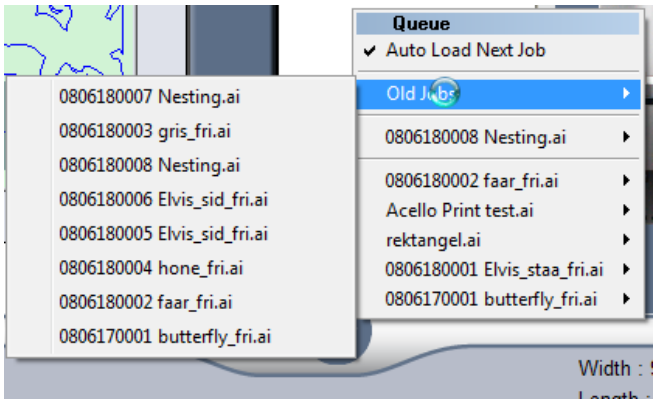
Right click at the run button in the Main Dialog to open the Production Queue dialog. In this case the "Auto Load Next Job" is active which means that it will automatically load the next job from this queue when the current job is finished.



Recent produced jobs
Current job in production

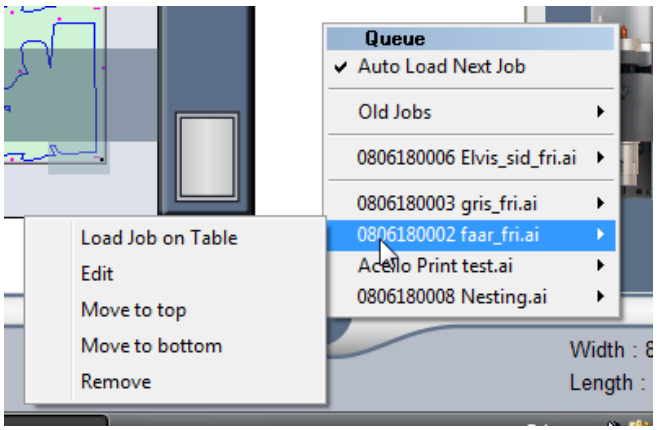
Production Queue with jobs ready for production

Reproduce previous jobs.



With the pointer at "Old Jobs" you will see the list of the latest produced jobs, from where you can choose and move the job back to the production queue in case you need to reproduce it.

Manage the production queue



With the pointer at a job in the Production Queue you get a dialog with the possibilities to **Load, Edit, Remove** or **Move** the jobs within the queue.

2. Media

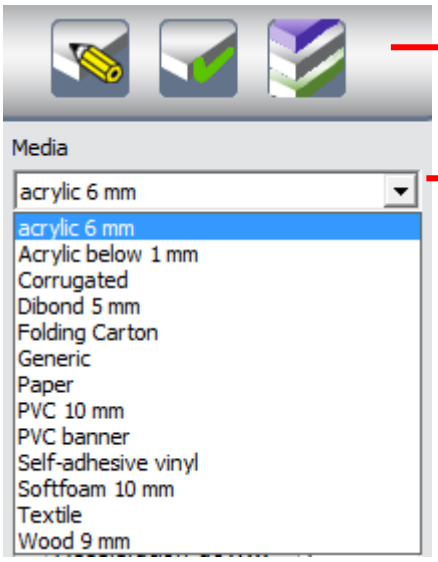
The purpose of media

Each cutting job must be applied to a media before it can be cut while all information about cutting tools is saved in the media specification. A media will always have at least two layers one for the **Register Marks** for camera registration and one for the **Curves** to cut. In some cases there are more layers like with self adhesive vinyl where you have a layer for **Register Marks**, a layer for **Kiss-Cut** and a layer for **Through Cut.** Another example is a cardboard with a layer for **Register Marks**, a layer for **Through Cut** and a layer for **Creasing**

Media Library

The system is delivered with default list of materials. It is possible from the main menu to **Edit**, **Save,** or **Delete** the media. Each media contains all the necessary specifications like **Cutting Tool, Cutting Speed, Cutting passes etc.** for ideal* cutting of the actual media.

** Parameters are conservative and used for guidance. Settings can be further optimized to the individual customer requirements and specific materials.*

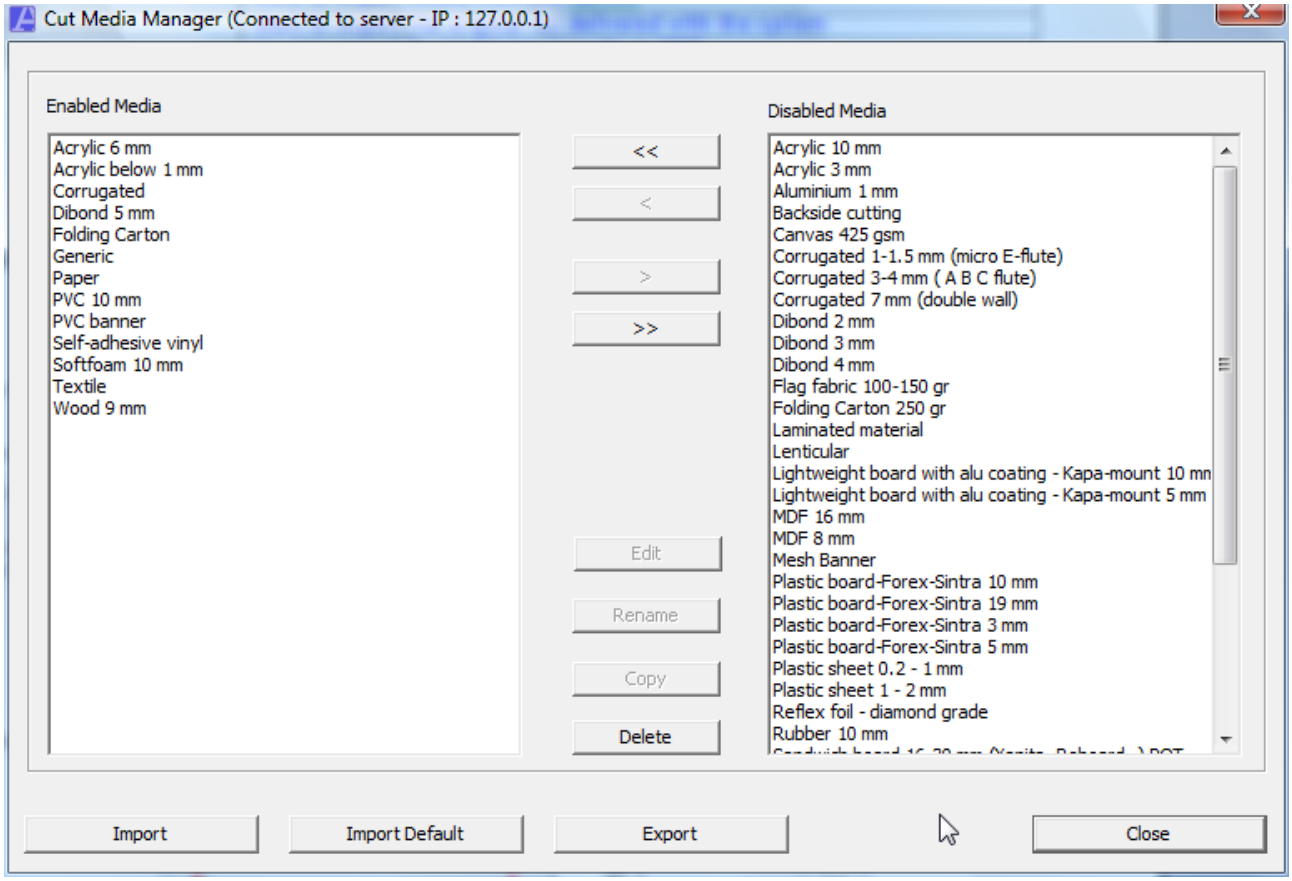


Edit and **Save** media. **Open** Cut Media Manager.

Media Selector will show the list of **Enabled Cut Media**

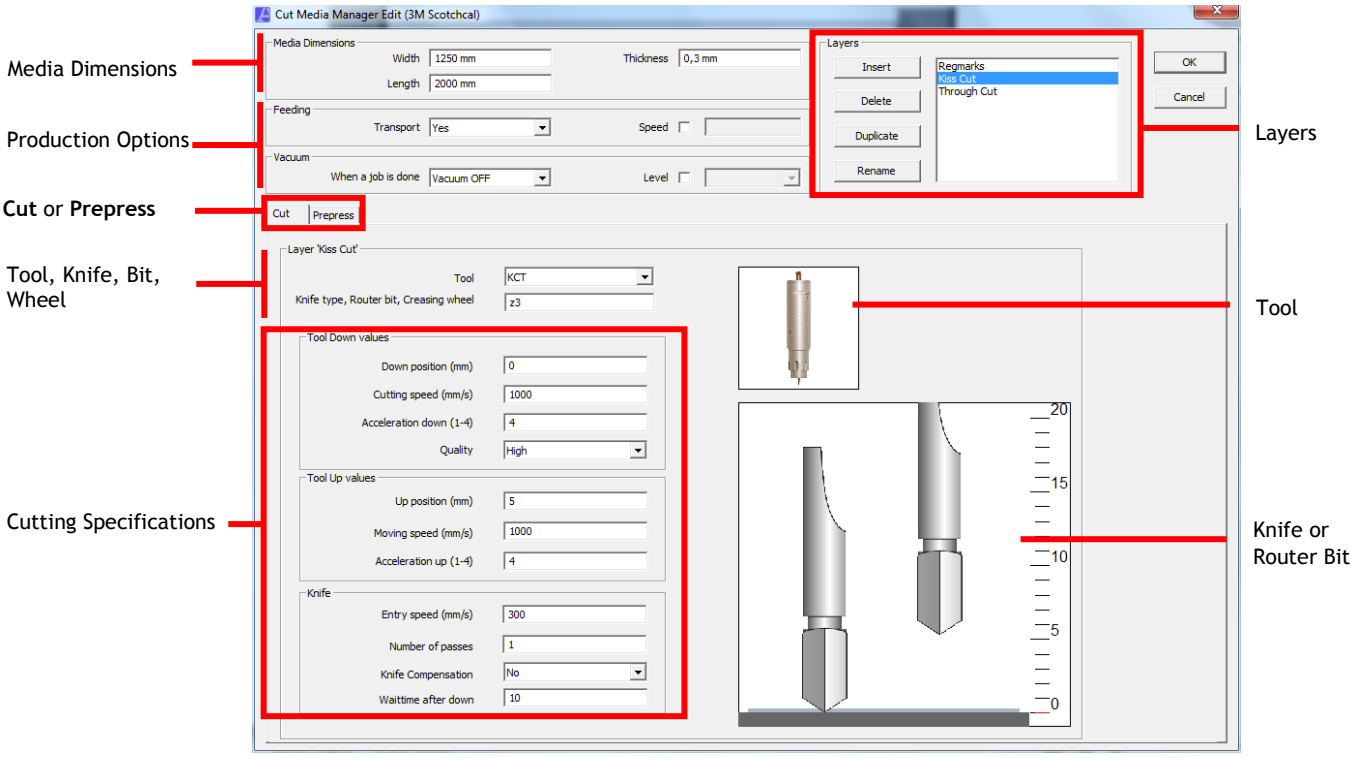
Cut Media Manager

The Cut Media Manager is used to maintain the lists of Cut Media. In the dialog you find a list of Enabled Media and a list of Disabled Media. The idea is that you have a long list of Disabled Media from where you can choose the Enabled Media which you are actually using. With the Cut Media Manager you also have the possibility to Import and Export Media, and in case you need it you can also Import Default media.



Funktion	Description
<<	Moves the complete list of Disabled Media to Enabled Media
<	Moves the highlighted Disabled Media to Enabled Media
>	Moves the highlighted Enabled Media to Disabled Media
>>	Moves the complete list of Enabled Media to Disabled Media
Edit	Open the highlighted media for change
Rename	Used to rename the highlighted media
Copy	Used to create a new media similar to the highlighted media. Copy the media, make the few changes and save it under a new name
Delete	Used to delete the highlighted media. You will get a warning first
Import	Used to import media generated at another system.
Import Default	Used to import the original list of media delivered with the system
Export	Used to export the highlighted media to another system.

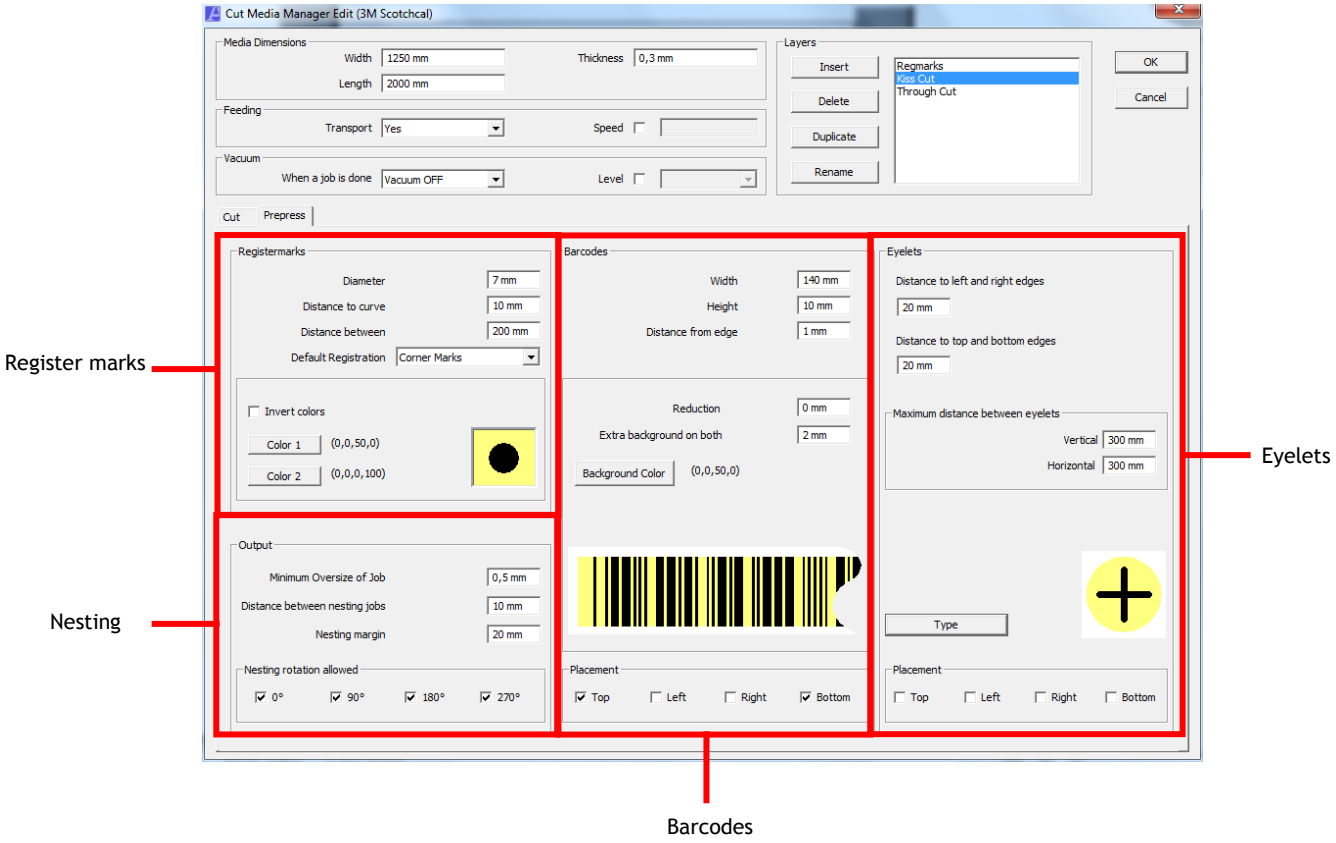
Media Dialog



Area	Description
Media Dimensions	Media Width, Media Length and Media Thickness.
Production Options	Enable or disable automatic feeding. Enable or disable Vacuum and Blow back.
Layers	List of layers for the actual media. Possibility to Insert, Delete, Duplicate and Rename layers. Specifications for the highlighted layer is shown in the bottom part of the dialog
Cut or **Prepress**	Select all **Cut** or **Prepress** parameters to be shown at the bottom part of the dialog. In the above case it is showing the **Cut** parameters
Tool, Knife, Bit, Wheel	Name of the tool assigned to the layer and recommended type of knife, type of router bit or type of creasing wheel. Possibility to select another tool from the list
Tool	Picture of the actual tool assigned to the layer
Knife or Router Bit	Image of the actual knife or router bit shown in down and up position. This area is also showing the cutting surface and the actual media.
Cutting Specifications	Specification for the knife z-position, speed and acceleration when the knife is up and when it is down, and specification for how fast the knife go into the media, number of passes and knife compensation often used for thick media.

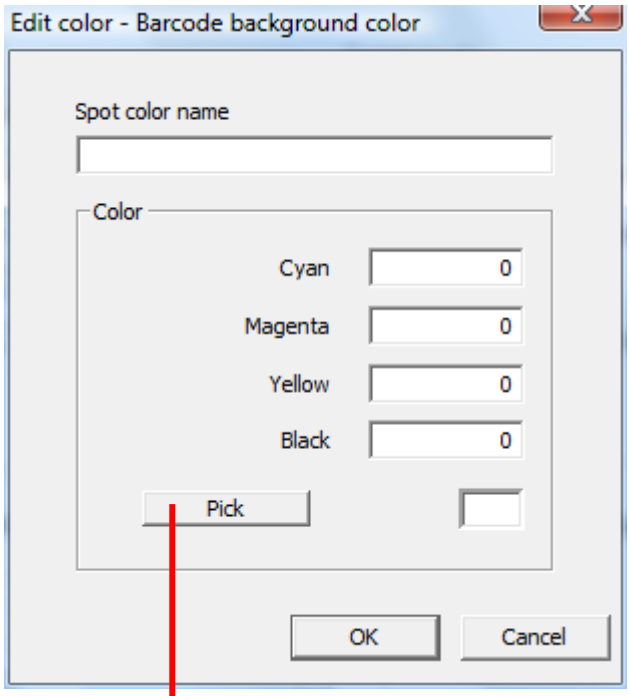
Prepress parameters

It is possible from Océ ProCut Vision to change parameters for Océ ProCut Prepress.



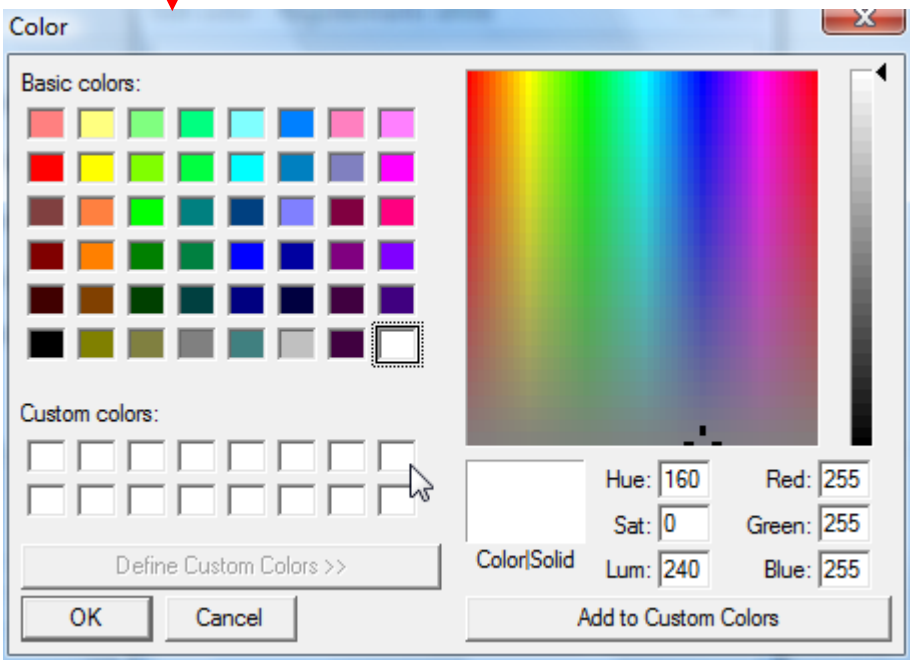
Area	Description
Barcodes	Specification of the Width and Height of the Barcode and the Distance from edge. Reduction is to reduce the width of the bars. If you are printing at transparent media you might need to print a background color for the barcode. In this dialog you can specify the Length and Color of the background. Select up to four Barcodes per job.
Nesting	Specification of the Margin around the nesting, the Distance between jobs, the Minimum Oversize and Rotations allowed for each job.
Eyelets	Specification of the size, type and placement of Eyelets
Register marks	Specification of the size and placement of the Register marks. Specify type of Register marks. Usually you print black Register marks on white material, but in cases where the material is not white you might need to print other colors for the Register marks, and if the material is dark you might even need to print “negative marks” meaning the Register mark is lighter than the background. In this dialog you can specify any color of the Register mark and/or the box around the mark.

Select color for Register mark- and Barcode Background

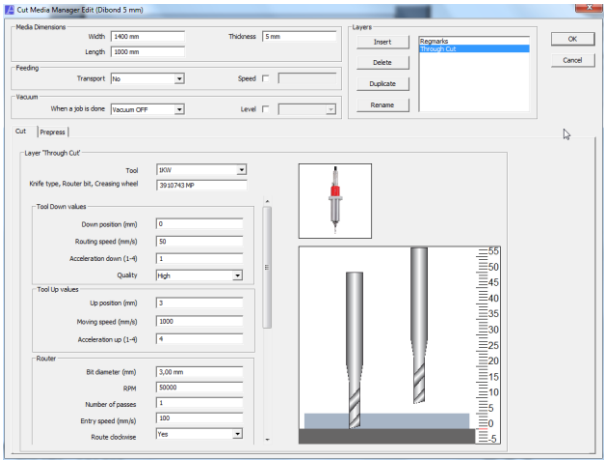


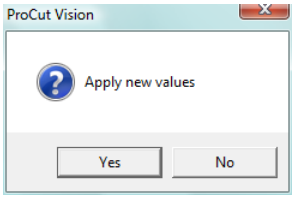
Specify the Spot color name and specify the CMYK values or pick the color from the swatch.

In the color swatch you can pick one of the **Basic colors** or you can define your own **Custom color**



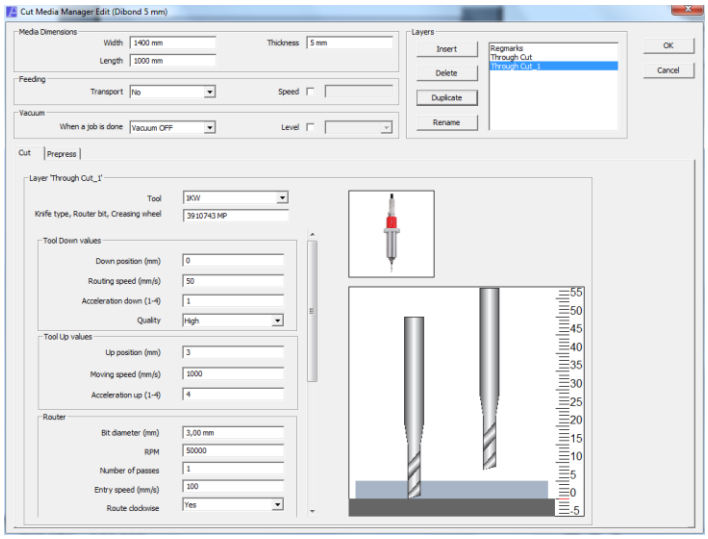
Edit Media



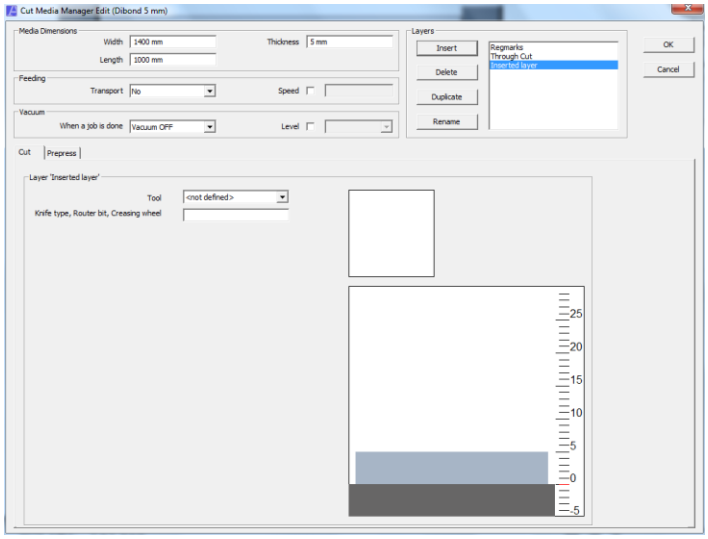


Click the edit button to open the edit dialog for the actual media. Change the parameters in question and click OK. If you only want to save the new parameters in the library but not use them in the actual job, then click NO to the question “Apply new values” If you click YES the new parameters will also be applied to the current job.

Adding a layer to a media

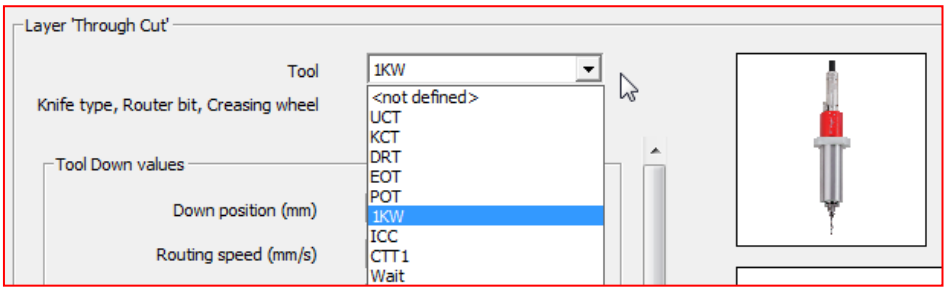


Duplicate generates a copy of the highlighted layer. You can then change the settings you want and give the layer a new name.



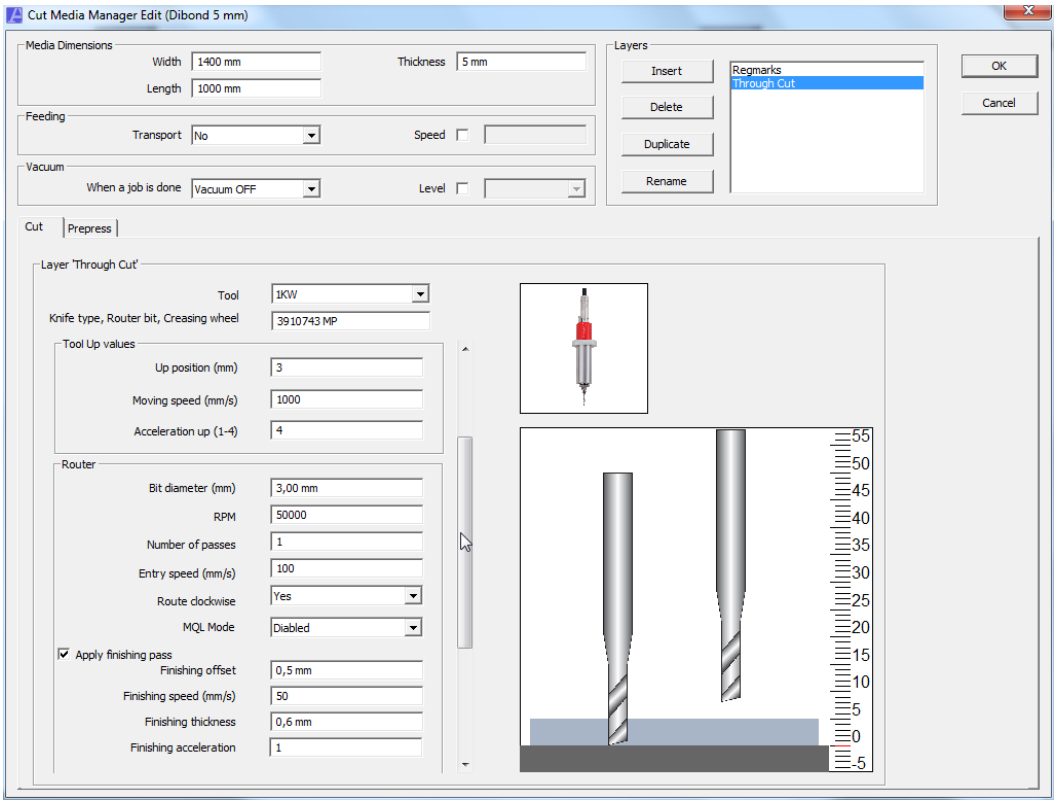
Insert generates a new layer without any specifications. You can then select the tool and settings you want and give the layer a new name.

Assign a tool to a layer



In the tool selector you find a list of the possible tools. An image of the highlighted or selected tool is shown beside the tool selector.

Setting cutting depth, speed etc.



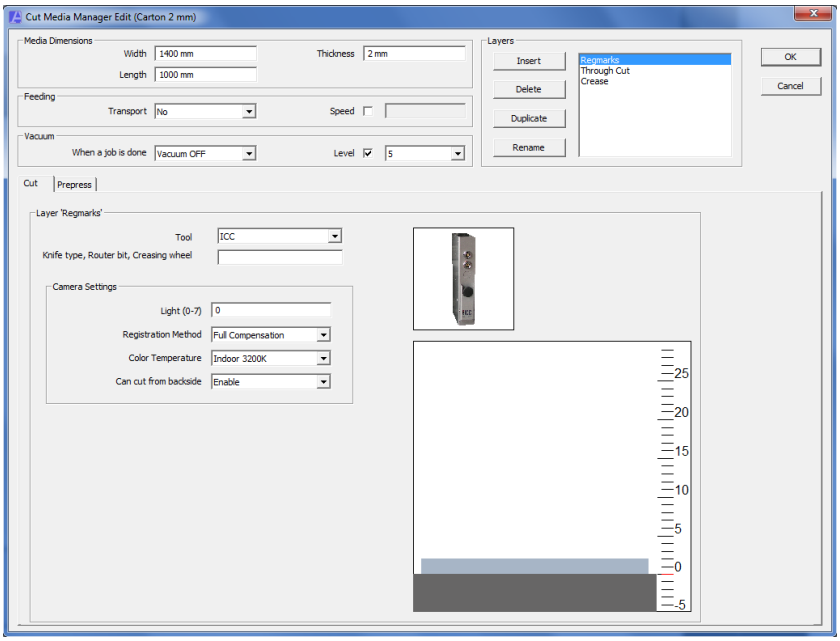
There are a number of specifications like **depth**, **speed**, **acceleration**, **number of passes** etc. for each tool for each media. The schematic of the knife or the router bit shown in up and down position is giving the operator a good idea if everything is correct.

Value	Description
Down position	Usually set to “0” which is the bottom of the media. “-1“ will lift the tool one mm and “+1” will lower the tool one mm
Routing Speed	The speed it moves when the tool is down. In this case 80 mm per second
Acceleration down	Acceleration when the tool is down. In this case 1 meter per second square
Up position	The distance between the top of the media and the tool when the tool is in the up position. In this case 10 mm
Moving speed	The speed it is moving between curves when the tool is in the up position.
Acceleration up	The acceleration when the tool is in the up position

Going through different tool and media specifications

In the following you will find a detailed description of different tools and media in order to give you a good idea of all the possibilities with the media library and functionality of different tools.

Registration Marks Layer (Camera Tool)



The **Camera** is always the assigned to the **Regmarks** layer.

In the field **Light** you specify camera light on/off and the light intensity. O is off and 1 to 7 is light on. 7 is the highest intensity

In **Registration Method** you find three possibilities **Job 1:1, Curve 1:1** and **Full Compensation**

Job 1:1 means that it only compensates for rotation and placement of the complete job

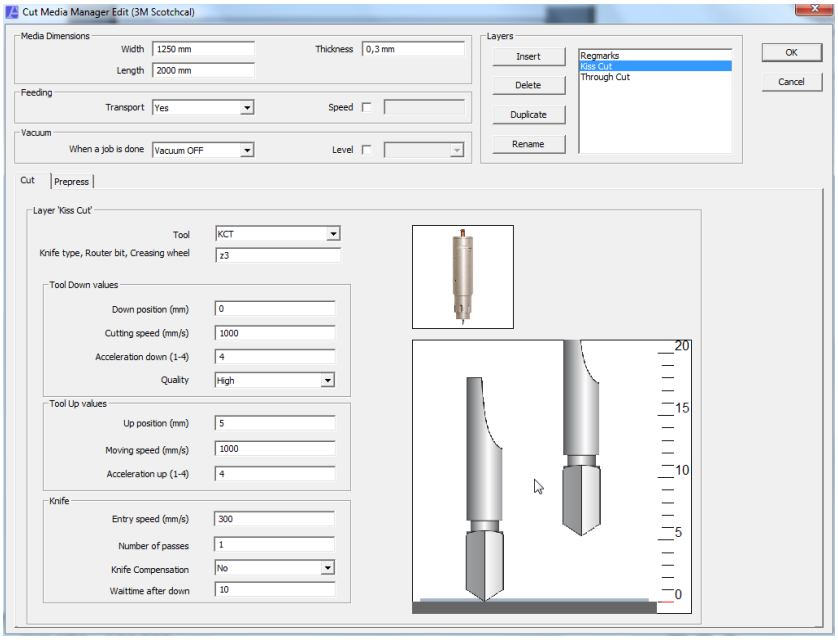
Curve 1:1 means that all curves will be cut as the original file and compensation is only for rotation and placement.

Full Compensation means that it will compensate for rotation, placement, scale and distortion

In **Color Temperature** you find four possibilities **Auto**, **Indoor 3200K**, **Florescent 4500K** and **Outdoor 6400K** In **Auto** the camera will adjust automatically. This does not always give the best result. Then select the color temperature which is closest to the actual light where the plotter is located.

Can cut from backside is used for reverse cutting/creasing operations. If enabled and copies are set to 1 copy – Océ ProCut Vision will cut-out a square hole around each of the register marks in the job. Then the media can be turned upside down and it is possible to register the holes with the camera and cut the media very accurate from the back side. This function is sometimes used with thicker media where the cut is nicer at the backside than the front side or for creasing in corrugated materials.

Kiss Cut layer (Kiss Cut Tool)



Kiss Cut means it is not cutting through all layers but only through the first layer. This is typically used to cut through a self adhesive vinyl without cutting through the back liner.

Media Values are showing the length and the width of the media. The feeding is active (YES) and the vacuum is OFF which means that it automatically feeds the material forward with the vacuum off when the job at the table is finished.

Layers are showing the three layers **Regmarks, Kiss Cut** and **Through Cut** defined for the media. **Kiss Cut** is highlighted which means that all the information in the bottom of the dialog is for the Kiss Cut tool.

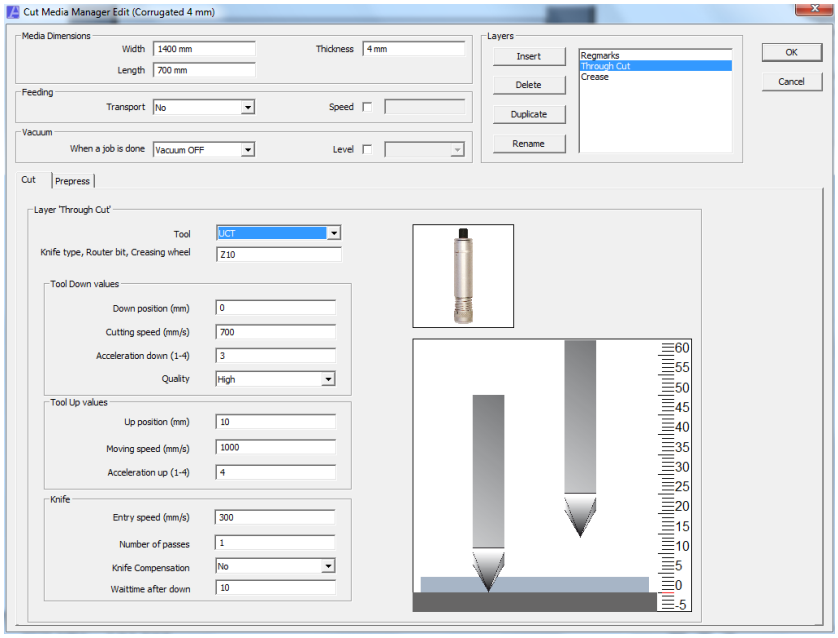
The name of the layer is **Kiss Cut**, the name of the tool assigned to the layer is **Kiss Cut** and the knife is type **Z3**.

Cutter Down values is specifying how deep the knife is going in the material and how fast it is cutting the media.

Cutter Up values is specifying the distance between the top of the media and the knife and how fast it moves when the knife is in “UP” position.

Knife is specifying (Entry speed) how fast the knife should move down in the media, how many times it should cut (Number of passes) the same curve and if the knife should cut sharp corners (Knife Compensation) in a special way.

Through Cut Layer (Drag Knife Tool)

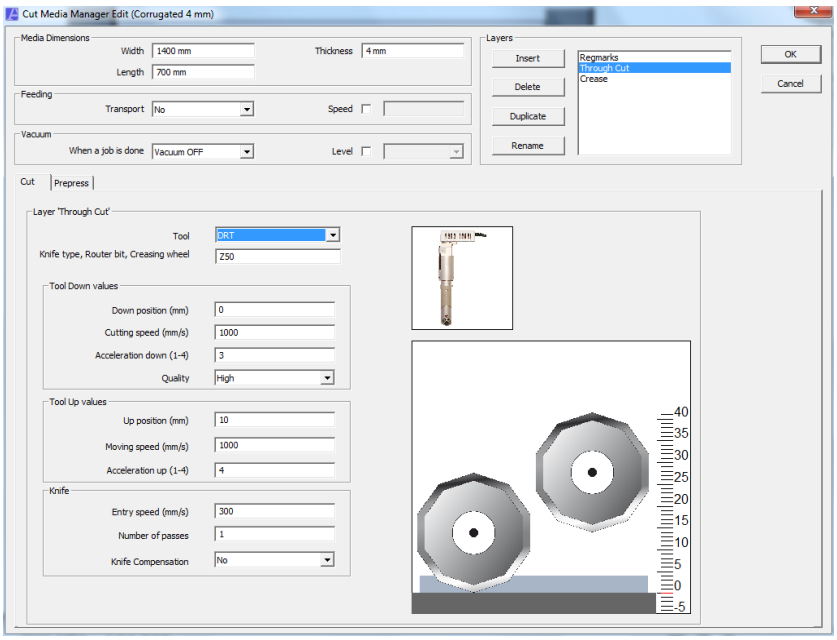


The **Drag knife** is in this case assigned to the **Through Cut Layer** and the actual knife type is **Z10**

A drag knife is typically used to cut PVC, Cardboard, Paper and Kapa

Please note that the “up” acceleration and speed is higher than “down” acceleration and speed.

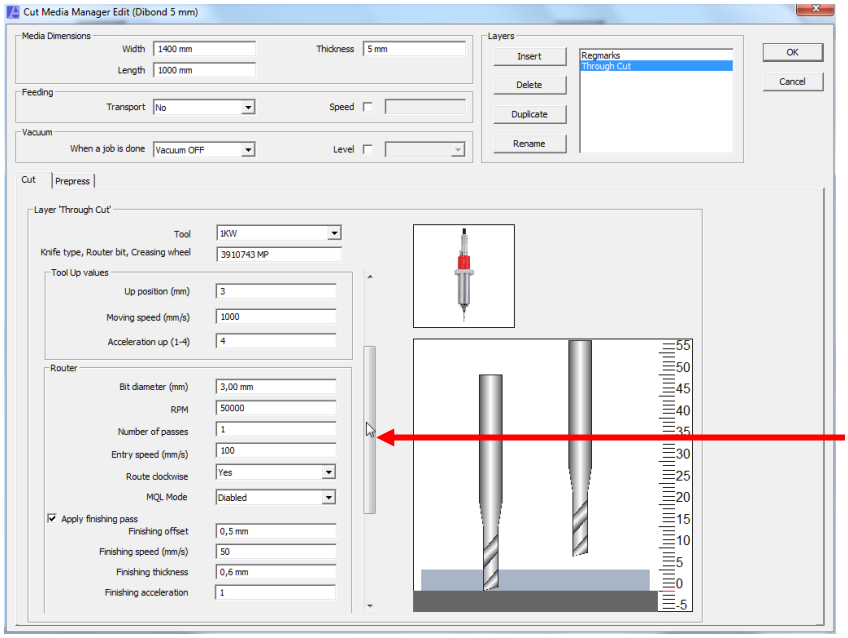
Through Cut Layer (Driven Rotary Tool)



The **Driven Rotary Tool** is a spinning wheel for cutting textiles and fibrous materials.

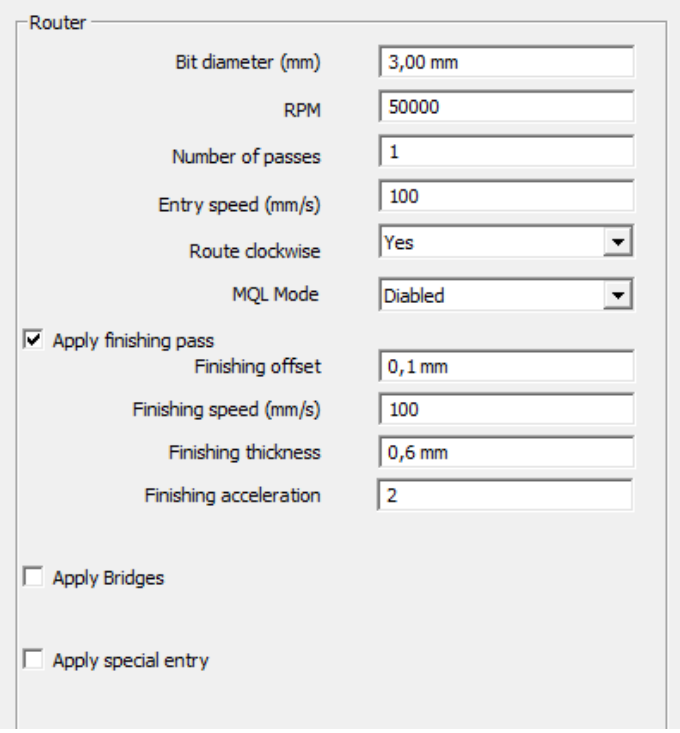
Please note this is also cutting full speed when the tool is “down”

Through Cut Layer (Router Tool)



The **Router** is used to cut harder materials like Hard Foam, Wood, Aluminium, Acrylic etc.

There is a lot more settings for a router than for a knife, so in the dialog for a router you find a scroll bar to access all the settings.



A knife is cutting a thin line and for that reason it cuts in the middle of the curves. A router is cutting a thicker line (in this case 4 mm) away and for that reason it should offset 3 mm (half of the diameter) from the curve in order to cut correctly.

Bit diameter is the width of the actual router bit. The system will automatically offset the cutting curve from the original curve so that the edge of the router bit is following the curve.

RPM is the rotation speed (revolution) of the router bit per minute.

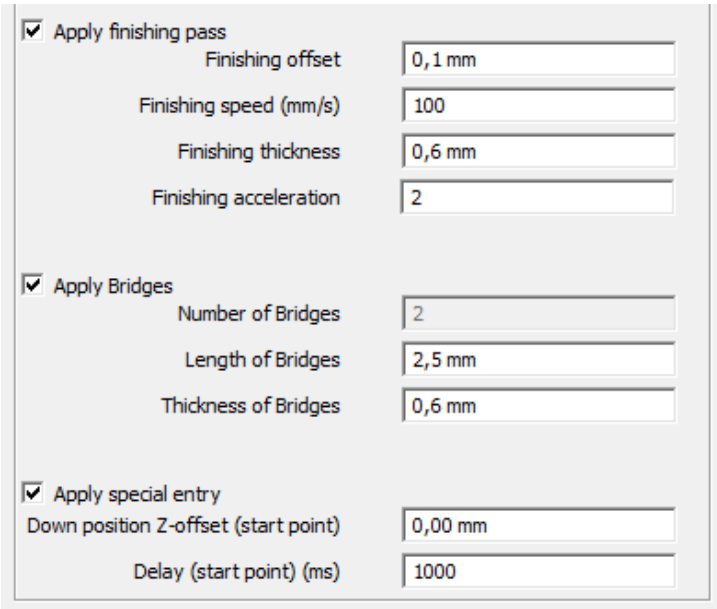
Number of passes specifies how many times it should cut the same curve to get through the media. In this case it will cut half the thickness in the first pass and the rest of the thickness in the second pass.

Entry speed specifies the speed (in this case 30 mm/s) the router bit is moving down through the media.

Route clockwise specifies which direction it should route the curves. (Yes = clockwise, No = Counter clockwise)

MQL (Minimal Quantity Lubrication) is to enable and disable the lubrication system used when routing alluminium and other metals. If MQL is enabled it is also possible to specify the amount of lubrication.

Apply finishing pass



When **Apply finishing pass** is active it will do a last pass to clean the edge. In this case the first pass or passes will offset 0,1mm from the curve, and then the finishing pass will remove the remaining 0,1mm at with the specified speed and acceleration

Finishing speed and **Finishing acceleration** is set to a speed which gives a nice clean edge of the media.

Finishing thickness is the thickness of the remaining material from the previous pass. In this particular case the finishing pass will remove the last 0,1mm from the edge and 0,6mm of the thickness

Apply Bridges

When **Apply Bridges** is active it will not through cut completely, but it will leave some small bridges to hold the inner parts in place. Especially when it is routing small parts which will not be kept in place by the vacuum, it is necessary with bridges. Without bridges a small loose part could easily be damaged by the router. The idea with bridges is to hold the pieces together while routing, and to make it easy to break the parts from each other afterwards.

Number of Bridges specifies the number of bridges (usually 2) in each curve.
Length of Bridges specifies the length (usually 0,5mm to 1 mm) of the bridge.
Thickness of Bridges specifies the thickness of the bridge (usually 0,5 mm to 1 mm)

Example with two bridges in each curve to hold the inner part in place

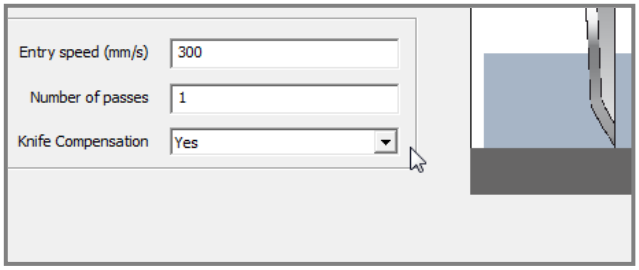
Apply Special Entry

When the router bit is moving down through the media it is sometimes not enough to go to the bottom of the media to get through but necessary to go further down until it is all the way through. When it is through the router bit can lift again to the bottom of the media.

Down position z-offset specifies in mm how much the router bit should go below the bottom of the media.

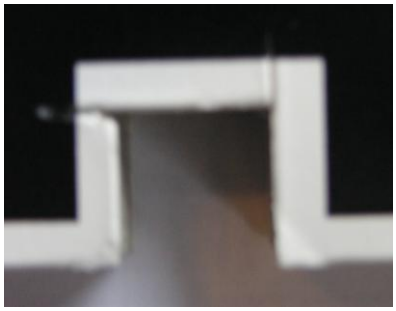
Delay specifies in milliseconds the delay before the router bit lifts and start routing.

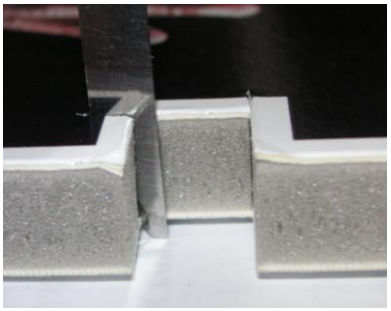
Knife Compensation



When cutting thick materials like for example 10 mm kapa knife compensation should be active to avoid cutting too far in inside corners. With knife compensation active it will stop before it is cutting too far, lift the knife, turn it 180 degrees, lower it again and cut in the opposite direction.

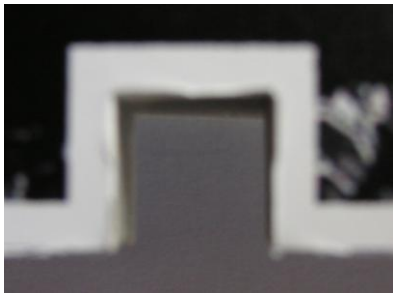
Without Knife Compensation

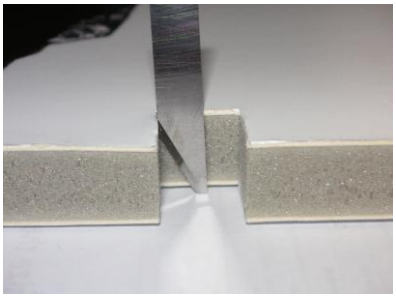




In this case it is cut without compensation where you see the knife is cutting too far in the top of the material in order to cut through in the bottom.

With Knife Compensation





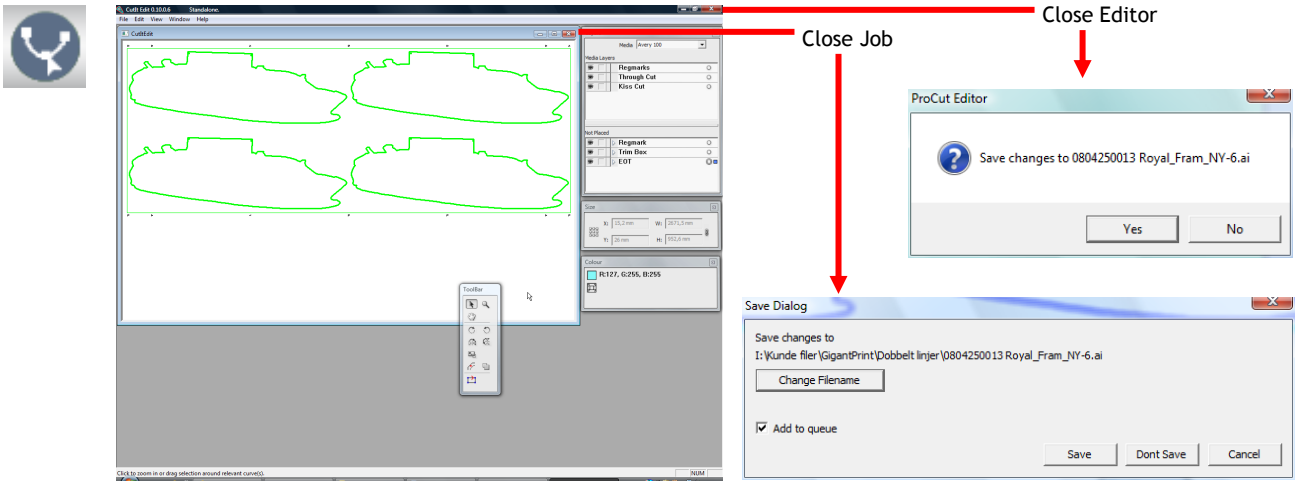
Cutting with Knife Compensation means the knife will stop at the shown position, lift, turn 180 degrees, go down in the corner and cut in the opposite direction

3. Prepare jobs for production

Océ ProCut Prepress

Usually jobs are fully prepared for production with the program **Océ ProCut Prepress.** In such cases it is just to load the job and start the production. In cases where something is missing in the preparation or in cases where you want some changes it is possible to finish the preparation in editor of **Océ ProCut Vision**.

Edit Job



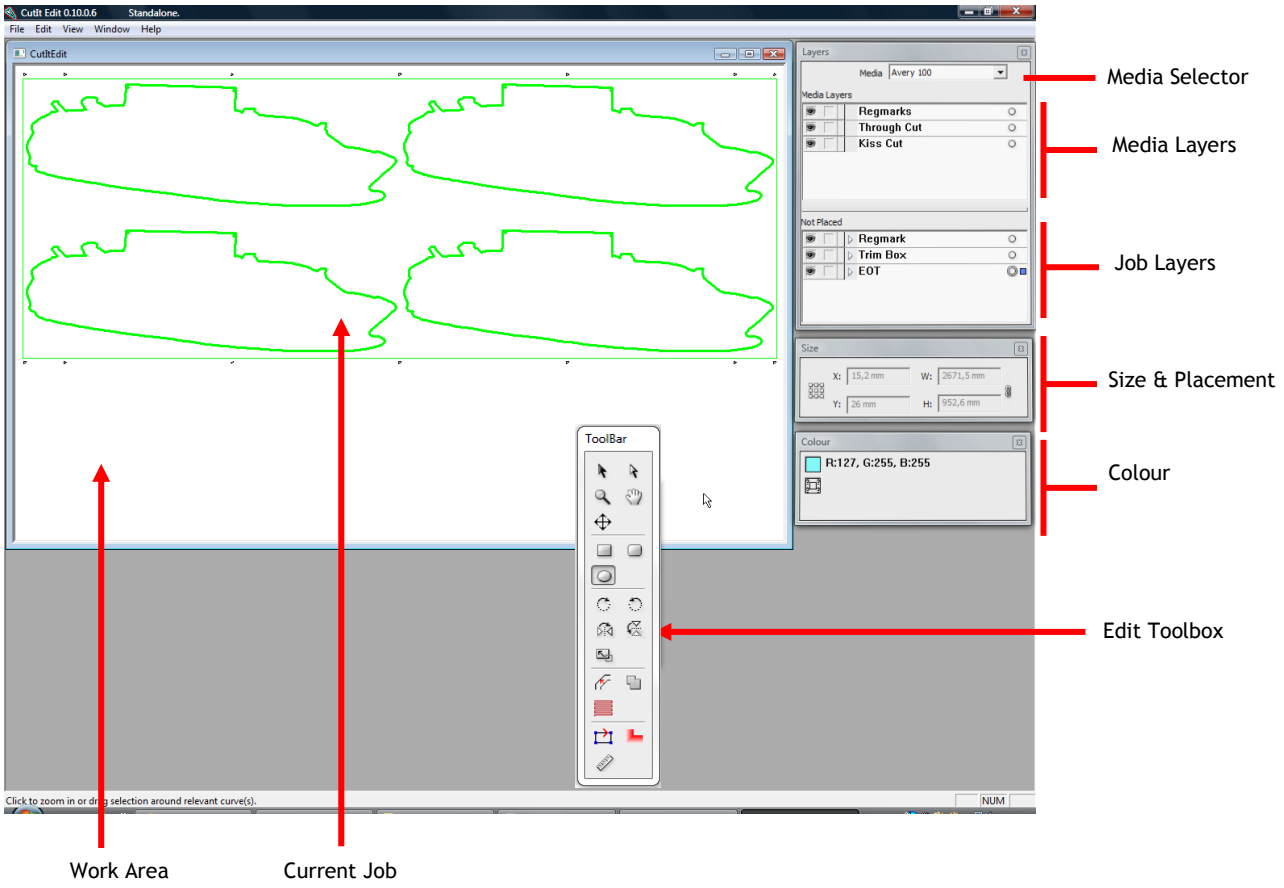
Click the edit button in the Main Dialog to open the editor with the current job loaded. When editing is finished you can close the actual job with the following possibilities:

Close Job

Function	Description
Save and adding to Queue	The changes are saved in the file and will affect the current job. It will leave editor open but return to the Main Dialog
Save without adding to Queue	The changes are saved in the file but it will not affect the current job. The job is closed but it will stay in editor ready to open a new job
Don't Save	The changes are not saved. It will close the job and stay in editor ready to open a new job
Cancel	It will return to editor with the job open
Change Filename	Before you save you can change the filename if you want to keep the original filename unchanged.

When editing is finished you can close the editor with or without saving. Without saving will take you back to Main Dialog but without any changes to the current job. Saving will change the file on the disc and affect the current job and take you back to Main Dialog

Edit Dialog



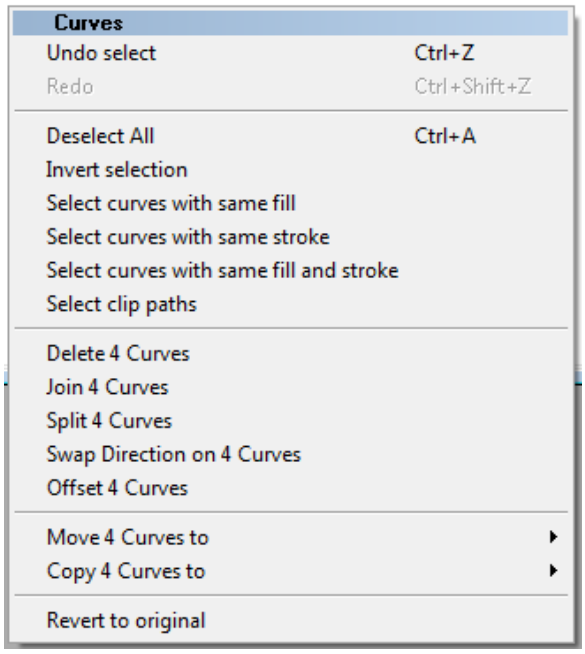
Area	Description
Media Selector	Access to the media library
Media Layers	List of the different layers assigned for the actual media. In this case it is a self adhesive vinyl with **Regmarks, Kiss Cut** and **Through Cut**
Job Layers	List of the different layers used in the actual job. Since these three layers have different names than the media layers they have to be placed manually
Size & Placement	Display the size and placement of the job, the selected curve or the group of selected curves.
Colour	Display the colour of the selected curve(s)
Edit Toolbox	A toolbox with **select**, **zoom**, **grab, rotate, mirror, scale, offset, merge, change direction** and **show tool offset** tools (see description in page 30)
Work Area	Area where the actual job is displayed
Current Job	The job to be edited

Select curves

Before you can edit you need to select which curves you want to edit. There are the following ways to select curves:

1. Click inside the curve to select the curve
2. Shift and click inside the curve to select the curve and leave previous selected curves selected
3. Click and drag a box to select all curves that touches the box
4. With one curve selected you can right click to open a dialog with the following choices:
    a. Select curves with same fill
    b. Select curves with same stroke
    c. Select curves with same fill and stroke
5. Right click in the work area to open a dialog where you can select all curves
6. Click at the "o" in the media and/or job layers to select all curves for the specific layer

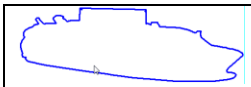
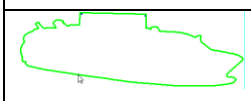
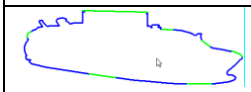
Curves Dialog



Select the curves you want to edit and right click in the work area to open the **Curves Dialog**. The dialog will show how many curves you have selected and give you a range of possibilities with the curves. **Split** and **Join** is explained in the example below. **Select** and **Delete** is self explanatory. **Swap Direction** is used to change the cutting direction of a curve. This function could be used in combination with routing for example to give a nicer cutting edge. **Offset** curves is used to make a contour **outside** if you want to cut outside the graphics or a contour **inside** if you want to cut inside the graphics. **Move** and **Copy** is used to move the selected curves to a specific layer in the media.

Revert to original will delete all manipulations and go all the way back to first time the job or curve were loaded this program.

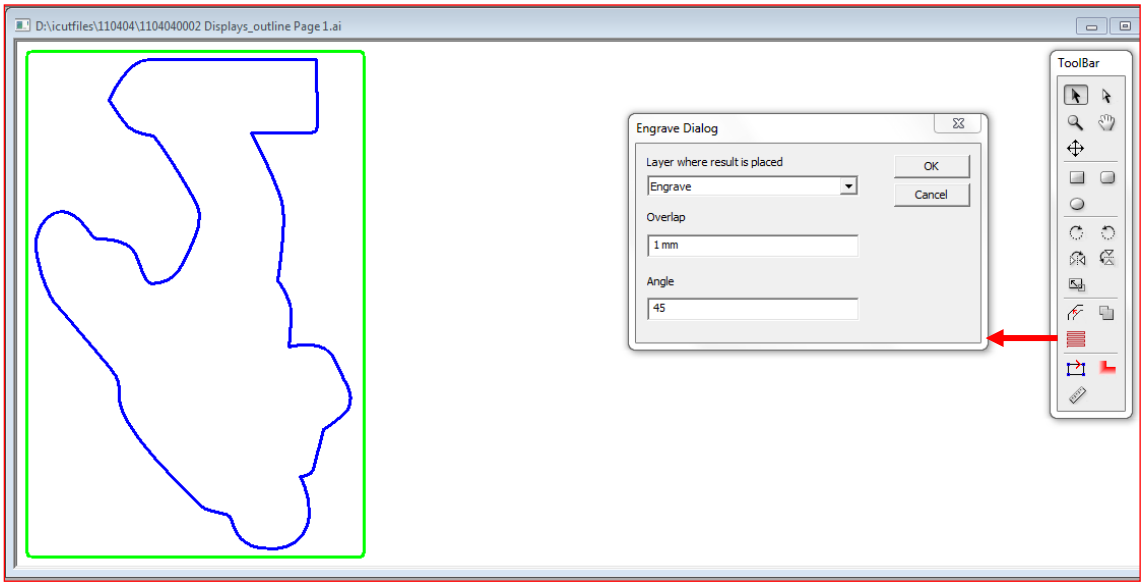
Example with use of select split and delete

	This curve is made of a number of small arcs and lines. If they are joined it will act as one complete curve which can be selected as one curve with a click inside the curve.
	The curve is selected and the **"Split Curve"** is activated in order to split the complete curve in a number of arcs and lines. **"Join Curves"** is the opposite of "Split Curve"
	Click with the pointer at the curve and you will see it is no longer a complete curve but divided in small arcs and lines. As an example seven of these arcs and lines are selected and "Delete" is activated
	The result after delete of the seven selected curves

Edit Tool Bar

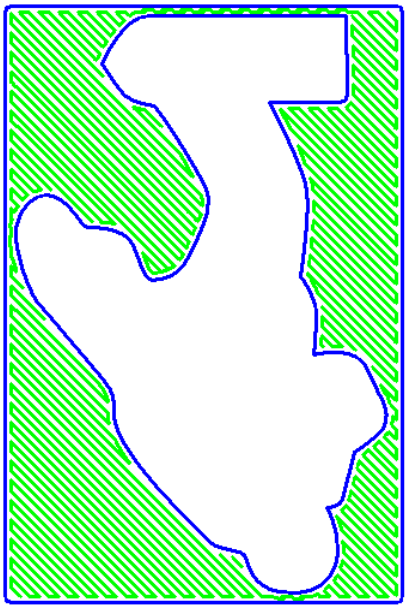
	The **pointer** and **select** tool
	The curve **edit** tool
	The **zoom** tool. Activate the tool and click with the mouse to zoom in. Hold “Alt” and click to zoom out
	The **grab** tool. Activate the tool and grab the curve you want to move within the work area
	The **move** tool. Activate the tool and click the mouse to get the dialog for selecting the anchor point and the x,y coordinates
	Create a **rectangle.** Activate the tool and click the mouse to get a dialog for selecting the anchor point and for specifying the x,y coordinates for placement and specifying the size. Or click the mouse and drag the mouse to get the size and shape.
	Create a **rectangle with round corners.** Activate the tool and click the mouse to get a dialog for selecting the anchor point and for specifying the x,y coordinates for placement and specifying the size and the corner radius. Or click the mouse and drag the mouse to get the size and shape.
	Create a **circle or ellipse.** Activate the tool and click the mouse to get a dialog for selecting the anchor point and for specifying the x,y coordinates for placement and specifying the size. Or click the mouse and drag the mouse to get the size and shape.
	Rotate the job 90 degree clockwise or counter clockwise. This tool works on the complete job not only the selected curves
	Mirror the job vertical or horizontal. This tool works on the complete job not only the selected curve(s)
	Scale the job in % uniform or non-uniform. This tool works on the complete job not only the selected curve(s)
	Create a contour inside or outside the selected curve. Keep or remove the original curve. Specify the layer for the new contour
	Merge selected curves
	Engrave hatch fill tool to remove an area in certain depth using the router.
	Show **points, start points** and **cutting direction** of all curves in the complete job
	Show **tool offset** of all curves in the complete job

Engrave - Hatch Fill

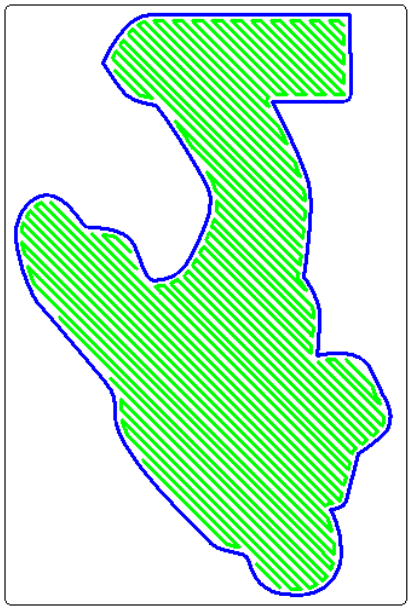


The function is used to remove an area in a certain depth with the router. It is useful for e.g. backside mounting of LED's, engraving etc.

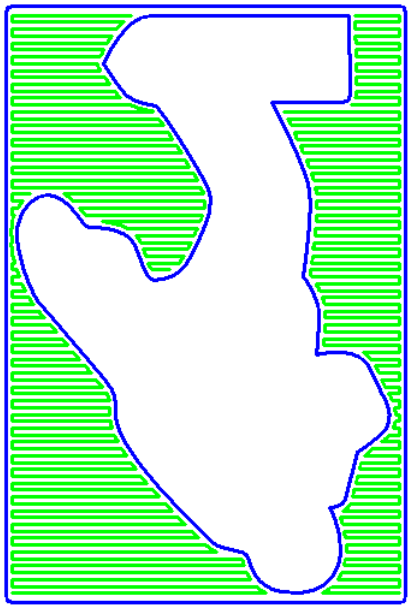
Select the curve and press the engraving tool to open the Engrave Dialog for specification of the **layer** where the engrave curves should be placed, the **overlap** and the **angle**



In this example both curves were selected and a 45° angle were specified

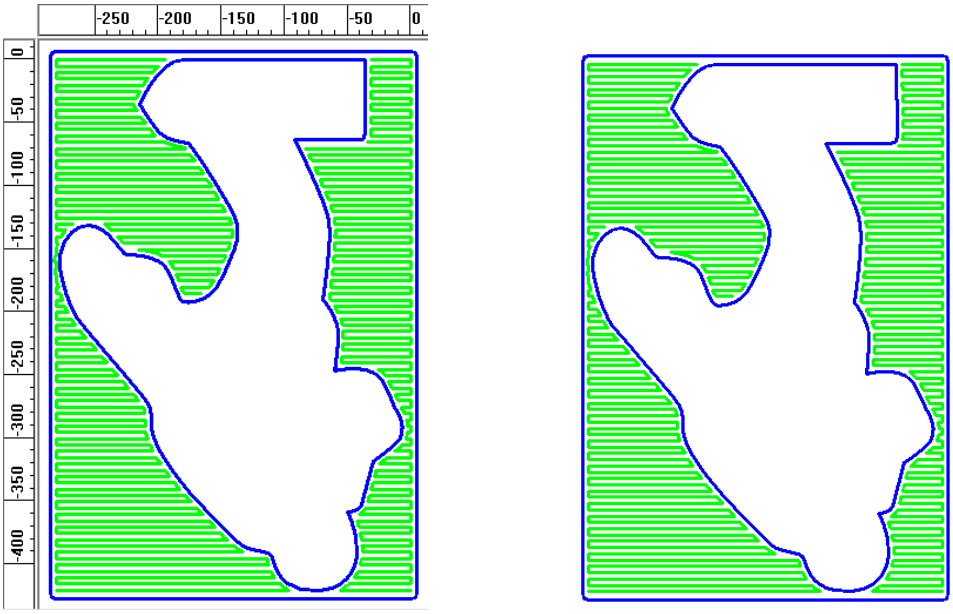


In this example only the inner curve were selected and a 45° angle specified



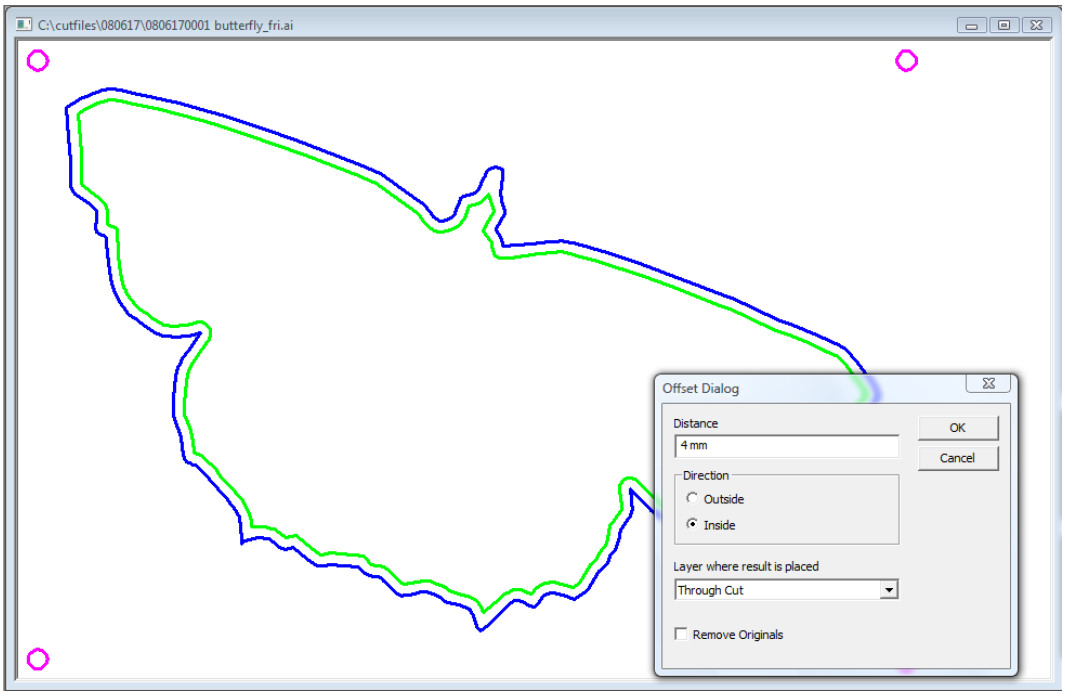
In this example both curves were selected and 0° angle specified

Show ruler



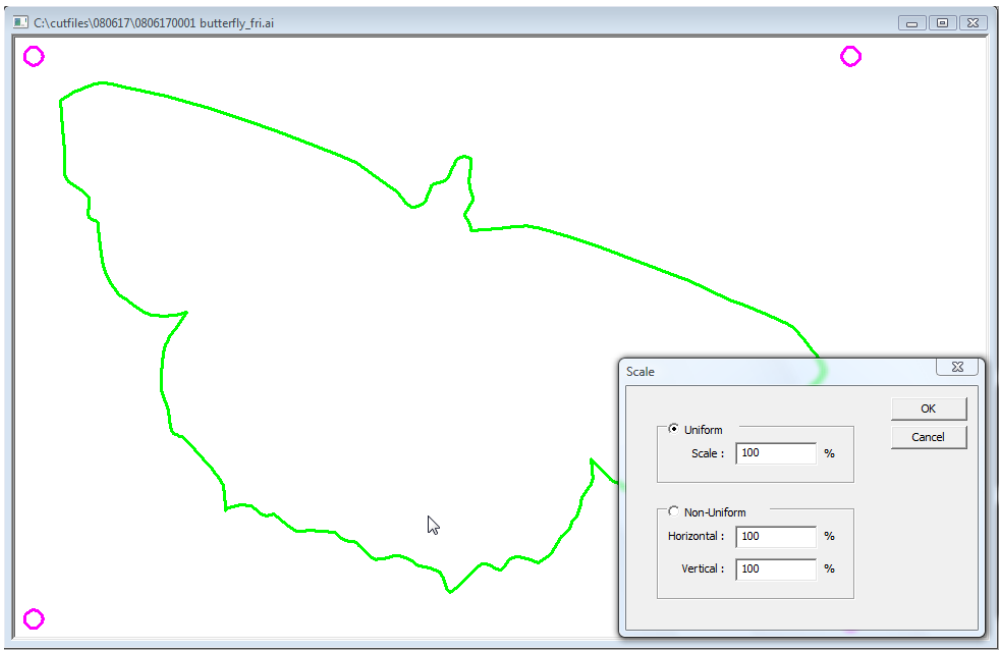
The job shown in the editor with and without ruler

Offset Curve



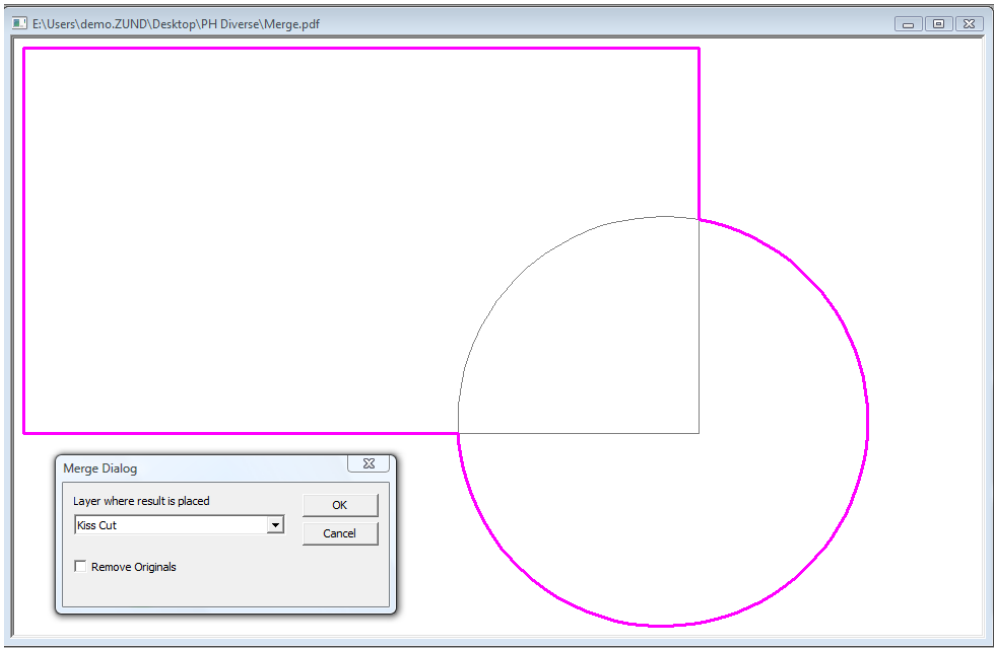
In this example we created a contour (green) 4 mm inside the original curve (blue) and placed the new curve in the “Through Cut” layer. In this case we did not remove the original curve which we usually do

Scale



With scale you have the possibilities to scale the complete job in percentage of the original 100% With **Uniform** you scale the same percentage in both directions and with **Non-Uniform** you can scale different in the two directions.

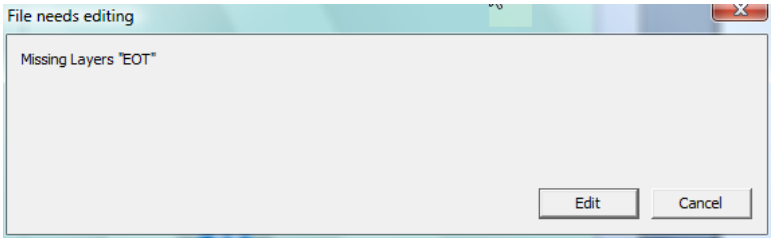
Merge



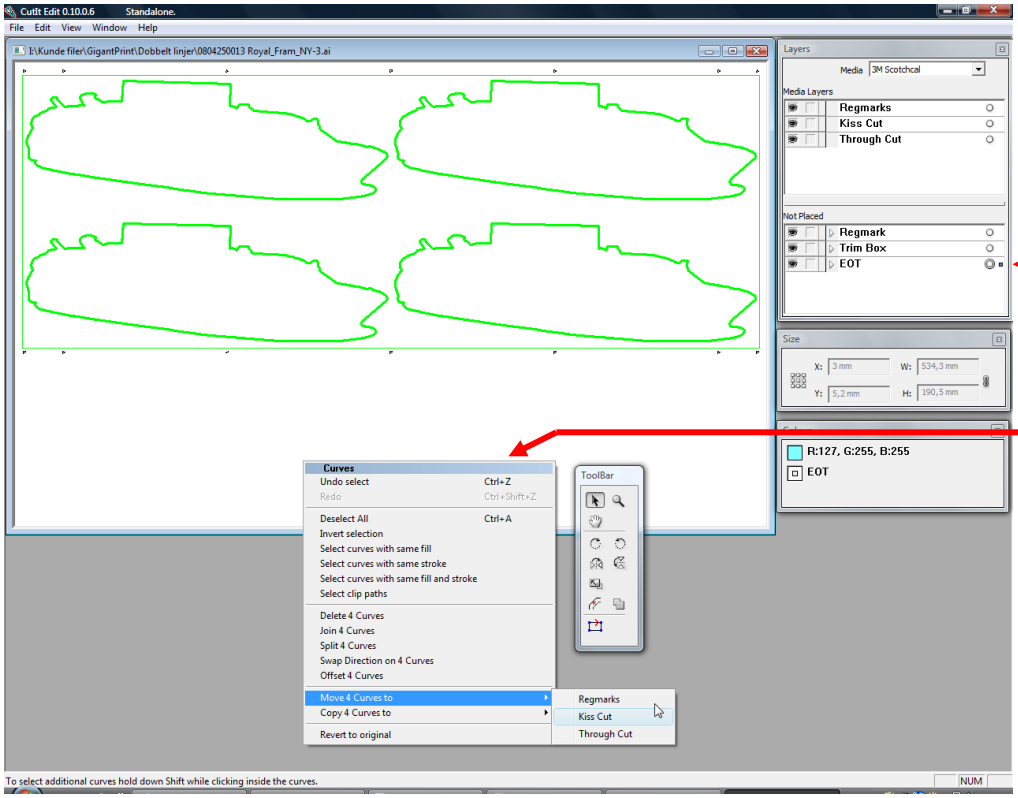
With **Merge** we have merged the two selected curves and placed the new curve in the Kiss Cut layer. In this case we have not removed the original curves which we normally do

File needs editing

A typical example where edit is needed is if you change media. In this case the job was previously cut with an EOT and now we want to cut it in self adhesive vinyl which dos not have an EOT tool assigned to it. Changing media opened then the dialog “File needs editing” showing that the layer “EOT” is missing in the new media.



When you press “edit” it will open the editor with the current job loaded. The layers dialog is in this case showing the three media layers **Regmarks, Kiss cut** and **Through Cut** and it is showing that the three job layers **Regmark, Trimbox** and **EOT** are not yet assigned to the media layers.

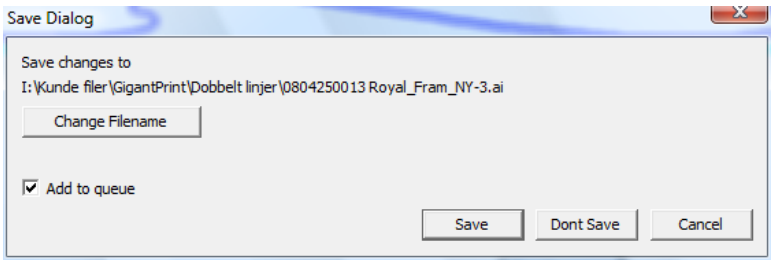


The “EOT” curves were selected with click at “EOT layer”

With right click in the work area the dialog “Curves” will open.

The “Move” command show that there are 4 selected curves to move to one of the three media layers.

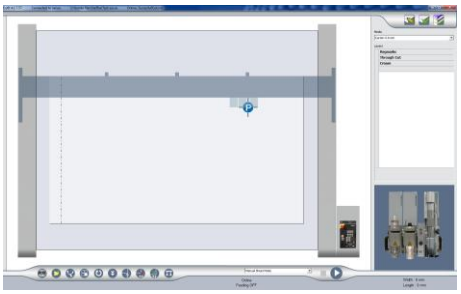
When Kiss Cut is selected it will move the selected curves to the media layer “Kiss Cut” In next step we select “Trim Box” and move that to the media layer “Through Cut” and finally we select “Regmark” and move those to the media layer “Regmarks”



Close the actual job in editor will open the save dialog where we in this case choose “save” changes in order to produce the job at the new media.

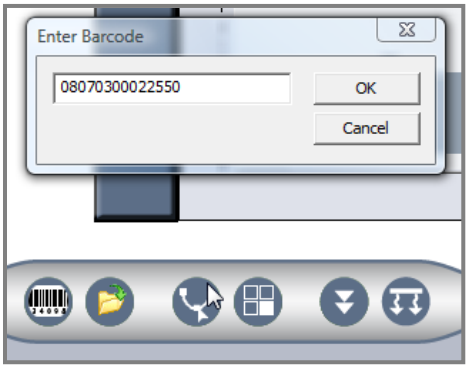
4. Production

Production step by step



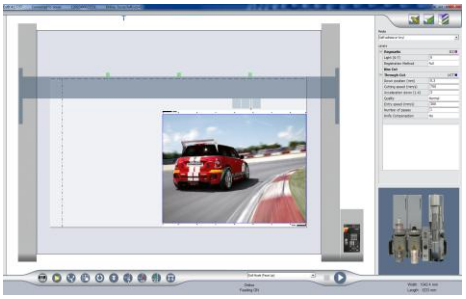
Start Océ ProCut Vision

Start up the Océ ProCut Vision software and you will get the Main Dialog showing the plotter loaded with media used last time.



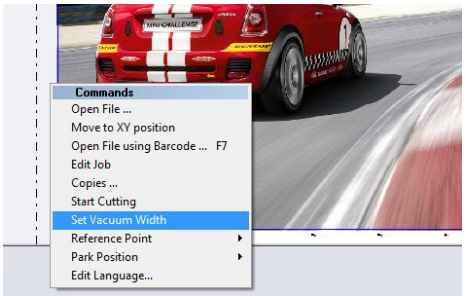
Load the first job

Load the job via the **barcode scanner** or by typing in the **barcode number** or by **open file** button. If the job was opened with the barcode scanner or if it has been in the Océ ProCut Vision before it will just open, otherwise you will get a warning "File needs editing - New job" and it will open Océ ProCut Vision Edit with the job loaded.



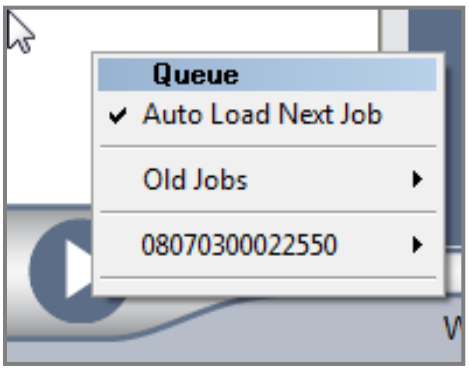
Check before cutting

The job will show up at the Main Dialog and give the operator the possibility to see if it seems to be the correct file, size, media and tool settings, before production is started. It is also important to check if the tool head configuration matches the actual configuration at the cutting plotter.



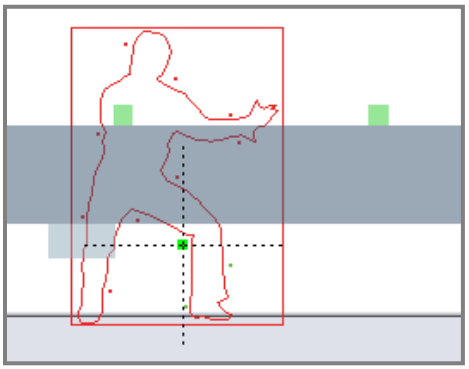
Adjust the vacuum width

Place the mouse pointer where you want to set the vacuum width. Right click opens the command dialog where you click at "Set Vacuum Width"



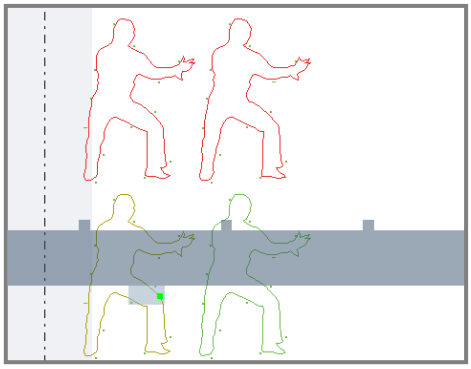
Check the job Queue

Right click at the run button to open the Queue dialog. In this case the “Auto Load Next Job” is activated which means that the operator can prepare the next jobs while the plotter is running. The next jobs will then be loaded automatically in order to save production time between jobs.



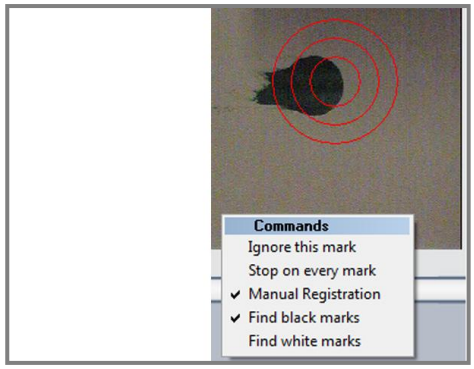
Help find the first register marks

When the “Run” button is activated the plotter moves a little then stops and wait for the operator to move the camera to the first register mark using the arrow keys at the keyboard. When the first register mark is within the camera area the system will recognize it and move to the next mark. If there is no rotation and no distortion then the system will find the next mark itself and continue to the following register marks. If any rotation or distortion then the system need help from the operator to find this second register mark, and after that it will continue by itself unless there is a major distortion.



The cutting will start

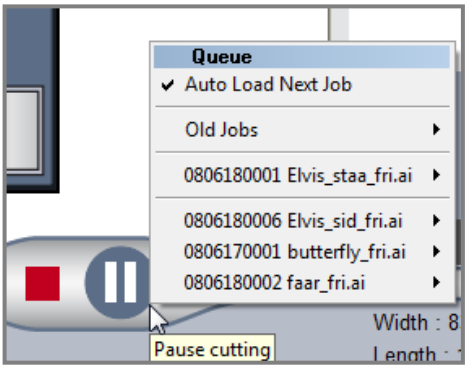
When all register marks are checked it will start cutting the job. In the Main Dialog it will show which stage each curve are in. Red curves are not yet send to the plotter. Yellow curves are sent to the plotter and in process. Green curves are finished. If you **pause** and or **stop** cutting in Océ ProCut Vision it will still finish the yellow curves.



If the cutting stops

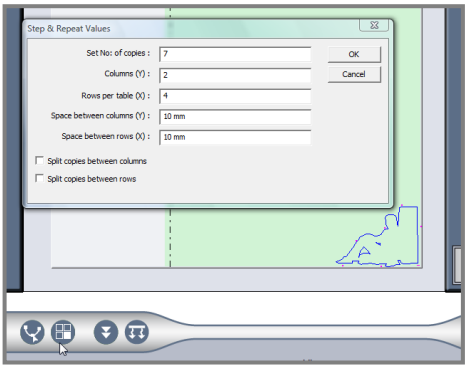
The cutting will stop if a register mark is missing, damaged, to small, to big or without enough contrast to the background. In such cases you can either ***Ignore*** or ***Manual Register*** in order to continue cutting.
Right click in the camera area and select “Ignore this mark” or “Manual Registration”
If “Manual Registration” is chosen you can manually move to the centre of the register mark by using the arrows at the keyboard and press “return” to continue.

With “ctrl” + “arrow” you move 1 mm and with “ctrl” + “shift” + “arrow” you move 0,1 mm at the time.



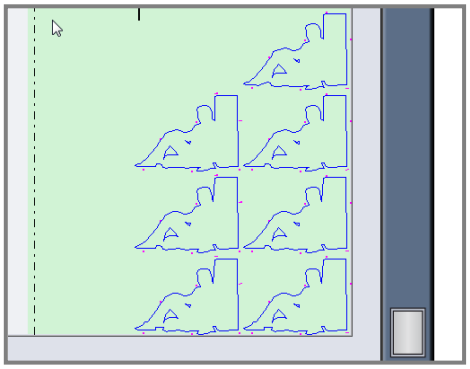
Load and prepare jobs while cutting

While the cutting plotter is running it is possible to load and prepare the next jobs. Right click at the pause button to see job queue. In this example “Elvis_staa_fri_ai” is the current job in process. Below that one you see three other jobs waiting to be cut. When the current job is finished it will automatically load the next job on the table.

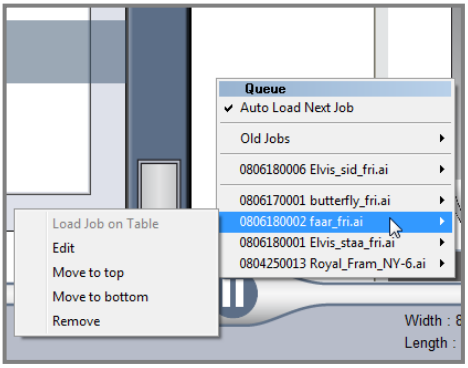


Use of Step & Repeat

In this example we use **Step & Repeat** to produce 7 copies of the job specified in two columns and four rows with a space of 10 mm between rows and columns. It is also possible in the step & repeat function to specify cut between rows and/or columns.



Result of the Step & Repeat



Manage the job queue while cutting

While it is cutting the current job it is possible to work with the jobs waiting in queue. It is possible to **Edit, Remove** and **Move** the jobs. With this functionality and the possibility to load jobs to the queue while cutting it is possible for the operator to keep the cutting plotter running efficiently all the time.

5. Advanced

Cutting and registration from unprinted side

Océ ProCut Vision has tools included to register printed jobs even that cut operations needs to be done from the unprinted side. The tools are available when the media in use has been enabled for backside operations (see page 22.) There are two different approaches for backside operations.

1. Produce single copies of a job
2. Produce multiple copies of a job

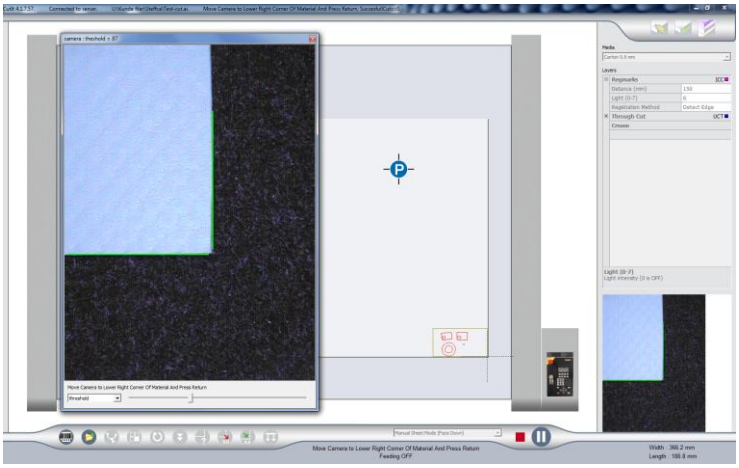
Method 1 – **single copies** will use "flip-flop" method in the following steps:

Step 1. Enter 1 copy in the **Set Copies** dialog.
Step 2. Place job as for normal cutting with printed side up (face up).
Step 3. Guide camera to first mark and possibly second register mark.
Step 4. The plotter cuts out a square around each register mark and prompts operator to flip sheet over (flip to the left!).
Step 5. Remove the cut-out squares and flip sheet to the left so the unprinted side is up (face down).
Step 6. Click OK and guide camera to first and possibly second square register mark.
Step 7. Cut operations are automatically done from the unprinted side!

Method 2 – **multiple copies** will use "flip-flop" and edge registration in the following steps:

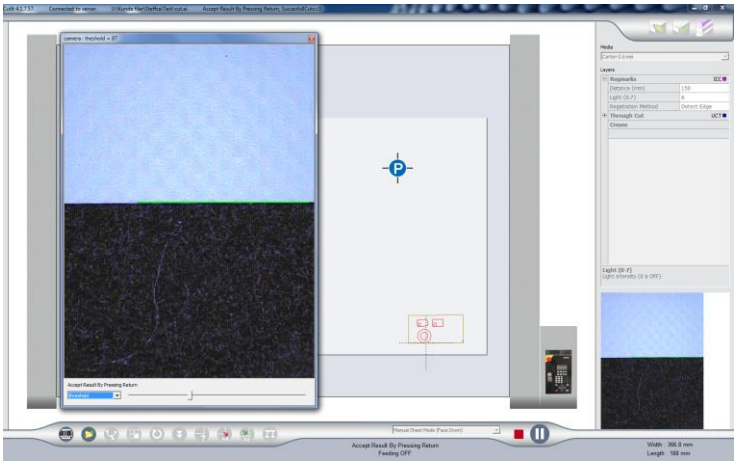
Step 1. Enter "2-x" copies in the **Set Copies** dialog.
Step 2. Place job as for normal cutting with printed side up (face up).
Step 3. Guide camera to first mark and possibly second register mark.
Step 4. The plotter cuts out a square around each register mark and prompts operator to flip sheet over (flip to the left!).
Step 5. Remove the cut-out squares and flip sheet to the left so the unprinted side is up (face down).
Step 6. Click OK and guide camera to first and possibly second square register mark.
Step 7. After registering the squares, guide the camera to the corner of the sheet.
Step 8. Check and possibly adjust camera threshold to get the green lines correctly placed in the camera window.
Step 9. Accept each vertical and horizontal reading on the first sheet.
Step 10. Cut operations are automatically done from the unprinted side on this first copy.
Step 11. The remaining copies are registered from the unprinted side only (no flip-flops necessary).

Edge registration dialogs



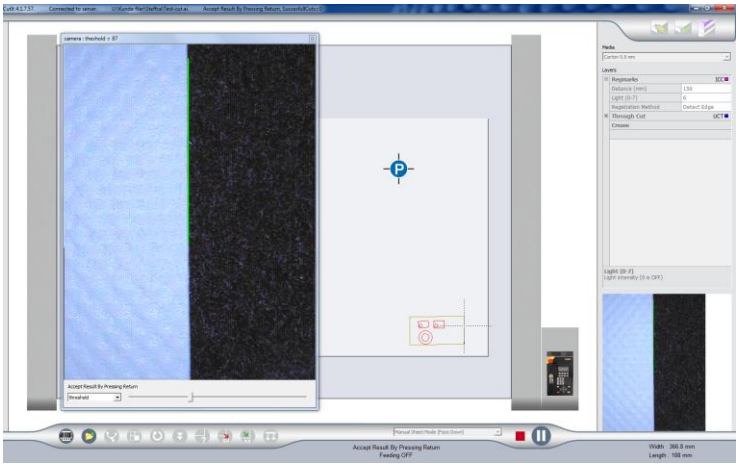
Step 7 and 8

Guide camera to the reference corner on the sheet



Step 9

Check and possibly adjust threshold value individually for each camera edge reading in horizontal



Step 9

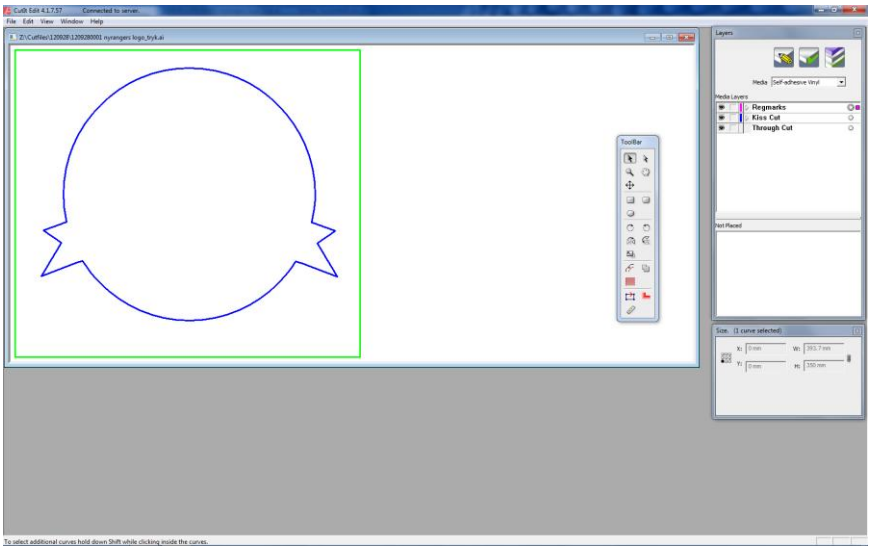
Check and possibly adjust threshold value individually for each camera edge reading in vertical

Note, that it is important to use correct threshold values -> solid/ stable green lines. Outside light may interfere with camera, why settings are stored individually for each reading!

Edge registration without the use of register mark circles

Océ ProCut Vision can perform edge registration on unprinted sheet materials (jobs without graphics and without printed register mark circles) and edge registration on printed jobs without register marks.

The steps to edge register cutting without the use of register marks is:



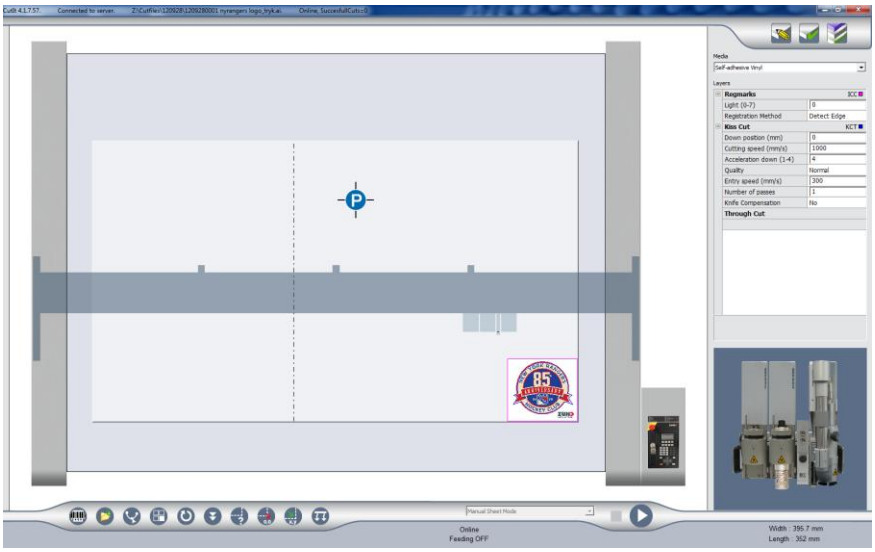
Step 1.

Open job in Océ ProCut Vision Editor

Select media and place a rectangle in the “Regmarks” layer.

The size of the rectangle equals the size of the physical sheet!

Make sure the offsets from the registering corner to the position you wish to cut in (or graphics you wish to match) is correct!

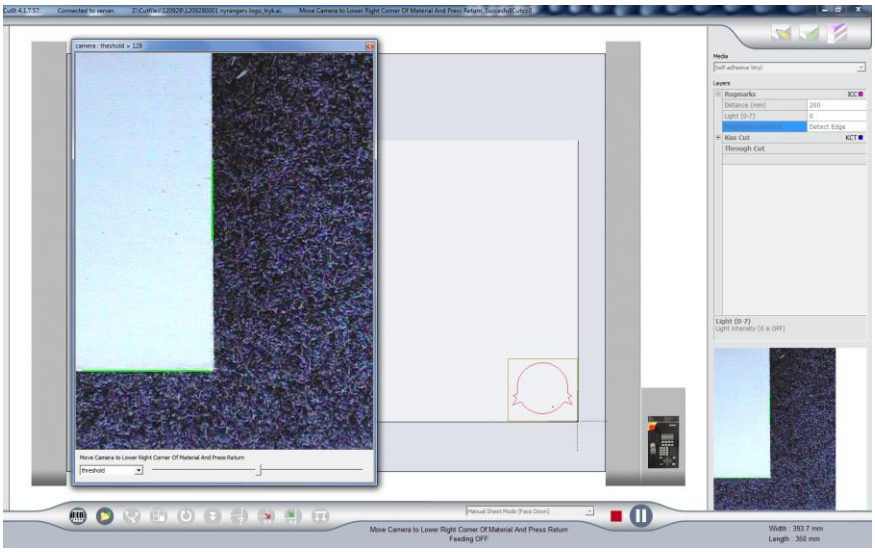


Step 2.

Notice “Detect Edge” is displayed in the registration layer.

Place the sheet on the cutter and start cutting process.

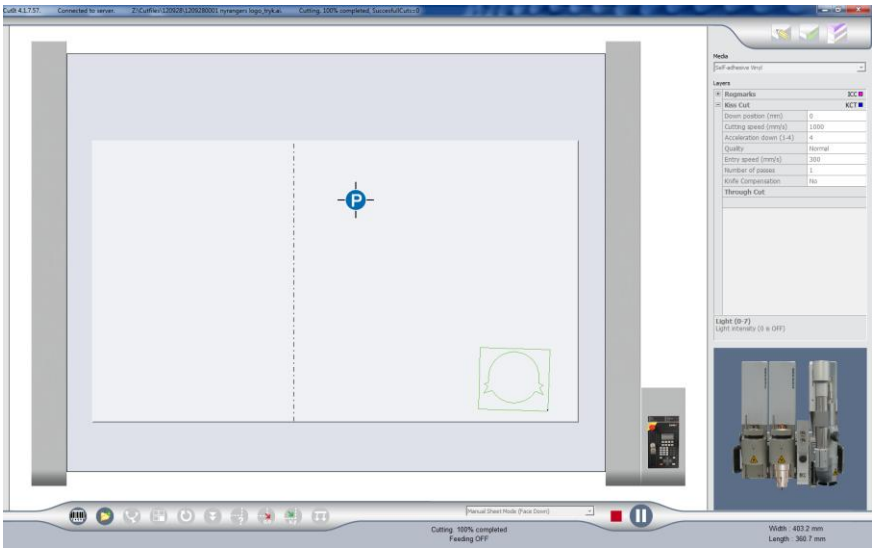
Take notice if job should be mirrored.



Step 3.

Guide the camera to the reference corner of the sheet.

Check and possibly adjust threshold value for corner, horizontal and vertical positions.



Step 4.

Cutting with edge registration.

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