Jaguar V Series (PPF)
User Manual

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NOTICE

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V.4 2020 Feb.

Important Information

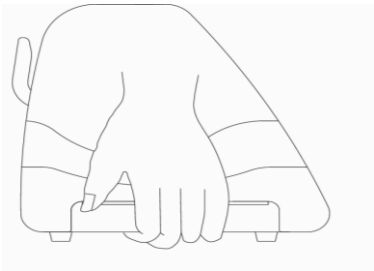
Thank you for purchasing the ***GCC Jaguar V Cutting Plotter.***

Before you use the cutting plotter, please make sure that you have read the safety precautions and instructions below.

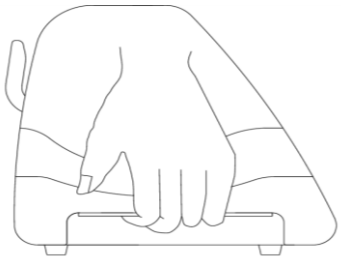
Caution

SAFETY PRECAUTIONS!

- For safety concern, please always hold the cutter firmly **from the bottom** while moving it. Do not move the cutter by clasping the depression area on both sides.



O (Correct)
Hold from the bottom



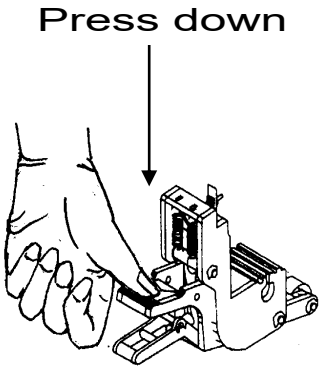
X (Incorrect)
Hold the depression area

- Do not shake or drop the blade holder, a blade tip can fly out.
- During an operation, do not touch any of the moving parts of this machine (such as the carriage). Also be careful to make sure that clothing and hair do not get caught.
- Always connect the power cable to a grounded outlet.
- Always use the accessory power cable which is provided. Do not wire the power cable so that it becomes bent or caught between objects.
- Do not connect the power cable to branching outlet to which other machines are also connected, or use an extension cable. There is danger of overheating and of mis-operation of the machine.
- Keep the tools away from children where they can reach.
- Always put the pinch rollers within the white marks.

Warning

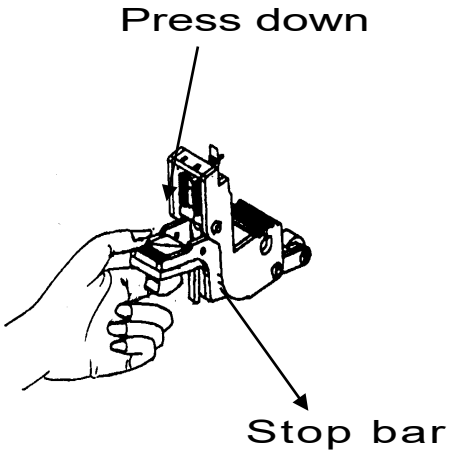
Never press the top release grip and pull the bottom release grip at the same time as the pictures shown below:

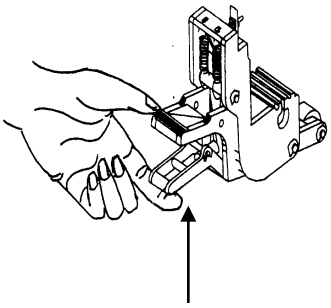
O (CORRECT)



DISABLE

X (INCORRECT)





Pull up bottom to release grip

ENABLE

Note:

In case the grips clipped together due to your wrong operation, please use a pair of tweezers to pull out the stop bar when pressing down the top release grip. Keep the stop bar outside then release the grips as the right figure.

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Chapter 1 General Information

1.1 Introduction

Jaguar V series cutting plotters have been designed to produce computer-generated images or perform cutting on sheets or rolls of vinyl media.

• J5-160-P	for media width: 250mm(9.8”) ~ 1782mm(70.2”)

1.2 Package Items

The package of the Jaguar V model contents the items listed below, please check carefully. If you find any item missing, please consult your local dealer for further assistance.

Standard Item	Quantity
1. Cutting Plotter	**1**
2. Stand Set and Media Take-up System ● 2 pieces of T-shape stands – 4 pieces of Dancer Guiders – 2 pieces of Roll Holder Supports – 1 piece of Control Board ● 2 pieces of Stand Bases ● 1 piece of stand beam ● 2 pieces of Paper Take-up ● 2 pieces of Dancer Bars ● 1 piece of Installation Guide for Stand Set	**1**
3. Accessories ● 1 piece of User’s Compact Disk ● 1 piece of AC power Cord ● 1 piece of data cable (USB cable: 3m) ● 1 set of Blade Holder Assembly (Installed in tool carriage of the cutting plotter) ● 1 piece of Blade (Installed in Blade Holder) ● 1 piece of Safe Blade ● 1 piece of Cutting Pad for Vinyl cutting ● 1 piece of Tweezers ● 1 piece of Promise Card ● 1 piece of Corrugated Pipe ● 2 pieces of Feed shafts ● 1 piece of Hexagonal Wrench (M6)Φ5 ● 1 piece of Hexagonal Wrench (M5)Φ4 ● 1 piece of Hexagonal Wrench (M4)Φ3 ● 1 piece of RJ45 Cable ● 1 sets of Conductive Copper Wire Assembly ● 14 pieces of M6 screws ● 4 pieces of Paper Hubs (3”black colored)	**1**

1.3 Product Features

The following are the main features of the Jaguar V series cutting plotters:

- Triple-port connectivity provides you with greater flexibility
- Up to 600 gram cutting force
- Up to 1530 mm per second (60 ips) cutting speed (at 45° direction)
- Guaranty 10-meter tracking
- User friendly and multi-language control panel
- Media take-up system

1.4 Appearance of Jaguar V

1.4.1 The Front View (Figure 1-1)

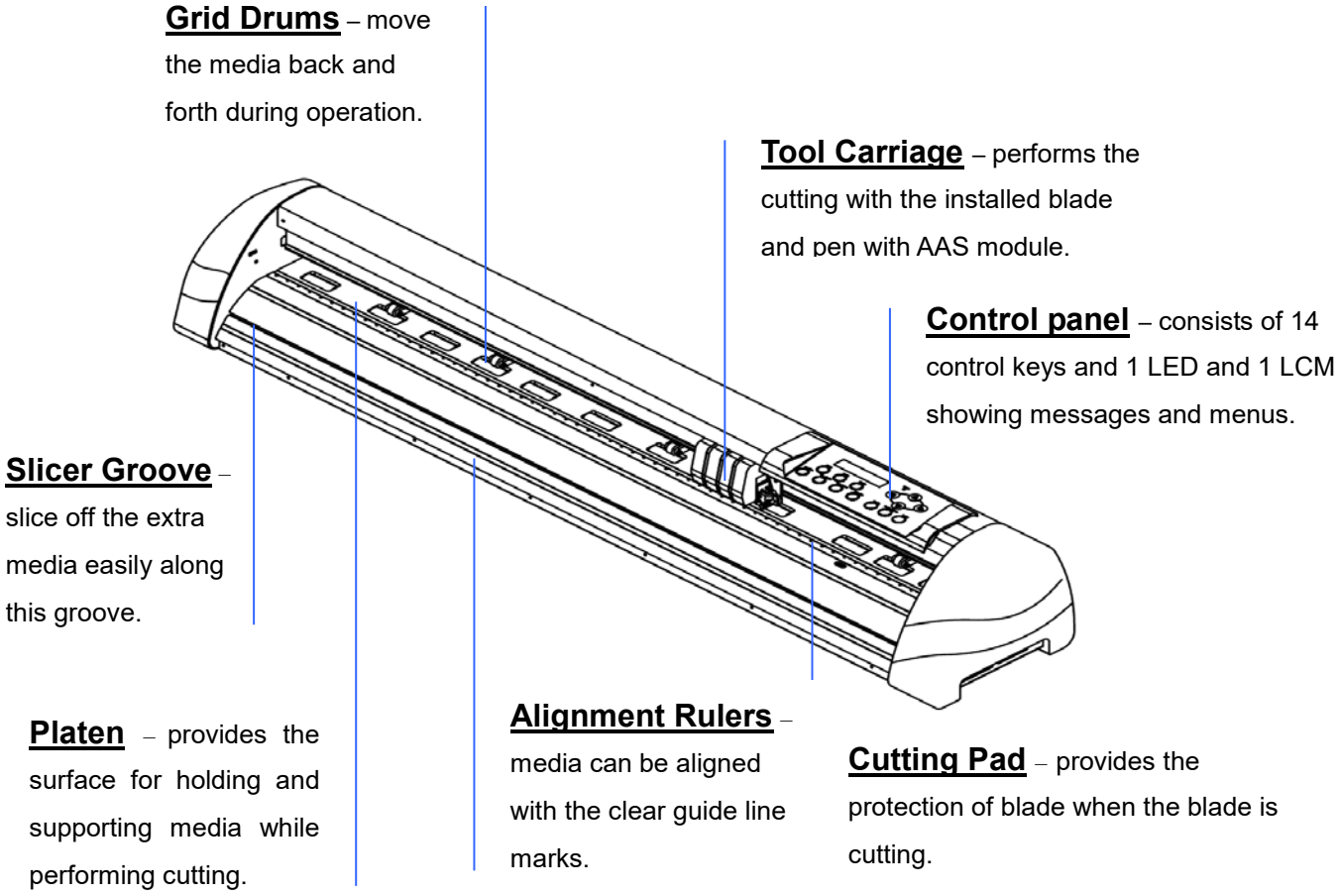


Figure 1-1

1.4.2 The Back View (Figure 1-2)

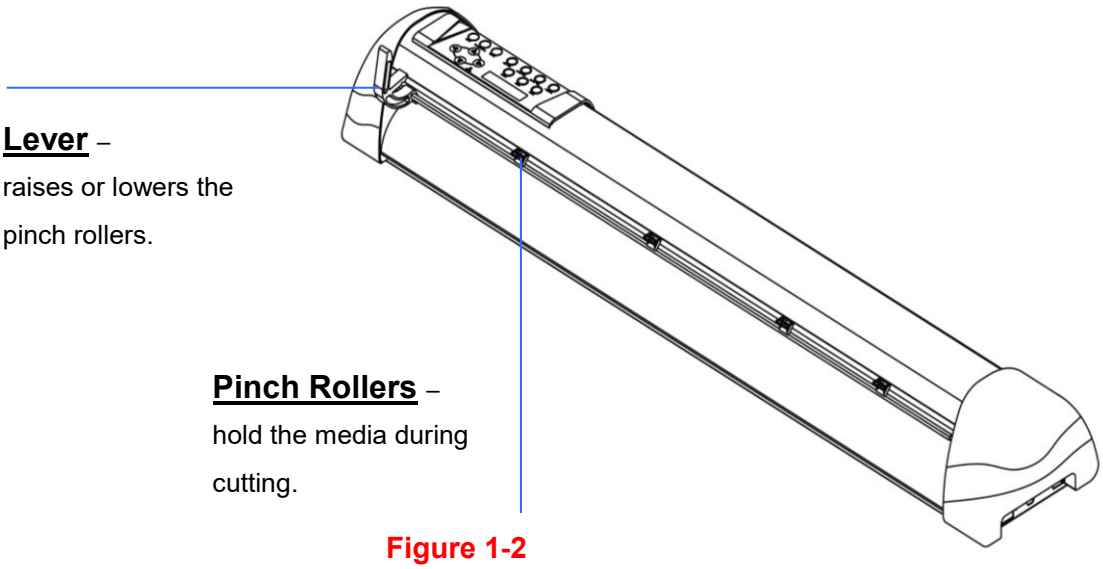


Figure 1-2

1.4.3 The Left-hand Side (Figure 1-3)

Figure 1-3

1.4.4 The Right-hand Side (Figure 1-4)

USB Connector – used to connect the cutting plotter to a computer through a USB cable.

Ethernet Connector– used to connect your cutting plotter to a local area network.

Serial Interface Connector (RS232C) – used to connect the cutting plotter to a computer through a serial interface cable.

AC Power Connector – used to insert the AC power cord.

Power Switch for Cutting Plotter – On when switches to [I]; Off to [O]

Fuse – 3 Amp.

Power Switch for Take up System – On when switches to [I]; Off to [O]

Figure 1-4

Chapter 2 Installation

2.1 Precaution

Please read below information carefully before you start installation.

Notice 1

- Make sure the power switch is off before installing the cutting plotter.
- Carefully handle the cutter to prevent any injuries.

Notice 2 Choosing a proper place before setting up the cutting plotter

Before installing your cutting plotter, select a suitable location, which meets the following conditions.

- The machine can be approached easily from any direction.
- Keep enough space for the machine, accessories and supplies.
- Keep the working area stable, avoiding sever vibration.
- Keep the temperature between ***15 and 30℃ (60-86ºF)*** in the workshop.
- The relative humidity of the working environment should be between **25% to 75%**.
- Protecting the machine from dust and strong air current.
- Preventing the machine from direct sunlight or extremely bright lighting.

Notice 3 Connecting the Power Supply

Check the plug of the power cord to see if it matches with the wall outlet. If not, please contact your dealer.

- Insert the plug (male) into a grounded power outlet.
- Insert the other end (female) of power cord into the AC connector of cutting plotter.

Notice 4 Tightening or Loosing Screws with Screwdriver

Whether manual or electric screwdriver, be careful not to use excess torque force when tightening or loosing screws. When tightening or loosing iron and stainless steel screws, please refer to the following screw torque standard table, other materials screws are not included.

Screw diameter	Torque value (kgf-cm)
	Torque standard for high hardness materials
M3	6
M4	16
M5	30
M6	50

2.2 Stand & Media Take-up System Installation

Step 1 Please examine supplied items in the accessory box of stand carton:

Component	Quantity	Description
A	2	**Side Stand** ■ Roll holder support * 2 E ■ Control board * 1 F (for Paper Take-Up System) ■ Dancer guiders * 4 G
B	1	**Stand Beam**
C	2	**Paper Take-Up**
D	2	**Dancer Bars**
H	2	**Stand Base**

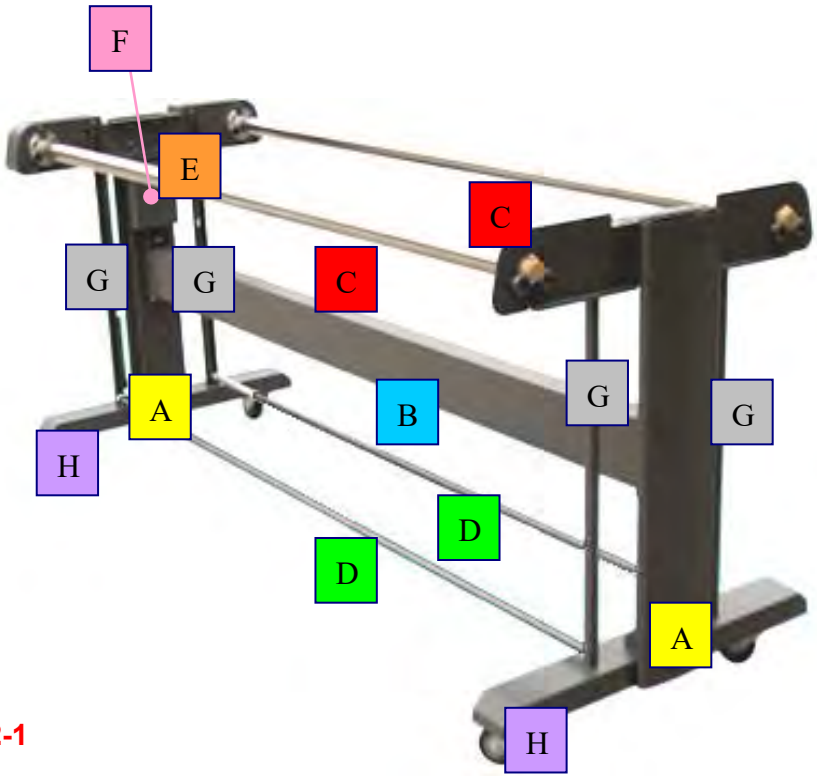


Figure 2.2-1

Step 2

- It is recommended to assemble the stand by at least 2 people to prevent damages from dropping components onto the ground.
- Installation procedure:
  1. Fasten 2 sets of side stand A and Stand Base H by supplied screws.
  2. Fasten with Stand Beam B by supplied screws.

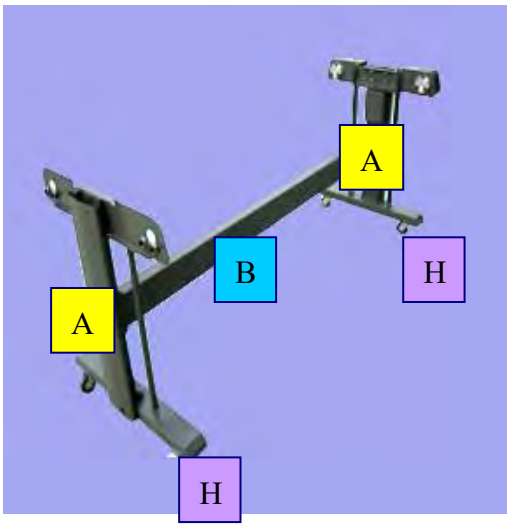


Figure 2.2-2

Figure 2.2-3

- Please pay attention to the direction of the base beam (the wheel on the front end of the beam comes with a break while the rear one is on its own).

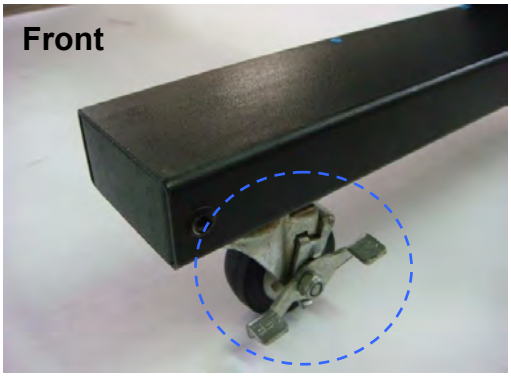


Figure2.2- 4

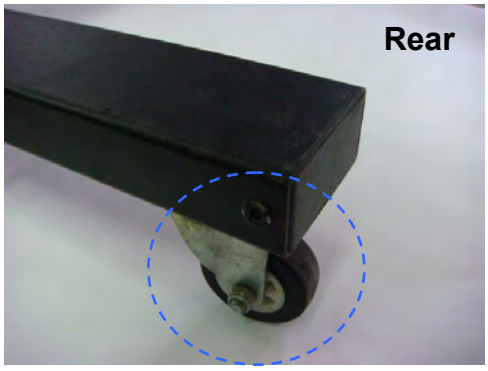


Figure2.2- 5

Step 3 Place the plotter onto the stand and fasten them up.
(Note: the wire and Control board F must be located at the same side)

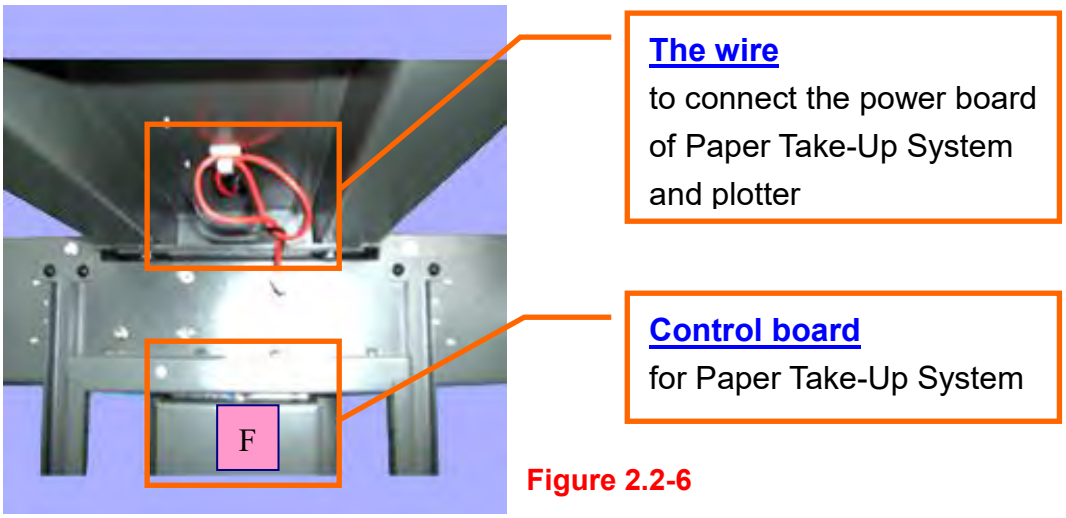


Figure 2.2-6

Step 4 Take off the cover of control board.

Step 5 The wire goes through the hole showing in Figure 2.2-7 to reach power board.

Step 6 Plug in the head to the power connector (see the details in Figure 2.2-7 to 2.2-10).

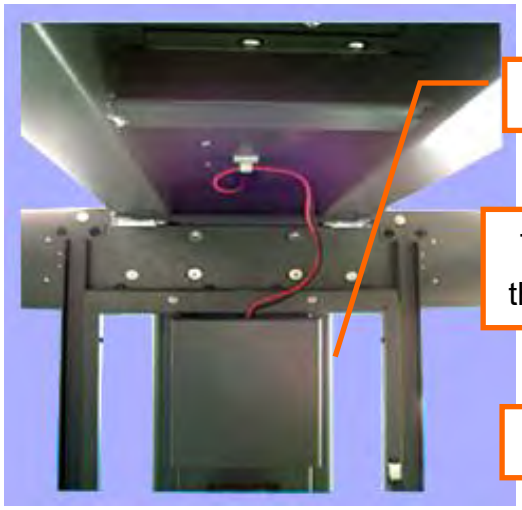


Figure 2.2-7

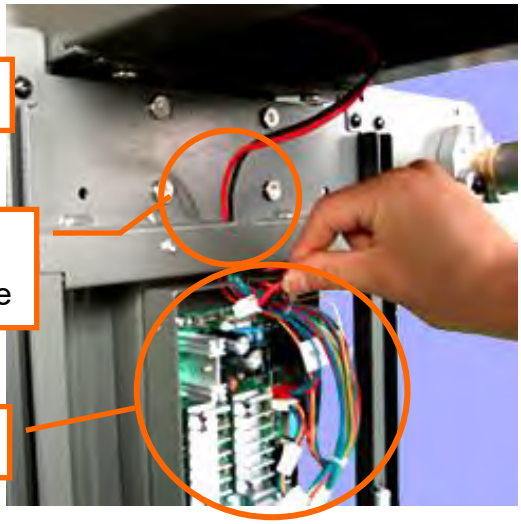


Figure 2.2-8

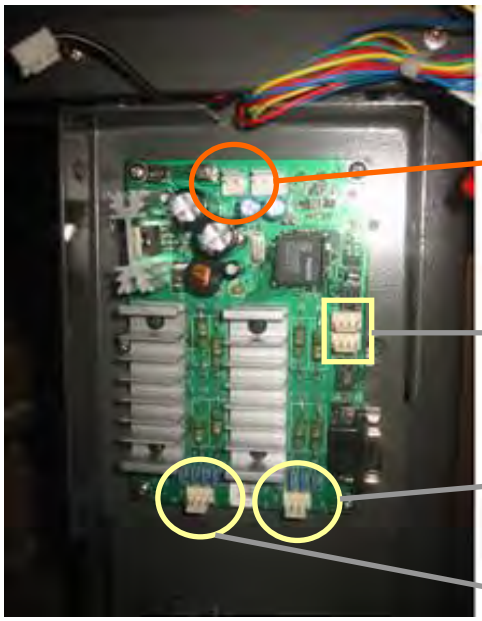


Figure 2.2-9

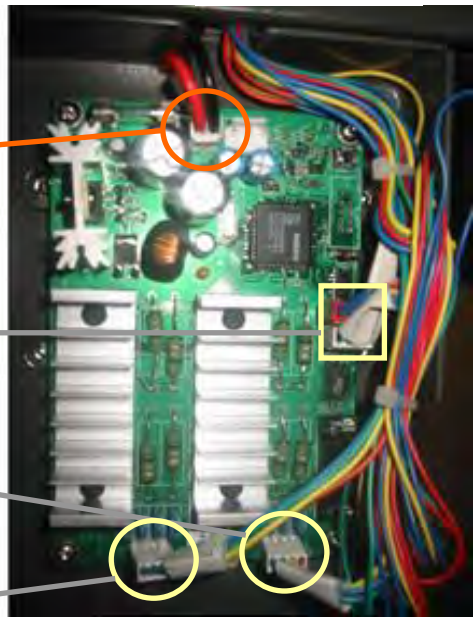


Figure 2.2-10

Step 7 Put the cover back.

Step 8 Wind the Corrugated Pipe around the wire for protection from electric shock (see Figure 2.2-11).

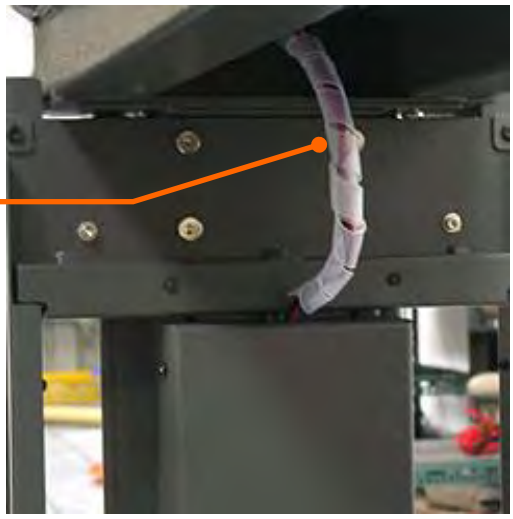


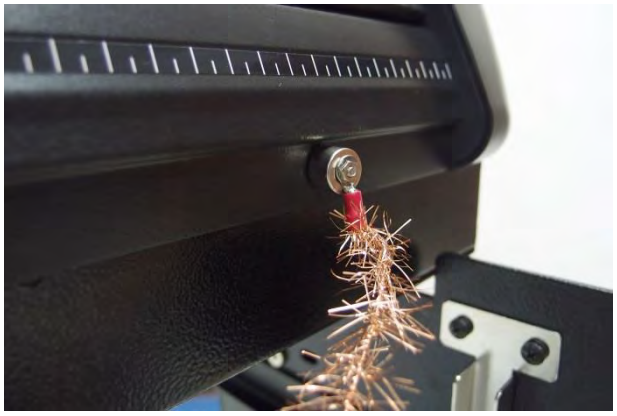
Figure 2.2-11

Step 9 Please refer to user manual section 4.1 to learn how to load the roll media.

2.3 Conductive Copper Wires Installation

Step 1 Remove **the leftmost** and **the rightmost** screws from front and rear platens, and lock the magnets on the front and rear platens with screws.

Step 2 Place both ends of conductive copper wires on two magnets which are just locked on the front and rear platens.



Step 3 The Installation of conductive copper wires is done.

2.4 Blade Installation

Figure 2.4-1 is the illustrator of the blade holder. Insert a blade into the bottom of the blade holder and remove the blade by pushing the pin. Make sure that your fingers are away from the blade tip.

Figure 2.4-1

Step 1

Install blade (Figure 2.4-2).

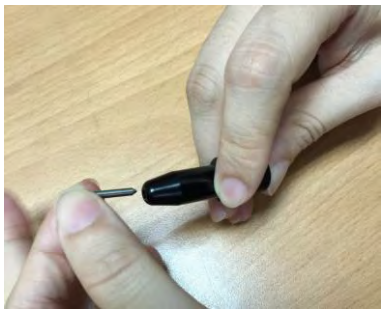


Figure 2.4-2

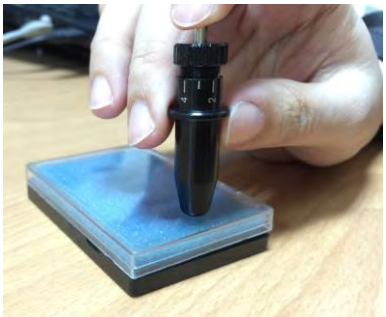


Figure 2.4-3

Step 2

Push the blade to the bottom of the blade holder. (Figure 2.4-3).

Step 3

Adjust the blade tip to suitable length by screwing "Blade tip adjustment screw" clockwise or count-clockwise. (Figure 2.4-4).

Figure 2.4-4

Tips:

"The proper length" means the blade's length is adjusted 0.1mm more than film's thickness. That is, if the thickness of film is 0.5mm, then blade's length is properly adjusted 0.6mm and it can completely cut through the film layer yet avoid penetrating the backing.

Step 4

Insert the blade holder into tool carriage. Please note the outward ring of the holder must put into the grooves of carriage firmly (see Figure 2.4-5), then fasten the case (Figure 2.4-6).

Figure 2.4-5

Figure 2.4-6

Step 5 Use the reversing steps to remove the blade holder.

Step 6 Eject the blade. Push “Blade eject pin” to eject blade when the blade needs to be replaced.

!! Caution

The blade will lose its sharpness after a period of usage; the cutting quality might be affected. By increasing the cutting force, it might do the trick. However, once the blade is worn out and no longer provides a reliable cutting, you should replace a new one. The blade is consumable and must be replaced as often as necessary to maintain the cutting quality. The quality of the blade deeply affects cutting quality. So be sure to use a high quality blade to ensure good cutting results.

2.5 Automatic Blade Length Detection

Figure 2.5-1 is the new blade holder with a scale and the carriage with a mark. This blade holder detects blade length automatically and shows how the knob needs to be turned on the LCM.

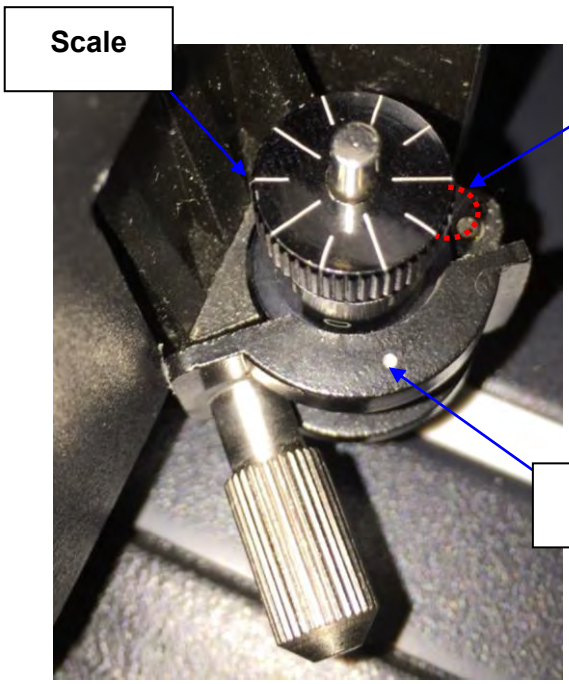


Figure 2.5-1

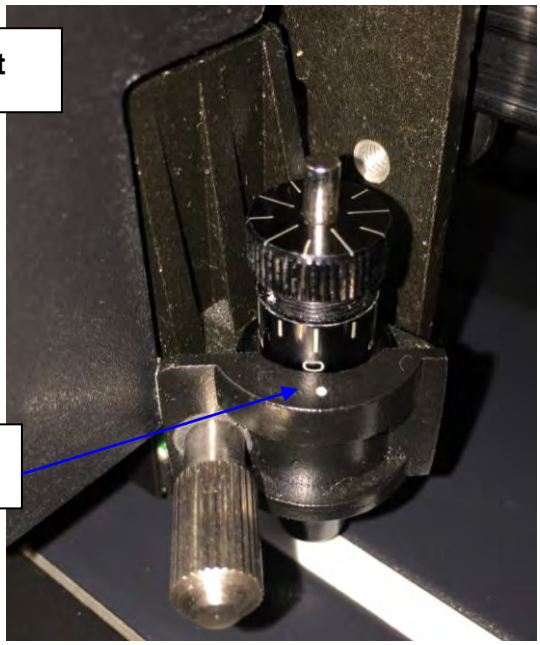


Figure 2.5-2

There are 10 units on the scale; each unit equals to 0.05 mm, allowing you to adjust the blade length for 0.00mm-5.00mm (Figure 2.5-2).

Follow the steps below to adjust the length of the blade:

1. Keep the blade tip within the blade holder before you start adjusting.
2. Align one of the scales on the blade holder to the mark on the carriage
3. Select “Blade Length Adjust” under “CUT TEST” on the LCM, enter the blade length wished in “Set Length”; test the blade holder first and then test the blade length by pressing ENTER.

Note: Keep the blade holder at the same position when you perform blade holder and blade length tests.

4. When blade holder and blade length tests are finished, the screen will show you to what degree (the unit of the value following “CW” or “CCW” is “circle”) and in which direction [CW (clockwise) or CCW (counterclockwise)] you should turn the adjustment knob.
   EG, Turn CW 5 is telling you that you should turn the knob for 5 units clock-wisely (Figure 2.5-3, Figure 2.5-4).

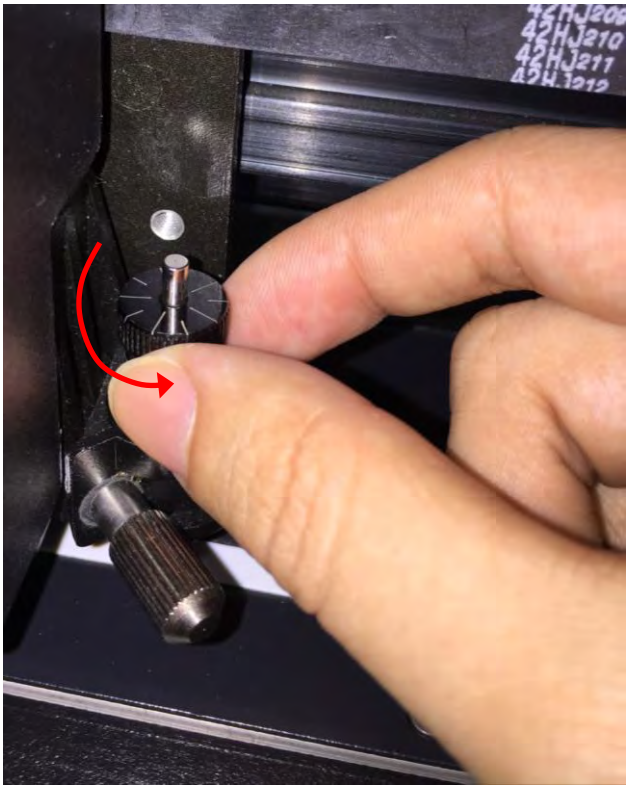


Figure 2.5-3

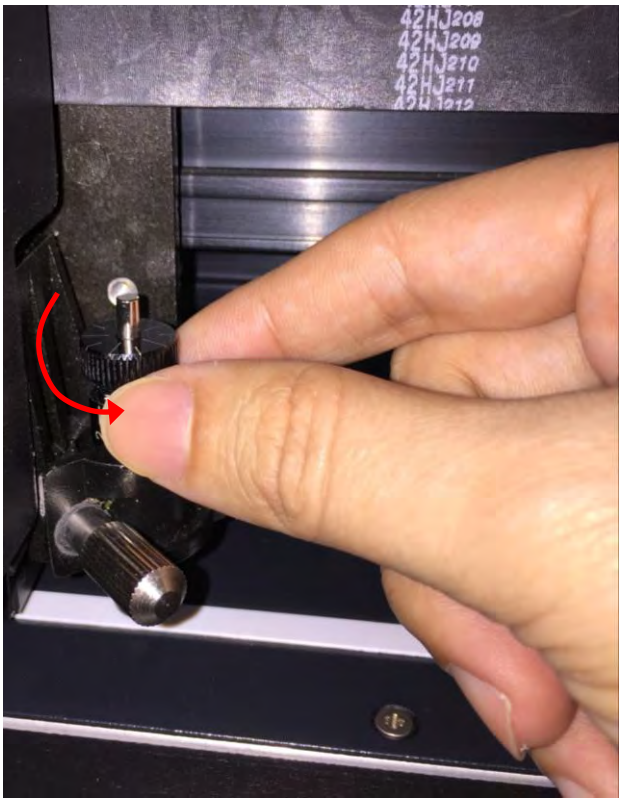


Figure 2.5-4

5. The screen will show “Adjustment completes” when the value on the screen is 0, the blade length is perfect and no more adjustment needs to be made. Press “Enter” now to complete the process and you may start cutting at this point.

2.6 Cable Connection

The cutting plotter communicates with a computer through a **USB (Universal Serial Bus)**, a **Serial port (RS-232C)** or **Ethernet**. This chapter shows you how to connect the cutting plotter to a host computer and how to set up the computer/cutting plotter interconnection.

!! **Notice:** When USB connection is enabled, serial port will be disabled automatically.

Serial Interface Connector (RS232C) – used to connect the cutting plotter to a computer through a serial interface cable.

Ethernet Connector– used to connect your computer to a local area network.

USB Connector – used to connect the cutting plotter to a computer through a USB cable.

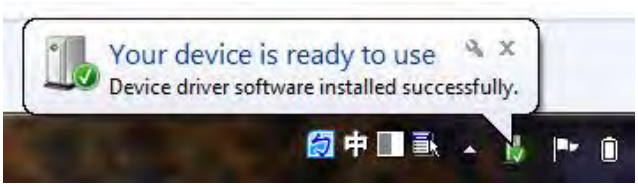
Figure 2.6-1

2.6.1 USB Interface

Jaguar V build-in USB interface are based on the Universal Serial Bus Specifications Revision 2.0 (Full Speed).

2.6.1.1 Connecting your GCC cutter

1. Turn on the machine.
2. Connect the USB connector to the machine and then USB driver will installed automatically. It will take a few minutes to find the device. Please DO NOT disconnect the USB cable until the installation has completed.
3. You can double click the USB icon on the taskbar to make sure the USB device is detected.



2.6.1.2 Installing the driver

Use the USB One-click Installation for quick driver installation. Follow the simple steps below for driver setup.

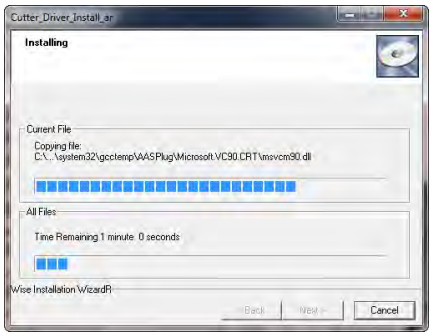
Caution!!

✓ **If you are using Windows 7 and above as your operating system, make sure you log in using the "Administrator" account.**

Step 1 Put the installation DVD into your CD-ROM. **Please make sure that the USB device is connected before you start the driver installation.**

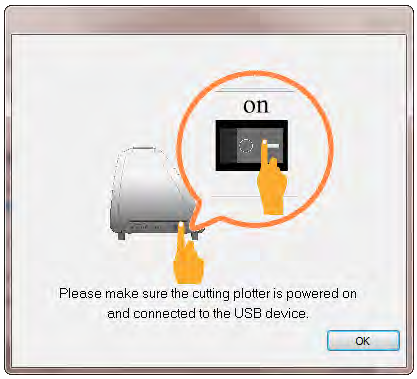
Step 2 Choose the model you want to install from the driver list and click on Windows Driver (Win 7 and Above) (Automatic Detection) or Windows Driver (Win 7 and Above) (Manual Selection) to start installing the Driver and AAS plug-in.

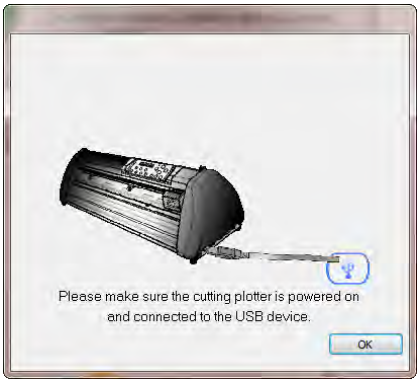
Step 3 Click "Next" to start the driver installation.



Step 4 If you were Windows 7 and above users, please click on the **red words** to instruct you how to disable Windows Update to allow success driver installation. And then click OK to next step.

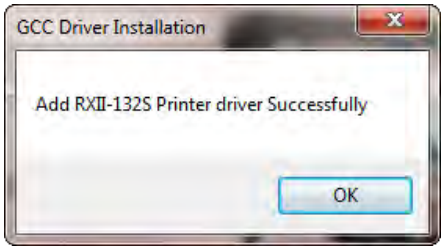
Step 5 Please make sure the cutting plotter is powered on and connected to theUSB device, and then click OK to next step.



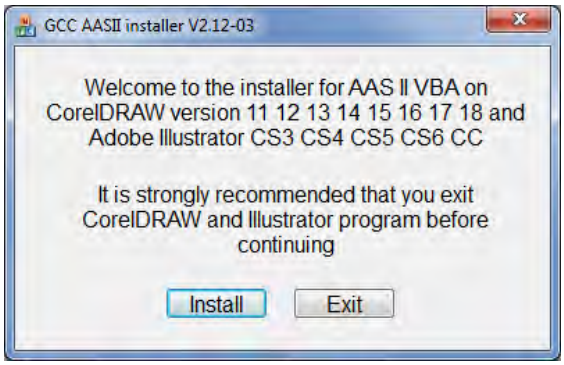


Step 6 Confirm to close all running application programs before you start installing the driver, and then click OK.

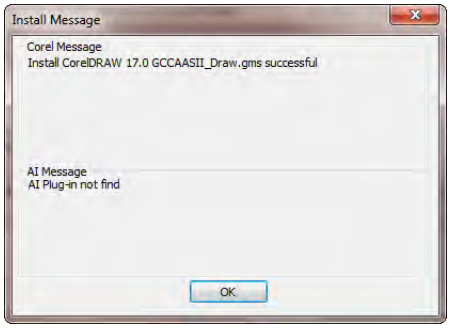
Step 7 The installation will take a few minutes to complete and you will see a message below and click on “OK” upon completion. Enjoy your GCC cutter!



Step 8 If you want to install AASII VBA on CorelDRAW and Adobe Illusatrator, exit CorelDRAW and Adobe Illusatrator program, and then click on“Install.”

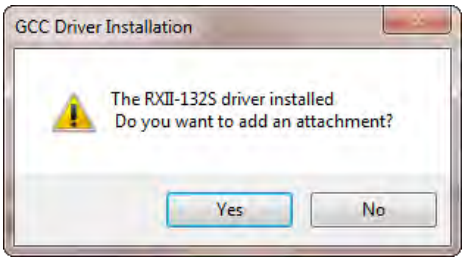


Step 9 Check Install Message to confirm CorelDRAW and AI version and then click OK.

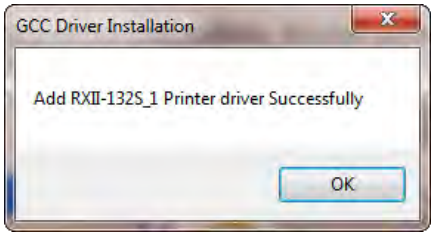


Note:

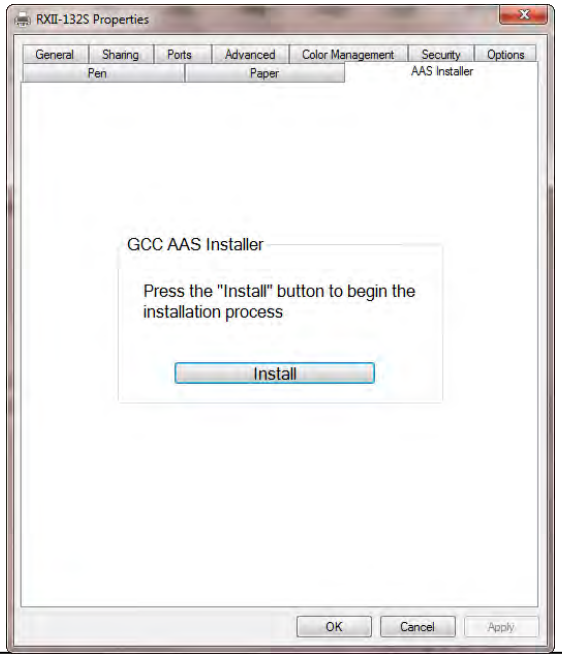
(1) If the driver is being installed for a second time, the user will be prompted as to whether a second copy of the driver installation is required.



(2) If the user selects yes, a second copy of the driver will be installed.



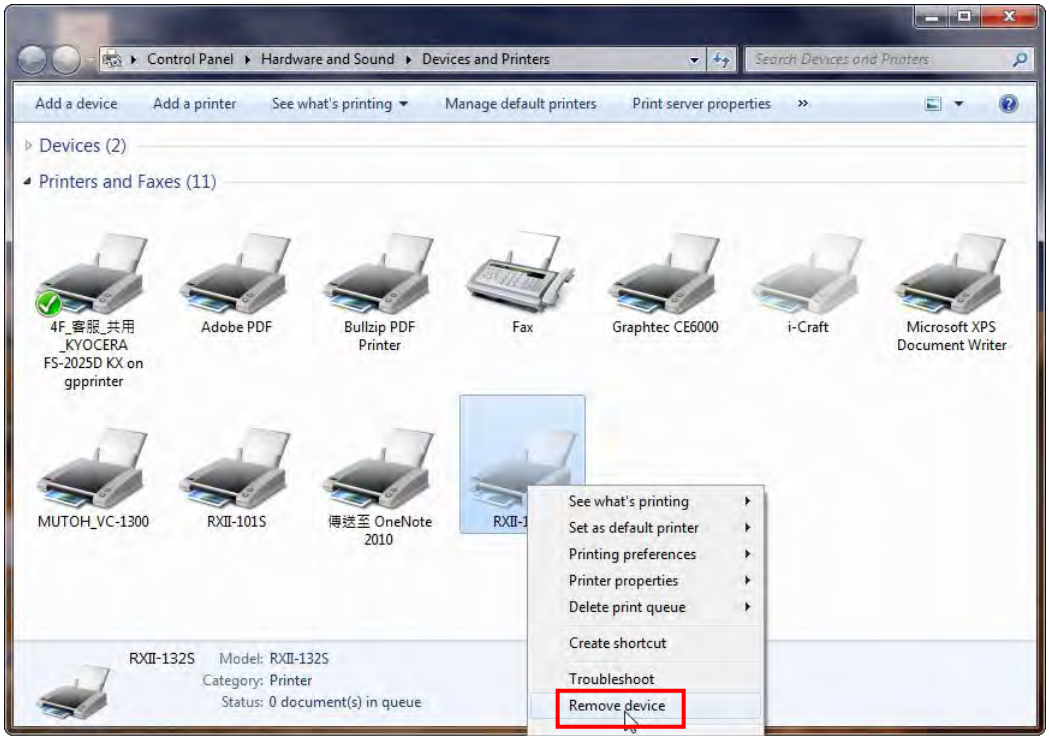
(3) For users who have upgraded Adobe Illustrator or CorelDRAW, please go to the **AAS Installer** page in the **Printer Properties** window and click "**Install**" to access the latest version of GCC AAS Plug-in.

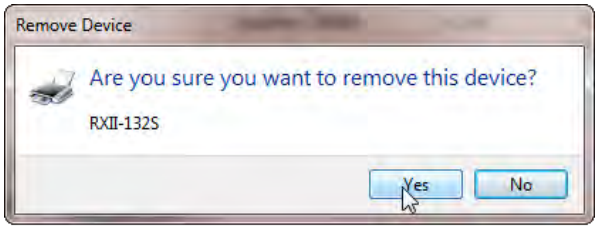


2.6.1.3 Driver Un-installation

You have to remove previous version driver installed on your PC system completely before you can install the latest version successfully. Please refer to below steps.

Step 1 Go to Control Panel\Hardware and Sound\Devices and Printers window. Right click the printer and select "**Remove device**."





2.6.2 RS-232 Interface

- Connecting to the RS-232 (Serial) Port

1. For IBM PC, PS/2 users or compatibles, connect the RS-232C cable to the serial connector of the assigned serial port (COM1 or COM2) of your host computer.

2. Set up the communication parameters (Baud Rate and Data Bits/Parity) to match the setting of software package, refer to chapter 3 – "Misc" key description.

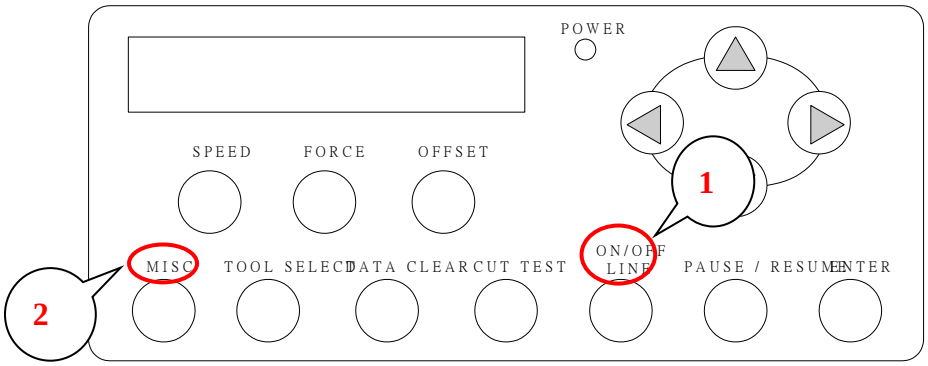
Caution!! Please turn off the plotter before plugging the RS-232C cable.

2.6.3 Ethernet Connection

I. Networking Connectivity Setup

Step 1 Connect the LAN port and Ethernet port on GCC cutting plotter with RJ45 Ethernet cable, and turn on the machine.

Step 2 Press **On/Off line** and then **MISC** button on your control panel.



Step 3 Go to the **DHCP** page and select **Enable** through the up and down arrow keys, then press Enter.

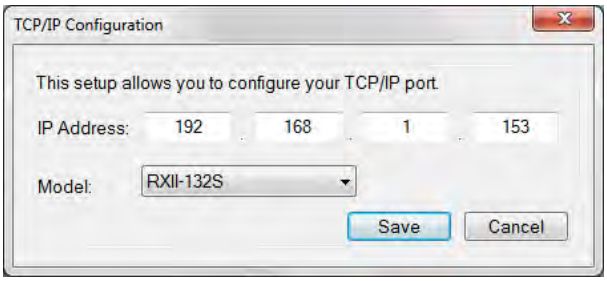
Step 4 The IP Address will be shown on the screen automatically. Please make notes of it.

II. Ethernet Connectivity Setup

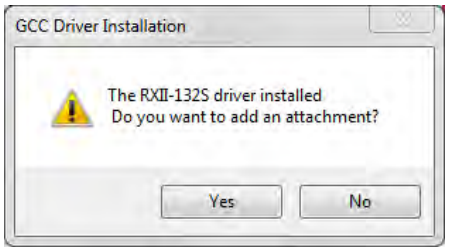
Output through Ethernet Driver

Step 1 Connect Ethernet cable to PC and install **Cutter Ethernet driver**. Then click OK to continue.

Step 2 Enter the IP Address shown on the control panel and select the model. (Please refer part 1 instruction.)



Step 3 The driver is installed. You can output from AI or CorelDRAW directly now.



2.6.4 Data Transmitting

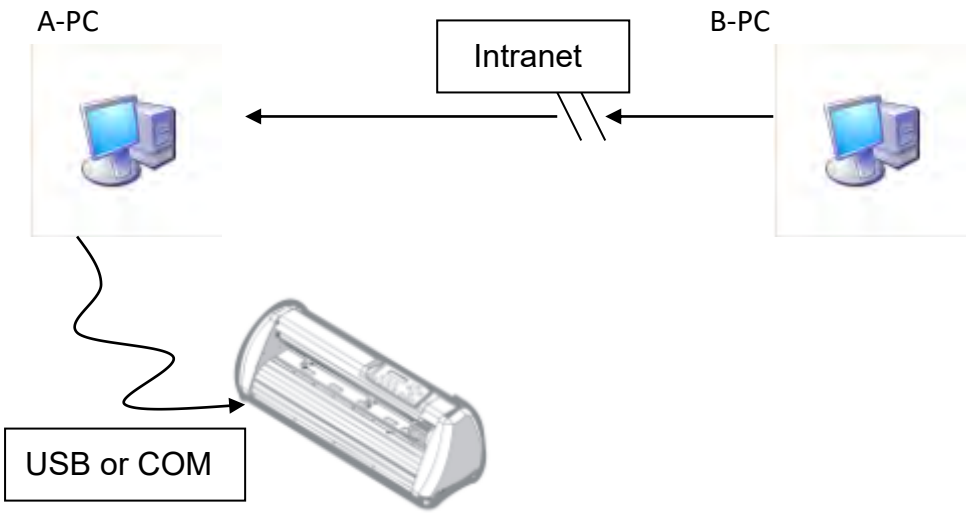
There are two options to transmit the data from the computer to the cutting plotter:

Option 1: With proper interface settings, the data can be transmitted from your application software package to the cutting plotters directly.

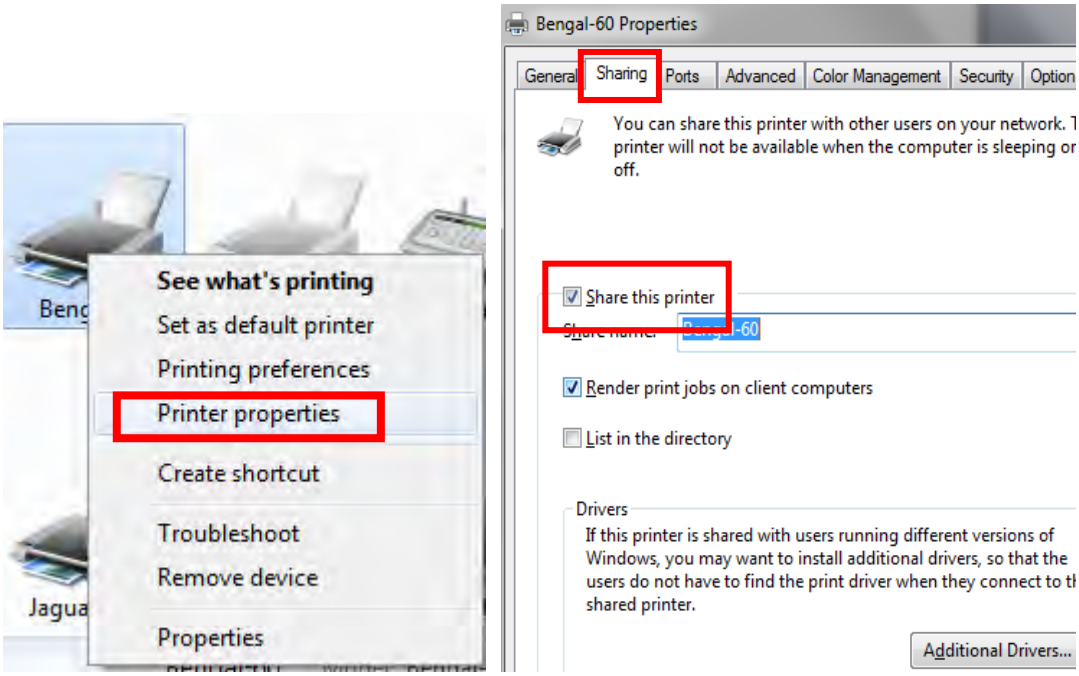
Option 2: Most cutting software packages are able to emulate **HP-GL** or **HP-GL/2** commands. As long as the file is **HP-GL** or **HP-GL/2** format, the cutting plotter can output the data precisely.

2.6.5 Printer Sever Shared Setting

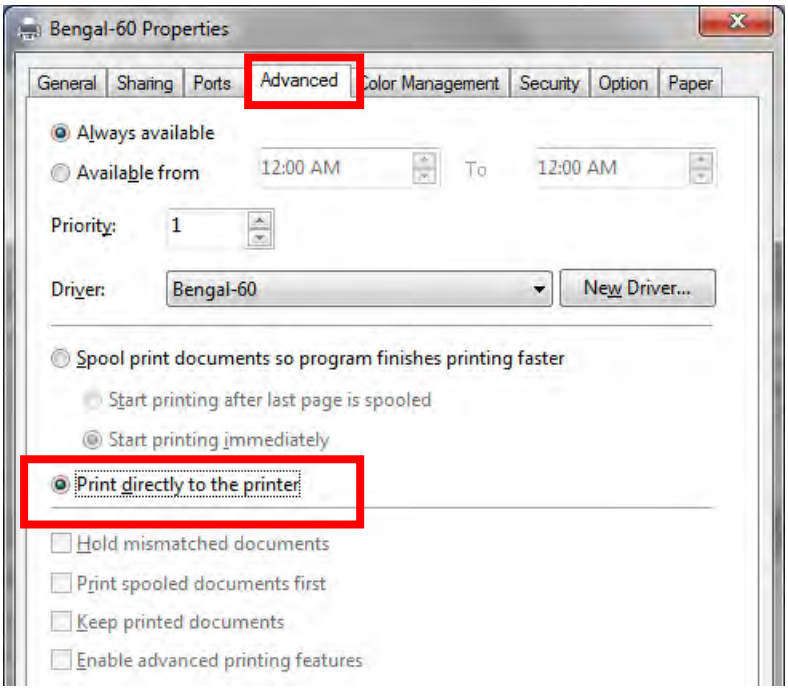
In “A-PC”, set the printer driver as a shared printer, then use B-PC to connect A-PC’s printer driver via Intranet.



Step 1 Set A-PC’s printer driver as a shared printer (Right-click on printer icon, choose “Printer properties”. Click “Sharing” tab then check “Share this printer.”)



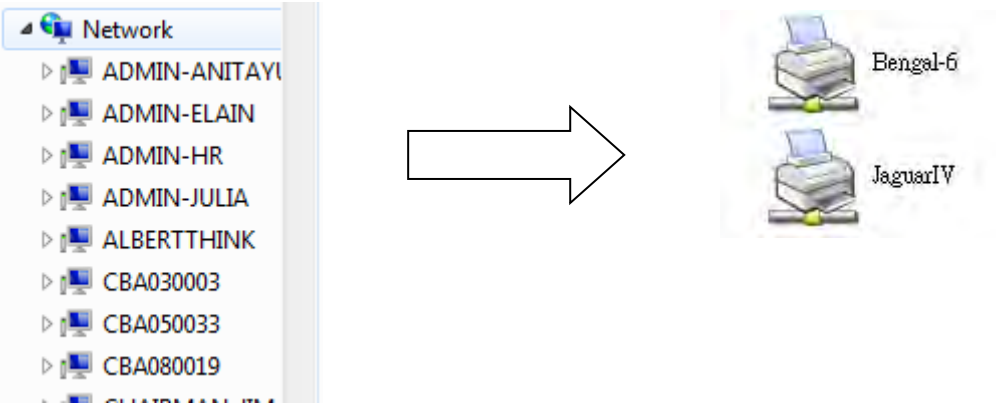
Step 2 Click “Advanced” tab, then choose “Print directly to the printer” option.



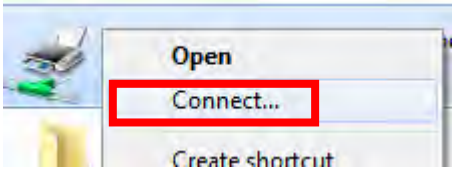
Step 3 Send a job from A-PC to the machine to check if A-PC is connected to the machine.

Try to send a job to check if the port is working.

Step 4 Activate A-PC’s Printer Driver from B-PC’s Network.



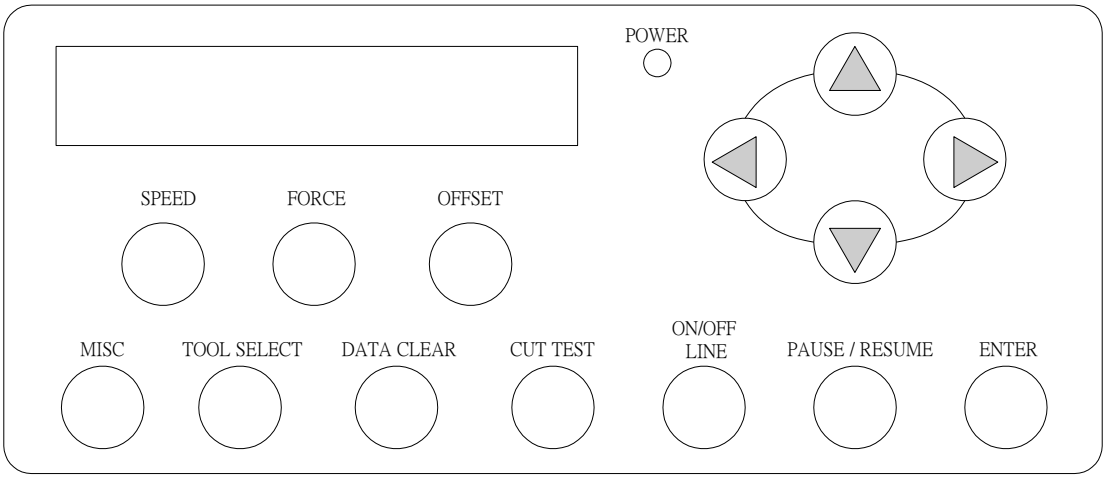
Step 5 Right-click on the printer icon, and select “Connect” to A-PC’s printer.



Chapter 3 The Control Panel

This chapter describes the button operations with the LCM menu flowcharts of Jaguar V. When the cutting plotter is ready for use as described in Chapter 1 & 2, all functions are under default parameters.

3.1 The LCD Panel



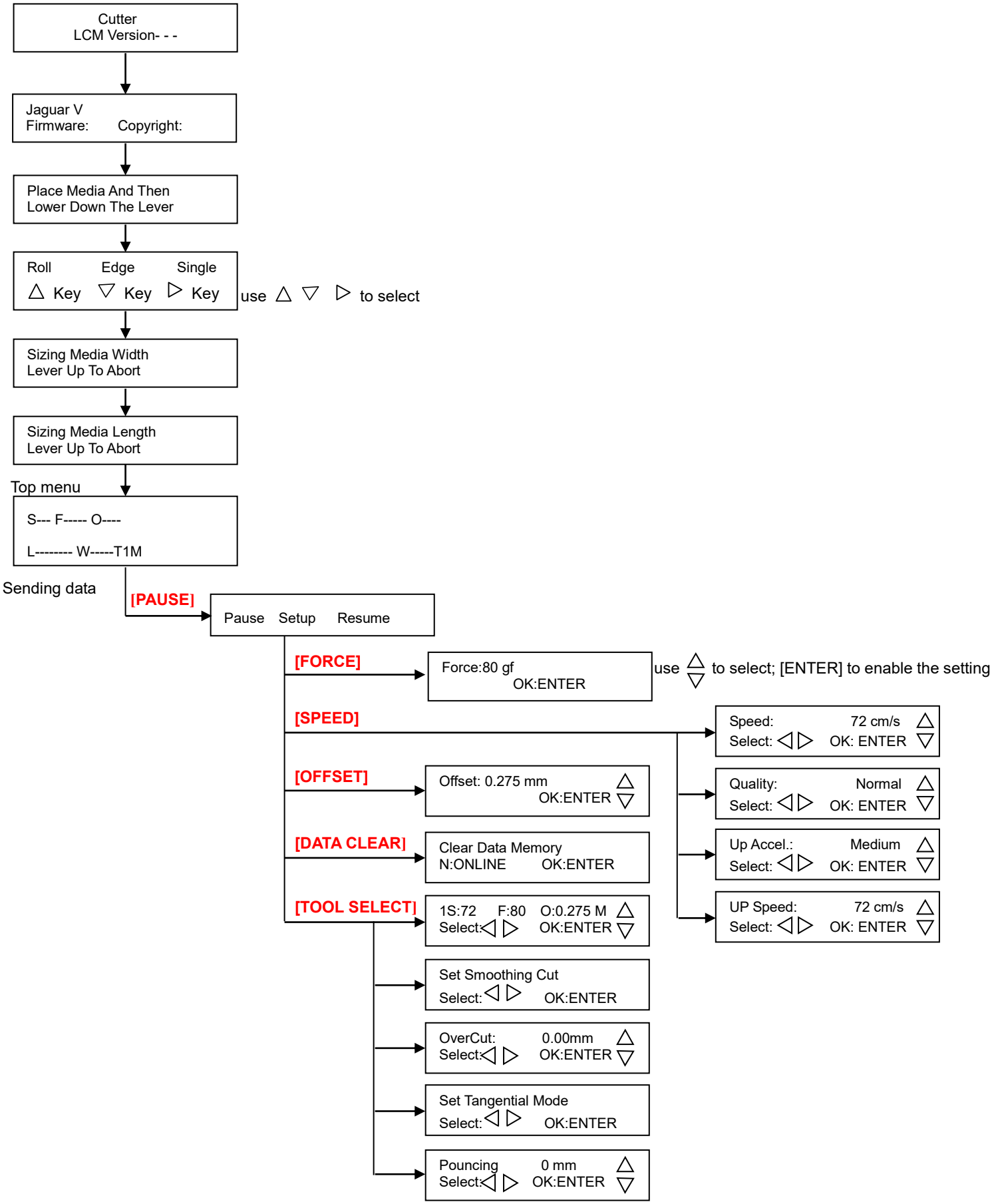
< LCD Control Panel on Jaguar V series >

Key	Function
LCD Screen	To display functions and error messages.
Power LED	To indicate the power status (light up: power on; light off: power off)
4 Arrow Keys	To move position, select function, or change setting.
ENTER	To set item or register the immediately preceding input value.
PAUSE/RESUME	To temporarily halt cutting process or to continue
ON/OFF LINE	To switch modes, stop cutting job, or abort changes of settings.
OFFSET	To adjust the value of blade's offset.
FORCE	To adjust the value of cutting force.
SPEED	To adjust the value of cutting speed and quality.
CUT TEST	To perform cutting tests on different media.
DATA CLEAR	To clear up buffer memory.
TOOL SELECT	To select tools.
MISC	To set up functions.

Please see details in “3.4 Menu Items”

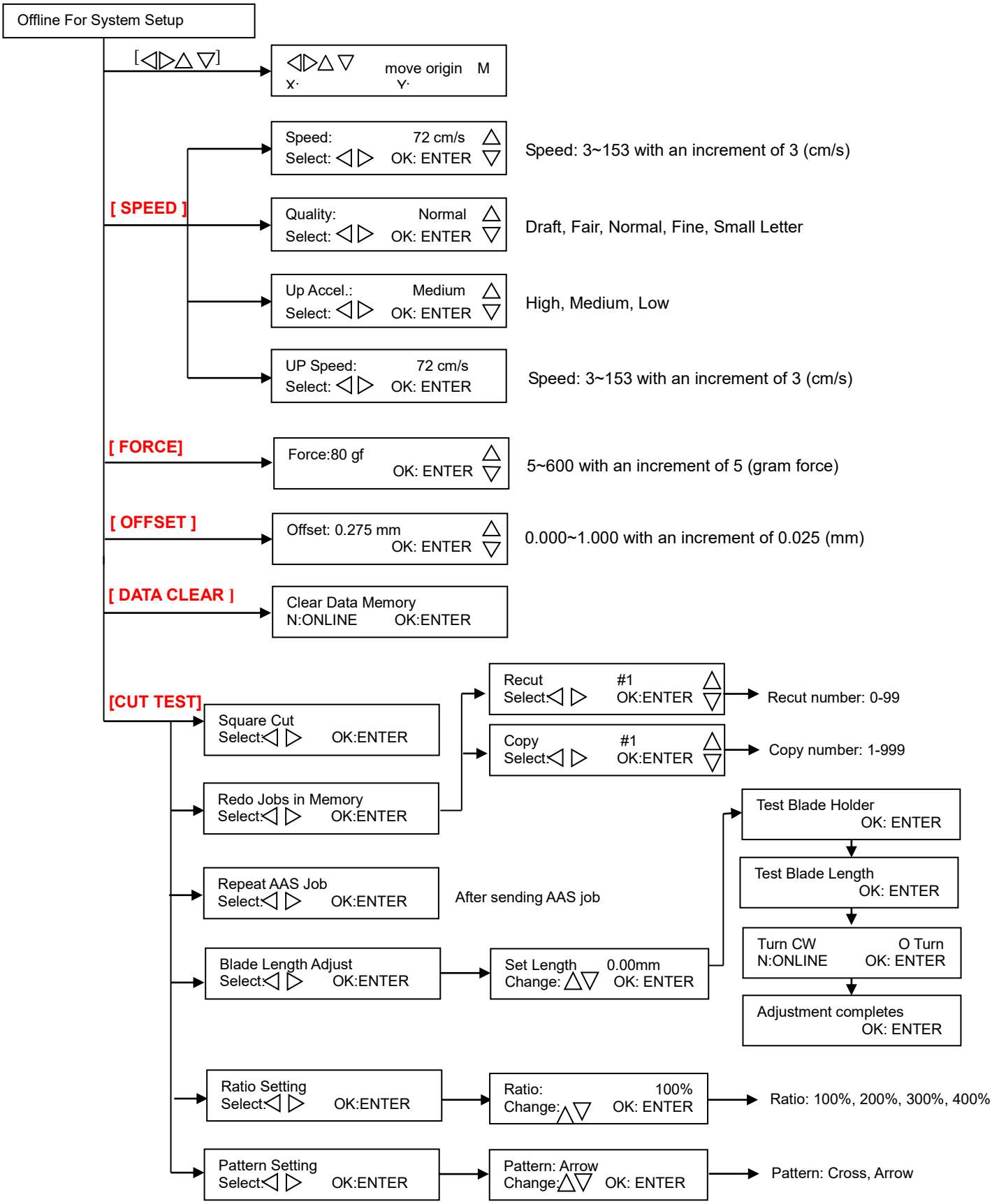
3.2 Menu in On-line Mode

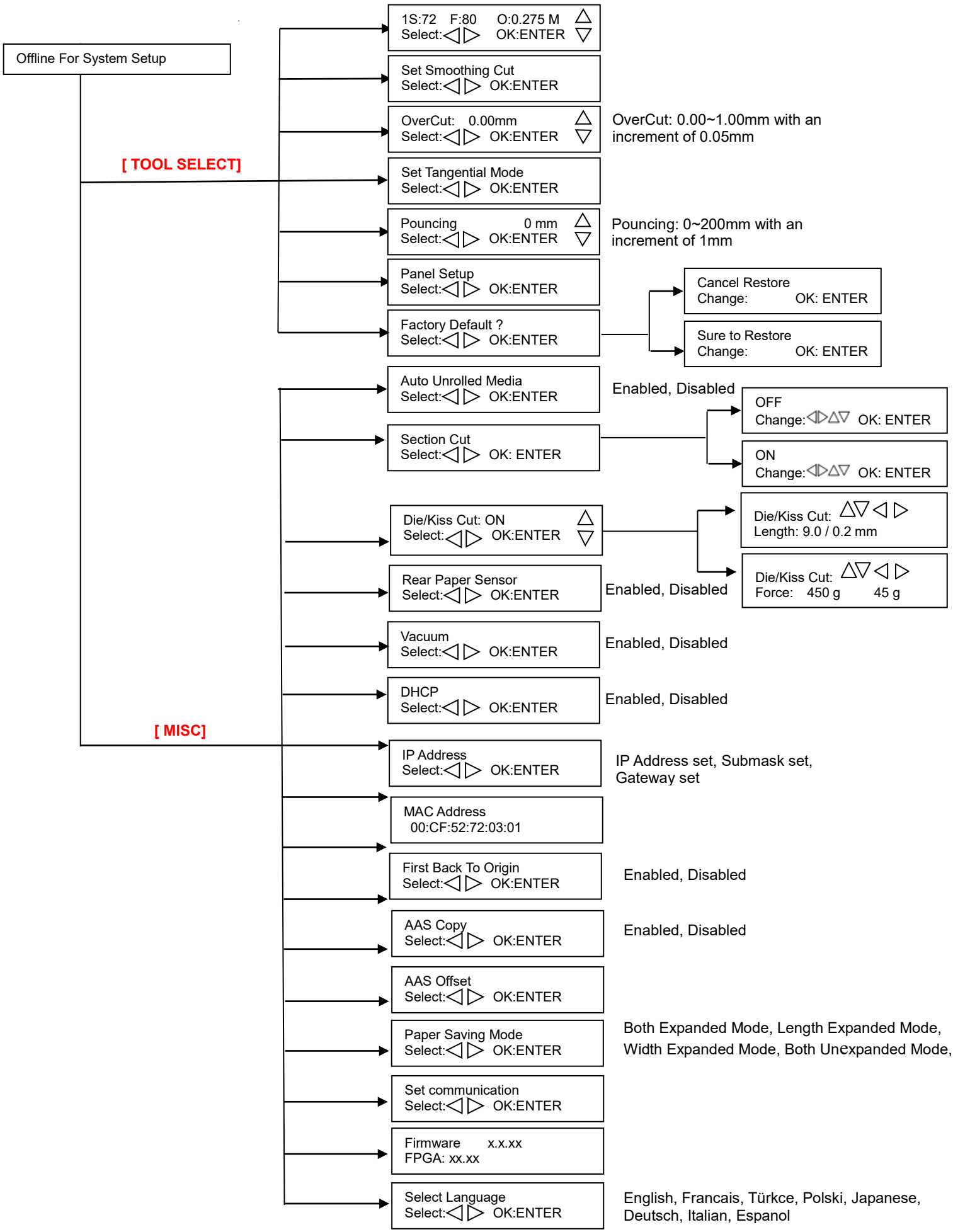
Power On Jaguar V in processing

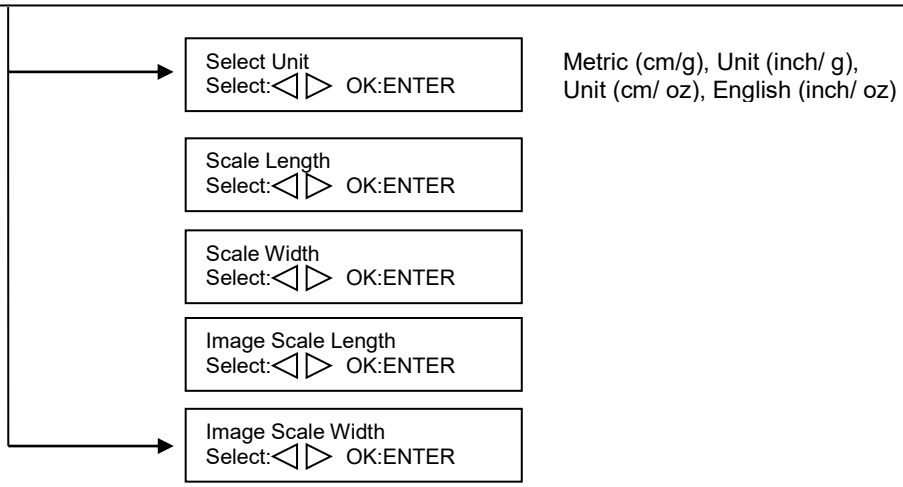


3.3 Menu in Off-line Mode

Press [ON/OFF LINE] to switch to the offline mode




Offline For System Setup
[TOOL SELECT]
1S:72 F:80 O:0.275 M
Select: OK:ENTER
Set Smoothing Cut
Select: OK:ENTER
OverCut: 0.00mm
Select: OK:ENTER
OverCut: 0.00~1.00mm with an increment of 0.05mm
Set Tangential Mode
Select: OK:ENTER
Pouncing 0 mm
Select: OK:ENTER
Pouncing: 0~200mm with an increment of 1mm
Panel Setup
Select: OK:ENTER
Factory Default ?
Select: OK:ENTER
Cancel Restore
Change: OK: ENTER
Sure to Restore
Change: OK: ENTER
[MISC]
Auto Unrolled Media
Select: OK:ENTER
Enabled, Disabled
Section Cut
Select: OK: ENTER
OFF
Change: OK: ENTER
ON
Change: OK: ENTER
Die/Kiss Cut: ON
Select: OK:ENTER
Die/Kiss Cut:
Length: 9.0 / 0.2 mm
Die/Kiss Cut:
Force: 450 g 45 g
Rear Paper Sensor
Select: OK:ENTER
Enabled, Disabled
Vacuum
Select: OK:ENTER
Enabled, Disabled
DHCP
Select: OK:ENTER
Enabled, Disabled
IP Address
Select: OK:ENTER
IP Address set, Submask set, Gateway set
MAC Address
00:CF:52:72:03:01
First Back To Origin
Select: OK:ENTER
Enabled, Disabled
AAS Copy
Select: OK:ENTER
Enabled, Disabled
AAS Offset
Select: OK:ENTER
Paper Saving Mode
Select: OK:ENTER
Both Expanded Mode, Length Expanded Mode, Width Expanded Mode, Both Unexpanded Mode,
Set communication
Select: OK:ENTER
Firmware x.x.xx
FPGA: xx.xx
Select Language
Select: OK:ENTER
English, Francais, Türkce, Polski, Japanese, Deutsch, Italian, Espanol



3.4 Menu Items

Below describes the functions of menu items

Menu or Key	Function	Setting	Default
--- Media sizing ---			
Roll	To measure media width.	Maximum Media Length 150 meters	
Edge	To measure media width and pull the media back till the front paper sensor open.	Maximum Media Length 150 meters	
Single	To measure media width and length.	Maximum Media Length 10 meters	
--- POWER ---			
	To indicate the power status.		
[Arrow Keys]			
	1. To move the tool carriage position on X or Y axis. 2. To select functions or change values of settings.		
[ENTER]			
	1. The displayed parameters will be saved automatically. 2. To set a new origin at the present tool carriage position. In “offline” mode, moving the tool carriage to desired position by [Arrow Keys], then press [ENTER] key to set a new origin. While moving with the parameters of XY-axes displayed, press [MISC] key will enable fine-tune movement; press [MISC] key again to disable the function.		
[PAUSE/RESUME]			
	To temporarily halt the cutting process. To resume the process by press [Pause/Resume] key again.		
[ONLINE/OFFLINE]			
	1. To switch between online mode and offline mode. 2. To stop the cutting job or abort the change of setting. Once press this key, the cutting job will be terminated immediately and cannot be resumed.		
[OFFSET]			

	To set or modify the distance between the blade tip and the center axis.	0.000~1.000mm	0.275mm
[FORCE]			
	To set or modify the value of tool force. For Jaguar V_R, when the cutting force exceeds 450g, the maximum cutting speed would be 15cm/sec and the cutting quality would be Small Letter Mode (0.2g) and while the cutting force is 300g-449g, the maximum cutting speed would be 30 cm/sec and the cutting quality would be Fine Mode (0.5g)	5~600gram; 5 gram/per step	80 gram
[SPEED]			
Speed	To set or modify tool speed at horizontal moving.	3~153cm/sec; 3cm/sec per step	72cm/sec
Quality	To set or modify cutting quality. While cutting small letter, set as “Small letter”. While cutting in high speed, set as “Draft”. For normal operation, set as “Normal”.	Draft, Fair, Normal, Fine, Small Letter	Normal
Up Accel.	To set or modify tool acceleration levels while the tool move from endpoint to next start point at horizontal moving.	High, Medium, Low	Medium
Up Speed	To set or modify tool speed while the tool move from endpoint to next start point at horizontal moving.	3~153cm/sec; 3cm/sec per step	72cm/sec
[CUT TEST]			
Square Cut	To perform a cutting test at present blade position. For more information, please refer to “4.3 Adjusting the Cutting Force and Offset” to adjust blade force and cutting speed.		
Redo Jobs in Memory	To redo the cut test jobs saved in memory by recutting or producing cut test copies. Recut number: 0 means limitless. If you want to set number as 0, you should set that between repowering the cutter and putting down the lever.	Recut (number of jobs: 0-99) Copy (number of jobs: 1-999)	Recut
Repeat AAS Job	To repeat AAS jobs automatically without having to operate on the computer side. Please be noted that this feature is mainly applied to the Single paper mode; please ensure a new piece of material you wish to apply this feature on is loaded and the origin repositioned to the first registration mark before starting. When the first AAS job repeat completes, the user will be offered the choice of “Repeat AAS Job Again”, please press ”Online/Offline” to return to the main menu. This option will appear after finishing reading all registration marks.		
Pattern Setting	To provide two patterns for cut test Note: It is recommended to select “Cross” if you are working on thick pieces of materials.	“Arrow” and “Cross” patterns	“Arrow” Note: the default pattern for Jaguar V_R is “Cross”
Ratio Setting	To adjust the size of the pattern	100%, 200%, 300%, 400%	100%
Blade Length Adjust	Please see 2.5 Automatic Blade Length Adjustment for further details. To adjust the length of the blade Note:	0.00mm-5.00mm	0.00mm

	1. Keep your blade length as 0 before you start adjusting. 2. Test the blade holder first and then test the blade length by pressing ENTER. 3. Keep the blade holder at the same position when you perform blade holder and blade length tests. 4. When blade holder and blade length tests are finished, the screen will show you to what degree (the unit of the value following “CW” or “CCW” is “circle”) and in which direction [CW (clockwise) or CCW (counterclockwise)] you should turn the adjustment knob. EG, Turn CW 0.5 is telling you that you should turn the knob for half a circle clockwisely. The value on the screen will be 0.0 when the blade length is perfect and no more adjustment needs to be made. You may start cutting at this point.		
[DATA CLEAR]			
	To clear up buffer memory.		
[TOOL SELECT]			
Set Smoothing Cut	To enable smooth-cutting function.		Enable
Over Cut	To generate an overcut to facilitate weeding.	0.00mm-1.00mm 0.05mm/per step	0.00mm
Set Tangential Mode	To enable the emulated tangential-cutting mode for thicker media types and small letter cuts. Note: while the Offset value setting at 0.000 mm, “Set Tangential Mode” will automatically be disabled.		Enable
Pouncing	To make perforated patterns. * In order to use this function, Pouncing tool must be installed. * Before start pouncing, place pouncing strip on top of the cutting pad to protect the cutting pad. * Set the value as 0 mm to disable the pouncing mode. * Pouncing tool is an optional item.	0~200mm	0mm
Panel Setup	Accept setup command: To accept commands of the Force, Speed, Cutting Quality, and Offset only via software.		Accept setup command
	Control panel only: To accept commands of the Force, Speed, Cutting Quality, and Offset only via control panel of the cutter.		
Factory Default	To turn all parameters of the menu items to factory-default settings.		
[MISC]			
Auto Unrolled Media	To avoid paper jam and motor crash by automatically unroll media (50cm and up) before cutting while enabled. . * Auto-unroll only effects on roll/edge media. * Using Single mode to size media will disable this function automatically. * If the length of the rolled media is less than 2 meters or the weight is light, it is recommended to set this mode disabled.		Enable
Section Cut	To divides the long plot data into sectional output jobs to gain higher cutting quality and increase precision. Users can set the section by registration marks or input the value manually.		200mm intervals

Die/Kiss Cut	To perform die cut/kiss cut in one cutting line simultaneously by designating the outline to green color RGB 255 and defining the length and force setting on control panel (Please refer to Chapter 4.9 for details).	Length: 0.2 ~9mm Force: 45 g~ 450 g	
Rear Paper Sensor	To detect if the rear paper sensor is covered to determine the following process; when it is enabled, the cutter will detect if the material has covered the rear paper sensor under the Roll and Edge mode; when disabled, the rear paper sensor will not be functioning. Note: Rear paper sensor only functions under “Roll” and “Edge” mode.	Enable Disable	Enable
DHCP	Shows your IP address for TCP/IP Configuration		Disable
IP Address	Shows the IP Address of your cutting plotter.		
MAC Address	Shows the MAC Address of your cutting plotter.		
Vacuum	To help improve tracking and cutting accuracy by turning on the fans. If you turn off the vacuum system, the fans will remain inactive during cutting or plotting.		Enable
First Back to Origin	To enable the carriage back to the previous origin; when “Enable” is selected, the carriage will not go back to the previous origin, while the selection of “Disable” allows the carriage to do so.	Enable Disable	Enable
AAS Copy	To enable the AAS copy. When “Enable” is selected, the AAS module will continue to read the registration mark to contour cut. Users can set distance between images and AAS copy times in this function. The range of distance is 0-500mm, and the range of times is 0-1000.	Enable Disable	Enable
AAS Offset	To set or modify AAS offset value. You can refer to “5.3 Printer Test” for more details.		
Paper Saving Mode	To save media by four different modes: 1. Length expanded mode 2. Width expanded mode 3. Both expanded mode 4. Both unexpanded mode		Length expanded mode
Set Communication	To build up the communication between host computer and cutter. *Baud Rate* is to determine the speed of data transmission. *Data Bits* refers to the size of one block of data. *Parity* is used to check if data was revived correctly or not. 9600, n, 7, 1, p 9600pbs, 7 Bits with NO Parity 9600, o, 7, 1, p 9600pbs, 7 Bits with ODD Parity 9600, e, 7, 1, p 9600pbs, 7 Bits with EVEN Parity 9600, n, 8, 1, p 9600pbs, 8 Bits with NO Parity 9600, o, 8, 1, p 9600pbs, 8 Bits with ODD Parity 9600, e, 8, 1, p 9600pbs, 8 Bits with EVEN Parity 19200, n, 7, 1, p 19200pbs, 7 Bits with NO Parity 19200, o, 7, 1, p 19200pbs, 7 Bits with ODD Parity 19200, e, 7, 1, p 19200pbs, 7 Bits with EVEN Parity 19200, n, 8, 1, p 19200pbs, 8 Bits with NO Parity 19200, o, 8, 1, p 19200pbs, 8 Bits with ODD Parity 19200, e, 8, 1, p 19200pbs, 8 Bits with EVEN Parity		
Firmware Version	To display the version number of Firmware and FPGA code.		
Select Language	To select displayed languages on LCM panel in English, Spanish, Italian, Deutsch, Portuguese, Polish, Turkish or French.		English
Select Units	Provide two-unit systems for users convenient.	cm/s; inch/oz; cm/oz; inch/gram	Metric

Image Scale Length	To adjust the image scale of media length and width that may cause by the thickness of the media. The Numerator is the ideal length, and the Denominator is the actual length measured from the resultant. For example, cutting a line with 500.0 mm length. The procedure as follows: 1. Press the [LEFT ARROW] to choose the Numerator and select 500.0 mm, 2. Cut the length by sending a graph file, 3. Measure the length then use the [RIGHT ARROW] key to choose the Denominator, then 4. Press [UP ARROW /DOWN ARROW] to change the values of the actual length.		500/500 mm
Image Scale Width			
Scale Length	Fixed scaling, for maintenance only.		
Scale Width			

Chapter 4 Operation

4.1 Media Loading

Step 1 Install one paper hub onto one side of paper roll.

Step 2 Slide the feed shaft through the paper roll.

Step 3 Install the other paper hub onto the other end of paper roll and set it firmly (Figure 4-1).

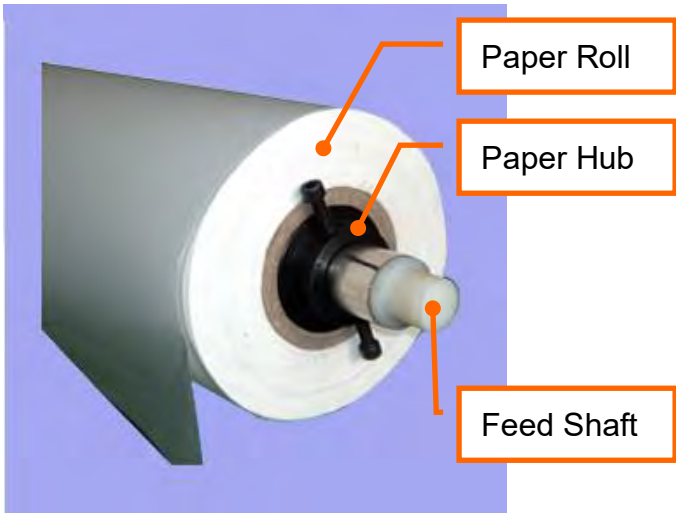


Figure 4-1

Step 4 Install the shaft with Paper Roll onto the rear side of Roll Holder Support. (C1 to E1 ; C2 to E2 : Figure 4-2 & 4-3).

Figure 4-2

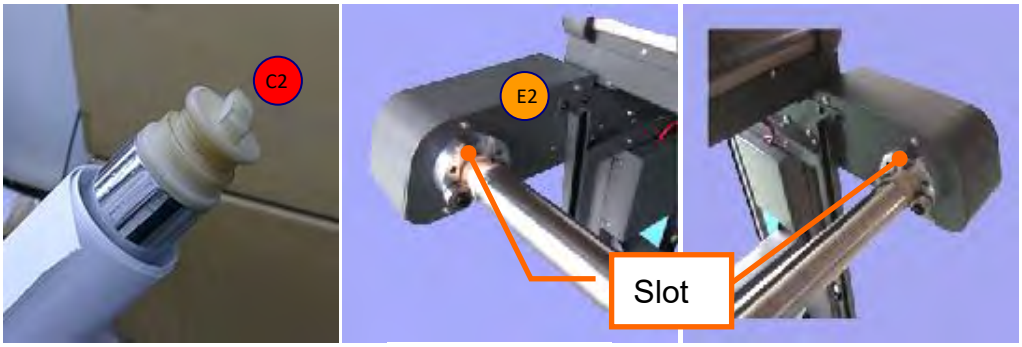


Figure 4-3

Step 5 Draw out paper from upper side of the paper roll, then go through the plotter to the front side. Make sure paper is loaded on center of the platen before press down Lever (Pinch Roller). (Figure 4-4 & 4-5)

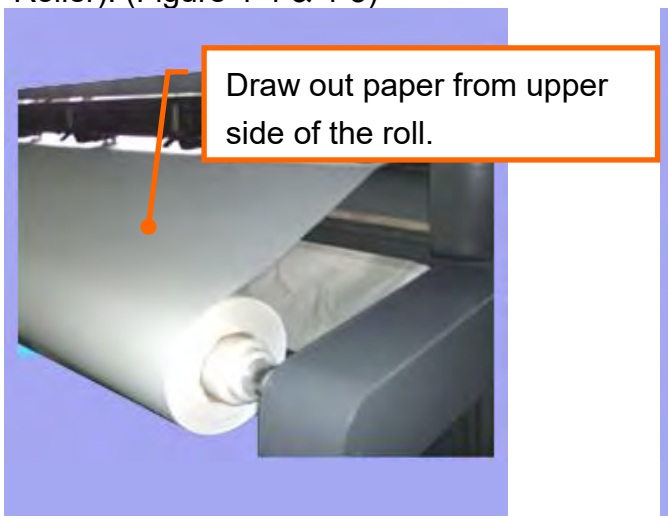


Figure 4-4

Figure 4-5

Step 6

Fix paper on the front shaft by twin adhesive tape (Figure 4-6).

Step 7 Place the two dancer bars D into the dancer guiders G (Figure 4-7)
(Detailed composition refer to Figure 2-1)

Figure 4-6

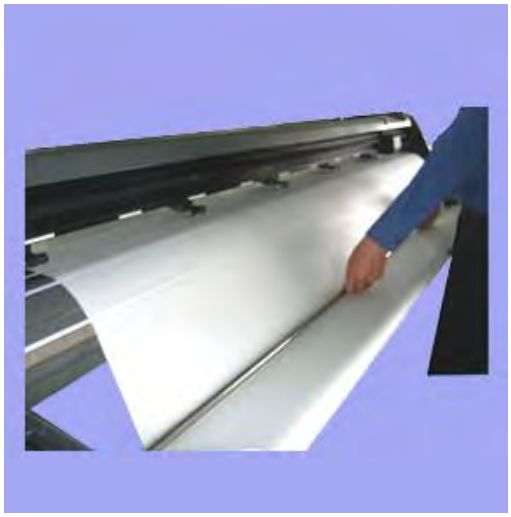


Figure 4-7

Step 8

Adjust the two dancer bars to the position between sensors by loose or tighten the paper roll. (Figure 4-8)

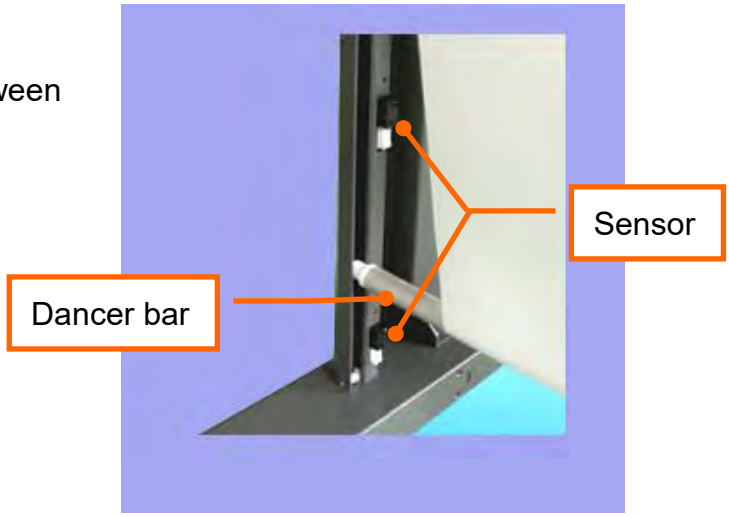


Figure 4-8

4.2 Adjust the Plotter

To load the media properly, please follow the procedures listed below:

Step 1 Use the lever on the upper right side of the cutting plotter to raise or lower down pinch rollers. Pull the lever forward until it makes a clicking sound then the pinch rollers are raised (Figure 4-9).

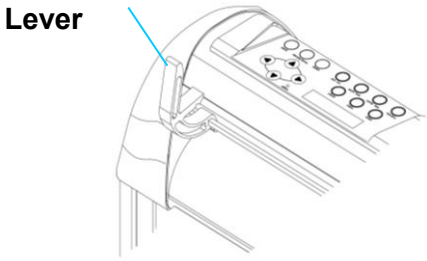


Figure 4-9

Step 2

Load your media on the platen and slide it under the pinch rollers from either the front side or the backside. The **alignment rulers** on the platen extension will help you to adjust the media precisely.

> **Note:**
> Be sure that the media must cover the paper sensors on the platen when loading the media. At least one of the two paper sensors (Figure 4-10) should be covered. Once the media covers the sensor, the cutting plotter will size the media width and length automatically.

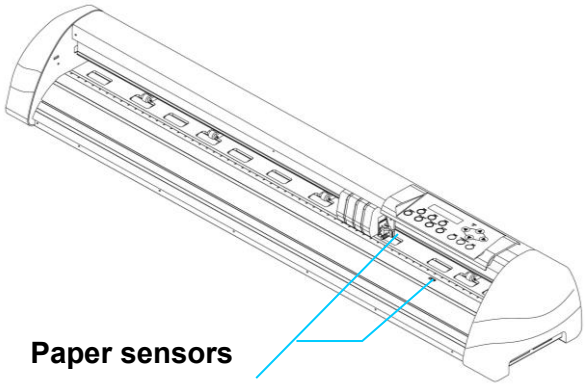


Figure 4-10

Step 3

Then move the pinch rollers manually to the proper position. Be sure the pinch rollers must be positioned above the grid drum. The **white marks** on the top trail will remind you where the grid drums are (Figure 4-11).

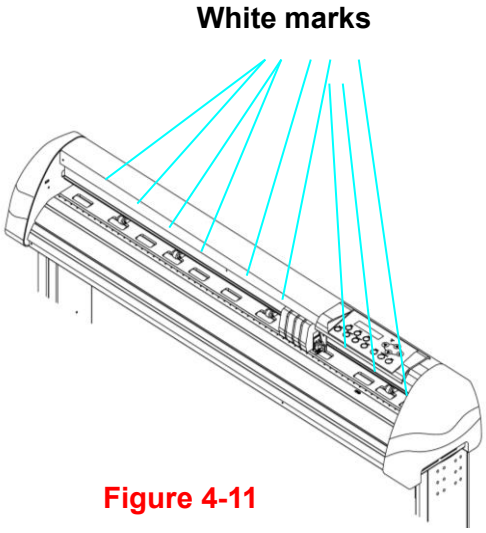


Figure 4-11

Step 4

Push the lever backward to lower down the pinch rollers.

Step 5

Turn on the power, the tool carriage will measure the size of the media automatically. And the plotting cutter begins to work.

Note:

1. Always adjust the position with the pinch roller raised.
2. Move the pinch roller by applying force at the rear portion of the pinch roller support.
3. Do not move it by holding its front rubber roller (Figure 4-12).

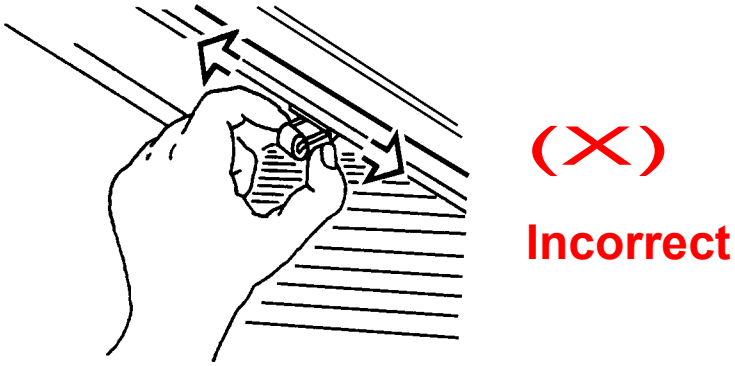


Figure 4-12

Note:
Please pull up the bottom of all pinch rollers (Figure 4-13) before the lever is pushed backwards to ensure accurate media width detection.

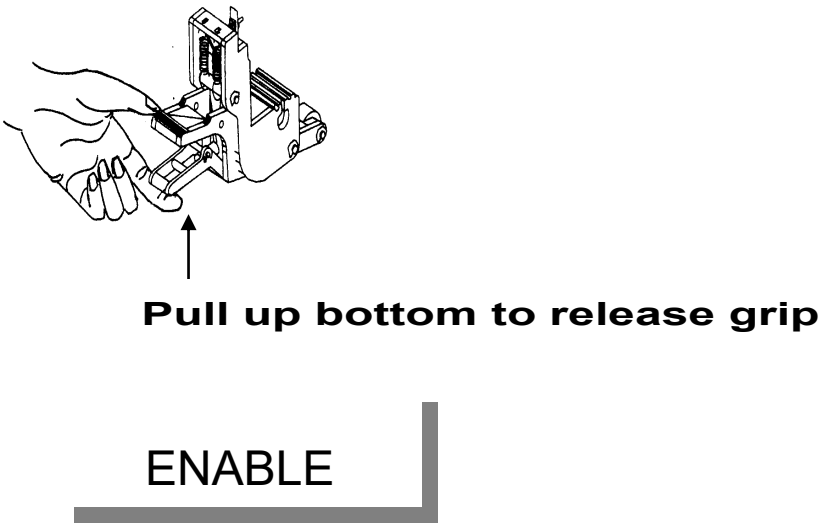


Figure 4-13

4.3 Tracking Performance

In order to achieve the best tracking performance for a long plot, we recommend some significant media loading procedures described as follows:

If the media length is less than 4 meters, leave the margin of 0.5mm—25mm in the left and right edges of the media (Figure 4-14).

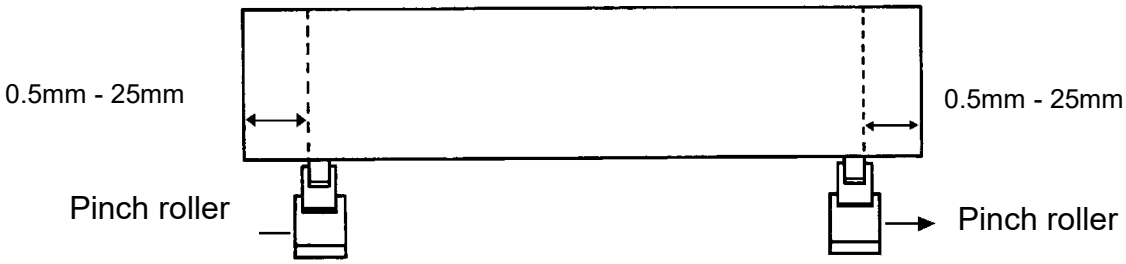


Figure 4-14

If the media length is greater than 4 meters, leave at least 25mm margin on the left and right edges of the media (Figure 4-15).

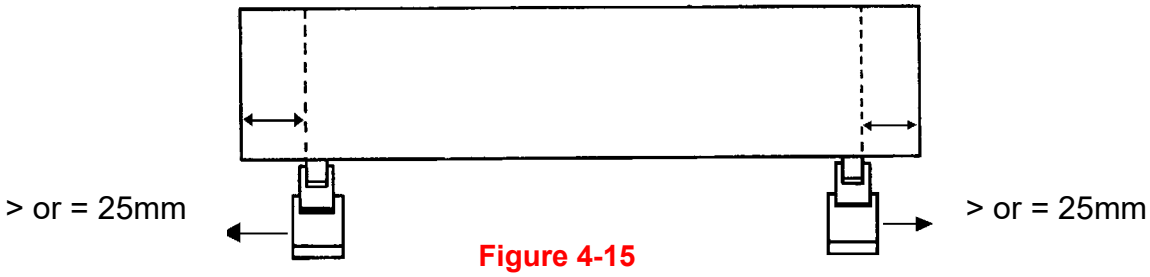


Figure 4-15

Please refer to the paragraph “4.6 How to Make A Long Plot” for more details.

4.4 Cutting Force and Offset Adjustment

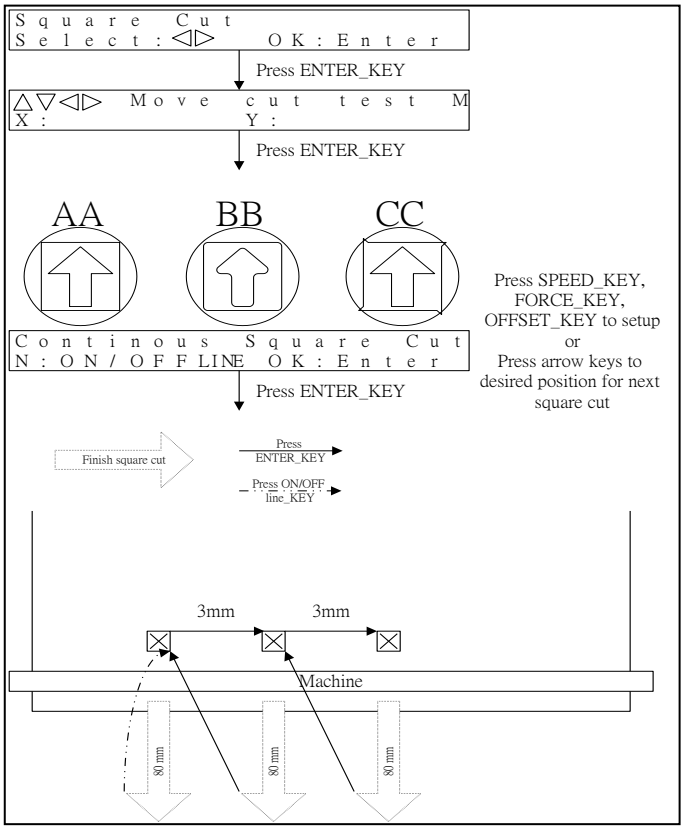
Before sending your designs for cutting, you may perform a “cut test” to generate satisfactory cutting results. The “Cut Test” should be repeated until the appropriate cutting conditions for the media are discovered.

After sizing the media, press [CUT TEST] button to select the “square cut”, and press [ENTER KEY] to confirm.

The default cutting force and offset value of the cutting test are 80gf and 0.275mm respectively. Press [ARROW KEY] to move the tool carriage to the position where you like. Then, press the [ENTER KEY] to perform Cut Test.

Note: At the same time, the new origin is also set at the cutting test position.

When the cutting test is completed, a pattern appears. Peel off the pattern to see if it can be easily separated from the media base. If yes, the setup tool force is appropriate. If not or cut through the back paper, press [FORCE KEY] to adjust the tool force until an optimum force is obtained (Figure 4-16).



If the pattern appears to be BB or CC layout, press [OFFSET KEY] to adjust the offset value until AA pattern discovered.

Figure 4-16

4.5 How to Cut 3mm Letters

To obtain good quality output, narrow media is recommended. However, if wide media is used, you should:

1. Position two pinch rollers as close as possible to both edges of the cutting area.
2. Make sure the loaded media is held flat with equal tension across the platen.
3. Suggested operation settings:

   Tool force: 55 gf. (or depending on the material)
   Cutting speed: 45-50 cm/sec
   Tool up speed: 45-60 cm/sec
   Smooth cut: Disable
   Quality: Small Letter

4.6 How to Make A Long Plot

When you are making a long plot, you need to use the “AUTO UNROLL MEDIA“ function and turn off the power of Take-up System. The following parameter settings are to help users get the best cutting quality. The actual output quality may vary when using different kind of materials

1. If the length of graphic is between 3m and 5m, the cutting speed is better slower than 72cm/sec and the cutting quality is set as Normal.
2. If the length is longer than 5m or if the material type is difficult to cut, it is better to further slow down the cutting speed.
3. After loading the roll media all pinch rollers are raised at this stage, flatten the media on the platen and hold the front edge of the roll media firmly. Then turn the roll downward to make an equal tension across the media.
4. Engage pinch rollers.
5. The protrusion length of the blade should be longer than the thickness of the vinyl. (Please check the “Blade Specification: About the Tool” in Appendix.) After you notice all the above, you’ll enjoy your gigantic signs production!

4.7 When Completing the Cutting Job

After completing the cutting job, raise the sheet-loading lever, and then remove the material. You can also cut off the finished job by the Safe Blade (a standard accessory) along the knife guide. (Figure 4-17)

Figure 4-17

4.8 Reference Parameter setting for different materials

The following reference parameter is used on GCC verified materials shown in the table.

Material	Personalized/ Wall stickers	Vehicle stickers	Window decoration	Window tint
Blade	red	red	red	red / yellow
Blade tip length (mm)	0.28	0.27	0.25	0.09
Force (g)	105	85	95	70
Speed (cm/sec)	72	60	65	72
Offset (mm)	0.25	0.25	0.25	0.25
Recommend model	RX, Jaguar, Puma, EX, AR	RX, Jaguar, Puma, EX, AR	RX, Jaguar, Puma, EX, AR	RX, Jaguar, Puma, EX, AR
Material	Stencil	Reflective film	Flock	Cardboard
Blade	red / green	green	green	green
Blade tip length (mm)	0.3	0.5	0.3	0.3
Force (g)	180	380	135	165
Speed (cm/sec)	15	3	30	30
Offset (mm)	0.25 / 0.5	0.5	0.5	0.5
Recommend model	RX, Jaguar, Puma, EX, AR	RX, Jaguar, Puma, EX	RX, Jaguar, Puma, EX, AR	RX, Jaguar, Puma, EX, AR
Material	Magnets	Protective tint	Rhinestone	Sandblast mask
Blade	green	green	green	blue
Blade tip length (mm)	0.8	0.3	0.8	0.27
Force (g)	580	320	190	85
Speed (cm/sec)	3	3	15	60
Offset (mm)	0.5	0.5	0.5	0.25
Recommend model	RX, Jaguar	RX, Jaguar, Puma, EX	RX, Jaguar, Puma	RX, Jaguar, Puma, EX, AR
Material	Small text (vinyl)			
Blade	black			
Blade tip length (mm)	0.27			
Force (g)	thick: 150 thin: 90			
Speed (cm/sec)	9			
Offset (mm)	0.175			
Recommend model	RX, Jaguar, Puma			

4.9 How to set die/kiss cut through plug-in software for Adobe Illustrator and CorelDraw

Die/kiss cut function allows you to define two cutting parameter in one cutting line, you can set through plug-in software for Adobe Illustrator and CorelDraw directly instead driver setting by designate the line to green color RGB 255 and then set the length and force from the control panel.

1. Select an outline that you want to do die/kiss cut in working area.

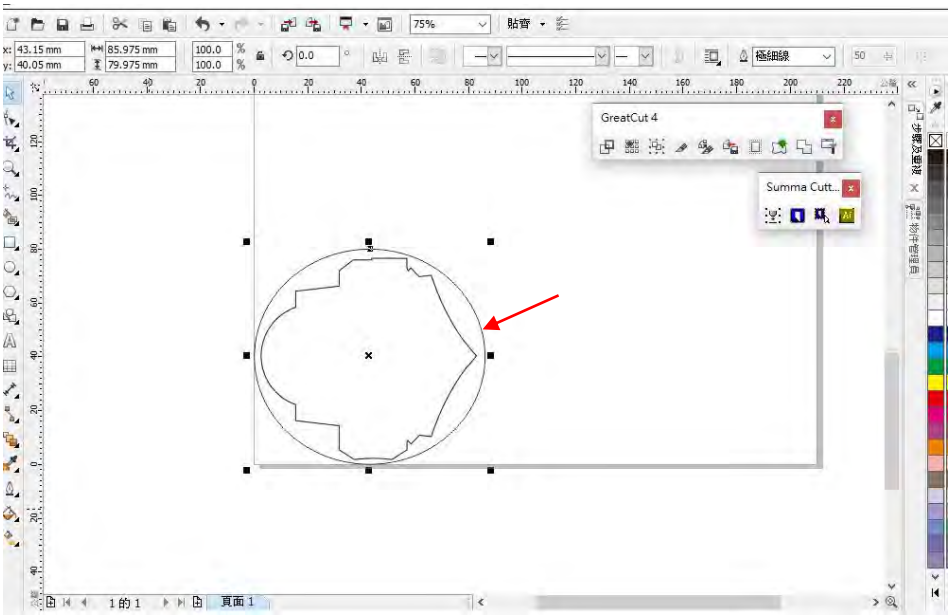


Figure 4-27

2. Change the color to **green color code RGB 255** then click “OK”
   (Note: Only green color code RGB 255 is identified as die/kiss cut function, please don’t select other color otherwise the function cannot work)

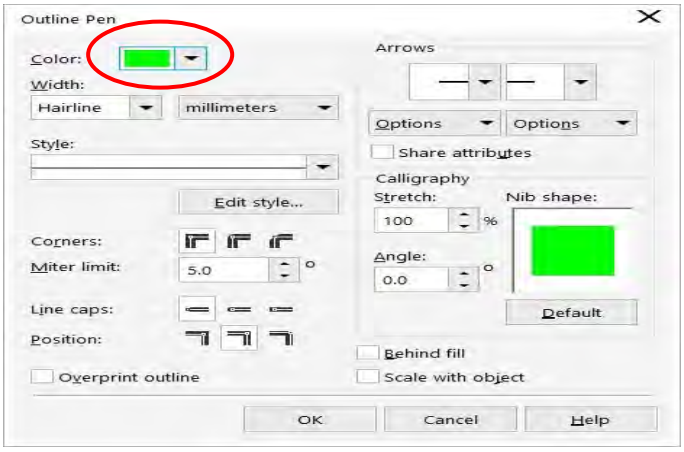


Figure 4-28

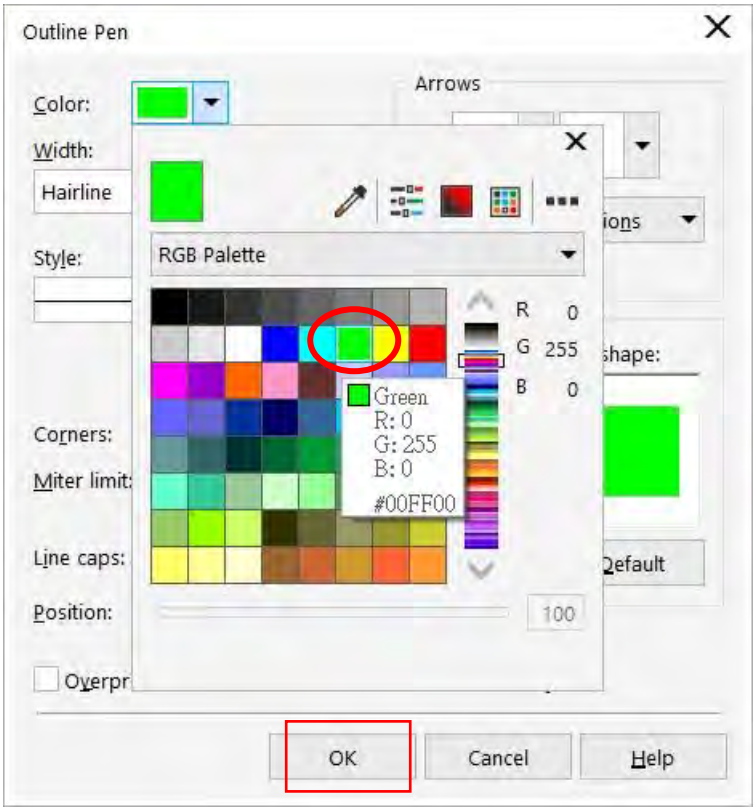


Figure 4-29

3. Outline color has been changed to Green.

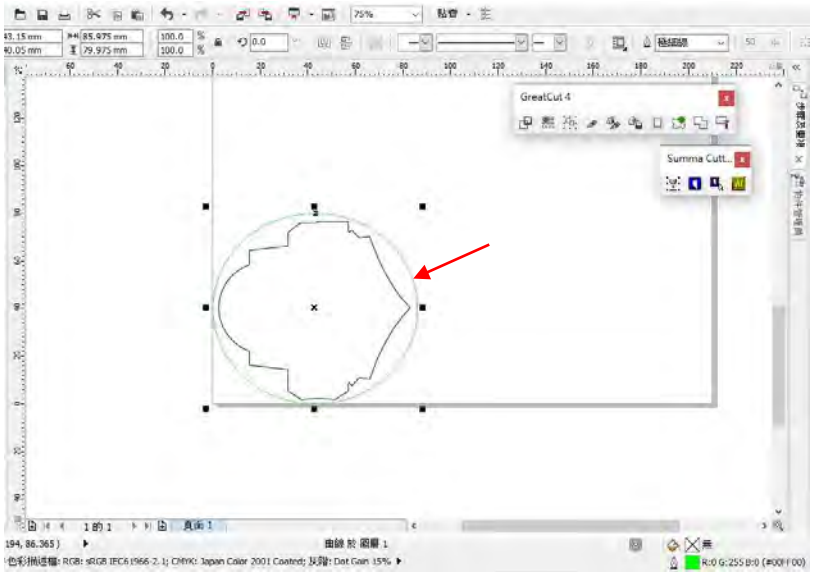
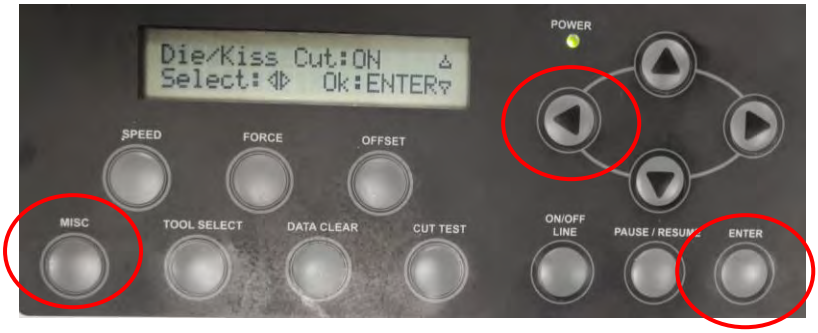


Figure 4-30

4. Select “ On/Off Line” > “MISC”, use arrow key to select “Die/Kiss Cut” function then press

“Enter”.



5. Click the left arrow key to the next page to adjust the length value (0.2mm ~ 9.0mm) then click “ENTER”.

6. Click the left arrow key to the next page to adjust the force value (45g ~ 450g) then click “ENTER” and finish the setting.

Chapter 5 Basic Maintenance

This chapter explains the basic maintenance (i.e. cleaning the cutting plotter) required for the cutting plotter. Except for the procedures mentioned below, all other maintenance must be performed by a qualified service technician.

5.1 Cleaning the Cutting Plotter

Cleaning the machine properly and regularly will ensure optimal performance out of your machine.

Cleaning Precaution !

- Unplug the cutting plotter before cleaning it in order to prevent electrical shock.
- Never use solvents, abrasive cleaners or strong detergents for cleaning. They may damage the surface of the cutting plotter and the moving parts.

Recommended Methods:

- Gently wipe the cutting plotter surface with a lint-free cloth. If necessary, with a damp cloth immersed in water or alcohol. Dry and wipe any remaining residue off a soft, lint-free cloth.
- Wipe all dust and dirt from the tool carriage rails.
- Use a vacuum cleaner to empty any accumulated dirt and media residue beneath the pinch roller housing.
- Clean the platen, paper sensors and pinch rollers with a damp cloth immersed in water or alcohol and dry with a soft, lint-free cloth.
- Wipe dust and dirt from the stand.

5.2 Cleaning the Grid Drum

1. Turn off the cutting plotter, and move the tool carriage away from the area needed to be cleaned.

2. Raise the pinch rollers and move them away from the grid drum for cleaning.

3. Use a bristle brush (a toothbrush is acceptable) to remove dust from the drum surface. Rotate the drum manually while cleaning. Refer to Figure 5-1.

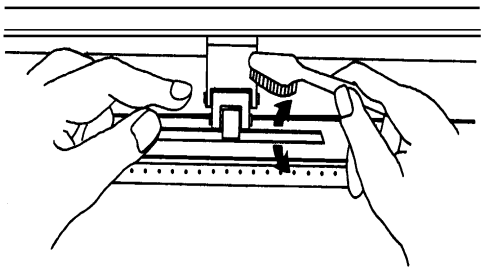


Figure 5-1

5.3 Cleaning the Pinch Rollers

1. If the pinch rollers require a thorough cleaning, use a lint-free cloth or cotton swab to wipe away the accumulated dust from the rubber portion of the pinch rollers. To prevent the pinch rollers from rotating while cleaning, use your finger to hold the pinch rollers to prevent them from rotation

2. To remove the deeply-embedded or persistent dust, use the lint-free cloth or cotton swab moistened with rubbing alcohol.

> **Note:** The daily maintenance of your cutting plotter is very important. Be sure to clean up the grid drum and pinch rollers regularly for better cutting accuracy and output quality.

Chapter 6 Trouble Shooting

This chapter is to help you correct some common problems you may come across. Prior to getting into the details of this chapter, please be sure that your application environment is compatible with the cutting plotter.

Note:
Before having your cutting plotter serviced, please make certain that the malfunction is in your cutting plotter, not the result of an interface problem or a malfunction in your computer or a software problem.

Why is the cutting plotter not functioning?

Possible Causes:

6.1 Non-Operational Problems

Check the following first:

- Does the AC power cord plug in properly?
- Does the AC power cord connected to the power connector properly?
- Does the power LED still illuminate?

Solutions:

If the LCM is able to display the message, the cutting plotter should be in a normal condition. Switch off the cutting plotter and turn it on again to see if the problem still existing.

If the LCM is not able to display any message, contact the technician from your dealer.

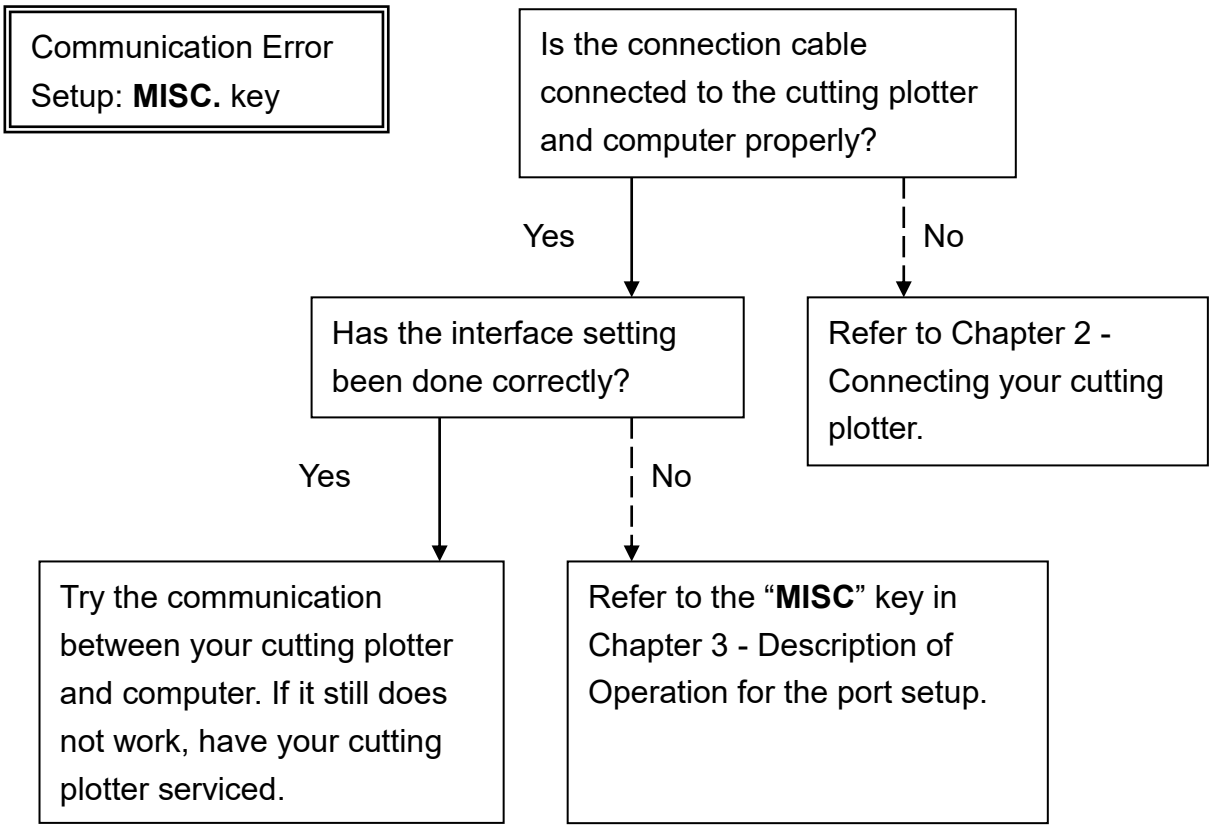
6.2 Operational Problems

Some mechanical problems or failure during operation will cause some problems. The error messages shown on the LCM present the problem first, and followed by recommended actions. If the problem still exists after the recommended actions have been done, have your cutting plotter serviced.

Error, Check Media Or Drum or X Motor	This message indicates that there might be a problem on the **X axis**. Check if the drum is working well and if the media is well loaded. Correct the problem and re-power on to reboot system.
Error, Check Media Or Y Motor	This message indicates that there might be an obstruction to carriage relating to a problem on the **Y axis**. Correct the problem and re-power on to reboot system.
Error, Check Carriage Sensor or VC Motor	This message indicates that the blade up/down sensor malfunction. Re-power on to re-boot system. If the problem still exists, find a serviceman.
Graph Was Clipped. Data In Buffer	This message indicates that the cutting exceeds the cutting limit. Reload larger media or re-scale the plot to a smaller size; then press the key followed by the display of LCM to continue.

6.3 Cutting Plotter/Computer Communication Problems

The messages showed below present problems in relation to cutting plotter/computer communication.



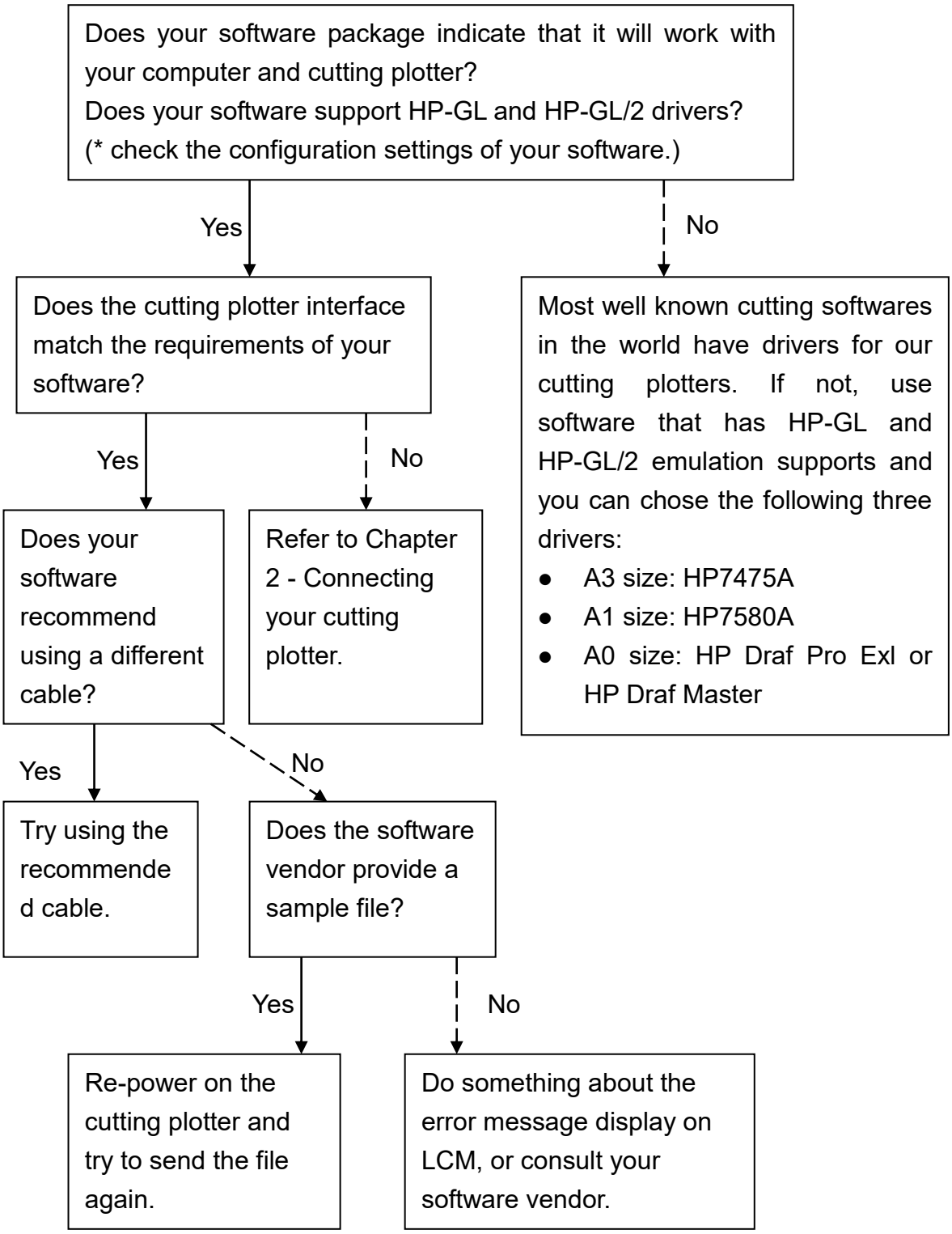
Note:
The computer also needs to set up compatible communication parameters to the cutting plotter set up.

HP-GL/2 Cmd. Error

If your cutting plotter can not recognize the HP-GL/2 or HP-GL commands, please check the HP-GL/2 or HP-GL commands applied to your cutting plotter are used properly.

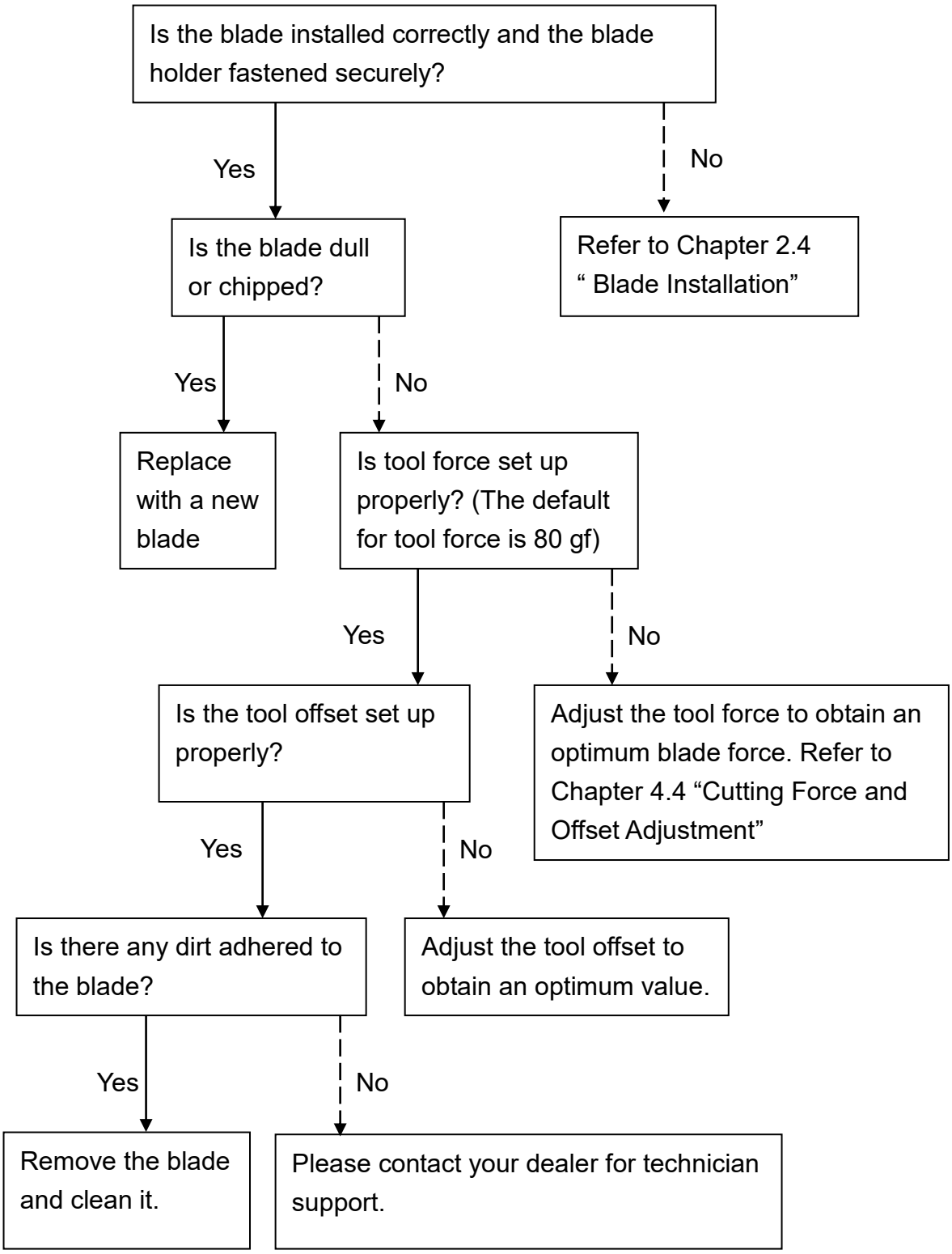
6.4 Software Problems

Check the following first:



6.5 Cutting Quality Problems

Note: The daily maintenance of your cutting plotter is very important. Be sure to clean up the grid drum and pinch rollers regularly for better cutting accuracy and output quality.



Jaguar V-160-P Specification

Model Number		J5-160-P
Operational Method		Roller-Type
Max. Cutting Width		1570mm(62in)
Max. Cutting Length		50m (164ft)
Max. Media Loading Width		1782mm (70.2 in)
Min. Media Loading Width		250mm (9.8in)
Number of Pinch Rollers		6
Acceptable Material Thickness		0.8 mm (0.03in)
Drive Motor		DC Servo Control
Cutting Force		0~600 g
Max. Cutting Speed		1530 mm/sec (60 ips) (at 45° direction)
Acceleration		4.2 G
Offset		0~1.0 mm (with an increase of 0.025mm)
Memory Buffer		32 MB
Interfaces		USB 2.0 (Full Speed), Serial (RS-232C) and Ethernet
Type of Command		HP-GL, HP-GL/2
Mechanical Resolution		0.006 mm
Software Resolution		0.025 mm
Distance Accuracy		±0.254 mm or ±0.1% of move, whichever is greater
Repeatability		±0.1mm
Curve & Arc Smoothing		Yes
Configurable Origin		Yes
Test Cut Capability		Yes
Tangential- emulation		Yes
Repeat		Yes
Copy		Yes
Control Panel		LCD (20 digits x 2 lines), 14 Keys, 1 Power LED
Diameter of Blade		2.5 mm
Power Supply		AC 100-240V, 50~60 Hz (auto switching)
Power Consumption		Max. 110watts
Dimension (HxWxD) mm		1127 * 1962 * 756
(HxWxD) in		44.4 * 77.2 * 29.8
Net Weight		77.5 kg
Stand		Standard
Automatic-Aligning System (AAS II)		N/A
Media Take-up System		Standard
Operation Environment	Temperature	15°C~30°C / 60°F~86°F
	Humidity	25% ~ 75%

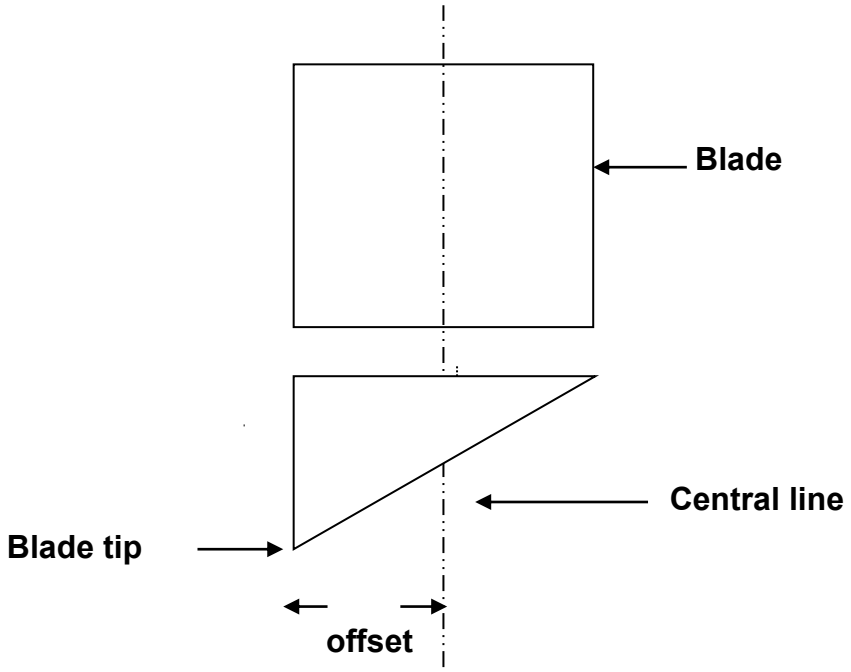
- Software and PPF data base are not included.
- The specification and data sheet may vary with different materials used. In order to obtain the best output quality, please maintain the machine regularly and properly.
- GCC reserves the right to change the specifications at any time without notice.
- GCC certified material in tracking is Avery MPI 3000.
- The above listed specification values are effective only when operated with media certified by GCC.

Blade Specification

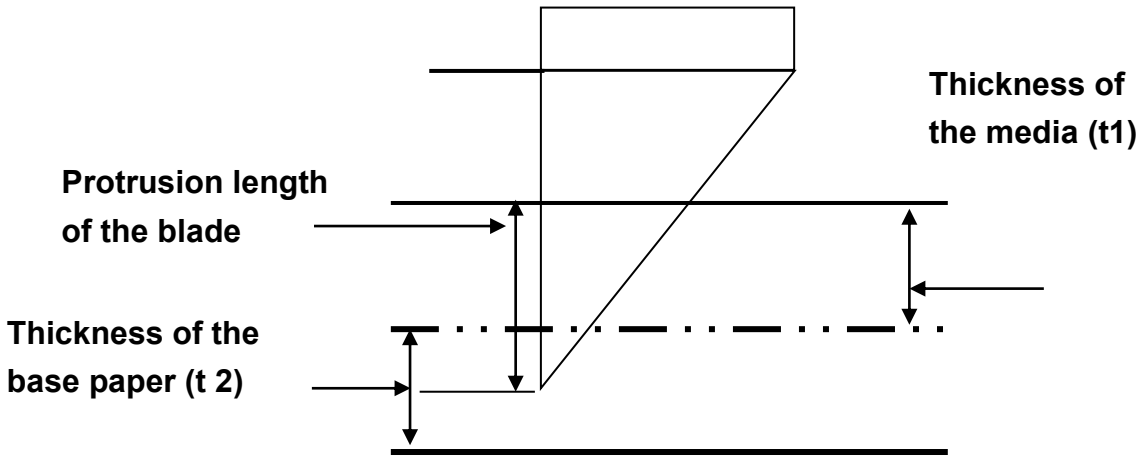
265019700G	For cutting thick fluorescent and window tint film. Also for cutting detailed work in standard vinyl.
	The blade is 45° with **Red Cap**, 0.25 mm blade offset, and 2.5 mm blade diameter.
265017540G	For cutting reflective vinyl, cardboard, sandblast, flock, and stencil sharp edge.
	The blade is 60° with **Green Cap**, 0.50 mm blade offset, and 2.5 mm blade diameter.
265017550G	For cutting thin sandblast mask and stencil. The blade with sharp angle and special design, allowing it to maneuver around sharp corners.
	The blade is 60° with **Blue Cap**, 0.25 mm blade offset, and 2.5 mm blade diameter.
265017560G	For cutting small text and fine detail. Sharp blade with smallest offset.
	The blade is 50° with **Black Cap**, 0.175 mm blade offset, and 2.5 mm blade diameter.
265017530G	For thin and delicate media such as window tint.
	The blade is 25° with **Yellow Cap**, 0.25 mm blade offset, and 2.5 mm blade diameter.

About the Tool

A generic term referring to the blade that cuts the sheet, the pen that does plotting, and the LED bombsight (option) used for pointing to the reference point.
OFFSET is the distance that the blade tip is displaced from the centerline of the blade.



Protrusion Length of the Blade



Length of protrusion = t1 + t 2/ 2, but for your convenience you may just make it about 0.3mm ~ 0.5mm beyond the blade holder tip.

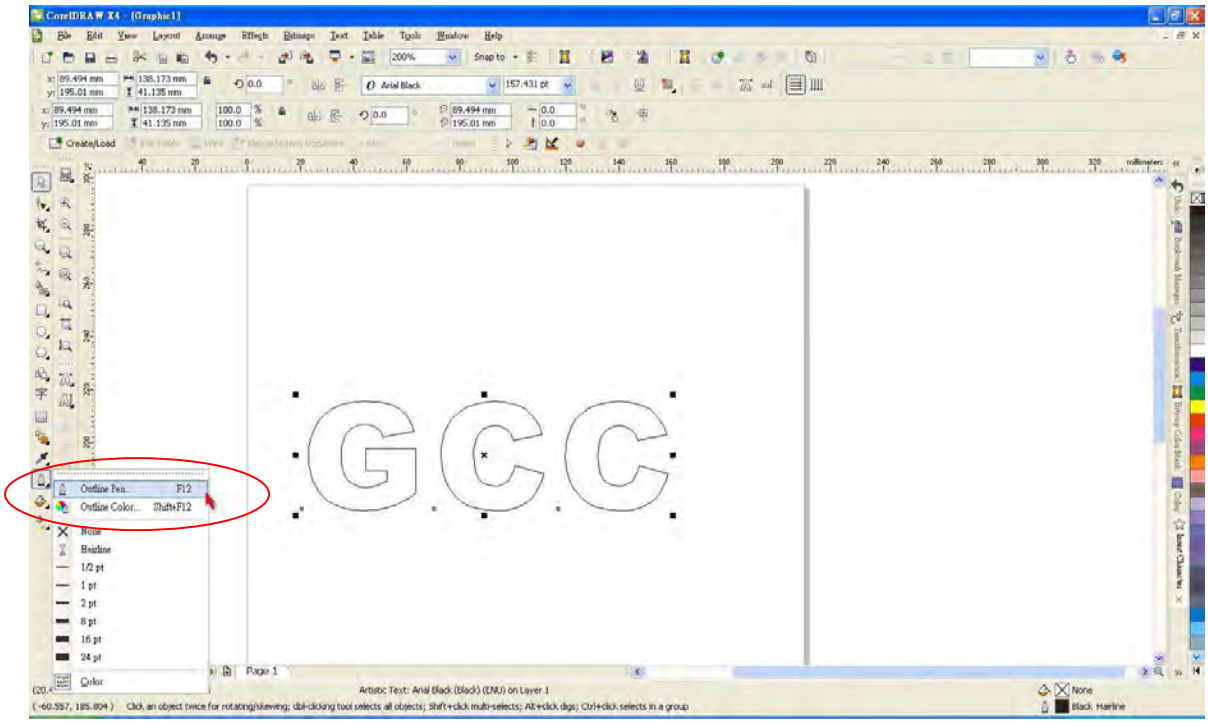
CorelDRAW Output Instruction

The following is an example of how to output the file with CorelDRAW.

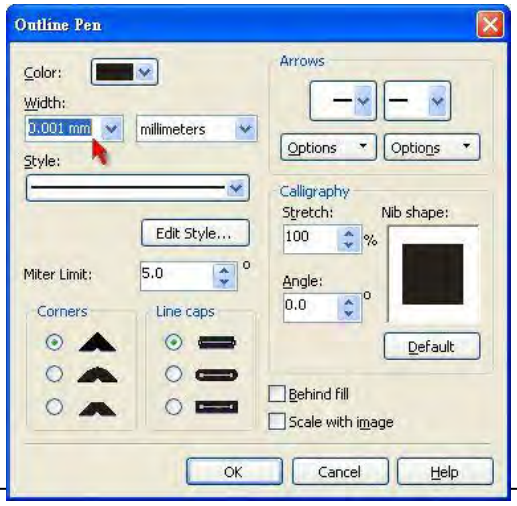
User Instructions

1. Open CorelDRAW, finish editing all the files you wish to plot and select all the images at once.

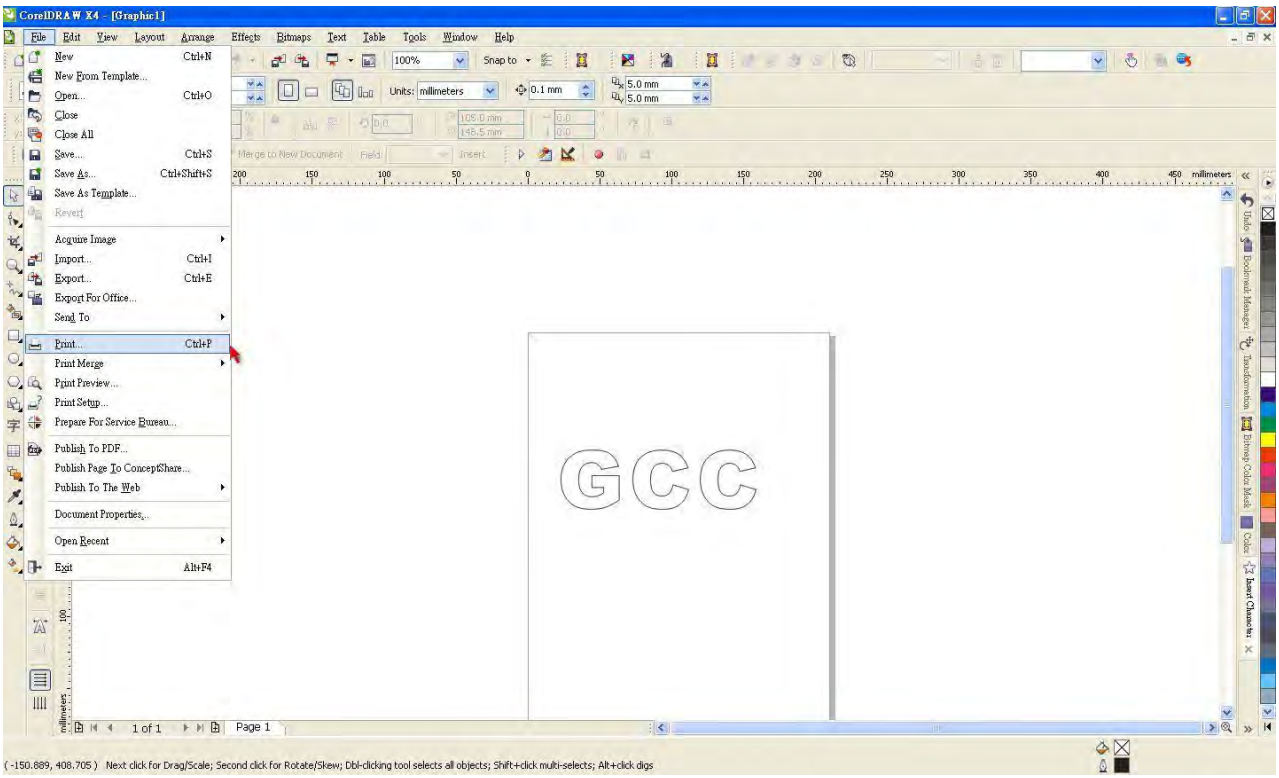
2. Select “Outline Pen” to adjust the outline for cutting.



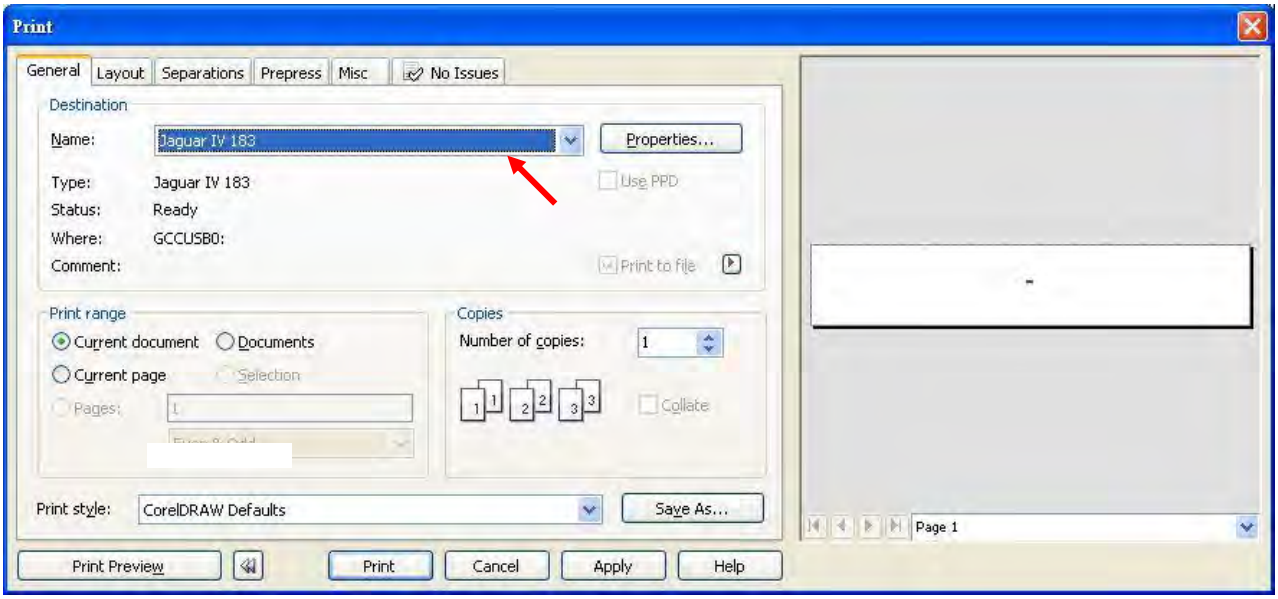
3. Adjust the value of pen width to 0.001 mm and click “OK” to save your input.



4. Select “ File → Print” to output the file to your cutters.

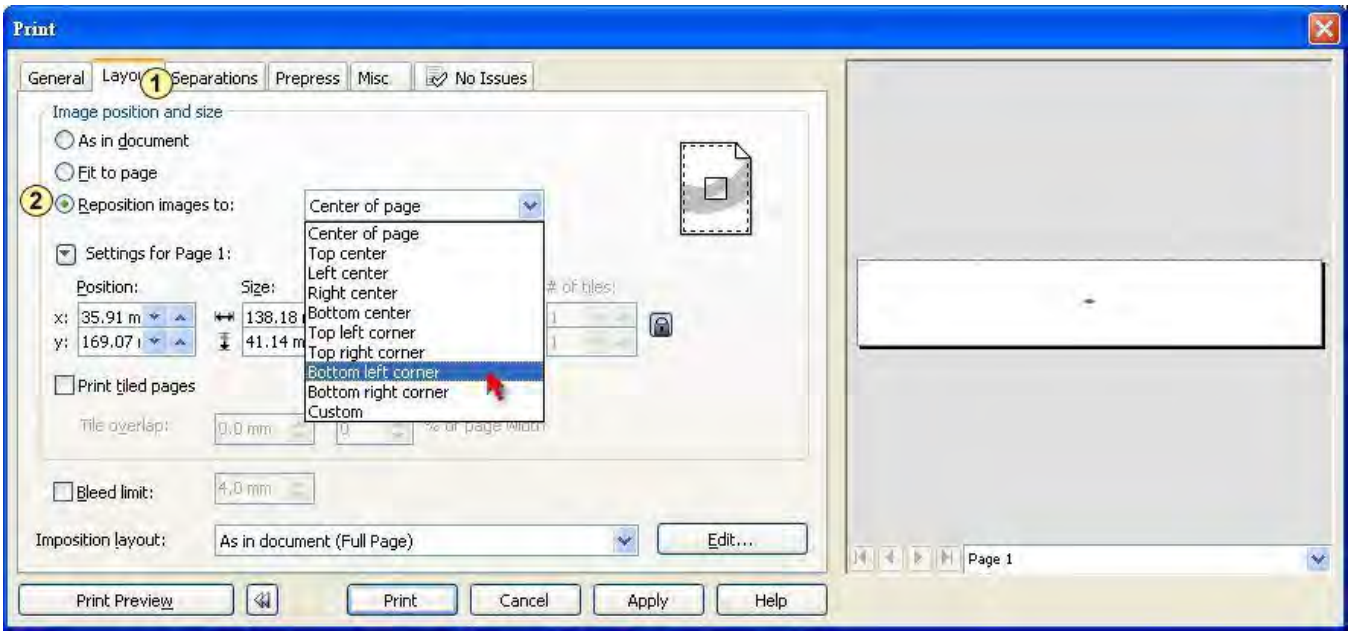
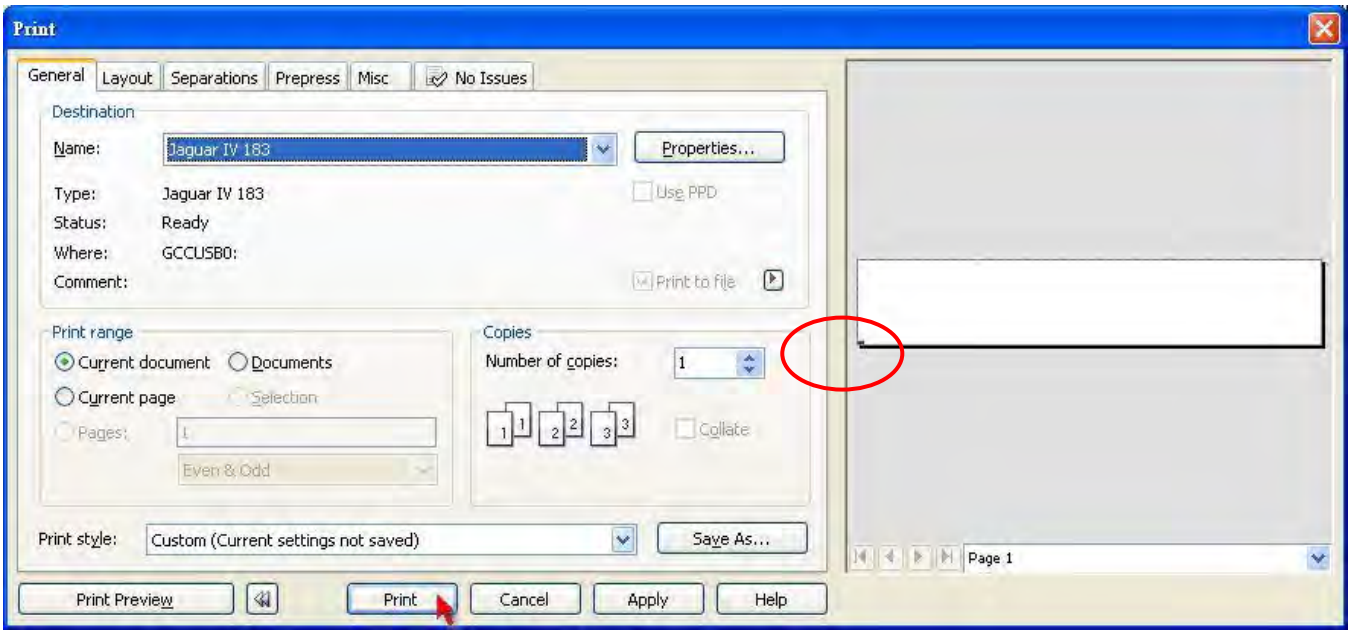


5. Choose the correct model you have installed.



6. Choose the “Layout page” and click the “Reposition images to: → Bottom left corner”.

Please note that you must put your image at the bottom left corner.



7. Go back to the General page and check that your image is at the bottom left corner. Click “Print” and get a wonderful cutting image.