

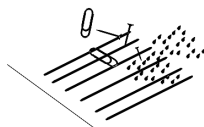
Manual for MK series cutting plotter

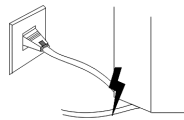
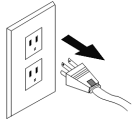
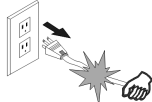
1. Safety precautions

 WARNING	Any improper operation may results in hazard of life or damage of equipment..
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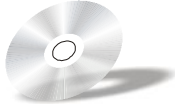
Definition of sign symbols

	The symbol is prepared to arouse operator's highly attention. The symbols in triangles specify the cases to be attentive. The symbol in the left warns you of electric shock.
	The symbol specifies the activities to be forbidden. The symbol in the circle specifies the acts to be forbidden. The symbol in the left tells you no detachment.
	WARNING
	Do not use the power source which does not meet the rating voltage, otherwise fire or electric shock may be resulted in.
	If the machine gives out smoke or unpleasing smell, or big noise , please do not use it .in such cases, continuing using may result in fire or electric shock.
	Do not take out the plug when the power is on to avoid damage to the machine.
	Make sure the machine grounded otherwise electric shock or mechanic default may be resulted in.
	Do not detach, repair or reconstruct the machine, otherwise fire, electric shock, hazard of life may be resulted in
	CAUTION

	Do not leak any liquid or drop metal into the machine, such things may result in fire.	
	Do not touch the knife top with your finger to prevent injury or perspiration of knife head.	

	Do not damage or random replace the supplied power cable. Do not excessively bend, pull, bundle the power cable or place weight on it, otherwise the power source may be damaged even fire or electric shock is thus incurred.	
	If you are not going to use the machine for a long time, please unplug the power cable from the receptacle, otherwise fire possibly happens.	
	When operating the machine, do not place either of your hands on capstan to avoid injury.	
	Place the machine on a stable surface, otherwise the machine may fall therefore get damaged.	
	To unplug the power cable from receptacle, please hold the plug instead of the cable, strongly pulling of the cable possibly results in electric shock or fire.	
	Any operation is forbidden in case of storm or lighting to prevent damage of the machine.	
	Do not pull the cartridge by hand to avoid damage to the mainboard when the plotter is power on.	

2 Standard accessories

Item:	Parts	Quantity	Picture
1	Power card	1	
2	USB	1	
3	Serial cable	1	
4	Blade holder	1	
5	Blade	3	
6	Pen holder	1	
7	Ball pen	1	
8	Manual	1	

3. Installation

3.1 Machine Installation and connections

	WARNING	
	Make sure machine is grounded, otherwise electric shock or mechanic default is possibly resulted in.	
	Don't use the power source not meeting rating voltage using the wrong power source may result in fire or electric shock.	
	Don't pull out the plug when the power is on to avoid damage to the machine.	
	Place the machine on a stable surface, otherwise the machine may fall therefore get damaged.	

3.1.1 Place the cutter in a plane and roomy place

3.1.2 Connect the cutting plotter to computer by USB cable or serial cable.



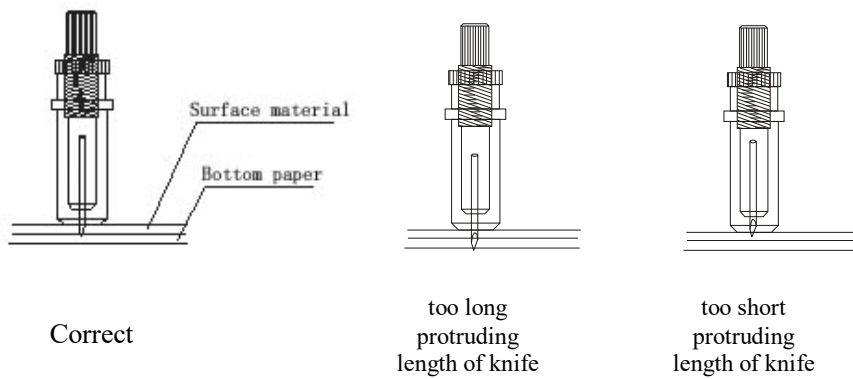
3.1.3 Check power and voltage, whether it is grounded, do not connect to power until all are in a good condition



3.2 Installation cutting tool

	CAUTION	
	Don't touch the knife top with your finger prevent injury.	

3.2.1: Adjustment the protruding length of the knife top as required for specific cutting media.



3.2.2 (1) Loosen the screw Of tool carrier

(2) Assembly the tool with knife into the tool carrier

(3) When the tool is in appropriate position, screw it and fix the screw.



3.3 Installation of USB Driver

3.3.1 Serial port output

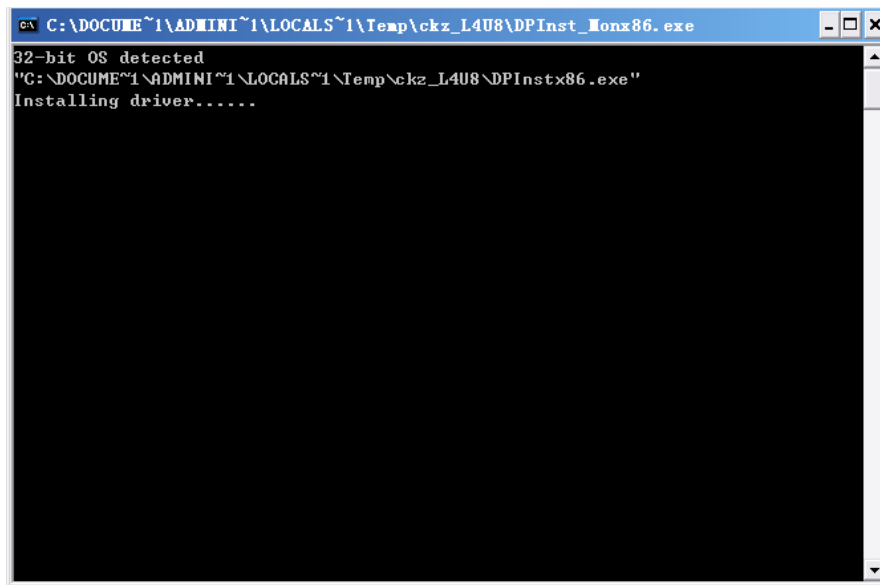
If you use the Serial port to output, then it is not necessary to install the USB driver. The computer can read the cutting plotter directly! In cutting software, please select COM1 as output port.

3.3.2.USB cable output

If you use USB cable to connector the plotter to computer, then need to install the USB driver, please see below manual:

A:Insert the driver CD into the computer, find the folder with driver in ,then double click

the  MK driver Setup.exe file, the computer will display as follows:

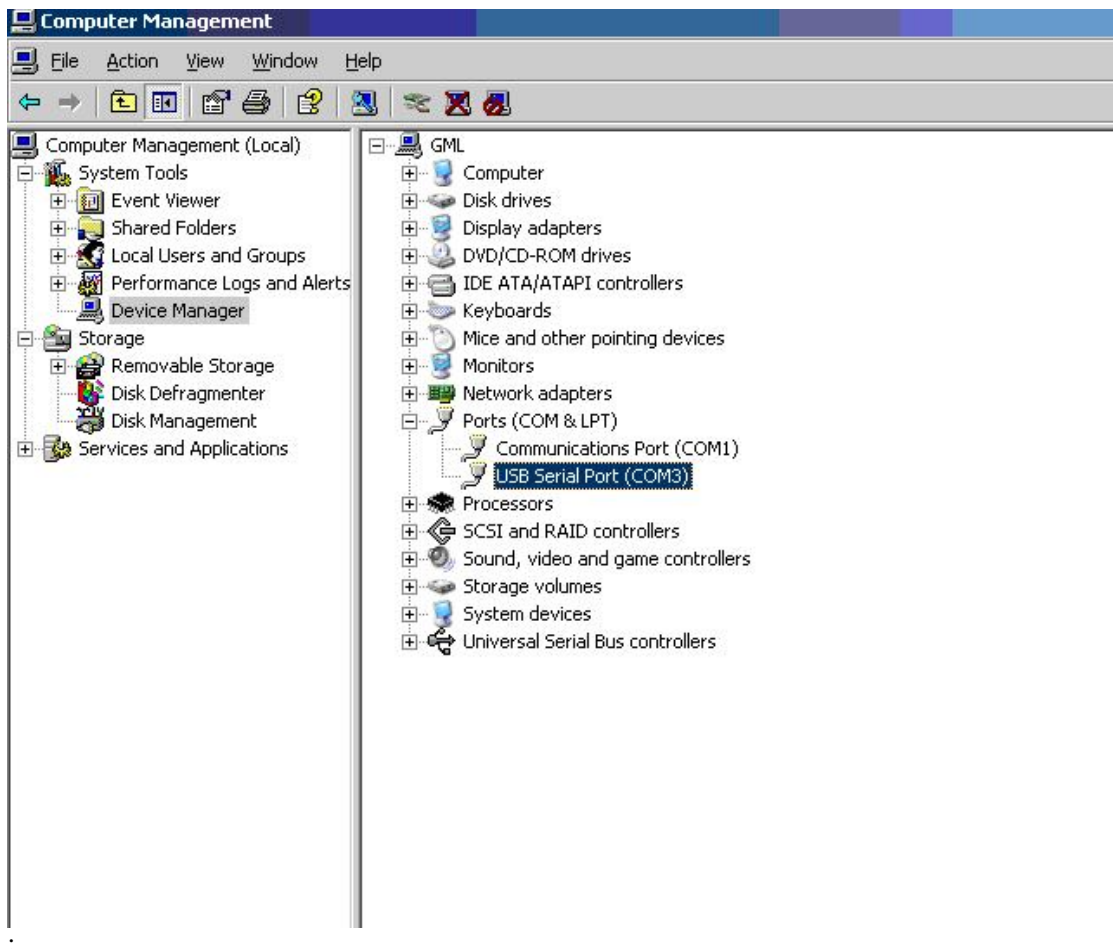


After the driver installation, it will close automatically.

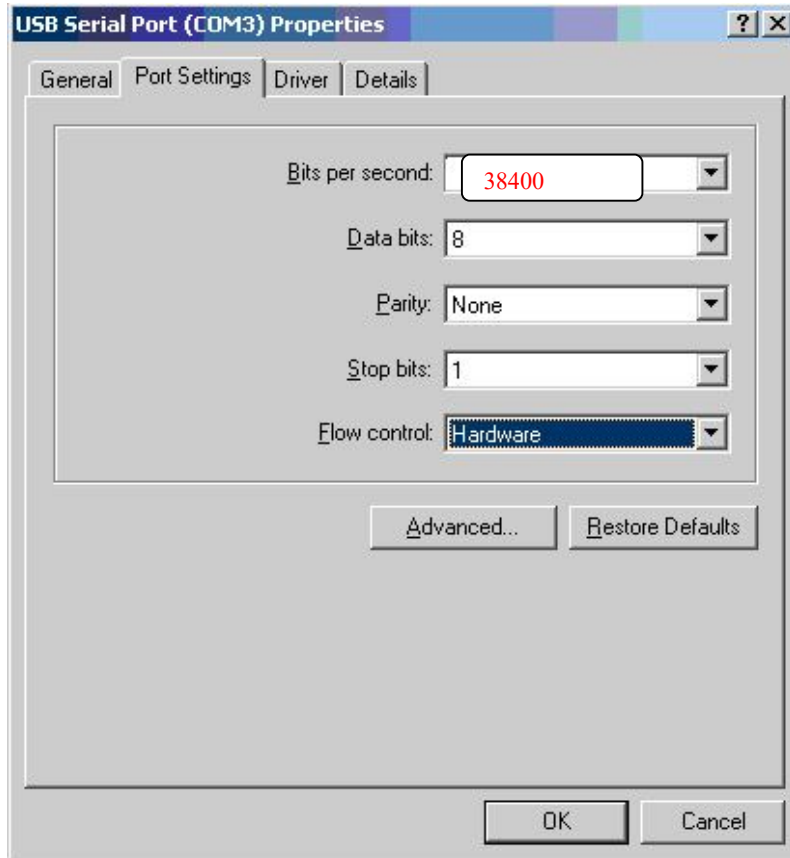
- b: Connect the plotter to the computer with USB cable , turn on the power of plotter, the driver will be installed automatically
- c : Click "My Computer" pop-up shortcut menu, click "Properties" dialog box pop-up is as follows:



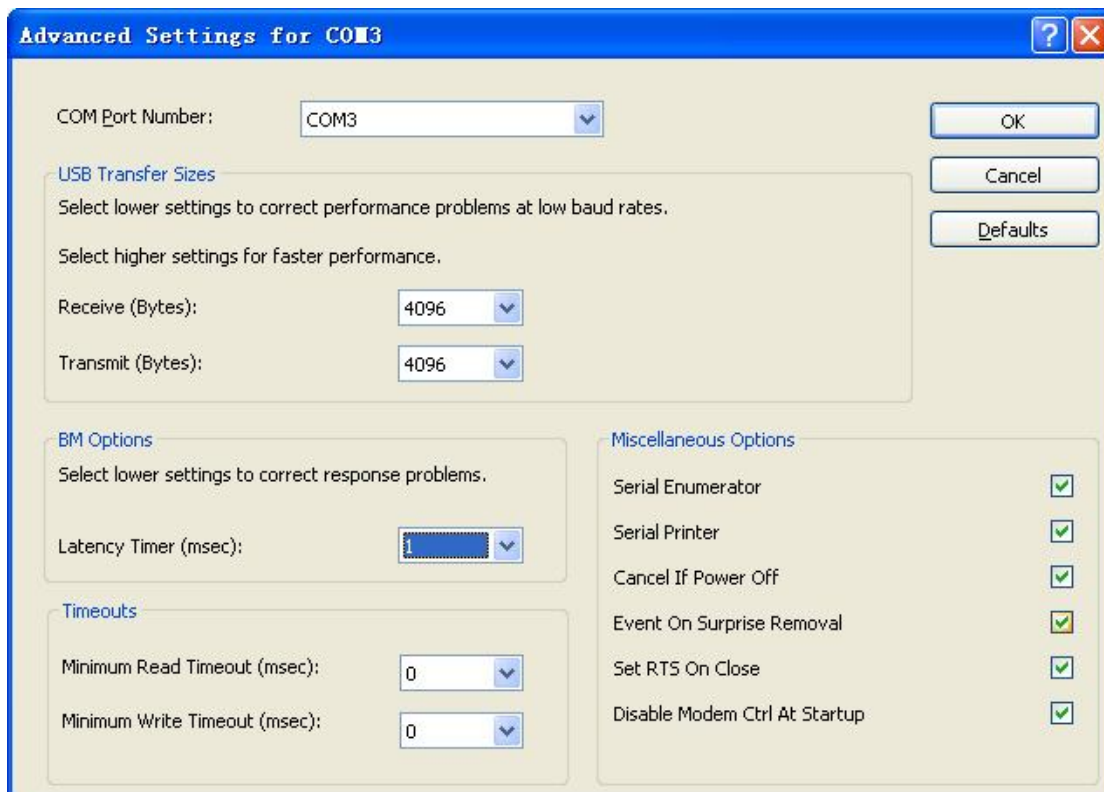
Click the "Device Manager" pop-up dialog box as follow:



Select COM3 click right mouse button , Set the baud rate as 38400



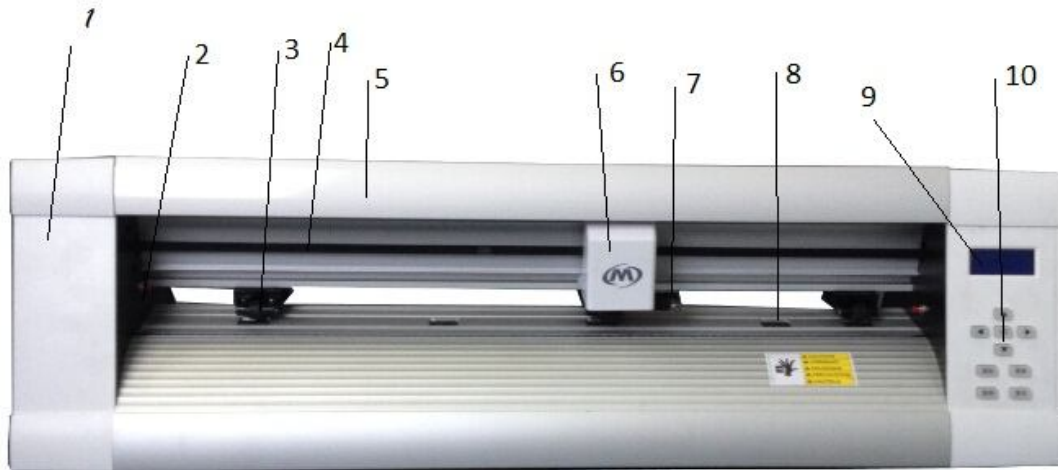
and click “advanced”, and see below, the COM port can be changed.



4. Instruction of the cutting plotter:

4.1 Name and function of parts

4.1.1 Front view



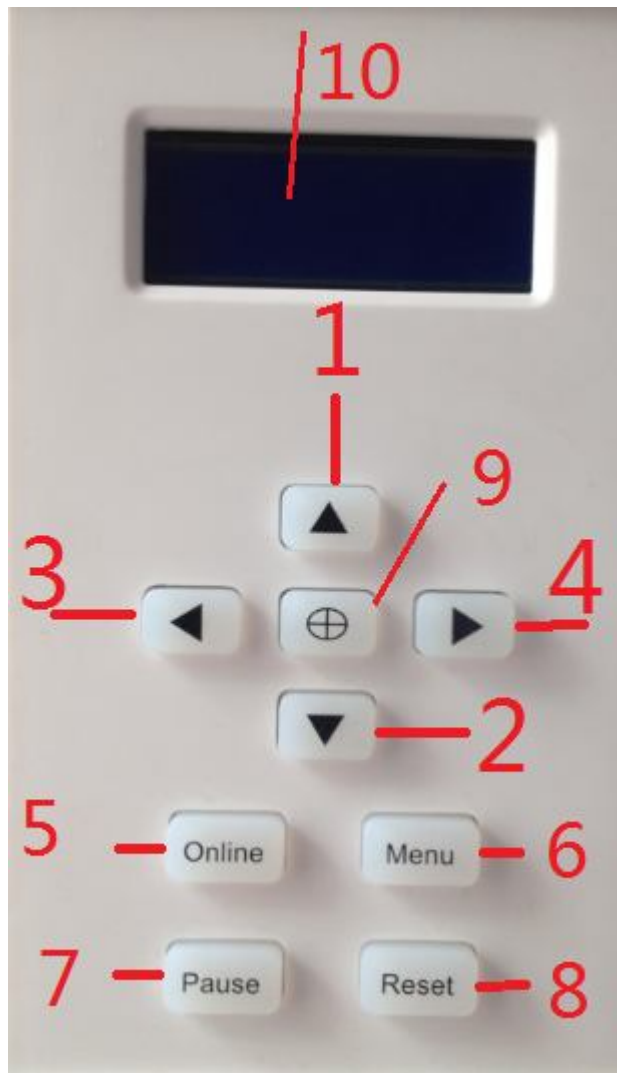
Side 1

Side 2



- | | |
|------------------------|-----------------------|
| 1、 Left cover | 11、 USB port |
| 2、 Limit switch | 12、 Serial port |
| 3、 Pinch roller wheels | 13、 Power supply port |
| 4、 Carriage belt | 14、 Switch |
| 5、 Upper cover | |
| 6、 Carriage | |
| 7、 Blade holder | |
| 8、 Grit roller | |
| 9、 LCD display | |
| 10、 Keypad | |

4.1.2 keypad and display



1 :Go back 2:Forward 3:GO LEFT 4: GO RIGHT
5: ONLINE 6: MENU 7 PAUSE 8 RESET 9: Original 10: LCD

4.2 Basic operation

	CAUTION
	When switching on the power, make sure your hands and other articles are out of reach of such running main shaft and slider to prevent injury. 

4.2.1 Turn on machine

- 4.2.1.1 Check whether the power is in OFF position.
- 4.2.1.2 Plug the cable into the receptacle of the host power source, press the power on/off on the left.



4.2.2 Installation of cutting media

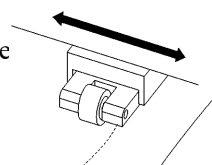
This machine is suitable not only for single-sheet media, but also a roll of media.

- 4.2.2.1 Press down the handle of pinch roller behind the machine to raise the handle



- 4.2.2.2 Insert the media into the space between the pinch roller and grit roller, and pull out the media to appropriate length from the front of the host.

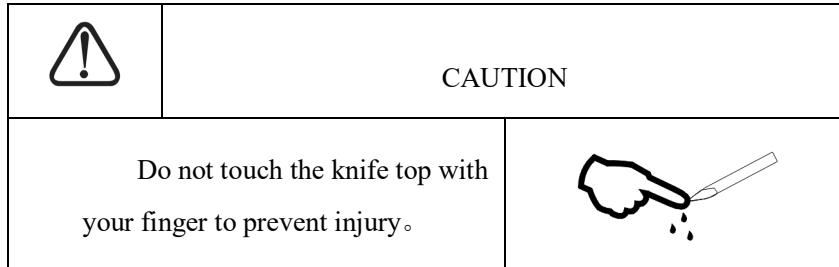
- 4.2.2.3 Adjust horizontal position of paperweight wheel according to width of paper. a distance



of minimum 1-10CM is set between paper-weight wheel and paper edge to ensure good running of paper.

4.2.2.4 Raise the pinch roller to make paperweight wheel down to press paper.

4.2.3 Tesing cutting blade (adjust knife press and tool)



Quality of knife immediately relates to cutting precision and life of machine. To better your work, please use the standard knives we confirm, but not those with poor quality.

4.3 Cutter Operation instruction

4.3.1 Start machine information



The figure shows manufacturers and machine model .(such as: MK630)

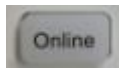
4.3.2 Normal display after starting the machine

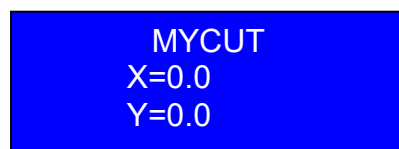
4.3.2.1 Paremeters setting:



In this condition, press Up  to increase the speed, Press Down  to decrease the speed.

Press Left  to increase the force. Press Right  to reduce the Force

If you want to move the carriage of the cutting plotter, Press Online  show as below:

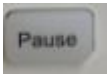
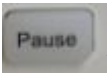


The figure shows carriage coordinate display: display coordinates of carriage , adjust the

direction by the function key : “Forward”  button, “Backward”  button, “Left”  button, “Right”  button to adjust carriage to forward ,backward ,left ,right. After finish , press “Clearance”  button to back to Zero.

4.3.3 Machine state while it is working as below:

MYCUT
Speed: 390MM/S
Force: 378

During cutting, you can press the “Pause”  button to pause and then press “Pause”  button again, the machine will continue working, If you want to change the cutting pressure and speed, you can pause the machine first then press the direction key “Forward”  button to increase speed, press “Backward”  button to decrease speed, press “Right”  button to increase cutting pressure, press “Left”  button to decrease cutting pressure ,you also can adjust by the following way.

4.4 Advanced parameter setting

Advanced parameter setting include X Axis proportion adjustment, check the main board firmware version, machine model number ,the self-test aging ,restore default parameter. Some related information as below:

The first parameter, X axis proportion adjustment as below:

MYCUT
Scale -X: 10000

Press “Menu” button till it displays as the above figures,
The higher value, the larger graph of X axis, the less value, the smaller graph.

The second parameter: Y axis proportion adjustment as below:

MYCUT
Scale -Y: 10000

Press “Menu button till it displays as the above figures, The higher value, the larger graph of Y axis, the less value, the smaller graph.

Attn: X axis and Y axis value will be save into the machine once adjust, In the corresponding interface, press “Up” button to increase, press “Down” button to decrease value, and their adjustable range from 1 to 10000.

self-test aging:



At the interface of Speed adjustment ,press “Pause” button to get into the above interface, at this interface, press “On line” button , machine will self-test automatically, after entering into self test mode, machine will work auto, if want to stop self test, please restart the machine.

4.5 Knife off-setting

4.5.1 If it is not close during cutting, it needs to set offset in cutting software

(details please follow the software manual) as below:



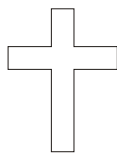
No offset



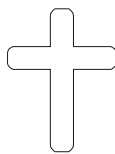
with off set

4.5.2 During cutting, if the right angles is not at right angles, please set the Sharp-angled compensation in the cutting software

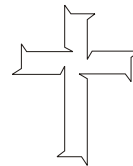
(Attention please off set value need to follow the actual situation) as below:



Correct



not enough



over

✱ When you are using cutting software, we are recommend to select high precision output

6. Troubleshooting

6.1 Question: will the characters below 1CM be deformed?

Answer: When cuting small characters, please set offset in the software, for example, in” Artcut” sign software:

- (1). Click“plotting output”once, a plotting output picture will pop up.
- (2). Click“set”once, a picture of setting plotter will pop up.
- (3). Click“compensation setting”, a dialog box will pop up.
- (4). Select“sharp-angle compensation”, adjust the value to required level.

The compensation ranges within 0.1-0.7, more often we set it to be 0.25. in addition, the

plotting speed of the cutter shall be set below 20.

6.2 Question: Why there is an additional stroke after finishing cutting

- Answer: (1). check if the tip of cutter is flexible when it is up and down.
 (2). change the Master software if there are some deviant letters.
 (3). check if there are some problems on the files you are ready to output.

6.3 Question: why does zigzag happen to the cutter?

Answer: As cutter motor features high power and speed, so the cutting speed shall be adjusted according to size of character. Generally, to cut small glossy characters with high requirement for precision, the speed shall not exceed 65. In most cases, the speed at the shift 65 is favorable. To cut big characters of large quantity within shortest time, the speed can be 350, , but since step distance of motor is so long that evident zigzag occur. Therefore, you should set the speed to specific size of characters, and the relationship between speed and size of characters please refer to following table:

Size of font (mm)	SPEED (mm)
< 10	65-80
10-30	80-200
30-50	200-350
50-500	350-500
> 500	500

6.4 Question: why do the paper deviate when it runs by a large margin?

Answer: The paper feed containing paper roll shall be completely parallel to paperweight wheel, for big roll of materials, loosen it prior graving to prevent excessive obstruction when plotting or graving. For the machines with four paperweight wheels, when plotting big image or characters back and forth, use the two paperweight wheels at sides instead of press the four down simultaneously. Unequal abrasion of the two wheels also may result in deviation of the paper; in worse case replacing wheels is needed.

6.5 Question: why does lock up happen in plotting output?

- Answer: (1). Exterior 220 V input voltage is too low (150V), the plotter will restart thus lock up happen.
 (2). When disturbance of exterior 220 V input voltage is too high, lock up may happen, to resolve it you can use purified regulated power source.

6.6 Question: Why does the machine feel tingle?

Answer: the machine might be improperly grounded, make sure central line of the power source grounded.

6.7 Question: why does the job feel not smooth with sharp-angle raised when plotting?

- Answer: (1). The protruding length of knife top is too long, please adjust it as required.
 (2). The knife is abraded, replace it.

6.8 Question: why does the plotter first scratch a line before plotting?

Answer: because the machine illegally escape last time, there is still knife-dropping instruction existing in the memory of plotter. To resolve it power off the machine

and turn it on again.

6.9 Question: No LCD display or a black row of blocks are displayed?

Answer: (1). In case of no display, check whether the power work well.

(2). If black blocks are displayed, check whether voltage is at required level. If troubles remain after the above operation, please contact maintenance center

6.10 Question: why can not some characters close in strokes when it is plotting?

Answer: Because the knife of the plotter is eccentric knife with a eccentric value, to resolve it, set "closing compensation" in the software. For example: in "Artcut" software:

(1). Click "plotting output" once, a plotting output picture will pop up.

(2). Click "set" once, a picture of setting plotter will pop up.

(3). Click "compensation setting" a dialog box will pop up.

(4). Select closing compensation, adjust the value to required level, generally the value is set to be 0.5.

6.11 Question: Why the machines have missed some pave of letter when cutting?

Answer: (1). Check the machine if it presses enough.

(2). Reinstall the software.

(3). Chook the head of the knife.

(4). If the problem is still in existence, please contact with repair center.

6.12 Question: why is the machine in low-speed state after start-up?

Answer: Because paper sensor fails to detect the fore end of paper. When feeding paper make fore end of paper cover hole of paper sensor, then perform another automatic paper testing.

6.13 Question: why do some nicks deep, while some shallow when cutting?

Answer: As CT employs upscale soft PVC materials as knife strip cushion to protect knife.

But long period using it may produce a trace therefore roughing the stripe cushion, so some nicks become deep, while some become shallow. To resolve it replace a stripe cushion. If is not so worse, adjust knife as described in section 3.2.B, increase knife press (some 350).

6.14 Question: why can not the plotter run when it is outputting?

Answer: (1). Check whether the plotter is properly connected with computer. The cutter is connected with COM1 or COM2 of computer; check whether the set ports are conformed to those connected.

(2). Check whether the plotter is in online state, namely whether the LCD displays "ON LINE".

(3). Check whether the encryption card of software is properly. If not please turn off the power and reinstall it. Check driving program of the plotter is for MK series.

6.15 Question: why can not the instant-glue be taken off?

Answer: (1). Perform trial run prior output, adjust press to appropriate level.

(2). Check whether the knife is used too long, or whether the knife top is broken. For new ones the nick is thin in the instant-glue, while for old ones the nick is thick and impressive. To resolve it replace it with a new knife.

6.16 Question: what is attentive when cutting big characters?

Answer: (1). When cutting big characters, the system can automatically How to setup page, you can cut a big character in several pages, but it is notable that the setting of output width shall be conformed to the width of instant-glue in addition, when cutting big characters and output it, you should widen pages or set seaming distance.

(2). When you use the special wide machine to cut the big characters, especially the long big characters Before cutting input, you shall instead the paper first look careful the paper if the paper deviates then deviate the big characters into some pouts to input, it can make sure it won't deviate and waste paper.

6.17 Question: how do we maintain the plotter?

Answer: MK series plotter all employ upscale oil bearing, no oil is needed even it works for a long time. After operation everyday, clean the dust with soft brush. The glue remaining in engine base can be cleaned with alcohol. If frequently operated in dusty environment above two years, please have maintenance technicians clean the dust in machine. If plotting precision degrades, the maintenance of running parts are desirable (firming and replacing the abraded parts).

6.18 Question: Why does the plotter is out of our control sometimes?

Answer: Maybe while transporting or using it, the signal line is improperly connected, open the machine properly plug all lines. If the problem still fails to be solved after the above operation, please contact local agent or maintenance center.

6.19 Question: Why does the plotter come to halt?

Answer: Because it encounters vibrate for a long period, or has been used for a long period, or is affected by temperature, so dielectric displacement happen to the servo driving board, therefore resulting in halt, please contact local agent or customer maintenance center.