

CUTTERPROS CONTOUR

User Manual for:

ProCut Contour 2400

ProCut Contour 4800

ProCut Servo 2400

ProCut Servo 4800



NOTICE

We reserve the right to modify the information contained in this user manual at any time without prior notice; un-authorized modification, copying distribution is prohibited. All comments, queries or suggestions concerning this manual please consult us.

Please read this guide carefully. It tells you how to prepare your cutting plotter for production use in a few easy steps. we do not assume any liability for direct or indirect damage that occurs due to the use of this product.

1. Precautions

Please read these instructions and precautionary notes carefully before using the machine for the first time!

- Do not place magnetic objects near the cutting head as even contact pressure cannot otherwise be guaranteed.
- Do not unplug the computer connection lead while a plotter is running.

- Release the pressure on contact rollers when not in use by flipping the pressure levers up.
- Keep your hands out of the machine while it is connected to the main power supply.
- Never open the machine case and do not attempt to modify the machine.
- Avoid liquid spills and metal objects entering the interior of the cutter.
- Make sure the power supply is grounded.
- Make sure the main power supply (220V) does not fluctuate by more than $\pm 10\%$.
In case of main power fluctuations, use a voltage stabilizer.
- Unplug the power lead during long periods of inactivity.
- Keep your hands well away from the knife holder while a cutting job is running!
- Always cancel the active job before adjusting the knife holder!
- Keep the cutting plotter well out of the reach of children, and never leave the machine or machine parts unattended when plugged-in.
- Never touch the tips of drag knives to avoid injury.
- Set up the machine on a stable base to avoid danger of falling.
- Never run the machine during a thunder storm; lightning could damage or destroy the machine.

2. What's in the box

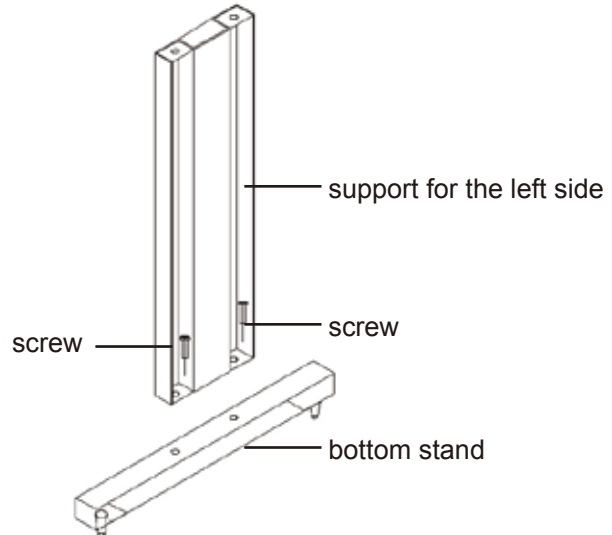
Please check immediately to ensure that you have received the following articles:

- Cutting Plotter
- Cutting Plotter Stand (dismantled)
- Power Lead
- USB connection lead
- Knife Holder
- 3 Drag Knives
- Penholder and pens
- User manual
- 1 Spanner, 1 hex key
- CD Rom with software and drivers

3. Floor Stand Installation (for SAGA-720I, SAGA-1350I, SAGA-720II, SAGA-1350II), Please follow procedure below to assemble floor stand

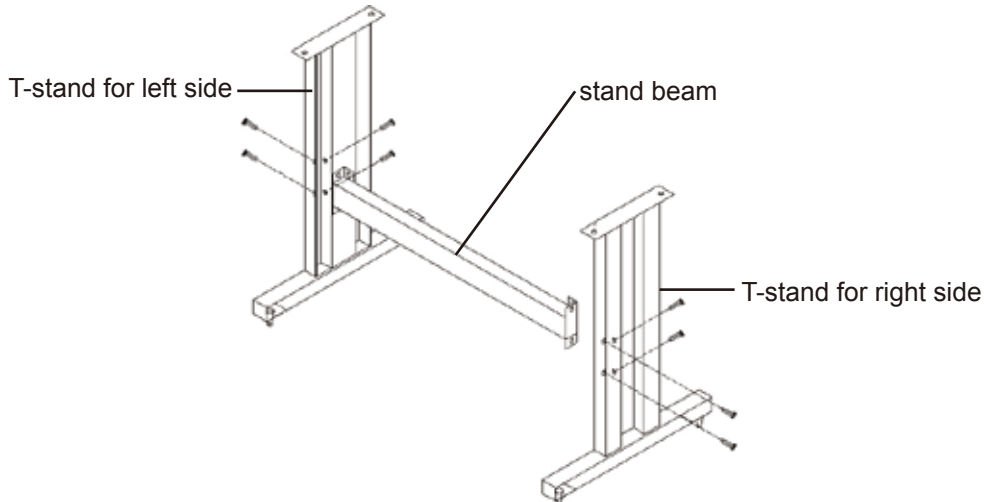
Step1

Position the support for the left side perpendicularly to bottom stand and place the screws into the holes. Tighten them to form a left side T-stand. Repeat the same steps with the support for the right side.



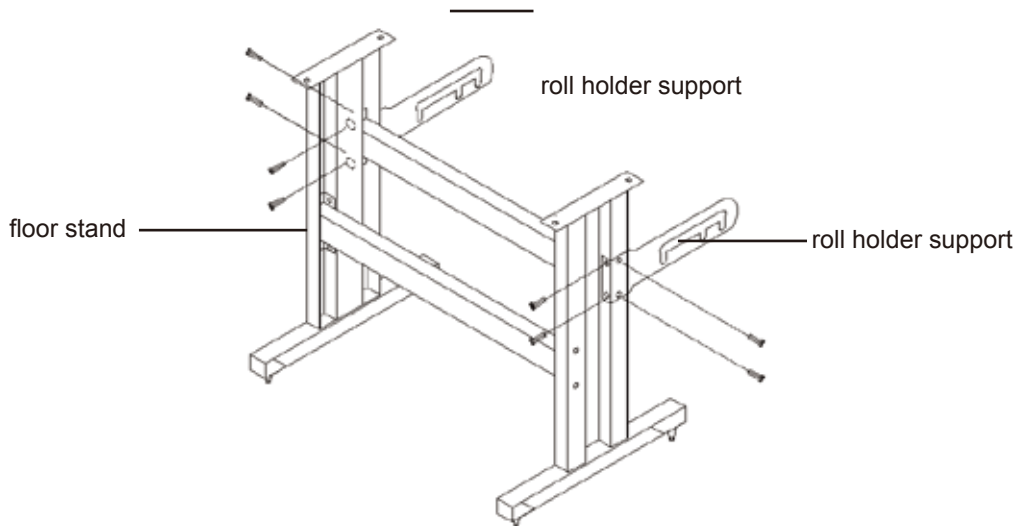
Step2

Place the stand beam upright on the T-stand and put the screws into the holes, but do not tighten them at this step.Repeat the same steps with another stand beam.



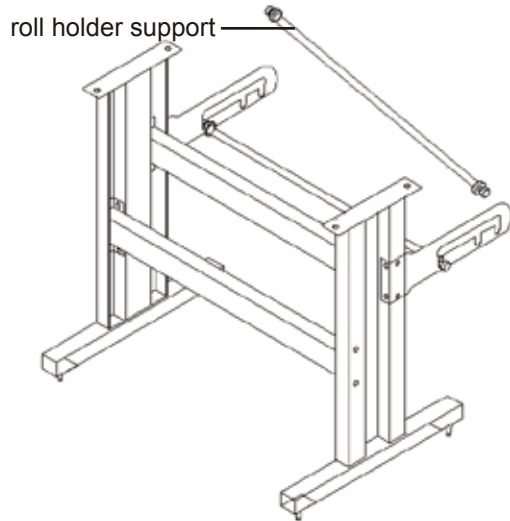
Step3

Position the roll holder support's position to floor stand, and tighten the screws.

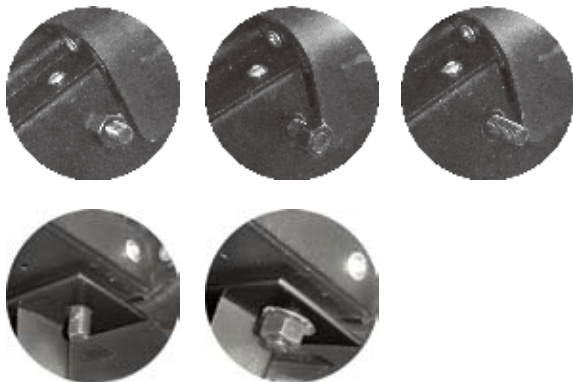


Step4

Place two roll holders into the holes in the roll holder support.



Step5
How to install floor stand to machine



Screw out the screw from bottom of machine, and then insert bolt to top of floor stand, then tighten the screw.



4. Blade Installation

Caution

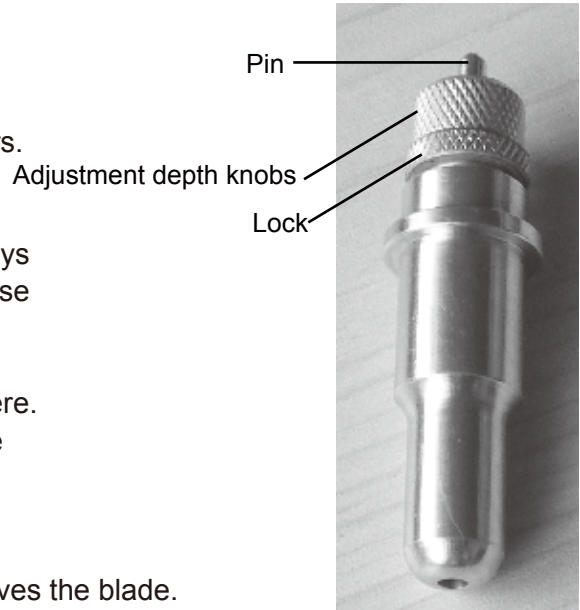
Do not touch the tip of the blade with your fingers.

Notice

The blade is a consumable item, and you'll always get the best quality cut with a newer blade. Please replace with a new blade when:

1. The tip of blade is broken.
2. The cutting traces are not as good as they were.
3. The blade will not cut cleanly even though the blade force has been raised significantly.

Insert blade into the bottom of the blade holder.
Pushing the pin on the top of blade holder removes the blade.



Step1/Step2/Step3

- 1, Push the blade to the bottom of the blade holder.
- 2, Adjust the blade tip to suitable length by rotating "Adjustment depth knobs" and then tighten the lock.
- 3, Press the push-pin to remove the blade from the blade holder when replacing blade.



step1



step2



step3

What's suitable length

“Suitable length” means the blade length is about 0.1mm more than film’s thickness. For example, if the thickness of film is 0.5mm, then the blade length is properly adjusted to 0.6mm and it can cut through the film layer without cutting through the paper backing.



Knife setting correct



Knife setting too deep

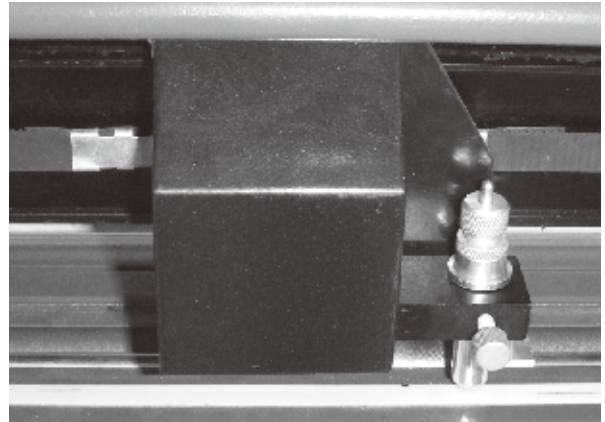
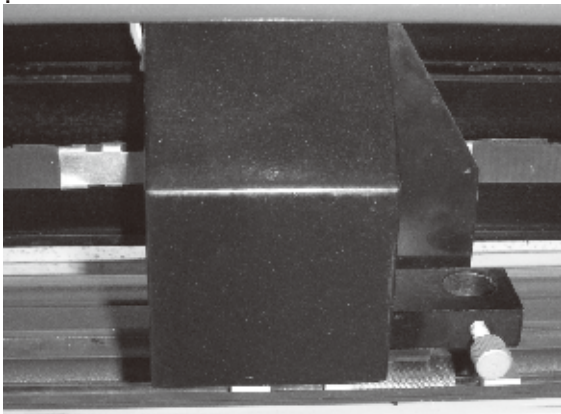


Knife setting too shallow

- You can press the pin at the rear of the knife holder to remove and replace the blade you have inserted at any time. **Caution – danger of injury!** As various media thicknesses require different knife settings, or even special blades, you may need to repeat the steps detailed above.

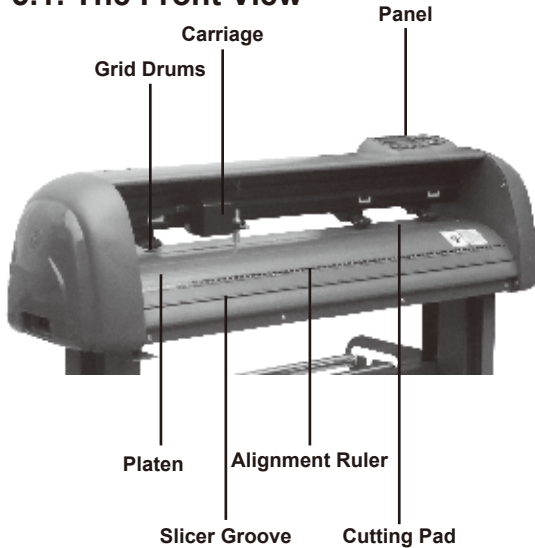
Step4

Insert the blade holder into tool carriage. Please note the outward ring of the holder must put into the groove, and lock the grip.

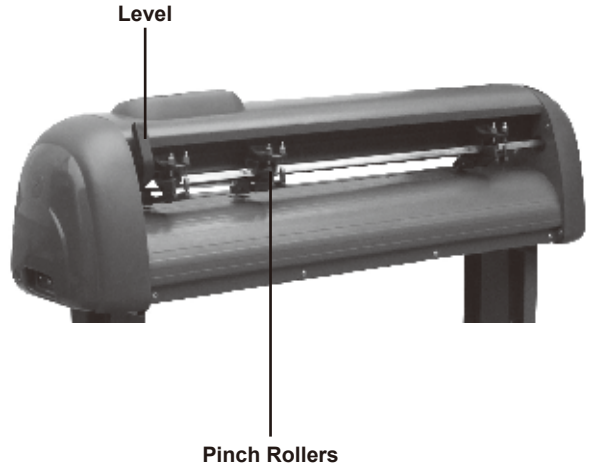


5. Appearance of Saga Cutting Plotters

5.1. The Front View

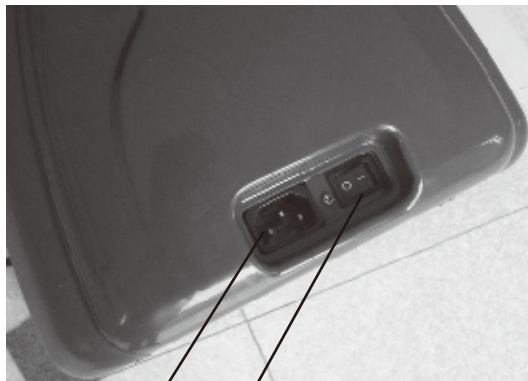


5.2. The Back View



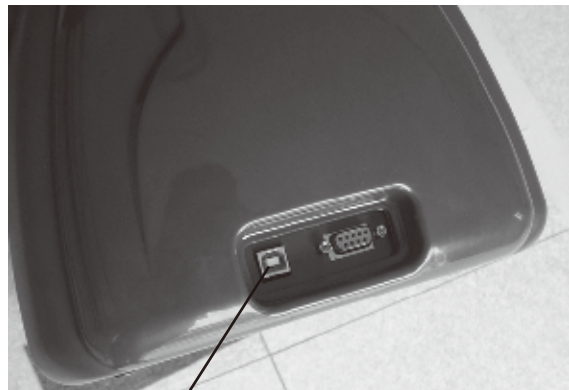
5. Appearance of Saga Cutting Plotters

5.3. The Left Side View



Power Switch
Power Connector

5.4. The Right Side View



USB Connector

5. Appearance of Saga Cutting Plotters

5.5. Control Panel



5. Appearance of Saga Cutting Plotters

5.6. Key function

LCD Screen: To display functions and error messages.

Reset: To restart

Copy: To copy former information

Set: To set up functions.

Test: To perform cutting tests in different ways.

Laser: On/Off laser

▲ Speed: To adjust the value of cutting speed and quality up.

▼ Speed: To adjust the value of cutting speed and quality down.

◀ Force: To adjust the value of cutting force up.

▶ Force: To adjust the value of cutting force down.

Enter: To set item or register the immediately preceding input value.

6. Installation and Test

6.1. Setting up the cutting plotter

Make sure that there is enough space to allow unhindered media input and output at the front and rear of the cutting plotter. The operating environment for the cutting plotter must be clean and dry.

- Attach the plotter to a 220V/110V mains power supply using the supplied power lead.
- Now switch the cutting plotter on. Caution – when the cutting plotter is switched on the cutting head automatically moves to the right or move left/right then stop.

6.2. Attaching the Cutting Plotter to a computer via the USB port/RS-232 Port

6.2.1. Installing the virtual interface

the Cutting Plotter has a USB interface which is used to connect the plotter to your PC. Note that the Cutting Plotter is supported by MAC, Windows XP, Vista and 7.

You cannot use the cutting plotter with Windows 95 / 98 / Me.

This ensures that the Cutting Plotter also works with cutting/plotting programs

6.2.2. How to install USB driver

Note: please install USB driver before connecting cutting plotter to computer.

- Select the USB-Driver driver directory on the CD, double click setup.exe, Windows will now install the USB driver as a new serial port.,the port can be addressed as COM1 or COM2.
- To discover the number that Windows has assigned to the port, you now need to launch the Windows Device Manager. To do so, right click the desktop and select Properties. A window appears. Click on the Hardware tab and then select Device Manager. Below Ports, you will find a list of serial and parallel ports for your computer, including the USB To Serial port. The port number indicated for this interface (e.g. COM1) is the port number you need to configure.
- If you need to change the port number, proceed as follows: Right click the port entry and select properties. Now click on Advanced in the Port Settings tab and select a new COM Port Number. This may be necessary.

Some customers report that the USB port can only accept the original port that USB driver was installed. If user connects USB on other USB port, then the computer cannot recognize it or will ask to install the driver again.

6.3. Loading media

- Always load media for processing from the rear of the machine.
- Pull the lever upward to raise the pinch rollers, Load your media on the platen and slide it under the pinch rollers Move the pinch rollers manually to the proper position. Be sure the pinch rollers are positioned above the grid drum. The white marks on top trail will help you position pinch rollers when media on the platen. Push the lever downward to lower down the pinch rollers.
- If you are using roll media rather than precut media, use the supplied roll holder to ensure that the media unrolls smoothly.
- When loading media, ensure that the media is straight to avoid warping when transporting the media. A misalignment of just a few millimeters can cause severe media warp in longer plots.
- You can load the media at any horizontal position in the machine; it does not matter whether the media is centered, or aligned on the left or right.
- Fix the pressure rollers by snapping them into place at the outer edges of the media; this ensures straight feeding of the media and defines the maximum cutting area.

6.4. Setting the zero point

The zero point is the point on the loaded media where the plot job will start. You need to set the zero point whenever you switch the machine on, or after loading media for processing.

- Switch the cutting plotter on. When the cutting plotter is switched on, the cutting head moves to the right and stops. The zero point is now set to the machine's absolute zero point, but this can be changed and modified as required.
- To change the zero point setting for your cutting plotter, first press the Online/Offline key to toggle to Offline Mode.
- You can now adjust the zero point by pressing the four arrow keys. We recommend setting the zero point to the front right corner of the media. While the cutter head is moving, the current coordinates are display relative to the previous zero point setting.
- Press the key in the right of the arrow keys block to confirm the new zero point setting. The coordinates shown in the display are set to zero.

By setting the zero point, you can also target specific media positions, or avoid damaged areas of the media.

6.5. Settings Mode

You can press the Mode key multiple times in Offline mode to toggle through the following menus:

Pressure

Use the Left/Right keys to set the pressure in units of one gram; the valid range of values is between 50g and 500g.

Recommended values for several media:

normal self-adhesive media: approx. 100g

Transflex media: approx. 100g

Neon foil: approx. 110g

Flock foil: approx. 120g

Laminated media: approx. 180g-250g,

Sandblast foil: approx. 300g-400g

When setting the cutting pressure, please note that the correct setting mainly depends on the knife holder, the position of the knife, and the loaded media. These settings are subject to variation.

Speed

Again use the Up/Down keys on the operating panel to set the speed.

X-Scale/Y-Scale

Do not change the X and/or Y-Scale values as they are used to compensate for wear and tear of the transport belts. Only change these settings, if plots become distorted.

Baud

The baud rate is the communication speed for the cutting plotter and the serial port on your computer. This setting must reflect the baud rate set in the properties dialog for your COM port, or in the softwares. Value of 9600/19200/38400 are typically set, but this can vary depending on your COM port setting.

Additional settings in the display: Pause (pause the plot)

Press this key to pause the current plot; you can then modify settings performed previously. The display now shows the force and the speed; both values can be modified.

6.6. Cutting test

- Press the Test key twice to perform a cutting test. The cutting plotter will now cut a square containing a triangle divided into four quadrants.
- The cutting test helps you verify the knife holder setting and cutting pressure. The cutting test should give you clean and straight cuts in the loaded media; there should be no damage to the backing.
- If the test cuts through the backing, either the cutting force is too high, or the blade or knife holder setting is incorrect. Change these settings and repeat the cutting test.
- You will also need to change the settings, in case of imprecise or too shallow cuts.

7. After cutting

7.1. Weeding

Weeding refers to the process of removing the parts of the media you do not require. We recommend using a scalpel or a special weeding tool for this job, to avoid damage to the adhesive surface.

After weeding, you can use a transfer press to transfer flock and flex media to the textiles to be processed; apply application tape to self-adhesive media before transferring.

7.2. Applying

Apply application tape to the weeded material and use a roller or flat scraper to press down firmly. To apply adhesive to the transfer foil, remove the backing from the foil to leave the adhesive affixed to the application tape. You can now apply the adhesive to the required surface.



8. Drag knives

Drag knives are extremely sensitive, but also extremely sharp and dangerous precision tools.

- Always keep knives well out the reach of children!
- To avoid danger of injury, always handle knives with caution.
- Handle drag knives with caution, and always replace the protective cap when not in use. If the tip of the knife comes into contact with a hard material such as glass or stone, tiny fissures may occur at the knife tip making the knife useless. Note the following to avoid unnecessary wear and tear of your drag knives and to ensure maximum working life.
- Avoid cutting the backing of loaded media. The deeper you cut into the loaded material, the more wear and tear the drag knives are exposed to.
- Always set the cutting depth of the knives to cut the media precisely and cleanly without cutting too deep. Extending the knives beyond the required cutting depth impacts the service life of the knives without achieving better cutting results.
- Always use the right custom knives for thicker material
- Ragged edges on cutting the loaded media show that the knives are blunt. Always replace blunt knives immediately!

Basic maintenance

8.1 Cleaning the Cutting Plotter

In order to keep the cutting plotter under good condition and best performance, you need to clean the machine properly and regularly.

Precaution in Cleaning

Unplug the cutting plotter before cleaning. Never use solvents, abrasive cleaners or strong detergents for cleaning. They may damage surface of the cutting plotter and moving parts

Recommended Methods

- Gently wipe the cutting plotter surface with a lint-free cloth. If necessary, clean with a damp cloth or an alcohol-immersed cloth. Wipe with water to rinse off any residue and dry with 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 from beneath the pinch roller housing.
- Clean the platen, paper sensors and pinch rollers with a damp cloth and dry with a soft, lint-free cloth.
- Wipe dust and dirt from the stand.

8.2 Cleaning the Grid Drum

- Turn off the cutting plotter, and move the tool carriage away from the area needed to be cleaned.
- Raise the pinch rollers and move them away from the grid drum for cleaning.
- Use a bristle brush (a toothbrush is acceptable) to remove dust from the drum surface. Rotate the drum manually while cleaning.

6.3 Cleaning the Pinch Rollers

If the pinch rollers need 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 them in place.

If needed to remove the embedded or persistent dust, use the lint-free cloth or cotton swab moistened with rubbing alcohol.

Note: Daily maintenance of your cutting plotter is very important.

Be sure to clean the grid drum and pinch rollers regularly for better cutting accuracy and output quality.

9. Technical Specifications/Servo Vinyl Cutter

Item No.	ProCut Servo 2400	ProCut Servo 4800
Max. media width	720mm	1350mm
Max. cutting width	630mm	1260mm
Max. speed	960mm/s	960mm/s
Mechanical resolution	0,01254mm	0,01254mm
Cutting force	0-510g	0-510g
Accuracy	+/- 0,01mm	+/- 0,01mm
Connectors	USB/RS-232	USB/RS-232
Drive	DC Servo	DC Servo
Power consumption	< 100W	< 100W
Ambient temperature	+5°C - +35°C	+5°C - +35°C
Meas	99 x 34 x 43cm	160 x 34 x 40cm
G.W./N.W.	27.5/26kgs	38/35kgs

Technical Specifications/Stepper Vinyl Cutter

Item No.	ProCut Contour 2400	ProCut Contour 4800
Max. media width	720mm	1350mm
Max. cutting width	630mm	1260mm
Max. speed	800mm/s	800mm/s
Mechanical resolution	0,0254mm	0,0254mm
Cutting force	0-480g	0-480g
Accuracy	+/- 0,03mm	+/- 0,03mm
Connectors	USB	USB/RS-232
Drive	Stepper Motor	Stepper Motor
Power consumption	< 120W	< 120W
Ambient temperature	+5°C - +35°C	+5°C - +35°C
Meas	99 x 34 x 43cm	160 x 34 x 40cm
G.W./N.W.	27.5/26kgs	38/35kgs

10, Questions and Answers

10.1. Why is the pattern deformed or incomplete?

If there is too much pressure, the blade tip is sticking out too far, the platen is dirty, or the pinch rollers are not down far enough, this issue can occur. The carriage belt is too loose, or the metal roller can't exactly follow the motor running. The motor doesn't run all the steps. The pattern is normal but not complete, this may be caused by the blade offset setting needing adjustment.

10.2. Why does the machine plot abnormally?

Software setting is not matched to the machine, so you must adopt proper commands set or set proper blade offset value.
Plotting software has been damaged or there is virus in computer.

10.3. Why does the paper run deviation?

The pinch rollers are not down far enough.

The platen is too dirty so that the resistance from two sides can't be balanced when the paper is moving.

The pinch rollers have been deformed or don't match to each other.

The pressure of the pinch roller is a little smaller and the paper is very sensitive to the external force.

10.4. Why are some parts of the letters missing?

The vinyl is too heavy or too tightly wrapped. Metal roller might be soiled by some foreign substance or by vinyl chips. Cutting speed is too fast, cutting force is too great, or cutter tip is too long. Synchronmesh belt is too tight, or pinch roller is under too much pressure. Metal roller is faulty. Contact local distributor for repairs and replacement.

10.5. Why are different letters on the same line cut at different depths?

Cutter holder is not tightly attached. It should be tightened.

Cutter blade is not tightly set in the holder.

10.6. Why do the letters appear to have ripples?

Cutting speed is too fast. Except for cutting large letters, speed should not exceed 480mm/s.

Cutting blade is of poor quality, or it has been damaged. Replace it.

Cutter holder is not tightly installed. Tighten screw.

10.7. Cutting small letters

When cutting small letters, cutting speed and force should be adjusted to the lowest setting.

Similarly cutter tip should be adjusted to as short as possible. Cutting large letters Cutting speed and force may be increased to higher settings.