

BREN Inc

Quality Marking Products Since 1972

BREN 424 CraftPro User Manual



CRAFTPRO

400-Series

BREN Inc.

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8256 Horton Highway

College Grove, TN 37046

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Important Information

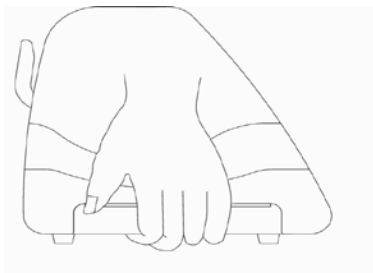
Thank you for purchasing the **BREN CraftPro Cutting Plotter**.

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

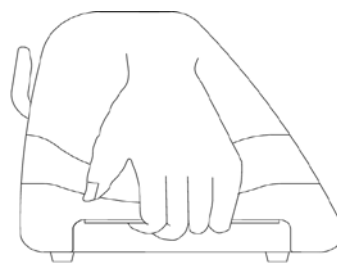


SAFETY PRECAUTIONS!

- 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.



(Correct)



(Incorrect)

- 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.

Chapter 1 General Information

1.1 Introduction

BREN CraftPro series cutting plotters have been designed to produce computer-generated images or perform contour cutting on sheets or rolls of vinyl media. In addition to performing quality cutting on sheet or rolls of media, BREN CraftPro series cutting plotters can also be used as a pen plotter.

This manual covers the following models of BREN CraftPro series cutting plotters:

CraftPro 424 for media width: 50mm(1.97") ~ 719mm(28.3")

1.2 Package Items

The package of BREN CraftPro contents the items listed below, please check carefully. If you find any item missing, please contact BREN customer service.

1 BREN 424 CraftPro Cutting plotter.

1 BREN Software Installation CD-ROM

1 CraftPro User Manual

1 AC power Cord

1 USB Cable.

1 set of Blade Holder Assembly (Installed in tool carriage of the cutting plotter)

2 45 degree Blades (One installed in Blade Holder)

1 Safety Blade

1 pair of Tweezers

1.3 Product Features

The followings are the main features of the BREN CraftP

- Up to 12.34 oz (or 350 grams) of cutting force.
- Up to **705** per second cutting speed (at 45 degree direction.)
- Guaranty **10-foot** (3 meters) tracking.
- Enhanced Automatic-Aligning System (AAS II) for auto contour cutting.

1.4 The Appearance (BREN 424 CraftPro)

1.4.1 The Front View

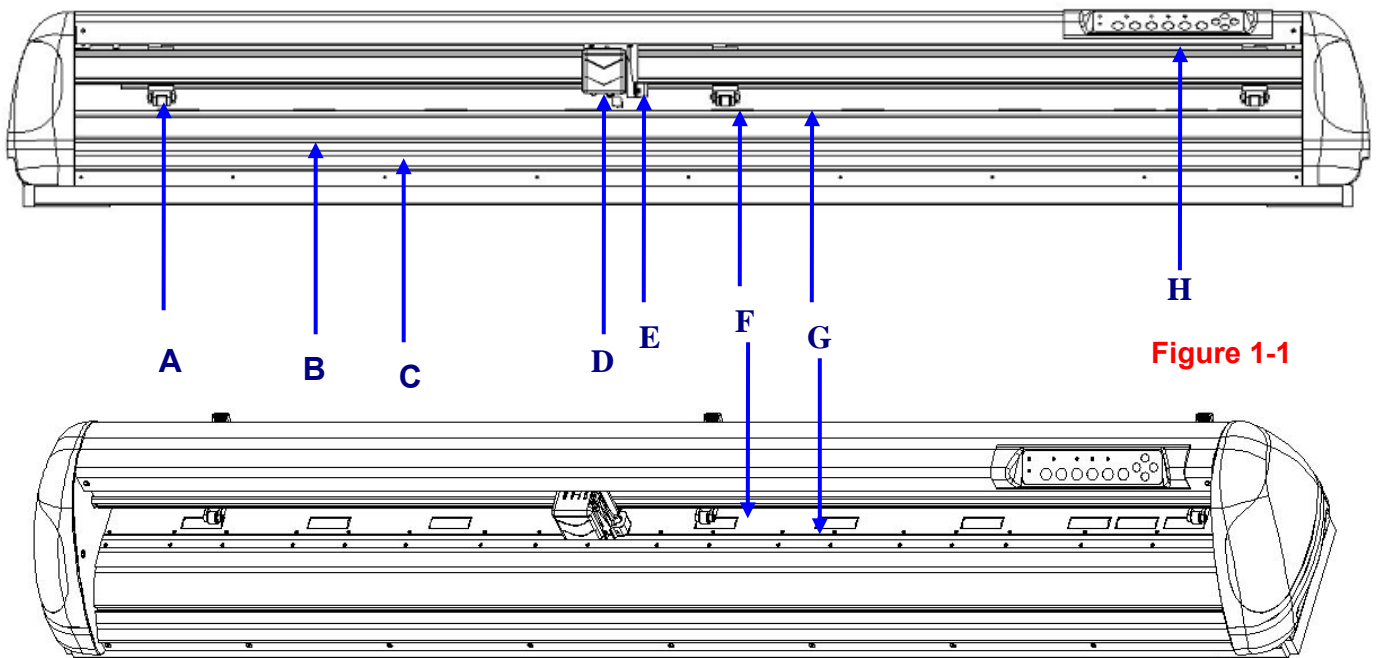
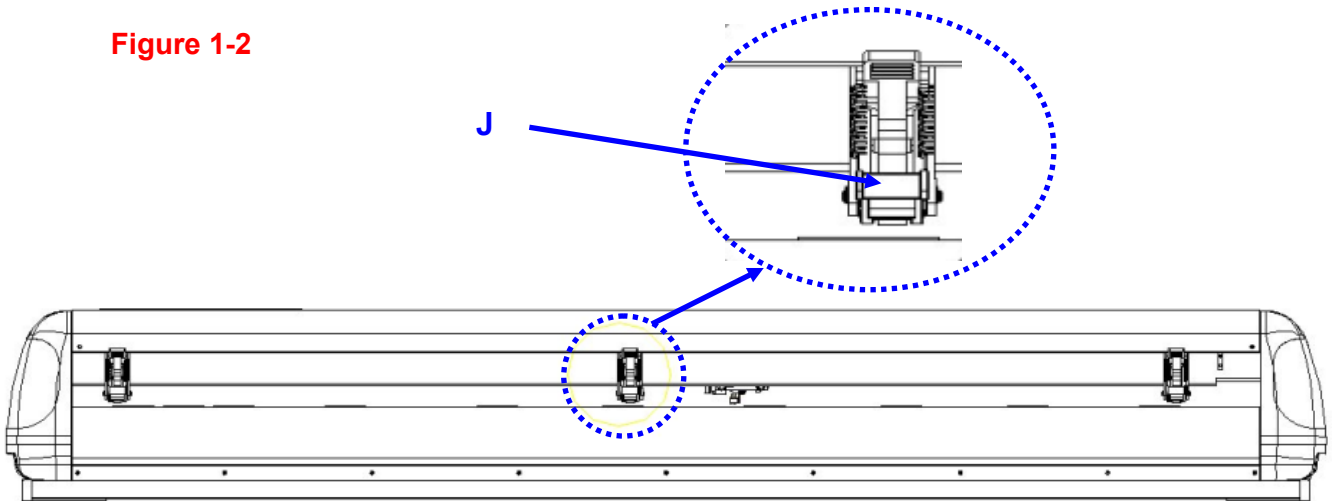


Figure 1-1

Object	Description	
A	Primary Pinch Roller	To help hold the media during cutting.
B	Cutting Strip	To help slice off media.
C	Alignment Ruler	To align media with clear guideline marks
D	Carriage	Performs the cutting or plotting with the installed blade or pen.
E	Blade Holder	Holds the blade.
F	Platen	The surface for holding and supporting media in operation.
G	Cutting Pad	To protect blade and plate in operation.
H	Control Panel	To consist of 10 control keys and 6 LED lights.
J	Grit Areas	To move media back and forth in operation

Figure 1-2



1.4.2 The Side Views

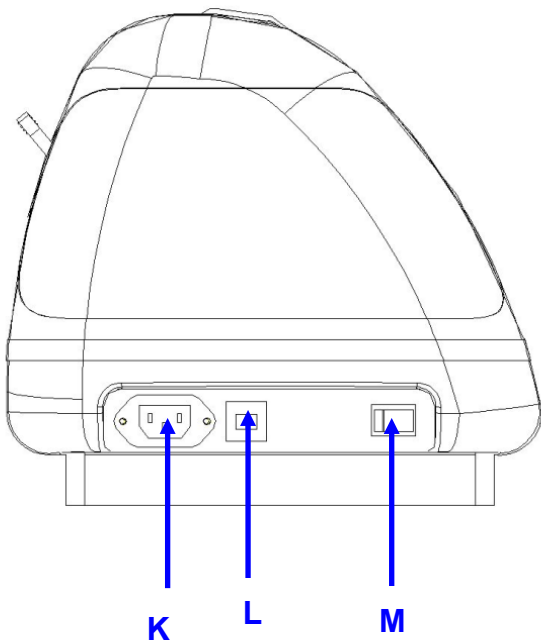


Figure 1-3

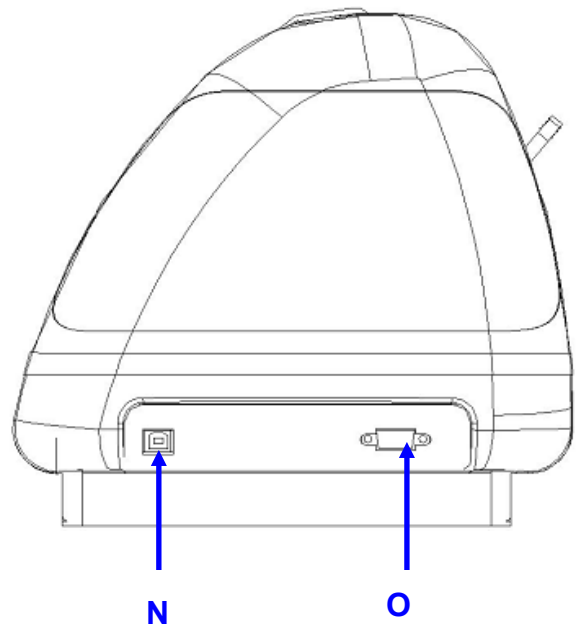


Figure 1-4

Object	Description
K AC Power Connector	To insert the AC power cord.
L Fuse	3Amp.
M Power Switch	To turn on or off the machine.
N USB Connector	To connect the machine and a computer through a USB cable.
O Serial Interface Connector	To connect the machine and a computer through a RS-232 cable.

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 severe vibration.
- Keep the temperature between **60-86°F** in the workshop.
- Keep the relative humidity between **25% and 75%** in the workshop.
- 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 mates 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.

2.2 Media Loading

2.2.1 Loading the Sheet Media

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

Step 1

Lift the 2 levers at the back side of the cutter to lift the pinch rollers

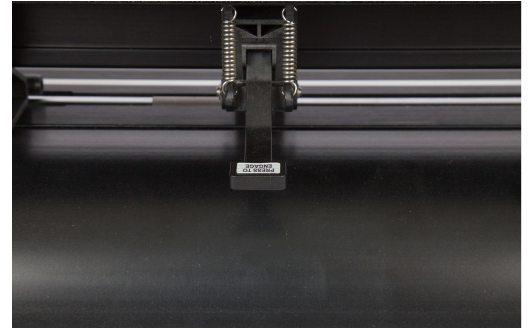


Figure 2-1

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 (Figure 2-2).



Figure 2-2

Step 3

Then move the pinch rollers manually to the proper position. Be sure the pinch rollers must be positioned above the grit areas. The **stickers** on the main beam show the position of the grit areas. (Figure 2-3).



Figure 2-3

CAUTION!!!

- ✓ Make sure the Primary and secondary pinch rollers are set to right positions.
- ✓ Position the Primary Pinch Rollers at the right and left sides of media.
- ✓ Position the Secondary Pinch Roller at the center of media.

Note: BREN CraftPro serves as an illustrator here.

CORRECT

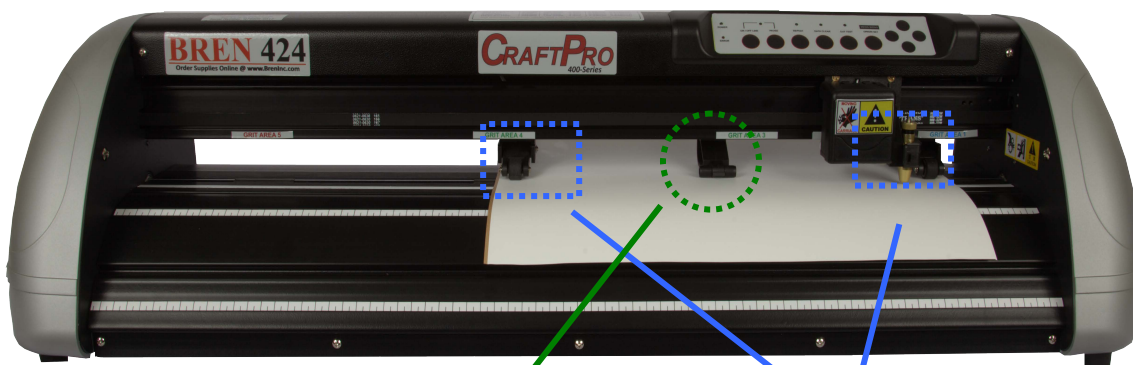


Figure 2-4

Secondary Pinch Roller

Primary Pinch Roller

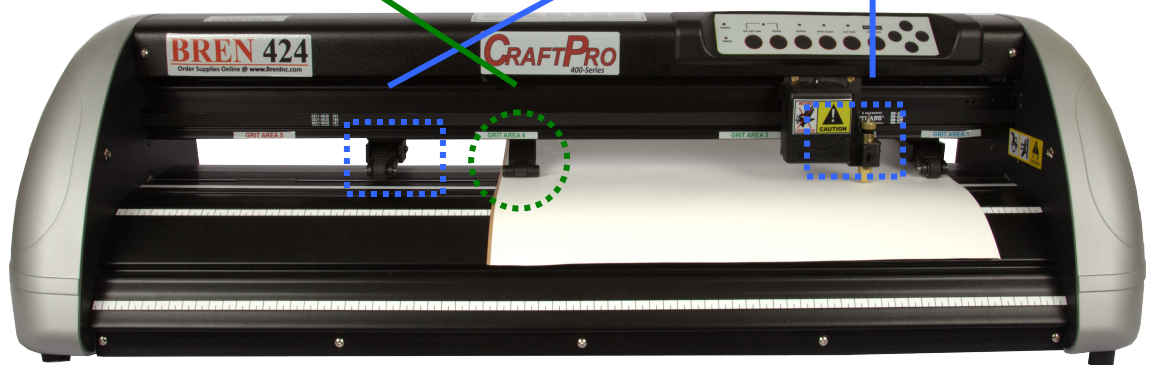


Figure 2-5

INCORRECT

Step 4

Push the lever backward to lower down the pinch rollers.

Step 5

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

Note:

- ✓ Always adjust the position with the pinch rollers raised.
- ✓ Please reposition the pinch roller by holding the center of the pinch roller and moving it from the rear end of the machine. (Figure 2-6)
- ✓ DO NOT move the pinch roller by holding its front rubber roller (Figure 2-7).

**Figure 2-6****Correct****Figure 2-7****Incorrect**

2.2.2 Loading the Roll Media

You can use the stand. Please refer to Chapter 2.2 for hardware setup, and Chapter 2.5.1 for media loading.

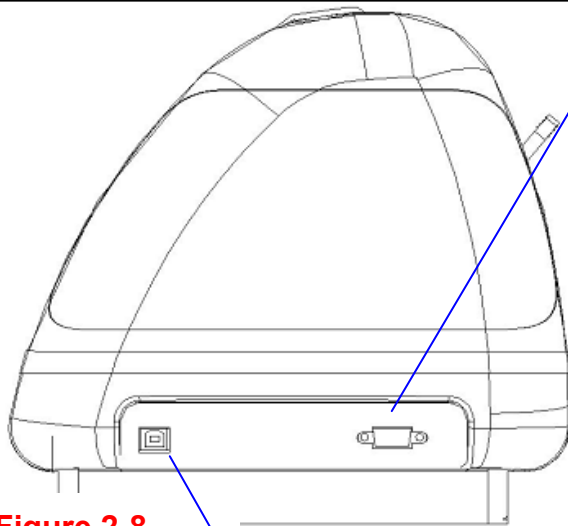
2.2.3 How to change the poll size without turning off the machine?

Have the machine on-line, press origin set once and the red error light will start blinking, then pressed again and the machine will start moving to get the new size. Then open the VLCD and under the poll size you will find the new measurements.

2.3 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.

Figure 2-8

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

2.3.1 USB Interface

BREN CraftPro built-in USB interface are based on the Universal Serial Bus Specifications Revision 2.0 (Full Speed).

2.3.2 Connecting your BREN CraftPro cutter

1. Turn on the machine.
2. Connect the USB connector to the machine and then start the BREN driver installation process.

**WINDOWS WILL DETECT THE USB AUTOMATICALLY
BUT YOUR CUTTER WILL NOT BE ABLE TO BE
USED UNTIL DRIVER IS INSTALLED CORRECTLY!!!**

2.4. Installing the driver for USB connection.

- 1. Insert the BREN INSTALLATION CD that is included with your BREN 400-Series cutter and select 'BREN CraftPro 400-Series Installation' when the disc starts.

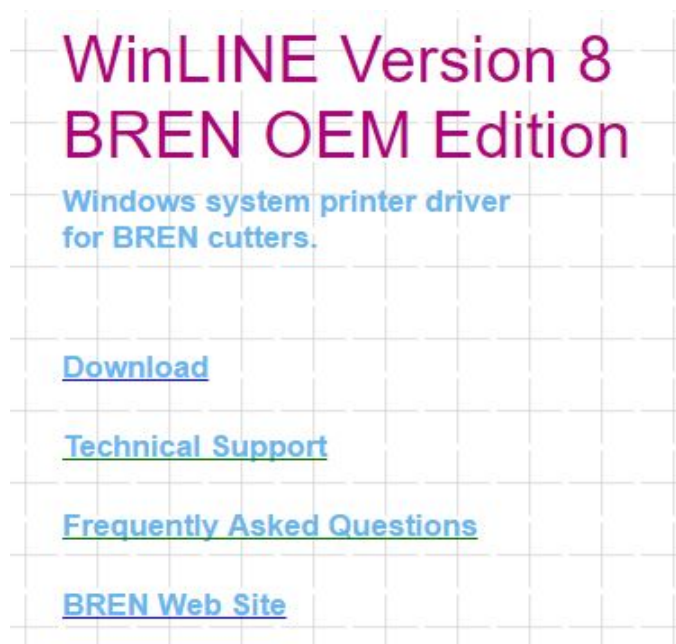


- 2. On the following screen, you will have the option to install the 32 or 64-bit version of the Windows driver for your BREN CraftPro. If you do not know which version you are currently running, see section 3b on the next page. **NOTE: Windows will generally not allow you to install the version that isn't compatible with your system.**



Once you've verified which version you're running, select the appropriate option or you can select "Download Drivers Online" to get the most up-to-date version of the driver.

3. If you selected the “Download Drivers Online” option your default web browser should open and take you to bren.winline.com. Once you’re at the site, select the download option.



- 3b. On the following screen, select either the 32 or 64-bit version of the driver to download depending on what version of Windows you are running. If you aren’t sure, you can open your start menu and right click “This PC” or “My Computer”, right click and select properties. The version of Windows you are running should be displayed.

View basic information about your computer

Windows edition

Windows 10 Home

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System

Processor: Intel(R) Core(TM) i5-4570R CPU @ 2.70GHz 2.70 GHz

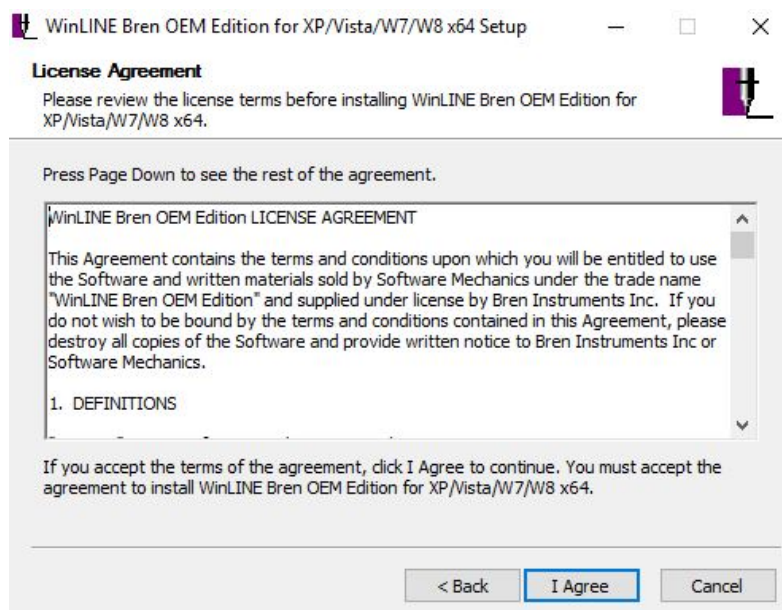
Installed memory (RAM): 8.00 GB

System type: 64-bit Operating System, x64-based processor

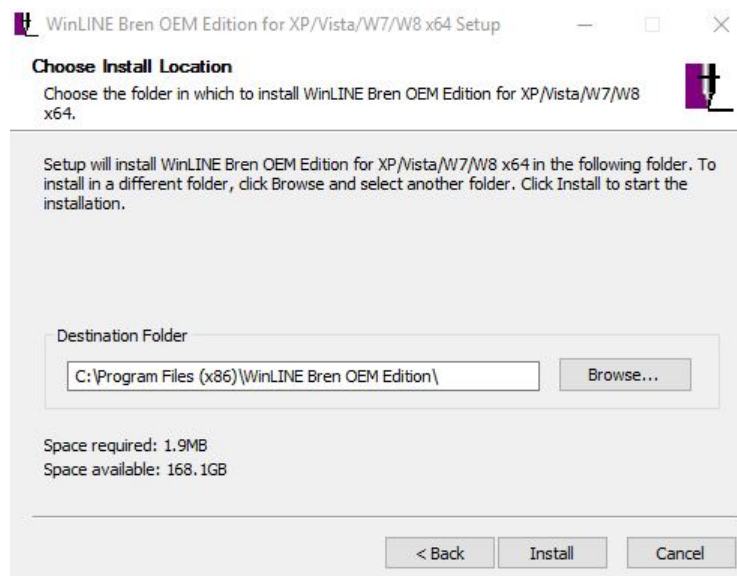
Pen and Touch: No Pen or Touch Input is available for this Display

4. Once the Welcome screen is displayed, select “Next” to continue to the ‘License Agreement’ screen. You must select “I Agree” to continue the driver installation process.

If you do not agree to the terms displayed you can select “Back” or “Cancel” to stop the installation process.

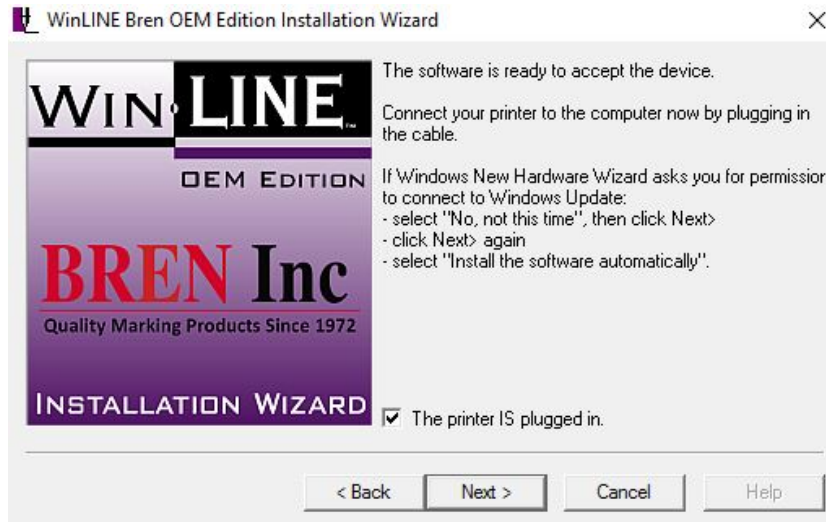


5. The Choose Install Location screen will let you choose where you want the software to be installed on your PC. It will default to C:\Program Files (x86)\WinLINE Bren OEM Edition\ unless you set a new location for the driver to be installed. Once you’ve decided where to install the software, select “Next” to continue.



6. Once the driver had been downloaded to your PC, the Installation Wizard will begin. Select “Next” on the Installation screen to continue the setup process or “Cancel” to exit.
7. Following the instructions on screen, verify your BREN 400-Series CraftPro cutter is connected to your PC via USB.

The Windows Auto-Play feature may ask if you want it to install the driver; select "Not this time." Allowing the Windows Auto-Play to install the driver will result in a FAILED installation. To successfully install and activate the driver, you MUST use the WinLINE Installation Wizard.



Once the cutter is connected to your PC via USB, click the box next to "The printer IS plugged in." and then select "Next" to continue.

8. On the following screen, enter your BREN 400-Series CraftPro serial number which is located below the power switch and also on the Technical Support sticker on your BREN cutter. Enter your serial number and select "Next" to continue.



9. That next screen will ask you to verify the manufacturer which will default to Bren Instruments. For the model, select BREN 424.



It is important to select the correct model number as the driver will set the cut widths for the corresponding cutter. For example, if you set a BREN 424 up as a 740 on your PC, your computer will think your cutter has a 40-inch cut width and that can cause layout and cutting issues. If this happens, the driver will need to be uninstalled and reinstalled verifying the correct model.

10. The next screen will ask you to name your Cutter. It will default to whichever model you selected in the previous step and will display in "Devices and Printers" under that name. The printer name can be changed but is not recommended.



11. The next screen will ask if you would like to activate the software now or later. If you select "Activate the software via the internet now", select "Finish" to complete driver installation and restart your computer.



If you do not have internet access or get an error message when attempting to activate the software, contact BREN technical support at (800) 826-3991 or info@breninc.com.

2.4.1 RS-232 Serial 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.

Caution!! Please turn off the BREN CraftPro cutter before plugging the RS-232C cable.

Chapter 3 Operation

3.1 The Control Panel

3.1.1 The BREN CraftPro control panel



Figure 3-1

Key	Function
POWER LED	To indicate the power status (light up: power on; light off: power off)
ERROR LED	To indicate the error status (light up: error; light off: normal)
ON/OFF LINE	To switch modes or stop cutting job(light up: on-line; light off: off-line) While in on-line mode: only ON/OFF LINE and PAUSE keys activated While in off-line mode: the settings in VLCD can be adjusted.
PAUSE	To temporarily halt cutting process or to continue
REPEAT	To repeat last job.
DATA CLEAR	To clear up buffer memory.
CUT TEST	To perform cutting tests on different media.
ORIGIN SET	To reset origin at a new position.
4 Arrow Keys	To move carriage position, select function, or change setting.

3.1.2 Reset Origin

Note:

- ✓ Make sure the machine is in off-line mode to enable this function.

Step 1 Move the carriage to a new position.

Step 2 Press the ORIGIN SET button to reset origin.

3.1.3 Cut Test

Note:

- ✓ Make sure the machine is in off-line mode to enable this function.
- ✓ It's recommended to keep performing this function until the cutting quality meets your demand before executing the cutting job.

Step 1 After sizing, press the ON/OFF LINE button to set as off-line mode.

Step 2 Move the carriage to a preferred position.

Step 3 Press CUT TEST button to perform.

3.1.4 Repeat

Note:

- ✓ Make sure the machine is in off-line mode to enable this function.

Step 1 Press the ON/OFF LINE button to set as off-line mode.

Step 2 Press the REPEAT button to perform re-plot function starting at the position where the carriage locates. It is also available to move carriage to a preferred position, re-set origin, and then perform this function.

3.2 VLCD

“VLCD” is a computer program to help modify parameters of cutting functions.

3.2.1 Installation

Step 1 Select 'BREN CraftPro 400-Series Installation' from the main menu of your installation CD. Once you're in the CraftPro menu screen, select 'CraftPro Control Panel (VLCD3) and complete the installation steps.

Step 2 Launch VLCD by double-clicking on the icon.

Note:

- ✓ Make sure the machine is in online mode to enable this program.
- ✓ There is media in the machine.

Step 3 Choose the right port connected to your computer (Figure 3-2).

If you are using the USB cable, choose **BREN 400-Series** from the drop-down menu. If you are using a Serial cable, choose either **COM1** or **COM2**. Make sure no other devices are occupying the port that you are going to use.

Step 4 Press the **Connect** button to connect your computer and the cutter. If the connection succeeds, the model info, firmware version, and adjustable parameter columns will be showing (Figure 3-3).

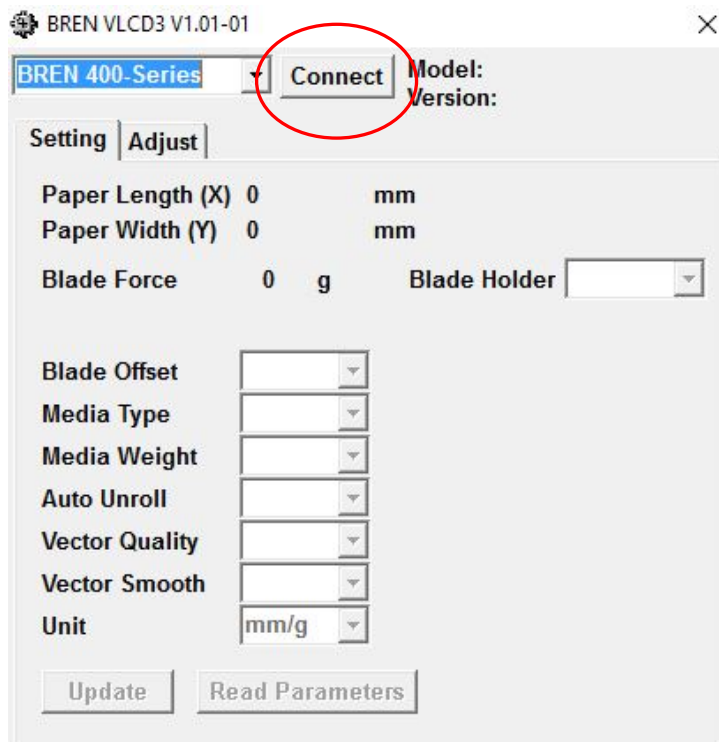


Figure 3-3

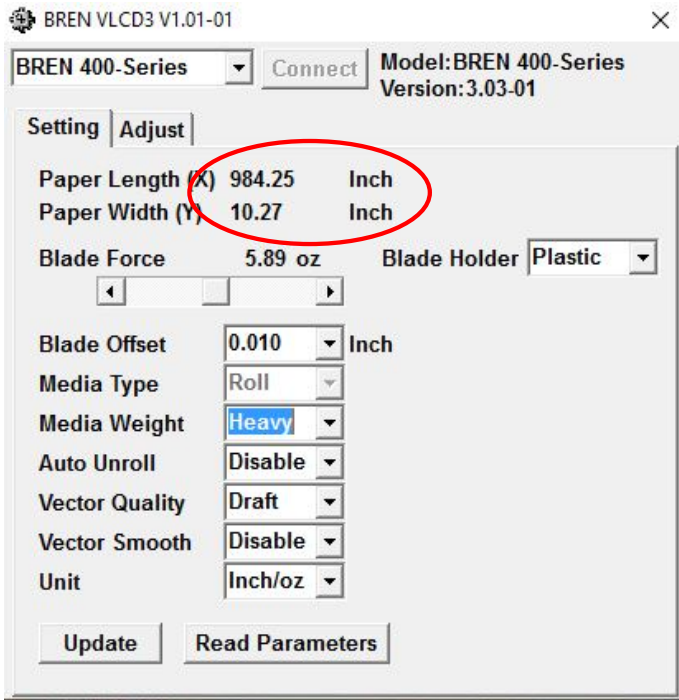
3.2.2 Functions of VLCD

Below are the functions adjustable in VLCD for BREN CraftPro.

- Poll Size
- Force
- Media Weight
- Offset
- AAS Offset
- Auto Unroll
- Update Setting

- **Poll Size**

Click on the **Poll Size** button will reveal the X/Y values.



In this case, the maximum plotting length is 984.25 inches and the distance between the pinch rollers is 10.27 inches. (Figure 3-4).

Figure 3-4

- **Force**

To adjust the blade force between 0 and 350 (Default = 50).

Note: when plotting with a pen, adjust the Force to the lowest setting to avoid faint lines as well as to extend the life of a pen.

■ **Media Weight**

To choose different weights of media in two options: Heavy, and Light (Default).

■ **Offset**

To adjust the blade offset to ensure cutting quality in 8 options: 0.000, 0.175, 0.10 (Default), 0.275, 0.300, 0.500, 0.750, and 1.000.

Auto Unroll

- To switch options for sheet media and roll media (Auto Unroll On: Default).

Update Setting

- To apply the changed setting onto the cutter by presses the **Update Setting** button.

3.2.3 Restore factory default settings

VLCD allows you to turn all parameters to factory-default settings.

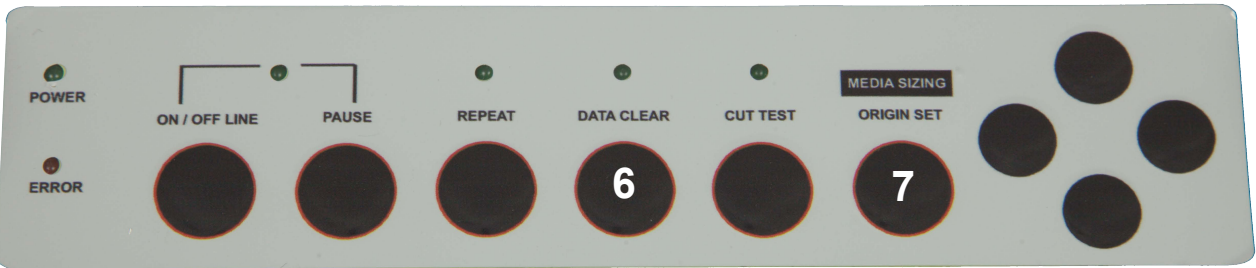
Step 1 Enter the USB-port switching mode by pressing “Pause”(2) after “On/Off line”(1) and then press “Origin Set” (3).



Step 2 Press the left key (4) and then up (5)



Step 3 You have now entered the Data clear and restoring default settings mode; press “Data clear” (6) and then “Origin Set” (7) to confirm.



Step 4 The default settings restoring process has been completed. All buttons will be ineffective before the cutter is rebooted.



Step 5 Restart your cutting plotter now.

Chapter 4 Basic Maintenance

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

4.1 Cleaning the cutting plotter

In order to keep the cutting plotter under good conditions and have the 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 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, clean it with a water-rinsed or an alcohol-rinsed cloth. Wipe the cutting plotter to remove any residues on the cutting plotter. Finally absorb water with a soft, lint-free cloth.
- ❖ Wipe all the dust and dirt from the tool carriage rail.
- ❖ Use a vacuum cleaner to clean any accumulated dirt and media residue beneath the pinch roller housing.
- ❖ Clean the platen, paper sensors and the pinch rollers with a water-rinsed cloth or alcohol-rinsed cloth. Finally absorb water with a soft, lint-free cloth.
- ❖ Use the same method mentioned above to clean dust and dirt from the stand.

4.2 Cleaning the Grit Areas

- ❖ 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 grit drum for cleaning.
- ❖ Use a bristle (a toothbrush is also acceptable) to remove dust from the drum surface. It needs to rotate the drum manually to clean the drum completely (Figure 4-1).

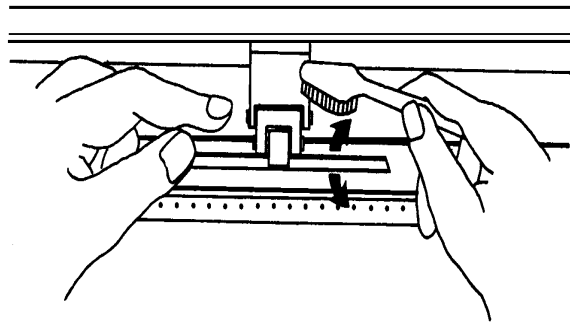


Figure 4-1

4.3 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 fingers to hold the pinch rollers in place.

Use a lint-free cloth or cotton swab rinsed with alcohol to remove the embedded or persistent dust.

Chapter 5 Troubleshooting

This chapter helps you to 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 contacting your local dealer, please make sure that the problems are coming from your cutting plotter, not from the communication between the computer and cutting plotter or from a malfunction in your computer or software.



Why doesn't the cutting plotter operate?

5.1 What if BREN CraftPro cannot operate?

If your cutting plotter doesn't plot, please check the following items first:

- Is the power cord plugged in properly?
- Is the power cord connected to the power connector properly?
- Is the power switch turned on properly?







Solutions: If the POWER LED lights on, the cutting plotter should be in a normal condition. Turn off the cutting plotter and turn it on again to see if the problem still exists. If the POWER LED doesn't light, please call your local dealer to resolve this problem.


5.2 Light Indicators

Some of the operating problems can be identified by the lights on the control panel. When your cutting plotter stops operating or the lights are on or flashing unexpectedly, see the following descriptions of the panel light patterns and the actions you should take.

5.2.1 Warning Indicators

When the ERROR LED flashes (as shown below), take the necessary actions according to the following instructions. When the problems are solved, the ERROR LED will turn off automatically. Pressing the ON/OFF LINE button can also turn off the ERROR LED.

Warning Indicators		ERROR	ON/OFF LINE	REPEAT	DATA CLEAR	CUT TEST
1	Graph was clipped		●	●	○	○
2	HPGL/2 command Error		●	○	●	○
3	Lever up or no media		●	○	○	○
4	Cannot repeat		○	●	○	○
5	Communication error		○	○	●	○
6	Width sensor error		○	○	○	●
7	Check media, drum or X motor	●	○	○	●	○

 = flash ● = on ○ = off

Warning 1 The graph is clipped

This condition indicates that the cutting graph is bigger than the cutting area.

You can solve the problem by:

1. Reload a wider or longer media.
2. Move the pinch rollers to widen the cutting area.
3. Re-scale the graph to a smaller size. Then send the cutting job again from your computer to the cutting plotter.

Warning 2 HPGL/2 command error

If the cutting plotter cannot recognize the commands from your computer, please check the commands applied to your cutting plotter in the HP-GL/2 or HPGL commands. Then send the same job to the cutting plotter again.

If that doesn't solve the problem, please contact your local dealer.

Warning 3 Lever up or no media

Check that you have lowered the lever down and make sure that you load the media before cutting.

Warning 4 Cannot repeat cutting

There are two possibilities:

1. There is no data in the buffer: please send the job again from your computer;
2. The buffer is full: please send the same job from your computer again.

Under both conditions, press the ON/OFF LINE key to clear the warning message.

Warning 5 Communication error

Check that the serial/USB cable has been connected to the cutting plotter and computer properly.

If so, then check whether the interface settings are correct. Check that the communication settings in your PC are the same as the ones on your cutting plotter (for example – 9600bps, no parity, 8 bits, 1 stop bit). Then, press ON/OFF Line key to switch back to On Line mode.

Warning 6 Width sensor error

Check that the pinch rollers are positioned above the grid drum and reload the media again.


Note:

In order to identify the warning messages easily, please stick the warning sticker (in accessory box) on the side cover of your cutting plotter.

5.2.2 Error Indicators

If some mechanical problems occur during the operation, the ERROR LED will turn on. Please follow the instructions below to solve the problem. If the cutting plotter still cannot work, please contact your local dealer and tell him or her about the error indicator.

	Error Indicators	ERROR	ON/OFF LINE	REPEAT	DATA CLEAR	CUT TEST
1	SRAM error	●	●	○	○	○
2	DRAM error	●	○	●	○	○
3	Check media, drum, or X motor	●	○	○	●	○
4	Check media or Y motor	●	○	○	○	●

 = flash ● = on ○ = off

Error 1 and 2

Please contact your local dealer to replace SRAM or DRAM.

Error 3 Check the media, drum or X-motor (Drum driven motor)

This message indicates that there might be a problem on the **X-axis**.

Please check that the drums are working normally and see that the media is well loaded. Then turn on the power and reboot the cutting plotter.

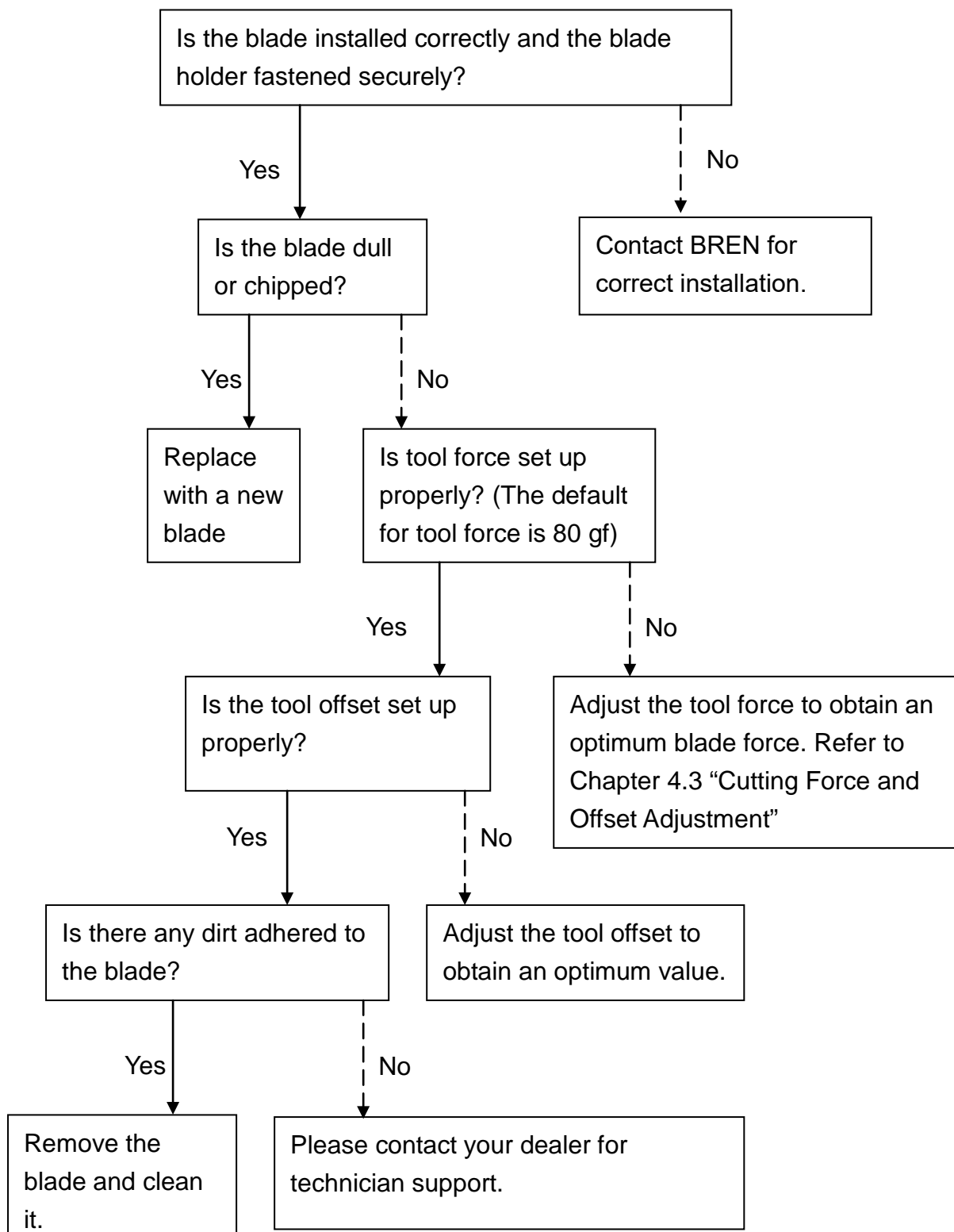
Error 4 Check the media, or Y motor (carriage driven motor)

This message indicates that there might be an obstruction to the carriage relating to a problem on the **Y-axis**.

Please clear the obstruction and check that the carriage can move smoothly. Then turn on the power and reboot the cutting plotter.

5.3 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.



WARRANTY

1.STANDARD WARRANTY

BREN CraftPro cutters carry a standard one (1) year Warranty that covers Manufacturing defects in material, circuitry and/or workmanship. The warranty begins upon date of purchase and requires that the products covered be purchased direct from and registered with BREN Inc.

Some products purchased direct from BREN are automatically registered and recorded upon shipment. Warranty includes all parts, labor and supplies necessary to repair or replace (at BREN's option) any materials, circuitry and/or parts which prove to be defective under normal use and application. Product must be returned to BREN in original or equal packing at shipper's expense. No freight collect shipments are allowed. Customer should contact BREN Service department between 8:00 a.m. and 4:00 p.m. Monday thru Friday Central Standard Time at 1-800-826-3991 for Return Authorization Number. Shipments received without prior authorization will be refused.

This warranty does not cover shipping, damage or defects caused from abuse, misuse or mishandling. In addition, this warranty is void if the product has been opened or serviced in any way by other than BREN service technicians or a BREN Authorized Service Location. No other warranty, either expressed or implied, is valid.

2.PRODUCT INSURANCE PROGRAM (PIP)

The Product Insurance Program or 'PIP' is an optional program that supplements the standard warranty for the first year of ownership. Designed for the customer that requires the maximum amount of protection and the minimum amount of downtime. The PIP assures the user a same or equal replacement of a BREN product within two (2) business days of notification to BREN Customer Service Department, at any time during the first year of ownership. Failed product must be packed in the product box or original box and returned to BREN. BREN will pay all shipping costs for both replacement to user and failed product from user. Return shipping labels and documents will be provided by BREN with replacement.

The Product Insurance Program can only be purchased within the first thirty (30) days from the time of original product shipment from BREN to the user and becomes effective when payment is received by BREN. Prices are as follows:

Product or Model:	Per Year
BREN CraftPro424	\$150.00