LYNX™

Vinyl Sign Cutters from Vinyl Express®

User's Guide

LYNX 24
SIGN CUTTERS FROM VINYL EXPRESS

- 24ips
- 1 Mbyte buffer
- 400 gms downforce
- Quiet DC servo drive
- Includes stand and media system

LYNX™ 12

SIGNWarehouse.com

Table of Contents

1. Learning About Your Cutter

1.1   Initial Inspection

Before setting up your cutter/ plotter, please carefully unpack and inspect what you have received from the shipped carton by comparing them with the following listed items. If you discover any item missing in the process of delivery, please call Customer Service.

Item	Quantity
Cutting Plotter Body	1
Accessory Bag	
Roll Base	1
Serial Cable (RS-232C)	1
Cutter Tool	1
Cutting Pad	1
Tweezers	1
User's Guide	1
AC Power Cord	1
Blade Holder	1
Blade (PLTB-ROLAND-45)	1
Water-Based Fiber-Tip Pen: 0.3 mm tip width	1
Parallel Cable	1

24" Lynx Optional Item	Quantity
Stand & Flexible Media Support System includes:	
(Please see 2-1 for Installation)	
• Stand set and accessory box	1
• Roll Media Flange	2
• Roll Holder	2
• Roll Holder Guide bushes	4
• Roll Holder Support	2

1.2 Front View of Lynx (see Figure 1-1)

Cutting Pad   Tool Carriage   Control Panel   Paper Sensor
Grid Drum

Figure 1-1

Alignment Rulers   Platen

Knife Guide

Pinch Rollers
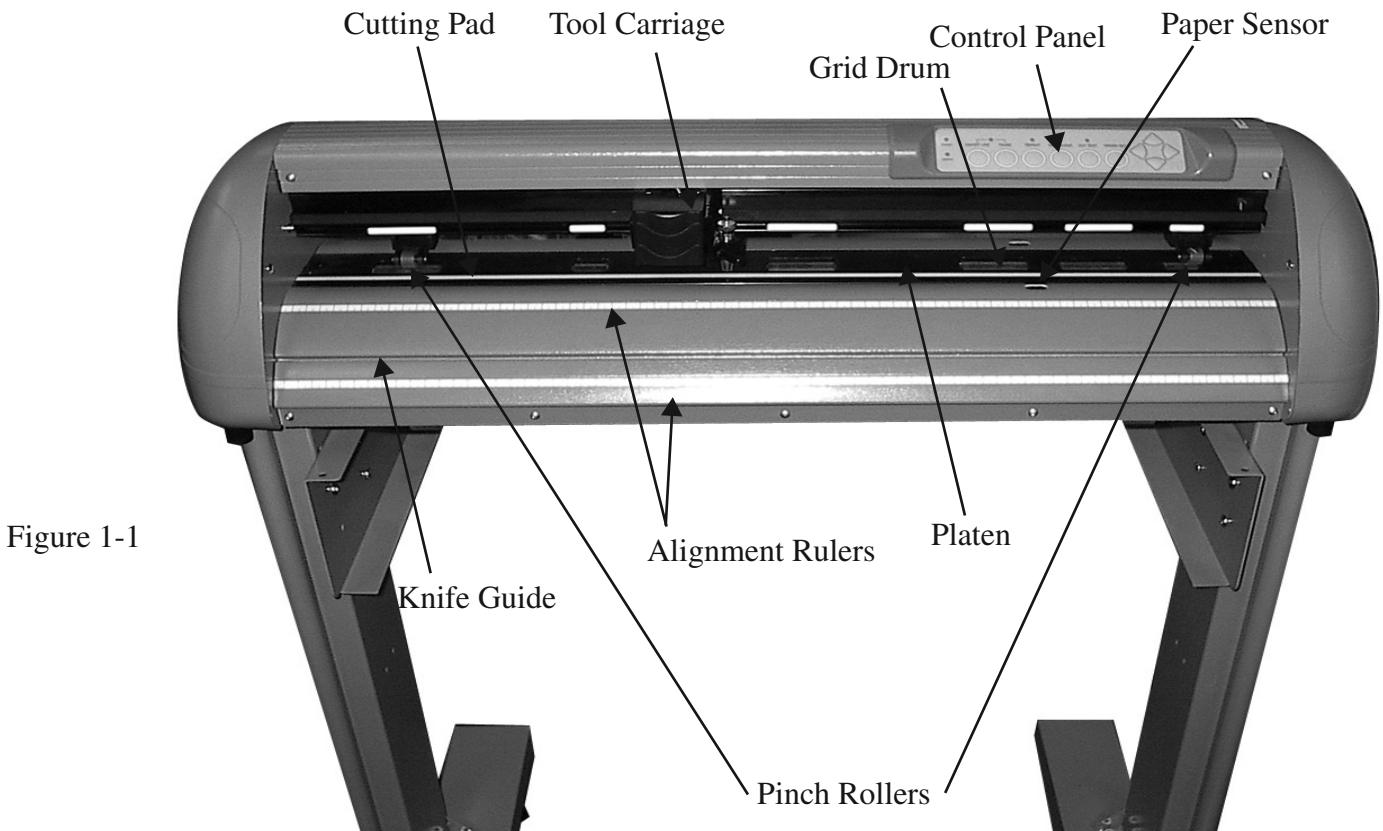
1.3 Back View of Lynx (see Figure 1-2)

Lever

Paper Sensor

Figure 1-2

Pinch Rollers

1. Learning About Your Cutter   *1-2*

Roll Holder Support

Media Roll Flanges

Stand

Roll Holder
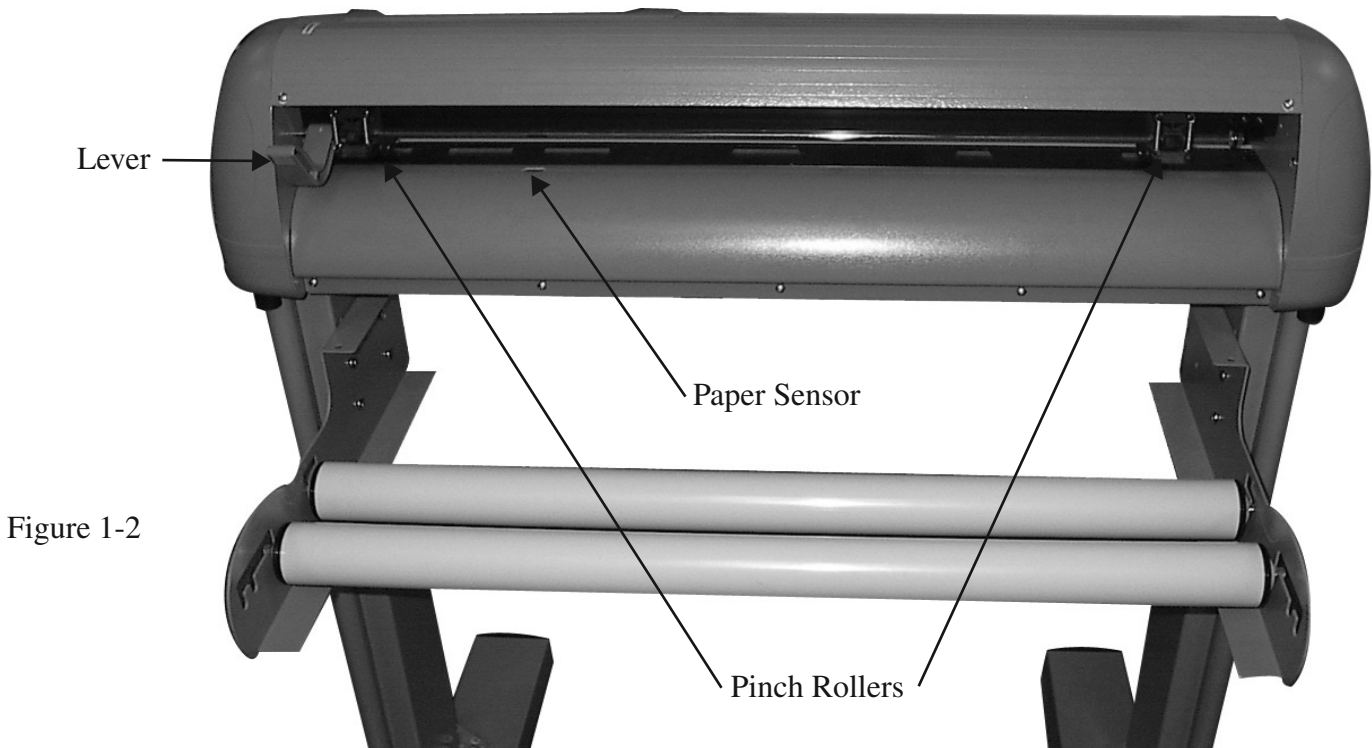
Figure 1-3

1. **Platen** - Provides the surface for holding and supporting media during cutting.

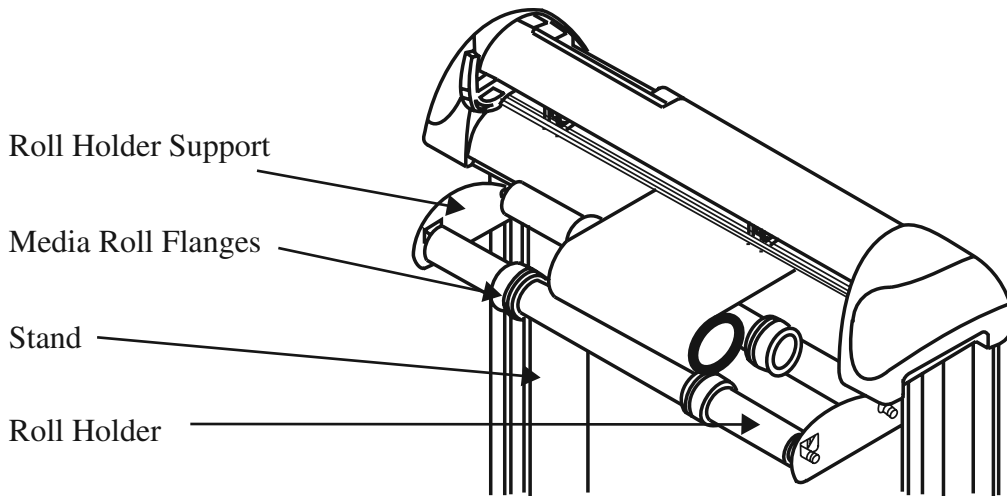2. **Cutting Pad** - Provides protection for the blade while the blade is cutting.

3. **Alignment Ruler** – Media can be aligned with the clear guide line marks.

4. **Tool Carriage** – This unit performs the cutting with the installed blade and pen

5. **Grid Drum** - Moves the media back and forth during operation.

6. **Control Panel** - Consists of 10 control keys and 6 LEDs.

7. **Pinch Roller** – Presses the media against grid drum during cutting.

8. **Knife Guide** – Easily cuts off extra media with this groove.

9. **Lever** - Raises or lowers the pinch rollers.

Optional Items (see Figure 1-3)

1. **Roll Holder** – Consist of two rollers to hold and feed the roll media for cutting.

2. **Roll Holder Guide Bushings** - Serves to keep the roll media in place when media is pulled from the roll.

3. **Media Roll Flanges** - Secures media roll flanges in place.

4. **Roll Holder Support** - Supports roll holders.

5. **Stand** - Supports the cutting plotter body.

This is a vinyl cutter. It is not intended to be used with windows drivers or as a printer.
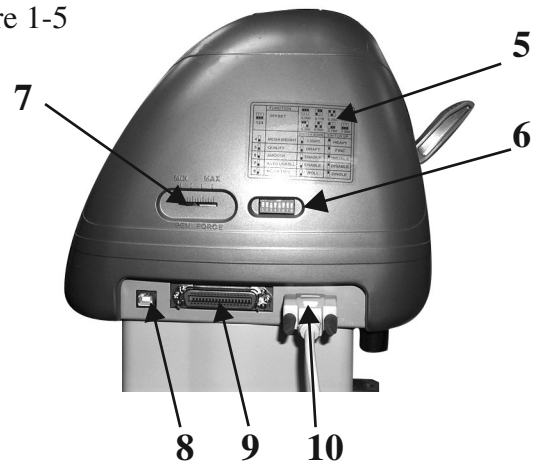*Signwarehouse.com does not recommend that you use these drivers.*

1.4 Side View of Lynx

Figure 1-4

Figure 1-5

Left Hand Side (Figure 1-4)

1. **AC Power Connector** – Used to insert the AC power cord.

2. **Fuse** – Up to 3 Amps.

3. **Voltage Switch** – The presetting is 230 voltage. Please adjust to comply with your local standard.

4. **Power Switch** – On when switches to [I]; Off when switches to [O]

Right Hand Side (Figure 1-5)

5. **Dip Switch label** – Indicates the functions of the dip switches.

6. **Dip Switch** - Used for various parameter settings.

7. **Pen Force Control Slider** – Set the blade force here.

8. **Universal Serial Bus Connector-** Used in conjunction with Windows Printer Drivers to connect the cutting plotter to a computer through a Universal Serial Bus Cable.

9. **Serial Interface Connector (RS-232C)** – Used to connect the cutting plotter to a computer through a serial interface cable.

10. **Parallel Interface Connector (Centronics)** –Used to connect the cutting plotter to a computer through a parallel interface cable.

2. Installation

2.1 Installation

Caution 1

•   Make sure the power switch is off before installing the cutting plotter.

•   Carefully handle the cutter to prevent any injuries.

Caution 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 **41º-104ºF** in the workshop. (High temperature may damage vinyl).

•   Keep the relative humidity between **30% and 70%** in the workshop.

•   Protects the machine from dust and strong air current.

•   Do not place machine in direct sunlight.

Caution 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 the cutting plotter.

2.2 Stand & Flexible Media Handling System Installation

(The Stand and Flexible Media Support System for Lynx S-60 is optional)

Step 1

Examine supplied items in the accessory box of stand carton:
- 20 pieces of M6 (Alan head) screws
- 20 pieces of spring washers
- 20 pieces of washers
- 4 pieces black wheels (casters)
- 1 piece of M6 L- shape hexagon screw driver
- 1 piece of M6 wrench

Step 2

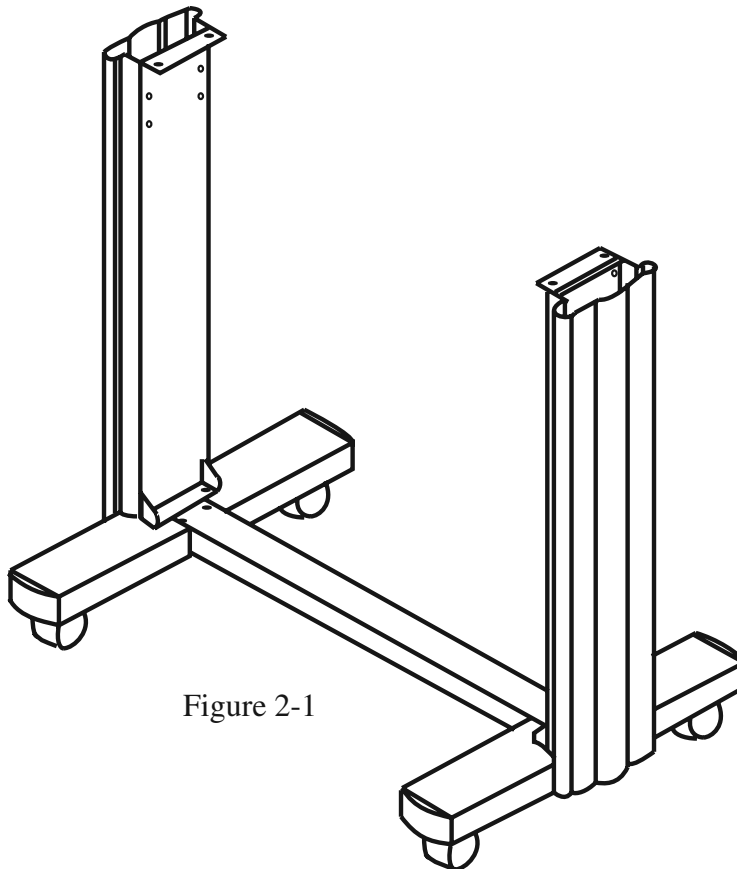- The stand includes five parts as Figure 2-1, follow the figure number to assemble.

Figure 2-1

2. Installation   *2-2*

Step 3

•   Use M6 screws, washers and spring washers to assemble part **1** and **2**, then use the screwdriver to tighten them; this creates an H-shaped base. Figure 2-2 and 2-3 (reverse of the H-stand) will show you the position to insert screws.
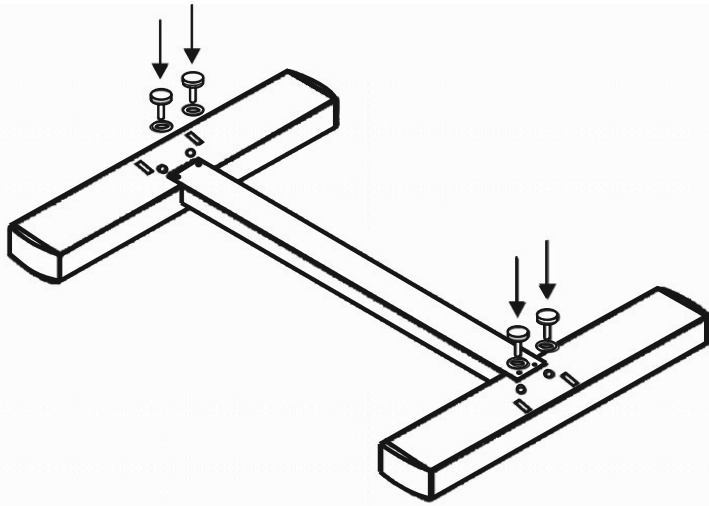
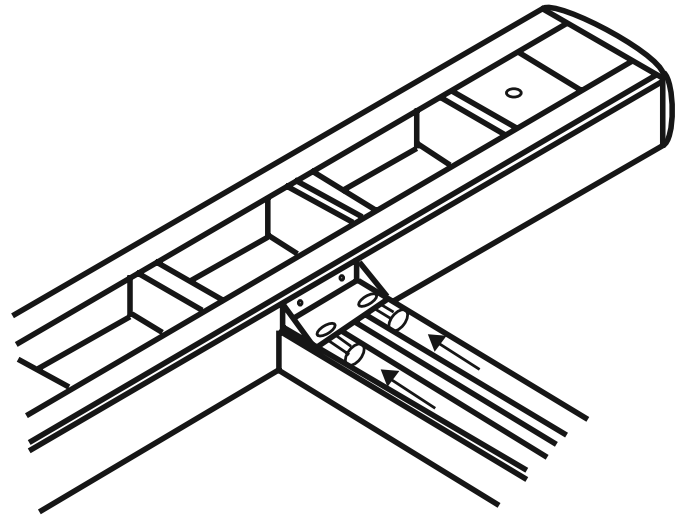Figure 2-2   Figure 2-3

Step 4

•   Insert the black wheels with washers into the holes on the bottom of H-shape stand as shown in Figure 2-4. Use the wrench to fasten them.

Figure 2-4

2. Installation   *2-3*
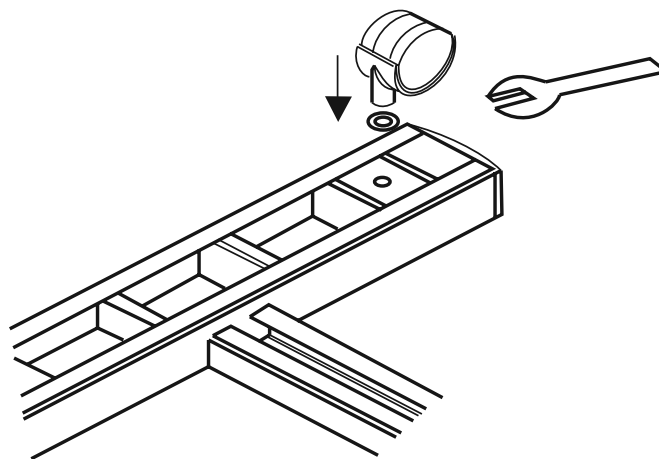
Step 5

•   Then connect part **3** and H-shape stand. First, position the extension of part **3** into the squares holes on H-stand. Second, insert the screws and washers into the holes besides the squares then tighten them (Figure 2-5).
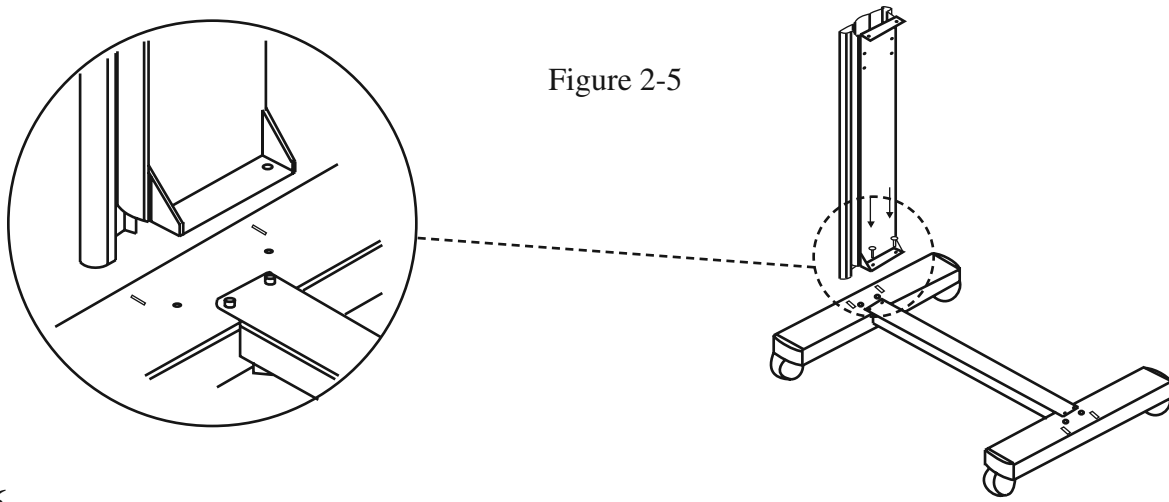
Figure 2-5

Step 6

•   Remove the cutting plotter from the carton. Position your stand under the plotter, then insert the screws into the holes on plotter's bottom. In order to make the task easier, you may need someone to help you.

Figure 2-6

3

Extension

Screws holes

Square holes

2. Installation   *2-4*
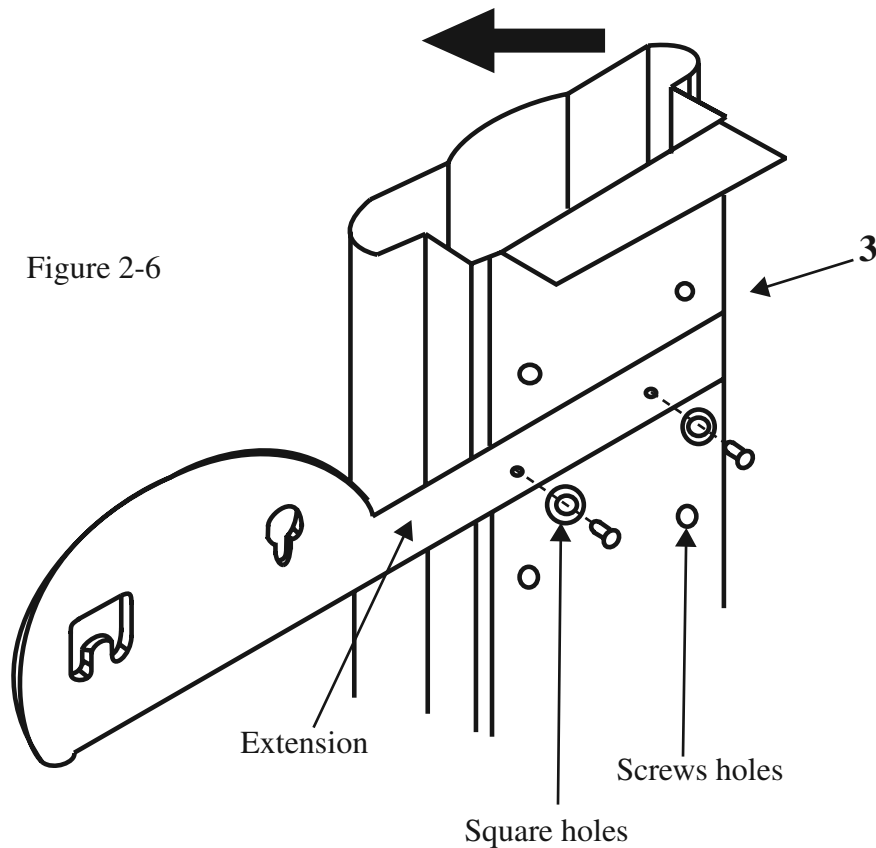
Step 7

•   Insert the roll holder support with the screws into the holes of the stand then tighten them as Figure 2-6. You can choose roll holder support's position by inserting into different holes.
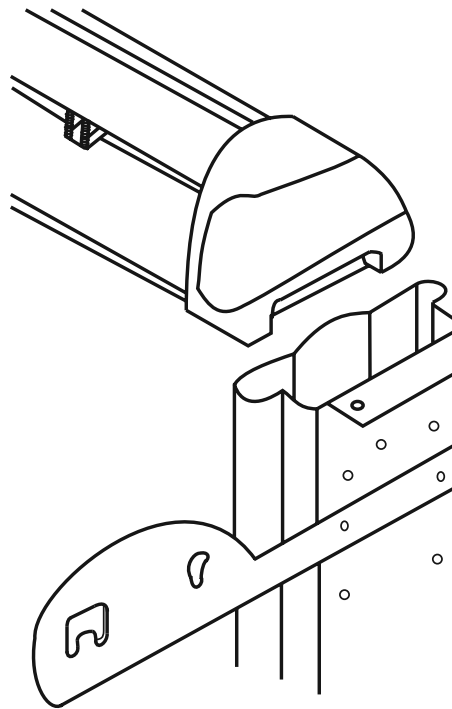
Figure 2-7

Step 8

•   Place two roll holders into the holes in the roll holder support (Figure 2-8). The nuts at the end of the roll holders will need to be unscrewed to install them.
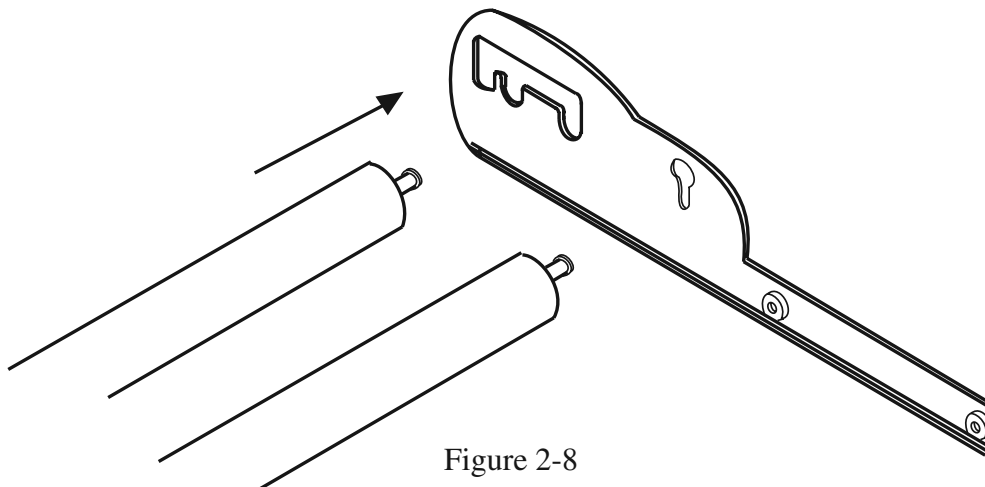
Figure 2-8

2. Installation   *2-5*

Step 9

•   The complete picture will be like Figure 2-9.
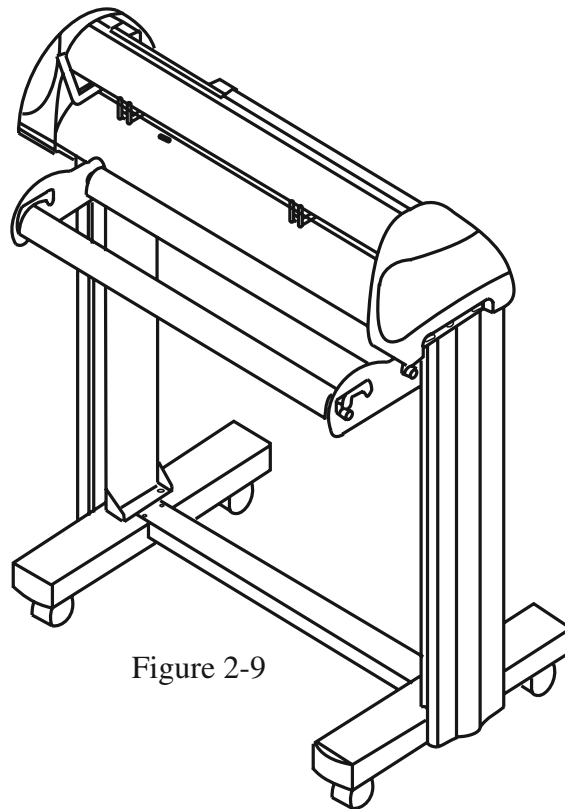
Figure 2-9

2.3 Blade Installation

Figure 2-10 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.

Pin

Adjustment depth knob

Outward ring

Figure 2-10

2. Installation   *2-6*
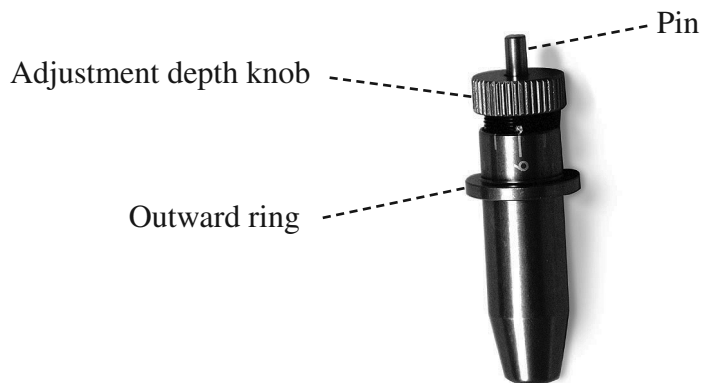
Step 1

Install blade (Figure 2-11).

Figure 2-11

Step 2

Push the blade to the bottom of the blade holder. (Figure 2-12).
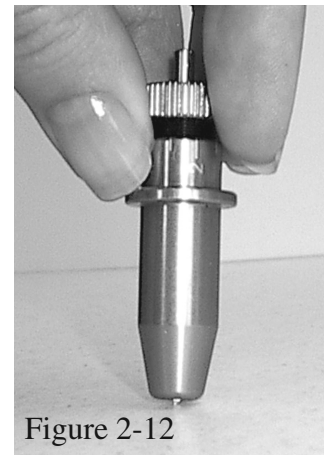
Figure 2-12

Step 3

Adjust the blade tip to suitable length by screwing "Blade tip adjustment screw" clockwise or count-clockwise. (Figure 2-13).

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.

Figure 2-13

2. Installation
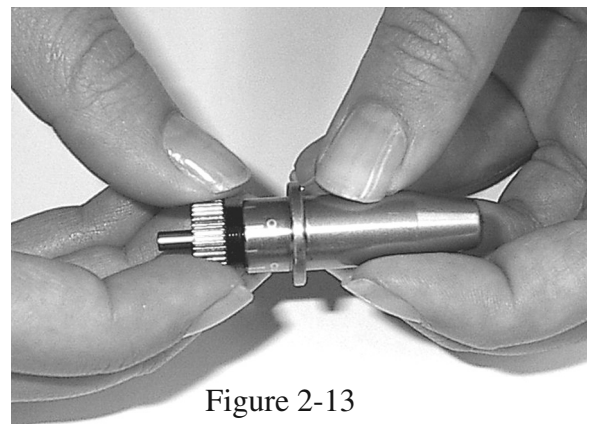
Step 4

Insert the blade holder into tool carriage. Please note the outward ring of the holder must be placed into the grooves of carriage firmly (see Figure 2-14), then fasten the case (Figure 2-15)
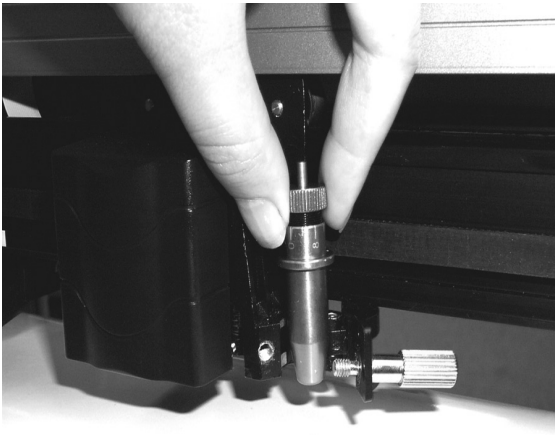
Figure 2-14
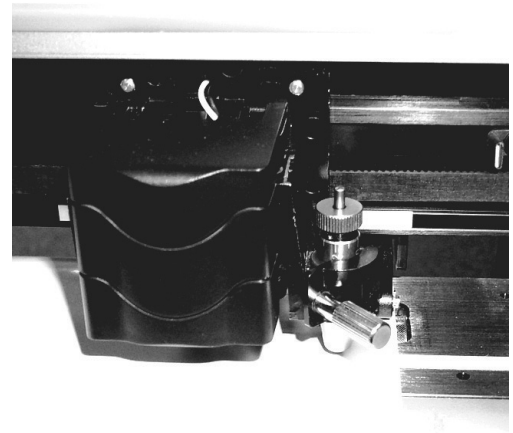
Figure 2-15

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, and the cutting quality might be affected. Increasing the cutting force, might do the trick. However, once the blade is worn out and no longer provides a reliable cutting, you should replace with a new blade. The blade is a consumable and must be replaced as often as necessary to maintain the cutting quality. The quality of the blade affects cutting quality. So be sure to use a high quality blade to ensure good cutting results.

3. Connecting Cutting Plotters

The cutting plotter communicates with a computer through a **USB (Universal Serial Bus), Parallel port (Centronics)** or a **Serial port (RS-232C)**. 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, both parallel port and serial port will be disabled automatically.

Figure 3-1

Lever

Serial Interface Connector

USB Port

Parallel Interface Connector
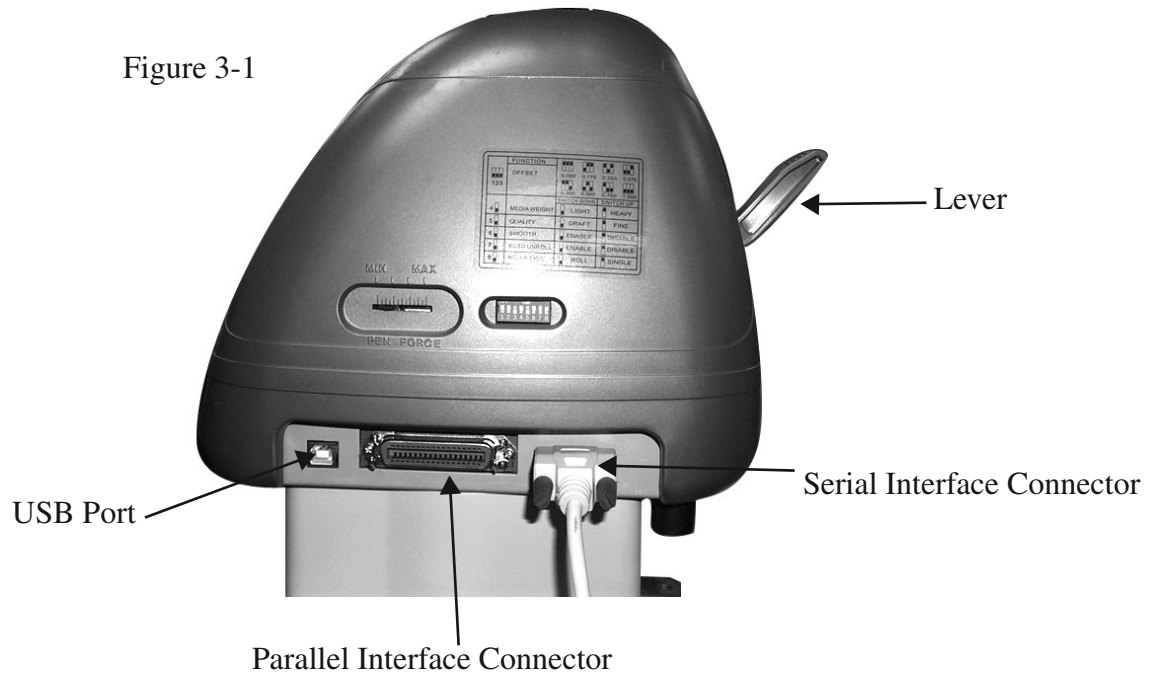
3.1   Parallel Transmission

Connecting to the Parallel Port (Centronics)

1.   Connect a parallel cable to the cutting plotter and the host computer (Figure 3-1)
2.   Set up the output port **LPT1** or **LPT2** from your software package

3.2   Serial Transmission

Connecting to the Serial Port (RS-232C)

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.

3. Connecting the Cutter   *3-1*

3.3 Transmitting the Data to Plotter

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

Option 1 - *Recommended*

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, therefore, Use DOS commands like **TYPE** or **PRINT** to output your file. As long as the file is **HP-GL** or **HP-GL/2** format, the cutting plotter can output the data precisely.

For example, a file with **PLT** extension generated by **SignLAB** can be transmitted directly to the plotter at the DOS prompt, and then be cut out. Before outputting at the DOS prompt, set up a transmission protocol between your cutting plotter and computer by a DOS command, MODE. Make sure that your PC has the same communication protocol as the cutter. For example:

MODE COM2: 9600, N, 8, 1, P

Then, use **TYPE** command to output via **COM2** if **COM2** is the assigned output port.

TYPE filename > COM2

> Tip:
> Add the MODE command line to your system's AUTOEXEC.BAT to automatically execute MODE command every time you want to output your data at the DOS prompt via serial connection. However, values in a MODE command should comply with the related requirements of your software. Refer to DOS manual for further information.

3.4 Interfaces for Macintosh Plus/SE/II

Note: Modern Macs need a USB to PIA cable to communicate with the Lynx cutter.

You must have a USB to PIA cable to successfully connect your Macintosh to a Lynx cutter.

3. Connecting the Cutter   *3-2*

3.5 USB Port

The USB port can only be used in conjunction with windows drivers. The windows drivers are available at http://techsupport.signwarehouse.com/HTML/Cutters/index.html

DISCLAIMER
This is a vinyl cutter! It is not intended to be used with windows drivers or as a printer. SignWarehouse.com does not recommend that you use these drivers.

Mac USB PIA Cable

Back of PC

PC Parallel Cable

PC Serial Cable

Monitor Connection

Parallel Port
(LPT 1)

Serial Port
(COM 1)

Back of laptop computer

Figure 3-3

3. Connecting the Cutter   3-3
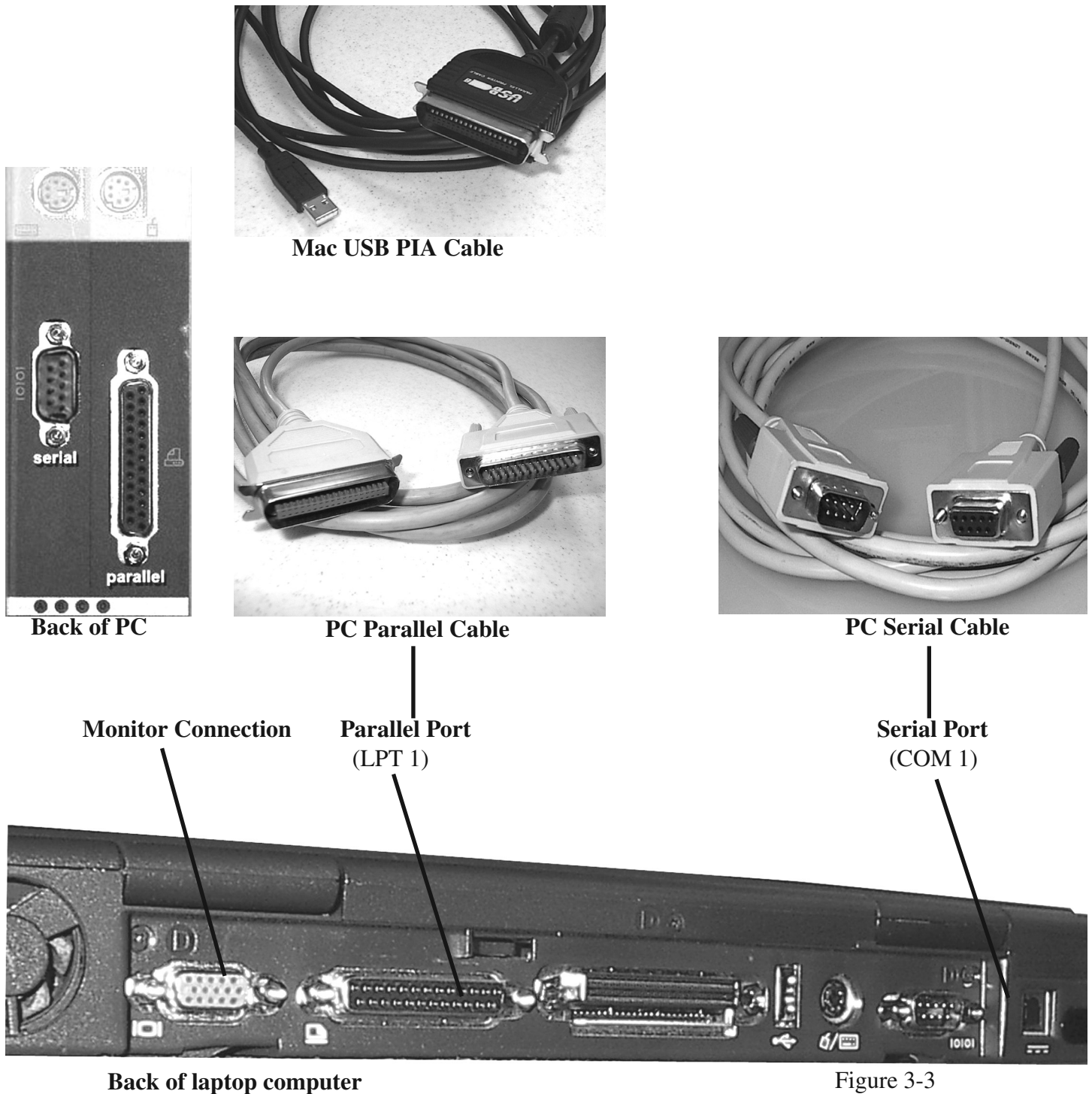
4. Basic Operation

4.1 Loading the Sheet Media

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

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 4-1).

Lever ——————

Figure 4-1
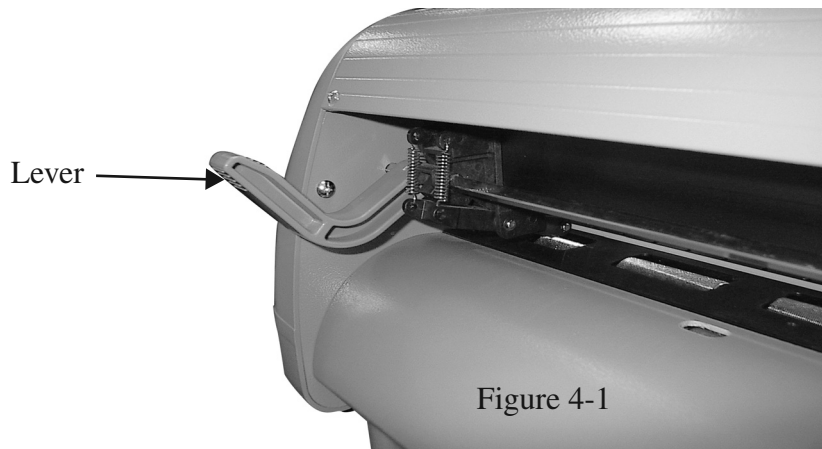
2.   Load your media on the platen and slide it under the pinch rollers from the backside. The **alignment rulers** on the platen extension will help you to adjust the media precisely.

> Note:
> The media must cover the paper sensors on the platen when loading the media. At least one of the two paper sensors (Figure 4-2) should be covered. Once the media covers the sensor, the cutting plotter will size the media's width and length automatically.

Front View Of Lynx   Figure 4-2   Back View Of Lynx

Paper Sensor

4. Basic Operation   *4-1*

3.	Move the pinch rollers manually to the proper position. The pinch rollers must be positioned above the grid drum. The white marks on the main beam will remind you where the grid drums are (Figure 4-3). The cutting head will not cut outside of the pinch rollers. The distance between the pinch rollers is your maximum cutting distance.

White Marks
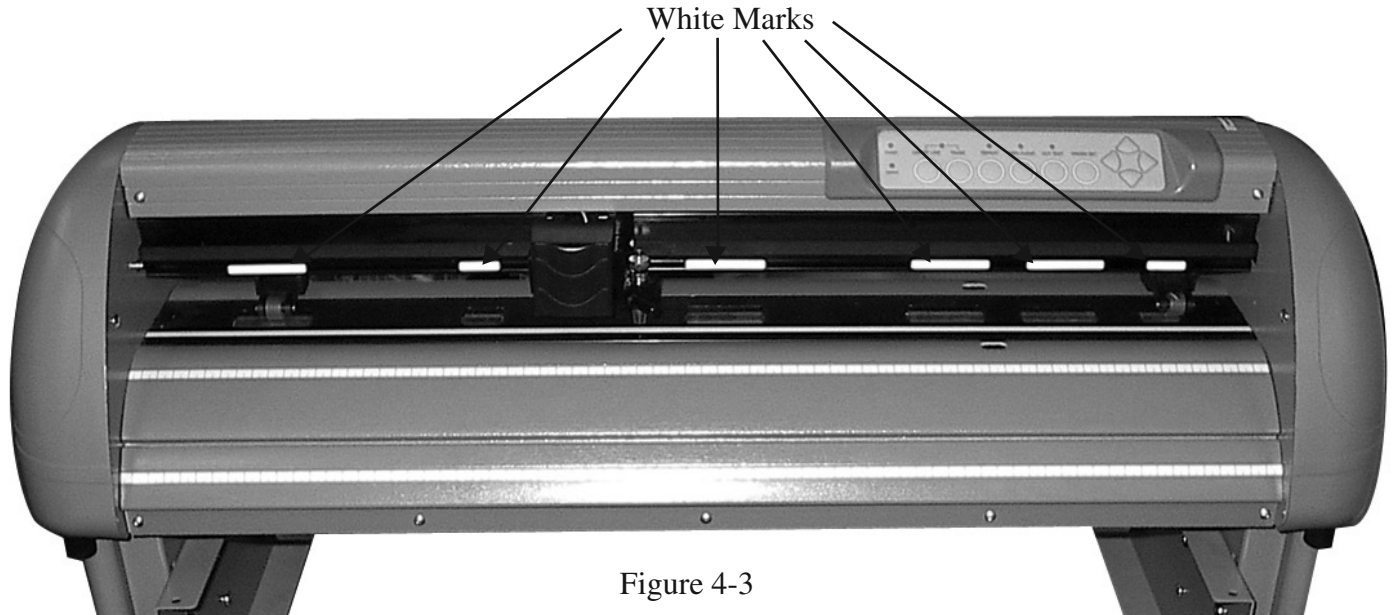
Figure 4-3

4.	Push the lever backward to lower down the pinch rollers.

5.	Turn on the power; the tool carriage will measure the size of the media automatically, and the plotting cutter will begin to work.

Note:
•	Move the pinch roller by applying force at the rear portion of the pinch roller support. Do not move it by holding its front rubber roller (Figure 4-4)

Figure 4-4

(O)   (X)

4. Basic Operation   *4-2*
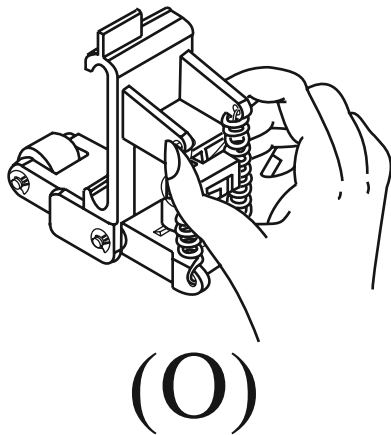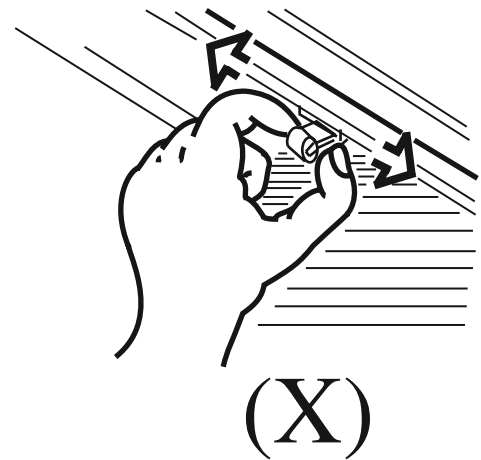
4.2 Loading the Roll Media

First, put the roll media guide bushes on two roll holders (Figure 4-5) but do not lock them down.

Roll Media Guide Bushes
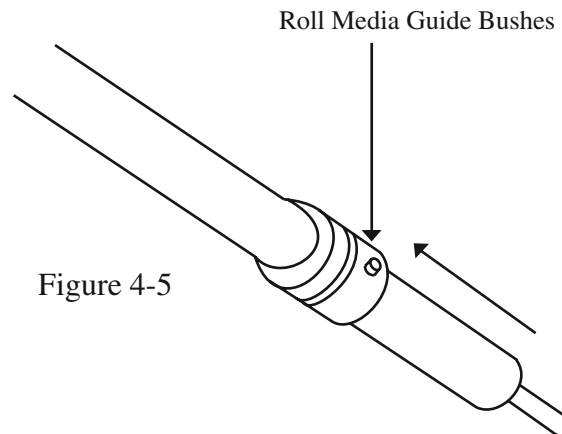
Figure 4-5

Option A (Recommended)

1)   Insert the two roll holders into the roll media support set then place the roll media directly between the two roll holders (Figure 4-6).
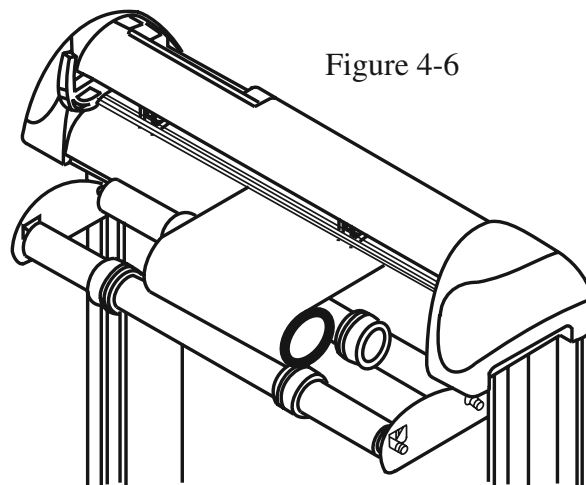
Figure 4-6

Option B (use the media flanges)

1)   Insert a roll media flange at the end of each roll media and tighten the thumbscrew until the roll media is firmly gripped (Figure 4-7).

Figure 4-7

4. Basic Operation   *4-3*
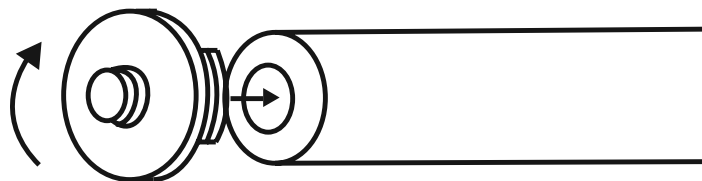
2)   Then put the roll media on the roll holders. Adjust the position of the roll media to ensure that media flanges are able to run in the grooves of media guide bushes (Figure 4-8). Make sure the roll is directly behind where the vinyl lines up on the front of the cutter. Then lock down roll media guide bushings.
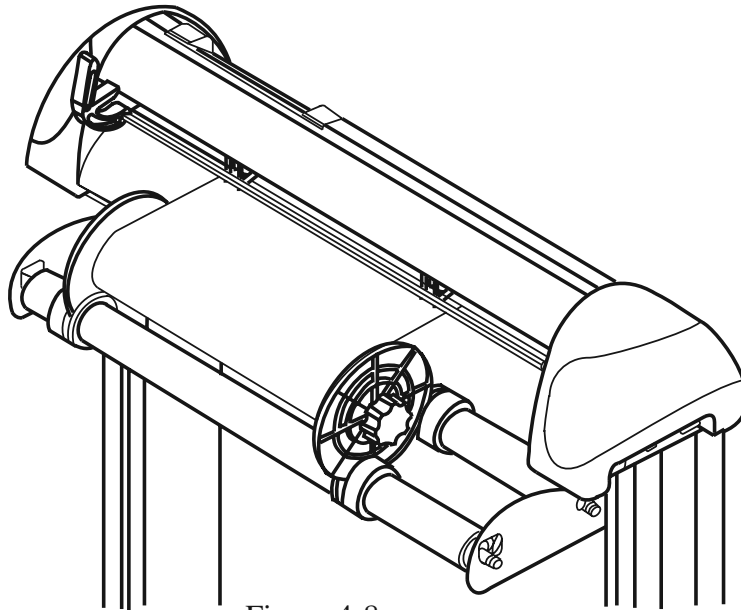
Figure 4-8

3)   Loading the media on the platen. Please refer to "2.4.1. Loading the sheet media." After loading the roll media, flatten the media on the platen and hold the front edge of the roll media firmly (Figure 4-9).

Figure 4-9

4. Basic Operation   *4-4*
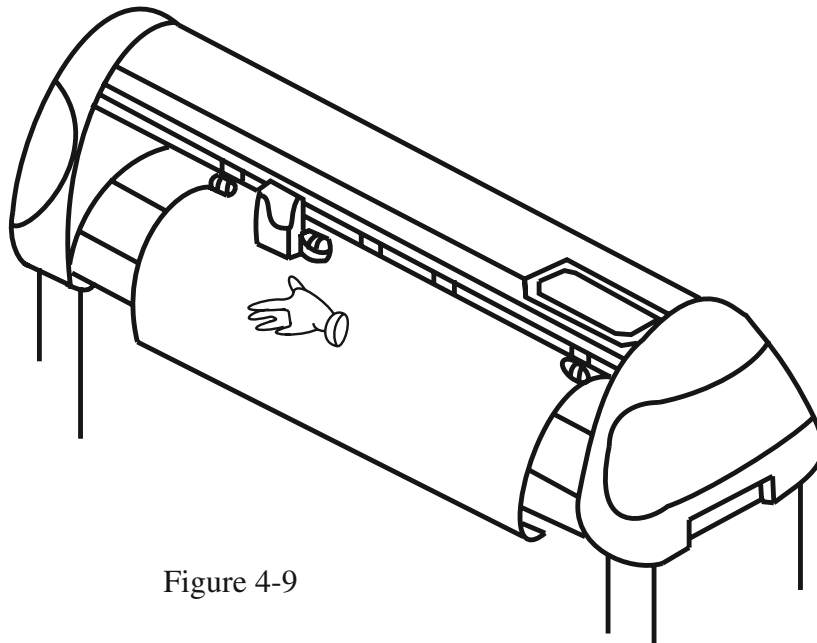
4) Then turn the roll downward to make an equal tension across the media (Figure 4-10)
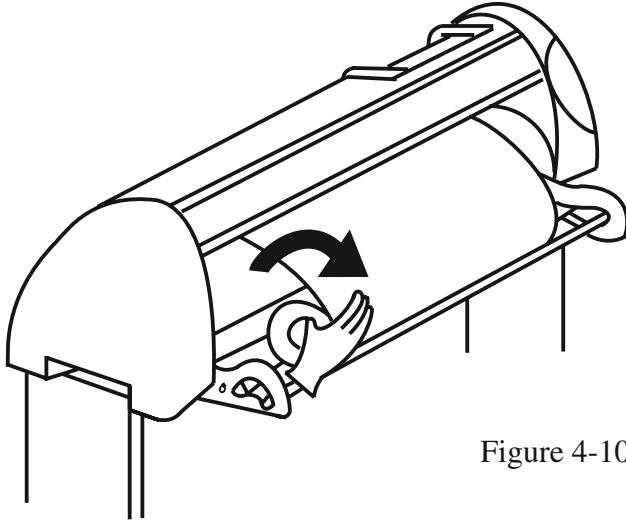
Figure 4-10

Move the pinch rollers to the correct location and be careful that the pinch rollers are positioned above the grid drums.

Push the lever backward to lower down the pinch rollers

5) Adjust and tighten roll media guide bushes on the roll holder to secure the roll media

6) Turn on the power switch, and then the tool carriage will size the media automatically. Then the cutting plotter is ready to work.

7) Use the reverse steps to remove the media.

Make sure that the media tension is equally distributed from left to right. If the media is not tight enough against the platen it will cause tracking problems.

You can also use the ROLL BASE to feed a roll media. Please adjust the position of roll base to get a good cutting result (Figure 4-11).

Figure 4-11

4. Basic Operation   4-5
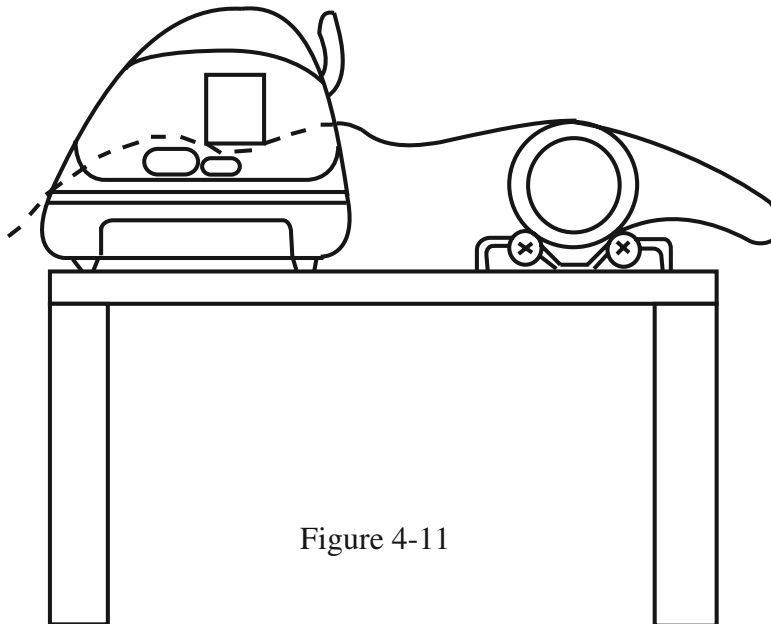
4.3 Control Panel
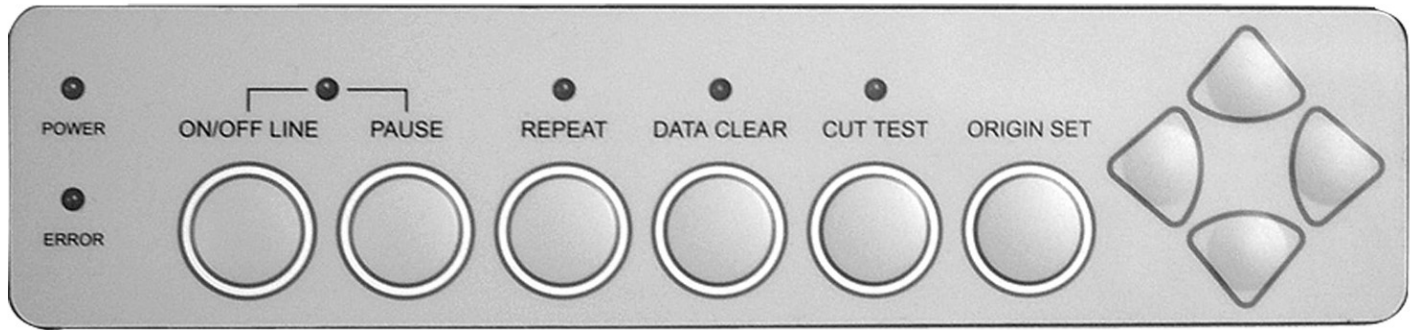
Figure 4-12

1. **ON/OFF LINE Key** – Used for communication between the cutting plotter and the host computer. When ON LINE condition, the LED above is on. Press the ON/OFF LINE LED again to turn off.

2. **PAUSE Key** – Pressing this key once can temporarily terminate the motion of the cutter, and the ON/OFF LINE LED flashes. Press ON/OFF LINE Key can release the paused state and resume cutting.

3. **REPEAT Key**- Press this button to repeat the last cutting and the REPEAT LED turns on.

4. **DATA CLEAR Key** - Press this key to clear the data in the buffer memory. At this moment the DATA CLEAR LED turns on.

5. **CUT TEST Key** - To test the set value before starting your cutting job. While doing the cut test, the CUT TEST LED is on.

6. **ORIGIN SET Key** – This key sets a new origin point for cutting to the current tool position.

7. **ARROW Key** – Used to move the media or the cutting carriage.

8. **POWER LED** – Turn on the power, the POWER LED on.

9. **ERROR LED** – When this LED is on or flashing indicates various problems or errors. To find the cause of the problems, see Chapter 5 "Troubleshooting".

Note: Steps 3 through 7 require the cutter to be OFFLINE.

4.4 Power On

STOP

- *Be sure not to put hands or anything else on the platen of the plotter when turning on the power. It may cause injury.*

- *Keep long hair away from the grid drum when power is on.*

Turn on the power switch on the left-hand side of the cutting plotter. The POWER LED will come on; the cutting plotter is ready to receive data from computer. Below is control panel lights when the different function keys are in normal conditions.

Function	Power	Error	On/Off Line	Repeat	Data Clear	Cut Test
on-line state	●	○	●	○	○	○
pause state	●	○	☼	○	○	○
off-line state	●	○	○	○	○	○
repeat	●	○	○	●	○	○
data clear	●	○	○	○	●	○
cut test	●	○	○	○	○	●
origin set	●	○	○	●	●	●

☼ = **flash** ● = **on** ○ = **off**

4.5 ON/OFF LINE Key

• On - line

When the machine is in the "**ON LINE**" condition, the **ON/OFF LINE LED** on, the cutting plotter is ready to receive data from the host computer. At this moment, only "**PAUSE**" and "**ON/OFF LINE**" keys are valid.

Change the setting value of dip switch
1. Press the **PAUSE** key to change the setting value during cutting.
2. Press the **ON/OFF LINE** key to continue cutting.

Terminate the cutting & clear the data in the buffer
Press the **ON/OFF LINE** key or press the **PAUSE** key
Then press the **DATA CLEAR** key

• Off - line

When the machine is "**OFF Line**", the **ON/OFF LINE LED** is turned off. At this moment, you can change the dip switch setting and do a cutting test and set the new origin as well. Pressing the key again will let the cutting plotter switch to the "**ON LINE**" condition, and will resume the suspended operation. But there might be some data loss during this interruption.

4.6 PAUSE Key

The purpose of the "**PAUSE**" key is to temporarily terminate the motion of the cutter after it started cutting. At this moment, the **ON/OFF LINE LED** will flash; you can change the dip switch setting and the cutting force. It will resume cutting after pressing the **ON/OFF LINE** key to make the machine in on-line status.

> **Note:**
> The parameters of dip switch in effect can not be changed while the cutting has started unless pressing the "**PAUSE**" key. When press the "**PAUSE**" key, you can change the setting.

4.7 Repeat Key

Lynx can repeat your last cutting job at the same position by pressing the **REPEAT** key without setting a new origin. If you're using a thicker media, it is better to use this function to avoid damaging your blade.

Procedures:

1.   After cutting finishes, use the **ARROW** keys to move the tool carriage. Move to your desired position for repeating the cutting job, and then press the **ORIGIN SET** key. The **ORIGIN SET LED** lights, and new origin point is set.

2.   Press the **REPEAT** key to start re-cutting job, and the **REPEAT LED** lights.

4.8 DATA CLEAR Key

The purpose of the **DATA CLEAR** key is to clear the data in the buffer memory. The **DATA CLEAR** key only works when cutter is paused or offline. When use this function, the **DATA CLEAR LED** will light.

4.9 Origin Setting

Use the **ORIGIN SET** key to set a new origin at any position in the cutting area from where the tool carriage starts to work. Please note that a new origin setting must be made under the off-line condition.

Procedures:

1.   After loading the media and lowering down the level, use **ARROW** keys to move the carriage to the desired location for a new origin.

2.   Press **ORIGIN SET** key and the origin point is set. The **ORIGIN SET LED** lights.

4.10 Dip Switch Setting

To get a perfect cutting job, you have to choose the proper dip switch setting. The table below shows function of each dip switch. See the default setting values Figure 4-13.

Dip Switch	Function	Switch Down	Switch Up	Default Value
SW 1-3	Offset Value	(please refer to SW 1-3)		0.275 mm
SW-4	Media Weight	Light	Heavy	Light Media
SW-5	Quality	Draft	Fine	Draft
SW-6	Smooth	Enable	Disable	Enable
SW-7	Auto Unroll	Enable	Disable	Enable
SW-8	Media Type	Roll	Single	Roll
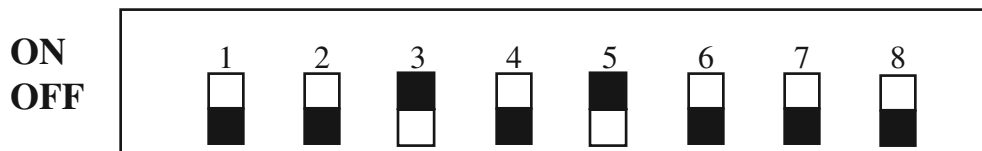
Figure 4-13

4.11 Adjust Offset Value

The square cut out should appear as one of the follow figure:
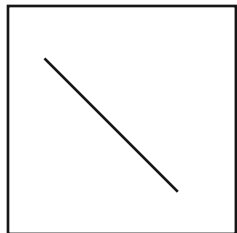
AA
Lower offset value
OR over-speed
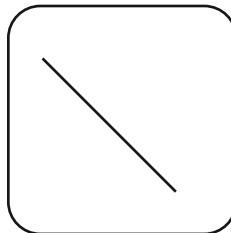
BB
Higher offset
value
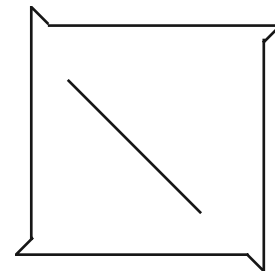
CC
offset value

If the square appears in BB or CC layout, Change the OFFSET by referring the dip switch part to adjust the value to the optimum result. *OFFSET* is the distance that the blade tip is displaced from the center-line of the blade.

4. Basic Operation   4-10

SW 1-3: OFFSET SETTING

The first three dip switches represent 8 different offset values as below:

| 0.000 | 0.175 | 0.250 | 0.275 | 0.300 | 0.500 | 0.750 | 1.000 |
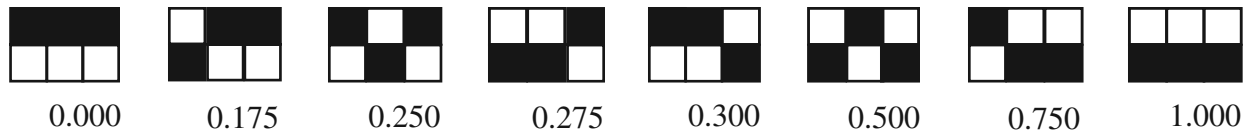
SW-4: MEDIA WEIGHT (SPEED)

The fourth dip switch from the left sets the upper limit for cutting speed. Heavy media has a smaller upper limit. The value of the cutting speed can be changed from the driver.

Heavy media is used so the upper limit for cutting speed is 300 mm, default is 30mm/s.

Light media is used so the upper limit for cutting speed is 600mm default is 330mm/s.
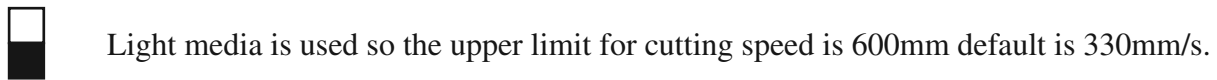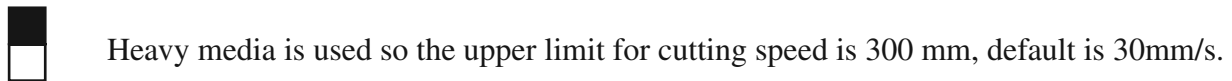
SW-5: QUALITY

There is a trade-off between Quality and Speed, the finer the cutting quality, the slower the cutting speed.

Fine quality
Draft quality
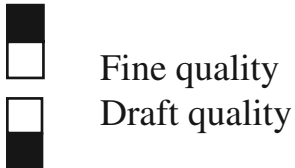
SW-6: SMOOTH

Make the curves smoother during cutting. When cutting small letters, it is recommend to disable the smoothing cut.

Disable the smoothing cut.
Enable the smoorhing cut.

4. Basic Operation   *4-11*
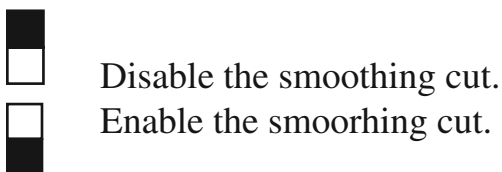
SW-7: AUTO UNROLL

Unroll heavy media at least 50 cm when the next point of movement is located beyond the unrolled position. If the media type is single, this function is disabled.
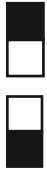
■
□   Disable the auto unroll
□   Enable the auto unroll
■

SW-8: MEDIA TYPE

Set the type of the media you are using. When using a piece or single sheet of media, set it to "ON"; and set it to "OFF" when using a roll media.

■
□   Single sheet of media is using.
□   A roll of media is using.
■

4.12   Tracking Performance

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

1.   If the media length is less than 4 m, leave the margin of 0.5 mm~15 mm in the left and right edges of the media (see Figure 2-14).

0.5mm - 15mm   0.5mm - 15mm

Pinch roller   Figure 4-14   Pinch roller

4. Basic Operation   *4-12*
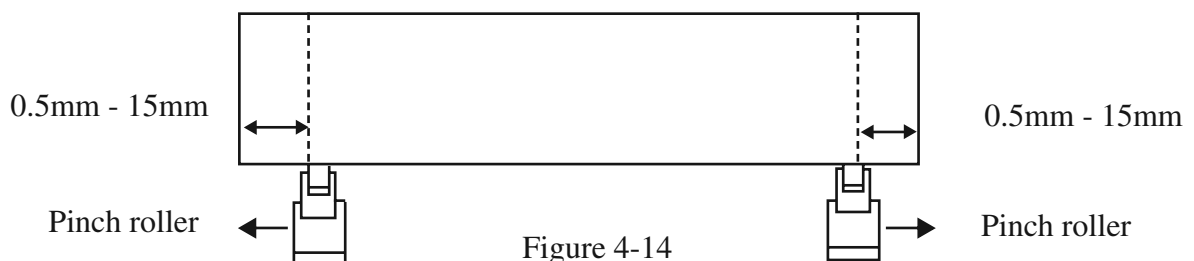
2.   If the media length is greater than 4 m, leave at least 25 mm margin on the left and right edges of the media (see Figure 4-15).

25 mm +

Pinch roller ←   → Pinch roller
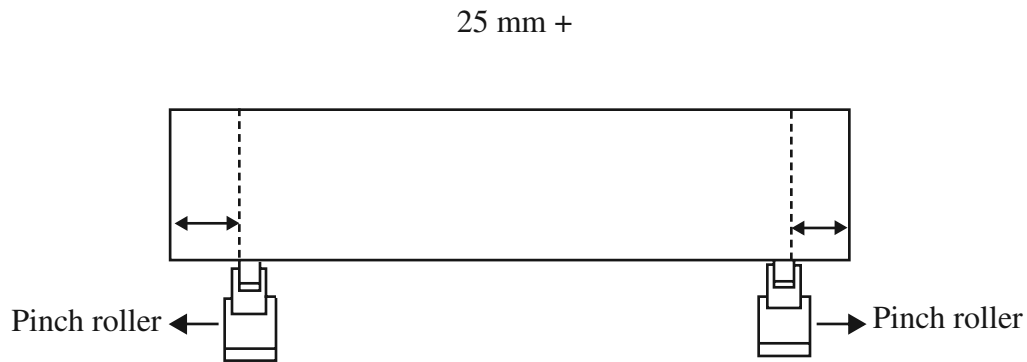
Figure 4-15

4.13 Cutting Test

In order to achieve the best cutting performance, it is necessary to set cutting conditions that match the cutting media, giving considerations to the thickness of the sheet and type of material. Lynx can perform a cutting test to determine the appropriate cutting force and offset value for your media and this can only work under the off-line condition. Once you finish the cutting test, the new origin is also set to the current tool carriage position.

Procedures:

1.   After sizing the media, press the **ON/OFF LINE** key to change the plotter status to off-line condition.

2.   Then use arrow keys to move the tool carriage to the position where you like your test to proceed.

3.   Press the **CUT TEST** key to do the cutting test. The **CUT TEST LED** turns on.

> Note:
> The new origin is also set at the cutting test position.

4. Basic Operation   *4-13*

4.14 Adjust Tool Force

When the cutting test is completed, a square cut out appears. Peel off the square to see if it can be easily separated from the media base. If yes, the tool force is appropriate. If not, use "**Pen Force Control Slider**" on the right-hand side of the plotter to adjust the tool force. First, move the control slider to the left-most indicator mark (min. blade force), then increase the blade force gradually by moving the slider, until an optimum force is obtained.

If you're still unsatisfied with the cutting results after adjusting the blade force, then you should adjust the offset value. After changing the offset value, perform the cutting test again and adjust the blade force.

4.15 When Completing the Cutting Job

After completing the cutting, raise the sheet loading lever, then remove the material. You can also cut off the extra media with the cutter tool along the knife guide (Figure 4-16).
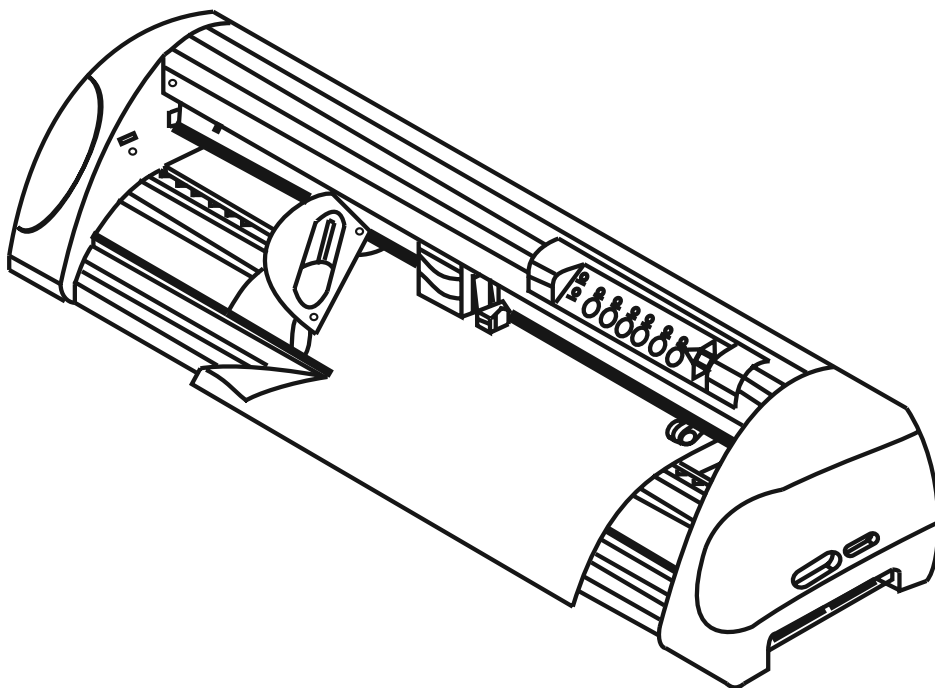
Figure 4-16

5. Care & Basic Maintenance

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

5.1   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.

Cleaning Precaution !

- Unplug the cutting plotter before cleaning 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, 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 beneath the pinch roller housing.

- Clean the platen, paper sensors and pinch rollers with a damp cloth or an alcohol-immersed cloth, 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
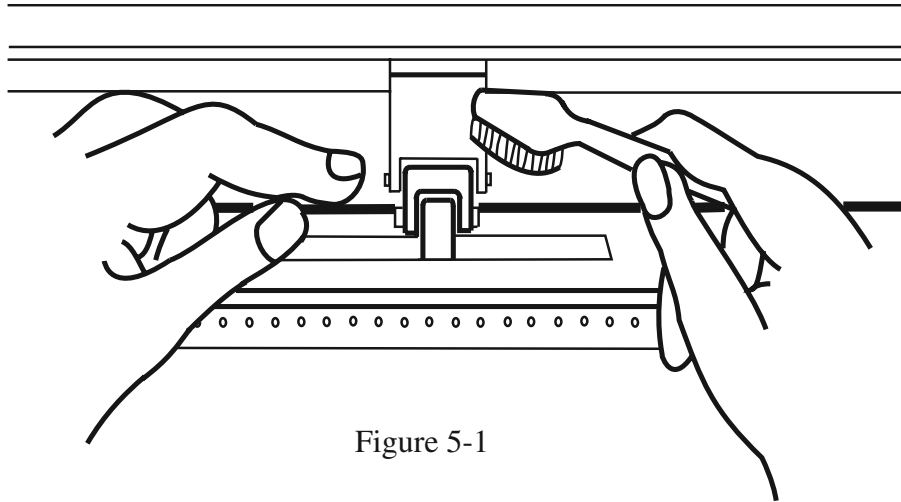
Figure 5-1

5.3 Cleaning the Pinch Rollers

1.   If the pinch rollers 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 finger to hold the pinch rollers still.

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

5. Care & Basic Maintenance   5-2

6. Trouble Shooting

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 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?

6.1   If the cutter does not operate?

If your Lynx doesn't run, please check the following items first:

> Is the AC power cord plugged in properly?
> Is the AC power cord connected to the power connector properly?
> Is the power on?

Solutions:

If the **POWER LED** lights on, 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 exists.

If the **POWER LED** doesn't light, contact the technician from your dealer.

6.2 Light Indicators

Certain problems are identified by the control panel lights. If your cutting plotter stops operating or the lights are on or flashing unexpectedly, check the following descriptions of panel light patterns and the corrective actions you should take.

6.3 Warning Indicators

When the ERROR LED flashes (as show below), take the necessary action according to respective instruction below. If the problems are solved, the ERROR LED will turn off automatically. Press ON/OFF LINE key once can also turn off the ERROR LED.

	Warning Indicators	Error	On/Off Line	Repeat	Data Clear	Cut Test
1	Graph was clipped	flash	●	●	○	○
2	HPGL/2 command error	flash	●	○	●	○
3	Lever up or no media	flash	●	○	○	○
4	Cannot repeat	flash	○	●	○	○
5	Communication error	flash	○	○	●	○
6	Width sensor error	flash	○	○	○	●

⚡ = flash   ● = on   ○ = off

Warning 1 The graph is clipped

This condition indicates that the cutting graph exceeds the cutting limit. You can solve the problem by 1. Reload the larger media 2. Move the pinch roller to have larger cutting width 3. Re-scale the plot to a smaller size. Then send the cutting job again from your computer.

Warning 2 HPGL/2 command error
If your cutting plotter can not recognize the commands from your computer, please check that the commands applied to your cutting plotter are used properly. Be sure it is the HP-GL/2 or HPGL command. Then send the same cutting job to the plotter again, if it shows the same result, please contact your dealer.

Warning 3 Lever up or no media

Check the lever position and be sure to put the media in the cutting plotter before cutting.

Warning 4 Cannot repeat cutting

This condition happens for two reasons: the buffer holds no data or the buffer is full. For the former condition, please send a new graph from the computer; for the latter condition, please repeat the same cutting job from the computer. In both conditions, press ON/OFF LINE key to clear the message.

Warning 5 Communication error

Check if the connection cable is connected to the cutting plotter and computer properly. If yes, then check if the interface setting is correct, make sure your PC has the same communication protocol as the cutter – 9600 bps, no parity, 8 bits, 1 stop bit, and none for hand shaking. If you have done the above, try the communication between your cutting plotter and computer again. Press ON/OFF Line key to force the cutter to on line condition.

Warning 6 Width sensor error

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

6.4 Error Indicators

If mechanical problems or failure during operations happen, the ERROR LED will turn on. Please follow the instruction below to solve the problem. If the plotter still cannot work, please inform your dealer of these types of error indicators or have your plotter serviced.

	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.
At this moment, please contact your dealer.

Error 3. Check media 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 4. 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.

6.5 Cutting Quality Problems

Is the blade installed correctly and the blade holder fastened securely?

Yes

No

Is the blade dull or chipped?

Refer to the "Blade Installation".

Yes

No

Replace with a new blade.

Is tool force set up properly?

Yes

No

Is the tool offset set up properly?

Adjust the tool force to obtain an optimum blade force. Refer to 2.13 "**CUTTING TEST**"

Yes

No

Is there any dirt adhered to the blade?

Adjust the blade offset to obtain an optimum value.

Yes

No

Remove the blade and blade holder and clean them.

Please contact your dealer for technician support.

Quick Menu

1. Power ON (the POWER LED lights on)

2. **Place the media and pull the lever to lower down the pinch rollers** (make sure the pinch rollers are positioned above the grid drums, that is, within the white marks).

3. **The cutting plotter will size the media automatically according to the setting of the dip switch on the right side of the cutter** (usually the presetting is ROLL media type).

4. **Off-line condition**- Plotter is not ready to receive data from computer. Press ON/OFF LINE key, the LED above is off.

5. **On-line condition**- Plotter is ready to receive data from computer. Press ON/OFF LINE , the LED above lights.

6. **Change the setting value during cutting** - Press PAUSE key, the LED above flashes. To continue cutting press ON/OFF LINE .

7. **Terminate the cutting and clear the data in the buffer.** - Press ON/OFF LINE or PAUSE and then press DATA CLEAR .

Important Information

Thanks for purchasing a Lynx cutting plotter. To optimize the performance of your Lynx, please take the time to read through the user manual completely and follow up the correct operation procedure. Hope you will enjoy using your cutting plotter.
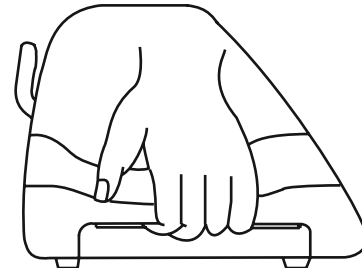

SAFETY PRECAUTIONS!

Caution

• For safety concern, please always hold the cutter firmly from the bottom when moving it. Do not move the cutter by clasping the depression area on both sides.
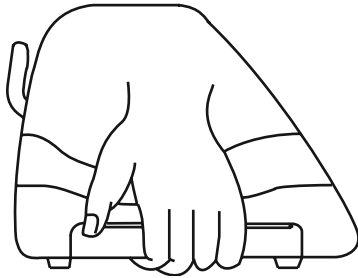
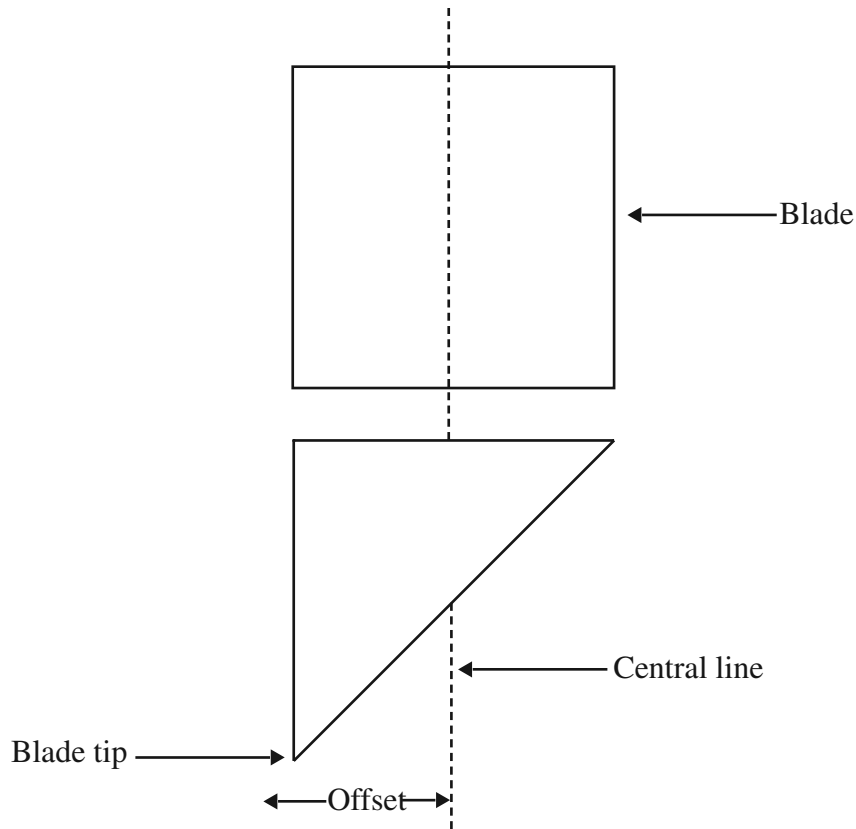O (Correct)
Hold from the bottom

X (Incorrect)
Hold the depression area

- Do not shake or drop the blade holder, blade tip can fly out.
- During operation, do not touch any of the moving parts of this machine (such as the carriage). Also be careful that clothing and hair do not become caught.
- Always connect the power cable to a grounded outlet.
- Always use the accessory power cable that 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 out of the reach of children.
- Always position the pinch rollers beneath the white marks.

A. Important Information   *II*

About the Tool

OFFSET is the distance that the blade tip is displaced from the center-line of the blade.

Blade

Central line

Blade tip

Offset

Protrusion Length of the Blade

Protrusion length
of the blade

Thickness of the
film (t1)

Thickness of the
base paper (t2)
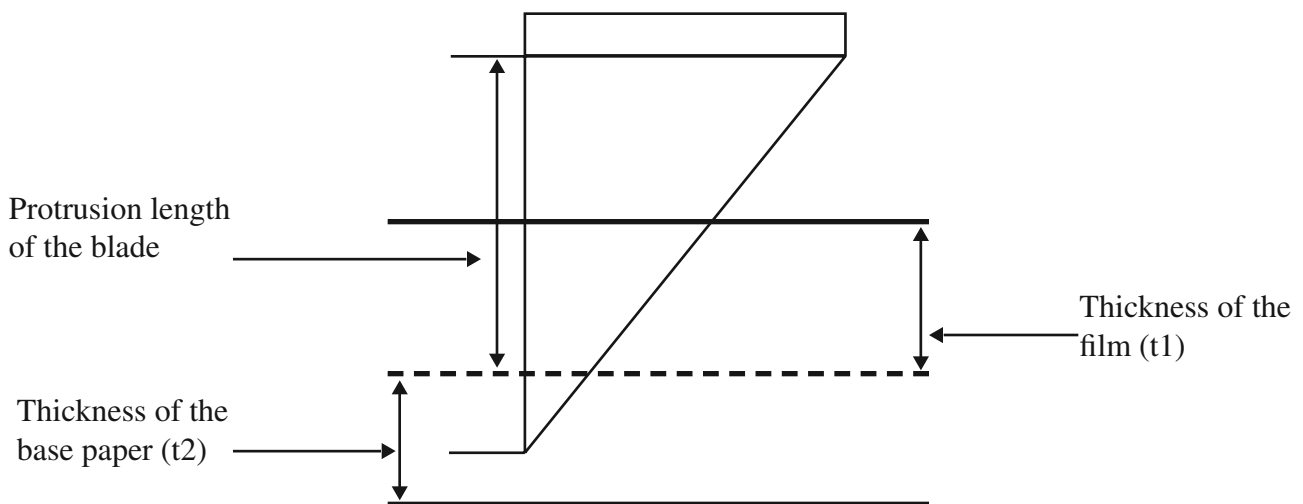
Length of protrusion = t1 + t 2/ 2, but for your convenience you may just make it about 0.3~ 0.5 mm beyond the blade holder tip.

Lynx Series Optional Accessories

The following items are available for Lynx series:

Item	Part No.	Description	US Price
Vinyl Express Blade (Fits all Vinyl Express cutters)	PLTB-ROLAND-30	30°	US $14.00
	PLTB-ROLAND-45	45°	US $11.00
	PLTB-ROLAND-60	60°	US $11.00

Item	Part No.	Description	US Price
Blade Holder	P-BK02019A	1 oz	US $75.00

Item	Part No.	Description	US Price
GRC-61/60/Lynx Cutting Pad 24"	PLTA-ZZ700B-61	1 oz	US $12.00
GRC-Lynx Cutting Pad 12"	PLTA-ZZ800B-S30	1 oz	US $10.00

Equipment Specification

Specification: Lynx S-60, S-30

Model Name/ No.	LYNX S-60 24" cutter	LYNX S-30 12"cutter
Operational Method	Roller-Type	
Max. Cutting Width	590mm (23.23in)	280mm (11.02in)
Max. Media Loading Width	719mm (28.3in)	459mm (18.07in)
Min. Media Loading Width	50 mm	
Acceptable Material Thickness	0.8mm (0.03 in)	
Number of Pinch Rollers	2	
Drive	DC Servo Control	
Cutting Force	0~300 g	
Max. Cutting Speed	Up to 600 mm/sec (23.62 ips)	
Offset	0~1.0 mm	
Mechanical Resolution	0.009 mm	
Software Resolution	0.025 mm	
Distance Accuracy	0.254 mm or 0.1 % of move, whichever is greater	
Repeatability	$\pm$ 0.1 mm up to 3 meters (*certified media)	
Buffer Size	4 MB	
Interfaces	Parallel (Centronics) & Serial (RS-232C)	
Commands	HP-GL, HP-GL/2	
Configurable Origin	Yes	
Vector Look Ahead	Yes	
Curve & Arc Smoothing	Yes	
Test Cut Possibility	Yes	
Repeat Function	Yes	
Control Panel	10 Control Keys, 6 LED	
Dimension (HxWxD) mm (HxWxD) in	220 x 879 x 258 8.67 x 34.61 x 10.16 lb	220 x 619 x 258 8.67x 24.37 x 10.16 in
Net Weight (kg)	13 kg/ 28.6 lb	10.2 kg/ 22.4 lb
Power Supply	115V/230V (manual switch)	
Environment Temperature	0ºC~55ºC / 32ºF~131ºF (operating) -40ºC~75ºF~167ºF (storage)	
Environment Humidity	30% ~ 70% relative humidity (operating)	

*This specification is subject to change without prior notice.