ARGOX
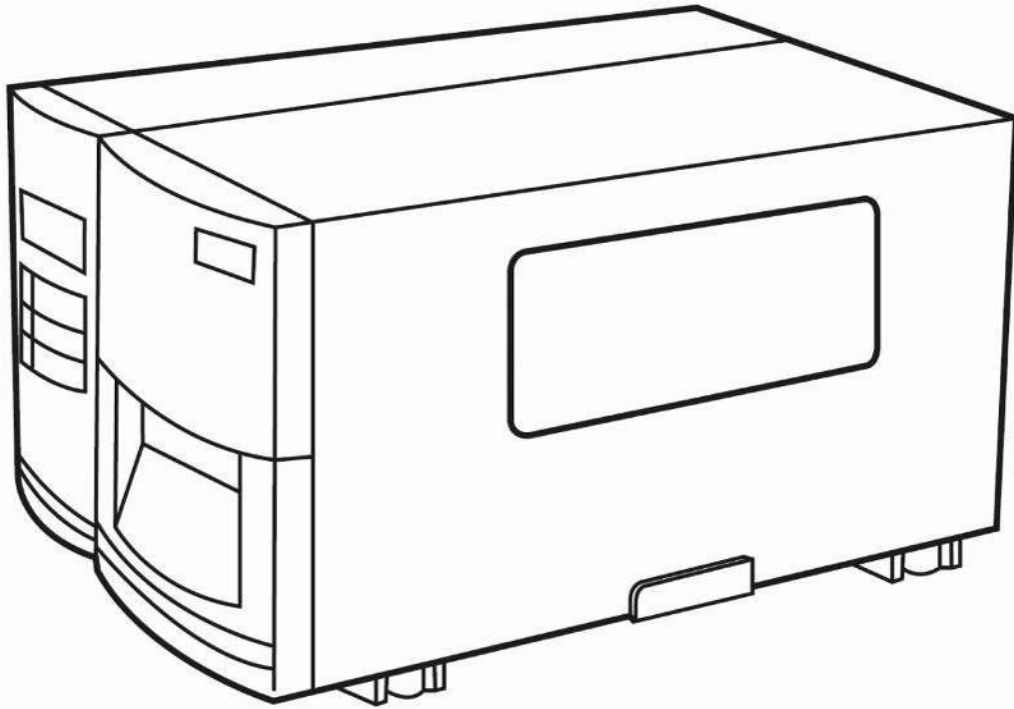## Empower the Barcode

X-1000VL / X-2000V / X-2000V Zip
X-2300 / X-2300Z
X-2300E / X-2300ZE
X-3200 / X-3200Z
X-3200E / X-3200ZE

Xellent Series Industrial Barcode Printer
User's Manual

Argox website: http://www.argox.com

I

Table of Contents

IV

1. Getting Started

Congratulations on choosing the Argox Xellent Series (X-Series) industrial barcode printer. This user's manual describing the Xellent Series printer models, will help you get to know your new printer. The manual includes a guide to operate the printer as well as related information on troubleshooting, maintenance, and technical reference. Illustrations are provided to help you quickly become familiar with the printer.

Proprietary Statement

This manual contains proprietary information of Argox Information Co., Ltd. It is intended solely for the information and use of parties operating and maintaining the equipment described herein. Such proprietary information may not be used, reproduced, or disclosed to any other parties for any other purpose without the expressed written permission of Argox Information Co., Ltd.

CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Unpacking

After receiving your printer, please check for possible shipping damage:

1. Inspect the outside of both the box and the printer for

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possible damage.

2. Open the top cover of the printer to see if the media compartments are in order.

Note: If damage has occurred, contact your shipping company immediately to file a claim.

3. Check whether you have received the following accessories together with the printer. If there are any items missing, please contact your local dealer.

Printer

Quick
Guide

Power Cord

USB Cable
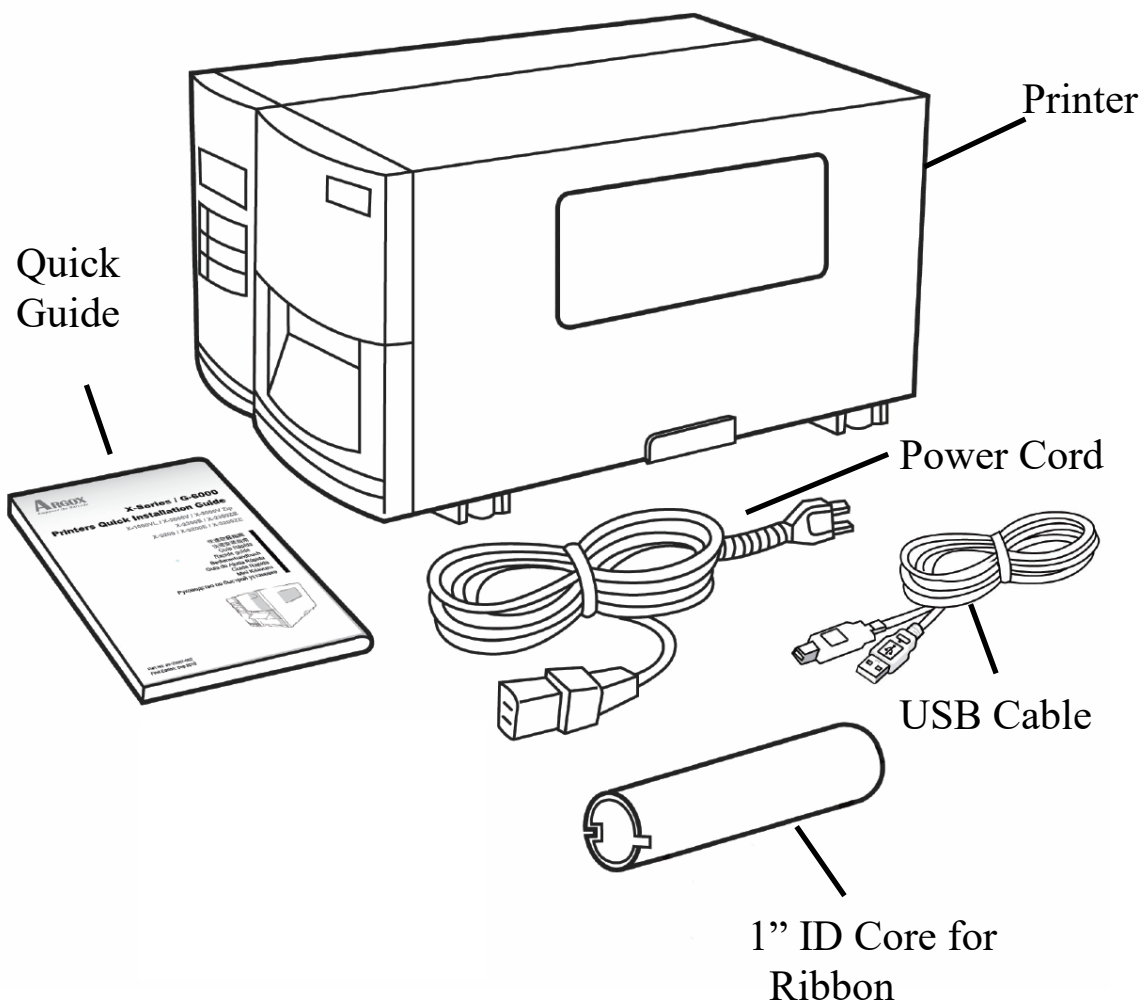
1" ID Core for
Ribbon

Package Contents

- Printer
- Quick Guide

- Power Cord
- Core for Ribbon
- USB Cable

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Connecting the Power Cord

Before setting up and connecting the printer you should consider the following.

WARNING!   Do not operate the printer in an area where it might get wet.

- Find a solid flat surface with adequate room for the printer and enough space above for media and ribbon access.
- Place the printer within cable distance of the host and printer (serial or parallel cable.)
- Isolate the power cord from other electrical cables.

Connect the power cord as below.

9
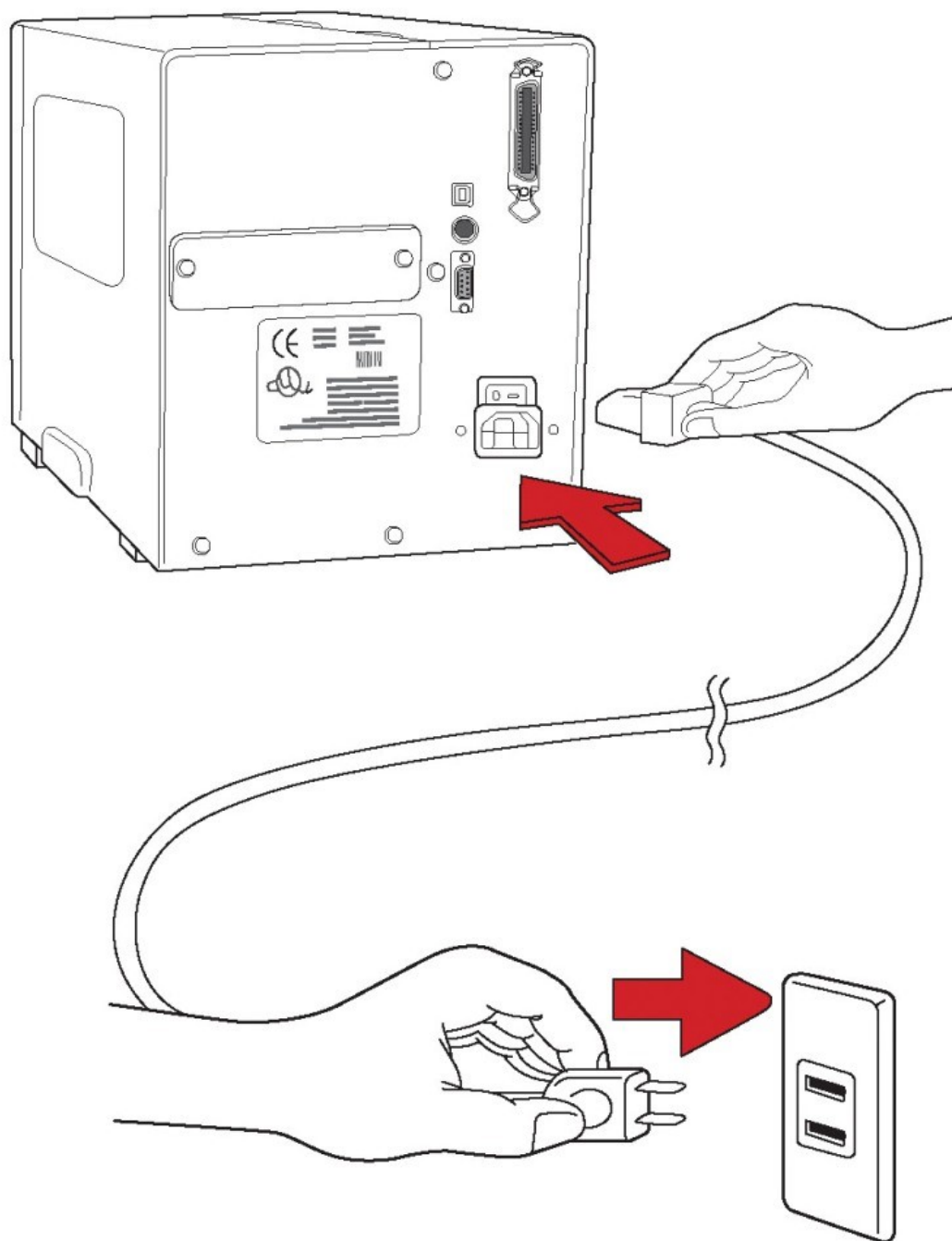
Internal Parts and Features

Ribbon Pick-up Spindle   Ribbon Supply Spindle

Media Supply Spindle

Feed Slot

Bracket
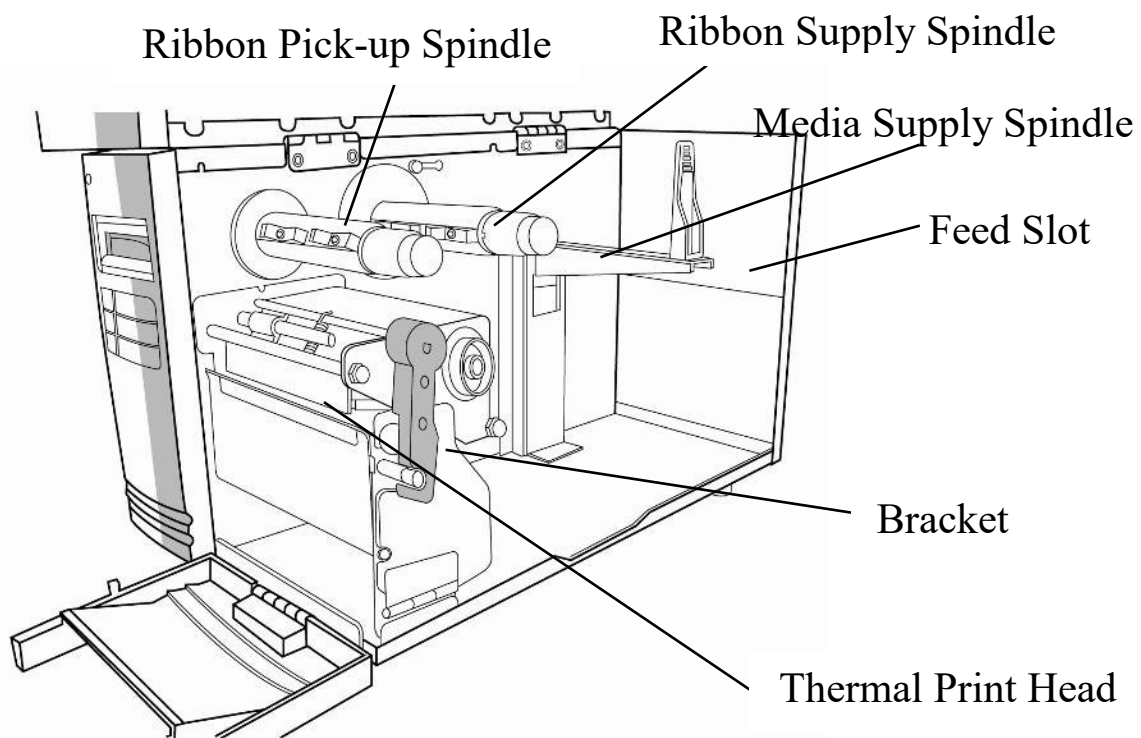
Thermal Print Head

Thermal Print Head

Head Latch

Paper Sensor Guide

Paper Roller

Standard Mode

11
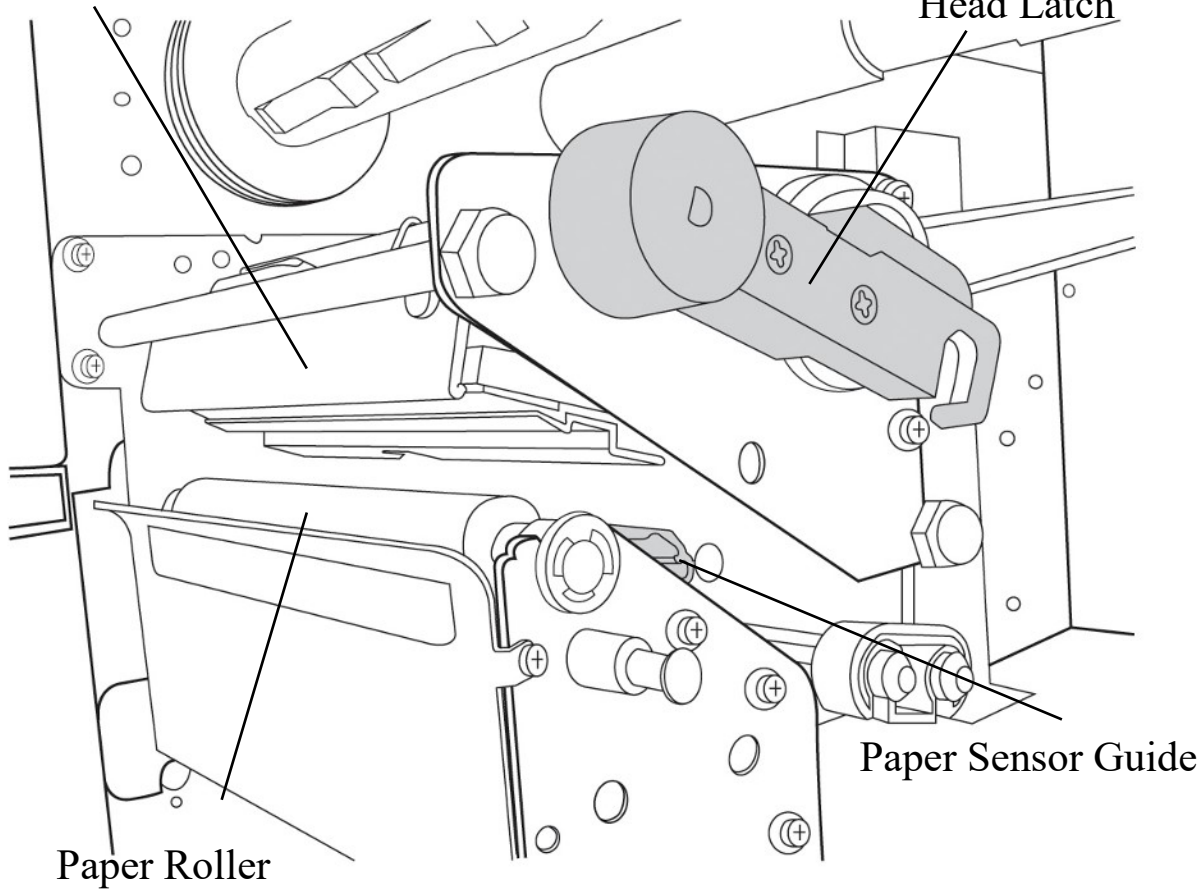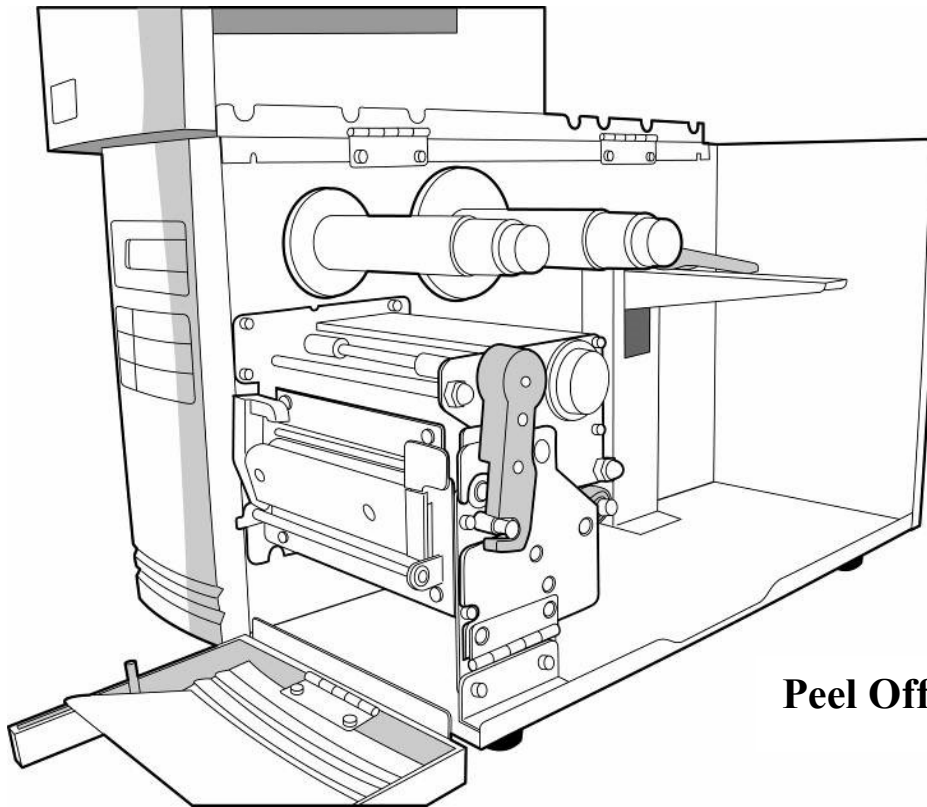
Peel Off Mode

Cutter Mode

12
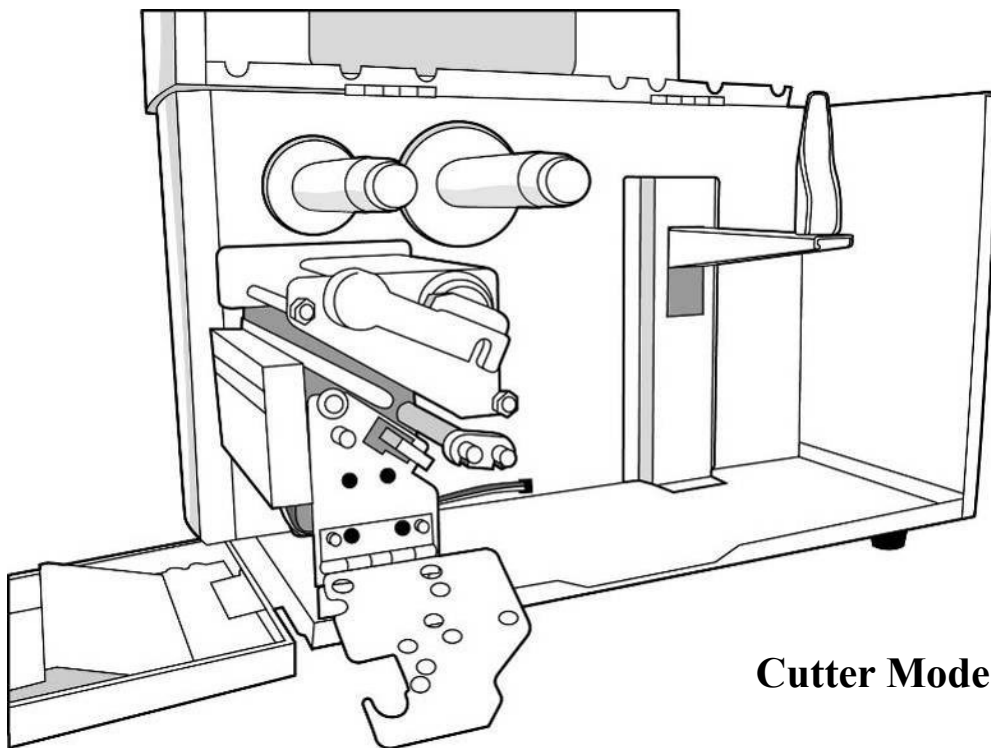
Loading Ribbon

Note: Thermal Transfer printing requires media to print with appropriate ribbon. This section can be referred to, for X-Series to use transfer thermal printing. The sample steps below are based on ribbon wound ink-side in as an example. (X series printers use ribbon wound ink-side in as default. To change setting to ribbon would ink-side out, refer to Section - Switching Ribbon Wound Ink-side out or Ink-side in)

1. Lift the top cover and front access door to expose the media compartment. (Figure 1)
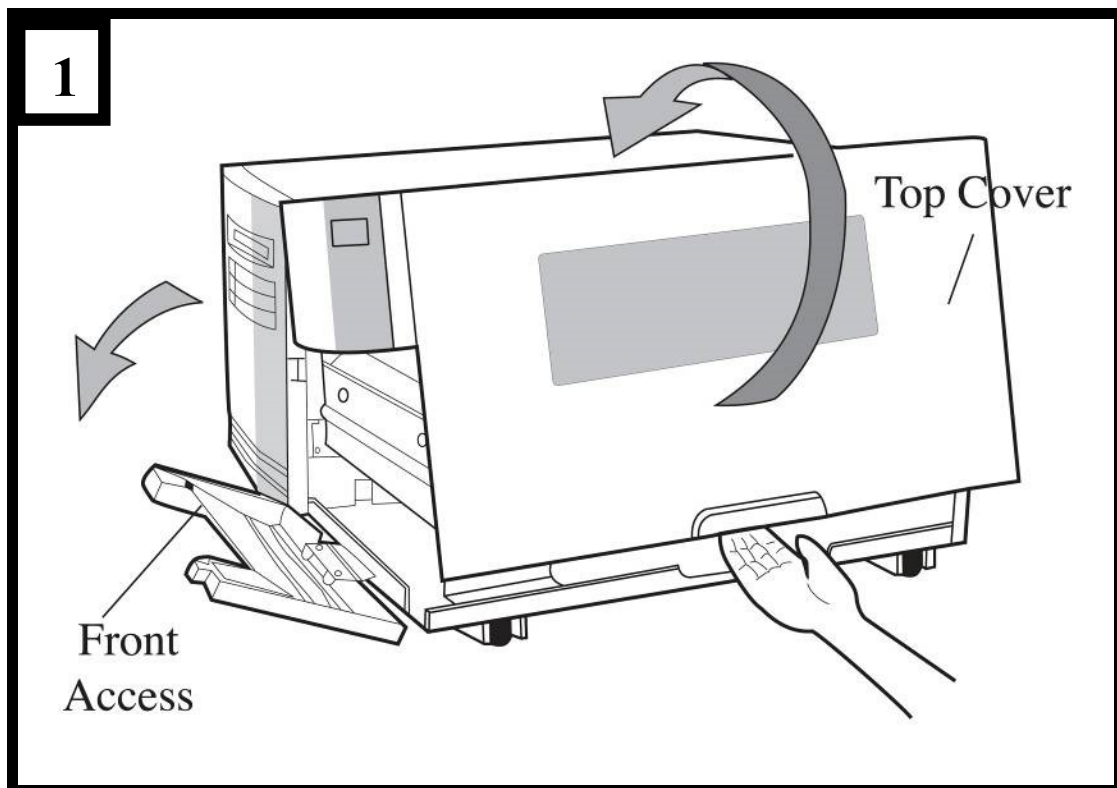
2. Turn the head latch counter-clockwise and open the bracket. (Figure 2)

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2

Head
Latch

Bracket
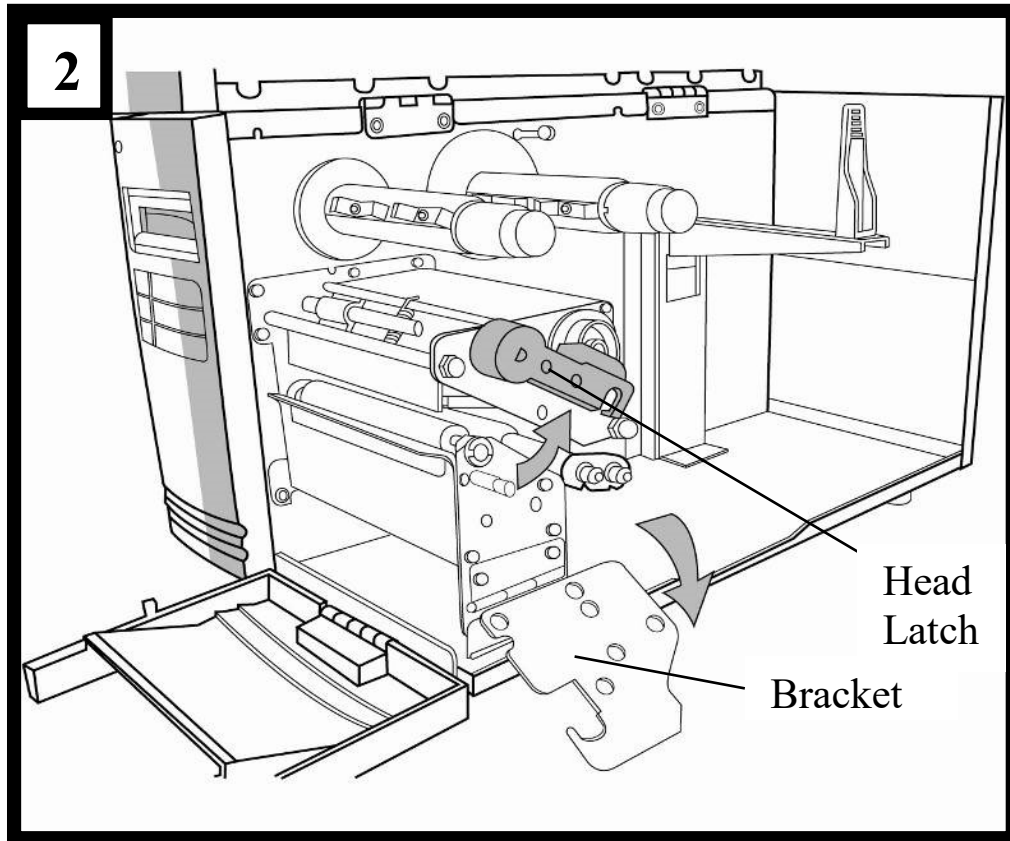
3. Unwrap the ribbon and separate the ribbon roll from the bare core. Insert the ribbon roll onto the ribbon supply spindle. (Figure 3)

3

Ribbon Supply
Spindle
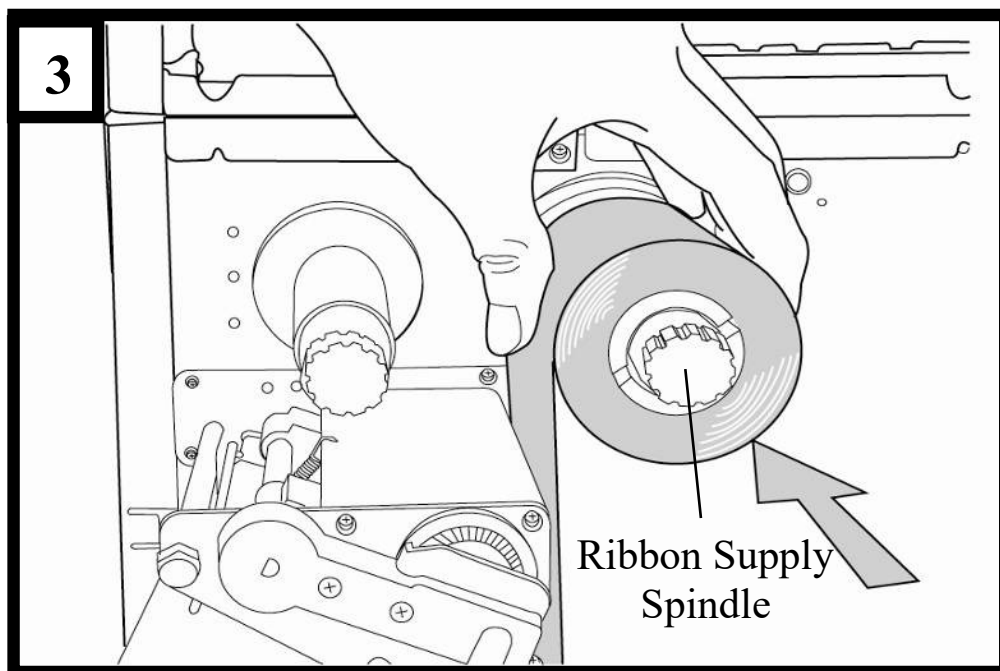
4. Lead the ribbon through the print head module. (Figure 4)

5. Attach the edge of the ribbon onto the bare core and wind it a bit onto the core. Make sure the coating side of the ribbon is face down.

15
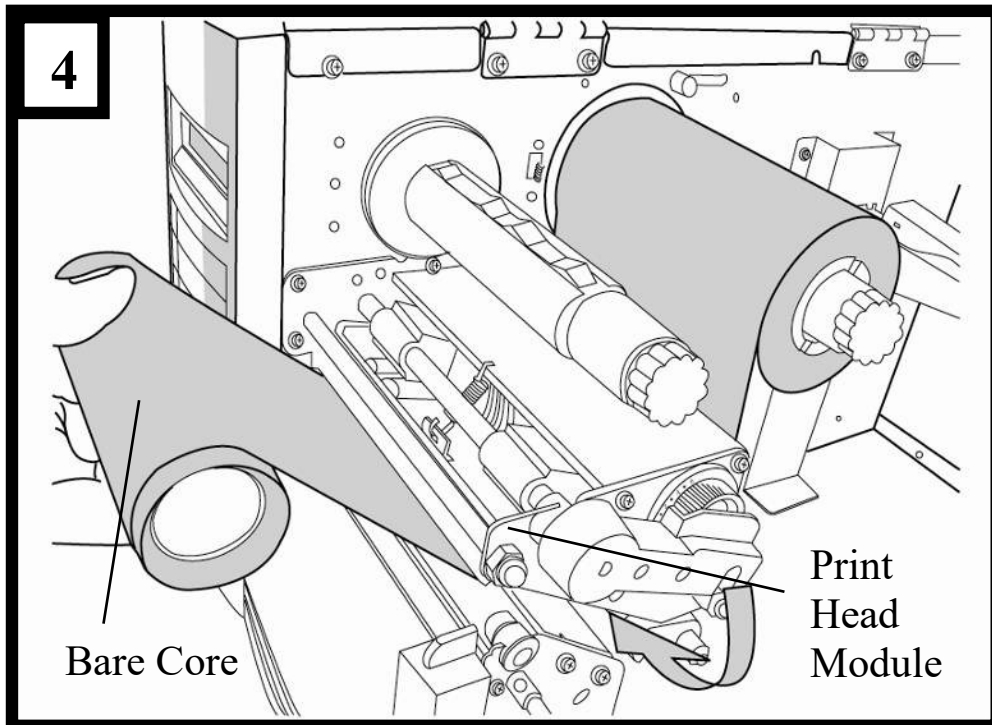
6. Insert the core onto the ribbon pick-up spindle. (Figure 5)

Ribbon
Pick-up
Spindle
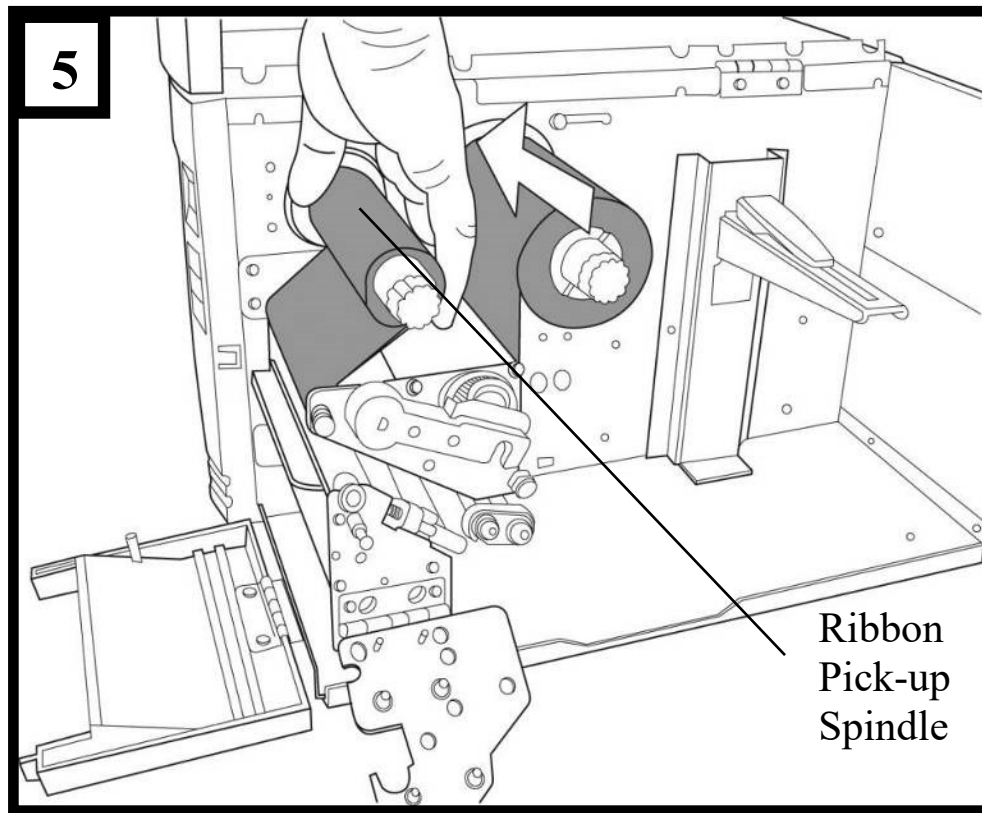
7. Turn the pick-up spindle to ensure the ribbon is tightly wound.

Switching Ribbon Wound Ink-side in or Ink-side out

The printer is produced to suit flexible applications, no matter with ribbon wound ink-side in (manufacturing default), or with ribbon wound ink-side out. The steps to switch for ribbon wound ink-side out are listed as follows:

1. Pull and move the <u>SHAFT RIBBON ADJ</u> to "Outside":
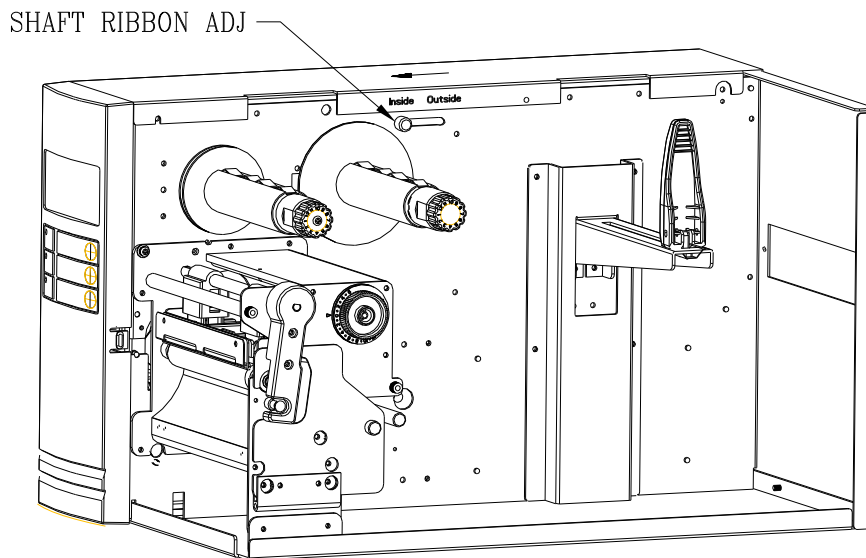
2. After the adjustment above, ribbon wound ink-side out can be used. Then install the ribbon:

Ribbon Rewind Spindle

Ribbon Roll(Coating Inside)
Ribbon Supply Spindle

Label Supply Spindle

Print Head Assembly

Inside Outside

Head Latch

Label Path
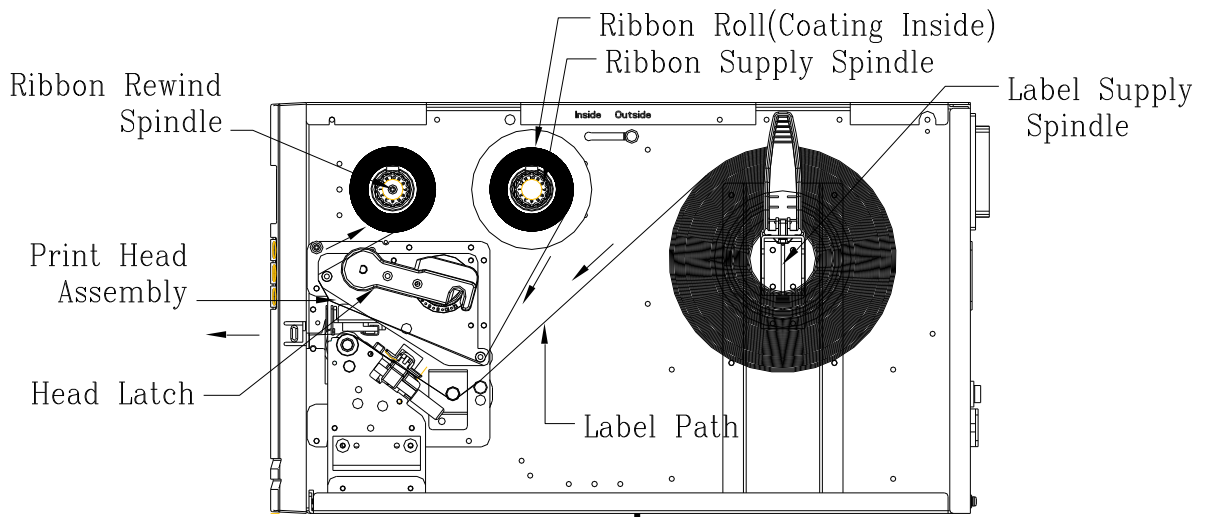
3. If ribbon wound ink-side in is in use, pull and move the <u>SHAFT RIBBON ADJ</u> to "Inside". Then install the ribbon:

SHAFT RIBBON ADJ

Inside Outside

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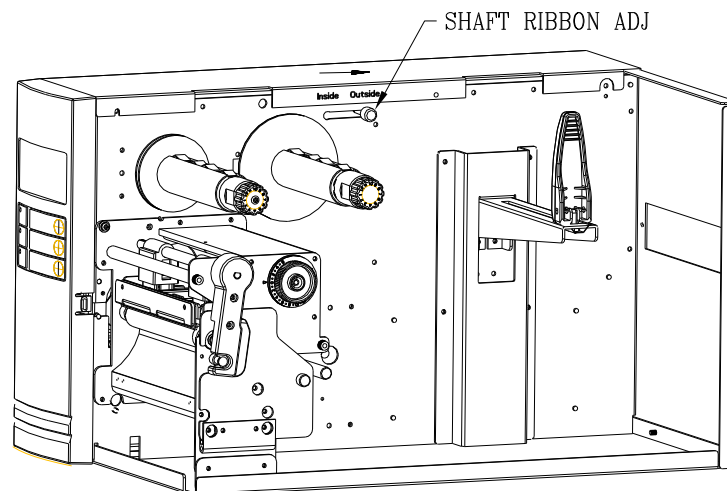
Loading Media

The X-Series printers offer three different loading modes: standard, peel-off, or with a cutter.

- **Standard mode** allows you to collect each label freely.
- **Peel-off mode** peels backing material away from the label as it prints. After the label is removed, the next label prints.
- **Cutter mode** automatically cuts the label after it prints.

Note:

Thermal Transfer Media Loading Instructions

— Outside Ribbon
- - - Inside Ribbon

Media thickness < 0.0079 in. (0.2mm)
Media thickness ≥ 0.0079 in. (0.2mm)

Label must face up.

Inside Ribbon ○ Outside Ribbon
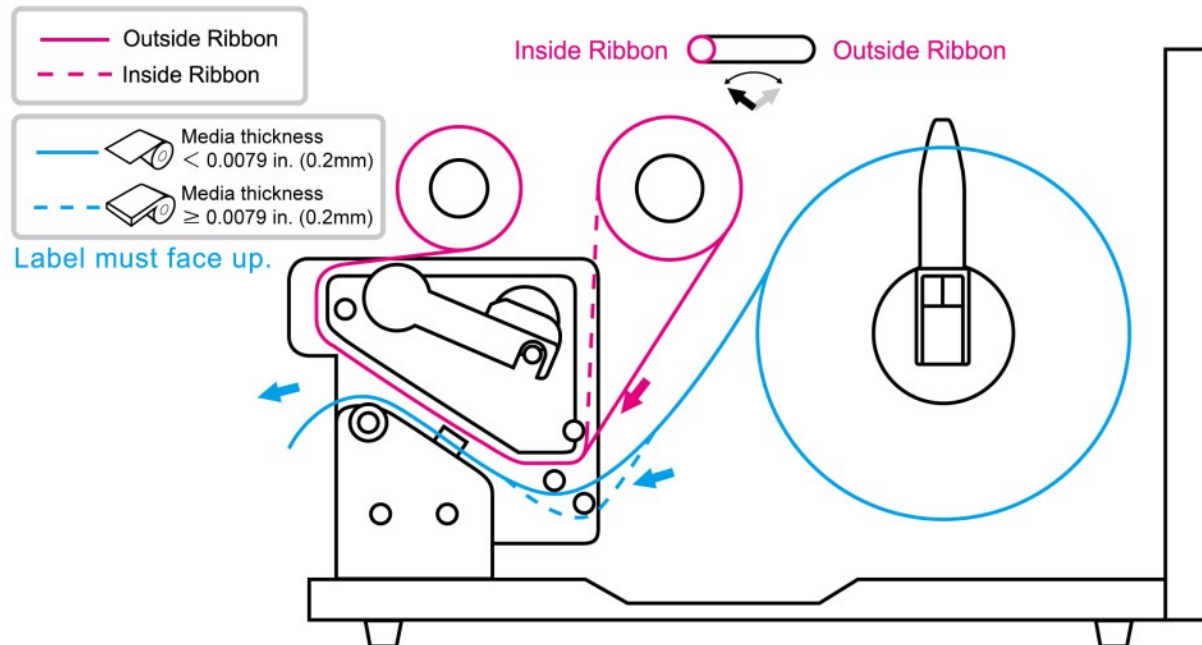
Standard Mode Loading Media

1. Insert the media roll into the media supply spindle and move the media guide to the inside. (Figure 1)

1 Media Guide

Media Supply Spindle
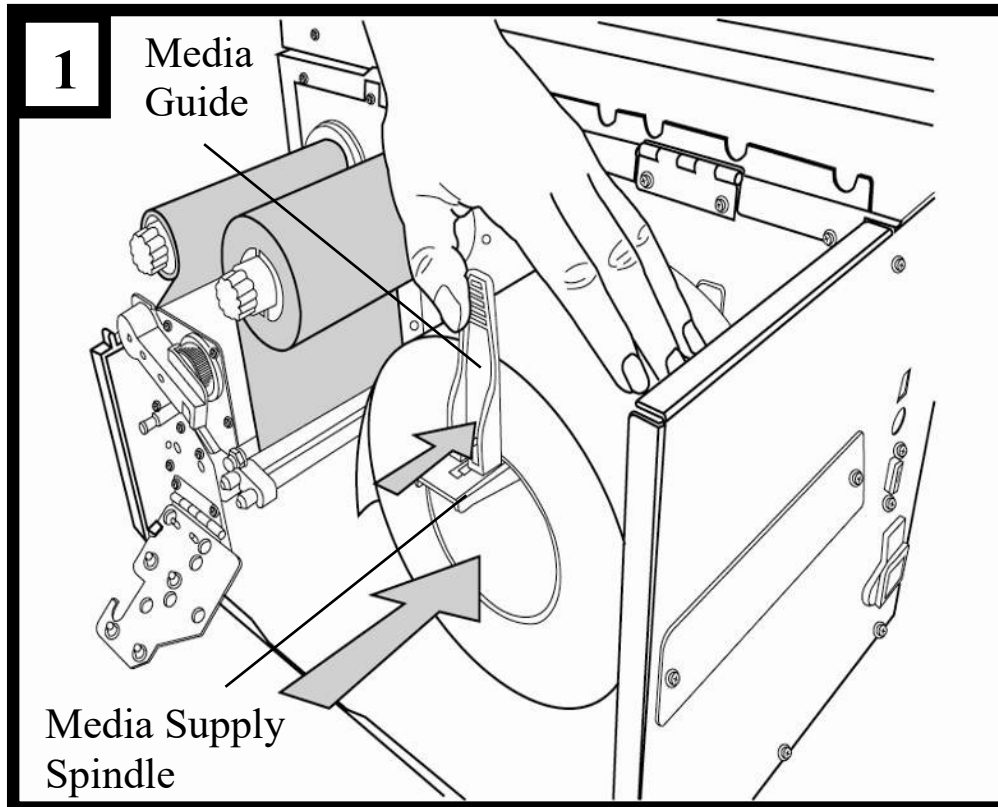
2. Turn the head latch counter-clockwise and open the bracket. Remove the outside media guide. (Figure 2)

Head Latch

Outside Media Guide
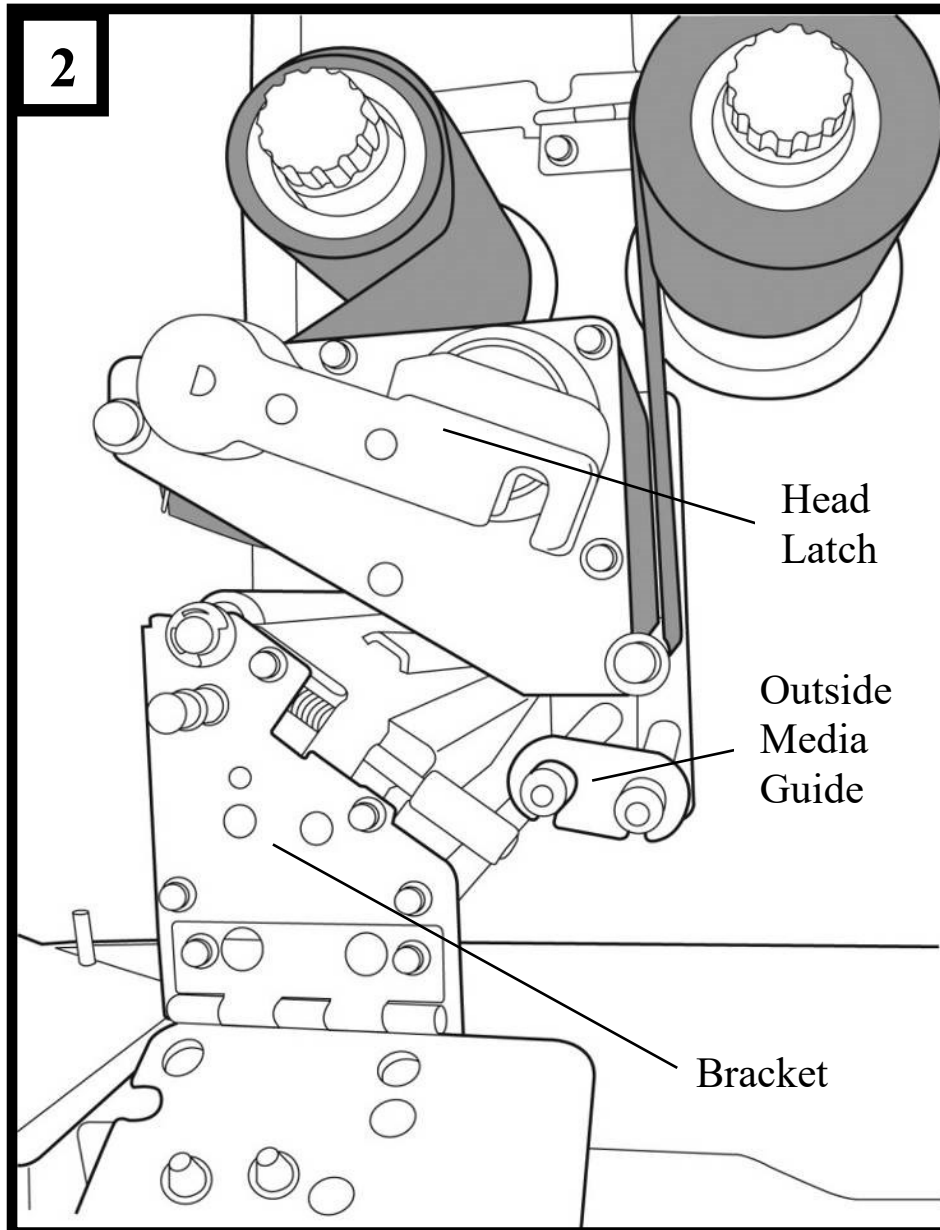
Bracket

3. Lead the media through the print head module and under the paper sensor guide. (Figure 3)
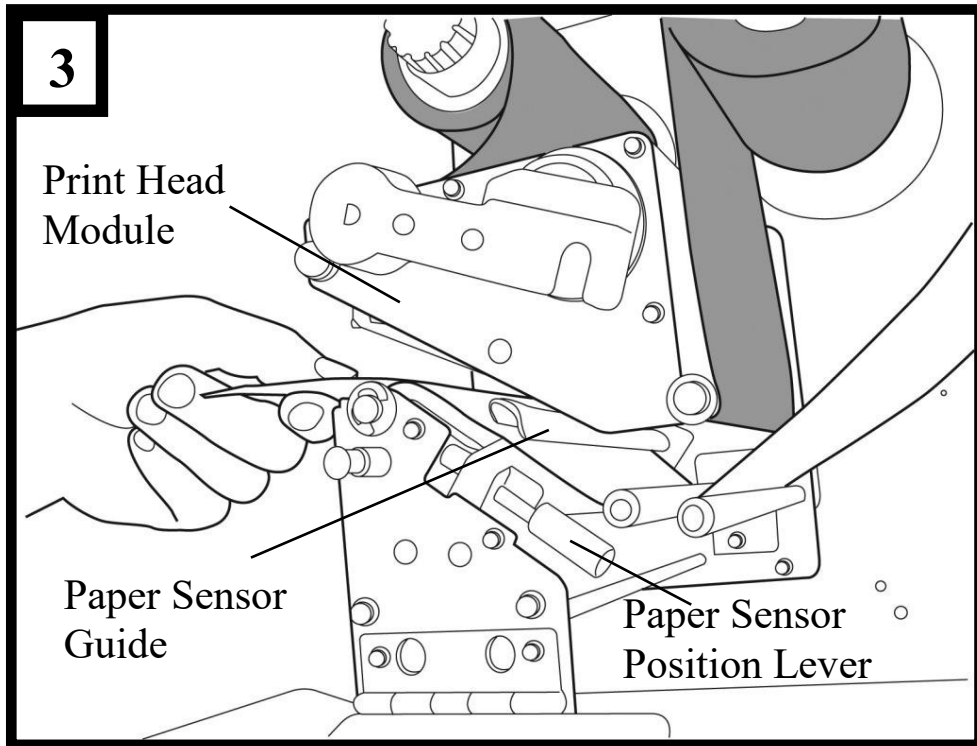
21

3

Print Head
Module

Paper Sensor
Guide

Paper Sensor
Position Lever

4. Return the outside media guide, close the bracket, and hook the head latch. (Figure 4)

4

Head
Latch

Bracket

Outside Media Guide

22
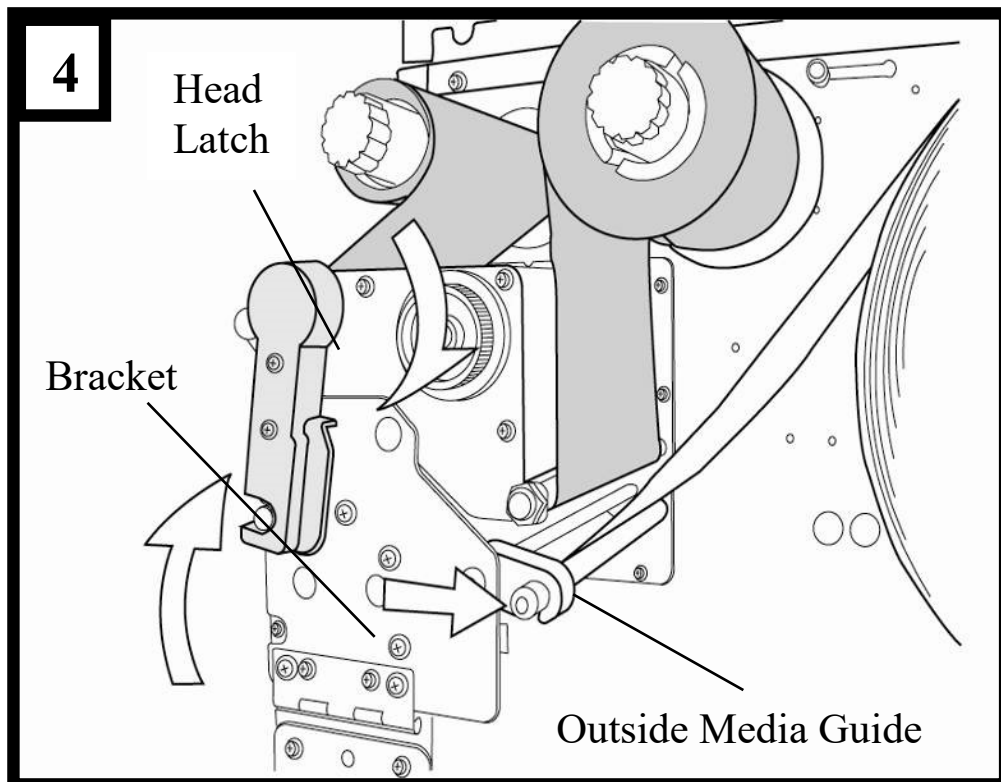
5. Close the top cover and the front access door and turn on the printer, or press the "FEED" button if the printer is already on. (Figure 5)

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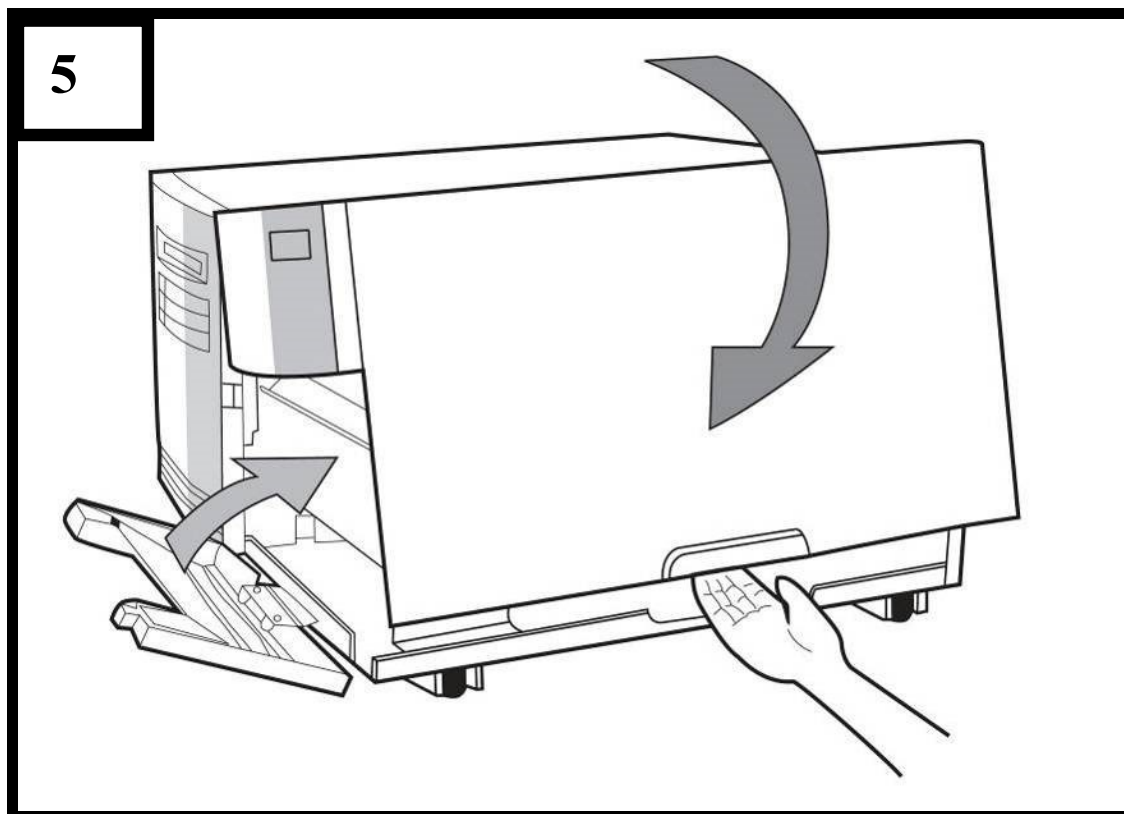
Peel Off Mode Loading Media

Follow steps 1 to 3 in "Standard Mode Loading Media" above.

1. From the leading end of the media roll remove enough labels to expose 6-inches of backing paper. (Figure 1)
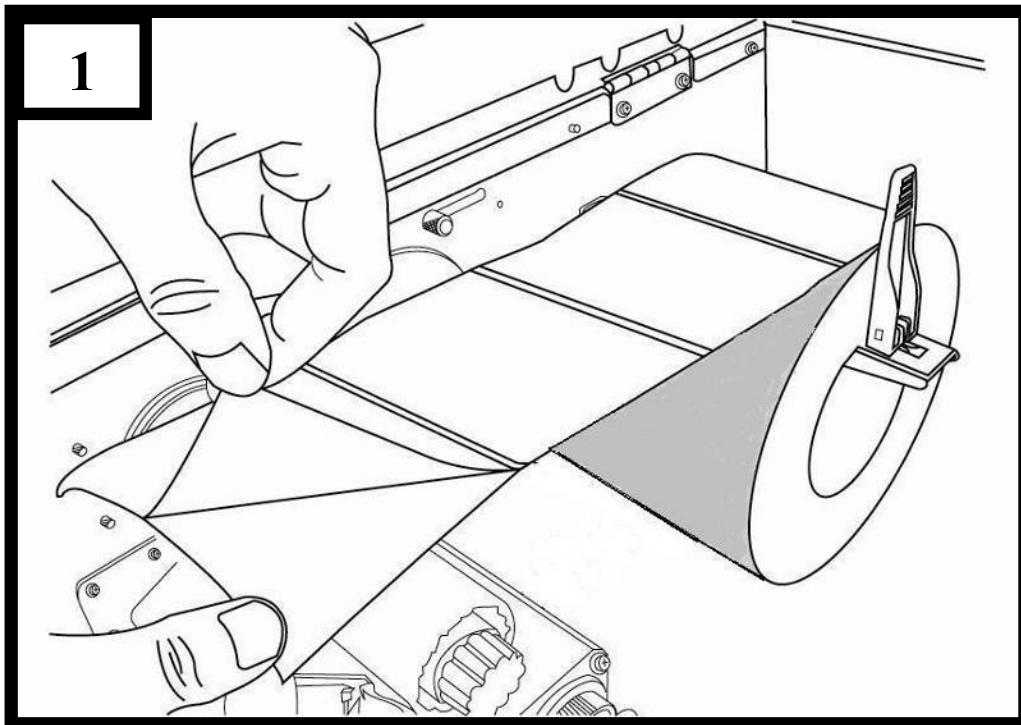
2. Lead the media backing paper through the print head module. (Figure 2)

2

Print Head
Module
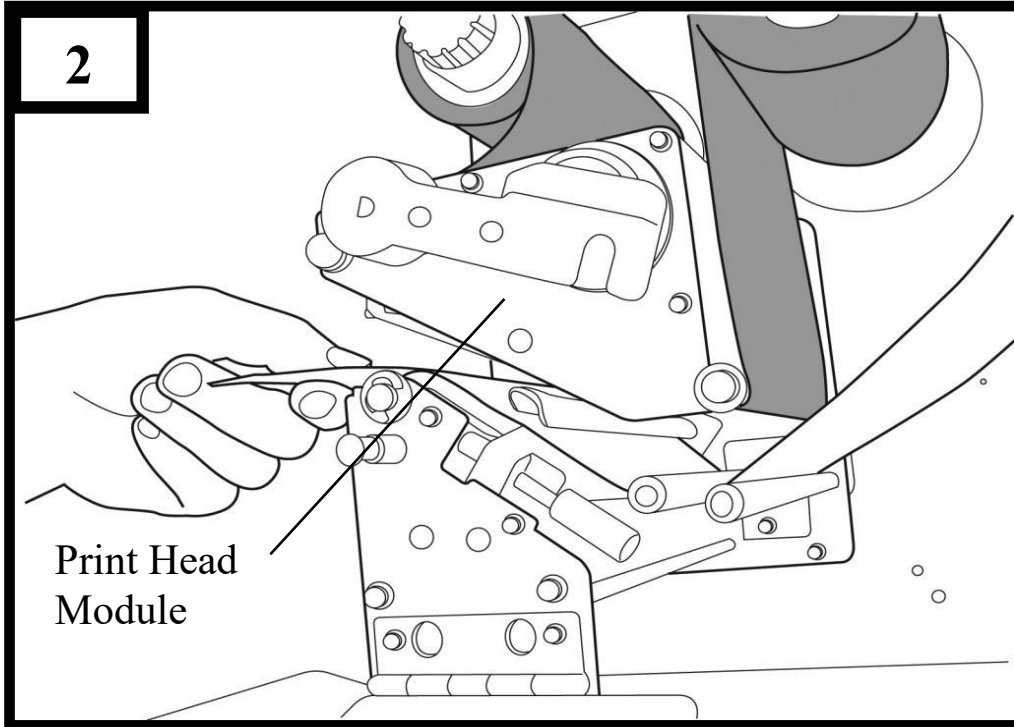
3. Push down the peel-off mechanism release lever and lead the media under the peeler module. (Figure 3)

3

Dispenser Module

Peel Lever

25
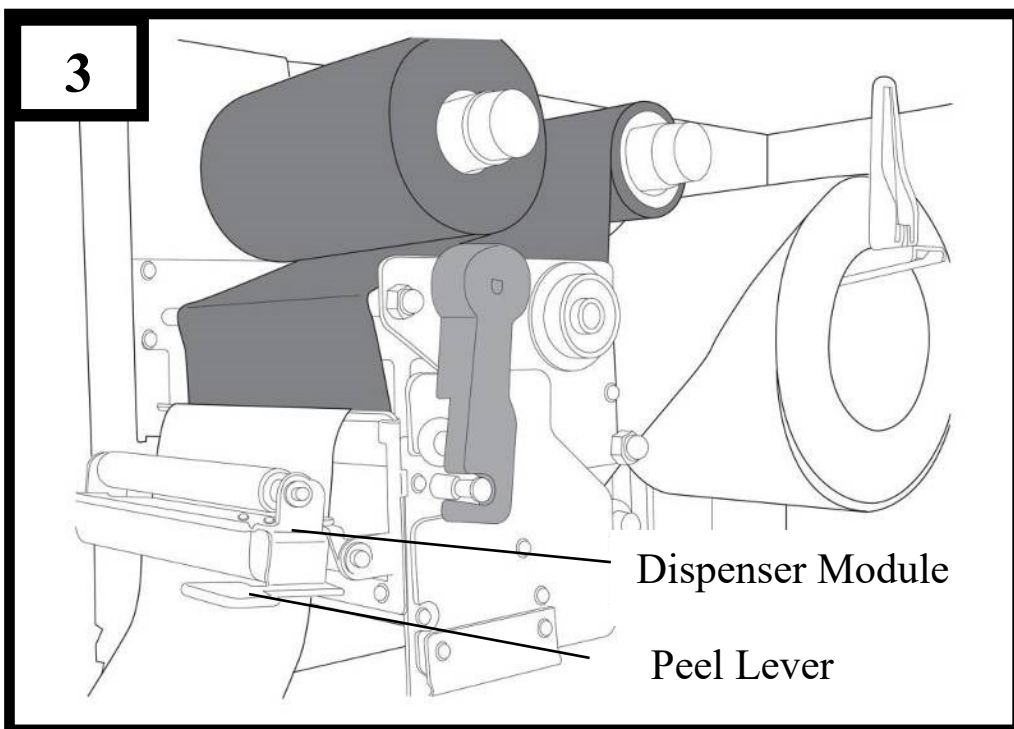
4. Close the peeler module using the peel-off mechanism release lever. (Figure 4)

Peel Lever

Dispenser Module
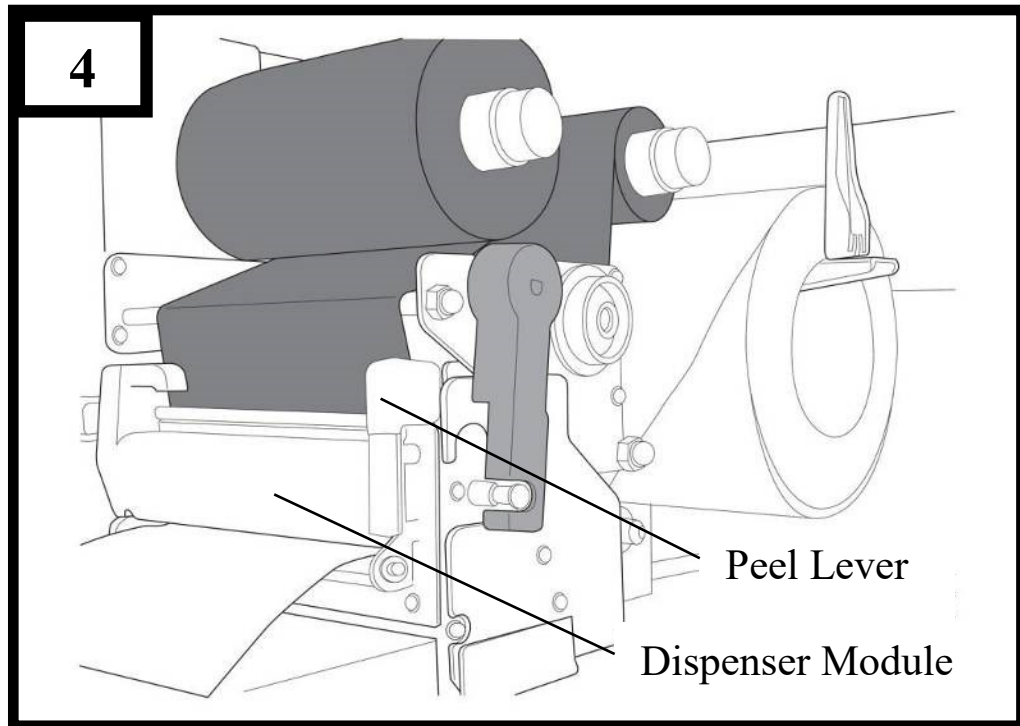
5. Close the top access door and turn on the printer or press the FEED button if the printer is already on. (Figure 5)

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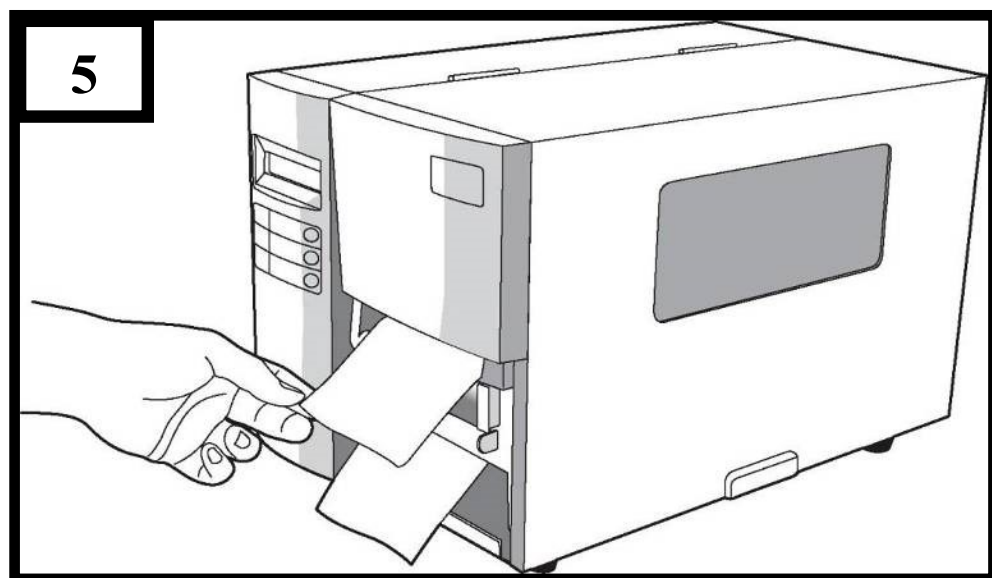
Notes:

1. The FEED button does not make the printer peel. To enable Peeling function, set by the LCD panel.
2. Make sure the peeler sensor is out of the ribbon path when installed.

Cutter Mode Loading Media

Follow steps 1 to 3 in "Standard Mode Loading Media" above.

1. Insert the media into the print head module and under the paper sensor guide. (Figure 1)
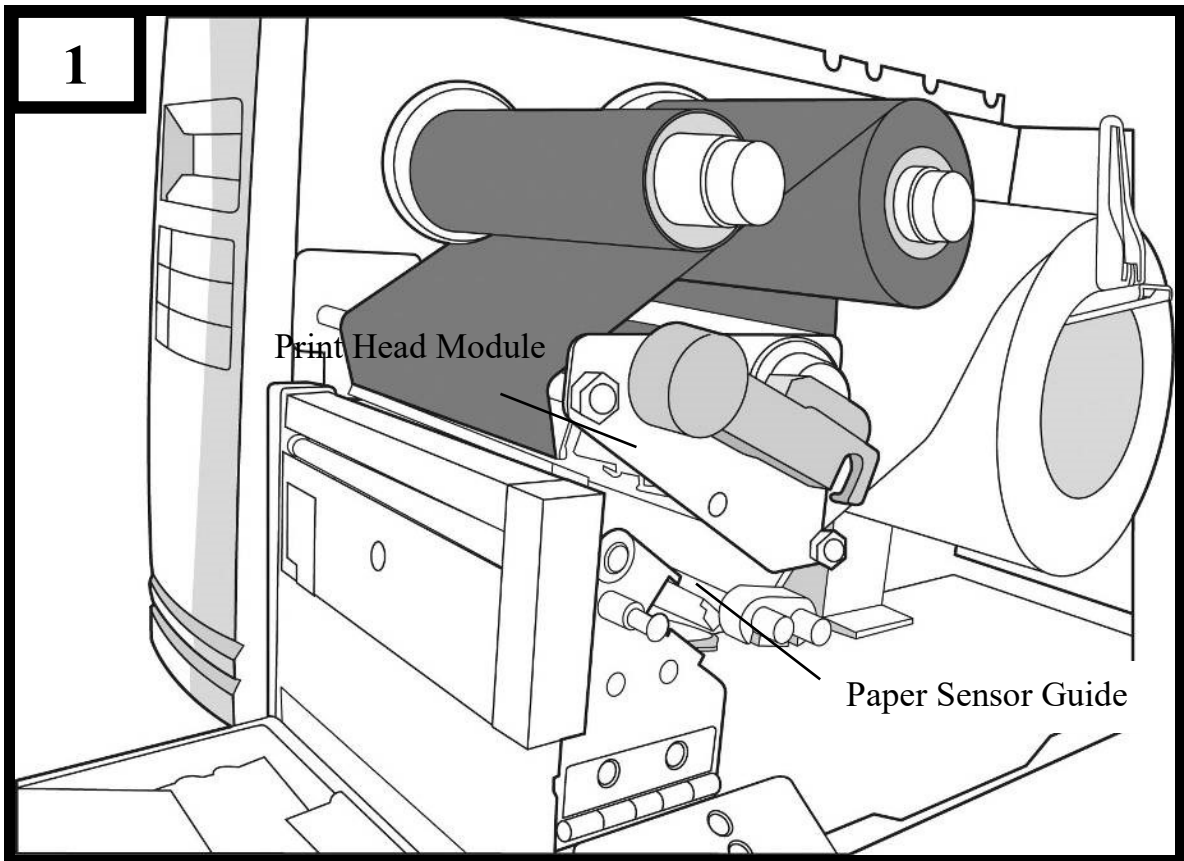
1

Print Head Module

Paper Sensor Guide

2. Return the outside media guide, close the bracket, and hook the head latch. (Figure 2)

2

Head
Latch

Bracket

Outside Media
Guide

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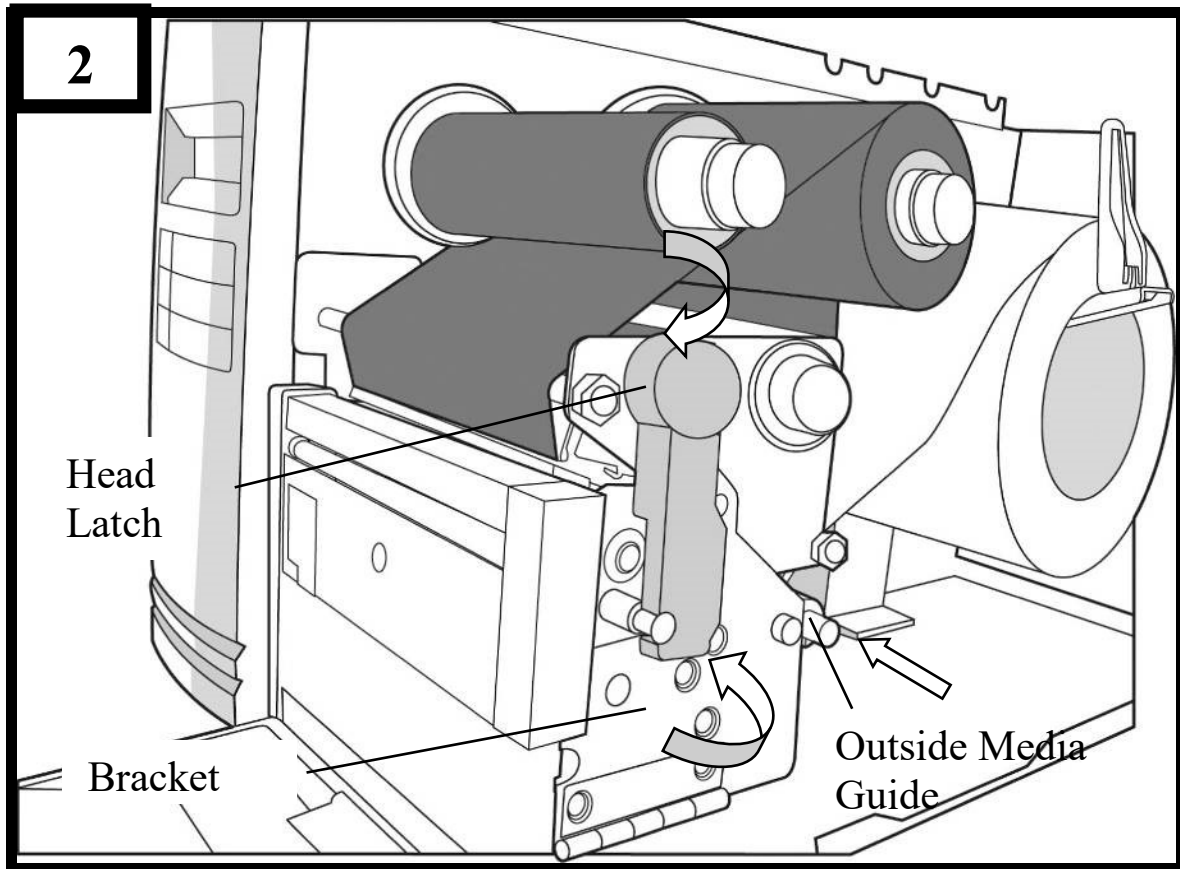
3. Close the top access door and turn on the printer or press the FEED button if the printer is already on. The printer will then feed the labels through the cutter automatically. (Figure 3)

Cutter

3
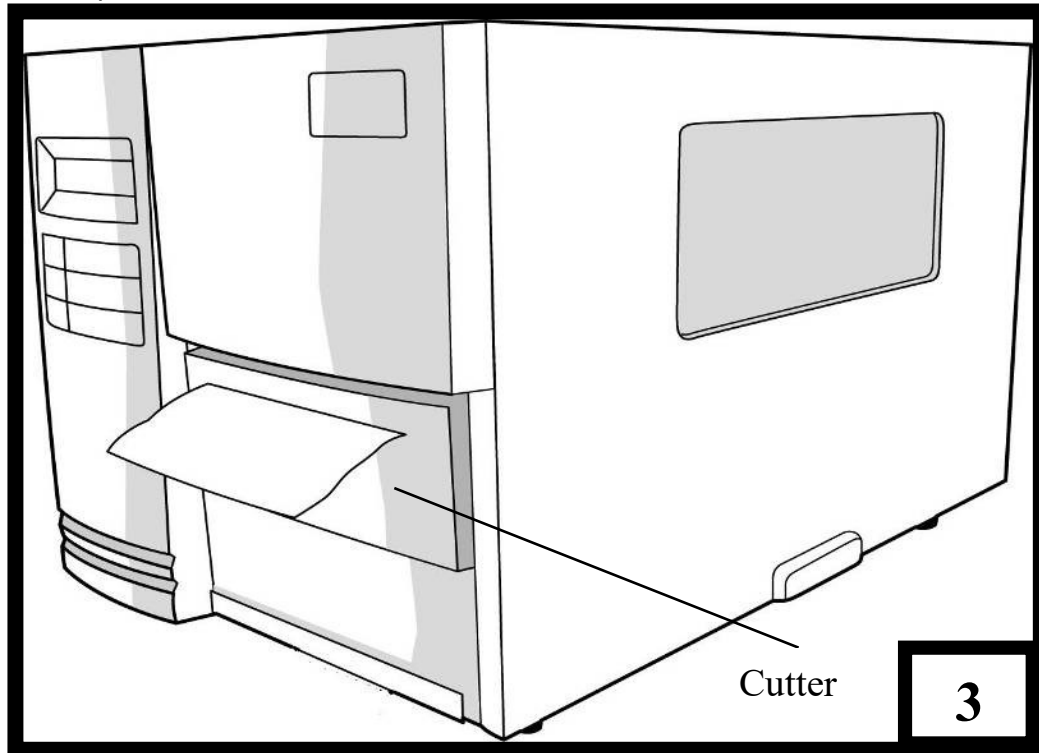
Note: The FEED button does not make the printer cut. To enable Cutter function, set by the LCD panel

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Adjust Position of Label Sensor

Function of the label sensor is to detect the gap, notch, or holes of labels, to help the printer for accurate print positions and label length. For labels with gaps, label sensor can be positioned wherever media locates. If labels with notches or holes are in use, follow the steps below to check position of the label sensor:

- Unlatch the Print head Latch. (as Figure 2 in Section – Standard Mode Loading Media)
- Pull down Paper Sensor Position Lever (as Figure 3 in Section – Standard Mode Loading Media), to horizontally adjust position of label sensor.
- Make sure the Media sensor position mark locates right on notch or hole of labels.
  Check below.

Media sensor holder

Media sensor position mark

(Front View)

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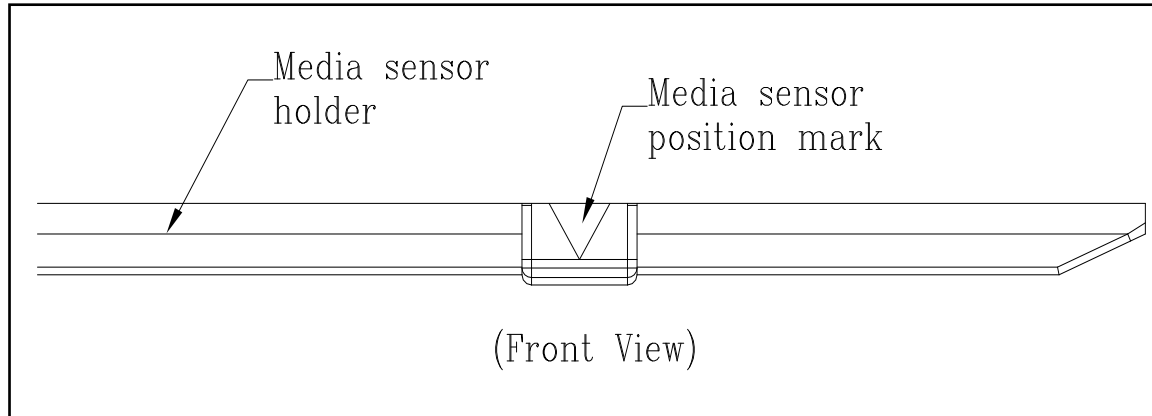
2. Printer Operation

The illustrations below describe parts and features of X-Series.

Front Panel

X-1000VL

LEDs and
Buttons

Top Access Door

Front Access Door

X-2000V
X-2000V Zip
X-2300
X-2300Z
X-2300E
X-2300ZE
X-3200
X-3200Z
X-3200E
X-3200ZE

LCD Display

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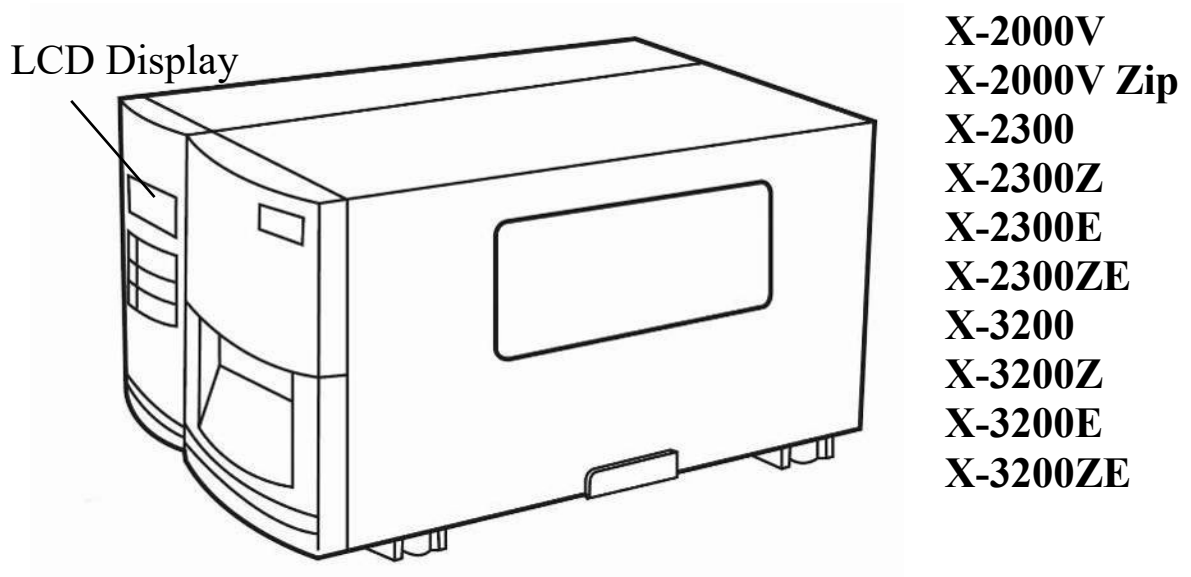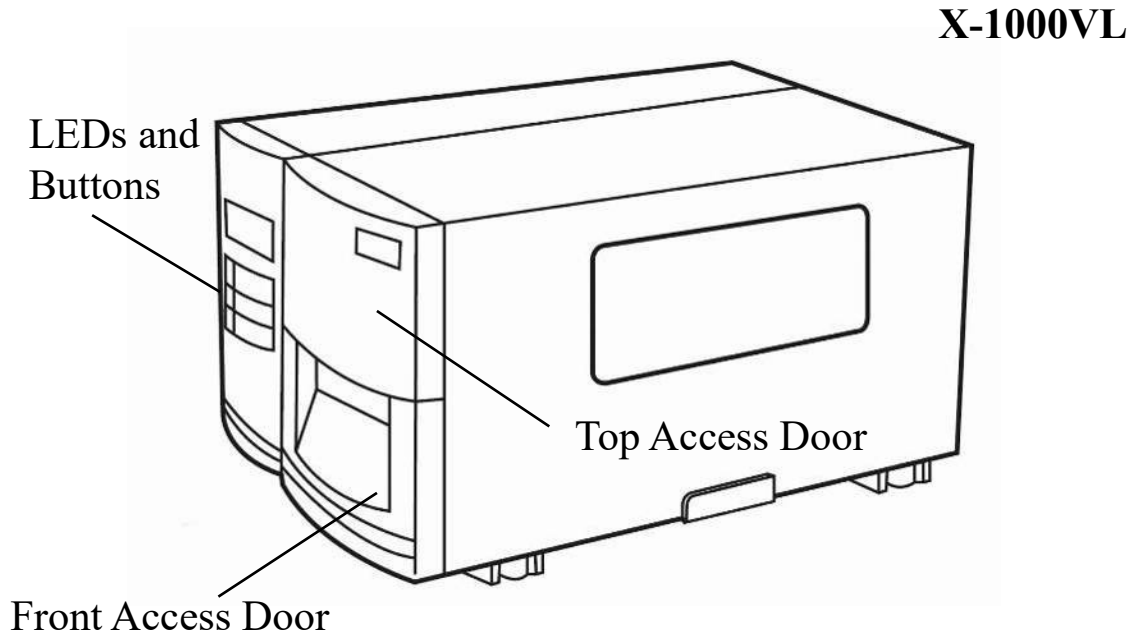
The front panel includes:

- 3 LED indicators (READY, MEDIA and RIBBON)
- 3 buttons (FEED, PAUSE and CANCEL)
- LCD display (except X-1000VL)
- Top Access Door
- Front Access Door

LED Indicators

There are three LED indicators on the front panel - READY, MEDIA and RIBBON. These indicators display operation status of the printer.

READY   **On** – Normal operation
Off – Error conditions including ribbon out, media out, print tasks cancelled, printing errors, printer paused, printer receiving data

MEDIA   **On** – Normal operation
Blinking – Media is used out; install new media. Print head overheat (LCD will indicate "Print Head Heat"; printer will resume printing automatically later.)

RIBBON   **On** – thermal transfer mode with ribbon installed.
Off – direct thermal mode with no ribbon installed.
Blinking – Ribbon is used out; install new ribbon. For the X-2000V / X-2000V Zip / X-2300 / X-2300Z / X-2300E / X-2300ZE / X-3200 / X-3200Z / X-3200E / X-3200ZE models, modes of thermal transfer and

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direct thermal can be set via the printer panel.
For the X-1000VL model, set via Printer Utility,
Windows driver or printer commands.

Buttons

There are three buttons, each with two basic functions.

Button	Function 1 (Press the button)	Function 2 (Press the button and power switch together)
FEED	Feed a label	Perform self test & print configuration report
PAUSE	• Pause printing • Press again to resume printing	Perform a media calibration
CANCEL	• Interrupt and delete a print task • Force printer to continue after an error is solved.	Reset FLASH settings

LCD Display

The X Series models have a LCD that shows:
- printer status
- printer settings
- input data from a keyboard or barcode reader

After power-on, the LCD displays the following message as examples:

X-2000V/ X-2000V Zip/ X-2300/ X-2300Z/ X-2300E/ X-2300ZE

READY (203,PPLB)

X-3200 / X-3200Z / X-3200E / X-3200ZE

READY (300,PPLB)

The first parameter is either 203 or 300, which stands for the printer resolution. The second parameter indicates the emulation (printer language), PPLA, PPLB or PPLZ.

Notes:
The Ethernet models will prompt "ETHERNET CARD INITIALIZING" on LCD for about 20 seconds after Power-on and then show the message above.

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If a keyboard is plugged in, the LCD display will indicate:

X-2000V/ X-2000V Zip/ X-2300/ X-2300Z/ X-2300E/ X-2300ZE

READY (203,PPLB)
<ESC> FOR KEYBD

X-3200 / X-3200Z / X-3200E / X-3200ZE

READY (300,PPLB)
<ESC> FOR KEYBD

If a barcode reader is connected, the LCD display will indicate:

X-2000V/ X-2000V Zip/ X-2300/ X-2300Z/ X-2300E/ X-2300ZE

READY (203,PPLB)
WITH B.C. READER

X-3200 / X-3200Z / X-3200E / X-3200ZE

READY (300,PPLB)
WITH B.C. READER

If an abnormal condition occurs, the LCD display will indicate.
For example:

RIBBON OUT

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Setting Display Language

The printer's LCD display supports six languages: English, French, German, Italian, Spanish, and Portuguese.

Item	Range	Factory Default
LANGUAGE	ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH, PORTUGUESE, SIMPLIFIED CHINESE	ENGLISH

To select a language:
1. Press the PAUSE and CANCEL buttons at the same time.
2. Hold both buttons for about 3 seconds and release.
3. The language selection screen appears.

LANGUAGE
ENGLISH

4. Press the FEED button for the next language.
5. Press the CANCEL button to select and set the language.

Press PAUSE or the PAUSE+CANCEL buttons to exit the language selection screen and enter normal standard mode.

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Changing Settings from the Panel

You may change settings using the buttons on the front panel of the X-2000V, X-2000V Zip, X-2300, X-2300Z, X-2300E, X-2300ZE, X-3200, X-3200Z, X-3200E, and X-3200ZE printer models, in addition to changing settings via software commands.

Change settings via buttons on panel:

Buttons	Function
PAUSE+CANCEL	Press to enter setting mode. (Don't press over 1 second) Press again to exit setting mode and return to normal mode.
FEED	Press to show next parameter.
PAUSE	Press to show next setting item.
CANCEL	Selects and saves a parameter to permanent FLASH memory. Unless changed via panel or command the parameter is saved even if you restart the printer.

Note: Do not change settings during printing or sending printing data.

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LCD Function Setting Procedure

The following procedure is an example of setting procedure to direct thermal printing mode:

LCD indicating	LCD setting steps
READY (203,PPLB)	After printer power in on, LCD will indicate as shown at the left.
Step 1 ⟱	Press both PAUSE + CANCEL buttons. Then release the buttons to enter settings.
PRINT MODE THERM. TRANSFER*	LCD will then prompt LCD function selections; default settings include the "*" sign. For example, the first option of print modes is thermal transfer.
Step 2 ⟱	Keep press FEED button until LCD prompts the function setting needed.
PRINT MODE DIRECT THERMAL	For example, the second option of print modes is direct thermal.
Step 3 ⟱	Press CANCEL button to store the setting.
PRINT MODE DIRECT THERMAL *	The option selected will now include the "*" sign.
Step 4 ⟱	Press PAUSE button to continue the other settings.
Back to standard printing mode	After LCD function settings are completed, press both PAUSE + CANCEL and then release them to exit from settings.
READY (203,PPLB)	Now printer is in normal printing mode.

Printer LCD function settings and parameters:

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Item	Range	Factory Default	Remarks
PRINT MODE	DIRECT THERMAL/ THERM. TRANSFER	THERM. TRANSFER	
AUTO-CAL. MODE	MODE 1 MODE 2 MODE 3 MODE 4	MODE 1	Mode 1: Printer performs Auto Calibration after printing the first label, if label height differs from parameters in printer's flash. Mode 2: Printer performs Auto calibration when print head is closed. Mode 3: Printer finds the first label gap when print head is closed. Mode 4: Mode 1/2/3 all disabled. Manual calibration is needed. Not for X-2000V.
CONTROL CODE SET	STANDARD ALTERNATIVE 1	STANDARD	Available only in PPLA printer language.

	ALTERNATIVE 2 ALTERNATIVE 3		
CUT PEEL OFFSET	-15 ~ 50 mm	0 mm	To adjust cut and peel positions.
PRINT OFFSET	-8 ~ 15 mm	0 mm	Controls vertical print positions. Positive value only. For X-2000V only.
TPH VER OFFSET	-9~9 mm (PPLA/PPLB) -3~3 mm (PPLZ)	0 mm	To adjust offset of vertical print position.
RECOVER PRINT	ENABLE, DISABLE	DISABLE	Will not reprint after recovering from media-out or ribbon-out errors.
CUTTER INSTALLED	NO YES	NO	If "YES: is selected, printer will then enter CUTTER TYPE and CUT MODE settings.
CUTTER TYPE	ROTARY-NORMAL ROTARY-REVERSE GUILLOTINE-FULL GUILLOTINE-	ROTARY-NORMAL	Available only when CUTTER INSTALLED is set to "YES". ROTARY-REVERSE is to recover from paper jam in cutter mode.

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	PART		
CUT MODE	NORMAL CUTTER W/O BACK	NORMAL	Available only when CUTTER INSTALLED is set to "YES".
PEELER INSTALLED	NO YES	NO	
READER INSTALLED	NO YES	NO	Available only in PPLB printer language.
WIN. CON. LEN.	0 ~ 254 mm	0 mm	Available only in Windows with bundled printer driver and for continuous media.
BASE SPEED (IPS)	0 ~ 4 IPS	0 IPS	Available only in PPLA and PPLB printer languages.
COUNTING	DOWN UP	DOWN	
MEDIASENSER TYPE	REFLECTIVE SEE-THROUGH	SEE-THROUGH	To select for different media types. After changing sensor setting, make sure to calibrate before printing.
BACK FEED	DISABLE ENABLE	DISABLE	Available only in PPLA and PPLB printer languages. Once "ENABLE" is

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			selected, printer enters BACK DISTANCE setting.
BACK DISTANCE	10~40 mm	21 mm	Available only when BACK FEED is enabled.
BASE DARKNESS	0~99 (PPLA) -28~28 (PPLB)	0	Available only in PPLA and PPLB printer languages.
ABS. DARKNESS	0~30	0	To select darkness. Available only in PPLZ printer language.
TRIM. DARKNESS	-30~30	0	To fine-tune darkness. Available only in PPLZ printer language.
BAUD RATE (RS232)	600 / 1200 / 2400/ 4800 / 9600 / 19200 / 38400 / 57600 / 115200	9600	Should be as same as setting of host.
PARITY (RS232)	NONE EVEN ODD	NONE	Should be as same as setting of host.
LENGTH (RS232)	8 DATA BITS 7 DATA BITS	8 DATA BITS	Should be as same as setting of host.
CLEAR FLASH	NO YES	NO	When "YES" is selected, all the label forms, soft fonts, and

			graphics stored will be deleted.
SETTING PRIORITY	COMMAND/ LCD PANEL	COMMAND	Choosing priority of LCD settings. It decides which setting method - by command or by LCD panel, is prior.

Ethernet settings and parameters

(X-2300E. X-2300ZE. X-3200E. X-3200ZE):

Item	Range	Factory Default	Remarks
DHCP	DISABLE ENABLE		If printer has been connected to a router, IP address will be assigned automatically by DHCP server after power on. If printer is not connected to a router, with DHCP disabled, settings of IP ADDRESS, SUBNET MASK, and DEFAULT GATEWAY settings will be available on LCD. Every time when DISABLE is changed to be ENABLE, LCD will prompt "ETHERNET CARD UPDATE FINISH…" Then please reboot the printer.
IP ADDRESS	xxx.xxx.xxx.xxx	xxx range:0~255	
SUBNET	xxx.xxx.xxx.xxx		

MASK		When DHCP is disabled, default IP address is 192.168.1.100.
DEFAULT GATEWAY	xxx.xxx.xxx.xxx	If "_" sign appears, that means that **DHCP** setting is disabled. On the contrary, **DHCP** setting is enabled.
		1. *FEED/CONFIG.* *:*
		change contents. *(ex. from 000.000.000.000 to 255.255.255.255)*
		2. *PAUSE/CALIBR.* :
		shift "_"sign position. *(ex. from 255.255.255.255 to 255.255.255.255)*
		3. *CANCEL/RESET.*:
		Select next function setting. *("_" sign must at the third digit of each parameter, for example, xxx).*
		4. To change IP ADDRESS or SUBNET MASK, enter DEFAULT GATEWAY setting, press CANCEL button once; LCD will prompt "ETHERNET CARD UPDATE FINISH…"
		Then reboot the printer.
MAC ADDRESS	yyyy-yyyy-yyyy	(yyyy = 0000~FFFF)

To have more information on Ethernet settings, please refer to Ethernet User's Guide.

Media Calibration

After the media is loaded, please perform media calibration to calibrate the label sensor in advance.

1. Turn off the printer
2. Press and hold the PAUSE button and turn on the power.
3. When "CALIBRATION ..." is displayed on the LCD, and both READY and MEDIA indicators blink, release the PAUSE button.
   (The Ethernet models will first prompt "ETHERNET CARD INITIALIZING" on LCD after Power-on and then show the "CALIBRATION ..." message as described above.)
4. The printer feeds 12-inches of blank labels.
5. When "READY" is displayed, the READY and MEDIA indicators stop blinking but remain illuminated.

Note: For X-1000VL, the steps about LCD can be ignored.

Important!
1. It's suggested to perform media calibration after changing media types.
2. Before calibration, be sure media and ribbon (for thermal transfer printing) have been loaded correctly. The label sensor needs to locate properly to index labels' gaps/ notches/ holes.
3. After media calibration is finished, printer stores settings into its flash. Without media calibration, printer may detect labels with less

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accuracy, especially for small labels less than 1.5" high.

Printing a Configuration Report

To perform a self-test and print a configuration report, helping to check printer's print quality and internal settings. Steps as below:

1. Turn off the printer.
2. Load media and ribbon.
3. Press and hold the FEED button while turning on the power.
4. When "SELF-TEST …" is displayed on the LCD, release the FEED button.
   (The Ethernet models will first prompt "ETHERNET CARD INITIALIZING" on LCD after Power-on and then show the "SELF-TEST …" message as described above.)
5. The printer now prints out a configuration report.(as the sample in next page)
6. Printer will enter Dump mode after printing configuration. In Dump mode, all characters will be printed in 2 columns: the right shows characters received from your system, and the left are the corresponding hexadecimal values of the characters. It allows users or engineers to verify and debug the program.
   To return to normal operation mode from Dump mode, press the CANCEL button. Another way is to turn off printer power, and then restart printer.

Note: For X-1000VL, the steps about LCD can be ignored.

Sample of Configuration Report – based on X-2300E:

```
      Label Printer with Firmware
1 ←── X2300-B01.00 080310  00
2 ←── STANDARD RAM: 16M BYTES
3 ←── AVAILABLE RAM: 13930K BYTES
4 ─── FLASH TYPE:ON BOARD 8M BYTES
  ←── AVAILABLE FLASH: 6143K BYTES
5 ←── 8 bit data: Code Page 437
6 ←── THERMAL TRANSFER
7 ←── SEE-THROUGH SENSOR(NORMAL)
8 ←── REF:2000  SEE:4F64
9 ←── NO. OF DL SOFT FONTS :  0
10     RTC CHIP INSTALL
11 ←── RTC TIME : 2/26/2010 10:45:55
12 ←── Int.fonts:NO ANY INTERNAL FONTS
13 ←── CUT COUNT: 0
14 ←── PRINT LENGTH METER: 0 M
15 ←── RS232 : 9600, 8, N, 1P
16 ←── CHECKSUM :   0000
17 ←── SPEED: 3IPS  DARKNESS: 8
18 ←── MEDIA_TYPE: GAP
19 ←── PRINT WIDTH: 800
20 ←── LABEL LENGTH: 80
21 ←── BACKFEED DISABLE
22 ←── CUTTER DISABLE
23 ←── PEELER DISABLE
24 ←── CUTTER/PEELER OFFSET: 0
25 ←── R(X,Y) =R(0,0)
26 ←── H. POSITION ADJUST :   0000
27 ←── CALIBRATION TYPE: MODE 1
       M(0,0,0,0)
28 ←── Ethernet version: 0.90
29 ←── IP_address: 192,168,1,100
30 ←── Subnet_mask:255,255,255,0
31 ←── Gateway:     192,168,1,100
32 ←── MAC_address:00-11-E5-01-81-56
33 ←── SNMP: DISABLE
       s( 0 ,0 )
       U0,0,0,0,37888,0
       0,0,0,0,0,0,0,0,0,0,
     ┌────┬─┬─┬─┬─┬─┐
     │ ON │ │ │ │ │ │
     ├────┼─┼─┼─┼─┼─┤
34 ←─│ OFF│o│o│o│o│o│
     ├────┼─┼─┼─┼─┼─┤
     │ SW2│1│2│3│4│5│
     └────┴─┴─┴─┴─┴─┘
     This is internal font 1. 0123456789 ABCabcXyz
     This is internal font 2. 0123456789 ABCab▸
35 ←── This is internal font 3. 0123456789
       This is internal font 4. 01234E
      .THIS IS INTERN
```

1. Firmware Version Information
2. Standard RAM Size

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3. Available RAM Size
4. Flash Type
5. Available Flash Size
6. Font Symbol Set
7. Print Mode (Thermal Transfer or Direct Thermal)
8. Sensor type (See-Through or Reflective)
9. Label-less Calibration Value
10. No. of downloaded Soft Fonts
11. RTC Time
12. No. of downloaded Argox Format Fonts
13. Cut Count
14. Print Length Meter
15. RS232 Protocols
16. Check Sum
17. Speed/Darkness
18. Media Type
19. Print Width
20. Label Length
21. Backfeed Disable/Enable
22. Cutter Disable/Enable
23. Peeler Disable/Enable
24. Cutter/Peeler Offset value
25. R(X,Y)
26. H. position adjust
27. Calibration Type Mode
28. Ethernet Module Version
29. IP Address
30. Subnet Mask
31. Gateway
32. Mac Address
33. SNMP

34. DIP switch

Switch	ON	OFF
2	Direct Thermal	Default

35. Font Image

Remark：

What continue after the parameters are test patterns of print head.

Resetting to Factory Default Settings

To reset the printer to factory default settings:

1. Turn off the printer.
2. Press and hold the CANCEL button and turn on the printer.
3.

For X-1000VL:

When RIBBON indicator blinks, release the CANCEL button.

For printer models other than X-1000VL:

When "RESET …" is displayed on the LCD and the READY indicator blinks, release the CANCEL button.
(The Ethernet models will first prompt "ETHERNET CARD INITIALIZING" on LCD after Power-on and then show the "RESET …" message as described above.)

4.

For X-2000V Zip: The printer feeds 12-inches of blank labels.

For printer models other than X-2000V Zip:

When "READY" is displayed on the LCD, the READY indicator stops blinking but remains illuminated.

5. The following information is now back to defaults:
    *   Label parameters
    *   Heat (Darkness)
    *   Speed
    *   Symbol set (language)
    *   Others for specific emulation

Notes:

1. For X-1000VL, the steps about LCD can be ignored.
2. Be cautioned that this will reset all printer settings back to defaults; if possible, print the configuration label in advance before reset.
3. All settings stored in FLASH memory are retained even after turning off the printer.
4. Print length meter which indicates label length already printed cannot be reset.
5. You must perform the calibration after resetting the printer.

3. Computer Connections

This printer comes with USB interface, a standard Centronics parallel interface, and a nine-pin Electronics Industries Association (EIA) RS-232 serial data interface.

USB Interface Requirements

The Universal Serial Bus (USB) interface is compatible with your existing PC hardware. The USB's "plug and play" design makes installation easy. Multiple printers can share a single USB port/hub.

Centronics Parallel Port

You can connect the printer to the host computer's parallel port using any standard Centronics cable. The required cable must have a standard 36-pin parallel connector on one end, which is plugged into the parallel port located on the back of the printer. The other end of the parallel interface cable connects to the printer connector at the host computer. For pin-out information, please refer to the Technical Reference in this manual.

Serial (RS-232) Port

The required cable must have a nine-pin "D" type male connector on one end, which is plugged into serial port located on the back of the printer. The other end of the cable connects to a serial port on the host computer. For technical and pin-out information, please refer to the Technical Reference in this manual.

Note:
1**.** Centronics allows a much higher communication speed than serial.
2. The pin assignment of serial cable is different from PC. Please contact your local Argox reseller if you need this cable.

Centronics Parallel

USB

PS/2

Serial (RS-232)

Power Switch

AC Power connector
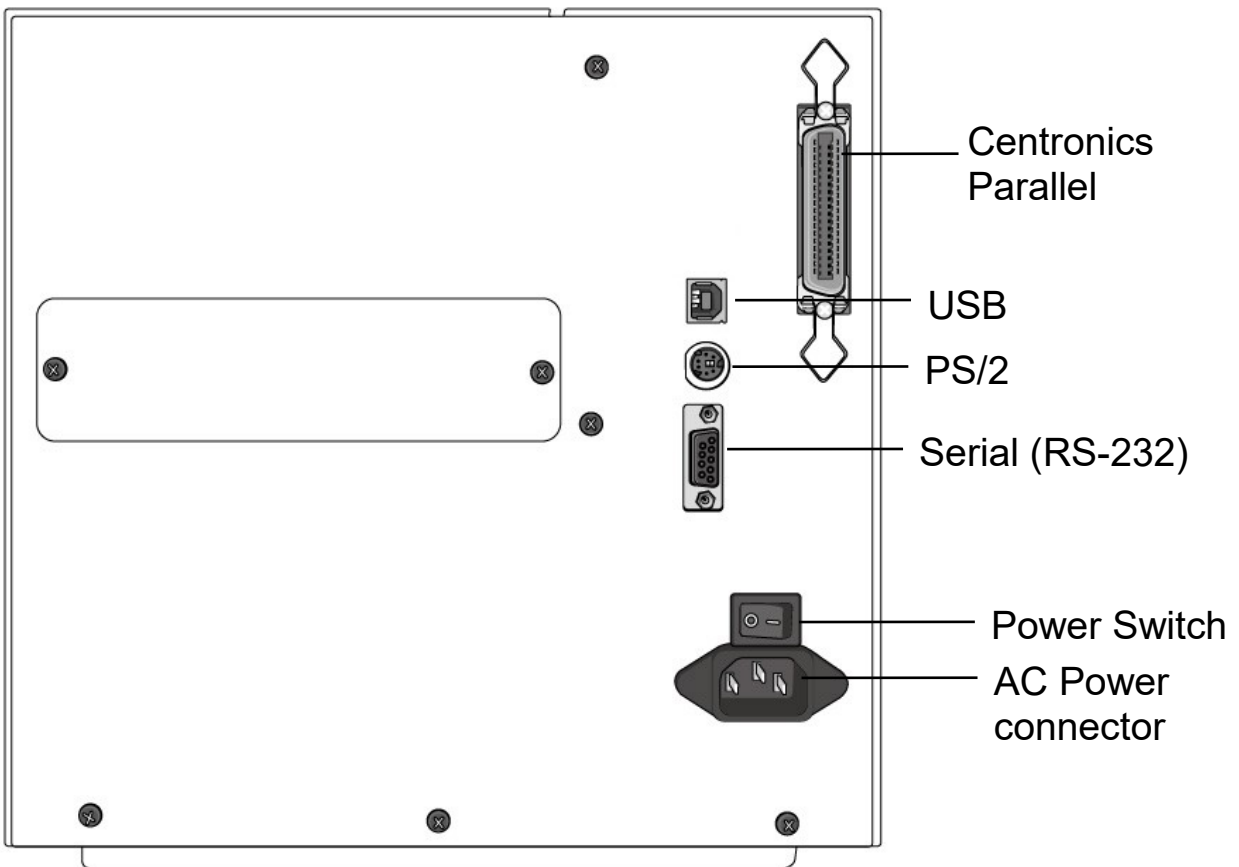
Ethernet 10/100 Internal Printer Server Option

X-2300E / X-2300ZE / X-3200E / X-3200ZE models provide Ethernet interface (RJ45), which allows host in a local area network to conveniently use several printers by Ethernet connectivity at the same time.

> ***Note:***
> When using Ethernet model printer, please wait till the Ready Indicator to stop blinking, before starting printer operations.

Ethernet Module Status Indicators

The indicators with two different colors help users understand status of Ethernet:

LED Status	Description	
Both Off	No Ethernet link detected.	
Blinking	The printer waits for printer ready. It will take about 20~30 seconds to be ready.	
Green	Speed LED	On: 100 Mbps link Off: 10 Mbps link
Amber	Link/Activity LED	On: link up Off: link down Flash: activity

Ethernet indication:

Ethernet

USB

Green LED

Amber LED

Centronics
Parallel

PS/2

Serial (RS-232)

Power Switch

AC Power
connector

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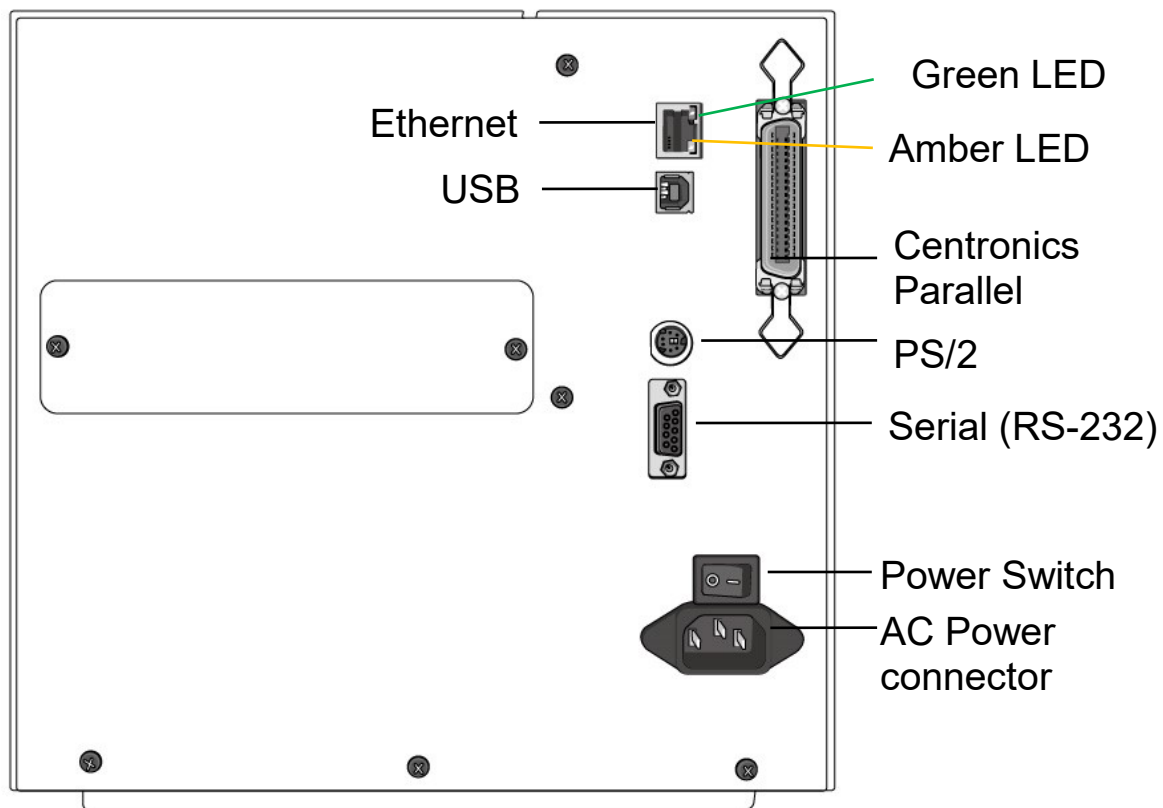
Communicating with the Printer

The bundled printer driver can be applied to all applications under Windows XP/ Vista/ Windows 7/ Windows 8, supporting 32-bit/ 64-bit operation systems. With this driver you can operate any popular Windows software applications including Argox Bartender UL label editing software or MS Word, etc., to print to this printer.

Drivers can be downloaded from Argox website >> Technical Support >> Download Center >> select product model to access: http://www.argox.com/content.php?sno=0000033

Installing a Plug and Play printer driver (for USB only)

> **Note:**
> We strongly recommend that you use the Seagull Driver Wizard instead of the Microsoft Windows Add Printer Wizard when installing and updating your Drivers by Seagull.
> (Even though the "Add Printer Wizard" is from Microsoft, it too easily performs a number of tasks incorrectly when updating existing drivers. It also badly handles the situation where a printer driver is already in use by a Windows application.)

1. Turn off the printer. Plug the power cord into the power outlet, and then connect the other end of the cord to printer's power connector. Connect a USB cable to the USB port on printer and also on your computer.

2. Turn on the printer. If the printer supports Plug-and-Play, and you have successfully connected it using a USB cable, then the Windows Add Hardware Wizard will automatically detect the printer and display a dialog that allows you to install a driver. Click Cancel and do not install the driver using this wizard.

3. Run the driver from Argox website. On the prompt, Windows

Printer Driver, select "I accept…" and click "Next".
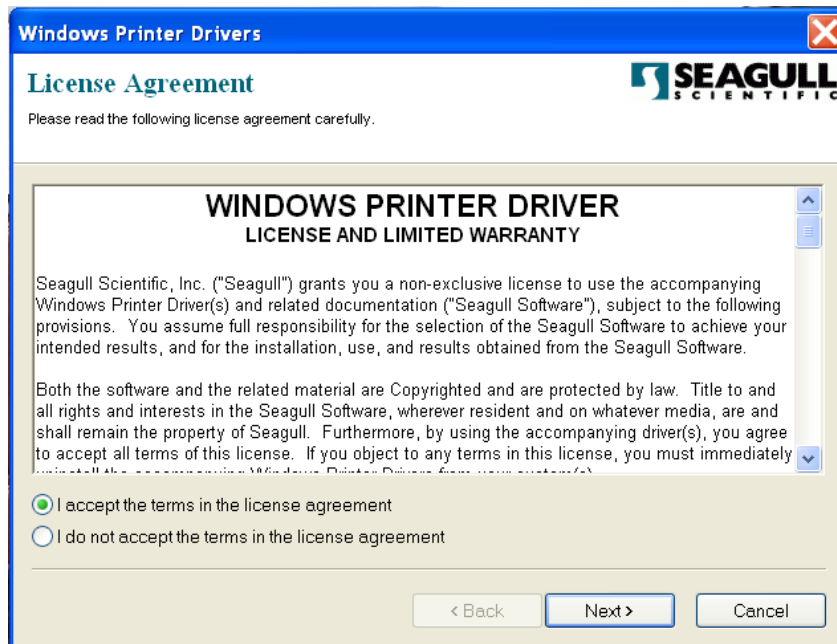
4. Assign the directory to keep Seagull driver, (for example: C:\Seagull) and click "Next".

5. Click "Finish".

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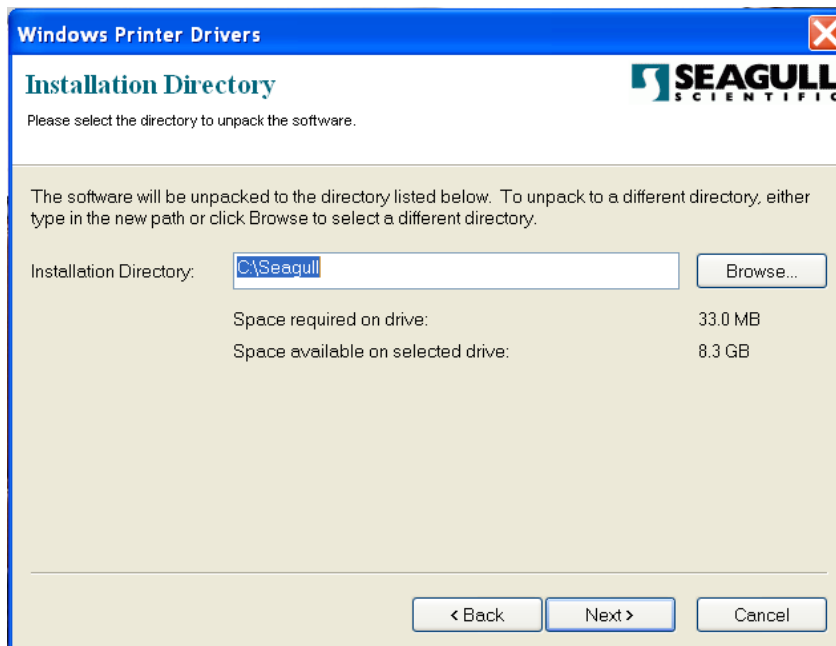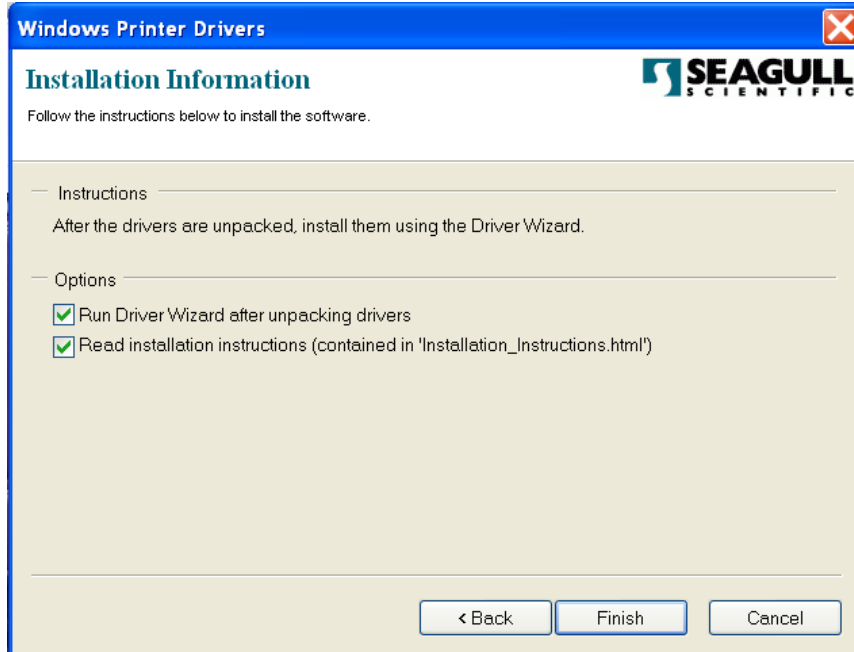
6. Select Install printer drivers and Click "Next"

7. On the Seagull Driver Wizard prompt, select the first radio

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button to "Install a driver for a Plug and Play printer". Then click "Next."
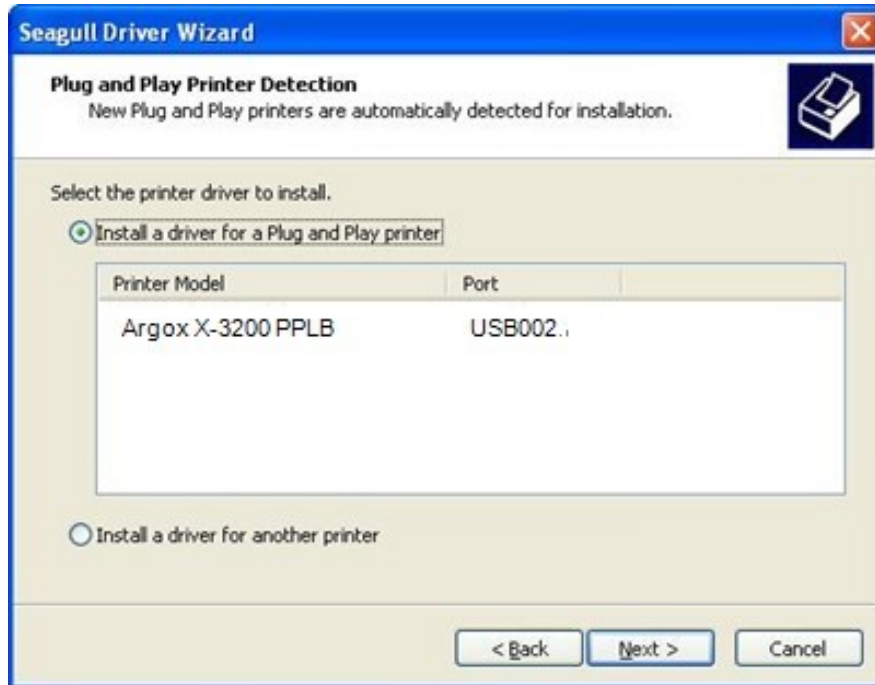
8. Enter Printer name (i.e. Argox X-3200 PPLB) and select "do not share this printer", and click "Next"

9. Check all the data on the showing screen, if it is correct, click "Finish".

10. After the related files have been copied to your system, click "Finish".
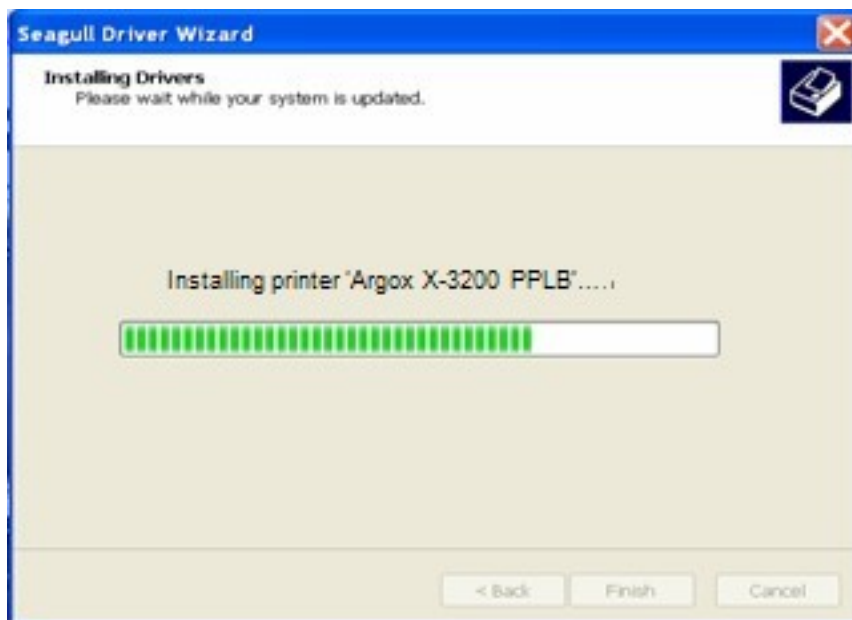
11. After driver installation is complete, click "Close".

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The driver should now be installed.

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Installing a Printer Driver (for other interfaces except USB)

1. Turn off the printer. Plug the power cord into the power outlet, and then connect the other end of the cord to printer's power connector. Connect the Parallel cable, Serial cable, or Ethernet cable to the proper port on printer and also on your computer.

2. Run the driver from Argox website. On the prompt, Windows Printer Driver, select "I accept…"and click "Next".

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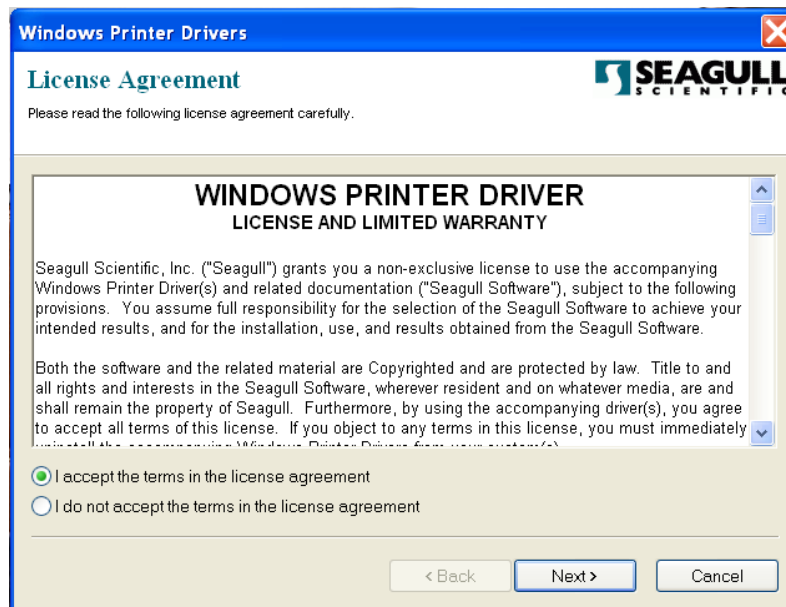
3. Assign the directory to keep Seagull driver, (for example: C:\Seagull) and click "Next".

4. Click "Finish".

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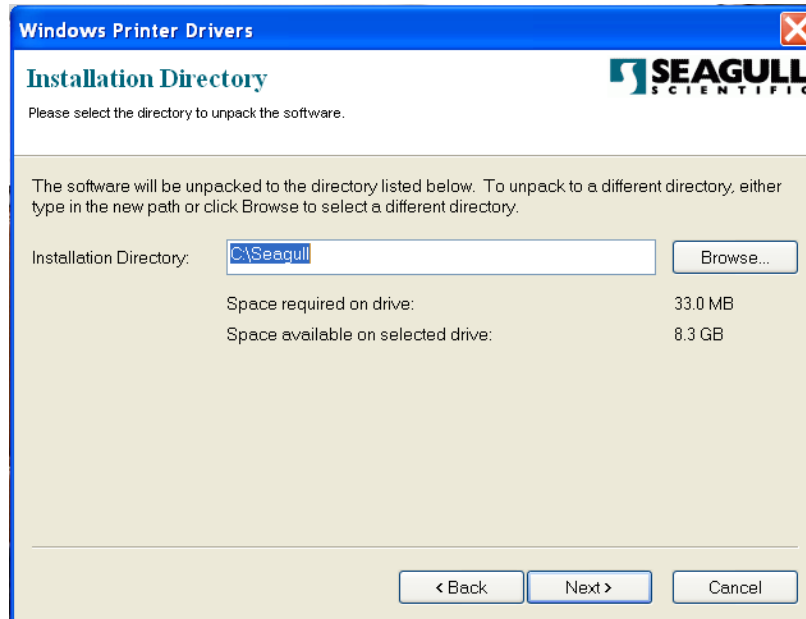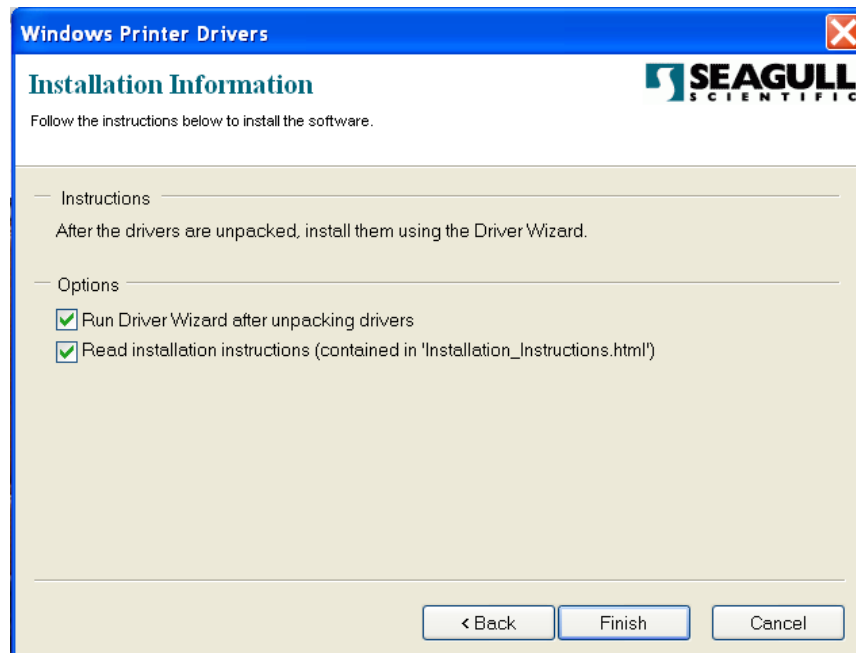
5. Select Install printer drivers and Click "Next"

6. Make sure printer is connected to PC, select "Other" and click "Next":

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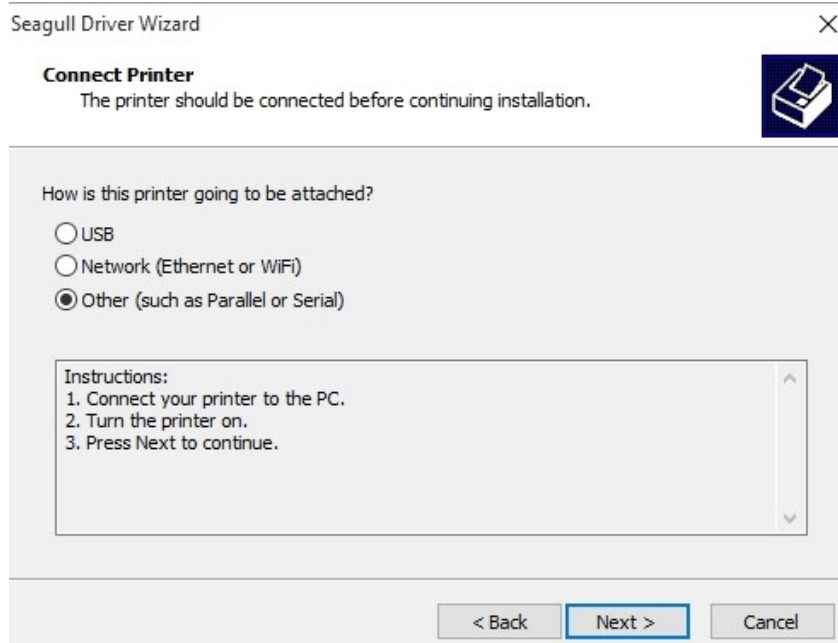
7. Select model & emulation - the following examples are based on model X-3200 PPLB:
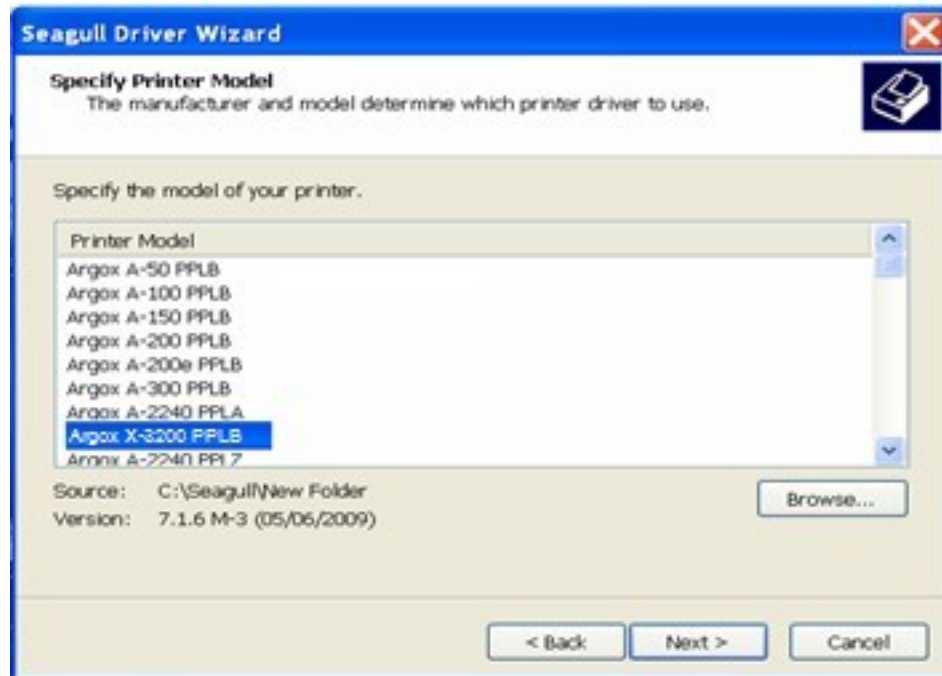
8. Select the port of the printer and click "Next".

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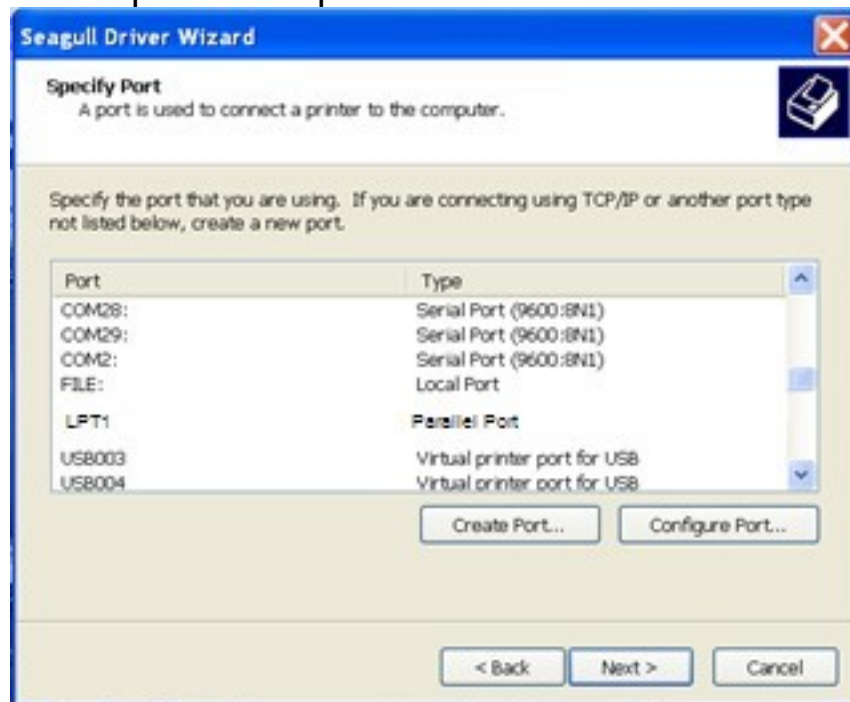
9. Enter Printer name (i.e. Argox X-3200 PPLB) and select "do not share this printer", and click "Next".

10. Check all the data on the showing screen, if it is correct, click "Finish".

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11. After the related files have been copied to your system, click "Finish".
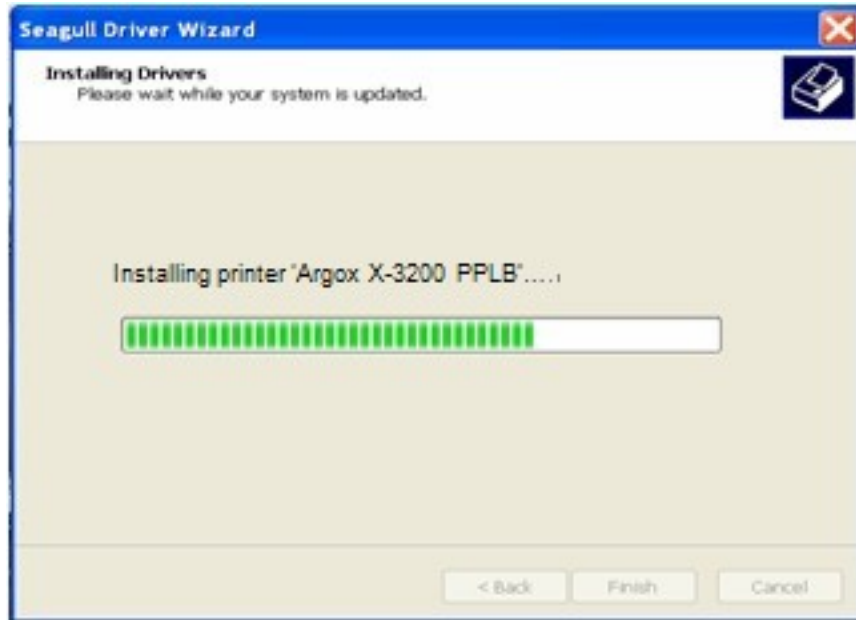
12. After driver installation is complete, click "Close".
The driver should now be installed.


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4. Troubleshooting

Normally, if the printer is in not working properly, the "READY" LED blinks continuously, and printing and communication between the host and printer stops.

LED and LCD Diagnosis

Blinking LEDs indicate a problem. Check the LEDs and the LCD display and refer to the following solutions:

Media Problems

LED/LCD	Indication
READY and MEDIA LEDs	Blinking
LCD Display	MEDIA OUT

Possible Problems	Solutions	Remarks
Miss-detected gap	Check the media path Check the position of the label sensor	For continuous media, check application and driver, and select continuous media.
Media out	Supply the media roll	
Media not installed	Install the media roll	
Media jam	Recover the jam	

Note: If problem continues perform a label sensor calibration.

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Ribbon Problems

LED/LCD	Indication
READY and RIBBON LEDs	Blinking
LCD Display	RIBBON OUT

Possible Problems	Solutions	Remarks
Ribbon out	Supply the ribbon roll	Not applicable to direct thermal.
Ribbon jam	Recover the jam	
Ribbon sensor error	Replace ribbon sensor	

Note: If you use direct thermal, set with panel, Windows driver or command.

Other Problems

LED	Indication
READY LED	Blinking

Problems	Solutions	Remarks
Serial IO error	Check the baud rate, format or protocol between host and printer	Not for Centronics

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Cutter failed	• Check the media. • Check the connection between cutter and main board. • Call for service.	
Memory full	Check graphics and soft fonts from host. Delete by application software for those no longer in use.	Need to reboot the system.

Note: After problem is solved, press CANCEL to continue printing.

Printer Status

LCD display	Blinking LED	Description
PAUSE	READY	Printer is paused. Press PAUSE or CANCEL to return to normal.
MEDIA OUT	MEDIA READY	Media is uninstalled or used up. Load new media to the printer.
RIBBON OUT	RIBBON READY	Ribbon is uninstalled or end-of-ribbon occurred. Load new ribbon to the printer.
SERIAL IO ERROR	READY	Format or baud rate of RS232 communication is inconsistent between printer and host.
CUTTER FAILED	READY	Cutter cannot cut off the media, check media and cutter.
MEMORY FULL	READY	Printer buffer full due to loaded soft fonts,

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		graphics or forms. Check data format. Call for service.
SENSOR O.R.	READY	Media calibration is out of range for sensor detection. Make sure media is loaded and media sensor locates under media.
PRINT HEAD HEAT	MEDIA	Printing job will start until the temperature of TPH goes down.
HEAD OPEN	READY	Print head latch is not closed. To print label the head latch must be closed.

Transmission Problems

If the host shows "Printer Time out"
1. Check if the communication cable (parallel or serial) is connected securely to your parallel or serial port on the PC and to the connector on the printer at the other end.
2. Check if the printer power is turned on.

If the data has been sent, but there is no output from the printer. Check the active printer driver, and see if Seagull Driver for your Windows system and the label printer has been selected.

Recovery

After correcting problems, simply press the CANCEL button or restart the printer. Make sure the LEDs are not blinking and remember to resend your files.

Printer Maintenance

Vertical streaks in the printout usually indicate a dirty or faulty print head. (Refer to the following examples.) Clean the print head. If the problem persists, replace the print head.
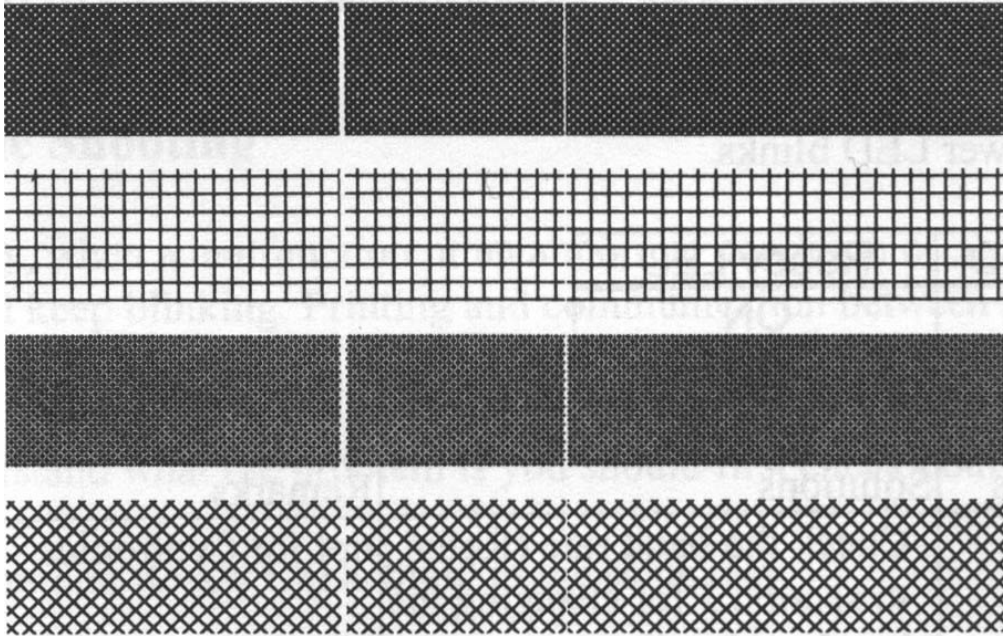
For unstable ribbon roll rotation, check the label path and make sure the head latch is securely closed.

Poor printout quality:
- The ribbon may not be qualified.
- The media may not be qualified.
- Adjust the Darkness (heat temperature).
- Slow down the print speed.
- Refer to the following and clean the related spare parts.

Cleaning the Print Head

To keep the Print Head remain in the best conditions and efficiency and to extend duration for use, regular cleaning action is needed.
Note: Turn off the printer before cleaning.

Clean the print head as follows:
1. Turn off the printer.
2. Open the top cover to access the print head module
3. Remove the ribbon.
4. Rub the print head with a cotton bud moistened with "Ethanol" or "IPA".
5. Check for any traces of black coloring or adhesive on the cotton after cleaning.
6. Repeat if necessary until the cotton is clean after it is passed over the head.

Cleaning Interval
It's strongly recommended to regularly clean print heads at least when changing every one label roll (in direct thermal printing mode) or every one ribbon roll (in thermal transfer printing mode). In addition, if printers are operated under critical applications and environments, or if it's found that print quality is degraded, please clean print heads more frequently.

Cleaning Material
Surface of print head's heating element is very fragile. To prevent from any possible damage, please use soft cloth/ cotton buds with "Ethanol" or "IPA" to clean print head surface.

It's strongly recommended to wear hand gloves during cleaning progress.

Do not touch print head surface by bare hands or with any hard equipment.

Water or spit should be kept away in case of corrosion on heating elements.

Cleaning Direction

When cleaning the print head, always wipe in <u>One-Way Direction</u> - from Left to Right only, or, from Right to Left only, to clean "Heating Line" of print head gently without excessive stress.

<u>Do not wipe back and forth</u>, to avoid dust or dirt on cleaning cotton would be attached onto print head again.

Special Caution:

Warranty of print heads will be void if print head serial number is removed, altered, defected, or made illegible, under every circumstance.

Cleaning the Roller

Using a cotton bud moistened with alcohol, clean the roll and remove any attached glue.

Note: Clean the roller after it has been in contact with foreign materials such as dust or adhesives.

Cleaning the Media Compartment

Clean the media compartment with a cotton bud that has been moistened with a mild detergent. Every time a media roll is printed, you should clean this compartment to reduce the incidence dust.

5. Advanced Installation and Adjustment

This chapter describes installation and adjustment procedure for X series industrial printers. It's recommended to be carried out by technicians, in order to keep overall printing performance.

Print Head Pressure

Printing quality can be fine adjusted based on which area on the label the printing quality discrepancy is located.

A. Right Hand Side Enhancement

If the phenomena as shown in Fig. 1 been observed, please turn the Fine Adjustment Knob counter-clockwise slightly then try printing again to justify the printing quality improvement as shown in Fig.2. Repeat the same process until the printing quality is well balanced on both ends of the label.

Figure 1	Figure 2
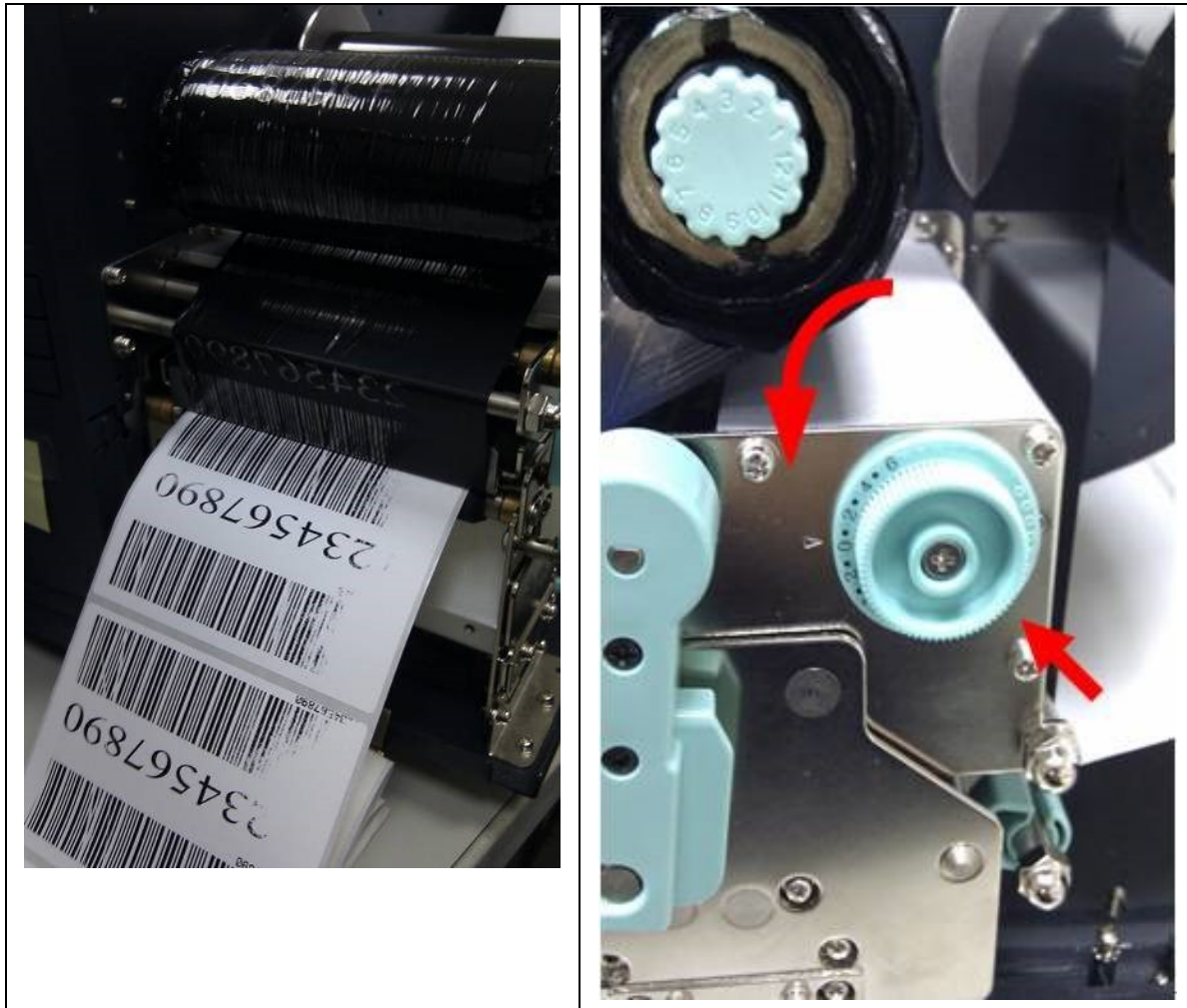
B. Left Hand Side Enhancement

If the phenomena as shown in Fig. 3 been observed, please turn the Fine Adjustment Knob clockwise slightly then try printing again to justify the printing quality improvement as shown in Fig.4. Repeat the same process until the printing quality is well balanced on both ends of the label.

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Figure 3	Figure 4
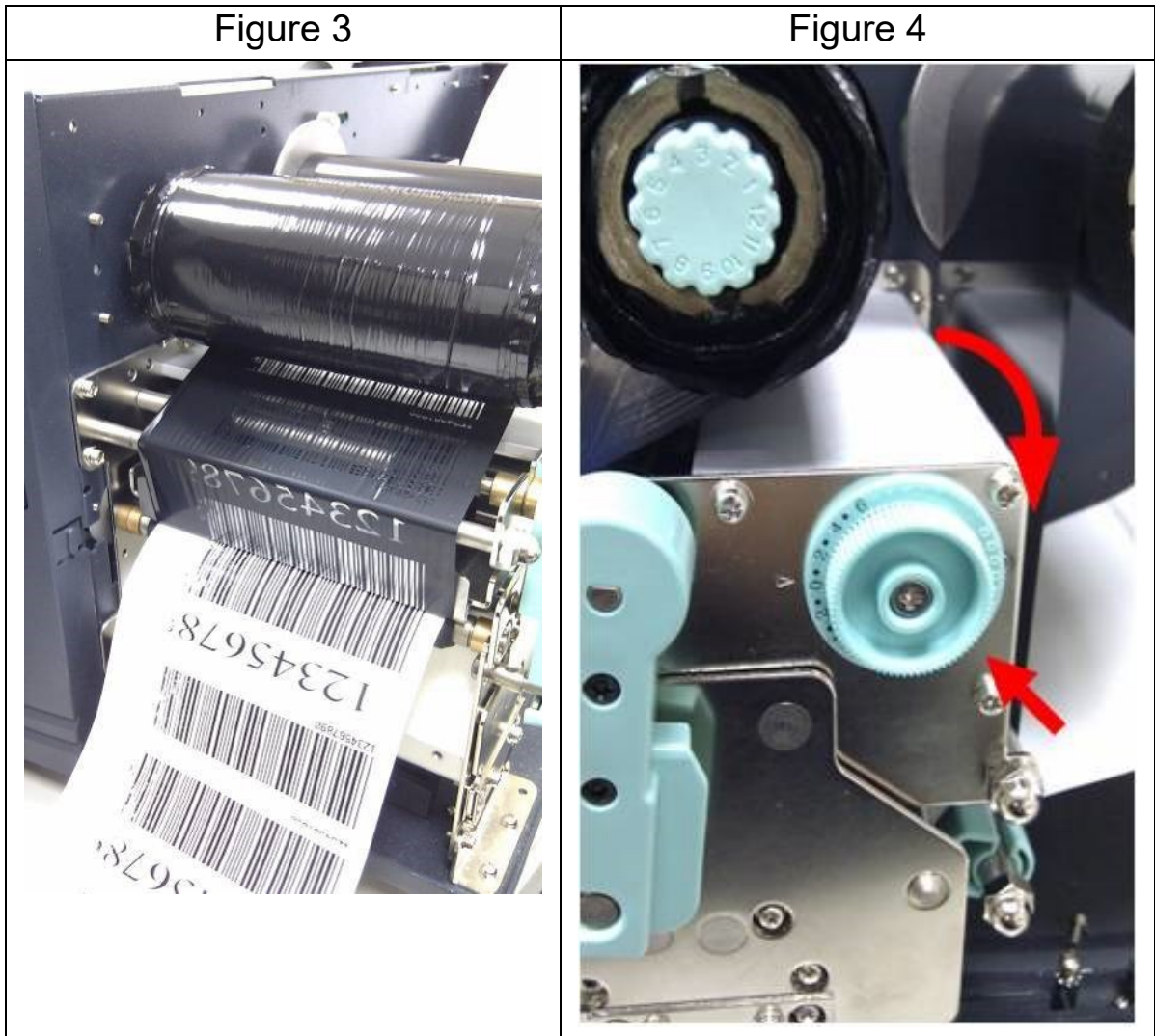
Once the desired quality has been reached, please make note on the new setting of the Fine Adjustment Knob and the type number of ribbon been used in this printing task for future reference.

[Remark]:
Please note, as shown in Fig. 2 and Fig. 4, the Fine Adjustment Knob is set to " 0 " as default setting when shipped from Argox factory.

Print Head Print Line Position

When the label only exhibits locally inferior printing quality and the ribbon is not wrinkled, the position of the print head shall be adjusted, and the adjusting position is shown as Fig. 1. The viewing direction is facing the machine, and using hex socket screw driver for the adjustment.

The adjusting portions for two hex socket screw locks marked in Fig. 1 are shown in Fig. 2 and Fig. 3. When the right side of the label exhibits inferior printing quality, as shown in Fig. 2, the screw at the right side shall be adjusted. When the left side of the label exhibits inferior printing quality, as shown in Fig. 3, the screw at the left side shall be adjusted. The adjusting steps are as follows:

1. Clockwise rotate the screw a half circle and test printing; observe whether the printing quality has been gradually improved or not; and stop the adjustment if the quality is improved.
2. Repeat Step 1; if the printing quality has not been gradually improved after five times, counterclockwise rotate five circles back to the original position and then proceed Step 3.
3. Counter-clockwise rotate the screw a half circle and test printing; observe whether the printing quality has been gradually improved or not; and stop the adjustment if the quality is improved.

Figure 1
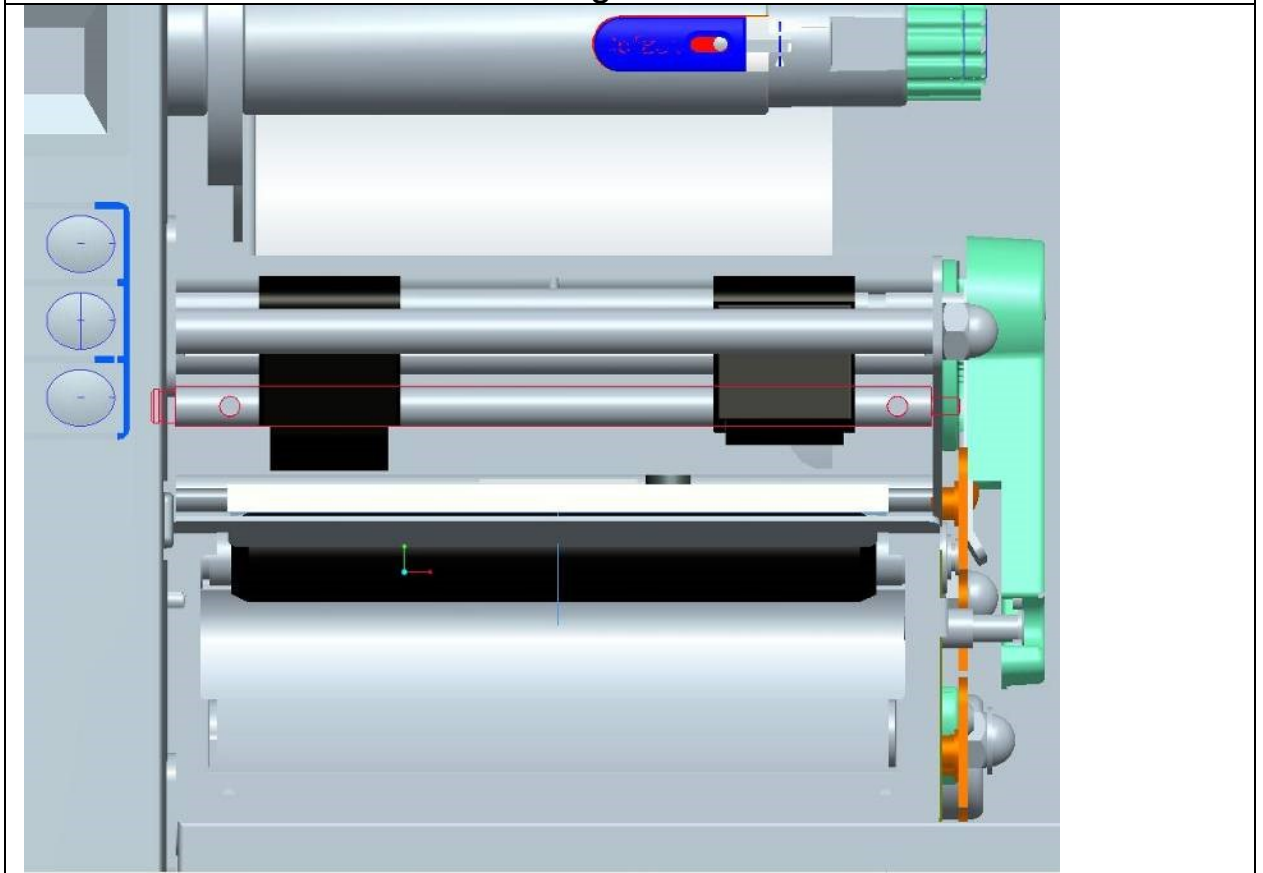
Figure 2	Figure 3

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Ribbon Tension Adjustment

Both ribbon supply spindle and ribbon pickup spindle are equipped with control knobs to adjust ribbon tension. The control knobs can rotate to both directions. Rotate the control knob clockwise to increase ribbon tension; rotate it counter-clockwise to reduce ribbon tension.

If the ribbon is wrinkled at ribbon supply, rotate clockwise control knob of ribbon supply, to increase ribbon tension at ribbon supply and further improve ribbon wrinkle. However, please be noted, too much tension at ribbon supply may result in ribbon not moving smoothly. Once it happens, rotate counter-clockwise control knob of ribbon supply, to increase ribbon tension to balance the tension.

If the ribbon is wrinkled at ribbon pickup, rotate counter-clockwise control knob of ribbon pickup, to decrease ribbon tension at ribbon pickup and further improve ribbon wrinkle. If the tension is too little at ribbon pickup, ribbon will not move smoothly, and needs control knob to rotate clockwise to increase tension.

[Remark]:
The ribbon shaft has its user-friendly feature to allow users to adjust the tension of ribbon shaft by rotating the knob. User can reset to factory default tension by adjusting the ribbon shaft while the black line was aligned to the marked arrows. The default setting when shipped from Argox factory is shown as Figure 2 – the two arrows are in line with the black line.

Figure 1
Figure 2

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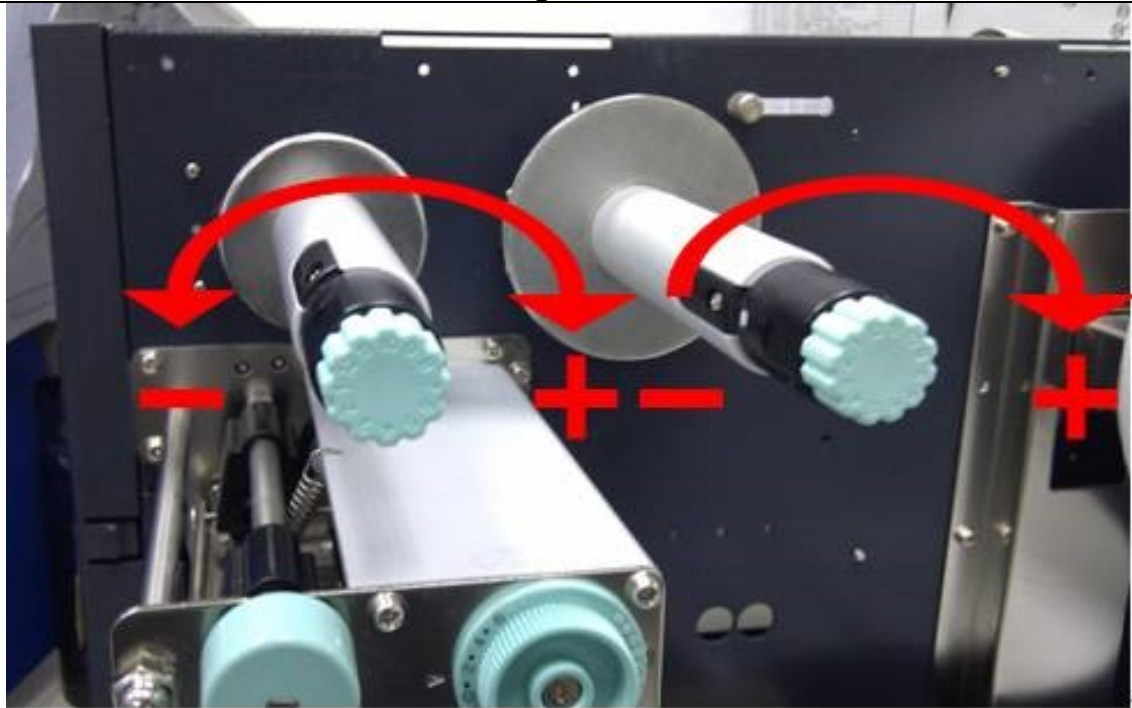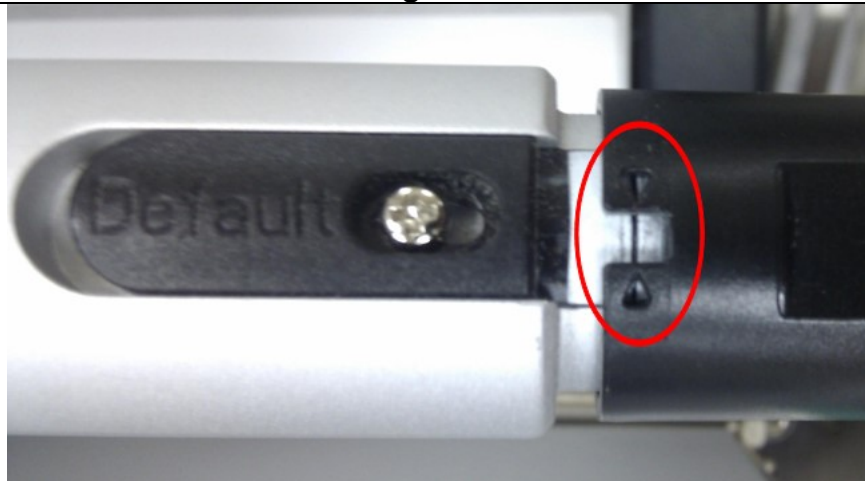
Printing Wrinkle

During printing, ribbon may wrinkle and cause abnormal printing quality. The following describes how to solve ribbon wrinkle accordingly.

Figure A	Figure B

 Once the printouts as above appear, the possible cause may be the unequal positions of Ribbon Bracket, which needs to be adjusted properly to make its heights equally the same at both sides. Steps to adjust are as below:

1. Loose the screws at both sides and rotate counter-clockwise:
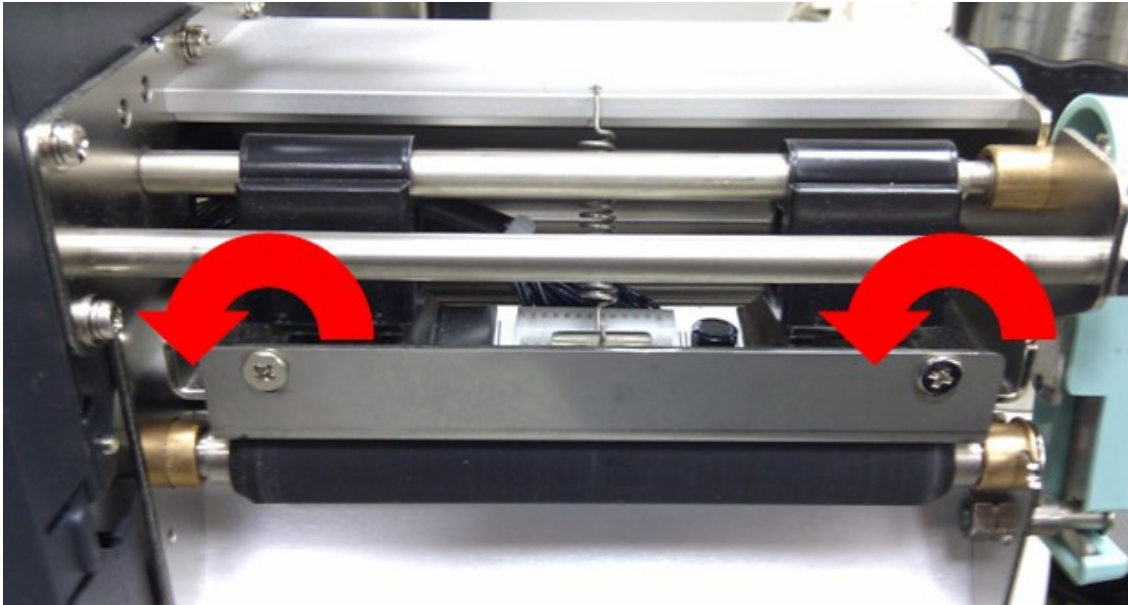
2. Make sure the Ribbon Bracket is at its lowest position first; then tight up the screws by rotating clockwise.

3. Print a test page to check print quality. If the quality is improved, stop the adjustment; if not, continue with next step.

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4. If the test print appears as Figure A, remain the screw at the right of Ribbon Bracket fixed, then loose the screw at the left, and gradually fine-tune upward, until the print quality gets improved.

If the test print appears as Figure B, remain the screw at the left of Ribbon Bracket fixed, and then loose the screw at the right, and gradually fine-tune upward, until the print quality gets improved.

Rotary Cutter and Guillotine Cutter Installation

Refer to the following steps to install the cutter kit onto printers:

1. Turn off the printer.
2. Remove the top covers on both left and right sides.
3. Install the Cutter Baby Board to the main board **JP17** connector of **X-1000VL, X-2000V, X-2000V Zip** / **JP15** connector of **X-2300, X-2300Z, X-2300E, X-2300ZE, X-3200, X-3200Z, X-3200E, X-3200ZE**.
4. Loose the three screws from Tear-off Bracket and then remove Tear Bracket.
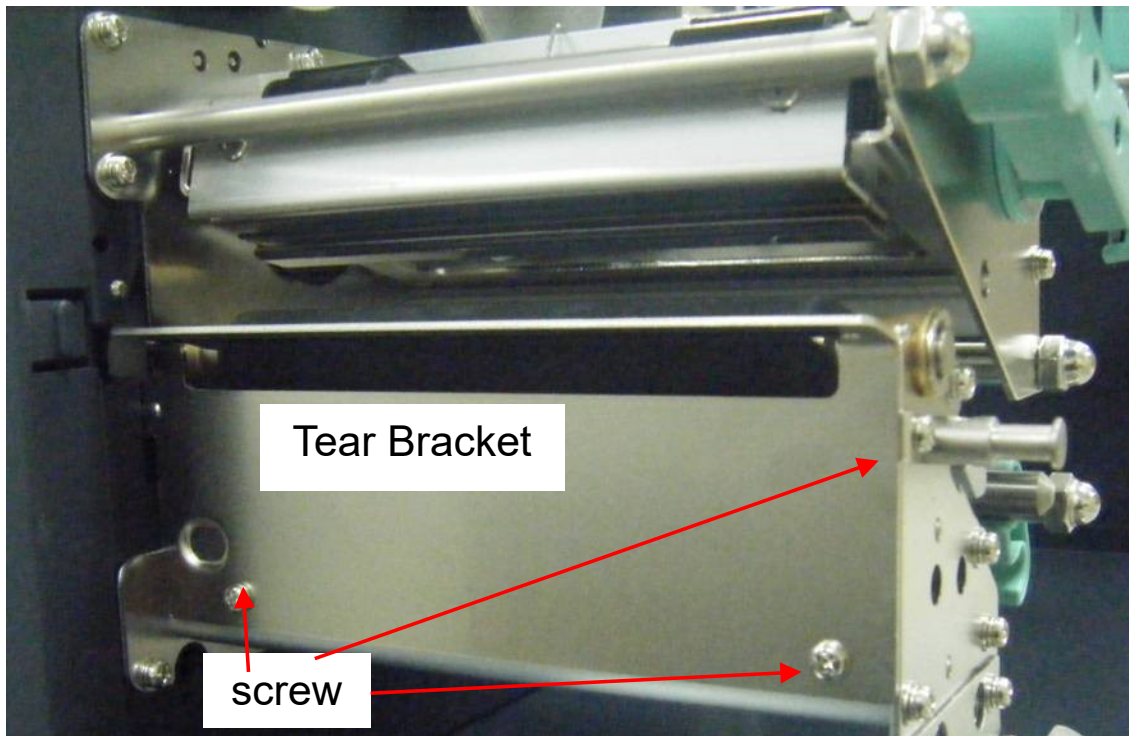
Tear Bracket

screw

5. Insert the left side of cutter bracket (7) and secure the two screws (6) to the print module.

Rotary Cutter

Guillotine Cutter

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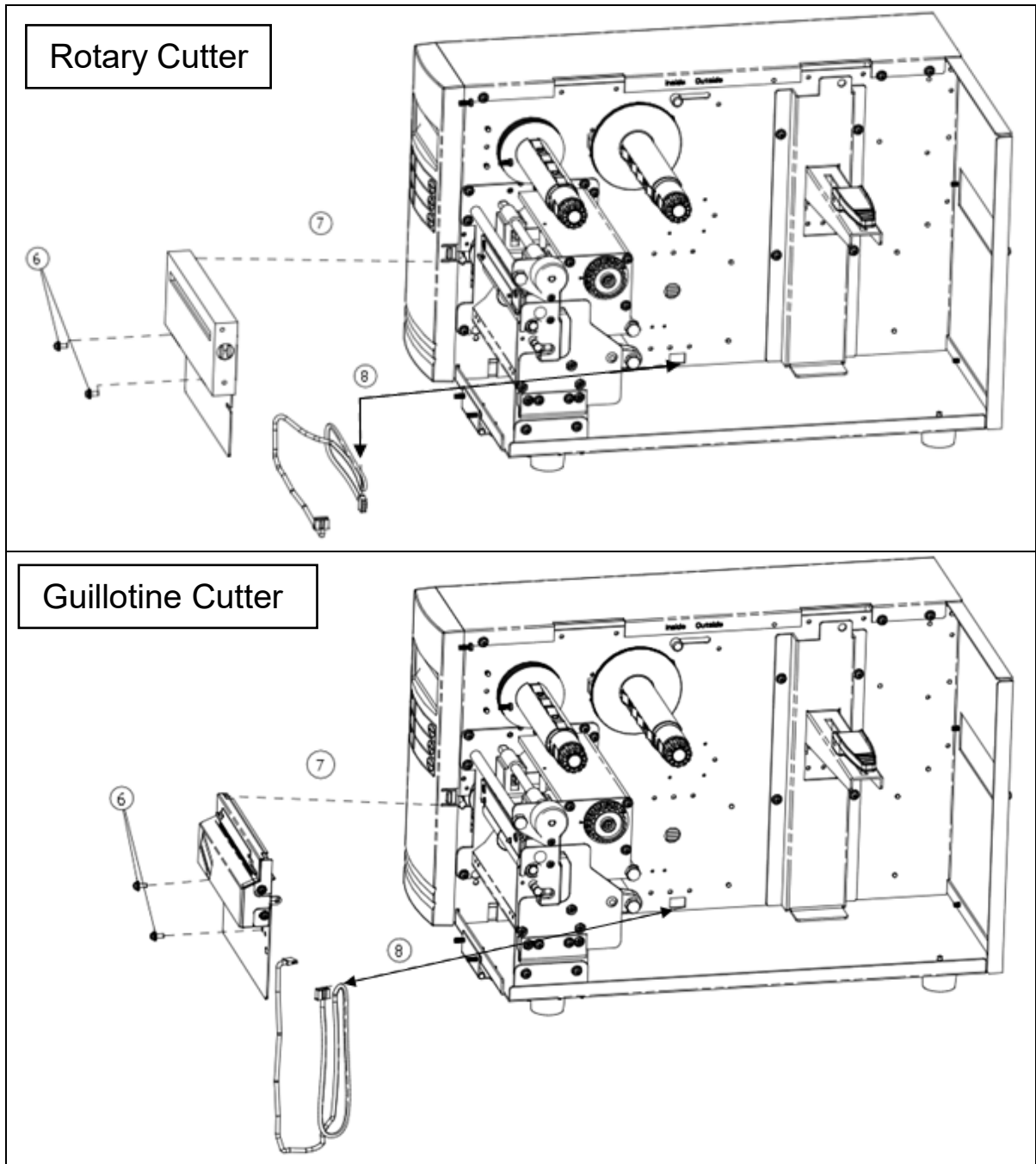
6. Thread the cutter cable (8) through hole and route it to the **JP16** connector (CUTTER) on the **X-1000VL/ X-2000V/ X-2000V Zip** main boards, or to the **JP14** connector (CUTTER) on the main board of **X-2300/ X-2300Z/ X-2300E/ X-2300ZE/ X-3200/ X-3200Z/ X-3200E/ X-3200ZE**.
7. Turn on the printer.
8. For the models with LCD, set the parameter of "CUTTER INSTALLED" on the LCD to the ON position. For X-1000VL model, enable cutter setting by printer driver or commands.

After the cutter is installed, install media and ribbon.
1. Put the media end on the roller.
2. Close the print head latch.
3. Hold the PAUSE button and turn on the printer.
4. Release the button when the cutter starts cutting.
5. After cutting, the printer will feed the label for 8 inches.

Note: The procedure above is for first time installation or after cutter jam. Normally the procedure for loading the media through the cutter is:
1. Put the media end on the roller.
2. Close the print head latch.
3. Turn on the printer.
4. Press the FEED button to feed the media end through the cutter.

Rotary Cutter and Guillotine Cutter Settings

Before printing and cutting tasks, please make sure whether the cutter in use is Rotary Cutter, or Guillotine Cutter. Then select proper settings via Seagull Driver for printer. The following installation steps are based on X-3200 as an example.

1. Check X-3200 driver. Go to the prompt of Printer Properties, click on the tag, "Tools':
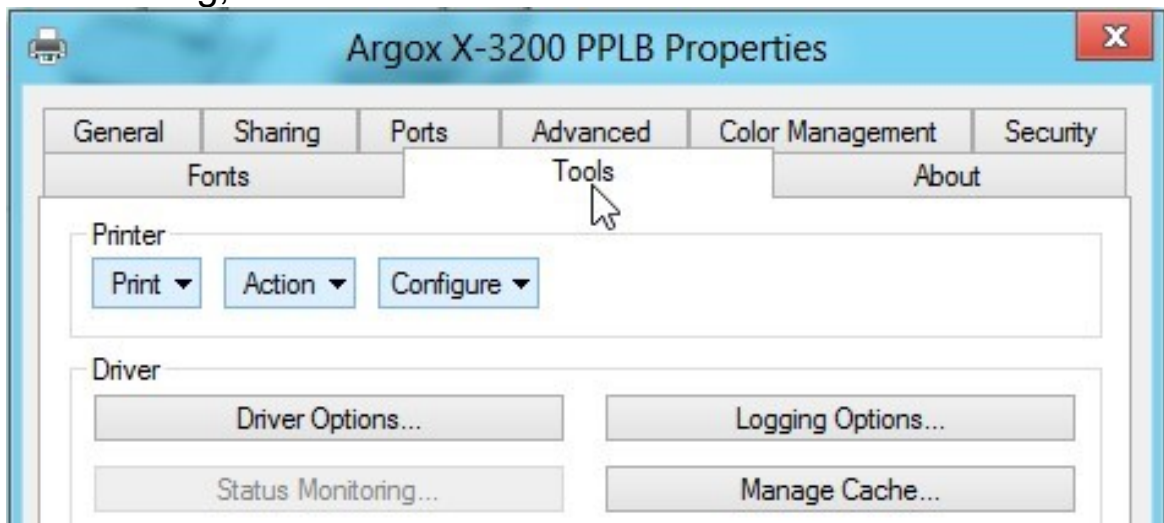
2. Click the "Configure" setting of driver, select "Cutter Setup":
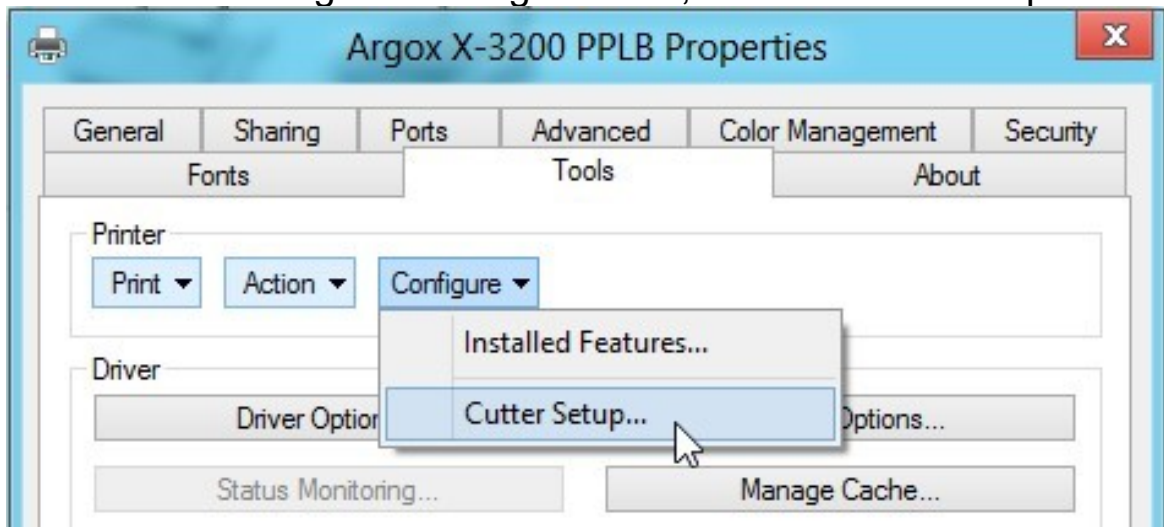
3. "Cutter Setup" prompts will be indicated as below.
Check on the radio button, "Rotary" if there's Rotary Cutter installed.
Then click "OK":
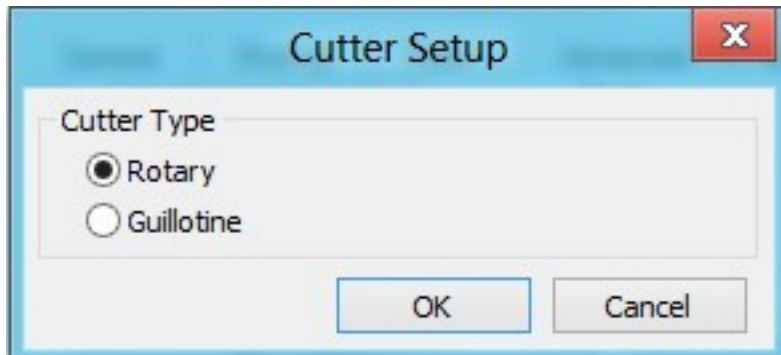
Check on the radio button, "Guillotine" if there's Guillotine Cutter installed. Then click "OK":

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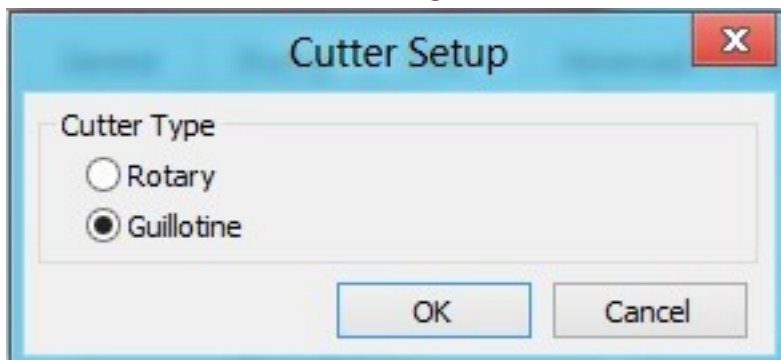
4. Go to "Printing Preference" prompt of X-3200 driver and then click on the "Stock" tag. Check "Post-Print Action" settings and select "Cut".
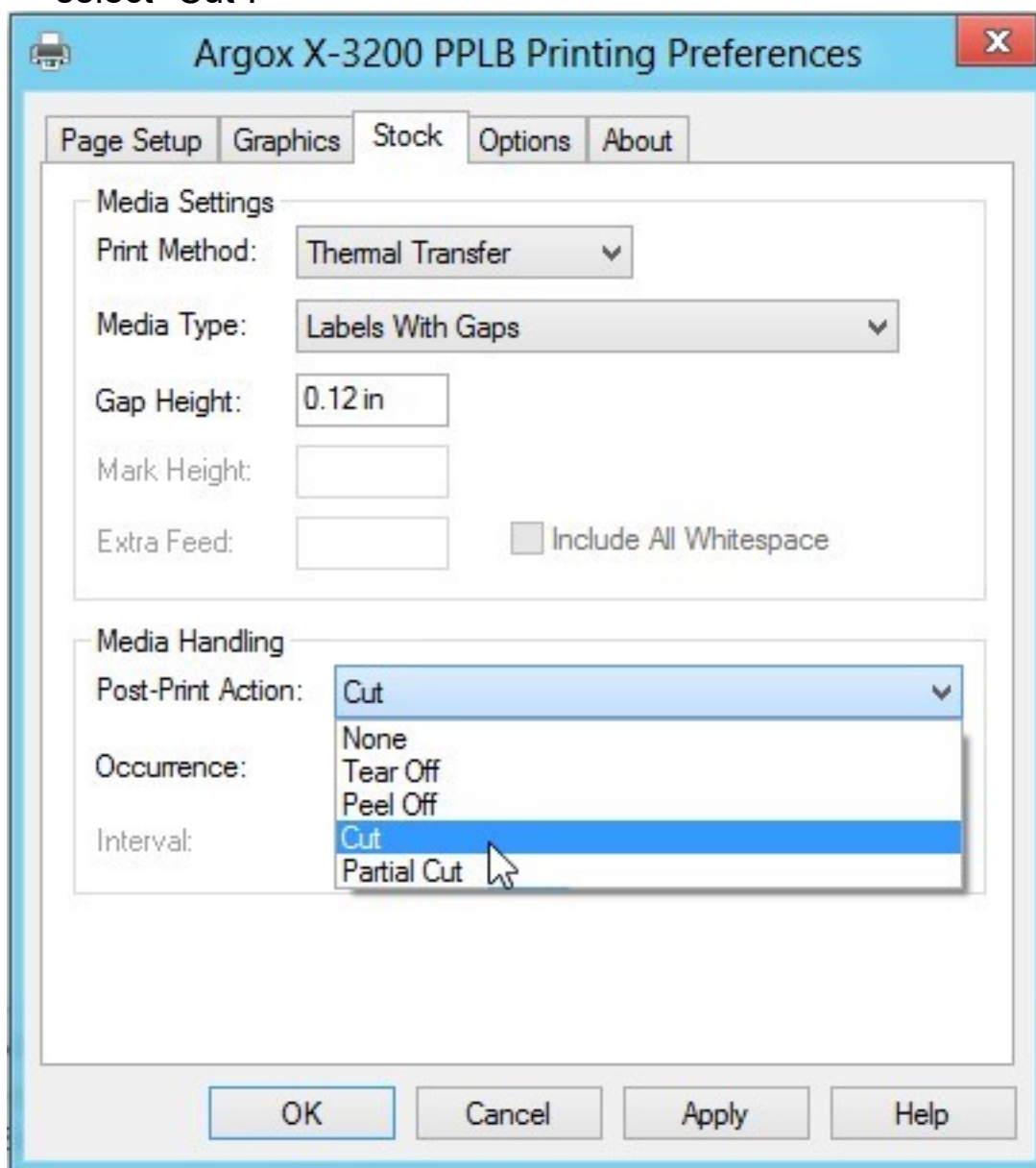
※ If there's Guillotine Cutter installed and partial cut function is needed, select "Partial Cut" in "Post-Print Action".

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Rotary Cutter with Paper Jam

If there is paper jam inside rotary cutter, refer to Rotary Cutter Installation section to remove the rotary cutter. Check the Cam as marked in Figure 1, find a slotted screwdriver to turn counter-clockwise as Figure 2. During turning the Cam of cutter, release the blade from paper and them remove the paper from the cutter.
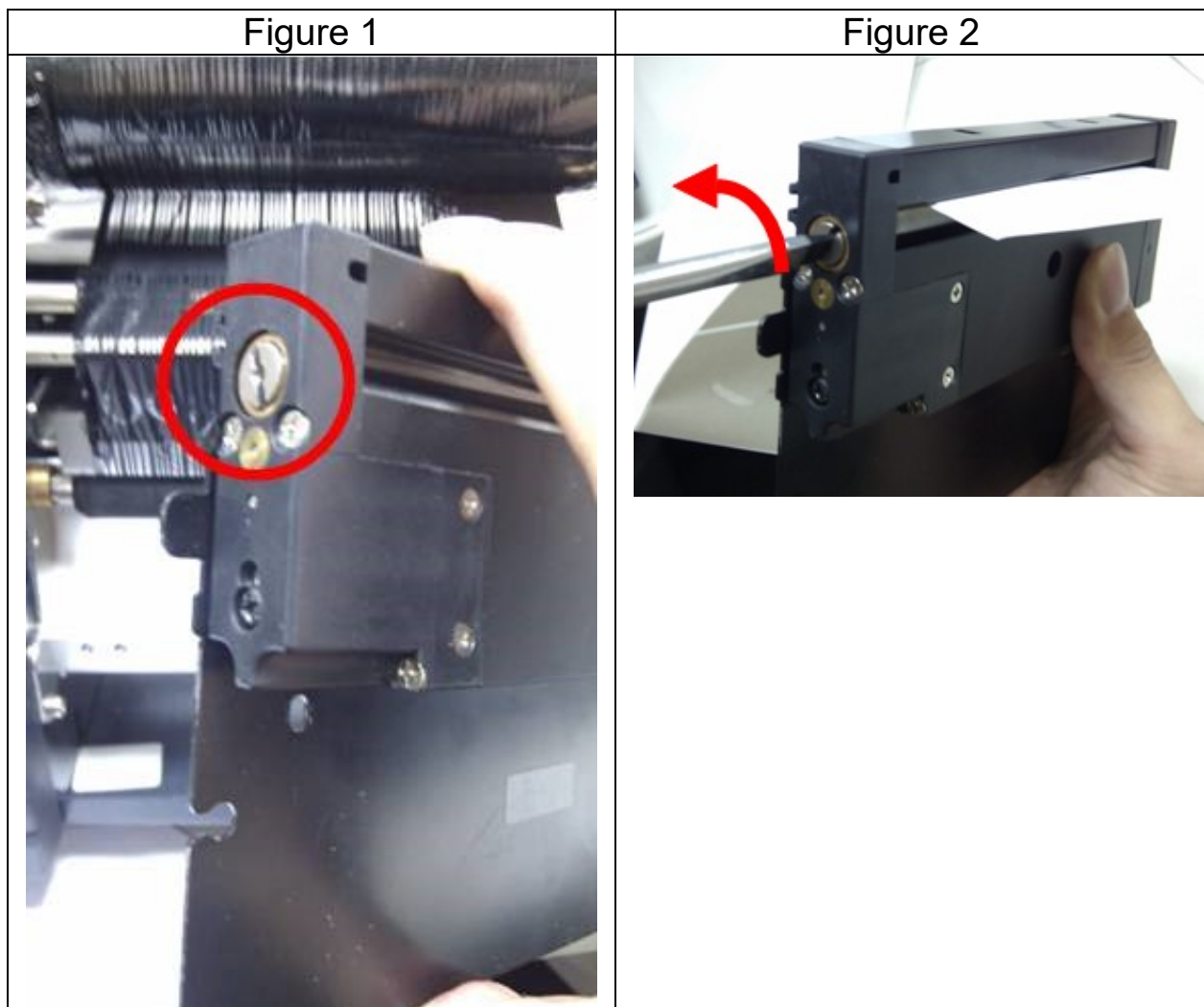
Figure 1	Figure 2

Guillotine Cutter with Paper Jam

If there is paper jam inside guillotine cutter, check in Figure 1 and find where the screw under guillotine cutter. It is to control cut actions of guillotine cutter. Find a Phillips screwdriver to lay down the blade by turning the screw counter-clockwise. Then paper can be removed from the cutter as Figure 2.

Figure 1	Figure 2
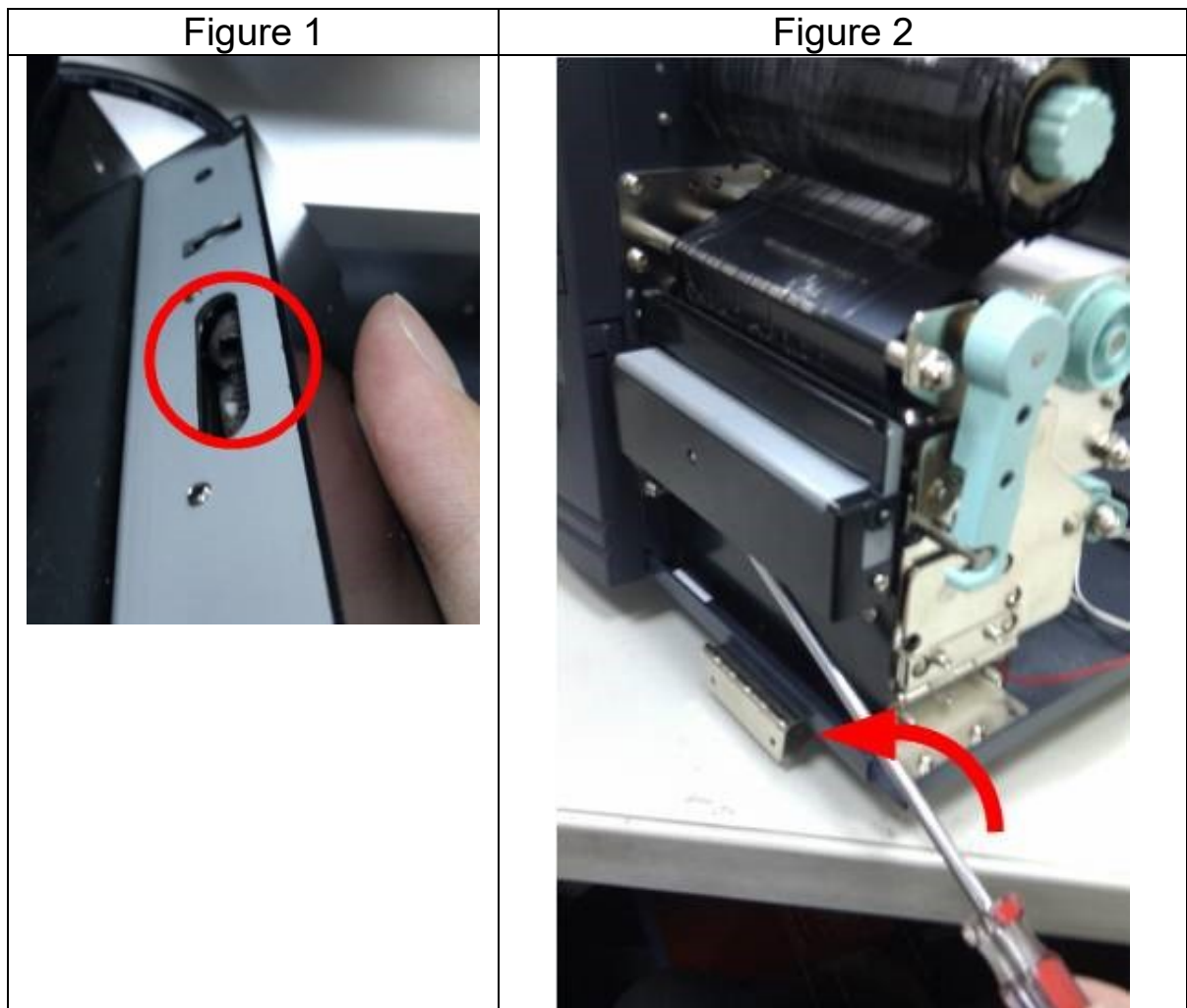
Dispenser & Rewinder Installation

Install a dispenser into the printer as follows:

1. Turn off the printer.
2. Remove the top cover on both left and right sides.
3. Assemble the related components for both left and right sides. Check below:
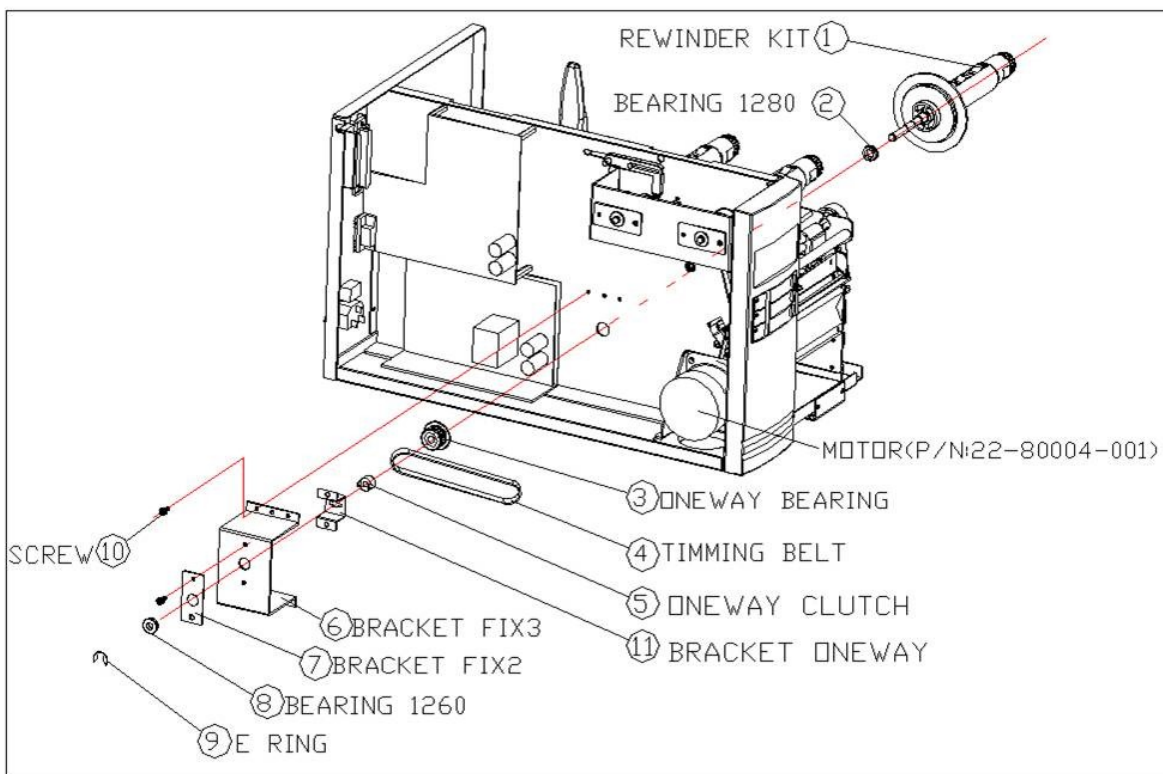
4. Thread the dispenser cable through a hole and route it to main board **JP15** connector (PEELER) of **X-1000VL, X-2000V, X-2000V Zip** / **JP12** connector (PEELER) of **X-2300, X-2300Z, X-2300E, X-2300ZE, X-3200, X-3200Z, X-3200E, X-3200ZE**.

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5. Insert the left side of dispenser bracket and secure the three screws to the print module.

SCREW x3

PEELER

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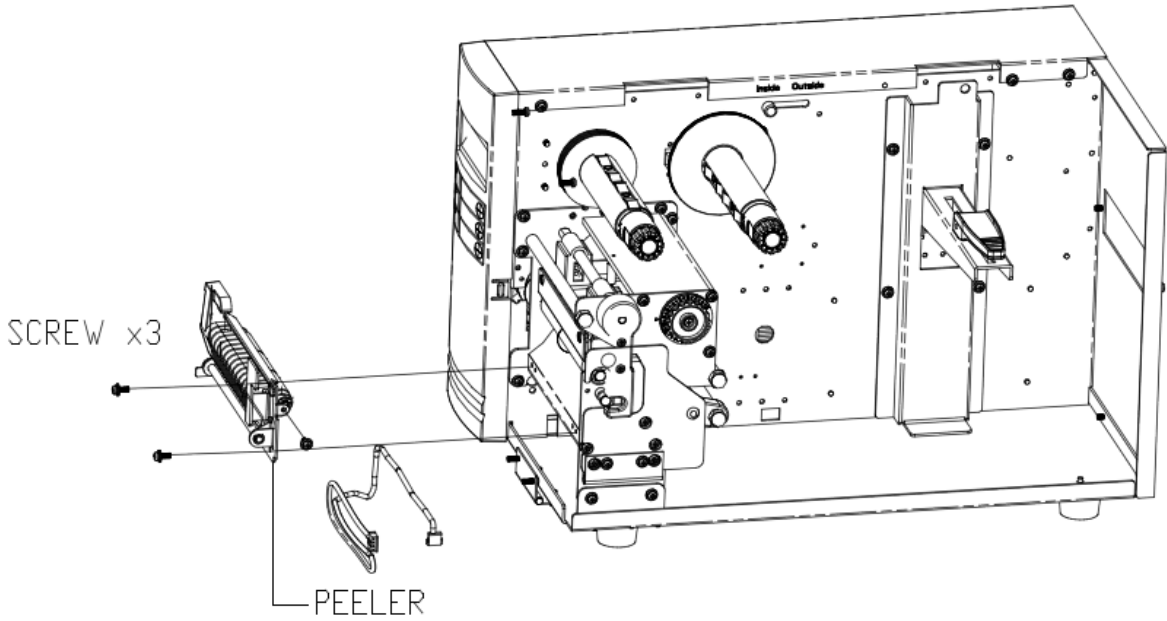
6. Install the ribbon and media.
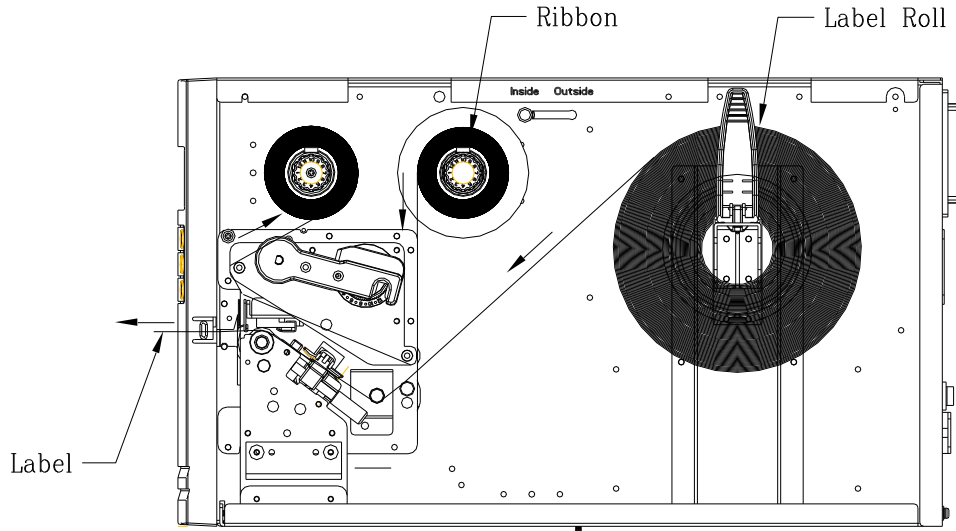
7. Turn on the printer.
8. For the models with LCD, set the parameter of "DISPENSER INSTALLED" on the LCD to the ON position. For X-1000VL model, enable dispenser setting by printer driver or commands.

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RTC Battery Replacement

RTC stands for real-time clock. It is a battery powered clock that keep track of the current date and time. If your printer has a built-in RTC, you'll find the RTC battery on the main board. The RTC battery keeps the RTC running even if the printer is turned off. If the battery is low or out, you need to replace it with a new one.

To replace a RTC battery:
1.   Open the left cover of printer. Turn on the printer.
2.   Locate the battery on the main board.
3.   Remove the old coin battery and install a new one.
4.   Turn off the printer.
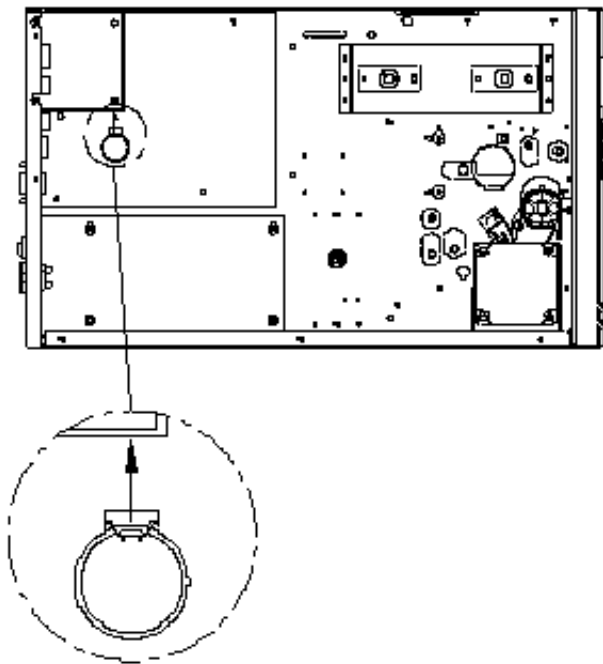
CAUTION:

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Stand-alone with Keyboard

This section covers stand-alone operation with keyboard. It is applicable with printer models:

Printer Language	Argokee			PS/2 Keyboard
	PPLA	**PPLB**	**Basic**	**PPLB only**
Model	X-1000VL X-2000V X-2300 X-2300Z X-3200 X-2300E X-3200E	X-1000VL X-2000V X-2300 X-2300Z X-3200 X-2300E X-3200E	All models	X-2000V X-2300 X-3200 X-2300E X-3200E

To use the printer in stand-alone operation with a keyboard follow the procedure described below:

1. Make a form for the keyboard. (The form should include "ZS" command to store to flash memory. Refer to the following command sample.)
2. Turn on the printer; download the form from PC to printer.
3. Turn off the printer.
4. Connect the keyboard to the keyboard interface.
5. Turn on the printer.
6. Check LCD for instructions of each data string/ label count/ copies; type to input data accordingly.

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Form Control Functions:

Key	Function
Esc	Enter or exit from keyboard mode
Backspace	Delete the last typed character
F1	Next form if more than one form exists
Enter	- Select the form - End of typed data

Example: Making a Keyboard Form

1. Make a command file for the form, KBD.FRM.

Command	Description
ZS	Enable store to flash
FK"KBDFORM"	Delete previous one
FS"KBDFORM"	Start of form
V00,15,N,"Product Name ?"	Variable and display message
C0,10,N,+1,"Product No. ?"	Counter and display message
Q50,24	Label dimension
q816	Label width
S2	Speed
D8	Darkness
ZT	Print from top
A550,20,0,4,1,1,R,"ABC COMPANY"	Fixed data
B550,60,0,2,2,4,40,B,C0	Barcode I25 for counter
A540,150,0,3,1,1,N,V00	Print the input product
FE	End of form
ZN	Disable store to flash

2. Send the file, KBD.FRM to printer under MS-DOS
   >COPY/B KBD.FRM LPT1:

3. Turn off the printer, connect the keyboard and then turn on the printer. The LCD displays this message:

READY (203,PPLB)
<ESC> FOR KEYBD

4. Press <ESC> to enter the keyboard mode and the form name appears. Press <ENTER> to select the form.

KBDFORM
↵

5. Key-in the product name and number.

Product Name ?
Barcode Printer↵

Product No. ?
0123456789↵

6. Input the label count and copy count.

LABEL SET NO. ?
2↵

COPIES PER LAB ?
3↵

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7. Press <ENTER> to continue to the next label and repeat steps 5 ~ 7, or <ESC> to exit.

ENTER to go on,
Or ESC to return

8. Output:

ABC COMPANY

0123456789

Barcode Print

ABC COMPANY

0123456789

Barcode Print

ABC COMPANY

0123456789

Barcode Print

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ABC COMPANY

0123456790

Barcode Print

ABC COMPANY

0123456790

Barcode Print

ABC COMPANY

0123456790

Barcode Print

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Stand-alone with Barcode Reader

This section covers stand-alone operation with barcode readers. It is applicable with printer models:

	Barcode Reader	
Interface	PS/2	RS-232
Printer Language	PPLB	PPLB
Model	X-2000V X-2300 X-3200 X-2300E X-3200E	X-1000VL

To use the printer in stand-alone operation with a barcode reader (scanner), follow the procedure described below

1. Make a form for barcode reader. (Note that the form name must be "READER" The form should include "ZS" command to store to flash memory.)
2. Turn on the printer; download the form from PC to printer.
3. Set the parameter of "READER INSTALLED" on the LCD to ON position.
4. Turn off the printer.
5. Connect the barcode reader to the keyboard interface.
6. Turn on the printer.
7. Check LCD for instructions of each data string and scan barcodes to input data accordingly.

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Example: Making a Barcode Reader Form

1. Make a command file for a form, READER.FRM.

Command	Description
ZS	Enable store to flash
FK"READER"	Delete previous one
FS"READER"	Start of form
V00,15,N,"Product Name ?"	Variable and display message
C0,10,N,+1,"Product No. ?"	Counter and display message
Q50,24	Label dimension
q816	Label width
S2	Speed
D8	Darkness
ZT	Print from top
A550,20,0,4,1,1,R,"ABC COMPANY"	Fixed data
B550,60,0,2,2,4,40,B,C0	Barcode I25 for counter
A540,150,0,3,1,1,N,V00	Print the input product
PA1	Single copy
FE	End of form
ZN	Disable store to flash

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2. Send the file READER.FRM to printer under MS-DOS
    >COPY/B READER.FRM LPT1:

3. Turn off the printer, connect the barcode reader, turn on the
    printer and set "Reader installed" on the LCD to ON
    position.

4. The form READER is automatically executed. Scan product
    name and number from printed bar codes using the barcode
    reader.

Product No.?
11223344↵

Product Name?
APPLE↵

5. A label is printed. The copy count depends on the PA
    command for the READER form. Step 4 is automatically
    repeated.
6. Output:

ABC COMPANY

11223344

APPLE

Notes:
1. To return to normal operation, press and hold the CANCEL button and turn on the printer again.
2. When using a keyboard or barcode reader communicating with a host through the Centronics or serial port is prohibited.
3. For the keyboard form the P command is not allowed, while for the barcode reader/scanner form a PA command must be included.

6. Technical Reference

General Specifications

	X-1000VL	X-2000V	X-2300 X-2300E	X-3200 X-3200E
Printing Method	Direct Thermal and Thermal Transfer			
Printing Resolution	203 dpi (8 dots/mm)			300 dpi (12dots/mm)
Printing Width	Max 4.09" (104mm)			Max 4.16" (105.7mm)
Printing Length	Max. 50" (1270 mm) Min 0.2"(5mm)		Max. 100" (2540 mm) Min .2" (5mm)	Max. 50" (1270 mm) Min 0.2"(5mm)
Printing Speed	2 ~ 4 IPS (51~102 mm/s)	2 ~ 6 IPS (51~152 mm/s)		1 ~ up to 5 IPS (25.4~127 mm/s)
Memory	8MB DRAM (7MB User Available) 4MB Flash ROM (3MB User Available)		16 MB DRAM (13MB User Available) 8MBFlash ROM (6MB User Available)	
CPU Type	32 bit RISC CPU			
Sensors	Reflective & See-through media sensors (movable) Head open switch Ribbon end sensor			

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Display	LED indicator x 3, Button x 3	LED indicator x 3, Button x 3, Back-lit LCD Display 16 x 2-line Multilingual
Communication interfaces	Centronics parallel, RS-232 serial (baud rate to 115200 bps), USB	Centronics parallel, RS-232 serial, USB, PS/2 interface, Ethernet 10/100MB (X-2300E / X-2300ZE / X-3200E / X-3200ZE)
Media Types	Roll-feed, die-cut, continuous, fan-fold, tags, ticket in thermal paper or plain paper, fabric labels	
Maximum Label Roll Diameter	Max. media width: 4.4" (112mm) Min. media width: 1" (25.4 mm) Media thickness: 0.0025"~0.01"(0.0635mm~0.254mm) 8"(203mm) OD on a 3"(76mm) ID core 7"(177.8mm) OD on a 1.5"(38mm) ID core Min Length: 0.79"(20mm) for rotary cutter option	
Ribbon	Wax, Wax/Resin, Resin (ribbon wound ink-side out or ink-side in available)	
Ribbon Size	Ribbon width: 1"~4"(25.4 mm~101.6 mm) Ribbon Length: max 360m Wax, 300m Semi-Resin Ribbon roll max OD 3" (76 mm) Core size ID 1"(25.4 mm)	

Compact Size	W250 x L418 x H263 mm	
Weight	24lbs(11kgs)	
Power Source	100~240 VAC, 50/60 Hz, internal universal power supply	
Operation Environment	Operating Temperature 40° F~100°F (4°C~38°C), 10% ~ 90% non-condensing, Storage Temperature -4°F~122°F (-20°C~50°C)	
Driver Operating Systems	Win XP/ Vista/ Windows 7/ Windows 8	
Printer Languages	X-1000VL, X-2000V, X-2300, X-2300E, X-3200, X-3200E: PPLA, PPLB X-2000V Zip, X-2300Z, X-2300ZE, X-3200Z, X-3200ZE: PPLZ	
Real Time Clock (RTC)	N/A	Standard (Battery for RTC: Type CR2032, +3V, 225mAh)
Options and Accessories	Guillotine Cutter Rotary Cutter Dispenser Rewinder Media Stacker RTC Font card (Simplified Chinese, Traditional Chinese, Japanese, Korean)	Guillotine Cutter Rotary Cutter Dispenser Rewinder Media Stacker

Agency Listing	CE, cULus, FCC class A, CCC, S-Mark, RoHS

Note:

1. Since Font Card and optional RTC Card share the same slot on X-1000VL and X-2000V, they cannot be used at the same time.
2. The X Series models, except X-1000VL, can connect to PC keyboard via PS/2 port for standalone operation. X-1000VL connects to Argokee via RS-232 connection.

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Fonts, Bar Codes and Graphics Specification

The specifications of fonts, bar codes and graphics depends on the printer emulation. The emulation is a printer programming language through which the host can communicate with your printer. There are three printer programming languages, PPLA, PPLB and PPLZ.

Printer Programming Language A, PPLA

Specification	X-1000VL / X-2000V / X-2300 / X-3200 / X-2300E / X-3200E
Internal Fonts	9 fonts with different point size 6 fonts with ASD smooth font. Courier font with different symbol sets.
Symbol Sets (Code Pages)	Courier font symbol set: Roman-8, ECMA-94, PC, PC-A, PC-B, Legal, and PC437 (Greek), Russian.
Font Expandability	1x1 to 24x24
Character Rotation	0, 90, 180, 270 degree, 4 direction rotation
Soft Fonts	True Type fonts can be downloaded by Font Utility (Two-byte Asian fonts also can be downloaded to X-2300 / X-3200 / X-2300E / X-3200E)
1D Bar Code Types	Code 39 UPC-A UPC-E Code 128 subset A/B/C EAN-13 EAN-8 HBIC Codabar Plessey UPC2 UPC5

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	Code 93 Postnet UCC/EAN-128 UCC/EAN-128 K-MART UCC/EAN-128 Random Weight Telepen FIM Interleave 2 of 5 (Standard/with modulo 10 checksum/with human readable check digit/with modulo 10 checksum & shipping bearer bars) GS1 Data bar (RSS)
2D Bar Code Types	MaxiCode PDF417 Data Matrix (ECC 200 only) QR code Composite Codes Aztec Barcode Micro PDF417
Graphics	PCX, BMP, IMG, GDI and HEX format files

Printer Programming Language B, PPLB

Specification	X-1000VL / X-2000V / X-2300 / X-3200 / X-2300E / X-3200E
Internal Fonts	5 fonts with different point sizes
Symbol Sets (Code Pages)	8 bits code page: 437, 850, 852, 860, 863, 865, 857, 861, 862, 855, 866, 737, 851, 869, 1252, 1250, 1251, 1253, 1254, 1255 7 bits code page: USA, BRITISH, GERMAN, FRENCH, DANISH, ITALIAN, SPANISH, SWEDISH and SWISS. (300dpi printer models support Code page 437, 850, 852, 860, 863, 865, 1254 only.)
Font Expandability	1x1 to 24x24

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|	
Character Rotation	0, 90, 180, 270 degree, 4 direction rotation
Soft Fonts	True Type fonts can be downloaded by Font Utility (Two-byte Asian fonts also can be downloaded to X-2300 / X-3200 / X-2300E / X-3200E)
1D Bar Code Types	Code 39 UPC-A UPC-E Matrix 2 of 5 UPC-Interleaved 2 of 5 Code 39 with check sum digit Code 93 EAN-13 EAN-8 (Standard, 2 /5digit add-on) Codabar Postnet Code128 subset A/B/C Code 128 UCC (shipping container code) Code 128 auto UCC/EAN code 128 (GS1-128) Interleave 2 of 5 Interleaved 2 of 5 with check sum Interleaved 2 of 5 with human readable check digit German Postcode Matrix 2 of 5 UPC Interleaved 2 of 5 EAN-13 2/5 digit add-on UPCA 2/5 digit add-on UPCE 2/5 digit add-on GS1 Data bar (RSS)
2D Bar Code Types	MaxiCode PDF417 Data Matrix (ECC 200 only) QR code Composite Codes Aztec Barcode
Graphics	PCX , Binary Raster, BMP and GDI

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Printer Programming Language Z, PPLZ

Specification	X-2000V Zip / X-2300Z / X-3200Z / X-2300ZE / X-3200ZE
Internal Fonts	8 (A~H) fonts with different point size. 8 AGFA fonts: 7 (P~V) fonts with fixed different point size (not scalable). 1 (0) font with scaling point size.
Symbol sets (Code pages)	USA1, USA2, UK, HOLLAND, DENMARK/NORWAY, SWEDEN/FINLAND, GERMAN, FRANCE1, FRANCE2, ITALY, SPAIN, MISC, JAPAN, IBM850.
Font size	1x1 to 10x10
Character Rotation	0, 90, 180, 270 degree, 4 direction rotation
Soft Fonts	True Type fonts can be downloaded by Font Utility (Two-byte Asian fonts also can be downloaded to X-2300Z / X-3200Z / X-2300ZE / X-3200ZE)
1D Bar Code Types	Code39 UPC-A UPC-E Postnet Code128 subset A/B/C Interleave 2 of 5 Interleaved 2 of 5 with check sum Interleaved 2 of 5 with human readable check digit Code 93 Code 39 with check sum digit MSI EAN-8 Codabar Code 11 EAN-13 Plessey GS1 Data bar (RSS) Industrial 2 of 5 Standard 2 of 5 Logmars
2D Bar Code	MaxiCode PDF417

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Types	Data Matrix (ECC 200 only)
	QR code
	Composite Codes
	Aztec Barcode
	Micro PDF417
Graphics	GRF, Hex and GDI

Interface Specifications

This section presents the interface specifications of IO ports for the printer. These include pin assignments, protocols and detailed information about how to properly interface your printer with your host or terminal.

USB
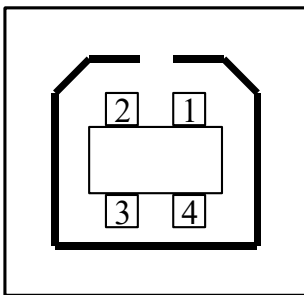
USB series "B" Receptacle Interface

Pin	Signal Name
1	VBUS
2	D -
3	D+
4	GND

Connector Terminal Pin Assignment

PS/2

Standard IBM PC PS/2 interface, 6-pin female type:

Pin No.	Direction	Definition
1	IN/OUT	DATA
2	---	N.C
3	---	GROUND
4	---	+5V
5	IN/OUT	CLOCK
6	---	N.C

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Serial Interface

The RS-232 connector on the printer side is a female, DB-9.

Pin	Signal	Description
1	No function	Shorted to Pin - 6
2	Received Data, RxD	Input. Serial "Received Data"
3	Transmitted Data, TxD	Output. Serial "Transmitted Data".
4	No function	No connection
5	GND	Signal Ground
6	No function	Shorted to Pin - 1
7	Request to Send, RTS	Output. Used as the control signal for "H/W Flow Control "
8	Clear to Send, CTS	Input. Used as the control signal for "H/W Flow Control"
9	+5V	Output. Pin 9 is reserved for KDU (keyboard device unit)

Note: Pin 9 is reserved for a KDU (keyboard device unit). Do not connect this pin if you use a general host such as a PC.

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Connection with Host:

Host 25S	**Printer 9P**	**Host 9S**	**Printer 9P**
(PC or compatible)		(PC or compatible)	

Host 25S	Printer 9P	Host 9S	Printer 9P
DTR 20 ……	1 DSR	DTR 4 ……	1 DSR
DSR 6 ……	6 DTR	DSR 6 ……	6 DTR
TX 2 ……	2 RX	TX 3 ……	2 RX
RX 3 ……	3 TX	RX 2 ……	3 TX
CTS 5 ……	7 RTS	CTS 8 ……	7 RTS
RTS 4 ……	8 CTR	RTS 7 ……	8 CTS
GND 7 ……	5 GND	GND 5 ……	5 GND

Alternatively you can connect the 3 wires as follows:

Host 25S	**Printer 9P**	**Host 9S**	**Printer 9P**
(PC or compatible)		(PC or compatible)	

Host 25S	Printer 9P	Host 9S	Printer 9P
TX 2 ……	2 RX	TX 3 ……	2 RX
RX 3 ……	3 TX	RX 2 ……	3 TX
GND 7 ……	5 GND	GND 5 ……	5 GND
pin 4 ⌐		pin 4 ⌐	
pin 5 ⌐		pin 6 ⌐	
pin 6 ⌐		pin 7 ⌐	
pin 20 ⌐		pin 8 ⌐	

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The simplest way to connect to other hosts (not PC compatible) or terminals is:

Printer		Terminal/Host
Pin 2- RxData	………	TxData
Pin 3- TxData	………	RxData
Pin 5- Ground	………	Ground
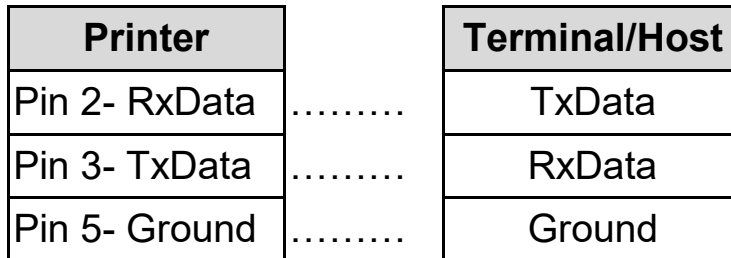
In general, as long as the data quantity is not too large and you use Xon/Xoff as flow control, it will be problem free.

Baud rate: 1200, 2400, 4800, 9600(default), 19200, 38400, 57600,115200 bauds. (Programmable by command)

Data format: always 8 data bits, 1 start bit and 1 stop bit.

Parity: always non parity

Handshaking: XON/XOFF as well as CTS/RTS (hardware flow control).

If you run an application with the bundled printer driver under Windows and use the serial port, you should check the above parameters and set the flow control to "Xon/Xoff "or "hardware".

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Parallel (Centronics)

The parallel port is a standard 36-pin Centronics connector. Pin assignments are as follows:

Pin	Direction	Definition	Pin	Direction	Definition
1	In	/STROBE	13	Out	SELECT
2	In	Data1	14,15		NC
3	In	Data 2	16	-	Ground
4	In	Data3	17	-	Ground
5	In	Data4	18		
6	In	Data5	19~30	-	Ground
7	In	Data6	31		NC
8	In	Data7	32	Out	/Fault
9	In	Data8	33~36	-	NC
10	Out	/ACK			
11t	Out	BUSY			
12	Out	PE			

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Ethernet Interface

The following port complies with Ethernet communication.

12 3 4 5 6 7 8
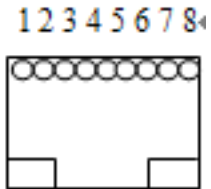
Pin	Signal
1	Transmit+
2	Transmit-
3	Receive+
4	Reserved
5	Reserved
6	Receive-
7	Reserved
8	Reserved

Auto Polling

Both the serial port and parallel port of this printer can be active at the same time, i.e. the printer can simultaneously communicate with two PCs via different ports. However as no port contention is made for this printer, if both PCs transmit data at the same time the data may become damaged in the receiving buffer.

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ASCII TABLE

NUL			0	@	P	'	P
SOH	XON	!	1	A	Q	a	q
STX		"	2	B	R	b	r
	XOFF	#	3	C	S	c	s
		$	4	D	T	d	t
	NAK	%	5	E	U	e	u
ACK		&	6	F	V	f	v
BEL		'	7	G	W	g	w
BS		(	8	H	X	h	x
		)	9	I	Y	i	y
LF		*	:	J	Z	j	z
	ESC	+	;	K	[	k	{
FF		,	<	L	\	l	l
CR		-	=	M	]	m	}
SO	RS	.	>	N	^	n	~
SI	US	/	?	O	_	o	DEL

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