

Performance Series

User's Guide ■■■

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Important Safety Instructions

This printer has been carefully designed to provide many years of safe, reliable performance. As with all types of electrical equipment, however, there are a few basic precautions you should take to avoid hurting yourself or damaging the equipment:

- Carefully read the provided installation and operating instructions.
- Read and follow all warning instruction labels on the printer.
- Place the printer on a flat, firm, solid surface.
- Make sure all openings on the printer remain unblocked; never insert anything into the openings or ventilation slots.
- Do not place the printer near a heat source.
- Do not use your printer near water, or spill liquid into it.
- Be certain that your power source matches a listed voltage rating for the printer (if unsure, check with your dealer or local utility company).
- Do not place the power cord where it can be stepped on; and, if the power cord becomes damaged, immediately replace it.
- If service is required, use only qualified trained technicians to repair your printer.

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Part Number 88-2362-01, Revision B

Agency Compliance

This product complies to the following:

	<p>CFR 47 Part 15, Class A Digital Device</p> <p>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>This Class A digital apparatus complies with Industry Canada ICS-003 class A requirements.</p>
	<p>UL 60950-1 Safety of Information Technology Equipment Including Electrical Business Equipment</p> <p>CAN/CSA-C22.2 No.60950-1 Safety of Information Technology Equipment Including Electrical Business Equipment</p>
	<p>European Council Directive 2004/108/EC “EMC Directive”</p> <p>EN55022, Emissions, Class A</p> <p>EN55011, Emissions, Class A (p1120n only)</p> <p>EN55024, Immunity</p> <p>EN61000-3-2, Harmonics</p> <p>EN61000-3-3, Voltage Fluctuations and Flicker</p> <p>European Council Directive 206/95/EC “Low Voltage Directive”</p> <p>EN60950-1</p> <p>IEC 60950-1 (CB Scheme)</p> <p>IEC 60825-1 Safety of Laser Products (applies to barcode reader option)</p> <p>EN 300 328 V1.7.1 (2006-10) - Electromagnetic Compatibility and Radio Spectrum Matters (applies to 802.11b/g wireless module option)</p> <p>EN45014 General Criteria for Suppliers Declaration of Conformity</p> <p>Directive 93/68/EEC CE Marking</p> <p>Directives 2002/95/EC RoHS and 2011/65/EU RoHS2</p>
	<p>Customs Union – Russia, Kazakhstan, Belarus</p>



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Safety

Warnings and Cautions

The following Warnings and Cautions are used throughout this manual:

Warning: Warnings alert you to possible safety risks.

Caution: Cautions alert you to the potential for equipment damage.



General Safety Information

Caution: This product is intended for indoor use only.

All service procedures should be done by properly trained and qualified service personnel.

Any on-site assembly required during the installation process must be performed by properly trained and qualified service personnel.

The product must be connected to a properly grounded and appropriately rated AC receptacle using the supplied cord set.

Caution: This product contains sensitive electronic components that could be damaged if exposed to excessive force.

Caution: Use only factory-approved consumables and cleaning kits. Use of any non-approved supplies could damage the product and void the warranty.

Caution: Do not connect the wireless antenna connection to any outside plant connection.

Figure: 1 - 1 Caution - Hot



The printhead heats during printing. Do not touch.



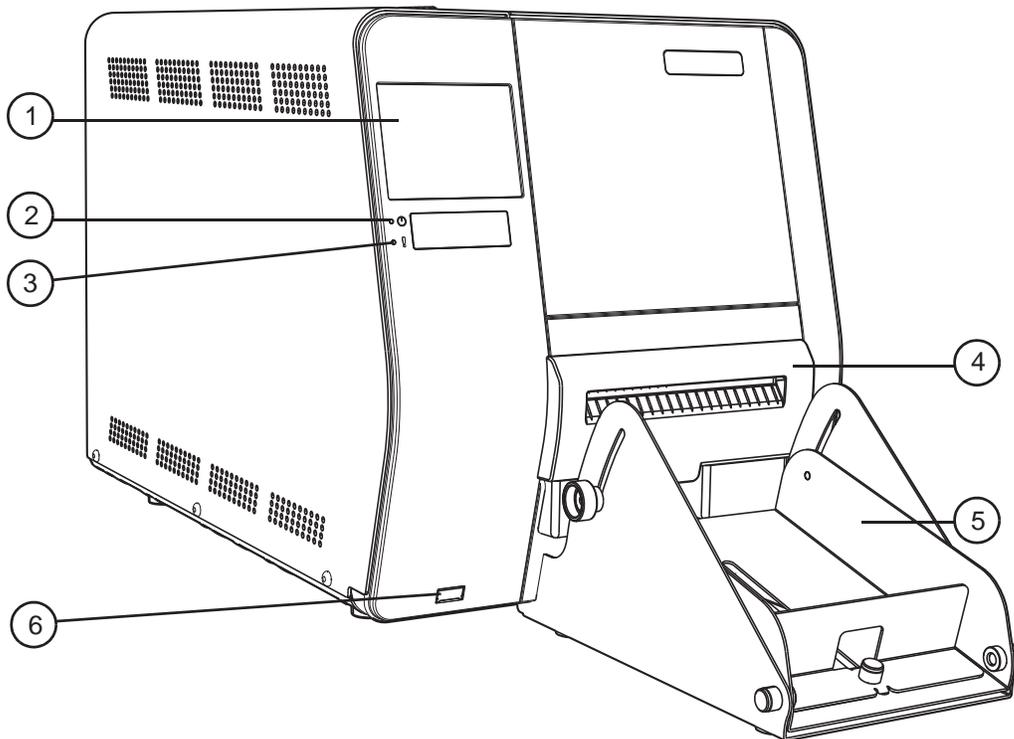
Overview

About the Printer

Product Tour

The following illustrations show some of the features and available options for the printer.

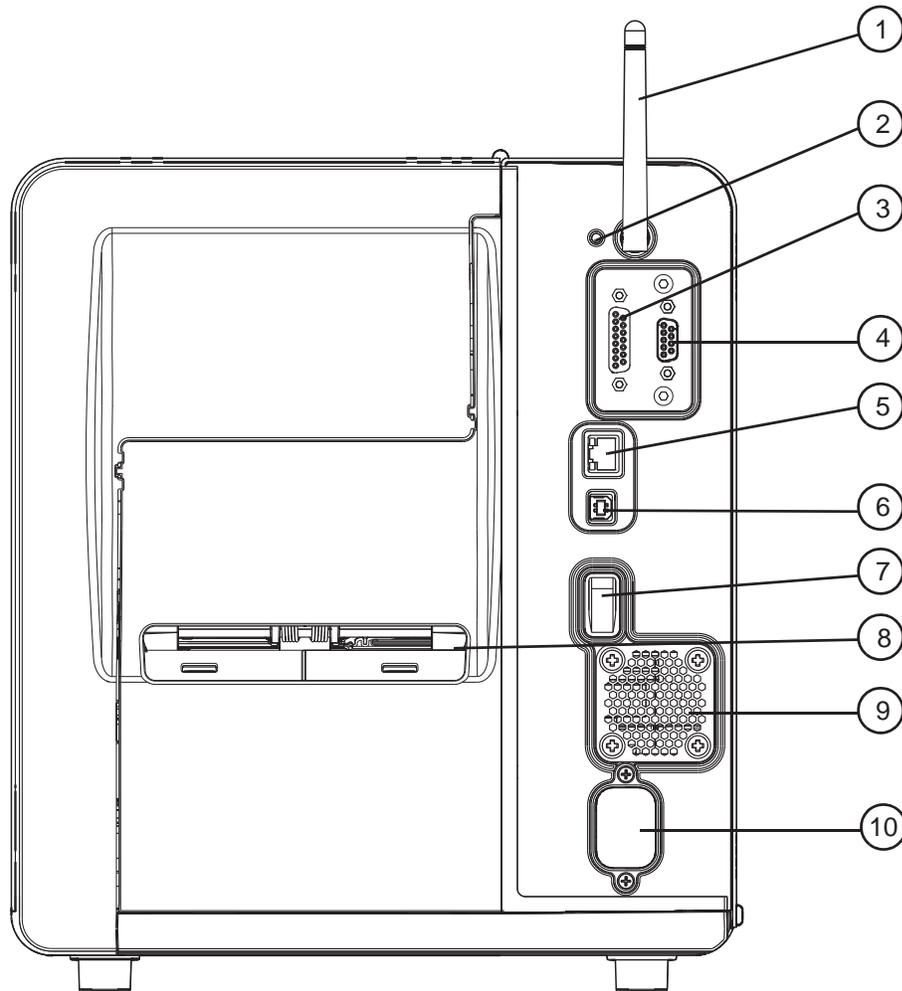
Figure: 2 - 1 Front View



1. Touchscreen Control Panel
2. Power LED
3. Error LED
4. Cutter (Optional)
5. Cutter Tray (Optional)
6. USB Host (Optional)

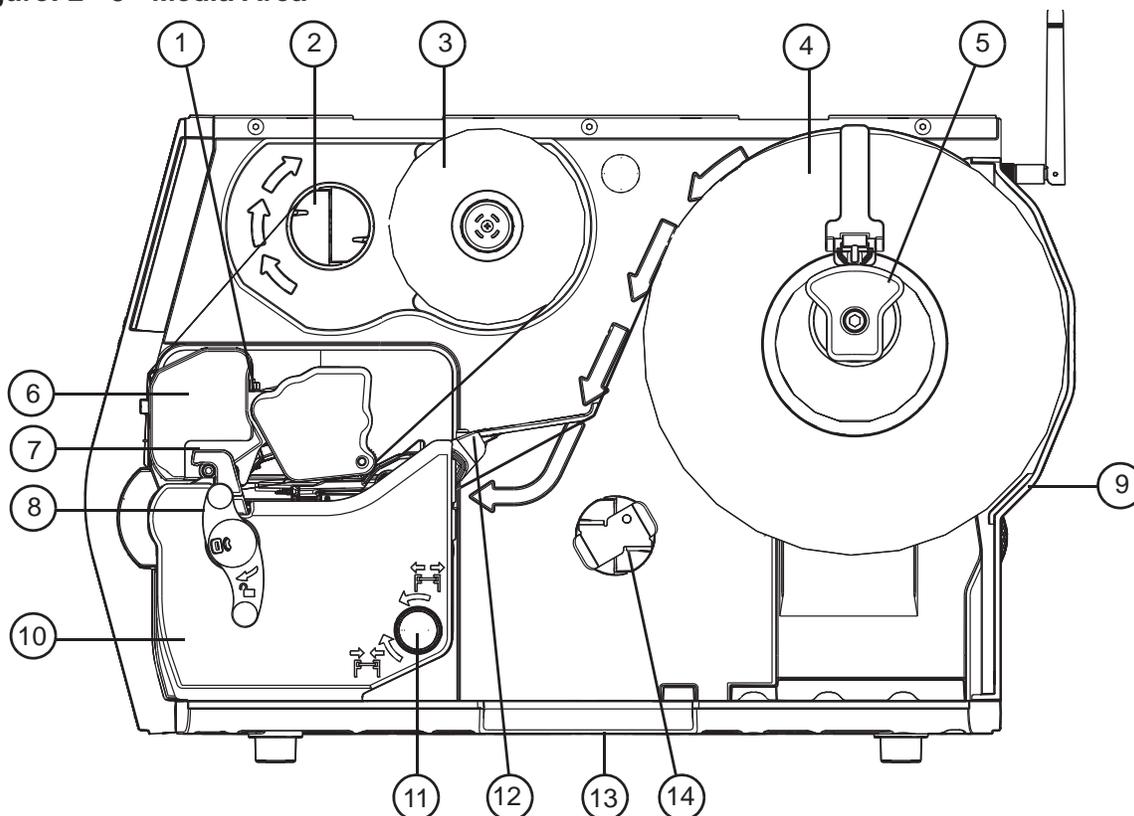
Some features and options are not available on all models.

Figure: 2 - 2 Rear View



- | | |
|--------------------------------|--------------------------|
| 1. Wireless Antenna (Optional) | 6. USB Port |
| 2. Reset Switch | 7. Power Switch |
| 3. GPIO Port (Optional) | 8. Fanfold Media Slot |
| 4. Serial Port (Optional) | 9. Rear Compartment Vent |
| 5. Ethernet/Network Port | 10. AC Power Inlet |

Some features and options are not available on all models.

Figure: 2 - 3 Media Area

- | | |
|--|--|
| 1. Head Pressure Adjustment Wheel (p1115 Only) | 8. Printhead Latch Lever |
| 2. Power Ribbon Transport Assembly (Optional) | 9. Rear Fanfold Media Access Slot |
| 3. Ribbon | 10. Platen Carriage Assembly |
| 4. Media | 11. Media Width Guide Adjustment Knob |
| 5. Media Hanger | 12. Bouncer |
| 6. Printhead Carriage Assembly | 13. Lower Fanfold Media Access Slot |
| 7. Printhead Latch | 14. Power Media Rewinder Assembly (Optional) |

Some features and options are not available on all models.

p1115 Standard Features

The p1115 thermal printer has the following standard features:

Table 1: p1115 Standard Features

Features	Descriptions
Power Supply	110V to 230V
Max Print Speed	6 IPS / 152 mmps
Resolution	300 dpi / 11.8 dpmm
Memory	32MB Flash (4MB User Space) / 64MB DDR2 SDRAM
Printer Type	<ul style="list-style-type: none"> • Direct Thermal • Thermal Transfer (Optional)
Media Supply	<ul style="list-style-type: none"> • Fan fold • Roll-fed • Die-cut • Continuous Labels: perforated or continuous tag/ticket stock (8" [203mm] roll max diameter.
Double-sided Top-of-Form Sensor	Adjustable position for center-biased stock: <ul style="list-style-type: none"> • Label Gap • Notch • Reflective black mark on the bottom or the top of the form
Tear Bar	Removable bar for tearing off gapped or continuous media.
Media Back Feed	Capable of backing up at least 1.0".
Control panel	LED backlit color QVGA LCD with touchscreen.
Reset Button	Inset on the rear of the unit for recovery or the resetting of the screen calibration.
LEDs	Two LEDs on the front panel for Power and Error.
Power Switch	Positioned on the rear of the unit.
Chassis / Media Cover	Die cast construction with a clear side window.
Bar Codes	See Appendix A
Fonts	See Appendix A
Downloadable Font Types	<ul style="list-style-type: none"> • True-Type Scalable • PCL Bitmap
Graphics	Full support of PCL5e and GL/2 graphics capability. (Support for various host-based file formats [PCX, BMP] are not part of the PCL5e standard but are supported and converted by standard applications)

Features	Descriptions
Industry Standard Printer Language	HP PCL, HP PCL5e, HP GL/2 and HP XL, printer languages with auto-language select and extensions for barcode capabilities. Bi-directional communications capability is also supported.
Interfaces	<ul style="list-style-type: none"> • USB 2.0 Device • LAN 10/100
Real Time Clock	User replaceable battery
Printer Driver Supported Operating Systems	<ul style="list-style-type: none"> • Windows XP • Windows Vista • Windows 7 • Windows 8
Operating Temperature	32°F (0°C) to 104°F (40°C)
Supported Languages in the Display	Front panel languages are configurable via translation files which may be loaded on the printer. Check with your sales representative for the most recent list of available translations.

Print Characteristics

Table 2: Print Characteristics

Variable	Specifications
Print Resolution	300 dpi (11.8 dpmm)
Max Print Width	4.16" (105.7 mm)
Max Print Speed	6 IPS (152 mm/ps)
Max Feed Speed	8 IPS (152 mm/ps)
Max Back-up Speed	5 IPS (127 mm/ps)
Media Width Range*	1" - 4.65" (25.44 mm - 118.1 mm)
Media Thickness Range*	.003" - 0.010" (.076 mm - 0.254 mm)
Ribbon Width Range**	1" - 4.65" (25.44 mm - 118.1 mm)
Print Length	.25" - 36" (6.35 mm - 915 mm)

*Media wound out.

**Coated side in (CSI) or coated side out (CSO).

p1115s Standard Features

The p1115s thermal printer has the following standard features:

Table 3: p1115s Standard Features

Features	Descriptions
Max Print Speed	6 IPS / 152 mmps
Resolution	600 dpi / 23.6 dpmm
Memory	64MB Flash (32MB User Space) / 64MB DDR2 SDRAM
Printer Type	<ul style="list-style-type: none"> • Direct Thermal • Thermal Transfer (Optional)
Media Supply	<ul style="list-style-type: none"> • Fan fold • Roll-fed • Die-cut • Continuous Labels: perforated or continuous tag/ticket stock (8" [203mm] roll max diameter on 1.0", 1.5" or 3" [25mm, 38mm or 76mm] core).
Double-sided Top-of-Form Sensor	Adjustable position for center-biased stock: <ul style="list-style-type: none"> • Label Gap • Notch • Reflective black mark on the bottom or the top of the form
Tear Bar	Removable bar for tearing off gapped or continuous media.
Media Back Feed	Capable of backing up at least 1.0".
Control panel	LED backlit color QVGA LCD with touchscreen.
Reset Button	Inset on the rear of the unit for recovery or the resetting of the screen calibration.
LEDs	Two LEDs on the front panel for Power and Error.
Power Switch	Positioned on the rear of the unit.
Chassis / Media Cover	Diecast construction with a clear side window.
Bar Codes	See Appendix A
Fonts	See Appendix A
Downloadable Font Types	<ul style="list-style-type: none"> • True-Type Scalable • PCL Bitmap
Graphics	Full support of PCL5e and GL/2 graphics capability. (Support for various host-based file formats [PCX, BMP] are not part of the PCL5e standard but are supported and converted by standard applications)

Features	Descriptions
Industry Standard Printer Language	HP PCL, HP PCL5e, HP GL/2 and HP XL, printer languages with auto-language select and extensions for barcode capabilities. Bi-directional communications capability is also supported.
Interfaces	<ul style="list-style-type: none"> • USB 2.0 Device • LAN 10/100
Real Time Clock	User replaceable battery
Printer Driver Supported Operating Systems	<ul style="list-style-type: none"> • Windows XP • Windows Vista • Windows 7 • Windows 8
Operating Temperature	32°F (0°C) to 104°F (40°C)
Supported Languages in the Display	Front panel languages are configurable via translation files which may be loaded on the printer. Check with your sales representative for the most recent list of available translations.

Print Characteristics

Table 4: Print Characteristics

Variable	Specifications
Print Resolution	600 dpi (23.6 dpmm)
Max Print Width	4.16" (105.6 mm)
Max Print Speed	6 IPS (152 mm/ps)
Max Feed Speed	8 IPS (152 mm/ps)
Max Back-up Speed	5 IPS (127 mm/ps)
Media Width Range*	1" - 4.65" (25.44 mm - 118.1 mm)
Media Thickness Range*	.003" - 0.010" (.076 mm - 0.254 mm)
Ribbon Width Range**	1" - 4.65" (25.44 mm - 118.1 mm)
Print Length	.25" - 36" (6.35 mm - 915 mm)

*Media wound out.

**Coated side in (CSI) or coated side out (CSO).

p1120n Standard Features

The p1120n thermal printer has the following standard features:

Table 5: p1120n Standard Features

Features	Descriptions
Max Print Speed	8 IPS / 203 mmps
Resolution	300 dpi / 11.8 dpmm
Memory	32MB Flash (4MB User Space) / 64MB DDR2 SDRAM
Printer Type	<ul style="list-style-type: none"> • Direct Thermal • Thermal Transfer (Optional)
Media Supply	<ul style="list-style-type: none"> • Fan fold • Roll-fed • Die-cut • Continuous Labels: perforated or continuous tag/ticket stock (8" [203mm] roll max diameter on 1.0", 1.5" or 3" [25mm, 38mm or 76mm] core).
Double-sided Top-of-Form Sensor	Adjustable position for center-biased stock: <ul style="list-style-type: none"> • Label Gap • Notch • Reflective black mark on the bottom or the top of the form
Tear Bar	Removable bar for tearing off gapped or continuous media.
Media Back Feed	Capable of backing up at least 1.0" (for near edge printhead).
Control panel	LED backlit color QVGA LCD with touchscreen.
Reset Button	Inset on the rear of the unit for recovery or the resetting of the screen calibration.
LEDs	Two LEDs on the front panel for Power and Error.
Power Switch	Positioned on the rear of the unit.
Chassis / Media Cover	Diecast construction with a clear side window.
Bar Codes	See Appendix A
Fonts	See Appendix A
Downloadable Font Types	<ul style="list-style-type: none"> • True-Type Scalable • PCL Bitmap
Graphics	Full support of PCL5e and GL/2 graphics capability. (Support for various host-based file formats [PCX, BMP] are not part of the PCL5e standard but are supported and converted by standard applications)

Features	Descriptions
Industry Standard Printer Language	HP PJL, HP PCL5e, HP GL/2 and HP XL, printer languages with auto-language select and extensions for barcode capabilities. Bi-directional communications capability is also supported.
Interfaces	<ul style="list-style-type: none"> • USB 2.0 Device • LAN 10/100
Real Time Clock	User replaceable battery
Printer Driver Supported Operating Systems	<ul style="list-style-type: none"> • Windows XP • Windows Vista • Windows 7 • Windows 8
Operating Temperature	32°F (0°C) to 104°F (40°C)
Supported Languages in the Display	Front panel languages are configurable via translation files which may be loaded on the printer. Check with your sales representative for the most recent list of available translations.

Print Characteristics

Table 6: Print Characteristics

	4" Near Edge
Print Resolution	300 dpi (11.8 dpmm)
Max Print Width	4.27" (108.5 mm)
Max Print Speed	8 IPS (203 mm/ps)
Max Feed Speed	10 IPS (254 mm/ps)
Max Back-up Speed	5 IPS (127 mm/ps)
Media Width Range*	1" - 4.65" (25.4 mm - 118.1 mm)
Media Thickness Range*	.003" - 0.020" (.076 mm - 0.508 mm)
Ribbon Width Range**	1" - 4.65" (25.4 mm - 118.1 mm)
Print Length	.2" - 99" (5.08 mm - 2475.6 mm)

*Media wound out.

**Coated side in (CSI) or coated side out (CSO).

p1125 Standard Features

The p1125 thermal printer has the following standard features:

Table 7: p1125 Standard Features

Features	Descriptions
Max Print Speed	10 IPS / 254 mmps
Resolution	300 dpi / 11.8 dpmm
Memory	32MB Flash (4MB User Space) / 64MB DDR2 SDRAM
Printer Type	<ul style="list-style-type: none"> • Direct Thermal • Thermal Transfer (Optional)
Media Supply	<ul style="list-style-type: none"> • Fan fold • Roll-fed • Die-cut • Continuous Labels: perforated or continuous tag/ticket stock (8" [203mm] roll max diameter on 1.0", 1.5" or 3" [25mm, 38mm or 76mm] core).
Double-sided Top-of-Form Sensor	Adjustable position for center-biased stock: <ul style="list-style-type: none"> • Label Gap • Notch • Reflective black mark on the bottom or the top of the form
Tear Bar	Removable bar for tearing off gapped or continuous media.
Media Back Feed	Capable of backing up at least 1.0".
Control panel	LED backlit color QVGA LCD with touchscreen.
Reset Button	Inset on the rear of the unit for recovery or the resetting of the screen calibration.
LEDs	Two LEDs on the front panel for Power and Error.
Power Switch	Positioned on the rear of the unit.
Chassis / Media Cover	Diecast construction with a clear side window.
Bar Codes	See Appendix A
Fonts	See Appendix A
Downloadable Font Types	<ul style="list-style-type: none"> • True-Type Scalable • PCL Bitmap
Graphics	Full support of PCL5e and GL/2 graphics capability. (Support for various host-based file formats [PCX, BMP] are not part of the PCL5e standard but are supported and converted by standard applications)

Features	Descriptions
Industry Standard Printer Language	HP PCL, HP PCL5e, HP GL/2 and HP XL, printer languages with auto-language select and extensions for barcode capabilities. Bi-directional communications capability is also supported.
Interfaces	<ul style="list-style-type: none"> • USB 2.0 Device • LAN 10/100
Real Time Clock	User replaceable battery
Printer Driver Supported Operating Systems	<ul style="list-style-type: none"> • Windows XP • Windows Vista • Windows 7 • Windows 8
Operating Temperature	32°F (0°C) to 104°F (40°C)
Supported Languages in the Display	Front panel languages are configurable via translation files which may be loaded on the printer. Check with your sales representative for the most recent list of available translations.

Print Characteristics

Table 8: Print Characteristics

Variable	Specifications
Print Resolution	300 dpi (11.8 dpmm)
Max Print Width	4.27" (108.5 mm)
Max Print Speed	10 IPS (254 mm/ps)
Max Feed Speed	12 IPS (254 mm/ps)
Max Back-up Speed	5 IPS (127 mm/ps)
Media Width Range*	1" - 4.65" (25.44 mm - 118.1 mm)
Media Thickness Range*	.003" - 0.010" (.076 mm - 0.254 mm)
Ribbon Width Range**	1" - 4.65" (25.44 mm - 118.1 mm)
Print Length	.10" - 99" (5.08 mm - 2475.6 mm)

*Media wound out.

**Coated side in (CSI) or coated side out (CSO).

p1725 Standard Features

The p1725 thermal printer has the following standard features:

Table 9: p1725 Standard Features

Features	Descriptions
Max Print Speed	10 IPS / 254 mmps
Resolution	300 dpi / 11.8 dpmm
Memory	64MB Flash (32MB User Space) / 64MB DDR2 SDRAM
Printer Type	<ul style="list-style-type: none"> • Direct Thermal • Thermal Transfer (Optional)
Media Supply	<ul style="list-style-type: none"> • Fan fold • Roll-fed • Die-cut • Continuous Labels: perforated or continuous tag/ticket stock (8" [203mm] roll max diameter on 1.0", 1.5" or 3" [25mm, 38mm or 76mm] core).
Double-sided Top-of-Form Sensor	Adjustable position for center-biased stock: <ul style="list-style-type: none"> • Label Gap • Notch • Reflective black mark on the bottom or the top of the form
Tear Bar	Removable bar for tearing off gapped or continuous media.
Media Back Feed	Capable of backing up at least 1.0".
Control panel	LED backlit color QVGA LCD with touchscreen.
Reset Button	Inset on the rear of the unit for recovery or the resetting of the screen calibration.
LEDs	Two LEDs on the front panel for Power and Error.
Power Switch	Positioned on the rear of the unit.
Chassis / Media Cover	Diecast construction with a clear side window.
Bar Codes	See Appendix A
Fonts	See Appendix A
Downloadable Font Types	<ul style="list-style-type: none"> • True-Type Scalable • Intellifont Scalable • PCL Bitmap
Graphics	Full support of PCL5e and GL/2 graphics capability. (Support for various host-based file formats [PCX, BMP] are not part of the PCL5e standard but are supported and converted by standard applications)

Features	Descriptions
Industry Standard Printer Language	HP PCL, HP PCL5e, HP GL/2 and HP XL, printer languages with auto-language select and extensions for barcode capabilities. Bi-directional communications capability is also supported.
Interfaces	<ul style="list-style-type: none"> • USB 2.0 Device • LAN 10/100
Real Time Clock	User replaceable battery
Printer Driver Supported Operating Systems	<ul style="list-style-type: none"> • Windows XP • Windows Vista • Windows 7 • Windows 8
Operating Temperature	32°F (0°C) to 104°F (40°C)
Supported Languages in the Display	Front panel languages are configurable via translation files which may be loaded on the printer. Check with your sales representative for the most recent list of available translations.

Print Characteristics

Table 10: Print Characteristics

Variable	Specifications
Print Resolution	300 dpi (11.8 dpmm)
Max Print Width	6.83" (173.5 mm)
Max Print Speed	10 IPS (254 mm/ps)
Max Feed Speed	12 IPS (254 mm/ps)
Max Back-up Speed	5 IPS (127 mm/ps)
Media Width Range*	2" - 7.1" (50.8 mm - 180.3 mm)
Media Thickness Range*	.003" - 0.010" (.076 mm - 0.254 mm)
Ribbon Width Range**	2" - 7.1" (50.8 mm - 180.3 mm)
Print Length	.25" - 36" (6.35 mm - 915 mm)

*Media wound out.

**Coated side in (CSI) or coated side out (CSO).

Options

The following options are available:

- Thermal Transfer (Ribbon)
- Internal Power Rewind with Batch Rewind
- Media Present Sensor (Future option for the p1725)
- Peel and Present (Future option for the p1725)
- Media Cutter (Future option for the p1725)
- Media Cutter Tray (Future option for the p1725)
- Applicator Port (General Purpose I/O) and Serial Port (RS-232C)
- Wireless Module (not an available option for the p1115)
- USB Host Port (not an available option for the p1115)
- Audio Indicator (not an available option for the p1115)
- Media Hub with 1.0", 1.5" or 3" media hub adapters (not an available option for the p1725)
- Non-US Power Cords

Unpacking the Printer

Upon receiving the printer, verify the box is undamaged. Carefully unpack the printer from its packaging and visually check for any physical damage that may have occurred during shipment.

Checking the Contents

The contents may vary depending on your configuration. It is recommended that all packaging materials be saved if the printer is to be shipped again. If the packaging material is discarded, new packaging material may be available from your reseller.

- Printer
- Power Cord
- Driver CD
- Product documentation not included on the CD
- Accessories/Options

Additional items that may be required include the following:

- All applicable communication cables
- Media
- Ribbon

Specifications

Dimensions and Weight

Table 11: Dimensions and Specifications (p1115, p1115s, p1120n, p1125)

Height	Width	Depth	Weight
11.9 in (30.3 cm)	10.8 in (27.4 cm)	18.7 in (47.5 cm)	41 lbs. (19 kg)

Table 12: Dimensions and Specifications (p1725)

Height	Width	Depth	Weight
11.9 in (30.3 cm)	13.4 in (34 cm)	18.7 in (47.5 cm)	52 lbs. (24 kg)

Environmental

Table 13: Temperatures

	Temperature	Humidity
Operating	32°F to 104°F (0°C to 40°C)	<=20% to 80%
Storage	-4°F to 140°F (-20°C to 60°C)	<=35%

Print Driver Requirements

Table 14: Print Driver Minimum System Requirements

Minimum System Requirements	
Processor / Speed	500 MHz processor
RAM	512MB
Hard Drive Space	6MB
Supported Operating Systems	Windows XP - x86 & x64 Windows Vista - x86 & x64 Windows 7 - x86 & x64 Windows 8

Configuration Utility

Table 15: Configuration Utility Minimum System Requirements

Minimum System Requirements	
Processor / Speed	500 MHz processor

Minimum System Requirements	
Supported Operating Systems	Windows XP - x86 & x64 Windows Vista - x86 & x64 Windows 7 - x86 & x64 Windows 8
RAM	256MB
Hard Drive Space	5MB
Minimum Screen Resolution	800 x 600
.NET Framework	2.0



Connections and Setup

Connections

Power

To connect the printer to a viable power source, please follow the steps below.

Caution: Ensure the printer power switch is off before connecting the AC power and data/network connectivity cables to the printer.

Caution: Adhere to all environmental requirements when installing and using the printer. Use of the product in an unsuitable environment may affect print quality and the durability of the printer and may void the manufacturer's warranty.

1. Place the printer on a suitable level surface capable of securely supporting 60lbs.
2. Connect the AC power cord to the AC power inlet on the back of the printer.
3. Connect the AC power cord to AC utility power.

Data

Printer data connectivity can be accomplished by the following standard or optional interfaces:

- USB
- Ethernet/Network
- Serial (Optional)
- GPIO (Optional)
- Wireless (Optional)

Connect the appropriate interface cables for your network configuration.

Media Loading

The printer is designed to print on media that is center-aligned on the media hanger. There are two different media mounts available for most models.

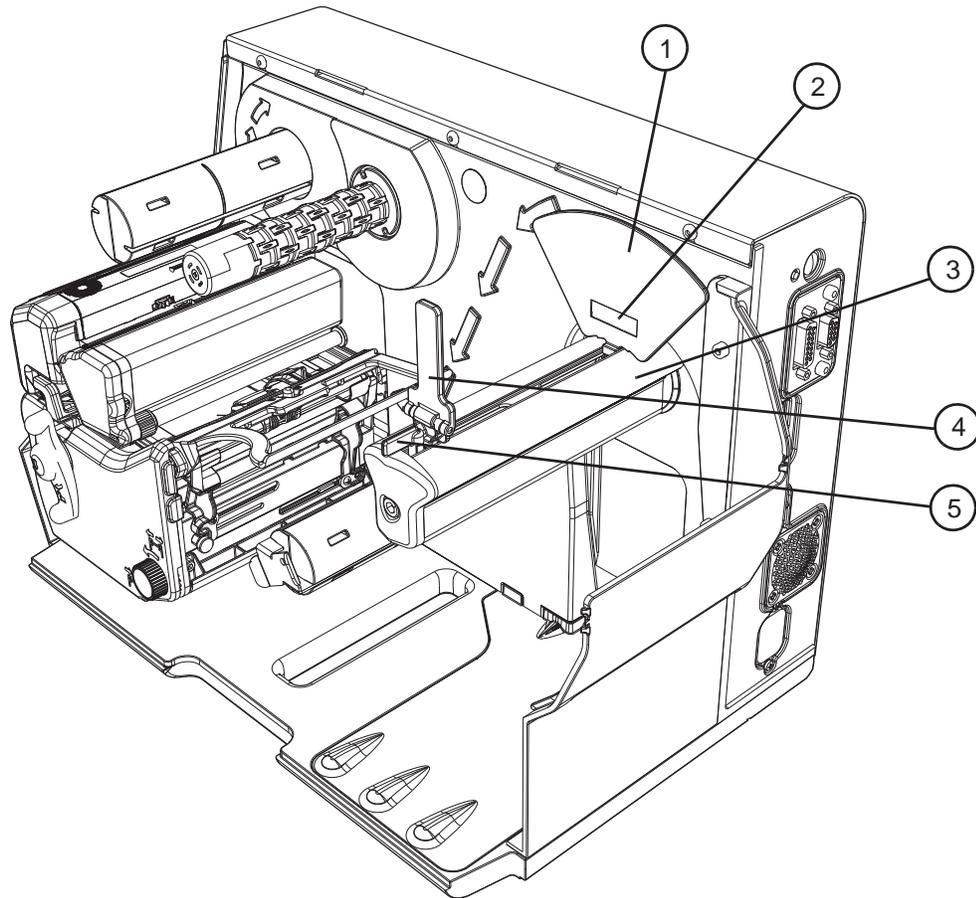
The standard self-centering media hanger synchronizes the adjustment to facilitate the centering of the media. The optional self-centering media hub* allows for the use of 1", 1.5" and 3" roll cores. (*Not available for all printer models.)

Please consult your sales representative to obtain the appropriate media.

Note: The printer should be connected to AC power and running during media loading.

Media Hanger Overview

Figure: 3 - 1 Self-Centering Media Hanger



1. Inside media adjustment lever
2. Paper low sensor (Optional)
3. Self-centering media hanger
4. Outside media adjustment lever
5. Media adjuster knob

Media Specifications

Media core size:

- 3" (76.199mm)

Media roll diameter:

- Maximum -- 8"

Media roll width:

- Please refer to the model feature charts in the Overview section.

Media thickness:

- .003" to 0.01" (the p1120n can accept media thickness of up to 0.020")

Media dimensions:

- Please refer to the model feature charts in the Overview section.

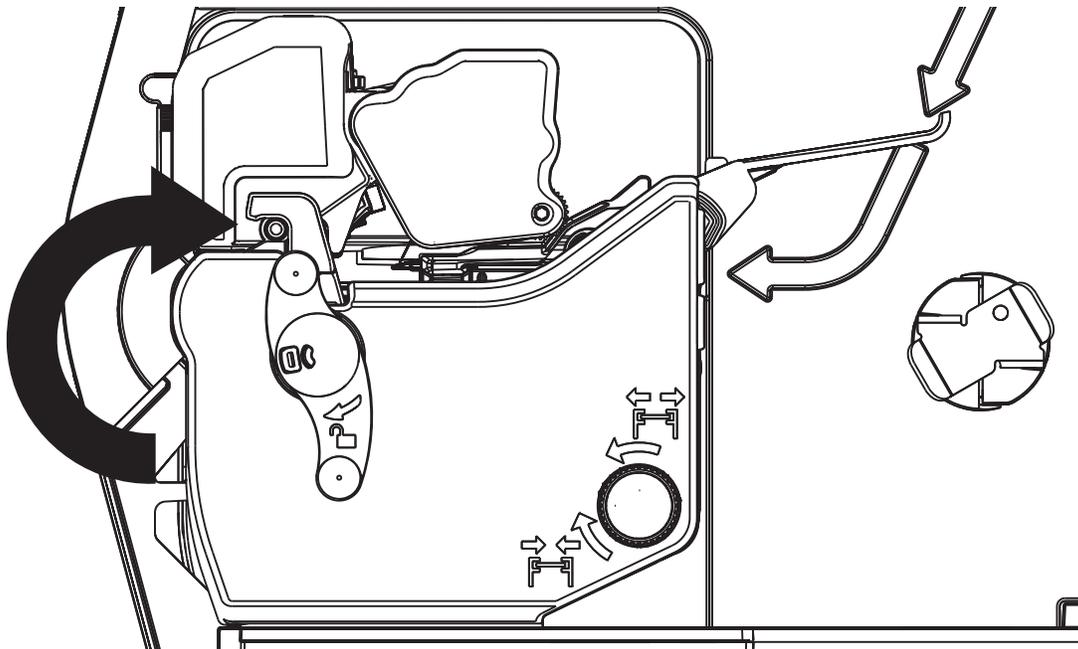
Note: Ensure there is no tape or adhesive residue on the media roll.

Installing Media on the Media Hanger

1. Open the media cover.
2. Unlock the printhead mechanism by turning the printhead latch lever clockwise about 190°.

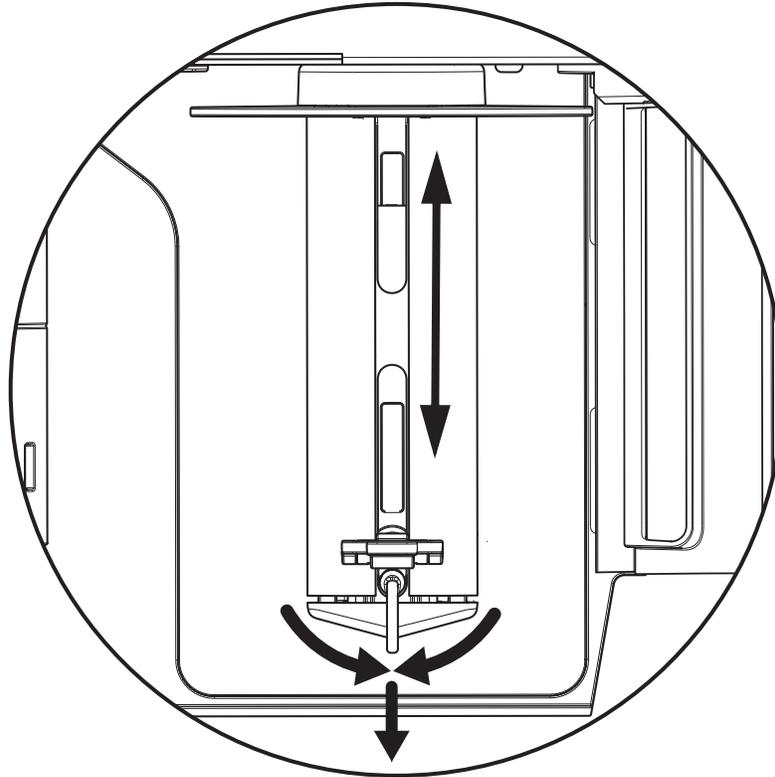
Note: Do not unlatch the printhead mechanism.

Figure: 3 - 2 Unlock the Printhead Mechanism



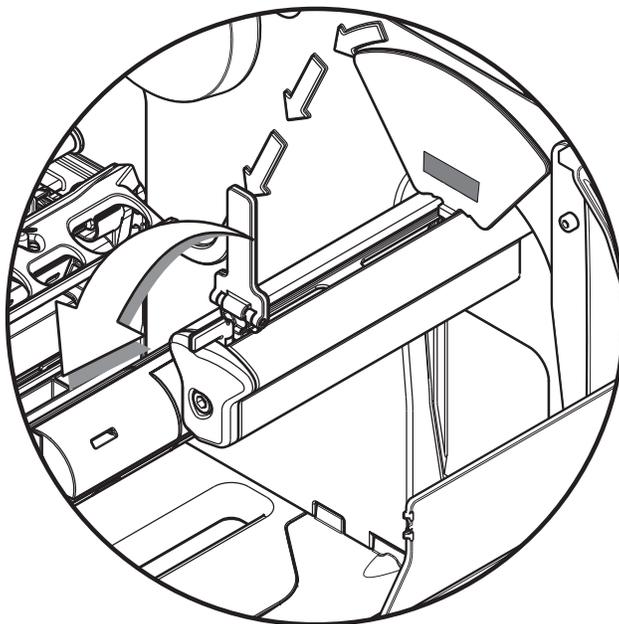
3. Center the media adjuster knob and pull it to widen the gap between the two media adjustment levers.

Figure: 3 - 3 Self-Centering Media Hanger from Top



4. Rotate the outside media adjustment lever downward.

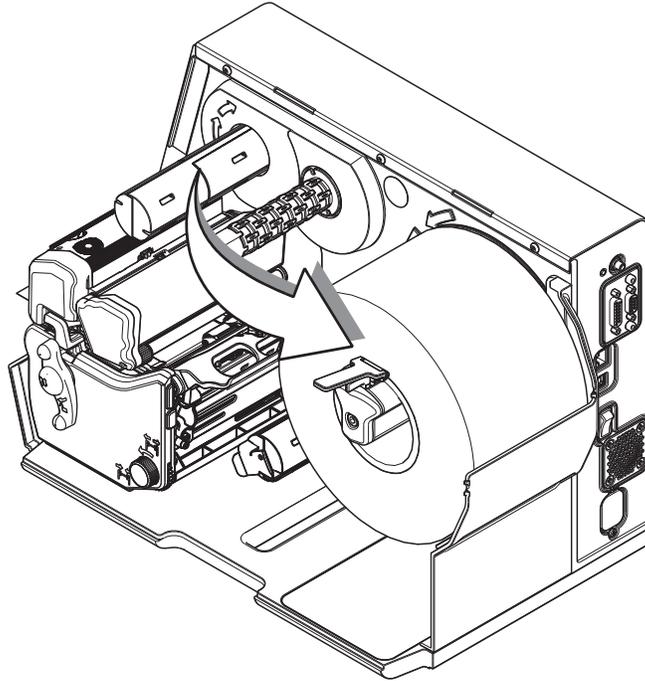
Figure: 3 - 4 Outside Media Adjustment Lever



5. Gently route the media core over the outside media adjustment lever onto the media hanger.

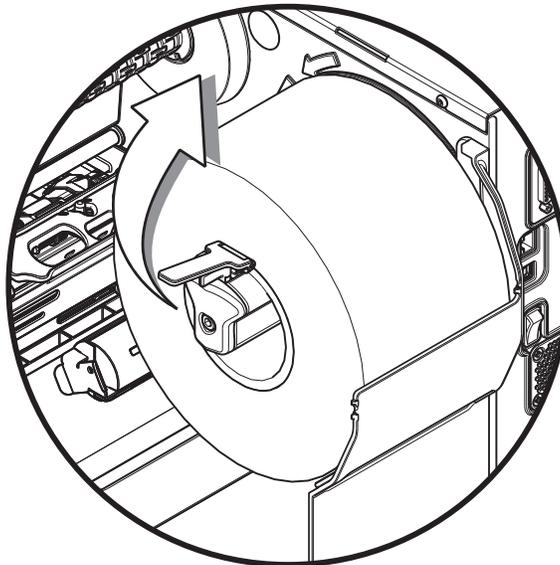
Caution: Be careful not to damage the outside media adjustment lever.

Figure: 3 - 5 Media Installation



6. Rotate the outside media adjustment lever upward.

Figure: 3 - 6 Outside Media Adjustment Lever

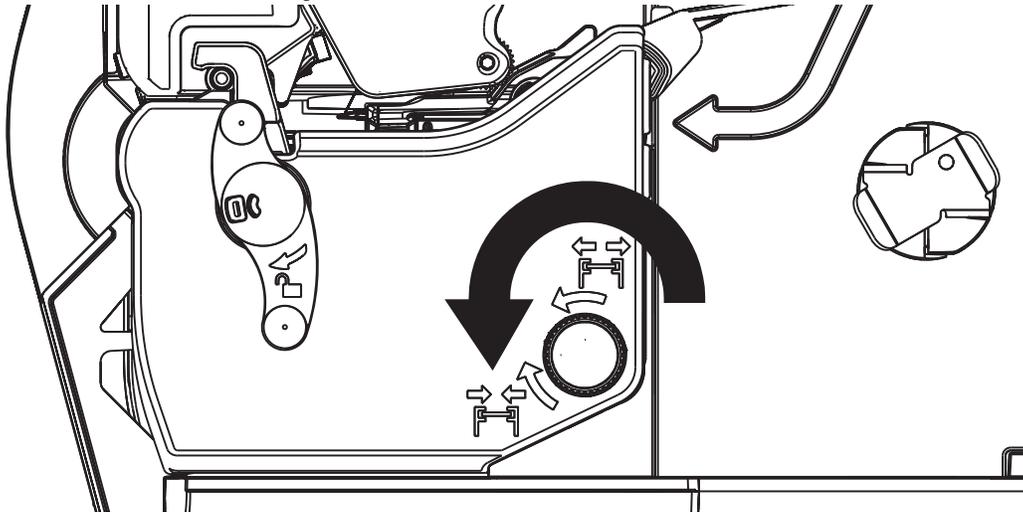


7. Slide the media adjuster knob inward to center the media roll on the media hanger.

Note: Ensure the media roll turns freely. There should be 0.8mm to 1.5mm clearance between the media adjustment levers and the media roll.

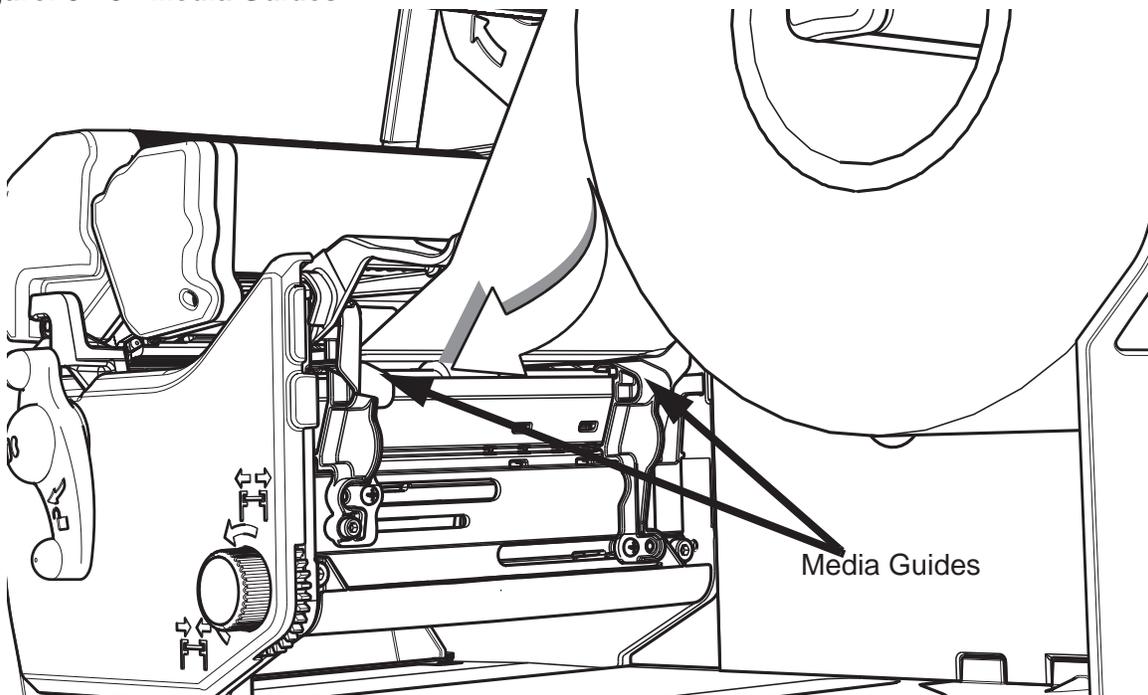
8. Rotate the media guide adjustment knob counter clockwise to widen the guides until they are set slightly wider than the width of the media.

Figure: 3 - 7 Media Guide Adjustment Knob



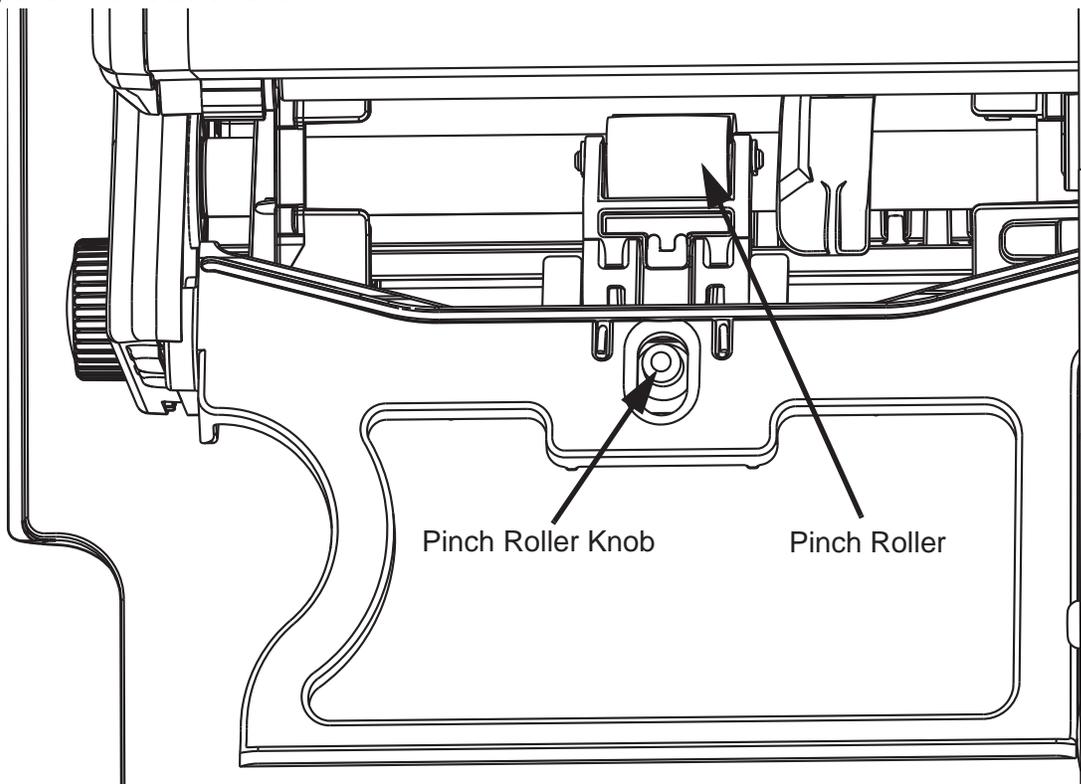
9. Route the media under the bouncer and into the media guides.

Figure: 3 - 8 Media Guides



10. Press the pinch roller knob and slide the media 0.25 inches beyond the pinch roller.

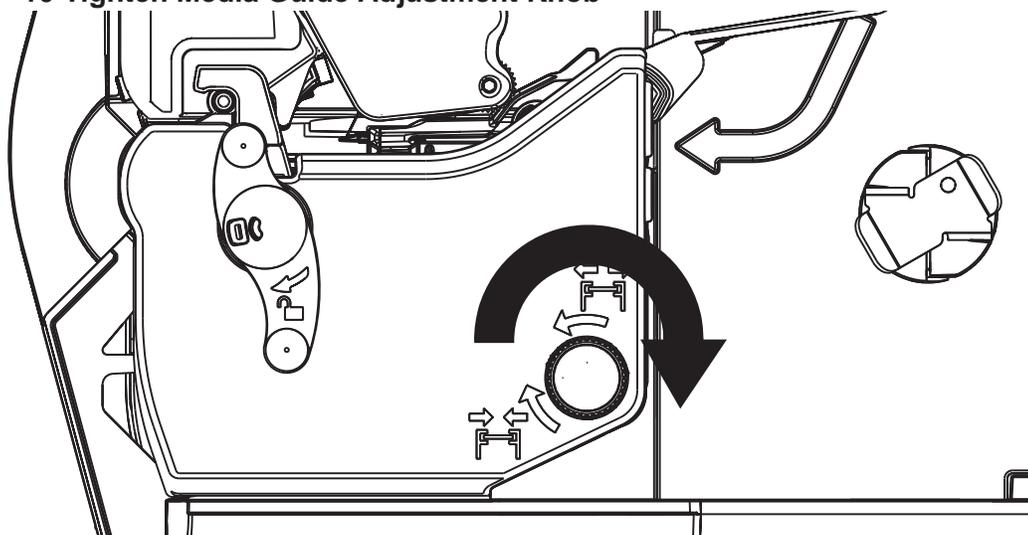
Figure: 3 - 9 Pinch Roller



11. Rotate the media guide adjustment knob clockwise to tighten the guides.

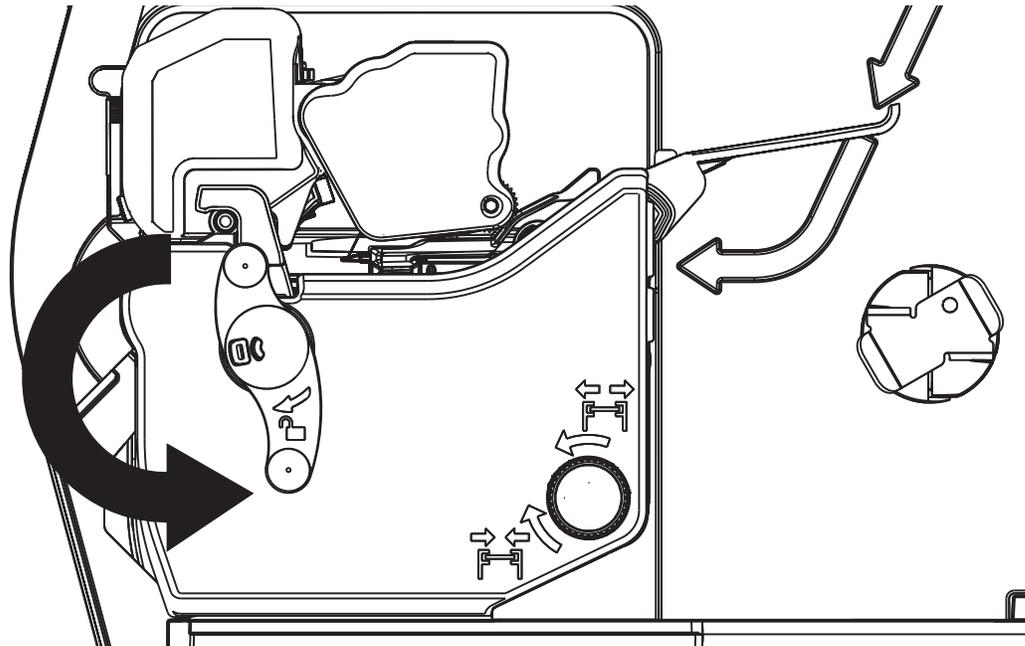
Note: Ensure the guides are neither too tight nor too loose on the media or print quality will be affected.

Figure: 3 - 10 Tighten Media Guide Adjustment Knob



12. Rotate the latch lever counter-clockwise until the printhead mechanism is locked.

Figure: 3 - 11 Lock the Printhead Mechanism



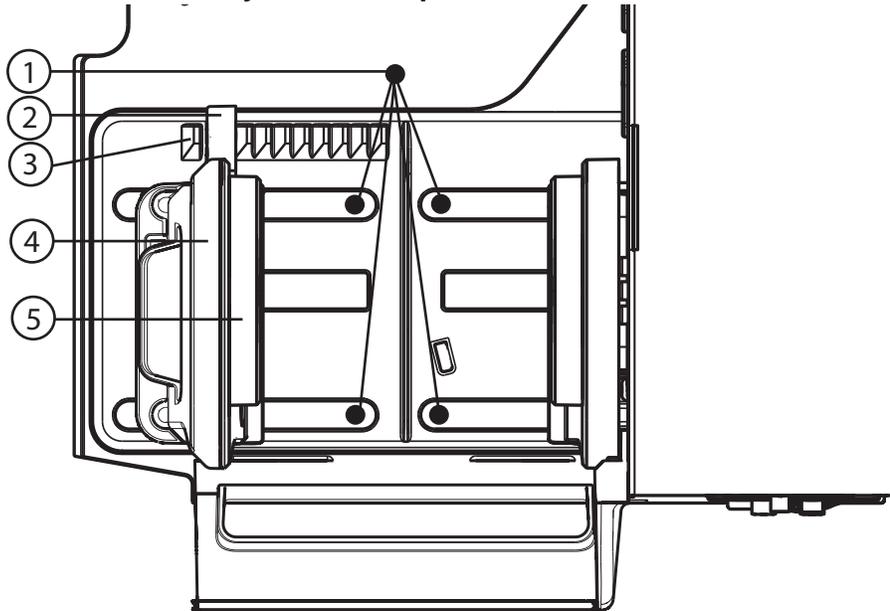
Note: If the media has been installed properly and read by the autoloading sensor, it should automatically feed under the printhead once the printhead carriage assembly has been latched and locked. If the media does not automatically load, unlatch the printhead assembly and manually feed the media under the printhead. Upon locking the printhead, it would be beneficial to both feed the media by selecting the Feed button on the main menu to properly set the next label and perform a Paper Calibration.

13. Set the Top-of-Form sensor

Note: Refer to the section called “Top-of-Form Sensor”. Setting the top-of-form sensor to read specific media characteristics is done in the control panel.

Optional Media Hub Overview

Figure: 3 - 12 Media Hub Layout from Top



1. Media hub adjustment channels
2. Media hub adjustment lever
3. Hub adjustment slots
4. Media hub
5. Core holders

Media Specifications

Media core size:

- 3" (76.199 mm) standard
- 1" (25.4 mm) optional
- 1.5" (38.099 mm) optional

Media roll diameter:

- Maximum - 8"

Media roll width:

- Maximum - 4.65"

Media thickness:

- .003" to 0.01" (the p1120n can accept media thickness of up to 0.020")

Media dimensions:

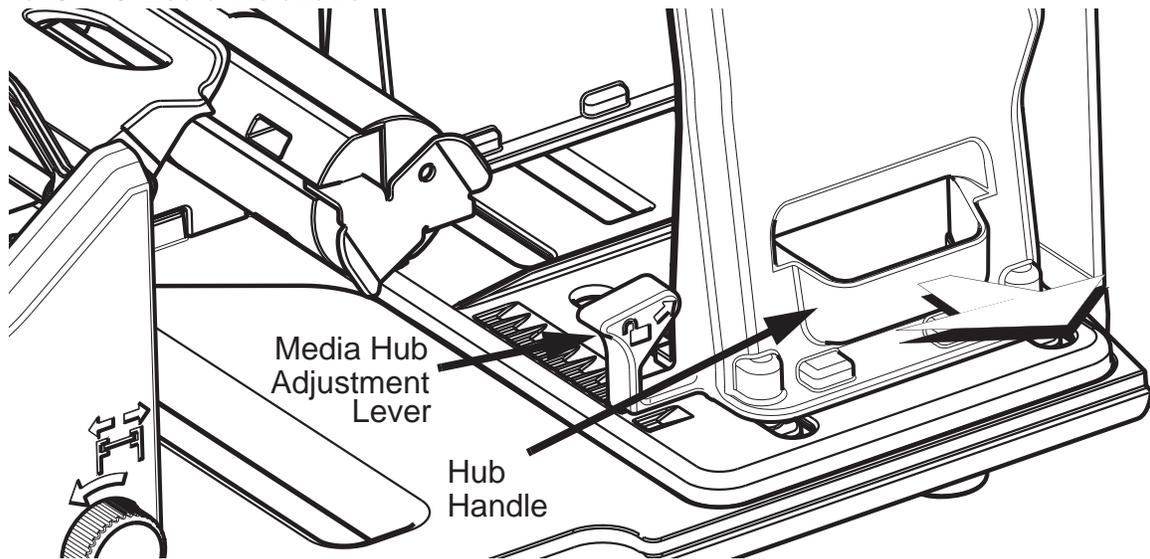
- Minimum specifications - 0.5" H x 1" W

Note: Ensure there is no tape or adhesive residue on the media roll.

Installing Media on the Media Hub

1. Open the media cover.
2. Press the media hub adjustment lever and pull the media hanger outward using the handle.

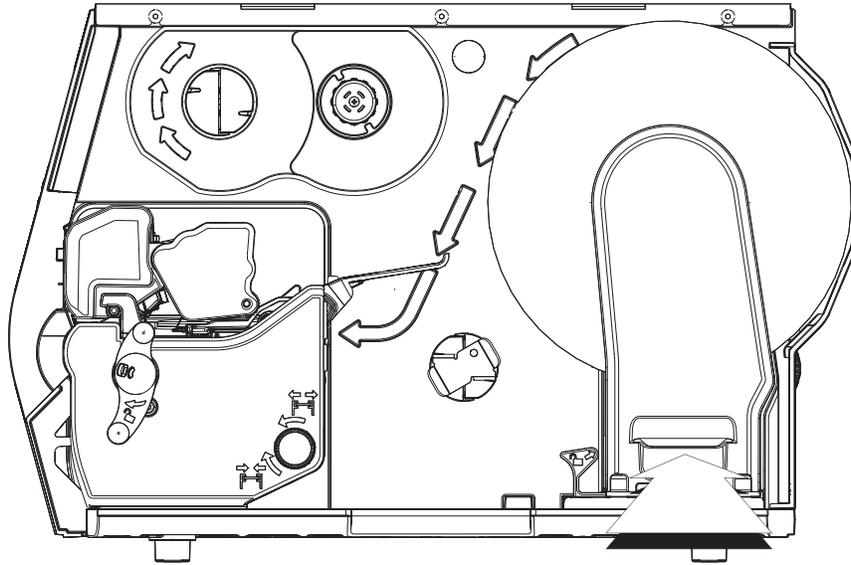
Figure: 3 - 13 Media installation



3. Hold the media hub adjustment lever and place the media core on the core holders.

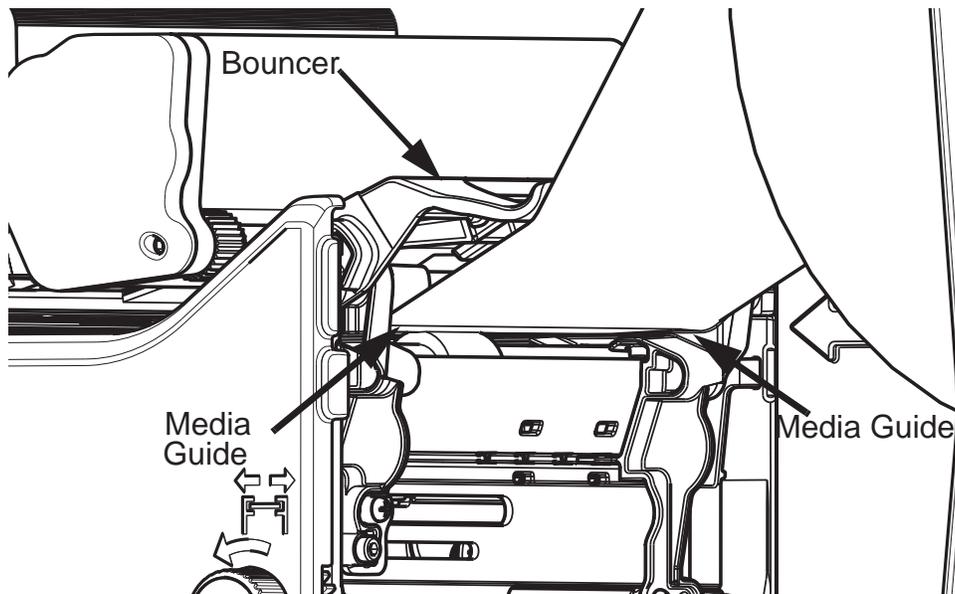
- Slide the media hub inward using the handle and release the hub adjustment lever once the media is supported.

Figure: 3 - 14 Media Installation



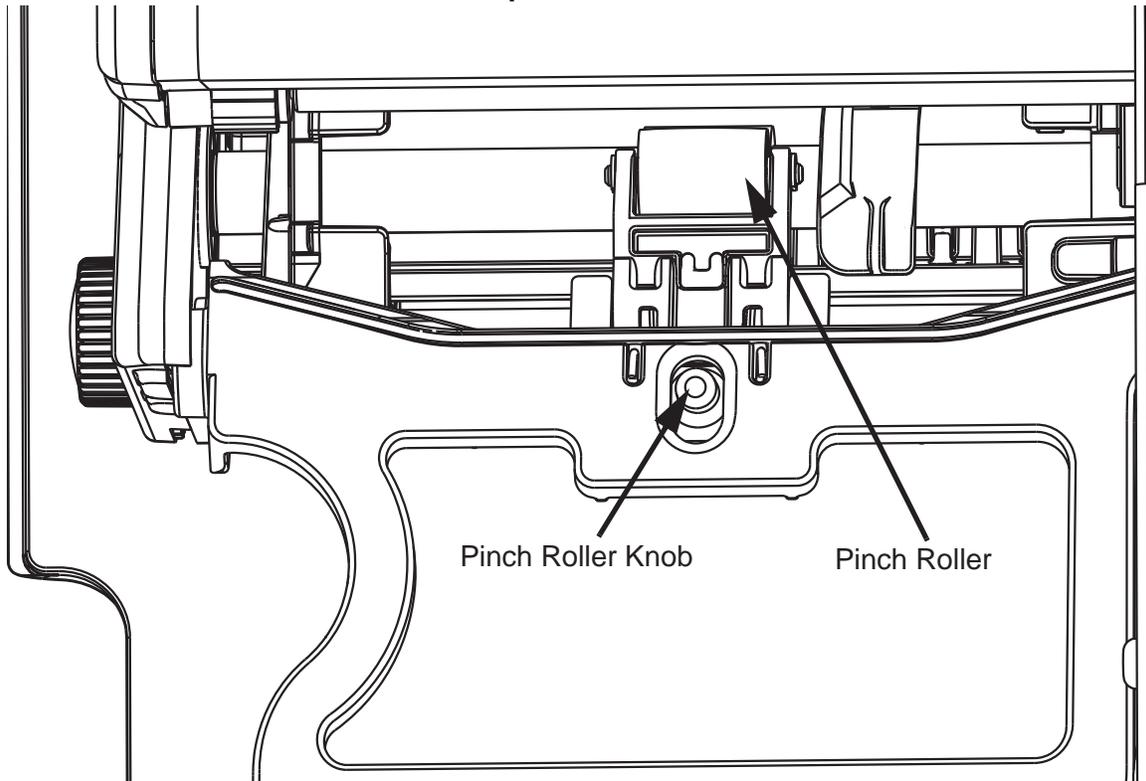
- Route the media under the bouncer and into the media guides.

Figure: 3 - 15 Media Guide



6. Press the pinch roller knob and slide the media .25 inches beyond the pinch roller.

Figure: 3 - 16 Pinch Roller View from Top

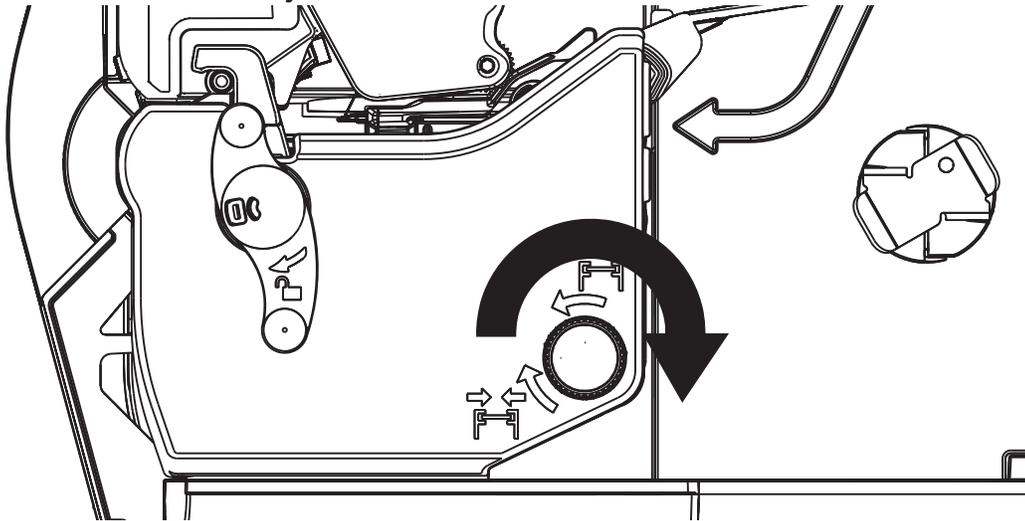


7. While pressing the pinch roller knob, rotate the media guide adjustment wheel until the media guide touches the media on both sides.

Caution: Ensure the media guides are neither too tight nor too loose or print quality will be affected and feed issues may develop.

Note: To loosen the media guides, rotate the media guide adjustment wheel counter-clockwise. To tighten, rotate the adjustment wheel clockwise.

Figure: 3 - 17 Media Guide Adjustment Wheel



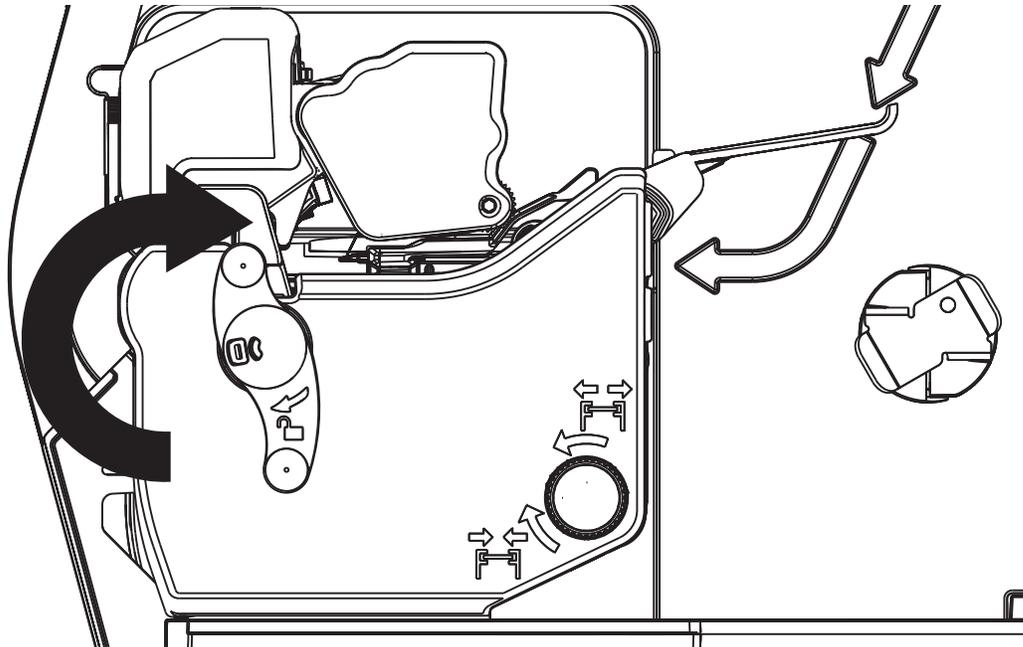
Note: The factory default media width is set to 4 inches.

Installing Ribbon

For thermal transfer printing, ribbon must be installed. The ribbon should be slightly wider than the print media being used to ensure proper coverage.

1. Open the media cover.
2. Rotate the printhead latch lever clockwise to unlock and raise the printhead carriage assembly.

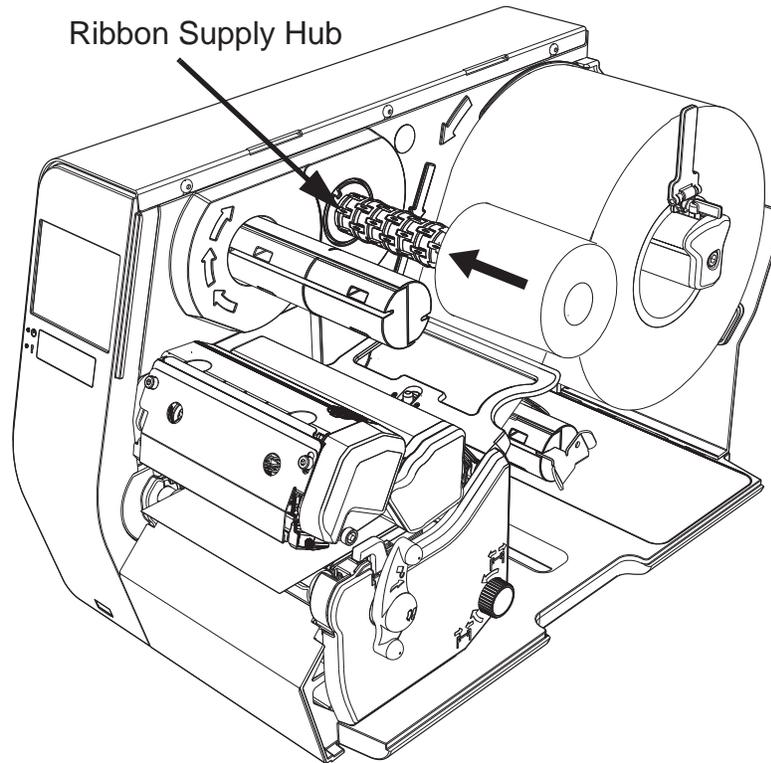
Figure: 3 - 18 Printhead Latch Lever



3. Slide the ribbon core over the ribbon supply hub until the core is centered on the hub.

Note: Only use ribbon with a 1" diameter core.

Figure: 3 - 19 Install Ribbon



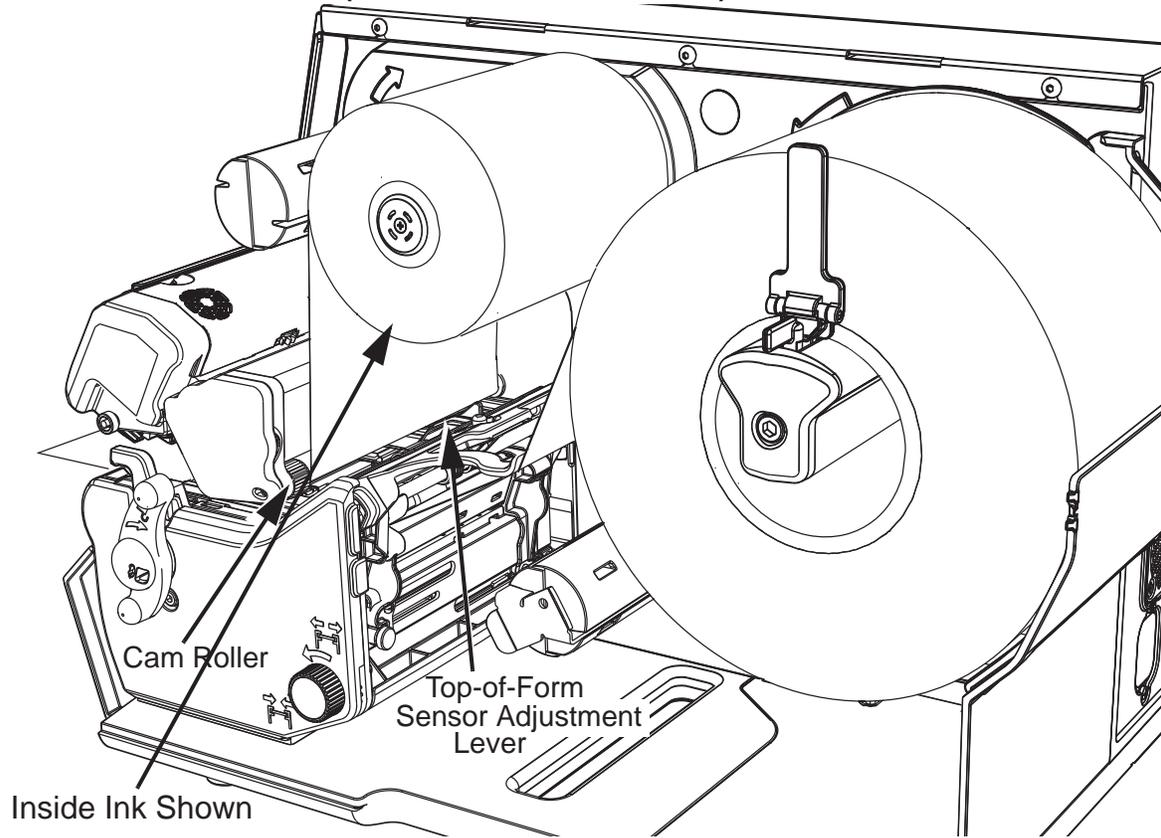
4. Route the ribbon between the ribbon cam roller and the green top-of-form adjustment lever.

Note: The printer supports both coated side in (CSI) and coated side out (CSO). Ensure the ink side faces the media.

Note: See the Menu section for information on setting the printer to run inside or outside ink.

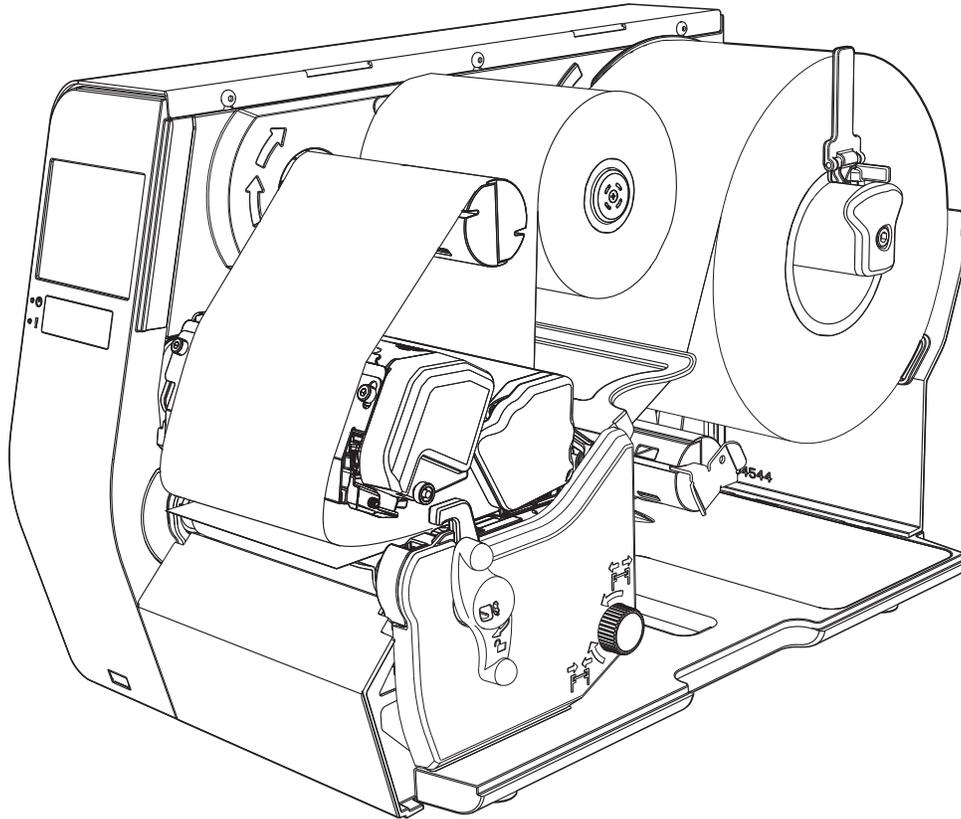
Caution: Do not route the ribbon under the top-of-form sensor.

Figure: 3 - 20 Route Ribbon (Inside ink ribbon is shown)



5. Route the ribbon under the printhead, over the ribbon shield and clockwise around the ribbon rewriter hub.

Figure: 3 - 21 Route to Ribbon Rewinder Hub



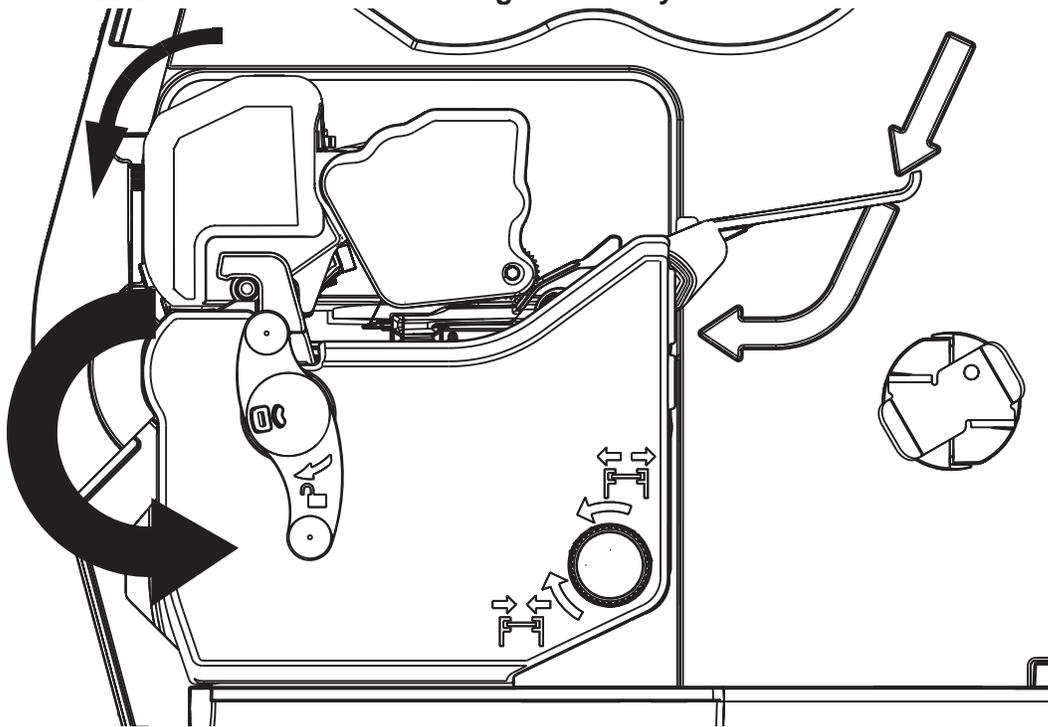
Note: Roll the ribbon around the ribbon rewriter hub at least five (5) times to ensure it will stay in position.

6. Ensure the thermal transfer option is selected in the control panel.
7. Set the thermal transfer option to CSI or CSO depending on the ribbon type.

Note: See the menu section for more information about the printer settings.

8. Rotate the printhead carriage assembly counter-clockwise until it latches.

Figure: 3 - 22 Latch the Printhead Carriage Assembly



9. Rotate the printhead latch lever counter-clockwise to lock the printhead carriage.

Note: Ensure the printhead latch lever has locked the printhead mechanism before printing or the printer will enter a no-print condition.

Note: When removing the ribbon from the ribbon rewinder hub, grasp the center of the ribbon, squeeze tightly and pull outward away from the rewinder hub. The rewinder hub will collapse slightly allowing the used ribbon to slide off.

Configuring Media and Ribbon Settings

Once the media and ribbon have been loaded, the print parameters should be set to match the type of media and ribbon being used. This will ensure optimal print quality. Once set, the parameters will not need to be set again unless the media or ribbon types are changed.

Using Media and Ribbon IDs

Media and ribbons supplied by Datamax-O'Neil and other vendors may have up to an eight (8) digit media ID and ribbon ID assigned. These codes may be created in the Utility menu and then selected from Media menu via the printer's front panel. All relevant print parameters will be automatically configured.

1. Select **Menu > Basic > Media > Media ID**.
2. Using the up and down arrows, select the appropriate Paper ID. Note: No Media IDs are provided by the factory.
3. To select the Ribbon ID, navigate to tab 2 and use the scroll arrows to highlight and select the appropriate Ribbon ID.
4. Select the Home button.
5. After selecting the Home button, select the green Accept button to again confirm your selection or the red Reject button to cancel the changes.

Note: Although using media and ribbon IDs usually produce very good results, minor adjustments may be required. Refer to the section titled **Adjusting Media and Ribbon Settings**.

Selecting Media and Ribbon Types

If media and ribbon IDs are not known, the media and ribbon types may be selected manually.

1. Select **Menu > Basic > Media > Select Type**.
2. Using the up and down arrows, select your paper type.

Note: If the paper type is not known, either select Coated Direct Thermal for direct thermal printing or select Coated Thermal Transfer for printing with a ribbon.

3. Tab to the **Ribbon** screen.
4. Using the up and down arrow, select your ribbon type.

Note: If the ribbon type is not known, select **Wax** to start. This selection can always be changed if required.

5. Tab to the **Settings** screen.

6. Select the **Paper Sensor Type** button until your paper type appears. The options are as follows:

- Gap
- Mark on Top
- Mark on Bottom
- Notch
- Continuous

Note: For more information, refer to the section “**Top-of-Form Sensor.**”

7. Select the **Paper Sensor Side** button until the correct option appears. The options are as follows:

- Outside
- Inside

Note: For more information, refer to the section “**Top-of-Form Sensor.**”

8. Select the **Ribbon Mode** button until the correct option appears. The options are as follows:

- None
- Coated In (CSI)
- Coated Out (CSO)

Note: For more information, refer to the section “**Top-of-Form Sensor.**”

Note: CSI ribbon (shiny side facing outward) should be installed where the ribbon unwinds in a counter-clockwise direction. CSO ribbon (dull side facing outward) should be installed where the ribbon unwinds in a clockwise direction. If these settings do not match the ribbon type being used, the ribbon supply hub will turn in the wrong direction.

Setting the Media and Ribbon Parameters Manually (Advanced)

There are times when all print parameters must be set manually. This can happen when a new or specialized media or ribbon are being used. This advanced procedure will use the Custom Manual utility.

Note: Some values may be grayed-out, meaning they are automatically set by default. To change these values, select the Auto button next to the value field and then select the green Accept button to confirm your choice to change to manual mode.

Note: Please see the **Menu** section for more information.

1. Select **Menu > Advanced > Media.**
2. Select the **Paper Sensor Type** field until the correct paper type appears. The options are as follows:

- Gap
 - Mark on Top
 - Mark on Bottom
 - Notch
 - Continuous
3. Select the **Paper Sensor Side** field until the correct option appears. The options are as follows:
 - Outside
 - Inside
 4. Select the **Ribbon Mode** field until the correct option appears. The options are as follows:
 - None - for direct thermal printing
 - Coated In - for thermal transfer printing
 - Coated Out - for thermal transfer printing
 5. Tab to the next screen and enter values for **Heat** and **Heat Balance**.
 6. Tab to the next screen and enter values for **Head Pressure** and **Rewinder Tension**.
 7. Tab to the next screen and enter values for **Ribbon Tension Front** and **Ribbon Tension Rear**.
 8. Tab to the next screen and enter a value for **Ribbon Low Diameter**.
 9. Select the **Home** button and select the green Accept button to confirm the settings.

Load a Saved Media File

For media and ribbon settings that are frequently used, media setup files can be saved to the printer's internal memory for easy access. For more information on saving the user setup files, refer to the section titled **Setups** from the **Tools > User Files** menu section. To select an internally saved media setup file, perform the following steps:

1. Select **Menu > Basic > Media > User Media**.
2. Using the up and down arrows, select the appropriate Internal Media Setup File.
3. Select the green Accept button and confirm the settings.

Optional Rewinder

The rewinder is designed to rewind in either direction but the direction must be set through the menu.

Note: Either the peel plate or the rewinder plate must be installed.

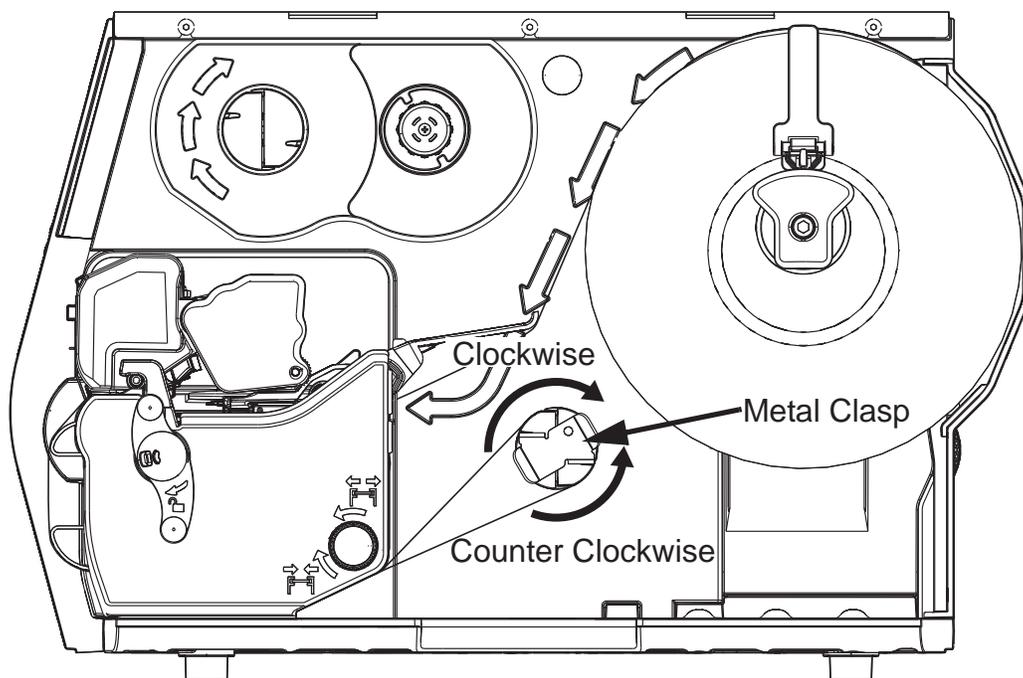
Installation of Media

1. Route the media through the platen carriage assembly.

Note: Follow the instructions for the installed media hanger.

2. Route the media under the platen carriage and around the rewinder shaft.
3. Remove the metal clasp and wind the media around the rewinder shaft in the desired direction.

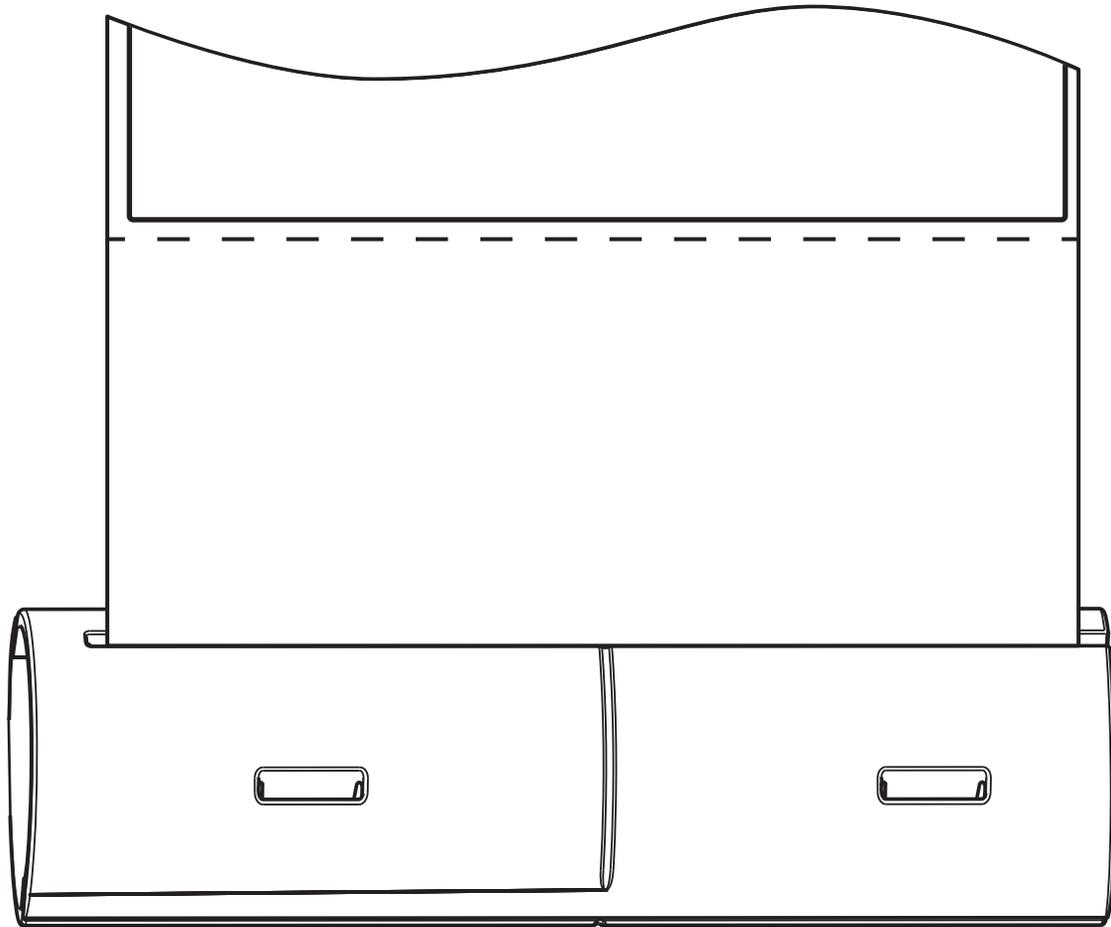
Figure: 3 - 23 Rewinder



4. Insert the edge of the media into one of the two grooves on the rewinder shaft.

Note: For thicker labels, remove the label from the backing and insert the backing into the groove.

Figure: 3 - 24 Media Rewinder



Note: Be sure to center align the paper on the rewinder shaft. Otherwise, the paper will not rewind tightly.

5. Reinstall the metal clasp into the grooves.

Perform the following steps to set the rewinder direction:

1. Select **Menu > Basic > Printer Mode**.
2. Select the rewinder direction.

Note: Upon exiting the utility, a prompt will ask the user to accept the changes or reject them.

Note: If the rewinder is enabled and the Auto Present Distance is set, then the printer present distance will be set to zero (0) to avoid unnecessary backing up.

Note: If the rewinder is enabled, the Auto Present Distance set, and the printer in Prompt or Applicator mode, then the actual printer present distance will be set to work with the peel mechanism.

Top-of-Form Sensor

This printer is designed to use several types of media. The top-of-form sensor can read media characteristics from the center to the left inside edge (viewing from the front of the printer). Setting the top-of-form sensor to read specific media characteristics is done in the control panel.

Media Types Supported

There are five paper types that are supported. These include gap, mark on top, mark on bottom, notch and continuous.

The following are illustrations of the types of supported media but not every supported media is illustrated. Please contact your reseller for assistance in selecting the appropriate media for the printer.

Figure: 3 - 25 Gap Example

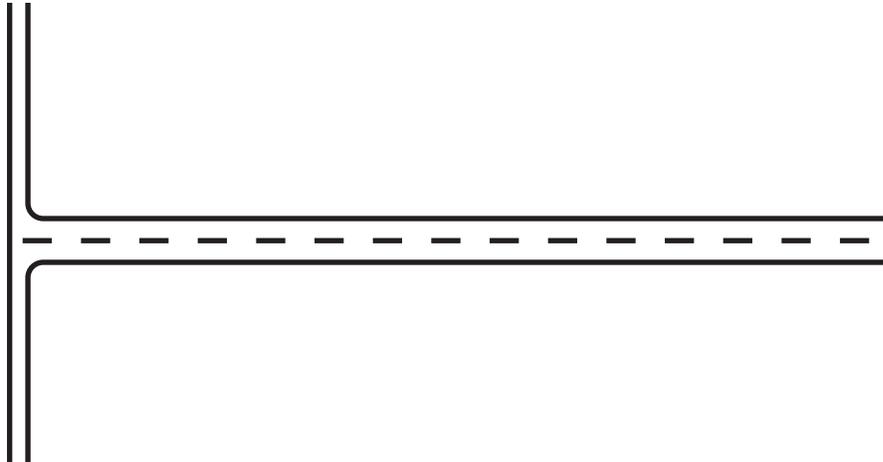
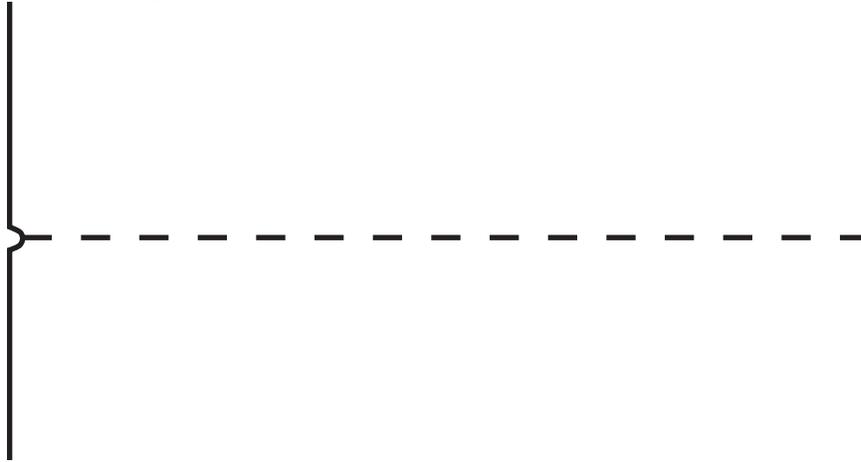


Figure: 3 - 26 Notch Example



Note: The use of Notch paper disables the Out of Paper warning.

Figure: 3 - 27 Mark on Top Example



Figure: 3 - 28 Mark on Bottom Example



Figure: 3 - 29 None



Note: For continuous paper, excessive vertical adjustment may push the print into the next label. This mode will create labels with a 1/8" gap between them.

Setting the Top of Form Sensor

The top of form sensor enables the printer to determine where the print should begin and end. Once the appropriate media has been loaded, the media type can be entered manually into the control panel.

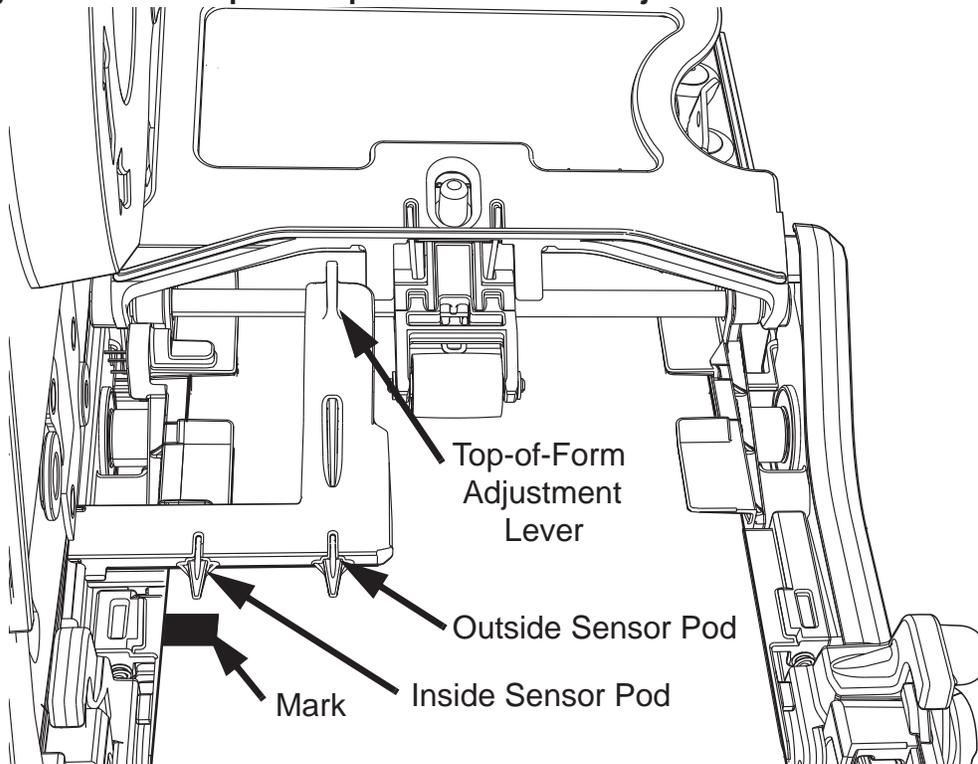
1. Select **Menu > Basic > Media** from the control panel.
2. Select **Select Type**.
3. Select the paper and ribbon type.
4. Select **Paper Sensor Type**.
5. Select the paper sensor side, either inside or outside, that correlates with the type of media being used.

Note: For example, media types with marks in the middle of the media, select Outside.

Note: The LED of the selected sensor will illuminate.

6. Unlock and release the printhead carriage assembly allowing it to open.
7. Using the adjustment lever, slide the top-of-form sensor so the appropriate LED-lit sensor pod is centered over the mark, notch or gap that was selected.

Figure: 3 - 30 Example of Top-of-Form Sensor Adjustment on “Mark on Top” media



Note: For illustration purposes, the image of the printhead carriage assembly was removed in the image above. The LED sensor pods can be viewed from the front of the printer, under the printhead carriage assembly. The active sensor pod is lit by an LED.

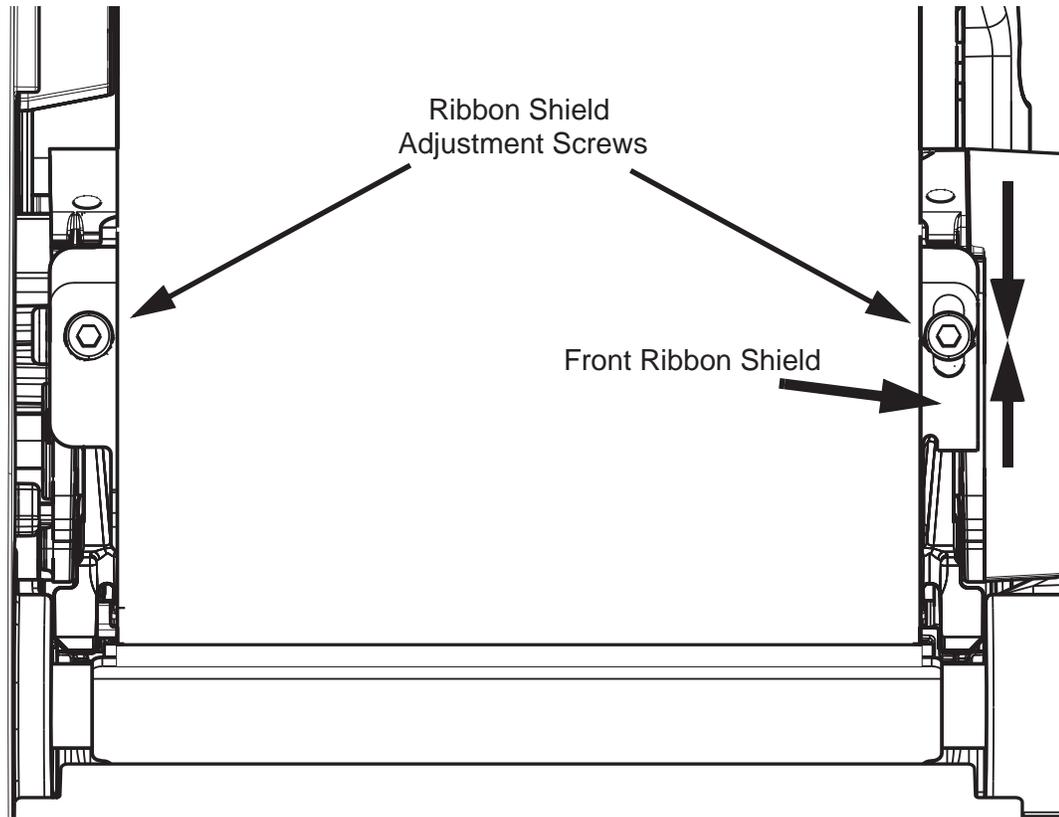
Note: If the wrong pod is active for your media type, check your settings.

8. Close and lock the printhead carriage assembly.

Removing Ribbon Wrinkle

1. Center the supply ribbon core so the ribbon overlaps the media equally on both sides.
2. Verify there are no folds or creases in the ribbon.
3. Adjust the front ribbon shield to the middle position of the mounting slot.

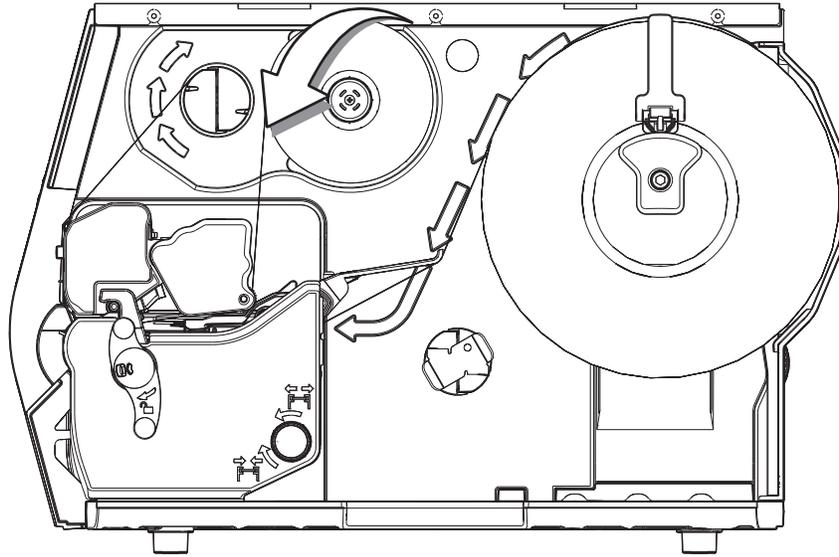
Figure: 3 - 31 Ribbon Shield



4. Set the printer to print ten (10) consecutive Quality Labels from the Test menu.
 - a. Select **Menu > Test > Test Labels**.
 - b. Enter 10 in the Select Count field.
5. Print the labels.
6. Check for ripples drifting left or right in the ribbon between the ribbon supply and the cam roller.

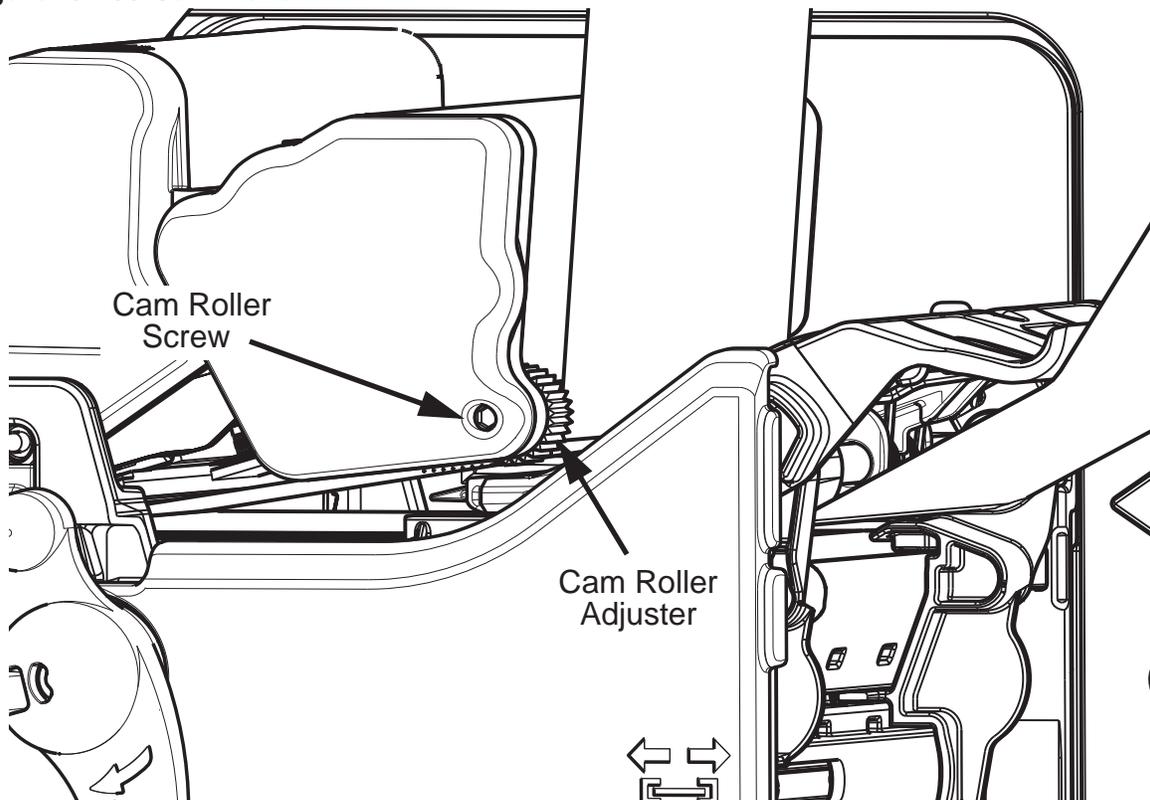
Note: If the ripples are vertically straight, advance to step 12 to adjust the ribbon shield.

Figure: 3 - 32 Supply Side Inspection



7. If excessive ripples exist, loosen the 3mm cam roller hex head screw enough to allow the cam roller to spin.

Figure: 3 - 33 Cam Roller



8. Turn the cam roller adjuster until the ripples are either gone or are vertical.

Note: The ripples must never drift left or right.

9. Tighten the cam roller screw.
10. Print ten (10) Quality Labels from the test menu.

Note: If wrinkles still appear continue with the adjustment procedure.

11. Loosen the ribbon shield adjustment screws.
12. While printing test labels, slowly adjust the lower shield until the ribbon tension is constant from left to right and the wrinkles disappear.

Note: Adjust the ribbon shield by adding tension to the side with wrinkling or light print.

Note: Adjustment should eliminate side-to-side wrinkles.

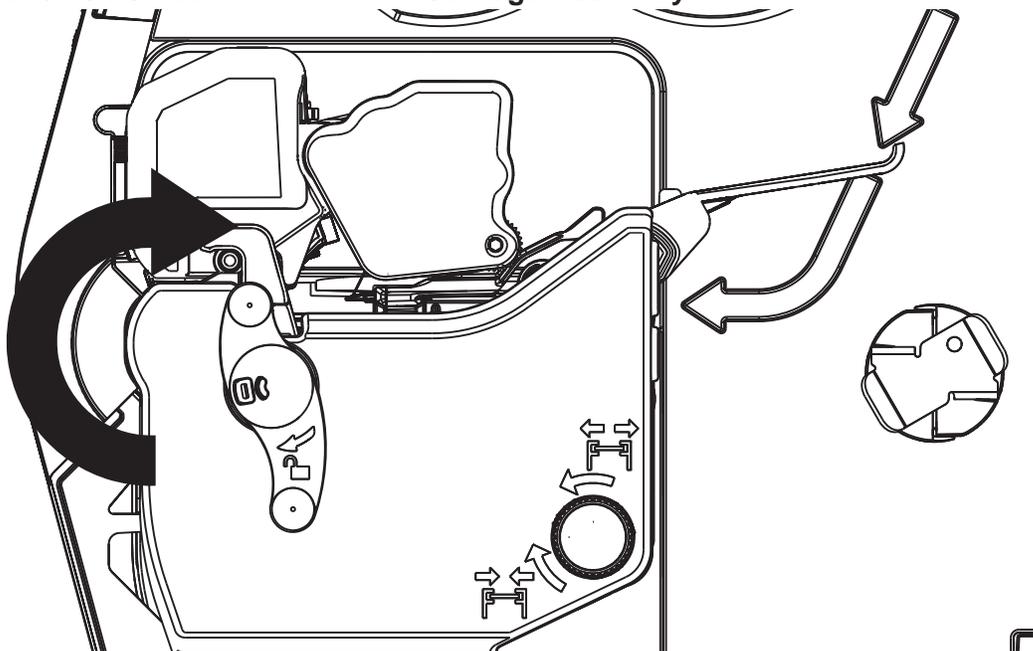
Manual Head Pressure Adjustment (p1115 only)

The printer calculates the ribbon and media settings and then suggests the optimal printhead pressure. If the current printhead pressure setting is different from the suggested setting, a prompt will appear on the menu screen suggesting that the head pressure should be adjusted.

1. Select **Info > Extended Status** from the home screen.
2. Rotate the printhead latch lever clockwise to unlock the printhead carriage assembly.

Note: The printhead carriage assembly should be unlocked but not released.

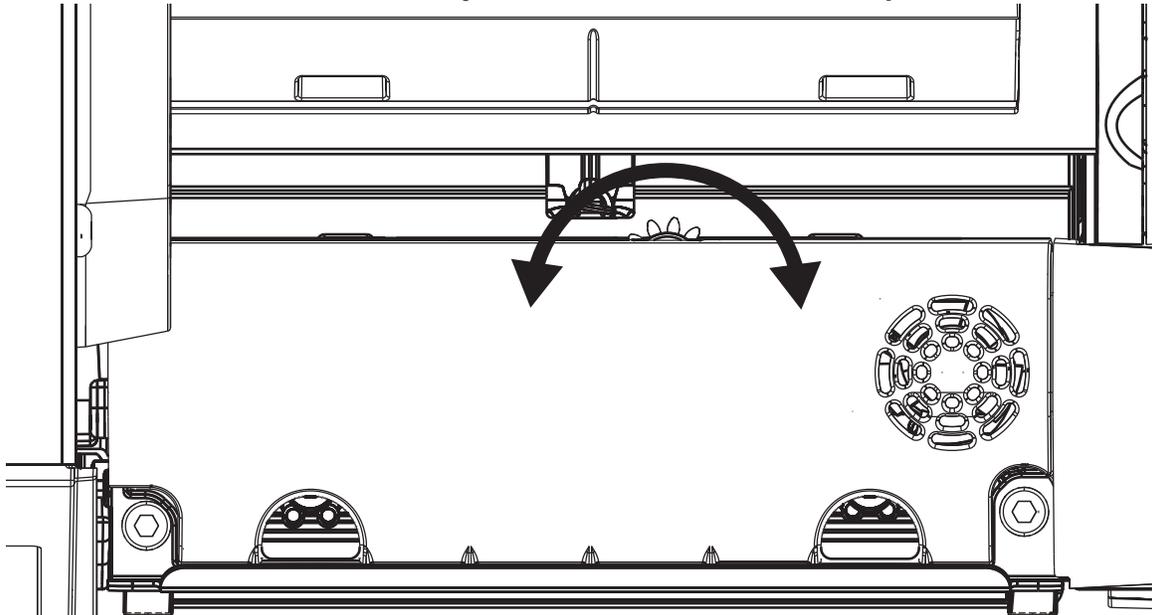
Figure: 3 - 34 Unlock the Printhead Carriage Assembly



3. Rotate the printhead pressure adjustment wheel until the head pressure is set to the appropriate setting.

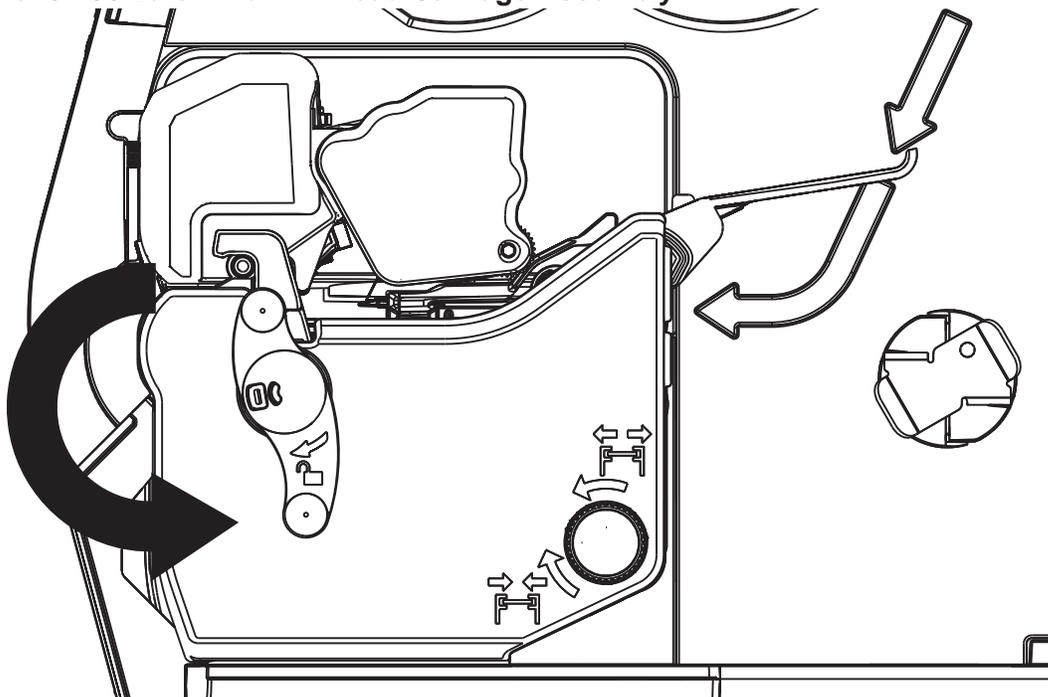
Note: Rotating the wheel clockwise increases the pressure while rotating the wheel counter-clockwise decreases the pressure.

Figure: 3 - 35 Printhead Pressure Adjustment Wheel - View from Top



4. Rotate the printhead carriage assembly counter-clockwise until it latches.

Figure: 3 - 36 Latch the Printhead Carriage Assembly



Installing Cutter and Tray

Warning: To prevent serious injury, never place a finger or object other than media near the cutter mechanism.

Caution: Never cut paper or media in an area where adhesives exist. Doing so will damage the cutter and void the manufacturer's warranty.

Caution: The media cover will not close with both the cutter and present sensor installed at the same time for those printers with a present sensor installed in the cover..

Caution: The printer must be powered off and disconnected from AC utility power prior to the cutter installation.

The cutter and cutting tray are available options that must be installed after receiving the printer.

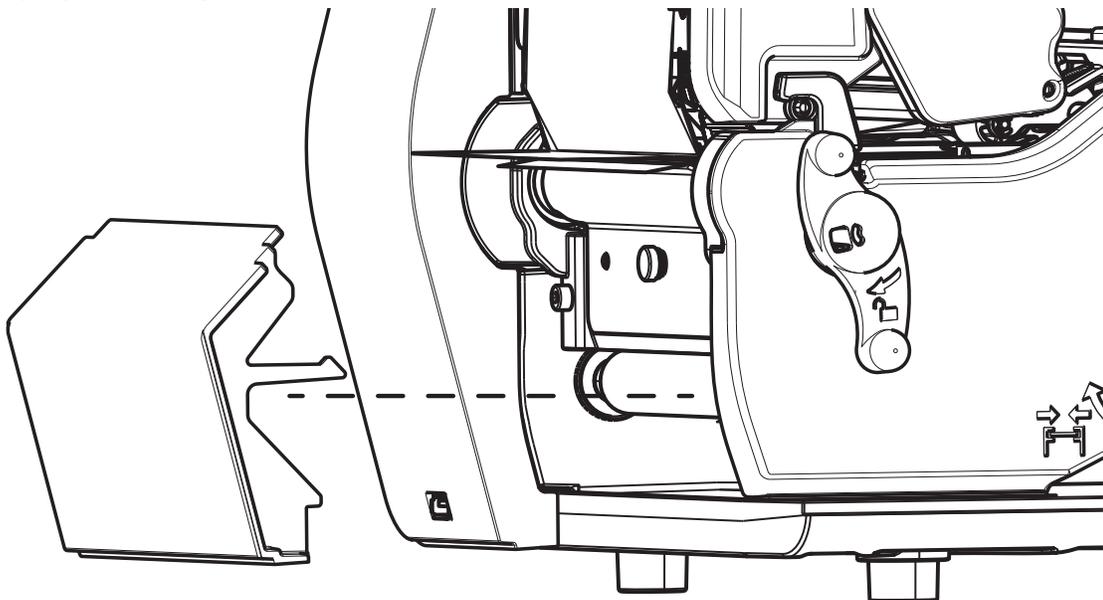
Cutter

Perform the following procedure to install the cutter.

Note: The printer and the cutter tray must be on the same level surface.

1. Power off the printer and disconnect it from utility power.
2. Remove the lower cover from the printer.

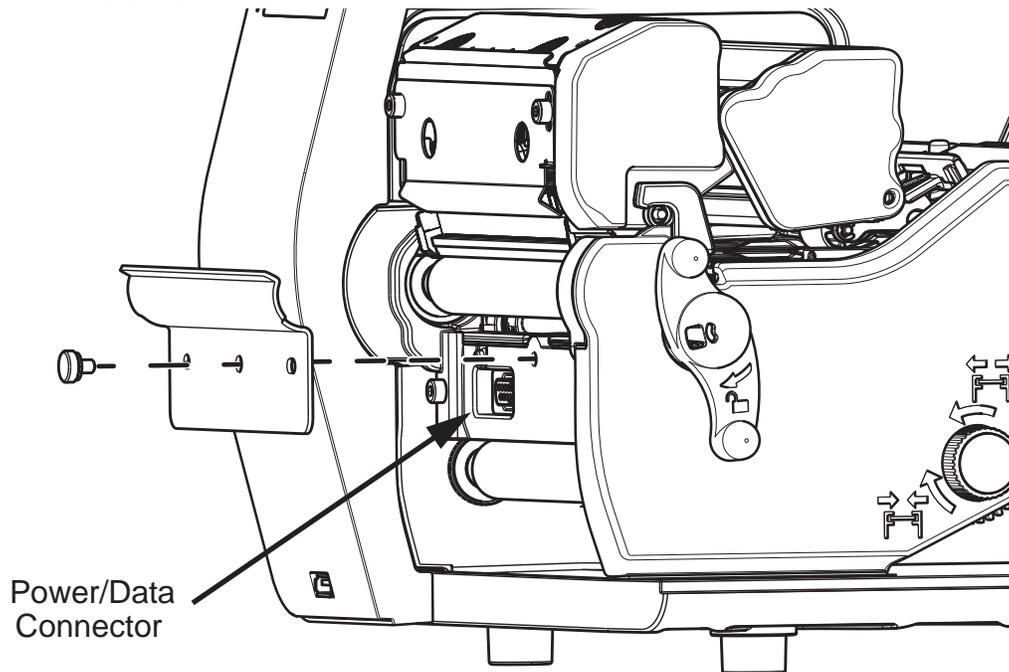
Figure: 3 - 37 Lower Cover



Note: The printer cover can be removed by carefully pulling the bottom of the cover.

3. Loosen and remove the media plate thumbscrew and the media plate.

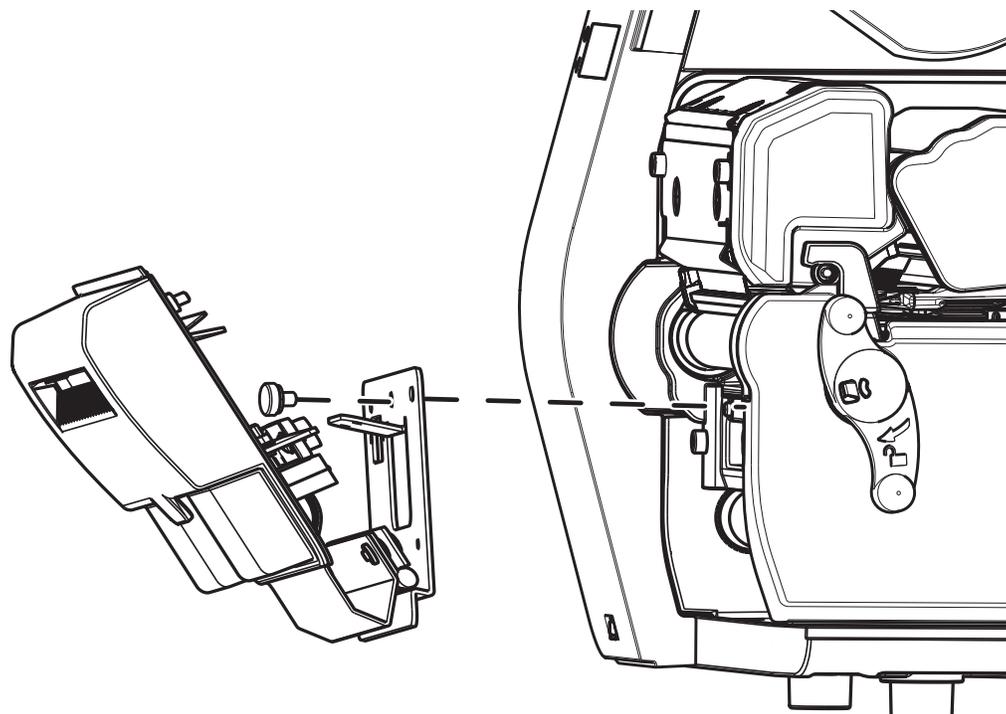
Figure: 3 - 38 Remove Media Plate



Note: Retain the thumbscrew for cutter installation.

4. Align the cutter with the power/data connector and install the thumbscrew to secure it to the platen carriage assembly.

Figure: 3 - 39 Cutter Installation



5. Rotate the cutter until it magnetically locks into place.
6. Activate the cutter option in the Options menu by selecting **Menu > Advanced > Printer > Options > Cutter**.

Note: Feed a label through the printer and observe the cut distance to ensure it cuts on the gap. If it cuts on the label, adjust your Cut Distance Adjust settings in the Adjustments menu. Select **Menu > Advanced > Adjustments > Cut Distance Adjust**.

Note: A negative value moves the cut line toward the current label being printed. A positive value moves the cut line toward the next label to be printed.

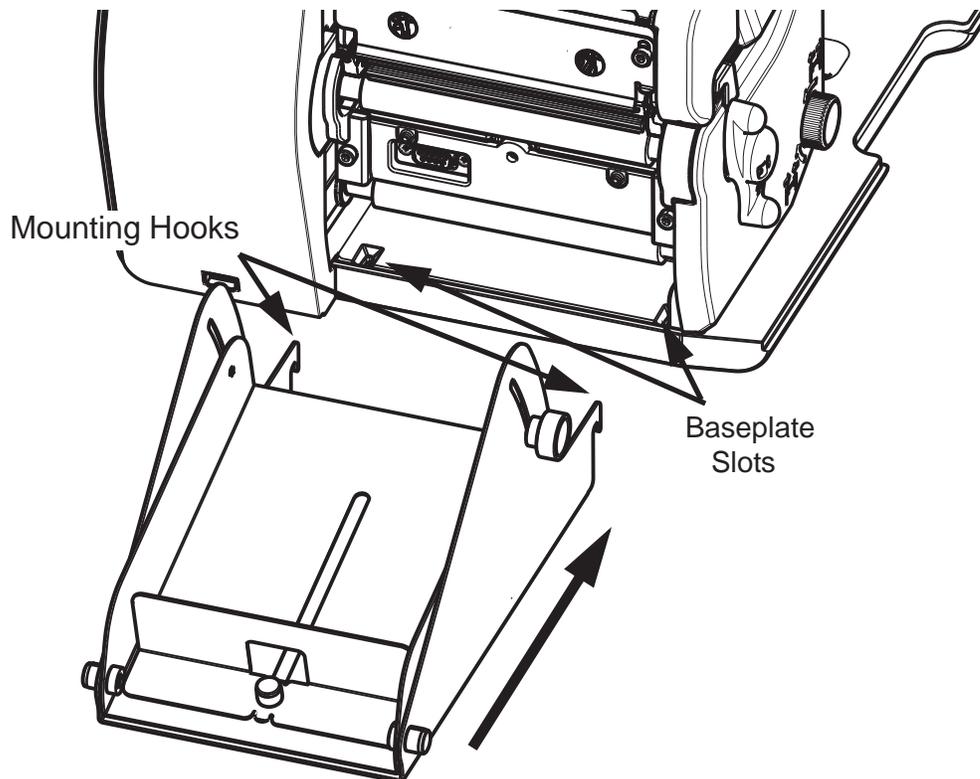
Cutter Tray

The cutter tray collects labels and media after they have been cut. The tray may be installed before or after the installation of the cutter.

1. Place the tray mounting hooks into the baseplate slots.

Note: For a clearer illustration, the cutter has been removed from the illustration below.

Figure: 3 - 40 Cutter Tray Installation

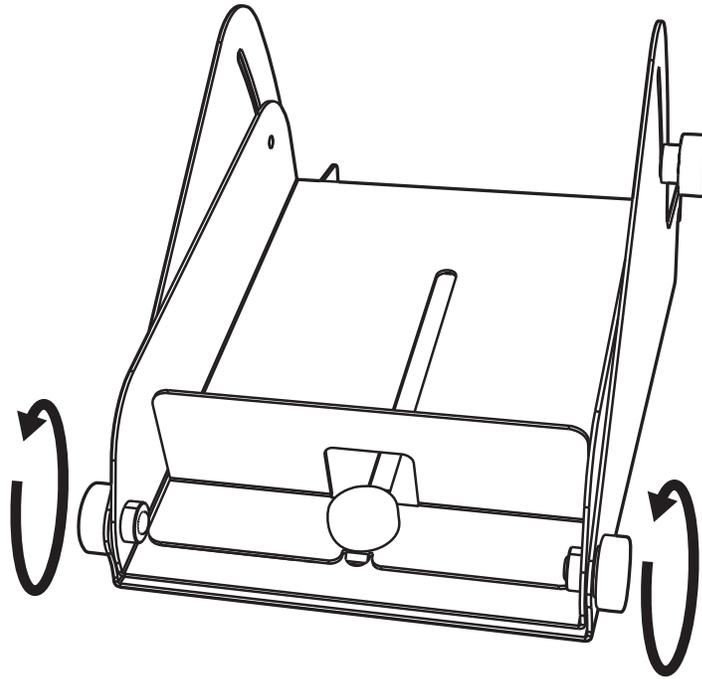


Setting Up the Cutter Tray

The cutter tray assembly is adjustable to fit various label lengths from 2" (50.8 mm) to 6" (152.4 mm) and widths up to 4.65" (118.1 mm) for the p1115, p1115s, p1120 and p1125. The maximum label width for the p1725 is 7.1" (180.34 mm).

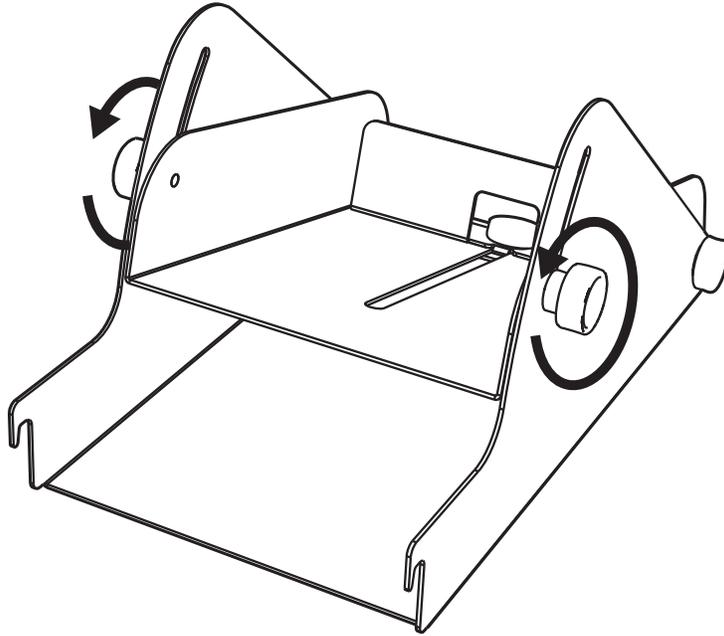
1. Loosen the tray lock thumbscrews.

Figure: 3 - 41 Tray Lock Thumbscrews



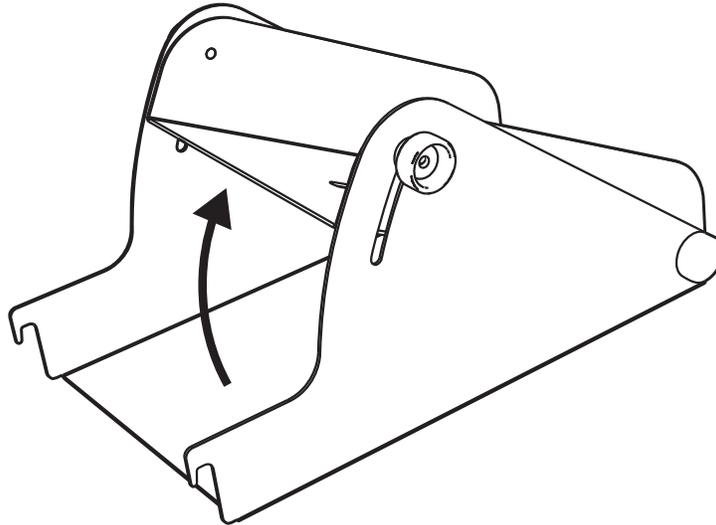
2. Loosen the height adjustment thumbscrews.

Figure: 3 - 42 Height Adjustment Thumbscrews



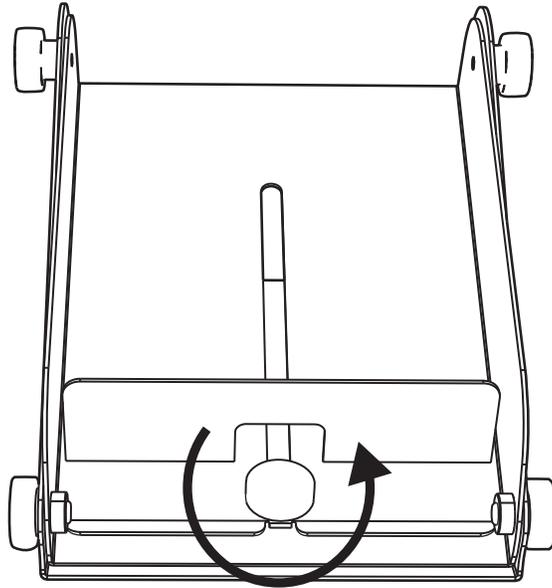
3. Rotate the tray shelf to the desired position and secure all four thumbscrews that were previously loosened.

Figure: 3 - 43 Tray Shelf Adjustment



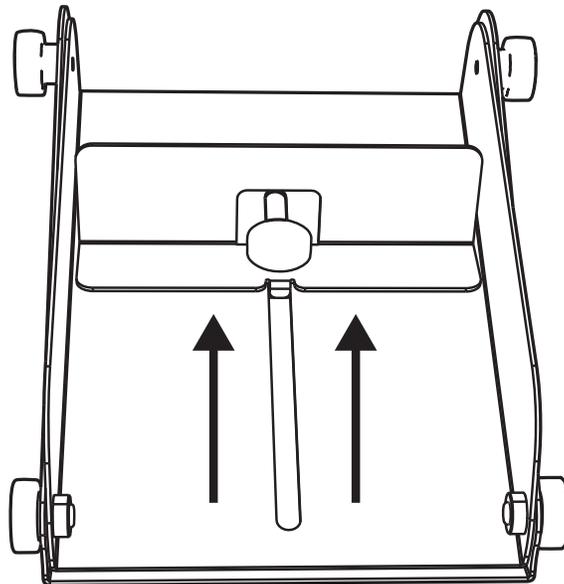
4. Loosen the length guide thumbscrew.

Figure: 3 - 44 Length Guide



5. Adjust the length guide to the desired position and then secure the thumbscrew.

Figure: 3 - 45 Length Guide Adjustment



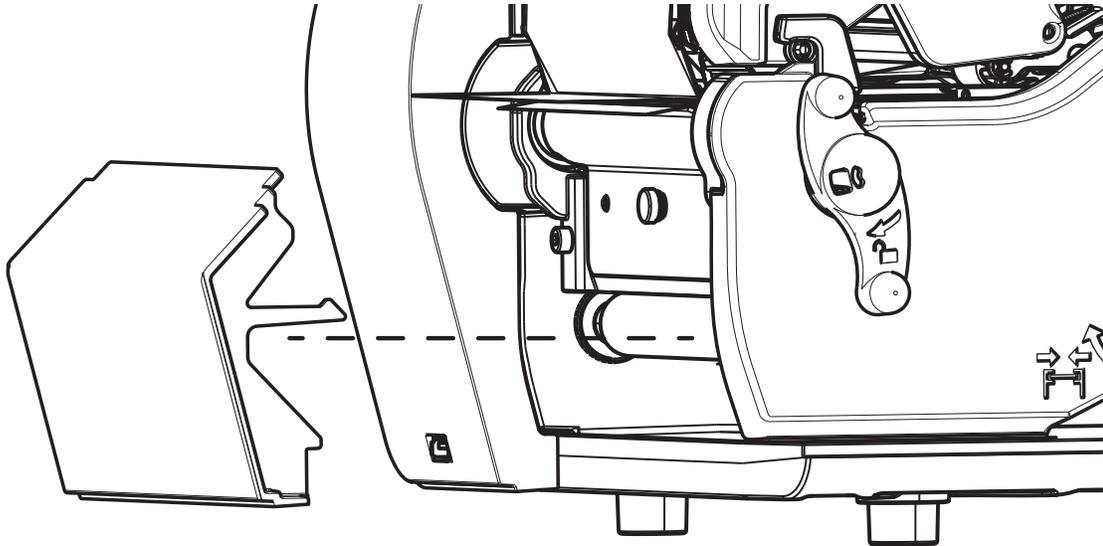
Upward-Facing Present Sensor

Note: The upward-facing present sensor is not an available option for the p1725

Perform the following procedure for installing the upward-facing present sensor.

1. Power off the printer and disconnect it from utility power.
2. Remove the lower cover from the printer.

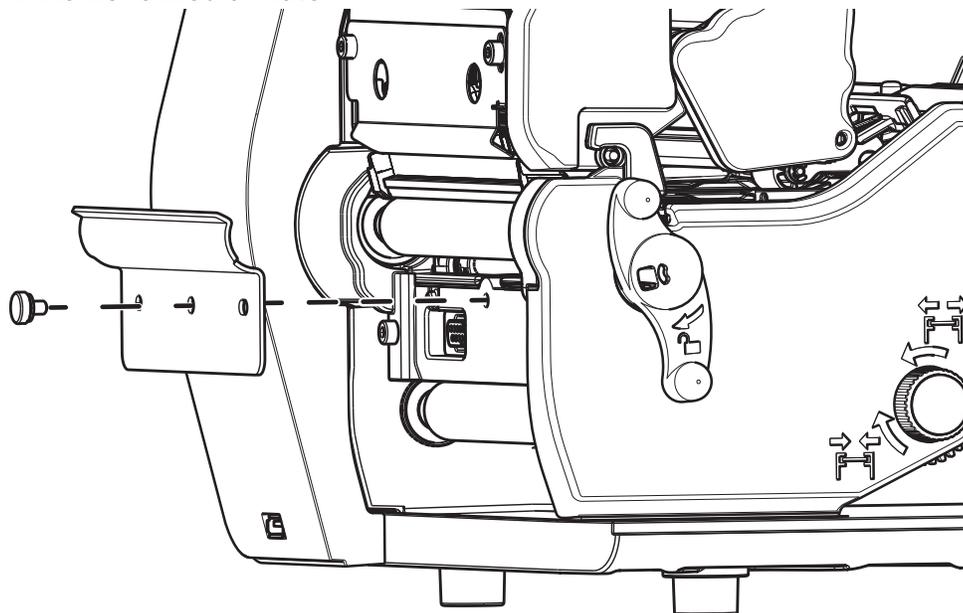
Figure: 3 - 46 Lower Cover



Note: The printer cover can be removed by carefully pulling the bottom of the cover.

3. Loosen and remove the media plate thumbscrew and the media plate.

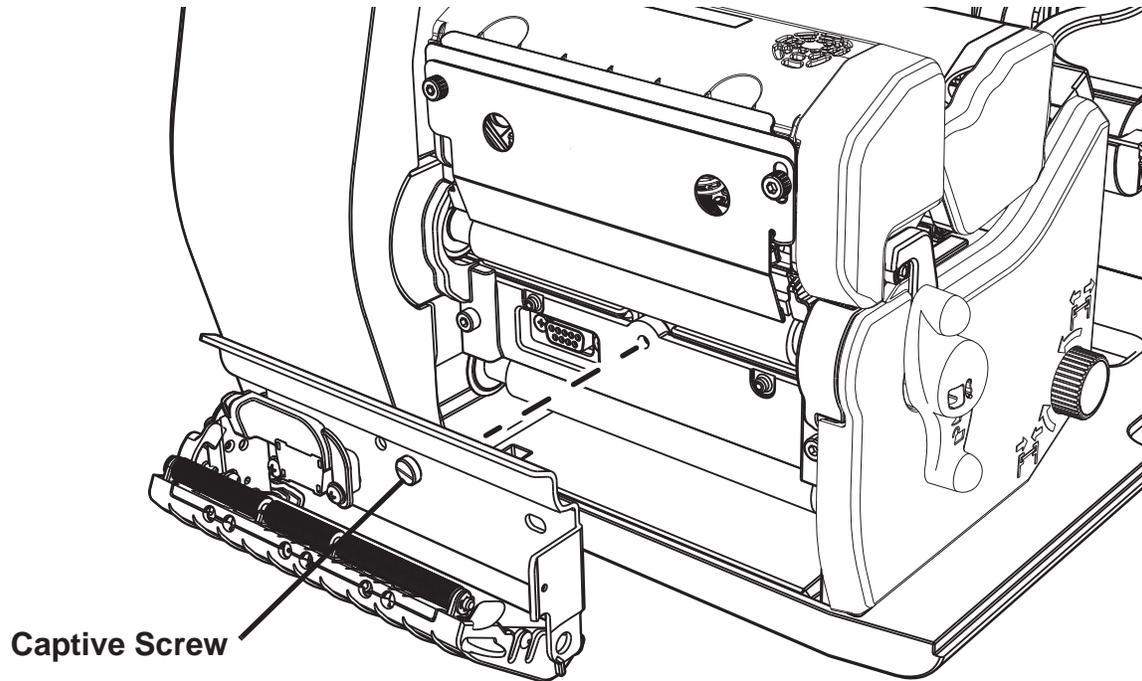
Figure: 3 - 47 Remove Media Plate



Note: Retain the thumbscrew for future re-installation of the media plate.

4. Align the present sensor with the power/data connector and tighten the captive screw to secure it to the platen carriage assembly.

Figure: 3 - 48 Present Sensor Installation



5. Close the present sensor until it magnetically locks into place.
6. Activate the present sensor option in the Options menu by selecting **Menu > Basic > Printer Mode > Present Sensor Enable**.

Print Driver Installation

Overview

This installation should be executed only on a computer where a pw Series printer driver is not currently installed or one that the driver have been completely removed.

The Windows driver is located on the Accessories CD-ROM included with the printer. For the latest version please visit our web site at <http://www.datamax-oneil.com>

Installing the Windows Driver:

1. Place the Accessories CD-ROM included with the printer into the computers CD-ROM drive. Once the CD-ROM starts select your printer model then “Install Driver” from the menu. Follow the instructions on the screen to install.

If the driver was downloaded from our website, simply double click the downloaded “.exe” file to launch the installation.

2. Check the “Remove printer drivers” radio button then click ‘Next’. If this option is not available skip to Step 6.

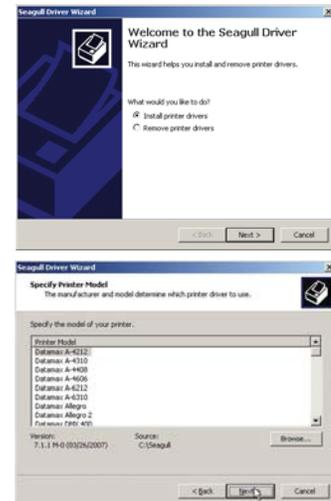
3. On the next screen check the “Remove printers” radio button then click ‘Next’.

4. Browse the list of installed printers, if any “Workstation” or “Performance” printers are listed check the corresponding check boxes and click ‘Next’ to remove the installed printers.

5. The next screen will show a summary of items to be removed, click ‘Finish’ to complete the removal process. Once complete return to the main screen to install the new driver.



- Check the “Install printer drivers” radio button then click ‘Next’ and follow the on-screen instructions to install the driver.
- When prompted, select your printer from the list, (i.e. Datamax-O’Neil p1xxx). Continue to follow the on-screen instructions to install the driver.

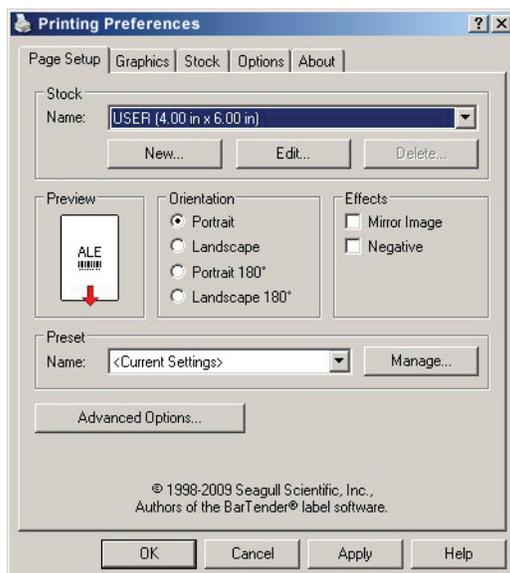


Important Notes:

The Windows driver functions the same as any other Windows printer. While built-in help files provide information on all settings, there are some important setting parameters that should be observed for trouble free printing:

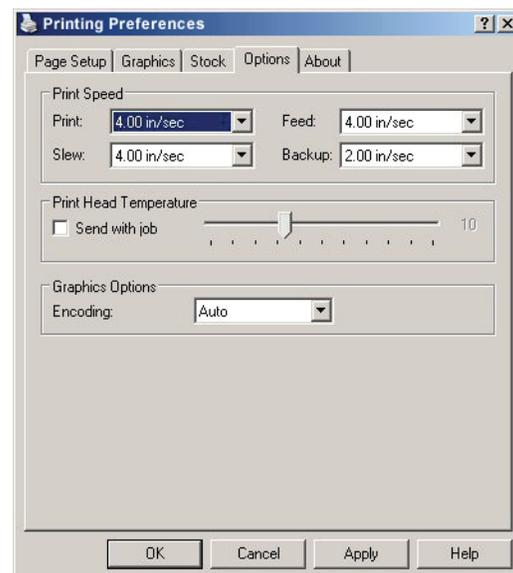
Page Setup Tab: Stock

It is important that the Stock setting matches the size of the label you are using. If you cannot find a match for your label click New and enter the dimensions of your label.



Options Tab: Print Speed & Printhead Temperature

These two settings will have the greatest effect on print quality. Some label stocks will require more heat and slower print speeds to generate a quality image.



The Windows application software used to create the label format will likely have a "Page Setup" screen. This will also need to match the size of the label you are using



Menu System

Menu Overview

The printer is designed with a touchscreen display. Functions can be enabled and disabled and settings can be changed through the on-screen menu. Press the buttons on the screen with the light touch of a finger.

Caution: Do not touch the screen with excessive force or by using sharp objects. Doing so will damage the touchscreen and may void the manufacturer's warranty.

Layout of the Display

Navigation

The menu screens have buttons for advancing or returning to screens.



Back Button

The Back button provides the user with the option to return to a previous menu screen.



Home Button

Selecting the Home button sends the user to the main screen.



Tabbed Browsing

Blue left and right arrow buttons are provided at the bottom right of the screen to navigate tabbed menus. Select the right arrow to advance to the next tab or the left arrow to return to the previous tab.



Scrolling

Some menu screens allow for scrolling. Select the appropriate up or down arrow.



Changing Values

Numeric values can be entered or changed by selecting the field and entering the values using the numeric keypad. They can also be increased or decreased using the subsequent plus or minus buttons.

Other menu options are changed by pressing the button until the appropriate selection appears.



Page Return Button

The Page Return button allows the user to return to the last setup screen that was exited after selecting the Home button.

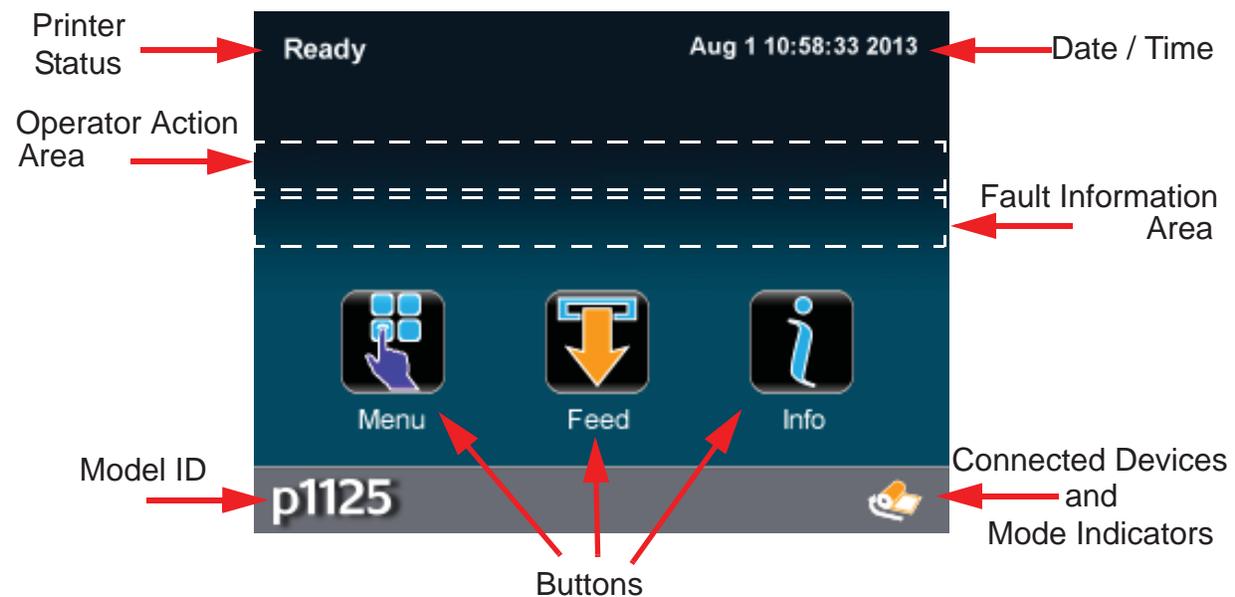
Three Button Panel

The printer may be placed in 3-button security mode which restricts the operator from changing any settings or printing test labels. An administrator can access the printer menu by pressing on the “Model ID” in the taskbar and entering the appropriate security password. Once the password has been entered and accepted, the user will be allowed access to the full home screen.

To return the menu to the 3-button security mode, select the “Model ID” again.

Home Screen

The home screen presents several options to the user.



Printer Status

The printer status area displays the state of the printer. These states include the following:

- **Ready** - The printer is idle and ready to accept internal or external commands.
- **Busy** - Appears when printing or feeding paper.
- **Fault** - The printer has paused due to a fault condition.
- **Warning** - The printer has paused due to a warning indicator.
- **Cooling Down** - The printer has paused while it is cooling down.
- **Waiting** - The printer is blocked by the optional Applicator or Present Sensor.
- **Configuration** - The printer is connected to the Configuration Utility.
- **Canceling** - The printer is currently canceling a print job.

Operator Action Area

Information about the current printer action will be displayed in this area. For example, “Printing 1 of 3” might be displayed when printing the first of three labels for a print job.

Date / Time

The time and date may be toggled on by pressing the upper right corner of the display. After pressing the blank area, the current date and time will be displayed on the screen. Once the home button is pressed, a screen will appear asking the user if the date and time will be displayed. Select the green Accept button to display the time or the red Reject button to cancel.

Fault Information Area

Warnings and faults will be displayed in this area. Once the fault has been corrected, the message will disappear.

Connected Devices

The symbol for devices connected to the USB host will be presented in this area.

Mode Indicators

The printer will display modes that have been activated. If options have been installed but not enabled, they will not appear in this area of the display.



Information Button

By selecting the information button from the task bar, the following information can be accessed. Select the Print button in the taskbar to print the information. Not all of the information listed below is available for every printer.

- System Info
- Settings Report
- Network Report
- Extended Status
- Serial Report
- GPIO Report
- Fonts Report

Note: Selecting the up or down arrow will display additional information.



1. System Information

The following will be displayed upon selection of the System Info button:

- Printer Model
- Printhead Model
- Firmware Version
- FPGA Version
- Ribbon Version
- Boot Version
- Board ID
- RAM Size
- Flash Size
- Printer Key
- Absolute Counter
- Printhead Counter
- Setup File
- Paper
- Ribbon
- Detected Options



2. Settings Report

The settings report provides information on the printer settings.

Media Settings

- Paper Sensor Type
- Paper Sensor Side
- Ribbon Mode
- Heat
- Heat Balance
- Head Pressure
- Rewinder Tension
- Ribbon Tension Front
- Ribbon Tension Rear
- Ribbon Low Diameter

Printer Settings

- Cutter Mode
- Cut by Count
- Rewinder Mode
- Present Sensor Enable
- Print Speed
- Feed Speed
- Reverse Speed
- Present Distance
- Error Sound
- Warning Sound
- Paper Low Warning
- Paper Out Warning
- Cover Open Warning
- Reprint on Error
- Present Timeout
- Pause Mode

Page Defaults Settings

- Print Length
- Print Width
- Vertical Offset
- Horizontal Offset
- Orientation
- Raster Mode
- Font Name (Number)
- Point Size
- Pitch Size
- Symbol Set
- Print Truncation
- Print on Gap/Mark

Auto Settings

- Auto Load
- Auto Option Detect
- Auto Calibrate
- Auto Present Distance
- Auto Tension
- Auto Pressure
- Auto Speed Adjust
- Suggested Pressure

Adjustment Settings

- Present Distance Adjust
- Cut Distance Adjust
- Cutter Rotation Adjust
- Vertical Adjust
- Horizontal Adjust
- Head Pressure Adjust
- Rewinder Tension Adjust
- Ribbon Tension Front Adjust
- Ribbon Tension Rear Adjust
- Darkness
- Contrast

Calibration Settings

- Paper Threshold (for non-continuous sensor type)
- Gap/Mark Threshold (for non-continuous sensor type)
- TOF Gain (for non-continuous sensor type)
- Autoload Empty
- Autoload Current



3. Network Report

The Network Report option provides information about the network on which the printer resides. The following information is available:

- Ethernet IP
- Ethernet Subnet Mask

- Ethernet Gateway
- Ethernet MAC
- Ethernet DHCP
- Wireless IP*
- Wireless Subnet Mask*
- Wireless Gateway*
- Wireless SSID*
- Wireless MAC*
- Wireless DHCP*
- Hostname

*Available only if the wireless option is installed.



4. Extended Status

The Extended Status option provides sensor information including:

- Head Temperature
- Head Voltage
- Head Pressure
- Ribbon Level
- Rewinder Level
- TOF Sensor
- Auto Load Sensor
- Session Label Count

Extended Status is also available when printing by pressing the icon in the mode indicator area.



5. Serial Report

The serial report provides serial connectivity information including:

- Baud Rate
- Data Bits
- Stop Bits
- Parity
- Flow Control



6. GPIO Report

The GPIO Report provides the following information:

- GPIO Mode
- Slew Speed
- Pulse Width
- Signal 1 - I/O, Function, Type
- Signal 2 - I/O, Function, Type
- Signal 3 - I/O, Function, Type
- Signal 4 - I/O, Function, Type
- Signal 5 - I/O, Function, Type
- Signal 6 - I/O, Function, Type
- Signal 7 - I/O, Function, Type
- Signal 8 - I/O, Function, Type



7. Fonts Report

The Fonts Report provides the font name and the font ID/typeface ID number. This includes both the resident and user downloaded or imported fonts.

Note: The resident fonts are listed in the Appendix of this manual.

Note: It is the user's responsibility to obtain the appropriate licenses for downloaded or imported fonts.



Feed Button

Selecting the feed button will feed the media through the print mechanism one label at a time.



Menu

The Menu button provides the user with access to the system settings and also allows for the enabling of options. The Menu screen displays the following options:

- Basic
- User
- Advanced
- Tools
- Language
- Test



1. Basic

Selecting the Basic button allows for access to the basic settings. These include the following:

- Printer Mode
- Media
- Print Adjust



Printer Mode

The printer is available with several options which are enabled or disabled via the Printer screen. Three of the modes cannot happen concurrently so the highest priority mode will take precedence. The order is as follows:

1. Pause Mode (High)
2. Present Sensor Enable (Medium)
3. Applicator Mode (Low)

a. Cutter Mode

The cutter supports the cutting of media into separate labels.

For printers with a print media cutter installed, select from the following Cutter Mode options:

- Off
- Cut By Label
- Cut By Job
- Cut By Count

Cut By Count enables the user to specify the number of labels printed prior to being cut. Select the Cut By Count field and enter the number of labels to be printed.

b. Rewinder Mode

Rewinder Mode controls the operation of the powered internal label rewinder.

For printers with a print media rewinder installed, select from the following Rewinder Mode options:

- Off
- Clockwise
- Counter Clockwise

c. Present Sensor

The Present Sensor option controls the on-demand dispensing of labels.

To enable or disable the installed Present Sensor option, select or deselect the corresponding checkbox.

d. GPIO Mode

The GPIO Mode enables or disables the applicator function from the printer. For printers with an applicator connected, select from the following settings:

- Off
- Custom

d. Pause Mode

The Pause Mode option allows the user to prompt for the next label.

To enable or disable the Pause Mode, select or deselect the corresponding checkbox.



Media

Selecting the media button allows the user to change the print media and ribbon settings. The printer may automatically set up certain parameters once the paper and ribbon types have been inputted either using the Media ID or manual entry.



a. Media ID

The user can qualify various media and ribbon types and has assign an ID value to them. After pressing the **Media ID** button, ID values can be selected which will configure the printer to the optimum print settings.

1. Using the up and down arrows, select the appropriate **Paper ID**.
2. If applicable, tab to the **Ribbon ID** page and use the up and down arrows to highlight the appropriate value.
3. Select the Home button and select either the green Accept button or the Red reject button.



b. User Media

If media setup files have been stored internally or on a USB mass storage device connected to the USB host, the files can be selected from this interface.

Using the up and down buttons, highlight the file and then select the green check button.

Note: The first tab displays files that have been saved internally. The second tab displays files from the mass storage device attached to the USB host. User files may be printed by selecting the print button in the taskbar.

Note: Further details are available in the Advanced section of the menu. Please refer to the Advanced section of the manual for more information.



c. Select Type

For print media types that have not been qualified by the printer manufacturer, the Select Type option allows the user to manually enter the media and ribbon types. This will configure the printer to the approximate print settings.

The interface has three tabs:

- Paper - Using the up and down arrows, highlight the appropriate paper to be used.
- Ribbon - Using the up and down arrows, highlight the appropriate ribbon to be used.
- Settings - Choose the appropriate settings for your media and ribbon types.

Note: Fine adjustments to print settings may be required to improve print quality. The Select Type utility is designed to approximate the print settings.

Paper Sensor Type

Print media contains distinctive characteristics and those characteristics must be accounted for in the settings to ensure finding Top-of-Form.

Paper Sensor Side

The Top-of-Form Sensor has two sensor pods that can sense the distinguishing characteristics of paper types. The pods are mounted on a slider; the inside sensor can read characteristics on the right edge of the media while the outside sensor can read characteristics in the center of the media. Please refer to the Top-of-Form adjustment settings in the media installation section of the manual for more information on selecting the appropriate settings.

Select from the following options:

Table 1: Paper Sensor Options

Paper Sensor Type	Paper Sensor Side
Gap	Inside
	Outside
Mark on Top	Inside
	Outside
Mark on Bottom	Inside
	Outside
Notch	Inside
	Outside
Continuous	Inside
	Outside

Ribbon Mode

The Ribbon Mode option allows the user to enable and disable Ribbon Mode and notes the type of ribbon being used.

Ribbon Mode has three settings:

- Coated In (CSI) - for thermal transfer printing
- Coated Out (CSO) - for thermal transfer printing
- None - for direct thermal printing

**Print Adjust**

The Print Adjust selection allows for the adjustments of both the darkness and the contrast of print quality as well as horizontal and vertical adjustments.

Selecting the plus or minus buttons respectively increases or decreases the values.

Changes to the values may also be made by selecting the field and entering the appropriate values using the numeric keypad. During printing the print adjust screen will be available via an icon in the mode indicator area of the front display. When paused the icon will be accessible via the home screen icon.

Note: Settings that use the word “Adjust” should be considered fine adjustments and are not main settings.

a. Darkness

The darkness adjustment is set within the range of -20 to +20. To increase darkness, adjust the settings in a positive (+) direction.

1. Enter the appropriate value in the field.

2. Upon exiting the Print Adjust panel, either select the green Accept button or the red Reject button.

b. Contrast

The contrast adjustment is set within the range of -10 to +10. To increase contrast, adjust the settings in a positive (+) direction.

1. Enter the appropriate value in the field.
2. Upon exiting the Print Adjust panel, either select the green Accept button or the red Reject Button.

c. Vertical Adjust

The vertical adjustment is set within the range of -100 to +100 dots. To move the image down, adjust the settings in a positive (+) direction.

1. Enter the appropriate value in the field.
2. Upon exiting the Print Adjust panel, either select the green Accept button or the red Reject button.

d. Horizontal Adjust

The horizontal adjustment is set within the range of -100 to +100 dots. To move the image to the right, adjust the settings in a positive (+) direction.

1. Enter the appropriate value in the field.
2. Upon exiting the Print Adjust panel, either select the green Accept button or the red Reject button.

2. User



The user button allows for the usage of custom labels and custom printer configurations that are saved internally or saved to a memory stick inserted in the USB host.



User Labels

Custom user labels that have been saved internally or in a mass storage device may be printed.

1. Select User Labels.
2. Select the file to be printed (internally or USB hosted).
3. Select the green Accept button.
4. Select the Print button to print the label.

Note: Further details are available in the Advanced section of the menu. Please refer to the Advanced section of the manual for more information.



User Setups

Printer configurations that have been saved internally or on a mass storage device attached to the USB host may be accessed and implemented from this utility.

1. Select User Setups.
2. Select the internally hosted user setup file.
3. Select the green Accept button.

Note: Further details are available in the Advanced section of the menu. Please refer to the Advanced section of the manual for more information.



3. Advanced

The Advanced button provides access to the advanced settings of the printer. These settings include the following:

- Page Defaults
- Printer
- Media
- Comm (communications)
- Adjustments



Page Defaults

The following page parameters can be adjusted:

Table 2: Page Format Adjustments

Settings	Values	Ranges	Default
Print Length		.10 to 99.00 in.	4.00 in.
Print Width		Refer to the Overview section to find your specific model	4.00 in.
Vertical Offset		.00 to 10.00 in	0.00 in
Horizontal Offset		.00 to 4.00 in	0.00 in

Settings	Values	Ranges	Default
Orientation	Portrait Landscape Reverse Portrait Reverse Landscape		Portrait
Raster Mode	Transparent Opaque		Opaque
Default Font Number	(Please see Appendix A for the appropriate values)	0 to 52	23 (Courier)
Default Symbol Set	(Please see Appendix A for the appropriate values)		[0] PC-8
Default Point Size		4.00 to 999.75	12.00
Default Pitch Size		.44 to 99.99	10.00
Print Truncation	Enabled Disabled		Enabled
Print on Gap	Enabled Disabled		Disabled

Note: The default settings will be used if the print job does not directly specify the settings.

Note: Most of these settings will affect the internal Quality Label from the Test menu.

Note: Rotating oversized images with Print Truncation enabled may result in truncating the printout entirely.

Note: Setting the raster mode to transparent will allow for texts, barcodes and images that support transparency to be copied onto the destination without the white regions generally associated with images. Setting the raster mode to opaque allows for texts, barcodes and images to be applied onto the destination with the white pixels from the source. Generally, this is only notices when text, barcodes or images are placed on top of each other.

Note: Print on Gap when enabled in Continuous paper mode eliminates simulated gap between labels. In this mode, vertical adjustment can be used to control the skip space size for different TOF types.

Note: Print Truncation takes precedence over Print on Gap.



Printer

The following settings may be adjusted:

- Presentation
- Auto
- Speeds
- Alarms
- Options
- Set Defaults



a. Presentation

The following settings can be adjusted.

Table 3: Presentation Settings

Presentation	Values	Ranges	Default
Pause Mode	Enable Disable		Disable
Present Time Out		0 - 1000 s	0 (never)
Present Distance		0.00 - 4.00	Auto

Note: To manually change the Present Distance settings, select the Auto button to the left of the value field and follow the instructions to enter and save the changes.



b. Auto

The printer has several Auto settings that can be enabled or disabled.

Table 4: Auto Settings

Selection	Values	Default
Auto Load	Enable Disable	Enable
Auto Option Detect	Enable Disable	Enable
Auto Calibrate	Enable Disable	Enable
Auto Present Distance	Enable Disable	Enable
Auto Tension	Enable Disable	Enable

Selection	Values	Default
Auto Pressure	Enable Disable	Enable
Auto Speed Adjust	Enable Disable	Enable



c. Speeds

The following settings may be adjusted:

- Print Speed
- Feed Speed
- Reverse Speed

Table 5: Speed Settings

Speed Settings	Speed Range (IPS)
Print Speed	2.0 - max speed; model dependent (Increments of 0.5)
Feed Speed	2.0 - max speed; model dependent (Increments of 0.5) or Auto
Reverse Speed	2.0 - max speed; model dependent (Increments of 0.5) or Auto



d. Alarms

The following alarm settings may be adjusted.

- Error Sound (depending on option installed)
- Warning Sound (depending on option installed)

Table 6: Alarm Settings

Adjustments	Options	Default
Paper Low Warning	True False	False
Paper Out Warning	True False	True
Cover Open Warning	True False	True
Reprint on Error	True False	True



e. **Options**

The following settings may be adjusted:

- Cutter - Controls the cutting action of the media.
- GPIO - Controls the application of labels.
- Present Sensor - Controls the “on-demand” dispensing of labels.
- Rewinder - Controls the operation of the powered internal label rewinder.



Cutter

The following settings may be adjusted for printers with the cutter option installed:

Table 7: Cutter Settings

Adjustments	Options	Ranges	Default
Cutter Mode	Off Cut By Label Cut By Job Cut By Count		Off
Cut By Count			1
Cut Distance Adjust		-100 to 100 dots	0
Cut Rotation Adjust		-10 to 10*	0

Note: *A positive value rotates the blade further.



GPIO

The following settings may be adjusted for printers with the GPIO option installed:

Table 8: GPIO Settings

Adjustments	Values	Ranges	Default
GPIO Mode	Off Custom		Off
Slew Speed		2 - 10 IPS	8 IPS
Pulse Width		1 - 2000µs	1000µs

Adjustments	Values	Ranges	Default
I/O Configuration			
Sig 1/2	Input Output		Input
Sig 3/4	Input Output		Input
Sig 5/6	Input Output		Output
Sig 7/8	Input Output		Output
Select Signal			
Sig 1	None Start of Print Reprint Slew Pause		Start of Print
Sig 2	None Start of Print Reprint Slew Pause		Reprint
Sig 3	None Start of Print Reprint Slew Pause		Slew
Sig 4	Start of Print Reprint Slew Pause		Pause

Adjustments	Values	Ranges	Default
Sig 5	End of Print Data Ready Media Low Service		End of Print
Sig 6	End of Print Data Ready Media Low Service		Data Ready
Sig 7	End of Print Data Ready Media Low Service		Media Low
Sig 8	End of Print Data Ready Media Low Service		Service
Signal Type			
Sig 1	Low High Low Pulse Hi Pulse		Low
Sig 2	Low High Low Pulse Hi Pulse		Low
Sig 3	Low High Low Pulse Hi Pulse		Low
Sig 4	Low High Low Pulse Hi Pulse		Low

Adjustments	Values	Ranges	Default
Sig 5	Low High Low Pulse Hi Pulse		Low
Sig 6	Low High Low Pulse Hi Pulse		Low
Sig 7	Low High Low Pulse Hi Pulse		Low
Sig 8	Low High Low Pulse Hi Pulse		Low



Present Sensor

The following settings may be adjusted for printers with the present sensor option installed:

Table 9: Present Sensor Settings

Present Sensor Settings	Values	Ranges	Default
Present Sensor	Enable Disable		Disable
Present Distance Adjust		-100 to 100 dots	0

Note: For small labels, present distance must be set to 0 to avoid becoming stuck during backup.



Rewriter

The following settings may be adjusted for printers with the rewriter option installed.

Table 10: Rewinder Settings

Rewinder Settings	Values	Ranges	Default
Rewinder Mode	Off Clockwise Counter Clockwise		Off
Rewinder Tension Adjust		-10 to 10	0

**f. Set Defaults**

The factory default settings for the printer setup can be reset. To reset to the default settings, select Set Defaults. Confirm your selection by selecting the green Accept button.

Note: If the current custom settings have not been saved but will be needed again, be sure to save them with the User Files utility from the Tools menu before resetting to defaults.

**Media**

Select Media to change the print media settings.

Table 11: Media Settings

Media Settings	Values	Ranges	Default
Paper Sensor Type	Gap Mark on Top Mark on Bottom Notch Continuous		Gap
Paper Sensor Side	Outside Inside		Outside
Ribbon Mode	Coated In Coated Out None		Coated In
Heat		1 to 30	5*
Heat Balance		1 to 10	8*
Head Pressure (Suggested)		1 to 10	7*
Rewinder Tension		1 to 20	12*
Ribbon Tension Front		1 to 30	20*
Ribbon Tension Rear		1 to 20	15*

Media Settings	Values	Ranges	Default
Ribbon Low Diameter		1.0 to 2.0 in.	1.5 in.

Note: *These values may vary depending on the printer model.



Communications

Select Communications to change the communications settings.



a. Ethernet

The following Ethernet communications settings may be adjusted:

Table 12: Ethernet Communications Settings

Functions	Values	Actions	Default
DHCP	Enabled Disabled		Enabled
IP Address		If DHCP is disabled, enter the appropriate value	0.0.0.0
Subnet Mask		If DHCP is disabled, enter the appropriate value	0.0.0.0
Gateway		If DHCP is disabled, enter the appropriate value	0.0.0.0

Once the data has been entered, select the Home button and then select the green Accept button to save the changes which will require a printer reboot.

If necessary, the user may return to the default settings by selecting **General > Reset Defaults > Ethernet**.



b. Wireless

The following wireless settings may be set for printers with the wireless option installed:

Table 13: Wireless Settings

Functions	Values	Actions	Default
Wireless Enable	Enabled Disabled		Enabled
SSID		Enter the appropriate SSID value	0.0.0.0
Wireless DHCP	Enabled Disabled		Enabled
IP Address		Enter the appropriate value	0.0.0.0
Subnet Mask		Enter the appropriate value	0.0.0.0

Functions	Values	Actions	Default
Gateway		Enter the appropriate value	0.0.0.0
Security	None WEP WPA WPA2		None
Password		Enter the appropriate value	
Show Password	Enabled Disabled		Disabled

To return to the default settings, select **General > Reset Defaults > Wireless**.



c. Serial

The following tabbed option settings may be adjusted for printers with the Serial Interface option installed:

- **Baud Rate** - Sets the serial communications rate in bits per second
- **Data Bits** - Sets the word length
- **Stop Bits** - Sets the number of stop bits
- **Parity** - Sets the word parity
- **Protocol** - Sets the serial communications handshaking mechanism, software, hardware or none.

Table 14: Serial Settings

Functions	Values	Ranges	Default
Baud Rate	9600 19200 38400 57600 115200		115200 BPS
Databits	7 8		8
Stopbits	1 2		1
Parity	None Even Odd		None

Functions	Values	Ranges	Default
Protocol	None Hardware Software Both		None

To return to the default settings, select **General > Reset Defaults > Serial**.



d. General

Select from the following to change the General communications settings:



Services

The following services may be enabled or disabled:

- Enable Network Time Protocol
- Enable Webpages
- Enable SSH (SSH-2 is supported)
- Enable SNMP
- SNMP Trap IP
- Enable LPD

To print using the LPD service, connect from a host using the LPR port and the queue name "lp".

Table 15: Services

Services	Default
Enable Network Time Protocol	Disabled
Enable Webpages	Enabled
Enable SSH	Enabled
Enable SNMP	Enabled
SNMP Trap IP	127.0.0.1
Enable LPD	Enabled

Webpages provide a printer configuration interface for the user. Users can view the printer status, set printer parameters, print test labels and perform simple actions like printer calibration and setting defaults.

To access the printer Webpages from a computer where the printer has been installed, type the printer's IP address into the Web browser URL field.

Note: The printer must be connected to the Ethernet.

To find the IP address, select **Info > Network Report** and record the value for Ethernet IP.

Note: The following Web browsers are supported:

- Internet Explorer (version 8 and higher)
- Firefox (version 13 and higher)
- Google Chrome (version 23 and higher)



Host Timeout

The Host Timeout refers to the print job timeout in seconds before moving on to monitor other ports.

Table 16: Host Timeout

Function	Range	Default
Host Timeout	1 to 300 seconds	1
Port Number	0 -65535	9100
Host Name	Any String	Printer model number followed by the last 6 digits of the MAC address. Ex: p1115_208CB7
Hex Transfer	True/False	False



Reset Defaults

The Reset Defaults function allows the user to reset the communications to the default settings.

To reset the communication settings to the factory default settings, select one of the options and select the green Accept button to make the change.

- Ethernet
- Wireless
- Serial



Adjustments

Adjustments are considered fine adjustments and should not be considered main settings. Select from the following settings to change the values:

Table 17: Adjustment Settings

Adjustment Settings	Ranges	Default
Darkness	-20 to 20	0
Contrast	-10 to 10	0
Vertical Adjust	-100 to 100	0
Horizontal Adjust	-100 to 100	0

Adjustment Settings	Ranges	Default
Head Pressure Adjust	-5 to 5	0
Rewinder Tension Adjust	-10 to 10	0
Ribbon Tension Front Adjust	-10 to 10	0
Ribbon Tension Rear Adjust	-10 to 10	0
Present Distance Adjust	-100 to 100	0
Cut Distance Adjust	-100 to 100	0

Note: Narrow labels may slip during backup if the head pressure is set too high.



4. Tools

Select from the following options to adjust the appropriate settings:

- Calibrate
- Security
- Maintenance
- User Files
- Date/Time



Calibrate

The Calibrate settings include:

- Calibrate Sensors
- Calibrate Paper
- Calibrate Manually
- Calibrate Display



a. Calibrate Sensors

Select Calibrate Sensors to automatically calibrate the printer without print media. Calibration includes changes to the following settings:

- Head Pressure (not applicable for the p1115)
- Auto Load Sensor
- Top-of-Form Sensor

Note: The print media must be removed and the printhead mechanism must be unlatched for the Calibrate Sensors to properly calibrate the printer.



b. Calibrate Paper

When selecting Calibrate Paper, the paper is scanned to determine the top-of-form media and top-of-form gap settings.

Upon selection, the printer will move the paper forward and backward over the gap or mark. It may be helpful to place the identifying mark or notch just behind the TOF sensor so that the sensor will go over the mark as the media progresses through the printer.

Calibrate Paper is intended to sample paper with the default size of 4" x 4". If a 4" x 6" label is used for calibration and the TOF sensor is placed just after the identifying mark or notch, it may not calibrate properly because it is designed to move the paper only 4".

Note: Print media must be properly installed in the printer for the Calibrate Paper function.

Note: Manually selecting Calibrate Paper is not necessary if Auto Calibration is enabled. However, it may help in calibrating more difficult media.



c. Calibrate Manually

Intended for advanced users, the calibrate manually section allows the user to manually adjust the top-of-form sensor for specialized media. The TOF ADC Reading field displays the current top-of-form sensor reading for the currently selected paper type and sensor side.

The values for gain, paper threshold and gap/mark threshold are shown for the currently selected paper type and sensor side as well. These values are typically set when auto calibration is performed using the Calibrate Paper utility.



The capture feature allows the user to lift the printhead, and using the LED as a guide place the paper under the sensor and capture the value. Then, moving the gap (media backing) or mark under the sensor, the value can be captured.

When saving changes to a threshold, auto calibration is disabled to prevent over-writing the new values when auto-loading. Performing Calibrate Paper will overwrite the threshold values.

Select Calibrate Manually to change the following settings:

- Top-of-Form Gain
- Paper Threshold
- Gap/Mark Threshold

Table 18: Calibrate Manually Settings

Adjustment Settings	Ranges
TOF Gain	1 to 31
Paper Threshold	0 to 255
Gap/Mark Threshold	0 to 255



d. Calibrate Display

Select Calibrate Display and then select either the green Accept button to continue or the red Reject button. Upon selecting to continue, follow the on-screen directions to properly calibrate the touchscreen display.

If the touchscreen display becomes unusable, the printer can be calibrated during power-up as well. To calibrate during power-up, perform the following procedure beginning with the printer powered off.

1. Press and hold the Reset button on the back of the printer.
2. Toggle the power switch to power-on the printer.
3. Continue to hold the Reset button for ten (10) seconds.
4. Follow the on-screen instructions to calibrate the display.

Note: Allow a few minutes for power-up to complete.



Security

The security settings may be adjusted. These adjustments include changing the password as well as changing the security level.

To change the password, perform the following steps:

1. Select Change Password.
2. Enter the old password using the on-screen keyboard.
3. Select the green Accept button to accept the entry or the red Cancel button to reject the entry.
4. Enter the new password and select either the green Accept button or the red Cancel button.
5. Re-enter the new password and select either the green Accept button or the red cancel button.

To change the security level, choose from the following options:

Table 19: Security Settings

Functions	Options
Security Level	Off Secure Secure All 3 Button Display

Security Descriptions

- Secure - When the “Secure” option is selected, changes to the advanced settings and user tools will require a password.
- Secure All - When the “Secure All” option is selected, changes to any settings will require a password.
- 3 Button Display - When this option is selected, the three button display will be enabled on the main panel. A password will be needed to access the menu again.

Note: The factory default password is the number “0.”

Note: By default, security should be disabled.



Remove Security

To remove security, select the lock icon to the right of the Change Password utility. Type your password and then select the green Accept button. To confirm, select the green Accept button.



Maintenance

To adjust the following Maintenance settings, select the Maintenance button. The maintenance settings include:

- Cleaning
- Upgrade
- Odometers



a. Cleaning

Cleaning should be routinely performed. The maintenance alarm is set by the user in thousands of inches.

Enter the desired maintenance reminder interval. Once a fault appears directing the user to clean the printhead, insert a factory approved cleaning card under the printhead and select Clean Now.

The Elapsed field displays the number of inches, in thousands, since the last cleaning.

Table 20: Maintenance Settings

Maintenance Settings	Ranges	Actions	Default
Maintenance	0k to 1000k in.		0 (never)
Clean Now		Select Clean Now	



b. Upgrade

The Upgrade function allows the user to upgrade the printer software. Insert a mass storage device into the USB host with the appropriate file to be uploaded and then select Upgrade.

Do not turn off the printer during the process. Once the printer has been updated, it will reboot. When the printer is back online, be sure to power-cycle the printer once more by turning it off and then back on.

Note: Save all user files, labels and setups to a mass storage device connected to the USB host prior to updating your printer. Files that are not saved may be lost during the upgrade process.

Note: Upgrades may also be performed using the Configuration Utility.



c. Counters

The following Counter readings are viewed:

- Absolute
- Printhead
- User

Note: The printhead odometer will not display in this area.

To reset the user odometer, select the Reset User button.



User Files

The User Files utility allows the user to access files that are saved internally or saved to a mass storage device.



a. Labels

Labels can be saved either internally or to a mass storage device. These labels can also be printed from this utility. Labels stored on a mass storage device must be placed in a directory called **user_labels** at the root (top) level of the storage device (e.g. E:\user_labels).

Note: Label names cannot contain a space character.



Print

The user can print label files that have been saved internally or saved to a mass storage device attached to the USB host.

1. Select Print.
2. Using the scroll arrows, highlight the file to be printed.

Note: The first tab displayed in the interface reveals the files that have been saved internally. Tab 2 displays the available files from the attached mass storage device.

3. Select the green Accept button.
4. Select the printer icon in the taskbar.



Organize

User labels may be copied from a mass storage device to the internal memory or from the internal memory to a mass storage device. They may also be deleted or renamed from this utility.



a. Copy

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate file.
3. Select the green Accept button to continue.
4. Select Copy.
5. Select the green accept button to copy the files between internal storage and the USB mass storage device.



b. Delete

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate file.
3. Select the green Accept button to continue.
4. Select Delete.



c. Rename

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate file.
3. Select the green Accept button to continue.
4. Select Rename.
5. Confirm your selection by selecting the green Accept button.
6. Using the alpha-numeric keypad, enter a new name for the selected file.
7. Select the green Accept button to continue.



b. Media

The Media utility allows the user to copy, delete and rename media configuration files. It also provides access to setup files stored internally or on a mass storage device connected to the USB host. The user can also save the current media configuration setup. Media configuration files that are stored on a mass storage device must be placed in a directory called **user_media** at the root (*top*) level of the storage device (e.g. E:\user_media).

Note: Media names cannot contain a space character.

The settings include the following:

- Media ID
- Ribbon ID
- Paper Sensor Side
- Paper Sensor Type
- Ribbon Mode
- Heat
- Heat Balance
- Head Pressure
- Rewinder Tension
- Ribbon Tension Front
- Ribbon Tension Rear
- Auto Tension
- Auto Pressure
- Print Speed



Organize

To copy, delete or rename a file to or from a mass storage device connected to the USB host, perform the following steps:



a. Copy

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate media configuration file.
3. Select the green Accept button to continue.
4. Select Copy.
5. Select the green Accept button to confirm.



b. Delete

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate media configuration file.
3. Select the green Accept button to continue.
4. Select Delete.
5. Select the green Accept button to confirm.



c. Rename

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate media configuration file.
3. Select the green Accept button to continue.
4. Select Rename.
5. Using the alpha-numeric keypad, enter a new name for the selected file.
6. Select the green Accept button to confirm.



Load

The Load utility allows the user to change the media configuration settings to a setup that was previously saved internally or to a mass storage device.

1. Select Load.
2. Using the scroll arrows, highlight the appropriate media setup file.
3. Select the green Accept button.
4. Select the green Accept button to confirm.



Save Media Settings

The Media Setup utility allows the user to save the current media configuration settings internally.

1. Select Media Setup.
2. Select the green Accept button.
3. Using the alpha-numeric keypad, type a name for the setup file.
4. Select the green Accept button to confirm.

Save Media IDs

The Media Setup utility allows the user to save current media ID settings internally.

1. Select Media ID.
2. Using the alpha-numeric keypad, type the desired Paper ID.
3. Using the alpha-numeric keypad, type the desired Ribbon ID.
4. Select the green Accept button to confirm.

Note: Media ID files use and equal (=) sign to separate between paperID and ribbonID.



c. Setups

The User Setup utility allows for the user to copy, delete and rename printer settings. The user can also save the current setup and load a saved setup. User setup files stored on

a mass storage device must be placed in a directory called **user_configs** at the root (top) level of the storage device (e.g. E:\user_configs).

These settings include the ones listed in the Setting Report from the Info menu and exclude adjustments and calibration settings.

Note: User Setups names cannot contain a space character.

Note: User Setup files will not save adjustment (fine adjustment) values. If transferred to another printer, these values will have to manually set.



Organize

To copy, delete or rename a printer configuration setup file to or from a mass storage device connected to the USB host, perform the following steps:



a. Copy

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user setup file.
3. Select the green Accept button to continue.
4. Select Copy.
5. Select the green Accept button to confirm.



b. Delete

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user setup file.
3. Select the green Accept button to continue.
4. Select Delete.
5. Select the green Accept button to confirm.



c. Rename

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user setup file.
3. Select the green Accept button to continue.
4. Select Rename.
5. To confirm, select the green Accept button.
6. Using the alpha-numeric keypad, type a name in the entry field.

7. Select the green Accept button to confirm.



Load

The Load utility allows the printer settings to be changed to a previously saved setup.

1. Select Load.
2. Using the scroll arrows, highlight the appropriate user setup file.
3. Select the green Accept button to continue.
4. Select the green Accept button to confirm.



Save

The Save utility allows the user to save the current printer settings internally.

1. Select Save Setup.
2. Using the alpha-numeric keypad, enter a name for the setup to be saved.
3. Select the green Accept button.
4. Select the green Accept button to confirm.



d. Languages

The Languages utility allows the user to load additional language files to the printer. Translation files can be created using QTLinguist. The language files created in “qm” format can be imported from the “**user_languages**” directory at the root (top) level of the mass storage device.



Organize

To copy, delete or rename a printer language file to or from a mass storage device connected to the USB host, perform the following steps:



a. Copy

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user language file.
3. Select the green Accept button to continue.
4. Select Copy.
5. Select the green Accept button to confirm.



b. Delete

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user language file.

3. Select the green Accept button to continue.
4. Select Delete.
5. Select the green Accept button to confirm.



c. Rename

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user language file.
3. Select the green Accept button to continue.
4. Select Rename.
5. To confirm, select the green Accept button.
6. Using the alpha-numeric keypad, type a name in the entry field.
7. Select the green Accept button to confirm.



Select

The Select Languages utility allows the user to enable a different language that is installed in the printer.

1. Select “**Select**” languages.
2. Using the scroll arrows, highlight the desired language file.
3. Select the green Accept button to continue.
4. To confirm, select the green Accept button.



e. Wallpaper

The wallpaper utility enables the user to change the main screen background to another image. The image must be a 72dpi JPEG and must be 320 pixels wide and 240 pixels high.

Note: Some colors may cause the buttons to blend into the menu and reduce their contrast.

Note: User images can contain graphic files such as wallpapers (.jpg format) or printer logos and imported from the “**user_images**” directory at the root (top) level of the mass storage device.



Organize

To copy, delete or rename a printer wallpaper file to or from a mass storage device connected to the USB host, perform the following steps:



a. Copy

1. Select Organize.

2. Using the scroll arrows, highlight the appropriate user wallpaper file.
3. Select the green Accept button to continue.
4. Select Copy.
5. Select the green Accept button to confirm.



b. Delete

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user wallpaper file.
3. Select the green Accept button to continue.
4. Select Delete.
5. Select the green Accept button to confirm.



c. Rename

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user wallpaper file.
3. Select the green Accept button to continue.
4. Select Rename.
5. To confirm, select the green Accept button.
6. Using the alpha-numeric keypad, type a name in the entry field.
7. Select the green Accept button to confirm.



Select

The Select Wallpaper utility allows the user to change the wallpaper background that has been previously installed in the printer.

1. Select “**Select**” wallpaper.
2. Using the scroll arrows, highlight the desired wallpaper file.
3. Select the green Accept button to continue.
4. To confirm, select the green Accept button.



f. Fonts

The Fonts utility enables the user to change the fonts being used in the printer.

Note: It is the user’s responsibility to obtain the appropriate licenses for downloaded or imported fonts.

Note: Typeface ID is shown in the file name after the font name and is separated by an equal (=) sign.

Note: The Font Report shows the Font ID/Typeface ID in parentheses after the font name.

Note: User fonts can contain true type font files (tff format) and imported from the “**user_fonts**” directory at the root (top) level of the mass storage device. The desired font ID must be entered from the organize menu.



Organize

To copy, delete or rename a font to or from a mass storage device connected to the USB host, perform the following steps:



a. Copy

This function allows for the importing and exporting of fonts from and to a USB mass storage device. When copying the font from the USB host to internal memory, the operator will be prompted to enter the desired Typeface ID by which the font is selected in label format. Internal Font IDs are assigned automatically.

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user font file.
3. Select the green Accept button to continue.
4. Select Copy.
5. Select the green Accept button to confirm.



b. Delete

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user font file.
3. Select the green Accept button to continue.
4. Select Delete.
5. Select the green Accept button to confirm.



c. Rename

1. Select Organize.
2. Using the scroll arrows, highlight the appropriate user font file.
3. Select the green Accept button to continue.
4. Select Rename.
5. To confirm, select the green Accept button.

6. Using the alpha-numeric keypad, type a name in the entry field.
7. Select the green Accept button to confirm.



Select

The Select Font utility allows the user to change the font that is installed in the printer.

1. Select “**Select**” font.
2. Using the scroll arrows, highlight the desired font file.
3. Select the green Accept button to continue.
4. To confirm, select the green Accept button.



Date/Time

To set the date and time, select the Date/Time button from the Tools menu.

If the message “Network Time Protocol Enabled!” appears, select the green Accept button.

To adjust the settings, select the following buttons and input the appropriate information.

- Month
- Day
- Year
- Hour
- Minutes
- AM/PM

Note: Upon exit, the user can enable the displaying of the date and time on the main screen.



5. Language

Select from the localization settings and display units.

Language Files

- English
- *Other Loaded Languages*

Display Units

- Imperial

- Metric

Display Font

- Standard
- CJKT (necessary for Asian languages)

Once the unit has been chosen, select the green Accept button to continue and then select the next green Accept button to confirm.



6. Test

The following options are available from the Test menu:

- Test labels
- Diagnostics
- Test Options
- Test Applicator

Test Labels



The Test Labels feature allows the user to select and print test labels.

1. Select the appropriate test label from the menu using the up and down arrows:

Note: You may also select the label name to move to the next one in the list.

2. Select the number of labels to be printed using the Select Count option.
3. Select the printer icon in the taskbar to print the test label.

Table 21: Test Labels

Selections	Values	Ranges	Default
Select Test Label	Quality Label 10% Block Pattern 20% Block Pattern		Quality Label
Select Count		1 to 9999	1

Select the printer icon in the taskbar to begin printing the test label(s) entered into the Select Count field.



Diagnostics

To enter the Diagnostics panel, select the Diagnostics button from the Test menu.



a. Sensor Readings

The Sensor Readings function allows the user to view the values of various printer sensors. The Sensor Readings menu has four (4) tabs that can be navigated by selecting the next and previous buttons in the taskbar.



b. General

Select General to enable or disable the appropriate settings:

- **Page Format Shading** - Used for diagnosing label format issues, enabling this options puts a shade over white areas of the image on a label.



Test Options

The Test Options function of the Diagnostics menu allows the user to test the options currently installed on the printer. Select Test Options and navigate through the tabbed interface to select the option to be tested. The tabs are navigated using the next and previous arrows in the taskbar.

Table 22: Test Options

Test Options	Values	Ranges	Default
Cycle Cutter		1 to 999	1
Test Present Sensor		N/A	
Test Rewinder		N/A	
Test Ribbon Assembly <ul style="list-style-type: none"> • Select Spindle 	Front Rear	N/A	

Once the selections have been made, select the Start button to begin the test.



Test GPIO

The Test GPIO function allows the user to test a connected applicator.

Table 23: Test GPIO

Selections	Values	Ranges	Default
Enable Wrap Around	Enabled Disabled		Disabled
Pulse Width		1 to 2000	1000
I/O Configuration			
Sig 1/2	Input Output		Input
Sig 3/4	Input Output		Input

Selections	Values	Ranges	Default
Sig 5/6	Input Output		Output
Sig 7/8	Input Output		Output
Select Test	Write Mode Read Mode Pulse Mode		Write Mode

Write Mode

Enter the appropriate settings and select the green Start button.

Table 24: Select Test - Write Mode

Write Mode	Values	Ranges	Default
Sig 1	N/A		
Sig 2	N/A		
Sig 3	N/A		1
Sig 4	N/A		1
Sig 5	0 1		1
Sig 6	0 1		1
Sig 7	0 1		1
Sig 8	0 1		1

Read Mode

Enter the appropriate settings and select the green Start button.

Table 25: Select Test - Read Mode

Read Mode	Values	Ranges	Default
Sig 1	0 1		1
Sig 2	0 1		1

Read Mode	Values	Ranges	Default
Sig 3	0 1		1
Sig 4	0 1		1
Sig 5	N/A		
Sig 6	N/A		
Sig 7	N/A		
Sig 8	N/A		

Pulse Mode

Enter the appropriate settings and select the green Start button.

Table 26: Select Test - Pulse Mode

Read Mode	Values	Ranges	Default
Sig 1	N/A		
Sig 2	N/A		
Sig 3	N/A		
Sig 4	N/A		
Sig 5	0 1		1
Sig 6	0 1		1
Sig 7	0 1		1
Sig 8	0 1		1



Cleaning and Maintenance

Overview

To maintain good print quality and increase printhead life, proper cleaning should be routinely performed using factory-approved cleaning supplies.

Caution: A contaminated printhead can cause premature printhead failure.

Caution: Failure to clean the printhead as detailed in this manual could void the printhead manufacturer's warranty.

Intervals

For direct thermal printing, the printhead should be cleaned whenever a roll of labels is replaced or every 6,500 inches printed. For users printing via thermal transfer, the printhead should be cleaned every time a roll of ribbon is replaced. For higher coverage printing, printhead cleaning may need to be performed more frequently.

Supplies

Caution: Cleaning should only be performed using factory-approved and authorized cleaning supplies. Any use of non-authorized cleaning supplies can void the printhead and platen roller warranties.

- Cleaning Pens
- Cleaning Cards/Film
- Can of Compressed Air
- Clean, lint-free cloth
- Isopropyl Alcohol

Cleaning the Automatic Loading Sensor

The automatic loading sensor should be cleaned whenever necessary.

1. Remove the labels.
2. With a can of compressed air, spray the sensor to remove dust and debris.
3. Repeat as necessary.

Cleaning the Top-of-Form Sensor

The Top of Form sensor should be cleaned whenever necessary.

1. Remove the media and ribbon.
2. With a can of compressed air, spray both (2) sensors to remove dust and debris.
3. Repeat as necessary.

Cleaning the Paper Low Sensor

The Paper Low Sensor should be cleaned whenever necessary.

1. Remove the media and ribbon.
2. Wipe the sensor with the clean, lint-free cloth.
3. Repeat as necessary.

Cleaning the Printhead

For optimum performance, the printhead should be routinely cleaned with factory-approved cleaning supplies. When using the cleaning pen, follow the instructions located on the packaging.

Cleaning Cards

Cleaning cards are effective at removing many common adhesives and contaminants from printheads.

1. Remove the media and ribbon.
2. Insert the cleaning card under the printhead.
3. Select Menu / Tools / Maintenance / Cleaning and then select Clean Now.
4. Slide the cleaning card in and out to scrub the printhead.
5. Repeat as necessary.

Cleaning the Cutter

The cutter should be routinely cleaned to prevent jams.

1. Release the cutter mechanism from its magnetic hold.
2. Using a can of compressed air, gently blow out the debris from the cutter area.

Warning: To prevent injury, the cutter should never be disassembled for any reason.



Maintenance

Safety Overview

Caution: ESD protection is required when performing these steps.

Warning: The printer must be powered off and disconnected from utility power prior to performing any steps of this procedure. Failure to heed this warning may result in personal injury or damage to internal components.

- Maintain complete ESD protection in a safe, clean environment at all times while servicing this equipment.
- When handling the printhead, grasp it by its edges.
- Avoid contact between the printhead and clothing.

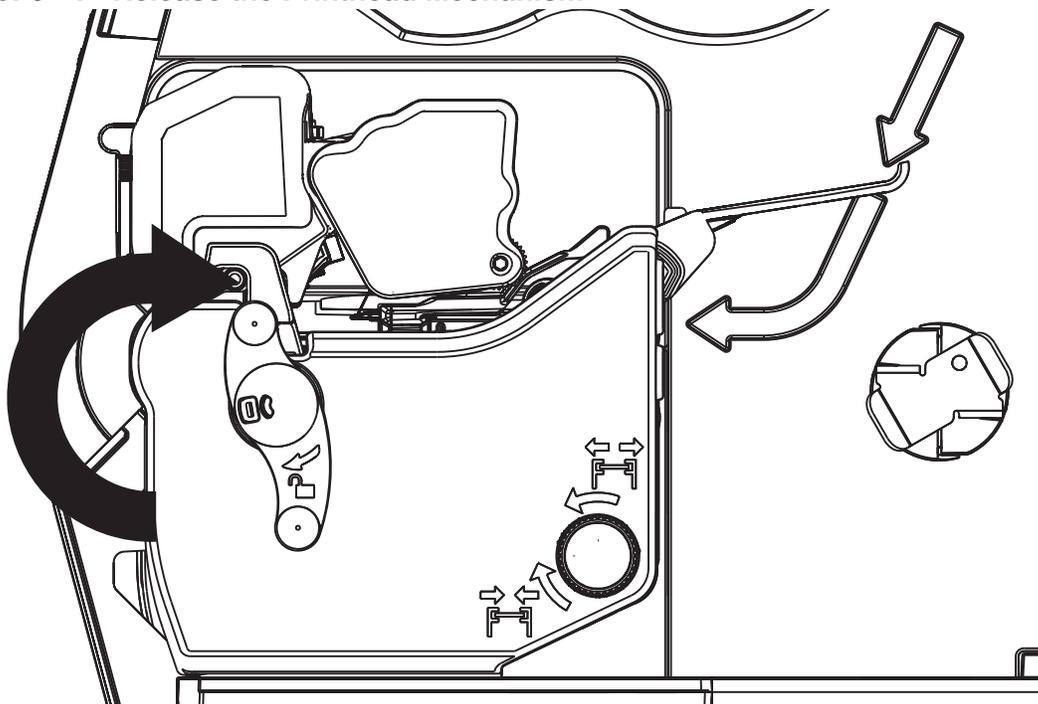
Tools Needed

- 3mm Hex Head Wrench

Replacing the Printhead

1. Open the media cover.
2. Rotate the printhead latch lever clockwise to release the printhead mechanism.

Figure: 6 - 1 Release the Printhead Mechanism

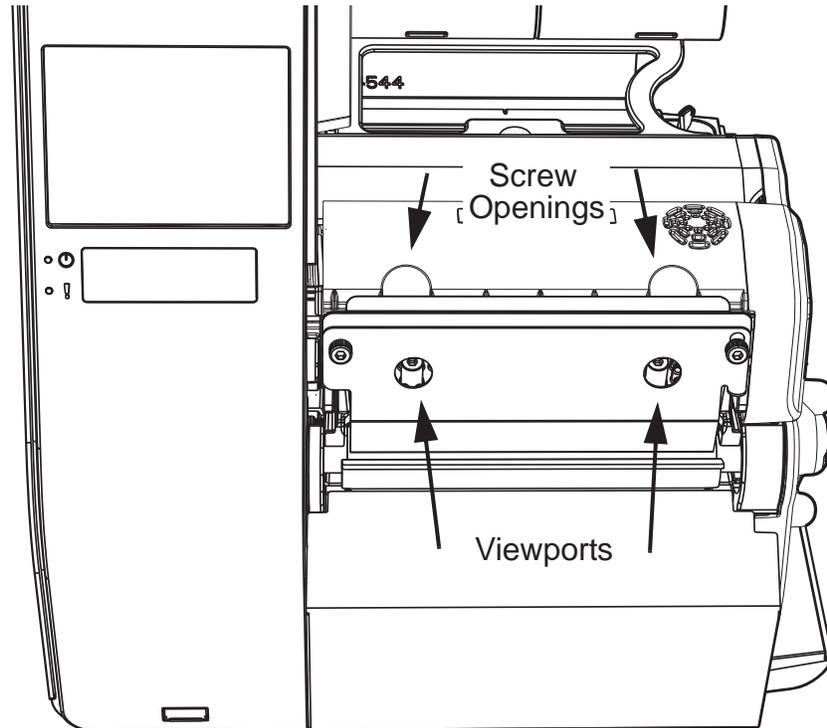


3. Insert a 3mm hex head wrench into the openings and loosen both (2) screws securing the printhead to the printhead mechanism.

Note: Both screws are spring-loaded and captured eliminating the need to remove them.

Note: The printhead will drop down enabling access to both wiring connectors. The p1115 has a single connector.

Figure: 6 - 2 Printhead Screws



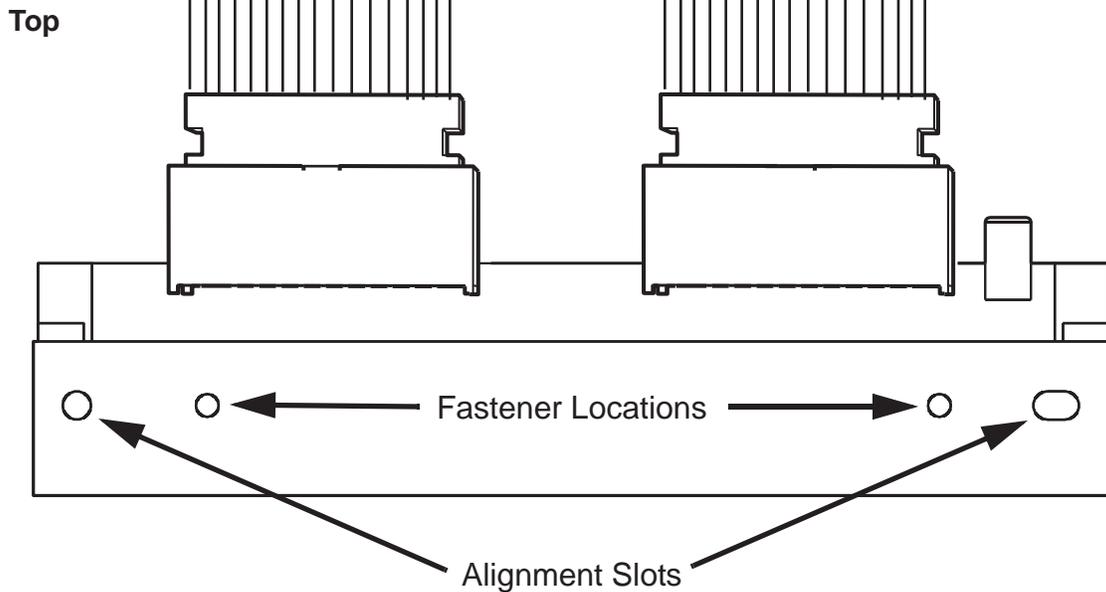
Note: There are two (2) view ports on the ribbon plate that enable the screws to be seen.

4. Carefully disconnect both connectors from the printhead.

Caution: Always grasp the printhead from the sides to avoid damaging sensitive electrical components.

Caution: Exercise caution when disconnecting the printhead connections to avoid damaging the printhead or the connectors.

Figure: 6 - 3 Printhead Connectors (p1115s, p1120n, p1125 & p1725)



5. Install the new printhead in the reverse order as it was disassembled from the printer and tighten the hex head screws using a torque of 2.0 to 3.0 in. lbs (2.3 - 3.4 kgf cm).

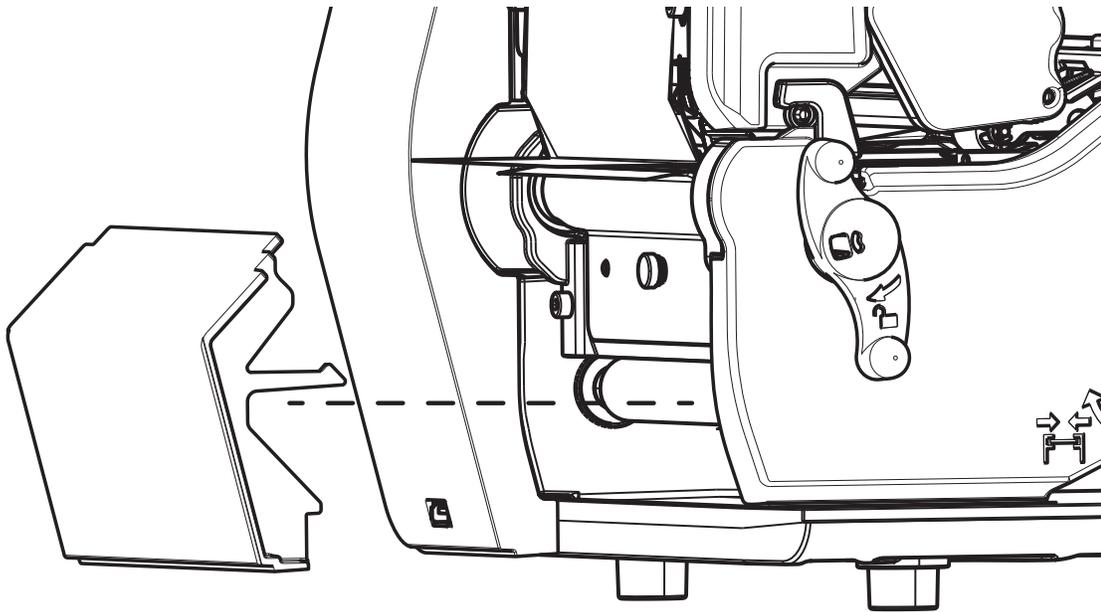
Caution: Do not over-tighten the printhead fasteners.

Note: Ensure the alignment pins are centered in the alignment slots on the printhead.

Replacing the Upper Platen Roller

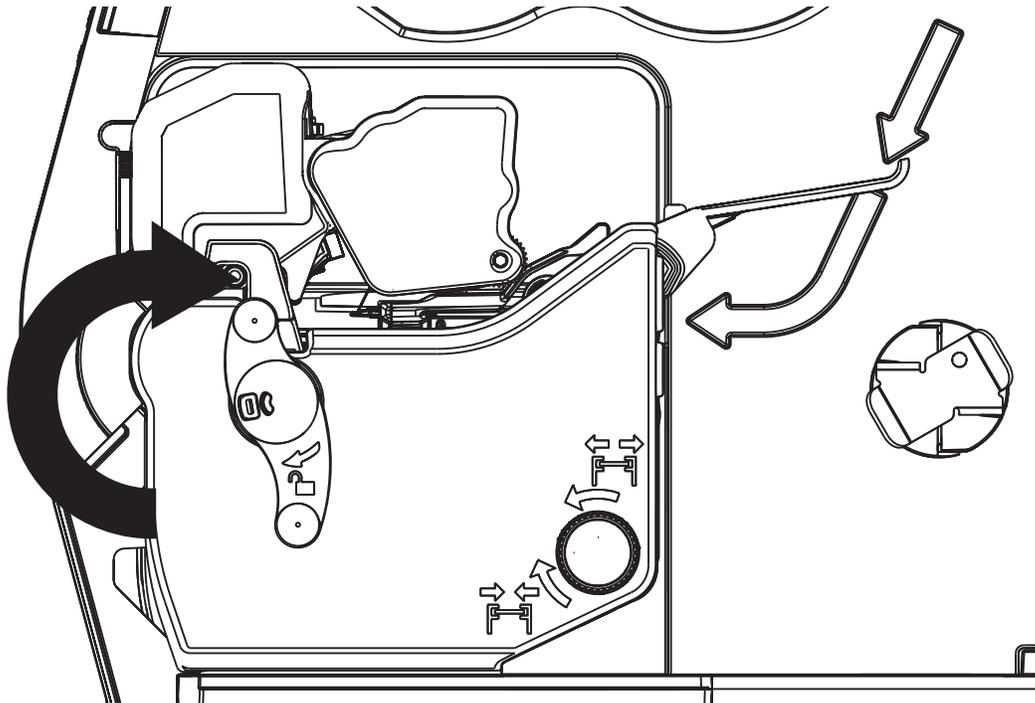
1. Open the media cover.
2. Remove the roller cover panel.

Figure: 6 - 4 Roller Cover Panel



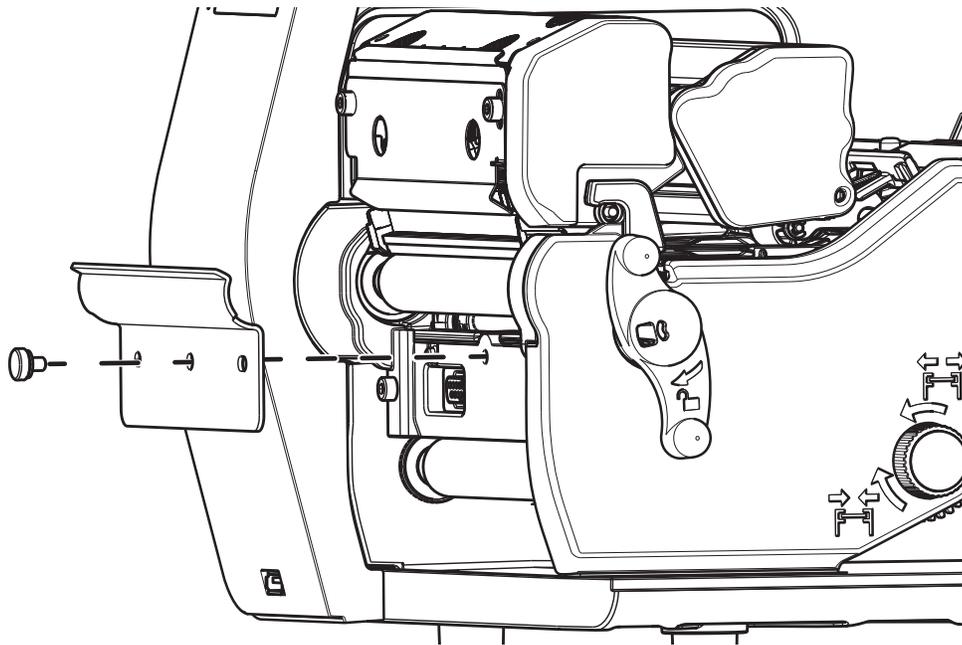
3. Rotate the printhead latch lever clockwise to release the printhead mechanism.

Figure: 6 - 5 Release the Printhead Mechanism



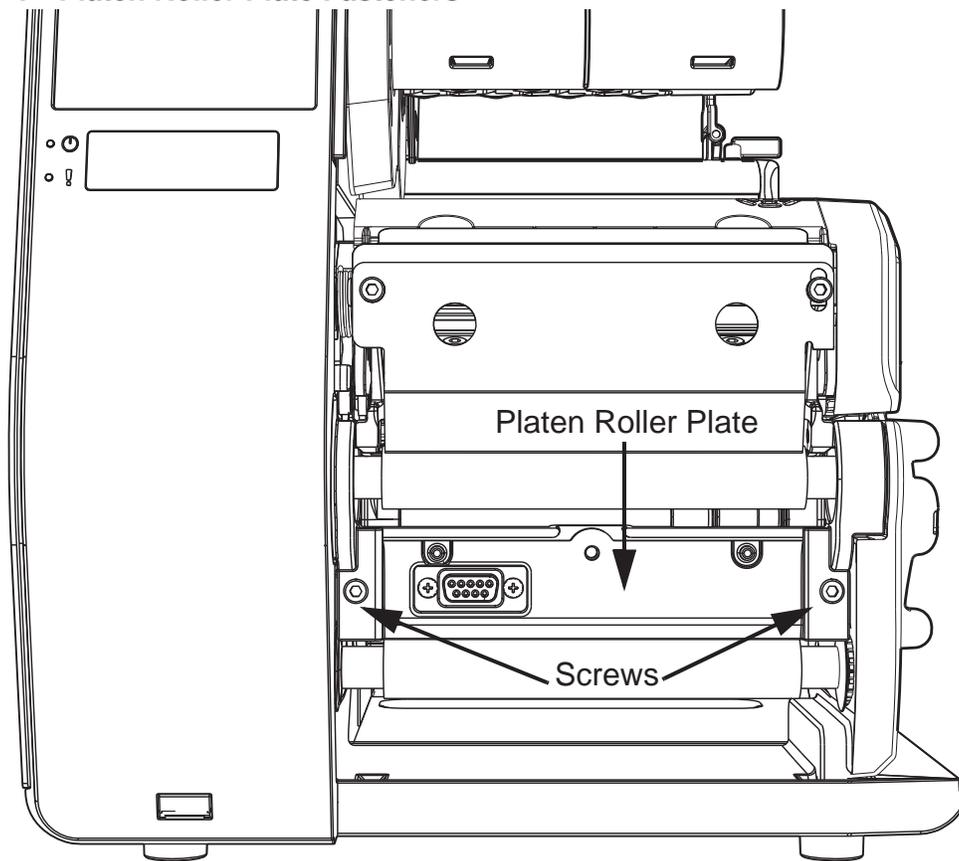
4. Loosen and remove the thumbscrew securing the tear plate or other front mounted option to the print mechanism and remove.

Figure: 6 - 6 Thumbscrew and Tear Plate



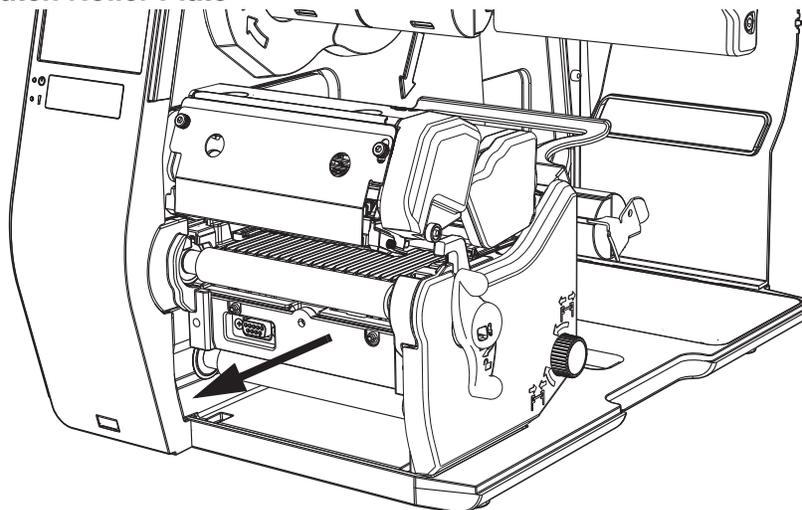
5. Loosen and remove both (2) hex head screws securing the platen roller plate to the print mechanism.

Figure: 6 - 7 Platen Roller Plate Fasteners



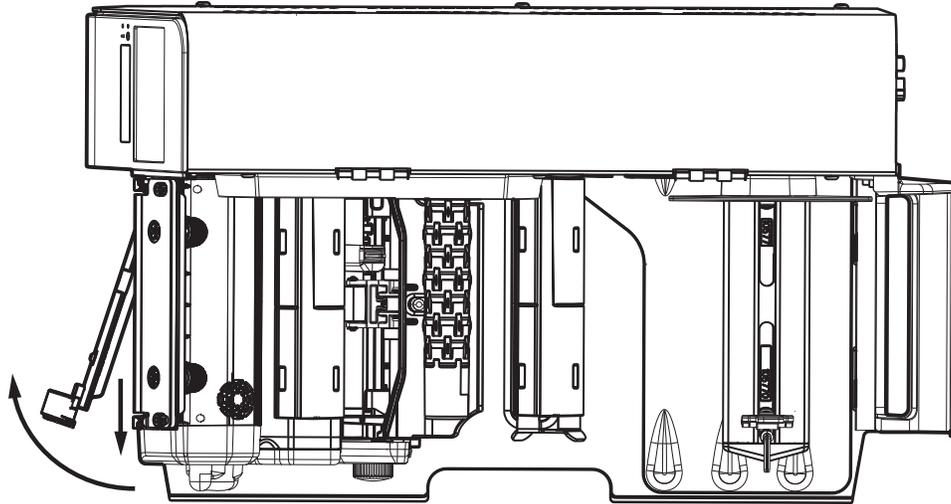
6. Slide the platen roller plate towards the front of the printer and rotate clockwise (view from top) and remove from printer.

Figure: 6 - 8 Platen Roller Plate



Note: The right side of the plate (left side when looking at the front of the printer) will slide behind the front printer bezel.

Figure: 6 - 9 View from Top

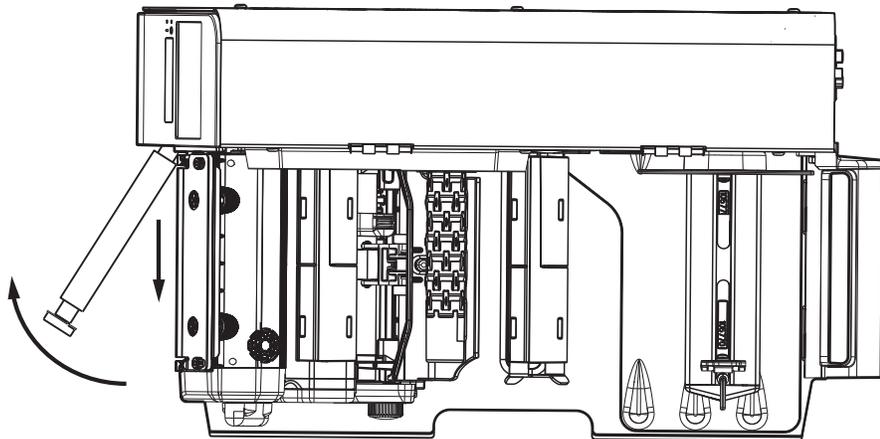


7. Slide the platen roller towards the front of the printer and rotate clockwise and remove it from the printer.

Note: The removal of the platen roller is the same operation as the removal of the platen roller plate.

Note: The tolerances are tight and will require some effort (not force) to remove the platen roller.

Figure: 6 - 10 Platen Roller Removal



8. Reinstall the platen roller in the reverse order as it was removed.

Note: Ensure the bearings are installed correctly on the ends of the platen roller.



Troubleshooting

Errors

The following errors may be displayed:

Errors	Description
SYSTEM ERROR	Illegal label format or communications error
OUT OF RIBBON	Out of ribbon
OUT OF PAPER	Out of paper
CUTTER JAMMED	Cutter is jammed
REWINDER FULL	Rewinder is full
PRINthead UNLATCHED	Printhead is unlatched
PRINthead HOT	Printhead is critically hot
FPGA HARDWARE	Analog to digital converter hardware fault
NV RAM HARDWARE	Non-volatile memory hardware fault
PAPER SENSOR BLOCKED	Top-of-form sensor blocked or hardware fault
PAPER CALIBRATION	Could not calibrate media
NO TOP OF FORM FOUND	Could not find a gap or mark
RIBBON HARDWARE	Ribbon controller hardware fault
PRESENT SENSOR	Present Sensor hardware fault
AUTOLOAD SENSOR BLOCKED	Auto load sensor hardware fault
GPIO HARDWARE	GPIO hardware fault
MOTOR HOT	Motor is critically hot

Note: System errors are not caused by media mismatches but can be caused by a poor label format.

Warnings

Warnings	Description
RIBBON LOW	Ribbon level low
MAINTENANCE REMINDER	Maintenance timer has expired
POWER SUPPLY HARDWARE	Printhead voltage above maximum specifications
POWER SUPPLY LOW	Printhead voltage below minimum specifications
UNRECOGNIZED PRINTHEAD	Unidentified printhead installed
PRINTHEAD COOLING	Printhead is cooling down
PAPER CALIBRATION MARGINAL	Paper sensor calibration marginal
PERFORM CALIBRATE SENSORS	There is a need to run Calibrate Sensors
UNLATCH THE PRINTHEAD	Printhead needs to be unlatched
LOAD PAPER	No paper while idle
LATCH THE PRINTHEAD	Printhead unlatched while in idle
PAPER LOW	The paper media is low
DOT FAILURE*	*Future feature
CUTTER NOT INSTALLED	The cutter is enabled but not installed
GPIO NOT INSTALLED	The GPIO is enabled but not installed
PRESENT SENSOR NOT INSTALLED	The present sensor is enabled but not installed
RIBBON NOT INSTALLED	The ribbon controller is enabled but not installed
REWINDER NOT INSTALLED	The rewinder is enabled but not installed
CLOSE THE PRINTER COVER	The printer cover is open
CLOSE THE CUTTER COVER	The cutter cover is not magnetically closed
HEAD PRESSURE HARWARE	The head pressure mechanism is malfunction
MODEL MISMATCH	The printer has received settings intended for a different printer model
PAPER WIDTH HARWARE	The paper width sensor is malfunctioning

Troubleshooting

The following chart provides basic troubleshooting steps for diagnosing problems with the printer. If the symptoms remain after troubleshooting, contact your technical support representative.

Warning: Do not open the right side panel that covers the internal electronic components. Due to the high voltage and the sensitivity of the components, opening the panel can lead to injury and may void the manufacturer’s warranty.

Symptom	Causes	Solutions
System Error	Print media settings may not match the installed media and ribbon.	<ol style="list-style-type: none"> 1. Redesign the label using another method 2. Use a different communications channel. 3. Contact your Technical Support representative.
Out of Ribbon	The ribbon diameter may be too low to continue printing.	Install a new ribbon
	A fault may have occurred with the ribbon controller hardware or software.	<ol style="list-style-type: none"> 1. Ensure the latest software has been installed.
Out of Paper	The printer may be out of media.	Install a new media roll.
	The media guides may not be adjusted correctly.	<ol style="list-style-type: none"> 1. Correct the media guide settings. 2. Perform “Calibrate Sensors.”
	The media is too transparent to be detected.	<ol style="list-style-type: none"> 1. Perform “Calibrate Sensors.” 2. Check the “Auto Load Sensor” reading in the “Extended Status” utility.
Cutter Jammed	The cutter may have a jam.	<ol style="list-style-type: none"> 1. Remove the jam from the cutter. 2. Test the cutter.
	Cutter Home sensor may be dirty.	<ol style="list-style-type: none"> 1. Clean the Cutter Home sensor. 2. Test the cutter.
	Cutter hardware has failed.	<ol style="list-style-type: none"> 1. Ensure the cutter is properly installed. 2. Test the cutter.
Rewinder Full	The rewinder may be full.	<ol style="list-style-type: none"> 1. Remove the media from the rewinder. 2. Test the rewinder function.
	The rewinder may be obstructed and turning slowly.	<ol style="list-style-type: none"> 1. Check for obstructions that hinder the rewinder from turning. 2. Test the rewinder function.
Printhead Unlatched	The printhead may be unlatched.	<ol style="list-style-type: none"> 1. Close and latch the printhead mechanism.
	The printhead latch sensor may be faulty.	Contact your technical support representative.

Symptom	Causes	Solutions
Printhead Hot	The printhead too hot or is faulty.	Allow to cool or contact your technical support representative.
	There may be a poor cable connection.	Contact your technical support representative.
FPGA Hardware	The main controller board may be faulty.	Ensure the latest software update has been performed.
NV RAM Hardware	The main controller board may be faulty.	Contact your technical support representative.
PAPER Sensor Blocked	Adhesive, dirt or remnants of a label may be covering the sensor.	<ol style="list-style-type: none"> 1. Clean the debris from the sensor. 2. Perform "Calibrate Sensors" calibration.
	The main controller board may be faulty.	Contact your technical support representative.
	The Top-of-Form sensor failed the "Calibrate Sensors" calibration due to a faulty sensor.	Contact your technical support representative.
Paper Calibration	The wrong Top-of-Form sensor side may have been selected and not able to read media characteristics.	<ol style="list-style-type: none"> 1. Ensure the Top-of-Form has been set correctly.
	The characteristics of the media may not be sensed by the printer. (Ex. gap, notch, mark)	<ol style="list-style-type: none"> 1. Set the paper mode to continuous. 2. Install different media.
No Top-of-Form Found	The gap or mark was not found.	<ol style="list-style-type: none"> 1. Ensure the Top-of-Form has been set correctly. 2. Install different media.
	The label image size exceeded the maximum of 99 inches.	<ol style="list-style-type: none"> 1. Check the print mechanism for a paper jam. 2. Calibrate the printer for the media being used.
	There may be dirt or debris obstructing the Top-of-Form sensor.	<ol style="list-style-type: none"> 1. Clean the debris from the sensors. 2. Perform "Calibrate Sensors" calibration.
GPIO Hardware	There may be a poor connection to the GPIO logic board.	Contact your technical support representative.
	The GPIO logic board may be faulty.	Contact your technical support representative.
Present Sensor Hardware	There may be a poor connection.	Perform the Present Sensor test.
	The Present Sensor module may be faulty.	Perform the Present Sensor test.

Symptom	Causes	Solutions
Ribbon Hardware	The Ribbon Version may need to be upgraded.	Ensure the latest software has been installed.
	There may be a poor connection.	Contact your technical support representative.
	The Ribbon Controller module may be faulty.	Contact your technical support representative.
Autoload Hardware	The Autoload Sensor may have failed the "Calibrate Sensors" calibration.	Contact your technical support representative.

Troubleshooting Print Quality

Tools

- Datamax-O'Neil approved media
- Datamax-O'Neil approved matching ribbon (for printers with the thermal transfer option)
- 3mm hex head wrench
- 1.5mm hex head wrench
- Magnifying lens
- Barcode verifier and grading system
- Printhead cleaning card
- Printhead cleaning pen

Preliminary Instructions

1. Ensure the latest software has been loaded.
2. Load the media and ribbon according to the instructions in the Setup section.

Note: Verify that the ribbon is tightly wound on the supply roll with no wrinkles.

Note: Verify that the paper is properly exiting the printer.

3. Specify the appropriate media and ribbon in the menu.
4. Print a Quality Label from the Test menu.
5. Examine the print quality.

Note: Some imperfections can be caused by a contaminated printhead. Clean the printhead and reprint the label.

Symptom	Possible Solutions
No Print or Poor Print Quality	<p>Verify the proper media and ribbon are being used.</p> <p>Verify the printhead connections are fully seated.</p>
Light Print on One Side	<p>Adjust the ribbon cam and ribbon shield to add tension to the light print side.</p> <p>Verify the printhead connections are fully seated.</p> <p>Replace the printhead.</p> <p>Contact your technical support representative.</p>
Print Quality Defect	<p>Clean the printhead and platen roller with factory-approved cleaning supplies.</p> <p>Verify there are no ribbon folds or wrinkles under the printhead.</p> <p>Replace the printhead if there is a missing dot.</p>
Print Quality gets worse over time	<p>Printhead is at the end of life and should be replaced.</p> <p>Contact your technical support representative.</p>
Diminished print quality on the Quality Label	<p>Incomplete horizontal lines requires an increase in the sharpness setting and/or more tension applied to the lighter print side of the ribbon shield.</p> <p>For higher-grade barcodes, lighten the print by reducing the darkness setting.</p> <p>For white specks inside dark boxes, increase the darkness setting and clean the printhead and platen roller.</p> <p>If the small font is not readable, increase the darkness setting.</p> <p>When dithering increments are not equal, adjust the darkness setting.</p> <p>If graphics are not displayed properly, adjust the sharpness setting.</p>
Ladder barcode quality is diminished	<p>Examine the media adjustment levers and ensure there is a .8mm to 1.5mm gap between the levers and the media.</p>
Loud popping noise when printing	<p>Increase darkness and sharpness settings.</p> <p>Increase the front tension from the ribbon shield</p>
Image size is out of the print area (off the side or top or truncated from the next label)	<p>Turn off print truncation.</p> <p>Ensure the image width is the same as the print width.</p>



Terms and Definitions

Processing State

Terms	Definitions
Online	The printer is ready to process jobs.
Offline	The printer has suspended job processing although the menu selection is available.

Printer State

Terms	Definitions
Ready	The printer is idle and ready to accept internal or external commands.
Busy	The printer is busy processing or executing a command.

Media Setup

Terms	Definitions
Paper ID	The user-entered data identifying media code.
Ribbon ID	The user-entered data identifying ribbon code.
Paper Type	The user-entered data identifying the paper material type.
Ribbon Type	The user-entered data identifying the ribbon material type.

Basic

Basic > Printer Mode

Terms	Definitions
Cutter Mode	Controls the cutting of media into separate labels.
Rewinder Mode	Enables or disables the rewinder function and directional state.
Present Sensor Enable	Enables or disables the present sensor.
Pause Mode	Enables or disables the ability of the user to prompt for the next label.

Basic > Print Adjust

Terms	Definitions
Darkness	This provides the user with a fine adjustment of the darkness of the printed image due to printhead and printer thermal variations.

Terms	Definitions
Contrast	This provides the user with the fine adjustment of the leading edges of the printed images to improve print quality and barcode readability.
Vertical Adjust	User-entered value allowing for the vertical adjustment of the start of the image relative to the horizontal leading label edge due to mechanical variations.
Horizontal Adjust	User-entered value allowing for the horizontal adjustment of the image relative to the printhead center.

Advanced

Advanced > Page Defaults

Terms	Definitions
Print Truncation	Specifically for gap or mark paper, print truncation prohibits print overflow.
Print on Gap	Enables the printing on the gap or mark between labels.
Print Length	Sets the length of the print area.
Print Width	Sets the width of the print area.
Vertical Offset	Shifts the vertical start of the print position on the labels.
Horizontal Offset	Shifts the horizontal start of the print position on the labels.
Orientation	Controls the page orientation.
Raster Mode	Controls the raster image operation.
Font Number	Controls the font selection.
Point Size	Controls the font size selection.
Pitch Size	Controls the font pitch selection.
Select Symbol Set	Controls the symbol set selection.

Advanced > Printer

Advanced > Printer > Presentation

Terms	Definitions
Pause Mode	Allows the user to prompt for the next label via the menu.
Present Time Out	Specifies how long the label will be presented before retracting back.
Present Distance	Allows for the override of the default distance.

Advanced > Printer > Auto

Terms	Definitions
Auto Load	The media loads automatically when detected in the media guides and the head is closed and latched.
Auto Option Detect	Automatically generates a warning if an option is enabled yet not detected.
Auto Calibrate	Calibrate paper sensors while auto-loading the media.
Auto Present Distance	Automatically sets the present distance based on the detected hardware.
Auto Tension	Automatically selects the tension based on the media width guides, paper and ribbon type or ID selected.
Auto Pressure	Automatically selects the head pressure based on the selected Paper/Ribbon ID.
Auto Speed Adjust	For labels less than 0.5" in length, the printer will automatically lower the print speed to prevent pausing on print batches.

Advanced > Printer > Speeds

Terms	Definitions
Print Speed	Controls the rate of the label movement during printing.
Feed Speed	Controls the rate of the label movement during feed.
Reverse Speed	Controls the rate of the label movement during backup positioning.

Advanced > Printer > Alarms

Terms	Definitions
Error Sound	Controls the enabling and tone of the error buzzer.
Warning Sound	Controls the enabling and tone of the warning buzzer.
Paper Low Warning	Enables or disables the paper low warning.
Paper Out Warning	Enables or disables the paper out warning.
Cover Open Warning	Enables or disables the cover open warning.
Reprint on Error	Enables or disables the automatic reprint on error.

Advanced > Printer > Options**Advanced > Printer > Options > Cutter**

Terms	Definitions
Cut By Count	Sets the label increment to cut.
Cut Distance Adjust	Allows for the adjustment of the cut position due to mechanical tolerances.

Terms	Definitions
Cut Rotation Adjust	Allows for the fine tuning of the cutter blade rotation.

Advanced > Printer > Options > Present Sensor

Terms	Definitions
Present Sensor Enable	Controls the on-demand dispensing of labels.
Present Distance Adjust	Sets the label stop position past the start of print position.

Advanced > Printer > Options > Rewinder

Terms	Definitions
Rewinder Mode	Sets the rewinder direction for the paper.
Rewinder Tension Adjust	Allows for the fine adjustment of the rewinder motor.

Advanced > Media

Terms	Definitions
Paper Sensor Type	Select the top-of-form identification method for the media.
Paper Sensor Side	Determines which sensor is to be used for top-of-form or an out-of-paper condition.
Ribbon Mode	Enables the operation of the ribbon.
Heat	The adjustment of the energy required for printing with a specific paper and ribbon.
Heat Balance	The adjustment of the energy distribution required for printing with a specific paper and ribbon.
Head Pressure (Suggested for p1115)	Controls the amount of pressure the printhead mechanism exerts.
Rewinder Tension	Provides for the fine adjustment of the rewinder motor.
Ribbon Tension Front	Provides for the fine adjustment of the front ribbon motor.
Ribbon Tension Rear	Provides for the fine adjustment of the rear ribbon motor.
Ribbon Low Diameter	Sets the threshold for a low ribbon warning.

Advanced > Communications***Advanced > Communications > Ethernet***

Terms	Definitions
DHCP	Enables or disables DHCP auto addressing for a static setting.
IP Address	The user-entered value that sets the static IP of the interface.
Subnet Mask	The user-entered value setting the static subnet assigned to the interface.

Terms	Definitions
Gateway	The user-entered value that specifies the network gateway address with which the interface should connect.

Advanced > Communications > Serial

Terms	Definitions
Baud Rate	Sets the serial communications rate in bits per second.
Data Bits	Sets the word length.
Stop Bits	Sets the number of stop bits.
Parity	Sets the word parity.
Protocol	Serial communications handshaking mechanism.

Advanced > Communications > General

Advanced > Communications > General > Services

Term	Definition
Enable NTP (Network Time Protocol)	Enables the Network Time Protocol for synchronizing the clock.
Enable SSH	Enables the Secure Shell network protocol.
Enable Webpages	Enables the Webpages utility. If enabled, Webpages are served by the printer to provide printer status and other information, and also allow the user to configure the printer.
Enable SNMP	Enables Simple Network Management Protocol.
SNMP Trap	Sets the IP address to send SNMP alerts.
Enable LPD	Enables LPD network protocol on port 515; using queue name "lp"

Advanced > Communications > General > Host Timeout

Terms	Definitions
Host Timeout	Print job input timeout in seconds before moving on to monitor other ports.

Advanced > Adjustments

Terms	Definitions
Present Distance Adjust	User-entered value allowing for the adjustment of the tear bar position due to mechanical variations.
Cut Distance Adjust	User-entered value allowing for the adjustment of the cut position due to mechanical variations.

Terms	Definitions
Vertical Adjust	User-entered value allowing for the vertical adjustment of the start of the image relative to the horizontal leading label edge due to mechanical variations.
Horizontal Adjust	User-entered value allowing for the horizontal adjustment of the image relative to the printhead center.
Head Pressure Adjust	User-entered value allowing for the adjustment of the pressure the head exerts on the media.
Rewinder Tension Adjust	User-entered value providing for the adjustment of the rewinder motor.
Ribbon Tension Front Adjust	User-entered value providing for the adjustment of the front ribbon motor.
Ribbon Tension Rear Adjust	User-entered value providing for the adjustment of the rear ribbon motor.
Darkness	User-entered value allowing for the fine adjustment of the darkness of the printed image due to printhead and printer thermal variations.
Contrast	User-entered value allowing for the fine adjustment of the leading edges of the printed images to improve print quality and barcode readability.

Tools

Tools > Calibrate

Terms	Definitions
Calibrate Paper	The automatic scanning of the paper to determine top-of-form media and top-of-form gap settings.
Calibrate Sensors	The automatic calculation of the best setting for the autoload sensor and the top-of-form sensor when no paper is present.
Calibrate Display	The calibration utility for the touch position on the display.
Calibrate Manually	Allows manual calibration for paper/mark/gap values.

Tools > Maintenance

Tools > Maintenance > Upgrade

Terms	Definitions
Upgrade	The utility for upgrading the printer software, firmware, ribbon controller and bootloader.

Tools > Security

Security Levels	Descriptions
None	No security level is enabled.
Secure	Advanced settings require a password.
Secure All	All settings require a password.
3-Button Panel	A password is required to access the main menu.

Tools > Date/Time

Terms	Definitions
Date/Time	User-entered values of the date and time of day.

Test**Test > Diagnostics**

Terms	Definitions
Page Format Shading	Provides shading over white space on the label image.
Sensor Readings	Displays current real-time values of all analog sensors.



Symbol Sets

The following Symbol Sets are available from the Page Format section of the Advanced menu:

Table 1: Symbol Sets

Number	Symbol Sets
0	PC-8
1	Roman-8
2	Roman-9
3	ISO-L1
4	ISO-L2
5	ISO-L4
6	ISO-L5
7	ISO-L6
8	ISO-L9
9	PC-775
10	PS MATH
11	MATH-8
12	PI FONT
13	MS PUBL
14	PC-8 DN
15	PC-850
16	PC-852
17	PC-858
18	PC-8 TK
19	PC-1004
20	WIN L1
21	WIN L2
22	WIN L5
23	WINBALT
24	DESKTOP
25	PS TEXT
26	LEGAL

Number	Symbol Sets
27	ISO-4
28	ISO-6
29	ISO-11
30	ISO-15
31	ISO-17
32	ISO-21
33	ISO-60
34	ISO-69
35	WIN 3.0
36	MC TEXT
37	UCS-2
38	RomanExt
39	Wingdings
40	ZapDingBats
41	Symbol

Fonts

The following Fonts are supported:

Table 2: Fonts

Font	Escape Sequence
CG Times	<ESC><symset><ESC>(s1p<ptsize>v0s0b4101T
CG Times Italic	<ESC><symset><ESC>(s1p<ptsize>v1s0b4101T
CG Times Bold	<ESC><symset><ESC>(s1p<ptsize>v0s3b4101T
CG Times Bold Italic	<ESC><symset><ESC>(s1p<ptsize>v1s3b4101T
Univers Medium	<ESC><symset><ESC>(s1p<ptsize>v0s0b4148T
Univers Medium Italic	<ESC><symset><ESC>(s1p<ptsize>v1s0b4148T
Univers Bold	<ESC><symset><ESC>(s1p<ptsize>v0s3b4148T
Univers Bold Italic	<ESC><symset><ESC>(s1p<ptsize>v1s3b4148T
Univers Condensed Medium	<ESC><symset><ESC>(s1p<ptsize>v4s0b4148T
Univers Condensed Medium Italic	<ESC><symset><ESC>(s1p<ptsize>v5s0b4148T
Univers Condensed Bold	<ESC><symset><ESC>(s1p<ptsize>v4s3b4148T
Univers Condensed Bold Italic	<ESC><symset><ESC>(s1p<ptsize>v5s3b4148T
Antique Olive	<ESC><symset><ESC>(s1p<ptsize>v0s0b4168T
Antique Olive Italic	<ESC><symset><ESC>(s1p<ptsize>v1s0b4168T

Font	Escape Sequence
Antique Olive Bold	<ESC><symset><ESC>(s1p<ptsize>v0s3b4168T
CG Omega	<ESC><symset><ESC>(s1p<ptsize>v0s0b4113T
CG Omega Italic	<ESC><symset><ESC>(s1p<ptsize>v1s0b4113T
CG Omega Bold	<ESC><symset><ESC>(s1p<ptsize>v0s3b4113T
CG Omega Bold Italic	<ESC><symset><ESC>(s1p<ptsize>v1s3b4113T
Garamond Antiqua	<ESC><symset><ESC>(s1p<ptsize>v0s0b4197T
Garamond Kursiv	<ESC><symset><ESC>(s1p<ptsize>v1s0b4197T
Garamond Halbfett	<ESC><symset><ESC>(s1p<ptsize>v0s3b4197T
Garamond Kursiv Halbfett	<ESC><symset><ESC>(s1p<ptsize>v1s3b4197T
Courier	<ESC><symset><ESC>(s0p<pitch>h0s0b4099T
Courier Italic	<ESC><symset><ESC>(s0p<pitch>h1s0b4099T
Courier Bold	<ESC><symset><ESC>(s0p<pitch>h0s3b4099T
Courier Bold Italic	<ESC><symset><ESC>(s0p<pitch>h1s3b4099T
Letter Gothic	<ESC><symset><ESC>(s0p<pitch>h0s0b4102T
Letter Gothic Bold	<ESC><symset><ESC>(s0p<pitch>h0s3b4102T
Letter Gothic Italic	<ESC><symset><ESC>(s0p<pitch>h1s0b4102T
Albertus Medium	<ESC><symset><ESC>(s1p<ptsize>v0s1b4362T
Albertus Extra Bold	<ESC><symset><ESC>(s1p<ptsize>v0s4b4362T
Clarendon Condensed Bold	<ESC><symset><ESC>(s1p<ptsize>v4s3b4140T
Coronet	<ESC><symset><ESC>(s1p<ptsize>v1s0b4116T
Marigold	<ESC><symset><ESC>(s1p<ptsize>v0s0b4297T
Arial	<ESC><symset><ESC>(s1p<ptsize>v0s0b16602T
Arial Italic	<ESC><symset><ESC>(s1p<ptsize>v1s0b16602T
Arial Bold	<ESC><symset><ESC>(s1p<ptsize>v0s3b16602T
Arial Bold Italic	<ESC><symset><ESC>(s1p<ptsize>v1s3b16602T
Times New Roman	<ESC><symset><ESC>(s1p<ptsize>v0s0b16901T
Times New Roman Italic	<ESC><symset><ESC>(s1p<ptsize>v1s0b16901T
Times New Roman Bold	<ESC><symset><ESC>(s1p<ptsize>v0s3b16901T
Times New Roman Bold Italic	<ESC><symset><ESC>(s1p<ptsize>v1s3b16901T
Symbol	<ESC>(19M<ESC>(s1p<ptsize>v0s0b16686T
Wingdings	<ESC>(579L<ESC>(s1p<ptsize>v0s0b31402T
OCR-A Fixed	<Esc>(s0p10h0s0b23584T
OCR-B Fixed	<Esc>(s0p10h0s0b23590T
Vera Regular Mono	<Esc>(s1p__v0s0b23410T

Font	Escape Sequence
OCR-A Mono	<Esc>(s1p__v0s0b23584T
OCR-B Mono	<Esc>(s1p__v0s0b23590T
CG Triumvirate	<Esc>(s1p__v0s0b26708T
CG Triumvirate Condensed Bold	<Esc>(s1p__v0s0b26714T
LinePrinter	<Esc>(10U<Esc>(s0p16.67h8.5v0s0b0T

Barcodes

The following barcodes are supported:

Table 3: Barcodes

Barcode ID	Type	Length	Valid ASCII Characters, decimal value representation
1000	Code 3 of 9	1-75	0-9, A-Z, \$,%,+,-,.,/,space
1001	Extended Code 3 of 9	1-66	ASCII 0-0x7F
1010	UPC-A	1-11	0-9
1020	UPC-E	1-7	0-9
1021	UPC/EANAdd-On	2 or 5	0-9
1030	Code 128 Autoselect	1-79	ASCII 0-0x7F
1031	Code 128 Code Set A	1-79	ASCII 0-0x7F
1032	Code 128 Code Set B	1-79	ASCII 0-0x7F
1033	Code 128 Code Set C	1-79	ASCII 0-0x7F
1040	EAN-8	1-7	0-9
1050	EAN-13	1-12	0-9
1060	Interleaved 2 of 5 mod 10	1-89	0-9
1061	Interleaved 2 of 5 bearer bars	1-89	0-9
1062	Interleaved 2 of 5	1-89	0-9
1070	GS1-128	1-79	ASCII 0x20-0x7F The leading AI value must be placed in square brackets and a trailing checksum must be included.
1080	Codabar	1-60	0-9, A-D
1090	UK Plessey	1-65	48-57, 0-9, A-DF
1091	MSI Plessey Mod 10	1-55	0-9
1100	Code 93	1-107	ASCII 0x20-0x7F

Barcode ID	Type	Length	Valid ASCII Characters, decimal value representation
1110	HIBC Code 93	1-36	0-9, A-Z, \$,%,+,-,./,space
1111	HIBC Code 128	1-36	0-9, A-Z, \$,%,+,-,./,space
1120	Telepen	1-30	ASCII 0x20-0x7F
1130	GS1 Databar (RSS); linear only	1-13	
1131	GS1 Databar Expanded; linear only	1-45	ASCII 0x20-0x7F
1500	Postnet	1-38	0-9
1510	Planet	1-38	0-9
1520	FIM	1	A, B, C, D
1530	UPS Intelligent Mail (OneCode)	20	0-9
2000	QR Code - Auto Format	1-256	ASCII 0x20-0x7F
2010	PDF-417	1-256	Full ASCII (0 – 0xFF)
2020	MicroPDF417	1-256	Full ASCII (0 – 0xFF)
2030	DataMatrix	1-256	Full ASCII (0 – 0xFF)
2040	UPS MaxiCode	1-138	Alphanumeric, ASCII 0x1E, 0x1D,0x04,[,],>
2050	Aztec	1-256	Full ASCII (0 – 0xFF)