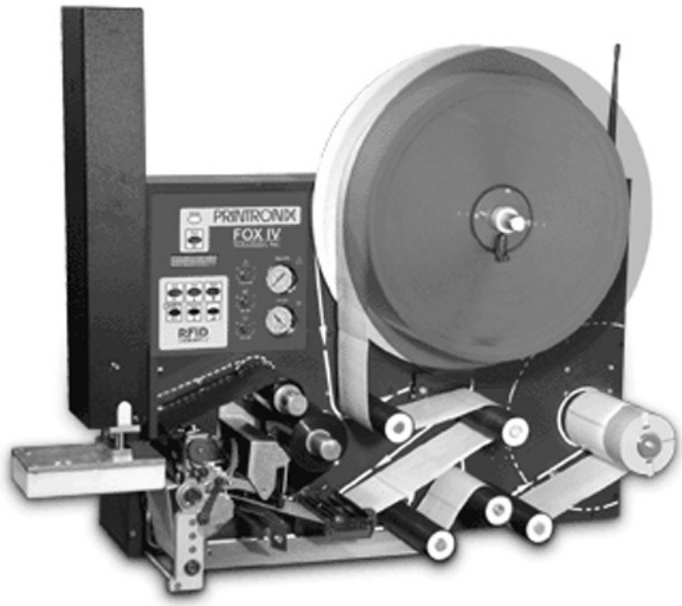
PRINTRONIX®

*Operator's Reference*
*Training Manual*




# *SLPA7000$^{e}$ Smart Label Printer Applicator*

PRINTRONIX®

*Operator's Reference*
*Training Manual*

*SLPA7000$^{e}$ Smart Label Printer Applicator*

# IMPORTANT WARRANTY INFORMATION

## PRINTER WARRANTY

Printronix® warrants to purchaser that under normal use and service, this printer (excluding the thermal printhead) purchased hereunder shall be free from defects in material and workmanship for a period of ninety (90) days from the date of shipment from Printronix.

Consumable items such as media and ribbons are not covered under this warranty. This warranty does not cover equipment or parts that have been misused, altered, or used for purposes other than those for which they were manufactured. This warranty also does not cover loss, shipping damage, damage resulting from accident or damages resulting from unauthorized service.

## THERMAL PRINTHEAD

Printronix warrants the printhead for a period of one hundred eighty (180) days, or 1,000,000 linear inches for direct thermal use, or 2,000,000 linear inches for thermal transfer use, whichever comes first. The warranty does not cover printheads that have been misused, damaged due to improper cleaning, or damaged due to use of improper ribbons or media.

## SUPPLIES

For the nearest Printronix full-service distributor that carries Printronix genuine supplies, please call (800) 733-1900 or fax (714) 368-2354. Supplies design, specification, and selection are integral to the development of any computer imaging system. Printronix's extensive manufacturing and research capabilities, along with years of experience in the design of printers and their applications, assures that you will receive the exact materials that you require to maximize the performance of your Printronix printer. For more information, call the Printronix Customer Solutions Center at (714) 368-2686 or access the Printronix website at http://www.printronix.com.

## ON-SITE MAINTENANCE SERVICE

Printronix offers on-site support services in the United States. Please contact the Printronix Maintenance Contracts Group at (714) 368-2798 for detailed service agreement information.

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# 1 *Setup Procedures*

## Removing Label Backing

If the media rewind spool needs to be unloaded during operation, proceed as follows:

1. Press the **Pause** key to take the SLPA offline. Disable the product sensor if necessary.
2. Tear the label backing near the media rewind hub, then reach around the rewound backing, placing your fingers behind the hub of the media rewind spool.
3. Pull the rewind spool away from the centerwall plate until the rewind release bars collapse toward the center of the hub, then pull off the used label backing. The rewind hub will snap back into position near the centerwall once the used label backing is removed.
4. Feed a few blank labels by inserting the new edge of the label backing into the slit on the rewind spool and manually rotate the spool at least one turn counterclockwise.
5. Press the **Pause** key to place the SLPA online then enable the product sensor to continue operation.

# Threading The Label Roll

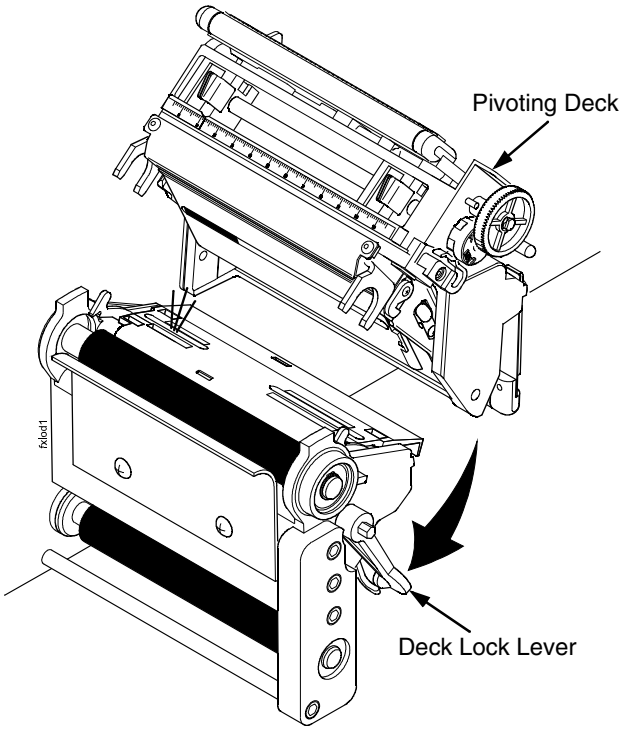



**Figure 1. The Printhead Assembly**

1. Press the **Pause** key to take the SLPA offline as outlined in “Control Panel” on page 23.
2. Open the pivoting deck by rotating the deck lock lever fully clockwise.

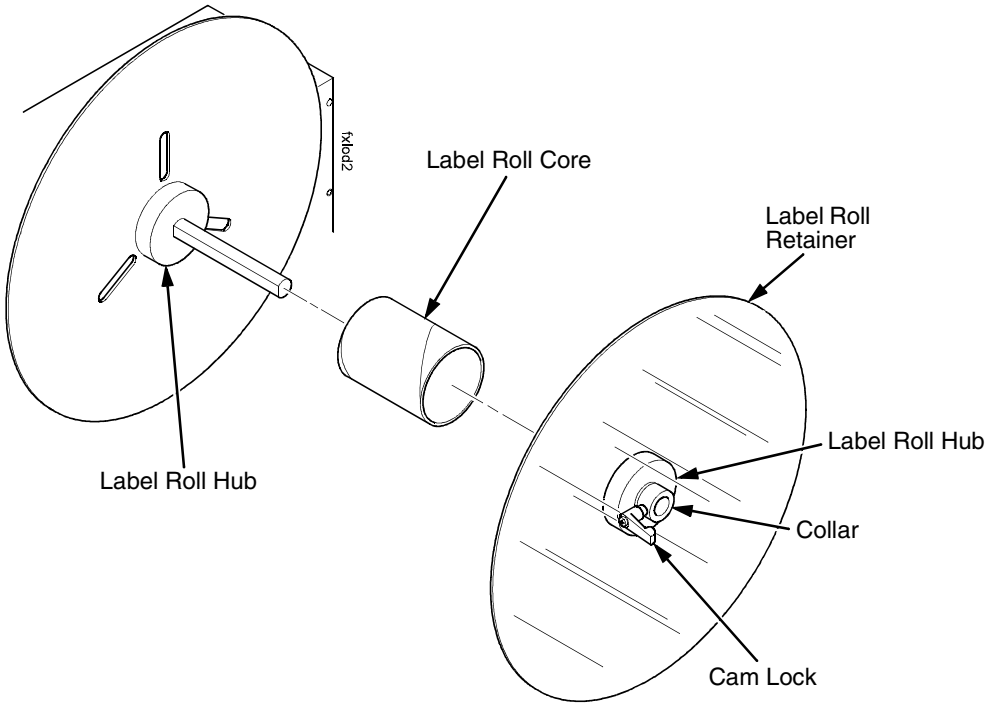



**Figure 2. Mounting Label Media**

3. Loosen the cam lock located on the collar of the label roll hub.
4. Slide the label roll retainer off the label roll hub.
5. Remove the empty label roll core, if necessary, from the label roll hub.

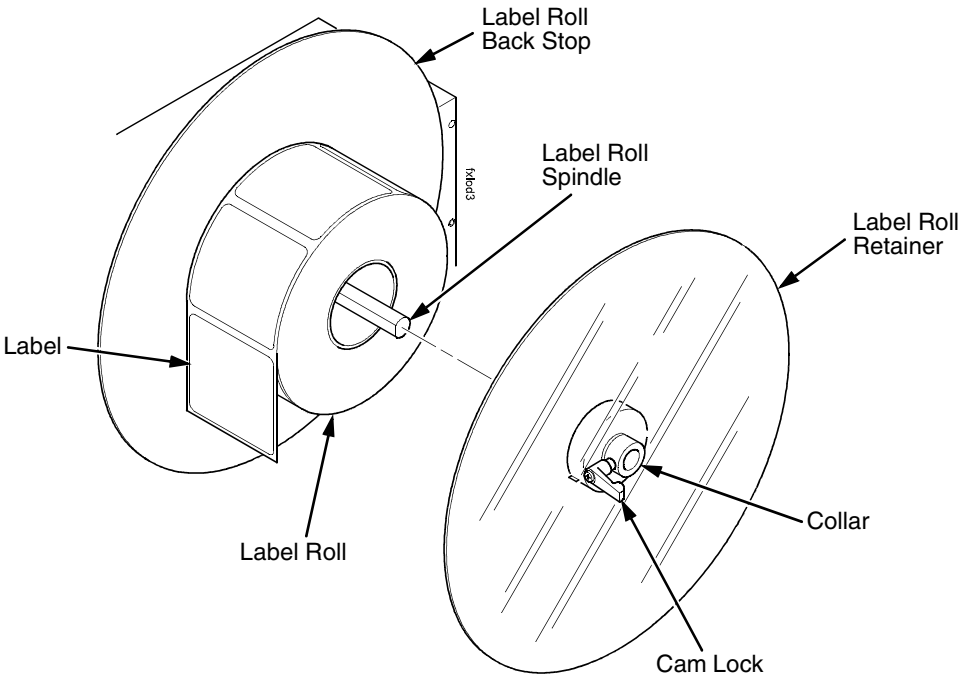



**Figure 3. Loading Label Media**

6. Slide the new label roll onto the label roll hub (unwinding counterclockwise) and against the label roll back stop.
7. Angle the flat edge of the collar so that it aligns with the flat edge of the label roll spindle.
8. Place the label roll retainer onto the label roll spindle until it is flush with the label roll, then tighten the black cam lock.

**NOTE:** If necessary, loosen the set screw on the collar and adjust the core blade so that it cuts into the label core.

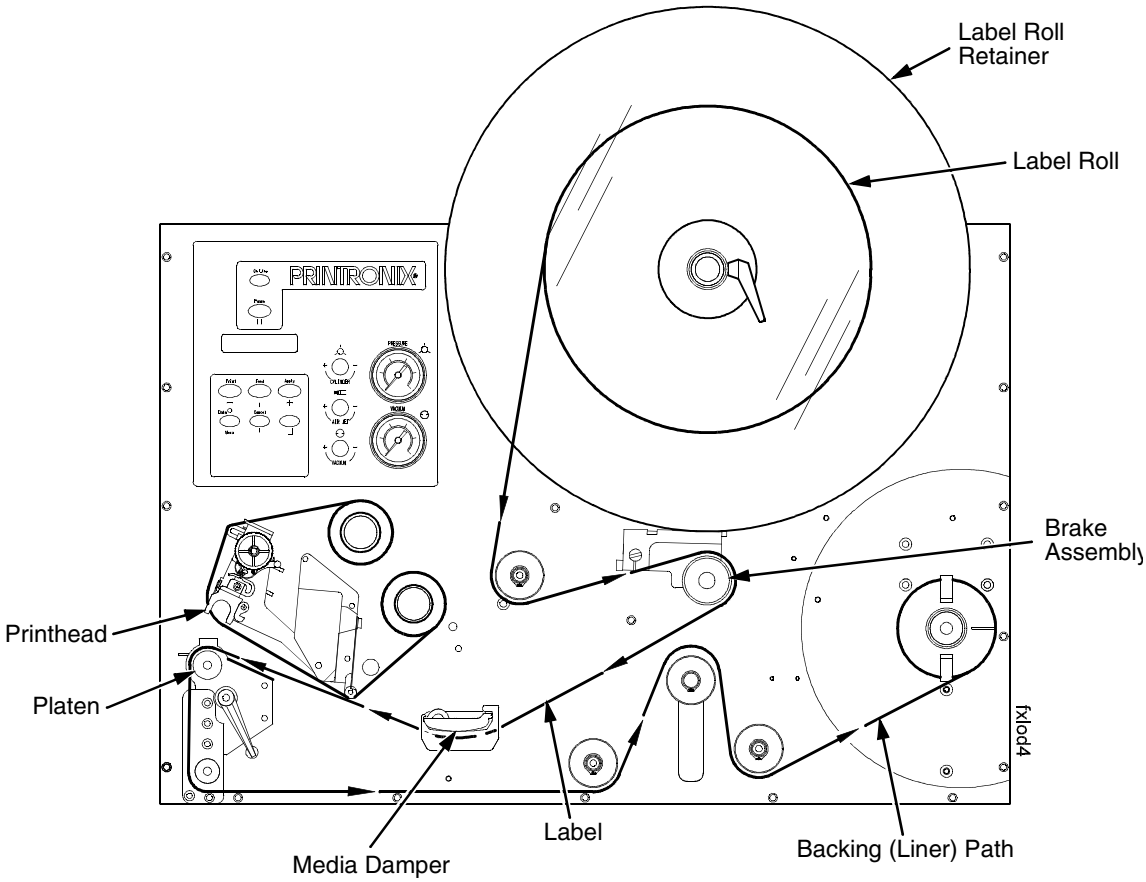



**Figure 4. Loading Labels**

9. Unwind approximately 3.0 feet (91cm) of media from the label roll. If your label roll does not have a leader, remove the labels from the backing. The empty backing (leader) will act as a leader to thread the media through the SLPA components.
10. Pull the brake assembly away from the label roll back stop (behind the label roll retainer) to release the tension.
11. Thread the leader around the rollers and toward the media damper.

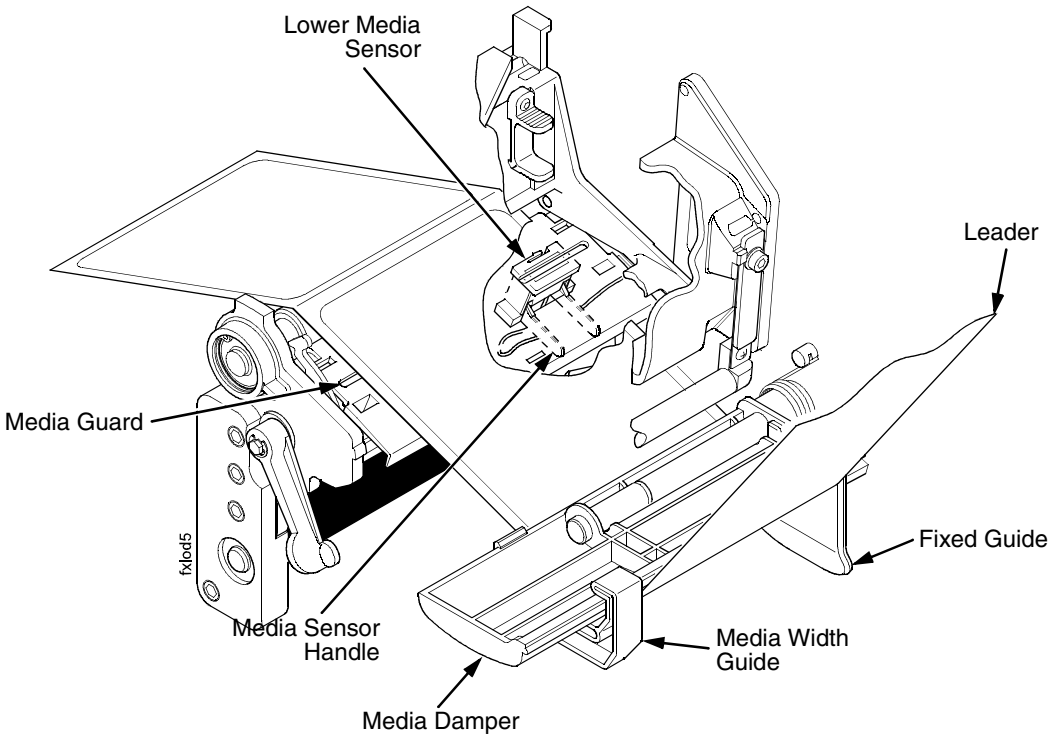



**Figure 5. Threading Media Through the Printhead Assembly**

12. Slide the media width guide close to the outside end of the media damper.
13. Thread the leader under the media damper and then between the platen (rubber drive roller) and the printhead.
14. Verify that the inside edge of the leader is against the fixed guide on the bottom of the media damper.
15. Push the media width guide in until it is flush with the outer edge of the media.

**NOTE:** Do not wrinkle the leader by pushing the media width guide too close to the SLPA panel.

16. Check the horizontal position of the lower media sensor (located under the media guard). Refer to “Positioning The Media Sensors” on page 50.

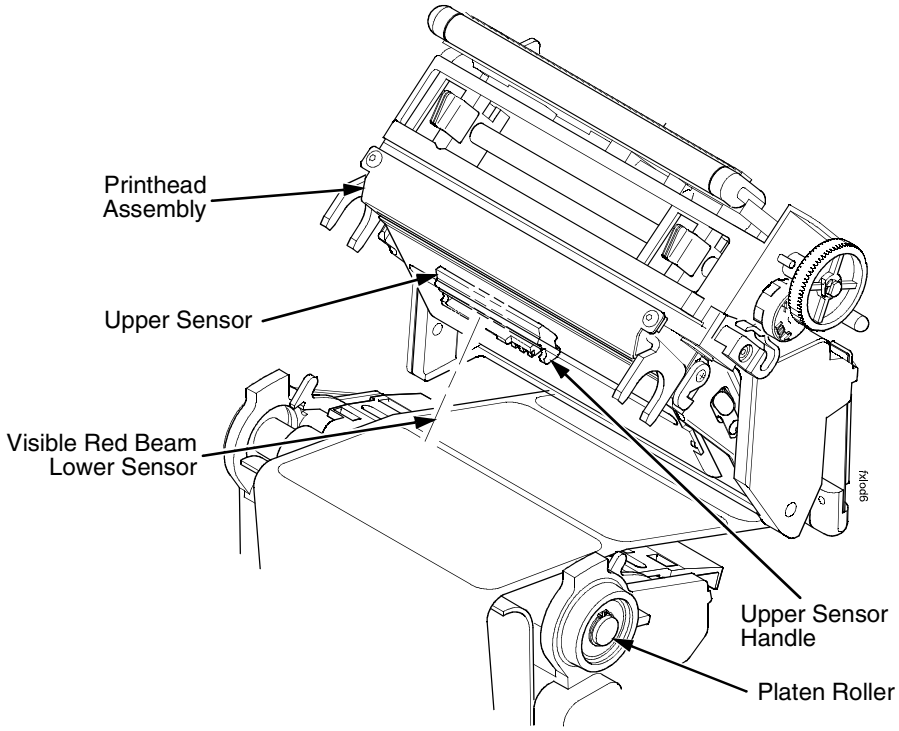



**Figure 6. Threading the Leader**

17. Slide the upper sensor directly over the lower sensor.
18. Thread the leader between the printhead assembly and across the top of the platen roller.

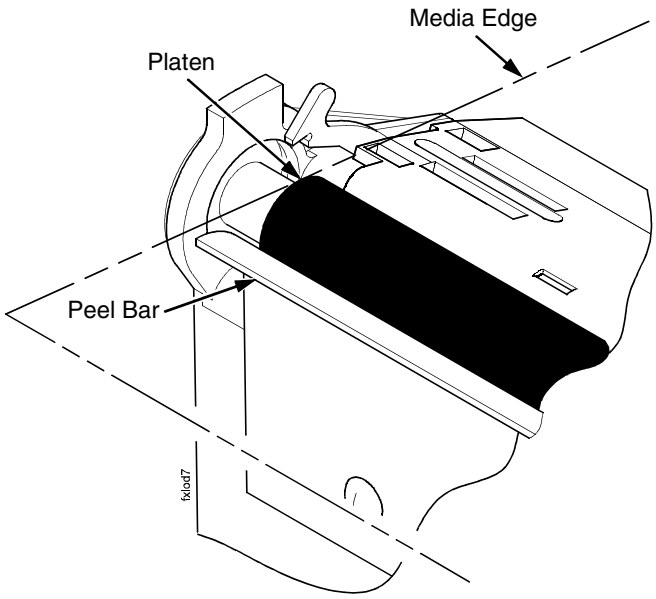



**Figure 7. Aligning Media**

19. Align the inside edge of the media with the inside edge of the peel bar.
20. Thread the leader over the peel bar, then between the lower print roller and the air jet.
21. Follow the ribbon guide arrows from the printhead, around the rollers to the media rewind spool.
22. Fold the leading edge of the leader and insert it into the slit on the rewind spool. Make sure the leader lines up closely to the SLPA panel.
23. Manually rotate the spool at least one turn counterclockwise.

**NOTE:** Hold the leader down while rotating the rewind spool to keep the leader in place.

24. If the SLPA is being used in Thermal Transfer mode, it may be necessary to load ribbon. See “Loading Ribbon” on page 16, otherwise proceed as follows.

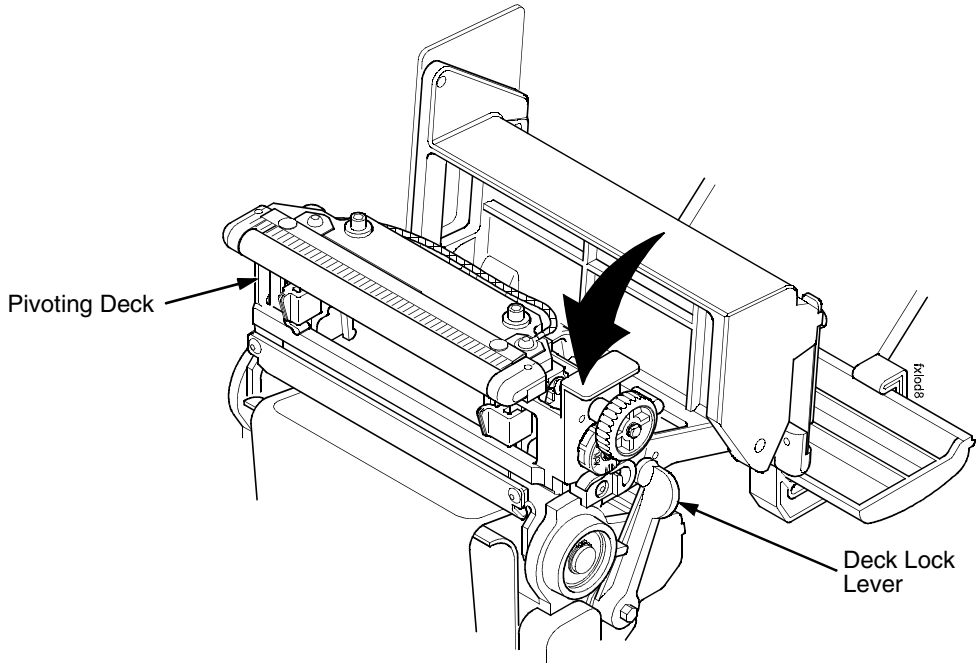



**Figure 8. Locking the Pivoting Deck**

25. Ensure that the label path is clear of obstructions, then close the pivoting deck and rotate the deck lock lever fully counterclockwise. This locks the pivoting deck and printhead assembly into the printing position.

**IMPORTANT** **Ensure the pivoting deck is down and locked before attempting to advance media or print. Failure to do so will cause the PRINTHEAD UP fault message to display.**

26. Press the **Pause** key to place the SLPA online, and send a label format via the host.

# Loading Ribbon

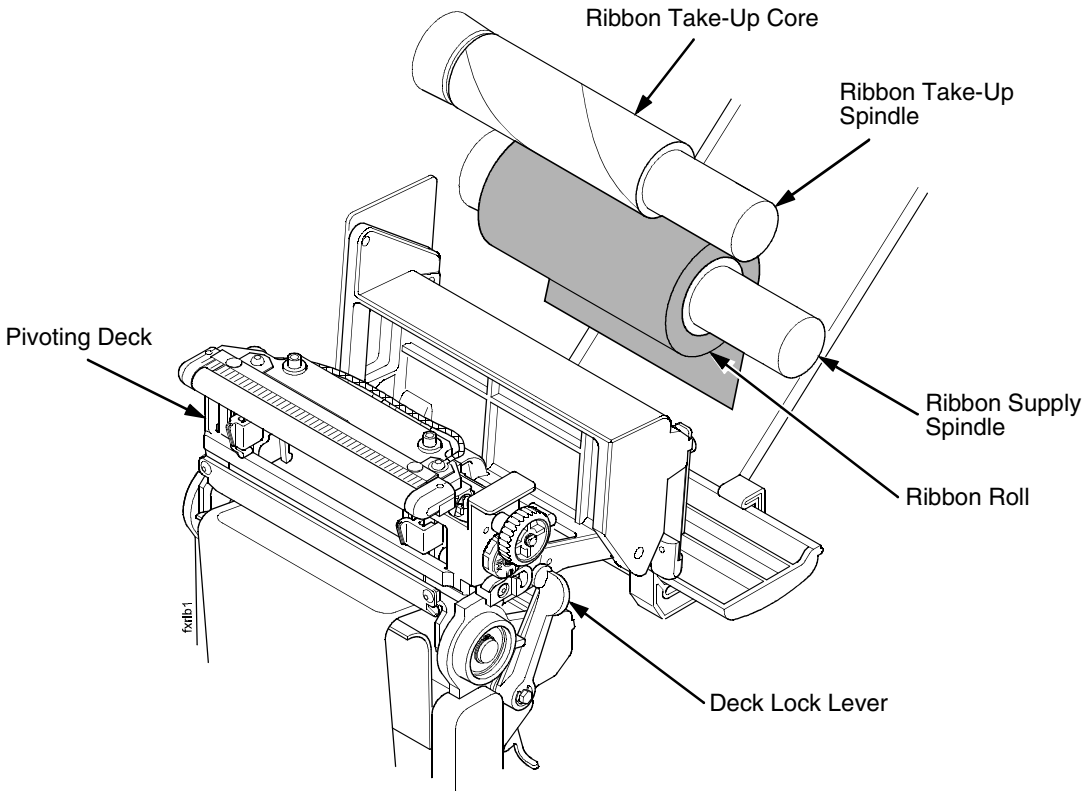



**Figure 9. Loading Ribbon**

1. Press the **Pause** key to take the SLPA offline.
2. Install the ribbon take-up core on the ribbon take-up spindle.

**NOTE:** The first ribbon take-up fiberboard core comes with the SLPA. Thereafter, use the fiberboard core from the old (used up) ribbon.

3. Slide the ribbon roll onto the ribbon supply spindle until it stops against the spindle flange.
4. Open the pivoting deck by rotating the deck lock lever fully clockwise until the deck swings upward.

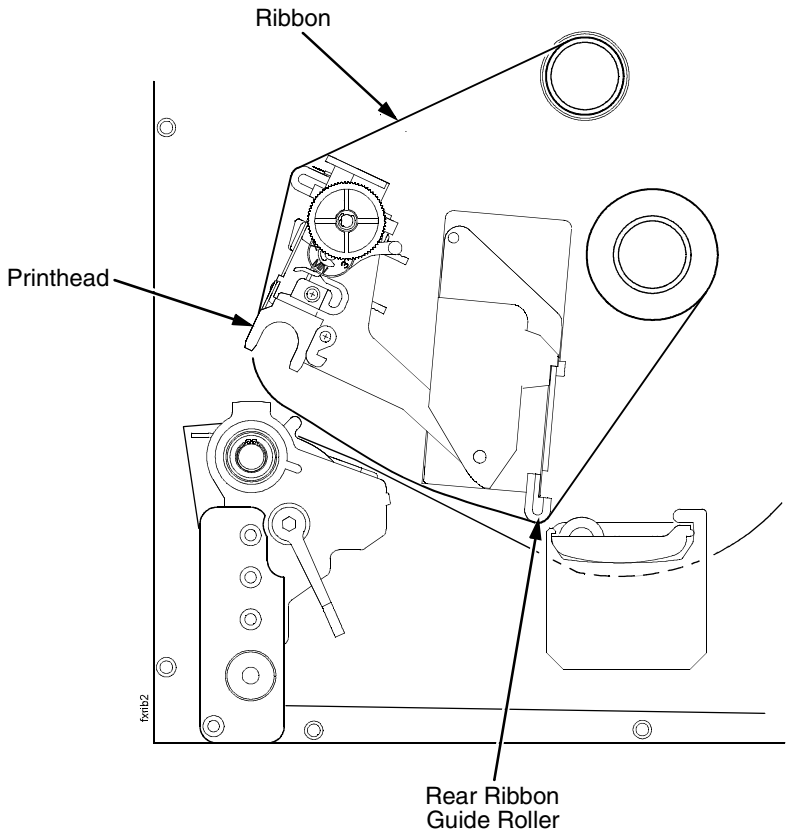



**Figure 10. Threading Ribbon Through the Printhead Assembly**

5. Thread the end of the ribbon under the rear ribbon guide roller, then between the platen and the printhead.

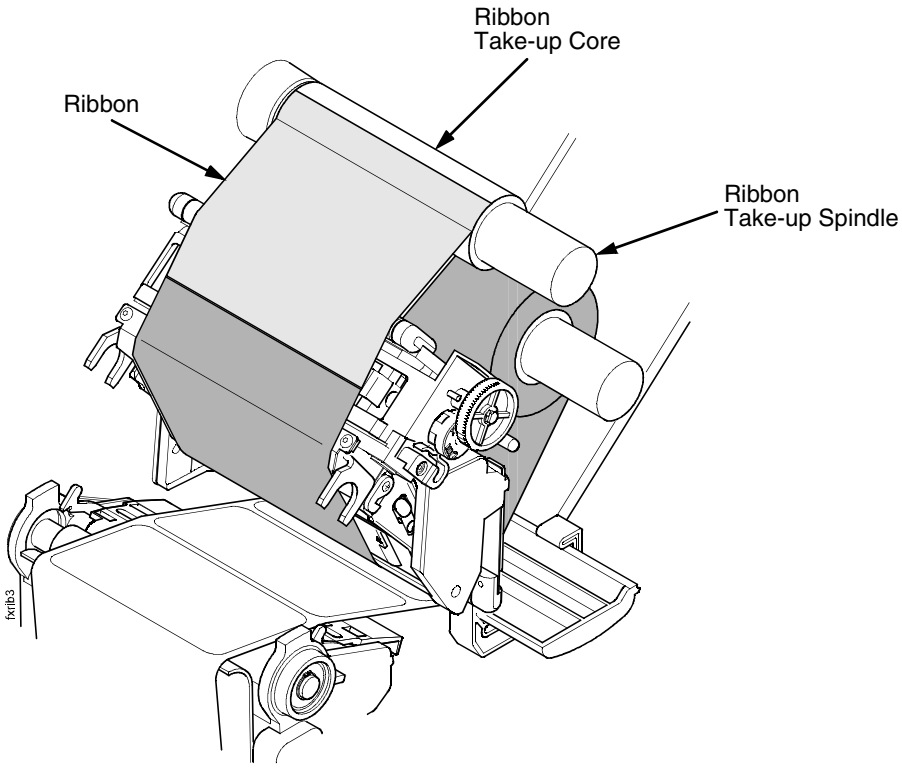



**Figure 11. Attaching the Ribbon to the Take-up Core**

6. Wrap the ribbon from the front of the printhead assembly to the top of the ribbon take-up spindle. Attach the ribbon to the take-up core on the ribbon take-up spindle with tape.

   When installing a new roll of ribbon, attach the ribbon leader adhesive strip to the ribbon take-up core. Manually rotate the spindle clockwise to feed the unusable portion of the ribbon leader around the take-up spindle.

**IMPORTANT** **Do not attach the ribbon to the ribbon take-up spindle without a ribbon take-up core installed.**

7. Close the pivoting deck and rotate the deck lock lever fully clockwise.
8. Press the **Feed** key once to verify that the media and ribbon advance.
9. Press the **Pause** key to place the SLPA online, then send a label format via the host.

# Positioning The Air Jets

When a printed label is being fed from the SLPA onto the applicator pad, it must be held against the pad so that it can be properly positioned. The air jets located on the air jet tube direct air at the label while it is being fed, so that it does not bend or fall from the pad. Once proper positioning is achieved, the vacuum of the applicator pad initiates and holds the label into place until application.

For the air jets to work correctly, they must be directed at an angle specific to the size of the label in use. Angle the air jets to a point which is approximately 1/3 the length of the current label length, as measured from the peel bar. Wider or longer labels may approximate the air jet angle to a point beyond 1/3 the label length, where shorter or narrower labels may target inside the 1/3 length zone. Repeated adjustment may prove necessary for optimum operation.

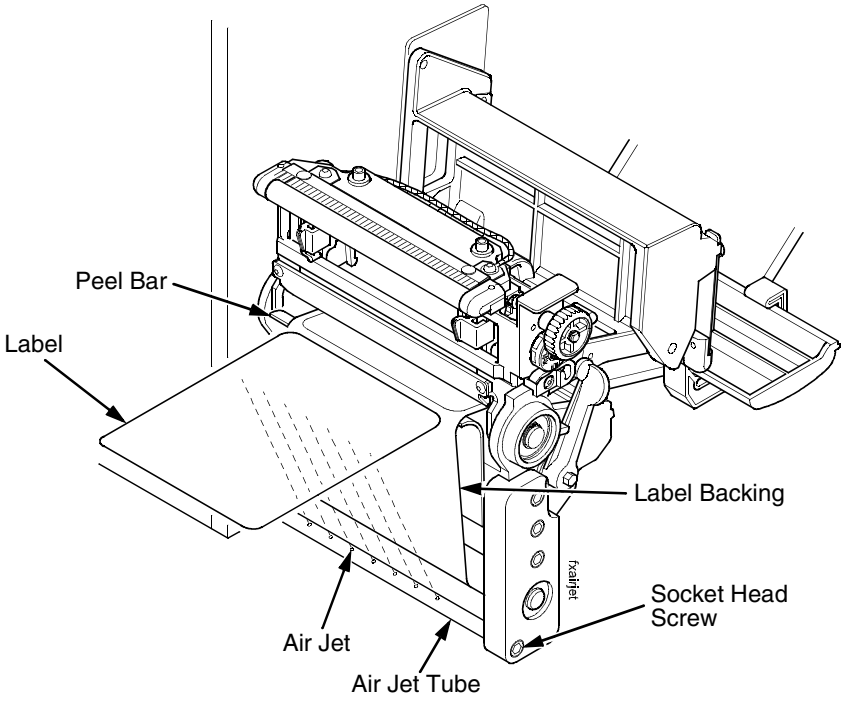
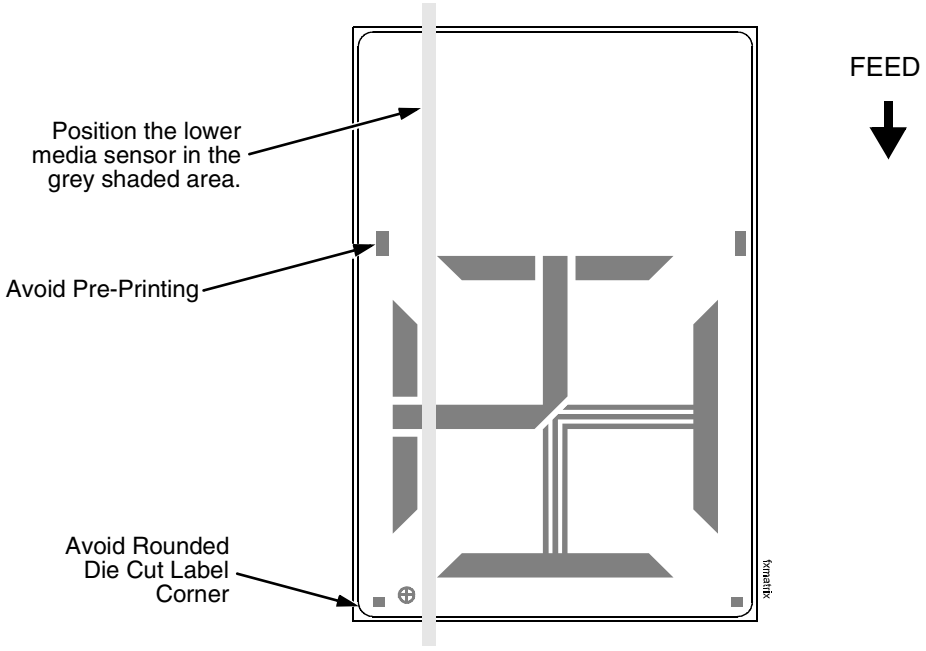



**Figure 12. Positioning the Air Jets**

The air jet will typically be adjusted for proper operation prior to being shipped, but if further adjustments are necessary, proceed as follows:

1. Loosen the socket head screw holding the air tube into place.
2. Ensure that the proper holes in the air jet are open. The standard tube comes with #2-56NC threaded holes and some of the holes may be plugged with a small set screw. Add or remove set screws as necessary.
3. Turn the air tube adjustment so that the air jets are directed at approximately 1/3 the length of the current label length as measured from the peel bar.
4. Tighten the socket head screw into place to hold this adjustment.




# Calibrating The Printer

For printers not using smart labels, an Auto Calibrate should be sufficient to properly calibrate the printer (see next section).

To calibrate printers that are using smart labels:

1. Run an Auto Calibrate to set up initial values (page 21).
2. Make a Media Profile printout.
3. Make any necessary adjustments to Threshold Range in the CALIBRATE CTRL menu.
4. Run an Auto Calibrate again (page 21).
5. Make a Media Profile printout again to verify the Threshold Range you selected in step 3 is correct.
6. Save the configuration, and then set the saved configuration as the Power-Up configuration (page 37).

## Running Auto Calibrate

**IMPORTANT** **Since manufacturing differences in media and ribbon can decrease the printer's TOF (top-of-form) sensing reliability, you must run an Auto Calibrate to provide optimum sensor threshold values for the installed media and ribbon.**

1. Set the printer power switch to | (On).
2. Press the ⋮☰ key to enter the QUICK SETUP menu.

**NOTE:** For a complete description of the QUICK SETUP menu, see page 30.

3. Press ↓ and ↵ together until ENTER SWITCH / UNLOCKED displays.
4. Press ↑ or ↓ until Label Length / 6 inch* displays (default).
5. Press **+** or **–** until the value that matches the physical length of the installed media displays.

**NOTE:** Selecting the correct Label Length forces Auto Calibrate to increase media advancement for long labels (to detect actual gaps, notches, or marks) and decrease media advancement for short labels.

6. Press ↑ or ↓ until Gap/Mark Sensor / Disable* displays.
7. Press **+** or **–** until Gap displays.

**NOTE:** If you are using smart labels, see "Gap Sensing for Smart Labels" on page 36.

8. Press ↵. An asterisk (*) displays next to the selected item.
9. Press ↓ until Auto Calibrate / Run Calibrate displays.
10. Press ↵. Media advances until it can accurately detect the label length indicators and then stops at the top-of-form position. The Sensed Distance value then displays for one second.
11. Auto Calibrate is successful when the Sensed Distance value correctly matches that of the installed media. For Gap sensing, the Sensed Distance value is the physical length of one label plus the length of one gap.
12. If GAP NOT DETECTED or PAPER OUT displays:
    a. Check the horizontal position of the media sensors.
    b. Make a Media Profile printout to verify that the sensors are performing properly.
    c. Press **PAUSE** and run Auto Calibrate again.
13. Press the **PAUSE** key to take the printer offline.
14. Press the **FEED** key several times. Each time you press FEED, the media should advance one label length and stop.
15. Once the Sensed Distance value and performance is confirmed, save it to the desired configuration menu as described on page 37 before powering off the printer.

# 2 *Control Panel*

The operation and system status of the SLPA are provided on the control panel. Information concerning the SLPA is displayed on the liquid crystal display (LCD), while commands are given to the SLPA through the control panel keypad. Control valves are provided for refined adjustments to the pneumatic system.

**IMPORTANT** **It is important to become familiar with all of the operations, readouts, and components of the control panel. Inappropriate settings may impair the SLPA's functionality.**

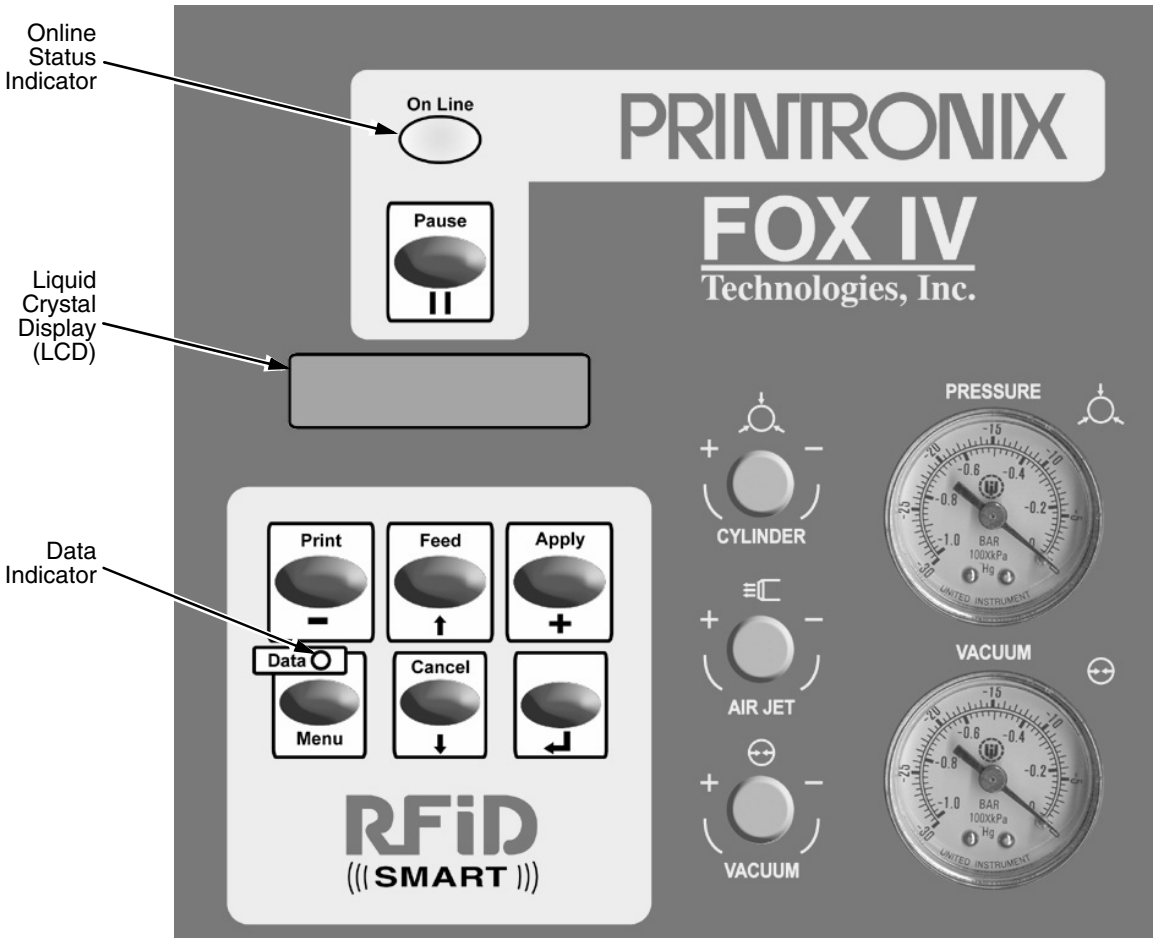



**Figure 13. Control Panel**

# LCD

The LCD is a 2 line by 16 character per line reflective display with a light emitting diode (LED) backlight. The LCD displays system information on the SLPA when performing system set-up procedures, print batch status during operation, and system information in a fault condition.

# Keypad

The keypad is used to place the SLPA in operation, to perform calibration or testing, or to modify the systems operating parameters.

The keypad functions as two key groups: SLPA control when the SLPA is online, and menu option setting when the SLPA is offline. The use of one key group will not interfere with the use of the other key group. The function of each indicator and key is defined in Table 1.

**Table 1. Control Panel Keys**

| Indicator or Key | Description | Online Mode | Offline Mode | Menu Mode |
|---|---|---|---|---|
| Online Status indicator | Indicates when SLPA is online, offline, or in fault condition. | Light is on when online, ready to print, and accept data from host.<br><br>Flashes during fault condition. | Light is off when SLPA is offline.<br><br>Flashes during fault condition. | Light is off.<br><br>Flashes during fault condition. |
| Liquid Crystal Display (LCD) | A 2 line by 16 character per line reflective display with a light emitting diode (LED) backlight. | Displays ONLINE, the interface type, and emulation in use.<br><br>During a fault condition, displays specific fault message and required action. | OFFLINE<br><br>During a fault condition, displays specific fault message and required action. | Displays OFFLINE, a Main menu and submenu, or option.<br><br>During a fault condition, displays a specific fault message and required action. |
| Pause key | Switches the SLPA between online and offline modes. | Pressing this key when the SLPA is online takes the SLPA offline. | Pressing this key when the SLPA is offline places the SLPA online. | Takes the SLPA offline. |

**Table 1. Control Panel Keys**

| Indicator or Key | Description | Online Mode | Offline Mode | Menu Mode |
|---|---|---|---|---|
| Print key | Print key<br><br>– (decrease) key in Menu mode. | Prints the next label in the buffer. | None | Scrolls left through current menu options.<br><br>Decreases option values in submenus. |
| Feed key | Feed key<br><br>↑ (up arrow) key in Menu mode. | Advances the media one label length. | None | Scrolls current menu selection up one level. |
| Apply key | Apply key<br><br>+ (increase) key in Menu mode. | Prints the next label if any and applies the label. | Selects the Printer Tests menu, and then scrolls through the options. | Scrolls right through current menu options.<br><br>Increases option values in submenus. |
| Menu key<br><br>Data indicator | Menu key<br><br>Data indicator is green when data is in the system. | Takes the SLPA offline and selects Menu mode. | Enters Menu mode. | Scrolls through the Main menu selections. |
| Cancel key | Pressing the Cancel key will enable the key and clears all data from the print buffer and prevent printing of that data.[1]<br><br>↓ (down arrow) key in Menu mode. | None | Clears all data in the print buffer. | Scrolls the current menu selection down one level. |
| ↵ (Enter) key | Pressing the ↵ (Enter) key in Menu mode selects the displayed option or value. | Selects the Applicator Delay menu (page 95). | When in the Printer Tests menu, runs the selected test. | Selects the current menu value. |

[1] Cancel Key must be set to Enable in the PRINTER CONTROL menu to use the Cancel key. The default is Disable.

# Key and Indicator Descriptions

For the locations of these keys and indicators, refer to Figure 13 on page 23.

## Online Status Indicator

The SLPA is online when the Online status indicator light is on. When the SLPA is offline, the light is off.

## Pause Key

When the SLPA is online or in Menu mode, the Pause key takes the SLPA offline (offline mode) and suspends all SLPA operations, but operations do not cease until the current print or apply cycles have been completed. When the SLPA is offline, the operator may make mechanical adjustments to the SLPA, clear assembly line jams, etc., without powering off the system.

When the SLPA is offline, the Pause key places the SLPA back online (online mode).

**NOTE:** The SLPA may automatically take itself offline in several situations (e.g., out of labels, after recovering from a fault, etc.).

## Print Key

When the SLPA is online, the Print key prints a label and feeds it to the applicator pad if there is a label configuration in the SLPA's print buffer. If no label pattern exists in the buffer, it will not function.

In Menu mode, the **–** (decrease) key scrolls left through current menu options or decreases option values in submenus.

**NOTE:** The Print key has no effect when the SLPA is offline.

## Feed Key

When the SLPA is online, the Feed key advances the media one label length. if the print buffer is currently empty. If the system is printing labels from the buffer, this key will not function until the batch is done printing.

In Menu mode, the ↑ (up arrow) key scrolls the current menu selection one level up.

**NOTE:** The Feed key has no effect when the SLPA is offline.

## Apply Key

When the SLPA is online, the Apply key cycles the applicator as though the SLPA was triggered by the product sensor. The cylinder extends to place the label and a new label prints and is placed on the pad upon its return to the home position.

In Menu mode, the **+** (increase) key scrolls right through current menu options or increases option values in submenus.

## Menu Key and Data Indicator Light

When the SLPA is either online or offline, the Menu key takes the SLPA offline and into Menu mode.

In Menu mode, the Menu key scrolls through the Main menu of the SLPA's operating system. It permits the operator to set or change various operating parameters.

The Data indicator light on the Menu key is green when data is in the system. This data refers to the information printed on the label. If the green light is off, there is no data in the system. There is no manual operation of this indicator.

## Cancel Key

**NOTE:** Cancel Key must be set to Enable in the PRINTER CONTROL menu to use the Cancel key. The default is Disable.

When the SLPA is offline, the Cancel key clears the current print pattern and all printing programs currently in the print buffer.

After clearing the print buffer, the SLPA automatically takes itself offline. The SLPA may then have a new label pattern downloaded to the print buffer. Press the Pause key to place the SLPA back online.

In Menu mode, the ↓ (down arrow) key scrolls the current menu selection one level down.

**NOTE:** The Print key has no effect when the SLPA is online.

## ↵ (Enter Key)

When the SLPA is online, the ↵ (Enter) key selects the Applicator Display Menu (page 95).

When the SLPA is offline, the ↵ (Enter) key is used to select a menu option, or parameter value within the submenus. Press ↵ to select a menu option or parameter.

In Menu mode, the ↵ (Enter) key selects the current value.

# Pneumatic Control Valves And Gauges

## Air Cylinder Regulator

**NOTE:** You may also adjust the cylinder delay time through the Applicator Delay menu. See “Applicator Delay Menu” on page 29.

The air cylinder regulator (CYLINDER valve) is used to regulate the air to the applicator cylinder. The regulator setting affects how quickly the applicator pad will extend (apply stroke) and return (return stroke) during the apply cycle. This adjustment determines the force with which the applicator pad will contact the product. If set too high, the applicator pad could contact the product with enough force to cause damage. If set too low, the applicator pad may not contact the product. The air pressure delivered for the apply stroke and the return stroke is equal.

Monitor the setting of the air cylinder regulator using the PRESSURE gauge.

## Air Jet Adjustment

The air jet adjustment (AIR JET) controls the air supply to the air jet tube. Air is forced out the air jet tube allowing the labels to properly transfer over the peel bar then to the applicator pad. If the adjustment is too low, the labels will not properly transfer from the printer to the applicator pad. If set too high, the label edge will be incorrectly positioned. The air jet is factory preset. Adjust the air jet pressure by turning the AIR JET control clockwise to increase the flow, counterclockwise to decrease the flow. See “Positioning The Air Jets” on page 19.

## Vacuum Adjustment

**NOTE:** You may also adjust the vacuum delay time through the Applicator Delay Menu. See “Applicator Delay Menu” on page 29.

The vacuum adjustment (VACUUM) controls the amount of air flow through the vacuum generator, thus determining the amount of vacuum holding the label onto the applicator pad. A weak vacuum will cause labels to fall off of the applicator pad prematurely. A vacuum that is too strong, however, can cause difficulty when transferring the label onto the applicator pad and the product. Vacuum is increased by rotating the valve clockwise and decreased by rotating the valve counterclockwise.

**NOTE:** To get a vacuum on every label, every hole on the applicator pad must be covered by the label surface.

Monitor the setting of the vacuum adjustment using the VACUUM gauge.

# Applicator Delay Menu

With the SLPA online, press the ↵ key to enter the Applicator Delay menu.

Press ↑ or ↓ to scroll through the submenus: Cycle Delay, Cylinder Extend, and Vacuum Delay. Press **+** or **–** to adjust the values. Press ↵ to set a new value.

Press the **Menu** key to place the SLPA back online. SAVING / DELAY TIMES will display briefly.

## Cycle Delay

Sets the length of time the product sensor detects the product until it applies the label.

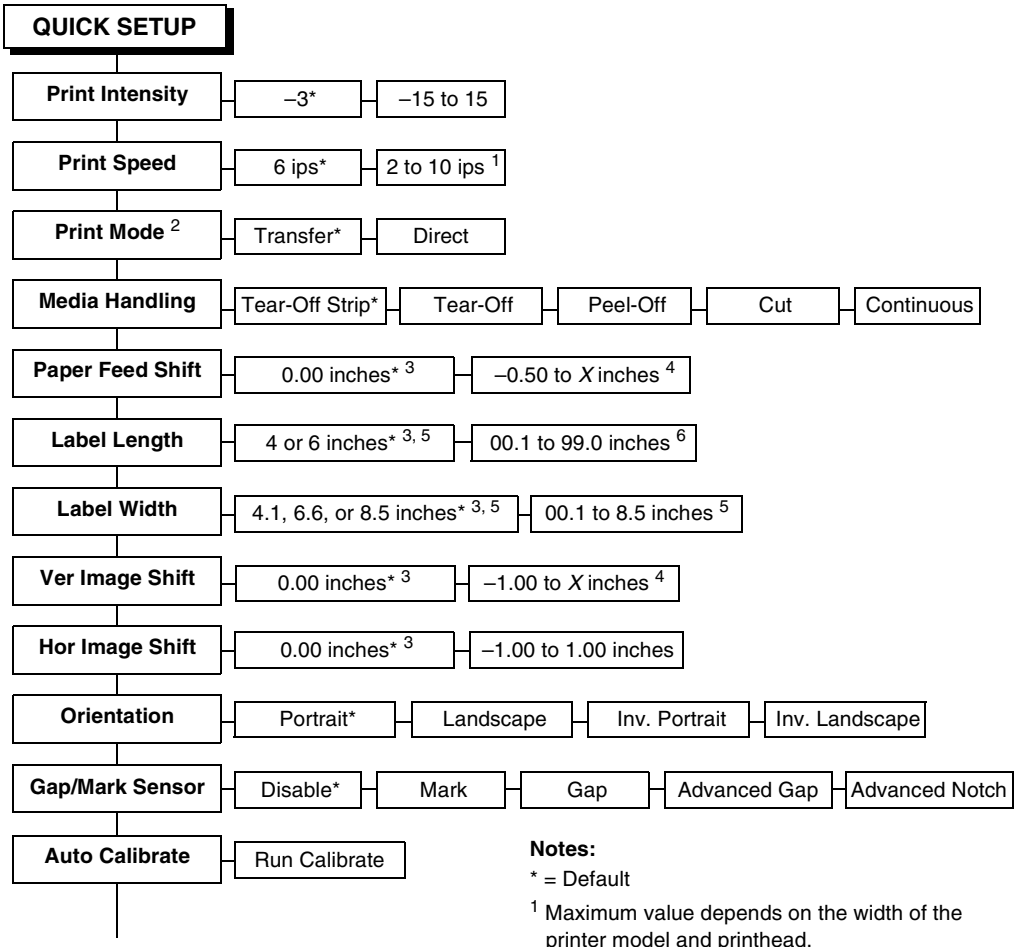
## Cylinder Extend

Sets the length of elapsed time from the beginning of the cylinder extension to its retraction.

## Dancer Time

Sets the length of time the dance stays down to prevent a failed label tag from being peeled.

# QUICK SETUP Menu




(cont. on next page)

**Notes:**

* = Default

[1] Maximum value depends on the width of the printer model and printhead.

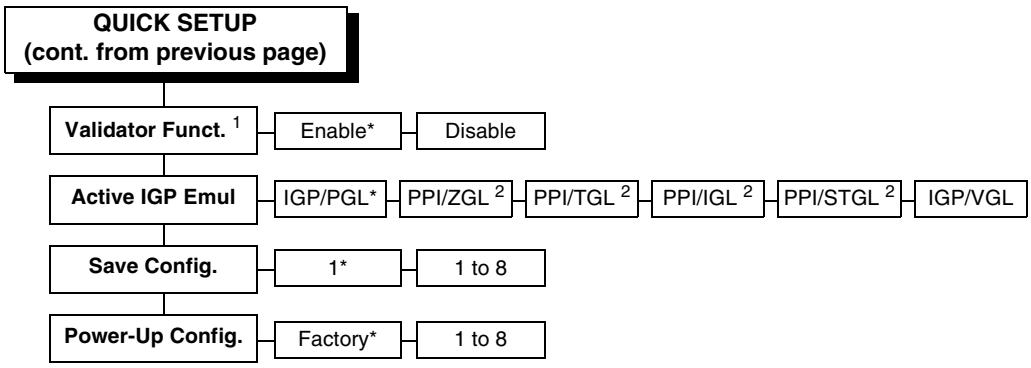
[2] Does not appear for direct thermal only printers.

[3] You can change the unit value from inches to millimeters under Units (in MEDIA CONTROL) See the *User's Manual* for information.

[4] Based on the current value setting for the Label Length menu, up to a maximum of 12.80 inches.

[5] Maximum value depends on the width of the printer model.

[6] Maximum value depends on model width and size of DRAM installed.




**NOTE:** Many QUICK SETUP menu items are available in other main menus. (Refer to the *User's Manual*.)

Changes made in the QUICK SETUP menu are updated in the other main menus, and vice versa.

## QUICK SETUP Menu Items

### Print Intensity

This menu item specifies the level of thermal energy from the printhead to be used for the type of media and ribbon installed.

Large numbers imply more heat (thermal energy) to be applied for each dot. This has a significant effect on print quality. The print intensity and speed must match the media and ribbon type to obtain the best possible print quality and barcode grades.

The range is –15 through +15. The default is –3.

### Print Speed

This menu item specifies the speed in inches per second (ips) at which the media passes through the printer while printing.

The range is 2 through 10 ips (in increments of 1 ips).

The default is 6 ips.

**NOTE:** The maximum print speed varies based on maximum printer width and dot per inch (dpi) resolution of the printhead installed (203 or 300 dpi).

## Print Mode

This menu item specifies the type of printing to be done.

- **Transfer**. Indicates thermal transfer printing (ribbon installed).
- **Direct**. Indicates direct thermal printing (no ribbon) and requires special heat sensitive media.

The default is Transfer, unless your printer is shipped as direct thermal only (no ribbon motors installed).

**NOTE:** The Print Mode menu item does not appear for direct thermal only printers.

## Media Handling

This menu item specifies how the printer will handle the media (labels or tag stock).

- **Tear-Off Strip**. Printer prints on the media and sends it out the front until the print buffer is empty, then positions the last label over the tear bar for removal.
- **Tear-Off**. After each label is printed, the printer positions the label over the tear bar and waits for you to tear off the label before printing the next one (on-demand printing). A “Remove Label” message displays to remind you to remove the label before the next one can be printed.
- **Peel-Off**. When the optional rewinder is installed, prints and peels die cut labels from the liner without assistance. The printer waits for you to remove the label before printing the next one (on-demand printing). The label liner is rewound on the internal rewinder. A “Remove Label” message displays to remind you to remove the label before the next one can be printed.
- **Cut**. When the optional media cutter is installed, it automatically cuts media after each label is printed or can cut after a specified number of labels have been printed using a software cut command. It cuts continuous roll paper, labels, or tag stock.

**NOTE:** The Cut option is hidden when RFID Reader is set to Enable in the RFID CONTROL menu.

- **Continuous**. Printer prints on the media and sends it out the front.

The default is Tear-Off Strip.

## Paper Feed Shift

This menu item represents the distance to advance a label (+ shift) or pull back (– shift) when the Tear-Off Strip, Tear-Off, Peel-Off, or Cut Media Handling option is enabled. The allowable range is –0.50 inches to the current Label Length value setting up to a maximum of 12.80 inches in 0.01 inch increments.

The default is 0.00 inches.

## Label Length

In most applications, the user-selected Label Length will match the physical label length. Physical label length is the actual label length of the media installed. Following is a list of different media types:

- Die cut labels: measurable length of the removable label (leading edge to trailing edge). This does not include the liner material or gap.
- Tag stock with notches or holes: measurable length from the trailing edge of one notch or hole to the trailing edge of the next notch or hole.
- Tag stock with black marks on the underside: measurable length from the leading edge of one black mark to the leading edge of the next black mark.
- Continuous media (no label length indicators): measurable length should be within $\pm$ 1 to 2% of the Label Length value entered.

## Label Width

This menu item specifies the label width. The allowable range in inches is 00.1 to the maximum print width of the printer. The allowable range in millimeters is 2.5 to the maximum width of the printer.

## Ver Image Shift

This menu item specifies the amount to shift an image up (–) or down (+) for precise positioning on the label. The actual height of the image is not affected by this parameter. The allowable range is –1.00 inches to the current Label Length value setting, up to a maximum of 12.80 inches, in 0.01 inch increments.

The default value is 0.00 inches.

## Hor Image Shift

This menu item specifies the amount to shift an image left (–) or right (+) for precise positioning on the label. The actual width of the image is not affected by this parameter. The allowable range is
–1.00 to +1.00 inches in 0.01 inch increments.

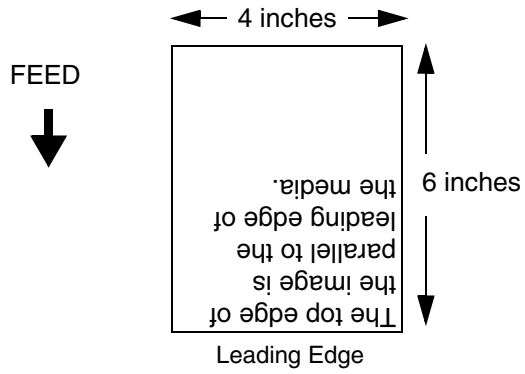
The default value is 0.00 inches.

## Orientation

Specifies the image orientation to be used when printing the label.

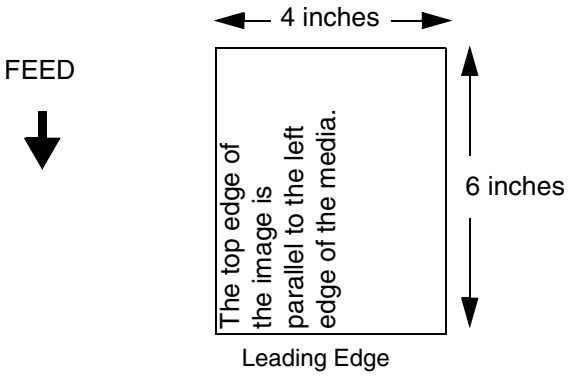
- **Portrait**. The default. Portrait refers to vertical page orientation, where the height of a page is greater than its width. The top edge of the image is parallel to the leading edge of the media. The following example is viewed from the front of the printer.

**NOTE:** Portrait orientation applies to PGL® and VGL emulations. This is regarded as Inverse Portrait using PPI/ZGL.



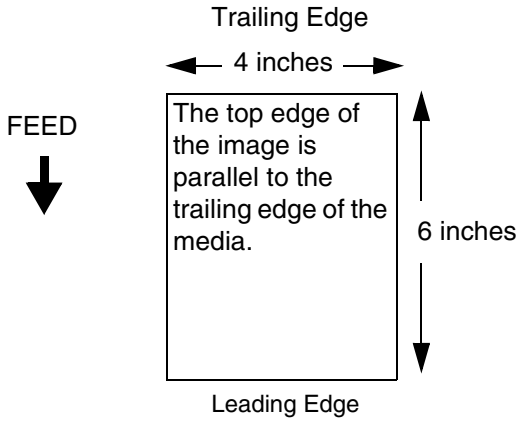

- **Landscape**. Landscape refers to horizontal orientation, where the width of a page is greater than its height. The top edge of the image is parallel to the left edge of the media. The following example is viewed from the front of the printer.

**NOTE:** Landscape orientation applies to PGL and VGL emulations. This is regarded as Inverse Landscape using PPI/ZGL.



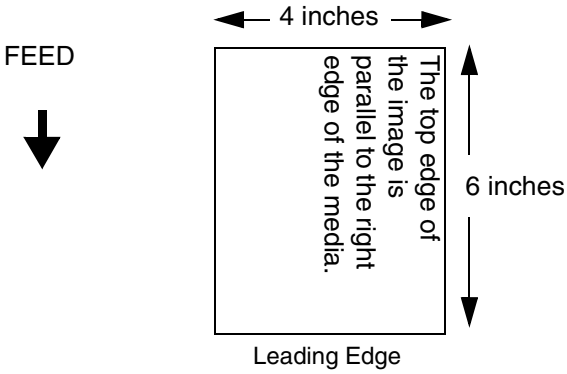

- **Inv. Portrait**. Inverse Portrait refers to vertical page orientation, where the height of a page is greater than its width. The top edge of the image is parallel to the trailing edge of the media. The following example is viewed from the front of the printer.

**NOTE:** Inverse Portrait orientation applies to PGL and VGL emulations. This is regarded as Portrait using PPI/ZGL.




- **Inv. Landscape**. Inverse Landscape refers to horizontal orientation, where the width of a page is greater than its height. The top edge of the image is parallel to the right edge of the media. The following example is viewed from the front of the printer.

**NOTE:** Inverse Landscape orientation applies to PGL and VGL emulations. This is regarded as Landscape using PPI/ZGL.




## Gap/Mark Sensor

Specifies the sensor type needed for detecting the top-of-form position on media with label length indicators (gaps, notches, holes, or black marks).

- **Disable**. Select when using media with no label length indicators (no gaps, notches, holes, or black marks), or when you want the printer to ignore all existing label length indicators on the installed media.

**NOTE:** When you select Disable, the length of each label is based on the Label Length value entered.

- **Mark**. Select when using media that has horizontal black marks located on the underside of the label liner or tag stock. The top-of-form position is the leading edge of the black mark.

- **Gap**. Select when using media with a liner space between die cut labels or when using tag stock with notches or holes as label length indicators on white background media. The top-of-form position is the leading edge of the die cut label (trailing edge of the gap, notch, or hole).
- **Advanced Gap**. Select when using media that has liner gaps between die cut labels with black background. The top-of-form position is the leading edge of the die cut label (trailing edge of the gap, notch, or hole).
- **Advanced Notch**. Select when using media with notches or holes that interrupt a black vertical line on the underside of the media. The top-of-form position is the leading edge of the die cut label (trailing edge of the gap, notch, or hole).

The default is Disable.

### Gap Sensing for Smart Labels

If your smart labels have a horizontal black bar located within each liner gap, set Gap/Mark Sensor to Gap. When you examine a Media Profile printout, you will see that the black bar provides a much higher amplitude pulse than that of any antenna, which will provide excellent top-of-form reliability.

If your smart labels have no horizontal black bar located within each liner gap, you must choose between Gap and Advanced Gap sensing. Run an Auto Calibrate (page 21), then make a Media Profile printout. Choose the sensing type that provides the highest liner gap amplitude compared to the amplitude of the antenna line. If you select Gap sensing, and then see that the Media Profile printout shows very little amplitude difference for the liner gap compared to the amplitude of the antenna line, select Advanced Gap sensing instead.

Advanced Gap sensing (often called transmissive) uses an LED array for the upper sensor and a receiver in the lower sensor to detect infrared light through the liner gap. This sensing has the advantage of detecting the liner gap as a positive amplitude pulse and the antenna line as a smaller, negative pulse.

## Save Config.

Allows you to save up to eight unique configurations to meet different print job requirements. This eliminates the need to change the parameter settings for each new job. The configurations are stored in memory and will not be lost if you turn off the printer.

The default is 1.

## Power-Up Config.

You can specify the Factory configuration or any one of the eight possible saved configurations as the power-up configuration.

The default is Factory.

## Saving The Configuration

After customizing your settings, save them as a configuration:

1. Press the ⋮☰ key to enter the QUICK SETUP menu.
2. Press ↑ or ↓ until Save Config. / 1* displays.
3. If necessary, press **+** or **–** until the desired configuration displays.
4. Press ↵. Saving Configuration displays briefly.

**NOTE:** You can specify a 15-character name for your configuration. See "Name Config (1-8)" in the *User's Manual*.

5. If necessary, set your newly saved configuration as the Power-Up configuration. See "Selecting The Power-Up Configuration" below.

## Selecting The Power-Up Configuration

To have a saved configuration automatically loaded when you power up the printer, set the saved configuration as the Power-Up configuration:

1. Press the ⋮☰ key to enter the QUICK SETUP menu.
2. Press ↑ or ↓ until Power-Up Config. / Factory* displays.
3. Press **+** or **–** until the desired configuration displays.
4. Press ↵. An asterisk (*) displays next to the selected configuration.

## Loading A Saved Configuration

To use a different configuration, load a saved configuration:

1. Press the **PAUSE** key until OFFLINE displays.
2. Press the **JOB SELECT** key until the desired configuration displays.
3. Press ↵. Loading Saved / Configuration displays.

**WARNING** **Prior to any maintenance procedures, be sure to power off the SLPA and disconnect the power cord and air supply hoses unless otherwise indicated.**

**WARNING** **Maintenance operation should only be performed by a trained and qualified technician.**

# 3 *Printing And Applying Labels*

## Printing And Applying Labels

**WARNING** **Printronix has provided the necessary guards and warnings within the confines of the SLPA, but cannot anticipate each customer's individual installation and operational environments. It is the customer's responsibility to provide in-house safety guards to provide adequate worker safety for their respective production settings.**

**WARNING** **An input signal from the product sensor will activate the SLPA when the SLPA is online unless it is taken offline.**

This section provides a brief overview of the print and apply process as well as suggested steps preliminary to printing.

During power-up, the SLPA performs a self-diagnostic test and indicates if the system has any existing fault or warning conditions.

Once the SLPA is online and configured (if necessary) for the desired application, take the SLPA offline before downloading labels from the host into the buffer. This will prevent any chance of having the system cycle before you are prepared to begin print operations.

For information on the proper setup of the SLPA, see "Setup Procedures" on page 7.

### Label Application (Positioning) Adjustments

To apply the labels at the desired location on the product:

1. Mount the product sensor on the side of the conveyor, determining if the sensor should be mounted upstream from the applicator pad (product passes sensor before pad) or downstream from the applicator pad (product passes pad before sensor), depending on the application.

**IMPORTANT** **Mount the product sensor as close as possible to the applicator pad. If the spacing between the two is too wide, it may be to difficult to set the product sensor delay to position the label properly.**

**It is easier to position the label onto the product using the sensor delay when the sensor is mounted upstream from the applicator pad.**

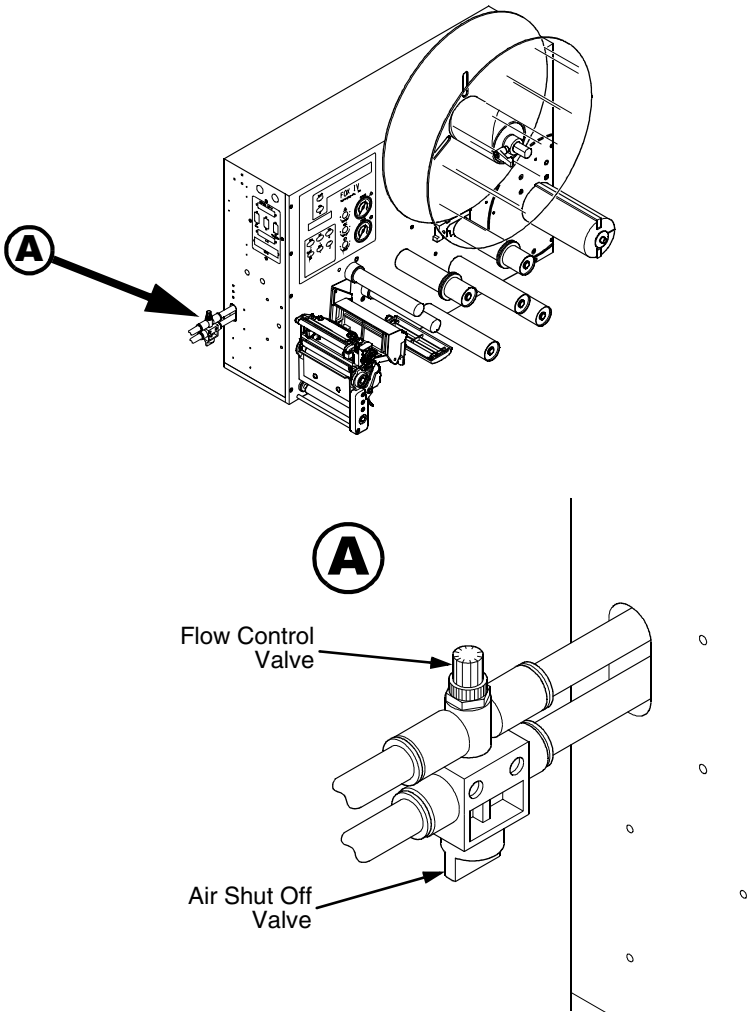



**Figure 14. Return Speed Control Valve**

2. Use the flow control valve (located on the air cylinder) to adjust the speed of the return stroke. (Figure 14.) Increase the speed by rotating the valve counterclockwise and decrease the speed by rotating the valve clockwise.
3. Set the Cycle Delay time for the product sensor using the Applicator Delay menu. (See “Applicator Delay Menu” on page 95.)

**NOTE:** The Cycle Delay setting determines the amount of delay from the time that the product sensor detects the product to the time that the applicator pad is online. Since the label prints first, be sure to account for printing time. The longer the time entered, the farther back (closer to the trailing edge) the label will be placed onto the product. Conversely, if this value is set to zero, for example, the applicator pad will launch as soon as the label is printed.

Begin by setting the Cylinder Extend time to 100 msec to begin this adjustment procedure. (See “Applicator Delay Menu” on page 95.)

4. Place the product sample on the conveyor and allow it move past the SLPA. The label that is applied will be used as a reference point for positioning the rest of the labels.
5. To move the label toward the leading edge of the product, decrease the Cycle Delay time. Begin by decreasing the time in intervals of 10 msec, then fine tune in intervals 1 msec. Repeat this procedure until the label is positioned where desired.
6. To move the label toward the trailing edge of the product, increase the Cycle Delay time. Begin by increasing the time in intervals of 10 msec, then fine tune in intervals 1 msec. Repeat this procedure until the label is positioned where desired.

If the label still cannot be positioned properly, remount the product sensor as follows:

1. To position the label toward the leading edge of the product, move the product sensor upstream.
2. To position the label toward the trailing edge of the product, move the product sensor downstream.
3. Once the label is positioned in the desired location on the product, secure the product sensor onto the conveyor.

If the SLPA cycles when a product is not in position, a background object may be activating the sensor. To correct this problem, reposition the product sensor or adjust the product sensor. See “Product Sensor” on page 197 for more information on product sensor adjustments.

**WARNING** **Interrupting the signal on the product sensor will activate the SLPA. Make certain that the path of the applicator path is clear.**

## Adjusting The Cylinder Extend Time

**NOTE:** Remember that the supply air pressure to the SLPA should be 80 to 100 psi (550 to 690 kPa).

1. Set the Cylinder Extend time using the Applicator Delay menu. (“Applicator Delay Menu” on page 29.)

**NOTE:** The amount of time the applicator pad is energized through the cylinder extend time, determines how far the pad travels during application of the label. The longer the time entered, the farther the distance the applicator pad travels. If this value is set to zero, for example, the applicator pad will not launch.

Set the Cylinder Extend time to 110 msec to begin this adjustment procedure.

- If the applicator pad does not contact the product (if the stroke time is not long enough):

  Increase the Cylinder Extend time using the Applicator Delay menu. Begin by increasing the time in intervals of 6 msec, then fine tune in increments of 1 msec. A higher setting allows the applicator pad more time to extend toward the product, therefore, increasing the stroke length.

- If the applicator pad remains on the product for too long (if the stroke time is too long):

  Decrease the Cylinder Extend time using the Applicator Delay menu. Begin by increasing the time in intervals of 6 msec, then fine tune in increments of 1 msec. A lower setting decreases the amount of time that the applicator pad is extended (in contact with the product).

## The Print And Apply Process

Before labels can be printed and applied:

1. Ensure that the protective guards are properly secured and that materials are clear of the applicator pad and printhead assembly.
2. Ensure that you have input time values for Cycle Delay, Cylinder Extend, and Vacuum Delay (if applicable). (See “Applicator Delay Menu” on page 95.)

**NOTE:** The applicator will not move unless a value is entered for Cylinder Extend.

3. Press the **Pause** key on the control panel to enable the product sensor, or to allow remote signals received through the interface package option to activate the SLPA.

**NOTE:** You may wish to cycle several labels onto product samples, to ensure proper operation of the SLPA.

# 4 *Preventive Maintenance And Cleaning*

**WARNING** **Prior to any maintenance procedures, be sure to power off the SLPA and disconnect the power cord and air supply hoses unless otherwise indicated.**

**WARNING** **Maintenance operation should only be performed by a trained and qualified technician.**

## Cleaning

### General Cleaning

During normal operation, media debris may accumulate around the printer mechanism. Clean the printhead area with the Printronix cleaning kit. Use a soft bristle brush or vacuum cleaner to dust the interior.

**CAUTION** **Never use metallic tools to clean the interior of the SLPA.**

Dust the exterior of the SLPA regularly. It is preferable to use a Printronix cleaning kit to clean the exterior of the SLPA, or a soft cloth dampened with isopropyl alcohol.

**CAUTION** **Do not use abrasive cleaners or solvents to clean either the exterior or interior of the SLPA.**

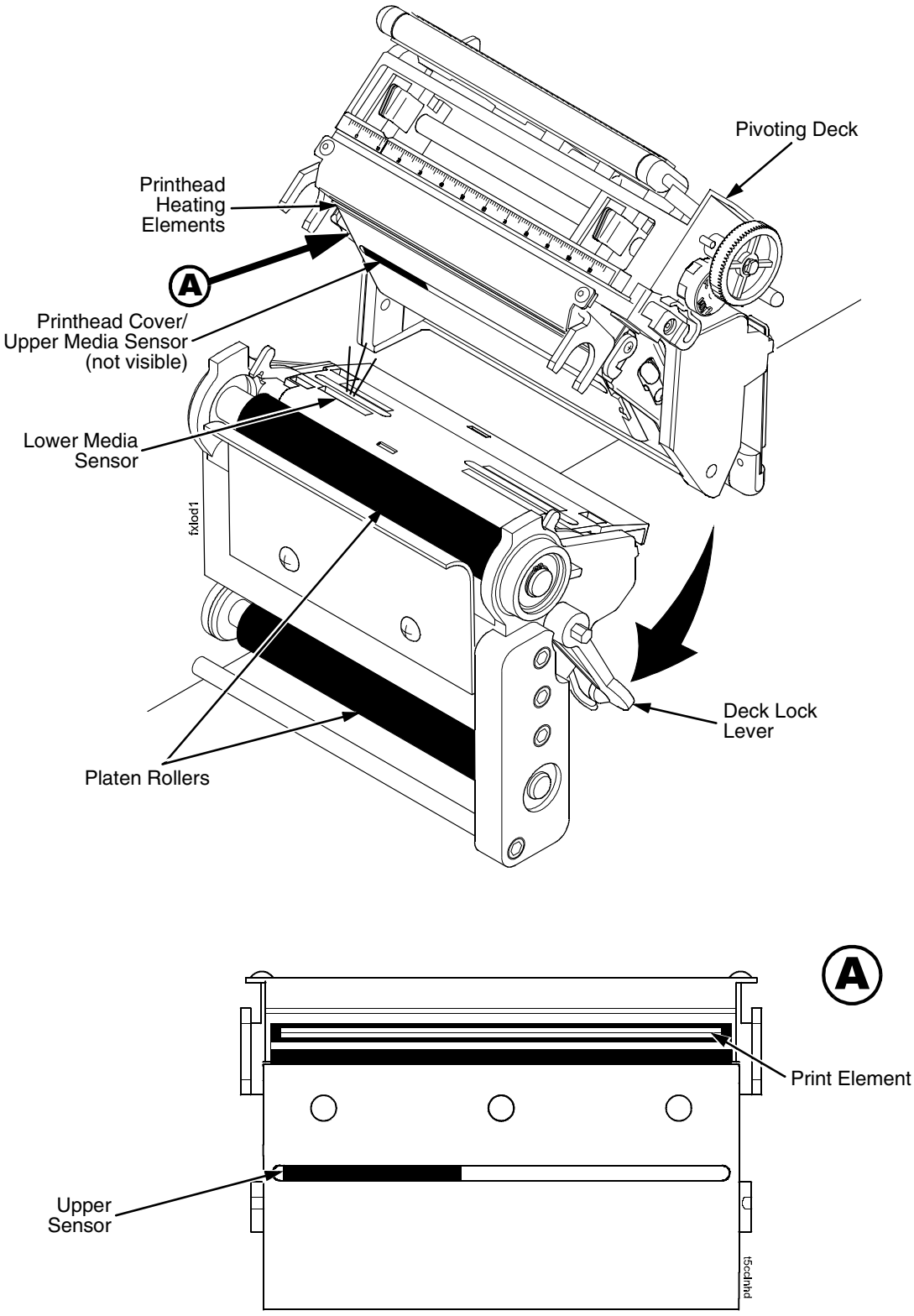



**Figure 15. Cleaning the Printhead**

# Cleaning The Printhead, Platen Roller And Media Sensors

## Printhead Cleaning

As you use your SLPA, the printhead may become dirty which can result in poor print quality. Clean the printhead each time you install new ribbon (thermal transfer print mode) or install new media (direct thermal print mode). Clean the printhead with the cleaning pen supplied with the SLPA or with a cotton swab moistened with alcohol.

By keeping your printhead clean, you will help maintain its life.

## Platen Rollers Cleaning

Media dust and adhesive residue on the platen roller can degrade print quality and cause voids in your label image. Clean the platen rollers at the same time as the printhead. See Figure 15 on page 44.

Use a small amount of isopropyl alcohol on a cloth to clean the platen roller. With the pivoting deck up the platen roller can be rotated forward by hand to access and clean its entire surface area.

## Media Sensor Cleaning

The Upper and Lower Media Sensors should be cleaned to ensure reliable TOF and paper out sensing. Clean the media sensors at the same time as the printhead.

The Upper Media Sensor (located in the horizontal slot of the printhead cover) can be wiped clean using a soft cloth. The Lower Media Sensor, easily seen by its visible red light, is located in the horizontal slot of the media guard. Remove media dust by vacuuming or blowing air across the lens cover.

# Cleaning Procedure

1. Set the power switch to O (Off) and let the SLPA cool for 5 minutes.
2. Rotate the deck lock lever clockwise to open the pivoting deck and remove any media and ribbon (if loaded) to gain access to the printhead assembly heating element area.
3. Gently rub the felt tip of the cleaning pen or a cotton swab moistened with isopropyl alcohol across the printhead heating elements (light brown area).
4. Allow the printhead to dry for one minute before reloading the media and ribbon.
5. Clean the platen roller.
6. Clean the upper and lower media sensors.

**CAUTION** **Do not use sharp objects on the print surface of the printhead. Be aware that the edges of the printhead may be sharp. Keep fingers away from the edges.**

## Cleaning The Applicator Pad

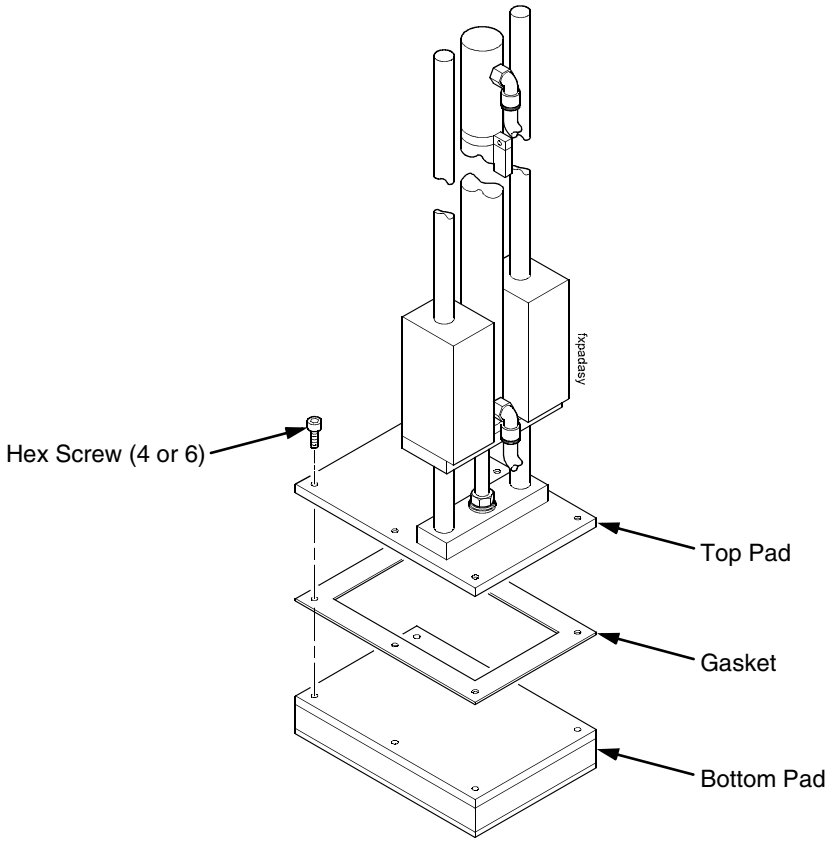



**Figure 16. The Applicator Pad Assembly**

The applicator pad must be clean to ensure that labels will properly dispense. Use isopropyl alcohol and a clean soft cloth. No other cleaning agent should be used to clean the applicator pad.

Perform a maintenance check of the applicator pad vacuum chamber approximately every three months, at minimum, using the following procedures:

1. Remove the four (or six) hex screws found at the top of the applicator pad, allowing the bottom pad to drop downward.
2. Check the holes of the applicator pad to make certain that there are no large particles of dirt or dust clogging any of the holes.
3. Reassemble, making certain that the gasket (foam tape) is seated properly before replacing the bottom pad.
4. Check for leaks by covering all the holes in the applicator pad with a piece of paper. If there is a leak, the vacuum will not retain the paper on underside of the applicator. Sealing compound may be used to isolate leaks, but must dry thoroughly before the applicator may be used.

## Cleaning/Replacing The Vacuum Generator

Air flow through the vacuum generator creates the vacuum for the applicator pad, allowing the label to be held in place. If the label is not retained on the pad and the pad has already been inspected for leaks, then the vacuum generator should be cleaned as follows.

1. Locate the vacuum generator inside the electrical enclosure, on the applicator side of the SLPA (see Figure 17). The vacuum generator housing will mark the pressure connection with a P and the vacuum connection with a V. Label the respective tubes before disconnecting them, to ensure proper reassembly.

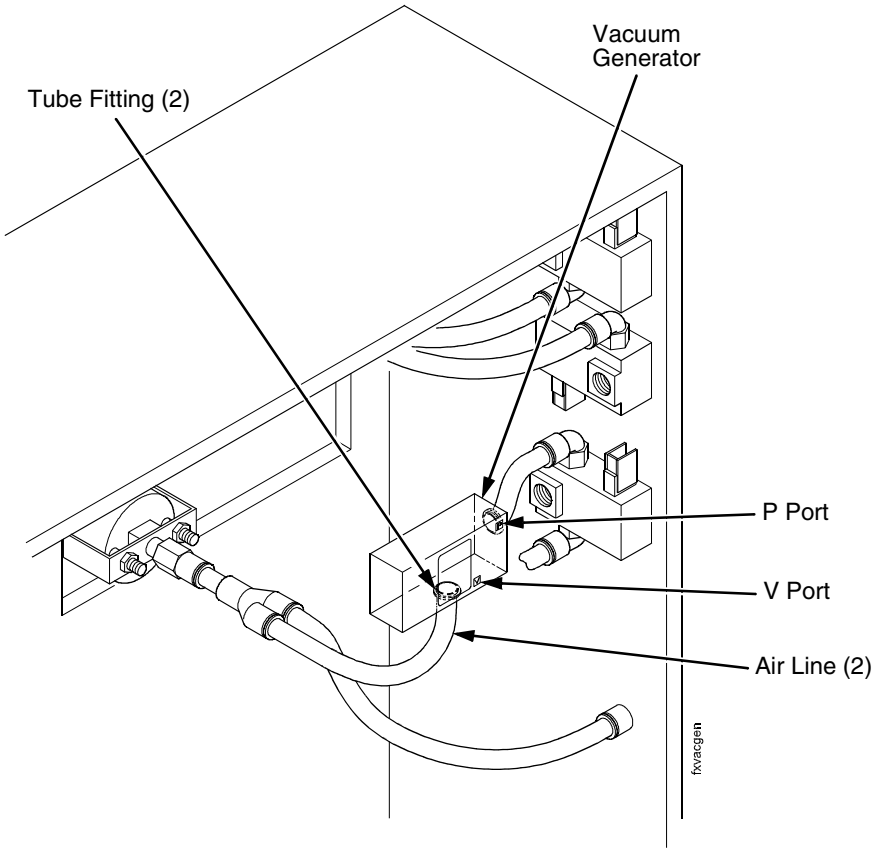



**Figure 17. Vacuum Generator**

2. Remove the two air lines attached to the vacuum generator by pushing in on the tube fitting (red collar) to release tension on the flexible tubing. Hold the tube fitting down while pulling the tube free.
3. Carefully wipe inside the tube fittings, using a small cotton swab moistened with alcohol.
4. Using a low pressure air nozzle (90 psi. max. pressure) blow air through the V port, then the P port using three - 2 second bursts.
5. Reconnect the vacuum generator and test the applicator pad's vacuum as outlined in "Cleaning The Applicator Pad" on page 46.

6. Check the inline vaccum filter located between the Tamp and SLPA. Replace if necessary.
7. If the vacuum has not improved and all pneumatic assemblies and tubing are secure, replace the vacuum generator being careful to connect the air lines to the proper fitting.

## Cleaning Schedule

**WARNING** **All cleaning of printer/applicator parts should be done with isopropyl alcohol and a non-metallic tool. Using any metallic tools can damage machine parts, particularly the printhead and surrounding parts.**

What follows is a guide for general day-to-day cleaning of the SLPA parts. To keep the machine running smoothly, adhere to the following guidelines:

**Table 2. General Cleaning Schedule**

| Items To Be Serviced | Frequency | How To Clean |
|---|---|---|
| Platen Rollers | 8 Hours or end of shift | Wipe with soft, lint-free cloth moistened with isopropyl alcohol. |
| Applicator Pad Surface | 8 Hours or end of shift | Wipe with soft, lint-free cloth moistened with isopropyl alcohol. |
| Dynamic Brake | 8 Hours or end of shift | Wipe with soft, lint-free cloth moistened with isopropyl alcohol. |
| Air Jets | Daily | Blow tube clear with filtering air if needed. Wipe with soft, lint-free cloth moistened with isopropyl alcohol. See “Positioning The Air Jets” on page 42. |
| Air Filter/Regulator | Check daily or as needed | Replace filter. Wipe parts with clean cloth moistened with isopropyl alcohol. |
| Printhead Elements | Weekly or as needed | Wipe with a Printronix printhead cleaning pen or a cotton swab moistened with isopropyl alcohol.<br>See Figure 15 on page 44. Printhead cleaning needs depend upon the print mode which is being used. |

# System Adjustments

This portion of the manual covers all general aspects of printhead and system adjustment and replacement.

## Printhead Pressure Adjustment

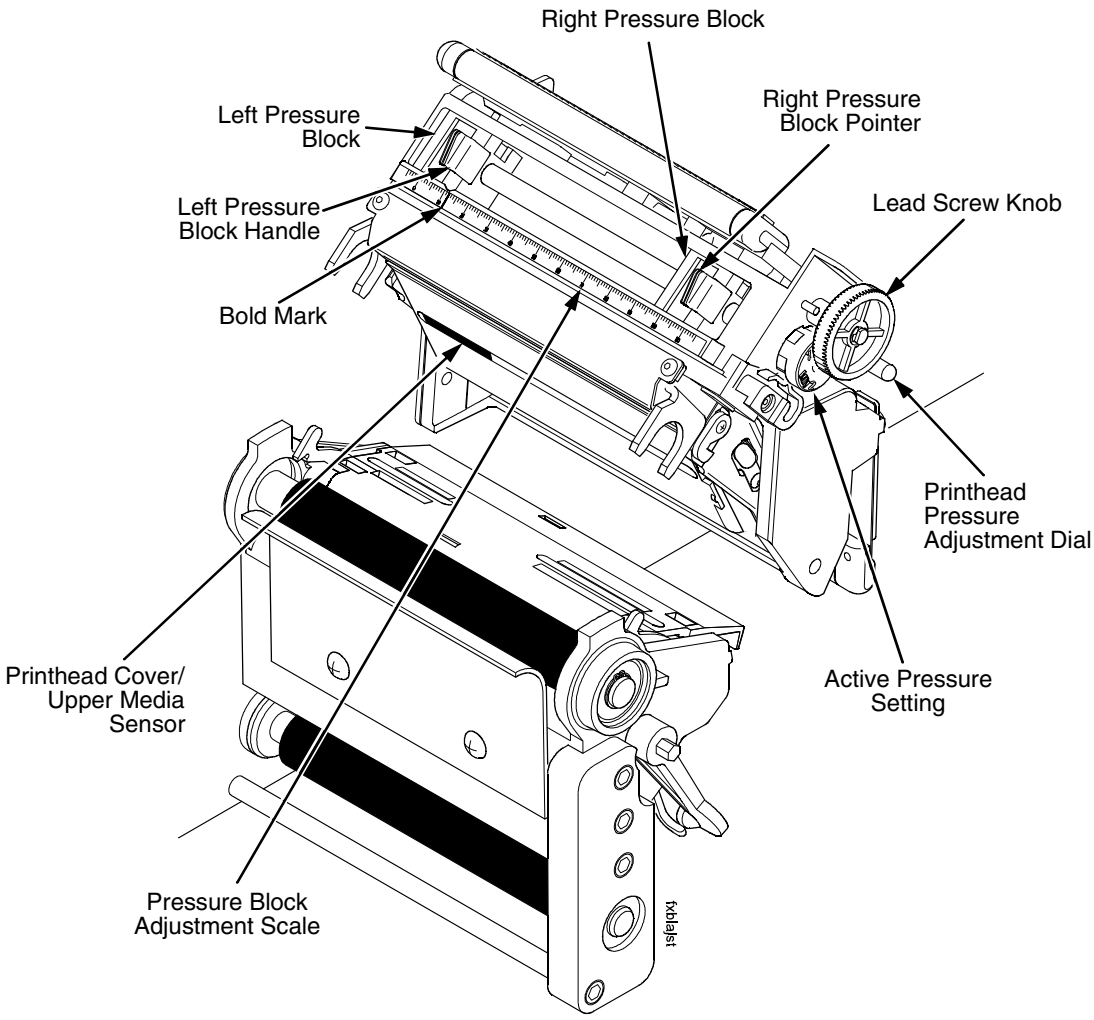



**Figure 18. Printhead Pressure Adjustment**

Adjust the printhead pressure to the setting of 4. The value shown at the bottom of the dial is the active pressure setting.

## Printhead Pressure Block Adjustments

These adjustments to the left and right pressure blocks are typically made when the print quality is not even across the surface of the label, and may be necessary when replacing the printhead.

**NOTE:** Make no changes or adjustments while the SLPA is in operation.

### Left Pressure Block

Manually adjust the left pressure block so its handle is aligned with the bold mark on the pressure block adjustment scale.

### Right Pressure Blocks

Use the lead screw knob to position the right pressure block with its pointer near the right edge of the media in use.

## Positioning The Media Sensors

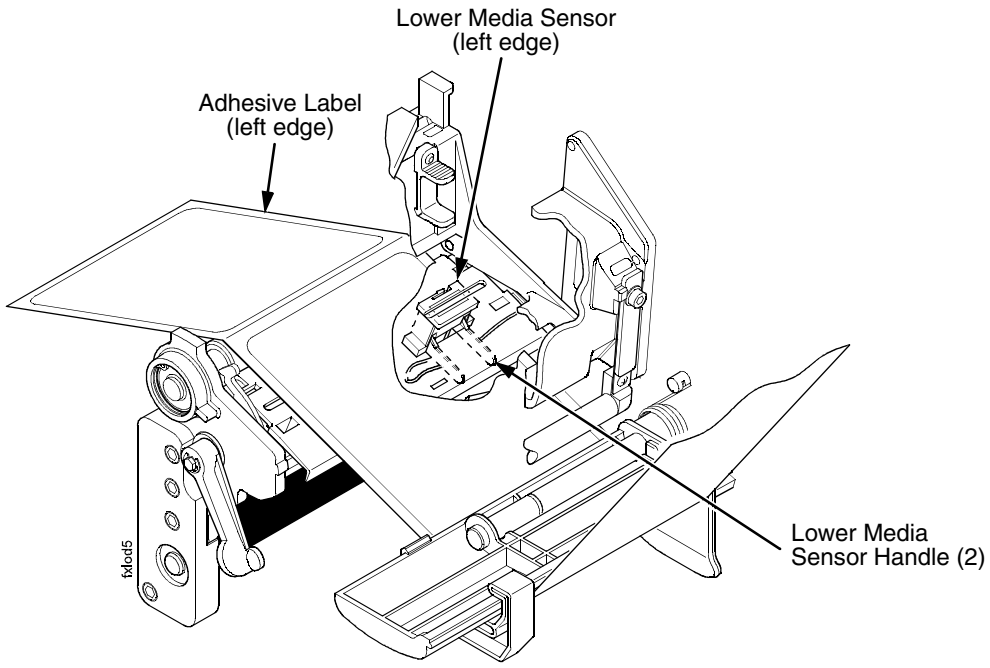



**Figure 19. Adjusting the Media Sensors**

The SLPA is equipped with upper and lower media sensors that detect the top-of-form position on media with label length indicators (black marks, gaps, notches, or holes). These media sensors also detect Paper Out conditions.

Use the handles on the lower media sensor to horizontally position it so that the left edge of the sensor's visible red LED is aligned under the left edge of the adhesive label of the installed media.

The upper media sensor, located in the slot under the printhead cover (see Figure 18 on page 49), should be located directly over the lower media sensor.

The lower media sensor should not be placed in the path of media features that could cause false gap detection or paper out faults. Such features are dark pre-printing, rounded die cut label corners, and extraneous cut-outs.

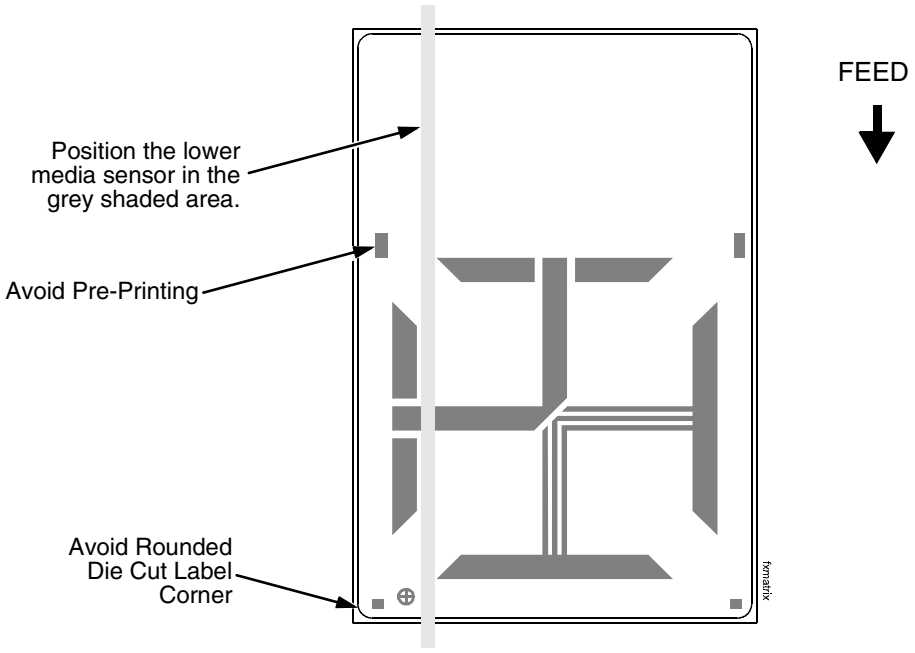



**Figure 20. Positioning the Lower Media Sensor in Relation to the Label**

## Sensing Different Media Types

The SLPA's media sensors can detect the different types of label length indicators on a large variety of media types. This requires changes to the Gap/Mark Sensor menu item in the CALIBRATE CTRL menu:

1. Press the **Menu** key to take the SLPA offline and into Menu mode.
2. Press ↓ and ↵ together until ENTER SWITCH UNLOCKED displays.
3. Press the **Menu** key until CALIBRATE CTRL displays.
4. Press ↓ until Gap/Mark Sensor / Disable* (the currently enabled option) displays.
5. Press **+** or **–** until the option that matches the type of label length indicators on the installed media displays:
   - **Disable**. The default. Select when using media with no label length indicators (no black marks, gaps, notches, or holes) or when you want the SLPA to ignore all existing label length indicators on the installed media. See instructions below.

**NOTE:** When you select Disable, the length of each label is based on the Label Length value entered in the QUICK SETUP menu or the value sent via host software.

   - **Mark**. Select when using media that has horizontal black marks located on the underside of the label liner or tag stock. See page 53.
   - **Gap**. Select when using media with a liner space between die cut labels or when using tag stock with notches or holes as label length indicators on white background media. See page 54.
   - **Advanced Gap**. Select when using media that has liner gaps between die cut labels with a black background. See page 55.
   - **Advanced Notch**. Select when using media with notches or holes that interrupt a black vertical line on the underside of the media. See page 56.

**NOTE:** If the SLPA detects a false paper out message when you change from Advanced Gap or Advanced Notch to Gap or Mark sensing or vice versa, press the **Pause** key and run Auto Calibrate (page 57).

6. Press ↵ to enable the displayed option. An asterisk (*) appears next to the selection.
7. Press **Pause** until OFFLINE displays.
8. Review "Calibrating The Media Sensors" on page 57.
9. Perform the Auto Calibrate procedure on page 57.

### Sensing Media with No Label Length Indicators (Disable)

1. When using media without label length indicators (no marks, gaps, notches, or holes) or when you want to ignore all existing length indicators, place the lower sensor in the center of the media so that it can detect a paper out condition. Place the upper sensor above it.
2. Set Gap/Mark Sensor to Disable in CALIBRATE CTRL menu. See "Sensing Different Media Types" on page 52.
3. Perform the Auto Calibrate procedure on page 57.

## Sensing Media with Horizontal Black Marks (Mark)

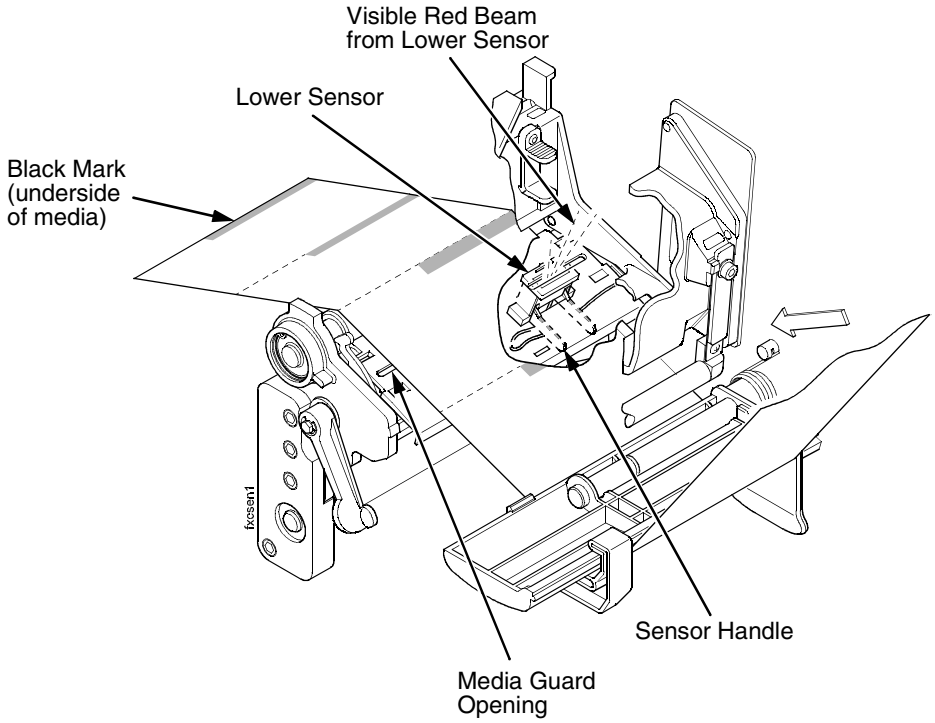



**Figure 21. Media with Horizontal Black Marks**

Position the lower media sensor for detecting horizontal black marks located on the underside of media.

1. Check the position of the sensor by looking through the long, narrow opening in the media guard. Use the visible red light emitting from the lower sensor as a reference pointer.
2. Use the sensor handle to manually position the sensor as close as possible to the center of the black mark on the media.
3. Set Gap/Mark Sensor to Mark in the CALIBRATE CTRL menu. See “Sensing Different Media Types” on page 52.
4. Perform the Auto Calibrate procedure on page 57.

## Sensing Media with Gaps, Notches, or Holes (Gap)

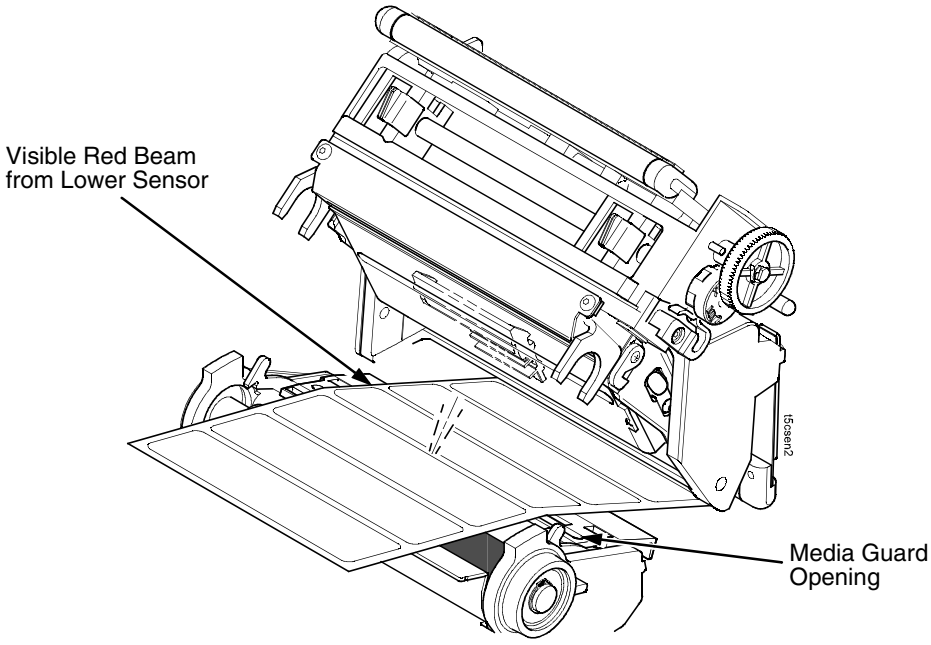



**Figure 22. Media with Gaps, Notches, or Holes**

Position the lower media sensor for detecting gaps, notches, or holes in media with a white background. Place the upper sensor above the lower sensor to provide a consistent background.

1. Position the lower sensor directly under the center of the gap, notch, or hole.
2. Check the position of the lower sensor by looking through the long, narrow opening in the media guard. Use the visible red light emitting from the lower sensor as a reference pointer.
3. Use the sensor handle to manually position the sensor to the center of the gap, notch, or hole in the media.
4. Set Gap/Mark Sensor to Gap in the CALIBRATE CTRL menu. See “Sensing Different Media Types” on page 52.
5. Perform the Auto Calibrate procedure on page 57.

## Sensing Media with Dark Background Labels with Gaps (Advanced Gap)

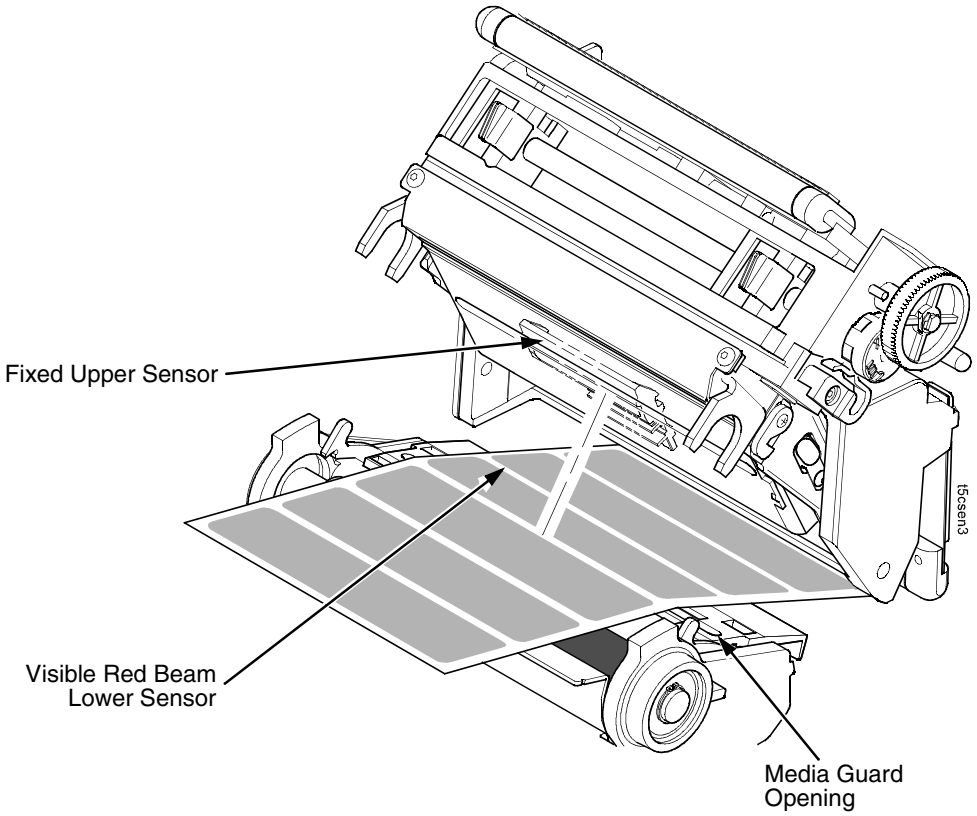



**Figure 23. Dark Background Media with Gaps**

**NOTE:** Ribbon is not displayed in this illustration. The upper and lower sensors are designed to function with or without ribbon installed.

The upper sensor and lower sensor are used together to detect liner gaps between die cut labels that have a black or dark background on white or clear liner.

1. Position the lower sensor so that the left edge of the beam is slightly to the right of the left edge of the die cut label directly under the center of the gap.
2. Check the position of the lower sensor by looking through the long, narrow opening in the media guard. Use the visible red light emitting from the lower sensor as a reference pointer.
3. Set Gap/Mark Sensor to Advanced Gap in the CALIBRATE CTRL menu. See “Sensing Different Media Types” on page 52.
4. Perform the Auto Calibrate procedure on page 57.

## Sensing Dark Background Media with Notches or Holes (Advanced Notch)

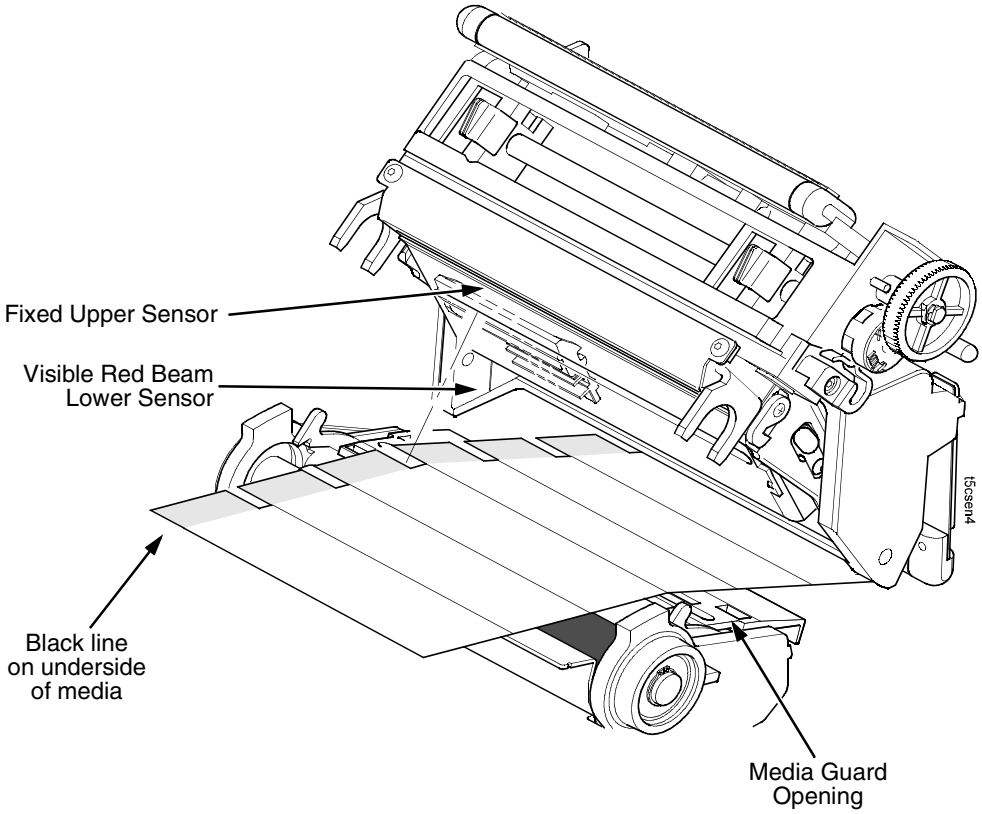



**Figure 24. Dark Background Media with Notches or Holes**

**NOTE:** Ribbon is not displayed in this illustration. The upper and lower sensors are designed to function with or without ribbon installed.

The upper sensor and lower sensor are used together to detect notches or holes in media with a black or dark underside. This combination can be found on tag stock that has a black vertical line along one edge on the underside of the label, interrupted by a notch or hole used as the label length indicator.

1. Position the lower sensor so that the left edge of the beam is slightly to the right of the left edge of the die cut label directly under the center of the notch or hole.
2. Check the position of the lower sensor by looking through the long, narrow opening in the media guard. Use the visible red light emitting from the lower sensor as a reference pointer.
3. Set Gap/Mark Sensor to Advanced Notch in the CALIBRATE CTRL menu. See “Sensing Different Media Types” on page 52.
4. Perform the Auto Calibrate procedure on page 57.

# Calibrating The Media Sensors

Due to manufacturing differences in media and ribbon, the media sensors may have difficulty differentiating between the label and the liner or the label and the black mark. When this occurs, the SLPA may intermittently skip a label or display a fault message such as GAP NOT DETECTED / See Manual or PAPER OUT / Load Paper.

Media sensor sensitivity and reliability can be improved by changing the Gap/Mark Threshold and/or Paper Out Threshold values. You can change these values automatically by performing the Auto Calibrate or Manual Calibrate procedure in the CALIBRATE CTRL menu or change them manually by entering your own Gap/Mark Threshold or Paper Out Threshold values. (The changes take effect immediately within the current configuration menu.)

Auto or Manual Calibrate is completed successfully when the displayed Sensed Distance value correctly matches that of the installed media. When Gap is selected, the Sensed Distance value should match the length from the trailing edge of one gap to the trailing edge of the next gap (or one label + one gap). When Mark is selected, the Sensed Distance value should match the length from the leading edge of one black mark to the leading edge of the next black mark.

When you have completed Auto or Manual Calibrate, you can verify that the new values are correct by pressing the Feed key several times. Each time you press Feed, media advances one label and stops at the correct Top-of-Form position of the next label.

Once you confirm the correct values, save them to the desired configuration menu before powering off the SLPA. See “Saving A Configuration” on page 67.

## Running Auto Calibrate

You can initialize Auto Calibrate via the Apply key (described in detail below) or via the CALIBRATE CTRL or DIAGNOSTIC menus in Menu mode.

**NOTE:** Verify that the Gap/Mark Sensor option (Disable, Mark, Gap, Advanced Gap, or Advanced Notch) matches the installed media. See “Sensing Different Media Types” on page 52.

Check that the media sensors are horizontally positioned to permit sensing of the label length indicators. See “Positioning The Media Sensors” on page 50.

If you try to do an Auto Calibrate when Peel-Off Media Handling is enabled, the LCD will display CANNOT CALIBRATE / Disable Peel-Off. Before you can do an Auto Calibrate, you must select another media handling mode.

1. Press the **Pause** key until OFFLINE displays on the LCD.
2. Press ↓ and ↵ together until ENTER SWITCH UNLOCKED displays.
3. Press the **Apply** key until Printer Tests / Auto Calibrate displays.
4. Press ↵. Media advances until it can accurately detect the label length indicators and then stops at the Top-of-Form position. The Sensed Distance value will then display for one second.

5. Auto Calibrate is successful when the Sensed Distance value correctly matches that of the installed media:
   - **Gap/Mark Sensor = Gap, Advanced Gap, or Advanced Notch**: The Sensed Distance value is the physical length of one label plus the length of one gap, notch, or hole.
   - **Gap/Mark Sensor = Mark**: The Sensed Distance value is the physical distance from the leading edge of one black mark to the leading edge of the next.
   - **Gap/Mark Sensor = Disable**: Not applicable. If Gap/Mark Sensor is set to Disable, the Sensed Distance value will not be updated.

   If GAP NOT DETECTED displays, run Auto Calibrate again.

   If Auto Calibrate continues to end with an incorrect Sensed Distance value displayed or a fault message displayed, run Manual Calibrate as described on page 58.

**NOTE:** The amount of media sampled during Auto Calibrate is based on the length of a label and transitions detected, without error, between a label and its label length indicators.

6. Press the **Pause** key until OFFLINE displays.
7. Press the **Feed** key several times. Each time you press Feed, the media advances one label length and stops.

**NOTE:** After a form feed, the position of the leading edge of the next label depends on the type of Media Handling mode selected under the QUICK SETUP menu. Tear-Off and Tear-Off Strip Media Handling will position the label edge at the peel bar, while Continuous will position the label edge under the printhead.

8. Press the **Pause** key until ONLINE displays.
9. Once the Sensed Distance value is confirmed, save it to the desired configuration (page 67) before powering off the SLPA.

## Running Manual Calibrate

Manual Calibrate should be performed only when the values derived from Auto Calibrate fail to improve the media sensors' ability to sense label length indicators on the installed media. You must first enable Admin User in the PRINTER CONTROL menu before accessing or initializing Manual Calibrate in the CALIBRATE CTRL menu.

**NOTE:** Verify the Gap/Mark Sensor option (Gap, Mark, Advanced Gap, Advanced Notch, or Disable) matches the installed media. See "Sensing Different Media Types" on page 52.

Ensure the media sensors are horizontally positioned to permit sensing of the label length indicators. See "Positioning The Media Sensors" on page 50.

Ensure the Print Mode option selected in the QUICK SETUP menu matches the media installed. Select Direct for heat sensitive media (no ribbon required) or Transfer for thermal transfer media (ribbon required).

If you try to do a Manual Calibrate when Peel-Off Media Handling is enabled, the LCD will display, CANNOT CALIBRATE / Disable Peel-Off. Before you can do a Manual Calibrate, you must select another media handling mode.

1. Press the **Menu** key to take the SLPA offline and into Menu mode.
2. Press the ↓ and ↵ keys together until ENTER SWITCH UNLOCKED displays.
3. Press the **Menu** key until PRINTER CONTROL displays.
4. Press ↑ until Admin User displays.
5. Press **+** until Enable displays.
6. Press ↵ to select Enable. An asterisk (*) appears next to Enable.
7. Press the **Menu** key until CALIBRATE CTRL displays.
8. Press ↓ until Manual Calibrate / Run Calibrate displays, then press ↵.
9. Follow the instructions displayed on the LCD. Example: REMOVE RBN&MEDIA / Press Enter indicates that you must open the pivoting deck and remove the ribbon and media from under the printhead, close and lock the pivoting deck, and press the ↵ key.

   During the last step of Manual Calibrate, the SLPA will advance the media and attempt to detect the label length indicators and stop at the Top-of-Form position. The Sensed Distance value will then display for one second. The calibrate is successful when the Sensed Distance value correctly matches that of the installed media.

   If CALIBRATION FAIL / See Manual displays, run Manual Calibrate again.

**NOTE:** The amount of media sampled during Manual Calibrate is based on the length of a label and the transitions detected without error, between a label and its label length indicators.

10. Press the **Pause** key until OFFLINE displays.
11. Press the **Feed** key several times. Each time you press Feed, the media advances one label length and stops.

**NOTE:** After a form feed, the position of the leading edge of the next label depends on the type of Media Handling mode selected under the QUICK SETUP menu. Tear-Off and Tear-Off Strip Media Handling positions the label edge at the peel bar, while Continuous positions the label edge under the printhead.

12. Once the correct values are confirmed, save them to the desired configuration (page 37) before powering off the SLPA.

# 5 *Illustrated Parts Breakdown*

## Organization Of This Chapter

This chapter contains drawings of the electromechanical assemblies comprising the SLPA. The table following each illustration lists the illustrated parts and their part numbers.

Items marked “Ref” (reference) are not spared, are part of another assembly, or are shown elsewhere.

## Illustrated Parts Breakdown

Figure 25. Ribbon Drive Assembly ..... page 62
Figure 26. Pneumatic Assembly ..... page 64
Figure 27. Brake Assembly ..... page 66
Figure 28. 14 inch Cylinder Assembly ..... page 68

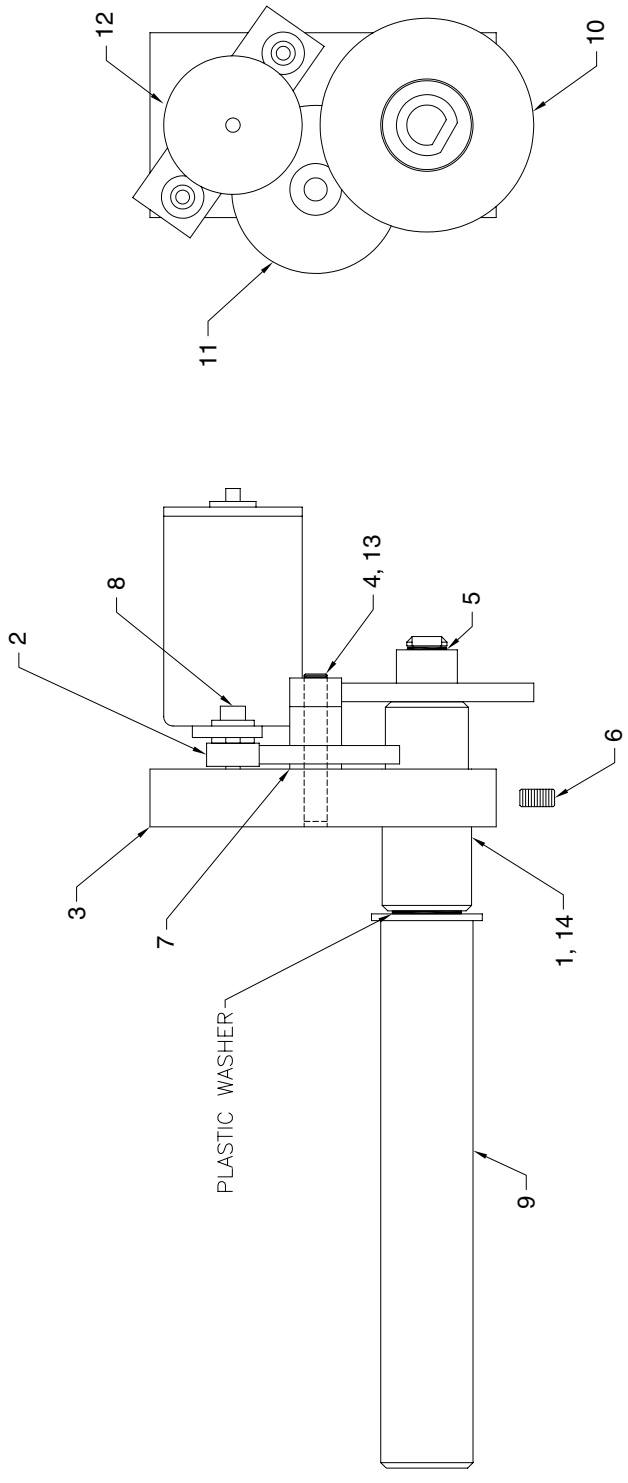



**Figure 25. Ribbon Drive Assembly**

| Item No. | Part No. | Description | Notes |
|---|---|---|---|
| 1 | Ref | Ribbon Spindle Tube | |
| 2 | Ref | Ribbon Motor Spacer | |
| 3 | Ref | Ribbon Gear Drive Block | |
| 4 | Ref | External RR 0.250 inch Shaft (E Ring) | |
| 5 | Ref | Ring Ret Ext Ser 5304 0.375 D (E-Style) | |
| 6 | Ref | SHSS #10-32x0.375 Lg | |
| 7 | Ref | Flat Washer 1/4 inch | |
| 8 | Ref | SHCS M4 x 0.70 x 20 mm | |
| 9 | 172264-001 | Field Kit, Ribbon Spindle, 4 inch | |
| 10 | 750569-001 | Gear, Ribbon Drive, Final | |
| 11 | 750568-001 | Gear, Ribbon Drive, Intermediate | |
| 12 | 171403-001 | Field Kit, DC Motor | |
| 13 | Ref | Shaft, Intermediate, 0.250 Dia. | |
| 14 | Ref | Shaft Bearing, 0.437 ID | |

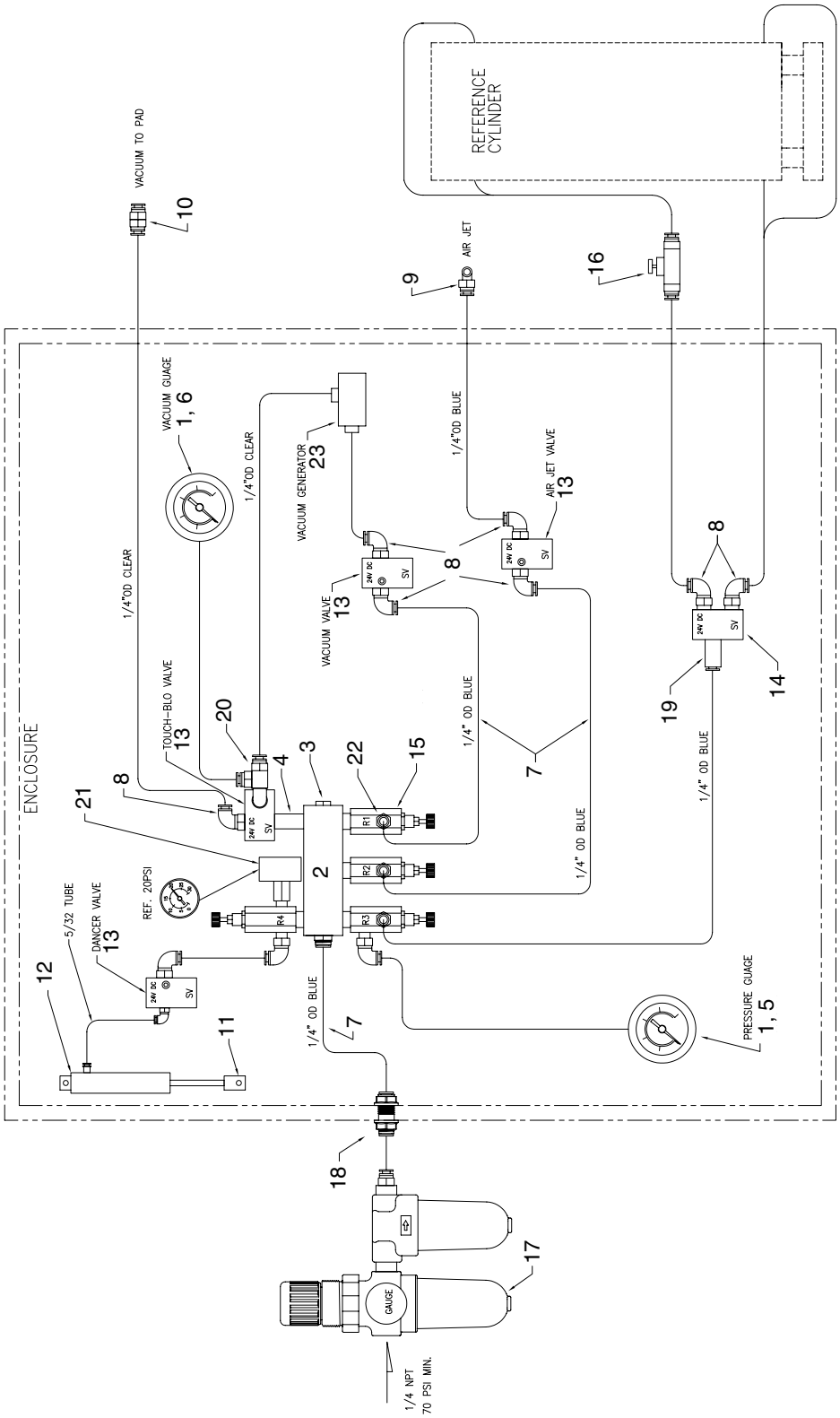



**Figure 26. Pneumatic Assembly**

| Item No. | Part No. | Description | Notes |
|---|---|---|---|
| 1 | Ref | Gauge Clamp | |
| 2 | Ref | Manifold, 1.250 inch Reg. Spacing | |
| 3 | Ref | 1/8 NPT Pipe Plug, Socket H | |
| 4 | Ref | Close Nipple 1/8 NPT | |
| 5 | 178631-001 | Pressure Gauge, 100 psi | |
| 6 | 178632-001 | Vacuum Gauge, 30 hg | |
| 7 | Ref | 1/4 x 0.159 Tubing-Blue Polyurethane | |
| 8 | Ref | 1/4 Tube 1/8 NPT Elbow | |
| 9 | Ref | #10 Male Elbow Fitting | |
| 10 | Ref | #10 Male Fitting | |
| 11 | Ref | Air Cyl. Piston Rod Clevis | |
| 12 | Ref | Double Acting Air Cyl. 9/16 x 4 | |
| 13 | 178520-001 | Valve, Air Cyl., 3 Way with Diode | |
| 14 | 178521-001 | Valve, Air Cyl., 4 Way with Diode | |
| 15 | Ref | Regulator (3) | |
| 16 | Ref | Flow Control, Inline | |
| 17 | 178633-001 | Filter/Mist/Reg. Combo | |
| 18 | Ref | Bulkhead Union, 1/4 OD Tube to 1/4 OD Tube | |
| 19 | Ref | Check Valve | |
| 20 | Ref | Branch Tee, 1/4 Tube 1/8 NPT | |
| 21 | Ref | Adapter 1/8 NPT F to #10-32 M | |
| 22 | Ref | 1/4 Tube to #10-32 M Elbow (4) | |
| 23 | 178522-001 | Vacuum Generator | |

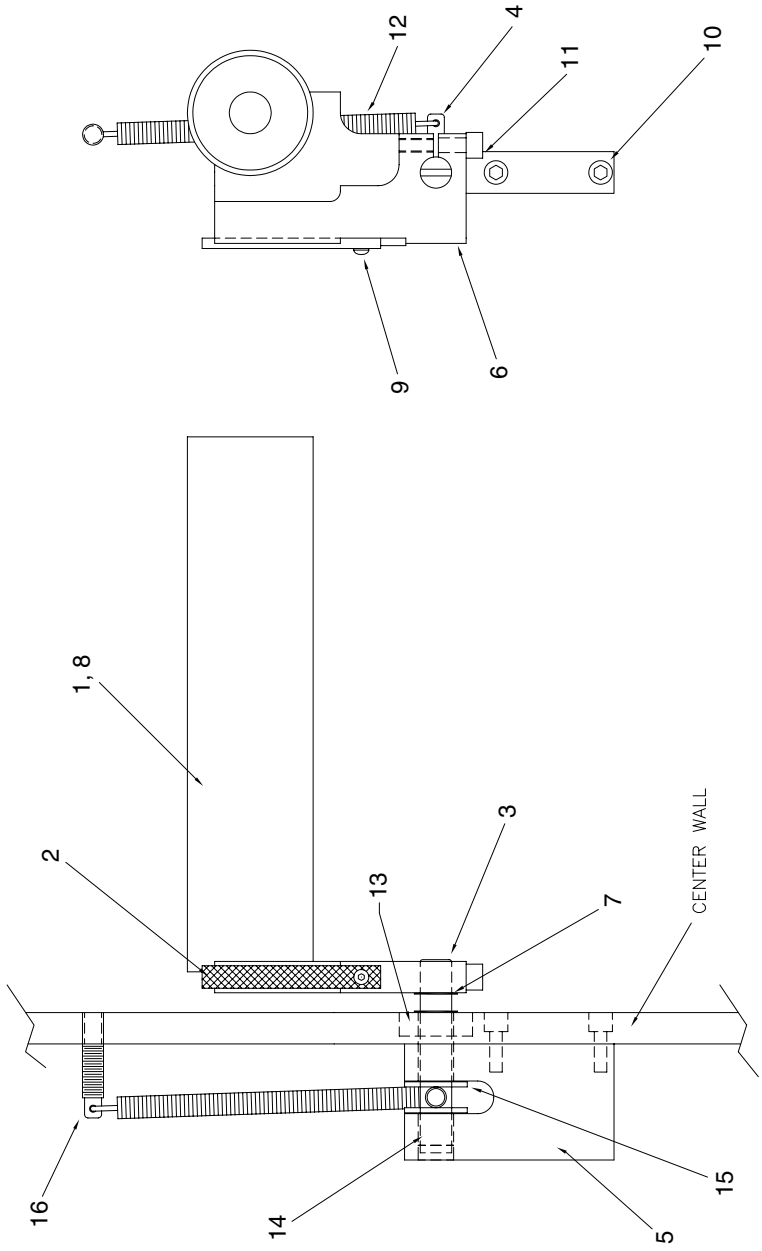



**Figure 27. Brake Assembly**

| Item No. | Part No. | Description | Notes |
|---|---|---|---|
| 1 | Ref | Media Roller Sub-Assembly | |
| 2 | 178518-001 | Brake Pad | |
| 3 | Ref | Brake Shaft | |
| 4 | Ref | Spring Post | |
| 5 | Ref | Block | |
| 6 | Ref | 4601 Brake Arm | |
| 7 | Ref | Ring Ret. Ext. Ser. 5100 0.375 D | |
| 8 | Ref | FHSCS #10-32x0.500 Lg | |
| 9 | Ref | BHCS #6-32x0.375 Lg | |
| 10 | Ref | SHCS #8-32x0.500 Lg | |
| 11 | Ref | SHCS #8-32x0.625 Lg | |
| 12 | Ref | Extension Spring 3.25 Lg | |
| 13 | Ref | Ball Bearing 0.375 ID x 0.875 OD | |
| 14 | Ref | Sleeve Bearing 3/8 inch ID x 7/16 inch OD x 3/8 inch Long | |
| 15 | Ref | Thrust Bearing, Bronze 3/8 ID 3/4 OD x 0.06 Thk. | |
| 16 | Ref | Spring Anchor 8-32 Thds. | |

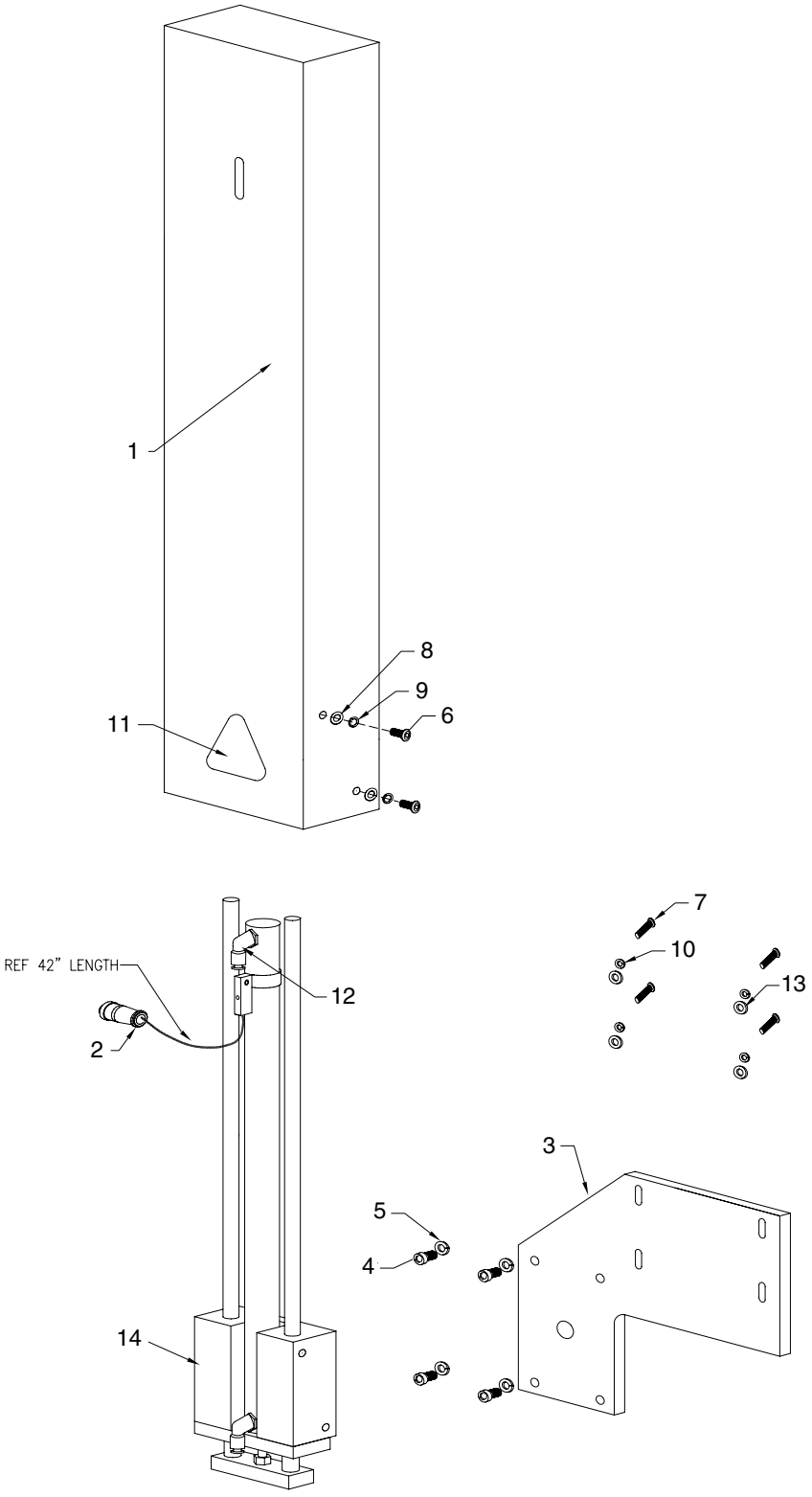



**Figure 28. 14 inch Cylinder Assembly**

| Item No. | Part No. | Description | Notes |
|---|---|---|---|
| | 178499-901 | Cylinder Assy, Swing, 14 inch/356 mm | Includes all items shown in Figure 28. |
| 1 | Ref | Cylinder Cover, 14 inch | |
| 2 | Ref | Solid State Swith Assy, 14 inch | |
| 3 | Ref | Cylinder Bracker, 20 mm | |
| 4 | Ref | SHCS 1/4-20x0.750 Lg | |
| 5 | Ref | Washer Splitlock 0.250 | |
| 6 | Ref | BHCS M5x0.08x10mm Lg | |
| 7 | Ref | BHCS M6x1.00x12mm Lg SS | |
| 8 | Ref | FW M5 SS | |
| 9 | Ref | LW M5 SS | |
| 10 | Ref | Fastener M6 Lock Washer SS | |
| 11 | Ref | Pinch Point Warning Label | |
| 12 | Ref | 1/4 Tube 1/8 NPT Elbow | |
| 13 | Ref | Washer 1/4 inch (grade 8 steel) | |
| 14 | 178519-001 | Slide Assembly 350 mm Stroke | |

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## For technical assistance, contact your Distributor/VAR/Reseller for service.

### For further assistance, contact the Printronix Customer Support Center.

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Printronix, Inc.
14600 Myford Road
P.O. Box 19559
Irvine, CA 92623-9559
Phone: (714) 368-2300
Fax: (714) 368-2600

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