SURVIVOR SST3

Direct Thermal Label Printer

Technical Manual

RICE LAKE
WEIGHING SYSTEMS

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PN 109181 Rev A

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1.0 Introduction

This manual is intended for use by technicians responsible for setting up and servicing the *SURVIVOR SST3* printer. The Datamax® M Class™ Mark II Operator's Manual (PN 77562) is on a CD-ROM sent with the *SST3*. It gives an overview of the operation, calibration, and in-depth maintenance of the printer.

Manuals are available for viewing and/or downloading from the Rice Lake Weighing Systems website at www.ricelake.com/manuals

Warranty information can be found on the website at www.ricelake.com/warranties

1.1 Overview

The *SURVIVOR SST3* is a high-performance, high-speed direct thermal and optional thermal transfer industrial wash-down label printer.

Features include:

- Print speed of up to 10" per second (254 mm/sec)
- Common bar codes are included in SST3 memory and can be printed with or without human readable bar code interpretations
- Character fonts can be printed in any one of four directions and with any one of nine different font sizes. A smooth font, CG Triumvirate, can be separately selected and contains 10 different font sizes. By using font multiplication, font size expands vertically and horizontally up to 24 times
- Connects to most computers and controllers through either RS-232, USB or the Centronics parallel interface
- Optional Ethernet and/or wireless network communication
- Software-selectable printhead temperature, print speed, slew rates and form dimensions provide the option of storing a wide variety of parameters, thus eliminating the need for manual adjustments. This is especially helpful when using several different types or brands of label stock, or when switching between direct thermal and thermal transfer printing.
- Configurable for *one up* printing mode. With the present sensor installed and enabled, the next label is not printed until the last label printed has been removed from the printer. Quantities of one-at-a-time can be selected.

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1.2 Safety

Safety Signal Definitions:

DANGER *Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.*

WARNING *Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.*

CAUTION *Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.*

IMPORTANT *Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.*

General Safety

Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.

WARNING

Failure to heed could result in serious injury or death.

Unit should sit on a sturdy surface when the cover is open to prevent tipping. This could cause injury to the user.

The unit comes with an eight foot power cord. Use appropriate GFI outlet types for the appropriate environment.

The SST3 printer must be installed near an easily accessible power outlet to allow for quick disconnect in case of emergency.

Since unit will be used around water, use appropriate grounded outlets (GFI). Not doing so could cause injury to the user.

1.3 General Setup

When setting up the SST3 printer, ensure that the unit is firmly placed on a sturdy, horizontal work surface that has sufficient work space around the perimeter of the unit. The unit opens towards the front so adequate space must be made available to allow the user to safely lift the cover of the unit and change out labels as needed. Because the cover opens to the front, counter depth only needs to accommodate the base footprint of the unit. The cover does not rest on counter top when open.

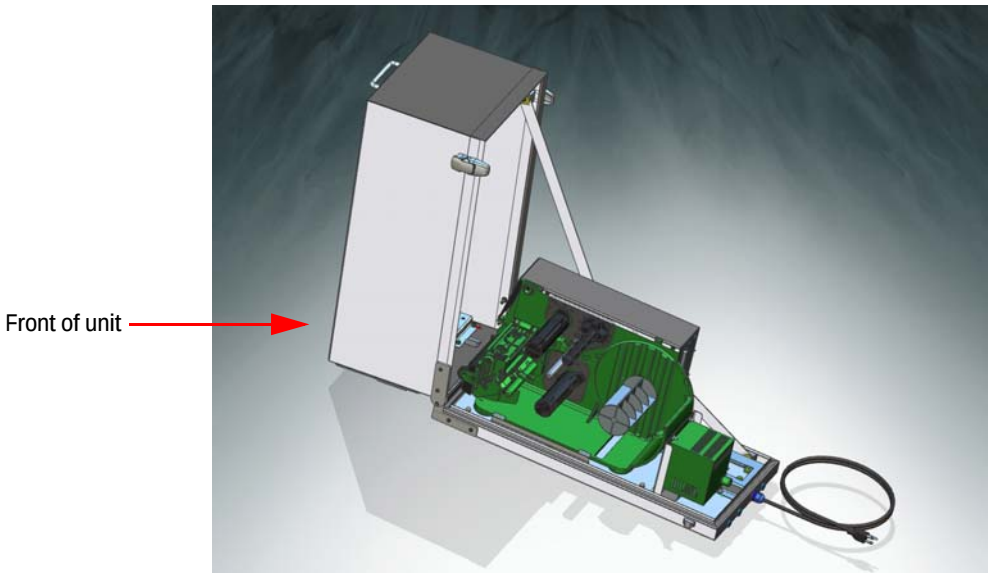

Figure 1-1. SST3 Printer

1.3.1 Connecting the Interface Cable

The SST3 can be interfaced to a host device via Ethernet, Parallel, Serial and USB ports. Use the appropriate cable for application (not included).

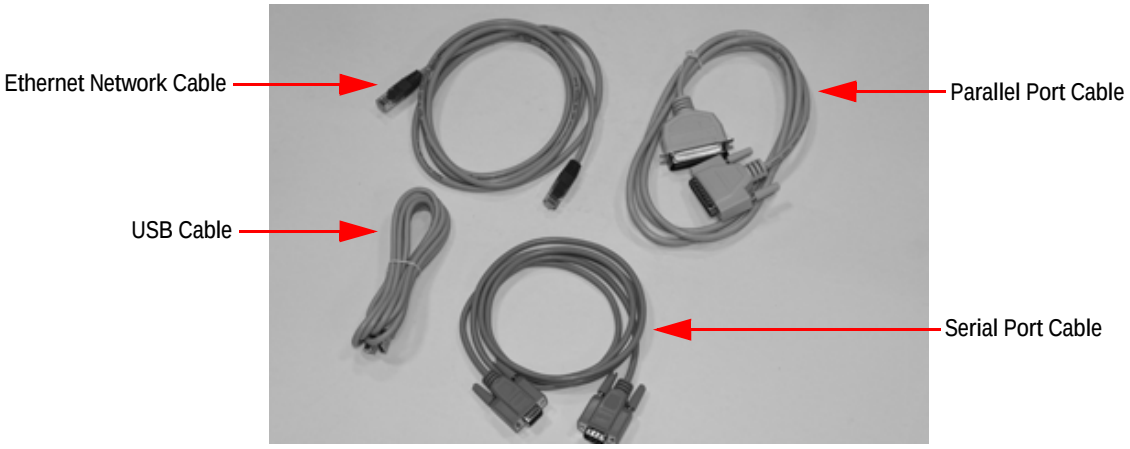

Figure 1-2. Various Types of Interface Cables

Following power up, interface port selection occurs automatically upon detection of valid data. If the incoming data flow stops and the host timeout period is achieved, partially received formats will be ignored and the port detection process repeated.

Ethernet Connection

The Ethernet interface supports several menu-selectable modes. Depending on the length, the cable should be Category/Type 3 or better. To order, ask for Rice Lake part number 103372. Installation documentation is supplied with the interface option.

Parallel Connection

The parallel interface supports directional communications. Choose and connect cabling as follows:

- For uni-directional communication, use a Centronics IEEE 1284 cable with a 36-pin male connector.
- For bi-directional communication, use an IEEE 1284 compliant cable with a 36-pin male connector (and supporting host software).

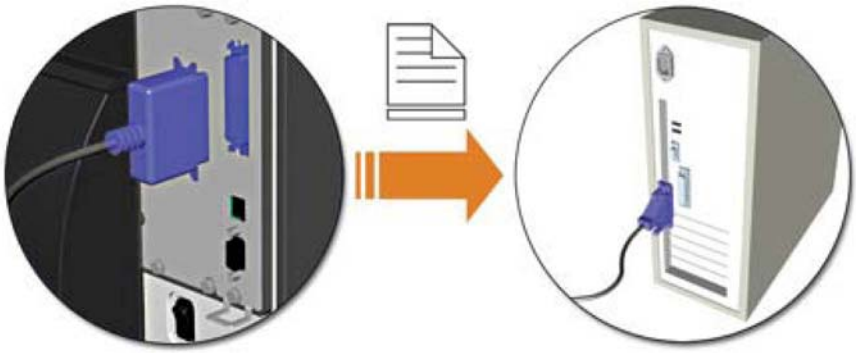

Figure 1-3. Parallel Connection

USB Connection

The USB connection cable supports directional communications.

Serial Connection

The serial interface supports RS-232, RS-422, and RS-485 communications.

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1.3.2 Split Communications Cable Installation

The SST3 printer enclosure comes with a unique cable installation assembly that ensures the interior of the unit stays moisture free even during wash-down conditions. The assembly allows the installer to eliminate the need to cut cables and still maintain a watertight barrier. Use the following steps to install cable of choice through the split communications cable seal.

1. Using a 7/16" socket, remove the four nuts holding the split communications cable plate in place. Take care in removing the nuts as they could slip and fall down between the plate and the printer enclosure. Set the nuts aside.

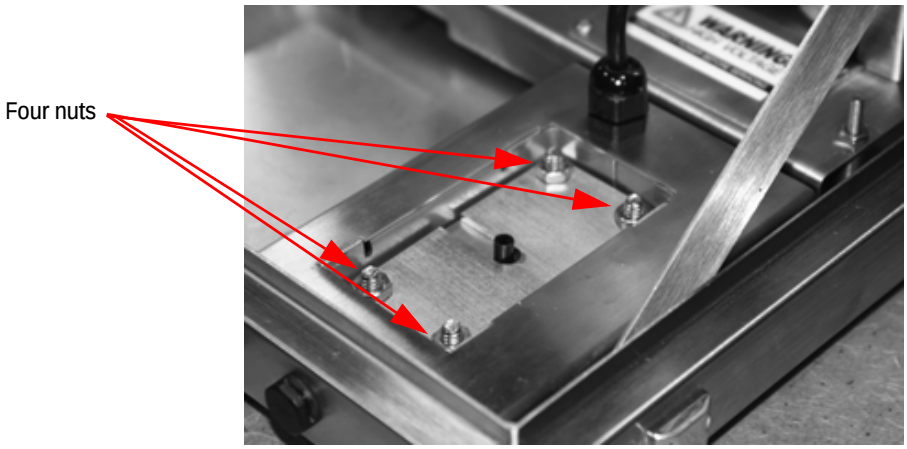

Figure 1-4. Split Communications Cable Assembly

2. Pull the SST3 enclosure forward so that it hangs slightly off of table edge to allow access to the bottom access hole.
3. Remove split communications cable plates by pushing with fingers up through the bottom access hole from the underside to dislodge the split communications cable plates. Set aside.

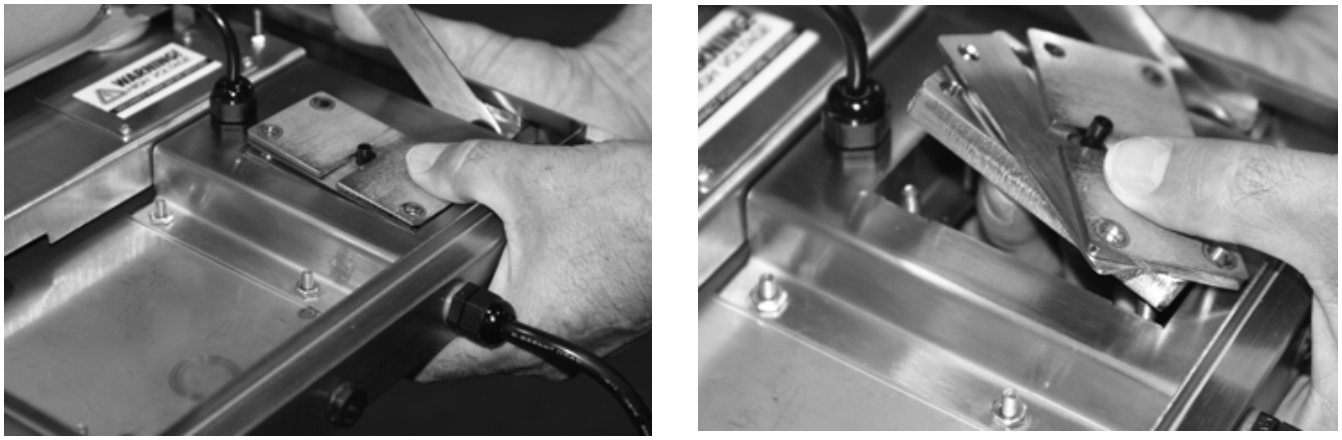

Figure 1-5. Remove the Component Parts of the Split Communications Cable Assembly

4. The split communications cable plate is made up of several individual pieces that are shown in Figure 1-4.

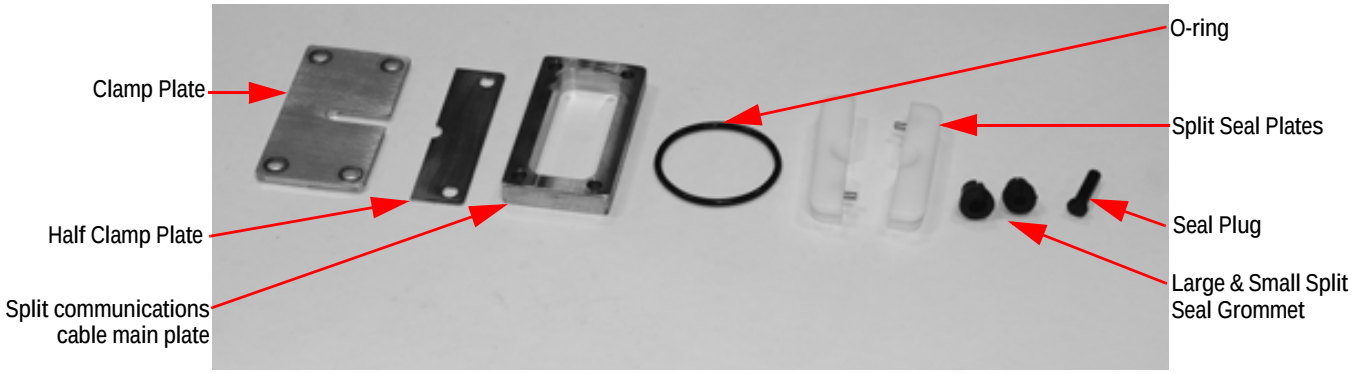

Figure 1-6. Component Pieces

5. Ensure the rubber gasket is seated properly in the SST3 printer enclosure.

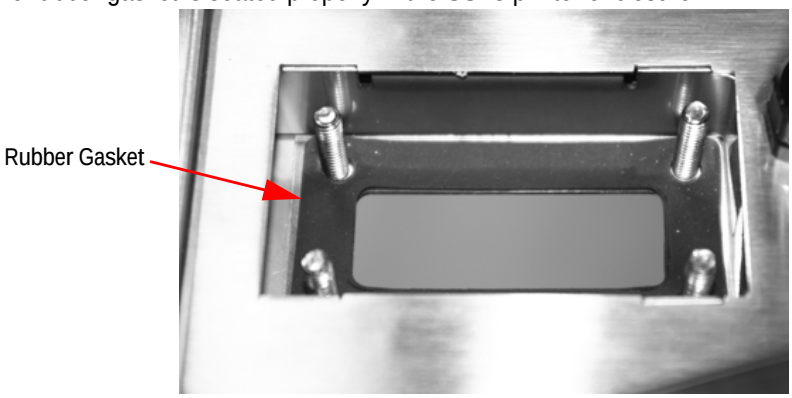

Figure 1-7. Rubber Gasket

6. Set the main plate over the four studs with recesses around the four holes located downward and press down.

Note *Ensure that the split communications cable main plate is oriented so that the tapered side is facing up as shown in Figure 1-8. An easy way to tell if the main plate is oriented correctly is to note that the four holes on the main plate have counter bores which should face down.*

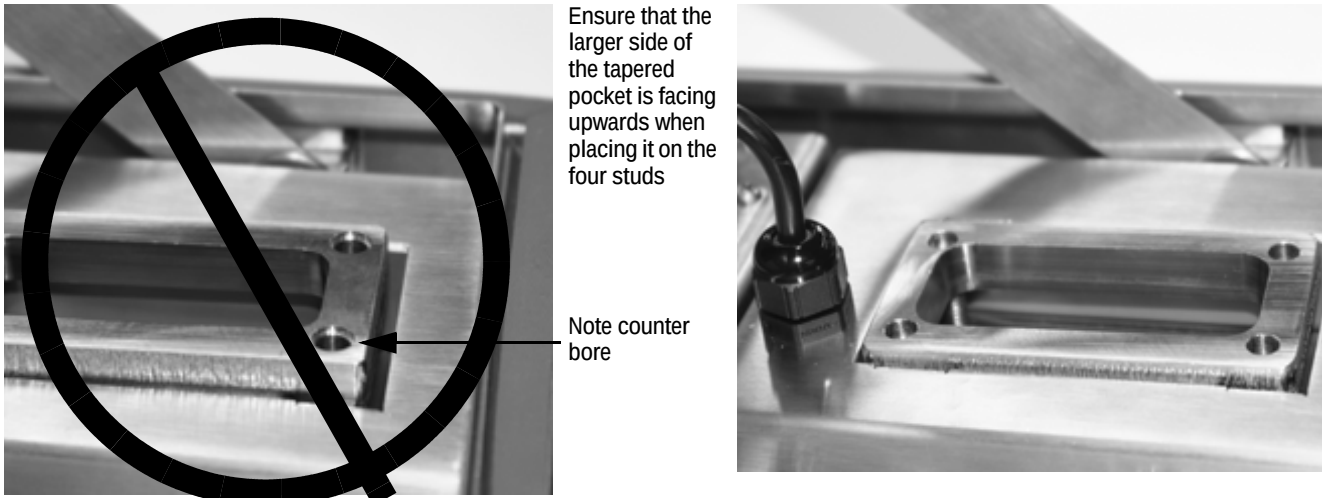

Figure 1-8. Incorrect and Correct Orientation of Main Plate

7. Pass the communications cable through the printer base and main plate. Make sure that the cable end and printer communications socket match correctly.

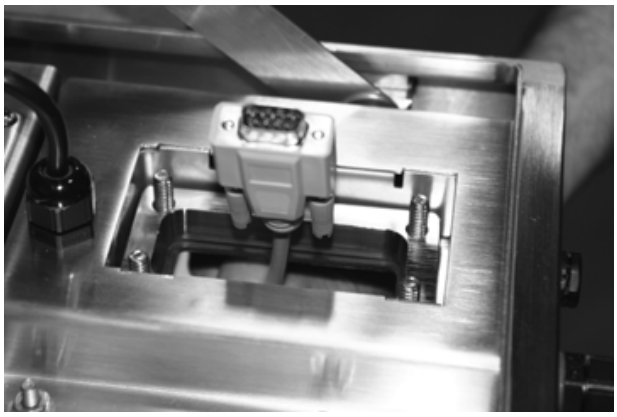

Figure 1-9. Communications Cable Comes Up Through Bottom of Hole

8. Push the entire SST3 enclosure unit back onto the table or other sturdy work surface.

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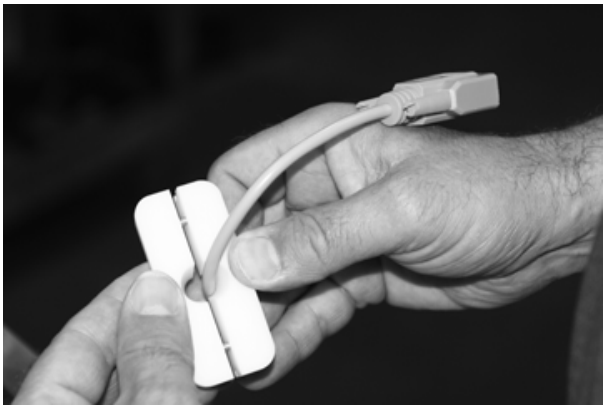
9. Assemble the split seal plates back together with the cable in between. See Figure 1-10.
   - Run finger across the split seal plates to ensure there is no dirt or oil on the surface prior to joining the two surfaces together.
   - Make sure the larger diameter hole side is facing upwards when putting the two pieces together.



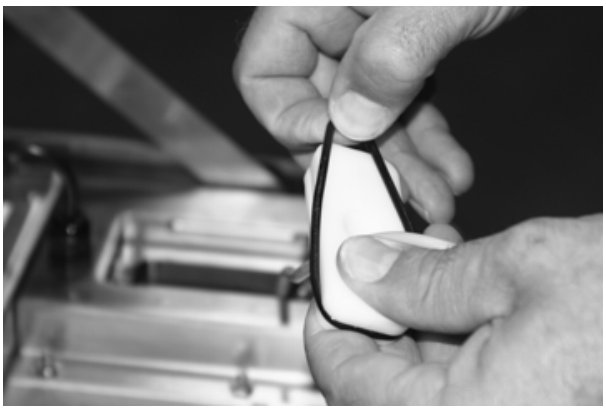


Figure 1-10. Assemble Split Seal Plates Together

10. Place the O-ring over the cable end and into the groove around the split seal plates (Figure 1-8, right image). This will hold the plates together and also offer a watertight barrier.
11. Connect the communications plug to the appropriate connection on the back of the printer.

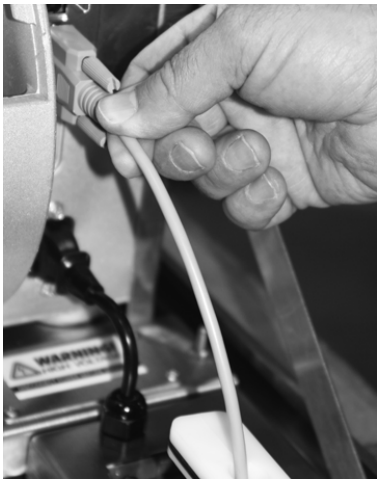


Figure 1-11. Connect Communications Cable to Back of Printer

12. Carefully push the whole split seal assembly down into the printer enclosure as shown below.

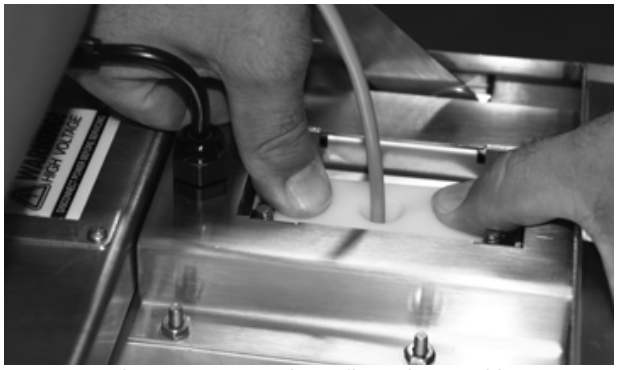


Figure 1-12. Seat the Split Seal Assembly

13. Wrap a split grommet around the cable with the small end of the grommet pointing downwards. Orient the grommet split to a position that is 90 degrees to the split in the split seal insert and press the grommet into the tapered hole in the split seal insert. At this time, position the cable to make a 90° bend from the printer.

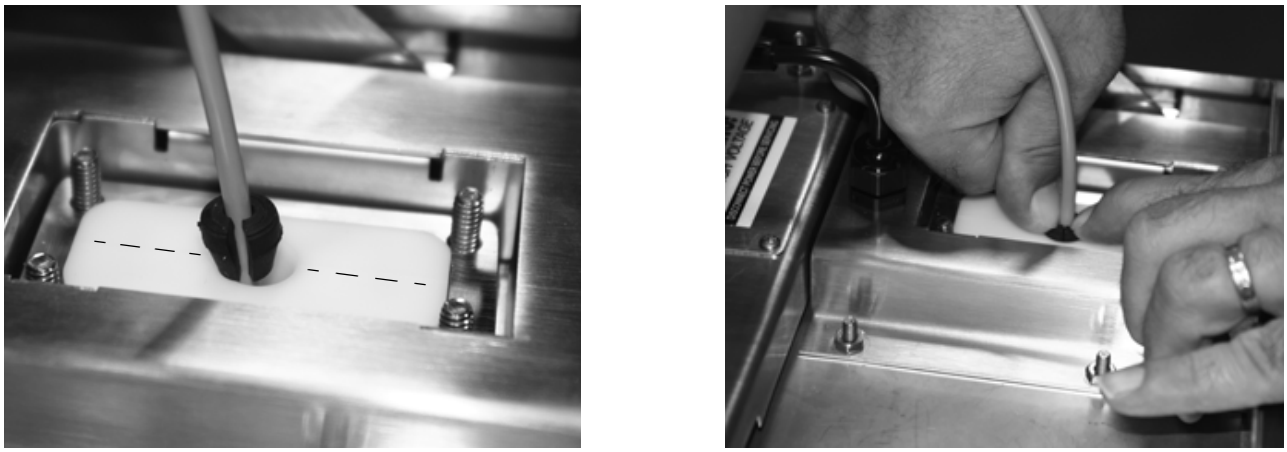


Figure 1-13. Insert Split Grommet Onto the Split Seal Plates

14. Place the half clamp plate onto the studs, then place the clamp plate onto the studs with the step facing down and the half plate nesting in the step of the clamp plate.

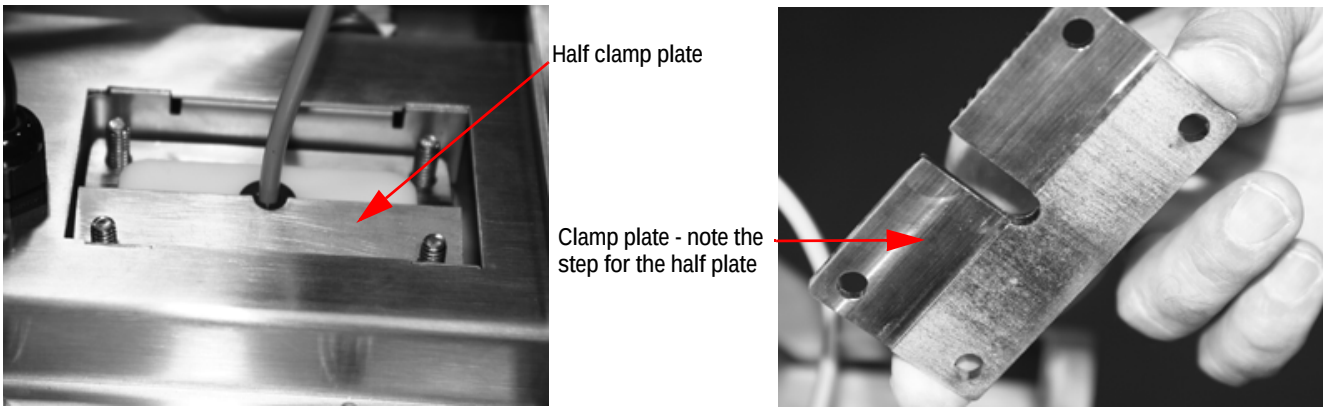


Figure 1-14. Place Half Clamp Down on Assembly

15. Press the assembly down and partially tighten the four nuts that hold the entire assembly in place. Once all the nuts are started, tighten the nuts in a diagonal sequence until all the nuts are tight using a 7/16" socket and torque wrench. Tighten to 30 in/lb torque.

IMPORTANT *Over tightening can break the studs from the base.*

Figure 1-15. Tighten Up The Entire Assembly

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1.3.3 Loading Labels into the Printer

Use the following steps to load labels into the printer.

1. Make sure printer is sitting on a horizontal surface.
2. Open printer cover by unlocking the hinged latches that are located on both sides of the unit and lifting the cover to the front of the unit

Figure 1-16. Hinged Latch Location

3. Open the media cover and lower the media hanger guide (if equipped) and media guide.
4. Press in on the printhead latch and raise the printhead assembly.

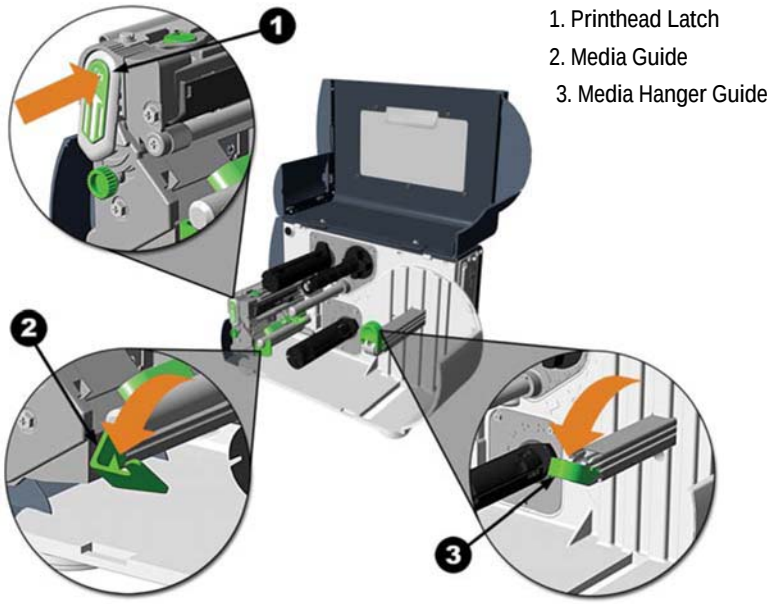

Figure 1-17. Printhead Loading Sequence

5. Slide the roll media onto the media hub or media hanger. If the printer is equipped with a media hanger, raise the media hanger guide. The media hanger guide should be pushed inward so that it is just touching the roll media.
6. Route the media through the printer. Raise the media guide. The media guide should be pushed inward so that it is just touching the edge of the media.

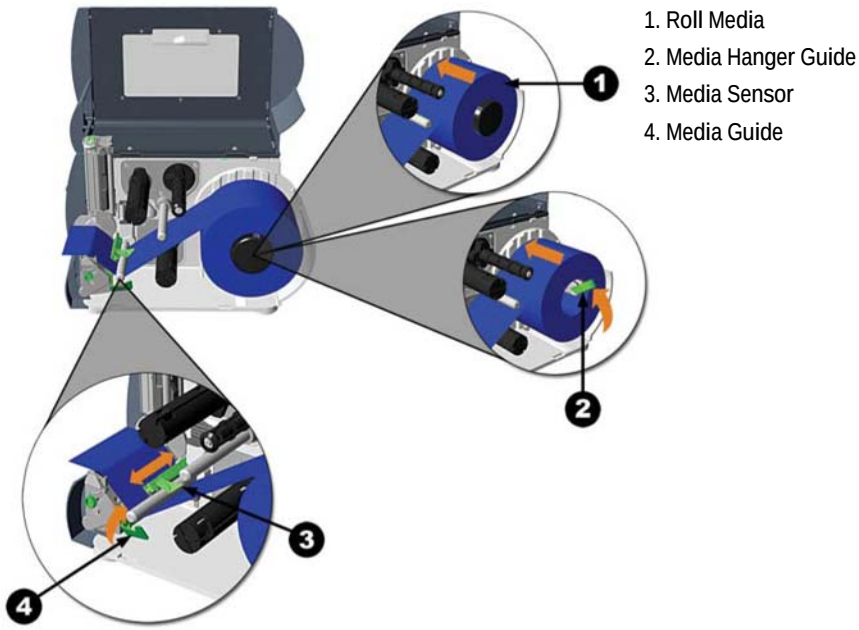

Figure 1-18. Routing Media Through Printer

7. Close the printhead assembly and press down until it locks into place.
8. Close the cover and press the FEED button several times to position the media and ensure proper tracking. If the printer does not correctly sense the top of each label, it may be necessary to calibrate the printer.

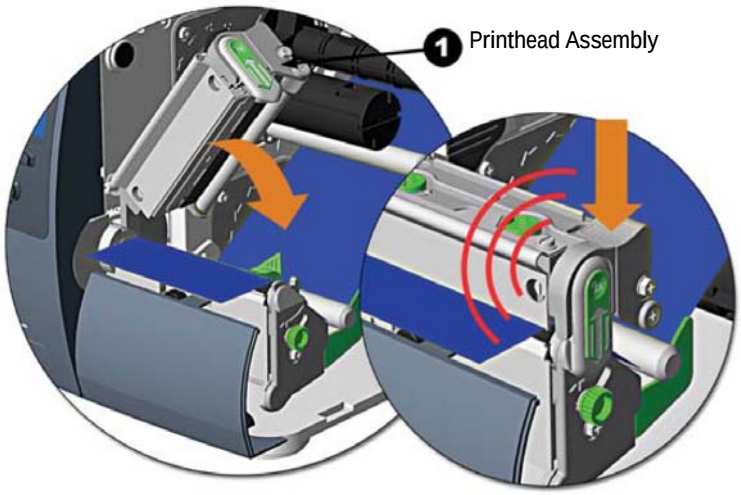

Figure 1-19. Printhead Assembly

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Loading Optional Ribbon into the Printer

1. Make sure printer is sitting on a horizontal surface.
2. Open printer cover by unlocking the hinged latches that are located on both sides of the unit and lifting the cover to the front of the unit.
3. Press in on the printhead latch and raise the printhead assembly.

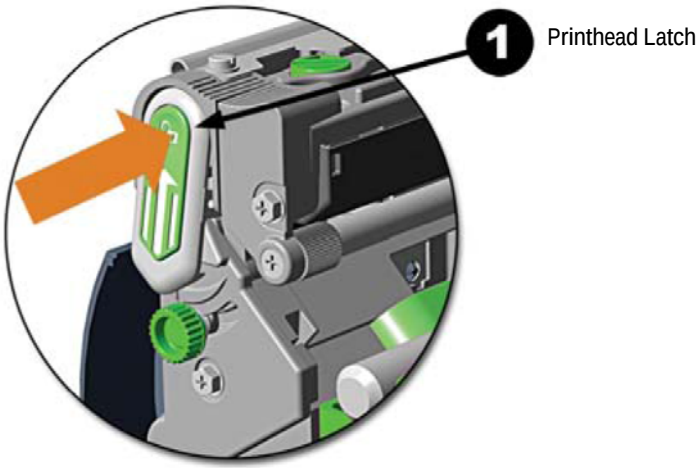

Figure 1-20. Open Printhead Latch to Load Optional Ribbon

4. Wrap the ribbon around the ribbon hub and rotate the ribbon take up shaft several times to take up all the slack and remove any wrinkles in the ribbon.

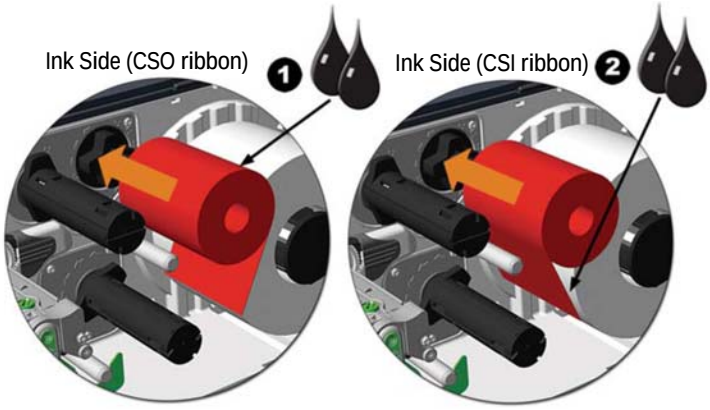

Figure 1-21. Wrap Ribbon Around Ribbon Spool

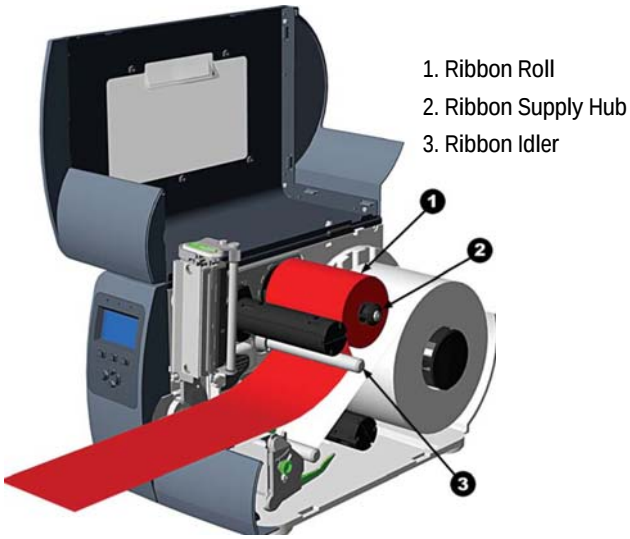

Figure 1-22. Feed Ribbon Through Printer

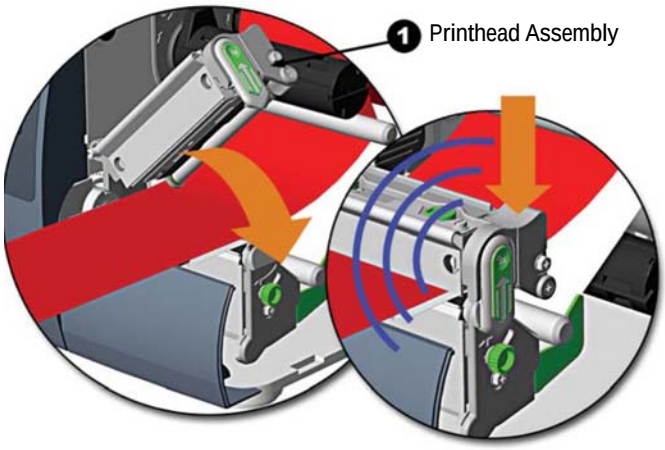

Figure 1-23. Close Printhead Assembly

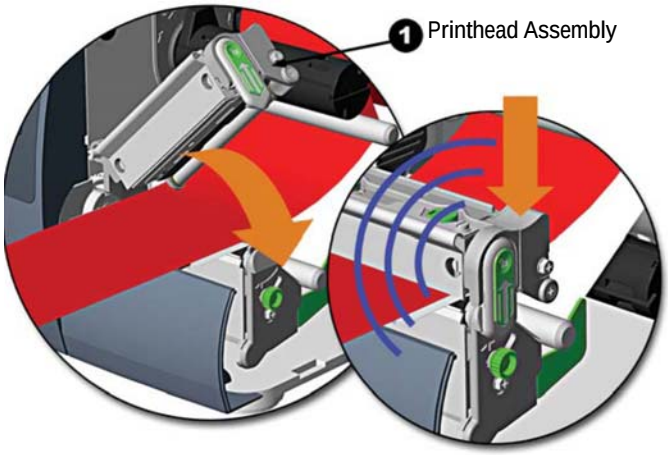

Figure 1-24. Latch Printhead Assembly

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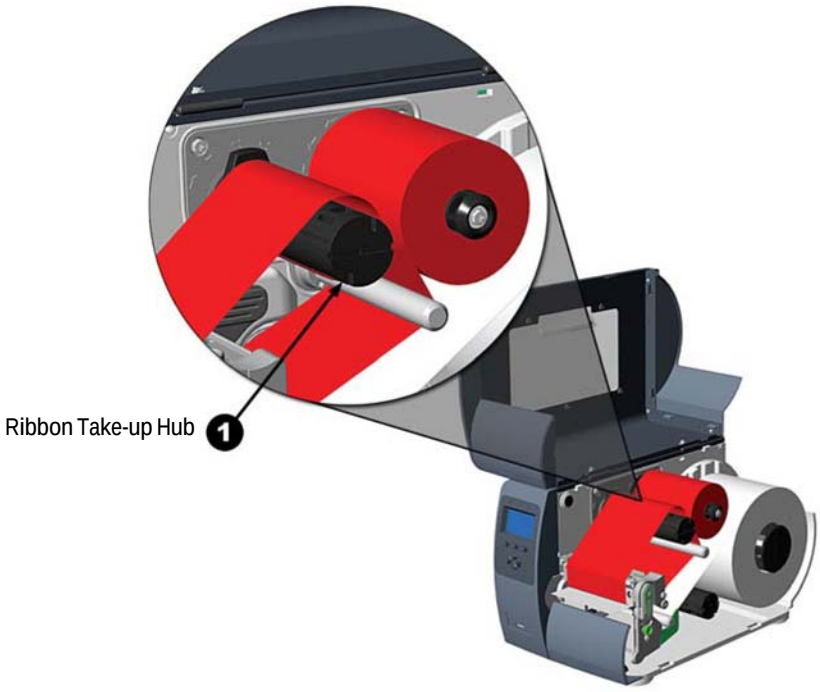

Figure 1-25. Ribbon Take-up Hub Diagram

1.3.4 Label Peel and Present

Use the following steps to load label peel and present. With this option, labels printed in a batch will automatically be separated from the backing material and dispensed on demand which means printing will occur only after a previously printed label has been removed from the printer.

1. Make sure printer is sitting on a horizontal surface.
2. Open printer cover by unlocking the hinged latches that are located on both sides of the unit and lifting the cover to the front of the unit.
3. Press in the latch to open the mechanism.

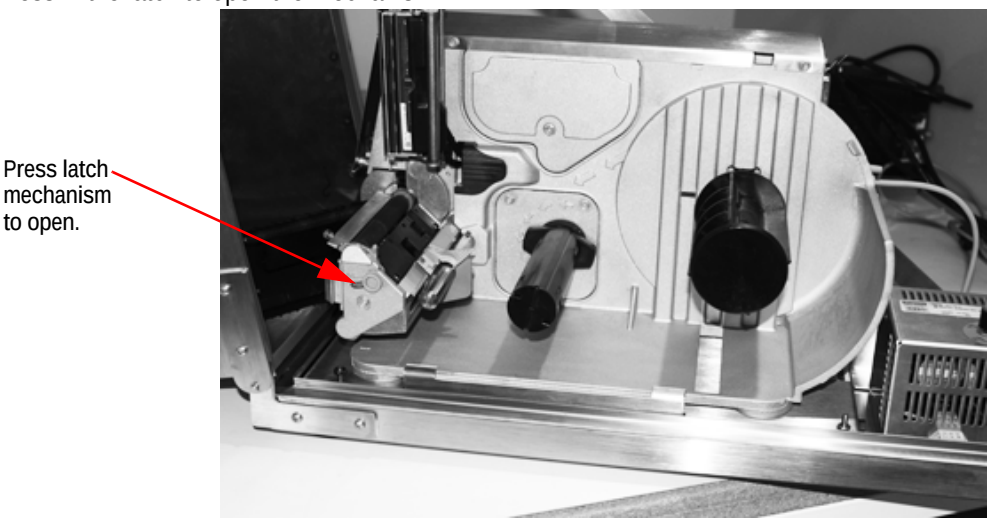

Figure 1-26. Opening Latch for Peel and Present

4. Swing the mechanism open as shown in Figure 1-25.

5. Load the printer with media.

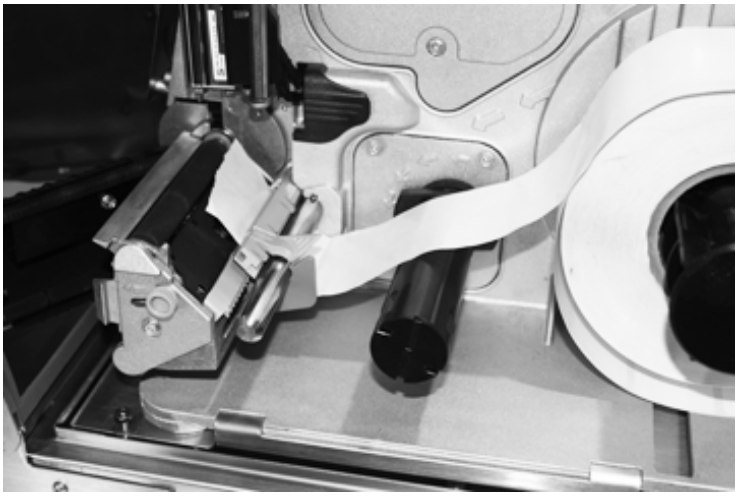

Figure 1-27. Load Printer With Media

6. Load the media into the printer for normal tear-off operation, however, extend an additional 12" (30 cm) of media out the front of the printer.
7. From this 12" of media, remove all of the labels so that only the backing material remains.
8. Route the backing material under the assist roller and around the internal rewinder as shown below.

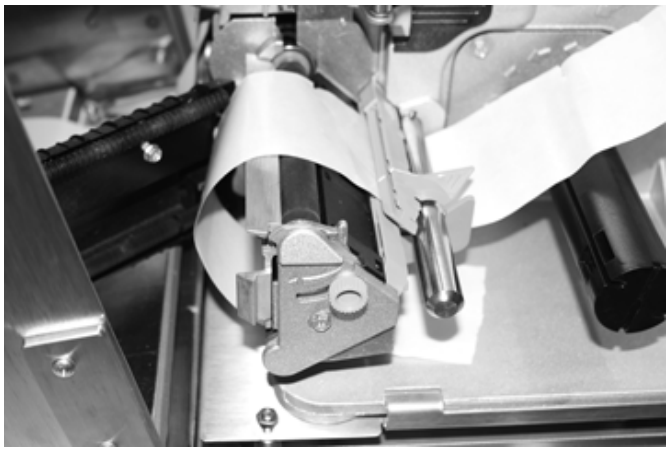

Figure 1-28. Route Backing Material Under Assist Roller

9. Put the leading edge of the backing material into a slot on the internal rewinder and insert the media clip. Be sure the leading edge of the backing material is cut square and that is inserted evenly into the slot.

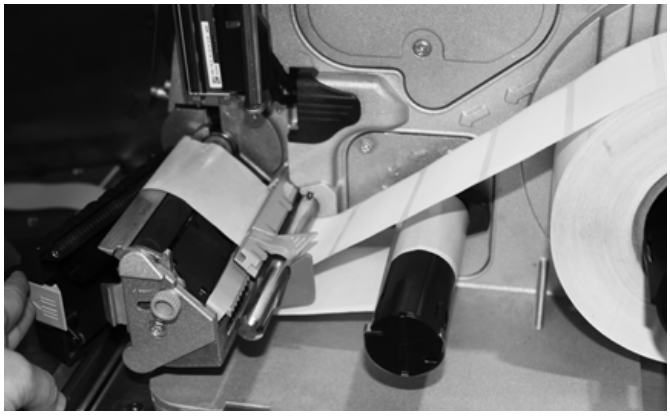

Figure 1-29. Place Backing Material onto Internal Rewinder

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10. Manually rotate the internal rewinder to remove slack from the backing material.

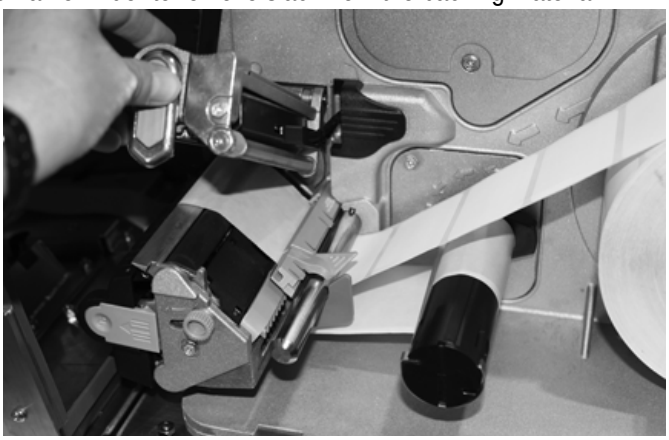

Figure 1-30. Flip Mechanisms Back Down to Secure Labels

11. Flip the holding mechanisms down to secure the labels.
12. Plug in and turn on the printer. After initialization, press the FEED button to align the next label to the top of form position. (If a peeled label is presented, remove it to proceed). The printer is now ready for on-demand use.

1.3.5 Auto Sense Setup

The present sensor is automatically set up when installed. If necessary to set up at a later time, use the following steps to set up the auto sense.

1. Access the menu through the front panel of the printer.

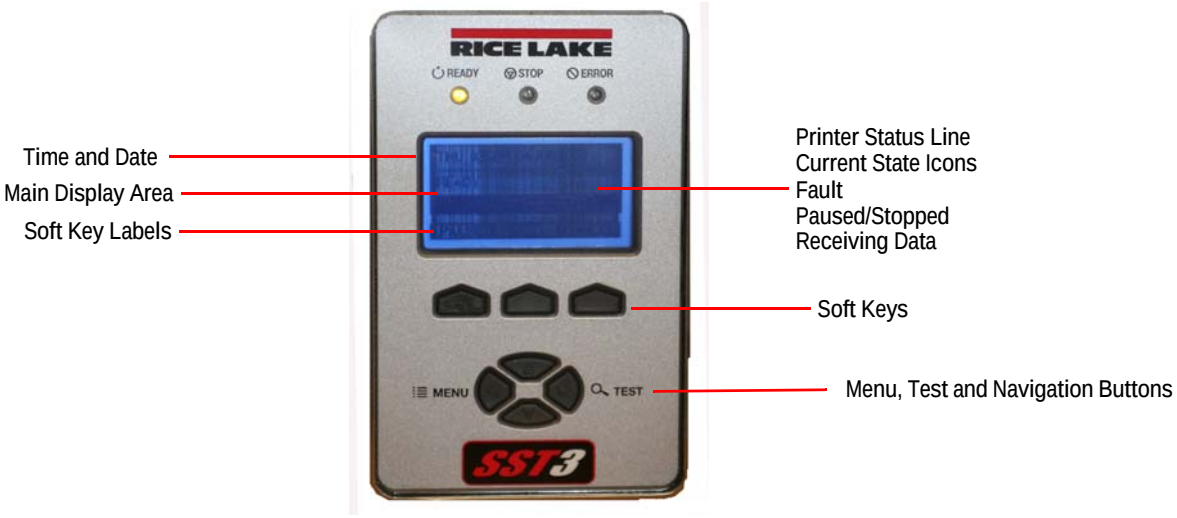

Figure 1-31. SST3 Main Display

2. Press through the menu on the front panel until Printer Options appears.
3. Press the down or up key to access Present Sensor.
4. Enable the sensor.
5. Press the Enter key to save and exit.

1.4 Wash-down Procedure

WARNING *The following instructions must be followed explicitly. Failure to follow these instructions will result in damage to the contents inside enclosure and/or create a hazardous condition.*

This section describes the general procedure for wash-down applications.

1. Unplug power to the printer.
2. Securely latch the main latches on the side of the enclosure.

Figure 1-32. Secure Main Latches

3. Ensure that the label presentation chute cover is securely closed. The label cover tab will be tightened securely against retaining washer and mounting block.

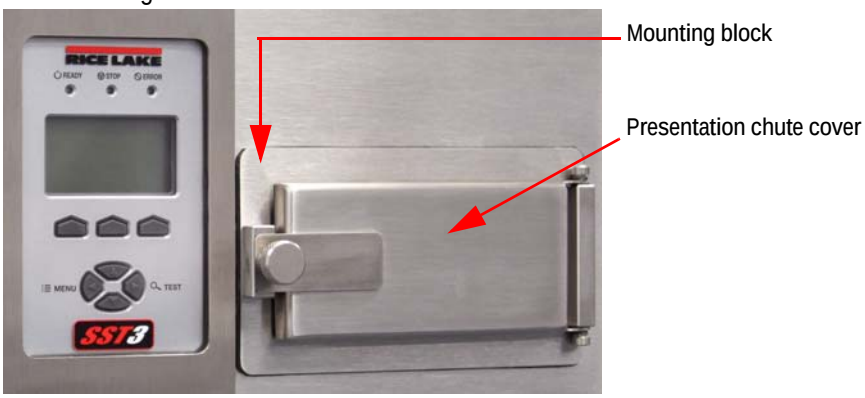

Figure 1-33. Presentation Chute Location

4. Perform wash-down.
5. Dry the outside of the enclosure thoroughly before opening.
6. Open the label presentation chute cover first to relieve any pressure or vacuum that might be present.
7. Plug the printer back in after the wash-down procedure is completed, making sure that the power plug is completely dry after wash-down before inserting into a GFI rated outlet.

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2.0 General Maintenance

This section describes procedures for general maintenance and cleaning of the SST3 printer.

2.1 General Cleaning

During normal operation, media debris may accumulate around the printer mechanism inside the printer. This debris should be removed regularly using a soft bristle brush and/or vacuum cleaner.

2.2 Cleaning the Printhead

Foreign particles can collect on the printhead, causing characters or bar codes to appear light or faded. This type of problem is evidenced by a continuous light streak which appears in the same physical position on each printed line. This condition should only appear after extensive printer operation or if poor quality paper has been used. It is recommended that Rice Lake Weighing Systems-supplied labels are used to obtain continuous high quality printing.

Recommended printhead cleaning intervals:

- Due to abrasion and foreign particle deposits, direct thermal printheads should be cleaned every 50,000 linear inches (approximately eight rolls of labels) (12700m).
- Thermal transfer printheads should be cleaned at least every 250,000 linear inches (approximately 40 rolls of labels).

Printhead cleaning procedure:

1. Unplug printer from the outlet.
2. Open cover. Unlock and raise printhead.
3. Gently wipe underside of printhead burn-line area using a cotton swab moistened (not soaked) with isopropyl alcohol. Allow to dry.
4. Lower and lock printhead.
5. Close cover. Plug in and turn on printer.

2.3 Cleaning the Platen Roller

Use the following steps to clean the platen roller of the SST3.

1. Turn off and unplug the printer from outlet.
2. Open the cover. Rotate the platen roller.

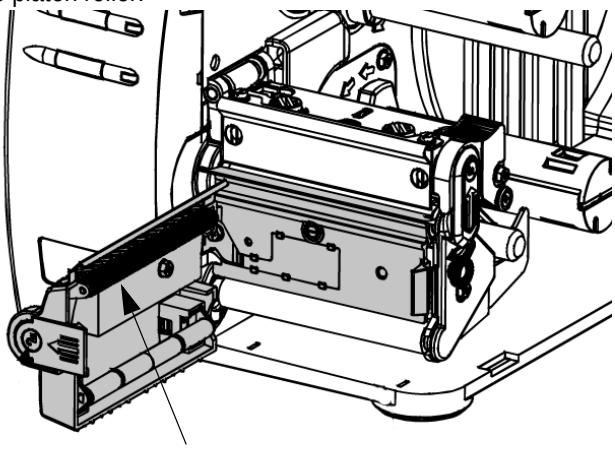

Figure 2-1. Platen Roller Location

3. Use a clean cotton swab or a lint-free cloth dampened with isopropyl alcohol to wipe off all debris from the platen roller. Manually rotate the roller to clean the entire surface. Allow to dry.
4. Lower the printhead assembly and lock into position.

5. Close the cover. Plug in and turn on the printer.

2.4 Cleaning the Peel Off Roller

Use the following steps to clean the peel off the roller.

1. Turn off and unplug the printer from the outlet.
2. Rotate the peel off roller.
3. Use a clean cotton swab or a lint-free cloth dampened with isopropyl alcohol to wipe off all debris from the peel off roller.

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3.0 Parts Replacement

The following sections outline part replacement guidelines and procedures, and list replacement parts for the SURVIVOR SST3 printer

3.1 Printhead

The SST3 uses a thin film printhead that dissipates heat faster than thick film, providing a longer head life. Printhead warranty is 1,000,000 linear inches (when used with direct thermal labels or 2,000,000 inches in the thermal transfer mode (with ribbons).

3.2 Mean Time to Repair (MTTR)

Estimated MTTR the printer is less than 15 minutes. A number of factors contribute to the ease of service. Primarily, all electronics including the power supply are located on a single plug-in circuit board. Most electronic problems can be isolated and repaired with a simple board swap.

The printhead is also designed for easy replacement. One mounting screw and two locator pins eliminate the mechanical head adjustments required of other thermal label printers.

3.3 Printhead Replacement

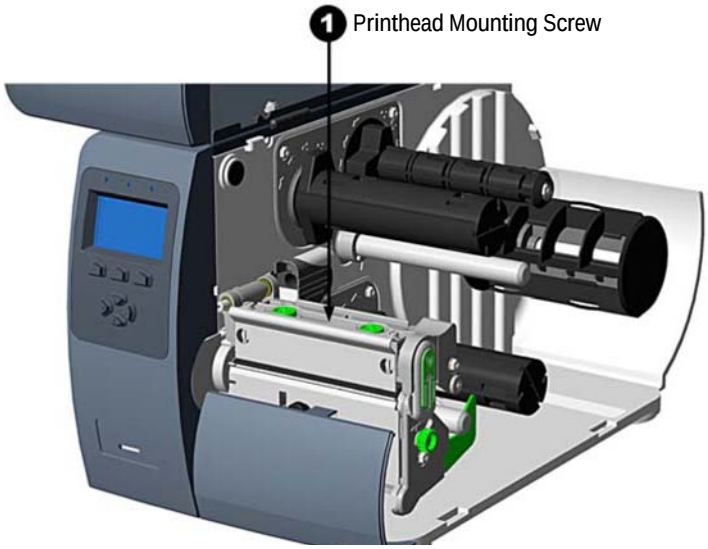

Figure 3-1. Printhead Replacement

Removal:

1. Touch a bare metal part of the printer frame to dissipate any static electricity that may be present.
2. Turn the printer off and unplug from the outlet. Open the media cover.
3. With the printhead locked in the down position, loosen the printhead mounting screw. Carefully unlatch the printhead assembly and disconnect the two cables from the printhead.

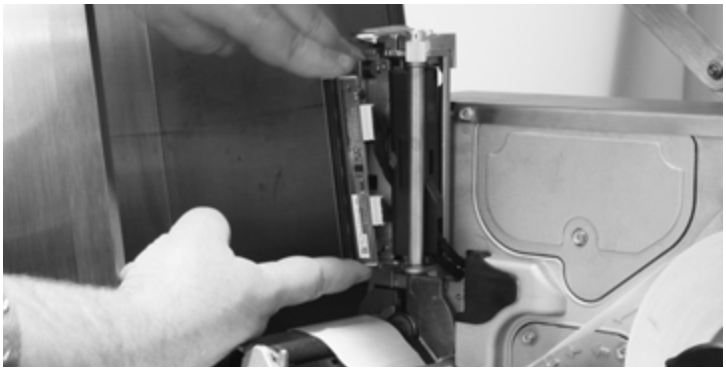

Figure 3-2. Remove Old Printhead Assembly

Replacement:

1. Reconnect the printhead cables.
2. Position the printhead on the printhead assembly and tighten the printhead mounting screw (do not overtighten).
3. Clean the printhead.
4. Reload ribbon (if removed), lower the printhead assembly, and rotate the printhead latch back into locked position.

CAUTION *Be sure to ground yourself to the chassis before removing or installing the printhead. This prevents a static discharge from your body through the printhead to the ground.*

3.4 CPU Board Replacement

Removal:

1. Touch a bare metal part of the printer frame to dissipate any static electricity that may be present.
2. Turn the printer off and unplug from the outlet.
3. Unlatch the SST3 hinges.
4. Remove screws from the printer enclosure (6 total).

Figure 3-3. Remove Screws from Enclosure

5. Remove the metal cover which houses the CPU board.
6. Unplug all ribbon cables that connect to the CPU board. There are seven different connections and each one is labeled corresponding to the position on the board.
7. Unscrew the front panel screws and slide the CPU board out.

Figure 3-4. Remove Front Panel Screws

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Replacement:

1. Slide new CPU board into the enclosure.
2. Use screws to attach board to enclosure.
3. Reconnect all ribbon cables and connectors. All connectors and cables are marked to corresponding board placement.
4. Replace the metal cover which houses the CPU board and replace the screws.

3.5 Replacement Parts

Part Number	Description
104967	Board, Main 8 MB flash
53936	Gear, spur 24T
53923	Idler post
104972	Power supply board
103369	Printhead, 203 DPI
107162	Upper platen roller kit
108880	Display
108717	Gasket, label presentation
108891	Printer, M-4210
108894	Gasket, latch mount
109431	3/1.5" media supply hub
109432	Stepper motor
108868	Display cover
109636	Ribbon cable 26"
88733	Breather Vent

Table 3-1. Replacement Parts

4.0 Communications

Using a data detection process, the interface selection occurs automatically in the printer. At power-up, the printer begins monitoring the interface ports for activity. When the host transmits data, the printer port detecting this data is set active and remains active as long as data flow continues. Once the incoming (received) data flow stops and the host timeout value is exceeded, the detection process is repeated. Should the data flow stop before a complete label format is received, the format is ignored and must be sent to the printer again.

Note *To change an active port immediately, cycle the printer power off and on.*

4.1 Parallel Port

The parallel interface has two menu-selectable modes of operation: uni-directional or bi-directional. The uni-directional mode supports forward channel only communication and requires Centronics® cable with a 36-pin male connector.

The bi-directional mode supports forward and reverse channel IEEE 1284 Compliant communications. Data can be returned to the host in this mode provided it has compliant hardware, supporting software and is connected to the printer via an IEEE 1284 Compliant cable with a Centronics 36-pin male connector.

4.2 Serial Port

The serial interface supports RS-232C and, if equipped, RS-422 communications. The following list of serial port settings is menu-selectable and must match the host computer's serial port settings.

- Baud rate (serial communication speed)
- Word length
- Word parity
- Number of stop bits
- Handshaking protocol

In addition to the port settings, the serial interface cable wiring must have specific connections (pin-outs) for proper data exchange between the host and printer.

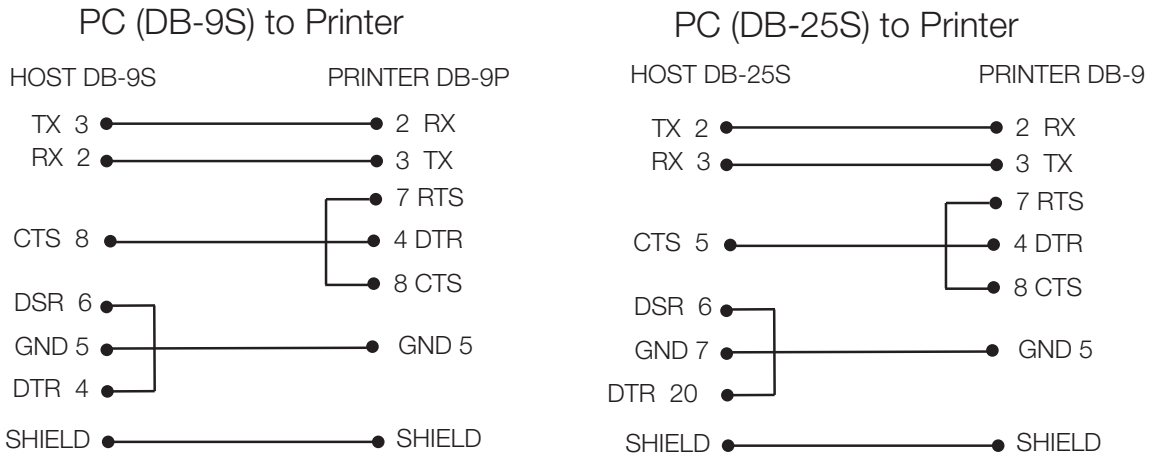

Figure 4-1. Serial Cable Pin-outs and Suggested Applications

4.2.1 Setting up the Baud Rate

Use the following steps to set up the baud rate on the printer.

1. Push the Menu key to access the communications menu.
2. Use the Up and Down keys to access the baud rate, parity, data bits and stop bits. The default settings are 9600, 8, and none.
3. Save and exit out of the menu.

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4.3 USB

The USB connection supports Windows 95 and greater operating systems with a USB connection.

Optional - Ethernet print servers (wired and wireless) are available.

4.4 Communicating to RLWS Indicators

To communicate from a Rice Lake indicator directly to the SST3, a change to the standard RS-232 output is required. The indicator must have Smart Serial communication or a custom serial format developed.

Minimum cable requirements are ground plus TX with the ground going to pin 5 on the printer and TX going to pin 2 on the printer.

4.5 Printer Operation

The SST3 uses a Datamax M-Series Mark II printer. Complete operation information is enclosed on the CD that accompanies this product. Specific information relating to operation, main menu structure and setting up parameters are contained in the CD.

Figure 4-2. Datamax M-Series Mark II Printer

4.5.1 Serial Strings

Every piece of information printed, the print format record must consist of the following three pieces of information:

- A header that is fifteen characters long. The header specifies which font is used and where the data is printed.
- Data to print.
- Termination character (such as a carriage return).

Header

A typical DPL serial string header consists of the following pieces of information:

Data	Definition	Description
STX	Start of text	Must have start of text at beginning of character stream
L	Label	Designation of label
1–4	Character rotation	Rotation of characters
_	Font	Font choice
_	Horizontal rotation	Horizontal (width) multiplier
_	Vertical rotation	Vertical (height) multiplier

Table 4-1. Serial String Header

Data	Definition	Description
000	Bar code	Dependant on type of bar code selected • If printing graphics, lines, boxes, and human-readable fonts 0 through 8, these three characters are ignored, but they still must be sent to the printer as 000. • For human-readable font 9, these three characters must be a number from 001 to 010 to select a font size for the CG triumvirate smooth font. Other selections are available if downloading from RAM, flash memory modules, ROM font modules. • For bar code fonts, these three characters represent a bar code height number. Numbers ranging from 001 (or 0.01 inch) to 999 (or 9.99 inches).
1250	Row address	Four characters are the vertical offset in hundredths of an inch
0200	Column	Four characters are the horizontal offset in hundredths of an inch

Table 4-1. Serial String Header

Data String, Carriage Return and Execute Command

After the header, a data string and a carriage return are needed for each item to be printed.

Data	Definition	Description
TEXT	Printed information (data string)	Data to be printed (limited by range of printhead). Data string is terminated by a carriage return
CR	Carriage return	Carriage return terminates data string
E	Execute	At end of label data information, execute signals the end of the label to the printer

Table 4-2. Data String, Carriage Return and Execute Command

4.5.2 Configuring Label Format in an RLWS Indicator

Use the following steps to configure label format in an RLWS indicator:

1. Determine the printing operation mode. This step is important to make sure the correct format is stored in gross, net or other format modes available in the indicator.
2. Create the format.

4.5.3 Gross Weight Label Format Example

The following is a format string example for a gross weight label configured in an RLWS indicator for a Datamax printer.

2	76	60	78	76	62	49	51	49	49	48	48	48	48	49	48	48	48	48	53	48	60	71	62	60	78	76	62	69	60	78	76	62	← Key In
STX	L	<	N	L	>	1	3	1	1	0	0	0	0	1	0	0	0	0	5	0	<	G	>	<	N	L	>	E	<	N	L	>	← Data Stream

Figure 4-3. Simple Gross Weight Data Stream/ASCII Example

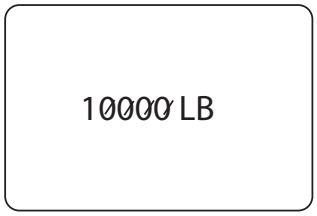

Figure 4-4. Simple Gross Weight Label Example

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Sample download label is available at www.ricelake.com/supports downloads/printers/label templates.

Label Formats Made Easy!

Easy **Revolution™** driven label setup with IQ plus® series indicators*. Download format strings for the ultimate in label design convenience.

DATAMAX® LABEL FORMAT STRINGS

Revolution label format strings are now available for :

- Gross Weight
- Gross, Tare, Net

DOWNLOAD
INSTRUCTIONS FROM WEB SITE:

1. Go to Support and click on Software/Firmware
2. Select Printers/Scanners and Software
3. Click on Get Downloads
4. Select Printers/Scanners
5. Click on Printer model
6. Click on the Download icon next to the Datamax Label Format Strings
7. Click on the Save button to save file to a directory on your PC

INSTALLATION INSTRUCTIONS:

1. Close your browser and open Revolution software on your computer
2. Select Open
3. Select the label format string you downloaded
4. Using Revolution software, you can modify the format string to meet your application
5. Download or send the format string to your digital weight indicator

5.0 Options

The following option is available with the SST3 printer.

- SST3 Printer Heater Kit, PN 111121
- SST3 Wireless Antenna Kit, PN 114543

5.1 Heater Kit Installation

WARNING *Installation of the optional heater kit requires work inside the printer enclosure. This procedure is to be performed by qualified service personnel only.*

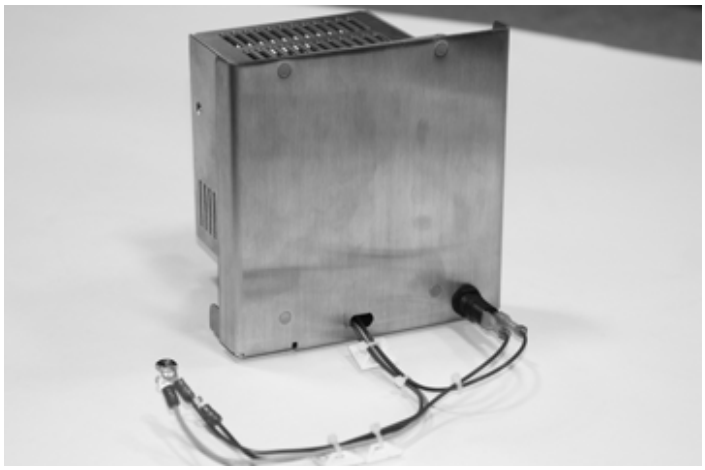

Figure 5-1. SST3 Printer Heater Kit

The Hoffman heater is designed to protect labels, sensitive mechanical, electrical and electronic equipment from the harmful effects of condensation, corrosion from condensation, and low temperatures. Thermostatically controlled, the fan-driven heater maintains a stable temperature within the enclosure to allow component parts to perform reliably over a longer period of time.

Whether installing the heater for the first time or replacing the unit, there are several steps involved with the installation.

The heater kit should be mounted to the enclosure panel using existing studs.

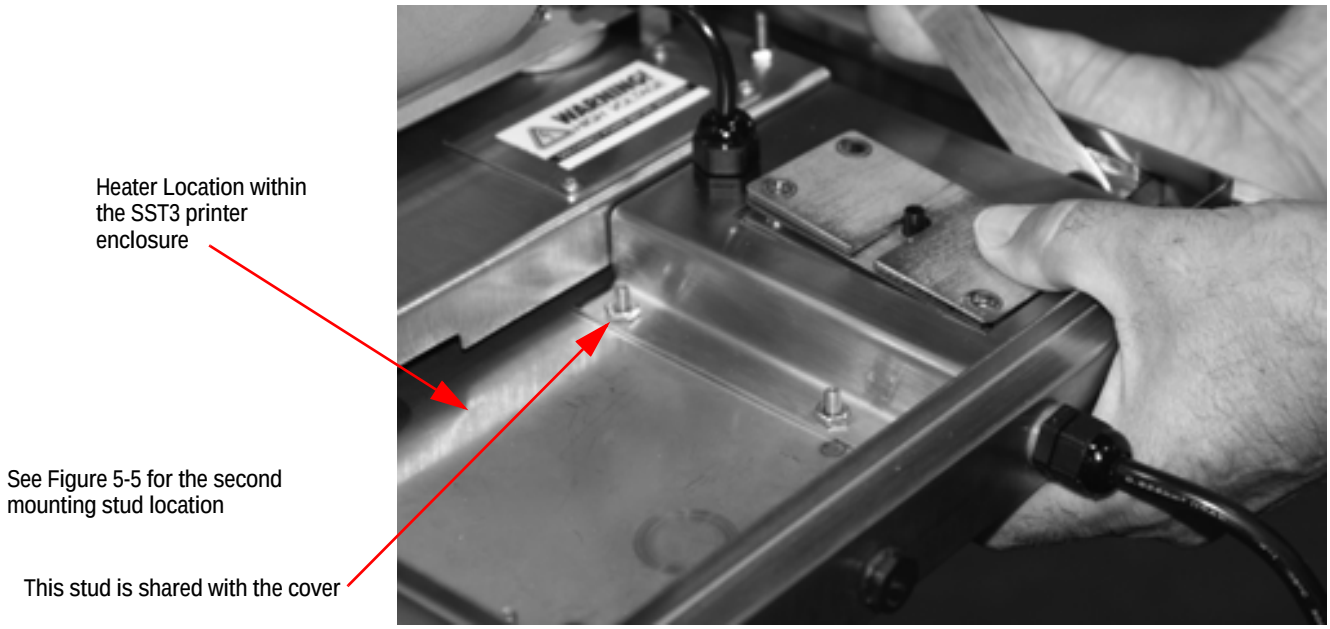

Figure 5-2. Hoffman Heater Location

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The heater kit comes with the following parts.

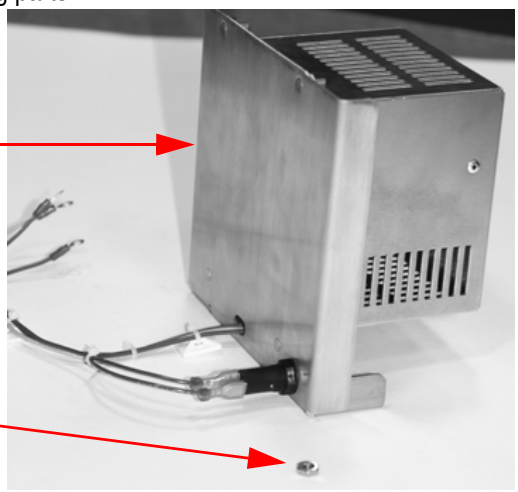

Figure 5-3. SST3 Printer Heater Kit Component Parts

Use the following steps and photos to install or replace the heater.

1. Unplug power to the unit.
2. Disconnect any cables such as the power cord and the communications cable located on the back of the printer, and the ribbon cable located at the front of the printer.

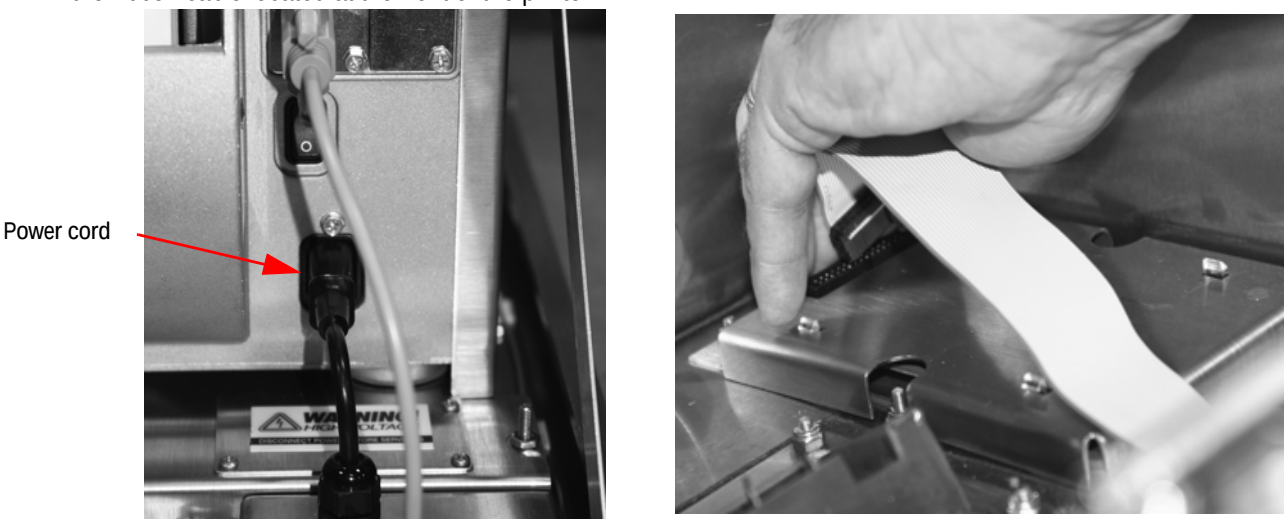

Figure 5-4. Disconnect Power and Printer Cables

3. Using a 3/8" socket, carefully remove the four nuts that are holding the printer pad to the printer base plate in the SST3 enclosure and set nuts aside.

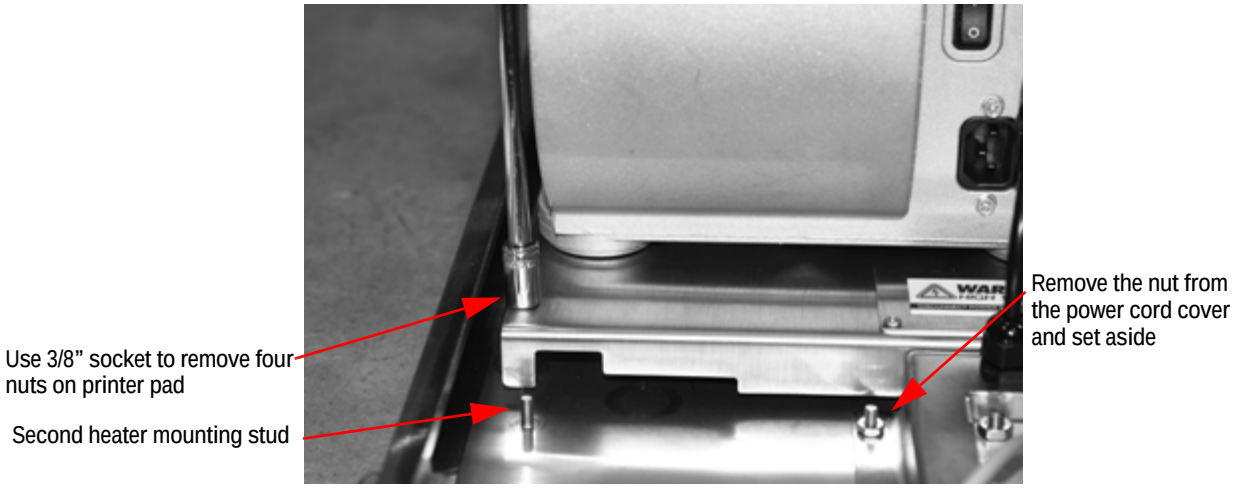

Figure 5-5. Unscrew Four Nuts Holding Printer Pad to Printer Base Plate

4. Gently pull the printer and printer pad off the printer base plate mounting studs and set aside. The printer base plate is now exposed.

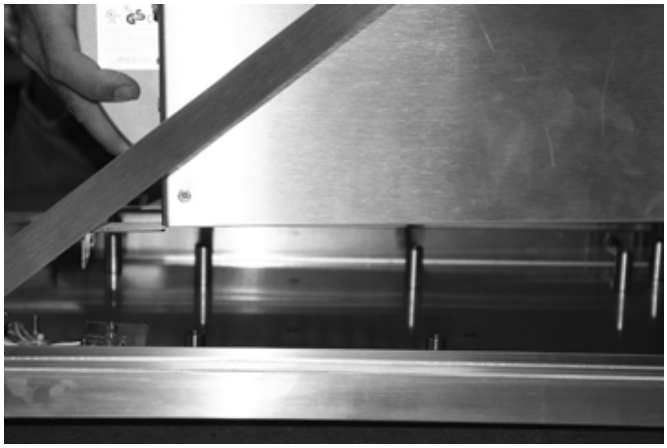

Figure 5-6. Pull Printer and Mounting Pad Off Base Plate

5. Remove the upper nut on the power cord cover.

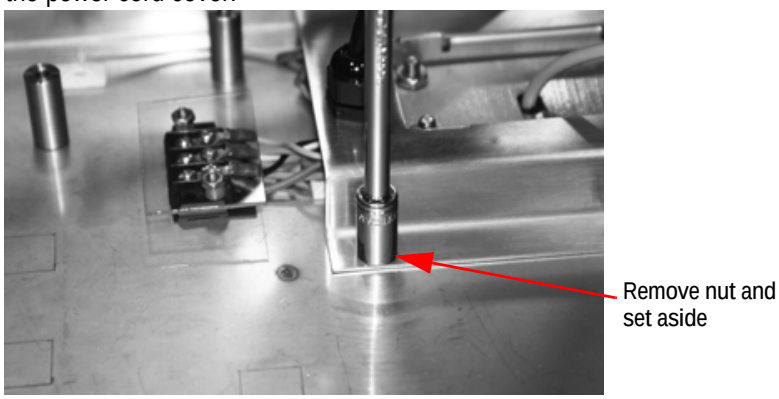

Figure 5-7. Remove Upper Nut of the Power Cord Cover Assembly

6. Remove the terminal strip nuts that are holding down the clear terminal strip cover using a 5/16" socket. Set the clear plastic terminal strip cover aside and ensure that the plastic spacers do not get lost. See Figure 5-9.

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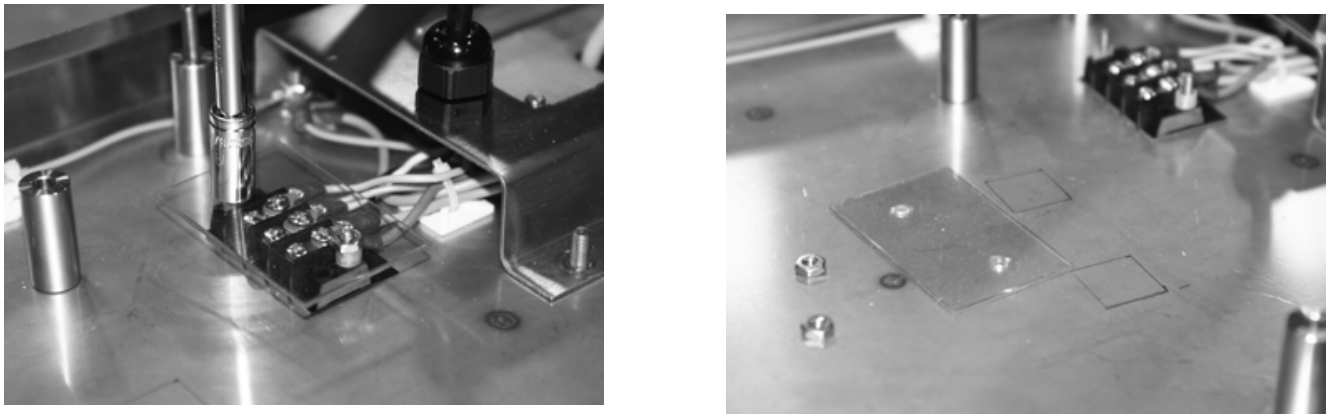


Figure 5-8. Terminal Strip Location, Wiring, and Clear Cover

7. Using a Phillips head screwdriver, remove the three open terminal screws located on the terminal block.

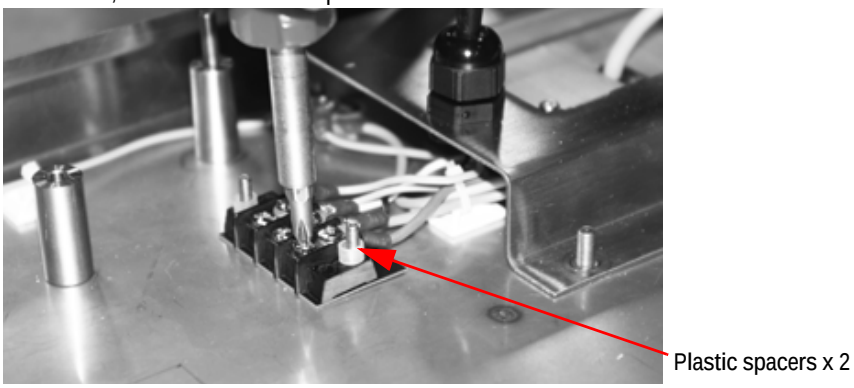


Figure 5-9. Remove Open Terminal Screws

8. Set the heater into position onto the two threaded posts and using a 3/8” socket, tighten up the nuts to secure the heater to the enclosure base.

Note *The heater kit comes with one nut. Use the second nut which comes from the upper left hand corner to secure the heater*

.

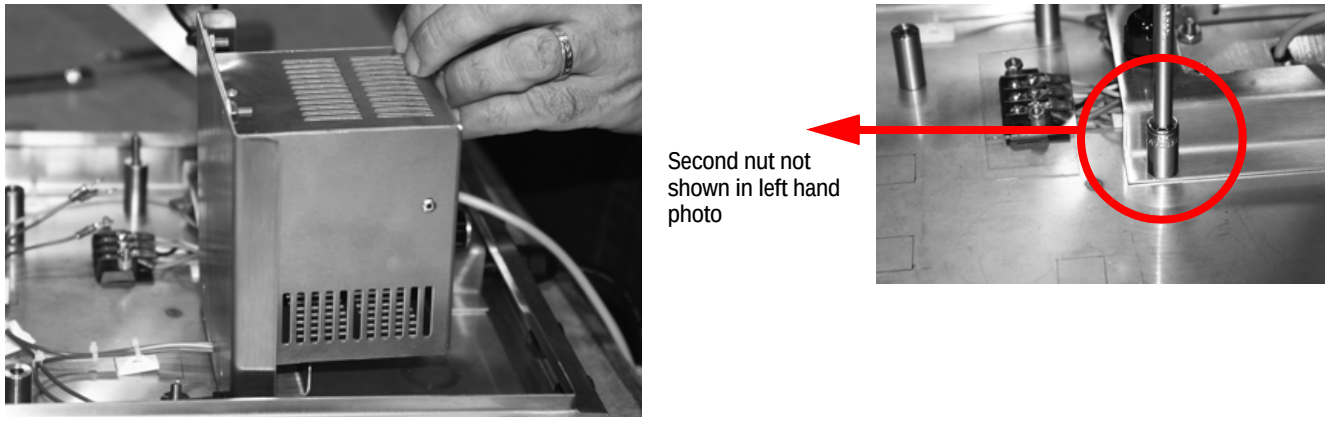
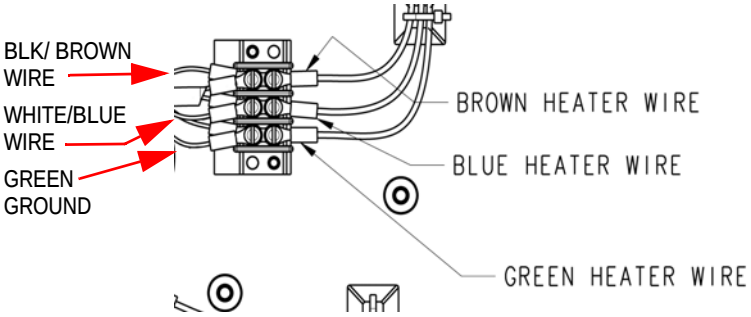


Figure 5-10. Secure Heater to Enclosure Bottom

9. Take the wire harness and match up the colors on the terminal strip block and the wire harness.

Figure 5-11. Color Match Wire Harness and Terminal Strip Wires

10. Connect the wire harness to the terminal strip block as shown.



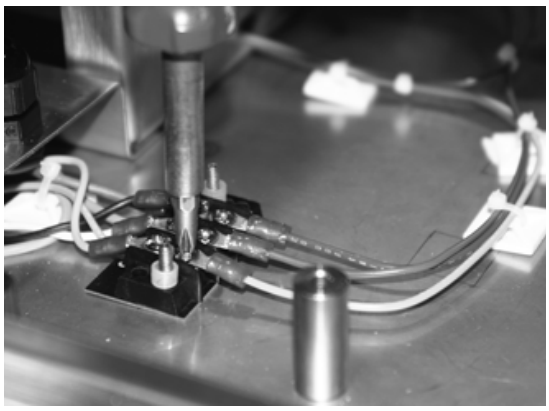


Figure 5-12. Connect Wiring Harness to Terminal Strip

11. Making sure the plastic spacers are in place, put the clear plastic terminal strip cover on top of the terminal strip and using the 5/16" socket, tighten the two nuts. This should be done by hand to snug the nuts. Over tightening can crack the clear plastic cover.

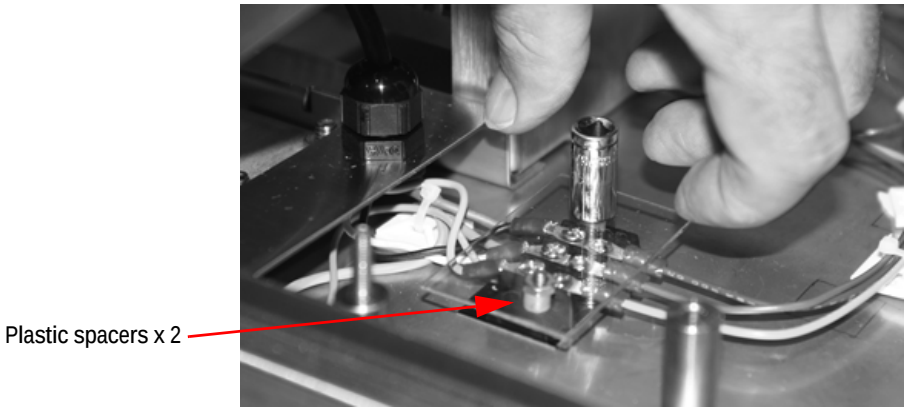


Figure 5-13. Replace Clear Plastic Cover and Gently Tighten

12. Gently peel off adhesive backing from the three square cable ties. The location of placement of the square cable ties are noted on the bottom of the SST3 enclosure. Press the square cable ties firmly onto the enclosure bottom where noted.

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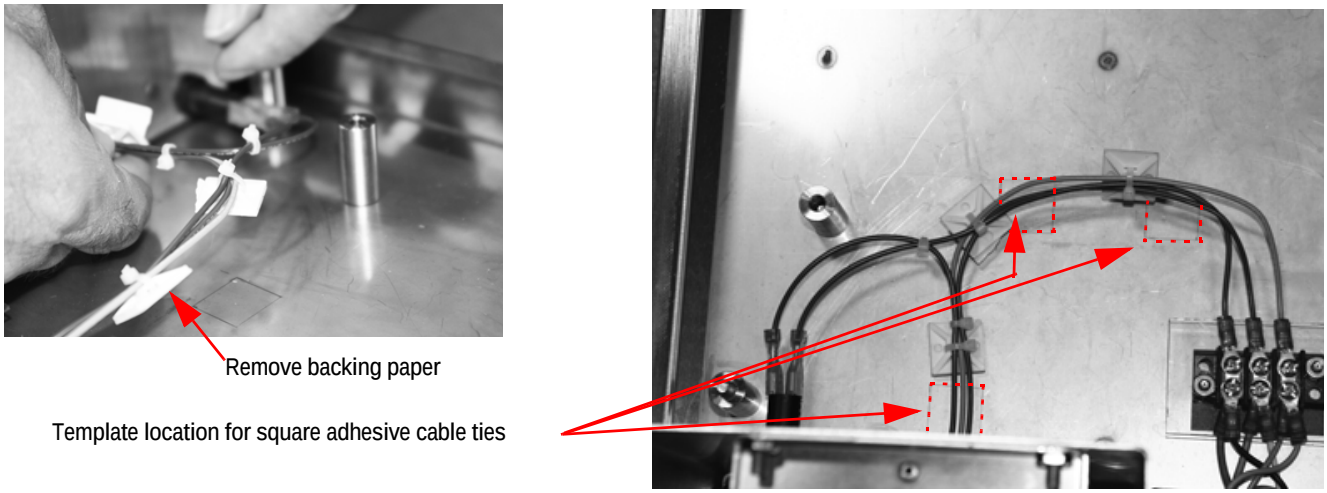

Figure 5-14. Secure Square Adhesive Cable Ties to SST3 Enclosure Bottom

13. Set the printer unit back down onto the printer base plate, lining up the four metal studs. Also ensure the ribbon cable at the front of the printer is also out of the way when placing the printer back into the enclosure. Note the ground wire location leading to the front of the SST3 enclosure. The wires should run between the side of the SST3 enclosure and the metal standoff. This will eliminate the risk of wires being pinched.

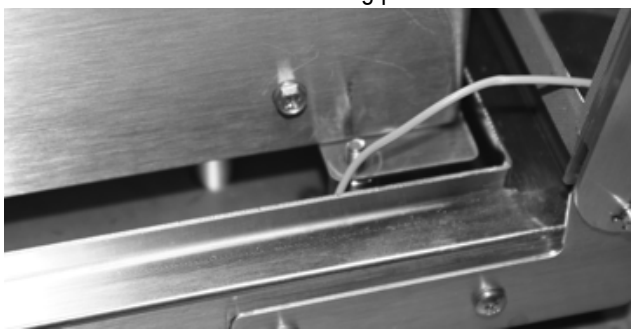

Figure 5-15. Don't Pinch Ground Wire

14. Secure the printer pad to the enclosure bottom by securing four nuts and tightening using a 3/8" socket.

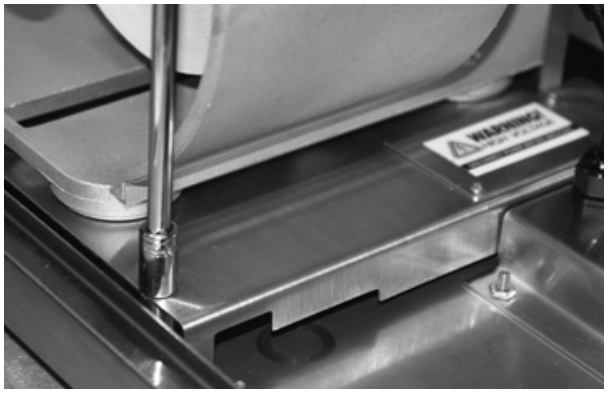

Figure 5-16. Secure All Four Nuts Holding Printer Pad to Enclosure Bottom

15. Re-attach the ribbon cable located at the front of the unit.

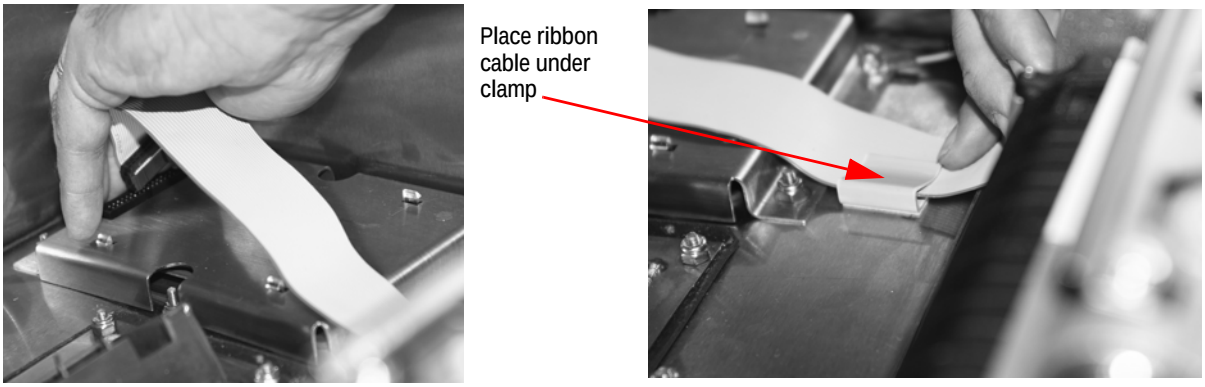

Figure 5-17. Re-Attach Ribbon Cable

16. Re-attach any other cables.

5.1.1 Heater Fuse Replacement

The Hoffman heater has a fuse that could possibly need replacing. Use the following steps to replace the fuse.

1. Using a slotted screwdriver, push against the fuse holder cover and turn at the same time. This will dislodge the fuse from the receptacle.

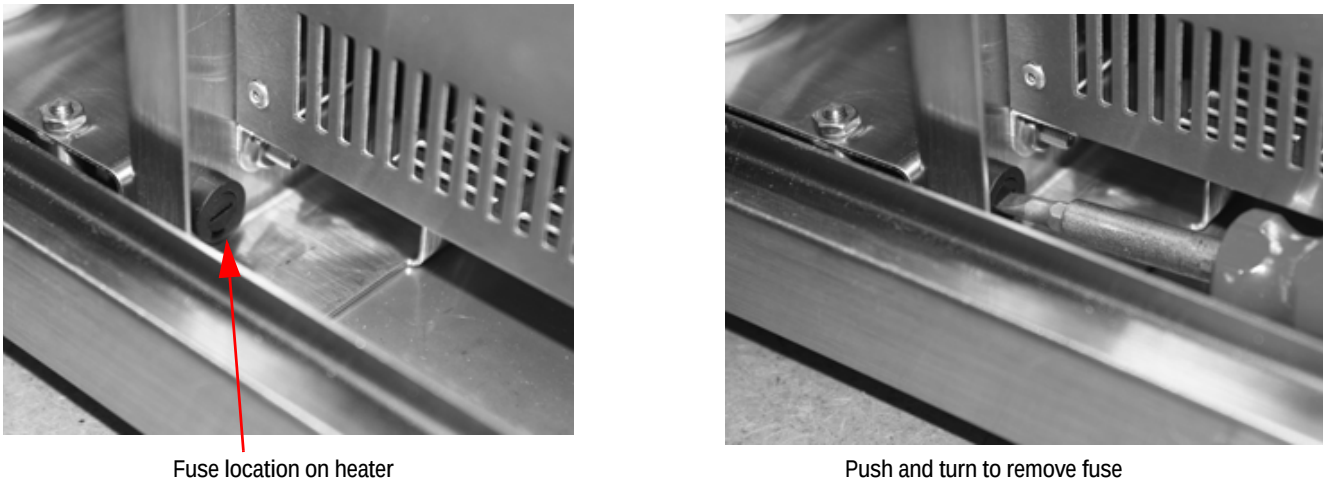

Figure 5-18. Push and Turn Fuse Receptacle to Remove

2. Pull the actual fuse from the receptacle and replace with a new fuse.

Figure 5-19. Remove Actual Fuse From the Receptacle and Replace with a New Fuse

3. Reverse the removal steps to re-install the fuse holder cover.

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5.2 Wireless Antenna Kit

Use the following procedure to install the wireless antenna option on the SST3 Printer.

This kit contains the following items:

- Communication Card (PN 103373)
- Antenna
- Ribbon Cable
- Standoffs

The following list of tools is required to install the wireless antenna option:

- #2 Phillips head screwdriver
- 7/16" Socket
- 9/32" Socket

5.2.1 Prepare the Printer

1. Touch a bare metal part of the printer frame to dissipate any static electricity that may be present.
2. Turn the printer off and unplug from the outlet.
3. Unlatch the SST3 hinges.
4. Remove screws from the printer enclosure (6 total).
5. Remove the metal cover which houses the CPU board.

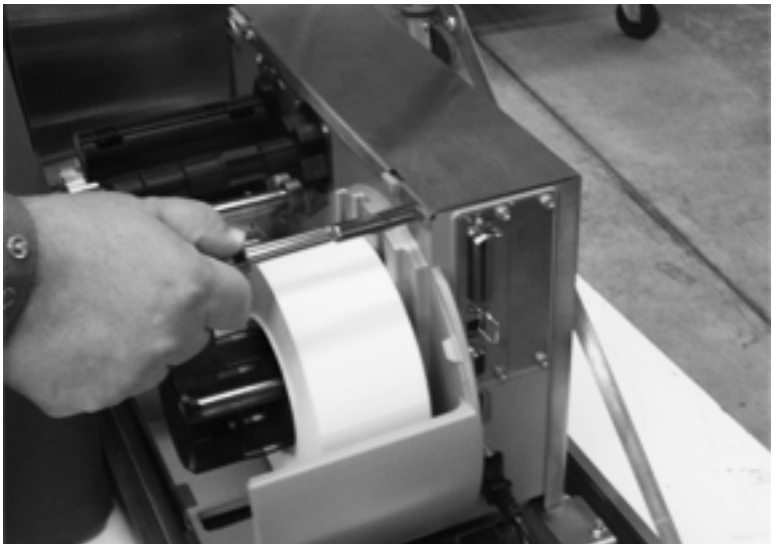

Figure 5-20. Remove Screws from Enclosure

6. Remove the two screws and the cover plate from the rear of the printer using a #2 Phillips head screwdriver or a 9/32" socket.

Figure 5-21. Remove Screws from Cover Plate

5.2.2 Install the Communication Card

1. Insert the two supplied standoffs into the printer's main board as shown using a gentle twisting motion on standoff, being careful not to damage the board during assembly.

With t-shaped end out as shown, insert the two standoffs on the main board

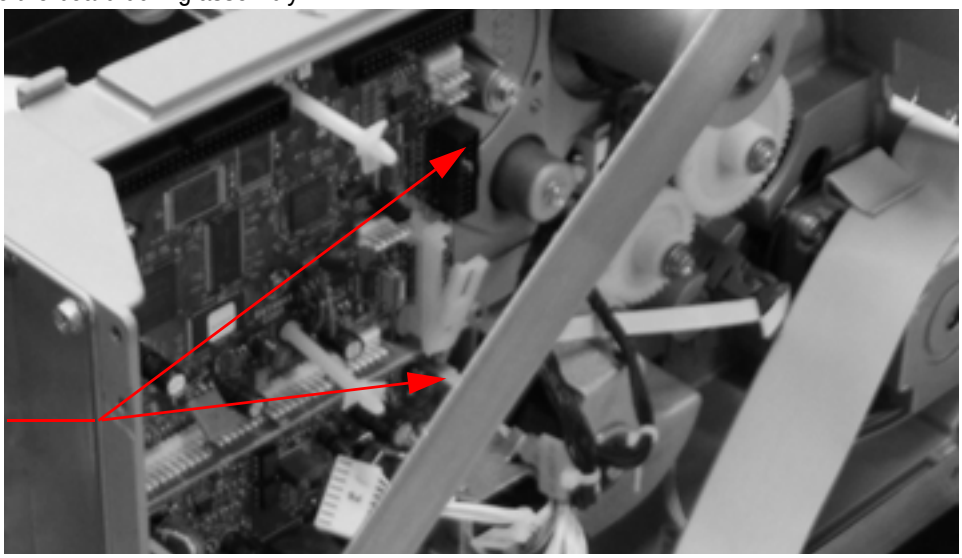

Figure 5-22. Insert Standoffs On Main Board

2. Slide the communication card into the rear of the printer. Align the two holes in the communication card with the two previously installed standoffs.

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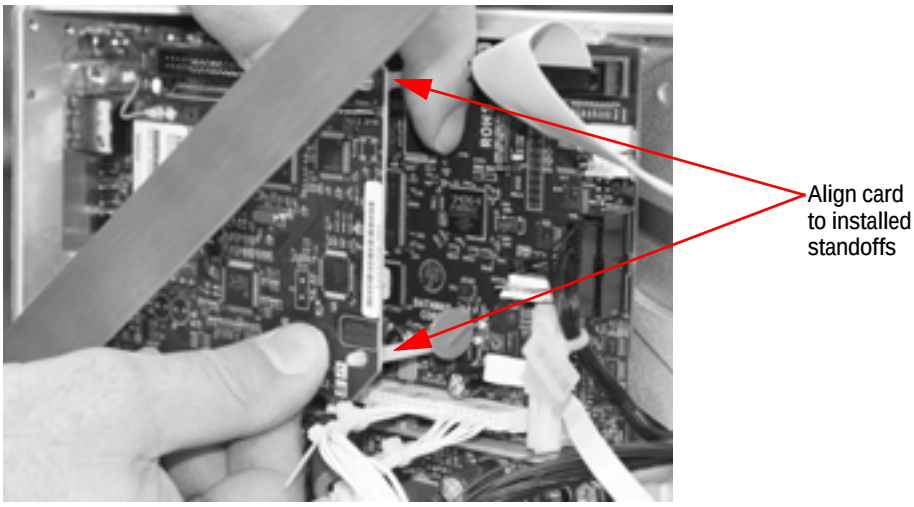

Figure 5-23. Align Communication Card to Installed Standoffs

3. Press the communication card carefully onto each of the standoffs until standoff secures card in place.
4. Install the two previously removed cover plate screws.
5. Install each end of the supplied ribbon cable into its corresponding connectors on the printer's main board and communication card. Use care to prevent damage to either board during cable assembly.

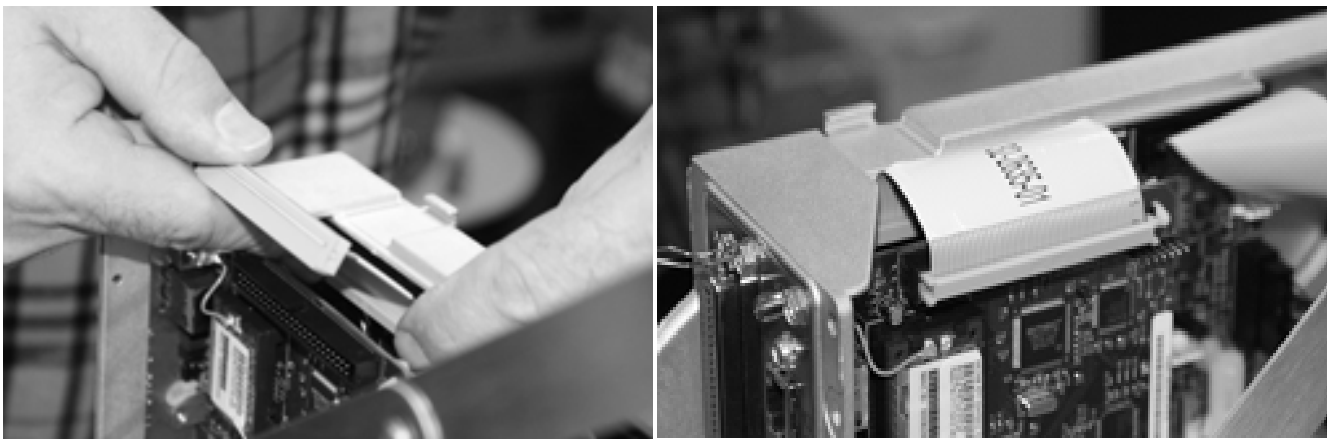

Figure 5-24. Install Ribbon Cable

6. Re-install the printer's cover and associated screws.

5.2.3 Install the Antenna

1. Using a 7/16” socket, remove the four nuts holding the split communications cable plate in place. Take care in removing the nuts as they could slip and fall down between the plate and the printer enclosure. Set the nuts aside.

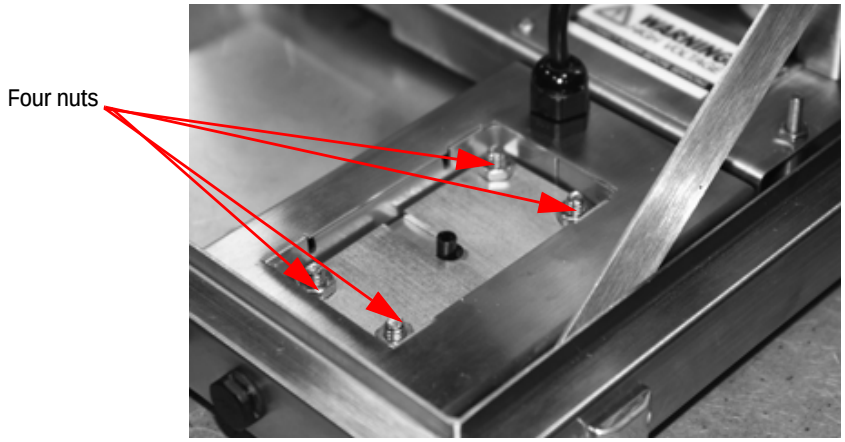

Figure 5-25. Split Communications Cable Assembly in the SST3 Printer Enclosure

2. Pull the SST3 enclosure forward so that it hangs slightly off of table edge to allow access to the bottom access hole.
3. Remove split communications cable plates by pushing with fingers up through the bottom access hole from the underside to dislodge the split communications cable plates. Catch bolts if they fall through. Set aside.

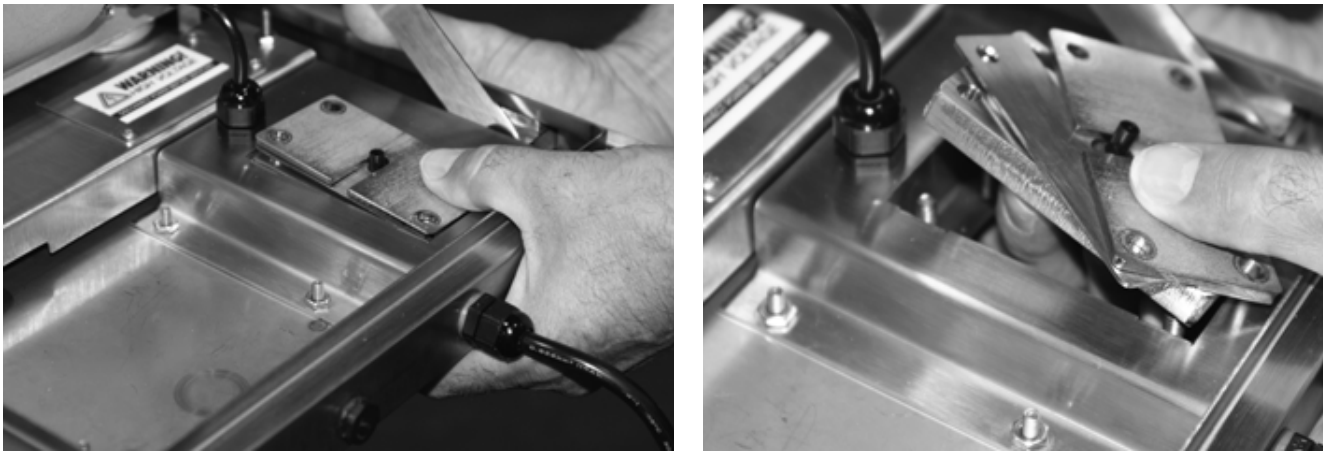

Figure 5-26. Remove the Component Parts of the Split Communications Cable Assembly

4. The split communications cable plate is made up of several individual pieces.

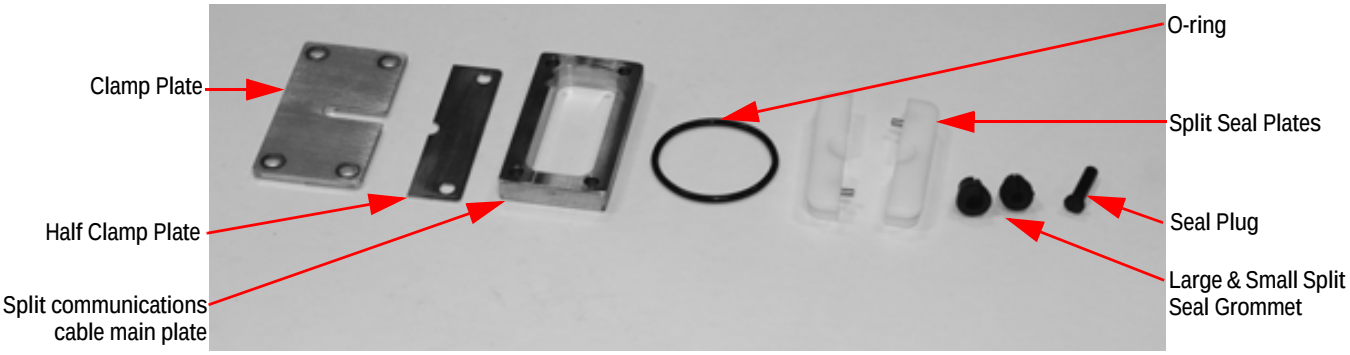

Figure 5-27. Component Pieces

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5. Remove the four bolts from the printer case. These bolts can be saved or discarded.

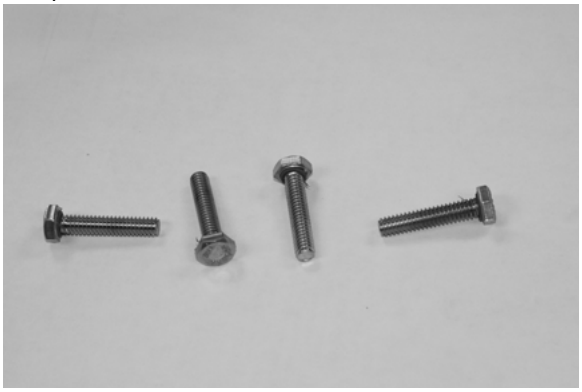

Figure 5-28. Four Bolts Removed

6. Loosen four screws on antenna assembly so the four bolts attached are loose and flexible yet attached to the plate.

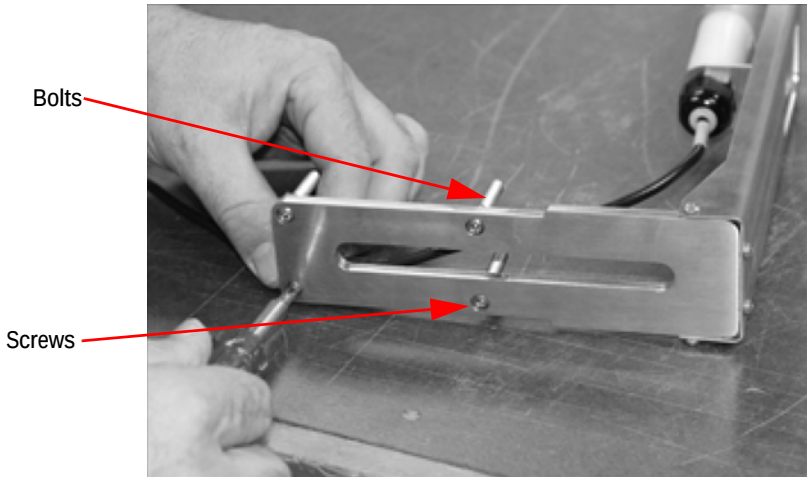

Figure 5-29. Loosen Four Screws on Bottom of Antenna Assembly

7. Insert four loosened bolts on antenna kit through the printer base, along with cable through the opening in the base.

Figure 5-30. Installing Antenna Kit Bolts and Cable Through Printer Base

8. Ensure the rubber gasket is seated properly around the bolts in the SST3 printer enclosure.

Figure 5-31. Press Down Rubber Gasket Around Bolts

9. Set the main plate over the four studs with recesses around the four holes located downward and press down.

Note *Ensure that the split communications cable main plate is oriented so that the tapered side is facing up. An easy way to tell if the main plate is oriented correctly is to note that the four holes on the main plate have counter bores which should face down. Refer to Figure 5-32.*

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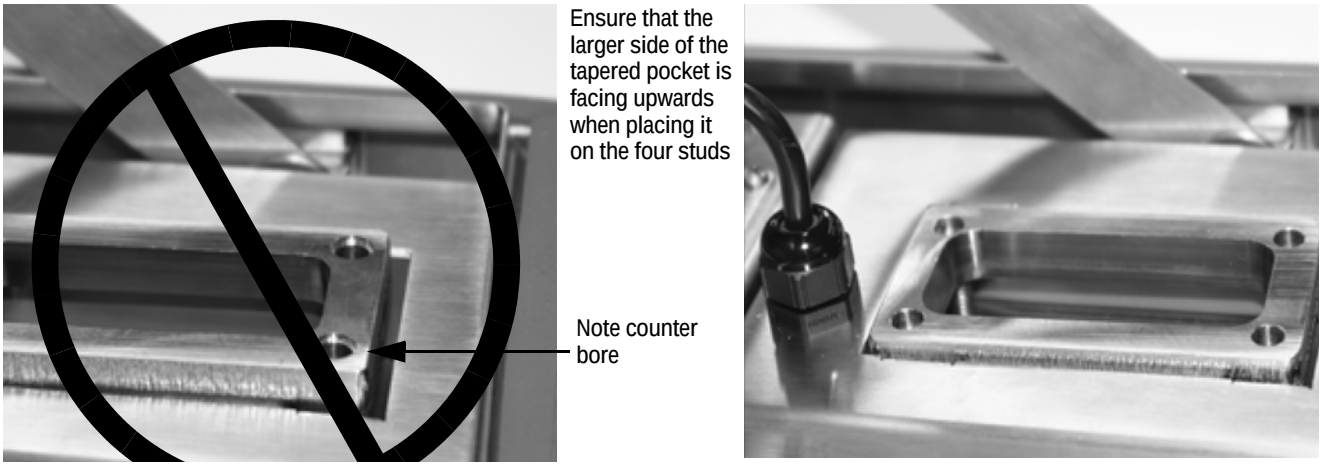


Figure 5-32. Incorrect and Correct Orientation of Main Plate

10. Push the entire SST3 enclosure unit back onto the table or other sturdy work surface.
11. Assemble the split seal plates back together with the cable in between (Figure 5-33, left image).

Note

Run finger across the split seal plates to ensure there is no dirt or oil on the surface prior to joining the two surfaces together.

Make sure the larger diameter hole side is facing upwards when putting the two pieces together.

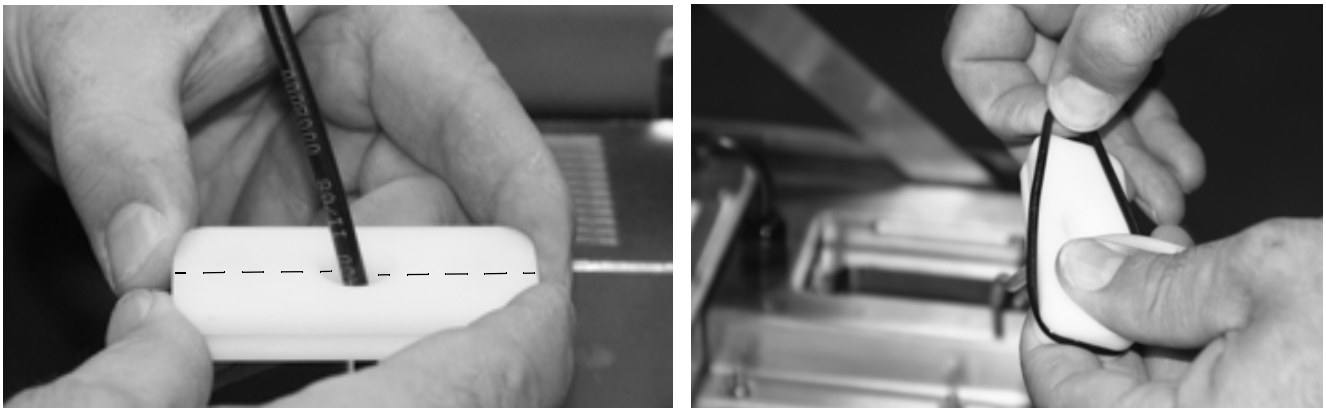
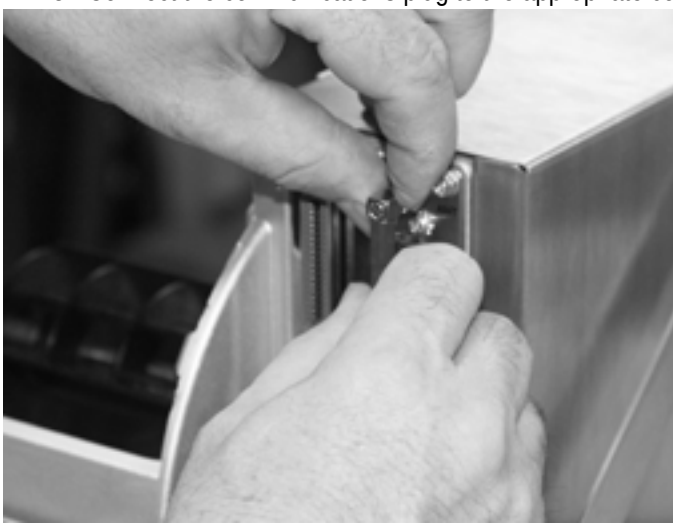


Figure 5-33. Assemble The Split Seal Plates Together

12. Place the O-ring over the cable end and into the groove around the split seal plates. This will hold the plates together and also offer a watertight barrier.

13. Connect the communications plug to the appropriate connection on the back of the printer.



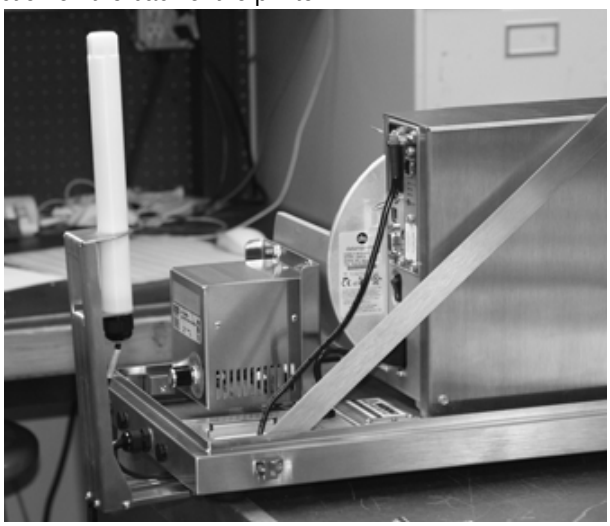


Figure 5-34. Connect the Communications Cable to the Back of the Printer

14. Carefully push the whole split seal assembly down into the printer enclosure as shown below.

Figure 5-35. Seat the Split Seal Assembly

15. Wrap a small hole grommet that is included with the printer around the cable with the small end of the grommet pointing downwards. Orient the grommet split to a position that is 90 degrees to the split in the split seal insert. Press the grommet into the tapered hole in the split seal insert. At this time, position the cable as shown below. See Figure 5-36.

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Make certain slack is present as shown in picture to allow sealing of cable to print case

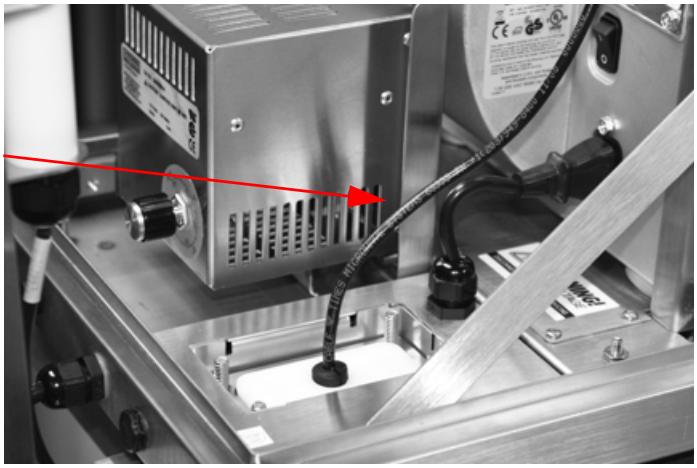
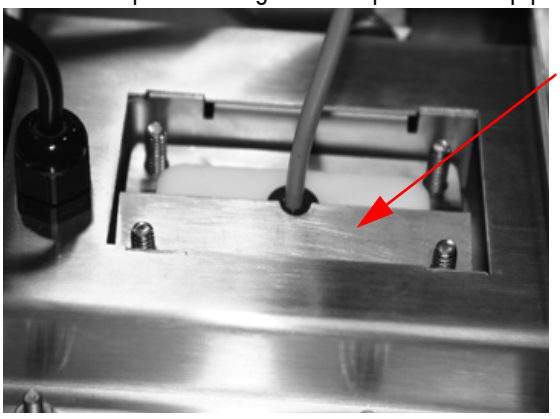


Figure 5-36. Insert Split Grommet Onto the Split Seal Plates

16. Place the half clamp plate onto the studs, then place the clamp plate onto the studs with the step facing down and the half plate nesting in the step of the clamp plate.



Half clamp plate

Clamp plate - note the step for the half plate

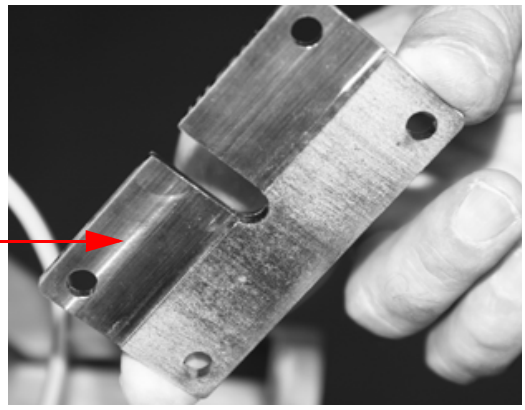


Figure 5-37. Place Half Clamp Down on Assembly

17. Press the assembly down and partially tighten the four nuts that hold the entire assembly in place. Once all the nuts are started, tighten the nuts in a diagonal sequence until all the nuts are tight using a 7/16" socket and torque wrench. Tighten to 30 in/lb torque.

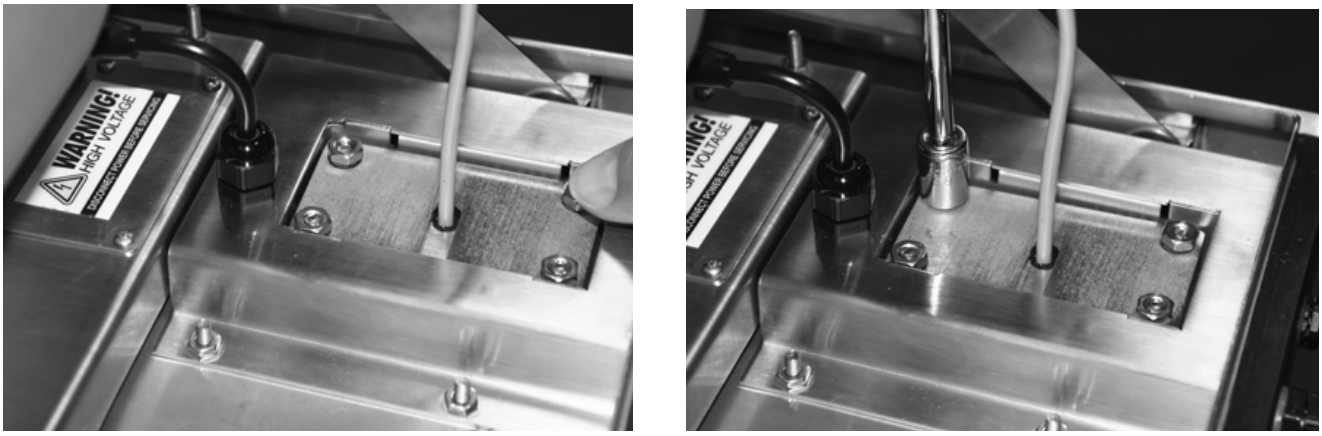


Figure 5-38. Tighten Up The Entire Assembly

18. When tightening plates make certain to allow enough slack in cable.

Make certain slack is present as shown in picture to allow sealing of cable to print case

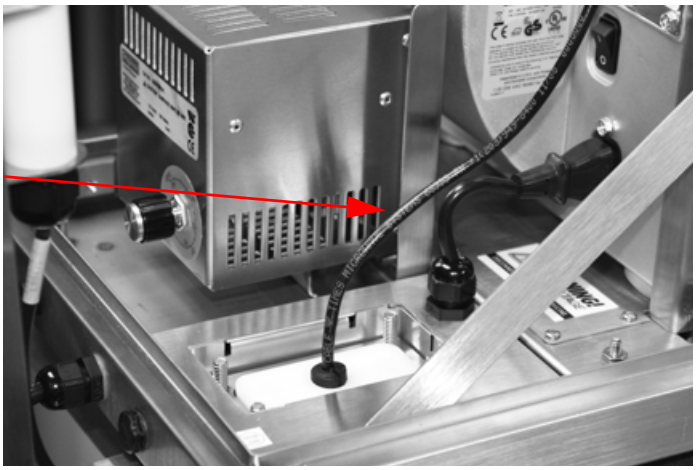


Figure 5-39. Keep Proper Amount of Slack in Cable

19. Close and latch printer cover.
20. Turn printer case on side to expose four mounting screws on bottom.
21. Tighten four screws with Phillips Screwdriver.

Four mounting screws

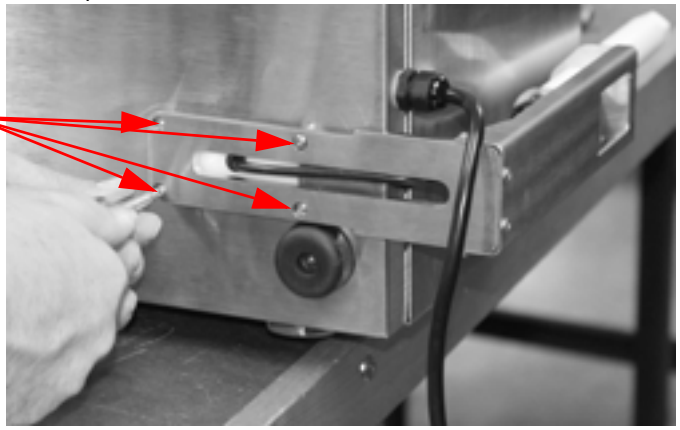


Figure 5-40. Tighten Four Mounting Screws

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22. Set printer on feet again.

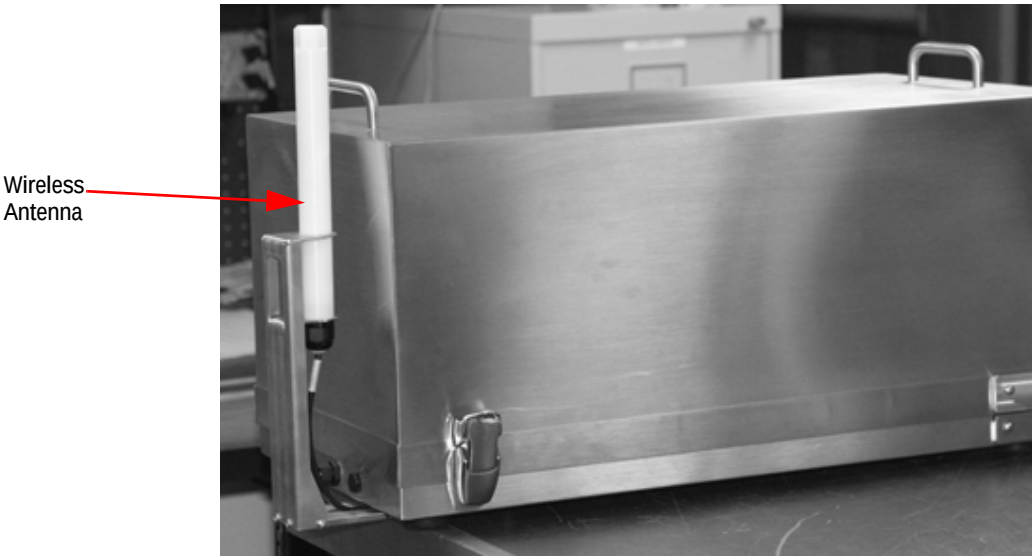

Figure 5-41. Installed Wireless Antenna

23. Plug printer back in. Open cover and turn on power.
24. After printer display shows it is ready, configure printer and devices to communicate with each other per the instructions provided by Datamax (DMXrfNet^{II} and DMXNet^{II} Card Option Operation Instructions, Network Setup, Page 5).

6.0 Specifications

Printing

Type	Direct thermal or optional thermal transfer
Print Speed	2" – 10" per second (51mm – 152mm) in.5" programmable increments
Resolution	203 dpi (8 dots/mm)
Resident Fonts	Ten alphanumeric fonts from 0.03" H – 0.25" H (0.9mm – 6.26mm) including OCR-A, OCR-B (size and character set III), and a CG Triumvirate smooth font from AGFA
Downloadable Fonts	True-Type, AGFA Intellifont, Bitmap
Font Expansion	All fonts expandable vertically and horizontally up to 24x; fonts and graphics can be printed in four directions: 0˚, 90˚, 180˚, and 270˚
Bar Codes	Code 3 of 9, UPC-A, UPC-E, Interleaved 2 of 5, Code 128, EAN-8, EAN-13, HIBC, Codabar, Plessey, UPC 2 and 5 digit addendum's, Code 93, Postnet, UCC/EAN Code 128, Telepen, UPS MaxiCode, FIM, PDF417, USD-8, Datamatrix, QR Code, Aztec, TLC 39, Micro PDF417, RSS

Media

Width	1.0" – 4.65" (25.4mm – 118mm)
Length	0.25" – 99" (6.35mm – 2514.6mm) at 100 dots per inch
Thickness	0.0025" –.010" (0.0635mm – 0.254mm)
Type	Roll-fed or fan fold materials, die cut or continuous labels; perforated or continuous tag/ticket stock
Supply Roll Capacity	8" (203mm) maximum outside diameter on a 3" (76mm) core. 7" (178mm) maximum outside diameter on a 1.5" (38mm) core. Fanfold stock accepted from rear and bottom of printer.
Media Supply	Solid metal hanger
Media Sensing	"See through" for liner backed die cut labels and tags. Reflective sensor for black mark label media.
Thermal Transfer Ribbon	Black or colored inks; 360 meters long, 4.6 microns, back-coated, ±10% label width. 1968 feet (600 meters) max

Switches

Switches	CANCEL, PAUSE, and FEED. Variable Head Temperature Control

Communications Interfacing

Parallel and IEEE	
RS-232C	2400, 4800, 9600, 19.2K, 28,800, or 38.4K baud
USB	
Wireless	
Character Set	ANSI ASCII character set.
Word Length	Selectable 7 or 8 bit data format
Handshaking	XON/XOFF (on receive mode only) and CTS/DTR
Input Buffer	Approximately 7000 bytes; XOFF is transmitted and DTR goes low when 60 bytes are available in the buffer. XON is transmitted and DTR goes high when 1000 bytes are left in the buffer

Characters transmitted with no parity from the printer

Electrical

Input Voltage	103.5 - 126.5 or 207 - 253 VAC, 47 -63 Hz - Must use appropriate heater and power cord for voltage used

Note *The GFI socket outlet should be installed near the equipment and be easily accessible*

Heater Circuit Protection	At 115V = 2.0A Fastact 230V = 1.0A Fastact
Grounding	Unit must be connected to a properly grounded receptacle
Power Consumption	90 watts (standby - 10 watts)
UL Listed (pending)	Type 4X for indoor use only - NEMA 4X, IP66, IP69K

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Memory Modules

Internal Memory Module	FONT/FLASH modules
PCB without fonts	4 MB addressable

Font Modules

Font Modules	Eight available
Range of Fonts	ILPC, Kanji Simplified Chinese and I/O Expansion Board

Environmental

Operating Temperature	40°F – 95°F (4°C – 35°C)
Humidity	10% – 95% non-condensing
Ventilation	Free air movement
Dust	Nonconducting, non-corrosive
Electromagnetic Radiation	Moderate RF fields can be tolerated

Mechanical

Size	27-1/8”L x 14” W x 13-5/8” H
Weight	Approximately (65-70 lbs)

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