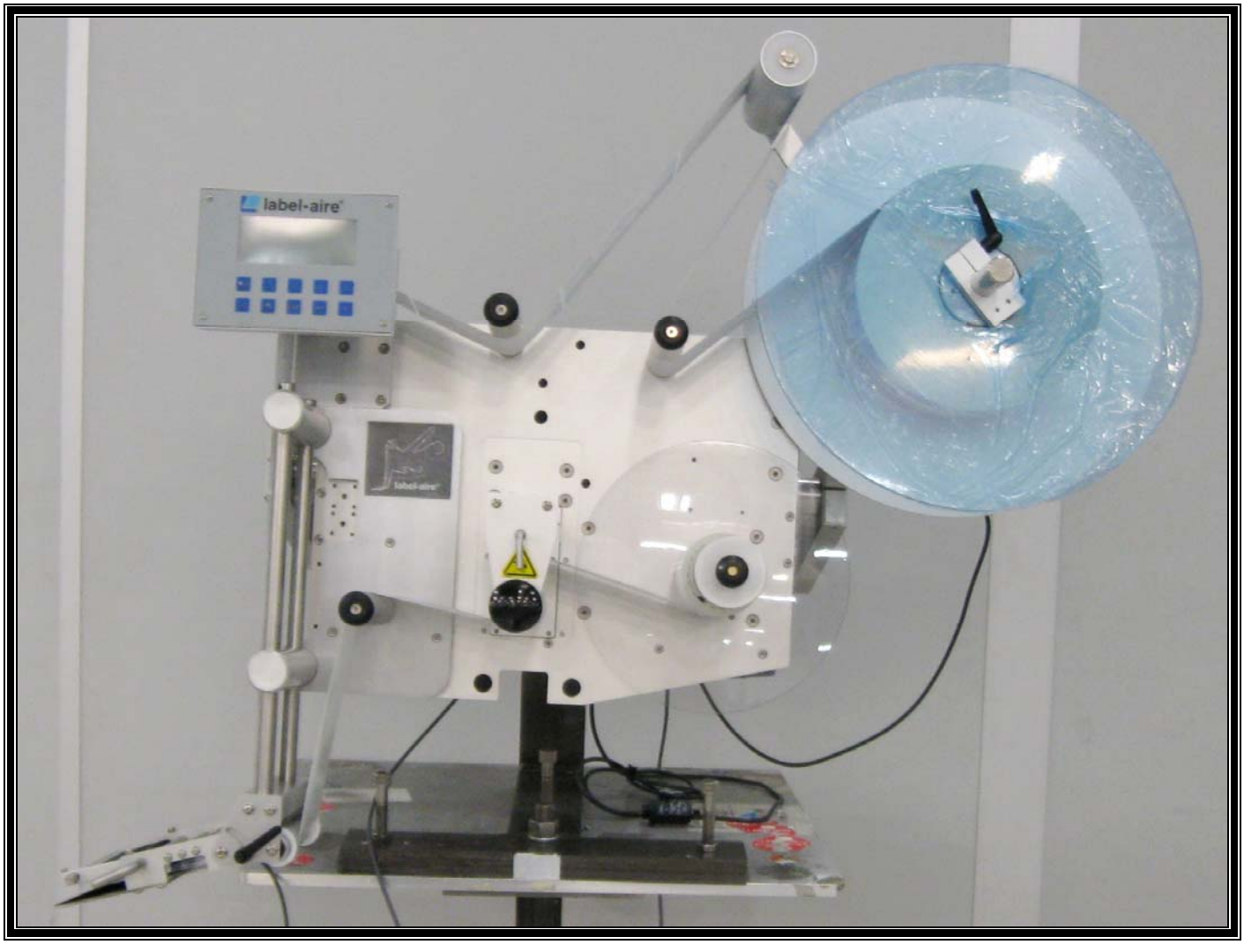
label-aire
labeling made easy

3115NV

Manual 3115NV Rev.01

P/N 7408830-100

2010


label-aire

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INTRODUCTION

The Label-Aire model 3115NV is a high speed label applicator used to apply pressure sensitive labels to moving products of the same size, such as packages on a production line. It is essentially a self contained module that may be mounted in almost any position adjacent to the production line, to apply labels to the top, sides, or bottom of packages as they pass by.

Labels are supplied on rolls that consist of a web on which the labels are maintained by their adhesive until peeled from the web during application. In a typical set-up, a photoelectric sensor detects the leading edge of a package and the applicator applies the label, with placement accuracy typically within ± 1/32 inch.

The 3115NV is standard with 1500 inch/minute web speed. Slower web speeds are provided for wider label capacities.

For safe trouble free operation, the instructions in this manual must be carefully followed during set-up, operation, change-of-rolls, cleaning, and maintenance. Also the specified environmental conditions must be maintained.

ELECTRICAL SUPPLY: 108-132 Volts, 5 Amps, 54-60 Hertz, Single Phase

A three meter long, three wire cable with 1.00mm² conductors rated at 10 amperes (in accordance with CENELEC HD-21) is provided for the electrical connection to the IEC 320 receptacle of the applicator. The end of the power cord is terminated with a NEMA 5-15 plug.

OR

207-253 Volts, 5 Amps, 47-53 Hertz, Single Phase

A three meter long, three wire cable with 1.00mm² conductors rated at 10 amperes (in accordance with CENELEC HD-21) is provided for the electrical connection to the IEC 320 receptacle of the applicator. The end of the power cord is unterminated and must be fitted with an appropriate plug at installation

ENVIRONMENT: Operating temperature: 40-104 degrees F Humidity: 20-95% RH, Non condensing

NOTE: The model 3115NV is not intended to be operated in an environment where flammable or explosive gases are present. The 3115NV is not to be used in direct contact with food products.

READ THE INSTRUCTIONS COMPLETELY. This manual includes all of the information that you'll need to set-up the applicator under normal operating conditions. The instructions include important safety precautions which must not be ignored.

READ THE INSTRUCTIONS IN ORDER. The instructions are written as numbered steps that will take you safely and efficiently through the set-up process. Any steps performed out of sequence may result in a hazard and the applicator may not operate properly.

UNDERSTAND THE TERMS USED. Although this manual uses few technical terms, some vocabulary may be new to you. Most of the words are defined the first time that they are used. If you don't know what a word means, check the Glossary.

WORK CAREFULLY. Although setting up the machine is not difficult, it does take time. Do not rush through the process: careful work will produce good results.

TRY AGAIN IF SOMETHING DOES NOT WORK. Although a machine malfunction is possible, most problems happen because the machine is not set-up right. If the machine doesn't operate correctly, back up and try again.

KNOW HOW TO FIND WHAT YOU NEED. This manual contains all of the information needed including a Table of Contents, Table of Figures, Glossary, and Index. Use these tools to locate information quickly.

UNDERSTAND OUR TYPOGRAPHIC CONVENTIONS. Machine keys and switches are designated by brackets: "Press [FEED]," means "Press the feed key." Messages shown on the microprocessor display are shown by type style: THIS TYPE STYLE INDICATES MICROPROCESSOR TEXT.

NOTE: Paragraphs that are in this style give information to help handle special circumstances, or re-emphasize important information.

FOLLOW ALL SAFETY INSTRUCTIONS. The model 3115NV applicator has been provided with a number of safety features. Observe all safety warnings and under no circumstances attempt to remove or defeat safeguards or operate the machine in a manner contrary to the instructions.

CAUTIONARY SYMBOLS AND PICTOGRAMS

The following symbols may be encountered on or in the machine and in the Technical manuals. They serve to alert you to potential hazards that may cause serious harm to personnel.

This symbol warns you that there is a danger of being injured by the drive and/or nip rollers. Read the text and follow the instructions carefully to avoid an injury.

This symbol indicates the presence of an uninsulated dangerous voltage within the applicators enclosure.

This symbol indicates a high noise level is present. Ear protection must be worn to avoid hearing loss.

This symbol indicates that the machine should not be operated unless the covers/guards are in place.

This symbol indicates that only authorized personnel should perform the procedure.

This symbol indicates that it is important to maintain a safe air pressure.

This symbol indicates that you should read the Technical Manual before proceeding.

(I) This symbol on an electrical power switch indicates SWITCH ON.

(O) This symbol on an electrical power switch indicates SWITCH OFF.

This symbol indicates the protective EARTH connection.

INITIAL WARNINGS

The model 3115NV has been designed with the safety of the operator and service personnel in mind. Proper safety features have been incorporated and the applicator safety tested to assure safety if used as intended. Refer to the CAUTIONARY SYMBOLS AND PICTOGRAMS definitions on the preceding pages.

A risk assessment has been conducted which indicates most hazards identified by the machinery directive to be low to nil risk. Apparent moderate risks were determined to be:

The Web Drive Rollers

The potential for finger pinch exists between the drive and pinch rollers. Keep hands clear of the drive and pinch rollers whenever the machine is ONLINE.

Enclosure

A potential for electrical shock exists if the cover is removed. The cover must not be removed except by a qualified service person. The power switch is to be turned OFF (O) and the power cord removed prior to removing the cover.

Environmental Exclusions

The model 3115NV is not intended to be operated in an environment where flammable or explosive gases are present. The 3115NV is not to be used in direct contact with food products.

APPLICATOR POWER CABLE

Do not connect the machine to the AC power source until directed to do so in the set-up procedures.

115V applicators are shipped from the factory with a six foot three pin power cord. One end plugs into the IEC receptacle on the side of the applicator. The other end connects to the customer's properly grounded and polarized power outlet.

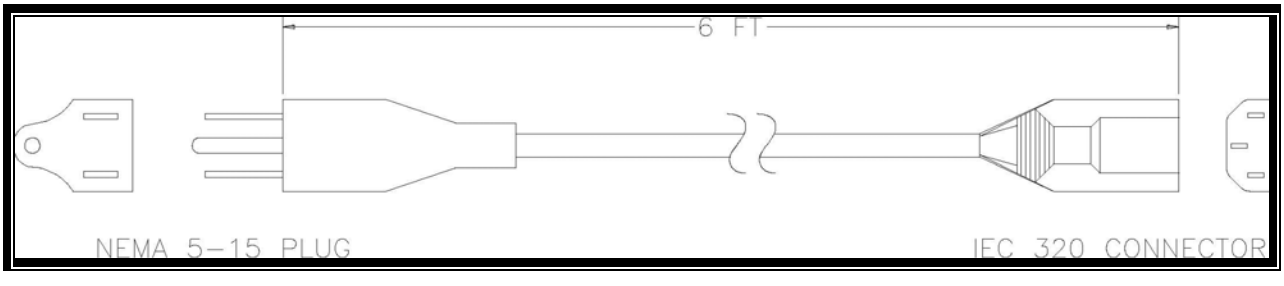


Figure 1 115V Power Cable

220V applicators are shipped from the factory with an unterminated power cord. An appropriate grounding polarized plug will need to be installed on the power cord. Use the drawing below to wire in the appropriate grounding polarized plug for use in your facility.

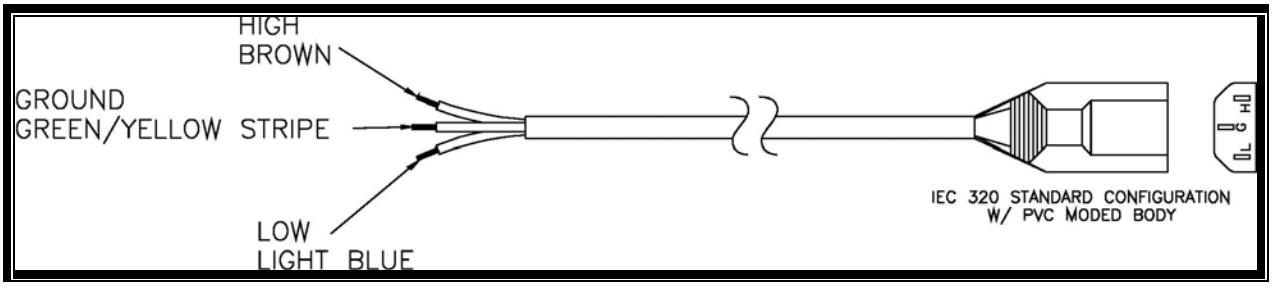


Figure 2 220V Power Cable

MECHANICAL PLACEMENT OF THE MACHINE

The model 3115NV is mounted at the installation site to provide a safe, adjustable and stable alignment of the label to be applied, with the product.

The physical properties of the applicator are shown in Figure 3. The orientation of the applicator label dispenser can be upright and above, nose up, nose down, and reels up. A gimbal function is provided when the U-arm is used to support the applicator housing by its pivot attachments and by the freedom provided by rotation about the 3/4 inch mounting bolt. The structure supporting the U-arm/applicator body must be designed to safely support the 140 lb (63.5 Kg) weight and in some orientations, the moment generated by the support extended out by almost 12 inches (30cm).

If the installer selects a support base that is mounted on casters, the maximum overturning moment that can be experienced when the floor is non-horizontal must be considered in the design of the support. Some safety agencies specify that for a truly portable stand that the design should consider safely supporting the applicator in its worst orientation for a 10 degree tilt. Also, the casters should have locks to prevent inadvertent motion of the support.

All portable supports should have a means to anchor the unit to the floor if the applicator need not be moved for periods between applying labels.

Place the machine so that the peeler plate tip is 1/8 inch from the product's labeling surface. Make sure that only the wiper will touch the product as it passes the machine. The position of the machine should allow the operator to easily change labels.

When you have correctly assembled and positioned the machine, tighten any adjustment locks to prevent the machine from moving.

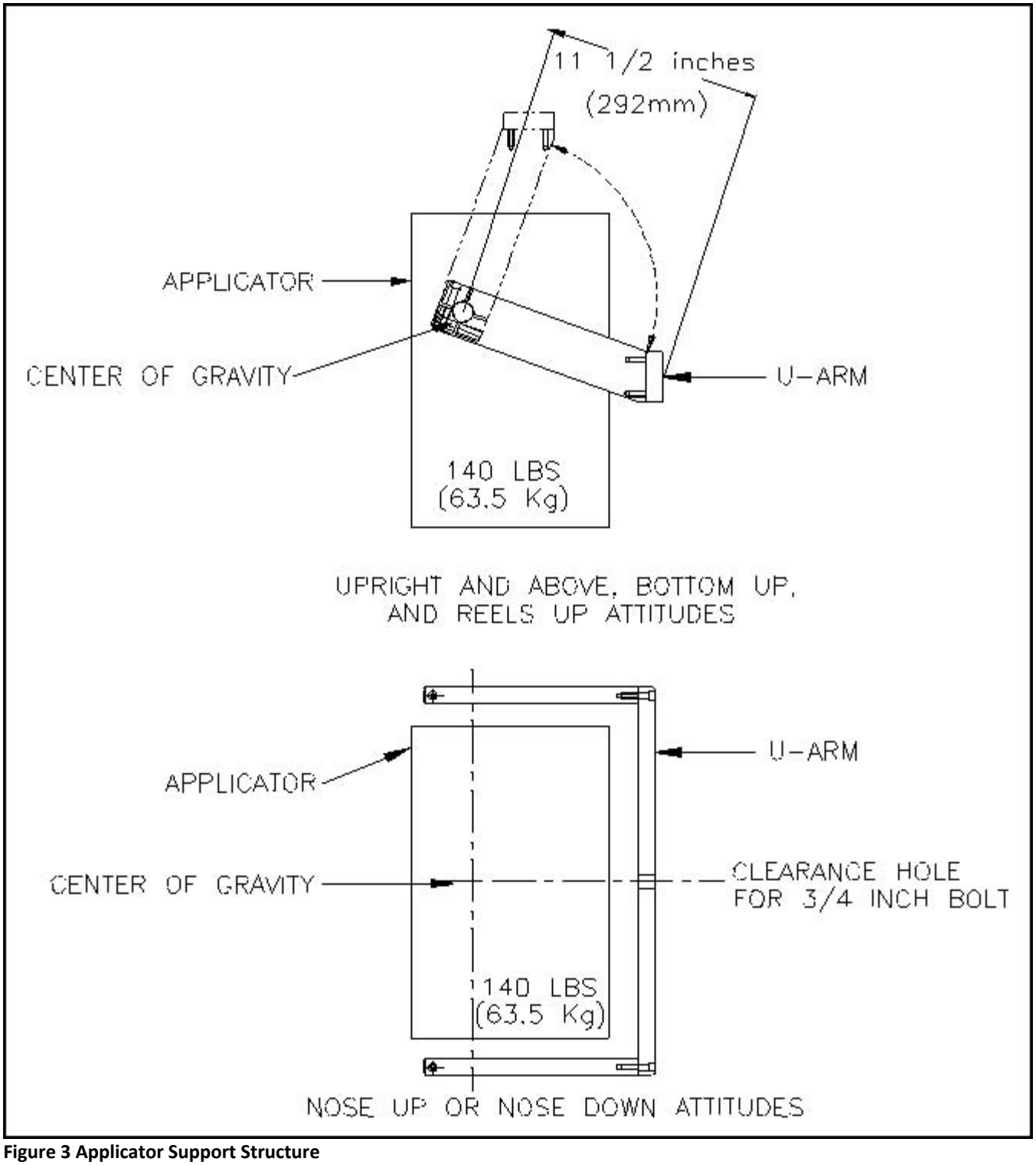


Figure 3 Applicator Support Structure

GENERAL MACHINE INFORMATION

Do not connect the machine to the AC power source or the compressed air service until directed to do so in the set-up procedures.

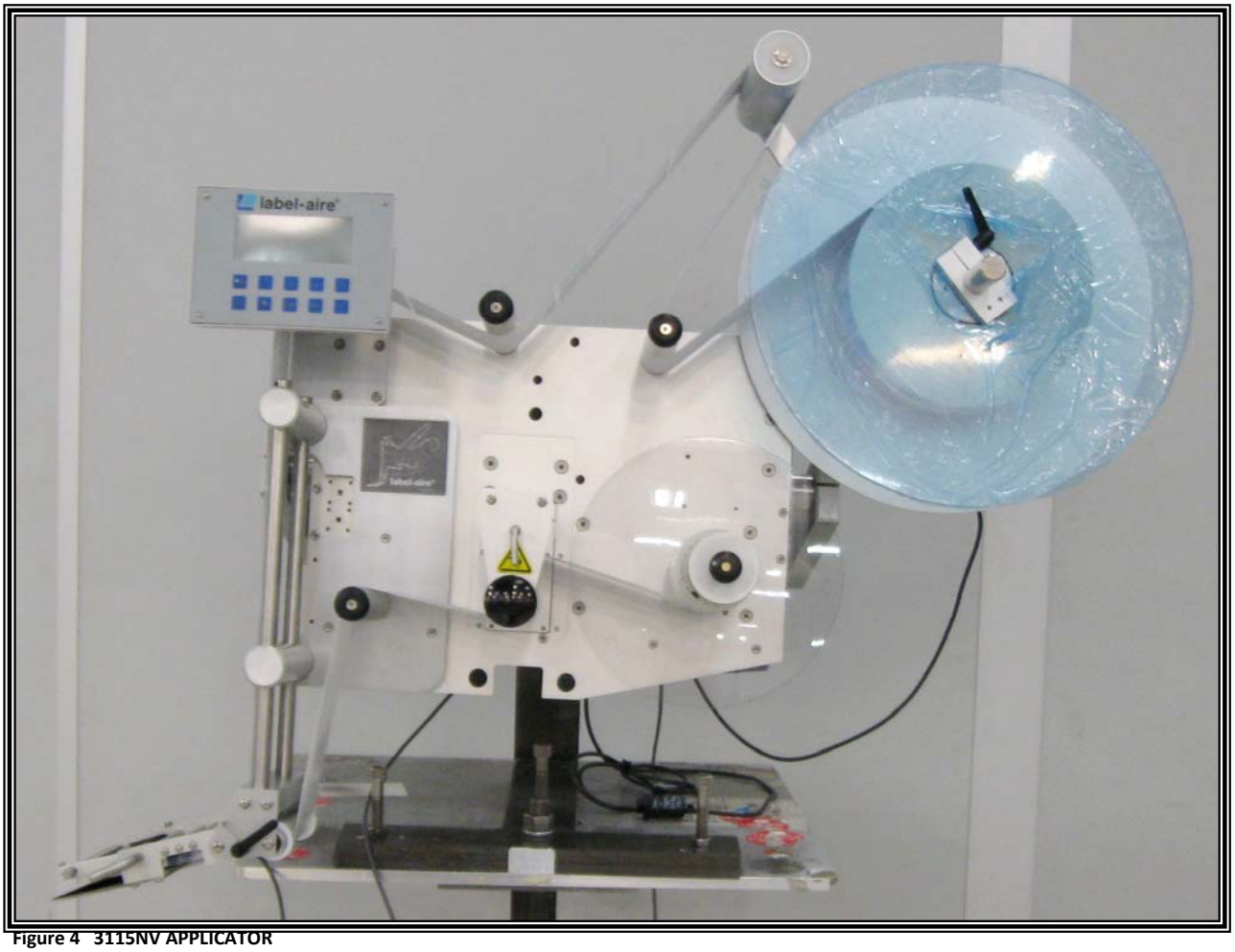


Figure 4 3115NV APPLICATOR

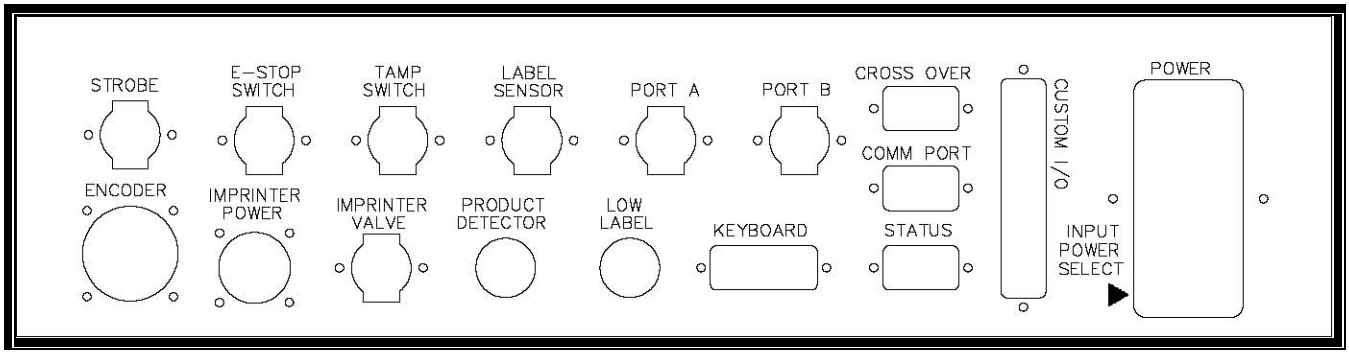


Figure 5 - Electrical Panel (Rear of Machine)

CONTROL PANEL

This section covers the control panel menu items.

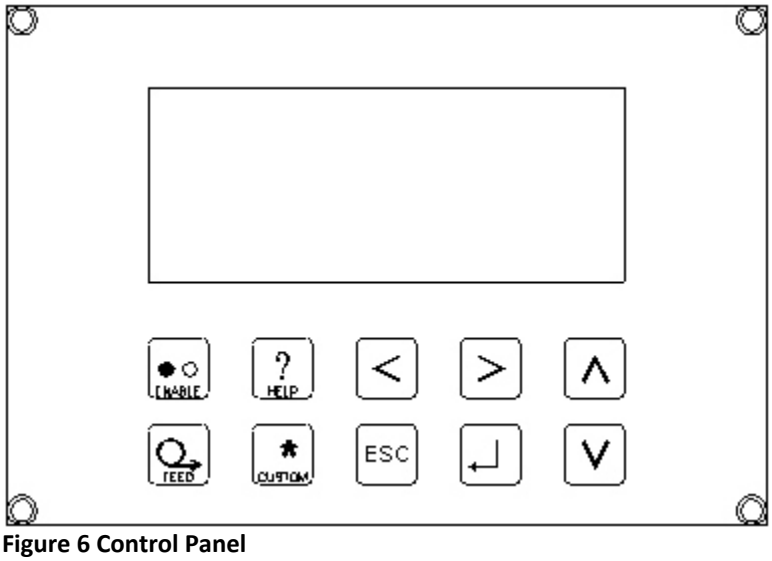


Figure 6 Control Panel

When the machine is first powered ON, the display will read:

IMPAXX MACHINE
SYSTEMS LABEL-
AIRE NEW 3000
SERIES

Then:

OFFLINE PRODUCTS PER MINUTE:
XXXX[1]

The [ENABLE] button will put the machine in ONLINE mode, for normal operation, or OFFLINE mode, for set-up.

The [FEED] button will feed a label.

The [ENTER] button (5) will select the displayed menu item.

[1] X denotes a numeric value.

Pressing the [UP] and [DOWN] arrow buttons will cycle through the menu options, and increment and decrement the value of the selected item. When selecting menu options, holding in these buttons will move through the menu options faster.

The [LEFT] and [RIGHT] arrow buttons will move through the digits of a numeric value.

The [CUSTOM] (*) button will perform an automatic label calibration. This includes setting up the label sensing level and the LABEL REPEAT LENGTH. Press and hold while two labels dispense to perform the automatic label calibration.

The [ESC] button will move to the next lower menu level (For use when in the Advanced and Service menus only).

The [HELP] (?) button has no function at this time.

MENU LEVELS

There are three menu levels: Operator, Advanced, and Service. When first powered ON, the machine is at the Operator level. This level offers only the basic functions that may need to be changed during a product run.

To change the menu level from Operator to either Advanced or Service, simultaneously press both the [LEFT] and [RIGHT] buttons, then enter the ACCESS CODE for the desired menu level.

The Advanced level allows set-up of the machine for different label and product types.

The Service level allows configuration of machine specific items such as the type of machine, and activates any options the machine is equipped with.

The following is the list of menu items for each level and their function for the 3115NV applicator.

OPERATOR LEVEL

PRODUCTS PER MINUTE - This is an informational display showing the product rate.

PRODUCT COUNTER - This informational display shows the number of products that have been detected since the counter has been reset. There are seven decimal places in this display. PRODUCT COUNTER RESET - Selecting YES will reset the product counter.

LABEL COUNTER - This informational display shows the number of labels that have been detected since the counter has been reset. There are seven decimal places in this display.

LABEL COUNTER RESET - Selecting YES will reset the label counter.

LINE SPEED - This information display shows the conveyor speed. This display is only shown if SPEED FOLLOWING is set to YES in the Service menu.

RECALL PARAMETER FROM LABEL PAGE - This recalls the microprocessor settings that have been stored in the indicated label page. The label page can be set from 1 to 50. Label pages can be set-up for each label type.

LABELING SPEED - This sets the speed of the web. This value can be set from 20 to 1500 (inches per minute).

LABEL STOP POSITION - This setting determines where the next label to dispense stops. For example, if the machine is properly set-up, the leading edge of the next label to be applied will be at the peeler bar tip. This value can be set from 0.00 to 2.00 inches.

LABEL ON PRODUCT POSITION - This sets the delay between product detection and the application of the label. This value is expressed in distance. This value can be set from 00.01 to 40.00 inches.

BACKLIGHT INTENSITY - This adjusts the brightness of the display backlight. This value can be set from 0 to 100.

DISPLAY CONTRAST - This adjusts the display contrast. This value can be set from 0 to 50.

CPU VERSION AND DATE - This displays the CPU version number and the date of the software. This is informational only, these items cannot be changed.

ADVANCED LEVEL

LABEL-SENSOR TO PEEL-TIP DISTANCE - Enter the distance between the cross-hairs on the label sensor, to the tip of the peeler bar. This value can be set from 1.0 to 40.0 inches.

LABEL REPEAT LENGTH - This value should be set to the distance between the leading edge of one label on the web to the leading edge of the next label on the web. This is the length of one label plus the gap between labels. This value is set automatically during label calibration, but can be adjusted if necessary. This value can be set from 0.20 to 20.0 inches.

LABEL-SENSOR SETTING - This value is set automatically during label calibration, but can be adjusted if necessary. This menu item controls the sensitivity of the label sensor. This value can be set from 0 to 200.

LABEL SENSOR EDGE - This can be set to LEADING or TRAILING as desired. LEADING is usually preferred.

LABEL DETECTED - This informational display indicates weather the label detector is detecting a label or not. It can be YES or NO.

LABEL STOP POSITION - This setting determines where the next label to dispense stops. For example, if the machine is properly set-up, the leading edge of the next label to be applied will be at the peeler bar tip. This value can be set from 0.00 to 2.00 inches.

LABELING SPEED - This sets the speed of the web. This value can be set from 20 to 1500 inches per minute.

SLEW SPEED - This sets the speed of web travel when advancing past missing labels. This value can be set from 20 to 2500 inches per minute.

CONSECUTIVE MISSING LABEL COUNT - This value sets the number of consecutive labels that can be missing on the web before an error occurs. This value can be set from 0 to 9.

PRINTER DWELL TIME - If IMPRINTER INSTALLED is set to YES in the Service menu, this sets the dwell of the imprinter. This value can be set from 0 to 9999 milliseconds.

PRODUCT SENSOR EDGE - This can be set to LEADING or TRAILING as desired. LEADING is usually preferred.

PRODUCT DETECTED - This informational display indicates whether the product detector is detecting a product or not. It can be YES or NO.

LABEL ON PRODUCT POSITION - This sets the delay in distance between product detection and the application of the label. This value can be set from 1.00 to 40.00 inches.

PRODUCT DETECTOR LOCKOUT - This function allows you to set a distance during which the applicator will ignore any product inputs. Use this function when the product detector is generating false detection signals and the applicator cycles more than once per product. If not needed, set this to its minimum value. This value can be set from 0.04 to 40 inches.

LOW LABEL STOP COUNT - If LOW LABEL INSTALLED is set to YES in the Service menu, this value is the number of labels that will be applied between the triggering of the low label sensor, and a WEB FAULT error condition. This value can be set from 1 to 99.

ZERO DOWN TIME - If ZERO DOWN TIME is set to YES in the Service menu; this setting tells the microprocessor if this machine is the UPSTREAM or DOWNSTREAM applicator. Set as appropriate.

NUMBER OF PRODUCTS TO SKIP - If SKIP LABELING PRODUCTS is set to YES in the Service menu, this value is set to the number of products to skip between applying labels. This value can be set from 1 to 99.

NUMBER OF PRODUCTS TO LABEL - If SKIP LABELING PRODUCTS is set to YES in the Service menu, this value is set to the number of labels to be applied to a single product. This value can be set from 1 to 99.

LABELS PER PRODUCT - if MULTIPLE LABELS ON PRODUCT is set to YES in the Service menu, this value is set to the number of labels to be applied to a single product. This value can be set from 1 to 99.

LABEL SPACING - If MULTIPLE LABELS ON PRODUCT is set to YES in the Service menu and LABELS PER PRODUCT is set to two or more, then this value is set to the spacing between labels. This value can be set from 1.00 to 40.00.

FAST RISE LENGTH - Refer to the Label Profiling Section.

FLAT AREA LENGTH - Refer to the Label Profiling Section.

WEB RATIO - Refer to the Label Profiling Section.

RECALL FROM LABEL PAGE - This recalls the microprocessor settings that have been stored in the indicated label page. The label page can be set from 1 to 50. Label pages can be set-up for each label type.

SAVE PARAMETER TO LABEL PAGE - This recalls the microprocessor settings that have been stored in the indicated label page. The label page can be set from 1 to 50. Label pages can be set-up for each label type.

SERVICE MENU

MACHINE TYPE - This can be set to 3111NV, 3114NV, 3115NV, 3125, 3135, or 3155. This manual covers the 3115NV machine type.

UNITS - Set this to IMPERIAL (English), or METRIC as desired.

LANGUAGE - This can be set to ENGLISH, SPANISH, FRENCH, PORTUGUESE, or GERMAN. Set as desired.

SPEED FOLLOWING - Set this to YES if an encoder is being used, NO otherwise.

ENCODER PULSE RESOLUTION - If SPEED FOLLOWING is set to YES, this sets the number of encoder pulses per *inch* of conveyor (product) travel if an encoder is used. This value can be set from 25.0 to 250.0 pulses per inch. When using an encoder wheel with a five inch circumference, this value will be 100.

LOW LABEL INSTALLED - If set to YES, will allow the setting of the LOW LABEL STOP COUNT in the Advanced menu.

IMPRINTER INSTALLED - If an imprinter is installed, set this to YES, or NO otherwise. When set to YES, it allows the setting of the IMPRINTER DWELL value in the Advanced menu.

LABEL PROFILING - This allows label profiling adjustments in the Advanced menu. Set to YES or NO as required.

ZERO DOWN TIME INSTALLED - Set this to YES if the machine is being used in a Zero Down Time situation, or NO otherwise. When set to YES, it allows the setting of the ZERO DOWN TIME function in the Advanced menu.

MULTIPLE LABELS ON PRODUCT - Set this to YES if you wish more than one label to be applied to each product, or NO otherwise. When set to YES, it allows the setting of LABELS PER PRODUCT in the Advanced menu.

SKIP LABELING PRODUCTS - Set this to YES if you do not wish to label every product, or NO otherwise. When set to YES, it allows the setting of PRODUCT SKIP in the Advanced menu.

RESTORE FACTORY DEFAULTS - Pressing [ENTER] will restore this menu level (Service) to the default values.

UPGRADE SYSTEM - Pressing [ENTER] will install new microprocessor software.

MICROPROCESSOR MESSAGES

OFFLINE/ONLINE: This indicates whether the machine is ready to apply labels (ONLINE), or in set-up mode (OFFLINE).

ENTER CODE: This message informs you that you must enter the access code for the menu level (Advanced or Service) in order to proceed to the next microprocessor function.

CONFIGURATION ERROR: This indicates an improper value has been entered. ENTER will clear the error.

BROKEN WEB: The web has not moved from a label to a gap in one LABEL REPEAT LENGTH.

ZDT BUFFER EMPTY: ZERO DOWN TIME is set to YES in the Advanced menu, but both applicators are set as the DOWNSTREAM applicator.

ZDT BUFFER OVERFLOW: This message is displayed when more than 30 products have been labeled by the upstream applicator before the product detector of the downstream applicator sees the first product.

UNWIND ERROR: This message occurs only when the Powered Unwind option is installed and the unwind motor is constantly on. This indicates a broken web.

REWIND ERROR: This message occurs only when the Powered Rewind option is installed and the rewind motor is constantly on. This indicates a broken web.

MISSING LABELS: This message is displayed when CONSECUTIVE MISSING LABEL COUNT labels have not been detected by the label sensor.

LOW LABEL: This indicates a low label condition exists. This message will be displayed if LOW LABEL INSTALLED is set to YES, and the number of remaining labels falls below LOW LABEL STOP COUNT.

LOW LABEL ERROR: This message is displayed when LOW LABEL INSTALLED is set to YES, and LOW LABEL STOP COUNT has been exceeded. The machine will stop.

SPEED TOO HIGH: This message is displayed when the encoder is turning faster than the machine can handle. This is usually caused by the ENCODER PULSE RESOLUTION parameter being set incorrectly.

UNLABELLED PRODUCT: This message is displayed when a product input is received before the end of label feed. PRODUCT OVERFLOW: This message is displayed when more than 30 products are between the peeler bar tip and the product detector.

LABEL OVERFLOW: This message is displayed when more than 30 labels are between the label peeler bar tip and the label sensor. IR FAIL: This message is displayed when no label gap is detected during label calibration. SEARCH FAIL: This message is displayed if the automatic label calibration fails.

LABEL PAGE = X: This message indicates the label page that the machine is set to use or change. NO LABELS FOUND: This message indicates that the label sensor isn't sensing labels. This may be due to a break in the label stock, CONSECUTIVE MISSING LABEL COUNT or more labels missing from the liner, a malfunctioning sensor, or a label detection malfunction.

LABEL PAGE NUMBER: The machine displays this message when the label page is being changed, and displays the page that may be either used or altered.

MACHINE SEQUENCE

1. Power ON.
2. Machine placed ONLINE.
3. Product detector detects the edge of the product.
4. LABEL ON PRODUCT POSITION distance elapses.
5. Label apply begins
6. Label detector detects the edge of the label.
7. Label apply ends.
8. Label feed ends. (LABEL STOP POSITION)

TOOL LIST

NOTE: The mounting hardware provided is USA inch size. Inch size tools are required as follows:

HEX HEAD WRENCHES	OPEN END WRENCHES	SCREWDRIVERS
1/16 inch	7/16 inch	#1 Phillips
1/8 inch		3/32 inch flat blade
3/16 inch		
3/32 inch		
5/32 inch		
7/64 inch		
9/64 inch		
11/4 inch		

CONNECTION TO A.C. POWER

Use this sequence whenever A.C. power is applied to the applicator.

NOTE: Make sure that the applicator is set to the proper voltage before applying power, or damage to the equipment may result.

1. Turn OFF (O) the applicator [POW ER] switch.

2. With both ends of the A.C. power cord disconnected, connect one end of the A.C. power cord to the IEC receptacle on the side of the applicator.

3. Connect the remaining end of the A.C. power cord to the electrical mains.

INITIAL SET-UP

When setting the machine up for the first time or when changing over to a different size, type, or shape label for the first time, begin by setting these values into the microprocessor. Set the LANGUAGE and UNITS to their desired values.

Set SPEED FOLLOWING to YES only if an encoder is being used. Set to NO otherwise. Measure the distance between the cross-hairs on the label sensor and the peeler bar tip. Enter this value into LABEL-SENSOR TO PEEL-TIP DISTANCE.

Set LABEL STOP POSITION to 0. Set LABEL ON PRODUCT POSITION to 0.

Set LABELING SPEED to 1000. Press the [CUSTOM] key until one label gap has passed the sensor, then release the [CUSTOM] key. The Applicator will then calibrate to the label.

LABEL SET-UP

LOADING LABELS

NOTE: See Appendix A for re-loading labels. This section of them Manual explains how to thread labels through the machine.

This section of the manual explains how to adjust the machine for the label that you want to apply. The microprocessor will remember the instructions for applying the label.

Because all of the adjustments affect each other, it is very important that you do the steps listed in this section in the order that they are given.

1. Place the machine OFFLINE. Remove the outer unwind disk (see Figure 9 or Figure 10).

2. Move the nip roller away from the drive roller.

3. Slide a roll of labels onto the hub of the inner unwind disk. Make sure that the labels will be face up as they slide over the peeler bar. Replace the outer disk and lock in place.

4. Remove all the labels from the first two meters (six feet) of liner.

5. Loosen the nose lock lever. Tilt the nose assembly away from the peeler bar and lock in position.

6. Thread the web through the machine as shown in Figure 9 or Figure 10. Make sure to thread the label liner through the label sensor.

7. Lay the end of the liner over the "quick release" rewind mandrel, and turn the mandrel by hand to take up any slack.

8. Turn the rewind mandrel by hand. Check that the inner edge of the label liner aligns with the inner unwinds disk and the rewind disk. Adjust the positions of the inner unwind disk and the rewind disk if necessary.

9. Slide the guide collars to within 1/64 inch of the label liner.

10. Re-engage the pinch roller and tilt the label tension spring back in place.

11. Check that the label tension spring holds the label flat against the peeler bar tip. Go on to the Label Detect Edge Section.

12. Press and hold the (Custom) button, after two labels feed out, let go of the custom button and (3) labels will feed out and the labels should be calibrated.

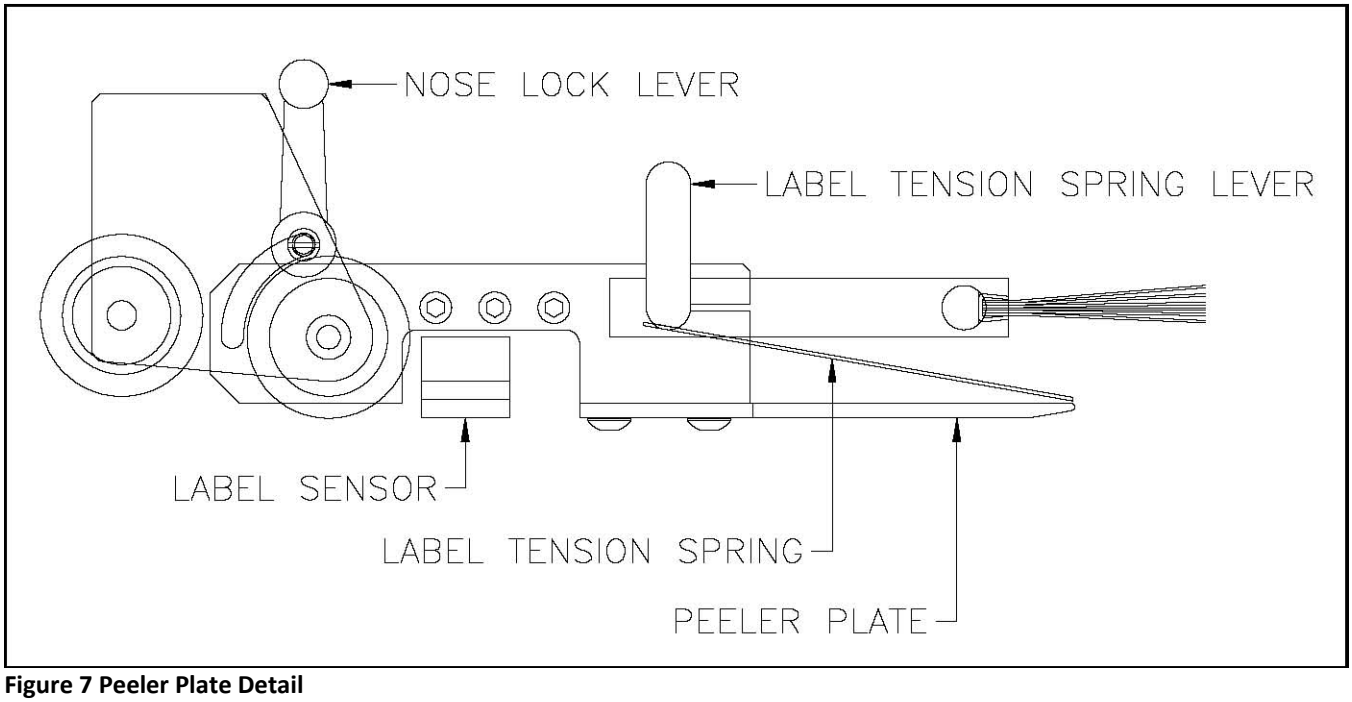


Figure 7 Peeler Plate Detail

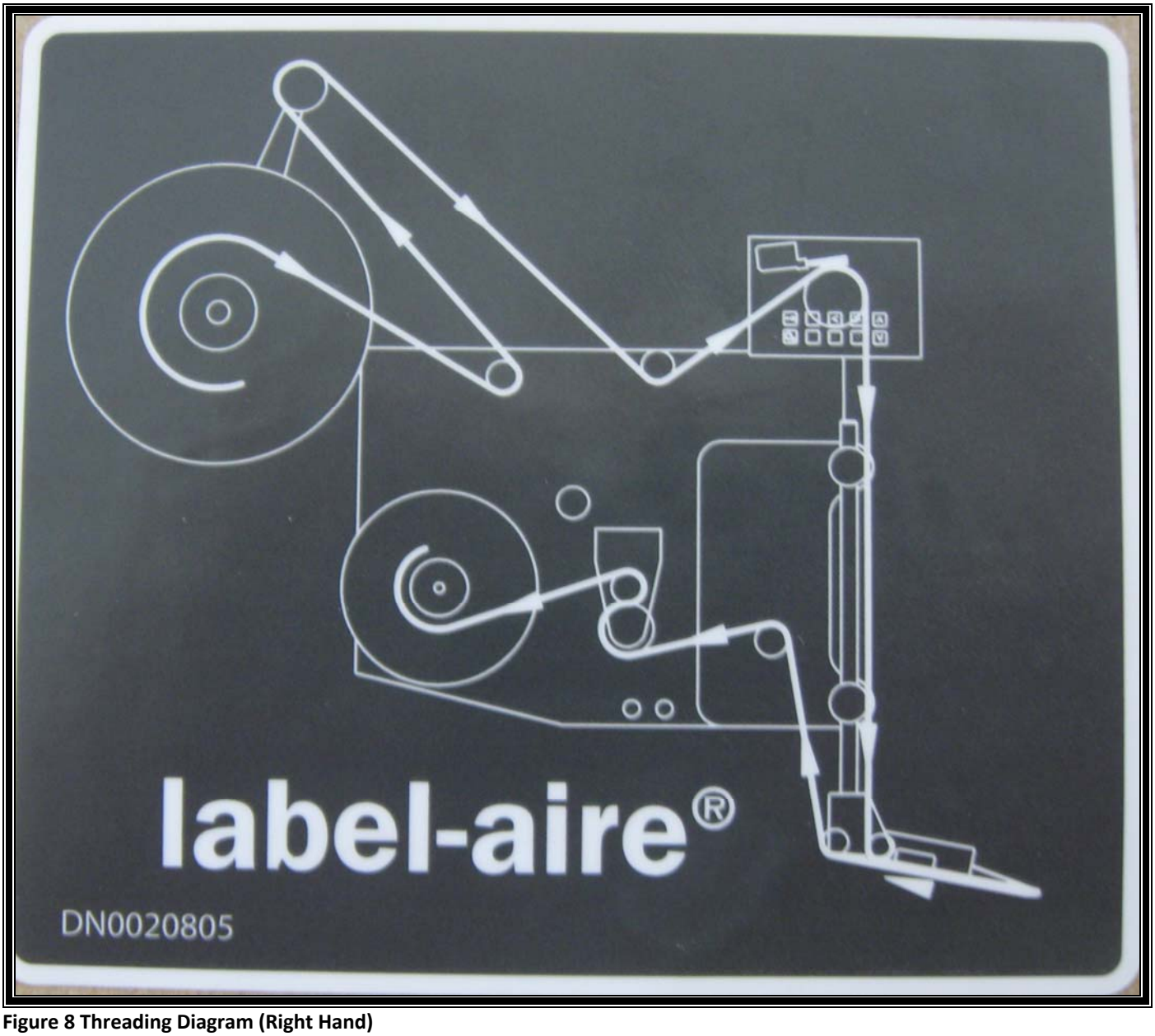


Figure 8 Threading Diagram (Right Hand)

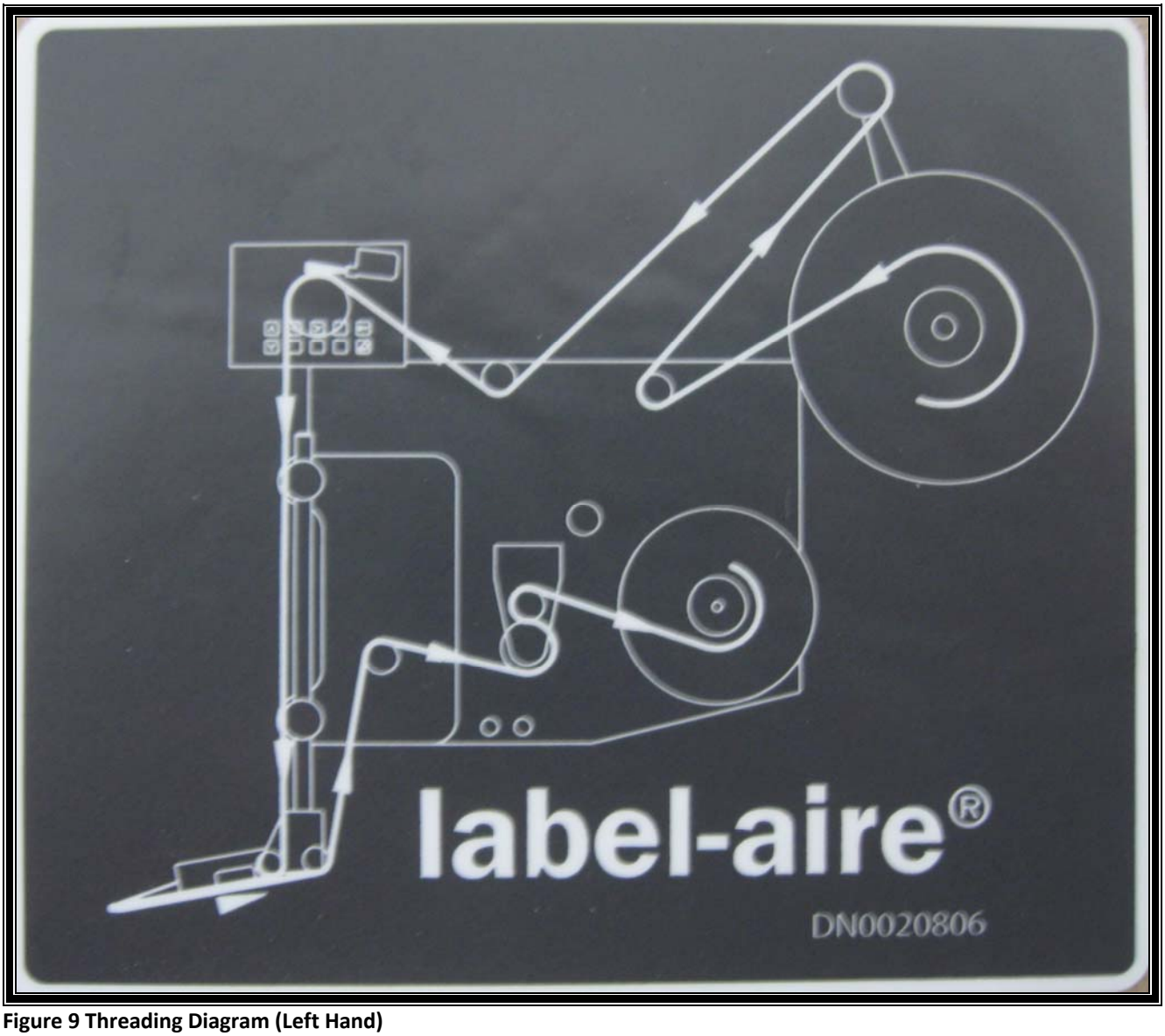


Figure 9 Threading Diagram (Left Hand)

LABEL SENSOR EDGE

1. Place the machine OFFLINE.

2. Select the LABEL SENSOR EDGE menu item. This section will be set either for LEAD or TRAIL, which designates for the leading or trailing edge of the label.

3. The display should read LEAD *unless* the label has an odd shaped leading edge and a straighter trailing edge. If this is the case, select TRAIL.

4. Set the LABEL SENSOR EDGE setting as required. Go on to the Label Repeat Length Section.

LABEL REPEAT LENGTH

The label repeat length tells the microprocessor the distance from the leading edge of one label to the leading edge of the next. If the machine feeds one label repeat distance without sensing a label, the microprocessor knows that the label is missing or the label sensor isn't working properly. If CONSECUTIVE MISSING LABEL COUNT labels in a row are missing, the microprocessor will stop the machine.

This item is set-up automatically during label calibration, but may be set manually if required.

1. Place the machine ONLINE.

2. Measure the label and gap between labels.

3. Set the LABEL REPEAT LENGTH to the measured value. Go on to the Label Stop Position Section.

LABEL STOP POSITION

 **Exercise caution when cycling the machine. Keep hands away from the drive rollers.**

This function allows you to indicate to the microprocessor the distance between detecting a label and stopping the label advance. After the machine detects a label edge, the label should advance until it is 1/8 inch beyond the edge of the peeler plate. The label stop position is the distance between detecting a label and stopping the label advance. Use the following procedure to properly set the label stop position.

1. Place the machine ONLINE.

2. Select the LABEL STOP POSITION menu item.

3. Press and release the [FEED] key to advance a label.

NOTE: if the encoder is not turning while you're doing this step, the SPEED FOLLOWING function of the microprocessor must be OFF or the label will not feed.

4. Check the position of the label on the peeler plate. One label should be completely dispensed, and the leading edge of the next label should extend 1/16 inch beyond the peeler plate.

5. Press and release [UP] or [DOWN] to change the label stop position.

- If more than one label is dispensed, decrease the distance.
- If less than one label is dispensed, increase the distance.
- If more than 1/16 inch of the label extends from the peeler plate, decrease the distance.
- If less than 1/16 inch of the label extends from the peeler plate, increase the distance.

6. Press and release the [FEED] key until the machine advances a label, if the label isn't positioned correctly, repeat step 4.

NOTE: If the label is still flagged out too far when the display is at its minimum value move the label sensor to the other position.

Go on to the Imprinter Installed Section.

IMPRINTER INSTALLED

The hot stamp imprinter is used to add a date code, batch code, or other information to the labels before application to the product. The imprint occurs after the end of label feed and must be completed before the next label feed begins.

1. Place the machine OFFLINE.

2. Select the IMPRINTER INSTALLED menu item.

3. Set IMPRINTER INSTALLED to NO if the machine does not have an imprinter. Set IMPRINTER INSTALLED to YES if the machine has an imprinter.

Go on to the Imprint Dwell Section if IMPRINTER INSTALLED was set to YES. Otherwise, go on to the Velocity Compensation Section.

PRINTER DWELL TIME

Disregard this section if IMPRINTER INSTALLED is set to NO. Continue with the Product Set-Up Section. If IMPRINTER INSTALLED is set to YES, refer to the Options Section of the manual for instructions.

ENCODER PULSE RESOLUTION

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

If an encoder is used, set this value to number of encoder pulses per *inch* of conveyor (product) travel.

This value only needs to be changed if the circumference of the encoder wheel changes, or if the encoder resolution is changed. Go on to the Product Set-Up Section.

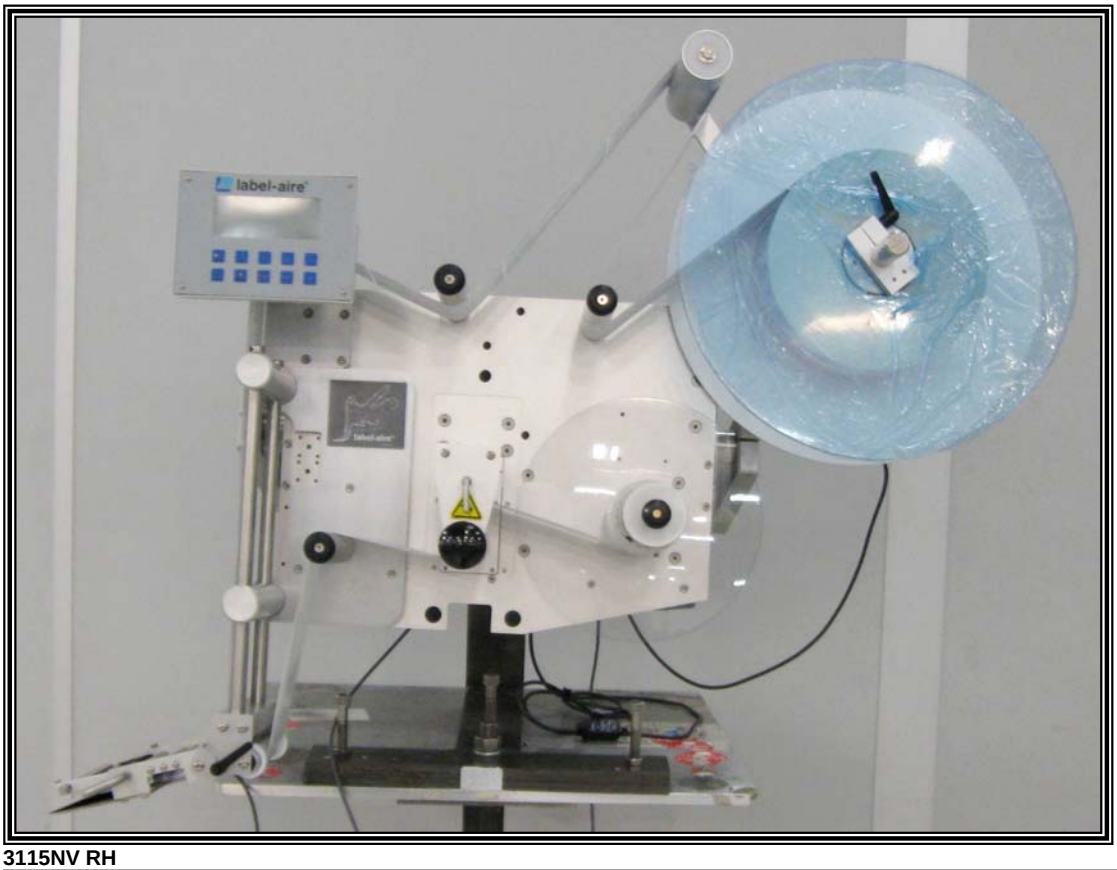
SPEED FOLLOWING

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

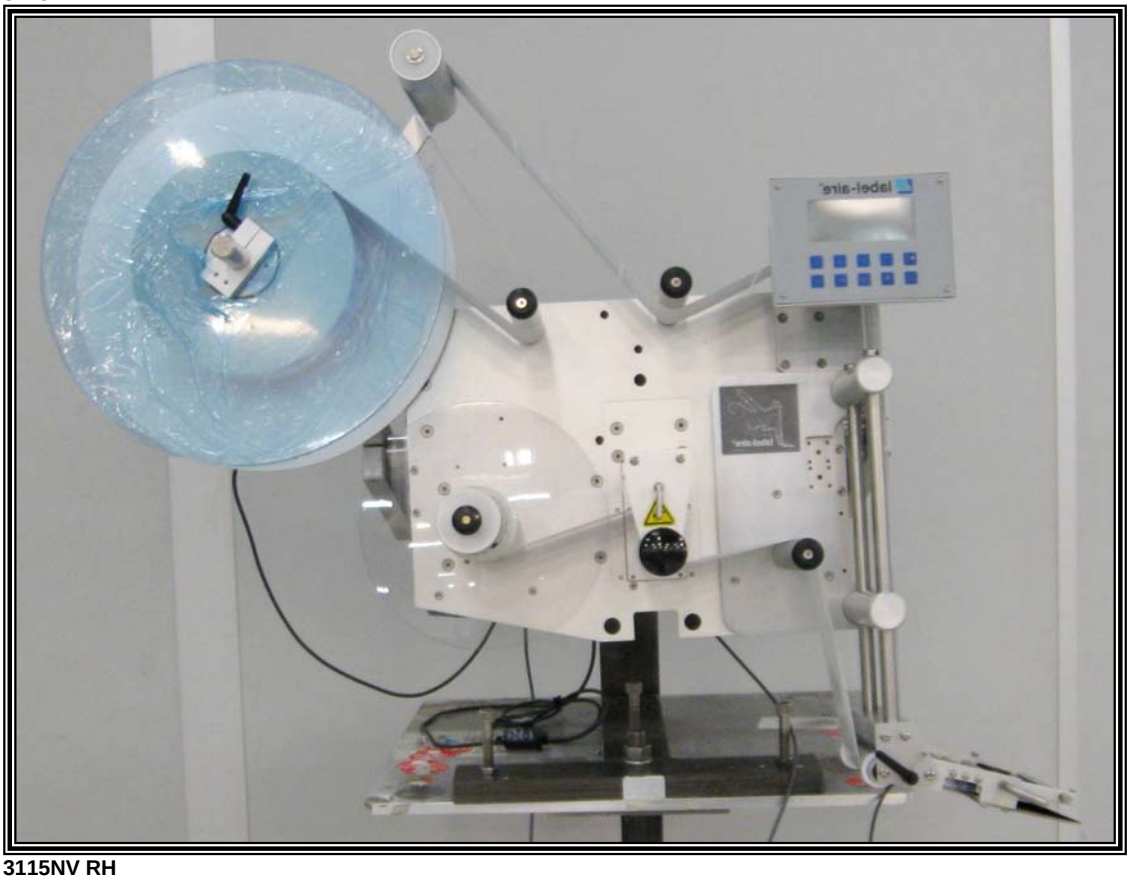
Large variations in web speed may cause the Label on Product Position to fluctuate accordingly. This function provides compensation for wide variations in web speed so that the Label on Product Position remains constant regardless of web speed.

An encoder must be installed to use this function.

Go on to the Product Set-Up Section.



3115NV RH



3115NV RH

PRODUCT SET-UP

This section of the manual explains how to adjust the machine for each type of product that you want to label. Because all of the adjustments affect each other, it is very important to do the steps that are listed in this section in the order that they are given.

Place the machine offline before you perform the following procedures or you may be injured by the moving drive roller.

This is a general outline to cover basic set-up procedures when you are using your own product handling system and applicator mounting. Make sure that the following items are correct before adjusting the position of the applicator:

POSITIONING THE APPLICATOR

INITIAL SET-UP

a. Set the product handling system to deliver the product in a consistent position at a regular rate.

b. The product spacing device, (feed screw, metering wheel, etc.) should be set-up to properly space and consistently position the product. Inconsistent spacing and positioning can result in products either being mislabeled or skipped when products are too closely spaced.

   Adjust any guide rails to allow the product to travel smoothly.

c. If the railing system is too tight, products may jam or arrive at inconsistent intervals. If it is too loose, products may be inconsistently presented to the label applicator. Out-feed rails should be set to allow the products to exit smoothly and quickly with no backlog. If you're using only one applicator to label the side of a product, the rails should be positioned to move the product to the applicator. Front and back applicator systems should have the products oriented in the center of the conveyor.

d. Adjust the "Hold-Down" device (if present) to maintain the product's orientation without using too much pressure.

e. Too much pressure can cause mislabeling, deform certain products or put an undue load on the conveying system. The product should be captured with firm but stable pressure that should gradually increase up to the labeling area and then decrease as the product exits.

NOTE: Product consistency will also affect labeling. If the product handling system must be set-up to fit an inconsistently shaped product, it will deliver the product imprecisely.

The degree of labeling accuracy depends on how precisely and how smoothly the product handling system operates. When you have made all of the above adjustments, go on to the Applicator Nose Alignment Section.

This section explains how to prepare the applicator for set-up with labels. There are two common operation attitudes for the 3115NV applicator: "Reels-Up" and "Upright-and-Above." A Reels-Up machine labels the side of a product, while an "Upright-and-Above" machine labels the top of the product. Follow the instructions below for your machine.

NOTE: If Nose-Up or Nose-Down attitudes are used, follow the Upright-and- Above attitude set-up.

UPRIGHT AND ABOVE ATTITUDE

NOTE: Whenever you adjust the applicator or the applicator peeler plate position, make sure that the conveyor and the conveyor chain top never touch the peeler plate. Contact with the moving conveyor could cause serious and costly damage to the applicator.

1. Center a properly oriented product on conveyor chain in the label application area. If necessary, swing any applicator nose device (i.e., brushes, rollers etc.) out of the way so that the peeler plate is clearly visible.

2. Raise the applicator so that the peeler plate peeling edge is higher than the top of the product.

3. Adjust the "side to side" angle of the applicator so that the peeling edge of the peeler plate is parallel to the surface of the product that will be labeled. Re-check the angle after you have tightened the U-arm bolts.

1. Position the applicator so that labels will be dispensed in same direction that the product is traveling (the center line of the label should be parallel to the center line of the product's label panel area).

2.Loosen the nose assembly height adjustment screws and move the nose assembly up or down to position the peeler plate about 1/8 inch away from the highest point of the product labeling surface. Tighten the noise assembly height adjustment screws. If necessary, use the U-arm to reposition the entire applicator. (See Figure 13).

NOTE: It is important that the peeler plate be at a 15-25° angle to the top of the product, and that the peeling edge of the peeler plate be 1/8 inch from the tallest point of the product. If this angle and distance are not correct, the label's placement on the product may vary.

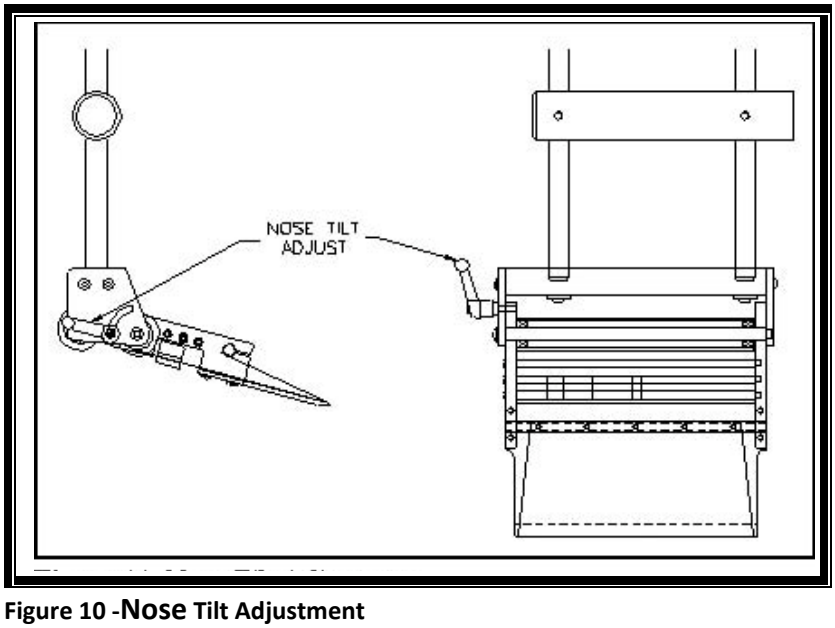


Figure 10 -Nose Tilt Adjustment

When the applicator's angles and distances are correct and secure, go on the Product Sensor Section.

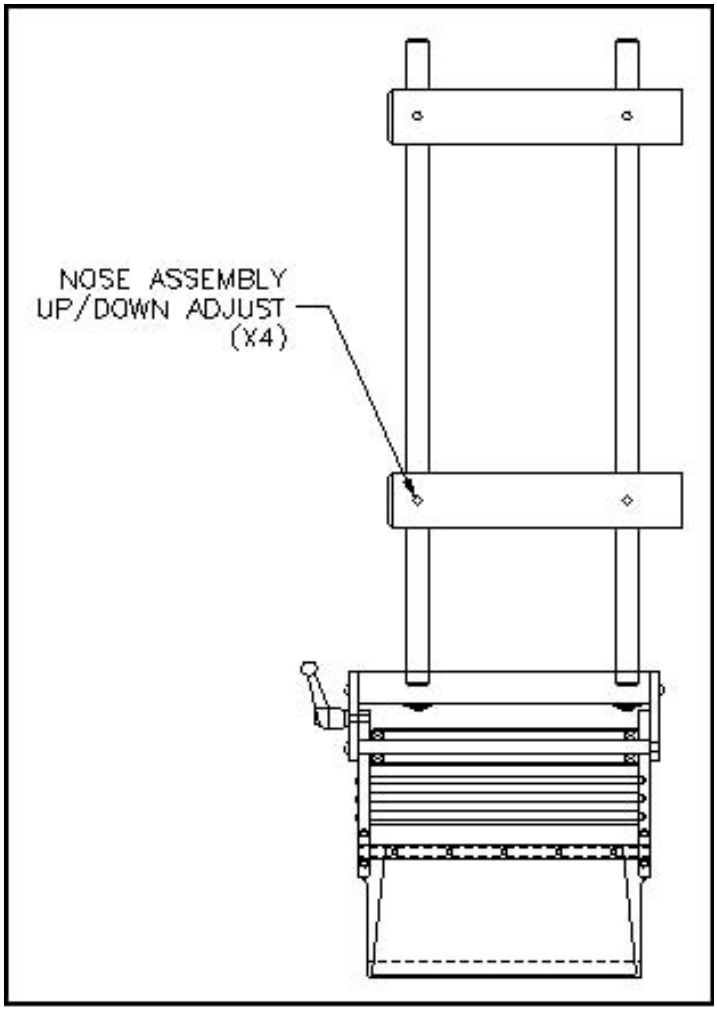


Figure 11- Nose Height Adjustment

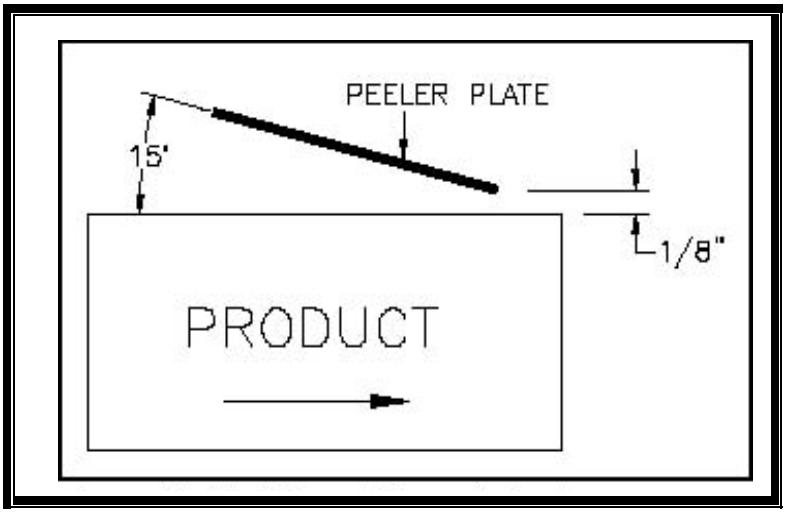


Figure 12- Upright and Above Attitude

REELS-UP ATTITUDE

1. Place a properly oriented product on the conveyor in the label application area. If necessary, swing any applicator nose device (i.e., brushes, rollers etc.) out of the way so that the peeler plate is clearly visible.

NOTE: Whenever you adjust the applicator or the applicator peeler plate position, make sure that the conveyor and the conveyor chain top never touch the peeler plate. Contact with the moving conveyor could cause serious and costly damage to the applicator.

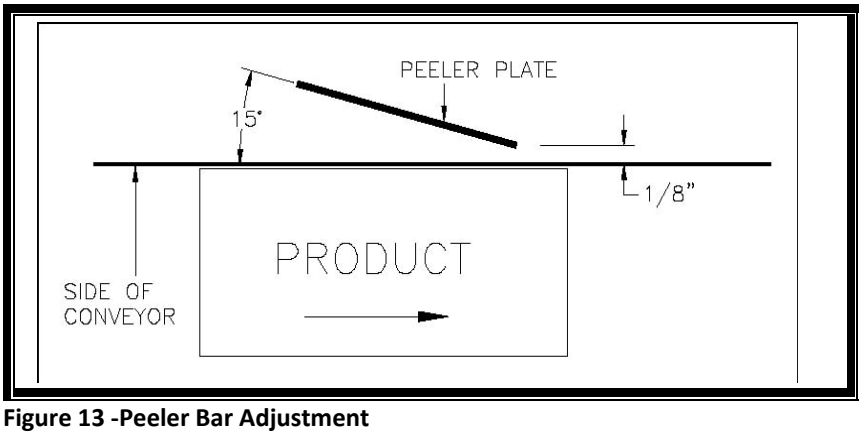


Figure 13 -Peeler Bar Adjustment

2. Adjust the applicator height to position the peeler plate at the approximate height that you want labels applied.

3. Position the applicator nose at a 15-25° angle to the side of the conveyor (see Figure 14). Adjust the angle by loosening the kip lever shown in Figure 11, moving the peeler plate to the proper angle, and then tighten the kip lever.

4. Adjust the applicator so that the peeler plate edge is parallel to the side wall of the product. Loosen the mounting bolts for the applicator U-Arm and pivot the entire machine to the correct angle. Recheck after tightening.

5. Adjust the entire applicator in or out until the tip of the peeler plate is 1/8 inch from the widest point of the side wall of the product (see Figure 14).

NOTE: It is important that the peeler plate be at a 15-25° angle to the side of the conveyor, and that the peeling edge of the peeler plate be 1/8 inch from the widest point of the product. If this angle and distance are not correct, the label's placement on the product may vary.

Repeat this procedure if two applicators are being used. When the procedure is complete check to see that both peeler plate tips are even and in line with each other. If they're not, choose either the right or left-hand applicator, loosen the kip lever and move the peeler plate to the correct position. The angles on both nose assemblies should still be at the initial 15-25° set-up. If they're not, both applicator noses must be re-set until they have the correct angle, are even and in line with each other and follow all other parameters previously outlined for preliminary set-up.

Go on to the Product Detector Set-Up Section.

PRODUCT DETECTOR SET-UP

Place the machine offline before you perform the following procedures or you may be injured by the moving drive roller.

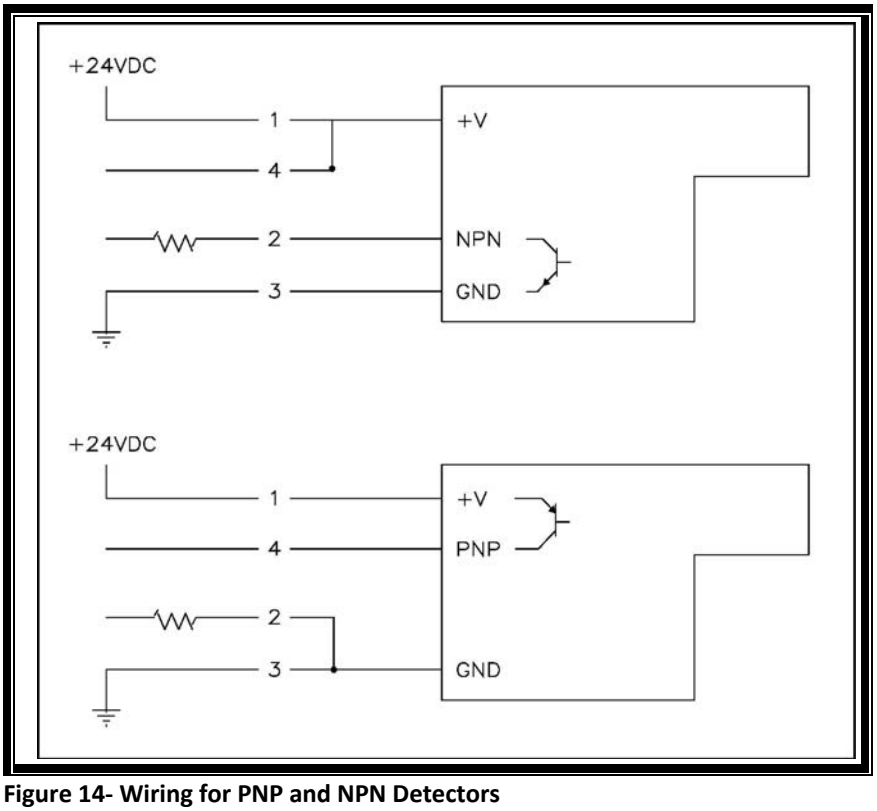


Figure 14- Wiring for PNP and NPN Detectors

The following instructions are for the Label-Aire standard product detector P/N: 7600005-802. Follow the manufacturer's instructions for set-up if another model product detector is used.

ALLEN BRADLEY THROUGH BEAM P/N 7600005-802

1. Place the machine OFFLINE.

2. Connect the product detector to the Product Detector connector.

3. The rear cover window on the detector must be opened before any adjustments can be made. See Figure 16. Press the flexible retaining clip against the cable to open the window.

4. Gently slide the L/D Operate switch on the back of the detector to L (towards the retaining clip) for Light Operation.

5. Align the product detector with the reflector. The yellow light on the rear of the detector will indicate that the detector and reflector are in alignment. Secure in position.

6. If the orange indicator is also lit, use a 1/16 inch flat blade screwdriver to turn the sensitivity adjustment screw counterclockwise until the orange indicator goes out.

7. Use the screwdriver to turn the sensitivity adjustment screw clockwise until the orange indicator just goes on.

8. Place a product between the product detector and the reflector. The orange indicator and the yellow light will go out, and the green indicator will light. Remove the product.

9. Snap the window cover closed on the product detector.

Go on to the Product Detector Lockout Section.

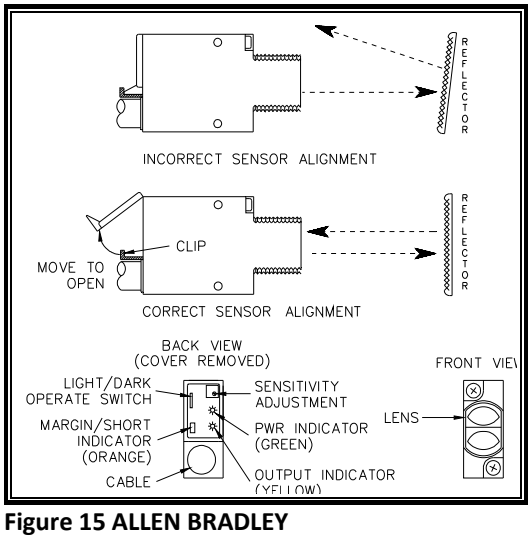


Figure 15 ALLEN BRADLEY

PRODUCT DETECTOR LOCKOUT

This function allows you to set a time or distance during which the microprocessor will ignore any detection signals from the product detector. Use this function when the product detector is generating false detection signals and the applicator cycles more than once per product. This may happen if a shiny product is reflecting light back to the detector. Use this function only when detecting the leading edge of the product. Set this value to minimum if you're not using it.

1. Select PRODUCT DETECTOR LOCKOUT from the menu.

2. Press the [ENTER] key.

3. Press and release [UP] or [DOWN] to enter a low value (i.e., 0.4) for PRODUCT DETECTOR LOCKOUT.

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

4. Try running products at this low value. If the false detections are not eliminated, increase the value for PRODUCT DETECTOR LOCKOUT and try again. Continue to slowly increase the setting until the false detections are eliminated.

NOTE: If the value for PRODUCT DETECTOR LOCKOUT is too short, it may cause two detections from the same product. If the value for PRODUCT DETECTOR LOCKOUT is too long, it may cause inaccurate applications or unlabeled products. Remember that any change in conveyor speed may require a corresponding change in PRODUCT DETECTOR LOCKOUT.

The Product Detector functions have now been set.

Go on to the Final Set-Up Section.

FINAL SET-UP

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

Before attempting to apply labels to products, make sure that:

1. The product handling system is adjusted to present the products to the applicator in a repeatable manner at a steady pace.

2. The applicator peeler plate tip is parallel to the product surface to be labeled. See Figure 17.

3. The peeler plate tip is 1/8 inch from the surface to be labeled. See Figure 17.

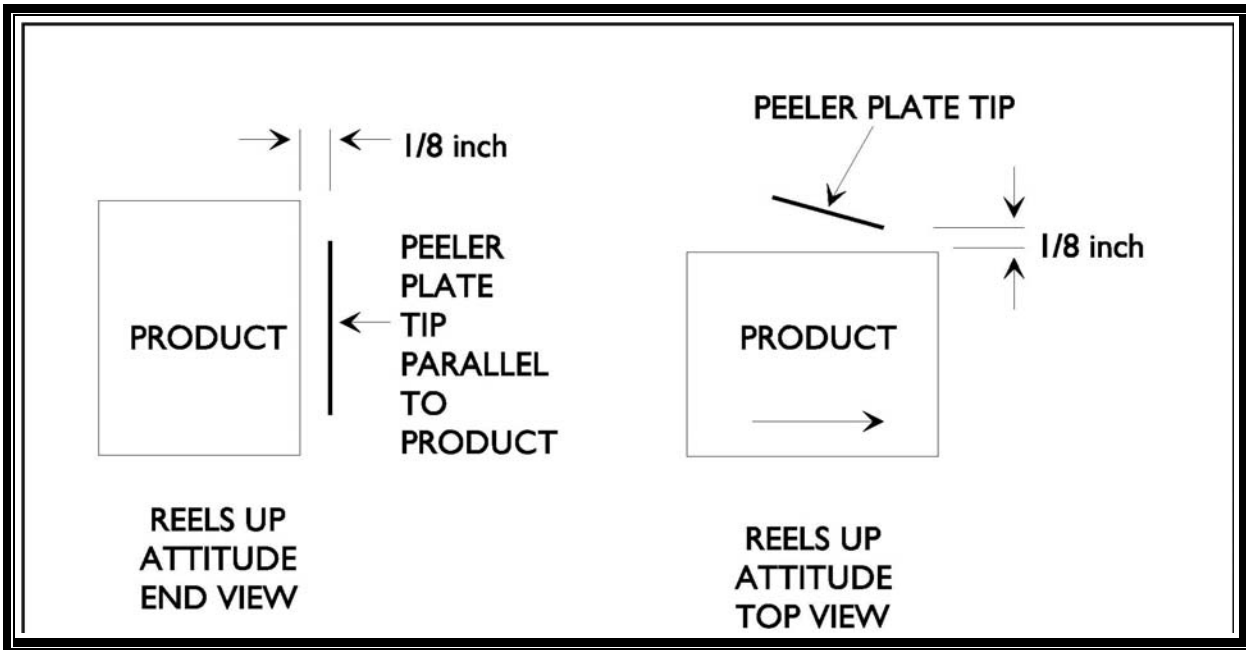


Figure 16- PEELER PLATE ALIGNMENT

APPLYING LABELS

The applicator is now ready to apply labels to products. Two basic groups of products can be labeled with the 3115NV Flat products and curved products. Flat products are most common and will be described in this section. For curved products refer to Appendix C.

1. Place the machine OFFLINE.

2. Select the SPEED FOLLOWING menu item. Set SPEED FOLLOWING to YES if an encoder is being used or NO otherwise.

3. Turn ON the conveyor and set it to the required line speed.

4. If an encoder is used, the applicator label dispense speed will automatically match the conveyor speed. Any conveyor **speed** changes will be matched by dispense speed; up to the maximum speed of the applicator.

If an encoder is not used, the applicator label dispense speed must be manually set to match the conveyor speed. Any changed in conveyor speed will require a manual adjustment to the label dispense speed.

If an encoder is not used, use a tachometer or other method to accurately determine the conveyor line speed in inches per minute (IPM).

Select the LABELING SPEED menu item. Set the LABELING SPEED to match the conveyor speed in inches per minute (IPM)

1. Place one product on the conveying system.

2. Place the machine ONLINE and watch as the label is applied.

3. Stop the conveyor. Check where the beginning of the label was applied to the product.

4. If the label was applied too close the leading edge of the product (early), either reposition the product detector further downstream or increase the LABEL ON PRODUCT POSITION setting. Refer to Figure 15.

5. Place one product on the conveying system

6. Place the machine ONLINE and watch as the label is applied.

7. Stop the conveyor. Check where the beginning of the label was applied to the product.

8. If the label was applied too close the leading edge of the product (early), either reposition the product detector further downstream or increase the LABEL ON PRODUCT POSITION setting. Refer to.

If the label was applied too far from the leading edge of the product (late), reposition the product detector further upstream. Refer to Figure 15.

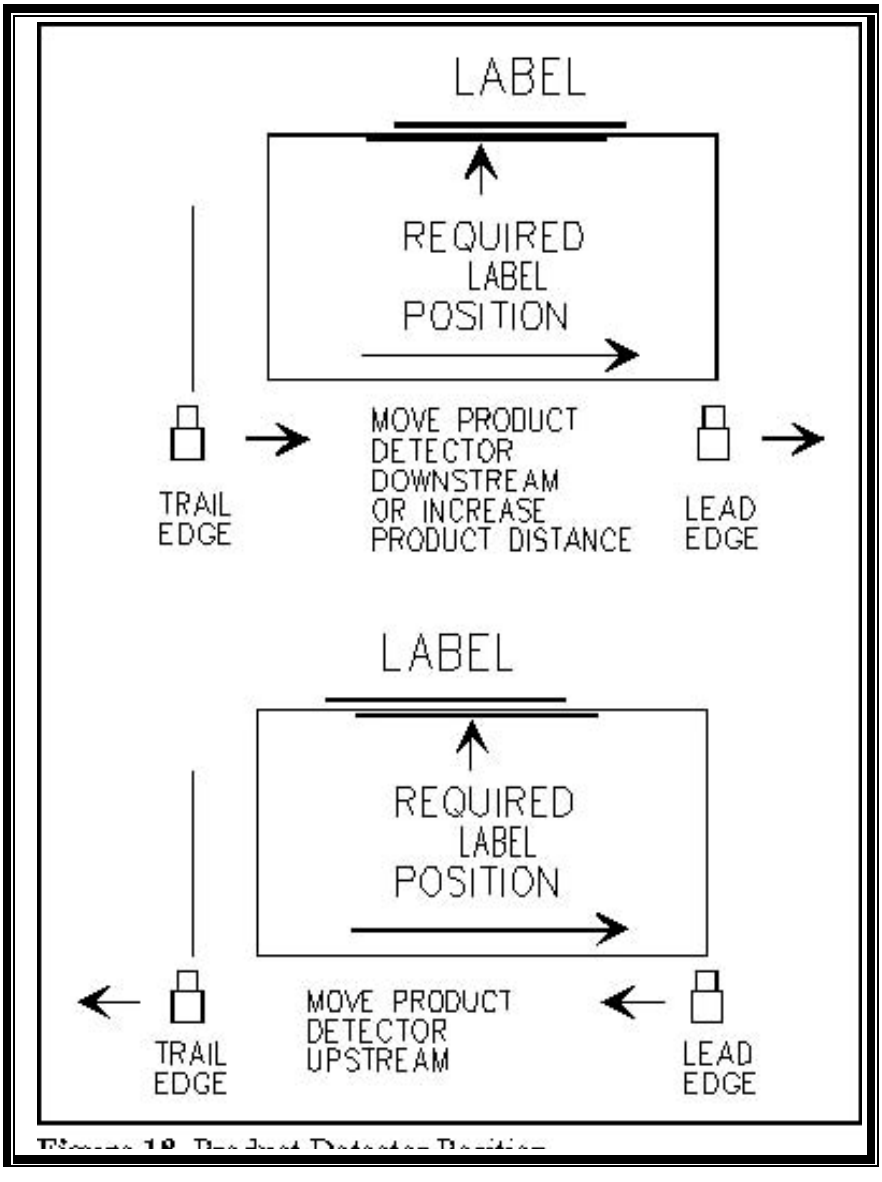


Figure 17 -PRODUCT DETECTOR POSITION

9. Repeat the above procedure until the label is applied at the required position on the product.

10. Stop the conveyor. Place the machine OFFLINE.

11. Select the PRODUCT DETECTOR LOCKOUT menu item. Set PRODUCT DETECTOR LOCKOUT as low as it will go. The PRODUCT DETECTOR LOCKOUT value is always a minimum of 0.25 inch greater than the LABEL ON PRODUCT POSITION. The LABEL ON PRODUCT POSITION is measured in 0.01 inch increments.

12. Place one product on the conveyor. Place the machine ONLINE.

13. Start the conveyor and watch as the label is applied to the product. Stop the conveyor.

14. If the UNLABELLED PRODUCT message was displayed, the product detector detected the product or something else that triggered the product detector. PRODUCT DETECTOR LOCKOUT must be used to ignore the false detections.

    After the product is detected, the PRODUCT DETECTOR LOCKOUT is used to "lock out" or ignore the erroneous product detections until the entire product has passed the product detector. To determine the PRODUCT DETECTOR LOCKOUT value, measure the length of the product in inches. Multiply that measurement by 100.

    Example: 8 inches x 100 = 800 Set PRODUCT LOCKOUT to the calculated value.

15. Repeat steps 12, 13 and 14. Re-adjust the PRODUCT DETECTOR LOCKOUT if needed.

16. Place two properly spaced products on the conveyor. Make sure that the machine is ONLINE.

17. Start the conveyor and apply labels to both products. If the DETECTOR LOCKOUT message remains on the display, go onto the Test Run Section.

    If the UNLABELLED PRODUCT message was displayed, the product spacing must be increased. Increase the spacing between products and repeat.

When product spacing is adequate, go onto the Test Run Section.

TEST RUN

After all adjustments have been made, a test run should be performed to test the set-up in a dynamic mode.

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

1. Place the machine ONLINE.

2. Turn the conveyor ON and apply labels to products.

3. Observe the label registration on the products. Make any adjustments required.

4. After the machine set-up is verified, place the machine OFFLINE. Go on to the Set-Up Record Section.

SET-UP RECORD

NOTE: If this machine is supplied with any optional equipment, refer to the Options section of the manual before proceeding with documentation.

Documentation is an important step that many people overlook. Complete documentation will help you to make rapid and accurate change-over. This manual provides a form that allows you to record all of the machine settings for each label. Although the microprocessor will keep the settings in its memory, it is a good idea to have a written record of all of the settings. This will enable you to quickly reset a label page and will provide a back-up in the event that a label page is accidentally altered.

Place the machine offline before you perform the following procedures or you may be injured by the moving drive roller.

1. Make sure that the current microprocessor settings consistently apply the label accurately on the product.

2. Place one label in the space provided.

3. Fill in the date, name of the person who set up the applicator and the product to be labeled.

4. Measure and record the distance from the peeler bar tip to the product, the peeler bar tip to product detector, the conveyor speed and products per minute.

5. Place the machine OFFLINE.

6. Cycle through the menu items in the Operator menu and the Advanced menu, and write the information on the form.

7. Include any comments or observations that might help you or someone else set up the machine (i.e., product orientation instructions, peeler bar alignment, etcetera). The applicator is now completely set up, documented and ready for use.

Break & Dancer Arm Adjustment

Page 59 figure 1

page 59 figure 2

The inner collar adjusts the dancer arm tension

1. Loosen two Allen screws on the inside collar

2. Holding the dancer arm pull to the desired position or proximity (1 o'clock) and then slightly tighten the Allen screws so the collar will still move on the shaft then using 5/32" T-handle push collar clockwise slightly to set into position tighten the screws back down.
   (As shown on page 59 figures 1& 2)

NOTE: The outer collar has no adjustments the break tension is set with the dancer arm adjustment.

BRAKE BAND & SPRINGS

Figure 18 BRAKE ASY UNWIND

Figure 19 LABEL SENSOR & PEEL TIP ASY

OPTIONS

The following pages contain the instructions for the set-up and operation of the optional equipment available on this machine.

ALARMS

Your machine may be equipped to provide an alarm output whenever it detects one of the following alarm conditions: Web Break/No Labels Found, and Low Label Supply. The Low Label alarm occurs when the label supply drops below a predetermined level. The Web Break alarm occurs when label sensor does not detect the value entered for CONSECUTIVE MISSING LABEL COUNT, or if the label sensor does not detect a gap in one LABEL REPEAT LENGTH. This could be caused by a web break, the exhaustion of the label supply, the loss of label detection, or other problems.

SET-UP

LOW LABEL DETECTOR

The low label detector is a photoelectric sensor which triggers the alarm light when the supply of labels is almost exhausted. Use the following procedure to check the function of the Low Label Detector.

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

1. Place the machine ONLINE. **NOTE:** The alarm light will not function with the machine OFFLINE.

2. Rotate the unwind roll of labels until the slot in the inner unwind disk is directly in front of the low label detector.

3. Remove the outer unwind disk and slide the full roll of labels away from the inner unwind disk.

1. If the low label alarm detector sensitivity is properly set, the alarm light will activate.

2. If the alarm light is functioning, replace the labels on the unwind and go on to the Low Label Alarm Trigger Point.

If the alarm light is not functioning properly, go on to the Low Label Sensitivity Adjustment Section.

LOW LABEL ALARM TRIGGER POINT

Place the offline before you perform the following procedures or you may be injured by the moving drive roller.

Use the following procedure to adjust the amount of label supply remaining on the unwind roll when the alarm light activates.

1. Place the machine OFFLINE.

2. Rotate the unwind roll of labels until the slot in the inner unwind disk is directly in front of the low label detector. Notice the red spot on the label supply. The red spot is generated by the detector and is the alarm trigger point.

3. Use a 9/64 inch hex head wrench to loosen the low label detector's adjustment screws. See Figure 16

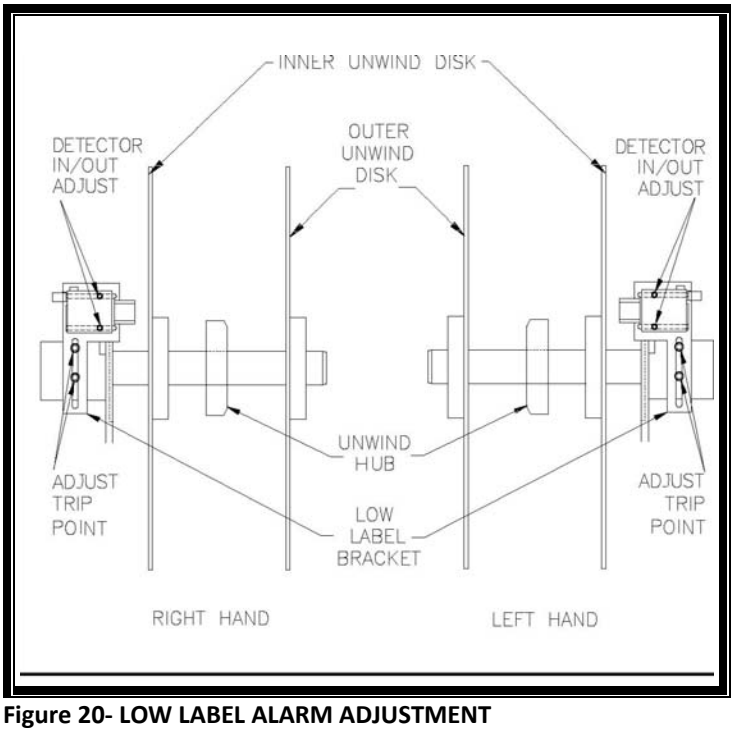


Figure 20- LOW LABEL ALARM ADJUSTMENT

4. Decide how much label supply should remain when the low label alarm is triggered. Slide the detector to put the red spot at the desired trigger point. Tighten the adjustment screws.

LOW LABEL SENSITIVITY ADJUSTMENT

The low label detector's sensitivity must be set so that:

A. The green LED on the back of the detector lights when the detector is blocked by the label roll or by the unwind disk, and

B. The yellow LED on the back of the detector lights when it is not blocked by the label roll, or by the unwind disk.

 **Exercise caution when cycling the machine. Keep hands away from the drive rollers.**

1. Place the machine ONLINE.

2. Rotate the unwind roll of labels until the slot in the inner unwind disk is directly in front of the low label detector.

3. The rear cover window on the detector must be opened before any adjustments can be made. See Figure 17.. Press the flexible retaining clip against the cable to open the window.

4. Gently slide the L/D Operate switch on the back of the detector to D (away from the retaining clip) for Dark Operation.

5. Use a 3/32 inch hex head wrench to loosen the detector. Slide the detector in or out until the red spot is sharply focused on the label stock. Secure in position. The green light on the rear of the detector will light.

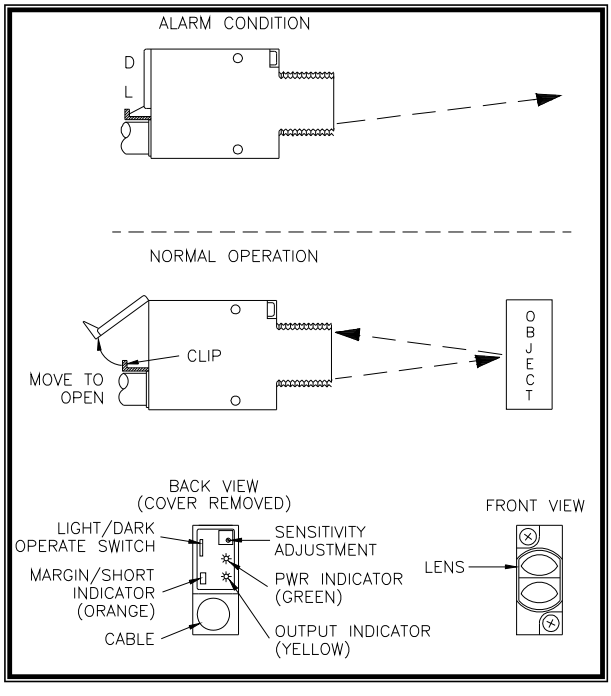
6. If the orange indicator is also lit, use a 1/16 inch flat blade screwdriver to turn the sensitivity adjustment screw counterclockwise until the orange indicator goes out.

7. Use the screwdriver to turn the sensitivity adjustment screw clockwise until the orange indicator just goes on.

8. Rotate the unwind disk slightly so that the red spot is directed onto the unwind disk. The detector's green LED must remain ON. Adjust the sensitivity if necessary so that the green LED on the rear of the detector remains ON when the unwind disk or the label roll is in front of the detector.

9. Rotate the unwind disk slightly so that the red spot is directed onto the label roll. Remove the outer unwind disk and move the label roll away from the low label detector. The green LED on the rear of the detector must go out and the yellow LED will light. Adjust the gain adjustment if necessary and repeat this procedure.

Figure 21 -Low Label Detector



10. Snap the window cover closed on the detector.

11. Perform the Low Label Alarm Trigger Point procedure.

WEB BREAK

The only set-up involved for the web break detector is to set the LABEL REPEAT DISTANCE correctly, according to the Set-Up Procedures in the Operator's Manual. Make sure that the LABEL REPEAT DISTANCE is neither too long nor too short. Too much LABEL REPEAT DISTANCE will trigger the alarm long after a web break occurs. Too little LABEL REPEAT DISTANCE may interfere with the LABEL STOP POSITION function. Refer to the Label Repeat Distance Section of the manual.

OPERATION

When the applicator is correctly set-up, it will operate normally until the microprocessor detects a fault condition.

LOW LABEL

The low label alarm occurs when the label supply drops below a pre-determined level.

1. When a low label condition activates the yellow alarm light, the alarm can only be stopped by placing the machine OFFLINE.

2. After you correct the alarm condition, re-set the alarm by placing the machine ONLINE.

A low label alarm will not stop the applicator from labeling. The labeling function will shut down only when the supply of labels is exhausted, or the LOW LABEL STOP COUNT is reached.

WEB BREAK

The web break alarm occurs when the label sensor does not detect the number of labels entered in CONSECUTIVE MISSING LABEL COUNT, or when the label detector does not see a gap during one LABEL REPEAT LENGTH. When the microprocessor detects this fault condition, it will shut down the applicator's labeling function, exhibit the WEB FAULT message on the display and activate the web break blue alarm light.

1. To turn off the alarm light, place the machine OFFLINE.

2. After you correct the fault condition, place the machine ONLINE to continue normal operation. The alarm is re-set when you place the machine ONLINE.

ENCODER

The encoder reports distance traveled and direction information to the microprocessor. The microprocessor derives the speed of the product from the number and rate of the encoder pulses received.

Each encoder pulse is equivalent to 1/100th of an inch. The encoder is equipped with a five inch circumference rubber encoder wheel. Each revolution of the encoder shaft is equivalent to five inches of product travel (500 encoder pulses). All speed matching calculations are based on this relationship.

When mounting the encoder, it is imperative to maintain this relationship: Five inches of product travel equals one revolution of the encoder shaft (wheel). In installations where the Label-Aire encoder wheel cannot be used, another drive arrangement is useable only if the five inch of product travel per encoder shaft revolution is maintained.

NOTE: The encoder wheel must not ride on a chain top conveyor. An unacceptable error is produced as the encoder wheel runs over the gaps between the chain links.

WRAP UNIT

The 3115NV can be used with a wrap unit to apply labels to cylindrical products.

When the wrap unit encoder option is used, the encoder monitors the speed of the wrap belt. Therefore, the web dispense speed will match the surface speed of the product.

If the wrap unit is not equipped with the encoder option, the LABEL WEB SPEED must be set to match the wrap belt speed, not the conveyor speed.

WRAP UNIT ALIGNMENT

The wrap unit must be positioned so that the wrap belt is parallel to the product. See Figure 21.

Place a product on the conveyor next to the wrap belt. If necessary, loosen the mounting screws. Adjust the jack screws to position the wrap belt parallel to the side of the product. Tighten the mounting screws.

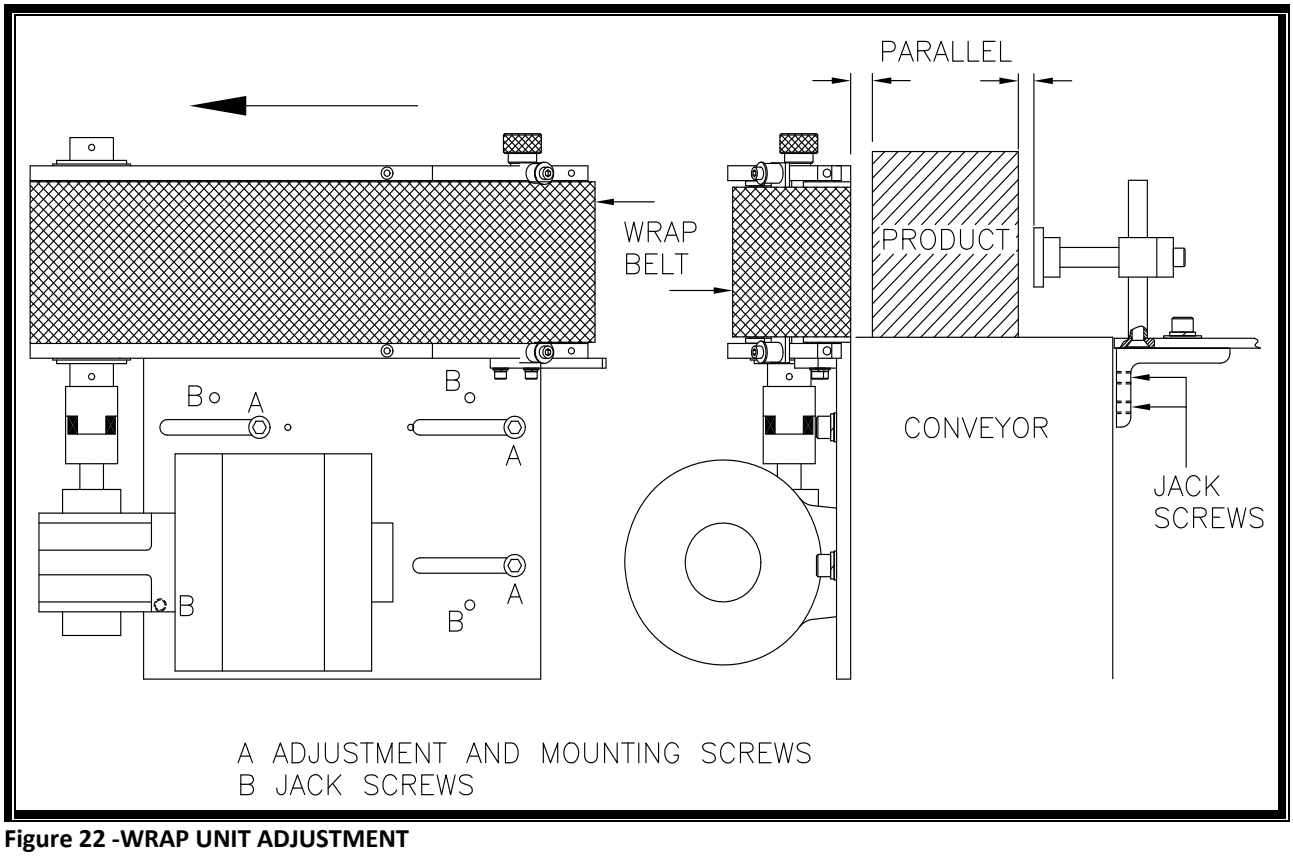


Figure 22 -WRAP UNIT ADJUSTMENT

PRESSURE BAR SET-UP

The pressure bar holds the product against the wrap belt as the label is applied.

The in feed side of the spring-loaded pressure bar has a bend that provides proper product guidance into the wrap unit. The point where the bend begins should be directly across or slightly before the in feed radius of the wrap belt. See Figure 19. The proper positioning of the pressure bar will ensure stable product position at the entrance of the wrap unit.

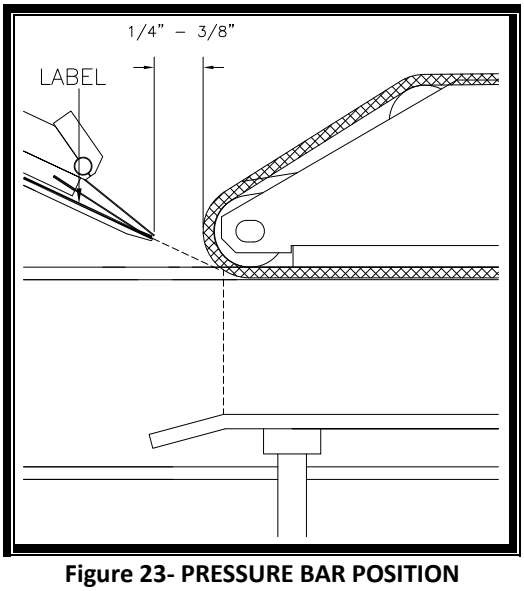


Figure 23- PRESSURE BAR POSITION

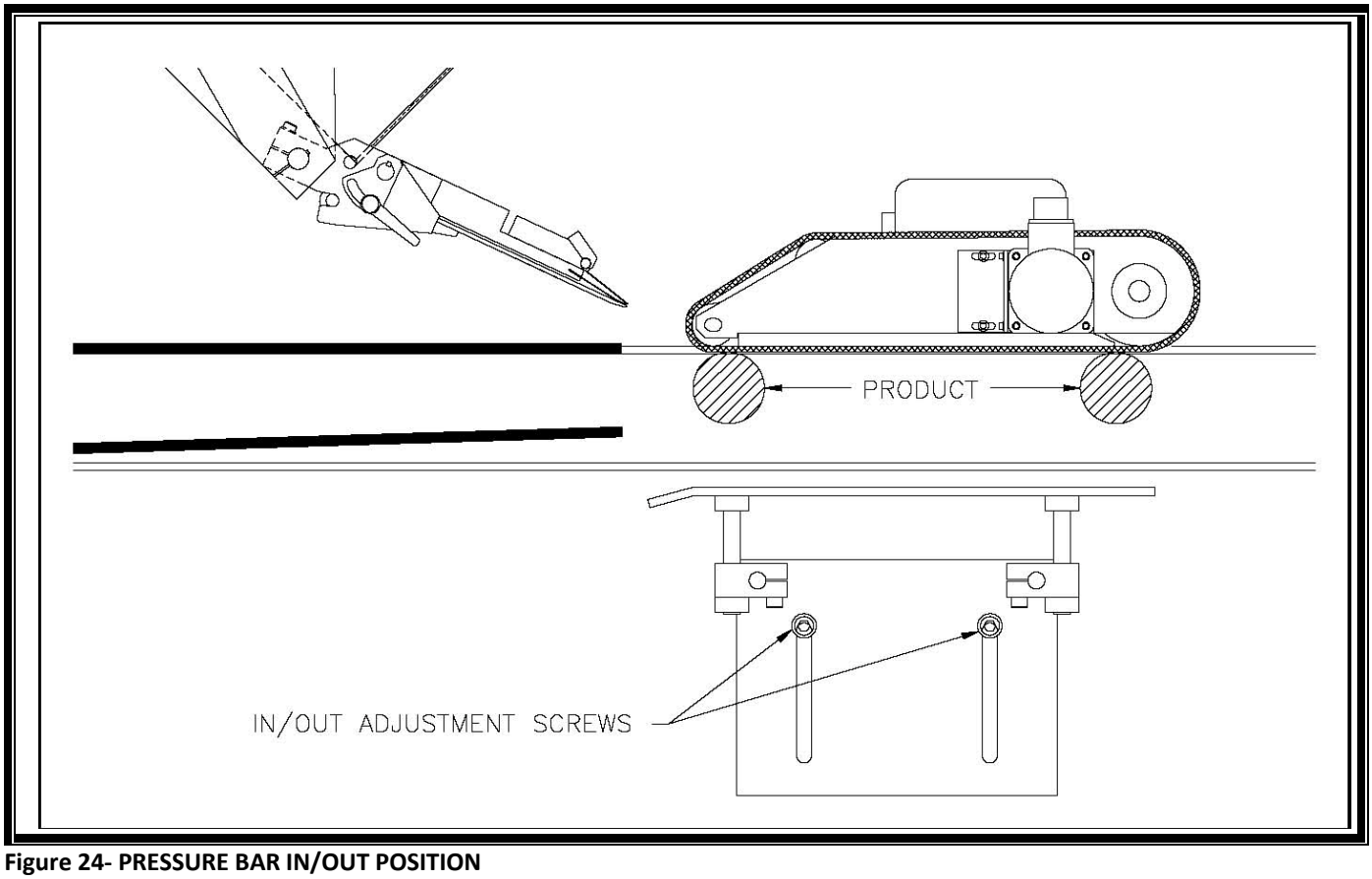


Figure 24- PRESSURE BAR IN/OUT POSITION

1. If necessary, loosen the mounting screws to position the pressure bar as shown in Figure 20. Do not fully tighten the screws at this time.

2. Loosen the pressure bar in/out adjustment screws and slide the pressure bar away from the wrap unit. (Refer to Figure 20).

3. Place a product at each end of the wrap belt. Refer to Figure 23.

4. Refer to Figure 19 and check that the pressure bar is parallel to the product.

5. If necessary, loosen the mounting screws and adjust the jack screws so that the pressure bar is parallel to the side of the product. Tighten the mounting screws.

6. Position the pressure bar 1/3 to ½ the height of the product. (See Figure 24).

7. Make sure that the pressure bar is parallel with the conveyor chain top from in feed to out feed. See Figure 24.

8. Position the pressure bar against the two products. (See Figure 25) . Push the pressure bar against the products to collapse the pressure springs slightly and evenly. Tighten the pressure bar assembly in place. Remove the products.

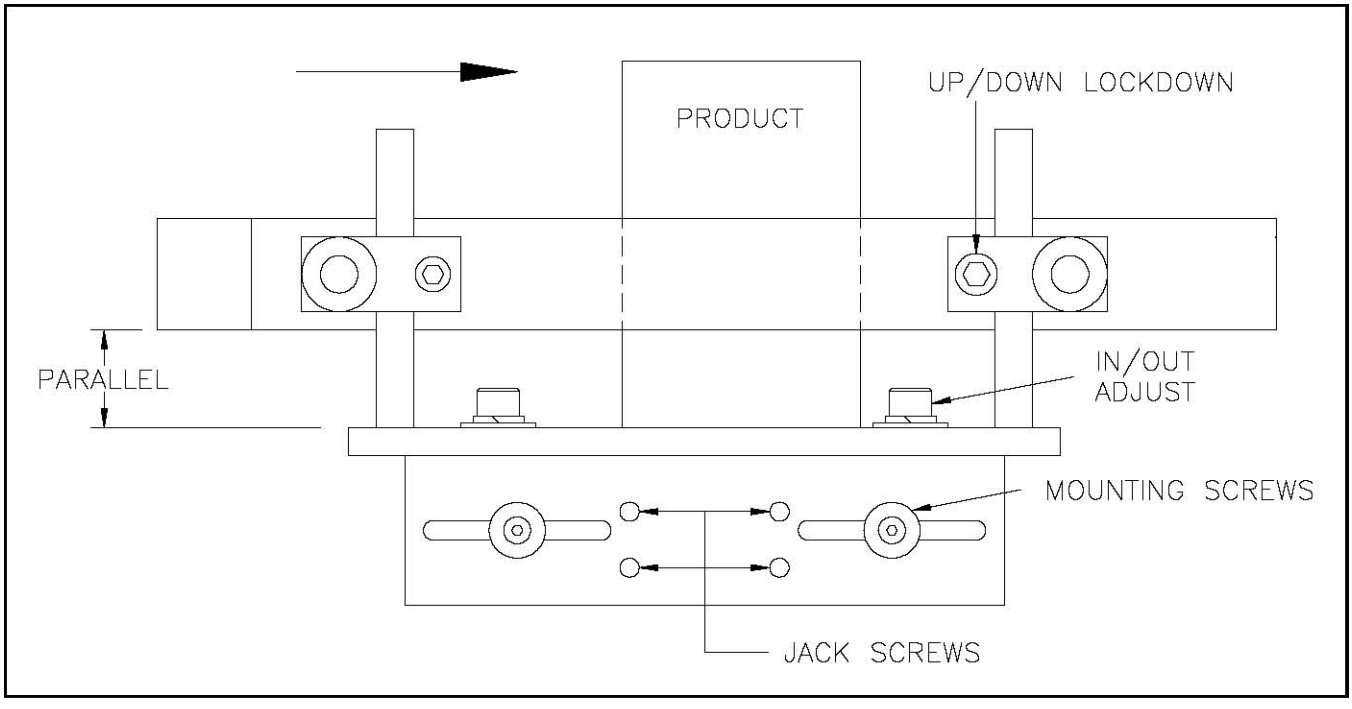


Figure 24 Pressure Bar Adjustments

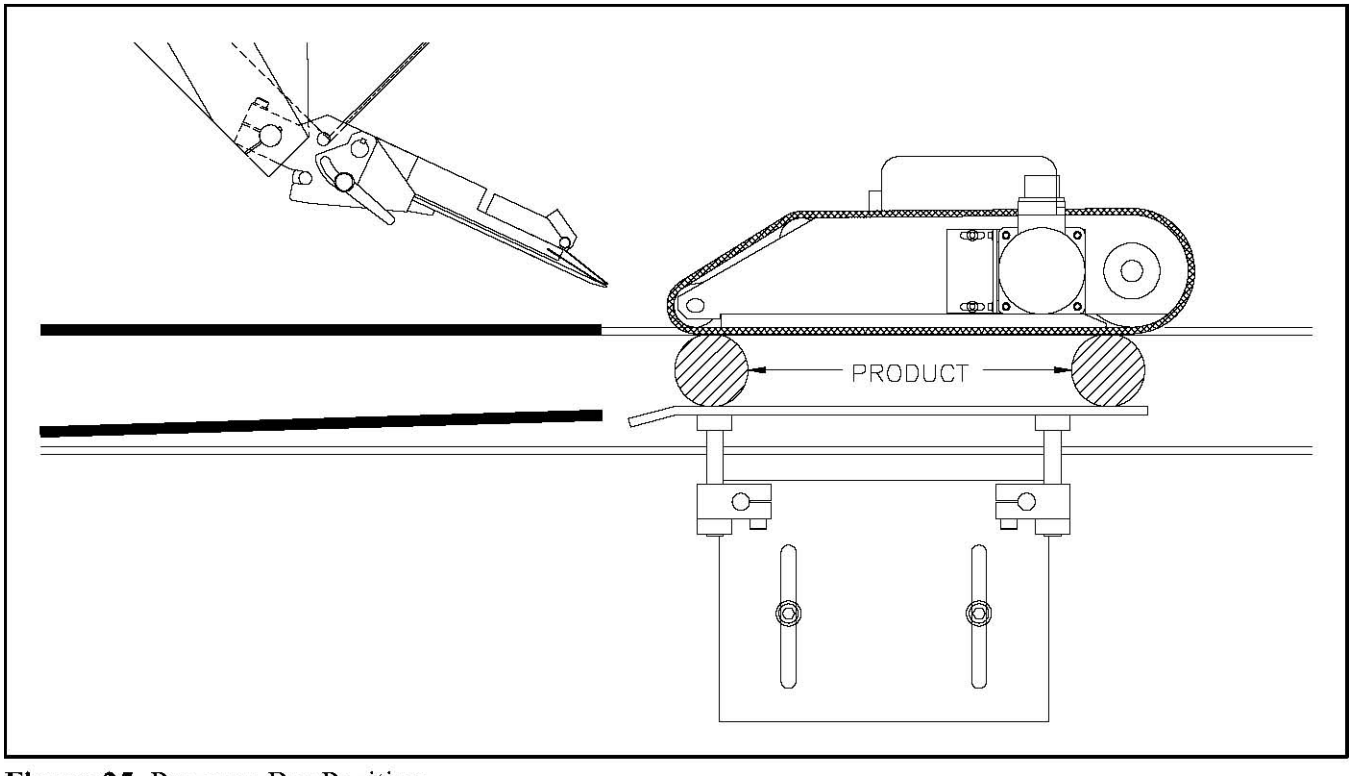


Figure 25 Pressure Bar Position

GUIDE RAIL SET-UP

Normally, the guide rail on the wrap unit side (inboard) of the conveyor is adjusted to guide the product to the wrap belt. The opposite guide rail is usually skewed to guide the product toward the inboard guide rail. Refer to Figure 21 and adjust as needed.

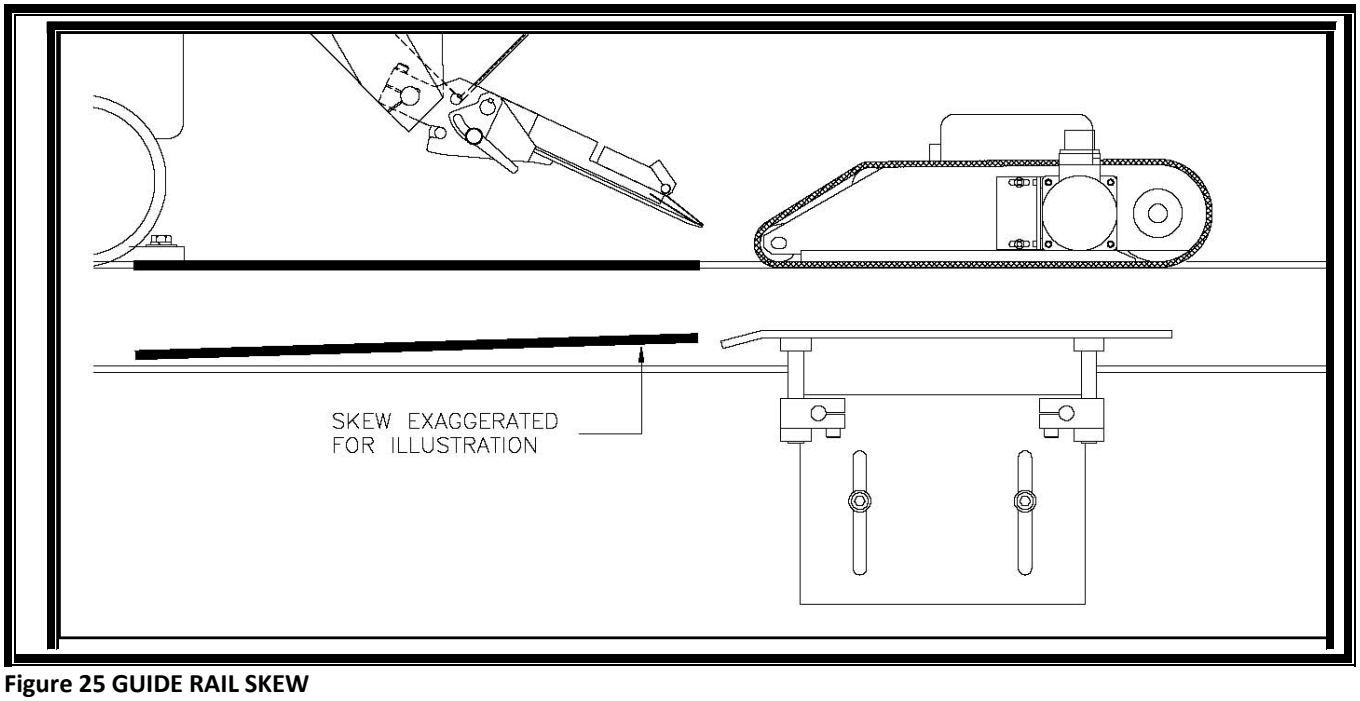


Figure 25 GUIDE RAIL SKEW

APPLICATOR ADJUSTMENTS

1. Remove the peeler plate brush.

2. Position the applicator so that the peeler plate tip is 1/4 to 3/8 inch from the tangent of the wrap belt. (See Figure 20).

NOTE: If necessary, re-locate and re-align the wrap unit.

3. Adjust the tilt of the applicator so that the peeler tip is parallel to the wrap belt. (See Figure 27). Lock in position.

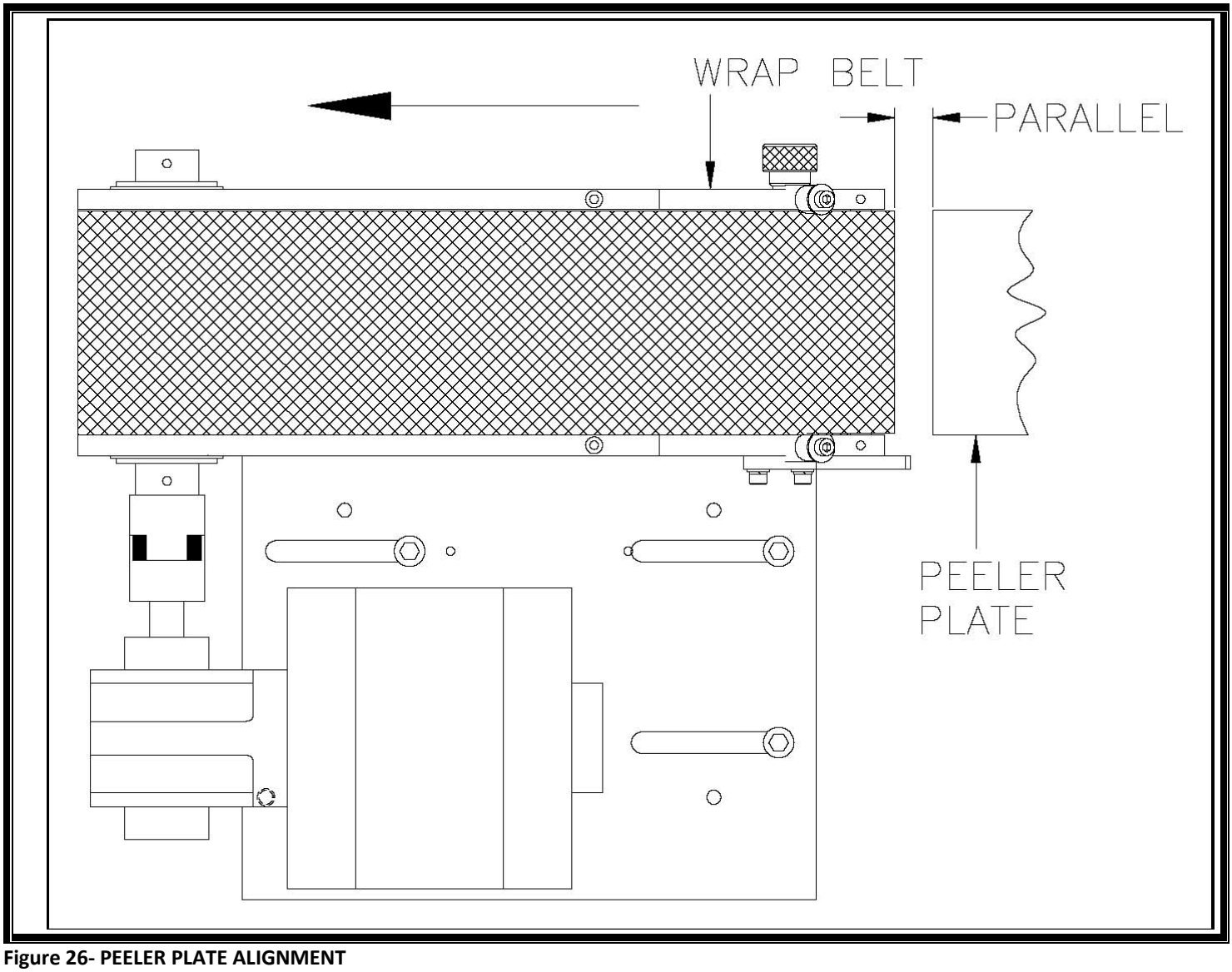


Figure 26- PEELER PLATE ALIGNMENT

4. Adjust the LABEL STOP POSITION so that the label stops at the end of the peeler plate tip. (See Figure 21).
5. Adjust the position of the product detector so that the label contacts the wrap belt at the same moment that the product contacts the wrap belt.

APPENDICES

The following appendices contain supplemental information that may be helpful for day to day operation of the machine.

APPENDIX A

RE-LOADING LABELS

This section of the manual explains how to re-load labels through the machine.

1. Place the machine OFFLINE. Remove the outer unwind disk.

2. Remove and discard the empty label core.

3. Slide a roll of labels onto the hub of the inner unwind disk. Make sure that the labels will be face up as they slide over the peeler bar. Replace the outer disk.

4. Remove and discard all the labels from the first six feet (two meters) of liner.

5. Turn the pinch roller cam lever to separate the pinch and drive rollers.

6. Thread the web through the machine as shown in Figure 28 or Figure 29. Make sure to thread the label liner through the label sensor.

7. Lay the end of the liner over the "quick release" rewind mandrel, and turn the mandrel by hand to take up any slack.

8. Turn the rewind mandrel by hand. Check that the inner edge of the label aligns with the inner edge of the vacuum grid. Adjust the positions of the inner unwind disk and the rewind disk if necessary.

9. Slide the guide collars to within 1/64 inch (0.4mm) of the label liner.

10. Re-engage the pinch and drive rollers.

11. Place the machine ONLINE.

12. Press and hold the [CUSTOM] button while two labels feed out to perform the label calibration.

APPENDIX B

SET-UP RECORD SHEET

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

3115 SET-UP RECORD SHEET

NAME _____ DATE _____

PRODUCT _____

PEEL TIP-PRODUCT	CONVEYOR SPEED:
PEEL TIP- PROD DET:	PRODUCTS PER MINUTE:
OPERATOR MENU	
LABEL PAGE	
LABELING SPEED	
LABEL STOP POSITION	
LABEL ON PRODUCT POSITION	
ADVANCED MENU	
LABEL SENSOR TO PEEL-TIP DISTANCE	FAST RISE LENGTH
LABEL REPEAT LENGTH	FLAT AREA LENGTH
LABEL SENSOR SETTING	WEB RATIO
LABEL SENSOR EDGE	
SLEW SPEED	
CONSECUTIVE MISSING LABEL COUNT	
PRINTER DWELL TIME	
PRODUCT SENSOR EDGE	
PRODUCT DETECTOR LOCKOUT	
LOW LABEL STOP COUNT	
ZERO DOWN TIME	
NUMBER OF PRODUCTS TO SKIP	
NUMBER OF PRODUCTS TO LABEL	
LABELS PER PRODUCT	
LABEL SPACING	

COMMENTS _____

APPENDIX C

STATUS PORT J19

Status outputs are found on J19. When the following conditions exist, the outputs are brought to zero volts.

PIN	CONDITION (SIGNAL NAME)	RESET BY
1	Low Label	OFFLINE
2	End of Web	OFFLINE
3	Unlabeled Product	OFFLINE
4	Offline	
5	24 Volts	
6	Label on Pad	
7	Web Break	OFFLINE
8	Tamp Back	
9	24 Volts	
CHASSIS	GROUND	

Example:

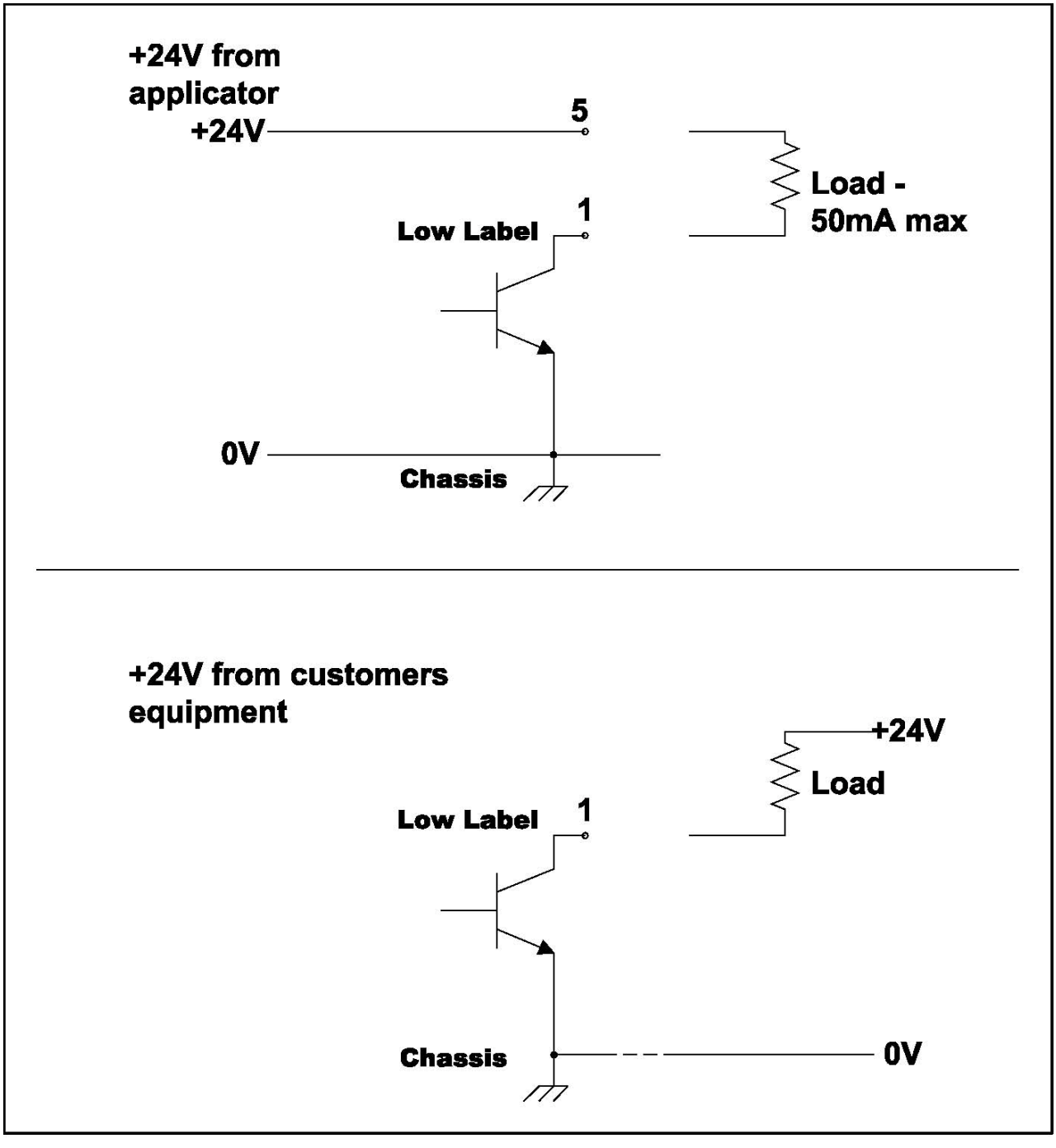


Figure 27 I/O WIRING

ALARM PORT J18

The outputs on J18 are either PNP (sourcing), or FET (sinking) as indicated below.

PIN	CONDITION (SIGNAL NAME)	OUTPUT TYPE	RESET BY
1	Ready	PNP	
2	Ready	FET	
3	Warning - Low Label, Unlabeled Product	PNP	OFFLINE
4	Warning - Low Label, Unlabeled Product	FET	OFFLINE
5	Fault - End of Web, Web Break, Offline	PNP	OFFLINE
6	Fault - End of Web, Web Break, Offline	FET	OFFLINE
7	24 Volts		
8	Ground		
9	Reserved		

PNP = Sourcing = Active High
FET = Sinking = Active Low

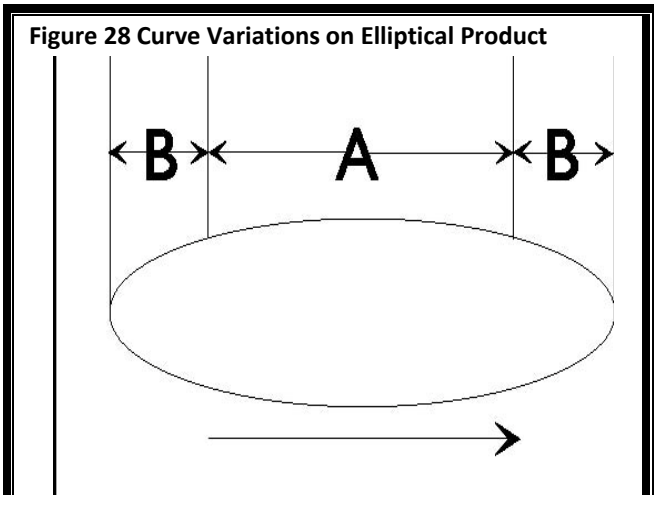
APPENDIX D

LABEL PROFILING

The applicator can be used to apply labels onto curved surfaces. It is recommended that the optional squeegee wipers be used whenever applying film labels to curved surfaces. The label must transfer from the peeler bar to the squeegee wiper and then onto the product.

In order for the machine to properly apply a label around a curved product, the speed at which the machine feeds the label must be changed to compensate for the curvature of the product. To do this, the machine employs two speeds and two distances for which these speeds are used. The distance that the label stock must travel at the line speed is the *fast rise length*. *Flat area length* is the distance for which the label stock needs to travel at a slower speed. *Web ratio* (a percentage of the line speed) is the speed at which the label will travel during flat area steps length.

Figure 28 Curve Variations on Elliptical Product



Consider the elliptical product in Figure 31. Notice that the parts of the ellipse labeled "B" are more steeply curved. This part of the curve is farther from the peeler plate than the part of the ellipse labeled "A." This change in distance and curvature means that the label must be applied slower over area "A" than over area "B."

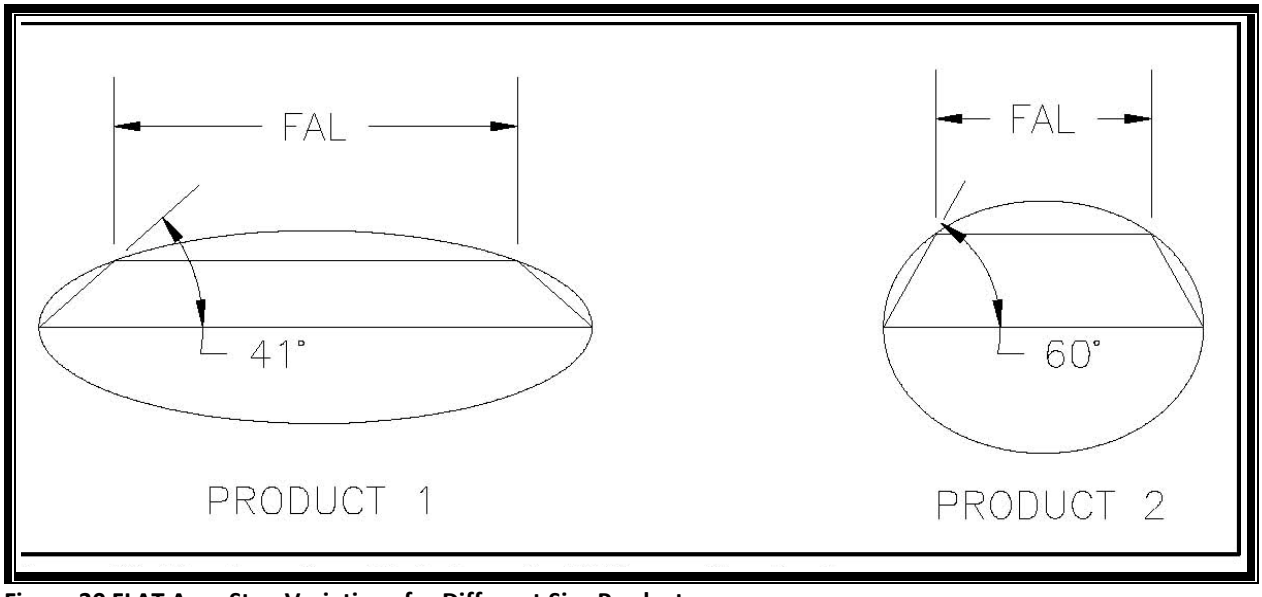


Figure 30 FLAT Area Step Variations for Different Size Products

Web Ratio and Flat Area Length probably will be different for each product that you label. Look at the product cross sections in Figure 32. Product #1 is relatively flat, while product #2 is more steeply curved. This means that product #1 will need a longer Flat Area Length and a shorter Fast Rise Length compared with product #2. Web Ratio will be different for these products. The slight curvature of product #1 means that the Web Ratio speed needed to dispense the label correctly will be only slightly lower than the line speed. The Web Ratio speed for product #2 must be lower to produce a speed decrease that is large enough to compensate for the greater curvature of the product.

The value for Fast Rise Length will depend upon the length of the label applied to the curvature of the product. Figure 33 shows two identical products with two different length labels. Product #1 has a short label. This means that very little of the label will be applied over the steeply curved portion of the product, and that the point of application is closer to the peeler plate. Product #1 will need only a short Fast Rise Length. Product #2 has a very long label. This means that a greater percentage of the label will be applied over the steeply curved portion of the product, and that the point of application is farther from the peeler plate. Product #2 will need a longer Fast Rise Length.

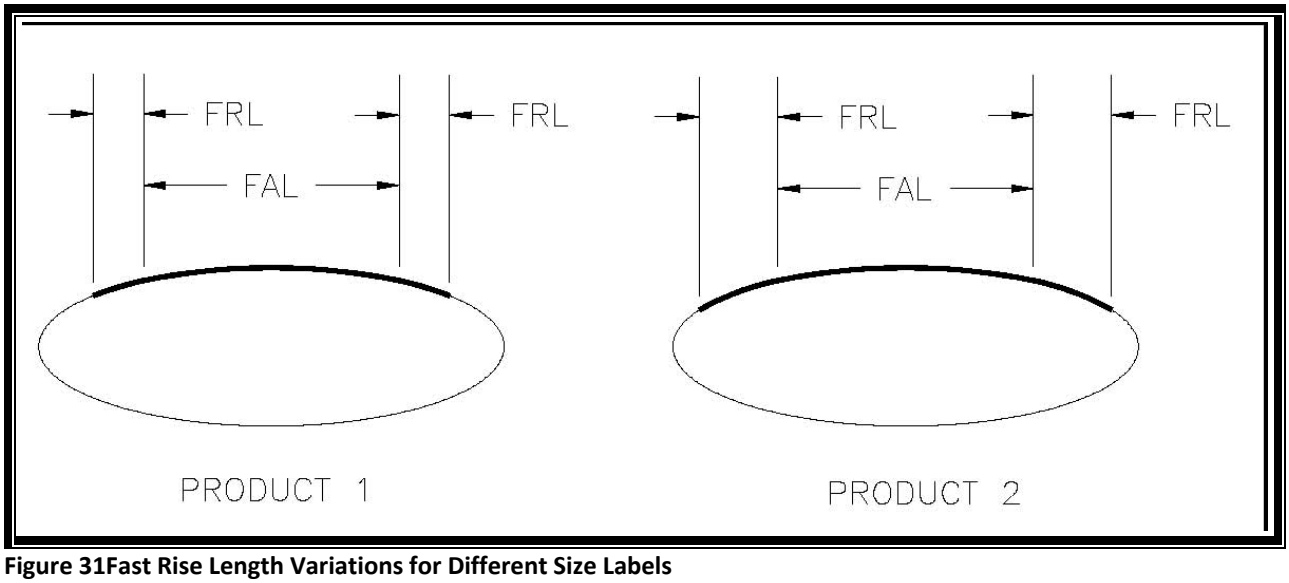


Figure 31Fast Rise Length Variations for Different Size Labels

Because of the many variables involved, you will need to experiment to find the best values for Web Ratio, Fast Rise Length and Flat Area Length.

WEB RATIO

Web Ratio determines the speed of the label stock during the Flat Area Length. The value entered for Web Ratio represents a percentage of the conveyor speed. If, for example, the value for WEB RATIO is 95, then the label stock will advance at 95% of the conveyor speed during the Flat Area Length.

Place the machine offline before you perform the following procedures or you may be injured by the moving drive roller.

1. Select the WEB RATIO menu item.

2. To begin, set the WEB RATIO to 85. Remember that this value is only an estimate and may be changed later.

FAST RISE LENGTH - FLAT AREA LENGTH ESTIMATION

The FAST RISE LENGTH and FLAT AREA LENGTH are the values that the microprocessor uses to adjust the speed of the labels to compensate for the curvature of the product. Some experimentation is necessary to find the best values for these functions.

1.Apply a label to the product by hand. Consider the profile of the product and estimate the distance from the beginning of the label (start of Fast Rise Length) to the start of the Flat Area Length (end of Fast Rise Length). Refer to Figure 34.

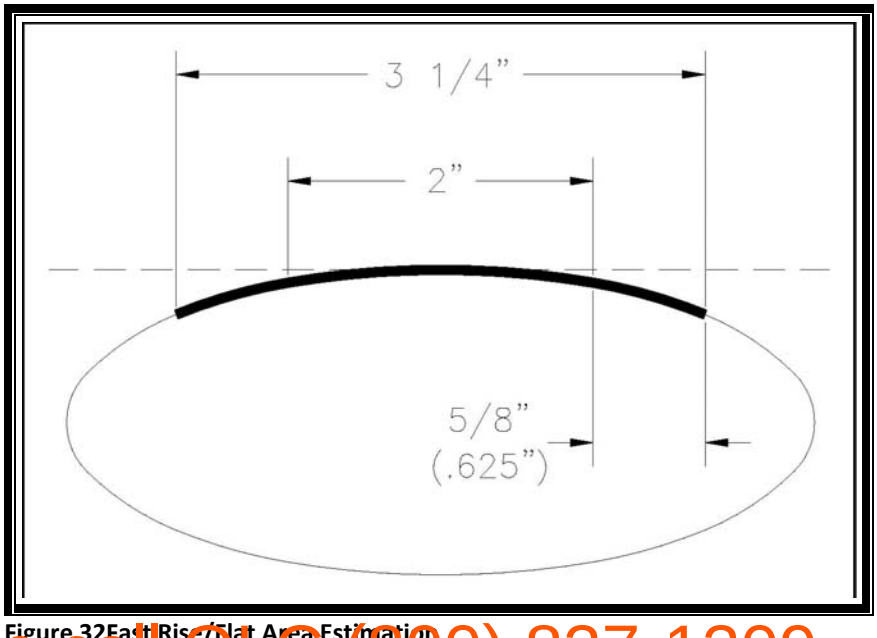


Figure 32Fast Rise/Flat Area Estimation

2. Measure (in inches) the estimated Fast Rise Length.

3. Multiply the estimated Fast Rise Length by 100 to convert the measurement to hundredths of inches. Example: If the estimated Fast Rise Length measured 5/8 inch (.625), then the estimated Fast Rise Length setting should be:

.625 x 100 = 62.5 Round 62.5 up to 63.

4. Make sure that the machine is OFFLINE.

5. Select the FAST RISE LENGTH menu item.

6. Enter the calculated valued for the FAST RISE LENGTH in hundredths of inches.

7. The estimated Flat Area Length is the label length less two times the estimated Fast Rise Length. See Figure 34.

Example: If the label length is 3 1/4 inches and the estimated Fast Rise Length is 5/8 inch (.625), then the estimated Flat Area Length is: 3.25 - 2(.625) = 2

8. Multiply the estimated Flat Area Length by 100 to convert the measurement to hundredths of inches.

Example: 2 x 100 = 200

9. Select the FLAT AREA LENGTH menu item.

10. Enter the calculated value for the FLAT AREA LENGTH in hundredths of inches.

This provides a rough estimate for the Fast Rise Length and the Flat Area Length. These values will be adjusted in the next section.

FAST RISE AND FLAT AREA ADJUSTMENTS

The system will work best with the smallest fast rise length value and the largest flat area length value that properly applies the label. Use the instructions below to find these values.

Exercise caution when cycling the machine. Keep hands away from the drive rollers.

1. with the machine ONLINE, send several products down the conveyor and observe the labels that are applied.

2. If the leading edges of the labels were all applied at the same position on the products, go on to step #3.

   If the leading edges of the labels were placed at various positions on the products, the Fast Rise Length is too short.

   Slightly increase the Fast Rise Length and run some more products. Repeat until the leading edge label placement is consistent.

3. If the leading edges of the label were applied at the required position on the product, go on to step #4.

   If the leading edge of the label is applied at the incorrect position, adjust the LABEL ON PRODUCT POSITION setting, or re-position the product detector. Run some more products. Repeat until the leading edge of the label is applied at the required position on the product.

4. If there are no wrinkles or bubbles in the first half of the applied labels, go on to step #5.

   If a wrinkle or bubbles appear from the top to the bottom of the first half of the label, the Fast Rise Length is too long.

   Slightly decrease the Fast Rise Length and run some more products. Repeat until the wrinkle in the first half of the label is removed.

5. If there is no wrinkle in the center of the label, go on to step #7.

   If a wrinkle appears from the top to the bottom at the center of the label, either the Web Ratio is too high, or the Flat Area Length is too short.

   The Web Ratio will be adjusted first. Before adjusting, note the Web Ratio setting. Slightly decrease the Web Ratio and run some more products. Repeat until the wrinkle is removed. Go on to step #7.

   If the wrinkle cannot be eliminated by adjusting the Web Ratio, set the Web Ratio to the value noted above. Go on to step #6.

6. Increase the Flat Area Length slightly and run some more products. Repeat until the wrinkle is removed.

7. If the labels are applied wrinkle free from lead edge to trail edge, go on to step #8. If small horizontal wrinkles appear on the trailing edge of the label, the Flat Area Length is too long. Slightly decrease the Flat Area Length and run some more products. Repeat until wrinkles are eliminated.

8. When the Web Ratio, Fast Rise Length, and the Flat Area Length are established, the set-up is complete. Make sure to record the settings on a Set-Up Record Sheet.

MAINTENANCE

This section gives instructions for performing ordinary maintenance and adjustments on the 3115NV applicator. The procedures recommended in the periodic maintenance sections are detailed in the Adjustments Section.

DAILY MAINTENANCE

(EVERY 8 HOURS)

Place the machine offline before you perform the following procedures or you may be injured by the moving drive roller.

1. Examine peeler bar and rollers for excessive adhesive build up. Clean if necessary, using alcohol or other similar solvent.

2. Wipe down the exterior surface of the machine.

WEEKLY MAINTENANCE

(EVERY 40 HOURS)

Disconnect the power from the machine before you perform the following procedures or you may be injured by the moving drive belts and pulleys, or receive an electric shock.

1. Clean all rollers remove adhesive and paper dust, using solvent (alcohol or equivalent).

2. Clean peeler bar.

3. Clean dust from all photoelectric cells and lamps.

4. Check generally around the machine for any evidence of loose screws, rollers, fixtures, etc. Tighten as necessary.

MONTHLY MAINTENANCE

(EVERY 150 HOURS)

The following procedure should only be performed by a Qualified Service Technician.

Disconnect the power from the machine before you perform the following procedures or you may be injured by the moving drive belts and pulleys, or receive an electric shock.

1. Examine dancer arm tension, adjust if necessary.

2. Check the Nolu tape on the peeler bar for wear, cuts, or other damage. Replace if necessary.

3. Examine the rewind slip clutch disk and o-ring and clean or replace as necessary.

4. Examine all roller assemblies for free rotation, excessive play, etc. and correct as necessary.

5. Check the motor drive shaft belt tension.

SEMI-ANNUAL MAINTENANCE

(EVERY 1000 HOURS)

The following procedure should only be performed by a Qualified Service Technician.

Disconnect the power from the machine before you perform the following procedures or you may be injured by the moving drive belts and pulleys, or receive an electric shock.

1. Clean inside and outside machine enclosure, using an industrial vacuum cleaner.

NOTE: Using air pressure from the shop air supply to blow off dust, etc., can create more problems than it solves. There is a good possibility that this air will contain water and emulsified oil. If you must use compressed air, be sure that it is adequately filtered and regulated to low pressure and remove the electronic module.

2. Perform the procedures listed in the Monthly Maintenance Section.

ANNUAL MAINTENANCE

(EVERY 2000 HOURS)

The following procedure should only be performed by a Qualified Service Technician.

Disconnect the power from the machine before you perform the following procedures or you may be injured by the moving drive belts and pulleys, or receive an electric shock.

1. Examine moving parts for excessive wear. Check the stability of roller mounts and motor mounts.

2. Examine timing belts for damage. Replace if necessary.

3. Replace the rewind slip clutch disk and o-ring in the rewind station assembly. Clean all friction faces on the rewind and check for wear. Replace the slip clutch disk and/or o-ring as necessary..

4. Check the one way clutch on the rewind shaft for correct operation.

5. Examine pulleys for wear. Replace if necessary.

6. Perform the procedures listed in the Semi-Annual Maintenance Section.

REWIND SLIP CLUTCH ADJUSTMENT

You may need to adjust the rewind slip clutch if the rewind mandrel is not turning fast enough to take up the label liner, or if the rewind mandrel torque is such that the liner is breaking. When making adjustments to the rewind slip clutch (see Figure 36) note that the spring tension can be adjusted by adding or removing flat washers. Sometimes it may be necessary to replace the o-ring and slip clutch disk.

To increase friction drive (rewind), add flat washers P/N 7101697, to compress or increase spring tension, (see Figure 36). To decrease friction drive, remove flat washers P/N 7101697, to expand or lessen spring tension, (see Figure 36). Flat washers should be added or subtracted one at a time until proper drive is achieved. Conditions that may warrant adjustment of the rewind slip clutch are:

1. A change in applicator attitude. Example: 1. Reels up.
   2. Upright and above.

2. A change in label carrier size. Example: 1. one inch (25mm) web. (Narrow)
   2. 4-6 inch (101-152mm) web. (Wide)

3. A change in the manual speed of the applicator.

NOTE: Depending on the attitude of the machine, you will need to observe the response of the rewind mandrel from the beginning of a roll, (no web liner on rewind mandrel), to the end of the roll (a full web liner roll on the rewind mandrel). As waste builds up on the rewind mandrel, the weight will play a roll in the way that the rewind operates. Some further adjustments may still be necessary to compensate for the change in load from the beginning to the end of a roll of labels.

When replacing the o-ring and slip clutch disk (see Figure 36), it will be necessary to follow these adjustment procedures to attain the correct web rewind tension. As the o-ring and slip clutch disk wear you may have to periodically follow the adjustment procedures to maintain consistent web rewind tension.

Follow these instructions to adjust the rewind slip clutch tension.

1. Turn the [POW ER] OFF (O).

2. Disconnect the machine A.C. power cord from the A.C. power.

3. Disconnect the A.C. power cord from the IEC receptacle on the machine.

4. Use a #1 Phillips screwdriver to remove the screws from the enclosure cover. Remove the enclosure cover.

5. Use a #1 Phillips screwdriver to remove the screw from the end of the drive shaft.

6. Carefully remove the flat washer, and the compression spring.

7. Install one flat washer (P/N 7101697) to increase the rewind drive, or remove one flat washer to decrease the rewind drive.

8. Carefully re-install the compression spring, the flat washer, and the screw. Tighten the Phillips screw onto the rewind shaft.

9. Use a #1 Phillips screwdriver to install the enclosure cover.

10. Reconnect the A.C. power cord to the IEC receptacle on the machine.

11. Reconnect the machine A.C. power cord to the A.C. power.

12. Turn the [POWER] ON (I). Test the machine and observe the rewind from the beginning of a new roll of labels, to the end of the roll.

13. Re-adjust if necessary.

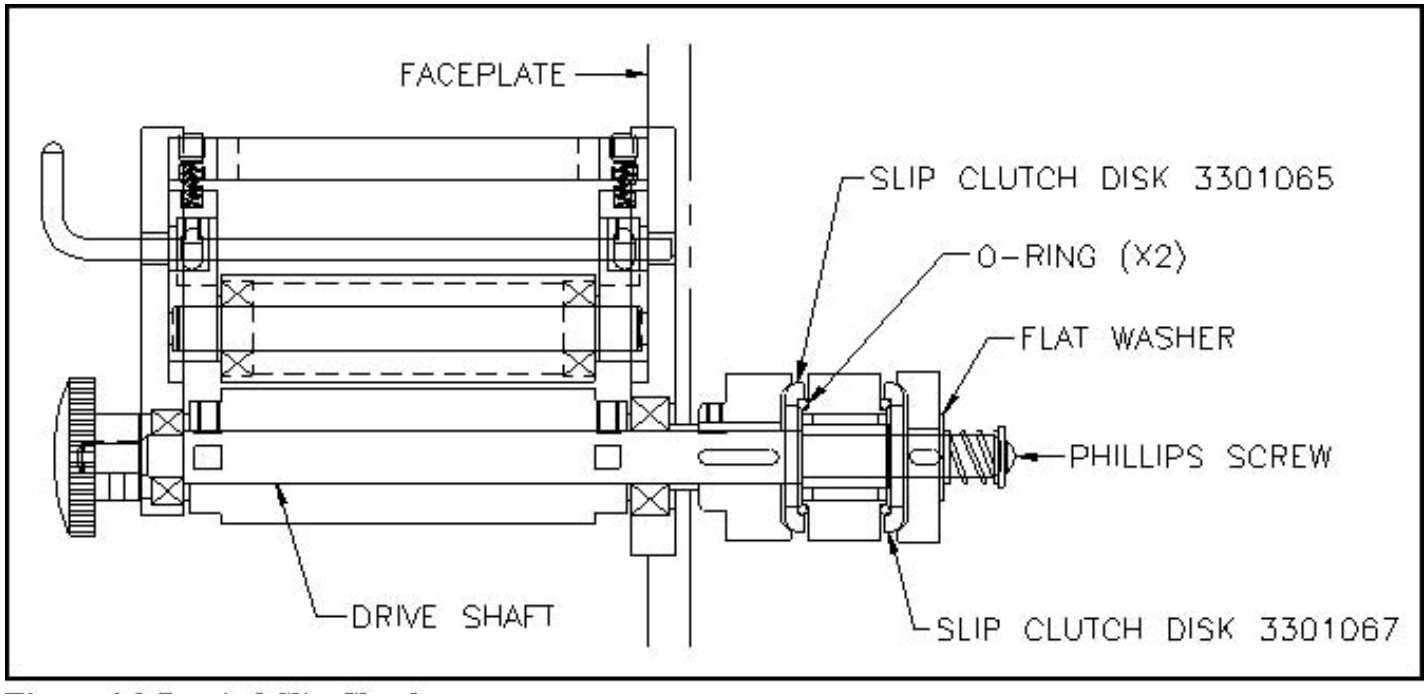


Figure 33Rewind Slip Clutch

PINCH ROLLER COMPRESSION ADJUSTMENT

The following procedure should only be performed by a Qualified Service Technician.

Disconnect the power from the machine before you perform the following procedures or you may be injured by the moving drive belts and pulleys, or receive an electric shock.

1. Turn the [POW ER] OFF (F).

2. Disconnect the machine A.C. power cord from the A.C. power.

3. Disconnect the A.C. power cord from the IEC receptacle on the machine.

4. Turn the four pinch roller set screws in (clockwise) by the same amount, to increase the pinch roller pressure, or out (counterclockwise) to decrease the pinch roller pressure.

   The pinch roller tension should be just enough to feed the web through the machine without the web slipping.

5. Reconnect the A.C. power cord to the IEC receptacle on the machine.

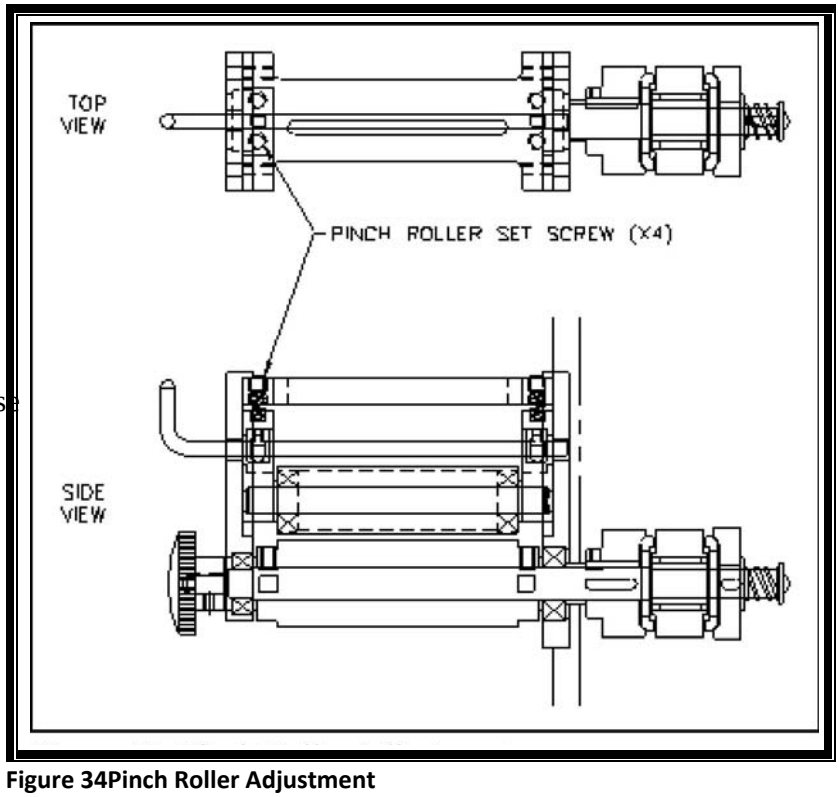


Figure 34Pinch Roller Adjustment

6. Reconnect the machine A.C. power cord to the A.C. power.

PROGRAMMING THE 311x APPLICATOR

To install Flash Simple on your computer, create a directory named Flash Simple. Run the Flash Simple installation program. The program will guide you through the installation process. Choose the Flash Simple directory when prompted.

DOWNLOADING

1. Remove power from the applicator.

2. Remove the back cover.

3. Locate the Processor circuit board.

4. Refer to Figure 38. Locate jumpers H2 and H3. Place jumpers on both pins.

5. Connect a nine pin female to nine pin female straight through serial cable from the serial port on the computer to the comm port on the applicator.

6. Start the Flash Simple program on the computer.

The first time you use Flash Simple, you must set it up;

Device Name: H8S/2357F (20 Mhz)
Interface Name: Direct Connection
Port Name: COM1 (or COM2) Baud
Rate: 9600
Mode Boot

7. Insert the 3 ½ inch floppy provided in the computer.

8. Select A:\xxxxxxx.mot

9. Apply power to the applicator. The display should be blank except for a blinking square in the upper left hand corner.

10. Choose Flash Program on the computer. This will start the download. At the end of the download, you will see a completion message.

11. Remove power from the applicator.

12. Disconnect the nine pin serial cable.

13. Remove the two jumpers from H2 and H3.

14. Replace the back cover.

15. Apply power to the applicator.

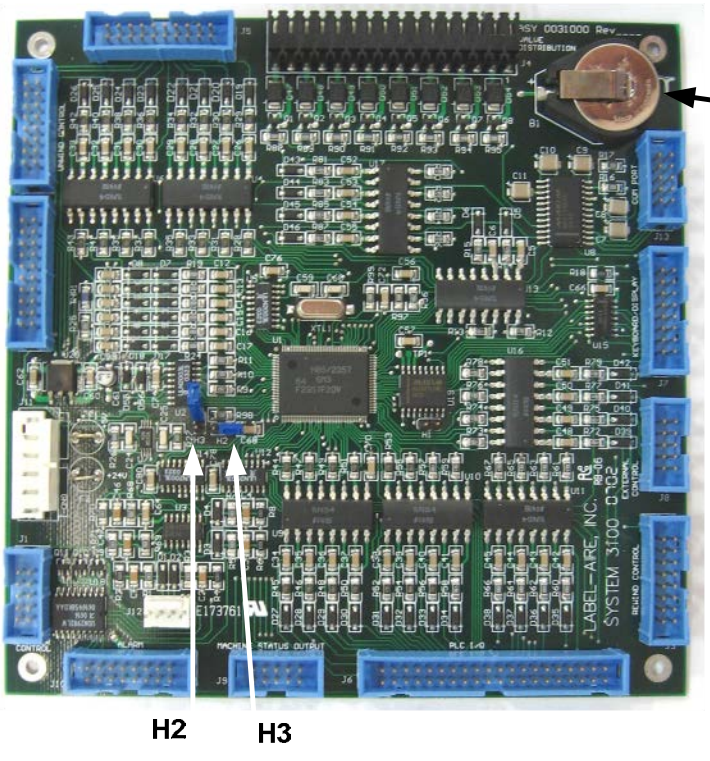
SETTING-UP THE APPLICATOR

1. Select the Machine Type from the Factory Menu.

2. If the applicator has the Powered Rewind option, set POWER REWIND to YES, NO otherwise.

3. Set the UNITS to the desired value.

4. set the values in the Supervisor menu per the Operator's Manual.



H2 & H3 Location

After replacing the battery or if the battery fails for any reason. You may loose the program software on the processor board.

Figure 35 Control Board H2 & H3 location

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
1. Nothing Works	Power cord loose, defective, or not plugged in.	Inspect the cord to find the problem and correct as necessary.
	A.C. line fuse blown.	Find the cause-- short circuited wire or terminal connection-- correct the problem and replace the fuse.
		Determine cause. NOTE: This fault may require specialized attention and the fastest solution may be to replace the control module. If any doubt exists, replace the control module and request qualified assistance to repair the defective unit.
	Loose connectors.	Examine and correct.
	[POWER] switch defective.	Examine and replace.
2. Display board does not light.	Cable from the display not plugged into the microprocessor on back of the unit.	Inspect and reconnect.
	Defective display.	Replace the display or request qualified assistance.
3. Label advance does not occur.	Control motor defective.	Replace the control card or motor. NOTE: It may be expedient to request qualified assistance.
	Stepper module defective.	Replace motor. NOTE: It may be expedient to request qualified assistance
	Loose drive roller.	Check the set screws and make secure.

PROBLEM	POSSIBLE CAUSE	SOLUTION
3. Label advance does not occur. (Cont.)	Pinch roller arm not engaged.	Make sure the detent arm is disengaged, (pinch roller engaged).
	No input from encoder.	Turn conveyor ON, check encoder, and set ENCODER INSTALLED to YES.
	Encoder rotating in wrong direction.	Switch SW1 on encoder interface card to Operate setting to change the encoder rotation.
	Unit is offline.	Place the unit online.
4. Label advance occurs but fails to stop or is erratic.	Label sensor set incorrectly.	Refer to the set-up procedures for instruction.
	Label sensor out of alignment.	Refer to the set-up procedures for instruction.
	Label sensor lens blocked or contaminated.	Clean using a lens brush.
	Marginal label detection point.	Move label sensor to alternate mounting hole.
	Label sensor assembly loose. Connecting wires to the label sensor loose or damaged.	Tighten to eliminate movement. Check for damage and repair or replace.
	Label sensor defective.	Replace as necessary.
	Drive roller assembly loose or pinch roller spring tension is poor.	Investigate and correct. Adjust the pinch roller spring tension if necessary.
	Label Stop Position is set too long.	Re-adjust.

PROBLEM	POSSIBLE CAUSE	SOLUTION
4. Label advance occurs but fails to stop or is erratic. (Cont.)	Defective control module.	Replace the control module or request qualified assistance.
	Incorrect Label Repeat Distance.	Refer to the set-up procedure and correct.
5. Label placement on the product is consistently poor.	Adhesive strings on the label and liner usually caused by die cuts on the label liner.	Replace the damaged roll of labels.
	Label Stop Position is out of adjustment.	Investigate and correct.
	Peeler bar angle is incorrectly positioned.	Refer to the set-up procedures for alignment instructions.
	Label sensor incorrectly positioned (odd shaped labels).	Refer to the Label Sensor Detection Point Section.
	Label sensitivity incorrectly adjusted.	Refer to the set-up procedures for instruction.
	Label detection edge setting incorrect. Set lead or trail (odd shaped labels).	Refer to the Label Sensor Detection Point Section.
	Loose drive belt.	Investigate and correct.
	Pinch roller not engaged.	Engage the pinch roller.

PROBLEM	POSSIBLE CAUSE	SOLUTION
5. Label placement on the product is consistently poor. (Cont.)	Product inconsistently presented to the applicator.	Check to make sure that the conveyor speed is constant. Adjust rails and/or other product control devices to present the product to the applicator in a consistent manner.
	Product detector sensitivity out of adjustment.	Refer to the set-up adjustment instructions.
	Product detector reflector loose or vibrating.	Investigate and correct.
	Incorrect or eratic Label on Product Position setting (delay).	Refer to the set-up instructions.
	Unsuitably positioned product detector.	Refer to the set-up instructions.
	Fluctuation of product conveyor speed.	Investigate and correct.
	Inadequate product guidance.	Adjust product guides as necessary.
	Mold release agent on products.	Check manufacturer for recommendations for mold release agent removal.
	Shape variations from product to product.	Check with product manufacturer. Check product handling and storage methods prior to label application.
	Product too far away from the peeler bar.	Re-adjust the label applicator position relative to the product conveyor.
	Poor adhesive quality on the label.	Check with the label manufacturer.

PROBLEM	POSSIBLE CAUSE	SOLUTION
6. Machine will not cycle. Message reads: BROKEN WEB.	Label sensor has not found CONSECUTIVE MISSING LABEL COUNT labels.	Place the machine OFFLINE momentarily.
	Web break.	Investigate cause, correct and re-thread the labels on the applicator.
	Applicator has not been re-set from error.	Place the machine ONLINE.
	Pinch roller not engaged.	Engage the pinch roller.
7. Applicator runs after missing CONSECUTIVE MISSING LABEL COUNT or more labels.	Incorrect Label Repeat Length.	Refer to the Label Repeat Length Set-Up.
8. Machine functions at random without being initiated.	Product detector loose or vibrating.	Investigate and repair as necessary.
	Product detector alignment or adjustment marginal.	Refer to the set-up procedures.
	Loose wiring connections.	Check all wiring connections. If necessary, request qualified assistance.

PROBLEM	POSSIBLE CAUSE	SOLUTION
9. Label application rate unable to keep up with rate at which product is being conveyed.	Product conveyor running too fast.	Check machine specification for rate versus size of label being applied. Slow down the conveyor if necessary.
	Set-up adjustments incorrectly made.	Refer to the set-up instructions.
10. Label liner not rewinding correctly.	Rewind slip clutch malfunctioning.	Slip clutch too loose, worn or contaminated. Examine and repair. Refer to General Maintenance for information.
	One way rewind clutch not operating.	Replace rewind shaft assembly.
	Broken drive belt.	Replace as necessary.
	On Powered Rewind version: Potentiometer not set-up, or damaged	Investigate and correct.
	Encoder sensor blocked by contamination.	Investigate and correct.
11. Label liner breaking.	Incorrectly threaded labels.	Thread the labels correctly.
	Dancer arm set incorrectly.	Adjust dancer arm position and spring tension.
	Unwind disks, rewind disk, or guide collars not aligned. Label stock path not aligned.	Adjust disks and collars to guide the label stock straight through the machine.

PROBLEM	POSSIBLE CAUSE	SOLUTION
11. Label liner breaking. (Cont.)	Damaged roll of labels. Nicks or label cutter die damage on the liner. Bruise on the side of the label roll. Liner width varying significantly.	Replace the label roll.
	Dancer arm/unwind roll tension incorrect.	Investigate and correct operation of unwind brake dancer arm. Adjust dancer arm spring or adjust tension if necessary.
	Peeler bar label tension spring too tight.	Adjust with knob. Examine spring and replace if damaged.
	Adhesive build-up on the peeler bar or label tension spring.	Clean as necessary and examine the label roll for damage. A damaged roll can cause excessive adhesive build-up. Replace label roll if necessary.

GLOSSARY

Access Code: The key-sequence that must be entered into the microprocessor before modifying the values for a label page.

Adhesive Strings: Label adhesive which adheres to the label liner and label while the label is dispensing. They can cause the label to be improperly positioned on the peeler bar.

Beam Sensor: A sensor that triggers a signal when an object breaks a light beam.

Clutch: A device that engages and disengages a driving and driven part.

Conveyor: The device (chain, rollers, hugger belts etc.) which moves the product.

Cycle Time: The amount of time that it takes for the applicator to complete a labeling cycle.

Dancer Arm: The spring loaded arm that moves to maintain correct tension on the label stock as it moves through the machine.

Detection Points: The point of the label or product that causes the label or product sensor to signal the machine.

Disk: The flat, plastic circle which holds the roll of labels on the supply mandrel.

Display Board: The LED display above the keypad.

Display: The portion of faceplate that shows the microprocessor messages.

Encoder Pulses: The measurement of conveyor travel: the number of pulses per inch is usually 100.

Encoder: A device mounted to the conveyor chassis. It reports Distance Traveled information to the microprocessor.

Gain Control: The control on the photoelectric product detector that regulates the amount of light that is necessary to activate the sensor.

Label Lamp: The light source that is used by the label sensor to sense labels.

Label Liner Guide Collar: The rings that keep the label stock in the proper lateral position as it feeds through the machine.

Label Liner: The paper to which labels are affixed prior being to being dispensed.

Label Sensor: A photoelectric or mechanical device that sends a signal to the microprocessor when it detects the presence of a label edge

Label Stock: The label liner with labels still attached.

Leading Edge: The first edge of the product or label enters the sensor's detection beam.

Machine Sequence: The order in which the machine executes the steps necessary for a complete cycle.

Mandrel: A shaft that can spin on its axis, on which another device is mounted

Menu: The list of microprocessor functions that are available for use.

Microprocessor Board: The circuit board that contains the central processing unit (C.P.U.).

Microprocessor Menu: The microprocessor functions and the way that they are arranged and accessed.

Nip Roller: See pinch roller.

Optional Equipment: Standard equipment that is not required to operate the machine, but can be purchased and employed with the machine to accomplish some additional task (e.g., imprinter).

P.S.I.G.: Pounds per square inch gauge. (BAR = PSIG ÷ 14.4)

Peeler Bar: The flat bar that the separates the label from the label liner as the label stock slides around it.

Photocell: A device that varies the intensity of an electric current according to the amount of light it is receiving. It is used in the label sensor.

Pinch Roller: The cylinder that presses the label liner to the drive roller so that the label stock can be pulled through the machine.

Product Detector: A device, usually photoelectric, which detects the presence of a product edge and sends a signal to the microprocessor.

Product Distance: The function that allows you to instruct the machine to provide a delay between the moment of product detection and the actual time at which the label is applied.

Repeat Length: The distance from the leading edge of one label (or product) to the leading edge of the next.

Rewind Station: A motor driven mandrel that stores the label liner from which labels have been removed.

S.C.F.M.: Standard Cubic Feet per Minute

Slip Clutch: A clutch that disengages by slipping when there is enough tension on the driven part.

Thread Sequence: The manner in which the label stock is threaded through the machine rollers.

Trailing Edge: The last edge of the product or label to leave the detection beam.

VAC: Volts A.C. (Alternating Current). Web: See Label Stock.

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PRINTS