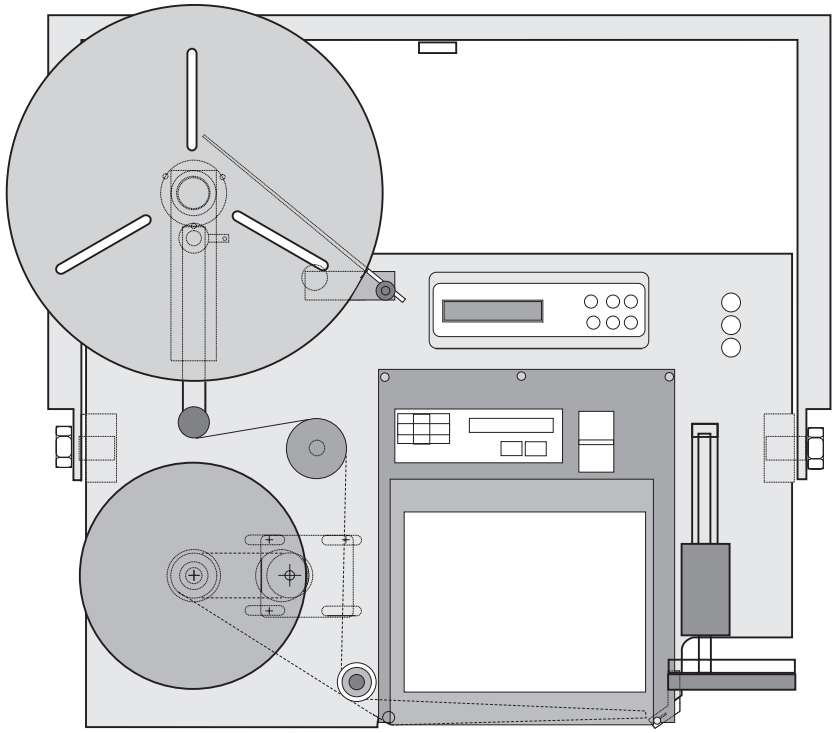
Model

250 Print and Apply



Operator / Technical Manual

TECHNOLOGY

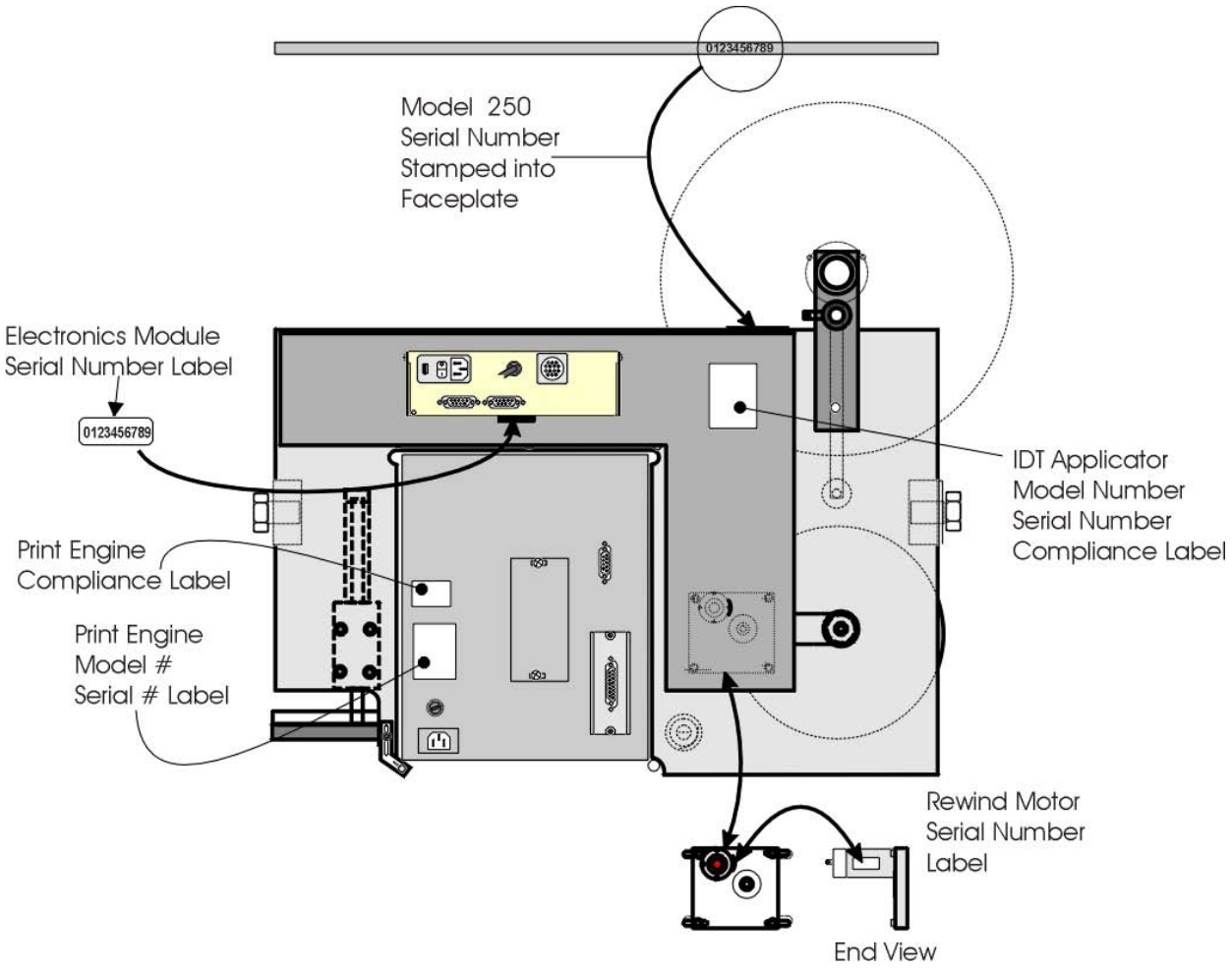
The 250 Label Applicator

Table Of Contents

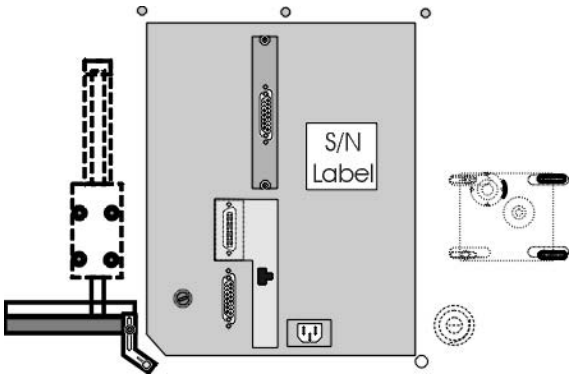
Your Machine

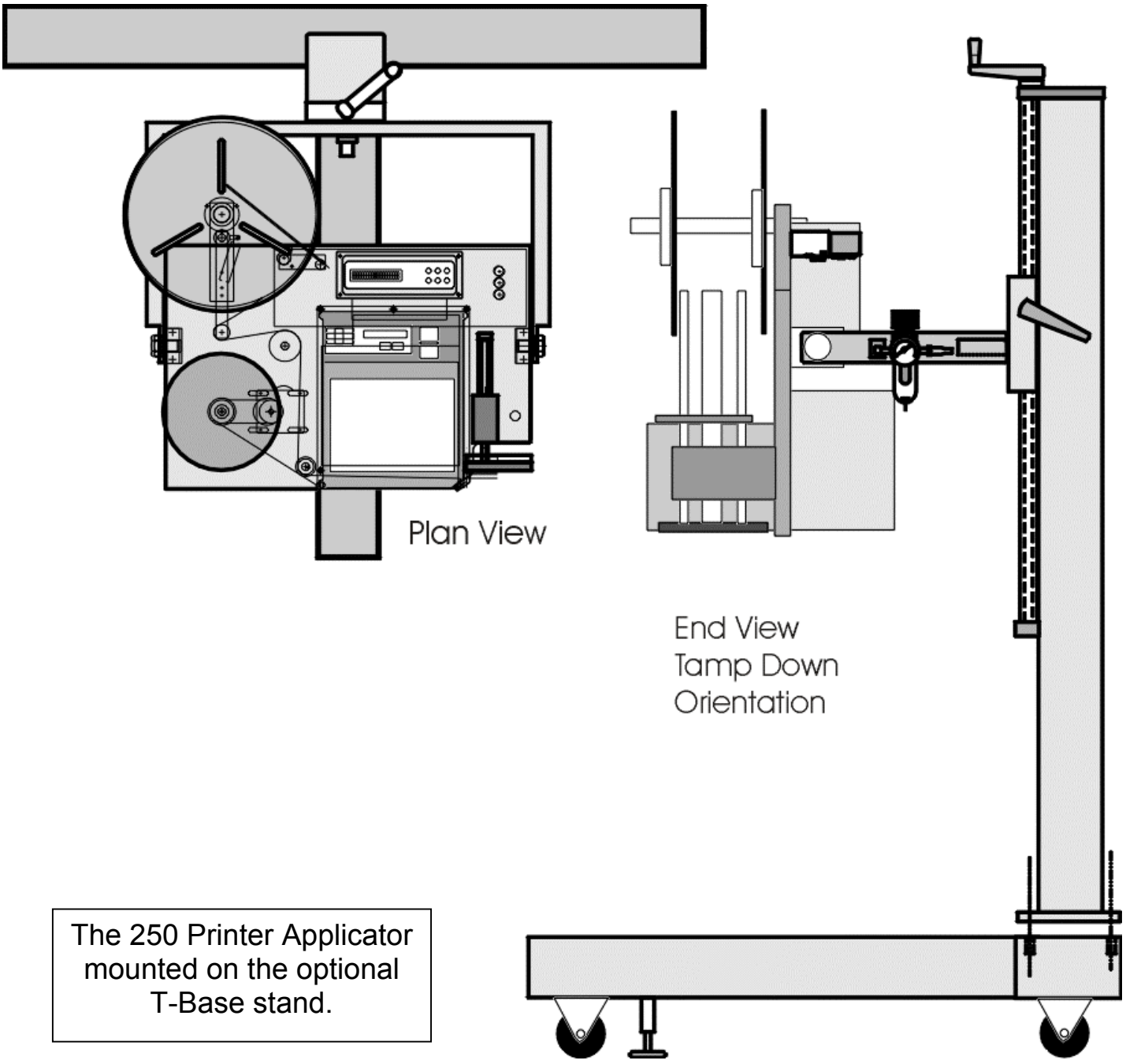
This Information is used to assist you when you call customer service. Please fill out and retain with your manual.

COMPANY NAME	
INSTALLATION DATE	
INSTALLED BY	
CUSTOMER ORDER NO.	
MACHINE ORDER NO.	
APPLICATOR SERIAL NO.	
ELECTRICRONICS MODULE SERIAL NUMBER	
REWIND MOTOR SERIAL NO.	
PRINT ENGINE SERIAL NO.	
DATA INPUT DEVICE TYPE	
SERIAL NO.	
ELECTRIC	
VOLTS / AMPS	
AIR REQUIREMENTS	
OPTIONS INSTALLED	



Locations of the Serial number and Model number labels: The serial number for the applicator is stamped into the faceplate on the upper edge right near the unwind block. The rewind motor is located under the back cover and the serial number label is on the side of the motors enclosure. The electronics module label is located on the bottom panel, centered and close to the outside edge (the print engine may need to be removed to read this label). The machine shown above is mounted with the Sato print engine. The picture to the right shows the location of the Model Number / Serial Number label on the Zebra PAX engines.





The 250 Printer Applicator mounted on the optional T-Base stand.

Enter the setting you use on your machines as a quick reference in set-up or recall

Settings	Set-up 1	Set-up 2	Set-up 3	Set-up 4	Set-up 5	Set-up 6
Product or Name →	_____	_____	_____	_____	_____	_____
Print Sequence						
Normal						
Reverse						
Data Driven						
Apply Mode						
Tamp						
Tamp-Jet						
Air-Jet						
Rev. Tamp-Jet						
Outputs						
Output 1						
Output 2						
Output 3						
Output 4						
Save Set-up						
1						
2						
3						
Factory						
Recall Set-up						
1						
2						
3						
Factory						
Dwells / Delays						
Delay Apply						
Dwell Blast						
Delay Air Assist						
Dwell Tamp						
Other Parameters						
1.						
2.						
3.						
4.						
5.						
***Enter the numerical data for the dwells and delays						

Settings	Set-up 7	Set-up 8	Set-up 9	Set-up 10	Set-up 11	Set-up 12
Product or Name →	_____	_____	_____	_____	_____	_____
Print Sequence						
Normal						
Reverse						
Data Driven						
Apply Mode						
Tamp						
Tamp-jet						
Air-jet						
Rev. Tamp-jet						
Outputs						
Output 1						
Output 2						
Output 3						
Output 4						
Save Set-up						
1						
2						
3						
Factory						
Recall Set-up						
1						
2						
3						
Factory						
Dwells / Delays						
Delay Apply						
Dwell Blast						
Delay Air Assist						
Dwell Tamp						
Other Parameters						
1.						
2.						
3.						
4.						
5.						
***Enter the numerical data for the dwells and delays						

ID TECHNOLOGY 250 LABEL PRINTER APPLICATOR
INSTALLATION CHECKLIST

Customer:		
Site:		
Address:		
Address:		
City:	State:	Zip:

SERIAL NUMBERS

Applicator:	Electronics:
Print Engine:	Other:

Location of equipment:					
Line Speed:			Product Height:		
Product handling acceptable?			YES	NO	
Spare Parts?			YES	NO	ON ORDER
Operator/Technical Manual on labeler?			YES	NO	ON ORDER
Operator Manual on print engine?			YES	NO	ON ORDER
Technical Manual on print engine?			YES	NO	ON ORDER
Label Size:			Ribbon:		
Roll Size:			Memory:		
Smart Tamp:	YES	NO	Beacon:	YES	NO
Voltage:			UPS:	YES	NO
Air Pressure:			Vacuum correct?	YES	NO
Air Assist correct?	YES	NO	Tamp Stroke:		
Product Detector type:					
Is bar code being scanned for readability?				YES	NO

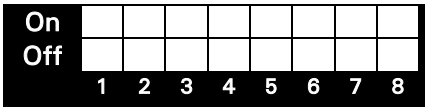
ELECTRONIC MODULE

Delay Apply		Apply Mode	
Dwell Blast		Print Sequence	
Delay Air Assist		Output 1	
Delay Label Feed		Output 2	
Tamp Dwell		Output 3	
Air save mode		Output 4	

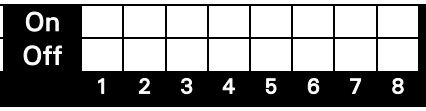
PRINT ENGINE SET UP (SATO)

Print Darkness:		Print Speed:	
Pitch Direction:		Pitch Offset:	
Zero Slash:		Auto Online:	
Vertical Offset:		Horizontal Direction:	
Horizontal Offset:		Gap (label):	
Gap (liner):		Input:	

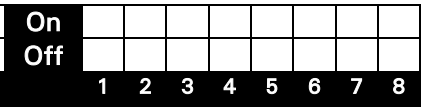
DSW1 LAY OUT



DSW2 LAY OUT



DSW3 LAY OUT



PRINT ENGINE SET UP (ZEBRA)

Print Mode		Host Port	
Media Type		Baud	
Sensor Type		Data Bits	
Print Method		Parity	
Print Width		Stop Bit	
Label Length		Host Handshake	
Max Length		Network ID	
Ribbon Tension		Communications	
Media Power Up		Control Prefix	
Head Close		Format Prefix	
Back Feed		Delimiter Char	
Head Test Count		ZPL Mode	
Head Resistor		Label Top	
Web Sensor		Left Position	
Media Sensor		Verifier Port	
Ribbon Sensor		Applicator Port	
LCD Adjust		Resolution	
Firmware		Configuration	
Memory		B: Memory	

TEST PRINT ENGINE

(Sato) Print a test label using the *User Test Print* mode.		
(Zebra) Print a test label using the *PAUSE* Key Self Test.		
Is printhead balanced?	YES	NO
Are there any printhead elements out?	YES	NO
Check for ribbon wrinkle?	YES	NO
(Sato) Print a test label for printer configuration using the *Factory Mode* test print.		
(Zebra) Print a test label for printer configuration using the *CANCEL* Key Self Test.		
Is the label attached to back of this page?	YES	NO
Send label format to printer.		

APPLICATOR SET UP

Has label/web path been adjusted?	YES	NO
Has vacuum system been adjusted?	YES	NO
Has tamp pad height been adjusted for proper label feed?	YES	NO
Check to make sure that the tamp assemblies are not binding	YES	NO
Verify tamp assembly fasteners are tight and apply Loctite.	YES	NO
Applicator height sufficient to allow all products to pass underneath?	YES	NO

Is tamp pad contacting product evenly?	YES	NO
Has smart tamp been adjusted?	YES	NO
Is product detector correctly positioned & working?	YES	NO
Has product delay been adjusted for all sizes of product?	YES	NO
Are leveling feet being used?	YES	NO
Is Beacon/Audible Alarm working (check all conditions)?	YES	NO
Has low label sensor been adjusted?	YES	NO

FINAL SYSTEM CHECK

❑ Verify all bolts on the mounting stand are tight.		
❑ Column should be secured in the column mount and unable to rotate.		
❑ Secure raising mechanism in place once applicator is at the correct height.		
❑ Leveling feet should be secured to the correct height and then locked in place.		
❑ Check all connectors and cabling.		
❑ Secure loose wires.		
❑ Test run line.		
❑ Is product spacing adequate?	YES	NO
❑ Does the product have any variation in shape or size?	YES	NO
❑ What is the max product per minute that we can now run?		

Service Technician	Date
Regional Office	
Phone	Fax

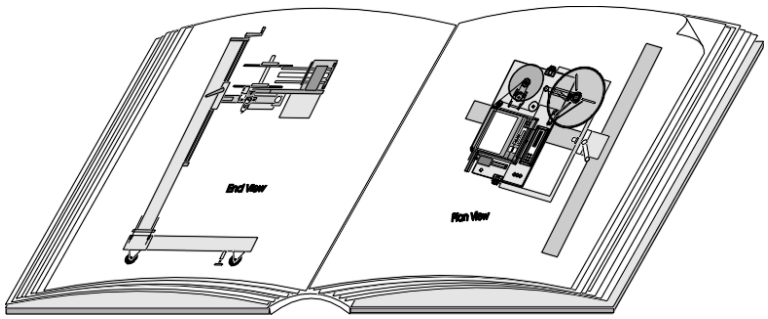
The Manual

This Manual is constructed following the guidelines set forth in Packaging Machinery Manufacturers Institute (PMMI):

Handbook for Writing Operation and Maintenance Manuals, Second Edition

Technical Documentation Content and Style Guide

This Manual covers the operation and repair of the label applicator and does not cover the label printer (print engine). Please refer to the print engine manual for instruction on operation and repair.



Please direct any concerns, requirements, or requests for additional information to:

Bruce Richards
Technical Sales Coordinator
ID Technology
T: (817) 626-7779
F: (817) 626-0553
Email: bwrich@idtechnology.com

Symbols used in this Manual

	DANGER WARNING CAUTION	**General Danger** **Used when the life or health of the operator is in danger or considerable damage to property can occur**
	DANGER	**Electricity - Danger**
	ATTENTION	**Used when a task is mandatory for safe and disturbance free operation**
	INFORMATION COMMENT	**Used when additional information is needed or an item needs special attention**
	WARNING	**Do not touch, keep hands and limbs clear of machinery**
		**Warning: Do not operate this machine without guards in place**
		**Warning: Machine or device automatically starts.**

The 250 Label Printer Applicator

We appreciate your purchase of the ID Technology Model 250 Label Printer Applicator. This applicator will meet or exceed your requirements for applying labels to your product. The 250 can be used as a stand-alone printer applicator or it can be integrated into other systems to be used in conjunction with product handling systems of all types.

The modular design of the 250 allows for less down time due to parts replacement and/or troubleshooting. The applicator is divided into distinct modules organized by function. Most of these modules can be replaced as an entire unit with no more than four bolts. The end result is more time on-line, keeping production going, maintenance costs kept down, spare parts requirements to a minimal.

The Model 250 Printer Applicator can be used with either the SATO or Zebra line of OEM engines and can be configured as a tamp on, blow on, wipe on, swing arm, tamp-jet, swing out, etc. (configured at the factory prior to shipping)

Please contact your local representative for assistance with other opportunities to increase you production by automating your label, coding or marking requirements.

Section One
General Specifications

1.1 Standard Features:

- Choice of printer units to suit every application. The 250 Applicator will accommodate standard Sato, Zebra & Datamax print engines without modification.
- Microprocessor-driven on a single board
- 4” Tamp stroke standard, capable of conversion to various stroke lengths from 2’ to 12”
- 8” diameter maximum rewind roll capacity (approximately 1500’ of standard 40# liner)
- Regulators and air gauges controlling Tamp, Air Assist and Vacuum Pressures
- Right and Left Hand options

1.2 Overall Dimensions

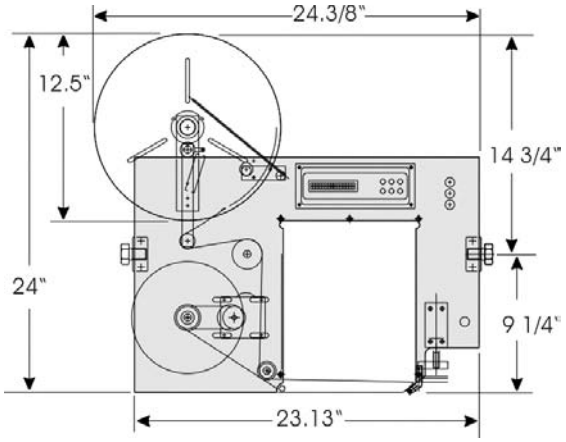


Figure 2-1 Dimensions Front View

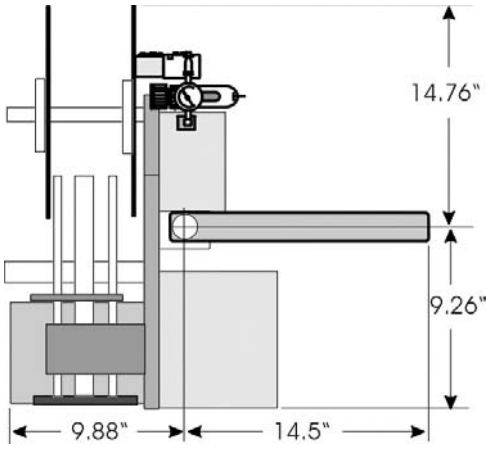


Figure 2-2 Dimensions Side View

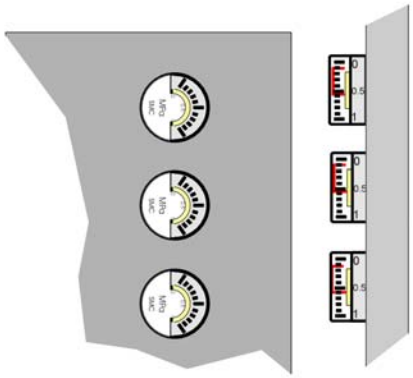
1.3 Weight

75 lbs.

1.4 Electrical

110 to240 VAC, 50-60 Hz input power

5 Vdc for control level, 24Vdc for power functions(i.e.; solenoids, externals lamps)

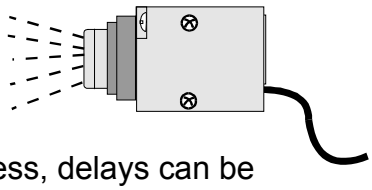


1.5 Air Requirements

Clean dry air at 80 psi minimum to 120 psi dependent upon the application method and rate. (approximately 6.1 bar)

- The supply pressure must always be greater than the highest pressure being used on the applicator
- The applicator has a filter drain on the plant infeed supply. To ensure reduced maintenance time, a pre filter upstream is recommended.

1.6 Product Sensing



Product Detectors sense the product and send a signal to the applicator to commence the labeling cycle. The detector is generally mounted in the desired location on the conveyor to trigger the applicator. To assist in the detection and labeling process, delays can be introduced in fine tuning label placement

1.7 Label Roll Size

12.5” (OD) X 3” (ID)

1.8 Label Style

Die cut, waste removed, outside wound, with 1/8” minimum gap in the running direction.

1.9 Standard Label Size

6.6” X 7.2” Maximum

1” X 2.5” Minimum

1.10 Environmental Requirements

Operating;

Room Temperature Range:

Humidity (non-condensing):

Storage;

Room Temperature Range:

Humidity (non-condensing):

1.11 Available Upgrades

Tamp-Jet

Reverse Tamp-Jet

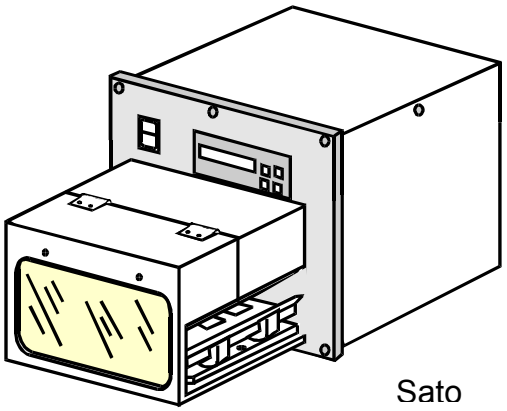
Support Stand

Status Beacon (3 Stage)

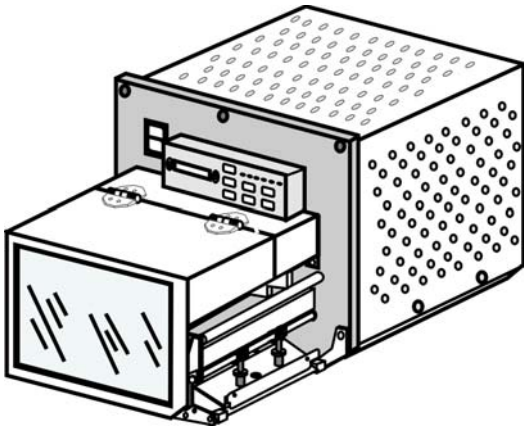
System Status Output

Low Label Alarm

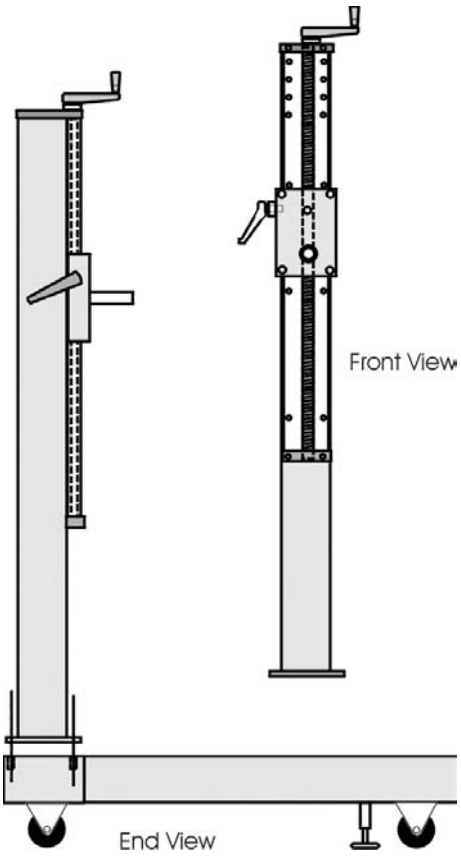
16 ½" Unpowered Unwind



Sato



Zebra



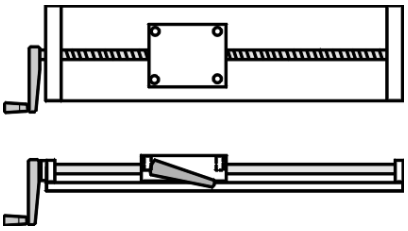
T-base (Support Stand)

1.12 Printers

Choice of printer units to suit every application. The 250 Applicator will accommodate standard Sato, Zebra & Datamax print engines without modification.

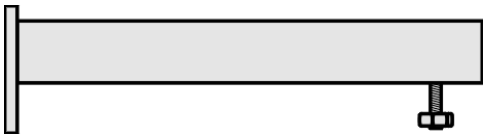
1.13 The T-base Support Stand

The stand is used for mounting the machine and making it portable. There are several accessories that can be added to assist in the different applications. Some environments do not allow the stand to roll up underneath the conveyor or product handling system. In that case you may want to use a precision slide base. In other cases you might have to reach over a belt to reach a certain part on a product. In that case a yardarm can be used. The following is a list and description of the standard accessories that can be ordered with the stand.

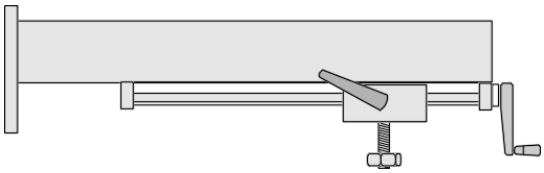


Precision Slide Base: Allows for precise placement of machine after stand has been locked into location. By rotating the handle on the lead screw, the applicator and upright mount slide forward or backwards in smaller increments.

Yard Arm: Comes in a standard length of 36”. The mounting plate of the yardarm is bolted to the raising mechanism of the upright mounting column of the stand. The U-arm is bolted to the vertical mounting bolt. This allows the machine to be suspended over a production line and/or around an obstruction.
(A precision slide base would be needed to make any minor adjustments in the horizontal plane.)

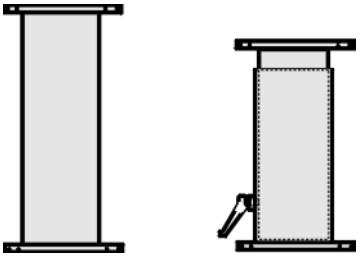


The Traversing Yard arm: Comes in a standard length of 36”. The mounting plate of the yardarm is bolted to the raising mechanism of the upright mounting column of the stand. The U-arm is bolted to the vertical mounting bolt. This allows the machine to be suspended over a production line and/or around an obstruction.



The traversing yardarm comes with a crank handle that allows the operator to position the applicator over a production line in any required or desired position. As the crank handle is rotated, the applicator will adjust in or out on the horizontal plane, relative to the position of the T-base stand.

If height is a requirement, two optional stands are offered to solve the different needs.



12” Height Adapter: Increases the overall height of the unit by 12”. This allows for labeling on production lines that may be set at a height higher than the normal working level height. More than likely this is a line that operators are not stationed at to perform a function. Another reason for the necessity of the height adapter is a production line where the product is tall and a top apply or high side label is needed.

And…

10” Swivel Adapter: This adapter is very useful when the operator can not feasibly get to the front of the applicator to make adjustments, printer changes, tamp pad change over or reload labels. The swivel adapter, along with adding ten inches to the overall height, allows the operator to loosen the locking bolt and swing the applicator around, away from the production line. This option makes label loading or other changes easier for the operators and in many cases safer. (moving production lines)

Packaging your RA

If for some reason you need to return your equipment to the factory.

Original Container or equivalent is required to provide at least the same amount of protection that was given when the item was shipped to you from our facilities.

All items need proper protection during the shipping from point to point. The biggest cause of damage during shipping is loose items shifting and colliding with each other or the sides of the container. A properly packaged item should be able to withstand the impact of a fall from approximately five feet.

Do not mix lightweight items or fragile items with heavy or bulky items in the same carton.

(Styrofoam peanuts do not afford protection for heavy items. Peanuts have a tendency to shift during transit. Heavy items migrate to the bottom or one side of container leaving no protection for the item.)

Items should be wrapped prior to packaging.

Items should be protected by at least 3”s on all sides and fix immobile.

All electronic boards should be protected from static by being wrapped in anti-static material.

All packages we receive should be free of loose bolts, nuts, screws, or anything that can knock about and cause damage to your item.

The floor stand should be disassembled as much as possible into major components and wrapped in bubble wrap or comparable protective wrapping. (card board is an abrasive material and will actually rub the finish off, avoid the use of cardboard as a wrapping)

Software can be packed in a protective envelope and secured away from items that may cause the disks to be crushed.

The flashing beacon should be clean and wrapped in at least two inches of bubble wrap or comparable protective padding. One layer of padding should line the bottom of the carton. A layer around the entire contents and one layer on the top will ensure extra protection.

Outer container should be identified with the RA number and customer name.

Items not properly packaged and damaged during shipment become the responsibility of the sender.

Section Two
Component Location and Identification

2.1 Identification of the 250 components

Table 2-1 250 Label Applicator Parts Identification Front and Back View

Reference Number	Part Name or Function
1	Low Label Sensor
2	U-arm
3	Electrical Module
4	Pneumatics Module
5	Area of Printer Placement
6	Tamp Cylinder Mounting Bolts
7	Air Connection for Tamp Vacuum
8	Tamp Vacuum Chamber
9	Tamp Pad
10	Air Assist Mounting
11	Low Label Sensor Wand
12	12.5” Unwind Flange
13	Brake Band Mounting
14	Unwind Mounting Block
15	U-arm Mounting Block
16	Dancer Arm
17	Rewind Flange
18	Rewind Motor
19	Label Web Path
20	U-arm Mounting Bolts
21	Idler Roller
22	Printer Mounting Holes
23	U-arm Mounting Hole, to mount U-arm to Raising Mechanism
24	LCD screen for Applicator Functions and Operations
25	Selection Buttons for Applicator Operations and Functions
26	Gauges (3) for Visual View of Air Pressures in System
27	Face Plate
28	Air Cylinder, Tamp Module
29	Air Cylinder Tamp Module Mounting Block
30	Tamp Pad Mounting Plate

250 Front View

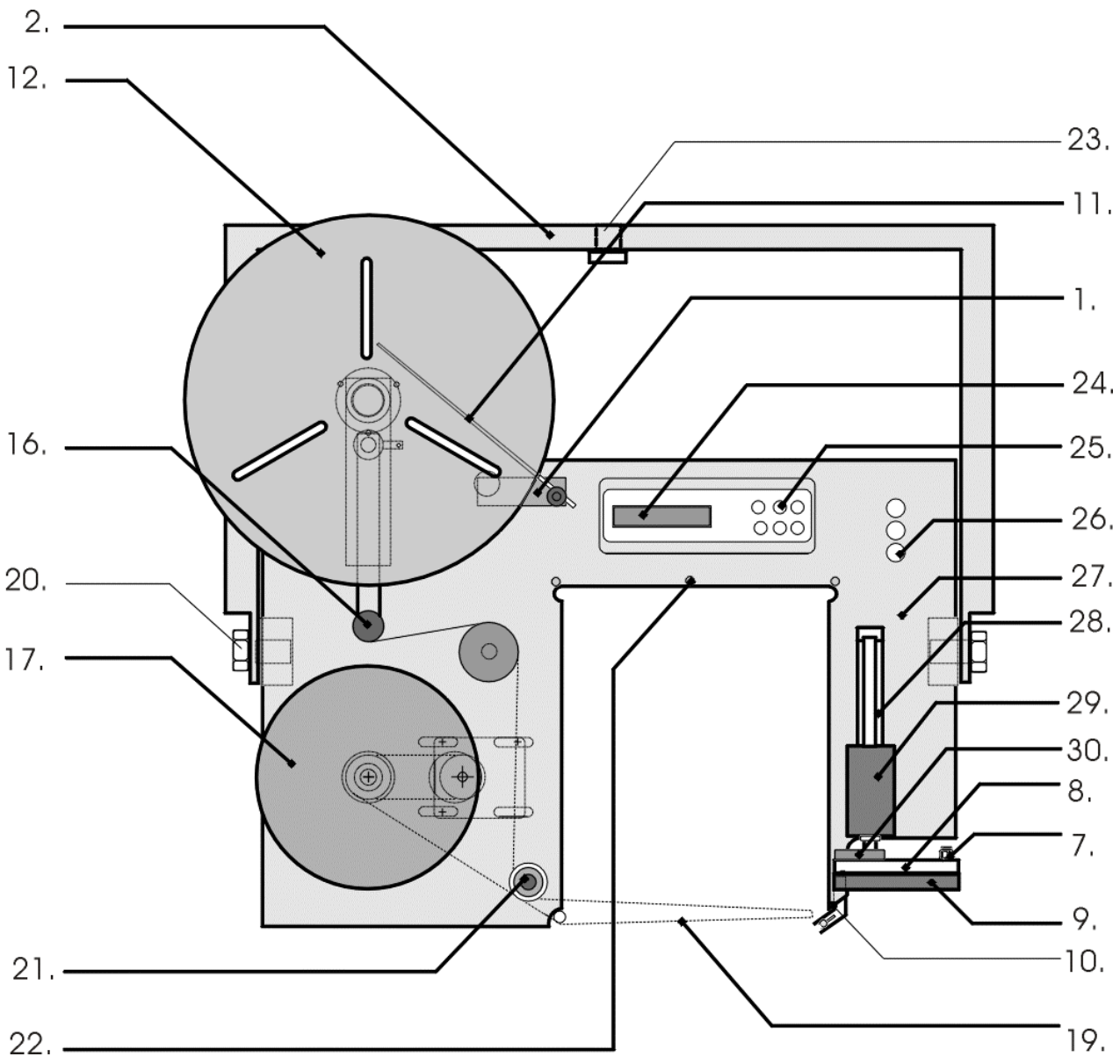


Figure 2-1 Front View of the 250 Label Applicator

250 Back View

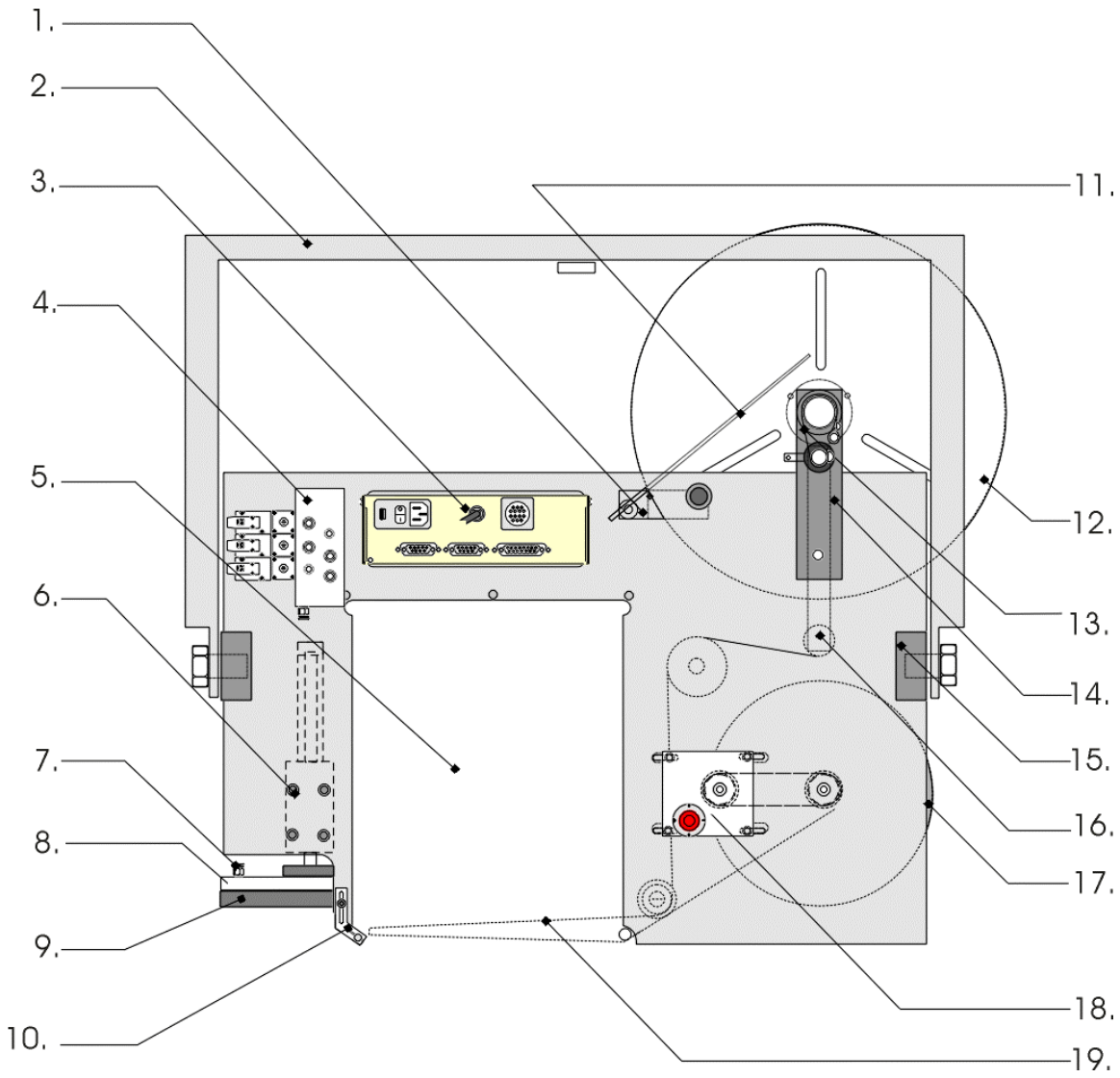


Figure 2-2 Back View of the 250 Label Applicator

Tamp Module

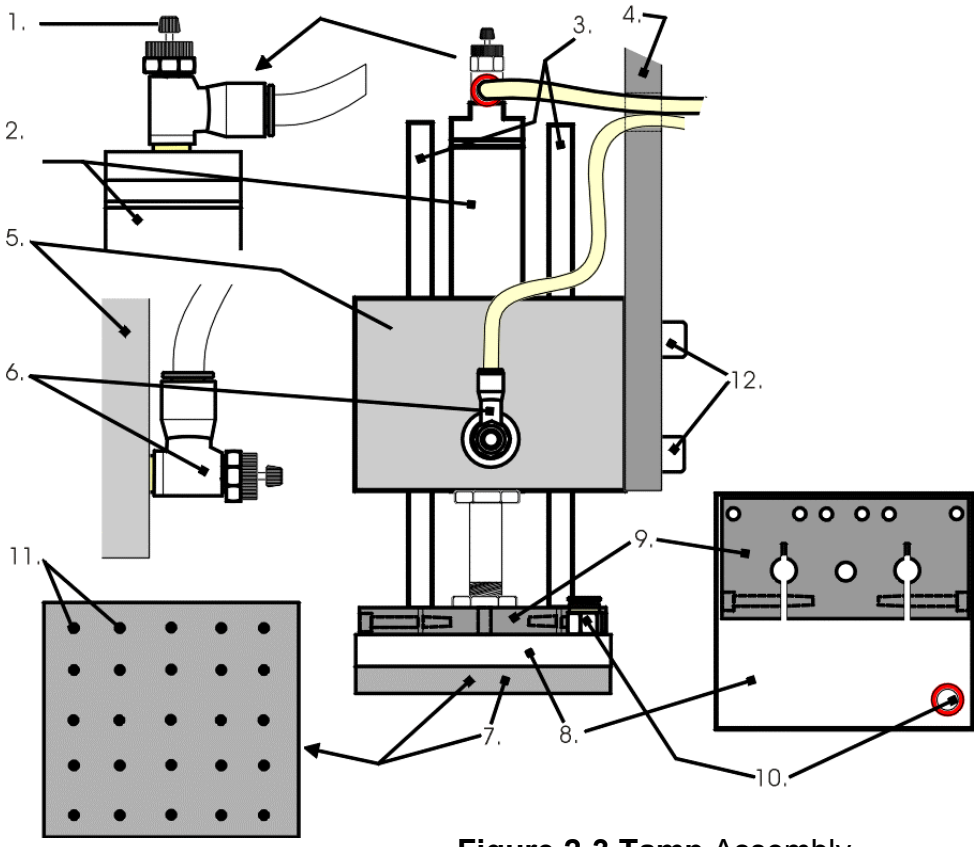


Figure 2-3 Tamp Assembly

Table 2-2 Tamp Module Parts Identification

Reference Number	Part Name / Identification Function
1	Flow Adjustment / Air Hose Connection, Cylinder Extend
2	Air Cylinder
3	Cylinder Guide Rods
4	Face Plate
5	Tamp Module Mounting Block
6	Flow Control / Air Hose Connection, Cylinder Retract
7	Tamp Pad
8	Tamp Pad Block / Vacuum Chamber
9	Tamp Pad Mounting Bracket
10	Air Hose Connection, Vacuum for Tamp Pad
11	Vacuum Pad Vacuum Holes

Table 2-3 Pneumatics Module

Reference Number	Part Name or Function
1	Pressure Gauges Display
2	3 station Manifold
3	Solenoid, 4 way valve
4	Regulator w/gauge
5	Vacuum Transducer for Venturi
6	Connection For Muffler
7	Connection to Tamp Pad
8	Main (Plant Air In)
9	Muffler
10	Face Plate

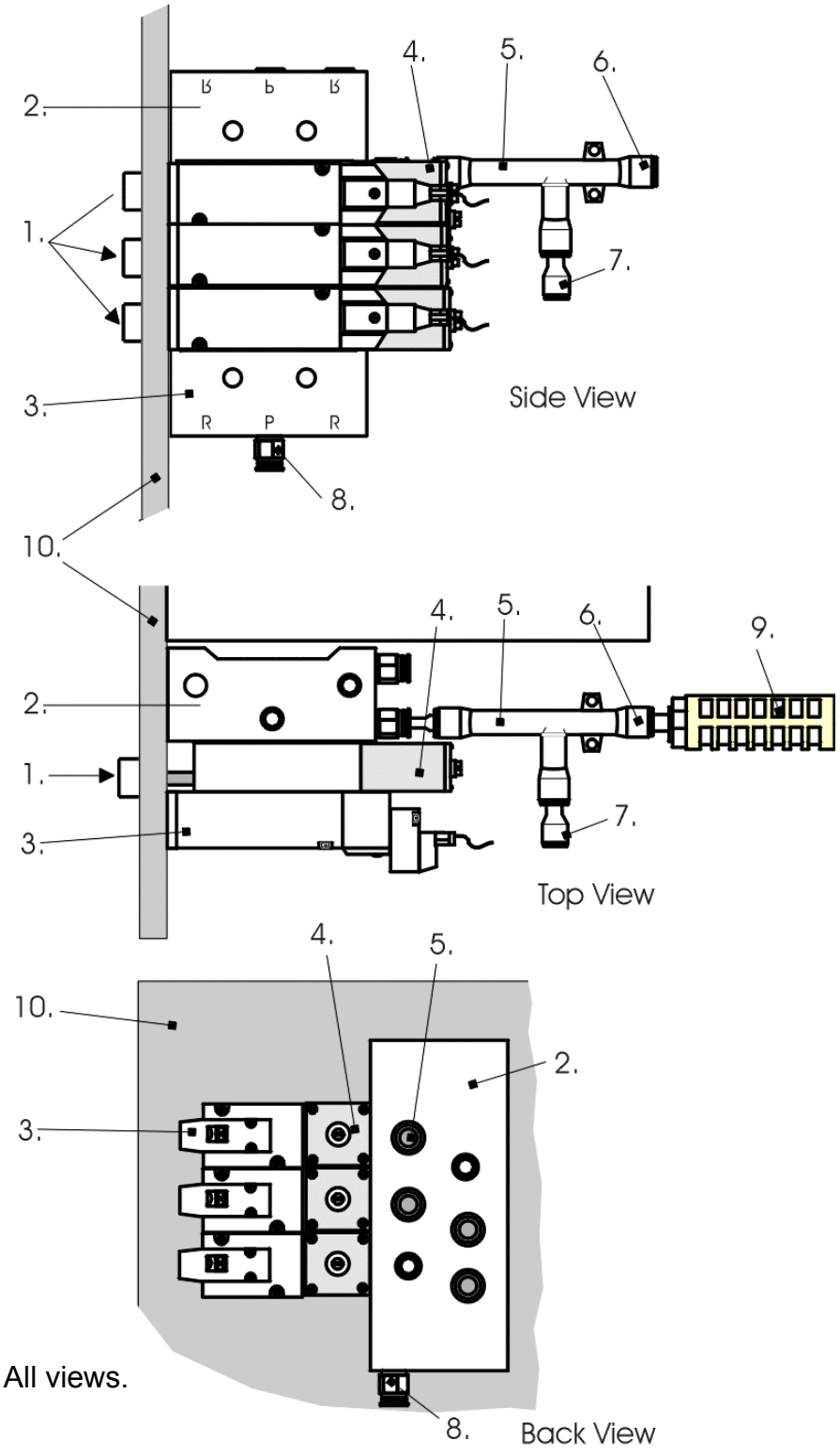


Figure 2-4 Pneumatics Assembly All views.

Unwind Assembly

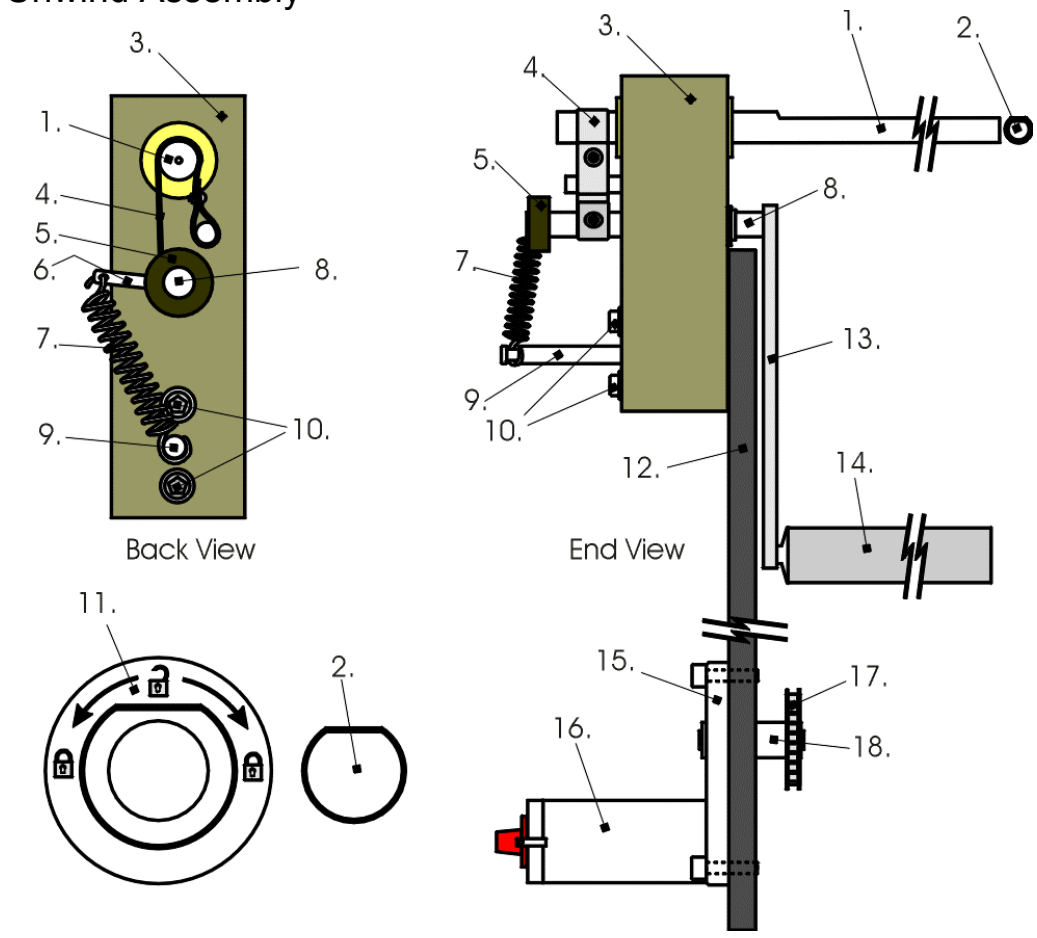


Figure 2-5 Unwind Block Assembly

Table 2-4 Unwind Assembly

Reference Number	Part Name / Function	Reference Number	Part Name / Function
1	Unwind Shaft	2	Unwind Shaft End View
3	Unwind Shaft Mounting Block	4	Brake Band
5	Spring Mounting Collar	6	Tension Spring Adjustment Arm
7	Tension Spring	8	Dancer Arm Shaft
9	Tension Spring Shaft	10	Unwind Mounting Block Bolts
11	Unwind Hub Decal	12	Face Plate
13	Dancer Arm Mounting Arm	14	Dancer Roller
15	Rewind Motor Mount	16	Rewind Motor
17	Rewind Pulley Sprocket	18	Rewind Pulley Shaft

Rewind Module

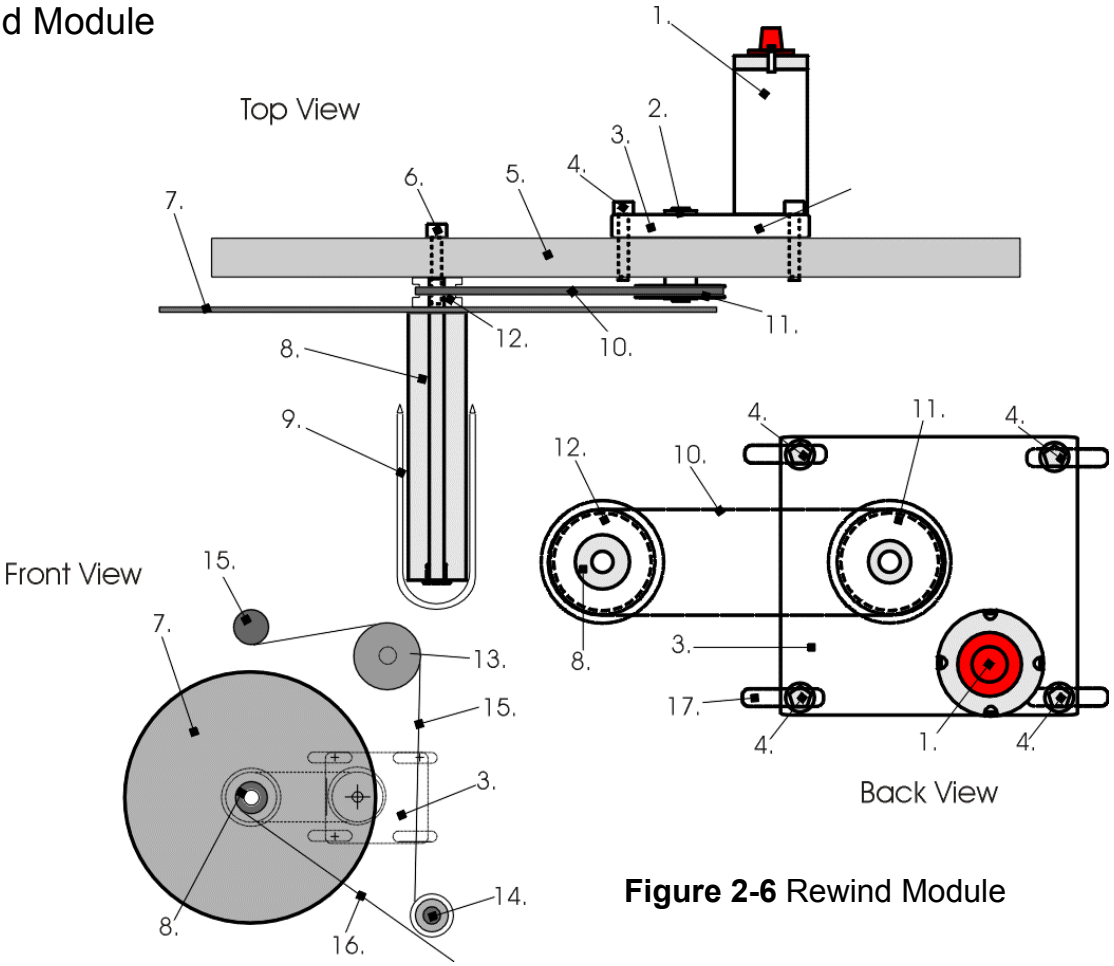


Figure 2-6 Rewind Module

Table 2-5 Rewind Module Parts Identification

Reference Number	Part Name / Function	Reference Number	Part Name / Function
1	Rewind Motor	2	Rewind Motor Pulley Shaft
3	Rewind Shaft Mounting Block	4	Rewind Motor Mounting Bolts
5	Face Plate	6	Rewind Flange Shaft Mnting Bolt
7	Rewind Flange	8	Rewind Shaft
9	Waste Take Up Retention Pin	10	Rewind Pulley Belt
11	Rewind Motor Pulley	12	Rewind Flange Pulley
13	Unwind Idler Roller	14	Idler Roller to Printer
15	Web Path into Printer	16	Web Path out of printer to Waste Rewind Flange
17	Rewind Motor Pulley Adjustment Holes		

Electronics Module

Located on the back panel and held on by four bolts. The power supply is located underneath the module and attached with standoffs.

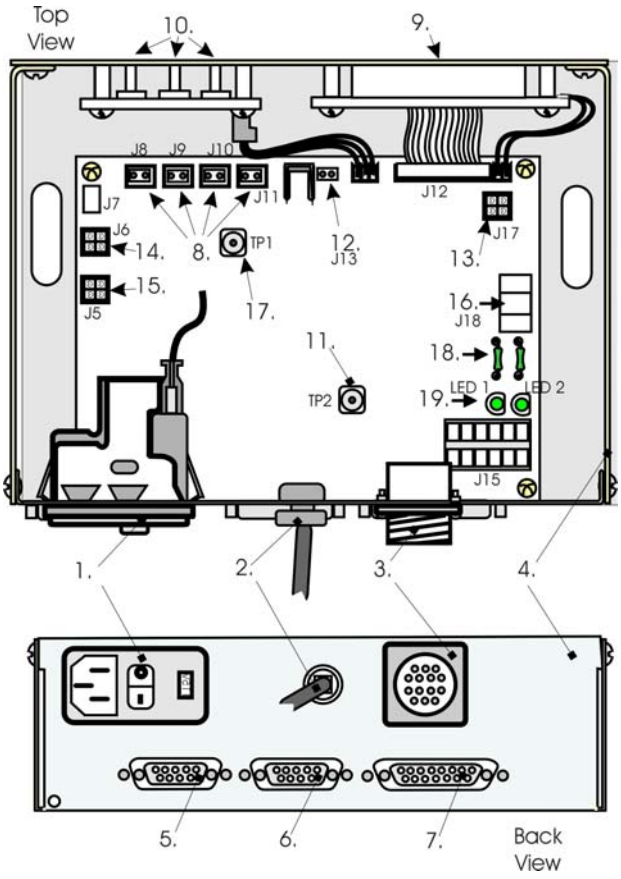


Figure 2-7 Electronics Module

Table 2-6 Electronics Module Parts Identification

Reference Number	Part Name / Function	Reference Number	Part Name / Function
1	Power Input Module	2	Power In Cable
3	14 Pin (Status Output Conn.)	4	Electronics Module Housing
5	9 Pin (Photo Cell Connector)	6	9 Pin (Flashing Beacon connector)
7	15 Pin Connection from Printer	8	Pneumatic Connections (J8,9,&10)
9	LCD Window	10	Operator Input Function Keys
11	Ground Connector	12	Rewind Motor Connection (J13)
13	Low Label Connection (J17)	14	Smart Tamp (J6)
15	Tamp Home Connection (J5)	16	5V, GND, 24V from Power Supply
17	GND Connector TP1	18	Fuse (plug in)
19	Led 1 and 2 (Blown fuse detection)		

Air Assist Tube Module attaches to the faceplate and can be adjusted to each label size and material.

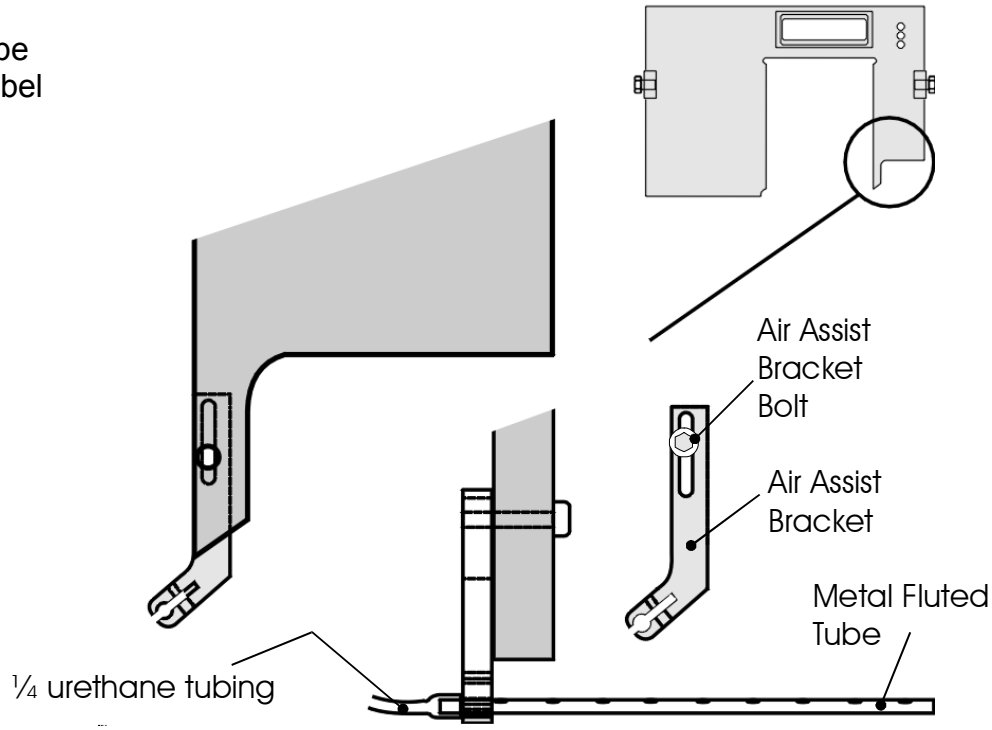


Figure 2-8 Assist Module with Air Assist Tube

Low Label Sensor used for operator notification of low material condition.

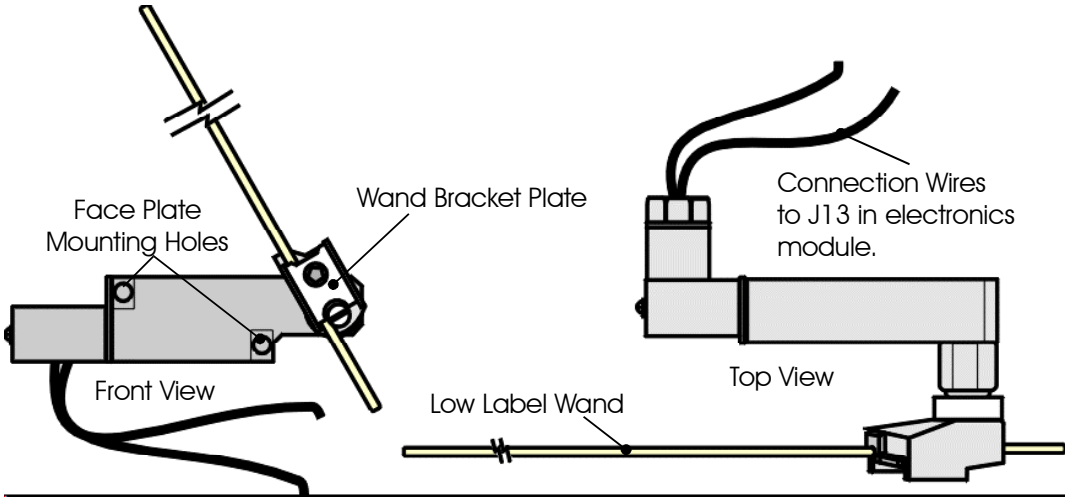


Figure 2-9 Low Label Sensor (Front and Top View)

Tamp-Jet Module is used to adapt the tamp application mode to a non-contact method of application. In this mode the cylinder is extended and a blast of air through the tamp pad propels the label to the surface of the product.

Please see Section 3 A, Installation, to see how the tamp-jet module is installed.

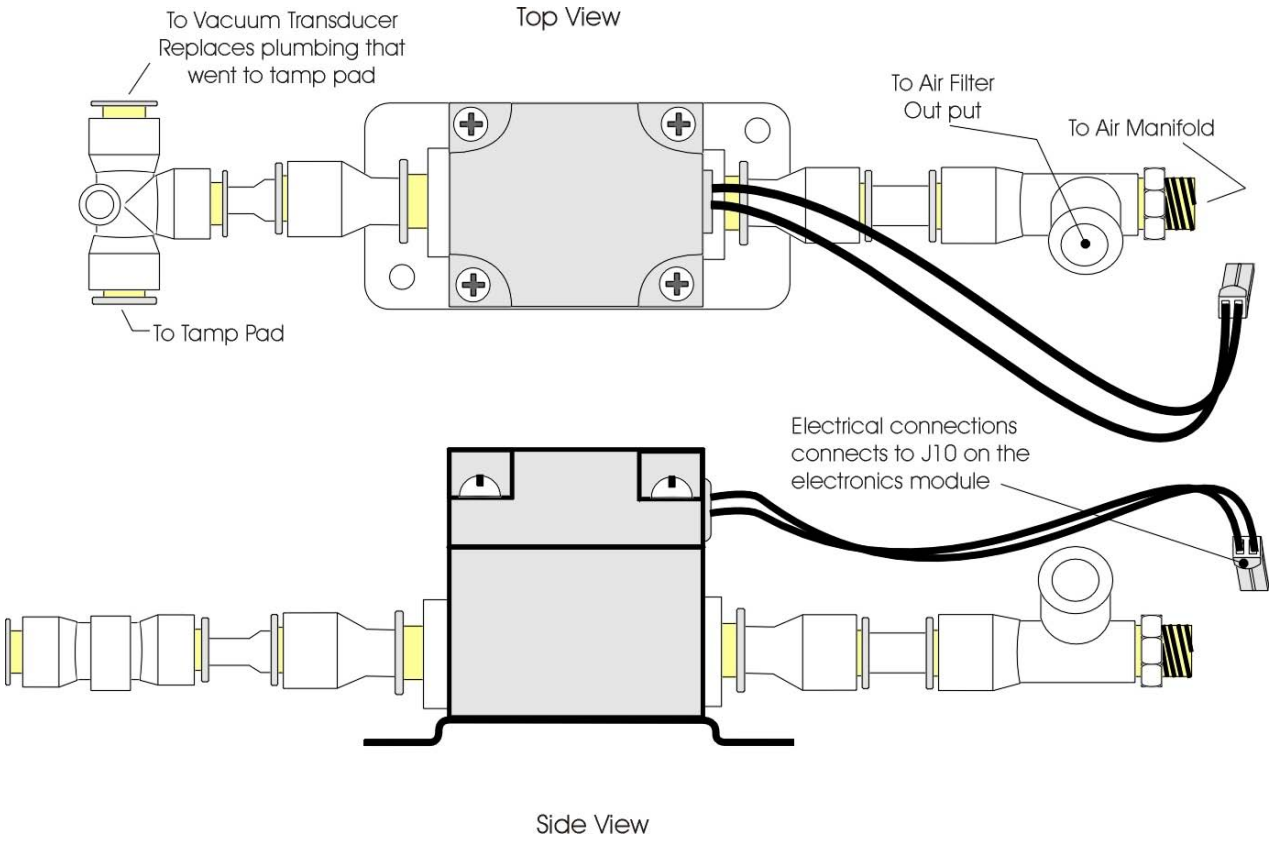


Figure 2-10 Optional Tamp-Jet Module

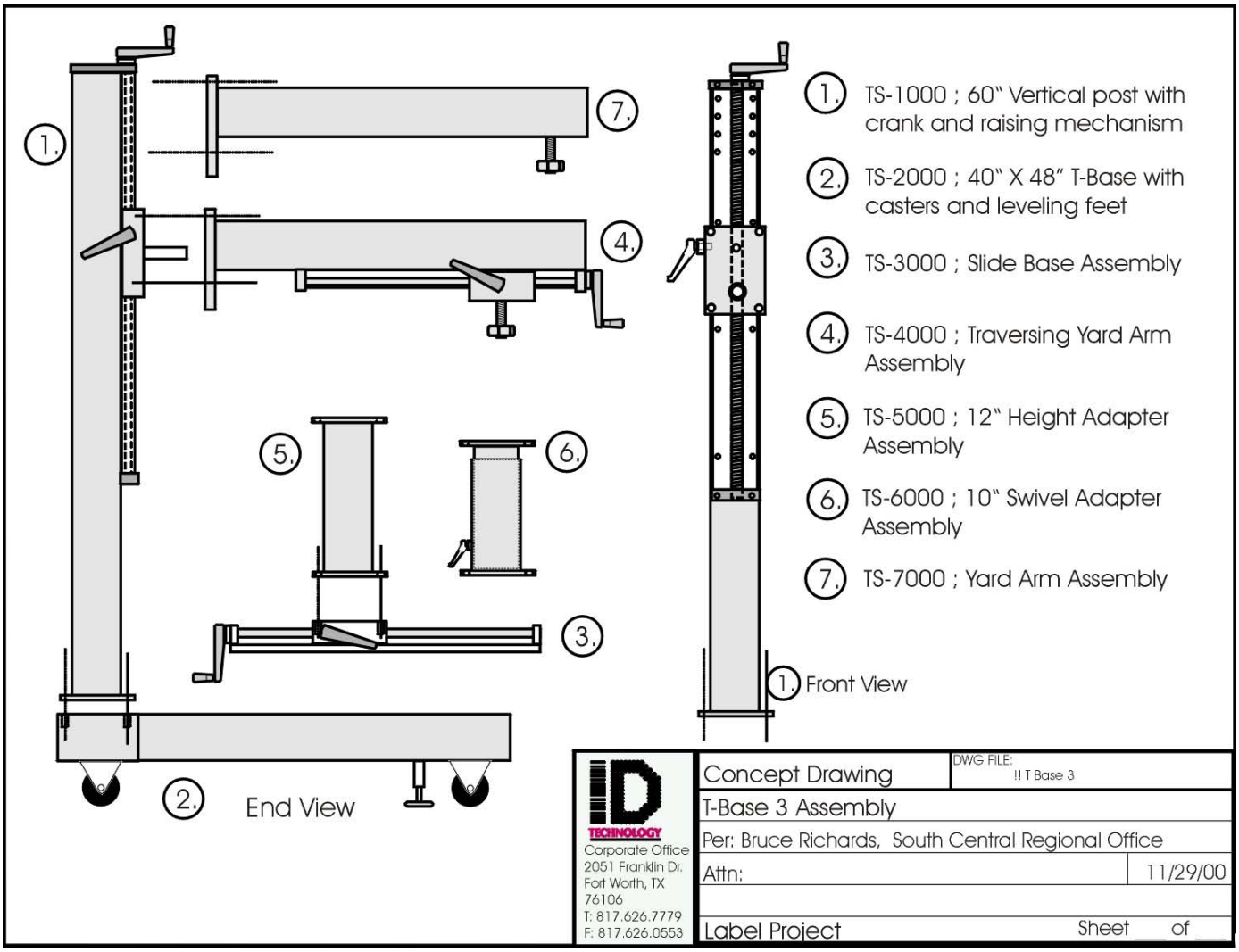


Figure 2-11 Optional T-Base Stand Module Breakdown

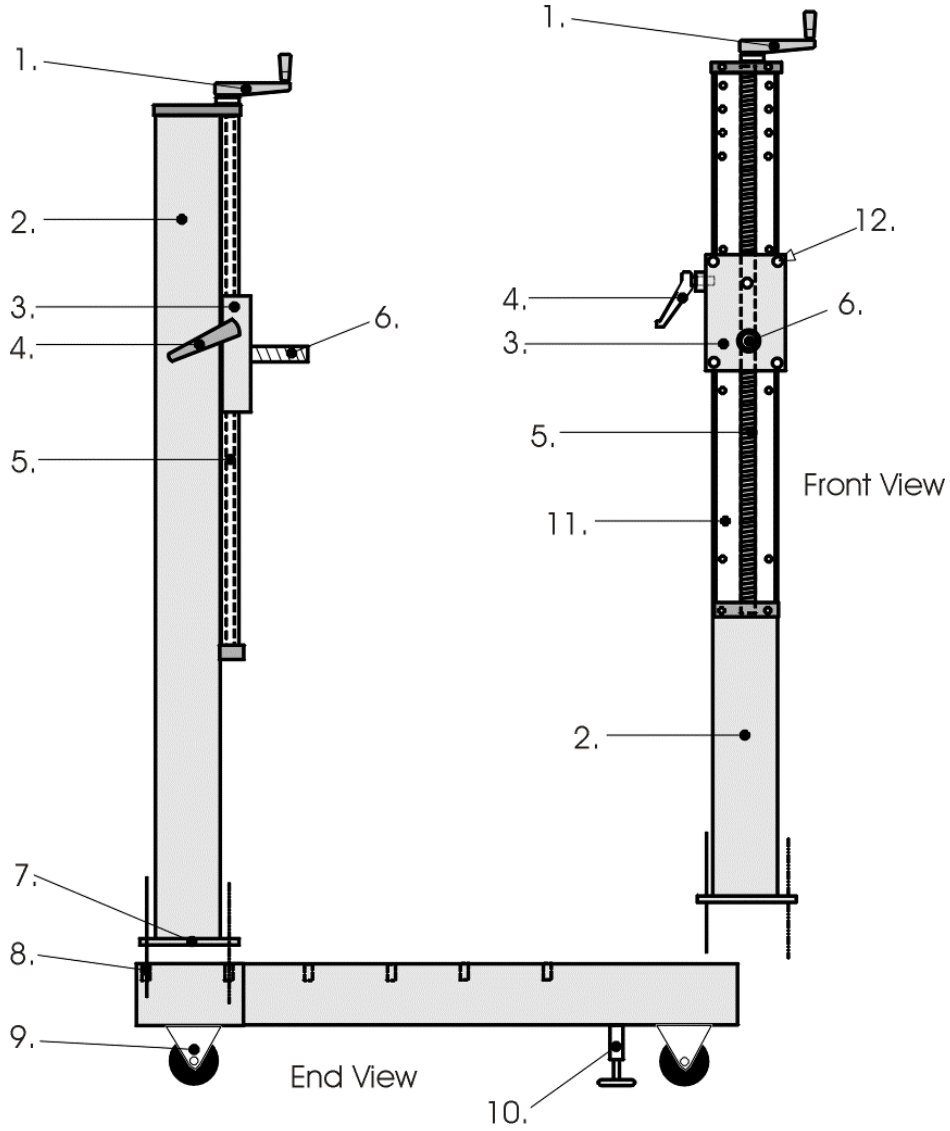


Figure 2-12 T-Base Stand Parts Identification

Table 2-7 T-Base Parts Identification

Reference Number	Part Name / Function	Reference Number	Part Name / Function
1	Raising Crank Handle	2	Vertical Post
3	Applicator Mounting Block	4	Mounting Block Lock Handle
5	Lead Screw Vertical Adjustment	6	Mounting Bolt for U arm
7	Vertical Post Mounting Plate	8	Placement for Plate Bolts
9	Casters	10	Leveling Pads
11	Vertical Adjustment Plate	12	Accessory Bolt Holes

T-Base Accessories Identification of parts

Table 2-8 T Base Accessory Parts Identification

Reference Number	Part Name or Function
1	Mounts to Vertical Post, Yard Arm Mounting Plate
2	Mounting Bolt Holes
3	Yard Arm Weldment
4	U-Arm mounting Bolt
5	Traversing Yard Arm Crank Handle
6	Mounting Plate Locking Bolt Handle
7	Traversing Slide Mounting Plate
8	Traversing Slide Lead Screw
9	U-Arm Mounting Plate
10	Stationary Weldment Swivel Mount
11	Vertical Post Mounting Plate, Bottom of Vertical Post Mounts to here
12	Adjustable Column for Swiveling Height Adapter
13	Mounting Plate, Bolts to T-Base Bottom Weldment
14	Mounting Bolt Holes for Mounting to T-Base Bottom Weldment
15	Precision Slide Base Lead Screw, for Horizontal Adjustment of Vertical Post

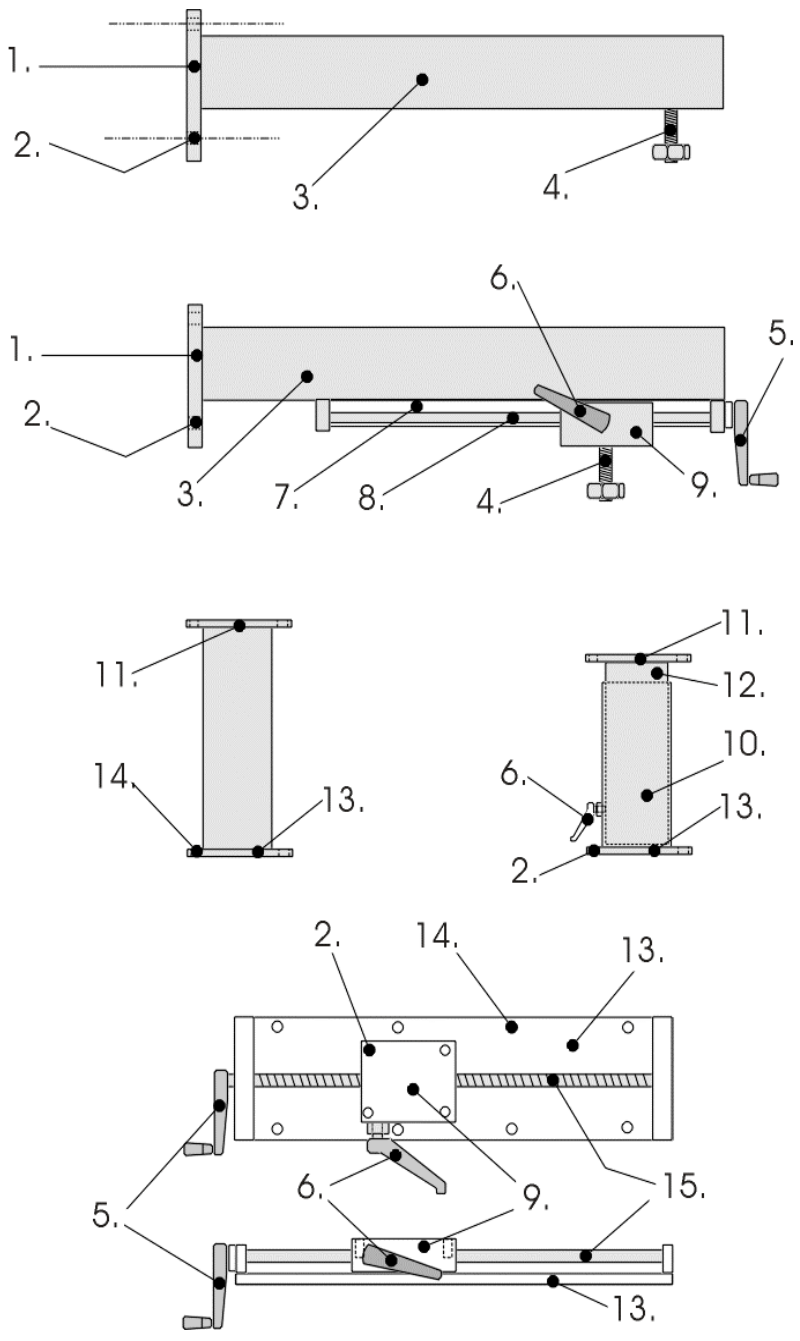


Figure 2-13 T-Base Stand Modules Parts Identification

Operator Notes

Section Three
Installation

3.1 Unpacking and Setting up the machine

If you purchased a T-base stand and received the stand unassembled- locate the cartons that contain the applicator stand. Refer to the section on component location and parts identification pages 11, 12, &13 of 14. These pages will identify and show placement of all the T-base parts and accessories.

If your machine came in separate cartons, open all cartons and remove packing.

Attach u-arm to applicator with the 20 mm bolts, lock washer and washers provided. Once the u-arm is attached, tighten down the bolts until the u-arm is secured and immobile.

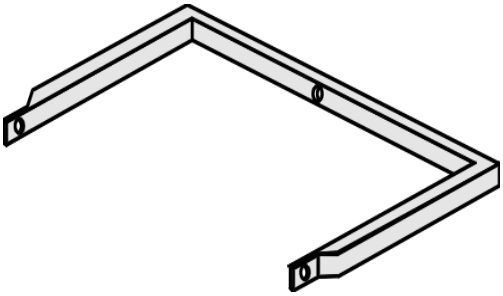


Figure 3-1 U-arm

U-arm will attach to the T base vertical column by inserting the u-arm (mounting hole) over the vertical column's mounting bolt.

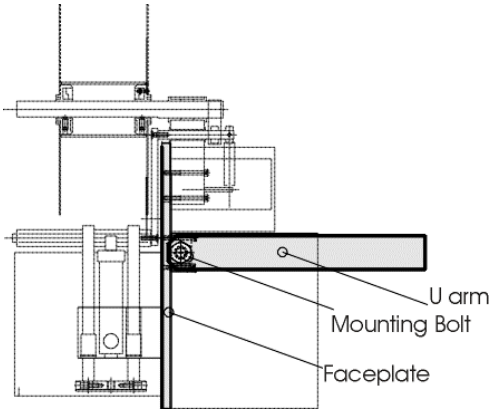


Figure 3-2 U-arm placement on applicator

WARNING Ensure the u-arm is securely tightened to the body of the applicator. When lifting the applicator. If the u-arm is not tightened securely it could possibly rotate and cause personnel injury.

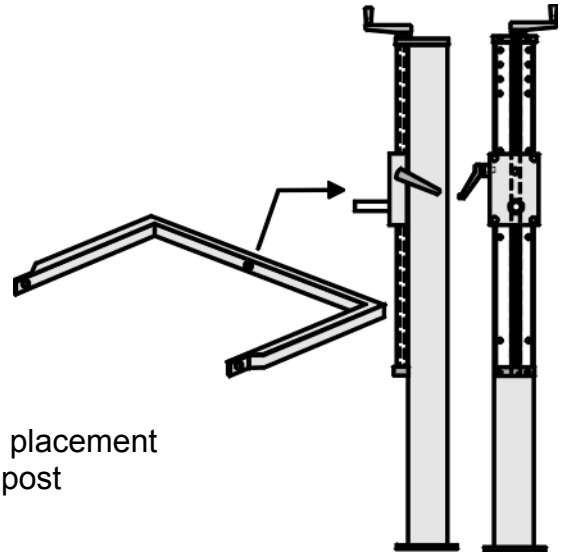


Figure 3-3 U-arm placement on vertical post

If your OEM print engine came in a separate carton from the applicator:

Locate the print engine, remove the packing and carefully take engine out of carton. Locate the five bolts that mount the engine to the faceplate. If they are in the faceplate remove them and set aside. Slide the engine into the area on the faceplate and align the mounting holes on the engine with those on the faceplate. Start each bolt by hand and ensure all five line up and engage without cross threading. Once all bolts have been started, using a 4 mm Allen wrench tighten securely.

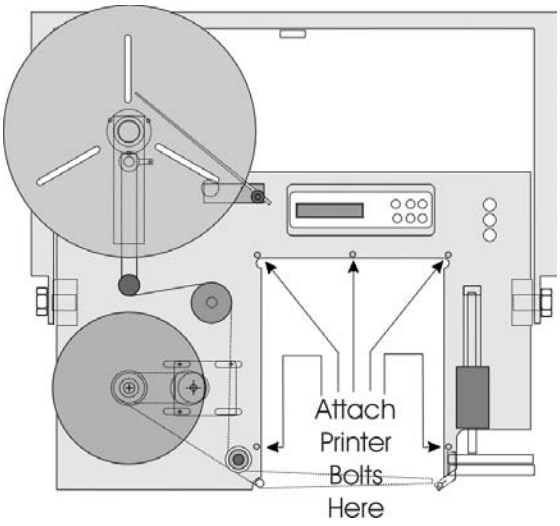


Figure 3-4 Print engine mounting hole placement on faceplate.

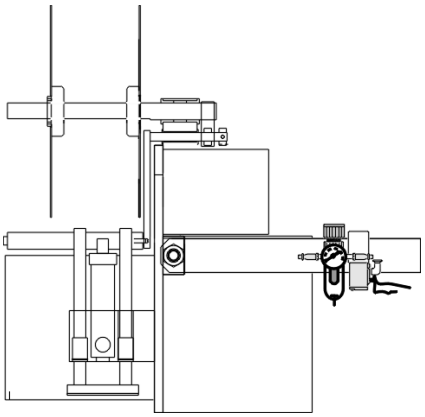
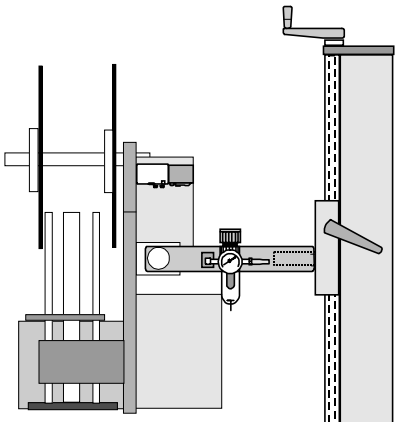
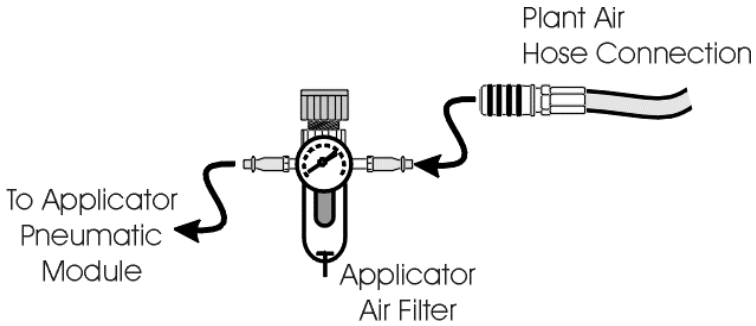
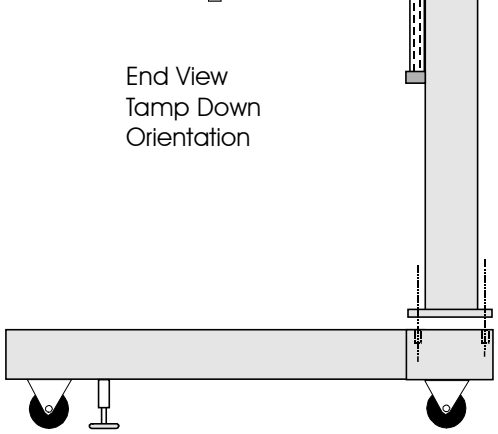


Figure 3-5 Air Filter placement on U-arm and hose connections

Locate the plant air hose connection. The applicator requires clean dry air at 80 psi to 120 psi. A pre filter upstream of the applicator will reduce required preventive maintenance on the system. The connector should be a ¼ NPT. Connect to the applicator Air Filter located on the u-arm. (See figure 3-5). Connect the plant air hose to the input of the air filter. The output of the air filter will be connected to the pneumatic manifold block on the pneumatics module mounted on the back of the applicator faceplate.







Once the printer is mounted onto the faceplate make the following connections to the back of the applicators electrical panel. (ref # 4, figure 3 -6);

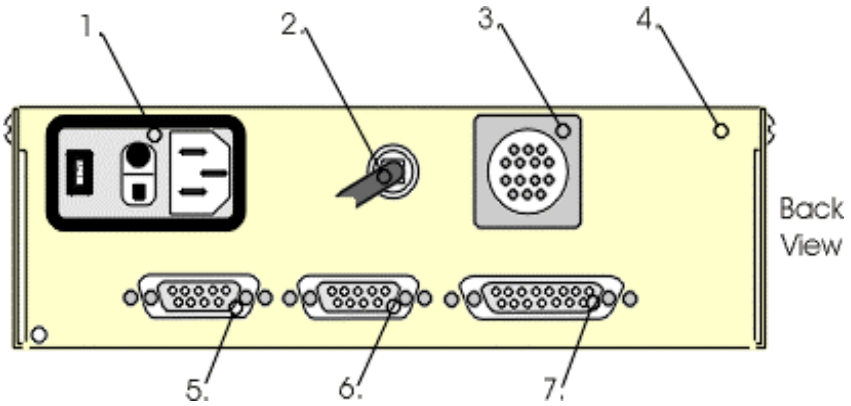


Figure 3-6 Back Panel of the Electrical Module

Main Power In: On the back of the electrical panel will be a cable ending in a three-pronged plug. This is the applicator power cord. (ref # 2, figure 3-6) Connect this plug to plant power.

Printer: (Recommend a UPS power source.) Connect power cable from back of print engine to the electrical panel reference #1. (ref #1, figure 3 –6)

WARNING Ensure the power rating on the applicator matches the power on the plant power rating.
Example: 110V AC 60 Hz to 110V AC 60 Hz

16-pin female connector (ref # 3 figure 3 –6) - connector for the system status output

9-pin female connector (ref #5, figure 3 – 6) - connector for the photocell

9-pin female connector (ref #6, figure 3 – 6) - connector for the status beacon

15-pin female connector (ref #7, figure 3 – 6) - connector for a printer

The **Low Label Sensor**, if purchased initially, will be factory installed on the applicator prior to shipping. If the sensor is purchased as an after-market item, follow the table and figure below to install the sensor. (also refer to Parts Identification section for placemen and location of low label sensor on applicators face plate.)

Ref #	Part Name or Function
1	Low Label Sensor Body
2	Low Label Sensor wand. Lays against unwind reel/labels.
3	Wand mounting bracket Hex head screw take Allen Wrench Size 3 mm. Holds wand in place on sensor. Loosen to adjust length of wand.
4	Low Label Sensor wand mounting bracket. Swivels to allow wand to ride on label roll. Micro switch provides output when level of label decreases to a specified diameter.
5	Slot head screw provides adjustment.
6	Low Label Sensor Mounting holes. Hex head screws provided to mount body of sensor to face plate.
7	Set screw; Allen Wrench size 2 mm. Mounts wand bracket to sensor and allows for adjustment of micro-switch trigger of label level.
8	Connections to electrical module.

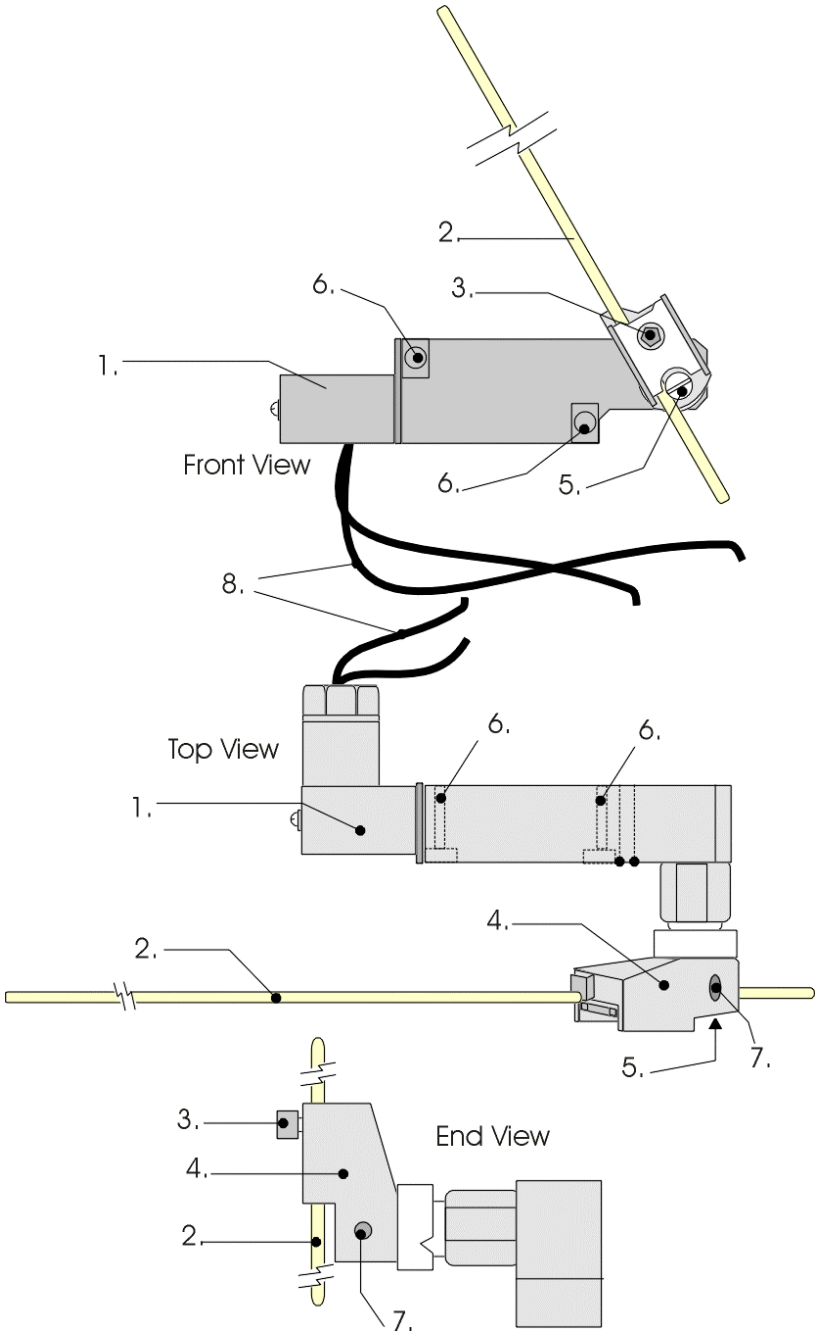


Figure 3-7 Low Label Sensor. Front view at top, Top view, center, End view at bottom

The optional 250 Beacon can be used to view and/or notify operators of the conditions and or status of the 250 applicator.

The beacon plugs into the back of the electronics module. (see figure 3-6, reference item # 6. The beacon connects to the 250 via a 9-pin plug. (Figure 3-8)

The beacon can be mounted to the back of the faceplate or a variety of other places convenient to the operator, using 2 1/4X20 bolts.

The L bracket is attached to the bottom of the beacons mounting pole. The beacon is capable of displaying the status of conditions and events of the 250 printer applicator.

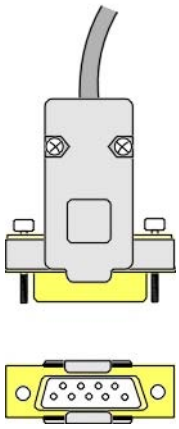


Figure 3-8 9-pin plug – connects beacon to the applicator via the electronics panel located on the back panel of the 250.

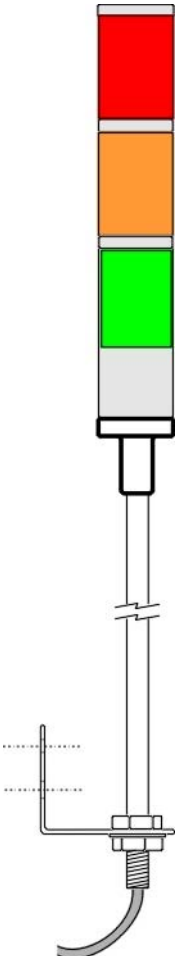


Figure 3-9 three-stage beacon alerts operators to conditions and status of the 250 applicator.

Label Threading (SATO)

Threading Labels through the applicator can be accomplished in under 30 seconds once you have loaded labels a few times and got the hang of it. The roll of labels you use should be stored in a cool dry climate. Humidity and heat can ruin the roll of labels and cause many problems during printing and application. Labels kept in a hot and or humid environment tend to bleed. That is, the adhesive begins to soften and seep out the sides. This causes labels to stick together or not separate from the liner. The labels won't dispense onto the tamp pad or curl around the peel tip and flounder on the air assist tube.

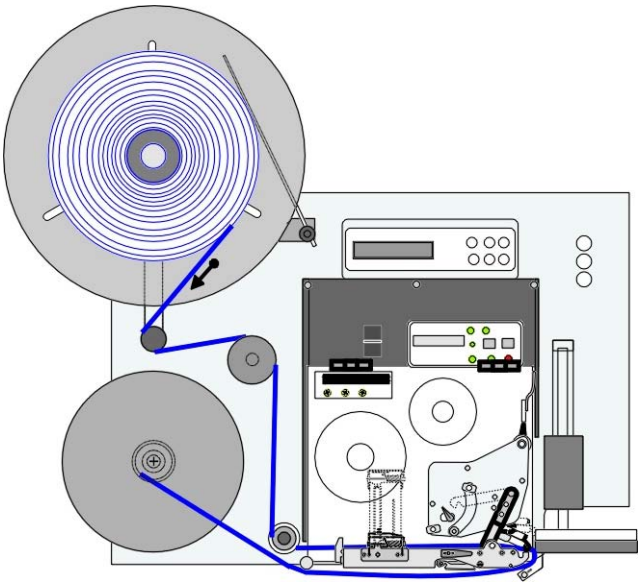


Figure 3-10 Web Path through the applicator and Printer

First remove the outer flange of the unwind. The inner flange should be mounted with the hub facing out, or towards you. Slide the labels (Wound out on a 3" core) over the unwind shaft and onto the 3" diameter hub of the inner flange. Ensure the core is snug on the hub and flush with the back flange. Re-install the outer flange with the flat of the shafted lined up with the flat of the decal on the outer hub. Once you have the outer flange on, twist flange a quarter turn in either direction to tighten onto shaft. There is a setscrew through the hub that can be adjusted to give more or less pressure against the shaft. (a 4 mm Allen wrench is required)

The label roll should not rotate easily at this point. To allow for freewheeling of the unwind, move the dancer arm toward the center of the machine. (refer to section one figure one part identified as #16) This releases tension on the brake and will allow you to unwind labels from the roll. About 3 feet is required to complete the threading. Take the labels to the outside of the dancer arm, around the bottom and over the roller to the right of the dancer roller. (see figure 3-10 above)

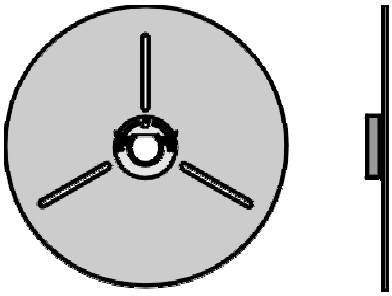


Figure 3-11 Outer Flange with Hub Decal in center

The web should now be hanging vertical to the floor or parallel to the print engine. As you are facing the applicator the web will go around the left side of the roller directly to the left of the print engine and about an inch from the bottom of the faceplate. The web should now be heading to the right and into the print engine itself. Referring to the applicable printer manual for more concise directions is advised. Figures 3-12 and 3-13 show examples of a Sato print engine with the label threaded through.

The print engine is equipped with web guides at the extreme left. These are adjustable to accommodate the different

widths of media that can be used. (Please refer to the print engine manual for an explanation on adjusting these guides.) In figure 3-12 the item marked as #1 is a spring loaded bar that holds the web flat. It is equipped with a roller for reducing pull. You must disengage this mechanism to thread the web. Figure 3-13 shows the mechanism unlatched and in the raised or open position. (Please refer to the print engine manual for a better explanation on how to unlatch this mechanism.) Item marked as #2, in figure 3-12, is a lever that can be shifted to the left. Shifting this lever causes the print head to spring up. The web must be threaded under the print head, out the far right side of the engine and back under to the left. Figure 3-13 shows the print head in the “up” or “open” position. (Referring to the print engines operator’s manual will give a clear understanding of the operation and procedures for moving, adjusting, and locking the print head.)

It will be a lot easier to thread the liner if you remove the label from the web prior to threading over the air assist tube. When bringing the web back under the print engine ensure that the liner is above the air assist tube. (Liner should be between the air assist tube and print engine.) Take the web to the rewind spindle, remove the locking pin, and wrap the liner clockwise around the shaft. Reinstall the locking pin onto the shaft catching the liner between the tines and the shaft.

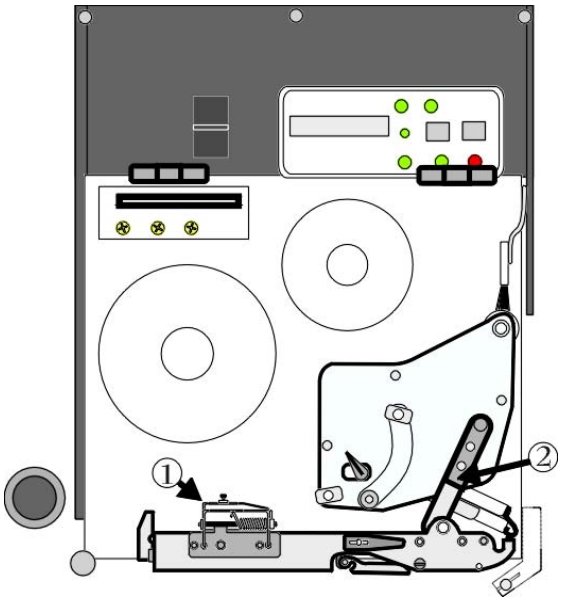


Figure 3-12 Print Engine with door removed for clarity.

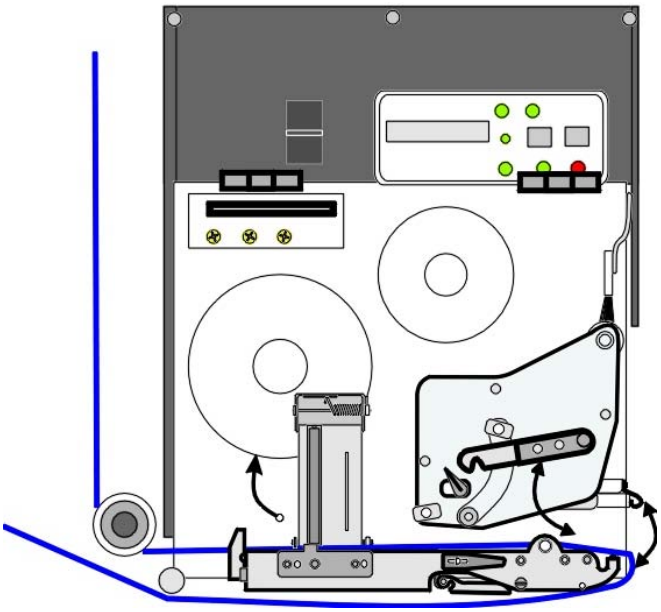


Figure 3-13 Print Engine with label web shown threaded.

Label Threading (ZEBRA)

Threading Labels through the applicator can be accomplished in under 30 seconds once you have loaded labels a few times and got the hang of it. The roll of labels you use should be stored in a cool dry climate.
Humidity and heat can ruin the roll of labels and cause many problems during printing and application. Labels kept in a hot and or humid environment tend to bleed. That is, the adhesive begins to soften and seep out the sides. This causes labels to stick together or not separate from the liner. The labels won't dispense onto the tamp pad or curl around the peel tip and flounder on the air assist tube.

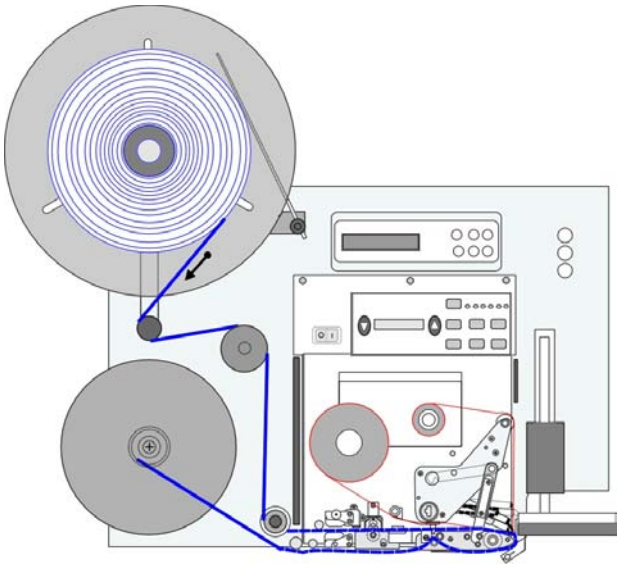


Figure 3-14 Web Path through the applicator and Printer

First remove the outer flange of the unwind. The inner flange should be mounted with the hub facing out, or towards you. Slide the labels (Wound out on a 3" core) over the unwind shaft and onto the 3" diameter hub of the inner flange. Ensure the core is snug on the hub and flush with the back flange. Re-install the outer flange with the flat of the shafted lined up with the flat of the decal on the outer hub. Once you have the outer flange on, twist flange a quarter turn in either direction to tighten onto shaft. There is a setscrew through the hub that can be adjusted to give more or less pressure against the shaft (4mm Allen wrench is required).

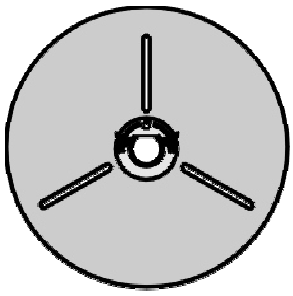


Figure 3-15 Outer Flange with Hub Decal in center

The label roll should not rotate easily at this point. To allow for freewheeling of the unwind, move the dancer arm toward the center of the machine. (refer to section one figure one part identified as #16) This releases tension on the brake and will allow you to unwind labels from the roll. About 3 feet is required to complete the threading. Take the labels to the outside of the dancer arm, around the bottom and over the roller to the right of the dancer roller. (see figure 3-10)

The web should now be hanging vertical to the floor or parallel to the print engine. As you are facing the applicator the web will go around the left side of the roller directly to the left of the print engine and about an inch from the bottom of the faceplate. The web should now be heading to the right and into the print engine itself. Referring to the applicable printer manual for more concise directions is advised. Figures 3-14 and 3-15 shows an example of a Zebra print engine with the label threaded through.

Media Threading through the Print Engine

After accomplishing the loading of labels on the applicator you can now thread the labels on the web through the print engine. This is an abbreviated explanation, for a more in depth procedural description please refer to the print engine manual.

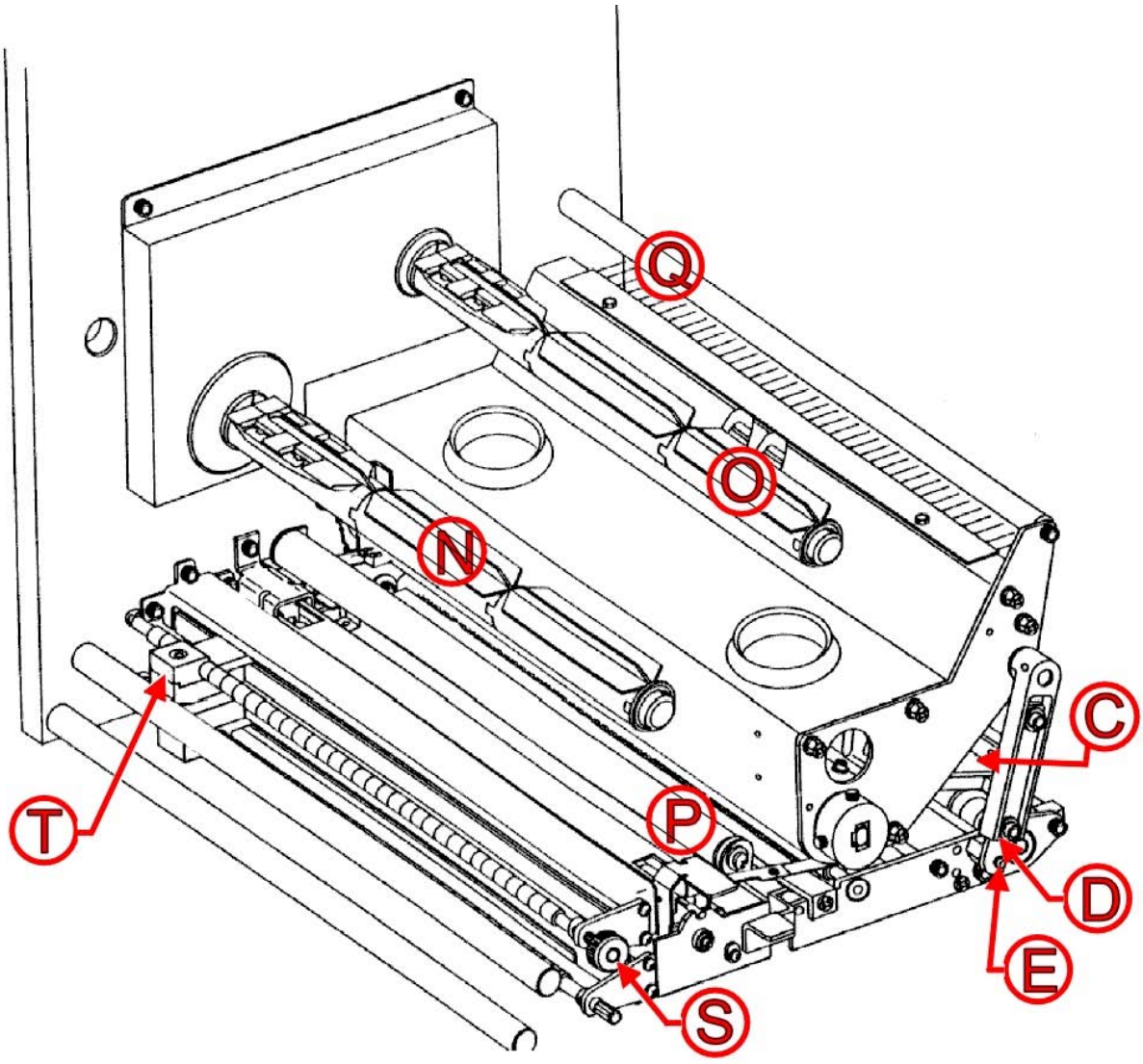


Figure 3-16 Annotated parts of the Zebra Print Engine. 3D view

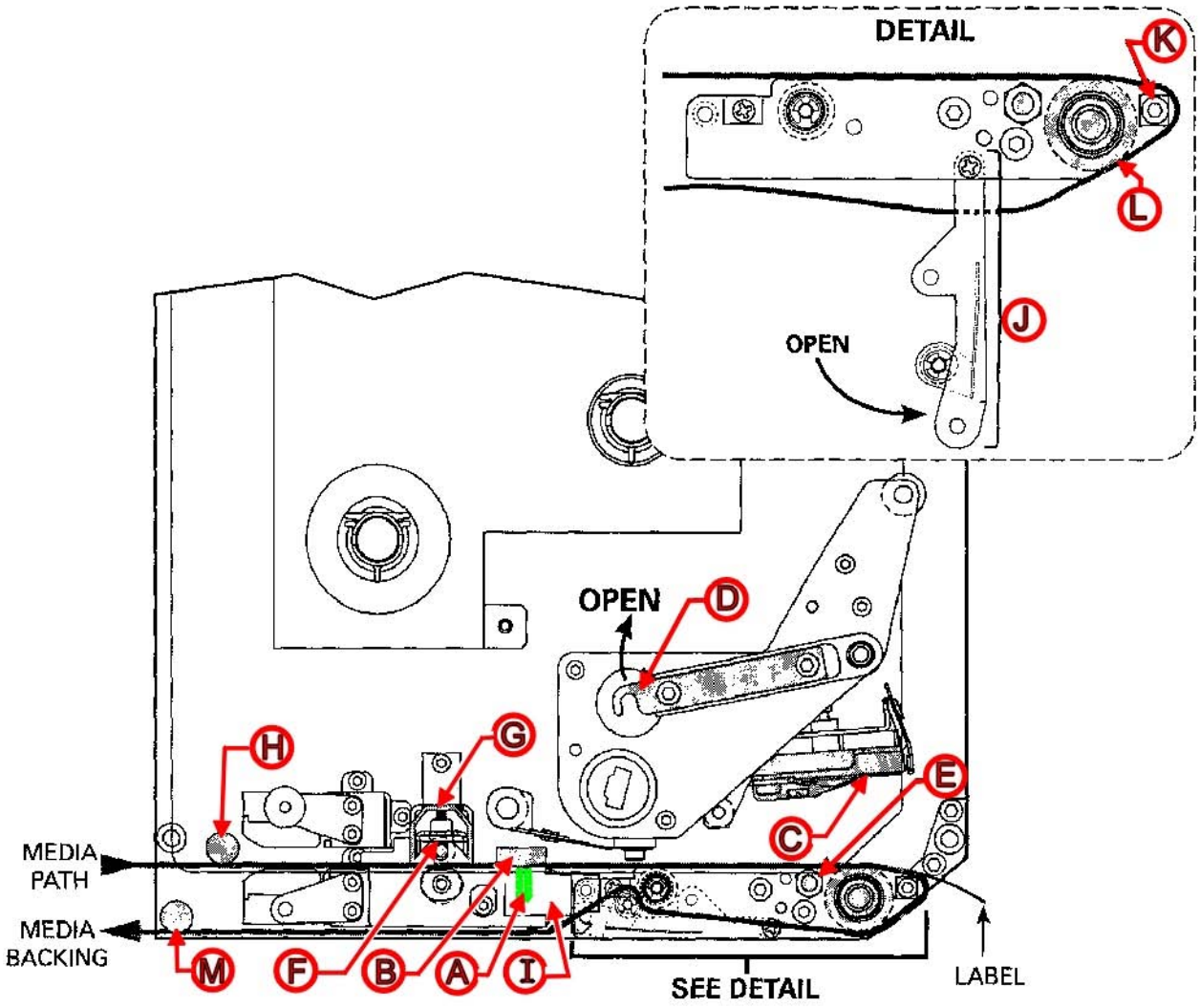


Figure 3-17 Annotated parts of the Zebra Print Engine. Front view

To Load Labels through the Zebra Printer Engine

(refer to Figures 3-16 and 3-17 with the following procedure)

1. Grasp the thumbnut (A) and slide the outer media edge guide (B) as far out from the printer frame as possible. (The thumbnut does not have to be loosened.)
2. Open the printhead assembly (C) by unlatching the printhead lock lever (D) from the locking pin (E).
3. Raise the pinch roller (F) by pressing down on the pinch roller assembly latch (G). Thread the media under the upper guide post (H), between the pinch roller and the associated rubber pinch roller, and under the printhead assembly (C) until approximately 30” (75cm) of media extends out of the print engine.
4. Ensure the media is aligned within the print path then close the printhead assembly (C) by rotating the printhead lock lever (D) until it latches onto the locking pin (E).
5. Secure the pinch roller (F) in position by pressing down on the top of the pinch roller latch (G) until the assembly snaps closed.
6. Position the outer media edge guide (B) so it just touches the outer edge of the media.
7. Raise the peel roller latch (I) and the peel roller assembly (J) will pivot down to a vertical position.
8. Thread the backing material around the peel bar (K), under the platen roller (L), and through the peel roller assembly (J). (see Detail in figure 3-17.)
9. Ensure you route the media between the air assist tube and the print engine frame. (DO NOT thread the media over the air assist tube.)
10. Rotate the peel roller assembly (J) up until it latches closed.
11. Thread the backing material under the lower guidepost (M) and around the take-up spindle of the applicator.

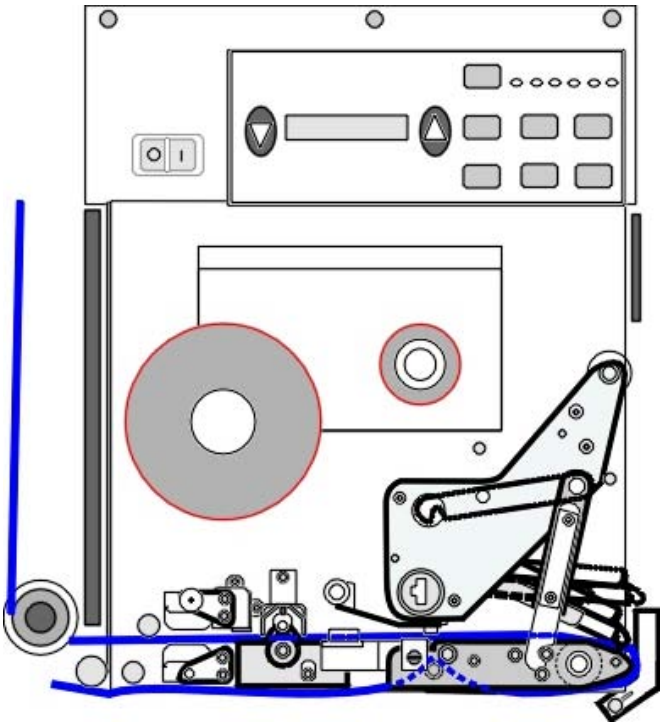


Figure 3-18 Front view of label web threaded through Zebra engine

Ribbon Loading (ZEBRA)

This is an abbreviated procedure for loading ribbon onto the print engine and should only be used as a reference for the re-supply of media after first initially reading the operator manual provided by the manufacturer of the print engine. The print engine manual fully explains all the procedures required for safe operation of the PAX engine. Please read the provided manual before attempting to operate the engine. This will maximize the life of the print engine and ensure you are fully aware of all the facts, features and benefits of the machine.

CAUTION: When installing the ribbon roll on the ribbon supply spindle, make sure it is pushed up against the stop and that the ribbon is aligned squarely with its core. DO NOT use ribbon that is narrower than the media. If the print head is not protected by the smooth backing of the ribbon, premature printhead failure may result due to excessive abrasion.

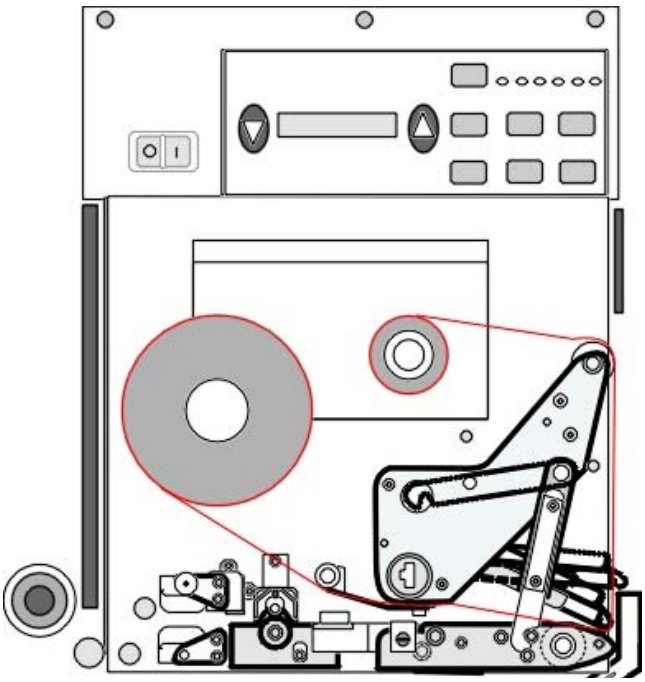


Figure 3-19 Front view of label web threaded through Zebra engine

1. Push the ribbon roll onto the supply spindle (N) as far as it will go, so the ribbon feeds as shown in fig 3-20.
2. Install an empty ribbon core onto the ribbon take-up spindle (O).
3. Open the printhead assembly (C), by latching the printhead lock lever (D) from the locking pin (E).
4. Thread the ribbon below the lower guide roller (P), under the printhead assembly (C), and up and over the upper ribbon guide roller (Q) as shown in figure X-XX. *Use caution not to crease or wrinkle the ribbon.*
5. Attach the ribbon to the take-up spindle core (use a label if needed) and wind for several turns in the direction shown in figure 3-20 on next page.
6. Close the printhead assembly (C) by latching the printhead lock lever (D) onto the locking pin (E).
7. Ensure the ribbon is located between the ribbon Sensor and the sensor reflector positioned above it.

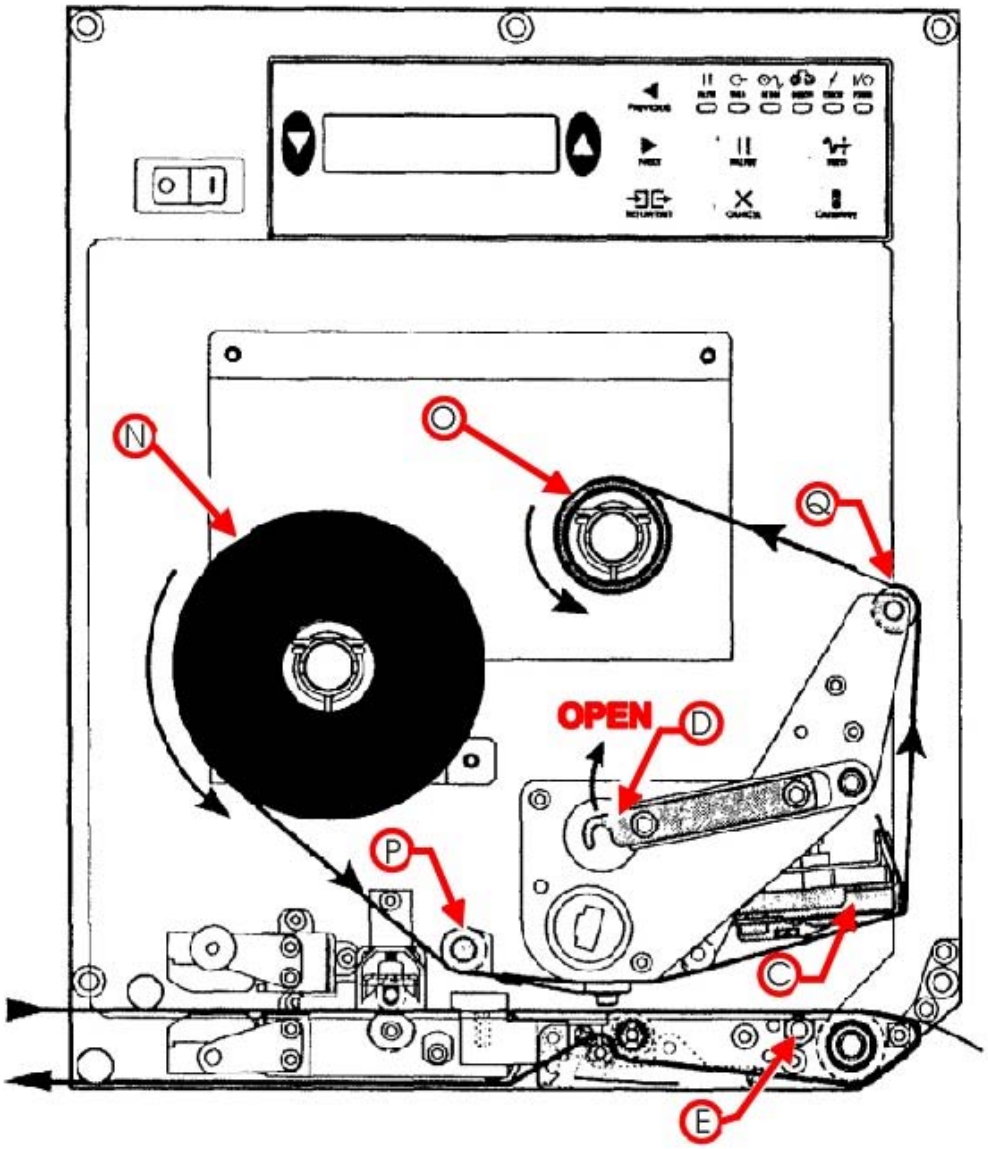


Figure 3-20 Front view of ribbon threaded through Zebra engine

ID Technology 250 Label Printer/Applicator with _____ Series Print Engine

INSTALLATION CHECK LIST

Customer:
Site:
Address:
Address:
City: State

Location of equipment:
Line speed: Product height:

Product handling ok:	YES	NO	
Spare parts:	YES	NO	ON ORDER
Operator/Technical Manual on labeler	YES	NO	ON ORDER
Operator Manual on print engine:	YES	NO	ON ORDER
Technical Manual on print engine:	YES	NO	ON ORDER

Applicator			Serial Number		
Print Engine			Serial Number		
Label size:			Ribbon:		
Roll Size:			Memory:		
Smart tamp:	YES	NO	Beacon:	YES	NO
Voltage:			UPS:	YES	NO
Air pressure			Vacuum ok?	YES	NO
Air assist ok?	YES	NO	Tamp Stroke		
Air blast setting:			Product Delay setting:		
Product detector type					
Is bar code being scanned for readability?				YES	NO

PRINT ENGINE SETUP

Print Darkness		Print Speed	
Pitch Direction		Pitch Offset	
Zero Slash		Auto Online	
Vert. Offset		Hor. Direction	
Hor. Offset		Gap (label)	
Gap (liner)		Input	

DSW1 LAY OUT

ON								
OFF								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

DSW2 LAY OUT

ON								
OFF								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

DSW3 LAY OUT

ON								
OFF								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

TEST PRINT ENGINE

Print a test label using the User Test Print mode		
Is printhead balanced?	YES	NO
Is there any printhead element out?	YES	NO
Check for Ribbon Wrinkle?	YES	NO
Print test label for printer configuration using Factory Mode test print		
Is the label attached to back of this page?	YES	NO
Send label format to printer		

APPLICATOR SETUP

Has label/web path been adjusted?	YES	NO
Has vacuum system been adjusted?	YES	NO
Has tamp pad height been adjusted for proper label feed?	YES	NO
Check to make sure that the tamp assemblies are not binding	YES	NO
Check tamp assembly fasteners to see that they are tight and have Loc-tite on them.	YES	NO
Has applicator height been adjusted so that all products can pass under the applicator?	YES	NO
Is tamp pad hitting product flatly?	YES	NO
Has smart tamp been adjusted?	YES	NO
Is product detector correctly positioned & working?	YES	NO
Has product delay been adjusted for all product sizes?	YES	NO
Are leveling feet being used?	YES	NO
Is Beacon/Audible Alarm working (Check all conditions)	YES	NO
Has low label sensor been adjusted?	YES	NO

FINAL SYSTEM CHECK

• Check all bolts for tightness on the mounting stand		
• Column should be secured in the column mount and not able to rotate.		
• Raising mechanism needs to be secured in place after desired height of Applicator has been acquired.		
• Leveling feet should be secured to the correct height and then locked in place.		
• Check all connectors and cabling.		
• Secure loose wires.		
• Test run line.		
• Is product spacing ok?	YES	NO
• Does the product have any variation in shape or size?	YES	NO
• What is the max Product per minute that we can now run?		

Employee Trained

Service Technician	Date
Region Office	
Phone	Fax
Address	
Address	
City	State

TOOLS REQUIRED

1 : SET OF METRIC LOOSE BALL END HEX KEYS (1.5 - 10MM)

2 : SET OF STANDARD LOOSE BALL END HEX KEYS

3 : LONG 9/64“ ‘T’ ALLEN

4 : # 1 PHILLIPS SCREWDRIVER

5 : LONG # 1 PHILLIPS SCREWDRIVER

6 : # 2 PHILLIPS SCREWDRIVER

7 : LONG # 2 PHILLIPS SCREWDRIVER

8 : 1/8” FLAT SCREWDRIVER

9 : 3/16” FLAT SCREWDRIVER

10 : LONG 3/16” FLAT SCREWDRIVER

11 : SET OF METRIC COMBINATION WRENCHES (7 - 11MM)

12 : 1/2” WRENCH

13 : 9/16” WRENCH

14 : 6” ADJUSTABLE

15 : SMALL DIAGONAL CUTTERS

16 : SMALL LONG NEEDLE NOSE PLIER

17 : SMALL LONG NOSE VICEGRIPS

18 : SMALL FLASHLIGHT

19 : PUSH-PULL TYPE GAUGE (0 - 1000 GRAMS)

20 : CLEANING KIT FOR PRINTER

Operator Notes

The 250 Label Applicator
Installation of the Tamp-Jet Module

The tamp-jet module is used to create a non-contact method of label application. Once installed the application should follow the following sequence:

Printed label is dispensed onto tamp pad, tamp pad is extended to the full reach of the cylinder, the product is detected by the sensor, after an operator designated delay a blast of air is delivered to the label through the tamp pad, the label is propelled to the product, the cylinder is retracted to the home position and is ready to receive another label.

Installation of the tamp-jet module should take about five minutes.

Ensure power is disconnected from the unit.

Ensure plant air is disconnected from the unit.

Ensure you have received all the necessary components.

An Allen wrench is needed to remove the back cover. (M4 Cap head bolt)

A crescent wrench is needed to remove one of the fittings from the manifold.

Refer to figure 3A-1 to see the tamp-jet module and Table 3A-1 to see a reference table of the connections that will be used.

Table 3A-1 Tamp-Jet Module Parts connections

Ref #	Association
1	Connects to Manifold
2	Connects to Plant air
3	Connects to Venturi system Transducer
4	Connects to Tamp Pad
5	Connect to J10 on the Electronics Module

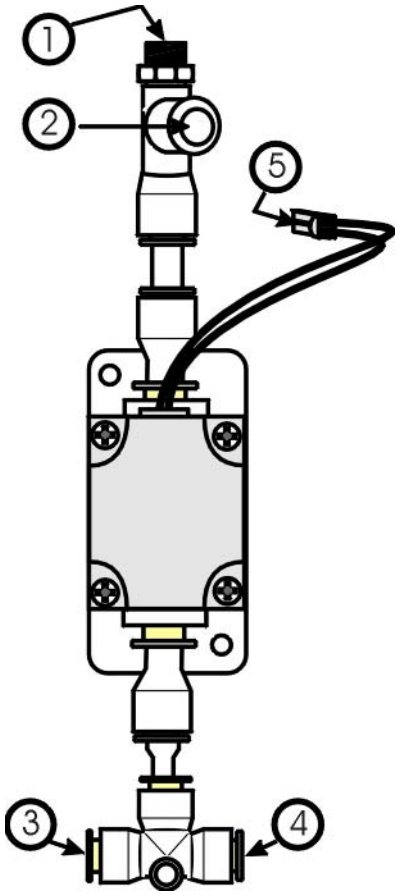


Figure 3A-1 Tamp-Jet Module Connections

Table 3A-2 Tamp-Jet Module Parts Identification

No.	Qty	Nomenclature
1	1	Male Run Tee – unifit
2	1	Nipple
3	1	Reducer, One – Touch
3	1	2-Way D.O. Valve
5	1	Reducer – One Touch
6	1	Reducer Nipple 5/16" – ¼"
7	1	Union Tee

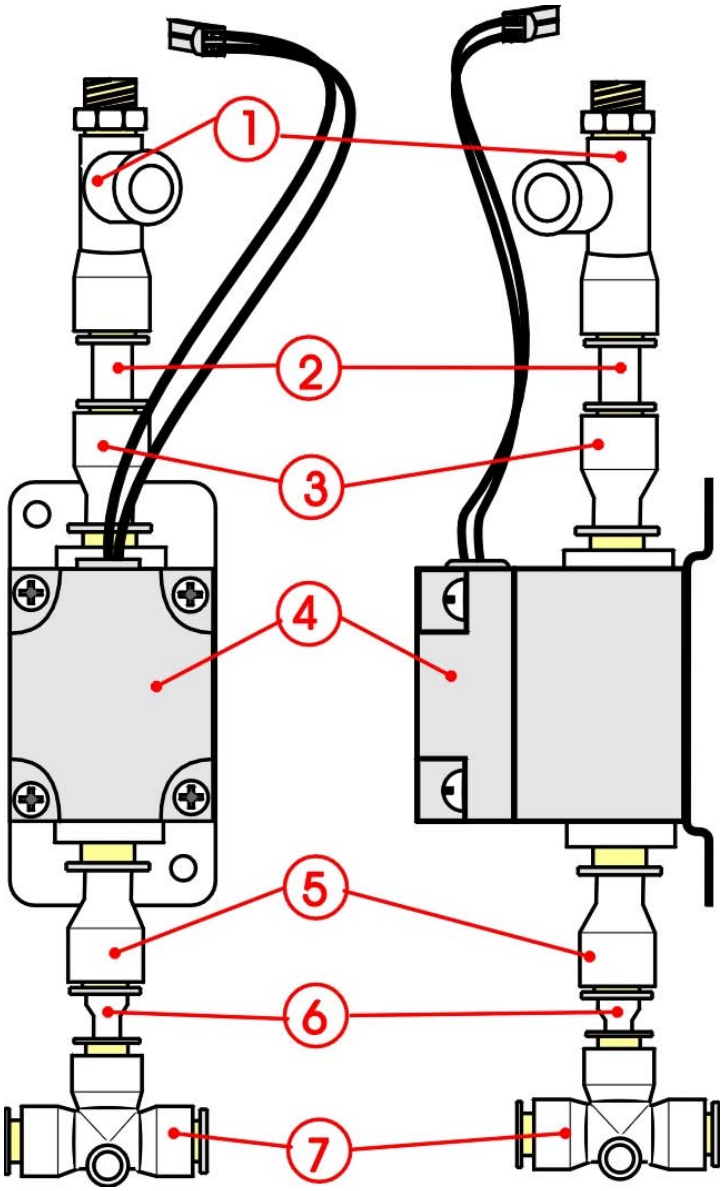


Figure 3A-2 Tamp-Jet Module Parts Identification

Remove all connectors from the Electronics Module of the 250. That would include the product detector, Flashing Beacon, Printer Connector and Status Output amphenol.

Ensure power is off and remove cable.

Ensure power plug is removed from the electronics module. (See Fig. 3A-3)

Disconnect Plant Air from the unit's air filter connection. (See Fig. 3A-4)

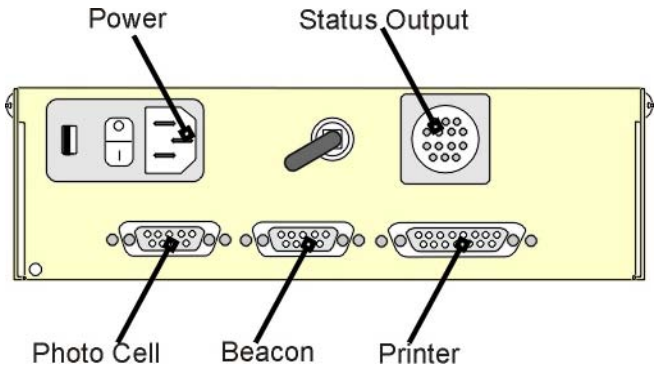


Figure 3A-3 Electronics Module, Back View, Connector Identification.

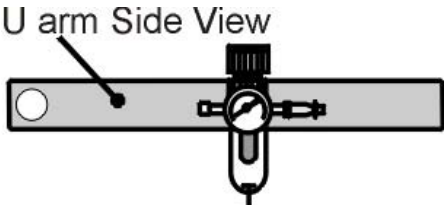


Figure 3A-4 Location of Air Filter on U-arm

Remove the back cover of the applicator. Using an M4 Allen wrench, remove the three bolts from the back cover and set aside. These bolts will be needed to re-install the cover.

The locations of the bolts are pointed out in Fig. 3A-5 with the arrows. The cover is held in place with only the three bolts so; after the last bolt is removed the cover will fall. Ensure you have a hand holding the cover in place. Set the cover aside at this time.

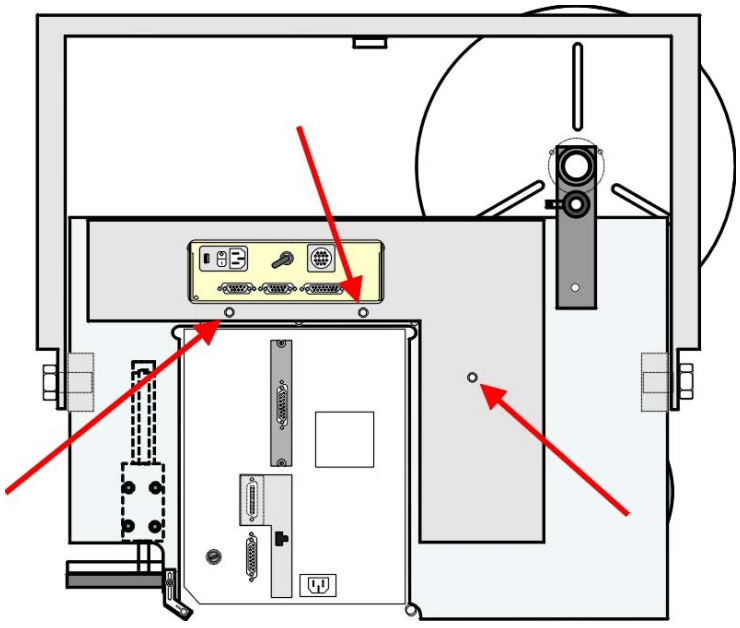


Figure 3A-5 Location of Back Cover mounting bolts

Locate the pneumatics module. After removal of the back cover the module is located to the left side as you are facing the back. Fig. 3A-6 shows the location of the pneumatics module with the arrow.

Remove the air tubing that goes from the applicators plant air filter on the u-arm to the pnuematics block. The one touch brass fitting on the bottom of the pneumatics block (in center marked “P” pressure) can be removed using a small adjustable crescent wrench. Remove the fitting located in port “P” on the bottom of the pneumatics block. See figures 3A-7 and 3A-8 for the location of the fitting.

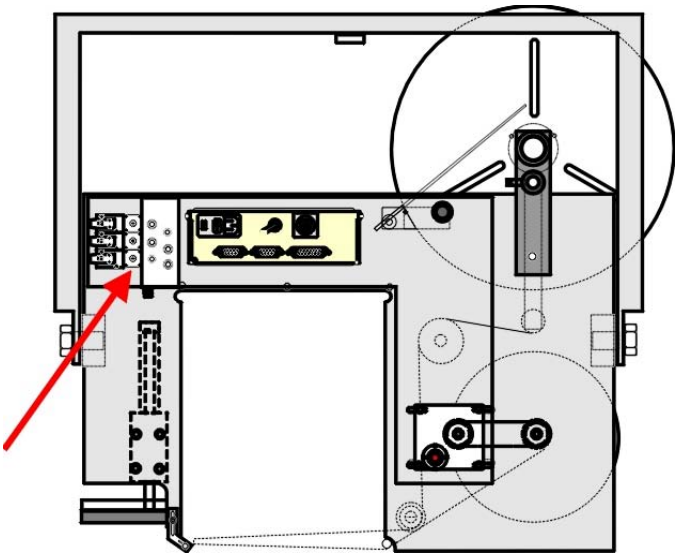


Figure 3A-6 Location of pneumatics module.

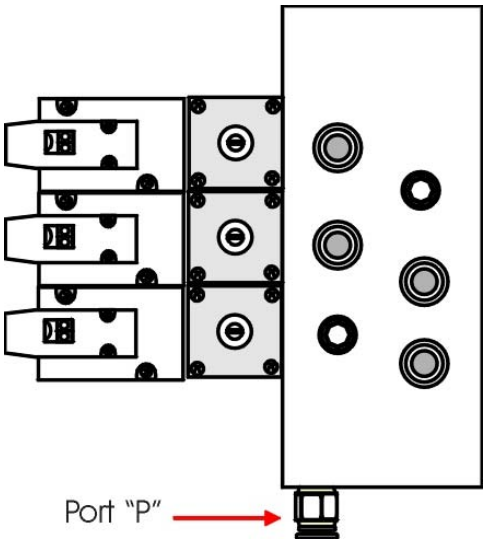


Figure 3A-7 Location of one Touch brass fitting. Back View.

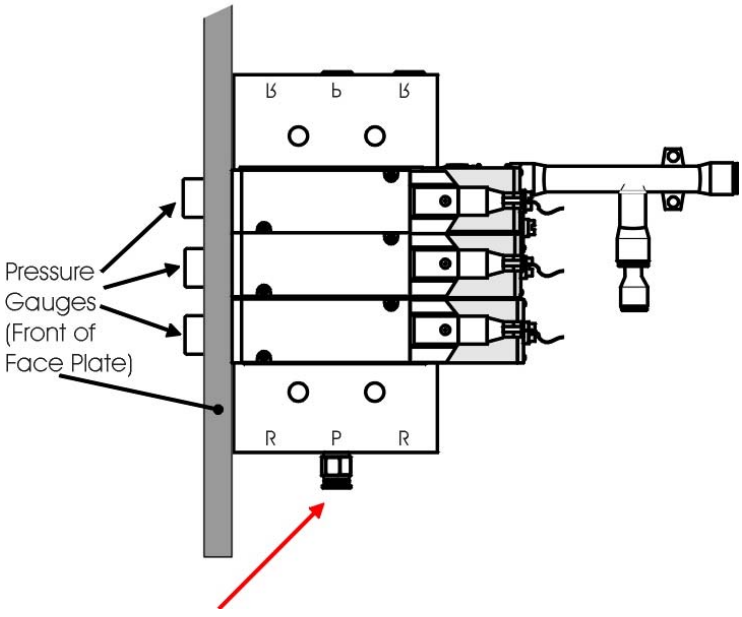


Figure 3A-8 Location of one Touch brass fitting. Side View.

Install the Tampjet module in port “P” of the pneumatics block.

Use your fingers to start the threading of the brass fitting into the port to ensure the threads do not get cross threaded. (The brass fitting spins freely in the Male Run Tee) Using an adjustable wrench, tighten the fitting into port “P”. There is a washer on the inside end of the fitting so it is not necessary to use teflon tape on the threads

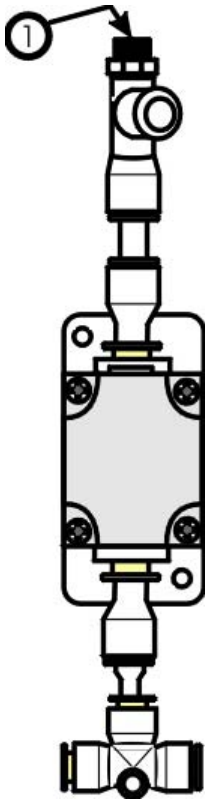


Figure 3A-9 Location of Tamp-Jet connection to pneumatic block. Side View

Connect the air tubing from the out feed side of the air filter to the Male run Tee fitting on the tamp-jet module. As shown in Figure 3A-10. These are one touch air fittings, therefore all you have to do is insert the tube into the fitting until you feel it stop. The tubing is locked into place. To remove the tubing you depress the collar around the opening of the fitting and pull tube out.

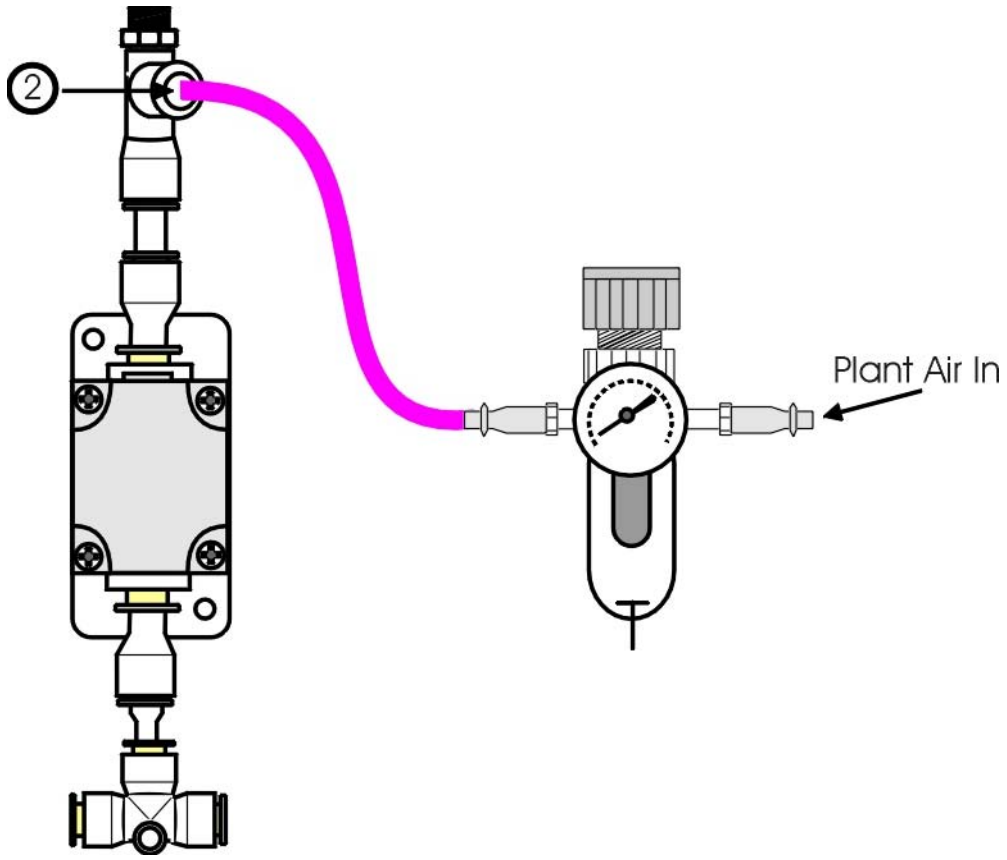


Figure 3A-10 Plant air to Air Filter to tamp-jet module plumbing

Connect the air tubing from the tampjet module Union Tee (#3) to the Venturi transducer Tee fitting coming out of the pneumatic manifold block Illustrated in Figure 3A-11 below. Connect the air tubing from the union Tee fitting of the tamp-jet module (#4) to the top of the tamp pad. Shown in Figure 3A-11 below. Ensure you run the air tubing through the same hole in the face plate as the orginal tubing was run.

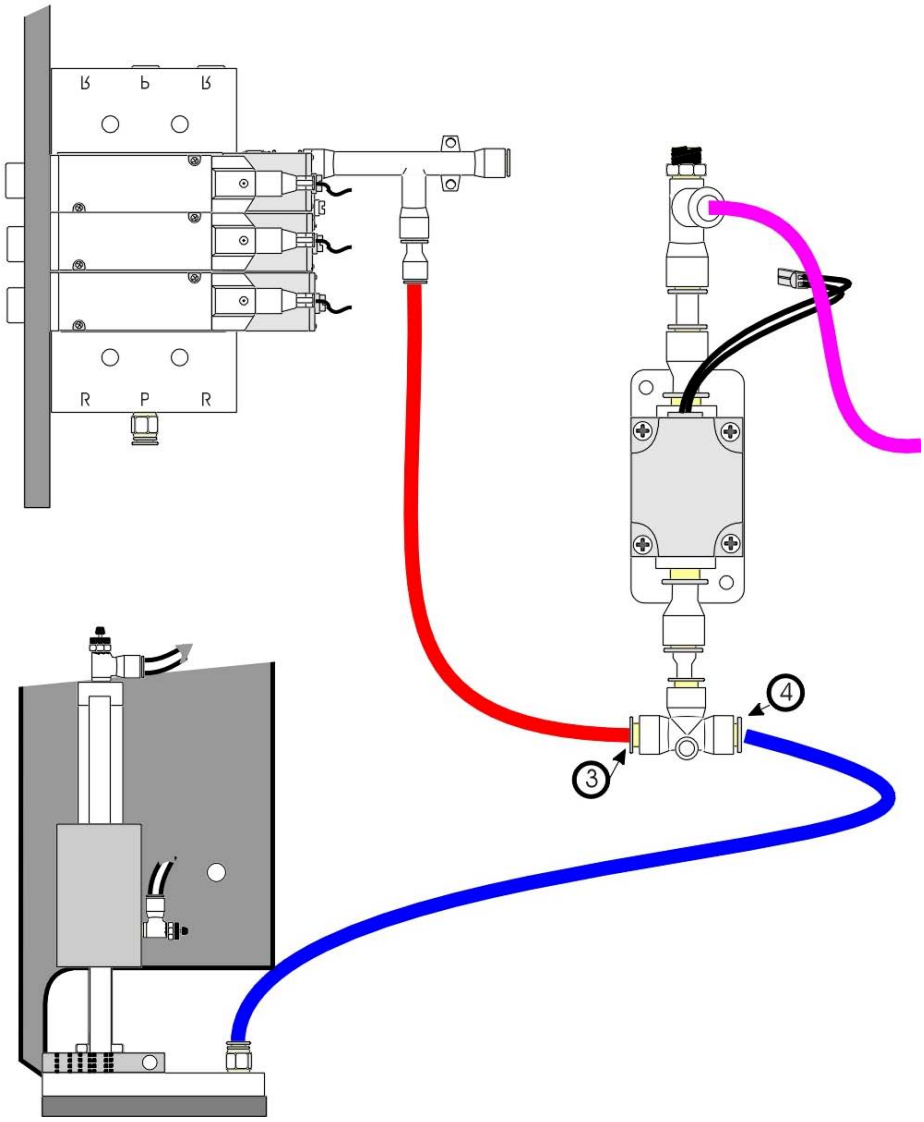


Figure 3A-11 Plumbing from Tamp Module to pneumatic block and tamp pad.

Connect the electrical plug from the tamp module to the electronic module of the applicator. Run the wire up through the bottom of the electronics module as shown in the figure below. (Arrow shows the knock out on the elctronics module that can be used to thread the wire through.) The connector goes on pin J10. As illustrated by the blue wire in figure 3A-12 below.

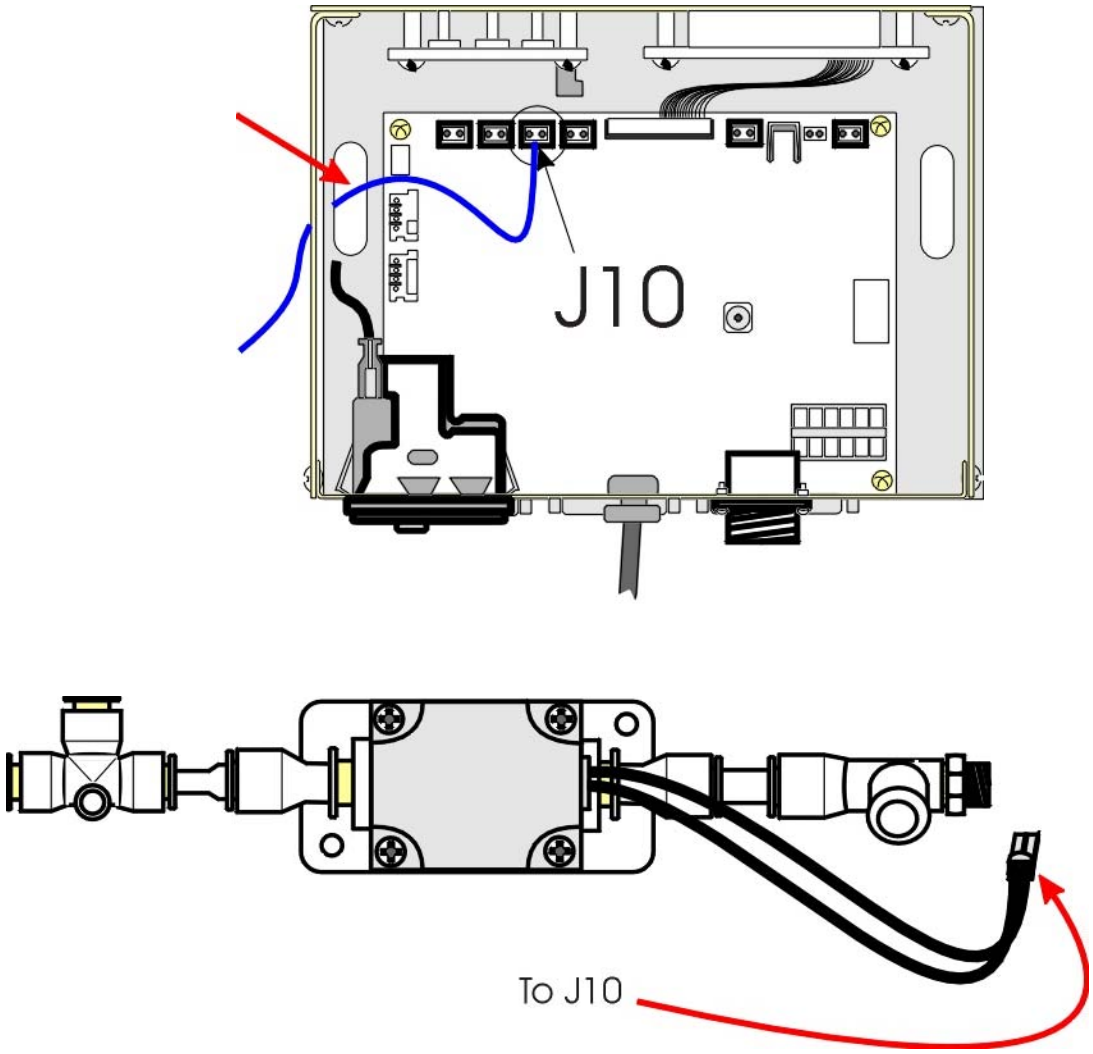


Figure 3A-12 Electrical connection of tamp-jet module to electronics module on the applicator.

Return the unit to service by re-installing the back cover. Re-connect all the pheriphals onto the back panel of the electronics module. Re-connect the plant air to the air filter mounted on the applicators u-arm.

Go into the menu of the applicator and select Tamp-Jet mode of operation.

Incomplete – provided for Specification of components only.

The 250 Label Applicator
Description and Installation of the System Status Module

- If you did not have the System Status Output Kit installed at the factory: Refer to this chapter for installation of the kit.
- If your System Status Output Kit was installed at the factory, this section will give you information concerning the components and their functions.

The System Status Module is designed to supply feedback, of current or fault conditions, of the applicator and printer, to the end user. These conditions can be monitored for triggering other applications, operations, and operator notification.

The System Status Output Module provides electrical signals depicting the current status of the 250 printer applicator. These signals can be provided to upstream or downstream equipment for monitoring and control.

(For example; an upstream case sealer can be temporarily paused while the 250 is offline for label change over.)

The system status module can supply the end user with four (4) useable outputs. The outputs available to choose from are:

Accessory

Apply Ready

Low Label

Low Supply

Label Out

Tamp Home

Ribbon Low

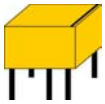
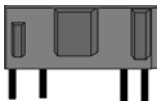
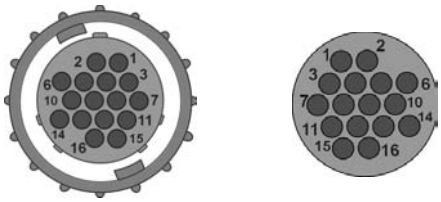
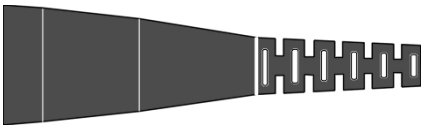
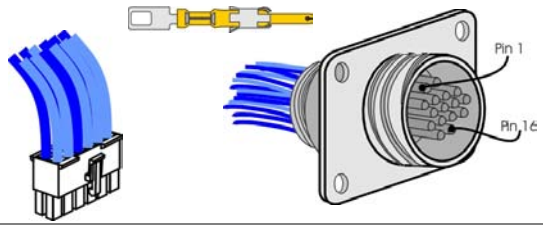
Ribbon Out

Supply Out

System Ready/Not Ready (Off line/On line)

The System Status Output is configured via the front panel LCD and tactile keypad and does not require custom programming.

Your Kit should contain the following components:

ITEM	Qty	DESCRIPTION
	3	Mechanical relays, NaiS DS 1 form C
	1	Solid state relay, Crydom Series DO
	1	16-pin female receptacle
	1	receptacle/wire housing
	16	female pins
	4	3/8” Philips head screws
	4	Self locking nuts
	1	male receptacle pined and wired to a 12-pin connector

Installation of the System Status module should take about fifteen minutes.

Ensure power is disconnected from the unit.

Ensure plant air is disconnected from the unit.

Ensure you have received all the necessary components.

Refer to figure 3B-1 to see the components of module and Table 3B-1 to see a reference table of the connections that will be used.

Table 3B-1 System Status Module Parts

Ref	Association
K1	Mounted to board Solid State Relay Dry Contact
K2	Mounted to board Mechanical Relay Dry Contact
K3	Mounted to board Mechanical Relay Dry Contact
K4	Mounted to board Mechanical Relay Dry Contact
J 15	Connect to Male Plug on the Electronics Module
Plug	Male Connector from end users connector

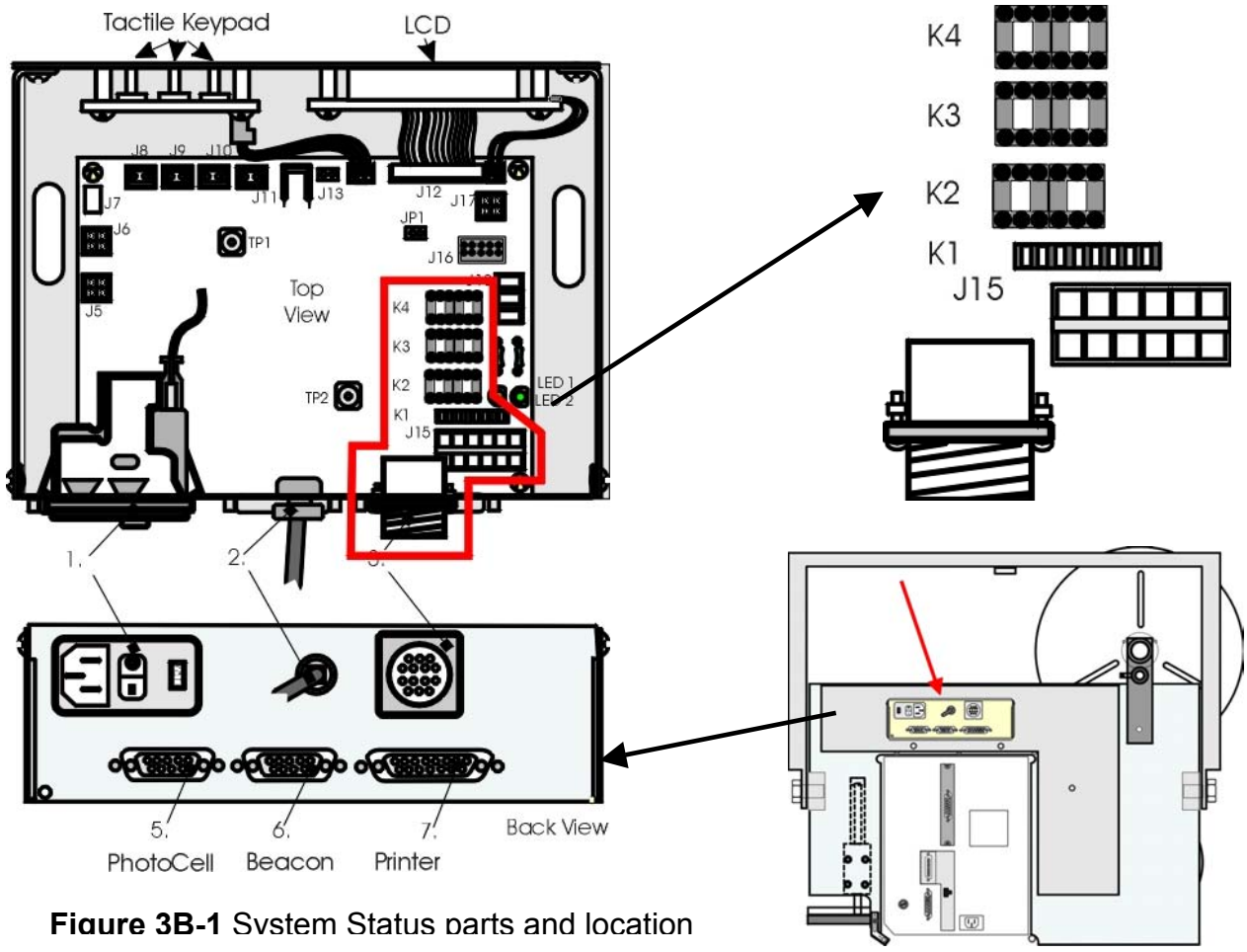
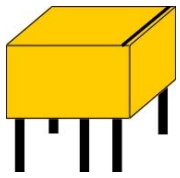


Figure 3B-1 System Status parts and location

Specifications of the (3) mechanical relays:



Single side stable, S Type 1 Form C
Minimum operating power – approximately 100mW
Nominal operating power – approximately 200mW

Contact:

Arrangement - 1 Form C (Part No. - DS1E-S-DC5V)
Initial contact resistance, max. (by voltage drop 6 V DC 1A) - 50mΩ
Contact Material – Gold-clad silver
Rating (restive) – Max. switching power – 60 W, 125 VA
Max. switching voltage – 220 V DC, 250 V AC
Max. switching current – 2 A DC, AC
Max. carrying current – 3 A DC, AC
Expected Life (min. operations – Mechanical (at 600 cpm) 10^8
Electrical 2 A 30 VDC resistive – 5 $X10^5$

Coil (polarized) (at 20° C (68°F)):

Nominal Voltage, 5V DC
Minimum Operating Power - Approx. 100mW
Nominal Operating Power - Approx. 200mW

Characteristics (at 20°C 68°F):

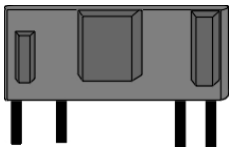
Max. Operating Speed – 20cpm at rated load 50 cps at low level load
Initial insuration resistance – Min. 100MΩ (at 500 VDC)
Initial break-down voltages (Detection current: 10mA)
Between open Contacts - 500Vrms
Between contacts sets - n/a
Between contacts and coil - 1,000Vrms
FCC surge voltage between contacts and coil – 1,500Vrms
Operate time (at nominal voltage)(excluding contact bounce time) – approx. 3ms
Release time (without diode)(at nominal voltage) – approx. 2 ms
Set Time (at nominal voltage) (excluding contact bounce time) – approx. 3ms
Reset Time (at nominal voltage) (excluding contact bounce time) – approx. 3ms
Temperature rise (at nominal voltage) (Contact current 2A) – Max. 65°C
Shock resistance: Functional – Min. 490 m/s^2 {50 G}
Destructive – Min. 294 m/s^2 {30 G}
Vibration resistance: Functional – 10 to 55Hz at double amplitude of 3.3mm
Destructive - 10 to 55Hz at double amplitude of 5mm
Unit weight - approx. 3.2g (.11 oz.)
Conditions for operation, transport and storage (not freezing and condensing at low temperature): Ambient temperature – $^-40^o$ C to $^+70^o$ C
($^-40^o$ F to $^+158^o$ F)
Humidity – 5 to 85% R.H.

Mechanical Relays cont… **Coil Data (at 20° C 68°F)**

Nominal Voltage V DC	Pick up Voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Coil resistance, Ω (± 10%)	Max. allowable V DC (at 50° C 122°F)
1.5	1.2	0.15	11.3	2.4
3	2.4	0.3	45	4.8
5	4.0	0.5	125	8.0
6	4.8	0.6	180	9.6
9	7.2	0.9	405	14.4
12	9.6	1.2	720	19.2
24	19.2	2.4	2880	28.4
48	38.6	4.8	11520	76.8

Specifications of the (1) Solid State relay:

Series DO (DO061B)
DC Control, DC Output
Bipolar Output 3 10 VDC Logic Compatible Input
SPST-NO DC output relay in epoxy-coated package utilizing the popular .10” grid lead spacing.



Input Specifications:

Control Voltage Range -	1.7 – 9.0 VDC
Nominal Input Impedance -	270 Ohm
Typical Input Current -	15mA DC
Must Turn On Voltage -	1.7 VDC
Must Turn Off Voltage -	0.8 VDC

Output Specifications:

Operating Voltage Range -	3 – 60 VDC
Load Current Range -	.02 – 1.0 A DC
Max. Surge Current -	5.0 A DC (1 sec)
Max. Off-State Leakage -	200 µ ADC (at rated voltage)
Max. On-State Voltage Drop -	1.5 VDC (at rated voltage)
Max. Turn-On Time -	50 µ sec
Max. Turn-Off Time -	150 µ sec

General Specifications:

Dielectric Strength -	4000Vrms
Insulation Resistance (Min.) -	10^9 Ohm (at 500 VDC)
Max. Capacitance (Input/Output) -	8.0 pF
Ambient Operating Temperature Range -	-30 to 80°C
Ambient Storage Temperature Range -	-30 to 125°C

Specifications of the (1) Solid State relay cont…

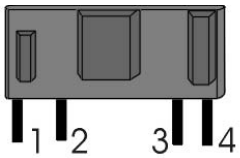
Mechanical Specifications:

Weight -	0.15 oz. (4.3g)
Encapsulation -	Thermally Conductive Epoxy

General Notes:

All parameters at 25º C unless otherwise specified.
Dielectric and insulation resistance are measured between input and output.
Inductive loads should be diode suppressed.

Fig 3b –2 Solid State Relay Pin Out

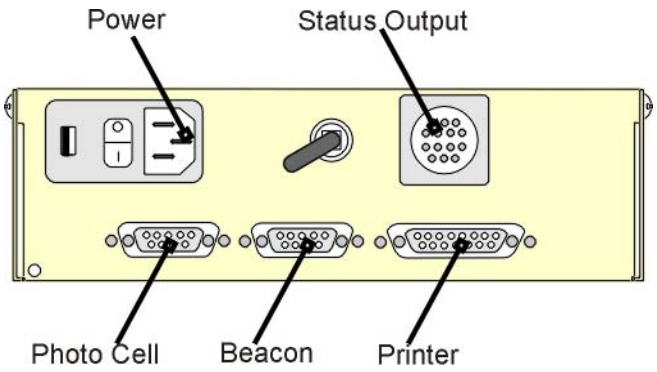


Pin 1: +DC Load
Pin 2: - DC Load
Pin 3: +DC Control
Pin 4: - DC Control

Tools required for the installation:

- ✓ Screw Drivers; Philips and Flat. Used to remove the connectors from the back of the electronic module. (Flat for Printer, Beacon, Photo Cell) (Philips for the status output plug during install)
- ✓ Wire Cutters
- ✓ Wire strippers
- ✓ Needle-nose pliers
- ✓ Soldering iron

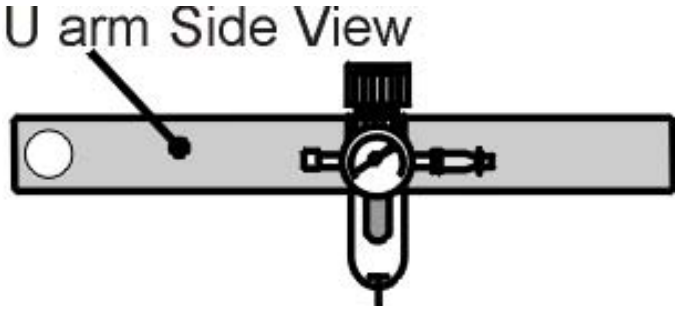
Ensure power is off and remove cable.
Ensure power plug is removed from the electronics module



Remove all connectors from the Electronics Module of the 250.
That would include the product detector, Flashing Beacon, and Printer Connector.

Disconnect Plant Air from the unit's air filter connection.

Figure 3B-X Location of plant air in on applicators u-arm.



- ✓ Allen wrench (3mm) is needed to remove the back cover. (M4 Cap head bolt)

Remove the back cover of the applicator. Using an M4 Allen wrench, remove the three bolts from the back cover and set aside. These bolts will be needed to re-install the cover.

The location of the bolts are pointed out in Fig. 3A-5 with the arrows. The cover is held in place with only the three bolts so; after the last bolt is removed the cover will fall. Ensure you have a hand holding the cover in place. Set the cover aside at this time.

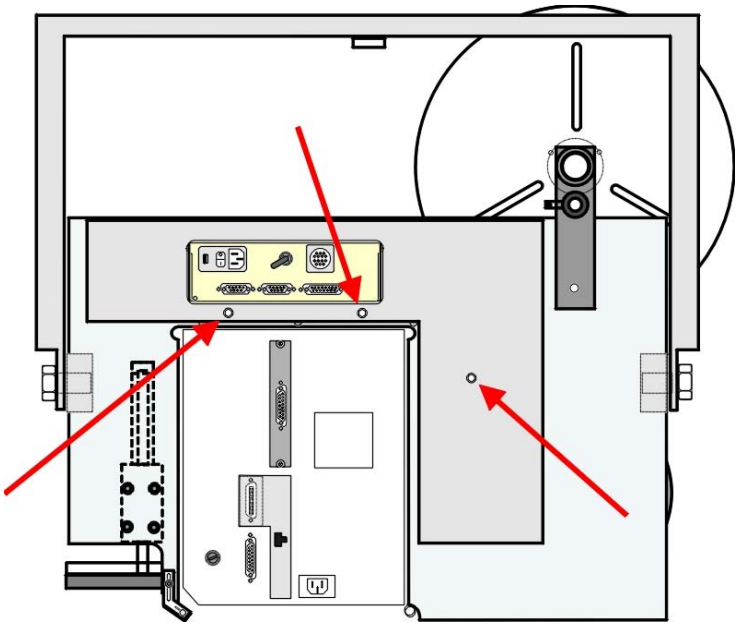
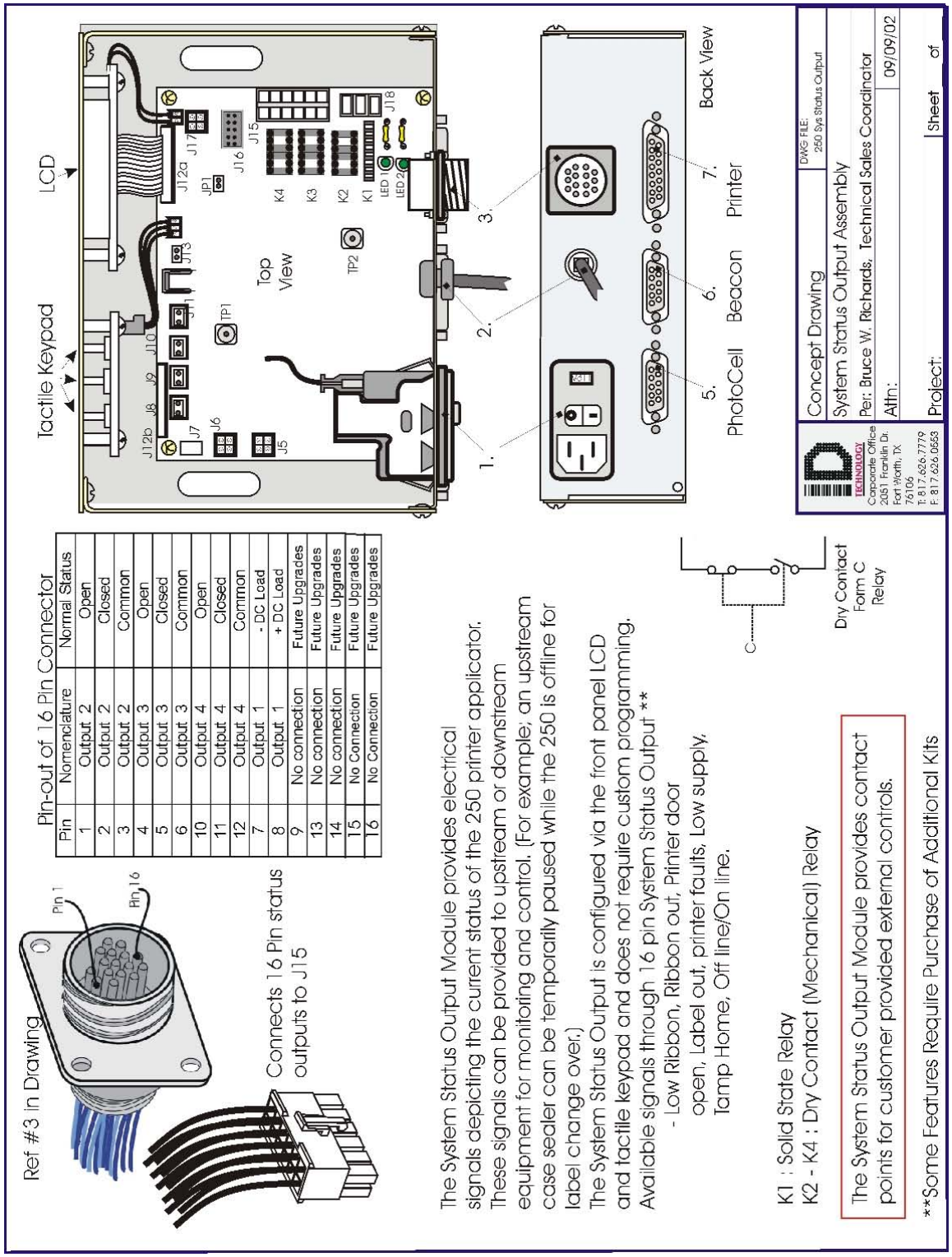


Figure 3A-3 Electronics Module, Back View, Connector Identification.



Pin	Nomenclature	Normal Status
1	Output 2	Open
2	Output 2	Closed
3	Output 2	Common
4	Output 3	Open
5	Output 3	Closed
6	Output 3	Common
10	Output 4	Open
11	Output 4	Closed
12	Output 4	Common
7	Output 1	- DC Load
8	Output 1	+ DC Load
9	No connection	Future Upgrades
13	No connection	Future Upgrades
14	No connection	Future Upgrades
15	No Connection	Future Upgrades
16	No Connection	Future Upgrades

Section Four

Operational Components

Tamp Application:

The label is dispensed off of the liner onto a tamp pad and held in place with a Venturi vacuum. When the product is detected, the tamp cylinder is driven to the product with air and the label is applied by pressure of the tamp pad to the product surface.

(For general part names and location please refer to the section that contains parts location and identification)

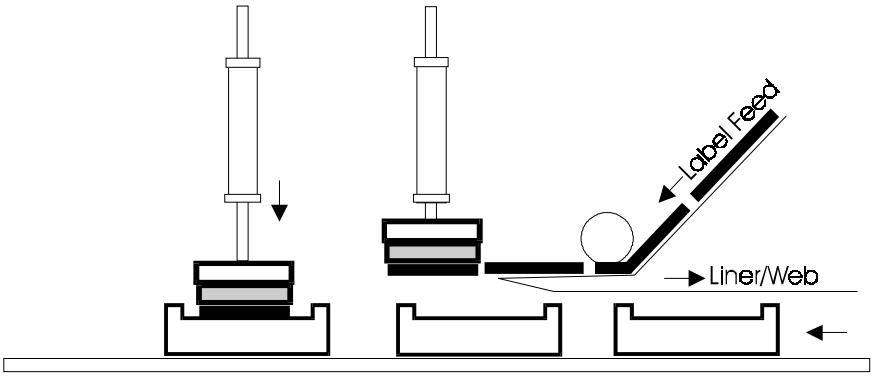


Figure 4-1 Tamp On description

The Tamp Module is comprised of the tamp mounting block which holds the cylinder and guide rods and allows the module to be bolted to the face plate. (see figure 4-2) The guide rods ensure the cylinder travels true in the vertical direction. Four bolts hold the block to the face plate. (see figure 0-3) Air hoses connect the solenoid valve to the cylinder in the appropriate places to direct the cylinder to extend or retract when required. The pressure can be adjusted using flow control valves. An air hose is also connected to the top of the tamp pad assembly (see ref # 5, figure 4 –5). This hose is used to draw a vacuum in the chamber of the tamp pad mounting block (ref # 2, figure 4-4).

This vacuum causes the label to lay flat against the pad (ref # 3, figure 4-5) and immobile until such time as the tamp pad makes contact with the product.

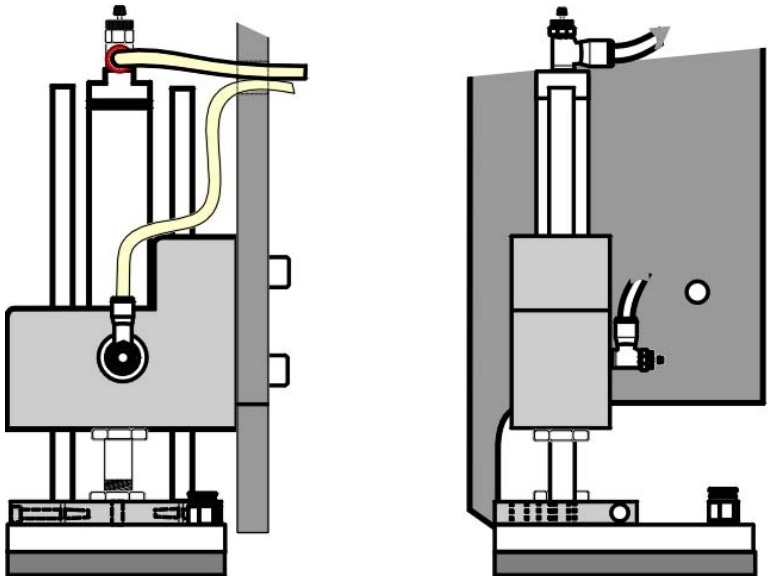


Figure 4-2 Tamp Module (end view on left, front view on right)

The vacuum is created by the flow of air through the holes in the face of the tamp pad (ref # 4, fig 4-5 and fig 4-6), into the vacuum chamber (ref # 10, figure 4-5), through the hose outlet (ref # 5a, figure 4-5) and out the muffler located in the back of the applicator. Air is blown through the Venturi manifold, which creates a drag through the system. This drag causes air to be drawn up through the holes in the tamp pad. The Tamp pad is generally made out of hard Delrin but comes available in neoprene, soft foam like material, if the application warrants. The tamp pad (ref # 3, figure 4-5) is mounted to the vacuum chamber / mounting block (ref # 2, figure 4-5). These are then bolted to the tamp pad mounting bracket (ref # 1, figure 4-5) through the bolt-holes provided (ref # 6, figure 4-5). The bracket is then mounted to the air cylinder rod with a thread shaft and nut. (ref # 8, figure 4-5). The guide rods are located in the two adjacent slots (ref # 7, figure 4-5) and clamped into place with hex head bolts in the thread holes. (ref # 9, figure 4-5)

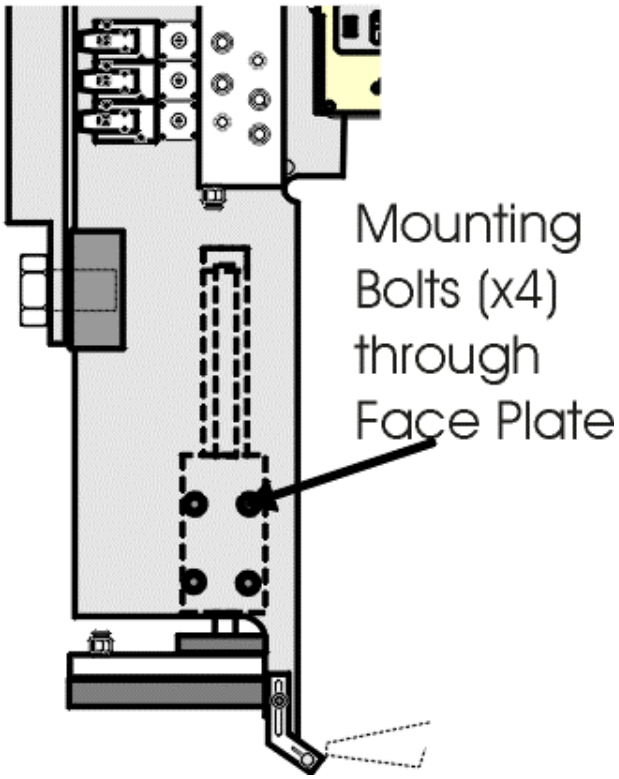
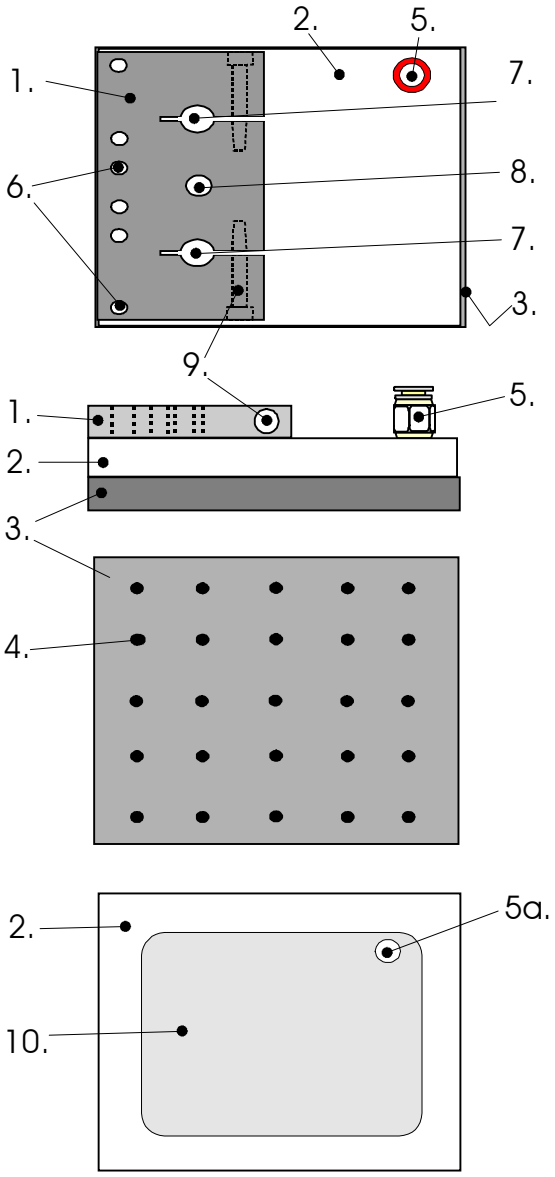


Figure 4-3 Tamp Module Mounting Block on Faceplate (rear view)



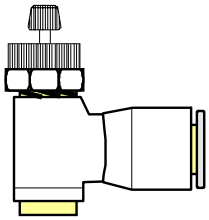


Figure 4-4 Flow Control Valve located on top and on front of air cylinder

Figure 4-5 Tamp Pad Assembly (top view on top, front view under that, then tamp pad- bottom view, and last, tamp pad mounting block / vacuum chamber - bottom view with out tamp pad mounted)

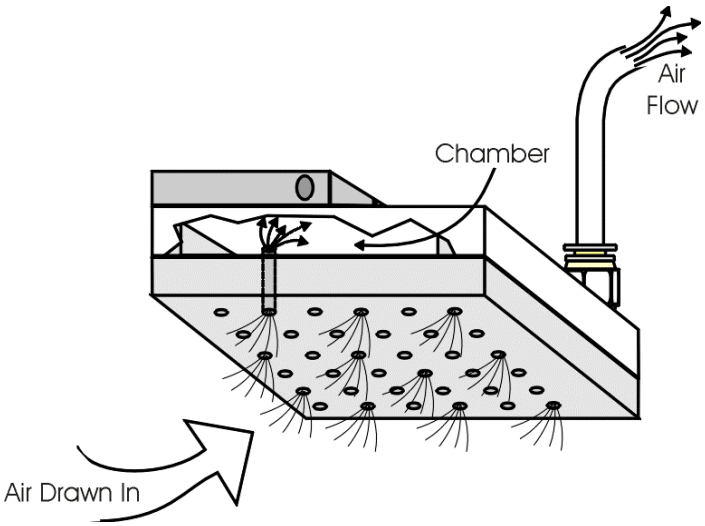
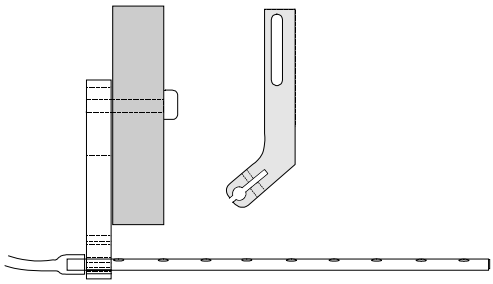


Figure 4-6 Flow of air through tamp pad creating a vacuum. This results from the Venturi effect**.**

Figure 4-7 Air Assist tube



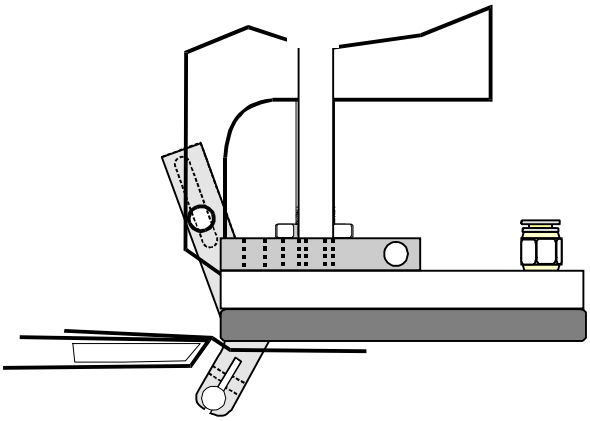


Figure 4-8 Peel Tip feeding a label

The Label is fed toward the tamp pad as it exits the print engine. The liner is driven around the peel tip of the printer. While the label dispenses off of the liner, it dives down due to the angle at which it is dispensed, the close proximity of the tamp pad, and gravity. An air assist tube is mounted slightly below the print engine (figure 4-7 and 4-8). This fluted metal tube directs an airflow towards the tamp pads surface and as the label crosses in front of the tube, it is blown back towards the tamp pad. This assists the label in staying flat against the tamp pad as it is fed from the printer, until the vacuum of the tamp takes control. Air assist is energized at a specific time (operator adjustable) after the label has commenced feeding. Energizing the air assist to soon or too late can result in poor label dispense, label placement on the tamp pad, and label placement accuracy on the product.

Pneumatic Gauges:

The pressures of the applicator and its modules can be viewed with the three pressure gauges located on the front (top right side) of the faceplate (see figure 4-9). Notice that the gauges can be read from the front or the side.

The top gauge reads the pressure of the Tamp Vacuum Pressure. This is the pressure that is available to create the vacuum that is used in the Venturi system (available air flow). This is what holds the label up to the tamp pad while waiting to be applied.

The middle gauge reflects the pressure of the Tamp Cylinder. This is the pressure that is used to extend and retract the cylinder rod (The tamp pad is mounted to the cylinder rod). The bottom gauge lets the operator know how much pressure is being used in the air assist system (Air assist is the tube suspended under the peel plate. See figure 4-7 and 4-8 above). Adjustment of these gauges is accomplished from the back of the machine with a flat head screwdriver (see figure 4-10, arrow shows adjustment screw).

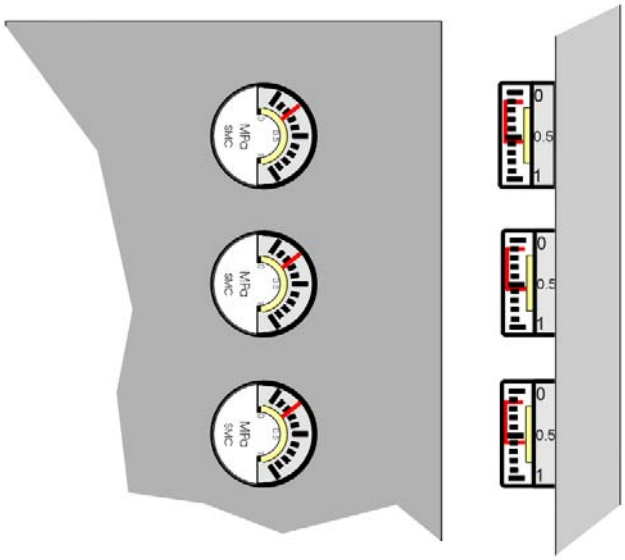


Figure 4-9 Pressure Gauges Front and side view

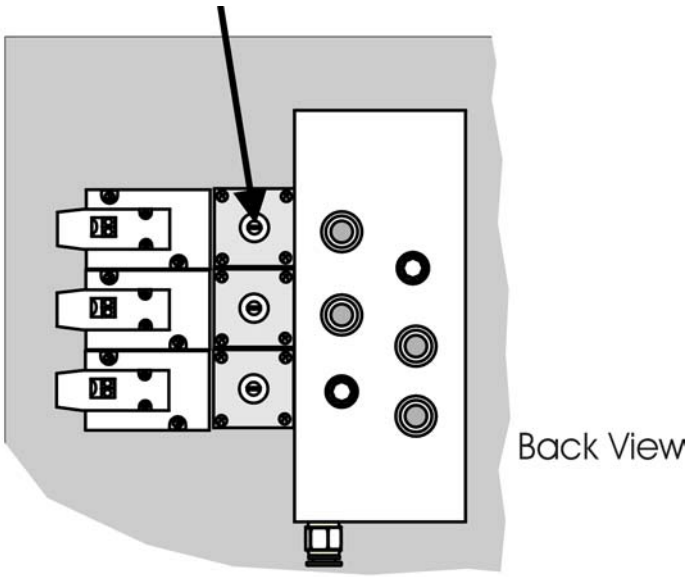


Figure 4-10 Air Pressure adjustment screws (Located behind back cover)

WARNING STAY CLEAR OF MOVING PARTS, INJURY CAN RESULT FROM MOVEMENT OF TAMP CYLINDER

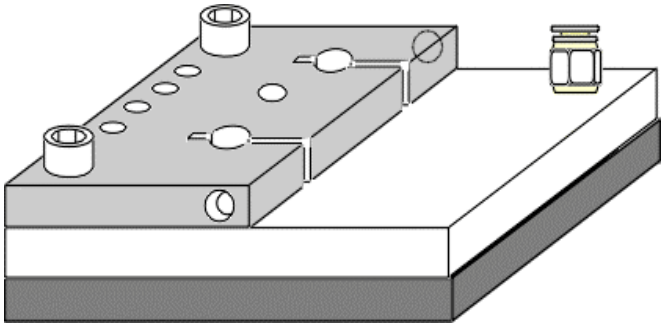


Figure 4-11 Tamp pad mounted to mounting bracket.

To Change Tamp Pads:

1. Turn OFF the applicator.
2. Remove the plant air hose from the applicators air connection (filter unit).
3. Cycle the tamp cylinder by blocking the photocell used to detect the product. This will extend the cylinder if there is air left in the lines.
4. Manually extend the cylinder to the bottom of the tamp stroke.
5. With a 5mm size Allen wrench remove the two socket head bolts on the top of the tamp pad mounting bracket.
6. Remove the Tamp pad and replace with the new one.
7. Re-install the two socket head bolts through the mounting bracket.
8. Reconnect the plant air hose.
9. Return the applicator to the operating setup.

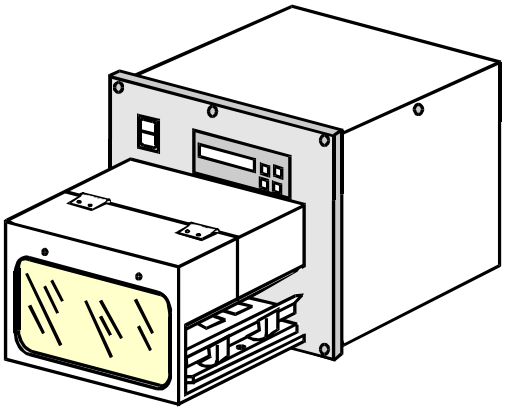
Section Five

Operating Procedures

5.1 The Printer

The Print Engine requires thermal transfer ribbon to produce a label in the thermal transfer mode. (In the direct mode, ribbon is not required; however the life of the print head is reduced considerably.)

The print head makes direct contact with the label surface through the ribbon and heat from the print head is transmitted directly to the label. The image is transferred with the ribbon compound onto the labels surface. Label stock must be of a thermal transfer stock. Print speed up to 10” ips, resolution 203dpi (8dots/mm), ribbon capacity of 1968 ft, PCMCIA sockets (2) optional, max. media width 5.25” , max. print width 5.0”.

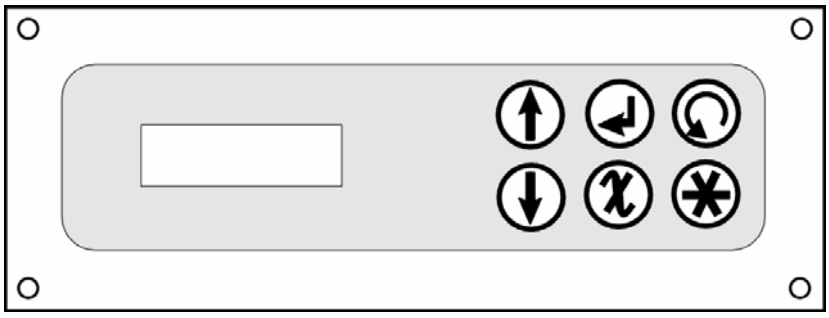


Please refer to the printer manual for set up and operation of the printer you have chosen to install in the Model 250 applicator.

Upon energizing the 250 Printer Applicator the LCD (Display) will slowly illuminate. The first window that will show up will be the notice that the power is on. On the same window, the next line down will be the notice of the installed version in the firmware. The next window that will appear is the notice of the fine company that you purchased the applicator from. (cool huh?)

Using the menus

The menus on the 250 are really quite easy to use. The six buttons on the control panel are used to navigate through the menu structure and make selections.



The Up and Down arrows toggle you through the different menus from the first page and throughout the inner menus.

Within each main menu are sub menus to select and change system parameters.

The return or enter arrow selects the item chosen.

This button takes you back one menu each time it is pressed.

The circled arrow button jogs the applicator one machine cycle. So for a tamp machine, the air cylinder would extend and retract when this button is pushed.

This dims or brightens the LCD screen when at the main menu level. When entering a dwell or delay, each press changes the increment value. It will cycle through 1's, 10's and 100's with each press.

Menu Tree

- **Status Menu (5-16)**
    - Displays all set parameters
- **Recall Setup (5-14)**
    - 1
    - 2
    - 3
    - Factory
- **Dwells/Delays** (only displayed if “Delay Access” is set to “Yes” in Security) (5-14)
    - Delay Apply
        - Time Value in mS
- **Password Entry (5-17)** (items below are at main level if security disabled)
    - *Print Sequence (5-17)*
        - Normal
        - Reverse
        - Data Driven
    - *Apply Mode (5-10)*
        - Tamp
        - Tamp Jet
        - Air Jet
        - Reverse Tamp Jet
    - *Vacuum Mode (5-16)*
        - Normal
        - Conserve Air
    - *Outputs (5-12)*
        - Output 1, Output 2, Output 3, Output 4
            - Label Low
            - Ribbon Low

- Label Out
- Ribbon Out
- Supply Low
- Supply Out
- Online
- Tamp Home
- Apply Ready
- No Select

- *Status Menu (5-16)*
- *Save Setup (5-14)*
  - 1, 2, 3, Factory
    - Mode Set
- *Recall Setup (5-14)*
  - 1, 2, 3, Factory
    - Mode Set
- *Security (5-17)*
  - Change PIN
    - 1231
  - Delay Access
    - Yes
    - No
  - Enable Security
    - Yes
    - No
- *Dwells / Delays (5-14)*
  - Delay Apply
    - Time Value in mS
  - Dwell Blast

- Time Value in mS

- Delay Assist
  - Time Value in mS
- Dwell Tamp
  - Time Value in mS
- Delay Label Feed
  - Time Value in mS

Print Sequence

1. Normal – If you select the Normal mode in the Print Sequence, Data is downloaded to print engine buffer from a computer, or other label generating device, and a label is printed. When the product detect photo-eye senses the product, it triggers the applicator and the application is accomplished.(tamp, blow -on, etc…) At the end of the application cycle the printer prints and dispenses another label automatically. This continues until the quantity of labels (designated by operator) runs out. As the label is dispensed from the print engine, the air assist will turn on. At the end of the dispense cycle, the air assist will de-energize. While the dispense cycle is on the rewind cycle is on.

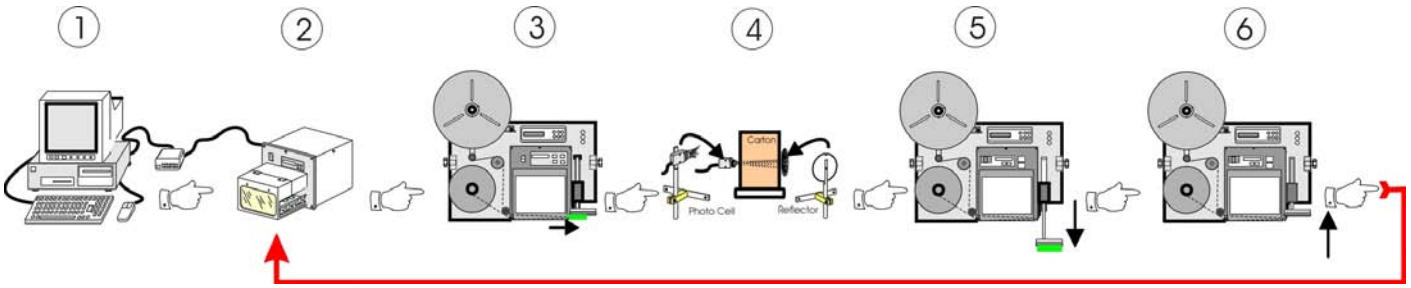


Figure 5-1 Normal Print Sequence

1. Operator generates label and designates quantity.
2. Operator sends label to print engine's buffer.
3. Label is printed and dispensed.
4. Product detector detects product and triggers applicator to apply (after delays have been met).
5. Cylinder extends (or blow on pneumatics are initiated) and Label is applied.
6. Cylinder retracts (or blow on pneumatics is de-energized)

Cycle starts back at Print engine until designated quantity is completed.

2. Reverse - If you select the Reverse mode under the Print Sequence menu: Data is downloaded to print engine buffer and resides there until required. When the product detect photo-eye senses the product, the print engine is triggered and a label is then printed and dispensed. As soon as the label is completely dispensed onto the tamp pad or blow on grid the application is accomplished (tamp, blow -on, etc…) At the end of the application cycle the printer awaits another trigger from the photocell to start the process over. This continues until the quantity of labels (designated by the operator) runs out. As the label is dispensed from the print engine, the air assist will turn on. At the end of the dispense cycle, the air assist will de-energize. While the dispense cycle is on the rewind cycle is on.

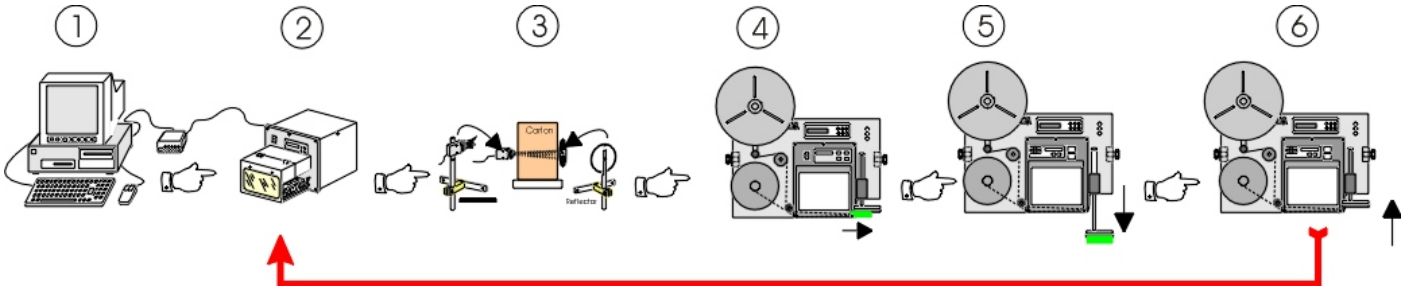
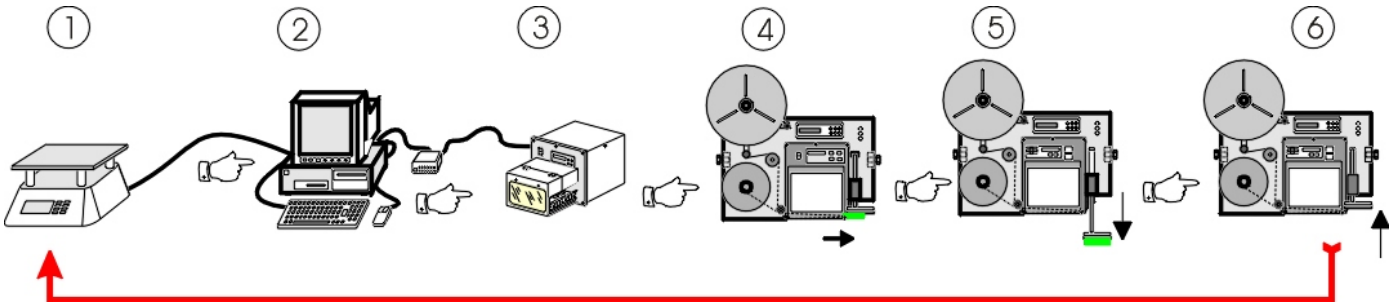


Figure 5-2 Reverse Print Sequence

1. Operator generates label and designates quantity.
2. Operator sends label to print engine's buffer.
3. Product detector senses product and triggers print engine to print and dispense a label.
4. Label is printed and dispensed.
5. Cylinder extends (or blow on pneumatics are initiated) and Label is applied.
6. Cylinder retracts (or blow on pneumatics is de-energized)
7. Engine awaits another trigger from the product detector.

Cycle starts back at Print engine until designated quantity is completed.

Figure 5-3 Data Driven Print Sequence.



3. Data Driven - If you select the Data Driven mode under the Print Sequence menu, the system will be controlled by another system and typically used with a PLC. Data is downloaded to print engine buffer and is printed only when given information from another upstream system. (i.e.: a weight scale or a bar code scanned on the side of the product.) When the upstream system senses the product, and conveys the data to the print engine, a label is then printed and dispensed. As soon as the label is completely dispensed onto the tamp pad or blow on grid the application is accomplished (tamp, blow -on, etc…) At the end of the application cycle the printer awaits another trigger from the upstream system to start the process over. This continues until the upstream system is deactivated or shuts down or there is an out of media signal from the applicator. As the label is dispensed from the print engine, the air assist will turn on. At the end of the dispense cycle, the air assist will de-energize. While the dispense cycle is on the rewind cycle is on.

    1. Operator generates a label format on the PC and loads the format to the print engine.
    2. Operator sets up the PLC and up stream system to control the labeling system.
    3. Up stream system senses product, conveys information or data to the print engine and triggers print engine to print and dispense a label.
    4. Label is printed and dispensed.
    5. Cylinder extends (or blow on pneumatics are initiated) and Label is applied.
    6. Cylinder retracts (or blow on pneumatics is de-energized)
    7. Engine awaits information/data from the upstream system.

    Cycle starts back at the up stream system and continue until no more data is generated or sent.

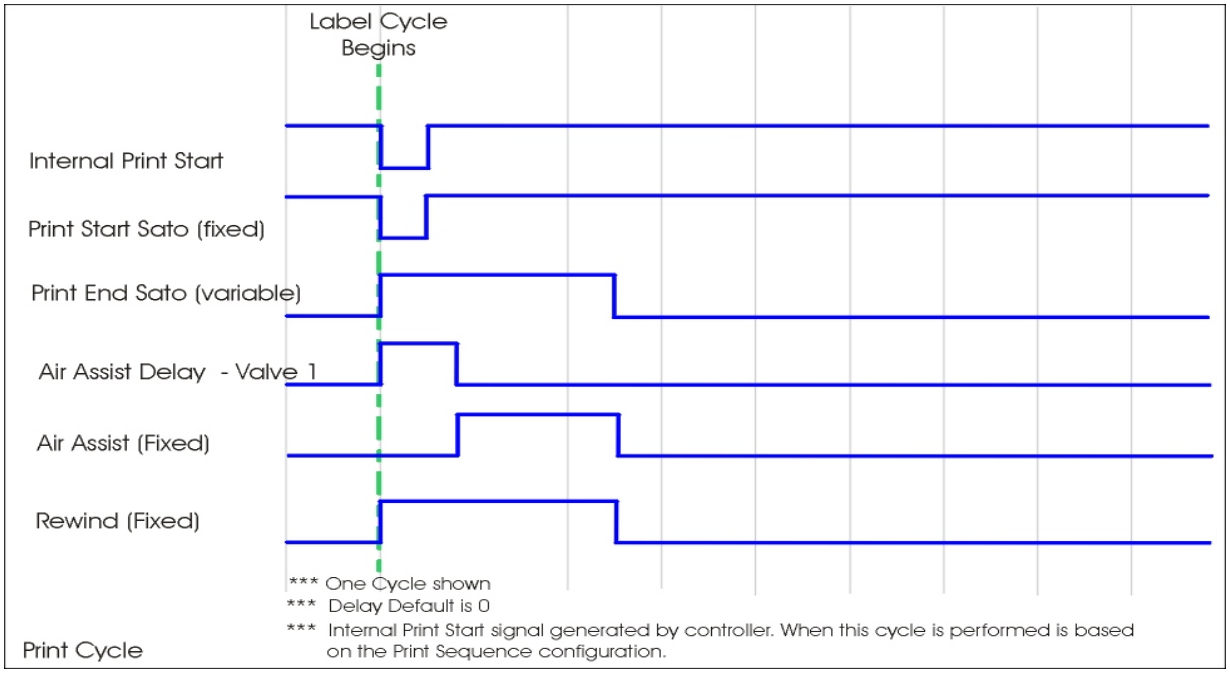


Figure 5-4 Print Cycle Signal Sequence

Apply Mode

1. Tamp – This selection enables the configuration of the applicator to apply a label using a vacuum tamp pad mounted on an Air Cylinder. Enables the pneumatics used in tamp mode and disables all other configurations.

   Tamp Mode Cycle:

   1. Label is printed and dispensed onto tamp pad.
   2. Vacuum valve enabled creating a vacuum through the pad holding label up on tamp pad.
   3. (upon trigger from photo cell) Air Cylinder extends and physically makes contact with product.
   4. Adhesive on label adheres label to product as cylinder retracts.

2. Tamp-jet - This selection enables the configuration of the applicator to apply a label using a vacuum tamp pad mounted on an Air Cylinder. Enables the pneumatics used in tamp-jet mode and disables all other configurations.

   Tamp-jet Mode Cycle:

   1. Label is printed and dispensed onto tamp pad.
   2. Vacuum valve enabled creating a vacuum through the pad holding label up on tamp pad.
   3. (upon trigger from photo cell) Air Cylinder extends and stops just short of the product.
   4. As the air cylinder reaches the end of its travel a valve opens and a blast of air is driven through the tamp pad.
   5. The label is aerodynamically propelled towards the product.
   6. Adhesive on label adheres label to product as cylinder retracts.

The Primary difference between tamp-jet and reverse tamp-jet is;

In tamp-jet mode the cylinder extends only when receiving a signal from the product detector.

In Reverse tamp-jet mode the cylinder extends at the end of the dispense cycle and stays extended until the product detect sends the

3. Reverse Tamp-Jet - This selection enables the configuration of the applicator to apply a label using a vacuum tamp pad mounted on an Air Cylinder. Enables the pneumatics used in reverse tamp-jet mode and disables all other configurations.

   Reverse Tamp-Jet Mode Cycle:

   1. Label is printed and dispensed onto tamp pad.
   2. Vacuum valve enabled creating a vacuum through the pad holding label up on tamp pad.
   3. As soon as the label has been dispensed the air cylinder extends and stops just short of the production line.
   4. Upon a trigger from the product detector, (and an operator designated delay) a valve opens and a blast of air is driven through the tamp pad.
   5. The label is aerodynamically propelled towards the product.
   6. Adhesive on label adheres label to product as cylinder retracts.

4. Air-Jet - This selection enables the configuration of the applicator to apply a label using a vacuum grid mounted on the bottom of a blow on box mounted to the applicators face plate. Enables the pneumatics used in the Air-jet mode and disables all other configurations.

   Air-Jet Mode Cycle:

   1. Label is printed and dispensed onto an air grid.
   2. Vacuum valve enabled creating a vacuum through the grid holding label up on the grid's surface.
   3. Upon a trigger from the product detector, (and an operator designated delay) a valve opens and a blast of air is driven through the grid. Over coming the vacuum.
   4. The label is aerodynamically propelled towards the product.
   5. Adhesive on label adheres label to product as cylinder retracts.

Outputs

The Outputs menu is used in conjunction with the optional System Status Output Kit. This kit allows the operator and/or systems control personnel to monitor the conditions of the applicator and it's functions and statuses. For each of the Four (4) menus listed there are ten selections to choose from on what to monitor. You can only monitor one item per menu for a total of four total outputs. The following are the ten outputs to monitor and their functions

- Label Low – When the label roll outer dimension on the unwind falls below a specific level, an out put signal is sent. Output signal can go to an illuminating beacon (if plugged into back of electronics module) and / or a customer supplied line monitor device. (typically a PLC)
- Ribbon Low – When the ribbon roll (inside the print engine) outer dimension on the unwind falls below a specific level, an output signal is sent. Output signal can go to a illuminating beacon (if plugged into back of electronics module) and / or a customer supplied line monitor device. (typically a PLC)
- Label Out – When Last label has traveled through the print engine.
- Ribbon Out – When the last piece of ribbon has traveled through the print engine.
- Supply Low – Monitors label and ribbon supply.
- Supply Out – Monitors label and ribbon to a completely out condition.
- On Line – Monitors the status of the applicator either on line or off line. (i.e.; printer goes off line due to an open cover - signal is sent to customer provided line monitoring device.)
- Tamp Home – Monitors the return of the air cylinder to the home position. This can be used to signal other devices that the print engine is in a ready condition to receive another label format for printing or a signal to proceed with printing for batch labels. This ensures that the tamp pad is in place to receive the label.
- Apply Ready – This output is activated upon completion of label feed. It can be used to signal other devices that a label is ready to be applied to the product. The output is reset when the application cycle starts, either by an external trigger or by pressing the jog button.
- Accessory – This output allows additional signals to be passed through the existing system status connector for remote monitoring purposes only. Some examples include a pressure switch, label on pad sensor or tamp extended sensor. The accessory item should be plugged into connector J4 on the CPU board.

- ❑ No Selection – This option disables the output when it is not being used.

1. 1 – Label Low, Ribbon Low, Label Out, Ribbon Out, Supply Low, Supply Out, On Line, Tamp Home, Apply Ready, Accessory, No Select
2. 2 – Label Low, Ribbon Low, Label Out, Ribbon Out, Supply Low, Supply Out, On Line, Tamp Home, Apply Ready, Accessory, No Select
3. 3 – Label Low, Ribbon Low, Label Out, Ribbon Out, Supply Low, Supply Out, On Line, Tamp Home Apply Ready, Accessory, No Select
4. 4 - Label Low, Ribbon Low, Label Out, Ribbon Out, Supply Low, Supply Out, On Line, Tamp Home Apply Ready, Accessory, No Select

Toggle through the list until you come to the item you want to choose.

Press the return key to Accept and set the Selection.

Save Set-up

1. 1–
2. 2 –
3. 3 –
4. Factory –

Saves the set-up you selected in this session to one of the three buffers listed. Annotate the saved set-up in the front of your manual on the table provided. Enter the parameter set with either an “X” or the numeric value used.

Recall Set-up

1. 1 –
2. 2 –
3. 3 –
4. Factory –

Recalls the set-up you selected in this session to one of the three buffers listed. Annotate the saved set-up in the front of your manual on the table provided. Enter the parameter set with either an “X” or the numeric value used.

Dwells / Delays

1. Delay Apply – This is the time from when the product detector senses the product to the time the application process begins. This setting is useful in determining the placement of the label on the product. Manually moving the product detector is the rough or course adjustment, changing the setting of the “Delay Apply” is the fine adjustment. Increasing the time in the menu will increase the delay of the trigger to the applicator. This increase in time will effectively move the placement of the label back on the product, or further toward the back edge. Decreasing the setting of the delay apply will cause the applicator to be triggered faster after the product detector senses the product. This effectively moves the label toward the front of the product.
2. Dwell Blast – [Not used in the tamp mode] This is the time that the valve on the pneumatics module will stay open allowing air to be exhausted through the 1.) tamp pad (on tamp-jet only) or 2.) the label grid (on blow on only)
3. Delay Air Assist – Using this setting/toggle, you can regulate how long the air to the air assist tube stays energized. Very effective when you are using a long label and need assistance getting the label out onto the tamp pad and laying flat. Increasing the value makes the air assist air stay on longer; while decreasing the value shortens the time the air is sent through the air assist tube.

4. Dwell Tamp – Increasing the value of this setting/toggle will cause the tamp to remain in the extended position longer. Decreasing the value will shorten the time the cylinder stays extended. This adjustment does NOT affect the speed or power of the cylinder extending or retracting. To adjust the speed at which the cylinder extends, you would use the flow control valve on the top of the cylinder and to control the speed at which the cylinder retracts, you would adjust the flow control valve on the bottom of the cylinder. This also affects the power at witch the cylinder extends. Care should be taken in using these adjustments to avoid crushing the product or damaging the cylinder module.
5. Delay Label Feed – This adjustment affects the time the label is printed and feed onto the tamp pad. Used with longer stroke cylinders or slower flow speeds, to give the cylinder time to return to the home position.

When changing the times in the Dwells and Delays section, there are two features to take note of:

- Changing the values affect the machine while it is running. For example, while the line is running, increasing or decreasing the Delay Apply value will affect the label position on the box in real time. Once the desired value is displayed, pressing the ↵ key will set the value as current. If you do not wish to keep the change, simply press the ✕ key to discard the change and revert to the previous value.
- Pressing the ✳ key when changing a time value will change the amount that each press of the up and down arrows will alter the value. The default when entering a screen is a jump of 1. Pressing the ✳ key will change the jump value to 10 and a second press will change it to 100. Pressing the ✳ key one more time will return you to single digits.

Status Menu

The Status menu is used to review each parameter and it's current setting. By using the up and down arrows, each item and the current value will be displayed. This is helpful when setting another controller or recording settings in your manual. It is not possible to alter any settings from this menu.

Vacuum Mode

The Vacuum mode is used to control the valve that supplies compressed air to the vacuum generator. The vacuum generator is used to hold the label on the tamp pad prior to application to the product.

- Normal – In this state, the vacuum is always running when the unit is powered up and there is a supply of compressed air available.
- Conserve Air – This mode turns on the vacuum at the start of label feed and turns it off when the apply cycle is complete. When operating in reverse print mode or not printing labels in batches, this will reduce the amount of compressed air the machine consumes and also reduce the amount of dirt and debris that will be drawn in through the tamp pad.

Password Entry / Security

The security menu gives users the ability to limit access to the parameters of the Model 250. At the most limited setting, the operator only has the ability to view the status menu and recall any of the four saved setups. If it is enabled, the operator may also have the ability to change the Delay Apply value in order to alter the label position on the product. All other functions require a PIN number to be entered before access is allowed. Once logged in, pressing the ⓧ key several times to back down to the Password Entry menu will effectively log out of the protected area.

- Password Entry – Here, the user must enter the correct PIN. By pressing the up and down arrow keys, each digit can be changed from 1 to 3. After setting the first digit, pressing the ↵ key will allow the next digit to be changed. After the fourth digit is set, pressing the ↵ key will validate the entry and either allow or deny access. The default PIN when shipped from the factory is 1231. If you forget your PIN number, you will need to call for a service technician or return the module to the factory.
- Change Pin – Once logged in, you have the ability to select a different PIN for the system. By using the same method as Password Entry above, select a new four digit PIN combination.
- Delay Access – This menu item lets the user determine if the Delay Apply setting can be altered without requiring the PIN number. When set to Yes, there will be an additional item at the main menu level to access the Delay Apply setting. This setting is saved with each setup and can be set different for each of the four saved slots.

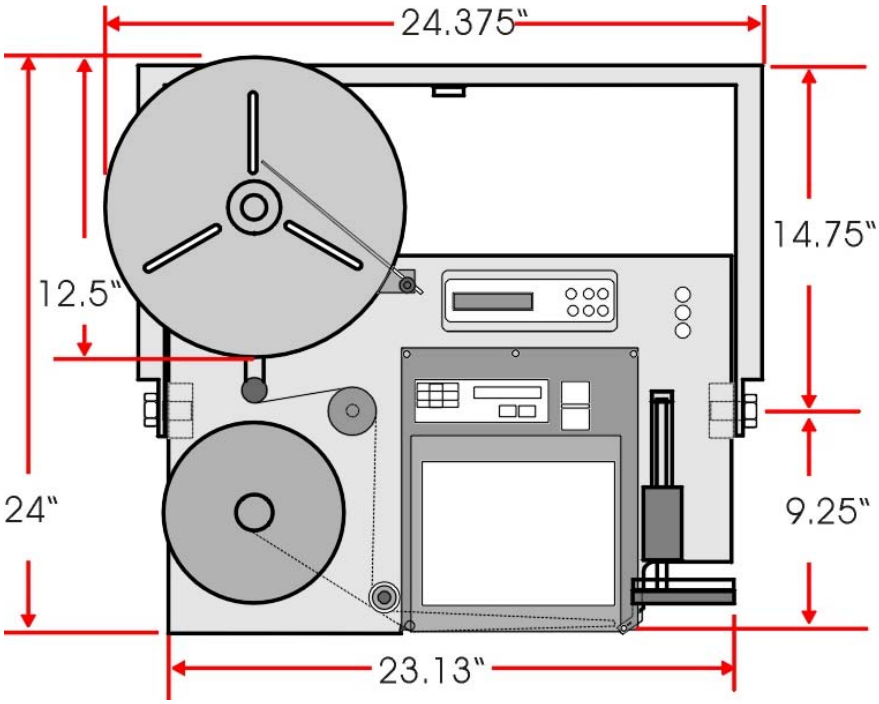
  Keys to remember about Delay Access:

  - Changing the values here will not affect stored setups. To apply the change to a stored setup, it is necessary to log in and re-save the appropriate setup.
  - The Delay Access setting is stored with each setup. It is possible to allow access for some setups and deny access for others.

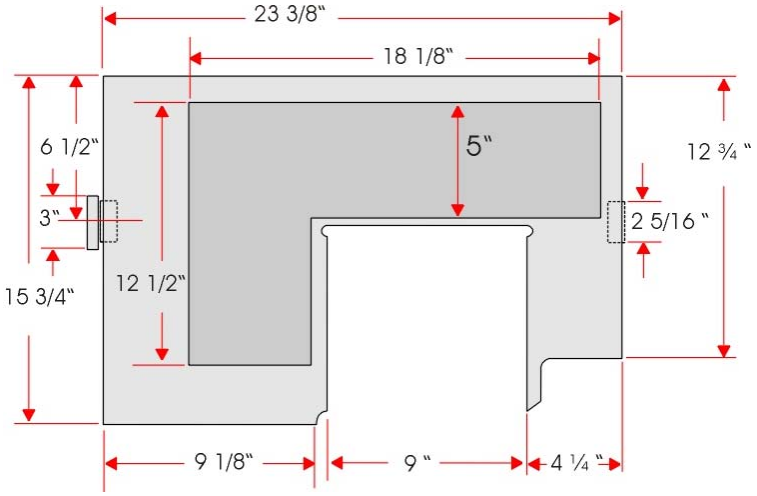
- Enable Security – This menu item turns the security feature on or off. When set to “Yes”, the PIN is required to access most settings.

Operator Notes

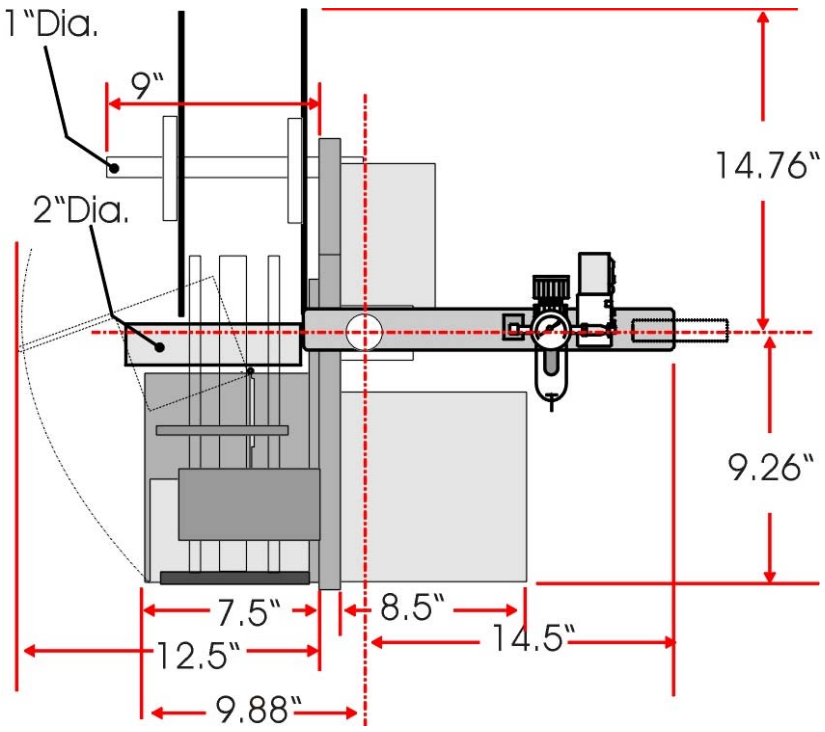
Section Six
Maintenance and Troubleshooting



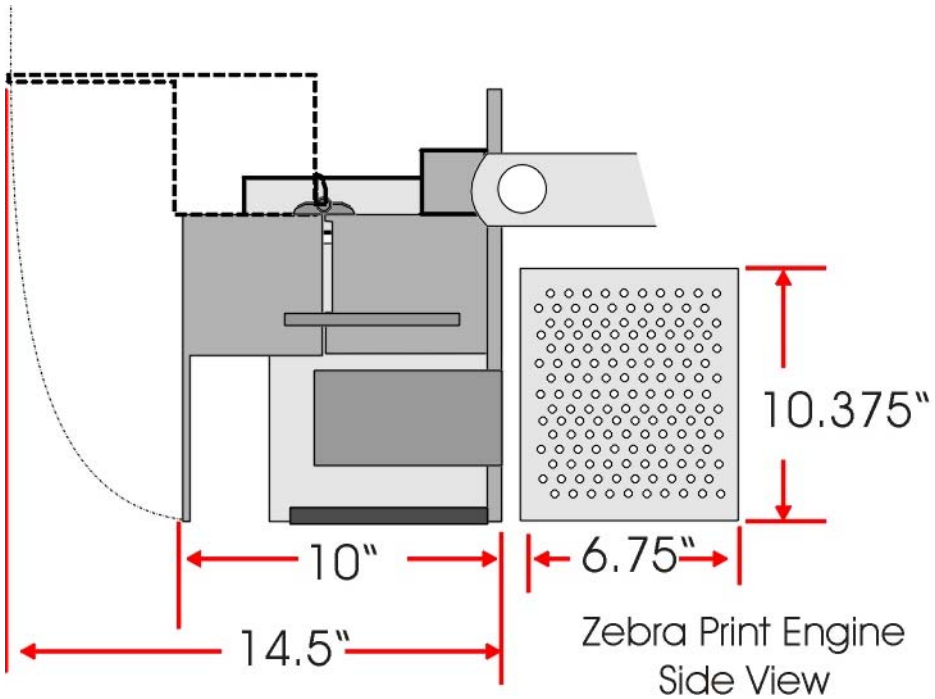
Front View



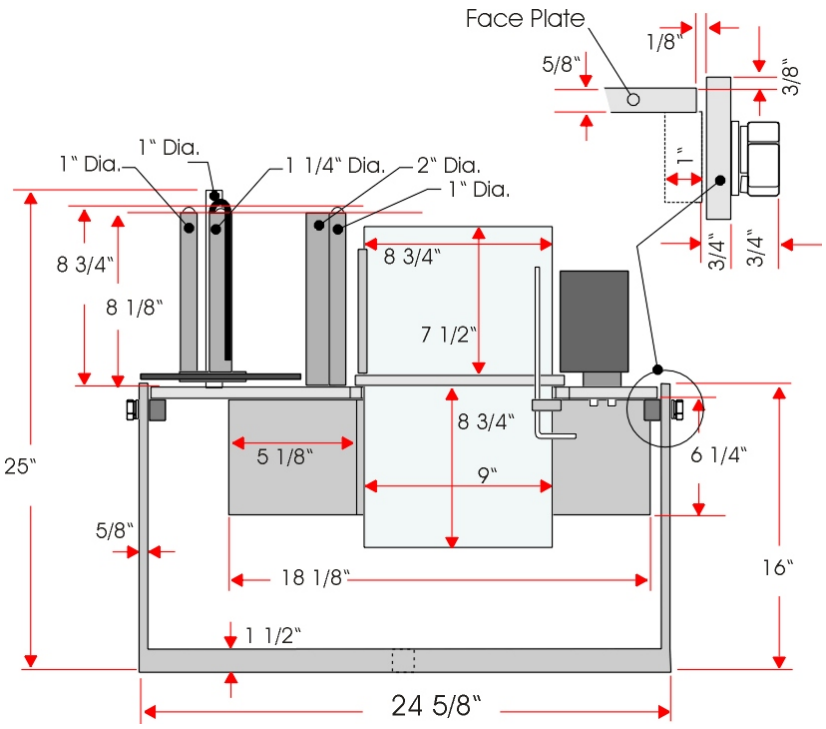
Face Plate with Back Cover Shown



Side View with SATO 8485SE installed



Side View of Print Engine Area with Zebra Pax Engine Installed



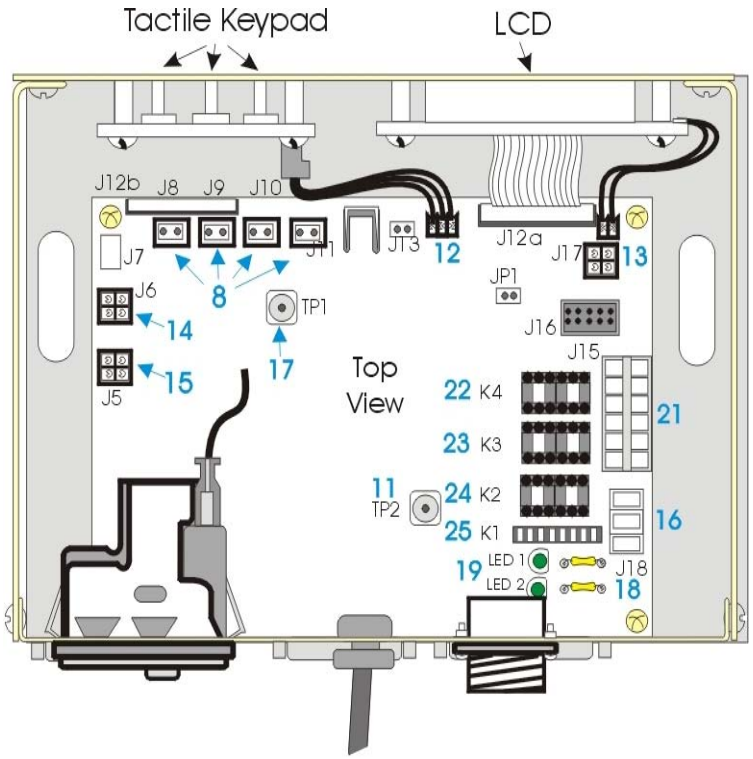
Bottom View with SATO 8485SE Installed

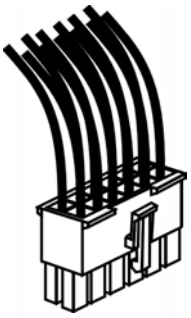
250 Pin out for the 16-Pin Status Output connector

Pin	Nomenclature	Normal Status
1	Output 2	Open
2	Output 2	Closed
3	Output 2	Common
4	Output 3	Open
5	Output 3	Closed
6	Output 3	Common
10	Output 4	Open
11	Output 4	Closed
12	Output 4	Common
7	Output 1	Open
8	Output 1	Closed
9	No connection	Future Upgrades
13	No connection	Future Upgrades
14	No connection	Future Upgrades
15	No connection	Future Upgrades
16	No connection	Future Upgrades

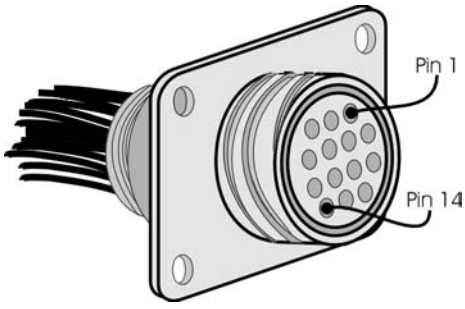
Electronic Module

Ref#	Loc	Part Name / Function
1		Power Input Module
2		Power In Cable
3		16-pin Status Output
4		Electronic Module housing
8	J8	Air (blow on)
8	J9	Tamp (tamp on)
8	J10	Tamp-Jet
8	J11	Vacuum
9	J12	LCD Window
10		Operator Input Function Keys
11	TP2	GND Connector
12	J13	Connection to Display Buttons
13	J17	Low Label Conn.
14	J6	Smart Tamp Conn.
15	J5	Tamp Home Conn.
16	J18	5V, GN, 24V input from Power Supply
17	TP1	GND Connector
18	F1 F2	Plug in fuses
19	LED1 LED2	Fuse blow indicator
20	J14	Rewind Motor
21	J15	Input from 14-pin Status Output Conn.
22	K4	Relay
23	K3	Relay
24	K2	Relay
25	K1	Solid State Relay





J15 Plug



16-Pin Connector on electronics module

Pins Outs of the 250 Applicator

Beacon		
PIN	FUNCTION	
2	Red Beacon	
6	+24 VDC	
7	Amber Beacon	
8	Green Beacon	
1		
3	Signal	
4		
5	0 V	
9		

9 pin Female D Connector

Duplication of Product Detect Pin

Duplication of Product Detect Pin

Product detect		
PIN	FUNCTION	
3	Signal	
5	0 V	
6	+24 VDC	
1		
2	Red Beacon	
4		
7	Amber Beacon	
8	Green Beacon	
9		

9 pin Female D Connector

Short to 0 V to trigger applicator. NPN (sinking) or relay contact recommended.

Duplication of Beacon Pin

Duplication of Beacon Pin

Duplication of Beacon Pin

Low Label Detect		J17
PIN	FUNCTION	
1	+24 VDC	
2	Signal (sink)	
3	Reserved	
4	0 V	

Smart Tamp		J6
PIN	FUNCTION	
1	+24 VDC	
2	Signal (sink)	
3	Signal (sink)	
4	0 V	

Tamp Home		J5
PIN	FUNCTION	
1	+24 VDC	
2	Signal (sink)	
3	Signal (sink)	
4	0 V	

Auxiliary Input		J4
PIN	FUNCTION	
1	+24 V	
2	Signal (sink)	
3	Signal (sink)	
4	0 V	

Printer Interface			15 pin Female D Connector
PIN	FUNCTION		
1	0 V	From printer	
2	5 VDC	From printer	
3	Print enable	To printer	
4	Feed	To printer	
5	Pause	To printer	
6	Reprint	To printer	
7	N/C		
8	N/C		
9	Low ribbon	From printer	
10	Service Required	From printer	
11	Print end	From printer	Logic High when Printing, Low when idle. -Sato “External Signal” Type 4 -Zebra “Applicator Port” Mode 2
12	Label out	From printer	
13	Ribbon out	From printer	
14	Data ready	From printer	
15	N/C		

Valves		
PIN	FUNCTION	
1	Air Assist Valve Control	J8
2	0 V	
1	Tamp Valve Control	J9
2	0 V	
1	Jet Valve Control	J10
2	0 V	
1	Vacuum Valve Control	J11
2	0 V	

Fan, blow-off module		J7
PIN	FUNCTION	
1	+24 VDC	
2	0 V	

Rewind Motor “RR”		J14
PIN	FUNCTION	
1	Motor Control	
2	0 V	

Printer / Applicator Interface Cable Pin Mapping

	Model 250 "Printer" Connector 15 Pin "D" Connector	**62501** Zebra "PAX" Series Printer DataMax "A Class" Series Printer 15 Pin "D" Connector	**62502** Sato "S" Series Printer Datamax "PE" Series Printer 9 Pin "D" Connector	**62503** Sato "Se" Series Printer 14 Pin Centronics Connector
FUNCTION	PIN	PIN	PIN	PIN
0 V	1	1	9	2
5 VDC	2	2	1	13
Print enable	3	3	5	5
Feed	4	4		
Pause	5	5		
Reprint	6	6	4	7
N/C	7	7		
N/C	8	8		
Low ribbon	9	9	2	10
Service Required	10	10,14	3	4
Print end	11	11	6	6
Label out	12	12	7	1
Ribbon out	13	13	8	3
Online	14			9 *
N/C	15	15		

***** Sato "Se" series printers require "Ext Pin 9" configured to Mode 2. Consult printer manual "Service Mode Configuration" section for setup procedure.

ID TECHNOLOGY 250 TROUBLESHOOTING GUIDE

SYMPTOM	DIAGNOSIS	SOLUTION
Nothing works, applicator and printer does not have power	1. Power cord for applicator loose, defective or not plugged in.	Inspect and correct
	2. Main supply fuse is blown.	Replace the fuse.
Applicator has power, but front panel indictors on printer are not lighted.	1. Power cord to printer is loose or defective.	Inspect and correct
	2. Printer power switch is OFF.	Turn power switch ON.
	3. Printer power fuse is blown.	Replace the fuse.
Label liner breaking.	1. Incorrectly threaded labels.	Correct.
	2. Damaged roll of labels.	Replace label roll.
	3. Die nicks or bruises on liner.	Replace label roll.
	4. Liner width varying significantly.	Replace label roll.
	5. Insufficient clearance between peeler bar and tamp pad.	Adjust for correct clearance.
	6. Guide collars not correctly aligned with unwind and rewind rolls.	Adjust as required. Typical clearance should not exceed 1/64” on their side.
	7. Adhesive build-up on peeler bar.	Clean as necessary.
	8. Dancer arm/unwind roll tension incorrect.	Request qualified assistance.

SYMPTOM	DIAGNOSIS	SOLUTION
Label advance does not occur	1. Product detector incorrectly aligned.	Refer to 250 manual for set-up instructions.
	2. Product detector disconnected from machine or cable damaged.	Correct or replace as necessary.
	3. Applicator not ON-LINE.	Press JOG/RESET button on applicator.
	4. Printer not ON-LINE.	Correct.
Labels not being held on tamp pad after label advance.	1. Vacuum venturi adjusted incorrectly or exhaust blocked.	Inspect and correct.
	2. Air assist tube out of adjustment.	Refer to 250 manual for adjustment.
Label placement on tamp pad consistently poor.	1. Air assist too high, too low or incorrectly positioned.	Refer to 250 manual for set-up instructions
	2. Label stop out of adjustment.	Refer to Sato manual for adjustment.
	3. Insufficient vacuum due to vacuum venturi control out of adjustment.	Inspect and correct.
	4. Label detector sensitivity out of adjustment.	Refer to Sato manual for adjustment.
	5. Adhesive or other obstruction on tamp pad	Clean tamp pad.
	6. Die cut or adhesive strings on label and liner.	Replace label roll.

SYMPTOM	DIAGNOSIS	SOLUTION
Label placement on product consistently poor.	1. Fluctuation of product conveyor speed.	Inspect and correct
	2. Poor label adhesive.	Report to label manufacturer if problem persists.
	3. Poor product guidance.	Inspect and correct.
	4. Product detector not correctly positioned.	Refer to 250 manual for set-up instructions.
	5. Incorrect product delay.	Refer to 250 manual for set-up instructions.
	6. Smart tamp sensor out of adjustment.	Inspect and correct.
	7. Poor placement of label onto tamp pad.	Refer to “Label placement on tamp pad consistently poor”
Tamping does not occur.	1. Applicator not connected to air supply or air pressure regulator turned down.	Inspect air pressure gauge and correct as necessary.
	2. Tamp solenoid or control electronics malfunction.	Request qualified service assistance.
	3. Faulty Interface PCB.	Replace.
	4. Smart Tamp sensor not working.	Inspect and correct or replace.
Air assist does not work	1. Applicator not connected to air supply or air pressure regulator turned down.	Inspect air pressure gauge and correct as necessary.
	2. Air solenoid or control electronics malfunction.	Request qualified service assistance.
	3. Faulty Interface PCB.	Replace.

SYMPTOM	DIAGNOSIS	SOLUTION
Air assist stays on constantly.	1. Incorrect mode setting. 2. Transistor on interface has failed/shorted and is keeping solenoid on. 3. Air assist valve stuck open.	Correct. Replace Interface PCB. Repair or replace.
Applicator cycles occur at random without being initiated.	1. Product detector loose or vibrating. 2. Product detector alignment too marginal or set too sensitive. 3. Loose wiring connections.	Inspect and correct. Refer to 250 manual for set-up instructions. Inspect and request qualified assistance if required.
Label application rate unable to keep up with product speed of conveyor.	Conveyor running too fast; products are too closely spaced.	Check machine specifications for rate versus size of label being applied. Slow down conveyor if necessary.
Vertical image or label drift	1. Incorrectly positioned label sensor. 2. Improperly calibrated label sensor. 3. Platen roller dirty. 4. Improper printhead settings. 5. Improperly loaded labels. 6. Incompatible labels.	Assure the label sensor is properly positioned to read a single/consistent inter-label gap. See “Sensor Threshold Level” in Sato manual. Clean the Platen roller. Adjust the printhead pressure to assure proper functionality. Verify that the labels are properly loaded labels. Assure the inter-label gaps or notches are 2 mm – 4 mm and constantly placed.

SYMPTOM	DIAGNOSIS	SOLUTION
Waste take up runs continuously.	Incorrect mode setting in print engine.	Correct.
Label liner not rewinding correctly.	Rewind reel slip clutch malfunctioning or broken drive belt.	Request qualified service assistance.
Printer will not print	1. Printer not on-line. 2. On-line lamp on applicator not lit. 3. Label fault lamp is lit. 4. Ribbon fault lamp is lit. 5. Print head cable are disconnected or damaged. 6. Data not received from input device.	Press Line button on printer. Press Job/Reset button. Check label threading and make sure label hold down is close. Check that ribbon is threading through ribbon sensor. Inspect and correct. Check input device and connecting cable. Retransmit data.
Quantity is present in queue but will not print	1. Faulty interfaces cable or loose connection. 2. Faulty interface card or loose connection. 3. External signal driver on main PCB is faulty	Inspect, correct, or replace cable. Inspect, correct, or replace PCB. Replace PCB.
Light printing or no printing on the left or right side of the label.	Printhead pressure needs adjustment or printhead out of alignment.	See “Printhead Pressure” adjustment in Sato manual

SYMPTOM	DIAGNOSIS	SOLUTION
Misregistration or skips labels.	1. Label Sensor is not positioned correctly. 2. Label Sensor not calibrated. 3. Media does not meet specifications. 4. Waste take-up tension out of adjustment.	Adjust Label Sensor. Check sensor threshold. Use media that meets specifications Correct
Vertical drift in top-of –form registration.	1. A plus or minus 0.5 mm vertical drift is acceptable due to the different tolerances of the mechanical parts and printer modes. 2. Label Sensor out of Calibration. 3. Platen dirty.	See Sato Manual. Recalibrate sensor threshold. Clean Platen.
Long tracks of missing print on several labels.	Print element damaged.	Replace printhead.
Poor print quality.	1. Printhead dirty 2. Printhead adjustments incorrect.	Clean printhead. Perform required adjustments.
Truncated print, no print, or Feed button operates incorrectly.	Belt slipping on platen roller	Adjust or replace belt.
Printer fails to respond to communication No DATA LED activity.	Incorrect communication port selection.	Verify the proper port or communications interface type configuration.
ERROR lights on or flashes on printer.	Check for message in LCD.	Correct. Cycle power if necessary
RIBBON light flashes on printer.	Ribbon near end	Replace ribbon with full roll.

SYMPTOM	DIAGNOSIS	SOLUTION
ERROR and LABEL lights flashes on printer	Media error.	Open and close head lever.
ERROR light flashes and LABEL light on	Label end.	Replace labels if necessary. Open and close head lever. Open and close label hold down.
ERROR light flashes and RIBBON light on.	Ribbon end.	Replace ribbon if necessary. Open and close head lever. Open and close label hold down.

*******IMPORTANT******

This is only a guide and is not intended for use as a complete source.

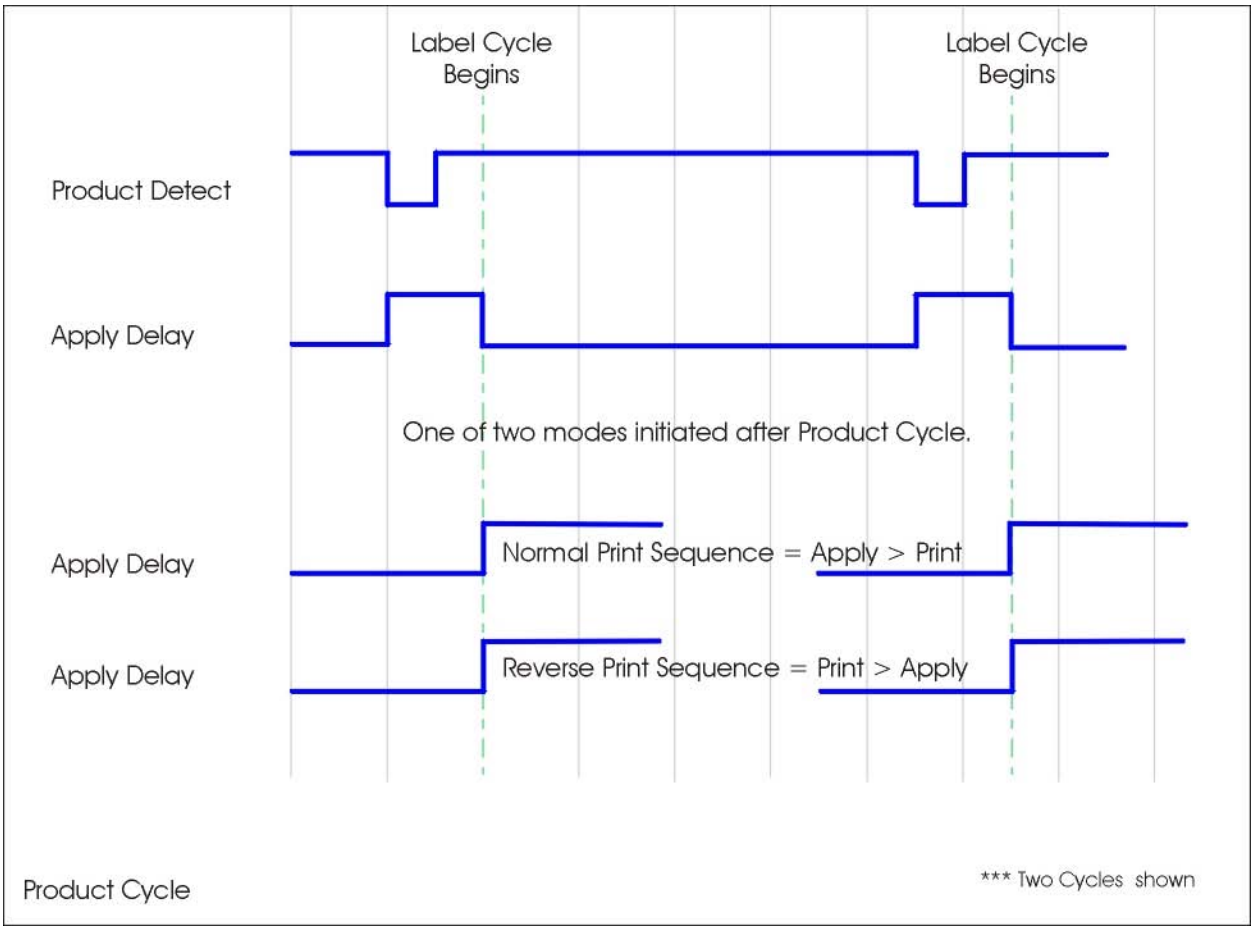
Please refer to your operator/maintenance manual for complete information on the printer you are using.

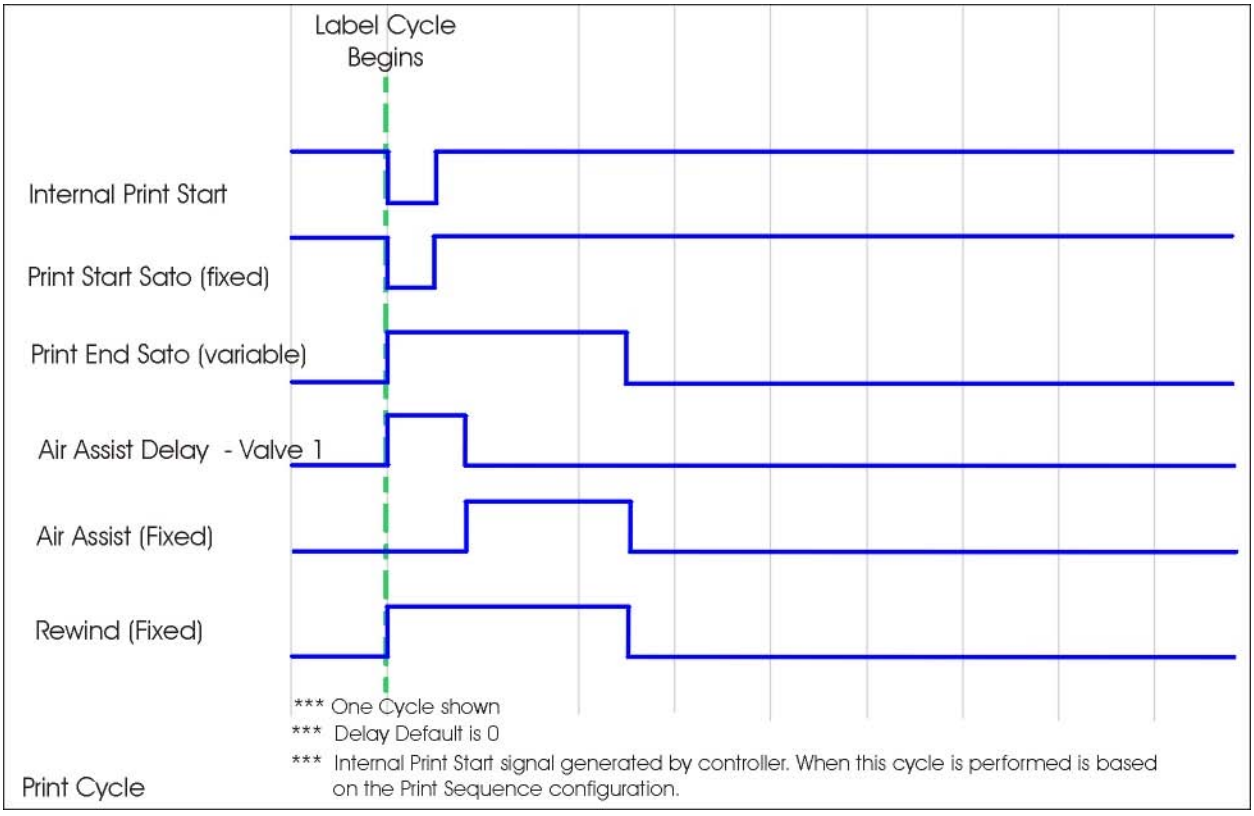
For parts and service, please call:

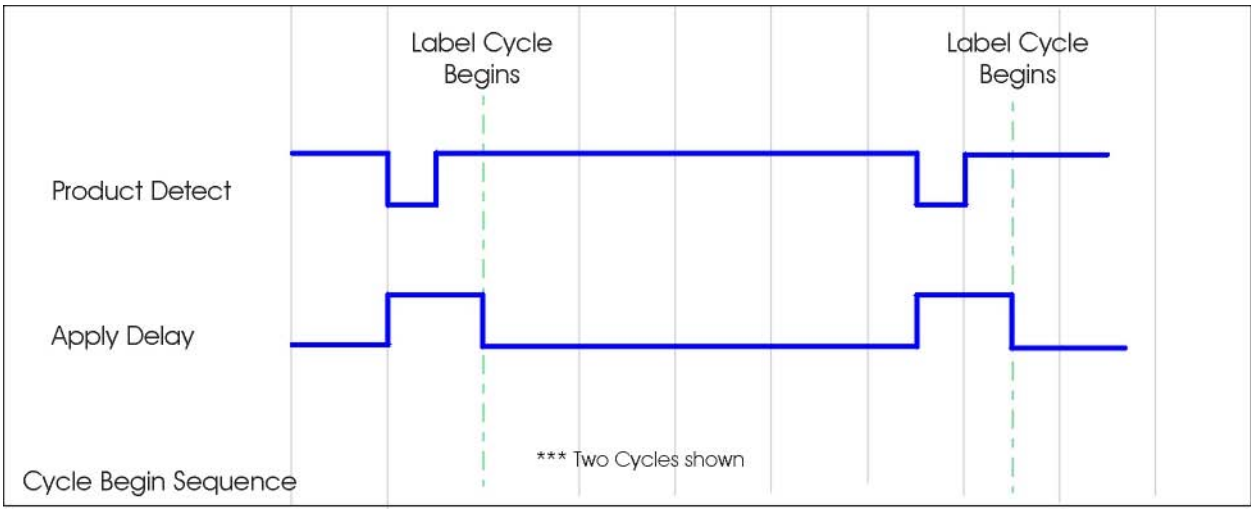
ID Technology Corporate Office at (888) 438-3242

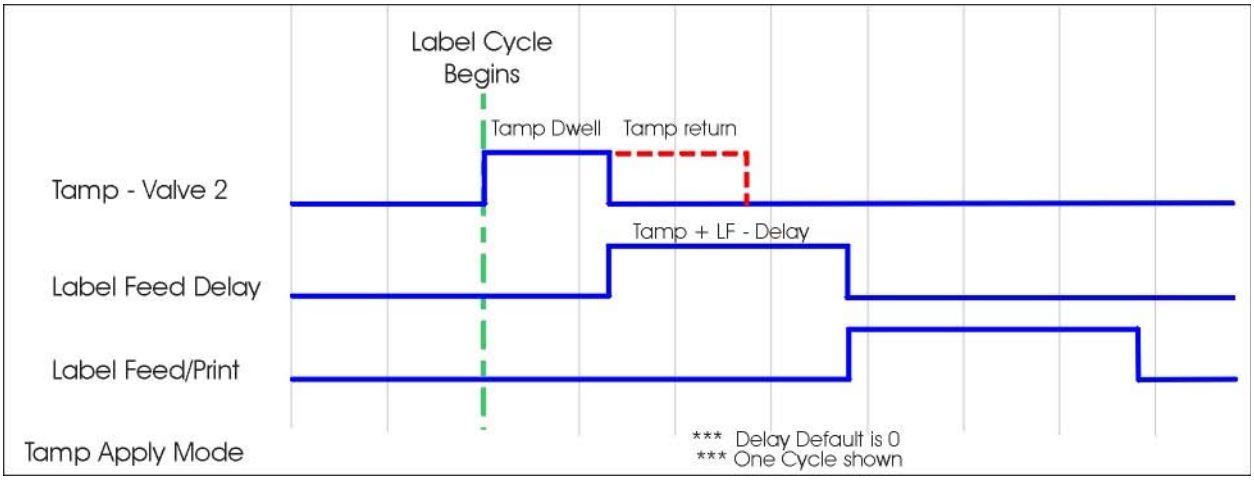
ID Technology
Technical Support

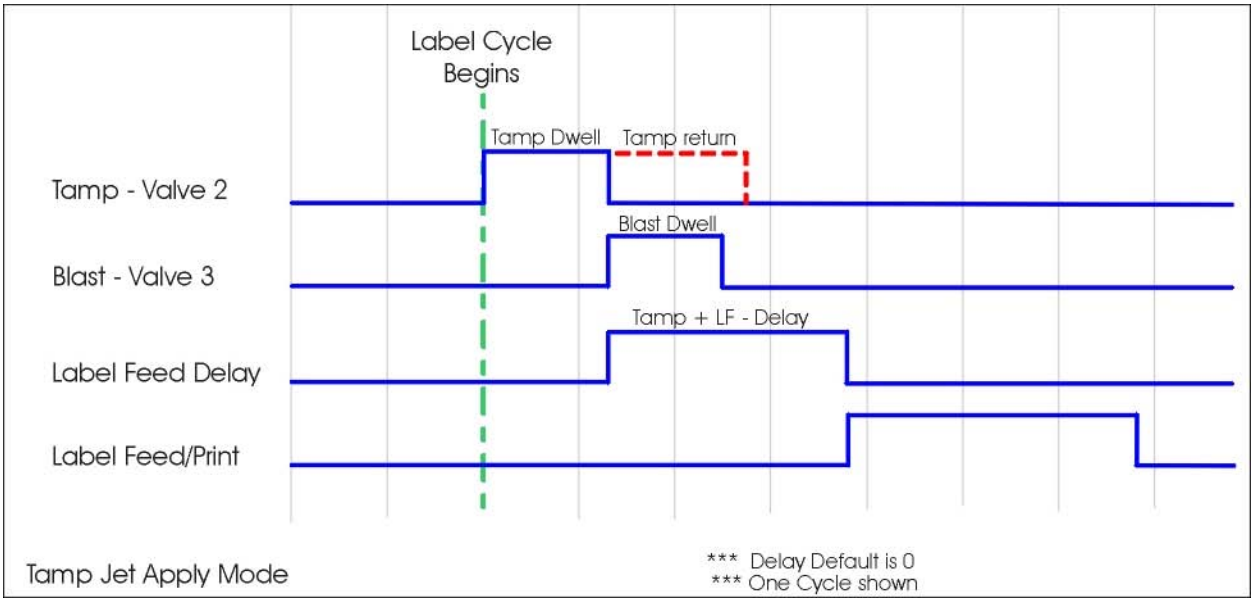
Timing Cycles

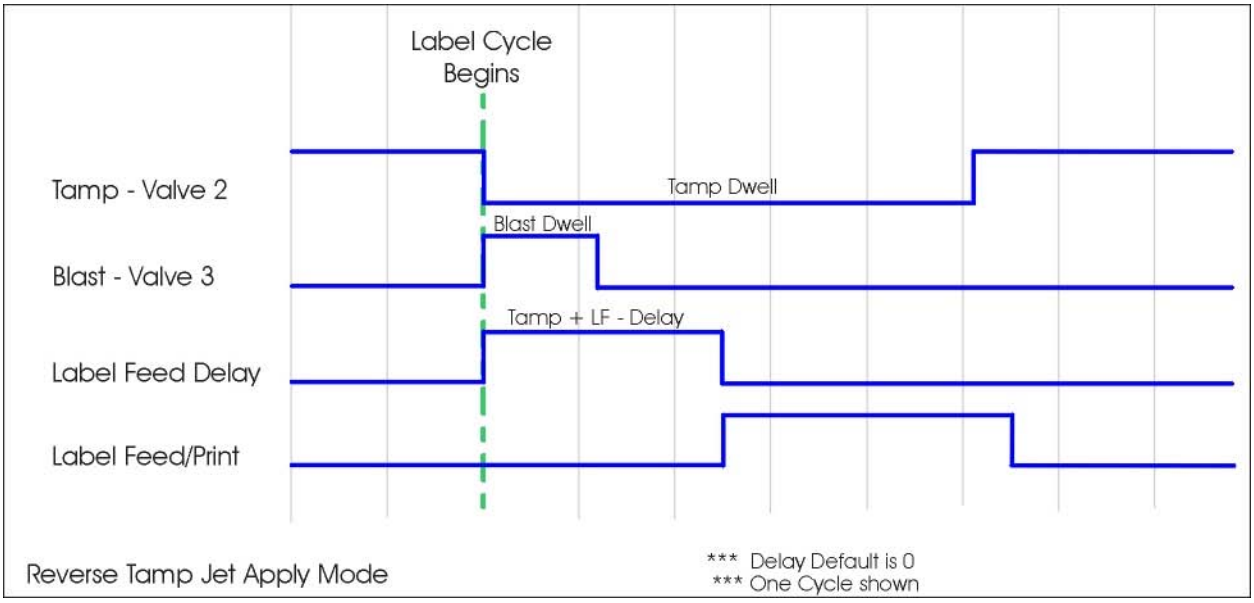


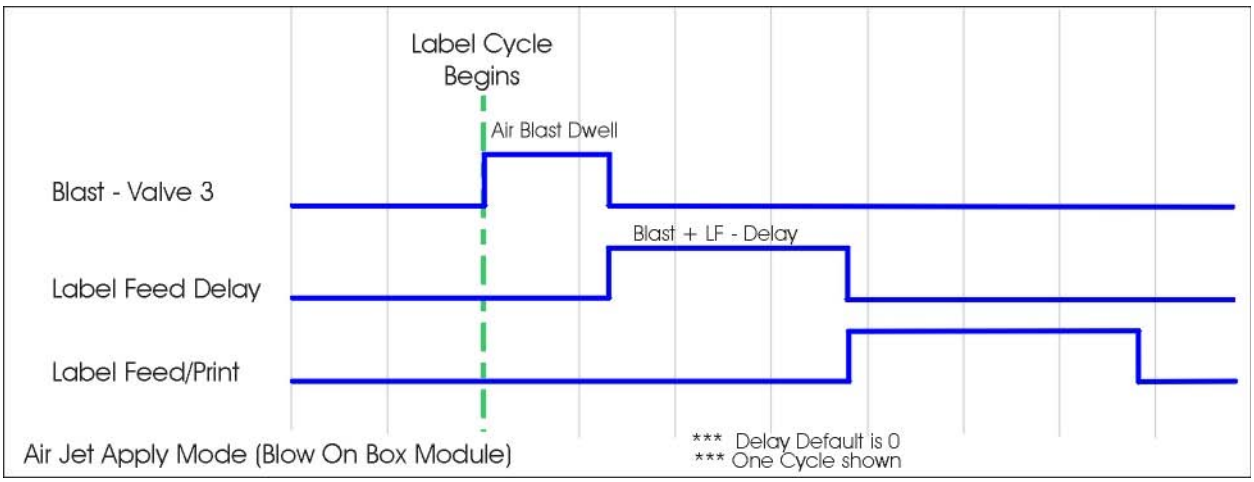

Label Cycle Begins
Internal Print Start
Print Start Sato (fixed)
Print End Sato (variable)
Air Assist Delay - Valve 1
Air Assist (Fixed)
Rewind (Fixed)
*** One Cycle shown
*** Delay Default is 0
*** Internal Print Start signal generated by controller. When this cycle is performed is based on the Print Sequence configuration.
Print Cycle


Label Cycle Begins
Label Cycle Begins
Product Detect
Apply Delay
*** Two Cycles shown
Cycle Begin Sequence


Label Cycle
Begins
Tamp Dwell
Tamp return
Tamp - Valve 2
Tamp + LF - Delay
Label Feed Delay
Label Feed/Print
Tamp Apply Mode
*** Delay Default is 0
*** One Cycle shown


Label Cycle
Begins
Tamp Dwell
Tamp return
Tamp - Valve 2
Blast Dwell
Blast - Valve 3
Tamp + LF - Delay
Label Feed Delay
Label Feed/Print
Tamp Jet Apply Mode
*** Delay Default is 0
*** One Cycle shown


Label Cycle
Begins
Tamp - Valve 2
Tamp Dwell
Blast Dwell
Blast - Valve 3
Tamp + LF - Delay
Label Feed Delay
Label Feed/Print
Reverse Tamp Jet Apply Mode
*** Delay Default is 0
*** One Cycle shown

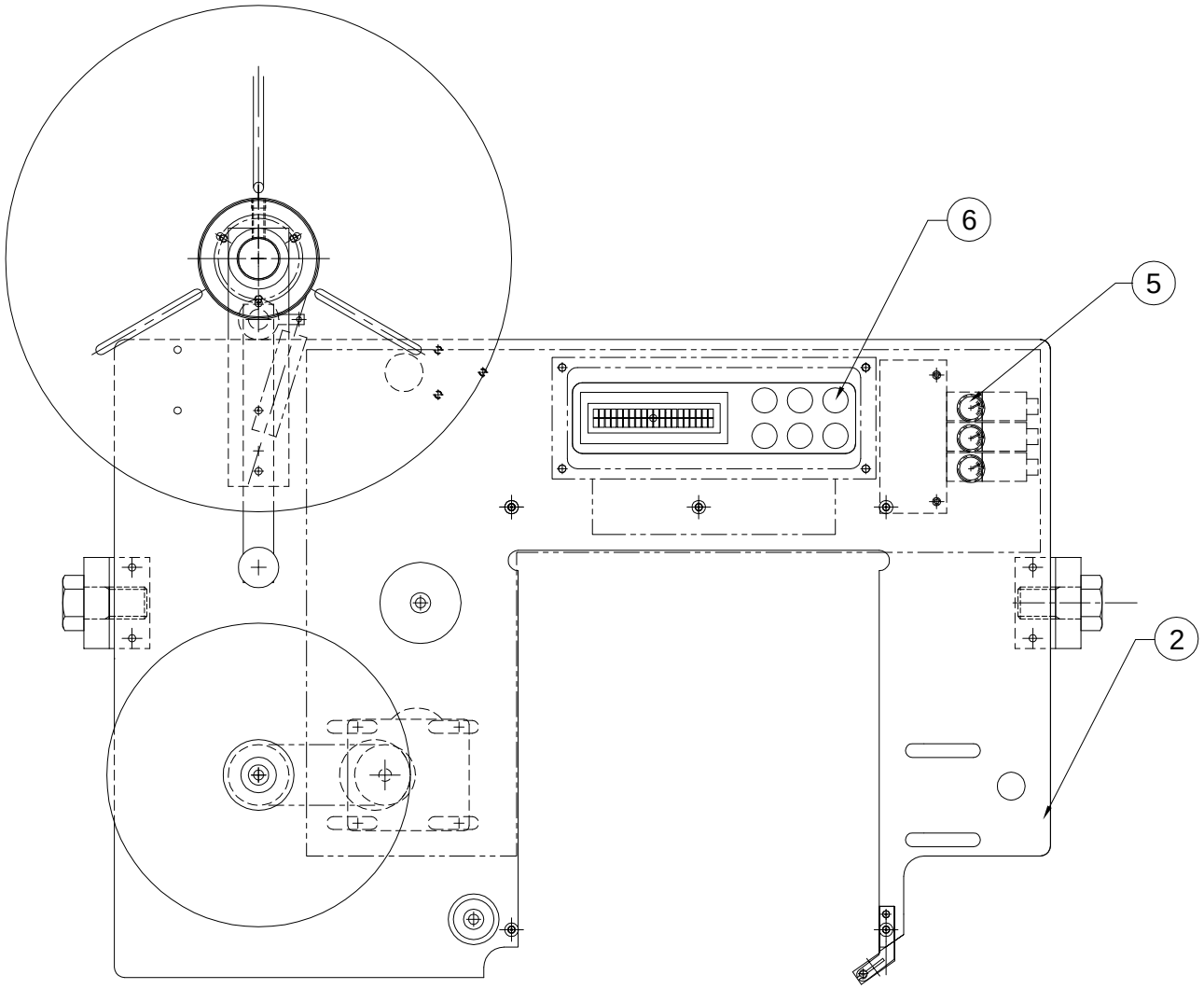

Label Cycle
Begins
Air Blast Dwell
Blast - Valve 3
Blast + LF - Delay
Label Feed Delay
Label Feed/Print
Air Jet Apply Mode (Blow On Box Module)
*** Delay Default is 0
*** One Cycle shown

Operator Notes

LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4		**Model 250 Standard Machine**	
ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION
BASE MODULE									
1	1							**62000**	**ASSY BASE MODULE**
			U-ARM ASSEMBLY						
		1	1					**62001**	**UNIVERSAL BRACKET**
				1	2				SHCS M5 X 12 S/S
				2	2				PLAIN WASHER M5 S/S
			BASE PLATE ASSEMBLY						
		2	1					**62009**	**ASSY. BASE PLATE**
				1	1			62010	BASE PLATE
				2	2			62011	BASE PLATE BRKT
				3	4				SHCS M6 X 45 S/S
				4	4				
				5	2				HEX CAP SCR M20 X 50 S/S
				6	2				LOCK WASHER M20
				7	2				PLAIN WASHER M20 S/S
						1	1	62030-08	IDLER ROLL
						2	1	62031	IDLER SHAFT
						3	1	62034	ROLL SPACER
						4	1		M6 X 10 PAN HD PH S/S
						5	1		WASHER PLAIN M-6 S/S
						6	1		SHCS M6 X 35 S/S
						7	2	62015-08	ASSY SPRING COLLAR - 1"
						8	1	62030-16	IDLER ROLL
						9	1	62031	IDLER SHAFT
						10	1	62034	ROLL SPACER
						11	1		M6 X 10 PAN HD PH S/S
						12	1		WASHER PLAIN M-6 S/S
						13	1	62017	COVER STANDOFF
				8	1			62016	COVER
				9	1			6010	ELECTRICAL SHOCK CAUTION LABEL
				10	1			5134a	ELECTROSTATIC SENSITIVE DEVICES
				11	1			62012	NAMEPLATE LABEL
				12	3				SHCS M4 X 10 S/S
				13	10 ft.			TIUBO7B-33	TUBING URETHANE 1/4"
				14	4 ft.			TUO805B-33	TUBING URETHANE 5/16"
				15	1			NAW2000-N02-BG-C	FILTER/REGULATOR/GUAGE
				16	1				MALE CONNECTOR
				17	1			10-3	1/4 NPT AIR HOSE FITTING
				18	1			62180	AIR ASSIST TUBE
				19	1			62181	AIR ASSIST BBRACKET
			UNWIND ASSEMBLY						
		3	1					**62020-12**	**ASSY UNWIND**
				1	1			62021	UNWIND BLOCK
				2	1			62022	UNWIND SHAFT
						3	1	62030-08	IDLER ROLL
						4	1	62031	IDLER SHAFT
						5	1		M6 X 10 PAN HD PH S/S
						6	1		WASHER PLAIN M-6 S/S
				7	2			62029	6004.2RSR.C3 (FAG)
				8	2			62032	BEARING PLANE FLANGED SINTERED BRONZE .5"
				9	1			62024	BRAKE BAND
				10	1				SPRING CLIP EXT .781"
				11	2			62025	SHAFT COLLAR
				12	1			62026	DANCER SHAFT
				13	1				DRIVE PIN 1/4" X 2"
				14	1			62027	SPRING ANCHOR PIN
				15	2				WASHER PLAIN M-6 S/S
				16	2				MACH SCREW PAN HD PH M-6 X 6 S/S
				17	1			62028	SPRING
				18	1				SPRING ANCHOR PIN 1/4" X 2.5"
				19	2				SHCS M6 X 60 S/S
				20	2				SPRING CLIP EXT .50"
				21	2				FLAT HEAD SOC CAP SCR M6 X 20 S/S
				22	2				M6 X 6 SET SCREW S/S
				23	2			62006-12	UNWIND DISK - 12.5"
				24	2			62006-16	UNWIND DISK - 16.5"
			UNWIND HUB ASSEMBLY						
		4	1					**62004-12**	**ASSY UNWIND HUB - 12" CAPACITY**
				1	3			62005	UNWIND HUB
				2	2			62006-12	UNWIND DISK - 12.5"
				3	1			62007	UNWIND HUB DECAL
				4	1			62023-12	DANCER ARM
				5	1			62052-12	REWIND DISK
				6	9				SHCS M4 X 10 S/S
				7	1				SOC SET SCREW M8 X 12 SOFT TIP S/S
				8	3				SOC SET SCREW M8 X 12 S/S
			REWIND ASSEMBLY						
		5	1					**62050**	**REWIND ASSY.**
				1	4			62056	TEE NUT M4

LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4		**Model 250 Standard Machine**	
ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION
BASE MODULE									
				2	4				SHCS M4 X 30 S/S
				3	4				PLAIN WASHER #8 S/S
				4	1			62057	V-BELT PULLEY 60 DEG
				5	1			62058	V-BELT 60 DEG
				6	1				SHCS M6 X 25 S/S
				7	1				SPRING CLIP EXT 1.50"
				8	1			62053	REWIND ROLL
				9	1			62031	IDLER SHAFT
				10	2			62032	BEARING FLANGE OILITE .5"
				11	1			62055	REWIND CLIP
				12	1				M6 X 10 PAN HD PH S/S
				13	1				WASHER PLAIN M-6 S/S
				14	1			62051	REVERSABLE GERAMOTOR 24VDC 108 RPM
			PNEUMATICS ASSEMBLY						
								62100	**ASSY PNEUMATICS STD TAMP**
		6	1					62101	ASSY PNEUMATICS STD TAMP (SCHEMATIC)
				1	1			62122	MANIFOLD, 3-STATION, MODIFIED
						1	1		MANIFOLD, 3-STATION, 5 PORT W/ 1/4 ONE TOUCH
				2	3				SOLENOID 4 WAY VALVE, 24VDC
				3	3				REGULATOR W/ GAUGE, INTERFACE
				4	1				VACUUM TRANSDUCER
				5	2				(PORT PLUG) 1/4 IN.
				6	3				(NPTF) PLUG FOR MANIFOLD
				7	1				VACUUM MUFFLER (SILENCER)
				8	1				MALE ADAPTER+
				9	3				MALE CONNECTOR
			ELECTRONICS ASSEMBLY						
		7	1					**62500**	**ELECTRONIC MODULE**
				1	1			62501	PAX (CABLE) (OPT.)
				2	1			62502	SATO S (CABLE) (OPT)
				3	1			62503	SATOse (CABLE) (OPT)
				4	1			62504	DATAMAX (CABLE) (OPT)
		8	1					**62280**	**ASSY TAMPJET KIT (OPTIONAL)**
			PRINT ENGINE						
		9	1						**PRINT ENGINE - SATO #999999**
									PRINT ENGINE INSTALL KIT - SATO
				1	5				SHCS M5 X 14 S/S
				2	1				PATCH CABLE

LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4					
ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION	VENDOR	VENDOR P/N
Accessories											
1	1							**62200-04**	**4 INCH TAMP ASSEMBLY**		
		1	1					62251	TAMP BLOCK	CAMDEN MACHINE	
		2	1					62252	TAMP BRACKET	CAMDEN MACHINE	
		3	2					62253-04	TAMP SHAFT	CAMDEN MACHINE	
		4	1					62257-04	ACTUATOR W/ 4 IN. STROKE	SMC	NCMB125-0400C
		5	1					62258	FITTING	SMC	KQ2H07-U01
		6	3					62256	BEARING PLANE LINEAR 1/2"	PURVIS BEARING	FLC-08
		7	3						SNAP RING (INT)	ROTOR CLIP	H0-87
		8	2					62259	FLOW CONTROL VALVE	SMC	NAS2201F-UO1-07
		9	4						SHCS M6 X 25 S/S	PURVIS BEARING	
		10	4						SHCS M6 X 30 S/S	PURVIS BEARING	
		11	4						LOCKWASHER 5/16" S/S	PURVIS BEARING	
		12	4						PLAIN WASHER 5/16" S/S	PURVIS BEARING	
		13	1						SHCS M4 X 20 S/S	MCMASTER CARR	91292A121
		14	1						SHCS M3 X 10 S/S	MCMASTER CARR	91292A113
		15	1						HAND CRUSH/FORCE FROM ABOVE	HCS	1143C-ISO



	ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION
	BASE MODULE									
	1	1							62000	ASSY BASE MODULE (RH)
			U-ARM ASSEMBLY							
			1	1					62001	UNIVERSAL BRACKET
			BASE PLATE ASSEMBLY							
			2	1					62009	ASSY. BASE PLATE
			UNWIND ASSEMBLY							
			3	1					62020-12	ASSY UNWIND
			REWIND ASSEMBLY							
			4	1					62050	REWIND ASSY.
			PNEUMATICS ASSEMBLY							
			5	1					62100	ASSY PNEUMATICS STD TAMP
			ELECTRONICS ASSEMBLY							
			6	1					62500	ELECTRONIC MODULE

Model 250

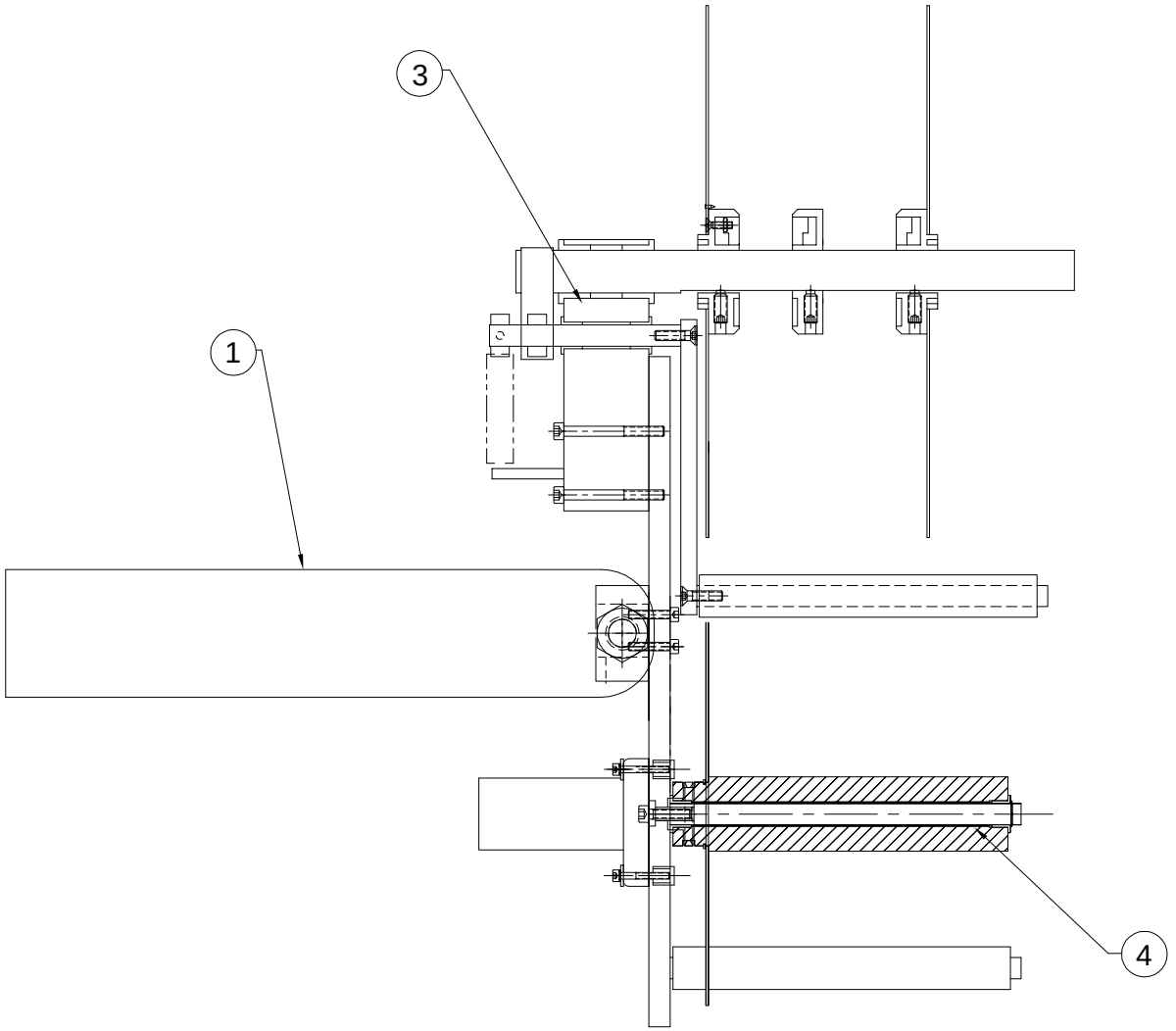
0 1 2

.00 ± .02
.000 ± .005
ANGLES ± 2°

DESCRIPTION

BASE MODULE ASSEMBLY

SIZE	SHEET #	DWG NO	REV
	1 of 2	62000	



	ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION
	BASE MODULE									
		1	1						62000	ASSY BASE MODULE (RH)
				U-ARM ASSEMBLY						
			1	1					62001	UNIVERSAL BRACKET
				BASE PLATE ASSEMBLY						
			2	1					62009	ASSY. BASE PLATE
				UNWIND ASSEMBLY						
			3	1					62020-12	ASSY UNWIND
				REWIND ASSEMBLY						
			4	1					62050	REWIND ASSY.
				PNEUMATICS ASSEMBLY						
			5	1					62100	ASSY PNEUMATICS STD TAMP
				ELECTRONICS ASSEMBLY						
			6	1					62500	ELECTRONIC MODULE

Model 250

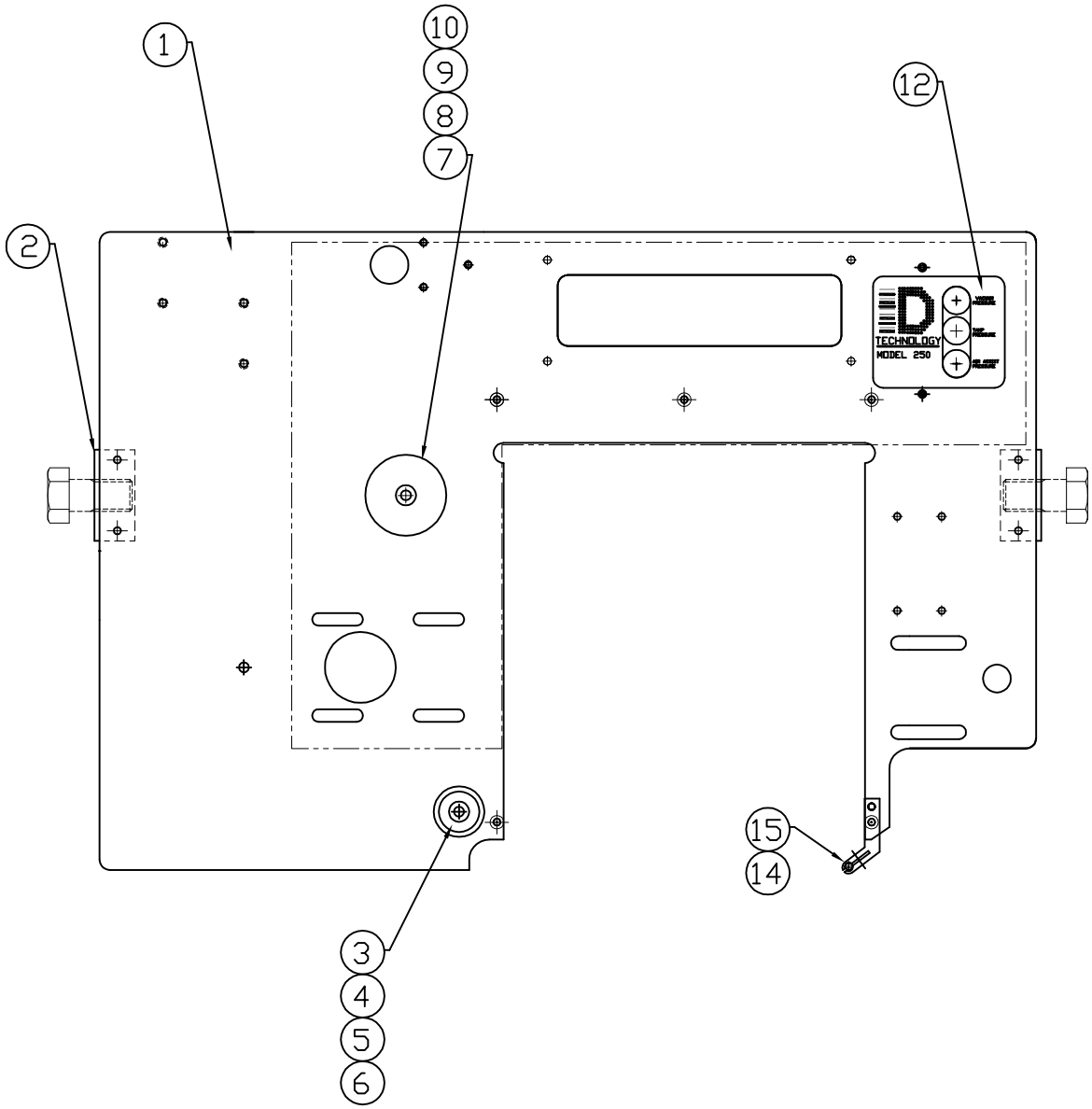
0 1 2

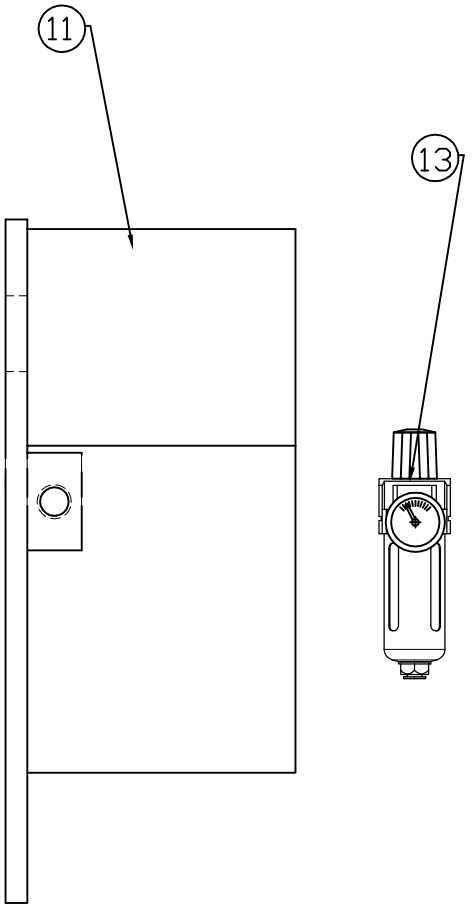
.00 ± .02
.000 ± .005
ANGLES ± 2°

DESCRIPTION

BASE MODULE ASSEMBLY

SIZE	SHEET #	DWG NO	REV
	2 of 2	62000	





QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION
BASE PLATE ASSEMBLY						
1					**62009**	**ASSY. BASE PLATE**
	1	1			62010	PLATE,BASE
	2	2			62011	BRACKET,BASE PLATE
	3	1			62030-08	ROLL,IDLER
	4	1			62031	SHAFT,IDLER
	5	1			62034	SPACER,ROLL
	6	2			62015-08	COLLAR,SPRING - 1"
	7	1			62030-16	ROLL,IDLER
	8	1			62031	SHAFT,IDLER
	9	1			62034	SPACER,ROLL
	10	1			62017	STANDOFF,COVER
	11	1			62016	COVER
	12	1			62012	LABEL,NAMEPLATE
	13	1			62120	FILTER/REGULATOR/GUAGE
	14	1			62180	TUBE,AIR ASSIST
	15	1			62181	BRACKET,AIR ASSIST

Model 250

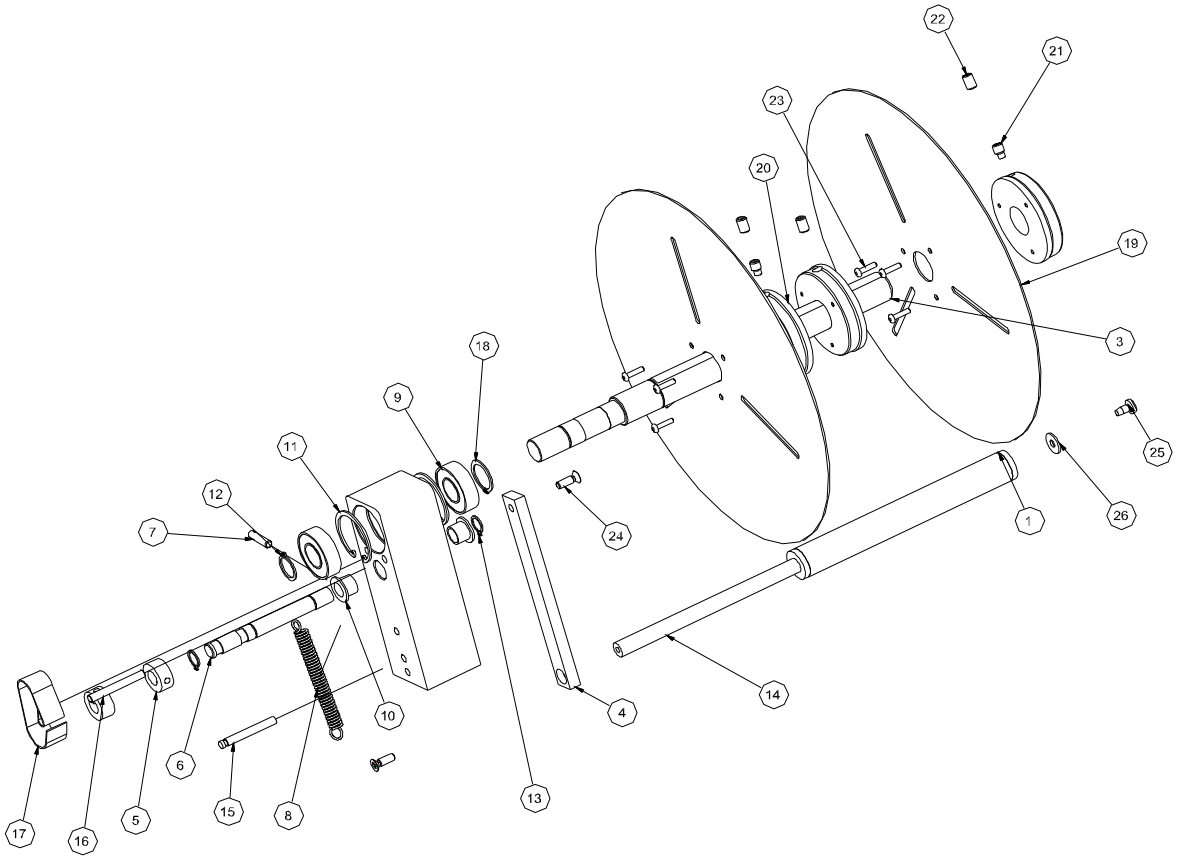
0 1 2

.00 ± .02
.000 ± .005
ANGLES ± 2°

DESCRIPTION

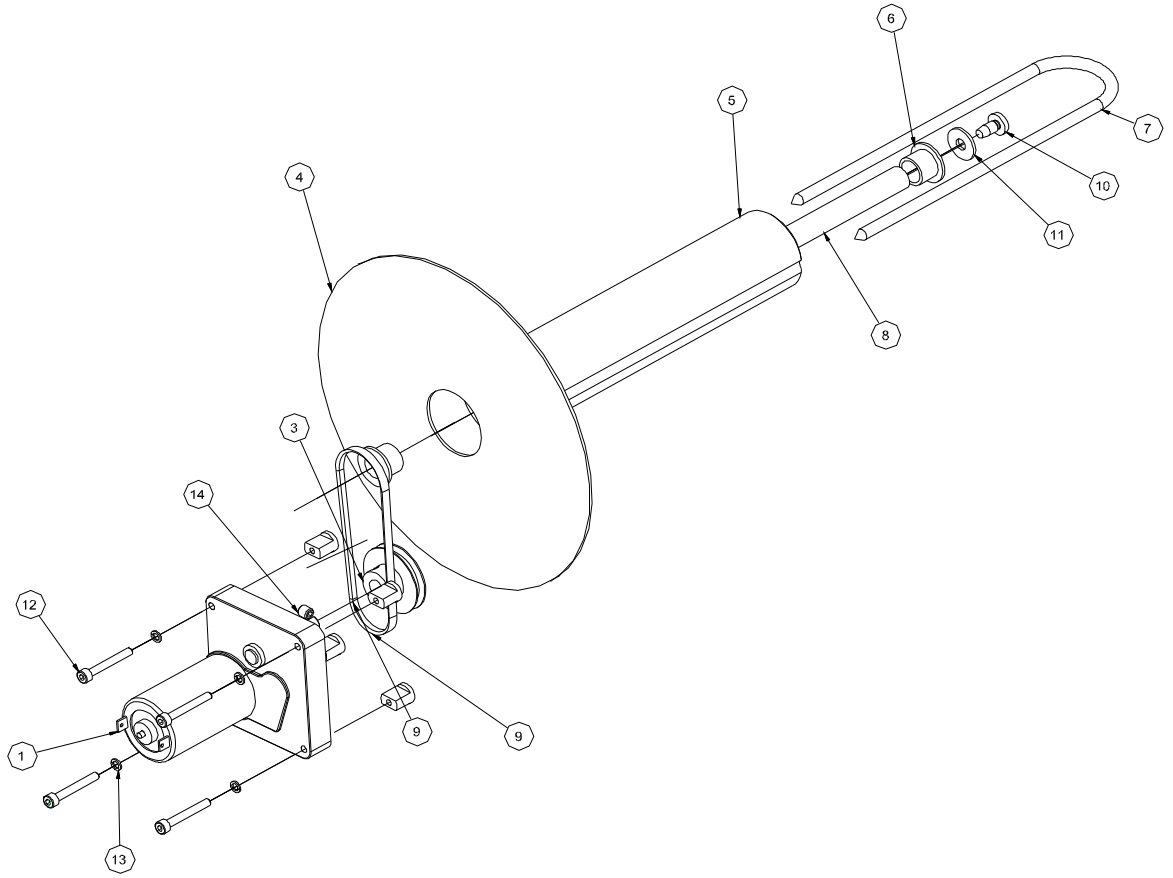
BASE MODULE ASSEMBLY

SIZE	SHEET #	DWG NO	REV
		62009	



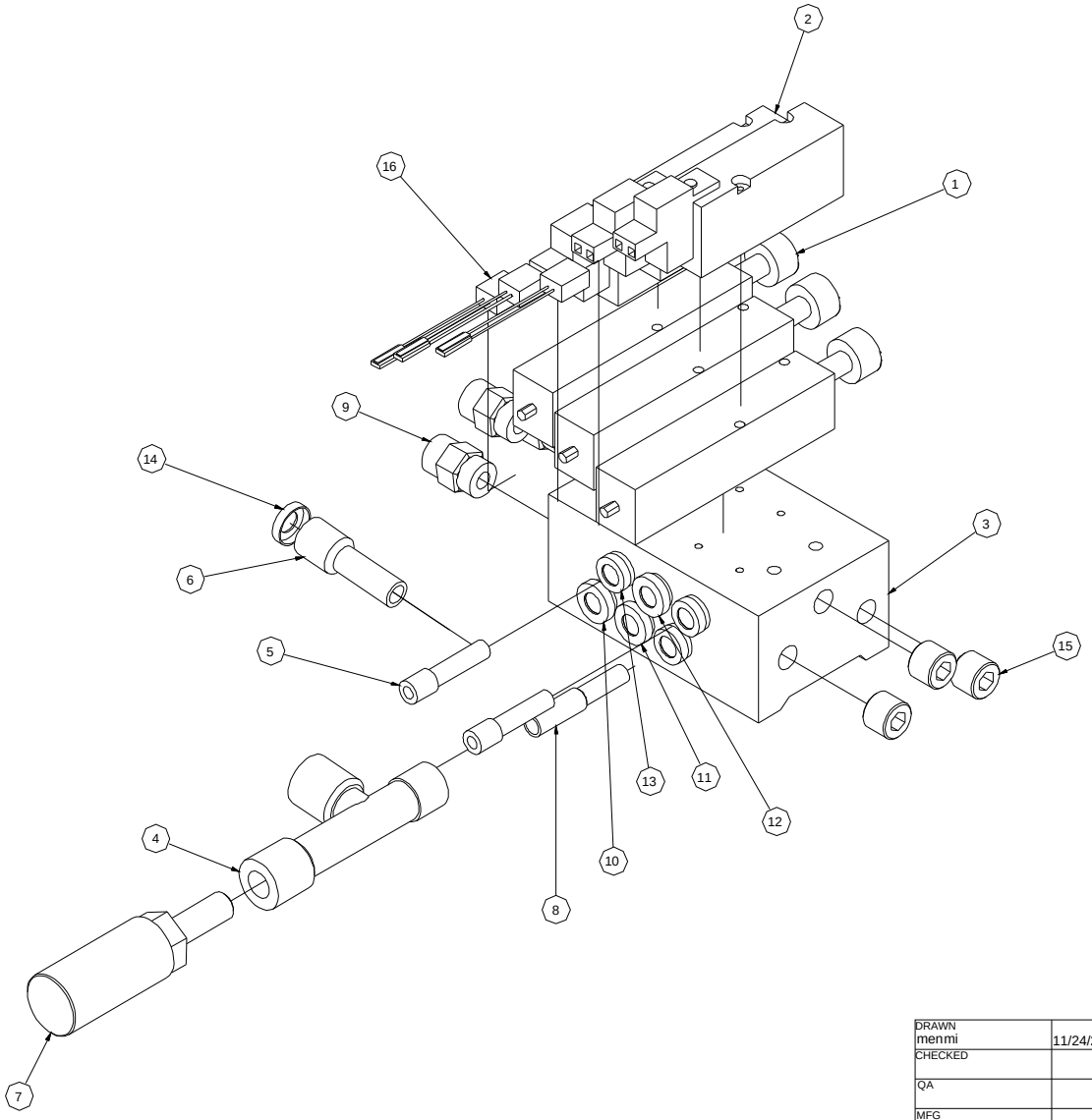
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	62030-08	Roll,Idler
3	1	62022E	SHAFT,UNWIND
4	1	62023C	SHAFT,UNWIND
5	2	62025	Collar, Shaft
6	1	62026A	SHAFT,DANCER
7	1	62027	Pin,Spring Anchor
8	1	62028	SPRING,EXTENSION
9	2	62029	BEARING,UNWIND
10	2	62032	Bushing,Bronze Flanged 1/2"
11	2	BS 3673/1 - B0175	Spring Retaining Ring
12	1	BS 3673/1 - S0075	Spring Retaining Ring
13	2	BS 3673/1 - S0050	Spring Retaining Ring
14	1	62031B	SHAFT,IDLER
15	1	F01508	DRIVE PIN (SPRING)
16	1	FII048	DRIVE PIN (BRAKE BAND ANCHOR)
17	1	62024	BAND,BRAKE
18	1	SH-100ST PA MB25	External
19	2	62006-12	Disk,Unwind 12.5"
20	3	62005	Hub, Unwind
21	2	ISO 4028 - M8 x 12	Hexagon Socket Set Screw
22	3	ISO 4026 - M8 x 12	Hexagon Socket Set Screw
23	6	BS 4168 - M4 x 16	Hexagon Socket Button Head Screw
24	2	BS 4183 - M6 x 18	Recessed Countersunk Head Screw
25	1	GB 6560-86 - M6x12	Cross recessed pan head thread forming screws
26	1	GB 96-85 - 6	Washer
27	1	62021	BLOCK,UNWIND

DRAWN menmi	11/24/2003	MODEL 250
CHECKED		TITLE
QA		UNWIND ASSEMBLY
MFG		
APPROVED		SIZE C / DWG NO 62020 / REV
		SCALE / SHEET 1 OF 1



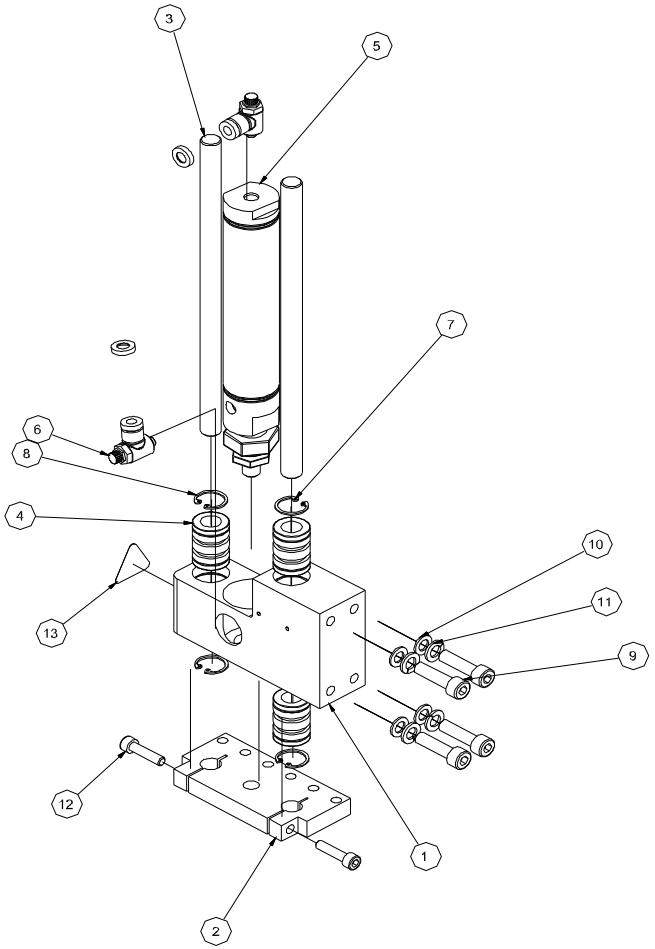
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	62051	GEARMOTOR,REVERSABLE 24VDC
2	4	62056	NUT,TEE
3	1	62057A	PULLEY,V-BELT
4	1	62052-12	Disk,Rewind 12.5"
5	1	62053C	Roll,Rewind
6	2	62032	Bushing,Bronze Flanged 1/2"
7	1	62055	Clip,Rewind
8	1	62031B	SHAFT,IDLER
9	1	62058	BELT,V 60DEG.
10	1	GB 6560-86 - M6x12	Cross recessed pan head thread forming screws
11	1	GB 96-85 - 6	Washer
12	4	BS 4168 - M4 x 30	Hexagon Socket Head Cap Screw
13	4	GOST 6402-70 - 4 L	Spring Washer
14	1	PN-84/M-82314 - M6 x 6	Hexagon Socket Set Screw

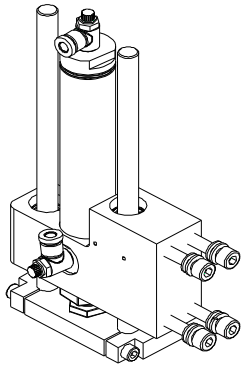
DRAWN menmi	11/24/2003	MODEL 250
CHECKED		TITLE: REWIND ASSEMBLY
QA		
MFG		
APPROVED		
SIZE C	DWG NO 62050	REV
SCALE	SHEET 1 OF 1	



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	3	62105	REGULATOR,W/ GAUGE,INTERFACE
2	3	62104	SOLENOID,4 AWY VALVE 24 VDC
3	1	62122	MANIFOLD,3-STATION, 5 PORT W/1/4 ONE TOUCH
4	1	62106	TRANSDUCER,VACUUM
5	2	62107	PLUG,PORT 1/4 IN.
6	1	62109	REDUCER,PLUG-IN
7	1	62110	MUFFLER,VACUUM
8	1	62111	ADAPTER,MALE
9	3	62112	CONNECTOR,MALE
10	1	KQ2C-07BU	BLUE CAP
11	1	KQ2C-07B	BLACK CAP
12	1	KQ2C-07GR	GREY CAP
13	3	KQ2C-07OR	ORANGE CAP
14	1	KQ2C-07Y	YELLOW CAP
15	3	62108	PLUG,MANIFOLD
16	3	62103	SOLENOID WIRING HARNESS LEAD
17	1	62100label	
18	1	62104label	
19	1	62105label	

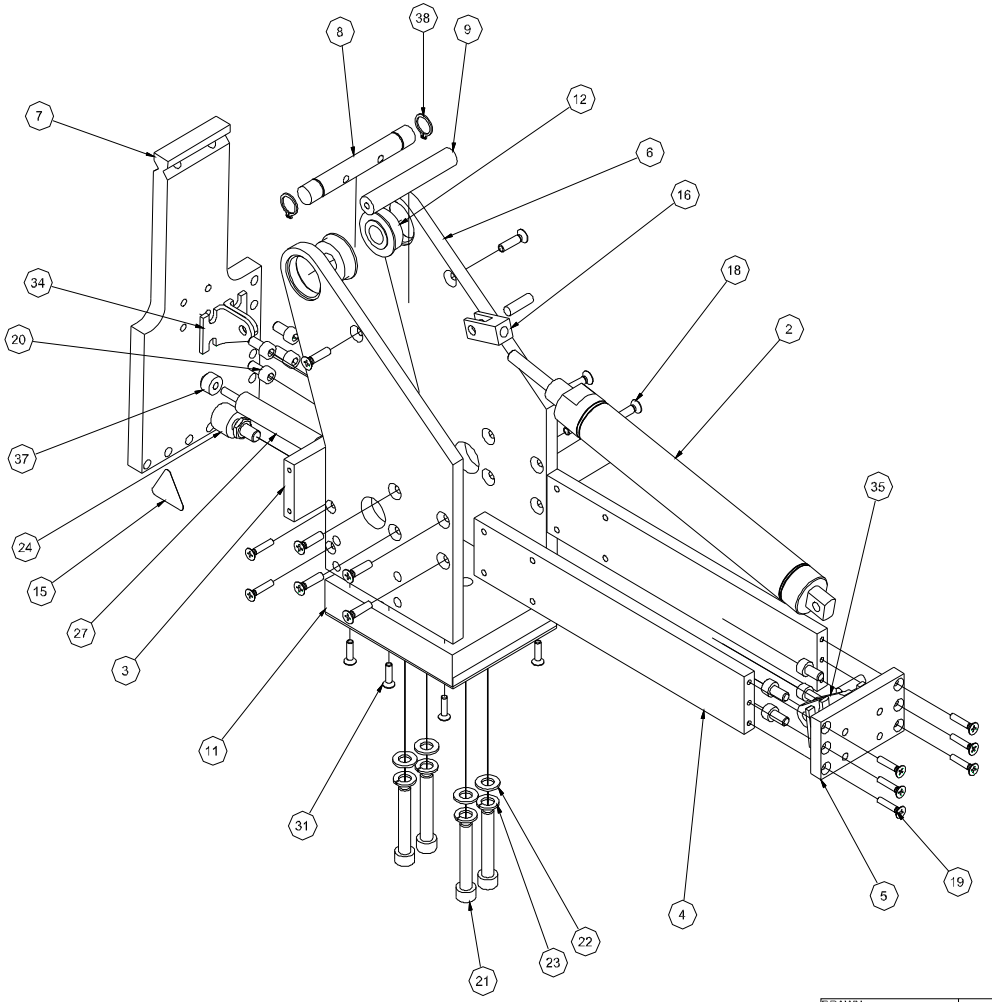
DRAWN menmi	11/24/2003	MODEL 250
CHECKED		TITLE: PNEUMATIC ASSEMBLY
QA		
MFG		
APPROVED		
SIZE C	DWG NO 62100	REV
SCALE	SHEET 1 OF 1	





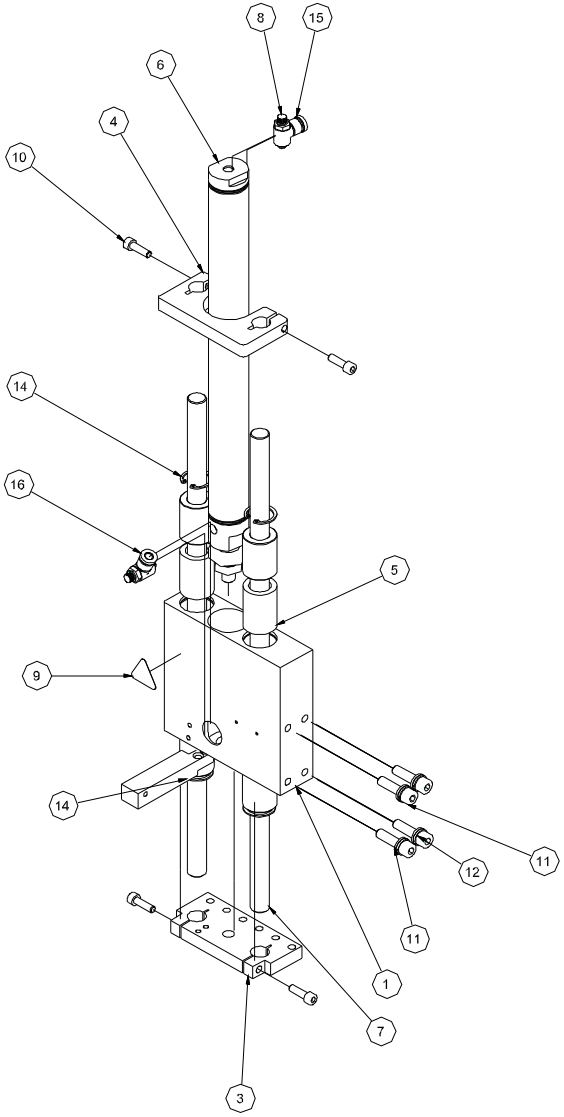
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	62251G	BLOACK,TAMP
2	1	62252B	BRACKET,TAMP
3	2	62253D	SHAFT,TAMP
4	3	62256	BEARING,PLANE LINEAR .500"
5	1	62257-04	ACTUATOR, W/ 4" STROKE
6	2	62259	VALVE,FLOW CONTROL
7	1	BS 3673/1 - B0075	Spring Retaining Ring
8	3	BS 3673/1 - B0075	Spring Retaining Ring
9	4	ISO 4762 - M8 x 30	Hexagon Socket Head Cap Screw
10	4	DIN 988 - S8 x 14	Supporting Ring
11	4	DIN 128 - A8	Spring Washer
12	2	ISO 4762 - M6 x 25	Hexagon Socket Head Cap Screw
13	1	1143c-iso	ELECTRICAL HAZARD LABEL
14	1	KQ2C-07B	BLACK CAP
15	1	KQ2C-07GR	GREY CAP

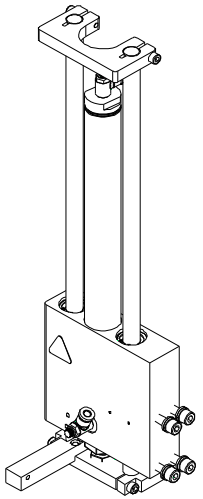
DRAWN menmi	12/09/2003	MODEL 250
CHECKED		TITLE: 4" TAMP ASSEMBLY
QA		
MFG		
APPROVED		
		SIZE: C / DWG NO: 62200-04 / REV
		SCALE / SHEET 1 OF 1



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
2	1	NCME106-0600	6" PNUEMATIC CYLINDER
34	1	NCM-PC075	BRACKET,PIVOT
3	1	62202	BRACKET,DAMPENING
4	2	62203	BRACKET,CYLINDER MOUNTING
5	1	62204	BRACKET,CYLINDER MOUNTING (BACK)
6	2	62206-08	PLATE SIDE
7	1	62207-08	PADDLE,TAMP
8	1	62208A	SHAFT,TAMP PIVOT
9	1	62209	ROD,SPACER
11	1	62211A	PLATE,BOTTOM
12	2	00730 B 40818	BEARING,FLANGED
15	1	1143c-Iso	Hand Crush/Force From Above
16	1	NY-106	CLEVIS,ROD
18	10	ISO 7046-1 - M5 x 20 - 4.8 - H	Countersunk Flat Head Screw
19	10	ISO 7046-1 - M4 x 20 - 4.8 - H	Countersunk Flat Head Screw
20	8	ISO 4762 - M6 x 12	Hexagon Socket Head Cap Screw
21	4	ISO 4762 - M8 x 50	Hexagon Socket Head Cap Screw
22	4	ISO 7089 - 8 - 140 HV	Washer
23	4	DIN 128 - A8	Spring Washer
24	1	9546K242	BUMPER,MALE
25	1	DIN 439 - M8	Hex Nut
26	1	AS 2465 - 9/16 UNC	Hexagon Thin Nut
27	1	MC-150	DAMPING SHOCK
31	6	BS 4183 - M4 x 16	Hexagon Socket Countersunk Head Screw
32	1	62210A	BLOCK,SPACER
35	1	NCM-PE075	BRACKET,PIVOT
37	1	250-0266	BOTTON,NYLON
38	2	BS 3673/1 - S0050	Spring Retaining Ring

DRAWN menmi	01/08/2004	MODEL 250
CHECKED		TITLE 8" SWING TAMP ASSEMBLY
QA		
MFG		
APPROVED		SIZE C / DWG NO 62201-08 / REV
		SCALE / SHEET 1 OF 1





Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	62261	BLOCK,TAMP HEAVY DUTY
2	4	FLAC10	PACIFIC BEARING
3	1	62262	BRACKET,TAMP
4	1	62263	STABILIZER,TAMP SHAFT
5	2	62268	SLEEVE,TAMP BLOCK
6	1	62257-12	ACTUATOR, W/ 4" STROKE
7	2	62264-12	HEAVY DUTY TAMP SHAFT
8	2	62259	VALVE,FLOW CONTROL
9	1	1143c-Iso	Hand Crush/Force From Above
10	4	ISO 4762 - M6 x 20	Hexagon Socket Head Cap Screw
11	4	ISO 4762 - M8 x 30	Hexagon Socket Head Cap Screw
12	4	ISO 8738 - 8	Washer
13	4	IS 3063 - 8	Spring Washer
14	4	UNI 7437 - 26	Spring Retaining Ring
15	1	KQ2C-07B	BLACK CAP
16	1	KQ2C-07GR	GREY CAP
17	1	62266A	

DRAWN	menmi	01/15/2004
CHECKED		
QA		
MFG		
APPROVED		

MODEL 250

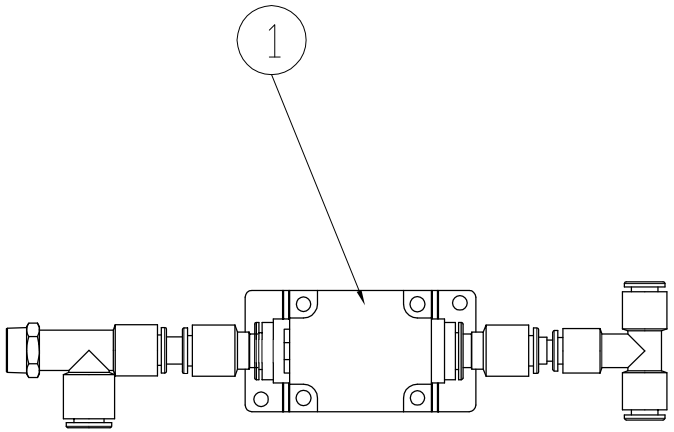
TITLE

TAMP BRACKET
HEAVY DUTY

SIZE	DWG NO	REV
C	62260-12	

SCALE

SHEET 1 OF 1



ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	QTY	PART NO	DESCRIPTION
Accessories									
1	1							**62280**	**TAMP JET KIT ASSEMBLY**
		1	1					62281	2-WAY D.O. VALVE

Model 250

0 1 2

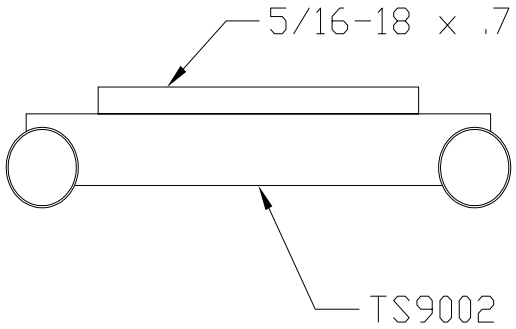
.00 ± .02
.000 ± .005
ANGLES ± 2°

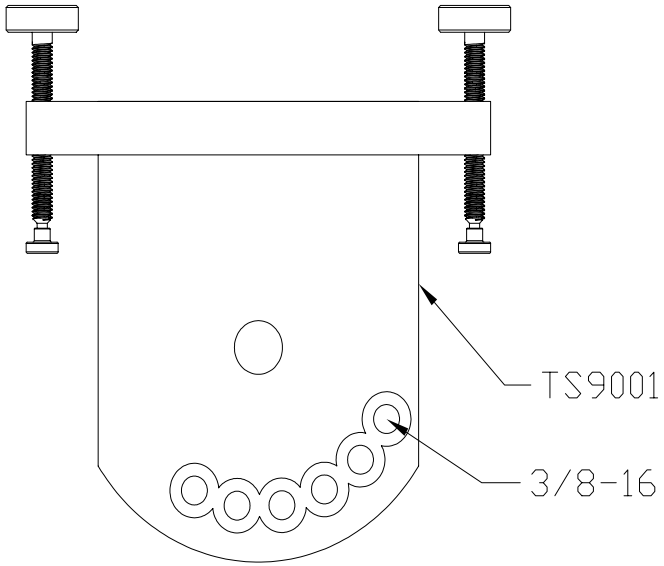
DESCRIPTION

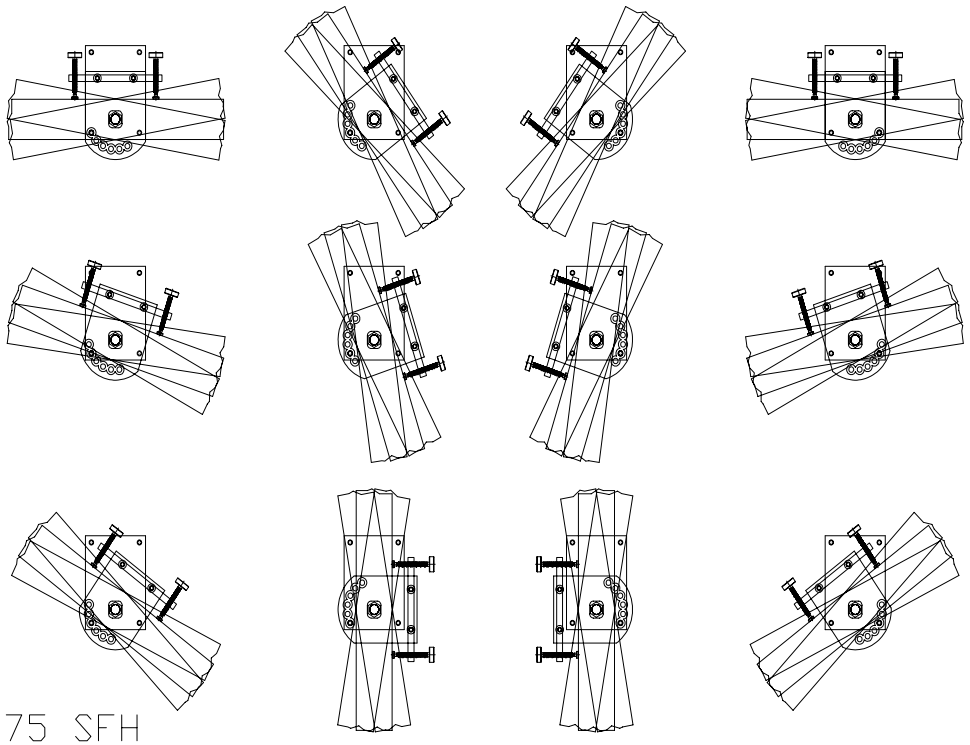
TAMP JET ASSEMBLY

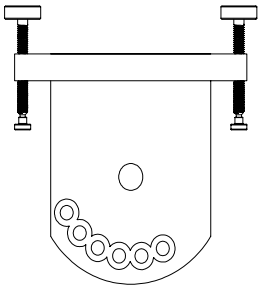
SIZE	SHEET #	DWG NO	REV
		62280	

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED









ALTERNATE ASSEMBLY DIRECTION

2. INCLUDE 3/8-16 X 1" FLAT HEAD SCREW
1. DO NOT ASSEMBLE WITH LOCKTITE
NOTES:

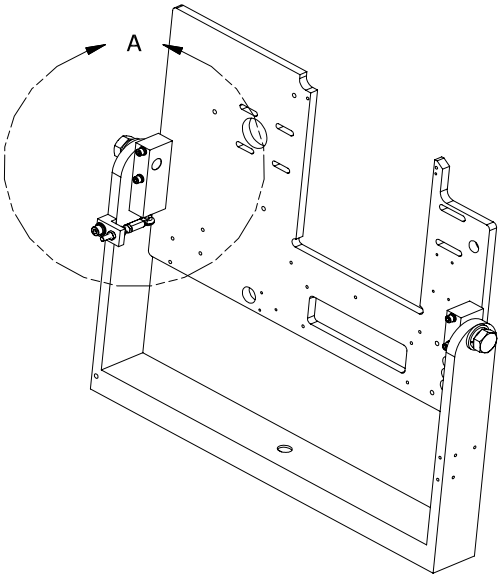
UNLESS OTHERWISE SPECIFID DIMENSIONS ARE INCHES TOLERANCES ARE

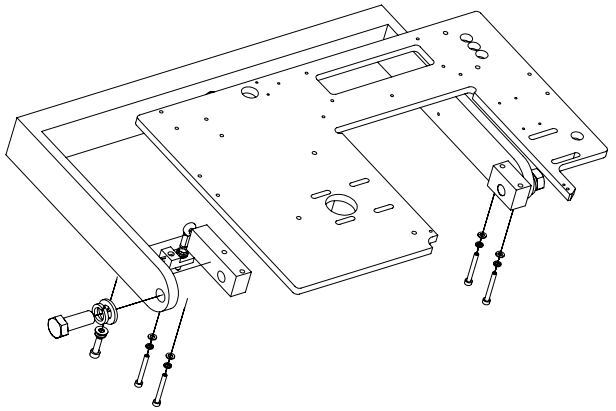
X = ± .100
XX = ± .030
XXX = ± .010
ANGULAR = ± 1°
FRACTION = ± 1/4

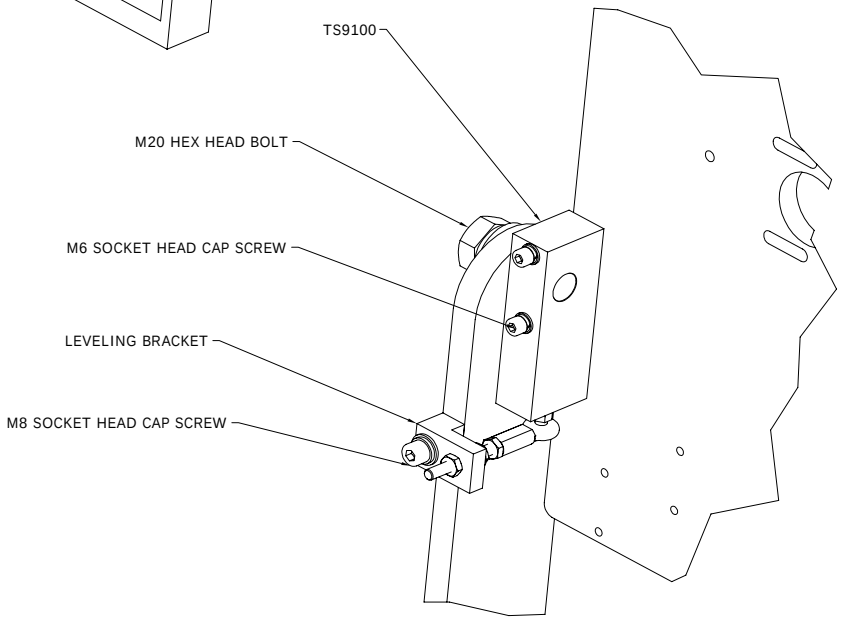
250 PRECISION TILT

TECHNOLOGY
2051 FRANKLIN DR.
FORT WORTH, TX 76106

DRAWN BY:	SIZE	LOCATION	DWG NO.	REV
M.Mendolia	B		TS9000	--
CHECKED BY:	SCALE N/A		SHEET 1 of 1	







DETAIL A
SCALE 1 / 2

INSTALLATION INSTRUCTIONS

1. REMOVE THE M20 HEX HEAD BOLT.
2. REMOVE THE TWO M6 SOCKET HEAD CAP SCREWS.
3. PLACE THE TS9100 IN POSITION USING THE M20 HEX HEAD BOLT AND THE TWO M6 SOCKET HEAD CAP SCREWS.
4. FASTEN THE LEVELING BRACKET TO THE U-ARM WITH M8 SOCKET HEAD CAP SCREW.

DRAWN menmi	8/8/2005	ID TECHNOLOGY	
CHECKED		TITLE: PRECISION LEVELING ASSEMBLY	
QA			
MFG			
APPROVED			
		SIZE C	DWG NO TS9100 Installation / REV
		SCALE	SHEET 1 OF 1

CORRECTLY SETTING UP A TAMP PAD TO A PEEL EDGE

In Figure 1 the peel edge of a printer or peel plate, the tamp pad, and air assist tube are all shown. To correctly set up a tamp pad to a peel edge two things must be kept in mind.

1. Maintain aprox 3/16” between the edge of the peel plate and the front of the tamp pad.
2. Maintain aprox. 3/16” from the peel point to the bottom of the tamp pad.

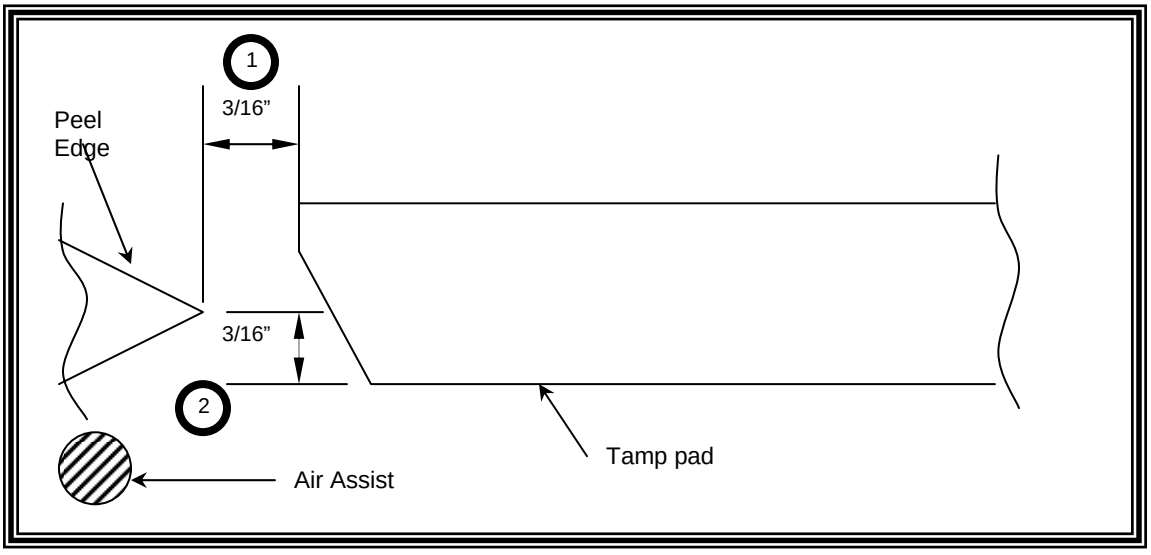


Figure 1

To ensure that the label will feed properly on the Tamp Pad, set the label leading edge to the tip of the peel tip (label flag). When the label is dispensed it should feed in to the chamfer on the peel edge. Follow the angle of the Tamp pad the air assist will blow the label back up to the Tamp pad and assist in pushing the label out on the pad. With the proper setup on the printer or applicator the label should feed completely, covering the ID 250 tamp pad Note *Figure 2*

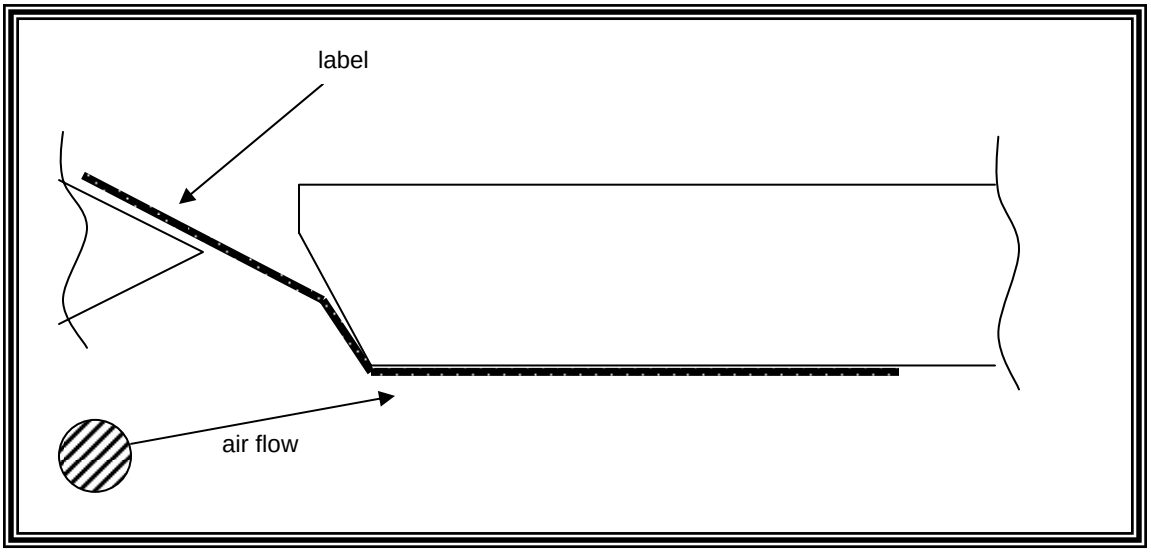


Figure 2

After the label is dispensed out on the Tamp pad verify that the label is sitting below the peel edge. Also check to make sure the label is not going to catch the air assist tube when the machine starts to cycle to place a label on a product. Note *Figure 3*

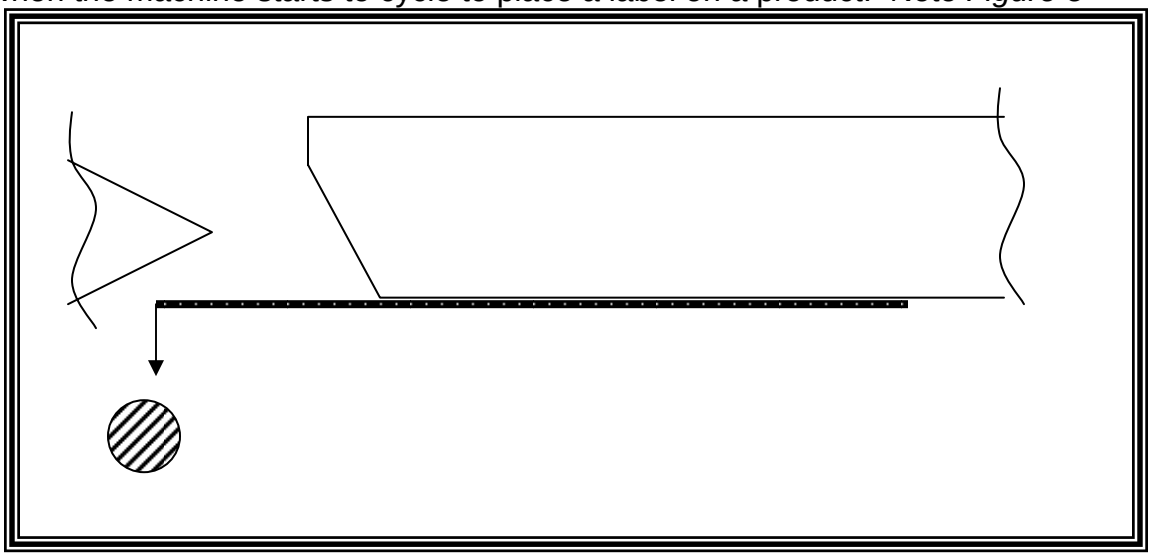


Figure 3

Note the label will catch on the air assist tube as the tamp pad cycles. The air assist tube will need to be moved back away from the tamp pad to allow the label to pass. If settings are wrong in the print engine or microprocessor the label my not feed out all the way.

Note *Figure 4* for the correct setup that will allow the label to be applied without any interference.

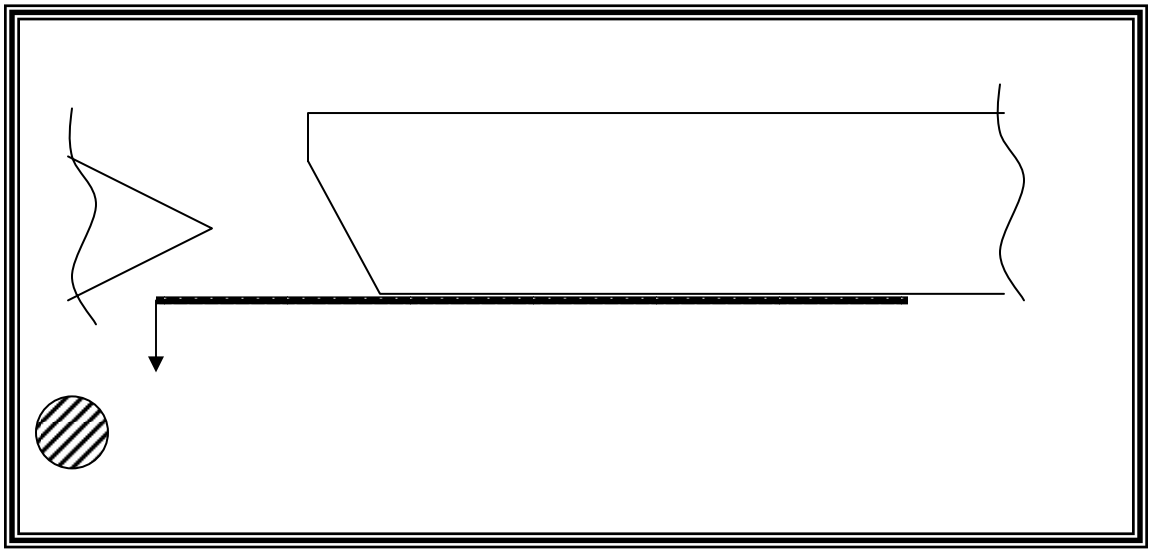


Figure 4