Operations Manual

Label Applicator



4750-010 Revision A

Illinois Tool Works Inc © 2015

Label Applicator Operations Manual

4750-010 Revision A

The information contained in this manual is correct and accurate at the time of its publication. The manufacturer reserves the right to change or alter any information or technical specifications at any time and without notice.

©2015 Illinois Tool Works Inc. All rights reserved Printed in the United States of America

Warranty:

The Label Applicator, including all components unless otherwise specified, carries a limited warranty.

For all warranty terms and conditions, contact the manufacturer for a complete copy of the Limited Warranty Statement.

Section 1: Safety	1
Section 2: Quick Start	2
Step 1: System Orientation	3
Step 2: System Alignment	5
Step 3: Position Product Detector	6
Step 4: Load Media	7
Step 5: Calibrate Gap Sensor	9
Step 6: Set Speed	10
Step 7: Set Dispense Position	10
Step 8: Set Rewind Tension	11
Step 9: Set Product Delay	11
Step 10: Set Apply Duration (Tamp Applicator only)	12
Step 11: Set Actuator Distance Limit (Tamp Applicator only)	12
Step 12: Set the System Online	13
Section 3: Maintenance	14
Maintenance Schedule Chart	14
Section 4: Troubleshooting	15
Common to All Systems	16
Wipe Systems	17
Tamp Systems	18
Diagnostics	19

Appendix A: System Specifications	21
General Specifications	
Electrical Specifications	
Performance Specifications	
Wipe 6"	
E-TAMP & E-TAMP/BLOW	
E-FASA 10 in.	
E-FASA 20 in.	
E-WASA	
Appendix B: Application Methods	29
E-TAMP Mechanical Setup	29
E-TAMP Parameter Setup	
E-TAMP/BLOW Mechanical Setup	
E-TAMP/BLOW Parameter Setup	
High Speed Tamp Mechanical Setup	
High Speed Tamp Parameter Setup	
E-FASA Mechanical Setup	41
E-FASA Parameter Setup	43
E-WASA Mechanical Setup	
E-WASA Parameter Setup	
WIPE Mechanical Setup	
WIPE Parameter Setup	
Appendix C: Electrical Interface	52
Appendix D: Part Numbers	53
Service Parts	5.3
Ontional Equipment	55

Section 1: Safety

Safety awareness is critical when working with equipment that contains moving parts and extending electric actuators. Please read all warnings and cautions thoroughly before operating this device.

Following is a list of safety symbols and their meanings, which are found throughout this manual. Pay attention to these symbols where they appear in the manual.



Wear safety goggles when performing the procedure described!



Caution or Warning! Denotes possible personal injury and/or damage to the equipment.

Caution or Warning! Denotes possible personal injury and/or equipment damage due to electrical hazard.



NOTE: (Will be followed by a brief comment or explanation.)

ESD protection should be worn when servicing internal printed circuit boards.

After service to the equipment is completed, replace all protective devices such as grounding cables and covers before operating the equipment.

WARNINGS

- WARNING Moving parts of this machine can present hazards. Components that cannot be guarded because of loss of functionality are marked with a warning symbol.
- Be aware of the actuator extension distance, and avoid accidental triggering of the photosensor.
- When servicing the unit's electronic assemblies, always remove the power cord from the unit to prevent accidental shock.
- When running for extended periods of time, use caution when accessing the drive module circuitry. The motor drive power transistors, motor case, and motor heatsink can become hot under constant use.
- Wear personal protective equipment, as instructed by your supervisor, when operating or working near this device.

Section 2: Quick Start



Step 1: System Orientation



Caution: System is top heavy; take care when adjusting roll.



ORIENTATIONS

Using the Yoke Mount Nut, Yoke Ear Bolts and Yoke Mount Setscrews, adjust the Label Applicator to the desired orientation.



Step 2: System Alignment

WIPE

- 1. Verify leading edge of peel blade is parallel with product.
- 2. Verify label direction is parallel with conveyor direction.



PARALLEL TO PRODUCT



PARALLEL TO CONVEYOR





MAX. ANGLE: 45°

TAMP

Pad should extend and lay flat against product.



(2)

Step 3: Position Product Detector

MACHINE MOUNTING



ALIGN WITH CONVEYOR

<u>TAMP</u>





PRODUCT DETECTOR SETUP

- 1. To detect product present (Leading Edge), turn Light On/Dark On Selector to L. To detect product absent (Trailing Edge), turn Light On/Dark On Selector to D.
- 2. Turn Sensitivity Adjuster full counterclockwise.
- 3. Put a product on the conveyor at the expected distance from product detector during production.
- 4. Turn Sensitivity Adjuster clockwise until both Power Indicator and Output Indicator are on and solid when product is in front of sensor for Leading Edge, and absence of product for Trailing Edge.
- 5. Remove product.
- 6. Verify that detector does not sense movement beyond the far edge of the product. (If so, repeat steps 2 6.)



CONVEYOR MOUNTING

Step 4: Load Media

- 1. Push Supply Roll all the way against Unwind Hub.
- 2. Thread Web around Spindle 1.
- 3. Lift Brush to slide Web under the Brush and over Spindle 2.
- Using the Hold-Down Lever to lift the Hold-Down, feed Web under the Hold-Down. (For Wipe Systems, ensure Web runs under Peel Blade Mount.)
- 5. Ensure that Nip Lever is open (horizontal). Thread Liner around Drive Roller and Nip Roller as shown.
- 6. Wrap Liner around rewind hub as shown.
- 7. Insert Rewind Clasp over Liner, and while holding the Liner, turn Rewind until the Liner grips the Rewind.

FOR TAMP APPLICATIONS





NOTE: Remove the leading three feet of labels to reduce the chance of labels sticking to the rollers.

- 8. Press in all Spring Collars to guide the Liner.
- 9. Replace Brush to apply tight tension on the Liner.
- 10. Turn Nip Lever to the Closed position (vertical).







Step 5: Calibrate Gap Sensor

- 1. Remove leading label so only liner is below Gap Sensor.
- 2. Press LABEL from the Home Screen.

3. Press Gap Sensor.

- 4. Review the message, then press the message box to close MSG 36.
- 5. Press the **Calibrate** button.
- Success: The Status LED flashes green, followed by MSG 37.
- Failure: The Status LED flashes red, followed by MSG 38.



STATUS LED

ଲ

LABEL APPAIRATOR

7

Step 6: Set Speed

1. Press Feed Speed from the Label Menu.

2. Enter speed value in Feet Per Minute (FPM) then press OK.

NOTE: For a Wipe Application, insert the conveyor speed; for a Tamp Application, insert 150 FPM. Adjust as needed. For **Encoder Enabled** Wipe Application, see "WIPE Parameter Setup" on page 50.

Step 7: Set Dispense Position

1. Press **Dispense Position** from the Label Menu.

- 2. Enter a value for the **Dispense Position** in units of 1/100". This value is the distance the liner has to travel after seeing Gap to align the next label at the edge of the peel blade. (Standard Labels: 50 75)
- 3. Press the **Force Feed** button on the Label Menu to check that the value settings for Steps 5 to 7 have taken effect. One label will feed at the set speed and the next label will stop at the edge of the peel blade.









Step 8: Set Rewind Tension

Change **Rewind Tension** in the Label Menu to desired value. This setting will depend on the feed speed, label length and the liner material type (see LABEL MENU setup in Appendix B: Application Methods).

Step 9: Set Product Delay

- 1. Press **Setup** from the Home Screen, then press **JOB**.
- 2. Press Apply Delay.

3. Set the delay from when the Product Detector triggers to when the Labeler applies a label, in millisec- 3. onds. Press OK. (See JOB MENU setup for the appropriate applicator in Appendix B: Application Methods.)





DEL

Step 10: Set Apply Duration (Tamp Applicator only)

- NOTE: See Appendix B for more Actuator adjustments
- 1. Set Auto Retract to 0.
- 2. Place a stationary product in front of the tamp pad.
- 3. Place system on-line by pressing the green **Run** button.
- 4. Manually trigger photo trigger with your hand.
- 5. Adjust Apply Duration.
- 6. Repeat steps 4 and 5 until label adheres to product, but product is not hit too hard.

Step 11: Set Actuator Distance Limit (Tamp Applicator only)

Â

NOTE: This Distance Limit is a safety feature used to reduce damage to the machine and product.

- 1. Press ACTUATOR SETUP.
- 2. Measure the distance from tamp pad face to product face and add 1/2" to 1".
- 3. Set Distance Limit to the whole number value.
- 4. Press **Distance Limit Fine** to make distance adjustments in 1/4" increments.





Step 12: Set the System Online

Press the **RUN** button from any screen. The system is ready to apply labels when the background turns green.

Press the **STOP** button from any screen to stop the system from applying a label.

NOTE: Any change made to the settings are permanently saved when Home is pressed. If Home is not pressed, the setting will be temporary.



Section 3: Maintenance

Maintenance Schedule Chart

(See drawings on the following page.)

Action	Daily	Monthly	Annually
Clean Drive Roller		✓	
Replace Drive Roller			~
Replace Peel Blade			~
Clean Label Present and Auto-Retract Sensors (if present)	✓		
Clean Label Low Sensor (if present)		\checkmark	
Clean Product Detector Sensor(s)		✓	
Inspect Drive Module Belt		✓	
Replace Drive Module Belt			~
Inspect Rewind Belt		\checkmark	
Replace Rewind Belt			✓
Replace Unwind Dancer Spring			~
Clean Tamp Pad	✓		
Inspect Vacuum Fan		\checkmark	
Replace Vacuum Fan			✓
Replace Unwind Dancer Arm Spindle			✓

Section 4: Troubleshooting



Common to All Systems

(Check these first before proceeding to specific system type.)

Problem	Possible Cause	Correction
Multiple labels are fed, without a pause between labels	Label gap sensor is not calibrated	Perform the label gap calibration procedure as seen in "Step 5: Calibrate Gap Sensor" on page 9.
	Label liner is not positioned inside label gap sensor	Set the web guides so that the liner passes through the label gap sen- sor.
	Label is not within 1/2" of the liner edge	Change material which has the label's edge to the liner's edge less than 1/2".
Drive roller is turning backwards, liner is	Unit is incorrectly webbed	Re-web the label liner, as seen in "Step 4: Load Media" on page 7.
pulled from rewind	Unit is not correctly configured for left- hand or right-hand	Confirm that the unit configuration is correct. (See "Appendix B: Application Methods" on page 29.)
Supply roll is signaling label low too soon	Label Low Sensor position incorrect	Unscrew the label Low Sensor, move it to a position farther away from the unwind supply roll core and screw into position.
	Label Low Sensor malfunction	Refer to "DIAGNOSTICS SCREEN" on page 20 to verify sensor func- tionality.
Calibration of Label Gap results in fail-	Liner is too thick	This material may not be compatible with the unit's standard sensor.
ure	Sensor is dirty	Remove sensor from peel blade and clean it with isopropyl alcohol.
	Sensor connection is faulty	Check Connector J8 on Controller Board (4750-350).
	Sensor is damaged	Replace sensor.

Wipe Systems

Problem	Possible Cause	Correction
Unit will not dispense a label when product detector is triggered	Unit is off-line or has an error condition	If no errors exist, press RUN button to place unit on-line. If errors exist, determine error type from the display and clear error condition. Attempt to go on-line by pressing the RUN but- ton (this will also check for remaining errors).
	Cabling problem	Verify cabling per "Appendix C: Electrical Interface" on page 52.
	Product Detector field of view not set up	Verify set-up per "Step 3: Position Product Detector" on page 6.
Labels are wrinkled (or crumpled) on the product	Feed speed too high	Reduce Feed Speed per "WIPE Parameter Setup" on page 50.
	Peel blade angle is not correct	Set angle between 20° and 45°. Shorter labels require a steeper angle to the product surface. See "WIPE Mechanical Setup" on page 49.
	Wipe-on brush position is too close to peel edge	For labels longer than 2 inches (50.8 mm), move the brush away from the peel blade edge and angle to 45°.
	The brush on Spindle 2 has become loose. (Refer to picture in "Step 4: Load Media" on page 7.)	Tighten the brush on Spindle 2 to increase the tension on the Liner per "Step 4: Load Media" on page 7.
Liner tracking into the inner or outer guide, web travel is not straight, or excessive paper dust created	Web guides not set properly	Adjust guides per "Step 4: Load Media" on page 7.

Tamp Systems

Problem	Possible Cause	Correction
Unit will not actuate when product detector is triggered	Unit is off-line or has an error condition	If no errors exist, press RUN button to place unit on-line. If errors exist, determine error type from the display and clear error condition. Attempt to go on-line by pressing the RUN but- ton (this will also check for remaining errors).
Label is on the tamp pad, but Actuator does not fire	Product detector not triggered by product	Refer to "DIAGNOSTICS SCREEN" on page 20 to verify that the product detector can repeatedly detect the product. Adjust sensor as necessary.
	Apply trigger occurred before label was on tamp pad	Increase distance of product detector from tamp pad to allow feeding to complete.
	Actuator malfunction.	Refer to "DIAGNOSTICS SCREEN" on page 20 to manually trigger the actuator.
Tamp pad is contacting product with too much force or for too long a duration	Auto-Retract delay time is too long	Decrease the Auto-Retract delay time to start the Actuator return sooner.
Multiple labels are fed to the tamp pad	Dispense position incorrect. Next label over-extending during end of feeding. Next label dislodges label on pad.	Decrease dispense position.
	Dispense position incorrect. Label not extending out of Label Applicator far enough to seat on tamp pad.	Increase dispense position.
	Gap sensor not calibrated, or dirty.	Clean gap sensor and recalibrate per "Step 5: Calibrate Gap Sensor" on page 9.
Labels are feeding into the edge of the tamp pad	Tamp pad position too low	Set tamp pad to a distance just below the peel blade. See Tamp Pad Adjustments in "Appendix B: Application Methods" on page 29.
	Actuator home sensor position too low	Move the home sensor to a position where the Actuator home is detected later.

Diagnostics

HEARTBEAT LIGHT

As simple as this indicator is, it can help identify a problem with the circuit boards in the labeler. All boards that contain firmware have a flashing blue LED light that indicates a normal, working module.

MCM II DIAGNOSTIC LEDs







LED	Color	Meaning
BOTA, BOTB, BOTC	Green	Bottom MOSFET Drivers for Phase A, B, C
TOPA, TOPB, TOPC	Red	Top MOSFET Drivers for Phase A, B, C
EXTEND	Green	Actuator is in extension mode
RETRACT	Green	Actuator is in retraction mode
HOLD	Orange	Actuator is holding current position
HOME	Yellow	Actuator is arriving home
IDLE	Green	Actuator is at home and has entered idle current
ERROR	Red	Actuator/MCM has experienced an error
LBL_PRES	Green	Label Present Sensor detects a label on the pad
AUTO_RET	Green	Auto Retract Sensor detects an object near the pad
BLOWR	Yellow	Blow valve output for reverse motor lead
BLOWF	Yellow	Blow valve output for forward motor lead
VAC	Yellow	Vacuum Fan PWM speed voltage to BLDC fan
PD1	Green	Product Detector 1 input
PD2	Green	Product Detector 2 input
AIR	Yellow	Air Assist Fan output voltage
ACTUATOR HOME	Green	Home Sensor input (actuator is in home position)

DIAGNOSTICS SCREEN



Label Present sensor detects a label on the pad

Appendix A: System Specifications

General Specifications

	Category	Parameter
Dimensions (with Yoke	2)	31 in. (787 mm) L x 27 in. (686 mm) H x 26 in. (660 mm) D
Weight	WIPE E-TAMP, E-WASA E-FASA Chi-Stand	85 lbs (385 kg) (includes yoke, no stand) 120 lbs (54.4 kg) (includes yoke, no stand) 130 lbs (58.9 kg) 96 lbs (43.5 kg)
Accuracy	E-TAMP, E-WASA, E-FASA, WIPE E-TAMP/BLOW	±0.06 in. (±1.6 mm) ±0.09 in. (±2.4 mm)
Certifications		CE, CSA, FCC approved, Listed (UL 60950)
Supply Roll Capacity		14 in. (355.6 mm) OD
Core		3 in. diameter
Label Length		0.5 in. (12.7 mm) Min. to 22 in. (558.8 mm) Max.
Label Width	Narrow Web Wide Web	1 in. (25.4 mm) Min. to 6 in. (152.4 mm) Max. 1 in. (25.4 mm) Min. to 9 in. (228.6 mm) Max.
Product Rate	WIPE E-TAMP E-TAMP/BLOW E-FASA E-WASA E-BLOW BOX	800 PPM Max. 120 PPM Max. 55 PPM Max. Single Apply: 52 PPM Max. Dual Apply: 28 PPM Max. Dependent on label length, print speed and product spacing 300 PPM Max.
Line Speed	WIPE E-TAMP, E-TAMP/BLOW E-FASA E-WASA HIGH SPEED TAMP	300 FPM Max. 150 FPM Max. 75 FPM Max. 125 FPM Max. 300+ FPM Max.
Temperature		41°F - 104°F (5°C - 40°C)
Humidity		10 to 85% Relative Humidity, Non-Condensing

Electrical Specifications

Category	Nominal	Minimum	Maximum
AC Voltage Supply	100 - 240 VAC, 1.6A 50/60 Hz	90 VAC 47 Hz	264 VAC 63 Hz
Product Detector	Low: 0 to 3 VDC High: 3 to 5 VDC Supplies 24 VDC	0 VDC	24 VDC
Product Detector Pulse Width	10 mS	1 mS	Infinite
Auxiliary Output Warning Tower	0 and 24 VDC 1 Amp sinking	0 VDC 0 mA	24 VDC 3 Amps sinking
Discrete Inputs (Optional)	Low: 0 to 10 VDC High: 10 to 24 VDC	0 VDC	26 VDC
Discrete Input Pulse Width Detection	10 mS	1 mS	Infinite
Discrete Outputs (Optional)	0 - 24 V AC/DC at 150 mA	0 V AC/DC, 13 ohms	30 V AC/DC at 400 mA

Performance Specifications

WIPE Application	Label Size	PPM Maximum
WIPE	2 X 1	500 PPM*

* WIPE Maximum PPM greatly relies on label size, line speed and product size.

10 or 20 in. E-TAMP Labeler Application	Label Size	Stroke Distance (Baseplate edge to product)	PPM Maximum
Side Orientation (Nose-Down)	4 x 2	4 in., HIGH Actuator Profile	85 PPM
Side Orientation (Nose-Down)	4 x 2	3 in., HIGH Actuator Profile	94 PPM
Side Orientation (Nose-Down)	4 x 2	1.5 in., HIGH Actuator Profile	102 PPM

10 in. E-FASA Labeler Application	Label Size	Stroke Distance (Baseplate edge to product)	PPM Maximum
Dual Panels - Front & Side	4 x 2	4.5 in., HIGH Actuator Profile	28 PPM
Dual Panels - Side & Rear	4 x 2	4.5 in., HIGH Actuator Profile	24 PPM
Single Panel - Front Only	4 x 2	4.5 in., HIGH Actuator Profile	52 PPM
Single Panel - Rear Only	4 x 2	4.5 in., HIGH Actuator Profile	46 PPM
Dual Panels - Front & Side	4 x 6	4.5 in., HIGH Actuator Profile	18 PPM
Dual Panels - Side & Rear	4 x 6	4.5 in., HIGH Actuator Profile	16 PPM
Single Panel - Front Only	4 x 6	4.5 in., HIGH Actuator Profile	44 PPM
Single Panel - Rear Only	4 x 6	4.5 in., HIGH Actuator Profile	40 PPM

20 in. E-FASA Labeler Application	Label Size	Stroke Distance (Baseplate edge to product)	PPM Maximum
Dual Panels - Front & Side	4 x 6	14 in., MED-LOW Actuator Profile	10 PPM
Dual Panels - Side & Rear	4 x 6	14 in., MED-LOW Actuator Profile	12 PPM
Single Panel - Front Only	4 x 6	14 in., MED-LOW Actuator Profile	26 PPM
Single Panel - Rear Only	4 x 6	14 in., MED-LOW Actuator Profile	24 PPM

E-WASA Labeler Application	PPM Maximum
6 inch Length WASA	11 PPM
8 inch Length WASA	10 PPM
10 inch Length WASA	9 PPM
12 inch Length WASA	8 PPM

Wipe 6"



E-TAMP & E-TAMP/BLOW



Appendix A: System Specifications

Label Applicator

E-FASA 10 in.













SIDE ORIENTATION



E-FASA 20 in.













SIDE ORIENTATION



E-WASA

FRONT













TOP-DOWN



Appendix B: Application Methods

E-TAMP Mechanical Setup

ALIGN TO PEEL BLADE

- 1. Loosen both screws on the dovetail slider (A).
- 2. Slide actuator assembly toward and away from peel blade until there is approximately 1/8" gap.
- 3. Tighten both screws (A).

ALIGN LABEL WITH TAMP PAD

- 1. Loosen both screws on the tamp actuator L-bracket (B).
- 2. Slide the actuator assembly toward and away from the baseplate until the label present sensor will be covered by a fed label.
- 3. Tighten both screws on the tamp actuator L-bracket (B).

ALIGN TAMP PAD HEIGHT

- 1. Loosen the jam screw on the actuator rod.
- 2. Adjust the bumper height by turning the bumper so that the face of the peel blade is 1/16" **BEYOND** the peel blade.
- 3. Power on the Label Applicator to verify tamp pad home position.
- 4. Tighten the jam screw.





E-TAMP Parameter Setup

Std for rectangular labels with 1/8"

to the rewind on a feed cycle. Set

or labels shorter than 4 inches.

passes gap sensor.

E-TAMP applications allow the label to be placed on the Top, Side or Bottom of a product. Typically, these are applying only one label to a product, but two can be applied as well.

LABEL MENU - Enter LABEL Menu from the Home Screen.



Determines the label generation mode. For slow applications, like pallets, make this P1 Detect. This will reduce the time the label adhesive is exposed to air and drying. For highest throughput, use At Home. Use P2 Detect for the highest accuracy (by using two detectors) when feed on demand is required.

Depends on the product speed and PPM. Set for fastest throughput for the application.

Sets the distance the liner has to travel after the gap for the next label to align at the edge of peel blade. For standard labels usually set to 50-70 (0.5 to 0.7 inches).

SYSTEM MENU - Enter SYSTEM Menu from the Setup Screen.



E-Tamp will be chosen for this application.

Yes will offset the label placement from the front. If the product lengths vary, and the label needs to be placed off of the trailing edge of the product. set to No.

SMART MENU - Enter SMART Menu from the Setup Screen.

Determines if the system is being used with the optional Label Present sensor.

Determines how many times the label will be fed without an application. The available options are 1, 2, 3 and Infinite. To ensure a 1 Label to 1 Product match, set this to 1.



Provides a warning if the system is online with a prior label on the tamp pad. Helps avoid a potential label to product mismatch.

Determines how many times the system will attempt to apply the same label. The available options are 1, 2, 3 and Infinite. To ensure a 1 Label to 1 Product match, set this to 1.

JOB MENU - Enter JOB Menu from the Setup Screen.

Keep as small as possible by locating the product sensor as close to the peel blade as possible. Exception - if print on Controls the extension stroke time. Set Auto-Retract to zero to properly adjust this time, then re-enable Auto Retract.

Most E-Tamp applications will not need much Home Delay. Large label sizes will benefit with a minimal delay of 20 to 100 mS.

If installed, the Auto-Retract (AR) time depends on the Actuator Speed. Speeds higher than **Medium** should not use the AR. Low to Medium speeds benefit from AR, and typical values range from 1 mS to 100 mS.

demand is used.

ACTUATOR SETUP MENU

Press ACTUATOR SETUP from Job Menu.

Sets the furthest extension of the tamp for the application with steps of one inch. Use this limit if the product distance to the labeler is consistent.

Sets the furthest extension of the _____ tamp with 1/4 inch steps.

Sets the overall speed of the Actuator to five discrete values, and depends on the application speed and through put.

If enabled, the pad vibrates during label feed to help thicker labels or with stronger adhesive feed on the pad properly.

Sets how long the actuator should hold the same position once it reaches the first of these conditions: Apply Duration expired, Auto Retract sensed, Distance Limit threshold reached.

Note: For most tamp applications, this value should be zero. For slow linespeed applications, this value can be used to keep the pad in contact with the product longer, but with weaker (non-crushing) force. Holds the last position, versus continuing forward.

See chart below for recommended setting:

Profile	Label
Low	Label length > 8 inches
Med-Low	Label length > 8 inches
Medium	Label size closely matches pad size (i.e., 4 x 6 label on 4 x 6 pad)
Med-High	Label area is smaller than pad size by 50% (i.e., 4 x 2 label on 4 x 4 pad)
High	Label area is smaller than pad area by 70% (may require custom pad to accommodate)



E-TAMP/BLOW Mechanical Setup

ALIGN TO PEEL BLADE

- 1. Loosen both screws on the dovetail slider (A).
- 2. Slide actuator assembly toward and away from peel blade until there is approximately 1/8" gap.
- 3. Tighten both screws (A).

ALIGN LABEL WITH TAMP PAD

- 1. Loosen both screws on the tamp actuator L-bracket (B).
- 2. Slide the actuator assembly toward and away from the baseplate until the label present sensor will be covered by a fed label.
- 3. Tighten both screws on the tamp actuator L-bracket (B).

ALIGN TAMP PAD HEIGHT

- 1. Loosen the jam screw on the actuator rod.
- 2. Adjust the bumper height by turning the bumper so that the face
- 3. of the peel blade is 1/16" **BEYOND** the peel blade.
- 4. Power on the Label Applicator to verify tamp pad home position.
- 5. Tighten the jam screw.





BUMPER HEIGHT ADJUST



JAM SCREW

E-TAMP/BLOW Parameter Setup

gap or Odd for any shape label

that passes gap sensor.

Sets the amount of tension applied to the rewind on a feed

than 4 inches.

cycle. Set lower for speeds less

than 100 FPM or labels shorter

E-TAMP/BLOW applications allow the label to be placed on the Top or Side of a product. Typically, the label is transferred in a contact-less manner to the product. Alternatively, the tamp pad can make contact with the product and then blow (tamp-touch-blow) to help place a label into a recess or void area.

LABEL MENU - Enter LABEL Menu from the Home Screen.



Determines the label generation mode. For slow applications, like pallets, make this **P1 Detect**. This will reduce the time the label adhesive is exposed to air and drying. For highest throughput, use At Home. Use P2 Detect for the highest accuracy (by using two detectors) when feed on demand is required.

Depends on the product speed and PPM. Set for fastest throughput for the application.

Sets the distance the label will travel after gap sensor is triggered. For standard labels usually set to 50-70 (0.5 to 0.7 inches).

SYSTEM MENU - Enter SYSTEM Menu from the Setup Screen.



E-Tamp will be chosen for this application.

Yes will offset the label placement from the front. If the product lengths vary, and the label needs to be placed off of the trailing edge of the product. set to No.

Appendix B: Application Methods

Label Applicator

SMART MENU - Enter SMART Menu from the Setup Screen.

Determines if the system is being used with the optional Label Present sensor.

Determines how many times the label will be fed without an application. The available options are **1**, **2**, **3** and **Infinite**. To ensure a 1 Label to 1 Product match, set this to 1



Provides a warning if the system is online with a prior label on the tamp pad. Helps avoid a potential label to product mismatch.

Determines how many times the system will attempt to apply the same label. The available options are **1**, **2**, **3** and **Infinite**. To ensure a 1 Label to 1 Product match, set this to 1.

JOB MENU - Enter JOB Menu from the Setup Screen.

No disables the Blow function (E-TAMP). **On Sensor** only activates the Blow function when the product is detected by Auto Retract Sensor. **On Retract** activates the Blow function when the actuator is returning due to Apply Duration expiring.

Keep as small as possible by locating the product sensor as close to the peel blade as possible. Exception - if print on demand si used.

Controls the extension stroke time. Set Auto-Retract to zero to properly adjust this time, then re-enable Auto Retract.



Most E-Tamp applications will not need much Home Delay. Large label sizes will benefit with a minimal delay of 20 to100 mS.

If installed, the Auto-Retract (AR) time depends on the Actuator Speed. Typical values range from 1 mS to 100 mS.

ACTUATOR SETUP MENU

Press ACTUATOR SETUP from the Job Menu.

Sets the furthest extension of the tamp for the application with steps of one inch. Set distance just short of the product to blow label to the product.

Sets the furthest extension of the tamp with 1/4 inch steps.

Sets the overall speed of the Actuator to five discrete values.

Pidance limit fine RUN Piece Actualor Speed Vacuum Speet Delay	HOME	Act	tuator Set	up	
Actuator Speed Speed Delay	RUN	Distance limit	Distance Limit Fine		VibraFead No Yes
BACK Medium LOW SUU	3105	BACK	Actuator Speed Medium	Vacuum Speed LOW	Hoted Delay 500

If enabled, the pad vibrates during label feed to help thicker labels or with stronger adhesive feed on the pad properly.

Vacuum Speed should be Med_High or High.

Sets how long the actuator should hold the same position once it reaches the first of these conditions: Apply Duration expired, Auto Retract sensed, Distance Limit threshold reached.

Note: Use this delay to keep the tamp pad at a fixed distance while the blow function is operating. A value between 50 and 100 mS makes the blow more effective.

High Speed Tamp Mechanical Setup

ALIGN TO PEEL BLADE

- 1. Loosen the two screws on the dovetail slider (A).
- 2. Slide assembly toward and away from the drive module until there is approximately 1/8" gap between the drive module peel blade and tamp pad edge.
- 3. Tighten the two screws (A).

ALIGN LABEL WITH TAMP PAD

- 1. Loosen the two screws on the L-bracket (B).
- 2. Slide the assembly toward and away from the baseplate until a fed label will cover the label present sensor.
- 3. Tighten the two screws on the L-bracket (B). Keep the actuator parallel to the baseplate during tightening.

ALIGN TAMP PAD HEIGHT

- 1. Loosen the set screw (D).
- 2. Adjust the bumper height (C) by turning the bumper so that the face of the peel blade is 1/16" **BEYOND** the peel blade.
- 3. Tighten the set screw (D).
- 4. Loosen the screws (E).
- 5. Slide the roller to set angle. The pad face should be level to the bottom edge of the baseplate.
- 6. Tighten the screws (E).









High Speed Tamp Parameter Setup

High Speed Tamp (HST) applications allow the label to be placed on the Top or Side of a product. Typically, this application method allows for linespeeds higher than a standard tamp module can handle. The actuator extends the pivoting plate down to the product and holds this position to allow the product to receive the label via the roller.

Alternatively, the HST can be used to follow the contour of the product. The same principles apply: the plate should not be setup to make flat contact with the product, but rather stop short, hold position, and let the pivoting-action of the tamp plate glide along the product's surface.

Label Menu

Force

LABEL MENU - Enter LABEL Menu from the Home Screen.

Std for rectangular labels with 1/8" gap or **Odd** for any shape label that passes gap sensor.

Sets the amount of tension applied to the rewind on a feed cycle. Set lower ______ for speeds less than 100 FPM or labels shorter than 4 inches.

Sets the distance the liner has to travel after the gap for the next label to align at the edge of peel blade. For standard labels usually set to 50-70 (0.5 to 0.7 inches).

Determines the label generation mode. For slow applications, like pallets, make this **P1 Detect**. This will reduce the time the label adhesive is exposed to air and drying. For highest throughput, use **At Home**. Use **P2 Detect** for the highest accuracy (by using two detectors) when feed on demand is required.

Depends on the product speed and PPM. Set for fastest throughput for the application.

SYSTEM MENU - Enter SYSTEM Menu from the Setup Screen.



HS-Tamp will be chosen for this application.

Yes will offset the label placement from the front. If the product lengths vary, and the label needs to be placed off of the trailing edge of the product, set to **No**.

SMART MENU - Enter SMART Menu from the Setup Screen.

Determines if the system is being used with the optional Label Present sensor.

Determines how many times the label will be fed without an application. The available options are **1**, **2**, **3** and **Infinite**. To ensure a 1 Label to 1 Product match, set this to 1



Provides a warning if the system is online with a prior label on the tamp pad. Helps avoid a potential label to product mismatch.

Determines how many times the system will attempt to apply the same label. The available options are **1**, **2**, **3** and **Infinite**. To ensure a 1 Label to 1 Product match, set this to 1.

JOB MENU - Enter JOB Menu from the Setup Screen.

Keep as small as possible by locating the product sensor as close to the peel blade as possible. Exception - if print on demand is used.

Controls the extension stroke time. Set Auto-Retract to zero to properly adjust this time, then re-enable Auto Retract.



Most E-Tamp applications will not need much Home Delay. Large label sizes will benefit with a minimal delay of 20 to100 mS.

If installed, the Auto-Retract (AR) time depends on the Actuator Speed. Typical values range from 1 mS to 100 mS.

ACTUATOR SETUP MENU

Press ACTUATOR SETUP from the Job Menu.

If enabled, the pad vibrates during label feed to help thicker labels or with stronger adhesive feed on the pad properly.

Sets the furthest extension of the tamp for the application with steps of one inch. Use this limit if the product distance to the labeler is consistent.

Sets the furthest extension of the tamp with $\frac{1}{4}$ inch steps.

Sets the overall speed of the Actuator to five discrete values.



See chart below for recommended setting:

Sets how long the actuator should hold the same position once it reaches the first of these conditions: Apply Duration expired, Auto Retract sensed, Distance Limit threshold reached.

Note: For CONTOURING APPLICATIONS use the Distance Limit to set the fixed position to pivot from and increase the Hold Delay to apply all of the label. May need to increase Apply Duration to keep actuator in position for the whole Hold period. **Note:** For HIGH-SPEED APPLICATIONS minimize stroke length and hold time. Keep the tamp plate engaged to the roller bumper, and extend just long enough to pivot. Lower Actuator Speeds are better for this action.

Profile	Label
Low	Label length > 8 inches
Med-Low	Label length > 8 inches
Medium	Label size closely matches pad size (i.e., 4 x 6 label on 4 x 6 pad)
Med-High	Label area is smaller than pad size by 50% (i.e., 4 x 2 label on 4 x 4 pad)
High	Label area is smaller than pad area by 70% (may require custom pad to accommodate)

E-FASA Mechanical Setup

PEEL BLADE GAP ADJUSTMENT

- 1. Loosen the four screws on the dovetail slider (A).
- 2. Slide assembly toward and away from the peel blade until there is approximately 1/8" gap between the peel blade and tamp pad edge.
- 3. Tighten the four screws (A).

BASEPLATE ADJUSTMENT

- 1. Loosen the four screws on the L-bracket (B).
- 2. Slide E-FASA assembly toward and away from the baseplate until a fed label will cover the label present sensor.
- 3. Tighten the four screws on the L-bracket (B).

HEIGHT POSITION ADJUSTMENT

- 1. Loosen the jam nut (C).
- 2. Set height by rotating bumper rod (D).
- 3. Adjust the tamp pad height to 1/16" **BEYOND** the peel blade.
- 4. Check home position by powering up the system.
- 5. Tighten the jam nut (C).







1/8" (3 mm)



PAD ANGLE ADJUSTMENT

- 1. Loosen the jam nut (E).
- 2. Tighten or loosen the bumper (F) to rotate the pad, making it parallel with the baseplate.
- 3. Tighten the jam nut (E).

PIVOT SPRING TENSION ADJUSTMENT

- 1. Loosen bolt (G).
- 2. Slide the bracket closer or further from the rod end to loosen or tighten the spring.
- 3. Tighten bolt (G).
- 4. Test label application. Pad should not "slap" the product when labeling.

HOME SENSOR ADJUSTMENT

- 1. Loosen set screw (H).
- 2. With arm in home position, slide home sensor toward machine and then slowly slide it away from the machine until the light turns on.
- 3. Tight set screw (H) to 6-8 LB-IN.
- 4. Verify that the home sensor light turns off when the pad is moved about 1" away from the home bumper.







E-FASA Parameter Setup

Std for rectangular labels

with 1/8" gap and Odd for

gap sensor.

any shape label that passes

The E-FASA application module allows for either one or two product panel applications. In single label applications, either the front or rear panels can be labeled. In dual label applications, either the front and side or side and rear panels can be labeled.

LABEL MENU - Enter LABEL Menu from the Home Screen.



Sets the amount of tension applied to the rewind on a feed cycle. Set lower for speeds less than 100 FPM or labels shorter than 4 inches. Determines the label generation mode. For slow applications, like pallets, make this **P1 Detect**. This will reduce the time the label adhesive is exposed to air and drying. For highest throughput, use **At Home**. Use **P2 Detect** for the highest accuracy (by using two detectors) when feed on demand is required.

Depends on the product speed and PPM. Set for fastest throughput for the application.

Sets the distance the liner has to travel after the gap for the next label to align at the edge of peel blade. For standard labels usually set to 50-70 (0.5 to 0.7 inches).

SYSTEM MENU - Enter SYSTEM Menu from the Setup Screen.

Set to the length of the actuator.

Note: This is an important setting, since it regulates the overall speed of the arm. Faster speeds are allowable for the 5" arm and reduced for the 10" and 20". Proper function of the system requires the correct match of the Actuator Length and the physical length of the E-FASA arm. The length of the E-FASA is the usable length of the arm, measured between the baseplate edge and the tamp pad center.

Sets the rewind motor direction.

E-FASA will be chosen for this application.

Yes will offset the label placement from the front. If the product lengths vary, and the label needs to be placed off of the trailing edge of the product, set to **No**.

SMART MENU - Enter SMART Menu from the Setup Screen.

Determines if the system is being used with the optional Label Present sensor.

Determines how many times the label will be printed/fed without an application. The available options are **1**, **2**, **3** and **Infinite**. To ensure a 1 Label to 1 Product match, set this to 1.



Provides a warning if the system is online with a prior label on the tamp pad. Helps avoid a potential label to product mismatch.

Determines how many times the system will attempt to apply the same label. The available options are **1**, **2**, **3** and **Infinite**. To ensure a 1 Label to 1 Product match, set this to 1.

JOB MENU - Enter JOB Menu from the Setup Screen.

If the application requires two labels, front and side panels, this delay can be kept minimal. If the application is side and rear panels, the product sensor will have to be relocated, and delay will therefore need to increase.

Should be greater than the time required to print two labels (if using Make Label PD Sensor 1 or 2) or print one label (Make Label = At Home mode) plus the first apply cycle. Should be incrementally set from low values to higher values to adjust the contact point with the product. For the front or rear panels, the optimum contact point is a little beyond 90 degrees. This allows the pad to pivot, and place the label squarely on the product.



Most E-FASA applications benefit from some minimal delay between 50 to 200 mS, to allow the pad to settle when arriving home.

Not very useful for the front and rear panels, but mainly used for the side application. Values between 1 and 50 mS are typical.

Values between 1 and 50 mS are typical.

Same as Apply Duration.

ACTUATOR SETUP MENU

Press **ACTUATOR SETUP** from the Job Menu.

Sets the furthest swing angle for this application.

Note: Use this limit for the front or rear panel swing (typically 90 degrees). Can be used in conjunction with the Hold Delay to swing out and wait for the product's front panel. If Hold Delay is long enough, will perform a corner wrap on product.

Sets the overall speed of the Actuator to five discrete values.



If enabled, the pad vibrates during label print/ feed to help thicker labels or with stronger adhesive feed on the pad properly.

Sets how long the actuator should hold the same position once it reaches the first of these conditions: Apply Duration expired, Auto Retract sensed, Angle Limit threshold reached.

See the chart below for recommended setting:

Profile	Label
Low	Label length > 8 inches
Med-Low	Label length > 8 inches
Medium	Label size closely matches pad size (i.e., 4 x 6 label on 4 x 6 pad)
Med-High	Label area is smaller than pad size by 50% (i.e., 4 x 2 label on 4 x 4 pad)
High	Label area is smaller than pad area by 70% (may require custom pad to accommodate)

E-WASA Mechanical Setup

ADJUST "X" POSITION

- 1. Loosen the two screws on the slider track (A).
- 2. Slide the WASA module until there is approximately 1/8" between the peel blade and the edge of the Fan Box.
- 3. Tighten the screws (A).

ADJUST "Y" POSITION

- 1. Loosen the two screws (B).
- 2. Feed a label out to the fan box.
- 3. Label should dispense within 1/8" of raised edge, but **NOT** on the raised edge.

ADJUST ROTATION ANGLE "Z" POSITION

- 1. Loosen two nuts (C) on the cylinder.
- 2. Turn the cylinder body to thread the rod in or out of the coupling to adjust the "Z" rotational position of the Fan Box.
- 3. Adjust the rotation so that the label feeds out to the Fan Box without stalling on the surface of the face.
- 4. Tighten both nuts (C) and feed a few labels to determine if the position is ideal.















JAM NUT

ADJUST SPRING RATE

- 1. Loosen the jam nut with the 13mm open-end wrench.
- Turn the screw (14mm) clockwise to increase the spring force, and counterclockwise to reduce it. Products that are under 5~ 10 lbs require less spring force to allow the label to be wrapped without making the product stall on the conveyor. Too light of a spring tension will result in a poorly wrapped label. The full range of spring tension is accomplished within a 2 inch screw treading distance.

WARNING: Do not decrease the spring tension so far that the WASA Fan Box does not consistently return home. If the spring is too weak, friction and product placement will begin to effect the performance of the label wrap.



SCREW ADJUSTMENT

NOTE: The E-WASA is highly dependent on a rear guide rail for optimal performance. Since the E-WASA is spring-loaded to apply pressure to the front and side of the product, the guide rail prevents possible product skew. Operation without the proper material handling will result in poor wrap angle or label wrinkle.

3. When the WASA travel has been checked for the swing range of motion, lock in the spring tension position by tightening the jam nut.

ADJUST RETURN FLOW CONTROL

Loosen the thumb wheel jam nub and turn the flow control clockwise to reduce the speed that the WASA returns to the home position. Increase the flow by turning the control counterclockwise, which will allow the WASA box to return home faster.



WARNING: The adjustment on the return speed will determine the maximum throughput rate. If the application can tolerate a slower return rate, it will result in a smoother and gentler return, which will result in longer life.



NOTE: The E-WASA is highly dependent on a rear guide rail for optimal performance. Since the E-WASA is spring-loaded to apply pressure to the front and side of the product, the guide rail prevents possible product skew. Operation without the proper material handling will result in poor wrap angle or label wrinkle.



FLOW CONTROL SET SCREW

E-WASA Parameter Setup

E-WASA applications allow the label to be placed on two adjacent panels, typically front and side, but front and top is also possible. Since the E-WASA cannot accept the next label until the arm returns home, it is a label print on demand by default.

HOME

LABEL MENU - Enter LABEL Menu from the Home Screen.

Std for rectangular labels with 1/8" gap and **Odd** for any shape label that passes gap sensor.

Sets the amount of tension applied to the rewind on a print cycle. Set lower for print - speeds less than 100 FPM or labels shorter than 4 inches.

SYSTEM MENU - Enter SYSTEM Menu from the Setup Screen.

Sets the rewind motor direction.



E-WASA, if there is no Home Sensor and **E-WASA+**, if there is a Home Sensor.

Sets the distance the liner has to travel after the

gap for the next label to align at the edge of peel

blade. For standard labels usually set to 50-70

Depends on the product speed and PPM. Set for

fastest throughput for the application.

JOB MENU - Enter JOB Menu from the Setup Screen.

Determines the amount of time to delay from the product detector trigger to the label printing. Usually kept at a minimum value.



(0.5 to 0.7 inches).

WIPE Mechanical Setup

ANGLE ADJUSTMENT

- 1. Loosen Rotator Screw (A).
- 2. Adjust angle.
- 3. Tighten Rotator Screw (A).



NOTE: Increase the angle to the product (more parallel feeding of label to product's surface) for surfaces that have an outward bow. Decrease the angle to the product (more perpendicular to the product's surface) for recessed areas or plastic-based labels that tend to trap air pockets.

NOTE: Using an angle less than 20° or greater than 45° can cause label misplacement or unnecessary wear on applicator.

BRUSH ANGLE AND POSITION ADJUSTMENT

The brush should be positioned at the point where the label will make contact with the product.

- 1. Loosen the brush clamp handle (B).
- 2. Position the brush to match the point of contact between the label and the product.
- 3. For short labels, the brush should be positioned next to or contacting the peel blade (product will push bristles back when in contact).





WIPE Parameter Setup

Wipe application allows for pre-printed standard and irregular labels to be applied at maximum speed of 300 FPM (Feet Per Minute).

LABEL MENU - Enter LABEL Menu from the Home Screen.





NOTE: When using Line Encoder, if product detector is triggered on trailing edge of the product, set PD Distance to zero and set "D" in inches as Position Distance.



SYSTEM MENU - Enter SYSTEM Menu from the Setup Screen.



Sets the rewind motor direction.

An optional line encoder can be used to follow the speed of the conveyor. Using a line encoder changes some of the settings.

Wipe is used for this application.

Typically leading edge product triggers will offset the label placement from the front. If the product lengths vary, and the label needs to be placed off of the trailing edge of the product, set this value to No.

JOB MENU - Enter JOB Menu from the Setup Screen.

LINE ENCODER DISABLED

Determines the amount of time to delay from the product detector trigger to label feeding. The setting depends on feed speed and label placement on the product, but is usually kept at a minimum value.

LINE ENCODER ENABLED



Sets the distance from the leading edge of the label to the leading edge of the product.

Appendix C: Electrical Interface



Appendix D: Part Numbers

Service Parts

LA/4750 Components

Kit No.		Description
Standard	Wide Web	Description
4750	-200	Pulley Assembly
4750	-201	Nip Roller
4750-202	4750-210	Drive Roller
4750-203	4750-211	Tamp Peel Blade
4750-204	4750-212	Wipe Peel Blade
4750-205		PC Board
4750-206	4750-213	Hold-Down Parts
4750-207		LA4750 Cable Assembly
6146-611	6146-682	Brush
4600-900		Product Detector Assembly, Diffuse
1901-141		AC Power Cable
4600-647		Rewind Clasp
4600-950		Platinum Series Wear Items (not pictured)
	Kit Standard 4750 4750-202 4750-203 4750-204 4750-204 4750-206 4750 6146-611 4600 1901 4600 4600	Kit No. Standard Wide Web $4750-200$ $4750-201$ $4750-202$ $4750-210$ $4750-203$ $4750-211$ $4750-204$ $4750-212$ $4750-204$ $4750-212$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-206$ $4750-213$ $4750-207$ $6146-682$ $4600-900$ $1901-141$ $4600-647$ $4600-950$



9







Applicator Components

Item	Kit No.	Description
1	6000-205X5	Actuator Extrusion, 5"
	6000-205X10	Actuator Extrusion, 10"
	6000-205X20	Actuator Extrusion, 20"
	6000-205X30	Actuator Extrusion, 30"
2	6000-689KIT	MCM Board Replacement
3	6000-950	E-TAMP Wear Items
4	6000-951	E-FASA Wear Items
5	6000-952	E-WASA Wear Items
6	4600-906	Home Sensor

NOTE: Pictures of items 3, 4 and 5 represent the Applicator, not the components in the Wear Items kit.



MCA Components

Item	Kit No.	Description
1	6000-202	Display Assembly
2	6000-203	PC Board Assembly





Optional Equipment

Item	Kit No.	Description
1	5760-820-IJ	Encoder Assembly with Mounting Bracket & 25' Cable
2	5765-206	Encoder O-Ring Replacement
3	4600-901	Product Detector, Break-Beam
	4600-902	Product Detector, Laser
4	4750-209UPGRADE-T	Clear Label Gap Sensor, Tamp
	4750-209UPGRADE-W	Clear Label Gap Sensor, Wipe
5	6000-518	Y-Cable, Product Detector
6	6000-260	Remote Hand-Held
7	6000-552	Parking Brake
8	6000-903	Auto Retract, Label Low or Label Present Sensor
9	4750-216	Core Adapter, 3" to 6"

