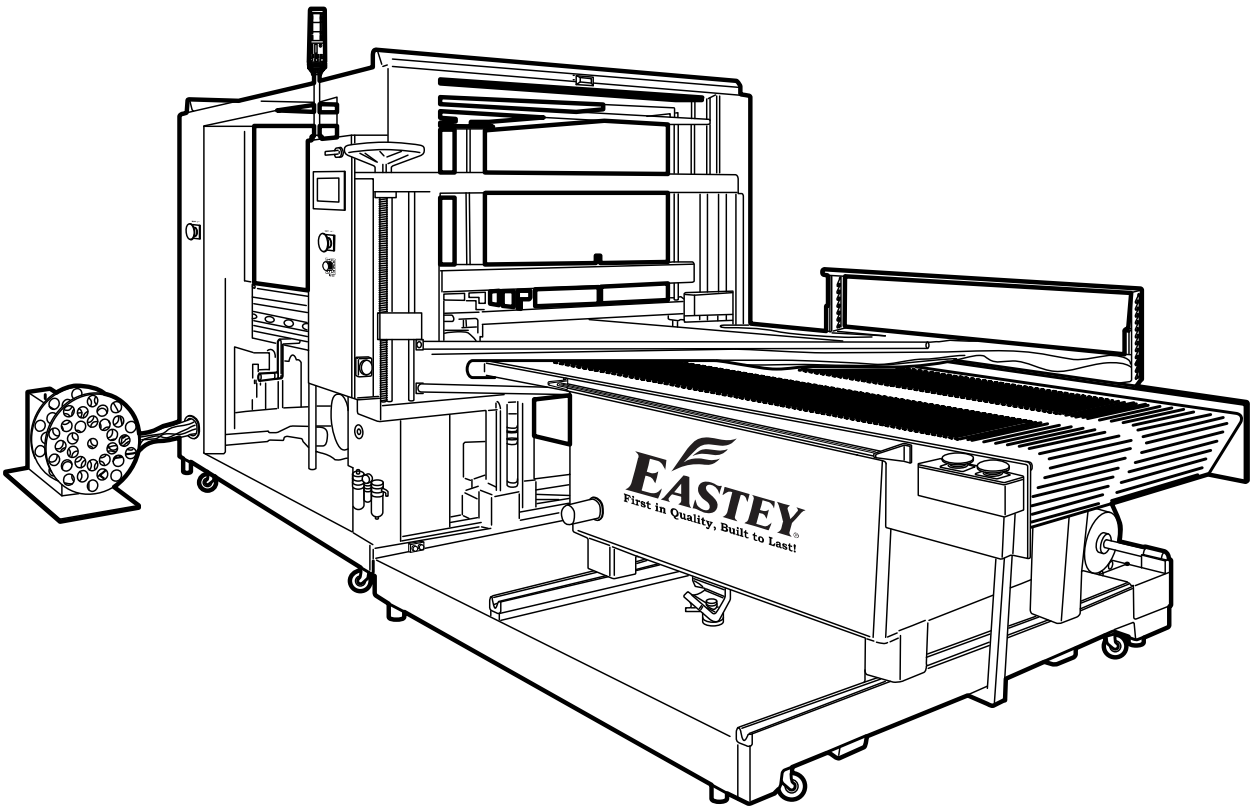
EA

**EA3050TK, EA3070TK, EA30100TK,
EA4050TK, EA4070TK, EA40100TK,
EA5050TK, EA5070TK, and EA50100TK**

Auto L-Sealer
Professional Series

User Guide



EASTEY®

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Auto L-Sealer
Professional Series

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Contents

Safety

Read this manual carefully and make it available to everyone connected with the supervision, maintenance, or operation of this machine. Additional copies are available on request (Eastey.com/contact-us).

The development of a good safety program that is rigidly enforced is absolutely imperative when involved in the operation of industrial equipment. Our machinery is well designed and includes extremely important safety features. Proper installation, safe operation, and regular maintenance and upkeep are of far greater importance than the design. Improper operation of this machine can cause injury to operators or bystanders near the machine and can cause damage to the machine or nearby property. Only properly-trained individuals following rigidly enforced safety rules, as recommended by ANSI and OSHA should be allowed to operate these machines.

Be very careful when operating, adjusting, or servicing this equipment. If in doubt, stop and obtain qualified help before proceeding.

General Safety Precautions

Before installing, operating, or servicing this equipment, please read the following precautions carefully:

- Always disconnect electrical power before attempting maintenance for any electrical or moving parts. Do not place hands, head, or any part of the body inside the confines of the machine unless the mechanism is securely restrained and the electrical supply is shut off.
- Do not attempt to open or work on the electrical box, junction boxes or other electrical components of the unit without first disconnecting power to the machine. Electrical shock hazard exists if power is not disconnected.
- Do not tamper with electrical wiring. Use only the specified power-supply cable. Use only licensed electricians to check or repair electrical wiring.
- Do not bypass any factory-designed safety features such as guards, interlocks, switches, etc.
- In order to prevent damage to the machinery or injury to personnel, do not increase the factory settings on either the electrical or mechanical overload safety devices. Do not operate a machine if such modifications have been made.
- Never operate this or any moving equipment without all covers and guards in place. The internal mechanism of most packaging machinery contains numerous shear, pinch, and in-running nip points, many of which are capable of causing severe injury and permanent disfiguration.
- Keep hands away from moving conveyors and moving parts. Conveyor belts that have become worn or frayed can be hazardous and should be replaced promptly.

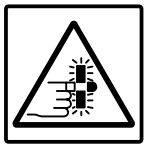
- Do not stand or climb on any part of the Auto L-Sealer or frame or guards. Never provide service or attempt to clear a jam when the machine is running.
- To minimize the potential for personal injury, always be sure that the machine operators and others working on the machinery are properly trained in the correct usage of the equipment and properly instructed regarding the safety procedures for operation.
- Heat sealing arms and jaws on packaging machinery can become very hot after a period of use. Keep hands away while in operation and use caution if the machine has been running recently. If optional cutting blades have been installed, these can be very sharp. Exercise caution.
- Do not make any modifications to either the electrical circuitry or the mechanical assemblies of this machinery. Such modifications may introduce hazards that would not otherwise be associated with this machinery. Eastey will not be responsible for any consequences resulting from such unauthorized modification. Do not operate a machine if any modification has been made.
- This equipment is designed for indoor operation in a typical clean, dry factory environment. Do not operate the machine in any extremely wet or oily environment that may exceed operating specifications. Pneumatic equipment requires a clean and dry supply of air maintained at specified pressure for operation.
- The use of certain types of plastic films in sealing and/or shrink-wrapping equipment may result in the release of hazardous fumes due to degradation of the film at high temperatures. Before using any plastic film in this equipment, the manufacturer or supplier of the film should be contacted for specific information concerning the potential release of hazardous fumes. Adequate ventilation should be provided at all times.
- Keep combustible materials away from this equipment. The equipment may be a source of ignition.
- Do not wear loose clothing such as ties, scarves, jewelry, etc. Long hair should be pulled back and/or covered while operating this machine.

Explanation of Symbols

Caution sign or Safety Alert symbol. Indicates caution, be alert, Your safety is involved. Knowledge of safe operation is required. Caution indicates a hazardous situation which if not avoided could result in minor to moderate injury or damage to equipment or property.

Electrical hazard. Indicates electrical danger. Allow only a trained electrician to open the door or cover of the electrical panel or box. Shut off electrical power before attempting to open or work in the electrical box, junction boxes, or other electrical components of the unit.

Ground symbol. Indicates ground. Use Class-3 (lower than 1000) cable to ground to earth. Incomplete grounding may lead to electrical shock.



Cut or shear hazard. Do not place your hands or any object on the sealing or cutting zone at any time. Shut down the machine before performing maintenance, parts replacement, or troubleshooting in these zones.

Pinch hazard. Do not place your hands or any object on the moving mechanism. Shut down the machine before performing maintenance, repair, or adjustment.

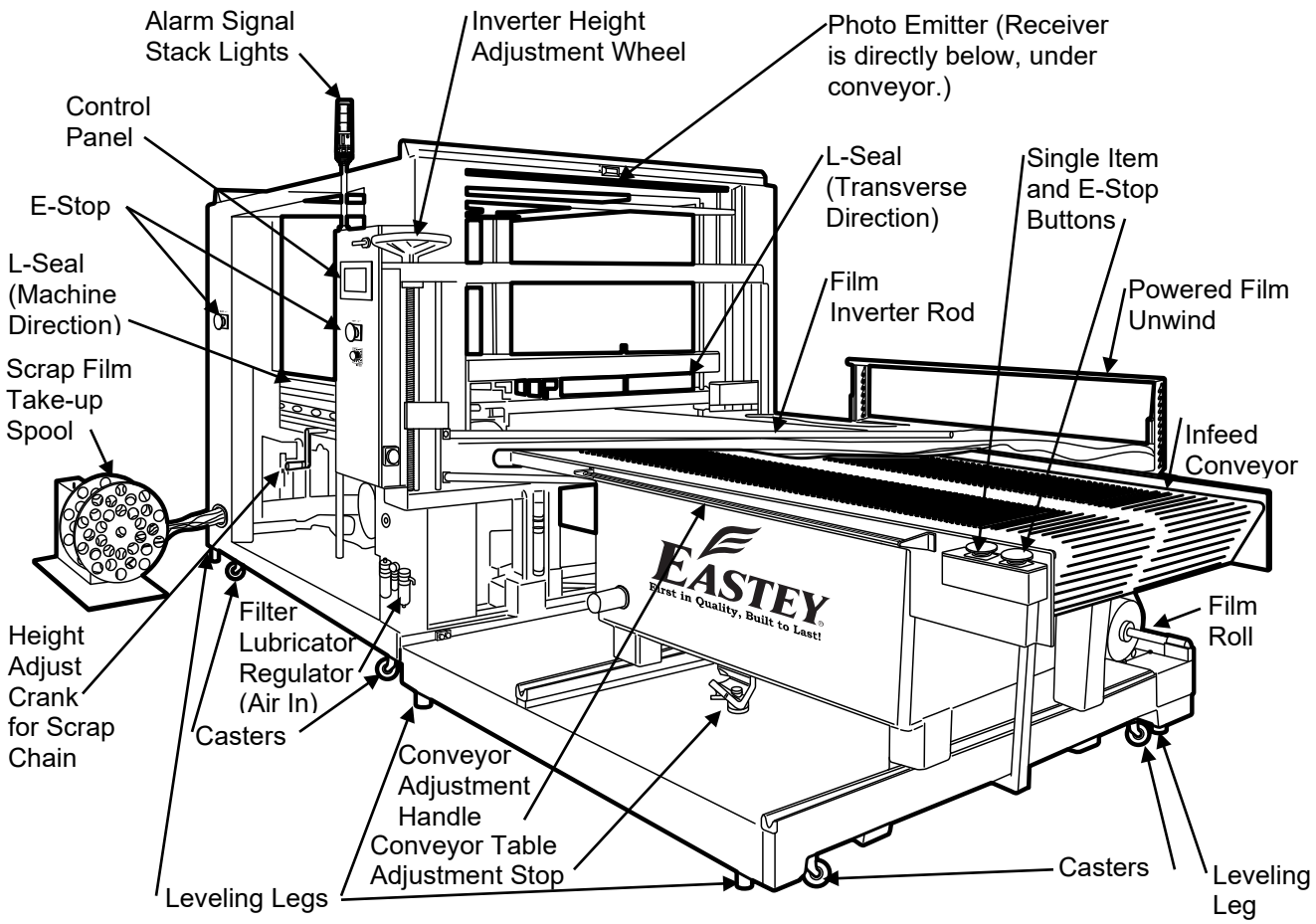
Crush hazard. Do not place your hands or any object on the moving mechanism. Shut down the machine before doing any maintenance, repair, or adjustment.

High temperature hazard. Do not touch or place hands close to the heating source to avoid burns. Proceed with any maintenance only when the temperature of the heater or other heat source has cooled down to room temperature.

Moisture hazard. Keep equipment dry. This equipment is designed for indoor operation in a typical clean, dry factory environment, protected from rain and moisture. Do not operate the machine in any extremely wet or oily environment that may exceed operating specifications.

Introduction

General System Description



*Depending on power requirements of your sealer, a main power disconnect switch may be installed on the other side of the L-Sealer/Exit Conveyor module, not visible from this view.

The Eastey EA Auto L-Sealer Professional Series consists of three main modules, which may be shipped and moved independently, but which must be aligned and synchronized to work together when placed in the final working location.

The three main modules of the Eastey EA Auto L-Sealer Professional Series are:

1. The L-Sealer and Exit Conveyor are one unit.
2. The Film Unwinder/Perforator, Infeed Conveyor, and Film Inverter are one unit.
3. The Scrap Uptake Winding Spool is a separate unit.

The Scrap Take-Up Winding Spool, which is shown winding scrap as it feeds out from the side of the L-Sealer in the above illustration, may be repositioned at the exit end as an option, in which case an external elbow is installed redirect exiting scrap.

Specifications

Model Number	Seal Dimensions		Machine Dimensions			Standard Power			Net	Shipping
	Front (F)	Side (S)	Width (A)	Height (B)	Length (C)	Volts	Amps	Phase	Weight	Weight
EA3050TK	50 in. 127 cm	30 in. 76 cm	86 in. 218 cm	74 in. 187 cm	163 in. 414 cm	220	30/35	1	4600 lbs. 2086 kg	4800 lbs. 2177 kg
EA3070TK	70 in. 177 cm	30 in. 76 cm	86 in. 218 cm	74 in. 187 cm	183 in. 464 cm	220	30/35	1	5000 lbs. 2267 kg	5200 lbs. 2358 kg
EA30100TK	100 in. 254 cm	30 in. 76 cm	86 in. 218 cm	74 in. 187 cm	213 in. 541 cm	220	30/35	1	5300 lbs. 2404 kg	5500 lbs. 2494 kg
EA4050TK	50 in. 127 cm	40 in. 102 cm	86 in. 218 cm	74 in. 187 cm	163 in. 414 cm	220	30/35	1	5100 lbs. 2313 kg	5300 lbs. 2404 kg
EA4070TK	70 in. 177 cm	40 in. 102 cm	86 in. 218 cm	74 in. 187 cm	183 in. 464 cm	*220*	30/35	1	5500 lbs. 2494 kg	5700 lbs. 2585 kg
EA40100TK	100 in. 254 cm	40 in. 102 cm	86 in. 218 cm	74 in. 187 cm	213 in. 541 cm	220	30/35	1	5800 lbs. 2630 kg	6000 lbs. 2721 kg
EA5050TK	50 in. 127 cm	50 in. 127 cm	96 in. 243 cm	74 in. 187 cm	163 in. 414 cm	220	30/35	1	5600 lbs. 2540 kg	5800 lbs. 2630 kg
EA5070TK	70 in. 177 cm	50 in. 127 cm	96 in. 243 cm	74 in. 187 cm	183 in. 464 cm	220	30/35	1	6000 lbs. 2721 kg	6200 lbs. 2812 kg
EA50100TK	100 in. 254 cm	50 in. 127 cm	96 in. 243 cm	74 in. 187 cm	213 in. 541 cm	220	30/35	1	6300 lbs. 2857 kg	6500 lbs. 2948 kg

Voltage and Phase Designator Meaning

Voltage / Phase Designator	Volts	Phase
V1	220	1

Air Supply / Required Air Pressure

Minimum Air Requirements
3.5 CFM 60 PSI

Explanation of Model Numbers

- E = Manufactured by Eastey Enterprises Inc., division of Engage Technologies.
- A = Automated L-sealer operation. EA model Professional Series L-sealers incorporate an electromagnetic hold-down system that allows the operator to load the next package while the preceding package is being sealed, assuring uniform sealing pressure over the entire length of the seal bars to provide consistent sealing results.
- _ _ = 30, 40, or 50 — First two digits indicate length of sidebar or nominal maximum length of side seal in inches: 30, 40, or 50-inch sidebars lengths are available.
- _ _ or _ _ _ = 50, 70, or 100 — Remaining two to three digits indicate length of front bar or nominal maximum length of front seal in inches: 50, 70, or 100-inch front bar lengths are available.

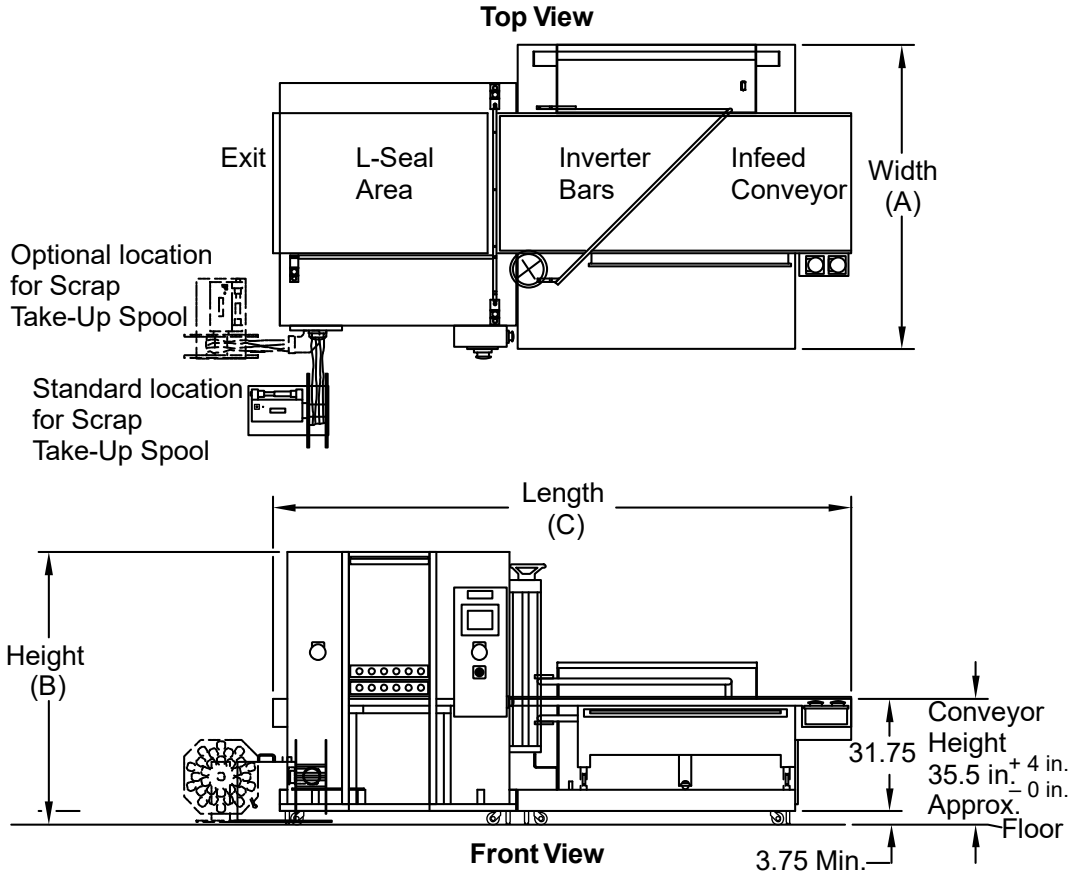
- T = Takeaway conveyor — Professional Series L-Sealers are typically equipped with a takeaway conveyor.
- K = Knife — Indicates hot knife seal bar. For smaller units, where (K) is indicated in parentheses, the hot knife seal bar is an option and the unit can be ordered with or without it. For larger units, the hot knife seal bar is standard.
- V _ = Voltage and Phase. V1 = 220V AC single Phase. All models are available configured for 220 VAC single phase. Only single phase is offered.

Standard features

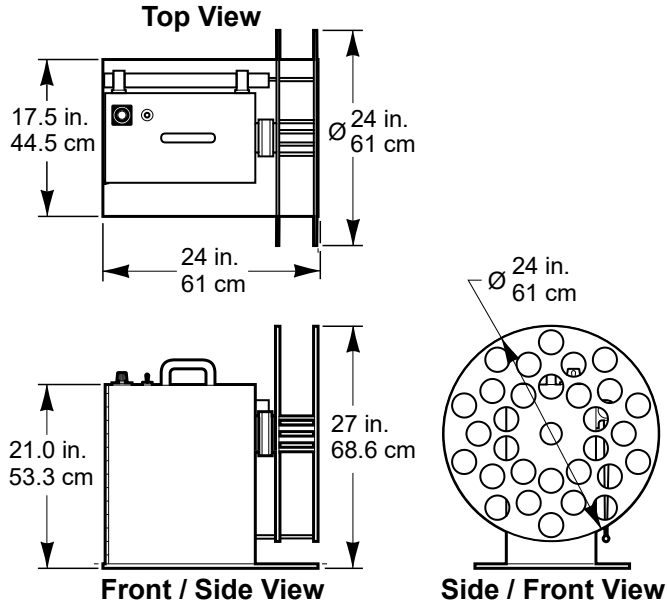
- Designed to seal most polyolefin, polyethylene, and PVC shrink films
- All-welded main frame from ¼-inch cold-rolled steel and ¼-inch 2 × 4 inch tubing
- Soft start infeed and outfeed conveyors
- Variable speed infeed and outfeed conveyors
- Side adjustable film rack for perfect alignment
- Seal head equipped with pneumatic air cylinder for automatic sealing
- Hot knife seal available with mushroom (standard), pancake, or arrow inserts
- Consistent pressure across seal-bar
- Automatic cycle timing with adjustable dwell time
- PLC controlled with product indexing
- Film tracking wheels keep film in place
- Power film unwind ensures proper tension of film
- Multiple pin perforators provide air evacuation
- Power film take-up scrap winder included
- Custom two-part epoxy finish resists scratching
- Heavy duty casters for transportation within plant
- Easy to use design requires minimal training and maintenance
- Side seal size from 30 in., 40 in., or 50 in.; front seal size 50 in., 70in., or 100 in.
- Maximum film width up to 60 inches
- Maximum film roll O.D. up to 12 inches
- 60 PSI
- Available in 220V or optional 480V
- Made in the USA

Dimensions

See Machine Dimensions in Specifications table for overall machine width, height, and length.



Scrap Take-Up Spool Dimensions



Unpacking

Thoroughly inspect the equipment and packaging immediately on arrival.

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Carefully remove the outer protective shipping materials from each module. Inspect each module of the machine for any damage that may have occurred during transit. If goods are received short or in damaged condition, it is important that you notify the carrier's driver before they leave your company and insist on a notation of the loss or damage across the bill of lading. Otherwise no claim can be enforced against the transportation company. Please note that a copy of this document is attached to the outside of every crate.

If concealed loss or damage is discovered, notify your carrier at once and request, **insist**, on an inspection. This is absolutely necessary. A concealed damage report must be made within ten (10) days of delivery of shipment.

Unless you do this, the carrier will not entertain any claim for loss or damage. The agent will make an inspection and grant a concealed damage notation. If you give the transportation company a clear receipt for the goods that have been damaged or lost in transit, you do so at your own risk and expense.

All claims must be filled within **five** (**5**) months of the delivery date or the carrier will not accept them.

We are willing to assist you in every reasonable manner to help you collect claims for loss or damage. However, this willingness on Eastey's part does not make Eastey or its parent or related companies responsible for collections or claims or replacement of equipment damaged or lost in transit.

Loading and Unloading Instructions

- ☐ Air-Ride suspension trailers and ratcheting shipping straps are required for transportation of the Eastey Auto L-Sealer Professional Series sealers.

- ☐ When transporting the sealer, roll the machine into the truck or trailer, and then when the machine is in position for shipping, lower the levelers to just touch the ground.

- ☐ Use a shipping ratchet and straps to restrain the sealer securely so it will not shift in transit.

- ☐ Use wheel chock blocks at the front and rear of each section to ensure rhe machine does not move.

Installation

Place the sealer in the desired location with the required electrical power source available. (See power requirements for the specific model in the Specifications table.) Make sure the electrical wiring is adequate to provide the required voltage. If the voltage provided is too low, the equipment will not operate correctly.

Selecting the proper location is one of the most important considerations for initial setup. When selecting the location, take into consideration the following factors.

1. Adequate clean dry air and power supply nearby?
2. Where is the sealer in relation to the power source?
3. Where is the sealer in relation to the tunnel and any conveyor(s) necessary to move the wrapped product? (Alignment with packaging line.)
4. Convenience for the operator.

CAUTION! **Avoid locating the L-sealer in a cold or drafty area, as heat may be unintentionally drawn from the sealer and reduce its efficiency.**

If there is any doubt, get qualified assistance with your initial installation.

Location Requirements

When installing the L-sealer please be aware of the following considerations:

1. The surface on which it is located is flat and level.
2. Conveyor or packing table height.
3. Alignment with packaging line.

When the L-sealer is positioned in the operating location you will need access to:

1. Control panel switches: On/Off switch, dwell timer, conveyor timer.
2. Height and width adjustments.
3. Film unwinder.

For units equipped with a takeaway conveyor at the exit of the L-sealer, provision should be made for exiting packages. For example, a table or bin where packages that have been sealed will be placed until they can be picked up, or a conveyor that will move them to the tunnel.

If the L-sealer is part of a longer packaging line, take into consideration the table and conveyor height in relation to adjacent machinery.

The machine should be placed on a flat, level floor so that it does not rock or move. We recommend that the machine be securely locked in place when used.

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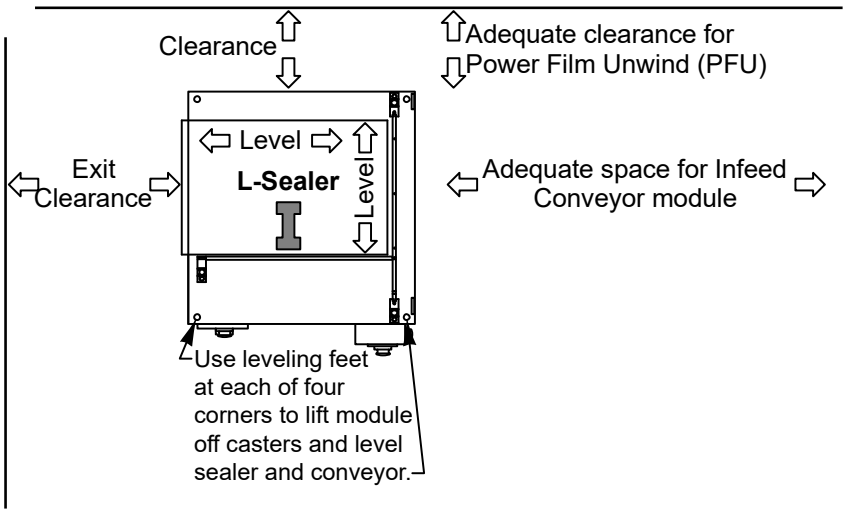
Casters under the larger modules (L-Sealer/Exit Conveyor module and PFU/Infeed Conveyor/Inverter) allow easy movement over smooth flat surfaces. If you need to lift one of these large units to move it, you will need to use a pallet jack, floor crane, or fork lift to move it to its location.

CAUTION! **If either of the large modules (L-sealer/Exit Conveyor or PFU/Infeed Conveyor/Inverter module) must be lifted for moving, use proper equipment when lifting and moving it to ensure it is secure and will not shift.**

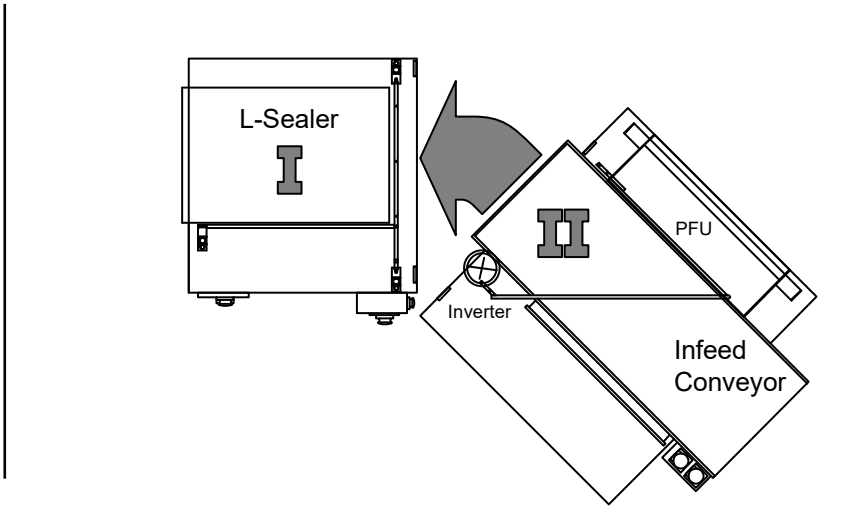
The Scrap Film Take-up Spool module is relatively lighter and equipped with a handle on top for easy lifting and repositioning.

Moving Units Together and Making Connections

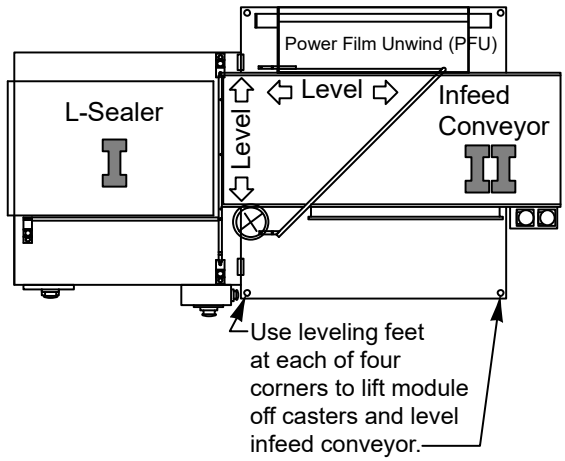
I. Set up the L-sealer/Exit Conveyor module first. Move it to its location, and when it is in position, use chock blocks to block the casters and secure it from moving. Adjust the leveling legs to support the unit and so the conveyor surface and seal heads are level along both the machine-direction axis and transverse-direction axis.



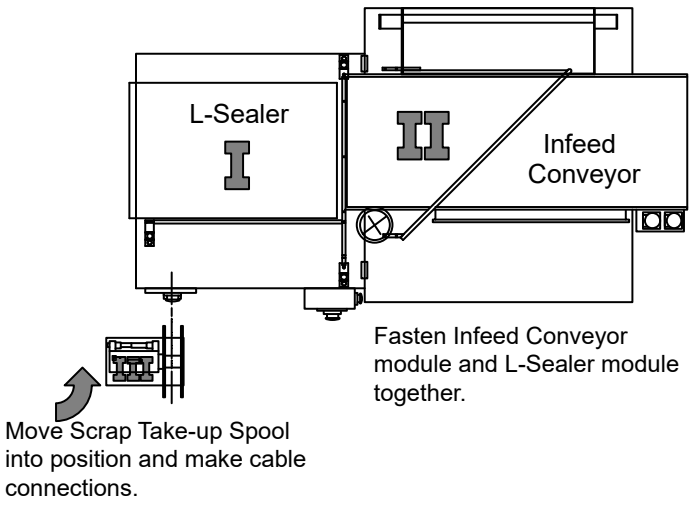
II. Next, bring the PFU/Infeed Conveyor/Inverter module up next to and in position with the L-Sealer/Exit Conveyor module. Note that there are attaching flanges welded to the base of the PFU/Infeed Conveyor/Inverter module, with bolt holes that must align with bolt holes in the base of the L-Sealer/Exit Conveyor module. When the unit is in position, use chock blocks to block the casters and secure it from moving.



Adjust the leveling legs to support the PFU/Infeed Conveyor/Inverter module and level the Infeed Conveyor so it is level with the exit conveyor, and also level along both the machine-direction axis and transverse direction axis. Carefully align holes in attachment flanges with bolt holes in machine base. Use the bolts provided to fasten the two sections together.

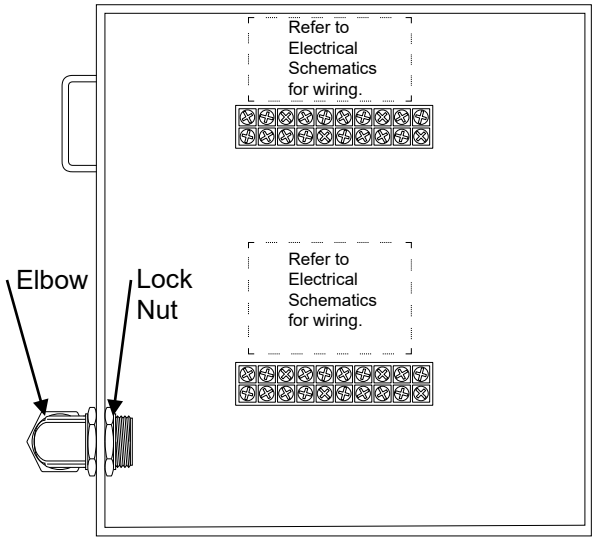


III. Place the Scrap Film Take-up Spool near the L-Sealer, near where the scrap film will exit from the L-Sealer. Position the spool in line with exiting scrap film so the distances will be approximately equal from the scrap film exit to the take-up spool tensioner, and from the tensioner to the spool hub.

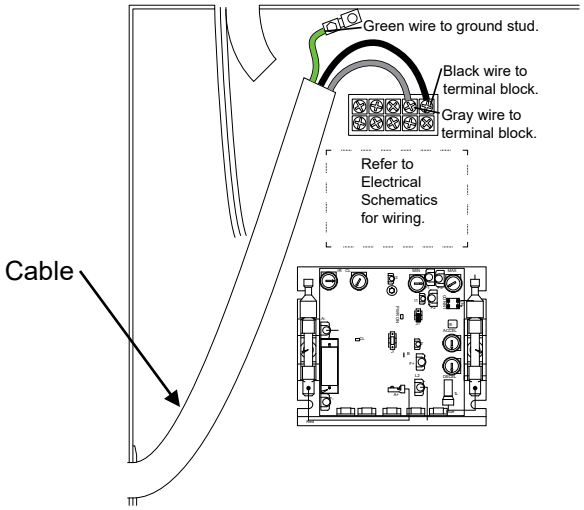


Connecting Power

Before bringing power to the unit, electrical cables from the L-Sealer/Exit Conveyor module must be connected to the PFU/Infeed Conveyor/Inverter module and to the Scrap Film Take-up Spool module. In each case, the cable originates from the L-Sealer/Exit Conveyor module and individual wires must be connected to a terminal block either inside an electrical box attached to the Infeed Conveyor base, or inside the enclosure which makes up the vertical body of the Scrap Film Take-up Spool module. For the cable which connects the L-Sealer module to the Infeed Conveyor module, make sure the locknut for the 90° conduit elbow is on the cable before making connections.



Infeed Conveyor Electrical Junction



Inside Scrap Film Take-up Spool Body

Note: When installing the cable from the L-Sealer/Exit Conveyor module to the PFU/Infeed Conveyor Inverter module, place the conduit elbow (provided) onto the cable end, and then feed it into the side of the electrical box.

A power cord (with optional electrical plug) should be installed by a licensed electrician.

CAUTION! Before operating, ensure the following.

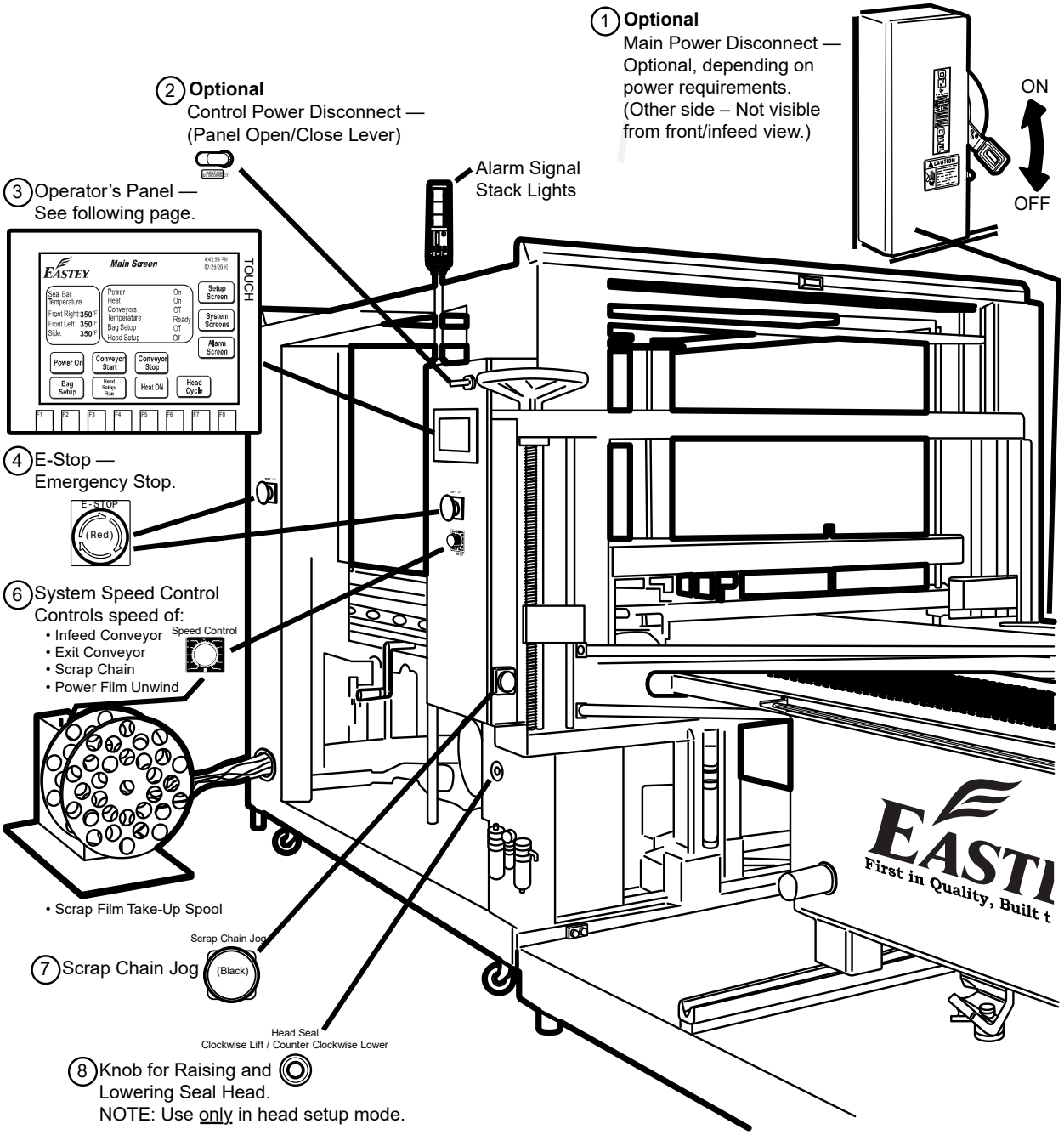
1. **All shipping ties are removed.**
2. **All personnel are clear of the equipment.**
3. **Electrician has stated that all electrical work is complete.**
4. **Close all doors or guards securely.**
5. **Connect air line to regulator and verify 60 PSI, 3.5 CFM.**
6. **Adjust all controls according to the settings sheet.**

Refer to instructions in the Operation section for instructions to power up or shut down the machine.

Operation

Machine Controls and Control Panel

If system power requirements require a Main Power Disconnect, it may be located on the opposite side of the machine. All other controls are located along the front of the machine as shown in the following figure. Controls are listed and explained in the following pages.

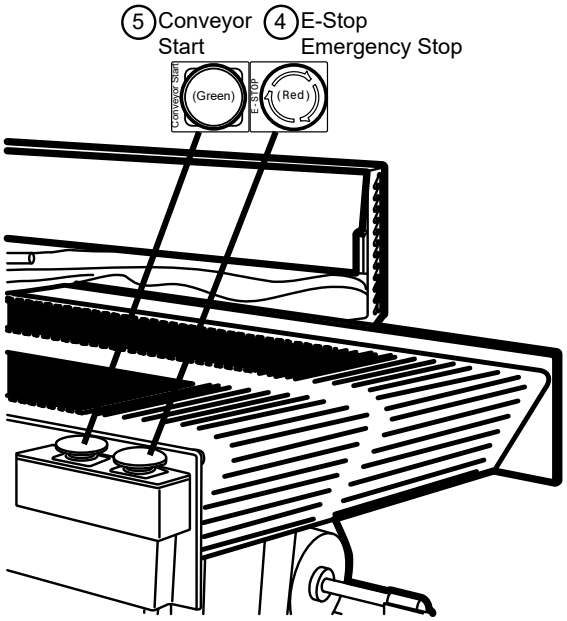


1. **Optional Main Power Disconnect** — For systems with optional 480V power requirements only, a main power disconnect is located on the main electrical box where power enters the system. This switch is a lever with an orange handle.
   - Lifting the lever to the On position turns on (connects) the system power necessary to power the Eastey EA Auto Sealer.
   - Pushing the lever down to the Off position cuts (disconnects) all power to the system.

2. **Optional Control Power Disconnect** — This lever switch cuts (disconnects) electrical power to the electrical control box when control box is unlatched; connects electrical power to the electrical control box when closed and latched shut with the lever in the horizontal position shown.

3. **Operator's Panel** — The operator's panel is a fully-functional color touch screen. It displays current status information and displays buttons for configuring and controlling the system. The Main Screen of the panel

4. **E-Stop** — In the event of an emergency, press in any of the large, red, mushroom-shaped E-stop buttons to bring the system to a halt. There is an E-Stop button on the electrical control box, as shown, and near each end of the machine: one near the front of the infeed conveyor, and one near the rear on the vertical column of the L-Sealer near the exit conveyor. All three buttons serve the same function. In the event of an emergency, push the E-Stop button that you can most readily access.



5. **Conveyor Start** — Large, green, palm button to start the conveyor for one-item-at-a-time operation. See instructions for running one product at a time later in this User Guide.

6. **System Speed Control** — The conveyor speed control dial located below the E-Stop on the electrical control box allows speed adjustment for the system. The Infeed and Exit Conveyors, Scrap Chain, and Power Film Unwind are all on a single speed control because they must all be synchronized when running.
7. **Scrap Chain Jog** — This is a black palm button located on the electrical control box on the side toward the infeed conveyor and near the bottom. Once film is inserted into the scrap chain pinch rollers, use this button as necessary to jog the scrap chain forward to engage the scrap film.
8. **Knob for Raising and Lowering the Seal Head** — This knob is located beneath the electrical control box, above and behind the air filter-regulator-lubricator.

   NOTE: **Use this knob only when the system is in head setup mode.**

   CAUTION! **When making adjustments for product height, make sure the seal head seat is all the way down in the lowest position before lowering the seal head to avoid causing the seal head to collide with the seal head seat.**

Other Features

Film Unwinder — The Film Unwinder is located behind the Product Infeed Conveyor and Film Separator / Inverter area, behind and to the right of the enclosed L-sealer area. A roll of film is loaded on the Film Roller Shaft at the bottom of the Film Unwinder and film is pulled by the Drive and Pinch Rollers, past the Pin Perforator, and routed up through the Dancer Roller, Idler Rollers Centering Roller and Separator Rod, to the Film Inverter.

Pin Perforator — The pin perforator is a special roller in the film unwinder that creates small holes in the film to allow air to escape during shrinking. The pin perforator must be synchronized with the film during normal operation in order to make the holes and not damage the film. The pin perforator must be disengaged by lifting it while loading and routing the film.

Rubber Drive Roller and **Pinch Roller** — The Rubber Drive Roller and Pinch Roller are also special rollers in the film unwinder. The Pinch Roller holds the film against Rubber Drive Roller to provide the necessary traction to allow the Rubber Drive Roller to pull the film off the Film Roll and feed the film to the Film Inverter. The Pinch Roller must be lifted in addition to the Pin Perforator when loading and routing film.

Film Brake — The Film Brake is located at the infeed end of the Film Roller Shaft and creates a drag that maintains tension on the film as the film is dispensed. The operator should from time to time re-check the setting of the film brake for proper tension. The film brake's purpose is to reduce overruns or slack in the film.

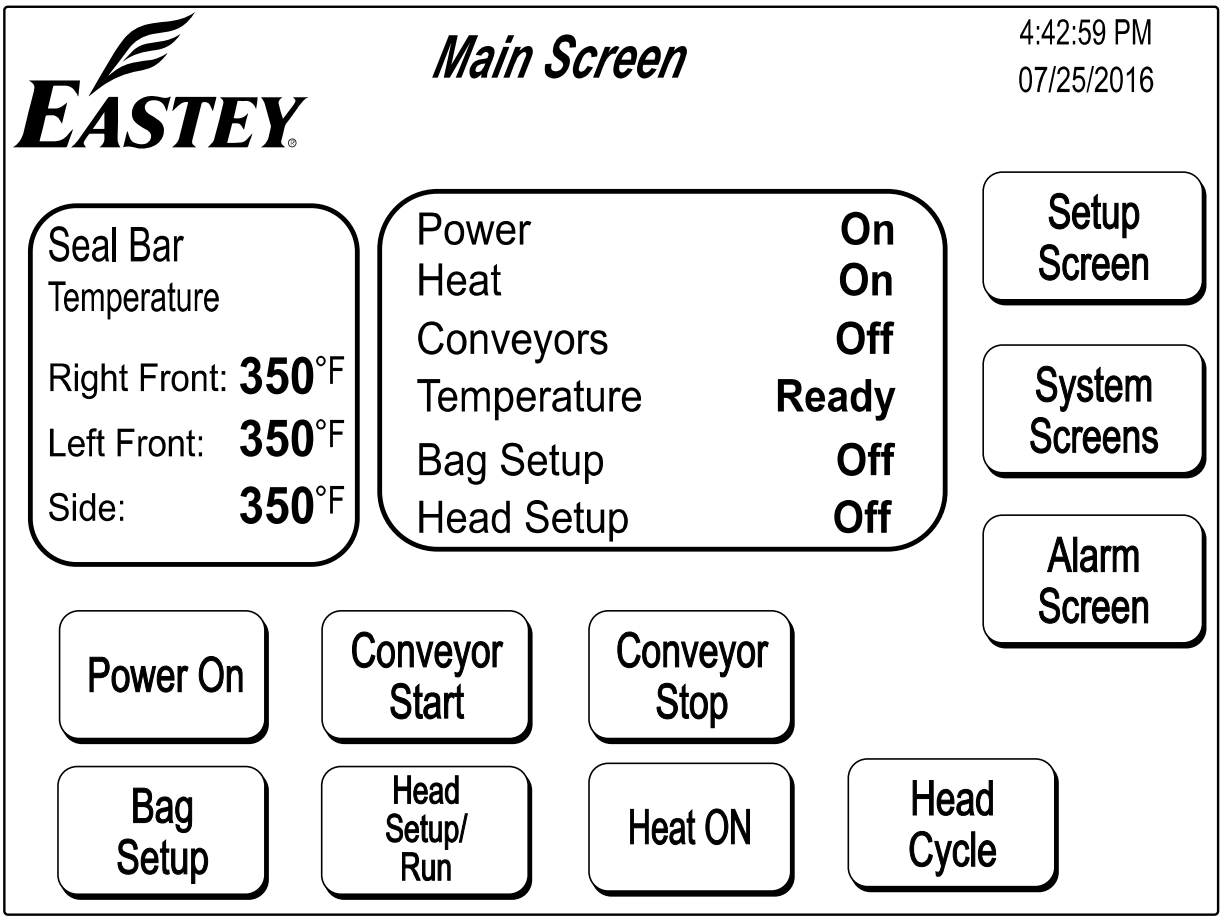
Film Inverter — Upper and lower film is separated by a rod at the top of the Film Unwinder.

Infeed Conveyor — The Infeed Conveyor is used to facilitate insertion of the product between the bottom and top layers of film and transport the product into the seal area.

Width and Height Adjustment — The Infeed Conveyor is on rollers andmovable back to front to adjust for and achieve proper placement of the total width of the package. Once this has been adjusted, a clamping foot holds the Infeed Conveyor horizontal position, thereby allowing the product to be placed precisely in the seal area and film each time. Film height adjustment allows the film centering roller and separator rod to be raised or lowered for differing product heights. A vertical screw mechanism raises, and lowers inverter rods for height adjustment

Operator's Panel

The operator's panel is a fully functional color touch screen. It displays current status information and displays buttons for configuring and controlling the system. The Main Screen of the panel interface is shown here.



*If your sealer is a smaller model, instead of "Right Front" and "Left Front" there may be only one heater bar, for which "Front" temperature is displayed.

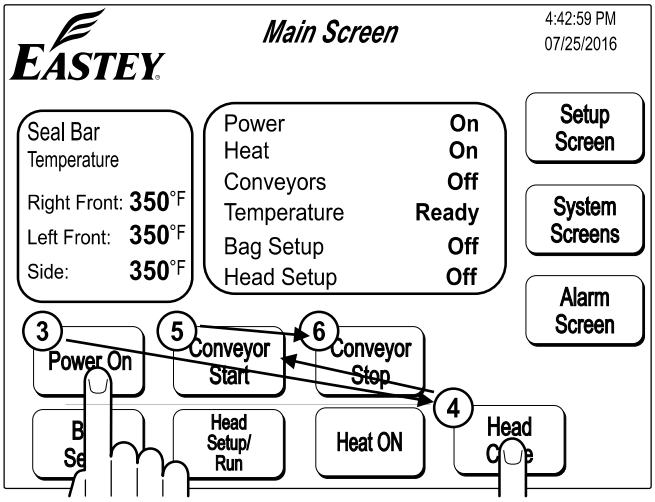
Powering Up and Cycling the Sealer

Once the electrician has stated that all electrical work is complete and the air line is connected to the regulator and providing 60 PSI and 3.5 CFM, make sure all shipping ties are removed and all personnel are clear of the equipment, then power up the sealer and run it through a cycle by performing the following.

1. If equipped with a main power switch, lift the main power switch to on position. If equipped with Control Panel disconnect switch, place lever in connect position.
2. Check the red E-Stop buttons and reset them if needed.

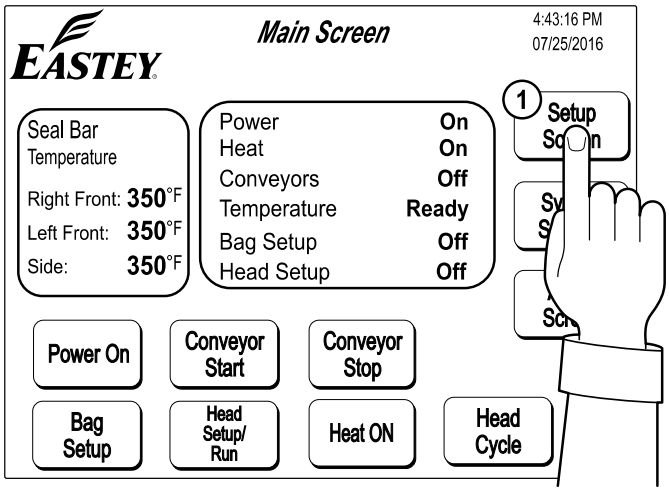
   As the machine powers up, the Operator Panel displays current system information, such as the system Model Number, Serial Number, PCL information and connection type, and allows access to the setup screens. Press the “Start Screen” button to navigate to the Start Screen.

3. Touch the “Power On” button on the operator’s panel.
4. Touch the “Head Cycle” button. The head should complete one cycle.
5. Touch the “Conveyor Start” button. The conveyors will run and this also enables the photo eye.
6. When all of the above options function properly, touch the red “Conveyor Stop” button.

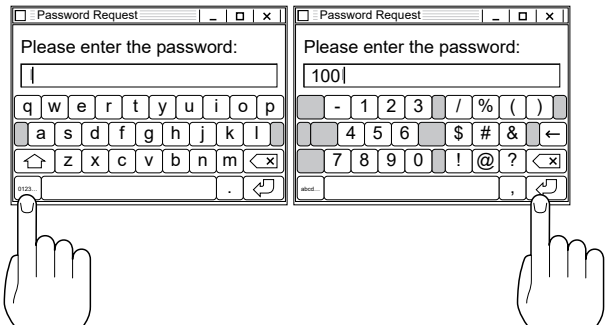


Setting Temperatures and Timers

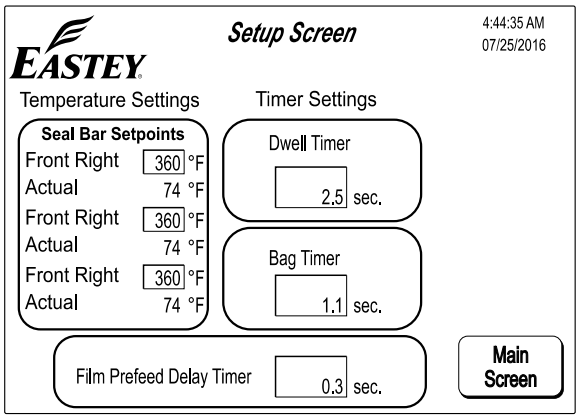
1. Touch the “Setup Screen” button to navigate to the Setup Screen.
   - A Log On window will appear asking for a user name and password.
   - If ADMIN does not appear in the user Log On window, touch the User box. Enter ADMIN using the touchscreen keyboard as shown below, and then touch Enter (⏎). Touch the Password window.



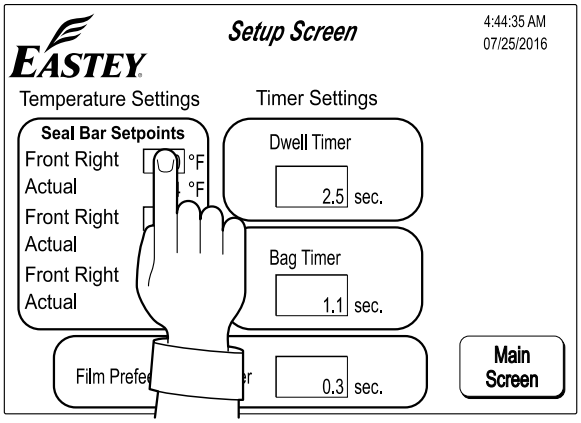
2. A window containing touch-keyboard buttons appears on the Operator's Panel asking you to enter the Password. Touch the button labeled "1,2,3…" to access the on-screen numeric keypad and type the password (100). Touch the Enter button once you are finished typing the password.



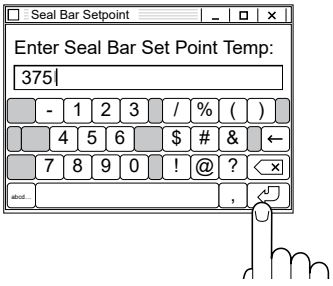
3. When you have entered the password successfully, touch the Setup Screen button and the Setup Screen appears.



4. Touch anywhere inside the rectangle containing the value for the temperature or timer you wish to change.



5. The on-screen screen numeric keypad appears. Use the numeric keypad to type the number representing the L-Seal temperature setting or number of seconds for timer, and then touch the Enter button to save your setting and close the numeric keypad window.



6. To return to the Main Screen from which you can resume normal operation, touch the "Main Screen" button in the lower right of the Setup Screen.

Setup Screen Settings

Seal Bar — Temperature setting for L-Sealer sealing heat elements.

> **Set point** — Enter the optimal temperature for sealing and cutting the type of film you are using.
>
> **Actual** — The actual current temperature of the seal bar is displayed in this area.

In addition to the Seal Bar Temperature Setting, there are four timers: a Dwell Timer, Head Height, Bag Timer, and Film Prefeed Delay Timer.

Explanation of Timers

Dwell Timer — This is how long the seal head stays together. Keep in mind that the timer starts as the seal head solenoid activates and the seal head starts moving down.

Bag Timer — This is the length of time after the trailing edge of the product has passed the photo eye before the seal head comes down. The exit conveyor and power film unwinds will continue to run until the seal head starts its downward motion.

Film Prefeed Delay Timer — This is the length of time from when the leading edge of the product blocks the photo eye until the power film unwinds are activated. Generally:

- Set this time shorter for lighter packages to get the film rolling before the package reaches the web of film so the package is not stopped by the stationary film.
- Set this time longer for heavier packages that possess more momentum.

Some experimentation will be required to arrive at the right Film Prefeed Delay, Bag Timer, and Head Height setting required to form the right sized bag for each product.

> **NOTE: The dwell timer must be a larger value than the head height value to work and seal correctly. Once the seal head comes down and contacts the lower seal pad, press once more to ensure that your settings are set.**

Initial Settings

If you have been provided with recommended settings for your application, record these in the spaces provided below for future reference.

Head Temperature ..... _____

Head Dwell Timer ..... _____

Bag Length Timer ..... _____

Film Pre-Feed Delay Timer ... _____

In-Feed Conveyor ..... _____

Exit Conveyor ..... _____

Upper Power Film Unwind ..... _____

Lower Power Film Unwind ..... _____

Tunnel Speed ..... _____

Tunnel Temperature ..... _____

Velocity Control ..... _____

Testing the Bag Length Timer

NOTE: This should be tested with no film!

1. Turn on conveyors and then touch the “Bag Setup” button.
2. Place product onto the infeed conveyor.
3. The Infeed conveyor carries product forward to the L-seal area.
4. The photo eye detects the edge of the product, which begins the countdown of the Film Prefeed Delay Timer. After the specified delay (or immediately if set to zero) the power film unwind starts.
5. The product moves into the L-seal area and the conveyor stops. The seal head will not cycle.

   Note where the product stops.
   - If the product is not under the seal head but fully into the seal area, touch “Bag Setup” and then thread the film.
   - If the product is not fully into the seal area, increase the bag length timer and try sending the product through again.

   Redo this test until you have the right settings for the product you are running.
6. The conveyor will start up again. Touch the “Conveyor Stop” button.

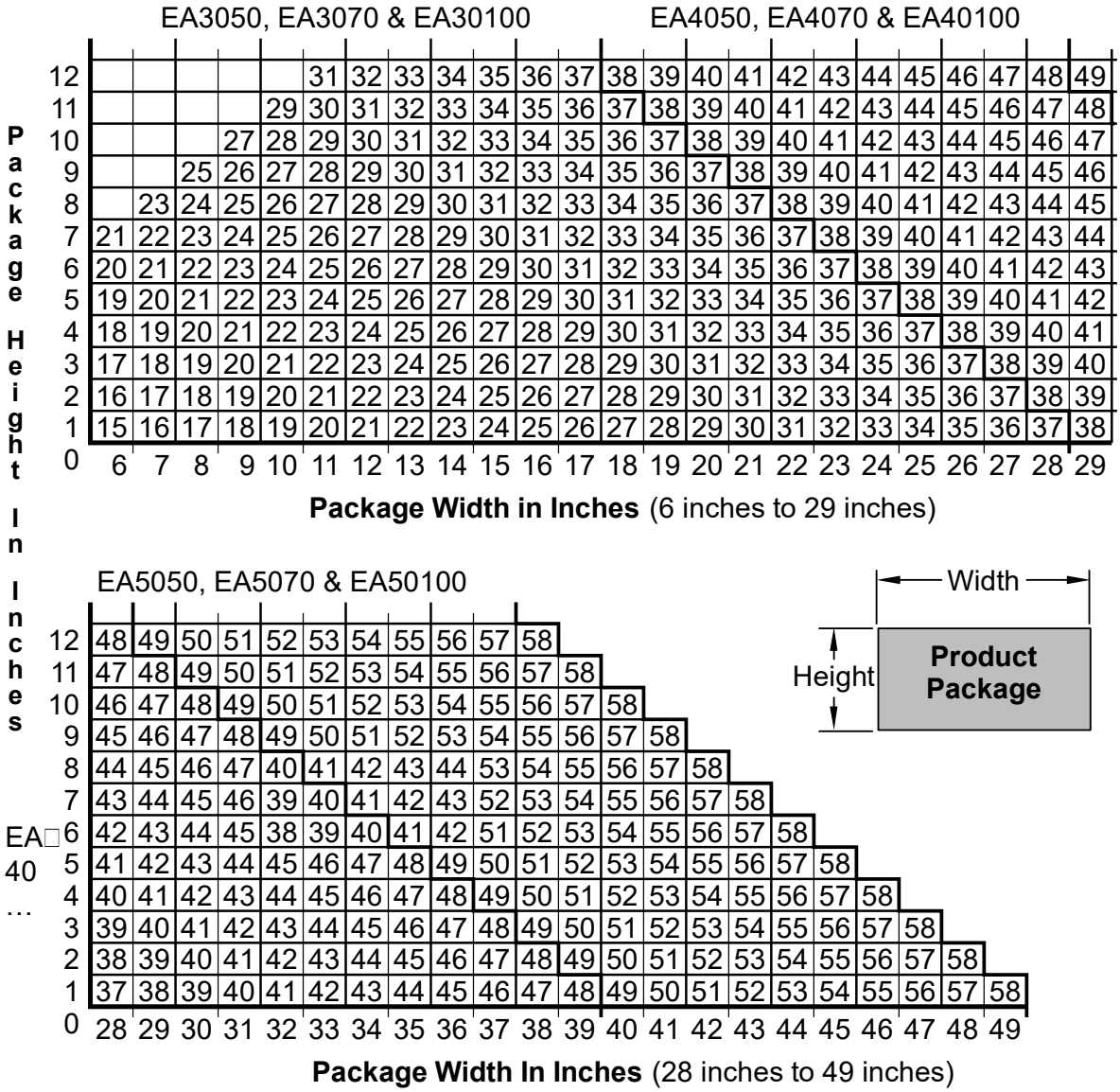
Load and thread the film and run the product. Refer to the following procedure for loading and threading film.

Loading Film

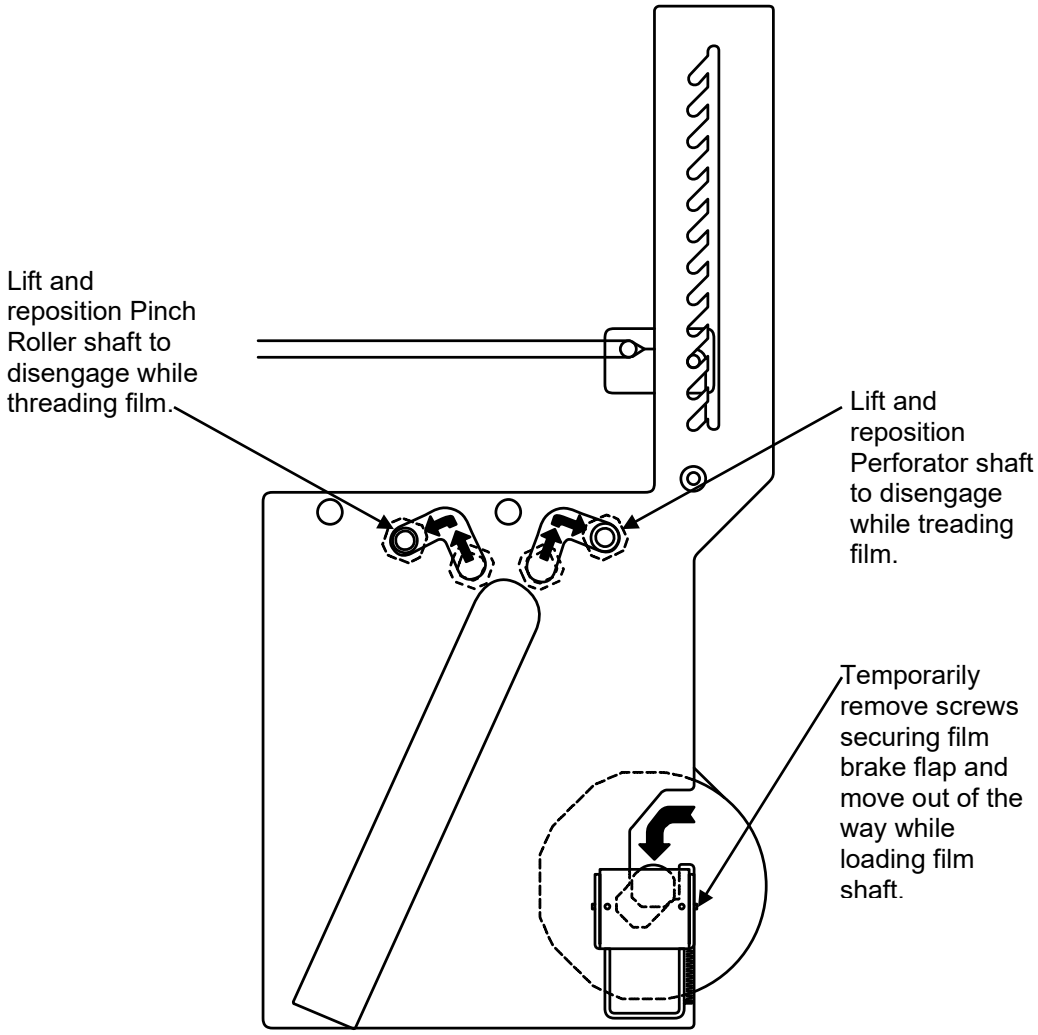
CAUTION! **Turn off the working switch when setting up the film.**

Note: **You can turn the heat on to the sealer head elements to allow them to warm up to operating temperature while setting up the film.**

1. Select the proper width of film for the product being packaged, taking into account the width and height of the package, plus at least six inches required for scrap. With the package properly positioned within the film in the sealing area, allow sufficient film to overlap the sealing bars so that a seal can easily be made without holes or openings due to insufficient film coverage.



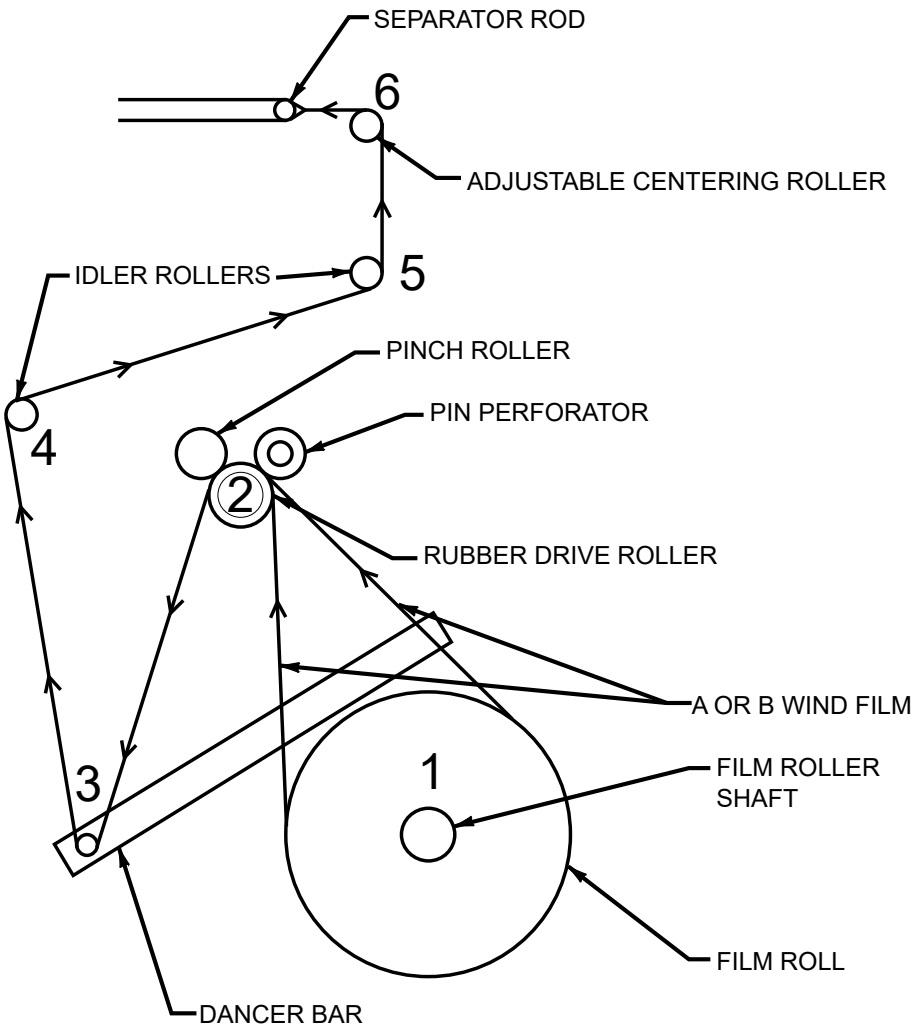
2. Before placing the film roll onto the roller shaft, lift the film perforator and pinch rollers off of the rubber drive roller an place them in the film loading position, as shown in the following illustration, so they are not contacting the rubber drive roller while you are threading the film.



3. Place the film roll on the film roller shaft at the bottom of the film unwinder (shown in the illustration above). Place the center-fold toward the infeed end of the machine. Note that whether the film is A- or B-wind will determine whether the film should roll off from the top or the bottom of the roll. Position the film roll centered on the shaft and tighten the bolts in the film shaft collars to hold the film roll centered.

4. Thread the film through between the rubber drive roller and pin perforator and pinch roller, down around the dancer and around the idler rollers to the adjustable centering roller and separator rod. (See the following illustration.)

Powered Film Unwinder (PFU) Threading Diagram

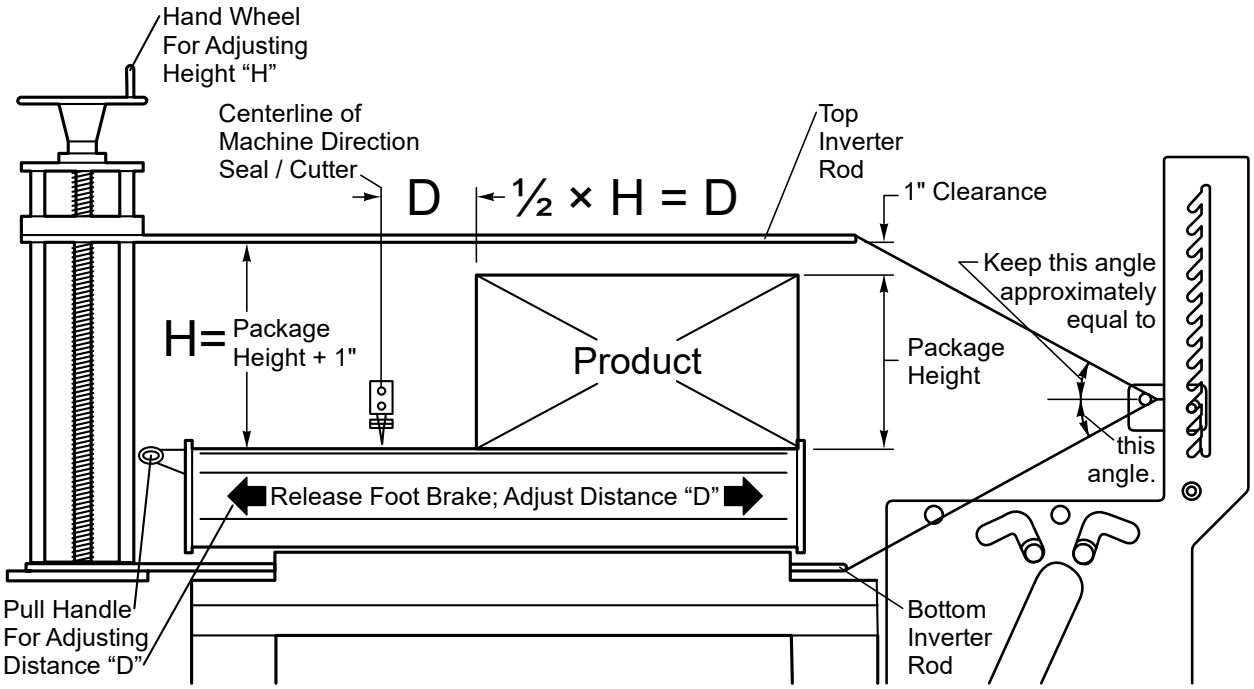


5. Separate the top film from the bottom film with the separator rod and so that bottom film will go below the infeed conveyor and the top will go above.

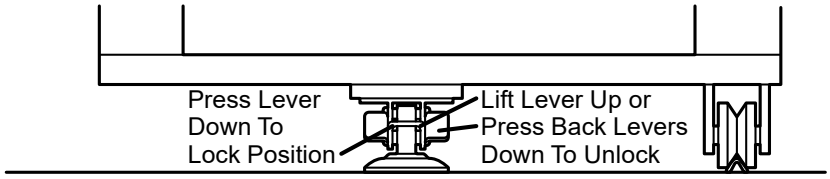
6. After passing the separator rod, pull out approximately forty inches or one meter of film and pass the film to the inverter rods, so that you will have film to work with routing the film over/under the rods.

7. When you have threaded the film, return the pinch roller and pin perforator to their operating position.

8. Use the height adjustment wheel at the top of the vertical adjustment assembly to adjust the height of the upper inverter rod so that it is approximately 1 inch or 13 mm above the height of the package.



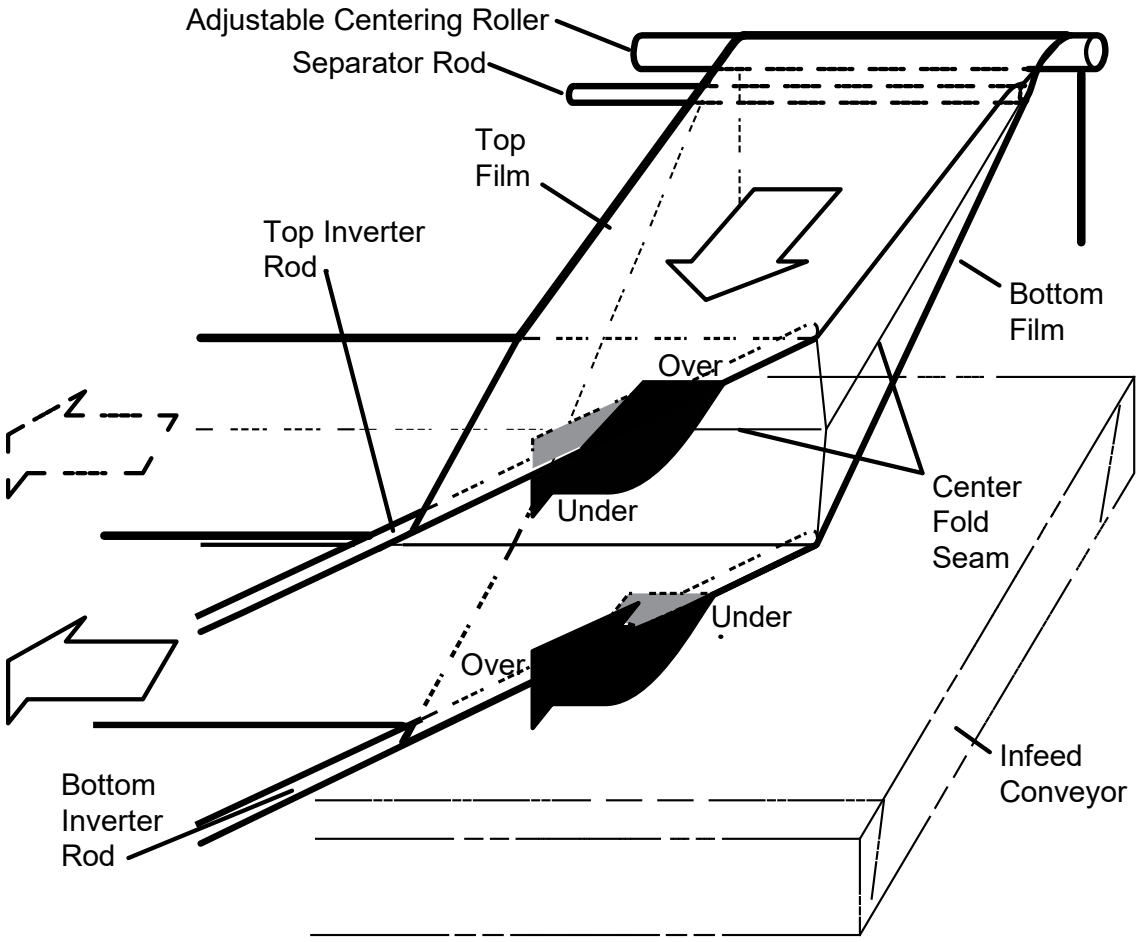
9. To adjust the infeed conveyor position for the width of the product package, release the locking foot near the center of the conveyor and the conveyor can be moved freely front to back. Re-engage the locking foot when the conveyor is positioned correctly.



10. Note how the top and bottom film layers are routed over-to-under and under-to-over the inverter rods. (See the illustration on the following page.) This changes the direction and inverts (turns film inside-out) the film and allows the operator to insert product on the product tray between the top and bottom layers of film to place the product inside the film to be moved the sealing area. Do not place product in the first few bags formed by the sealer: they will not have any perforation holes in them (because the sealer and pin perforator work together). Perforation is required to allow air to vacate when the product passes through the shrink tunnel.

Film Routing For Top and Bottom Inverter Rods

Use this diagram to route the top film over, then under the top inverter rod; and the bottom film under, then over the bottom inverter rod.



11. Adjust the height of the adjustable centering roller and separator rod if necessary to the center of the vertical distance between the two inverter rods. (See the figure near the top of the previous page.)

12. Match the top sheet and bottom sheet of the film to guide the leading end of the film toward the sealing area.

13. Pull the film to the left to the L-sealing area and lift the lever to release the pinch rollers. The pinch rollers are two large blue rollers that feed the film into the scrap chain.

    CAUTION: This is a pinch area. Take care to avoid pinching hands or fingers while using the pinch wheel to secure the leading film.

14. Pull the two leading edges of the film into the film drive chain and temporarily open the space between the pinch wheels to insert the film between so that the pinch wheels and drive chain will pull the film when activated.

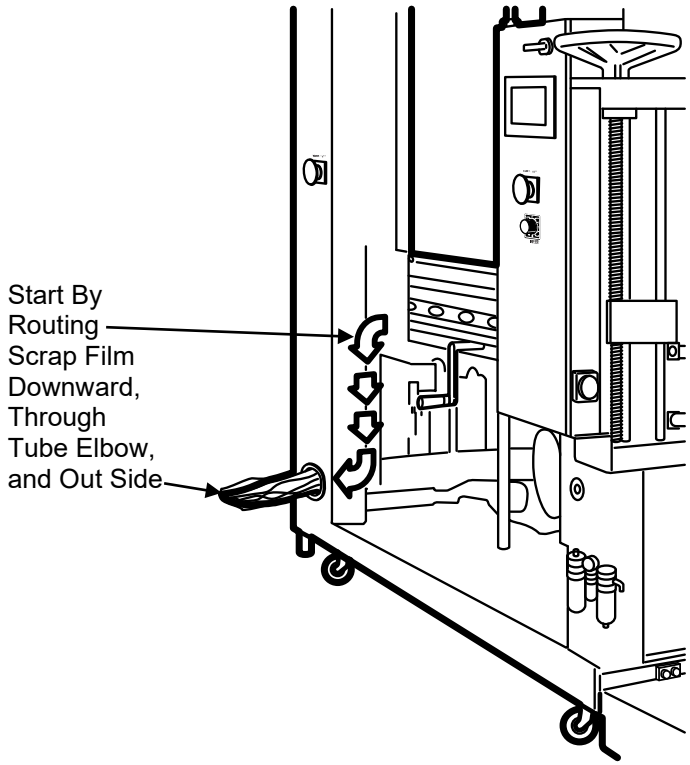
    Note: **The pinch rollers should be set at the correct height and in alignment with the scrap chain. If the pinch rollers are not at the correct height or not aligned correctly, see the instructions for pinch roller height and alignment adjustment.**

15. With hands and fingers away from the pinch wheels and drive chain, tap the Scrap Chain Jog button to jog the film under control. Do not press and hold the button or the film could begin to run continuously.

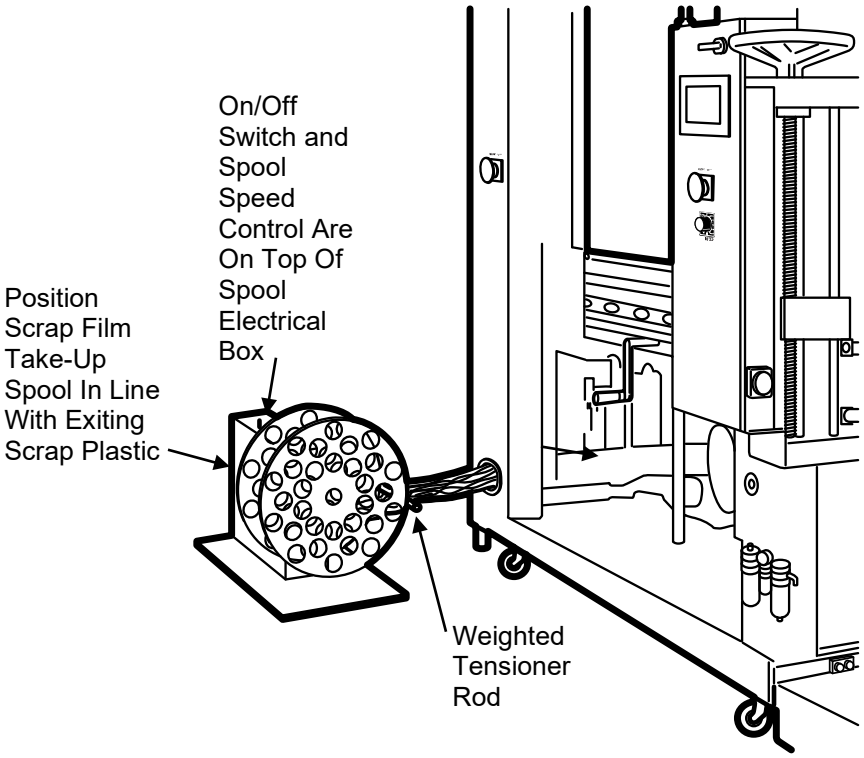
Setup for Scrap Winding

As you run the L-sealer, excess film will be cut off and exit the front of the chain drive near the exit end. To avoid waste film from bunching up and creating an obstruction, the scrap film is routed out near the base of the L-sealer to a free-standing scrap take-up spool. Use the following instructions to guide the scrap film line from the end of the drive chain down through the exit elbow (optionally elbows) to the scrap take-up spool.

1. As scrap begins to be generated, guide the scrap film down from the end of the drive chain and through the exit elbow.



2. Place the free-standing scrap take-up spool to the side of the L-sealer, aligned with the exiting scrap, but so that the L-sealer frame will not interfere with rotation of the take-up spool. Route the scrap under the attached weighted tensioning rod and start it onto the spool.



- The scrap take-up spool has an On/Off switch and speed control not controlled by the main L-sealer controls. It must be powered on and speed control set to operate with the L-sealer.
- The scrap take-up spool has a clutch to set the tension. Instructions for adjusting clutch tension are provided in the Adjustments section.

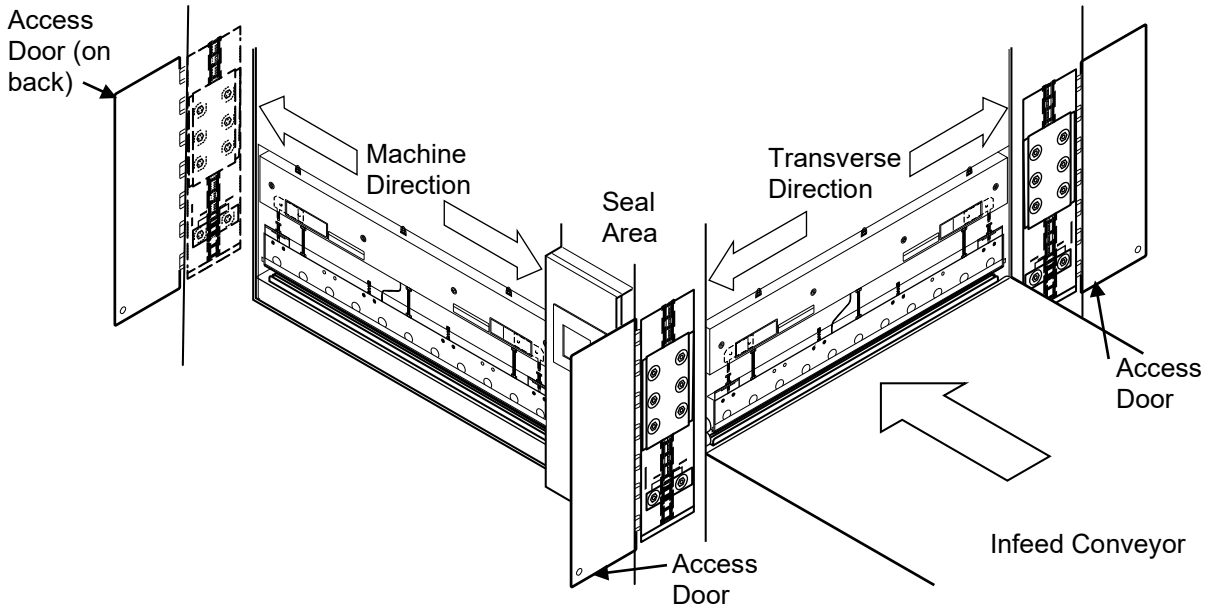
NOTE: If there is too much tension on the film while the bag is being sealed, the seals will be more likely to be weak or blow out in the seal area while moving through the shrink tunnel.

Adjusting Package Height

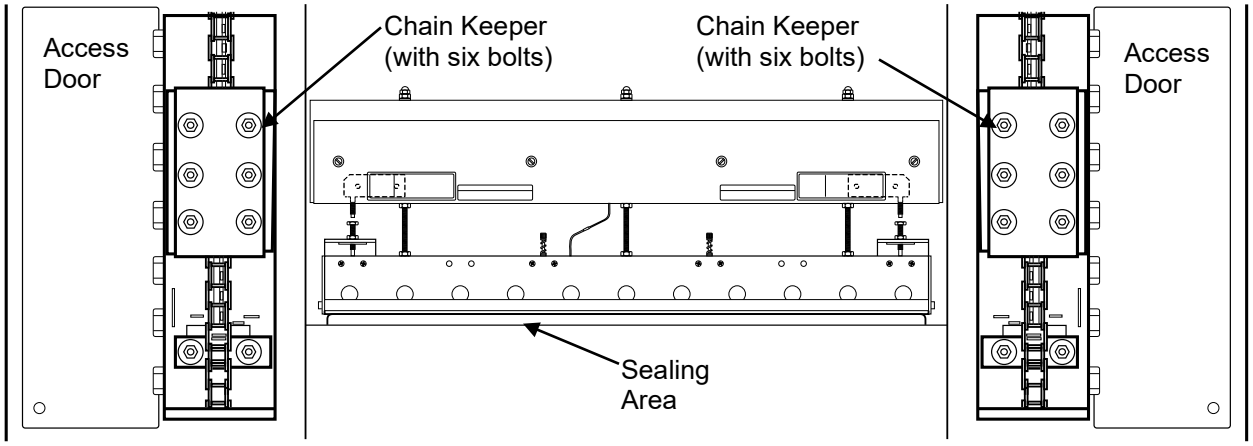
Use these steps to adjust the height of the seal / cutter for higher or lower packages.

1. Turn off seal bar heat and allow to cool down before adjusting seal head.
2. Touch the “Head Setup / Run” button on the Operator’s panel and the seal head will come together.

3. Open up the access doors in the front and rear columns at the infeed end of the sealer module and in the front column at the exit end of the sealer module (see the following illustration) to expose the chain keepers.



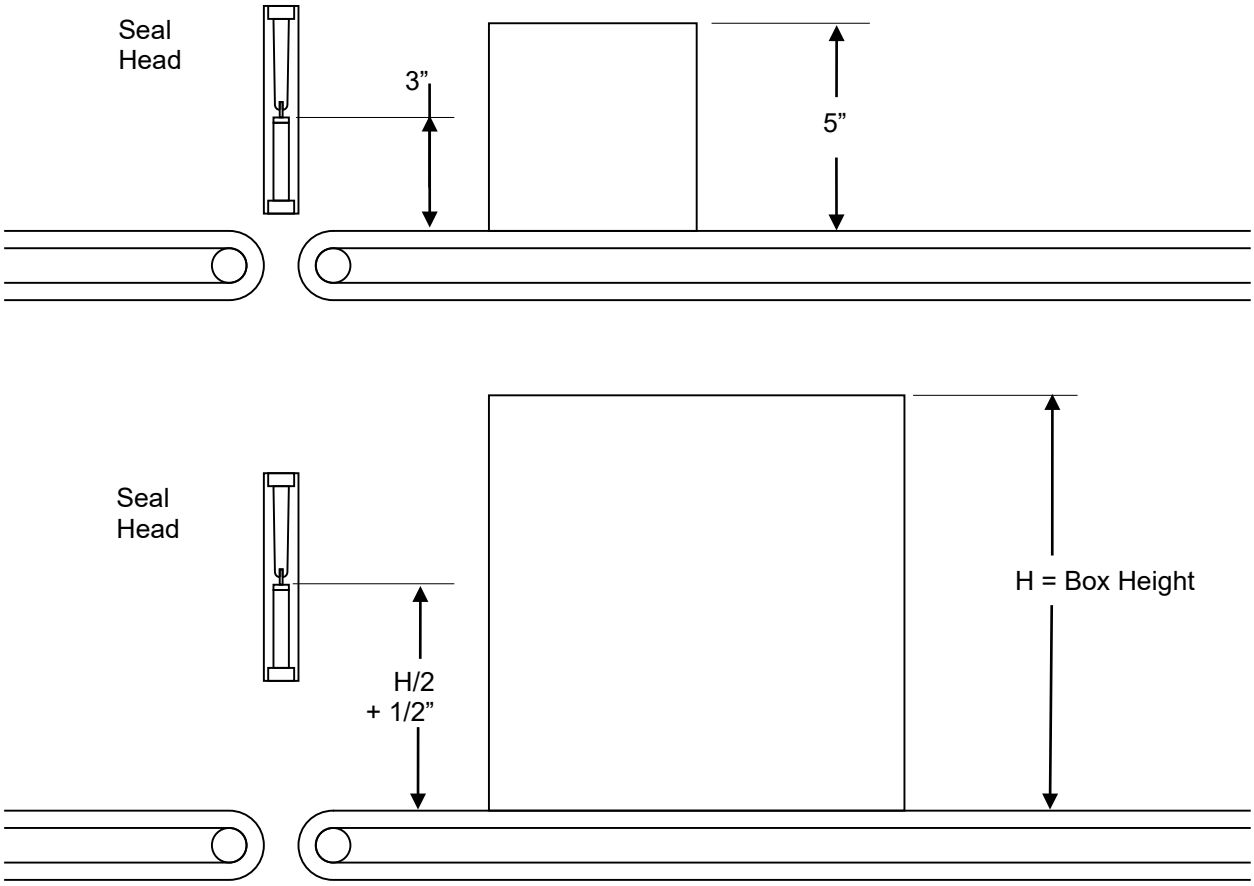
4. Temporarily remove the chain keepers: use a ¼ inch hex wrench to loosen the bolts securing the chain keepers. There are six (6) bolts on each side of each of the chain keepers.



5. On the control panel side of the machine, below the access door, slowly turn the seal head adjustment knob in or out to raise or lower the seal system to the required height.

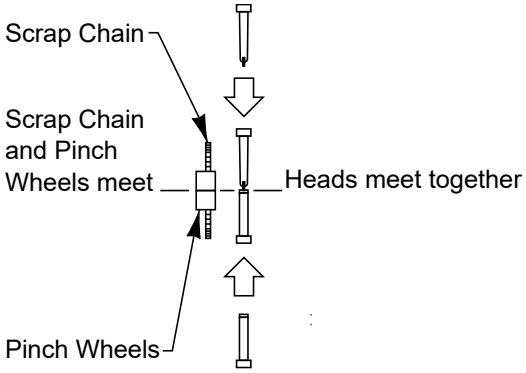
   The seal head should clear the top of the box by approximately 1 inch. For example, for a box that is five inches (5”) tall, the seal head should open to about 6 inches above the belt surface.

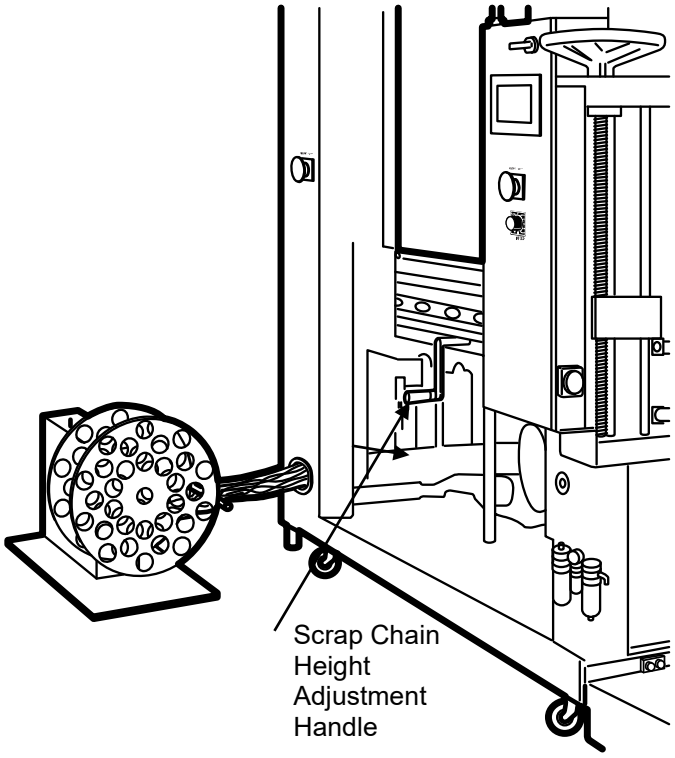
NOTE: At this point, the seal system moves up and down easily to get an exact position. Reinstall the chain keepers with bolts only finger-tight on both chain keepers at first to allow final adjustment before tightening bolts fully.



6. While adjusting the seal head height, also change the scrap chain and pinch roller height accordingly. Use the scrap chain height adjustment handle near the center of the Machine Direction seal / cutter to adjust the scrap up or down as needed.

   The scrap chain and pinch rollers should come together at the same height that the upper and lower seal heads meet.





NOTE: When adjusting the height of the seal / cutters, it is important to also adjust the height of the scrap chain. Otherwise the seal / cutter could collide with the scrap chain, resulting in damage to the machine.

7. When you have adjusted the seal head to the correct height, retighten the chain keepers, and close and latch the chain keeper access doors.

8. Touch the “Head Setup / Run” button again to return the system to Run mode.

   NOTE: The seal head will return to the open position. Stay back, away from the seal area when doing this.

9. Turn on the seal bar heat on using the “Heat On” button and allow the seal bar to reheat before running product.

Running Product

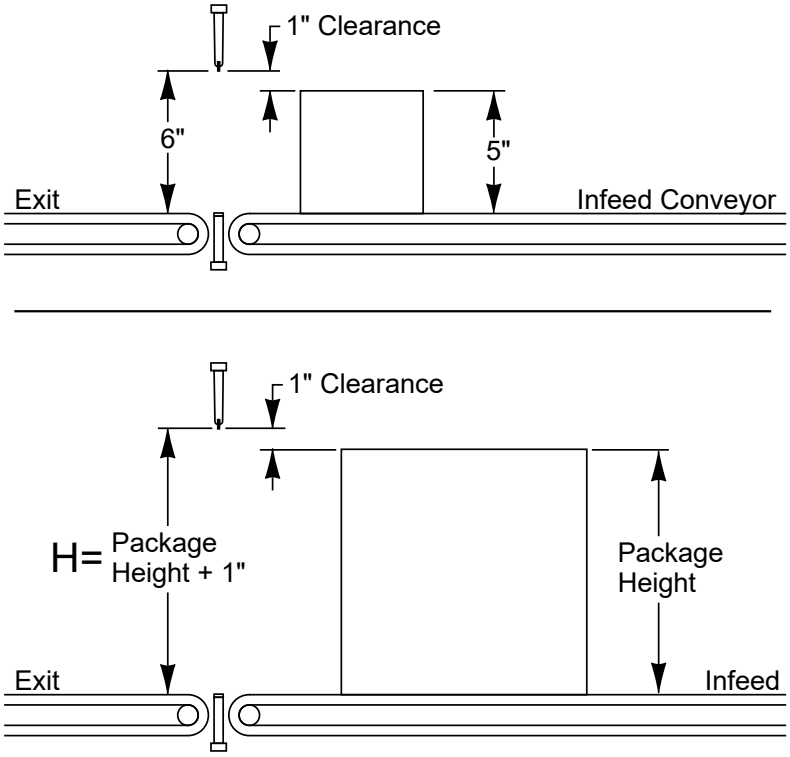
1. Turn on system power and push Conveyor Start.
2. Place the product on the infeed conveyor, lining it up against the rear of the infeed conveyor.
3. Carefully watch the sequence of events as the product goes through the complete cycle of operations including sealing.

   NOTE: If you change conveyor speeds, the bag length timer may need to be adjusted.

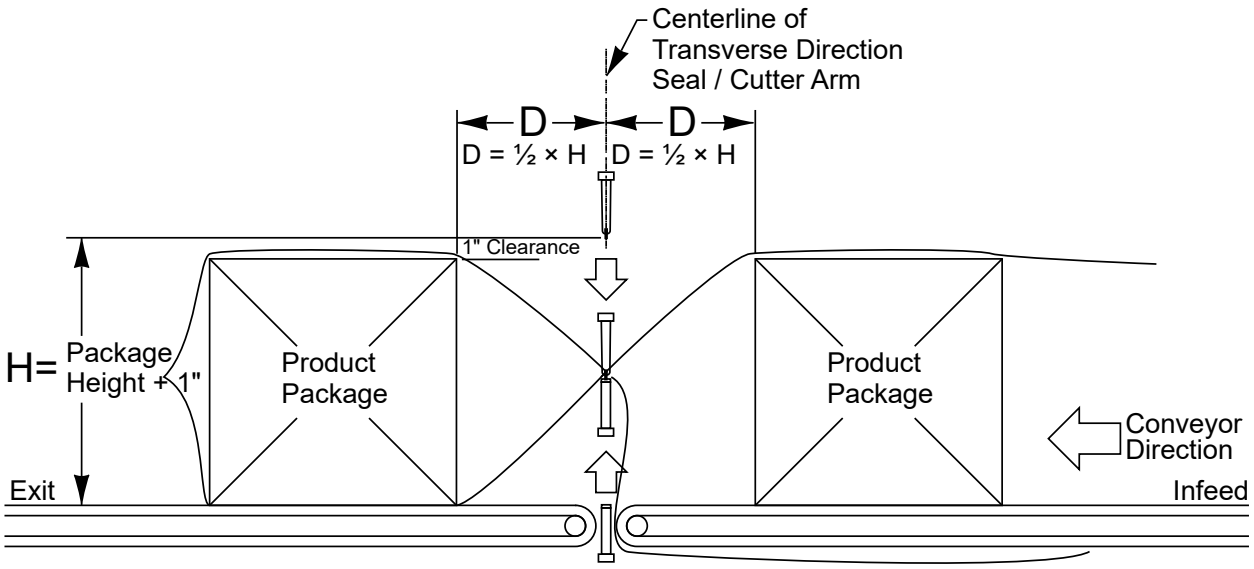
   NOTE: If difficulty arises, see the operational troubleshooting section.

For beginning purposes, set the seal / cutter opening time so that the seal /cutter clears the package height by one inch (1”).

For example, for a 5-inch tall box, the seal / cutter opens 6 inches.



Similarly, allow approximately the same distance, H, between packages, so that the seals occur a distance D = ½ × H before and after each package.



Running One Product at a Time

1. Place the product on the infeed conveyor, lining it up with the rear edge of the infeed conveyor.
2. Push the green palm button on the infeed conveyor.
3. Carefully watch the sequence of operations as the product goes through the complete cycle of operations, including sealing.
4. After product is sealed, both conveyors will remain off until the green button is pressed again or the “Conveyor Start” button is touched on the operator’s panel.

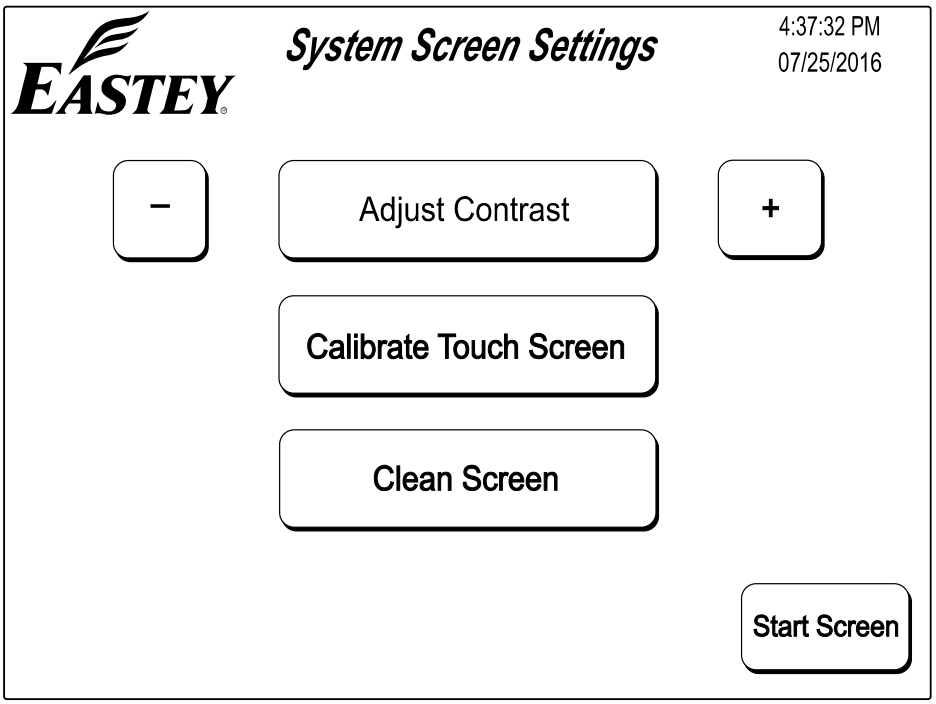
Product Indexing

This equipment has product indexing. There must be a gap in between packages. If a package is being sealed and the photo eye senses a package, the infeed conveyor will stop. As soon as the seal head starts to open, the infeed conveyor starts. The eye is adjustable and needs to be directed away from the seal bar to ensure the package on the infeed does not run into the seal bar while opening.

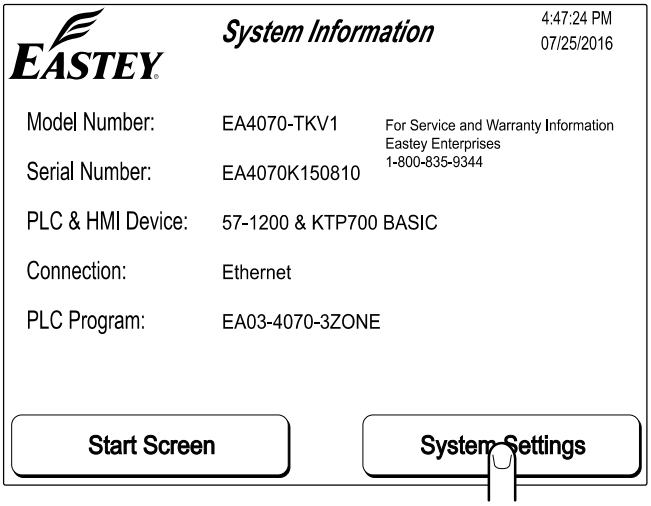
Adjustments

Operator's Panel Screen Adjustment

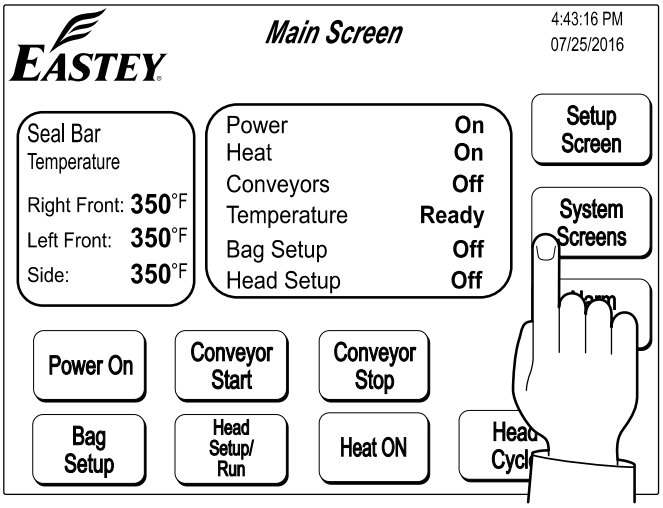
Settings in the System Screen Settings of the Operator's Panel allow you to adjust the contrast of the screen, calibrate the screen, and lock the screen so it can be wiped clean.



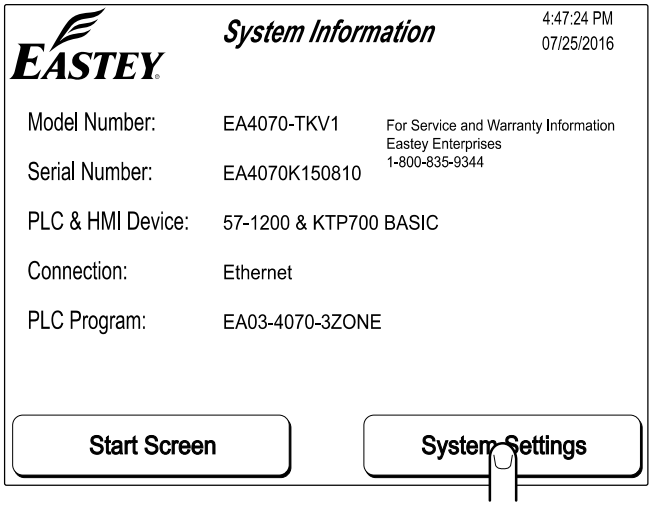
To access the System Screen Settings, touch System Settings from the System Information screen, which is displayed after the system boots up.



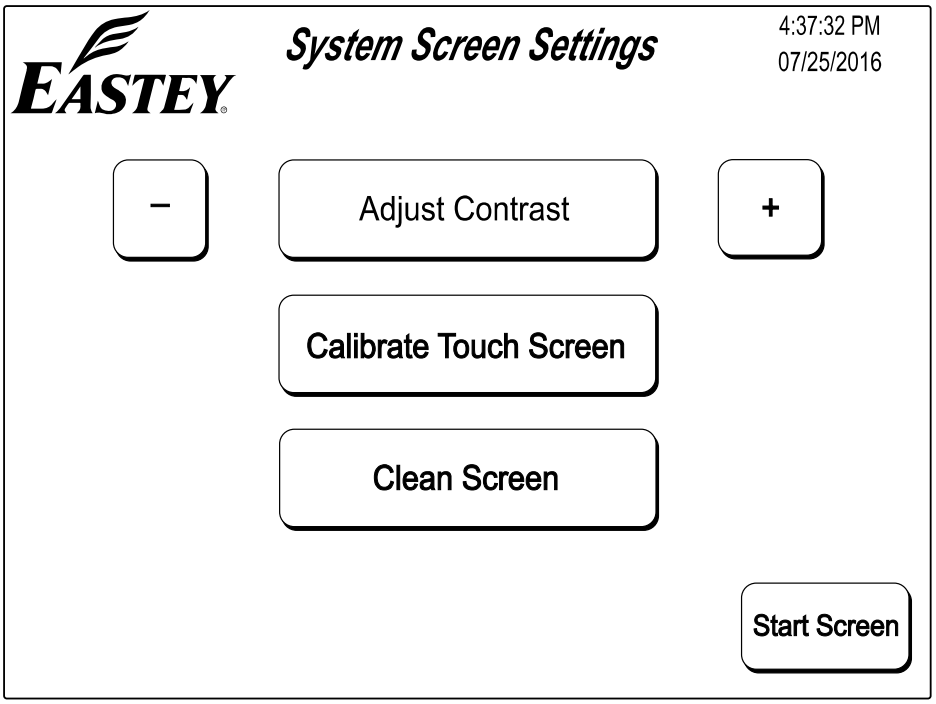
To reach the System Screen Settings screen from the Main Screen, or Setup Screen, return to the Main Screen, and then touch System Screens.



This brings you to the System Information Screen shown at the bottom of the previous page.



From which you can touch System Settings to navigate to the System Screen Settings.



- Touch the minus or plus (–/+) to decrease or increase screen contrast.
- Touch Calibrate Touch Screen and on-screen instructions will guide you through calibrating the screen.
- Touch Clean Screen to clear any onscreen artifacts and lock the screen while you wipe the screen with a clean, dry cloth.

Fine Tuning the Sealer

To achieve maximum efficiency, individual controls can be tuned to improve productivity. Here are some helpful hints.

1. Shorten dwell time as much as possible without jeopardizing the seal's integrity. This will minimize cycle time and increase products-per-minute output.

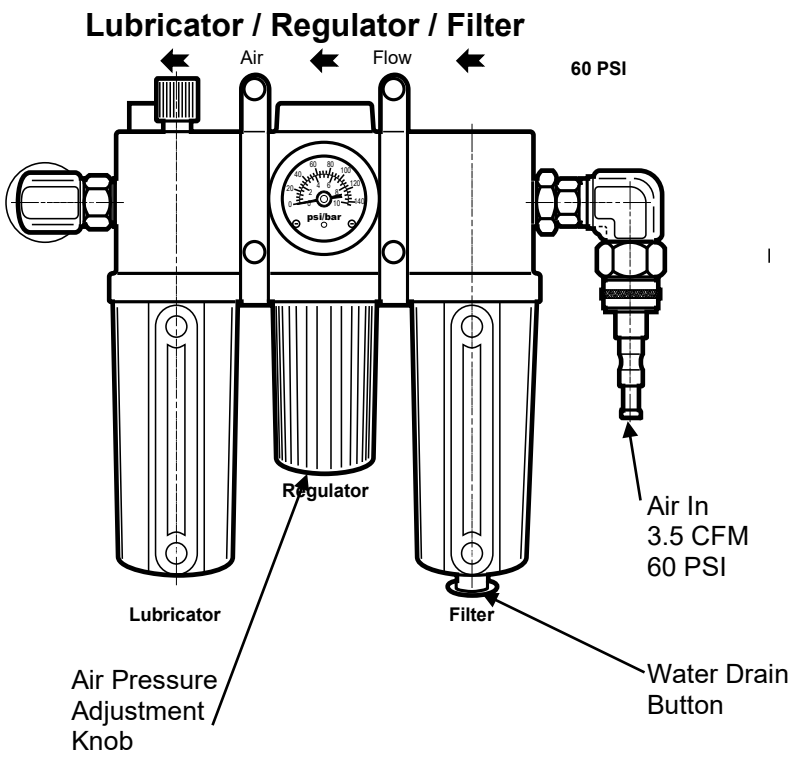
2. Lower the seal head to the point where it will clear the product only by a very minimal distance. This will reduce cycle time also and increase output.

3. Reduce the bag-length at the end of the product as much as possible without jeopardizing the integrity of the seals. To do this, decrease the time on the bag-length timer as much as possible while still clearing the product with the seal head. This will save cost of film and also reduce the amount of time that the product will need to heat in the tunnel.

4. Determine the tunnel settings necessary to get the most desirable package. The tunnel conveyor speed is at or slightly slower than the speed you should set the seal conveyors. The closer the speed of the tunnel conveyor to the speed of the sealer's exit conveyor, the smoother your operation will run.

Air Regulator Adjustments

Air FRL (Filter / Regulator / Lubricator)



Before Adjusting Air Regulator

1. Make the sure seal head is held open.

2. Hook up air supply.

3. Set the air pressure regulator to 60 PSI minimum (65 PSI maximum). To adjust the regulator setting, pull down on the adjustment knob, and then turn the knob.

   - Turn the adjustment knob to the left to decrease pressure.
   - Turn the adjustment knob to the right to increase pressure.

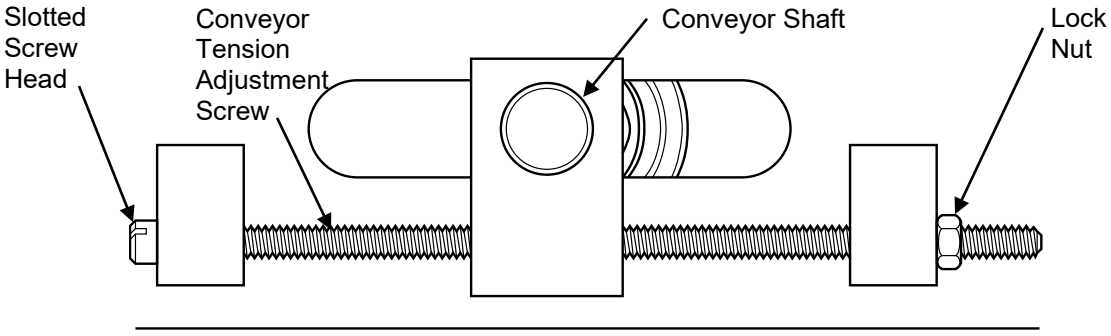
   NOTE: Pressure is set at 60 PSI minimum (65 PSI maximum). Also watch for water in the bowl of the pneumatic filter. If water is present, drain it by pressing the water drain button at the bottom of the filter reservoir.

Conveyor Tension Adjustment

Shut off power and disconnect electrical connections before making any adjustments. Adjustment of conveyor tension is made by tightening or loosening the conveyor tension adjustment screws. There are three tension adjustment screws total: there is one at each end of the idler shaft, and one is in the center of the drive shaft.

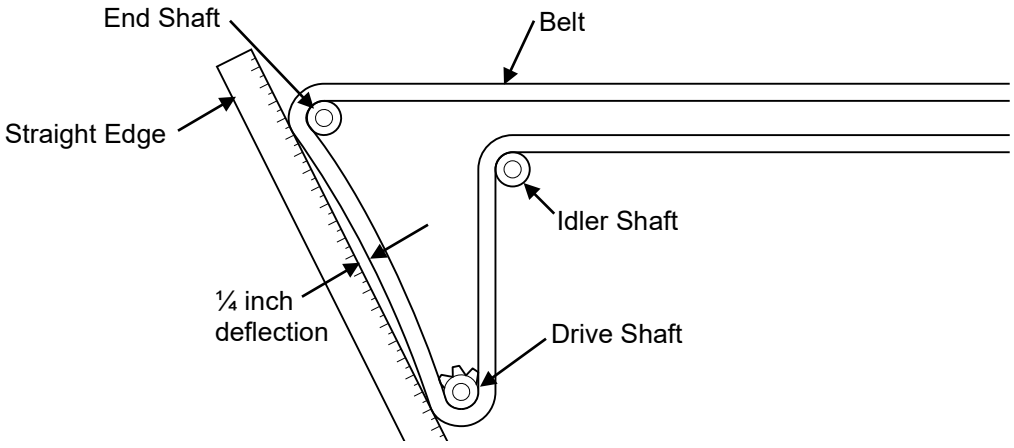
Ideally the conveyor shaft should end up near the center of adjustment, which is the middle of the distance between the two fixed blocks welded to the frame. Before beginning adjustment, measure these distances to place the conveyor shaft near the middle of adjustment.

1. Loosen the lock nuts at the ends of the adjustment screws.



2. Use a flat blade screwdriver to adjust tension.
   - Turn the adjustment screw counterclockwise to loosen tension.
   - Turn the adjustment screw clockwise to increase tension.

3. The proper tension allows approximately ¼ inch deflection in the web of the conveyor belt between the end shaft and drive shaft.



4. When the conveyor tension is correctly adjusted, re-tighten the lock nuts.

Seal Head Pressure Adjustment

Uniform pressure between the seal head inserts and the sealing pads must always be maintained for proper sealing and uniformity, and to prevent weak seals. This adjustment should be checked periodical and should always be checked when sealing gaps occur. Proceed as follows.

1. Keep power on.

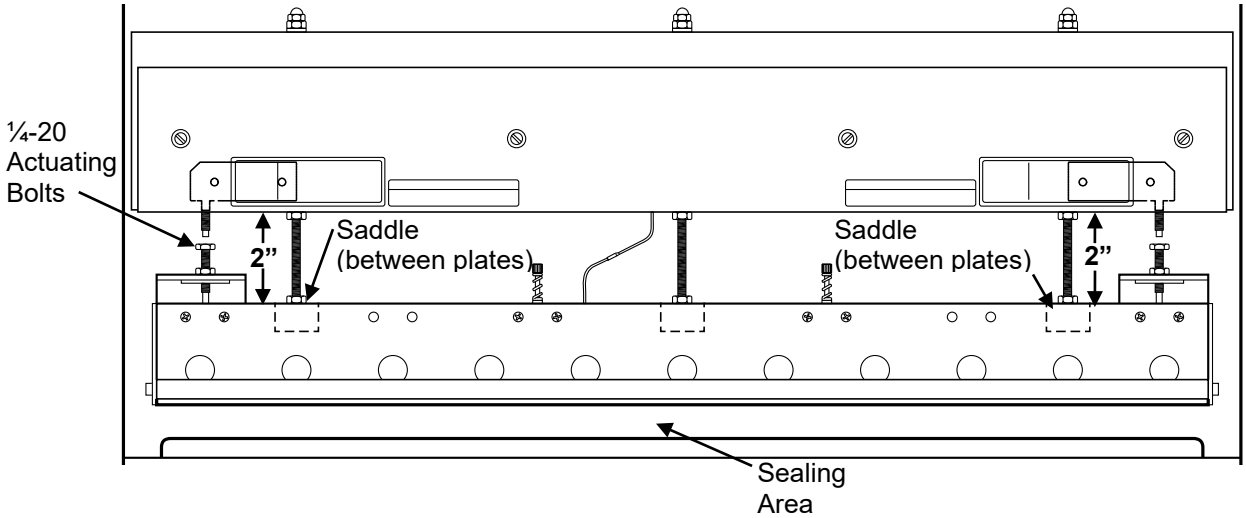
2. Adjust the seal head pressure.

   NOTE: If the machine has been in operation for some time, check lower seal pad materials and replace as necessary before making any pressure adjustments. See Lower Seal Pad Replacement **on page 56**

3. Check the air supply to ensure minimum of 60 PSI.

4. With a piece of paper between the upper and lower seal bars, cycle the seal head. Check with paper all the way across the seal head. Check the impression on the paper to make sure there is even pressure across the seal head.

   NOTE: From the cross bar to the top of the saddle (next to the 5/16 inch nut) is 2 inches in height. (This is a good starting point.)

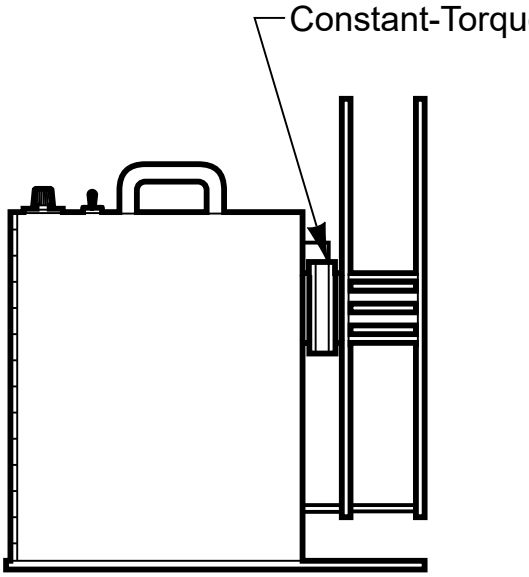


   NOTE: One full turn is approximately 1/16 of an inch.

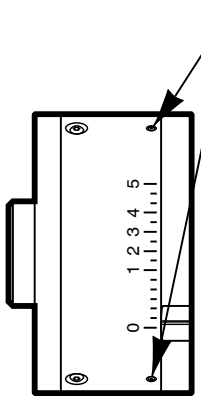
5. If the film pressure is unequal, loosen the upper and lower nuts holding the seal bar saddle in place only in areas where pressure is unequal.

Scrap Film Take-up Spool Clutch Tension Adjustment

The clutch of the Scrap Film Take-up Spool is located on the shaft between the vertical body of the unit and the flange of the spool.



Scrap Film Take-up Spool



Temporarily loosen these #8-32 hex socket head cap screws (120° apart) and use the vernier scale markings to adjust torque.

Retighten cap screws when desired torque is obtained.

Use a 5/64 hex key wrench.

Enlarged View of Clutch

To adjust the clutch torque, temporarily loosen the #8-32 hex socket head cap screws. (Screws are located 120° apart.) Use the Vernier scale markings to adjust the torque. When the desired torque is obtained, retighten the socket head cap screws. Use a 5/64" hex key wrench.

Maintenance

Weekly or Monthly Maintenance

- ☐ **Chains:** All seal head drive chains must be oiled every month. They are located on the seal system. Open the doors on the sealer vertical frame members to access the chains. The power film unwinds are also chain driven and these chains must be oiled periodically as well.
- ☐ **Linear Bearings:** There are four (4) linear bearings on each side that slide on linear shafts. Every month apply a lightweight oil on these shafts to keep the shafts and bearings moving freely.

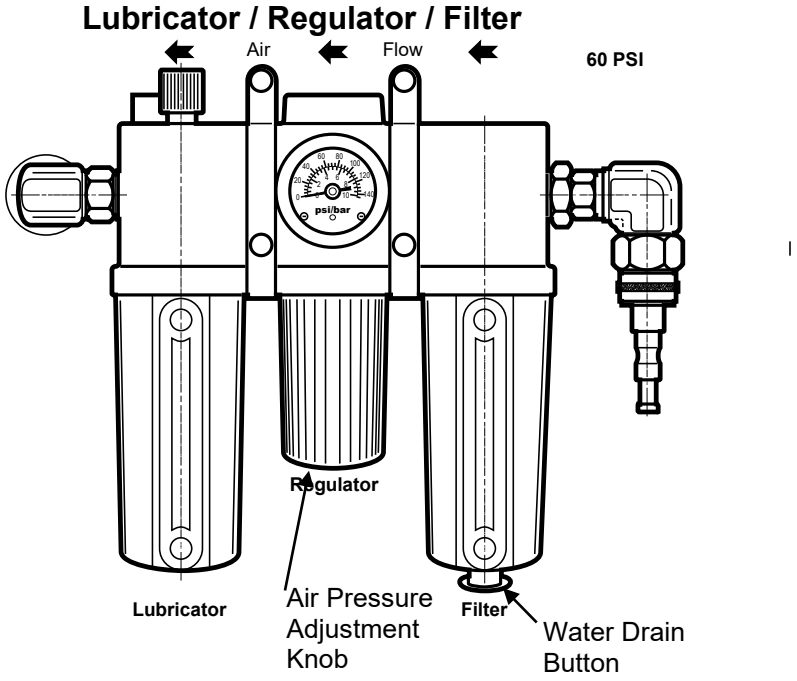
  NOTE: With upper and lower bearings on each side, there are eight (8) total linear bearings that require light lubrication.

- ☐ **Seal Head:** After a while, film may begin to build up on the seal head. With the seal head up to temperature, remove this buildup by wiping the seal head with a clean rag. How often this needs to be done depends on how much the machine is used. Check this every shift or possibly more often if the need arises. Indications that the seal head is accumulating film buildup include poor seals with weak or unsealed spots.

  CAUTION: Never clean with any abrasive.

- ☐ **Pneumatic Filter:** Periodically drain any water accumulation in the filter and regulator. Press the button on the bottom of the filter and hold to drain out all water that has accumulated in the filter bowl.

Air FRL (Filter / Regulator / Lubricator)



- ☐ **Lower Seal Pad:** Periodically check lower seal pad integrity.

- ☐ **Conveyor Tension:** Check the belt tension of the conveyor occasionally to ensure that it is not excessive, as this will cause unnecessary wear. See the instructions for Conveyor Tension Adjustment in the previous section if necessary and for proper belt tension.

Preventative Maintenance for Modular Plastic Conveyor Belts

Modular plastic conveyor belts typically do not require day-to-day maintenance and are generally trouble-free when installed and operated properly.

Following are a few recommendations to obtain maximum life of the belt and avoid down-time.

- ☐ Check belt tension on a routine basis (weekly or monthly) to ensure proper drive. Adjust screw take-up if necessary. (Belts experience thermal expansion while hot.)

- ☐ Sprocket alignment should be checked before installing a new belt to ensure that all the teeth are aligned. (A misaligned sprocket can cause the belt to break or go off track.) On round-bore sprockets, it is good practice to check the keyways and tighten keyway setscrews when required.

- ☐ If a small section of the belt or a module breaks, it is important to replace it as soon as possible. Failure to do so could incur further damage to the belt. Try to determine the cause of the break before restarting to avoid the break from happening again.

    - To replace a belt section See the Belt Assembly and Belt Disassembly section that begins on page 51 and outlines procedures for **Belt Disassembly** on page 51.

Belt Assembly and Disassembly

CAUTION: Disconnect main power source before performing any procedure to replace any conveyor component(s).

Whenever possible, for ease of reassembly, try not to remove the conveyor belt completely from the conveyor frame. Open the conveyor belt only enough to expose parts that need to be replaced.

Before removing any belt completely, make note of direction of belt lugs so you will know which direction to face the belt when reinstalling it.

To aid in reinstalling the belt, take note of sprocket locations before disassembly.

Belt Assembly

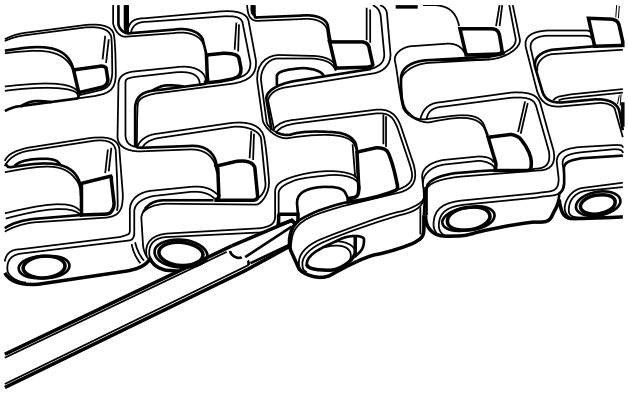
1. Align the ends of the belt to be connected.
2. Insert the new rod.
3. Use a small, plastic tipped hammer to tap the rod while supporting the outer knuckle until the head of the rod is flush with the belt.
4. Trim off the excess rod opposite the head flush with the side of the belt.

Belt Disassembly

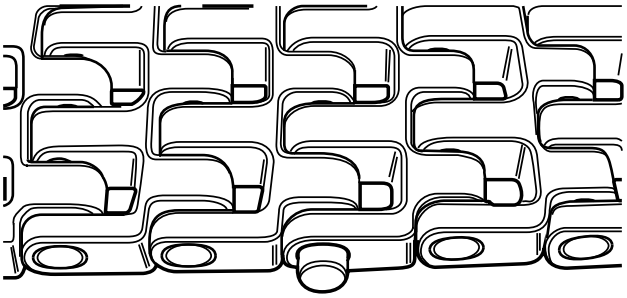
Before disassembling the belt, follow instructions outlined in the Conveyor Tension Adjustment section on page 46 of the Adjustments chapter to loosen the belt tension.

Whenever possible, for ease of reassembly, try not to remove the conveyor belt completely from the conveyor frame. Open the conveyor belt only enough to expose parts that need to be replaced.

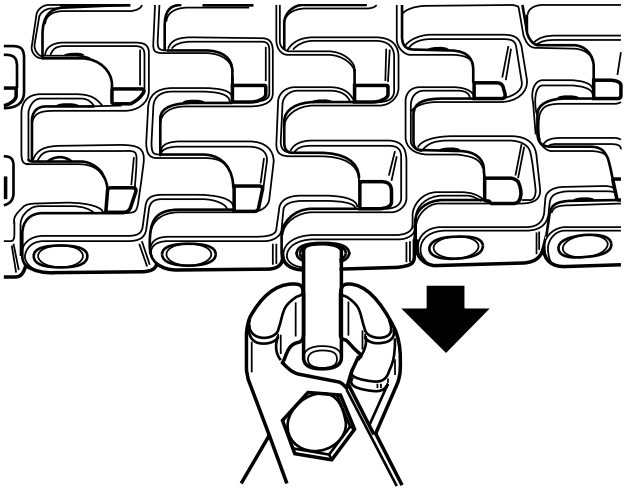
1. Use a small flat-blade screwdriver to gently bend open the belt just enough so that the rod end will be exposed when the screwdriver is released.



2. Release the screwdriver to expose the rod end.



3. Use a pliers, pincer, or similar tool to pull the rod out completely. When grasping and pulling the rod, be careful to not cut or break off the exposed outer finger.



Replacing Conveyor Components

NOTE: Use steps in this section for replacing drive belt, conveyor motor, or drive or idler rollers. Use steps in previous section to replace conveyor belt.

1. Disconnect electrical power.

2. To replace the conveyor end rollers or shafts, idler rollers or shafts, drive shaft or sprocket, it is necessary to loosen the belt tension and open the belt. (See instructions in the previous section.) For ease of assembly and reassembly, try not to remove the conveyor belt completely from the conveyor frame. Open the conveyor belt only enough to expose parts that need to be replaced.

Replacing Conveyor End Roller

There are two rollers with one shaft that extend through the rollers at each end of the conveyor.

Remove the conveyor belt. (See instructions on page 51, earlier in this chapter.)

1. There are two (2) set screws on the end of the conveyor frame and one in the center that secure the conveyor shaft. Loosen these three set screws.

2. Slide the end shaft out of the side of the conveyor and remove the roller.

CAUTION: There are shims on each side of the roller. Note which shim is in each location (to refer to for reassembly) and do not lose these shims. The shims come off with the shaft and need to be reinstalled when reassembling the end roller.

3. Replace worn or damaged parts and reassemble in reverse order of disassembly.

Replacing Drive Shaft, Drive Sprockets, or Conveyor Motor

1. With the power off, open the conveyor belt as much as necessary to expose the drive (exit end) components of the conveyor. (See instructions on page 51, earlier in this chapter.)

2. Remove the chain guards from each side of the conveyor.

3. Loosen the three (3) ¼-20 motor mount bolts and slide the motor forward to remove the chain.

At this point, if the motor requires replacement, disconnect electrical wires and remove the three ¼-20 bolts to remove the motor.

NOTE: Before loosening sprockets, not sprocket location on the shaft and on the belt to aid in reassembly.

4. Loosen the screw in the drive sprocket which hold the key in place.

5. Loosen drive bearing set screws. There are two (2) set screws on each bearing.

6. Slide the drive shaft out of the side of the conveyor frame to replace the drive shaft or sprockets.

7. Replace worn or damaged parts and reassemble in reverse order of disassembly.

8. Use the conveyor belt to properly align sprockets. Refer to notes of sprocket locations taken at disassembly to aid with reassembly

Replacing Conveyor Idler Rollers or Idler Shaft

1. Open the conveyor belt as much as necessary to expose the idler components of the conveyor. (See instructions on page 51, earlier in this chapter.)

   There are two (2) idler rollers with one (1) common shaft extending through both rollers.

2. You have already loosened the idler tension adjusting screws to remove tension on the conveyor belt. Remove the idler tension bolts (3 total).

3. There are three (3) idler tension blocks, one on each side and one in the center that the idler tension bolts are screwed into. Loosen the set screw in the tension block to remove it.

4. Loosen the set screws on the idler bearings (two set screws per bearing). There is one bearing on each side of the idler roller.

5. Slide the idler shaft out of the side of the conveyor to replace the idler shaft or idler roller.

6. Replace worn or damaged parts and reassemble in reverse order of disassembly.

Replacing Power Film Unwind Components

CAUTION: Disconnect main power source before performing any procedure to replace any conveyor component(s).

Rubber Drive Roller Replacement

1. Disconnect electrical power.
2. Lift pinch roller and move it out horizontally.

   CAUTION: The Pinch roller is heavy. Be careful and do not drop it.

3. Remove the chain guard by the motor.
4. Loosen four motor bolts and slide the motor upward while removing it from the chain.

   NOTE: At this point, if the motor needs replacement, disconnect electrical wires, remove the four (4) 5/16-18 bolts to remove the motor.

5. Loosen the anti-backlash pins and slide them back, out of the way.
6. Remove the 5/16 inch bearing bolts off both ends and lift rubber drive roller from machine.
7. Loosen two (2) set screws on bearings and remove them from the shaft.
8. Loosen two (2) set screws on sprocket and remove it from the shaft.
9. Loosen the set screws on the rubber drive roller on both ends.
10. Remove shaft out of old roller and slide shaft into new replacement roller.
11. Work backwards through the above steps for reassembly.

    NOTE: When sliding the anti-backlash pins into position, make sure they are not touching the rubber drive roller. Keep them ⅛ inch away from the roller.

Lower Seal Pad Replacement

Occasionally it will be necessary to replace the sponge rubber on the lower seal bar. These should be replaced if the following are noted:

- Gaps in the seal.
- Weak seals.
- Improper film cutoff.

To replace pads, do the following:

1. Leave the seal head at the highest position.

2. Disconnect electrical power.

3. Seal pads are designed with a channel for easy replacement.

   a. Pull the sponge rubber out of the channel and replace with a new replacement pad.
   b. Press the new pad into the channel.

   NOTE: If sponge-rubber is covered with talcum powder, clean the exterior with a rag.

   NOTE: When replacing sponge rubber, press it in to the channel from side to side, taking care so as not to stretch the material.

Troubleshooting

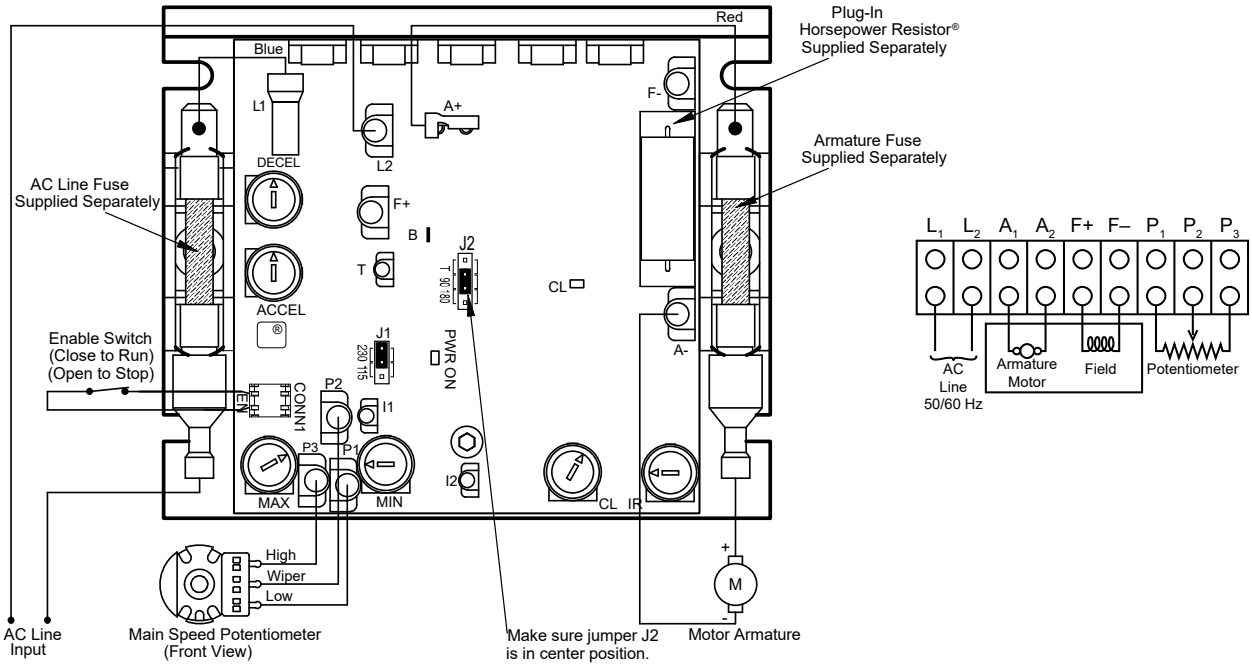
Problem	Solution
Seal Head Does Not Cycle	1. Is the power on and E-stop pulled out? 2. Is the air pressure sufficient? Refer to the machine Specifications. 3. Is the photo eye operational? Refer to pages Check operation of the photo eye emitter and reflector 4. Are the head fault switches aligned properly? Check on IO 1 in PLC light.. 5. Is “Bag Setup” on display on? The seal head will not operate if “Bag Setup” is on. 6. Did a product trip the head fault switch? Press the “Conveyor Start” button. 7. Does seal head cycle manually?
Bad Thermocouple	If there is a bad thermocouple, there will be a red light on the PLC thermocouple module. 1. The operator panel will display which zone the bad thermocouple is in, or you can touch the Alarm Screens button to display this information. 2. You can get back to the operating screen without fixing the problem, but there will be an exclamation displayed in the right corner until the problem is fixed. 3. With the thermocouple at room temperature, resistance should measure at about 9.4 Ω. Make sure insulation is not stripped anywhere that would result in a false reading to the temperature controller. 4. If the thermocouple is open, there will be a red light on the thermocouple module. Replace the thermocouple.

Problem	Solution
Seal Bar Not Heating	Suggestions 1. Is the power on? (Power light should be illuminated.) 2. Is the heat display on or off? Touch the “Heat On/Off” so it displays as On. 3. Is the temperature controller set point set above the actual reading? 4. Check thermocouple. 5. Is the red “Out” light for the temperature controller on? 6. Is the green light lit on the solid state relay in the control panel? 7. Is the light on output Q1.4 in the PLC on? (Q1.5 for EB70 model.)
Film Does Not Feed (Power Film Unwind)	1. Is the power on? 2. Is the pinch roller contacting the rubber drive roller completely? 3. Are the dancer bars moving freely? Check dancer bar. 4. Is the speed dial for film unwind on? 5. Does the green light turn on for the corresponding DC board? (Labeled Upper or Lower PFU.) 6. Check fuses on corresponding DC board for continuity.
Conveyors Are Not Running	1. Is the power on? 2. Is the “Conveyor Start” button activated? 3. Check fuses on the DC board for conveyors. 4. Is there a green light on in the DC board? 5. Is the conveyor speed dial turned up? 6. Is the output light on the PLC, Q1.0 and Q1.2 on?

The following illustration shows the D.C. board used in the EA Auto L-Sealer Professional Series. This board is used for control of three motors: the motor for the Infeed Conveyor, the motor for the Exit Conveyor, and the motor for the Scrap Take-Up Spool. Some of the solutions to problems identified in the troubleshooting table that follows refer to adjustments made by tuning potentiometers on this board.

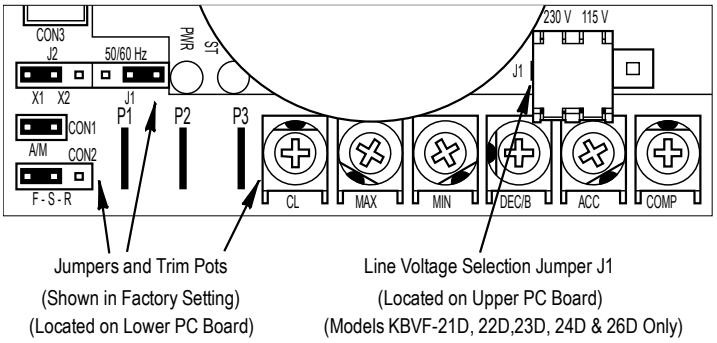
Basic KBMM™ Controller Board Connection Diagram **KBMM™ with Barrier Terminal Kit**

CONTROL LAYOUT & GENERAL CONNECTION DIAGRAM (Model KBMM-225D Shown)
(Note: Control is set for 208/230 VAC line input, 0-180 VDC output with armature feedback)



For more information refer to the *KBMM™ Installation and Operation Manual* (provided by the D.C. board manufacturer).

Problem	Solution
Conveyor not moving	• The conveyor motor is controlled by a D.C. control board. Input is 220 VAC in and variable 0 to 90 VDC out. • Is a green light on? If not, check the input fuse. • If fuse is good and a green light is not on, check for 220 VAC on L1 and L2. If there is voltage, check the output DC voltage. • Check output fuse. • The KBMM-225 has a current overload. Is there a red light on the board? If so, below are some conditions that could cause this light to turn on. • This could be caused by a jammed conveyor. • Locate the ceramic horsepower resistor and check its resistance. If the ohmmeter indicates open (infinite resistance), the resistor is damaged; replace it — but, there is a reason the resistor went out. There will be a point number (for example, .1 or .25) you will need this number when ordering a replacement resistor. • The motor is pulling more amps than the board is allowing. Try adjusting the CL potentiometer on the motor controller board. • Bad idler or drive bearing. • If the red light is on, disconnect the drive motor from the drive chain. Power up the machine and operate the motor without any load and see if the red light goes off. If the board works and the red light does not light, it does not mean that the motor is good; it could be weak under load. Check the brushes. Also pull the conveyor by hand, checking to make sure it pulls smoothly and checking for bad bearings. • If the light remains on, replace the motor. • If the red light is not on and a green light is, with the speed pot set at 100%, check for 90 VDC on terminals A+ and A–. If voltage is not correct, try adjusting the MAX potentiometer to obtain 90 VDC.

Problem	Solution
No air flow	1. Check AC Inverter adjustable speed pot settings below. • C.L.: Set at approximately 12 o'clock. • Max.: All the way counter-clockwise. • Min.: All the way clockwise. • ACC.: All the way clockwise. • Comp.: Set at approximately 12 o'clock. Detail View of Jumpers and Trim Pots  Jumpers and Trim Pots (Shown in Factory Setting) (Located on Lower PC Board) Line Voltage Selection Jumper J1 (Located on Upper PC Board) (Models KBVF-21D, 22D,23D, 24D & 26D Only) **Important Application Information:** Motor with External Fan Cooling – Most totally-enclosed fan-cooled (TEFC) and open-ventilated 3-phase AC induction motors will overheat if used beyond a limited speed range at full torque. Therefore, it is necessary to reduce motor load as speed is decreased. **Note:** Some fan-cooled motors can be used over a wider speed range. Consult the motor manufacturer for details. ⚠ **WARNING!** Some motors have low speed characteristics which cause overheating and winding failure under light-load or no-load conditions. If the motor is operated in this manner for an extended period of time, it is recommended that the unloaded motor current be checked from 1–15 Hz (60 – 450 RPM) to ensure motor current does not exceed the name-plate rating. Do not use motor if the motor current exceeds the nameplate rating. 2. Check intake screens inside upper chamber to see if they are clogged. 3. Blower motors are controlled by 220 volt single-phase input and three-phase output. (Check lead to lead. Not lead to ground.) 4. Is there a steady green and a slowly-flashing green light? If not, check input fuses. If fuses are good, replace AC inverter. 5. If there is a steady green light and not a slowly-flashing green light, refer to the table that follows for information about what the flashing LEDs indicate.

LED	Drive Status	Color and Flash Sequence	Flash Rate	Color and Sequence After Recovered Fault
	Normal Operation (Run)	Green	1 sec. On / Off	—
	Overload (120% – 160% Full Load	Red	On continuously	Green
	I^2t (Drive Timed Out)	Red	0.25 sec. On / Off	—
	Short Circuit	Red	1 sec On / Off	—
	Under-Voltage	Red / Yellow	0.25 sec. On / Off	Red / Yellow / Green
	Over-Voltage	Red / Yellow	1 sec. On / Off	Red / Yellow / Green
	Stop	Yellow	On continuously	—
	Phase Loss Detection[1,2]	Yellow	0.04 sec. On / 0.06 sec. Off	—
	Communication Error[2]	Green / Red	1 sec. On / Off	Green
PWR (Power)	Bus and Logic Power Supply	Green	On continuously	—

Notes:

1. Phase Loss Detection: Models KBVF-23P, 24P, 29, 45, 48.
2. Requires AC line restart.
3. With DVF Modbus Communication Module Installed.
4. All LED flash rates after recovered faults are 1 sec. On / Off.
5. Drive will require manual restart to return the Status LED color to its normal flashing green state.

Problem	Solution
No air flow (Continued)	6. If one motor is running and one is not, replace the faulty motor. 7. If all motors are not running, check for approx. 220 VAC output voltage. If there is no voltage and the green lights are on and slowly flashing, replace the AC inverter. (Remember this is three-phase: test from lead to lead. Do not test to ground.) U to V, U to W, V to W. If you lose voltage on one of these legs, replace the AC inverter. 8. One bad motor could cause the steady-flashing green light to change. Disconnect all motors and run one motor at a time to find the bad motor. 9. Motors should be running counter-clockwise. Check that all motors are running the correct direction. If not, change the two output terminals to obtain correct phase.

Problem	Solution
No heat	1. Is the display on the temperature controller on? If not, check for 220 Volts on terminals 9 and 10. If there is voltage, replace the temperature controller. 2. If the display is on and SV is set higher than PV, is there a red light on? If not, replace the thermocouple. 3. If there is a red light on, check for 220 VAC from any wire number 8 to terminal 13, and then terminal 14. If no voltage, replace the temperature controller. 4. If there is 220 VAC, check for 220 VAC on coil of heater contactor. If there is voltage and the contactor is not pulling in, replace contactor. 5. If there is no 220 VAC, check heater bank on / off switch. The best way to check this is to disconnect the wires and check resistances (Ohms).
Delay cool-down does not work	Adjust temperature controller TT1 using the menus, Menu #1 and Menu #2, that follow. Refer to adjustment procedure to adjust the Delay Cool-Down setting.

Appendix A: Electrical Schematics

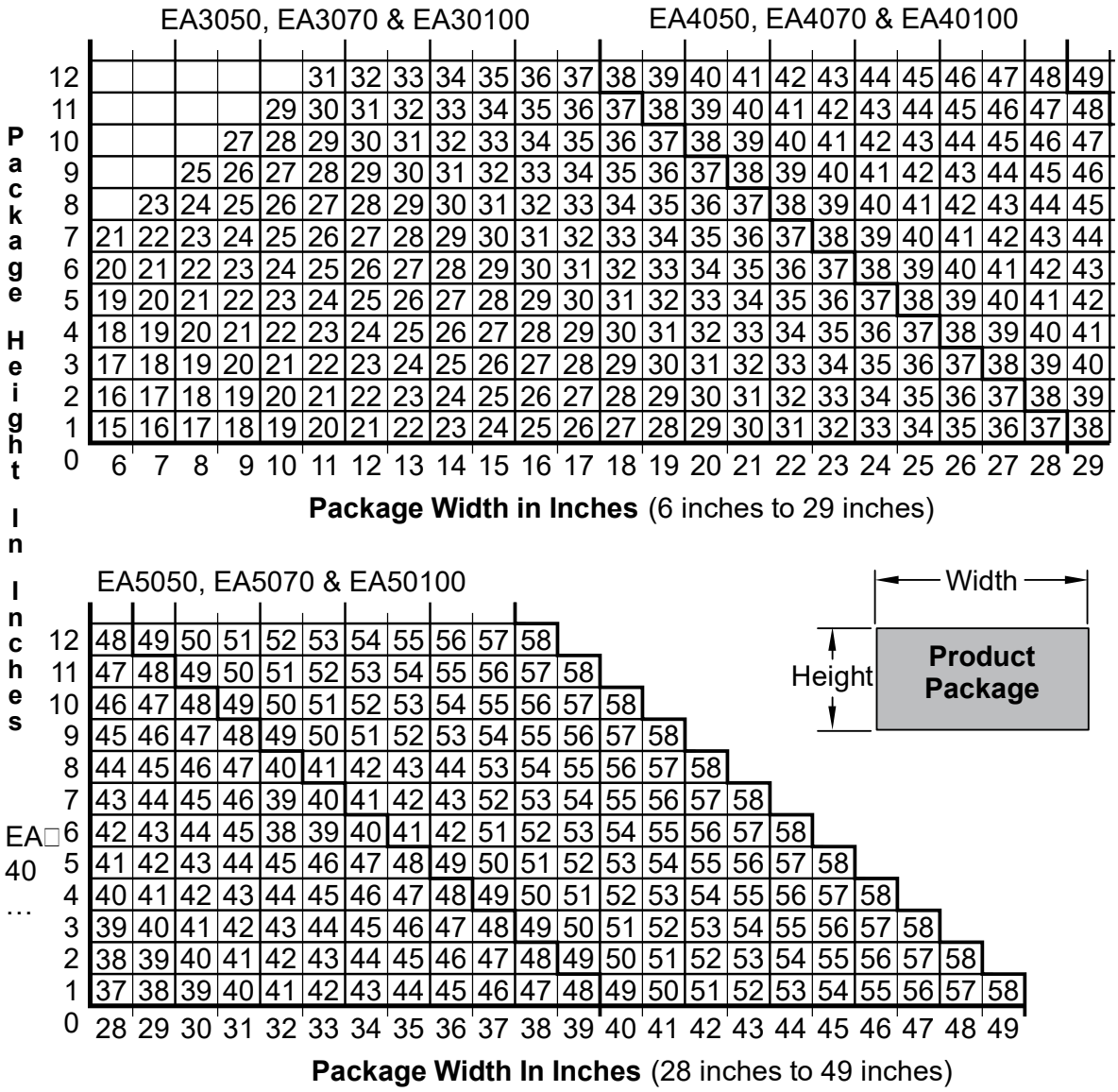
Appendix B: Temperature Setting Specifications for Shrink-Wrap Plastics

Mushroom Insert

PVC (Poly-Vinyl Chloride)	Temperature settings:	325° F front bar; 325° F side bar
	Pad type:	Felt
	Dwell Time:	Approximately 1 second
Polyolefin	Temperature settings:	335° F front bar; 335° F side bar
	Pad type:	Sponge rubber
	Dwell Time:	Approximately 1 second
Polyethylene	Temperature settings:	360° F front bar; 360° F side bar
	Pad type:	Sponge rubber
	Dwell Time:	Approximately 1.5 second

Appendix C: L-Sealer Size Estimating

L-Sealer Center-Folded Film Size Estimating Table



To calculate estimated per-package cost for manual and semi-automatic L-sealers, use the following formulas.

1) Center-Folded film – width of roll of film =
2) Cutoff Film length – film going across front seal bar =
3) Film usage – to calculate the amount of film used per package =
4) Per package cost

Warranty Statement

EA Auto L-Sealers Professional Series

Warranty Statement
Eastey Enterprises warrants that all of the products it ships will be in good working order and free from defects in material and workmanship for a period of two (2) years from the date of shipment by Eastey and will conform to the published specifications for that product. Spare parts that are manufactured in house by Eastey will be warranted for two (2) years. Bought out parts will be warranted for one (1) year.

Warranty Period – Specific Items

Drive motor(s):	1 year
Gear reducer:	1 year
Termination Post	30 days
Conveyor Belt	30 days
Hole Punches	30 days (ball and die)
Knurled Nut	30 days

The following parts are considered to be consumable items and not under warranty: fuses, ¼" × ¾" sponge rubber, copper heat sinks, 036 Nichrome wire, ¾" Teflon tape, and ½" Teflon tape.

All other parts: 1 year (Except for moving parts which are subject to normal wear, tear and replacement which are warranted to be free from defects in material and workmanship.)

Sealing Quality
Sealing quality achieved in a given application is dependent on the installation, the material handling, and the maintenance provided. Eastey makes no warranty that the sealing quality achieved in an application will be the same as that achieved on a test piece in our demo facility.

Shipping Policy
Customer pays all incoming shipping. If the item is defective and under warranty, Eastey pays return shipping charges for least costly method. If expedited shipping is desired, customer must furnish his shipping account and shipping fees will be charged to that account.

Warranty Verification
If you conclude that a product may be defective and may be covered by warranty, obtain a Return Material Authorization number by calling our technical support number (toll free at 1-800-835-9344, or 763-428-4846 or Fax: 763-795-8867 or e-mail: info@eastey.com). Once an RMA number has been obtained, return the defective component to Eastey. Eastey will analyze the component and, if found to be defective, we will, at our option, replace or repair the item. If the item is found to not be eligible for

warranty, you will be notified and may decide on disposition. Defective products will be replaced or repaired as promptly as possible.

Warranty Eligibility
The warranty provided by Eastey. is only to the original buyer.

Limited Warranty
THE ABOVE WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

Disclaimer of Damages
REGARDLESS OF WHETHER ANY REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE, IN NO EVENT WILL EASTEY BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR SIMILAR DAMAGES, INCLUDING LOST PROFIT OR LOST OPPORTUNITIES OF ANY TYPE ARISING OUT OF THE USE OR INABILITY TO USE THESE PRODUCTS EVEN IF EASTEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Customer Support

Eastey Technical Service

For help setting up or operating the Eastey EA Series Professional Series Auto L-Sealer, please contact Eastey Technical Service at one of the numbers listed below.

Toll-Free Phone	800-835-9344
Phone	763-428-4846
Fax	763-795-8867
E-mail	info@eastey.com
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