# THE MAX™

# Operator Manual

## Models 1143 & 1145


SHARP®
PACKAGING SYSTEMS BY PREGIS

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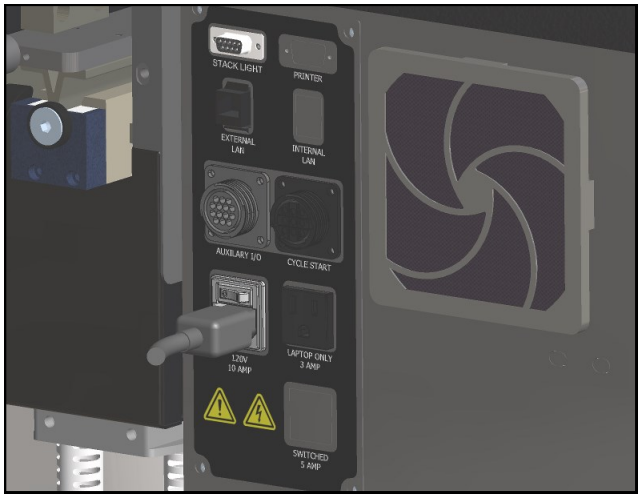
## COMPLETE POWER-UP PROCEDURE*

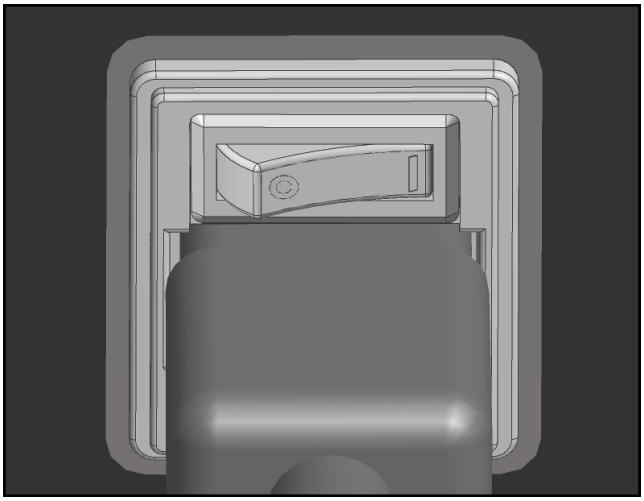
**⚠ WARNING!**

**Read and understand the entire Operator Manual before attempting any procedures on this machine. Failure to follow these instruction can result in serious injury.**

1. Connect Power Cord to the 120V Power Entry Module.




2. Turn switch to the ON position. The HMI will automatically start up when Power Entry Module Switch is turned ON.



3. Release the E-Stop Button and press the Green Power Button. The green light should illuminate and energize the MCR.

**Note: If the bagger has the Stack Light option, the horn will sound until the HMI program has finished loading. To prevent horn blowing, do not press the Green Power Button until HMI program is loaded. The horn then can be silenced by pressing the reset button.**



* CE models, see Page 8-1.

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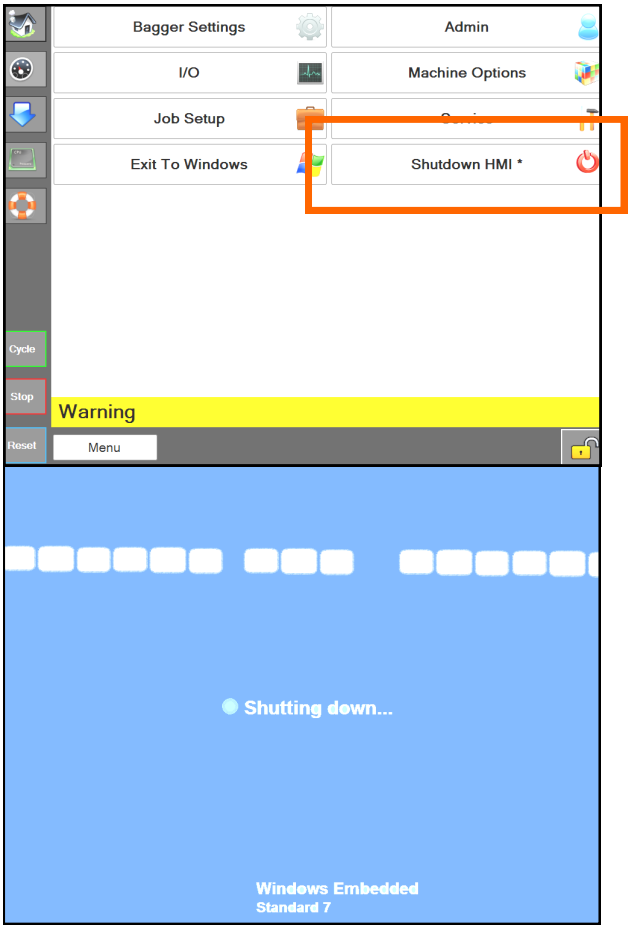
## COMPLETE POWER DOWN SEQUENCE

***The bagger must be properly Power down in the correct sequence.***

1. From the **Main Menu** Screen, press and hold the "**Shutdown HMI**" button for 3 seconds. The HMI program will start shut down.




2. ***IMPORTANT! ALLOW THE HMI/PC TO POWER DOWN COMPLETELY BEFORE CONTINUING TO NEXT STEP***.

   - The Windows software must shut down properly.
   - Do not remove power during this process. Corruption of Windows files could occur.

3. ***WHEN SCREEN IS BLACK***, switch Power Entry Module Switch to OFF. The machine is now electrically shut down.


* CE models, see Page 8-2.

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Thank you for purchasing the **Sharp *MAX*™** bagger. The **Sharp *MAX*™** is the low cost solution for manually bagging product, dramatically reducing packaging costs and improving package quality. The **Sharp *MAX*™** has an optional integrated high-performance, low-cost ribbon printer for printing barcodes, text, or graphics on the packaging material.

Both models of the **Sharp *MAX*™** can be upgraded to a CE version that meets the EU safety, health, and environmental requirements.

The **Sharp *MAX*™** bagger can be upgraded from a manual, hand-loaded operation, to a fully automated packaging system. A variety of options, including weighers, counters, and conveyors are easily connected via optional interfaces.

Your **Sharp *MAX*™** is a product of extensive research and field testing with the following features:

- State of the art *Step Logic Programming* technique that logically controls each machine action (step) in sequence and verifies that the correct action occurred with sensor feedback.
- Simplified layout of digital outputs in PLC program for ease of troubleshooting.
- Improved fault handling that can display multiple fault conditions simultaneously.
- Simplified operator set-up.
- Displays all PLC I/O status, including Expansion I/O.
- Manual motion pushbuttons on Options Screen that provide both text and color cues as to the state of the device.
- Help Screens show setting range and default values.
- Speed settings in inches/second instead of raw numbers.

The materials used were selected for maximum durability and optimum performance. Every unit is thoroughly inspected and tested prior to shipment.

**ABOUT THIS MANUAL**

This manual has been prepared for your use in operating the **Sharp *MAX*™** Modular System. Included in the manual are helpful facts on operating and basic troubleshooting information.

It is important that you familiarize yourself with the product as much as possible before operating or troubleshooting.

Make sure you read through the *IMPORTANT SAFETY INFORMATION* and *INTRODUCTION* sections of this manual before operating this machine.

# GENERAL INFORMATION

**READ ALL INSTRUCTIONS BEFORE OPERATION**

- Upon receipt, unpack and inspect the unit for damages that may have occurred during shipment. Sharp Packaging is not in any way responsible for any damages that occur during transport. If you receive damaged equipment, it is your responsibility to make a claim with the transporter.
- Read instructions carefully. Be familiar with the controls and proper use of the unit. Do not operate the machine when tired, ill, or under the influence of alcohol, drugs or medication.
- The instructions and data in this manual are vital to the proper installation and operation of this equipment. In order to avoid delays due to faulty installation and operation of the machine, please see that these instructions are read by the persons who will install or operate or maintain the machine.
- The WARNING instructions issued on this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution and carefulness are factors that cannot be built into all machines. These factors must be supplied by the persons installing, maintaining, or operating the machine. Failure to install, maintain, and/or operate the equipment according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage. Contact Sharp Packaging about any problems or conditions you do not fully understand.

## EQUIPMENT SAFETY FEATURES

The safety information presented in this manual are guidelines that should be followed by all personnel. Anyone operating or maintaining the equipment should read and follow all safety information in this manual, without exception.

## DO NOT DISABLE OR REMOVE SAFETY DEVICES DESIGNED INTO THIS MACHINE.

All Operators should be familiar with their own Labor Protection Guidelines. Hands, arms, hair and clothing should not be near any moving or heating parts of the machine. Do not turn the machine ON if any of the machine's components have been removed or modified.

### Emergency Stop (E-Stop) Button

An Emergency Stop (Red) Button is located on the lower left corner of the Display Panel, which immediately stops the machine when pressed bye de-energizing power to the PLC outputs, motors, and motor drives.

## FIRE PREVENTION

Keep a fire extinguisher near the machine. Keep machine away from any sparks, flames and flammable materials. Unplug the machine before maintaining or cleaning. All electrical components must be in good condition and clean.

Electrical fires can occur if any wires are scratched, corroded, color-faded, lost their insulation or have damaged wire ends. These should be changed immediately.

Any exposed electrical components should never come into contact with the ground-connector and any other electrically conductive objects such as tools.

## ELECTRICAL PRECAUTIONS

Ensure no liquids are near the machine to eliminate the possibility of spilling onto any electrical components and creating a short circuit.

Should a liquid spill onto the machine, turn off the power immediately and once having cleaned the liquid, test all the electrical components to ensure they are functioning properly. To avoid short-circuiting, keep all wires and

# GENERAL INFORMATION

connections clean and keep your body, hand-held tools and any other electrically conductive objects away from any exposed electrical components.

Ensure the electrical cabinet is always closed, unless needed for maintenance. Always ensure that the ground wire is firmly connected with the ground before starting the machine. Use double grounding for added protections. After installation, check all electrical connections and test all electrical circuits before starting the machine.

### GROUNDING INSTRUCTIONS

Improper connection of the equipment grounding conductor can result in a risk of electrical shock. Check with a qualified electrician or service person if you are in doubt as to whether your machine outlets are properly grounded.

This machine must be grounded. In the event of malfunction or breakdown, grounding will reduce the risk of electrical shock by providing a path of least resistance for electrical current. This machine is equipped with a cord having an equipment-grounding conductor for a 3 prong grounding plug. The plug must be connected into an outlet that is properly installed and grounded in the accordance with all local codes and ordinances. Do not modify the plug provided with the machine.

If your electrical supply does not meet the above specifications, or if you are unsure your building has an effective ground, have a qualified electrician or your local electrical utility company check the ground and correct any problems.

The safety information presented is a guideline that should be followed by all personnel. Anyone operating or maintaining the equipment should read and follow all the information in this manual, without exception.

### STORAGE

If the machine will not be used for a considerable amount of time, it should be stored in the original shipping crate to protect it from damage.

### DEFINITION OF TERMS

⚠ Throughout this manual, you will find the following safety notices with this accompanying symbol.

This symbol signifies important safety issues regarding the operation and maintenance of the **Sharp *MAX*™**.

### SAFETY RULES AND PROCEDURES

The machine requires regular, periodic maintenance to ensure reliable service. No maintenance should be performed unless the safety precautions for maintenance are thoroughly understood.

- Follow all instructions in this manual for safe operation.
- Follow all company and industry standard safety policies regarding this kind of machinery that may exceed those listed in this manual.
- Keep all safety features, guards, interlocks and sensors in good working order.
- Always ensure that all mechanical motion has stopped and allow any heated components to cool down before removing any machine parts.
- Keep the area surrounding the machine free from debris. Spent film/bags should not be allowed to accumulate around bagger.

**⚠ CAUTION**

**GENERAL CAUTION: Indicates information important to the proper operation of the equipment, failure to observe may result in damage to the equipment and minor bodily injury.**

**⚠ WARNING**

**GENERAL WARNING: Indicates information important to the proper operation of the equipment, failure to observe may result in damage to the equipment and severe bodily injury or death.**

# IMPORTANT SAFETY INFORMATION

## EQUIPMENT SAFETY FEATURES

The **Sharp *MAX*™** is equipped with guards covering the heated sealing area and the underside of the Head Assembly. DO NOT operate the ***MAX*™** with these or any other guards removed.

The Top Lexan® Guard sits on top of the Jaw Guard. The shape allows for loading of product into the bags. Sharp Packaging recommends the ***MAX*™** be equipped with the optional Dual Palm Buttons to start the cycle to ensure the operator's hands are clear of the sealing and pressure bars when the machine is cycled.

An Emergency-Stop Button is located on the Control Panel, which immediately stops the machine when pressed by de-energizing power to the Master Control Relay, PLC outputs, motor, motor drive and air valves. Figure 1-3A.

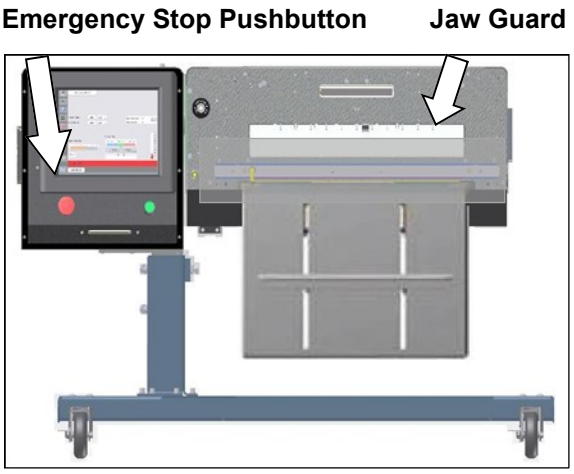



**Figure 1-3A. Safety Features**

## SAFETY LABELS

Figure 1-3B shows a label that is placed on the **Sharp *MAX*™** wherever a removable guard or panel is attached. Always disconnect electrical power from the machine prior to removing any guards and/or panels.


## OBSTRUCTION SENSING JAW

**WARNING**

**The Sharp *MAX*™ is equipped with a jaw obstruction detection sensor. This sensor is not designed, nor intended, to be a safety sensor.**

The Sealing Assembly is equipped with an Obstruction Sensing Jaw, which can detect an obstruction in the sealing area. If the jaw sensors detect an object preventing the jaw from closing, the jaw solenoid will de-energize and place the machine into a fault condition.

A message appears in the display window informing the operator of the jaw fault, allowing the operator to clear the seal area and reset the bagging cycle.

# SHARP EZ-BAGS & FILM MATERIALS

## SHARP EZ-BAGS® and FILM MATERIALS

Call Sharp Customer Service (+1 (262) 246-8815) to order **Sharp EZ-Bags®** and for information regarding film and bag specifications.

The **Sharp *MAX*™** is designed to use a wide variety of bag sizes and materials. **Sharp EZ-Bags®** are recommended for optimum operating performance, efficiency and safety. System performance specifications are based on utilizing consistent, high quality, pre-opened bags. Any bag used must meet Sharp Packaging Systems' manufacturing tolerances. The following list shows some of the **Sharp EZ-Bags®** films available through Sharp Packaging Systems.

- Low Density Polyethylene (LDPE)
- Linear Low Density Polyethylene (LLDPE)
- High Molecular Weight, High Density
- Polyethylene (HMWHDPE)
- Laminated Oriented Polypropylene (Laminate/OPP)
- Polypropylene
- Metallic Films (including conductive films)
- Co-Extended Films (combination films)
- Other Laminates (any other laminates laminated with polyethylene)
- Anti-static and Turbo
- Electric films
- VCI corrosion inhibiting films
- Opaque films

## THERMAL TRANSFER RIBBONS

Sharp thermal transfer ribbons are selected specifically for use with our printer. Use of ribbons other than those supplied by Sharp, may result in a poor quality printing, especially barcodes and their ability to be successfully scanned.

- Recommended Sharp ribbons are:
- Black ink, scratch and smudge resistant
- 2000' (609.6 meters), 3.5 to 4.5 microns thick.
- 1" core, no notch required
- Ink side in
- Back coated ribbons only

Special purpose thermal transfer ribbons, sizes other than those listed above, such as colored ribbons, or low temperature release ribbons are also available.

# SPECIFICATIONS

## PACKAGING SPECIFICATIONS

| | BAG WIDTH | BAG LENGTH | FILM GAUGE |
|---|---|---|---|
| **MINIMUM** | 2” (5.1 cm) | 3.5” (8.9 cm) | .001” (1 mil) 25 Microns |
| **MAXIMUM** | 12” (30.5 cm) | 32” (101.6 cm) | .004” (4 mil) 100 Microns |

**Table 1-5A. 1143 Packaging Specifications.**

| | BAG WIDTH | BAG LENGTH | FILM GAUGE |
|---|---|---|---|
| **MINIMUM** | 2” (5.1 cm) | 4.5” (11.4 cm) | .001” (1 mil) 25 Microns |
| **MAXIMUM** | 20” (50.8 cm) | 32” (101.6 cm) | .004” (4 mil) 100 Microns |

**Table 1-5B. 1145 Packaging Specifications.**

## MACHINE SPECIFICATIONS

| POWER (SOURCE) | WEIGHT | AIR REQUIREMENT | SPEED | OPERATING TEMP | HUMIDITY RANGE |
|---|---|---|---|---|---|
| 115VAC 50/60 Hz, 10 Amps<br><br>******230VAC 1Phase, 5 Amp, 50-60 Hz | Est. 500 lbs.^ (227 kg) | 80 PSI (5 SCFM) (5.5 Bar) | 50 Bags per Minute* | 32° - 140° F<br>0° – 40° C | 10% - 90% RH Non-Condensing |

**Table 1-5B. Machine Specifications**

** Power source for CE versions only.

**^** Weight depends on installed options and model of bagger.

*** Sealing options,** size of package, along with weight and size of product will cause rate to vary.

# MACHINE DIMENSIONS

**FRONT VIEW**

Bagger dimensions viewed from front.*

Measurements are in inches.

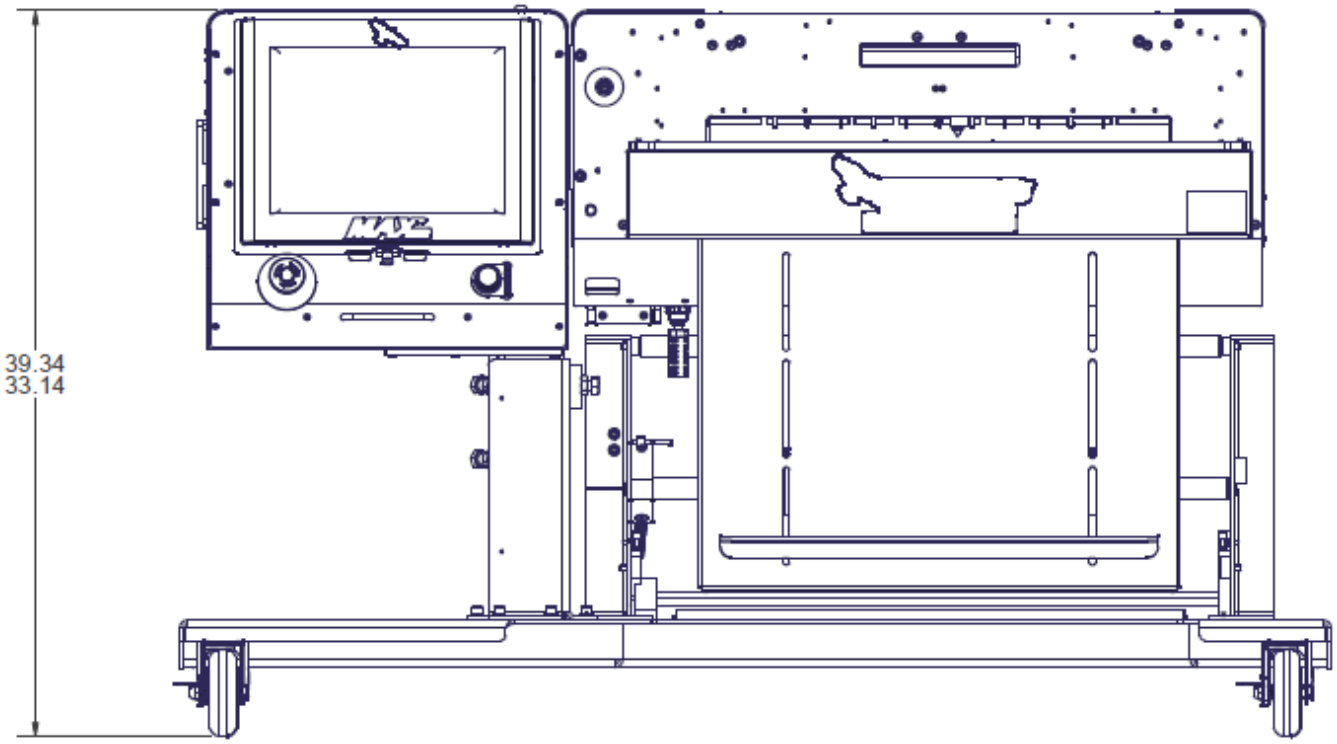



**Table 1-6. 1145 Front View.**

*** The 1143 model adjusts to the same height.**

# MACHINE DIMENSIONS

**SIDE VIEW**

Bagger dimensions viewed from side.*

Measurements are in inches.

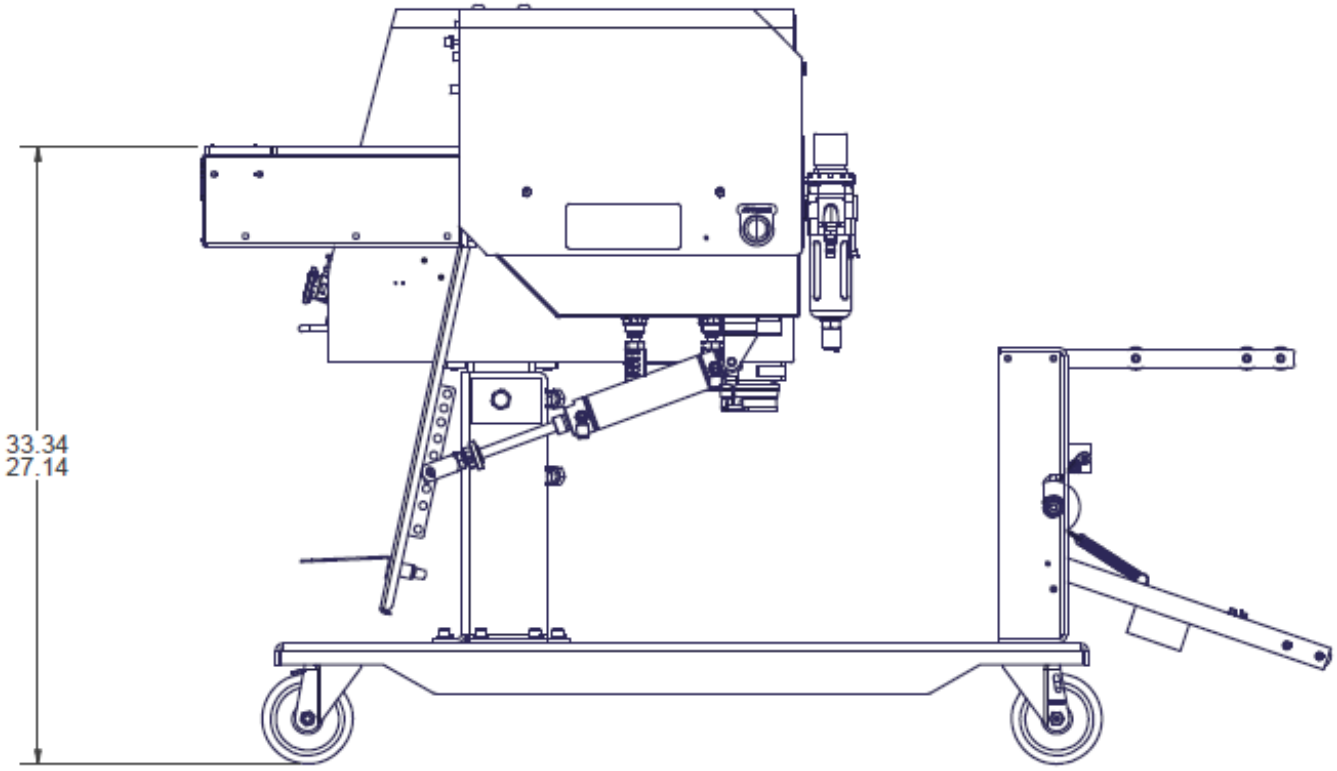



**Table 1-7. 1145 Side View**

*** 1143 model has same height adjustments.**

# MACHINE DIMENSIONS

**TOP VIEW**

Bagger dimensions viewed from top.*

Measurements are in inches.

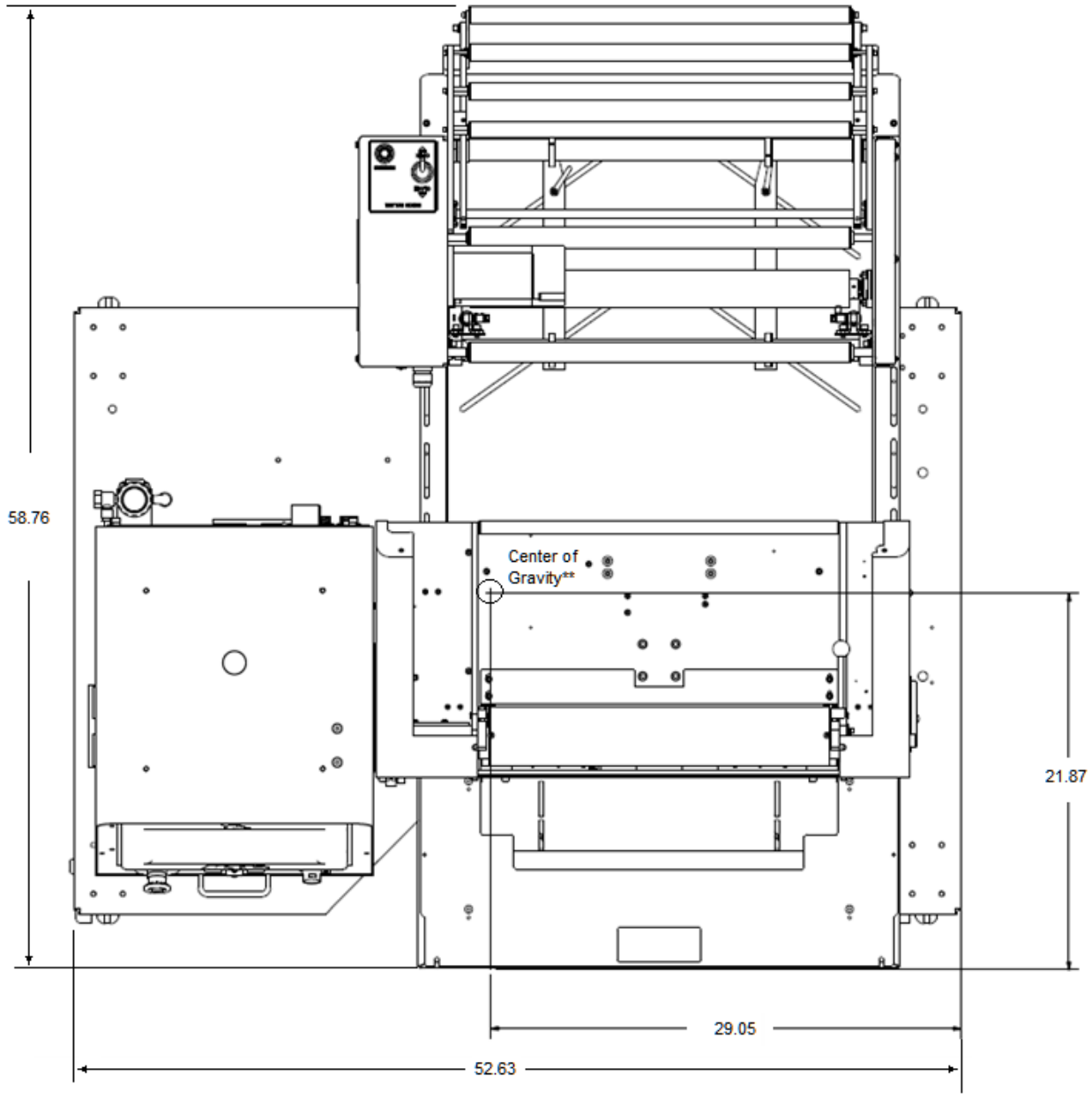



**Table 1-8. 1145 Top View**

*** The 1143 model is 45.32” wide and 39.81” deep.**

**** Center of Gravity for 1143 Model is 26.90” wide and 23.32” deep.**

# THEORY OF OPERATION

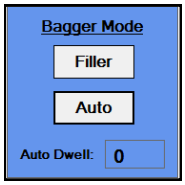
The ***MAX***™ machine have four distinct operating modes: Manual, Auto, Filler, and Auto Filler. Manual and Auto modes are built into the machine and require no optional equipment or changes to the Factory Configuration. Filler and Auto Filler are optional and must be setup in the Factory Configuration screen.

To better define these terms, a **Filler** is a machine such as a weigh scale, vibratory bowl, or in-feed conveyor that will fill the open bag with product, prior to sealing the bag. A Filler requires the use of Handshaking I/O between the bagger PLC and the Filler, so that the Filler will know when to deliver product to the bagger and the bagger will know when to cycle.

The term **Auto** refers to how the bagger cycles. If the machine cycles bags continuously without the operator manually initiating each cycle start, not including the first bag out, then the machine is cycling automatically (Auto). If each bagger cycle requires the operator to manually press a cycle start button, foot switch, etc., then the machine is said to be cycling in Manual Mode.

**MANUAL MODE**

The Bagger Mode viewed from Dashboard Screen.




Filler = OFF

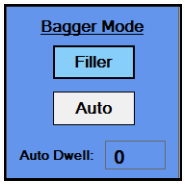
Auto = OFF

Both the Filler and Auto buttons are OFF at the HMI. In manual mode the operator hand loads or fills each opened bag and then cycles the bagger. The operator initiates a cycle by one of these methods:

1. Stepping on the Foot switch.
2. Pressing the Cycle pushbutton on the HMI.
3. Pressing the optional Optical Touch buttons (anti-tie down).

In manual mode, the machine cycles one bag at a time. Cycle rates in this mode are largely dependent upon the loading speed of the operator.

**FILLER MODE**




Filler = ON

Auto = OFF

With Filler ON and Auto OFF, the bagger will run in “Filler Mode”. This mode cycles a single bag out each time and requires the operator to initiate a Cycle Start for each bag. In this mode, a filler device or machine does the actual loading or filling of the open bag.

The Filler uses handshake signals to synchronize with the bagger for product delivery. A bagger output, signals the Filler to deliver product and a bagger input, signals when the Filler is done. For example, Filler Mode could be used when an operator is hand loading literature after the in-feed conveyor delivered its separate part or component.

# THEORY OF OPERATION

**Ready for Filler (O:3/00)** - The bagger PLC (Programmable Logic Controller) turns on this output as follows:

1. The machine has successfully completed a cycle and presented a new bag.
2. If the bagger is equipped with a positive entry funnel.
   - The funnel is opened
3. If the bagger is equipped with a positive entry funnel AND “Bag Opened” Sensor (s):
   - The funnel is opened
   - The sensor detects that the bag is positively opened.

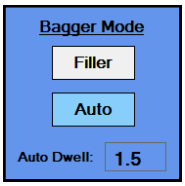
Once the above condition (s) is (are) met the PLC program turns on O:3/00, essentially telling the Filler device that a bag is present and ready to be filled. The filling device releases its product into the open bag.

**Filler Done (I:2/00)** - The Filler device will turn on the bagger PLC input I:2/00

This signals the bagger that the filler has completed delivery of the product. The filler machine must include a dry contact isolation relay for its signaling device to ensure electrical isolation between the Filler and the Bagger PLC.

The filler function has a separate detailed specification, “Sharp Packaging Filler Handshaking”. The specification covers all Sharp Baggers and includes signature sign-off lines so that Filling machine vendors are in 100% compliance with this specification. This also ensures proper operation of a complete system.

**AUTO MODE**



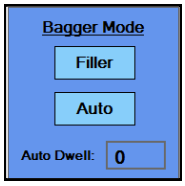

Filler = OFF

Auto = ON

With Filler OFF and Auto ON, the bagger will run in “Auto Mode”. In Auto Mode the machine operator manually fills the opened bag, while the machine cycles automatically. The cycle is started by means of a time delay called the “Auto Dwell Timer”. This allows the bagger machine to be self paced, when production rates are critical. The Auto Dwell timer allows the operator time to manually drop product into the open bag. When the time delay is ended the bag is sealed and the next bag is fed out. The Load Dwell time is adjustable at the HMI.

The operator initiates the first bag out and Auto Mode is immediately activated. When the bag is opened, the operator loads the bag (Load Dwell Timer is timing). When the timer finishes, the bagger automatically starts the bagger sealing cycle and feeds out the next bag. To cancel Auto Mode, the operator can press the Stop Button on the HMI.

**AUTO FILLER MODE**




Filler = ON

Auto = ON

# THEORY OF OPERATION

With Filler and Auto both ON the bagger will run in “Auto Filler Mode”. In this mode a Filler device is used to both fill and automatically initiate the next cycle. This is accomplished by means of hand-shaking I/O provided in the bagger's standard control interface. The Filler device must comply with the “Sharp Packaging Filler Handshaking Specification”.

**Ready for Filler** - This output turns ON only if the following conditions have been met:

1. The machine has successfully completed a cycle and presented a new bag, ready to be filled.
2. IF the bagger is equipped with a positive entry funnel AND “Bag Opened” sensor (s):
   - The sensor detects that the bag was positively opened.

Once the above condition (s) is (are) met the PLC program turns on O:3/00, essentially telling the Filler device that a bag is present and ready to be filled. The filling device releases its product into the open bag. The Filler device will turn on the PLC input I:2/00 Filler Done, signaling the bagger that it has completed filling the bag.

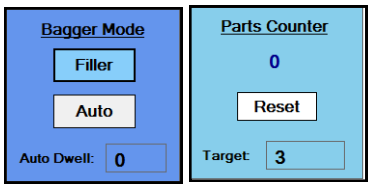
When the PLC reads I:2/00 as ON, it resets handshake output O:3/00 to OFF. This also causes a Filler Drop Timer to start in the PLC. This time delay can be adjusted by the user. The next bagger cycle will automatically start upon completion of the time delay. The bag is sealed and the next bag is fed out, opened, and made ready for the filler. O:3/00 is again turned ON when the bagger cycle is completed without fault.

Auto Filler Mode makes full use of the handshaking I/O signals for the Filler, while automatically cycling the machine on a continuous basis. Auto Filler Mode can be easily cancelled by pressing the Stop Button on the HMI.

**PARTS COUNTING**

The Batch Counter is turned on from the Bagger Settings Screen and is viewed from Dashboard Screen.

The bagger has a setting for counting parts. Parts Counting mode is used in conjunction with the Filler mode. When the parts counter is turned on, the bagger counts each part as it is being loaded into the opened bag. When the terminal count is reached, the Filler Trigger signal is turned on to start the Filler Drop Timer.




Filler = ON

Auto = ON/OFF

Parts Counter = ON

**Actual Count** – The number below “Parts Counter” displays how many parts have been counted. This number resets to 0 once the bagger cycle is initiated or if Part Counter is turned off. The Target is determined in the Job that has been loaded from Job Setting Screen.

Parts can be loaded and counted in the following ways:

1. Filling Machine
   - An automatic filling Machine that can deliver one part at a time and signal the bagger using the “FILLER DONE” input I:2/00. The bagger will count each rising edge of I:2/00 as a single part. When the parts counted equals the target value, the filling cycling is completed and the bagger will automatically cycle after the drop timer has expired.
   - When the Parts Counting is done by a filler, it must only deliver parts or attempt to count when the O:3/00

output is On. Output 0:3/00 remains on until the terminal count is reached. The parts counting must hand-shake in accordance with “Sharp Packaging Filler Handshaking Specification”

2. Safety Light Curtain – Hand Load

- When using the Light Curtain in a hand loading operation, the operator places the product into the open bag. When the operator removes their hand from the safety light curtain, the Parts Counter will increment by one count. The PLC logic is properly de-bounced to ensure that each entry and exit of the light curtain produces exactly one count for the parts counter. When the operator has hand loaded the required number of parts (1-999) the filler Cycle will be initiated and the drop timer will start.

**Note**: The Safety Light Curtain function is 100% effective in this mode. The Light Curtain will always stop the machine cycle if it is violated at any time during the bagger cycle

3. Funnel Mounted High Density Light Curtain

- Parts counting can also be accomplished with a High Density light curtain mounted above the funnel opening and wired into the Filler Trigger Input I:2/0. This would not be a safety light curtain. The parts count will increment by one each time a part drops through the light curtain. An indexing in-feed conveyor could be used to deliver parts to the funnel. The light curtain must have a resolution that is finer than the smallest part to ensure that each part breaks the light curtain.

## BATCH COUNTER

The Batch Counter is turned on from the Bagger Settings Screen and is viewed from Dashboard Screen.

The bagger has a setting for Batch Counting. Batch Counting allows a customer to make a run of products to a particular quantity and then stop the machine. To use this feature, the operator should cycle the first bag out into the loading position and then reset the counter to 0.


**Parts Counter = ON**

**Target Count** - This is the Target Count and can be adjusted by the machine operator in a range of 1-32767. When the actual count equals this value, the bagger will stop and cannot be cycled again until this counter is Rest.

**Actual Count** - The number below “Batch Counter” displays how many bags have been filled and sealed. The count will be incremented each time the Seal Bar has retracted.

This counter works in all modes and is not tied to the Parts Counter function.

## CONSECUTIVE SEAL BAGS

The Consecutive Seal Bags feature is turned on from the Bagger Settings Screen and is viewed from Dashboard Screen.

This is a special operating mode that allows multiple filled and sealed bags to be connected together in a continuous strip. There are restrictions and limitations to this feature. This mode requires that the Operator pay particular attention to keeping the Drive Rollers cleaned and in good

## THEORY OF OPERATION

condition. Dirty Drive Rollers can result in loss of registration and slipping.

Recovery Mode will be limited to open retires only, since it is not possible to replace the bag when it is part of a string. The Bag Feed retry will automatically be se t to 0 if this mode is chosen.


**Consecutive Seal Bags = ON**

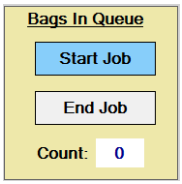
**Actual Count** - Displays the number of bags of Target that have been sealed.

**Target Count** - This setting determines the number of bags that will be connected together. The maximum setting is limited to 10 consecutive bags or 50 inches of total strip length, whichever comes first. The Operator can enter the desired number of bags, however if the total length is over 50 inches, the PLC will recalculate the Target Count.

### BAGS IN QUEUE

The Bags in Queue is turned on from the Bagger Settings Screen and is viewed from Dashboard Screen.

The Bags In Queue Setting is useful when changing over printed labels when running a different job. When used as designed, the Start Job and End Job cycles will make a queue which represents the number of bags between the printer and the bag loading position. Start Job gets the first new label into loading position. End Job purges the bagger of the previous label. The length of the queue is set in the Job database.




**Bags In Queue = ON**

**Start Job** - When this maintained button is turned on and the machine is cycled, the bagger will automatically feed out a queue of printed bags until the first printed bag is in the loading position. It will not seal any of the bags in the queue and will not open the last one. If using **Filler/Auto** modes, these should be turned **ON** first before pressing the CYCLE button. This button turns off automatically when the Start Job is finished.

**End Job** - When this maintained button is turned on and the machine is cycled, the bagger will automatically purge the bagger of all printed bags. It will not print on, seal, open, or attempt to scan barcodes for any of the bags in the queue. If using **Filler/Auto** modes, these should be turned **OFF** first before pressing the CYCLE button. The button turns off automatically when the End Job is done.

**Count** - This displays the queue counter as each bag is feed out. When the queue is finished it resets to 0.

# THEORY OF OPERATION


## RECOVERY BAG COUNT

The Recovery Mode  is turned on automatically when Bag Open Sensors are selected and can be viewed from Dashboard Screen.

This is the number of bags that failed to open when Recovery Mode was turned on. The count can be reset by pressing the reset button.

## EVENT LOG

The bagger has an Event Log that records all Faults, Events, and changes to settings to a flat file stored on the PC. This is a useful diagnostic tool for looking at all the faults or changes that occurred during a single day.

The user can search for a particular event or fault by typing in a text string into the find box. Files are saved as a flat text file on the PC and can be extracted to a USB flash drive for diagnostic purposes.

# PERMISSIVE & SPECIAL CONDITIONS

This section describes and lists Permissive and Special Conditions. In general terms, a Permissive is a condition that must be TRUE in order to permit or allow a particular operation to take place.

1. **All options must be configured**.

   - All optional features must be selected or configure before they can be turned on. By default, if an option is not selected, its function will be turned off.

2. **Recovery Mode**:

   - The recovery mode feature is automatically turned on when the correct bag open type is selected. The bag open must include a bag opened sensor installed on the funnel. The recovery feature can be turned off by stetting the Bag Open and Bag Feed Retries to 0.

3. **Ready to Cycle Permissive** - All of the following conditions must be true before the machine will cycle:

   - The Master Control Relay or MCR must be energized for 3 seconds. The MCR is energized when the Green Pushbutton is illuminated.
   - The Bagger cannot be faulted.
   - Printer not in cycle (if equipped)
   - Model Selection Test is not active.
   - Batch Counter NOT done.
   - All Bagger motions must be in their home positions as indicated by Position Sensor Feedback.

     Pressure Bar Opened.

     Seal Bar Retracted.

     Vacuum Cylinder is retracted (if equipped)

   If the Batch Counter function is on and the counter has reached its terminal count, then the counter must be reset before the bagger can cycle again.

4. **Complete Power Up Sequence** - Machine must be connected to 120V power source and have an adequate supply of clean, dry compressed air.

   - Make sure the 120V Power Entry Module Switch is in the ON position.
   - Release the E-Stop Button.
   - Press the Green Power Button. The green light should illuminate and energized the MCR.
   - The HMI will automatically start up when Power Entry Module Switch is turned ON.

5. **Complete Power Down Sequence** - The bagger must be properly power down in the correct sequence.

   - Press the E-Stop Button to cut power to 24V DC power supply.
   - From the Main Menu screen, press and hold the “Shutdown HMI” button for 3 seconds.
   - **ALLOW THE HMI/PC TO POWER DOWN COMPLETELY BEFORE CONTINUING TO NEXT STEP**. The HMI program is shutdown and Windows also need to shutdown. When completed, the HMI screen will be black.
   - Switch Power Entry Module Switch to OFF. The machine is now electrically shut down.

# SECURITY

## SECURITY LEVELS

Security is screen based and defined as three levels: High, Medium, and No Security.

**High Security** - The user can access the Main Menu, Dashboard, PLC Settings, Job Download screens.

**Medium Security** - The user has all permissions of High Security level but cannot access Service, Language, and I/O screens.

**No Security** - The user has access to all screens and functions except Factory Configuration screen.

When security level is in High, the screen displays a locked padlock icon in lower right corner of screen. **Figure 1-11A**.

**Locked** **Unlocked**

An "Access Denied" message will be displayed when user attempts to access protected screens. **Figure 1-11B**.

## To Change Security Levels

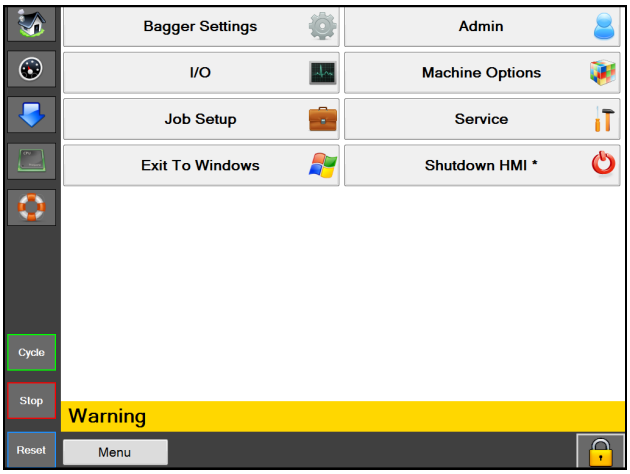



**Figure 1-11A. High Security Screen.**

1. Touch the padlock Icon and enter the designated password. **Figure 1-11C**.

**NOTE: See supervisor or manager to change or determine the proper security level for your application.**

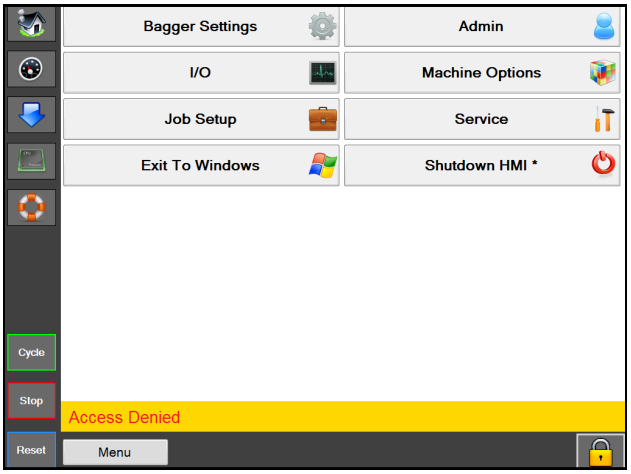



**Figure 1-11B. High Security - Access Denied Screen.**

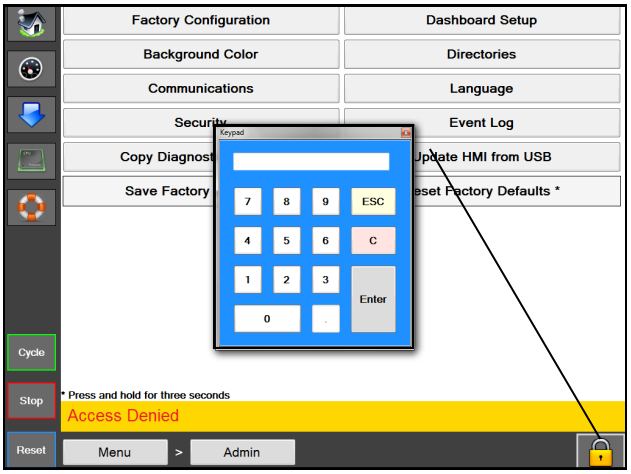



**Figure 1-11C. Keypad**

# MACHINE PLACEMENT*

Your Sharp Bagger has been shipped to you well crated in order to prevent any damage to the machine. It is important that you follow the Uncrating Instructions attached to crate.

After being uncrated, place the ***Sharp MAX™*** bagger in well ventilated area, on a rigid and vibration free surface. Before continuing with the installation of the machine, ensure all nuts, bolts and screws are tightened as they can come loose during shipping.

The **Sharp *MAX™*** should be placed on a smooth level surface with access to 100 PSI of clean, dry compressed air, and 115 VAC, 50/60 Hz, 10 Amp (minimum) properly grounded electrical outlet.

Locate the machine so there is adequate access to the back side for loading bag film.

**⚠ WARNING**

**Do not operate the machine in or around standing water. Failure to observe the warning may result in damage to the equipment and/or severe bodily injury.**

Make sure unit is located at a comfortable height for operation and product loading. See *Height Adjustment* (page 2-6).

The unit is equipped with two swivel locking casters for easy maneuverability. Lock the casters after placing machine in desired location.

**ELECTRICAL***

**⚠ WARNING**

**Failure to have properly grounded outlet may cause damage to equipment or severe bodily injury.**

The **Sharp *MAX™*** is equipped with a 3-prong electrical plug for standard, properly grounded, 115 VAC, 50/60 Hz, 10 Amp (minimum) service.

1. Before plugging the cord into the back of the machine, depress the Emergency Stop Button on the front of the control panel. **See Figure 1-3A.**
2. Make sure wall outlet or electrical drop is rated for proper voltage and that the outlet is grounded.

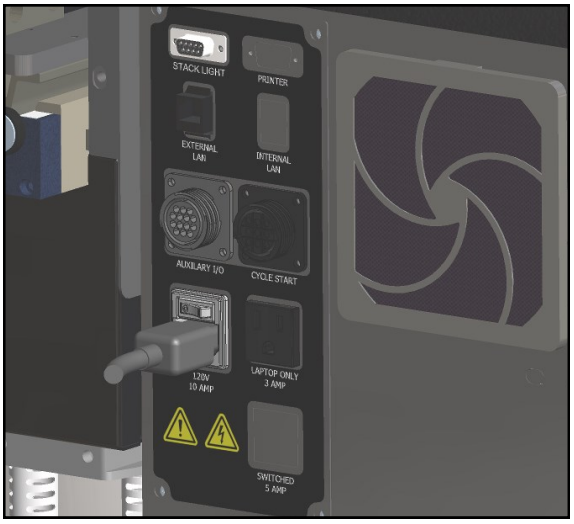



**Figure 2-1A. Electrical Connections.***

3. Plug provided power cord into wall outlet or electrical drop.
4. Place the female end of the electrical cord provided into the back of the machine, **figure 2-1A**.
5. Turn the switch to ON position.

**Note: Power is only supplied to PLC, HMI/PC, and Sensors. HMI/PC will boot automatically.**

6. Release the E-Stop Button and press the Green Power Button.
7. The machine now has full power.

* CE Models, see page 8-2

# MACHINE PLACEMENT

## AIR SUPPLY

**WARNING**

**Before connecting air supply, make sure all machine guards are in place and that there are no obstructions in seal/pressure bar area. Keep clear of all moving parts. When pressurized, machine parts may move.**

The **Sharp *MAX*™** has a filter/regulator equipped with a male end 1/4" nominal flow NPT air quick disconnect plug (Figure 2-1A). The machine requires 100 PSI (regulated to 80 PSI) of non-lubricated clean dry air at 5 SCFM. Connect the air supply line to the machine using a MIL-C-4109E or equivalent disconnect coupling.

**NOTE: Do not use a lubricator or lubricated air on the machine. Damage to valves and cylinders will occur.**

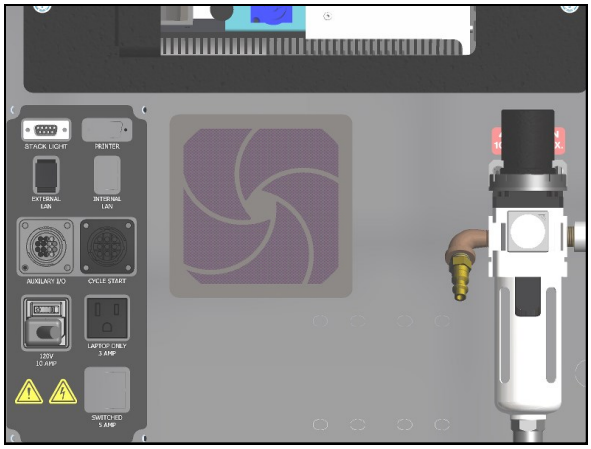



**Figure 2-2A. Air Connections**

1. Connect air hose to regulator.
2. Lift the cap on regulator
3. Adjust to 80 PSI.
4. Snap cap down on regulator.

# LOADING BAG FILM - STANDARD UNWIND

**⚠ WARNING**

**Use extreme caution when feeding bags into machine; electrical voltage and possible pinch points are present.**

1. Remove the bag roll shaft from the unit.
2. Place the film roll onto the shaft with a core chuck on each side of the roll. **Figure 2-3B**.
3. Align the dowel pins with the holes in the core hub and slide core chucks tight against hub.
4. Locate the roll of bags in the center of the roll shaft and tighten knobs securely.
5. Place the roll shaft on the mounting upright with the bag opening facing towards the rear . Place the roll shaft into the mounting upright on the side of the brake strap (with the brake spring connected), and then place the assembly into the other mounting upright. **Figure 2-3B**.
6. Manually thread the film through the series of rollers. A Web Threading decal showing the film thread path through the machine is located on the side of the **Sharp *MAX*™**. **Figure 2-3A**.
7. Place the film at the back of the drive rollers. Bag opening should be on top. **Figure 2-3C**.
8. Jog the film forward using the Jog Pushbutton (Figure 2-3A) until a perforation is located between the electric eye and pressure bar.

**⚠ CAUTION**

**Do not seal on the printed area of the film or Seal Bar can become damaged.**

9. Test the cycle by pressing the foot switch.
10. If necessary, adjust the Bag Length or Seal Dwell as described in *Bagger Settings Screen*. See page 4-2.


**Figure 2-3A. Web Decal & Jog Button.**

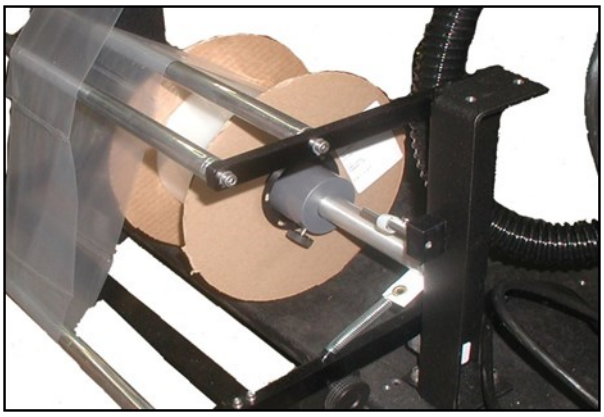


**Figure 2-3B. Core Chuck & Unwind Shaft.**

**Figure 2-3C. Bag Opening**

# LOADING BAG FILM - BOX POWER UNWIND

**⚠ WARNING**

**Use extreme caution when feeding bags into machine; electrical voltage and possible pinch points are present.**

A diagram showing the film threading path through the machine is located on the side of the Power Unwind near the rear of the ***MAX***™ bagger. **Figure2-4A.**

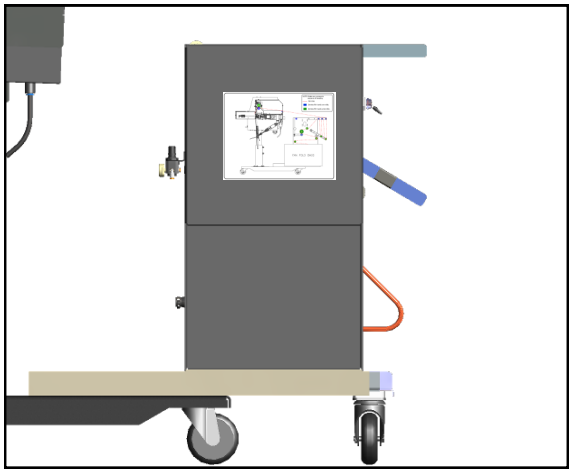


**Figure 2-4A. Web Decal.**

1. To begin threading the bags through the MAX bagger, push the Toggle Switch to the OPEN position. Engage the Dancer Lock by moving the locking pin into dancer arm. **Figure 2-4B**.

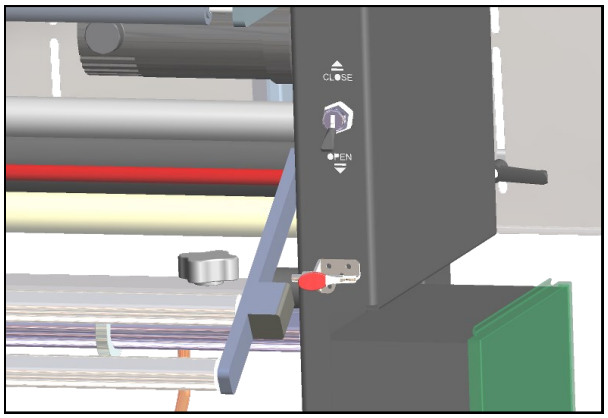



**Figure 2-4B. Toggle Switch & Dancer Lock.**

2. Open the box of fan fold bags.

3. Slide the box tray out from unwind and place the box of bags centered on tray. **Figure 2-4C**.

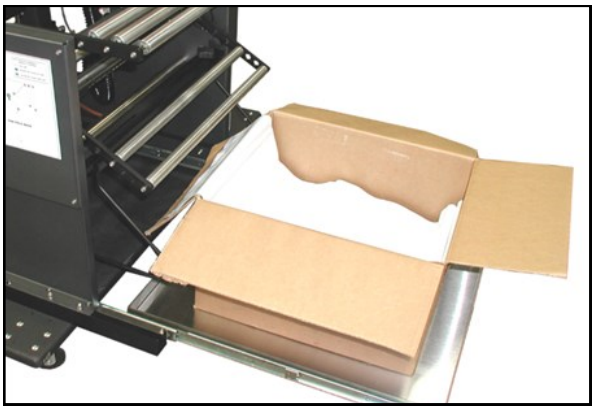


**Figure 2-4C. Box on Tray**

**NOTE**: Position the box in tray so the perforation of first bag opens toward you when standing behind the box.

4. Slide the tray into the forward position. Loosen the knobs on both Box Guides and slide both guides the same distance inward until box is pinched between them. **Figure 2-4D**.

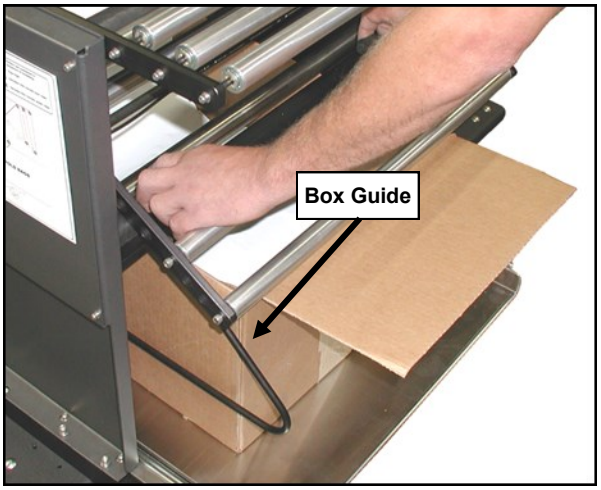



**Figure 2-4D. Box Guides**

5. Tighten both knobs.

6. Thread the web according to the web threading diagram.

7. Flip the Spool Valve Switch to the CLOSE position. This will “pinch” the web between the Pinch

## LOADING BAG FILM - BOX POWER UNWIND

Roller and Drive Roller.

8. Disengage the Dancer Lock from the Dancer Arm.
9. Slowly pull on the web until you have enough slack to reach the front of the bagger. **Figure 2-5A**. As you pull on the web, the Power Unwind will advance web from the fan fold box. The harder

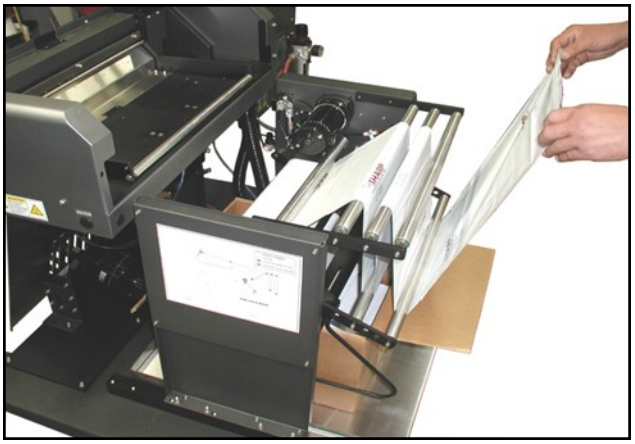


**Figure 2-5A. Web Advancement**

the web is pulled the faster the web will be advanced.

10. Push the Jog Button and slowly feed the web into the Drive Roller until the bagger stops advancing the film, making sure the web is centered.

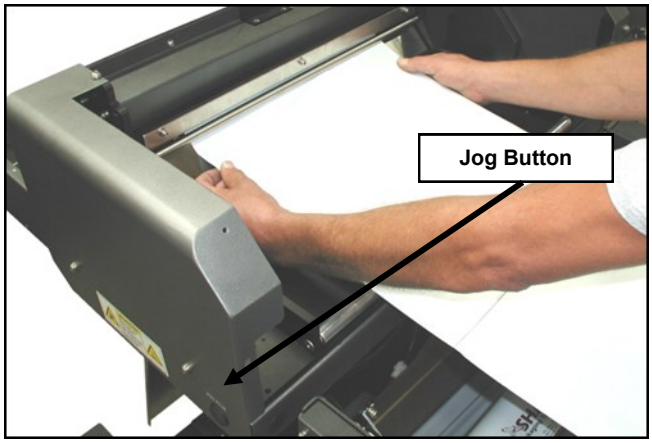



**Figure 2-5A. Web centered on Drive Roller.**

# LOADING BAG FILM - VFD BOX POWER UNWIND

A diagram showing the film threading path through the machine is located on the side of the Power Unwind. **Figure 2-6A.**

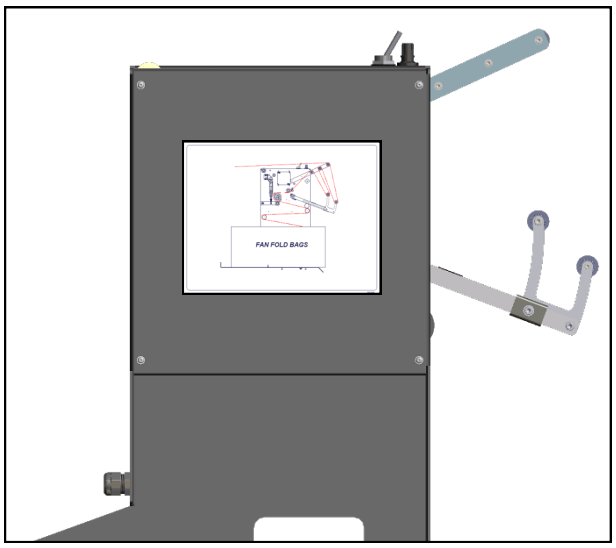



**Figure 2-6A. Web Threading Diagram.**

1. To begin threading the bags through the MAX bagger, push the Toggle Switch to the OPEN position. **Figure 2-6B**.

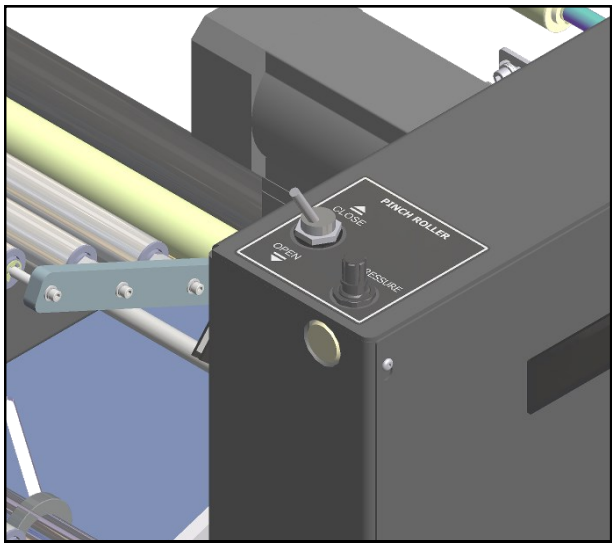



**Figure 2-6B. Toggle Switch.**

2. Open the box of fan fold bags.
3. Loosen the Box Guides and open the guides to allow room for box of bags. **Figure 2-6C**.

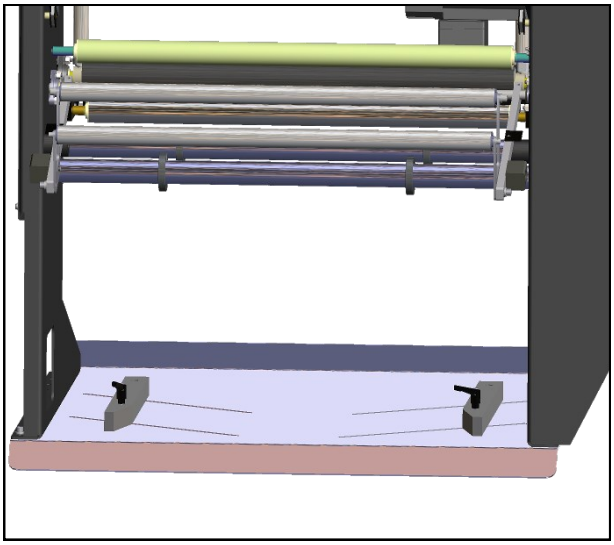


**Figure 2-6C. Box Guides.**

**NOTE**: Position the box in tray so the perforation of first bag opens toward you when standing behind the box.

4. Slide the box between the Box Guides. Center the box on the tray. Slide both guides the against box .
5. Tighten both knobs.
6. Thread the web according to the web threading diagram.
7. Flip the Spool Valve Switch to the CLOSE position. This will “pinch” the web between the Pinch Roller and Drive Roller.
8. Slowly pull on the web until you have enough slack to reach the front of the bagger. **Figure 2-5A**. As you pull on the web, the Power Unwind will advance web from the fan fold box. The harder the web is pulled the faster the web will be advanced.
9. Push the Jog Button and slowly feed the web into the Drive Roller until the bagger stops advancing the film, making sure the web is centered. **Figure 2-5B.**

# ADJUSTMENTS - HEIGHT

**WARNING**

**Never make adjustments while machine is on or operating as this may cause damage to the machine and could result in severe bodily injury or even death.**

**WARNING!**

**Always remove air and electrical power from the *MAX*™ prior to performing any service on the machine.**

**WARNING**

**Machine head must be held in place when loosening rotation adjustment bolts. Head will rotate when bolts are loosened and could cause damage to the machine and/or bodily injury.**

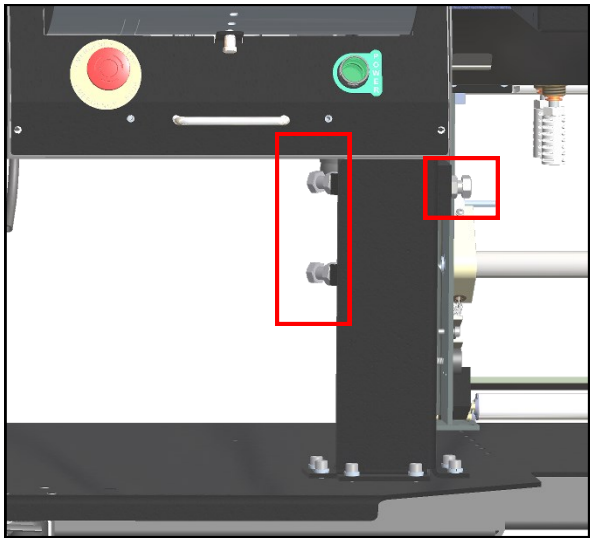


**Figure 2-7A. Height Adjustment Bolts.**

## HEIGHT ADJUSTMENT

Machine height can be adjusted to allow manual loading at a convenient height.

***NOTE: Height Adjustment requires two people.***

***NOTE: A counterbalance spring is located in the frame upright. When bolts are loosened, unit may raise or lower depending on spring tension.***

1. Loosen height adjustment bolts located on the Frame Upright. **Figure 2-7A**.
2. Two people, using both hands, should grasp the electrical enclosure and machine hood. Pull up or push down to place the machine at the desired height.
3. While one person holds the unit at the desired height, tighten the three adjustment bolts to 37 ft-lbs of torque.

# ADJUSTMENTS

### LOAD PLATE ADJUSTMENT

The Load Plate can be adjusted for different angles.

1. Remove pin securing air cylinder to load plate. **Figure 2-9A**.

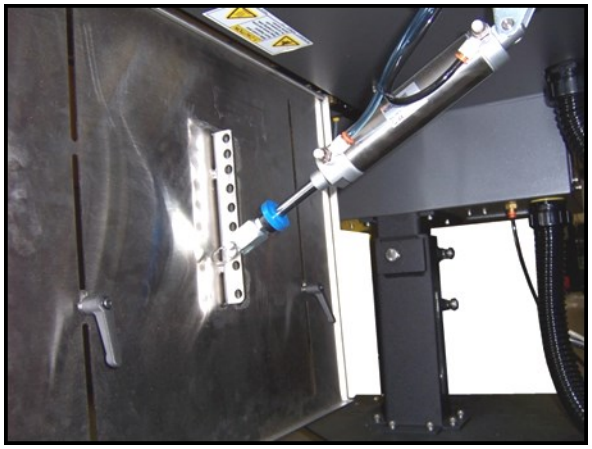


**Figure 2-9A. Load Plate & Shelf Adjustment.**

2. Move load plate to desired position and re-insert pin.

### LOAD SHELF ADJUSTMENT

The Load shelf can be moved up and down to accommodate different sized bags.

1. Loosen the two Load Shelf Lever Locks on the back of the Load Plate. **Figure 2-9A**.
2. Move the Load Shelf to the new location, keeping the Load Shelf level.
3. Tighten the Load Shelf Level Locks.

### BRAKE STRAP ADJUSTMENT - Standard Unwind

If the dancer arm is reaching the top of its travel, move the spring to a hole closer to the pivot point. If the roll of bags continues to spin after cycling, move the spring to a hole further from the pivot point.

1. Lift Dancer Arm to remove tension from spring. **Figure 2-9B**.
2. Pull spring out of Dancer Arm.
3. Move spring to new location.
4. Release Dancer Arm.

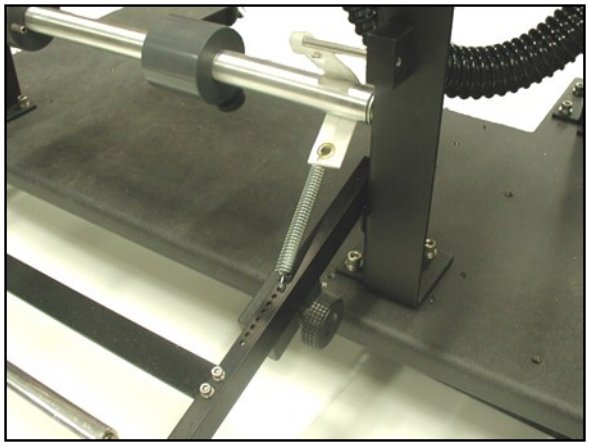


**Figure 2-9B. Unwind Adjustments.**

### DANCER WEIGHT ADJUSTMENT - Standard Unwind

The Dancer Weight is a fine tune adjustment for the brake strap. The further out on the dancer arm the weight is located, the more back tension will be put on the web.

1. Rotate Dancer Weight locking knob counter-clockwise to release Weight. **Figure 2-9B.**
2. Move weight to new location.
3. Rotate Dancer Weight locking knob clockwise to lock weight.

### AIR PRESSURE REGULATOR ADJUSTMENT

Adjust the Pressure Regulator so the pressure indicated on the gauge is 80 PSI.

1. Connect Air supply to Pressure Regulator.
2. Lift cap on Pressure Regulator.
3. Rotate cap clockwise to increase pressure and counter clockwise to reduce pressure.
4. Push cap down to lock into place.

# ADJUSTMENTS - HEAD ROTATION

## HEAD ROTATION

**WARNING**

**Never make adjustments while machine is on or operating as this may cause damage to the machine and could result in severe bodily injury or even death.**

**WARNING!**

**Always remove air and electrical power from the *MAX*™ prior to performing any service on the machine.**

Some heavier parts (approximately 5 lbs.) may require loading from an angle to prevent bag breakage. To compensate for this, the unit can be infinitely adjusted in a 90°arc from perpendicular to the floor, to completely horizontal.

***Note: Parts heavier than 5 lbs., or requiring additional support, can be accommodated with the addition of optional load shelves and support trays.***

***NOTE: Make sure the air and electrical leads are not binding and are free from obstructions when the machine is rotated.***

1. Disconnect air and power from the unit.
2. Loosen the six 1/4 turn Control Panel screws.
3. Grasp the handle at the bottom of the control panel and pull the panel out to expose the rotation adjustment bolts **Figure 2-8A.**

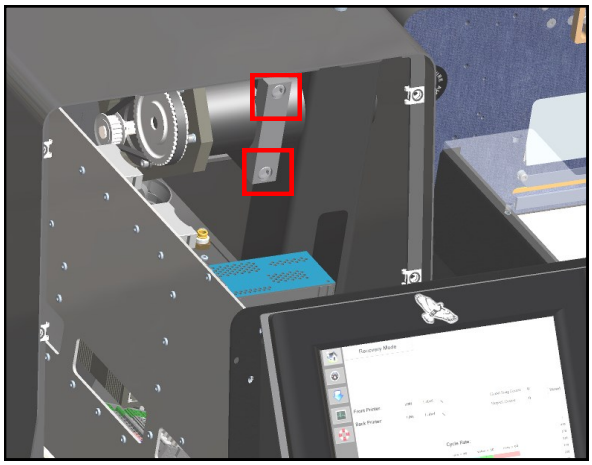


**Figure 2-8A. Head Rotation Bolts.**

**WARNING**

**Machine head must be held in place when loosening rotation adjustment bolts. Head will rotate when bolts are loosened and could cause damage to the machine and/or bodily injury.**

4. Loosen the adjustment bolts approximately 1/2 to 3/4 turns.
5. Pivot the machine to the desired angle.
6. Tighten rotation bolts to 15 ft-lbs torque.
7. Close front panel and secure 1/4 turn screws.

# ADJUSTMENTS - BOX POWER UNWIND

### AIR PRESSURE

This adjustment will reduce the amount of pressure the Pinch Roller has against the Drive Roller of the Unwind.

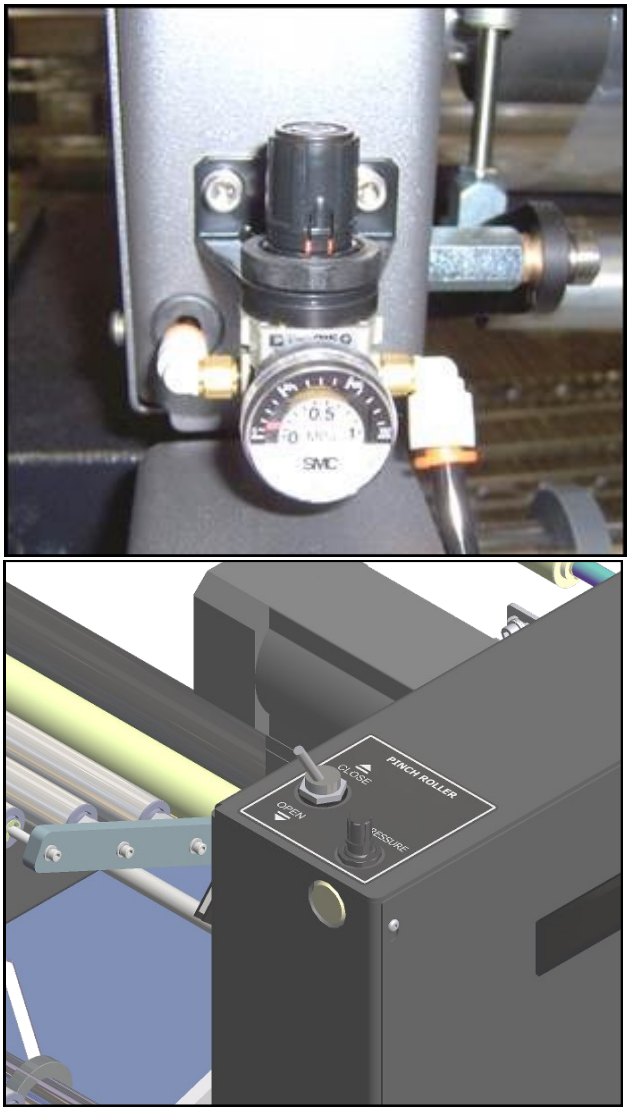



**Figure 2-10A. BPU Air Pressure Regulators.**

1. Attach air to the machine.
2. Lift the cap on the Pressure Regulator on the unwind.
3. Rotate cap to desired pressure. The pressure is set at 50psi at the factory.
4. Push cap down to lock in place.

### PINCH ROLLER CLOSING SPEED

1. Attach air to the machine.
2. Turn the Toggle Switch from OPEN to CLOSE while adjusting the Flow Controls until desired speed is achieved.

# TOUCHSCREEN

The Touchscreen displays all adjustment information along with machine diagnostic and error messages.

- Manual motion pushbuttons on Service Screens provide both text and color cues as to the state of the device or motion.
- Help screens show setting range and default settings.
- Critical error messages have a red background and require the operator to manually correct the problem and press reset.
- Notice messages have a yellow background and do not require the operator to take any action.

**LEFT MENU BAR**

The Left Menu Bar is always displayed on the left side of the Touchscreen when HMI program is running.

**House Button:** Press to display the Home Screen.

**Speedometer Button:** Press to display the Dashboard Screen.

**Down Arrow:** Press to display the Job Details screen.

**CPU Chip:** Press to display the PLC Settings screen.

**Life Preserver:** Press to display the Help Screen.

**Cycle:** Press to cycle the bagger.

**Stop:** Press to stop bagger when in Filler or Auto modes.

**Reset Faults:** Press to reset faults.


**Figure 3-1A. Left Menu Bar.**

# TOUCHSCREEN

## FAULT MESSAGES

Faults are defined as an error condition that will stop the bagger and prevent subsequent cycles from occurring as long as the fault persists. Faults must be corrected and then reset from the HMI using the Reset Button. Faults are first indicated by a red banner at the bottom of all screens. The number in parenthesis indicates the number of active faults.

Touching the banner will load the fault screen. Touch the individual fault to get a more detailed description of fault.

For a complete list of faults, see Faults & Alert Management, page 6-1.

## ALERT MESSAGES

Alert messages are displayed in yellow and will not generally stop a bagger cycle. Alerts are intended to inform the operator of an event or status of the machine. Alerts can be considered minor faults in some cases and my require the operator to intervene.

Touching the banner will load the fault screen. Touch the individual event to get a more detailed description of event.

For a complete list of alerts, see Fault & Alert Management, page 6-6.

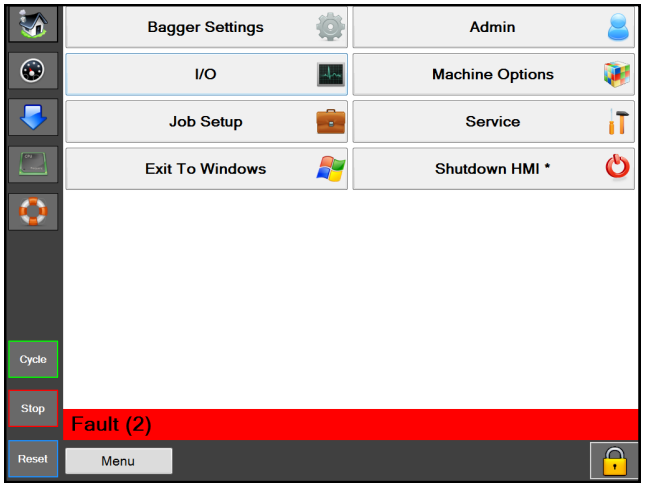



Figure 3-2A. Fault Banner

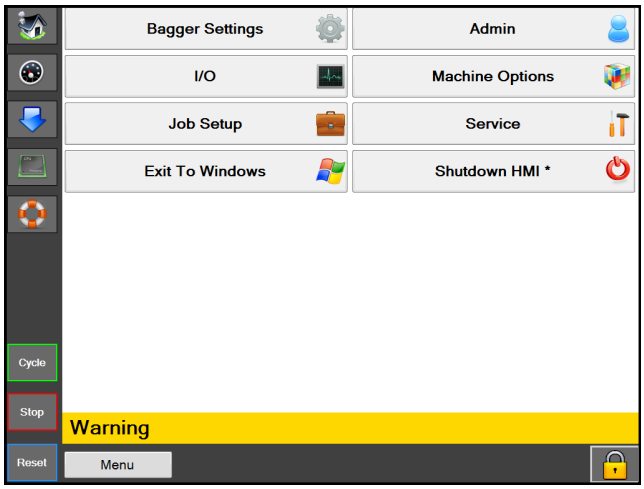



Figure 3-2B. Warning Banner

# TOUCHSCREEN

## HELP SCREENS

A Help Screen provides detailed information of the screen that is displayed on the HMI.

From any screen, press the Life Preserver button on the Left Menu Bar (Figure 3-3A) and the Help Screen for that screen will appear. **Figure 3-3B**.

The PLC Settings Help Screen is a sub-screen of the PLC Setting Screen. The user can navigate back to the higher level screen by touching the “PLC Settings” button.

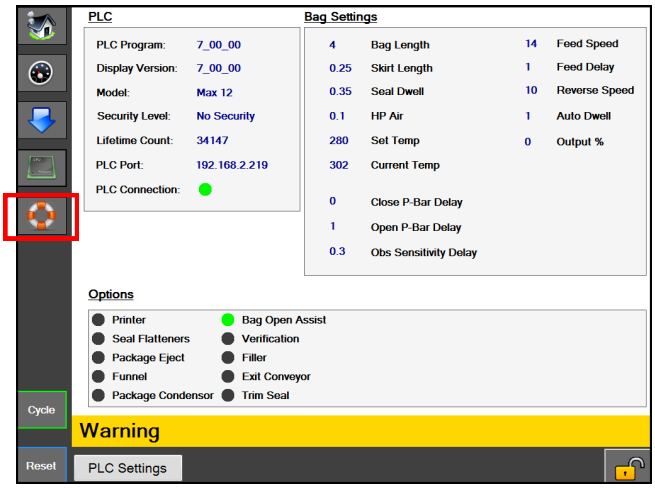



**Figure 3-3A. PLC Settings Screen**

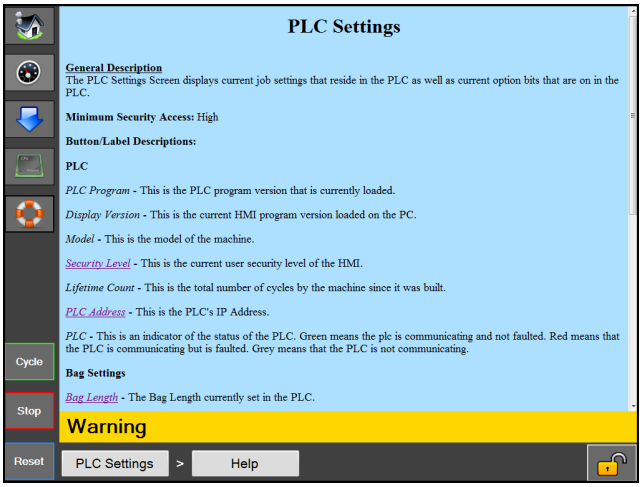



**Figure 3-3B. PLC Settings Help Screen**

# MAIN MENU

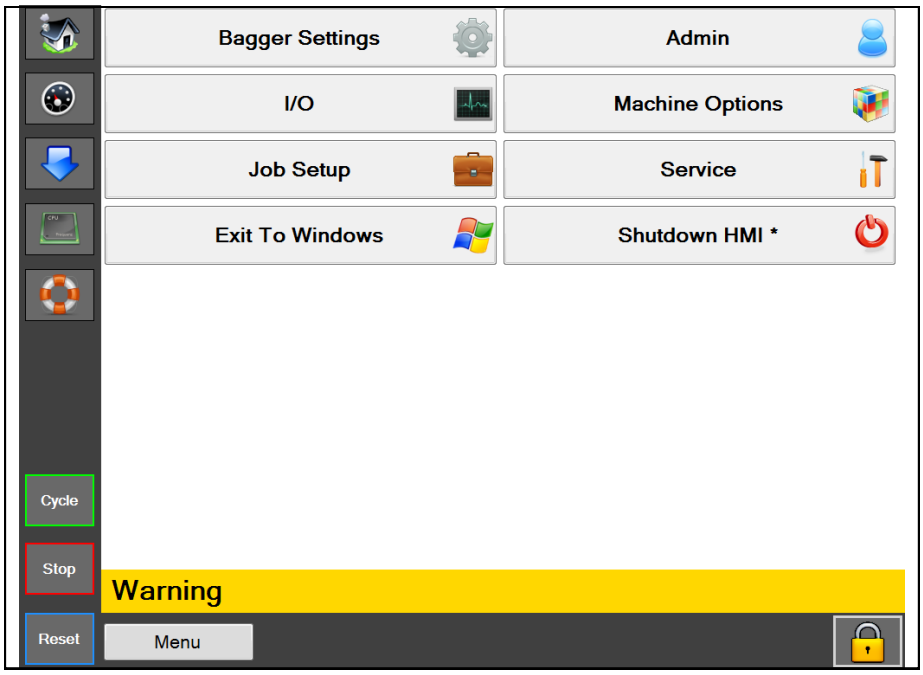



**Figure 4-1A. Home Screen**

## HOME SCREEN

**General Description**

The Main Screen is accessed by pressing the Home Button on the Left Menu Bar. This screen gives access to all of the screens not accessible through the left menu bar.

**Minimum Security Access:** High

**Button/Label Descriptions:**

**Bagger Settings** - This will open the Bagger Settings screen that contains bagger setup settings such as Batch Counter, Parts Counter, and the Separate Before Sealing Toggle.

**I/O** - This will open the I/O screen that will display current input and output readings from the PLC.

**Job Setup** - This will open the Job Setup screen that allows the creation and loading of jobs.

**Exit To Windows** - This will safely shut down the HMI program and return to Windows.

**Admin** - This will open the Admin screen that contains all of the HMI admin options such as communication settings, directories, dashboard setup, background color, security options, and the Event Log.

**Machine Options** - This will open the Machine Options Screen that allows machine option configuration.

**Service** - This will open the Service screen that contains machine service related actions.

**Shutdown HMI** - This will safely shutdown the HMI computer. This would be the correct way to shutdown the HMI during a system power down. This procedure will safely close the HMI program and then safely shut down windows.

**Reset Factor Defaults** - Resets the machine's settings to Factory Defaults. (Available only when security is off)

# BAGGER SETTINGS SCREEN

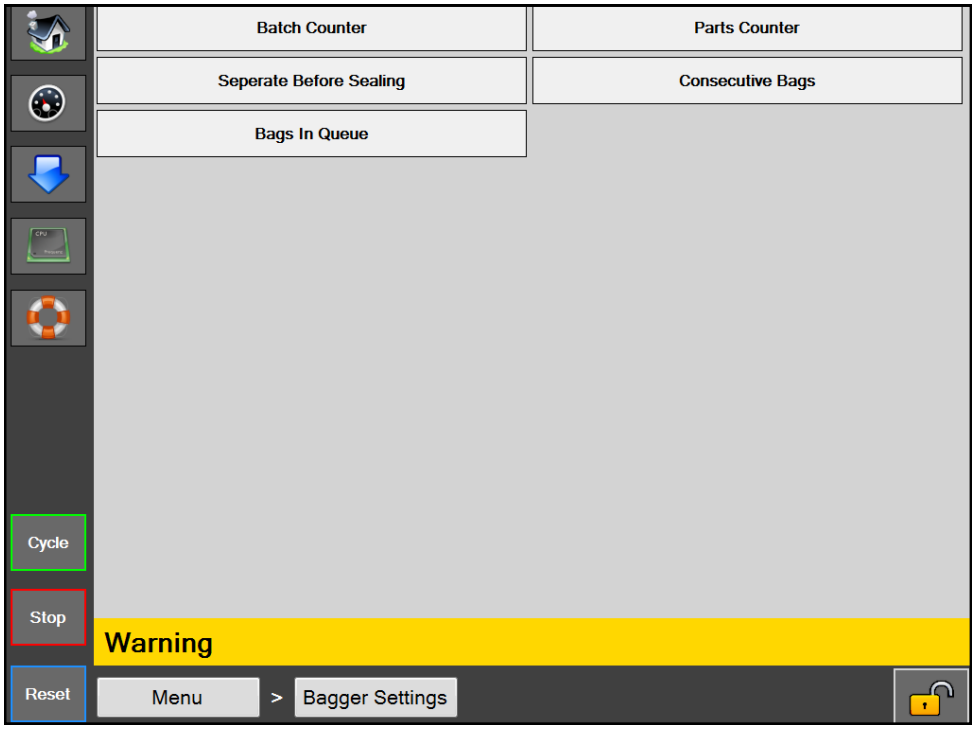



**Figure 4-2A. Bagger Settings Screen.**

## BAGGER SETTINGS

**General Description**

The Bagger Settings screen manages all of the global bagger settings/functions.

**Button/Label Descriptions:**

*Batch Counter* - This will turn on/off the Batch Counter on the Dashboard. When this is enabled, the batch counter will increment with every good bag. The reset button will reset the count to zero. A target can be set by the operator from Dashboard Screen.

*Parts Counter* - This will turn on/off the Parts Counter on the Dashboard. When this is enabled, the parts counter will count the number of parts that enter the open bag until it reaches its target count. Parts Counter is a sub function of Filler Mode.

*Separate Before Sealing* - This button turns on a feature that, prior to sealing the bag, will reverse the web when the pressure bar is closed in order to disconnect the bag from the next bag.

*Consecutive Bags* - This button turns on a feature that causes the bagger to produce a strip of sealed bags. The Operator sets the length of the strip to a number between 2 and 10. The total length of the strip must not exceed 50.0 inches.

Bags in Queue - This button turns on a feature that allows the user to establish a Queue of Printed Bags from the Dashboard. This allows the user to clear out a previously printed label before starting a new print label. The user must set-up the Queue length in the job. The *Start Job* feature will feed out the correct number of bags before opening the first printed bag. The *End Job* button will clear out the printed bags, so that there are no printed bags in the bagger.

# INPUT/OUTPUT SCREEN

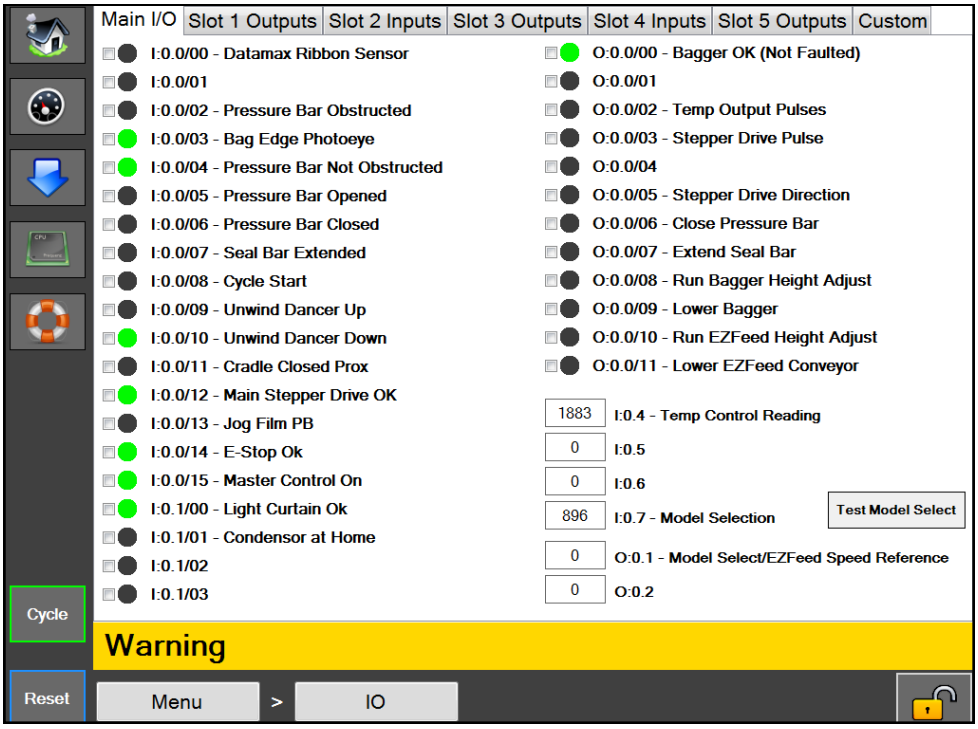



**Figure 4-3A. Input/output Screen.**

## I/O SCREEN

**General Description**

The I/O screen displays the status of all physical I/O (inputs and outputs) in the PLC.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

This page is divided by tabs for each slot on the PLC. The physical I/O for each slot is displayed on the corresponding tab. The HMI is capable of reading from the PLC every 400 Ms, which is much slower than the scan rate of the PLC; therefore, some readings may not show up due to the HMI's latency.

# JOB SETUP SCREEN

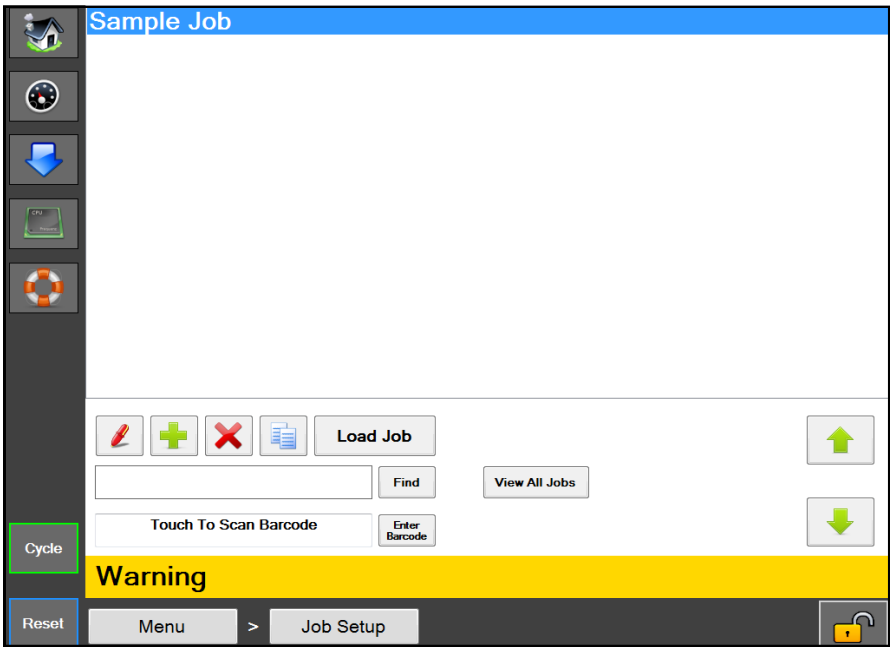



**Figure 4-4A. Job Setup Screen.**

## JOB SETUP

**General Description**

The Job Setup screen manages the machines predefined jobs.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Pen Button* - This button will display the details of the selected job in the list.

*Plus Button* - This will add a new job with default settings.

*X Button* - This will delete the selected job in the list.

*Two pieces of paper button* - This will make a copy of the selected job in the list.

*Load Job* - This will send all of the settings for the job to the PLC and send the label assigned to the job to the printer if the printer option is on.

*Find* - This will find all jobs that start with the text specified in the search box.

*View All Jobs* - This will display all of the stored jobs on the machine.

*Touch To Scan Barcode* - This will activate the box and allow the operator to scan a barcode. The system will check all of the saved jobs for an EZ Recall value that matches the scanned barcode value. If a match is found the matching job will be loaded.

*Enter Barcode* - This will allow manual entry of a barcode to search for a job with an EZ Recall value that matches. The system will then load the matching job.

# JOB DETAILS SCREEN

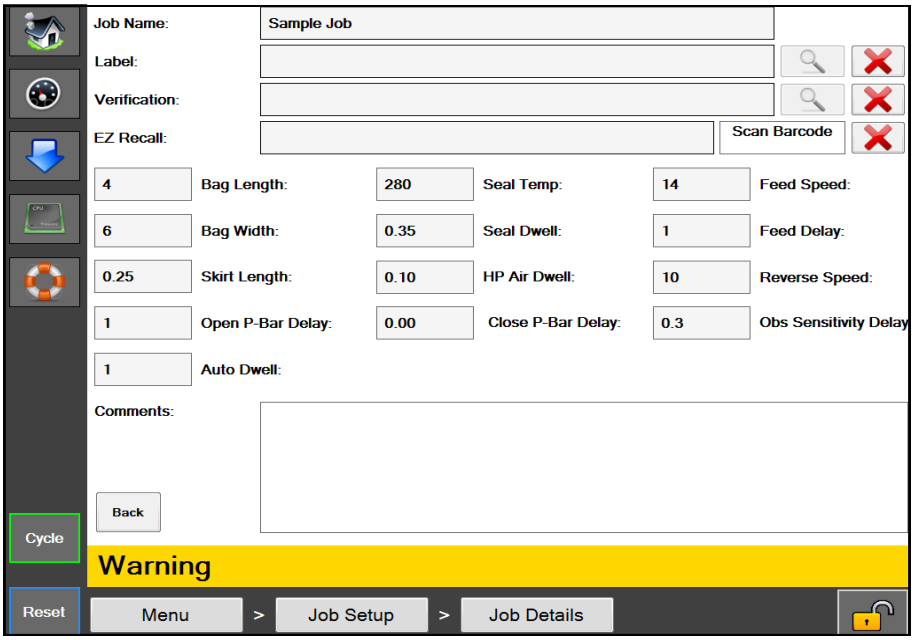



**Figure 4-5A. Job Detail Screen.**

## JOB DETAILS

**General Description**

The Job Details screen displays the details of a job and allows them to be edited.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Job Name* - The name given to a job. This name will be used for job recall.

*Label* - This is the name of the label that is assigned to the job and will be sent to the printer when the printer option is on and a job is loaded.

*Label Magnifying Glass Button* - If the label that is chosen was created using Codesoft, then this button can be pressed to show a preview of the label.

*Verification* - An image assigned to a Job for purposes of job verification. This Image will be presented to the operator when loading that job.

*Verification Magnifying Glass Button* - If a verification image has been selected, this button will display a preview of the selected image.

*EZ Recall* - This barcode value can be used to recall the job. On the Job Setup screen, a user can scan a bar-code to find and load a job. The barcode scanned is matched up with the value in this EZ Recall box, and if a match is found then the job with that EZ Recall value will automatically be loaded.

*Scan Barcode* - An EZ recall value can be entered automatically by pressing this box to activate it and then scanning the barcode that should be assigned to this job.

# JOB DETAILS SCREEN - CONTINUED

*Bag Length* - This refers to the usable area inside the bag. This is measured from the bottom of the bag to the seal. The typical setting is .5 to 1.5 inches less than the measured overall bag length.

*Skirt Length* - The distance from the bottom of the bag to the start of the seal.

*Seal Dwell* - The amount of time the heated seal bar will remain in contact with the film. High quality seals are accomplished through proper seal time settings. These settings will vary with the film gauge and material.

*HP Air Dwell* - The amount of time the HP Air Blast remains on. The HP Air Blast is used to begin to open the bag and is then taken over by the LP Air to hold the bag open during loading.

*Seal Temp* - The set temperature of the seal bar when sealing as bag.

*Comments* - These are comments that can be used to provide more information about the job.

*Feed Delay* - Adjusts the delay (in seconds) that occurs before the web feeds forward to present the next bag.

*Feed Speed* - Adjusts the forward web speed in inches per second.

*Close P-Bar Delay* - Adjusts the delay (in seconds) that occurs prior to closing the pressure bar.

*Open P-Bar Delay* - Adjusts the delay (in seconds) that occurs prior to opening the pressure bar.

*Obstruction Sensitivity Delay* - Adjusts delay (in seconds) of the timer that begins when the pressure bar is fired to closed. This is a factory setting and should only be adjusted by a qualified service technician.

*Reverse Speed* - Adjusts the reverse web speed in inches per second.

*Auto Dwell* - Time, in seconds, that the bagger will pause between cycles when in Auto Mode and Filler Mode OFF. This time delay is typically allotted to allow an operator to hand load product into the bag, i.e. a self-pace setting.

*LP Air Timeout* - Low Pressure Air or LP Air is used to help keep the bag opened or inflated once it is first opened by High Pressure Air (HP Air). LP Air Timeout operates as follows:

1. LP Air Timeout setting is between 0.1-999.8 seconds: LP Air will turn off after this time has expired.

2. LP Air Timeout is set to 999.9 seconds: LP Air will not turn OFF.

3. LP Air timeout is set to 0.0: LP Air will never turn ON.

# ADMIN SCREEN

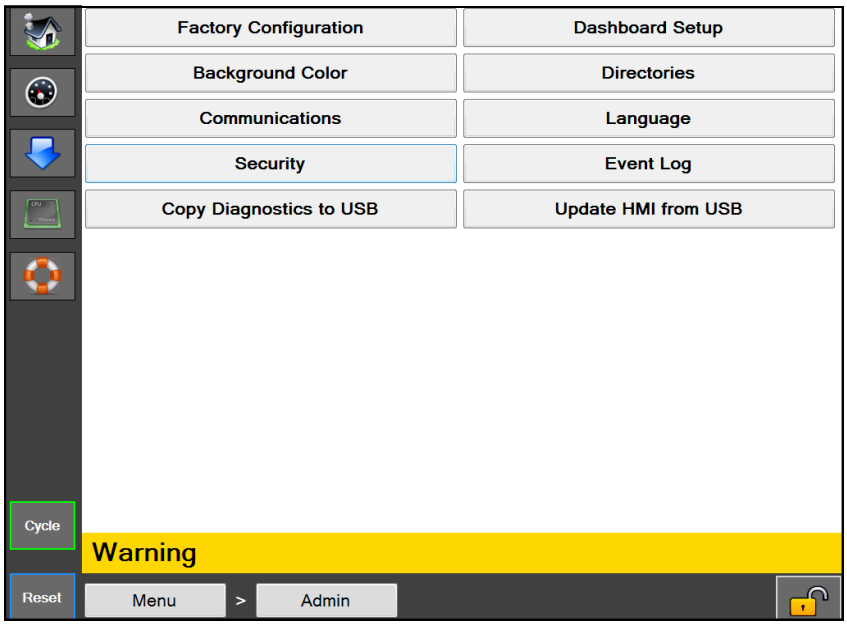



**Figure 4-7A. Admin Screen.**

**ADMIN SCREEN**

**General Description**

The Admin screen is a collection of administrative functions used to setup the HMI and monitor bagger performance.

**Minimum Security Access:** No Security

**Button/Label Descriptions:**

*Factory Configuration* - This screen is used by the factory to configure purchased options.

*Background Color* - This will change the background color of the HMI.

*Communications* - This will open the Communications screen used to setup the IP communication settings for the PLC and the Printer.

*Security* - This will open the Security screen used to set security level passwords.

*Copy Diagnostics to USB* - This will copy the Event Log, and the Machine Settings xml file to a "Diagnostics" folder on a connected USB flash drive. This is a way to export diagnostic information from the machine.

*Dashboard Setup* - This will open the Dashboard Setup screen that is used to setup the custom dashboard.

*Directories* - This will open the Directories screen to setup file locations and Database connection settings.

*Language* - This will open the Language screen to set the Language used for the HMI.

*Event Log* - This will open the Event Log screen that allows users to view system events.

*Update HMI from USB* - This will look for a connected USB flash drive with a folder named "Max" and, if found, will copy all of the contents of the folder to the "Max" folder located on C:/Programs Files. This is the common way to do HMI software updates.

# COMMUNICATIONS SCREEN

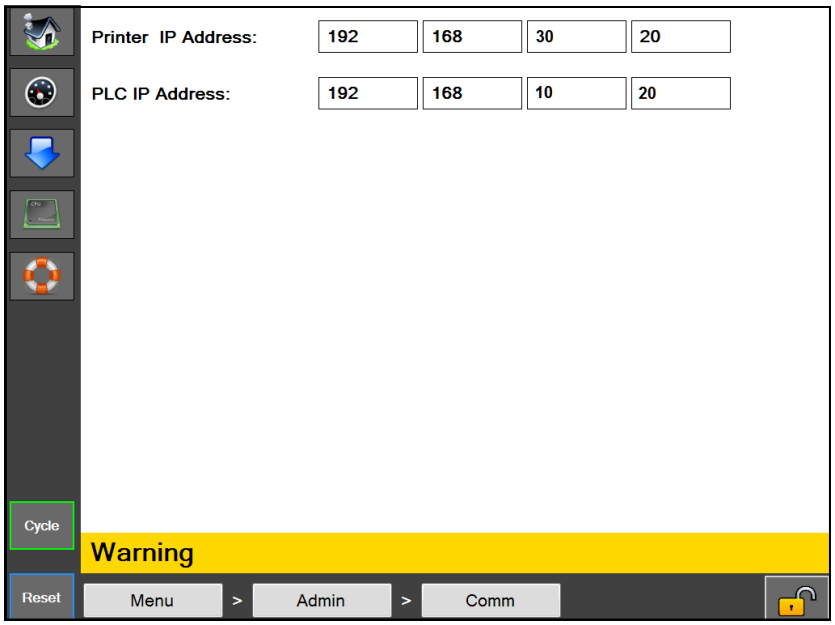



**Figure 4-8A. Communications Screen**

## COMMUNICATIONS SCREEN

**General Description**

The Communications screen displays the IP Address settings needed for the HMI to communicate with various devices.

**Minimum Security Access:** High

**Button/Label Descriptions:**

*Printer IP Address* - This is the IP Address currently assigned to the Printer

*PLC IP Address* - This is the IP Address currently assigned to the PLC

# SECURITY SCREEN

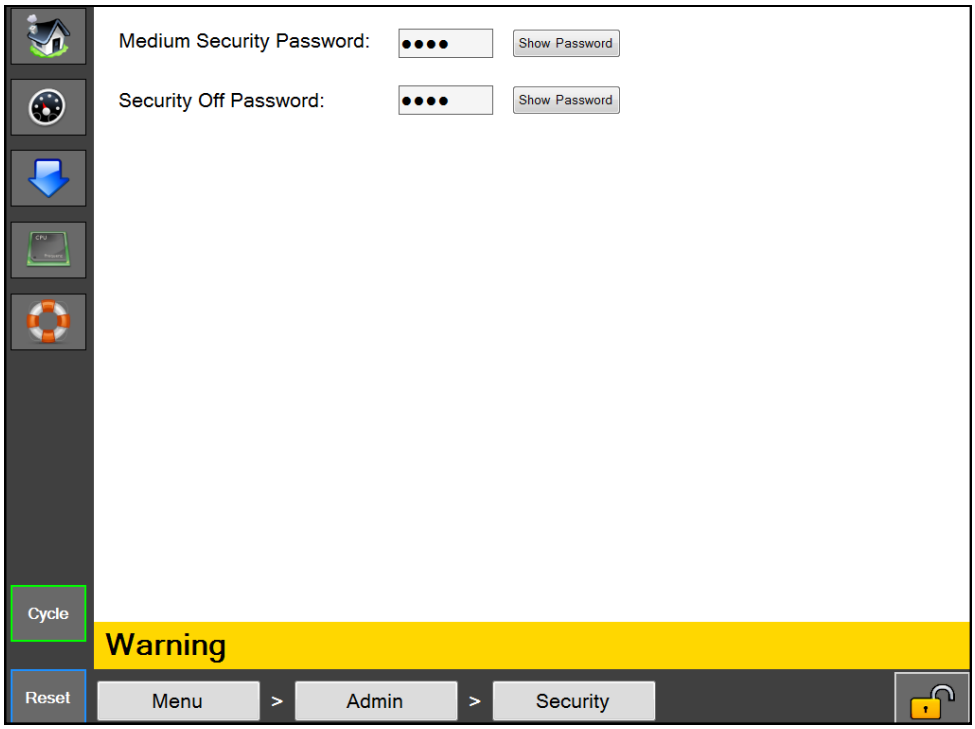



**Figure 4-9A. Security Screen**

## SECURITY SCREEN

**General Description**

The Security screen allows an admin to set custom passwords for each security level. These passwords are entered when a user clicks the Lock icon on the bottom right of the screen.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Medium Security Password* - This will set the Medium security level password. The password must 1 to 5 numbers in length. The current password will be shown.

*Security Off Password* - This will set the Security to OFF. This password allows access to all HMI screens. The password must 1 to 5 numbers in length. The current password will be shown.

The security levels are defined as follows:

**High** - The user allowed access to the Dashboard, PLC Settings, Job Download, Main, and Communications screens

**Medium** - The user has all permissions of the High security level and access to all screens except Service, Language, and I/O.

**No Security** - The user has access to all screens and functions except Factory Configuration that is for factory access only.

# DASHBOARD SETUP SCREEN

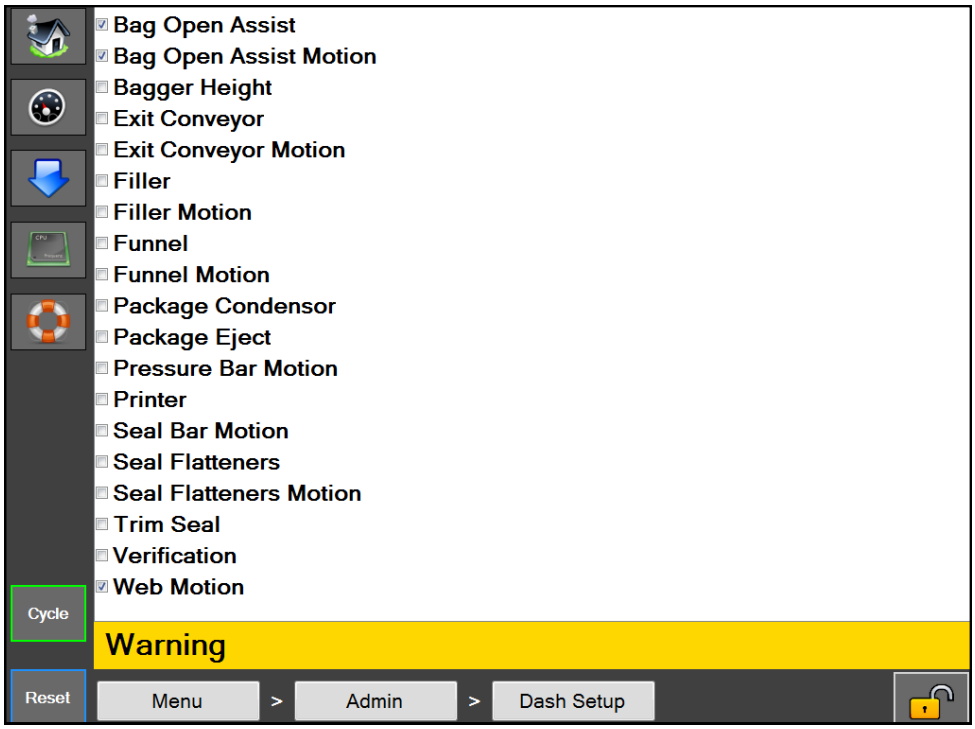



**Figure 4-10A. Dashboard Setup Screen.**

**Dashboard Setup**

**General Description**

The dashboard setup screen displays a list of available options/functions to be displayed on the Dashboard.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

A checked item in the list indicates the option/function is displayed and can be controlled on the Dashboard Screen.

# DASHBOARD SCREEN

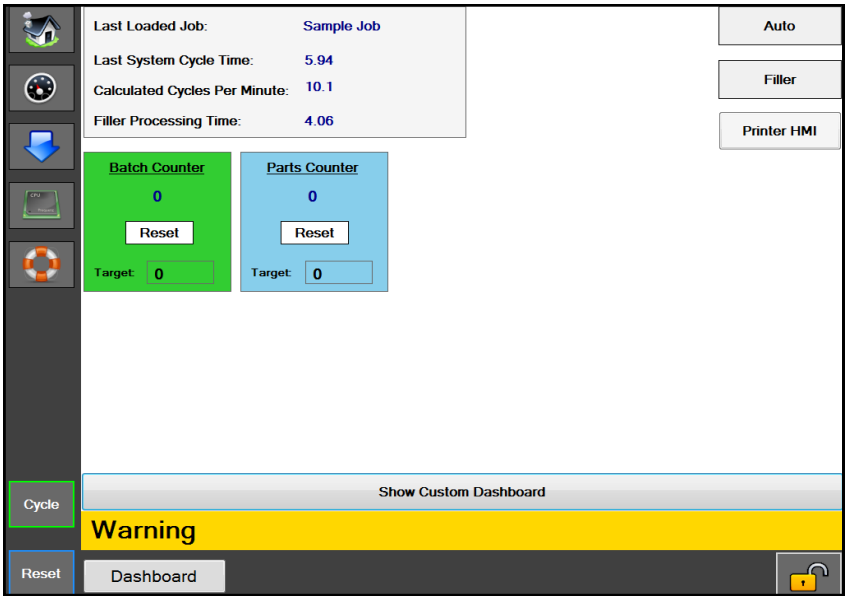



**Figure 4-11A. Dashboard Setup Screen.**

## DASHBOARD SCREEN

**General Description**

The dashboard is a customizable screen that can be setup to display the most common operator interfaces. Options can be switched on or off from this screen, and many of the individual machine motions can be setup on this screen for operator ease of use. There is also a built in batch counter that is accessible on the bottom of the screen. This dashboard was designed to be the main screen that the operator uses during machine operation.

**Minimum Security Access:** High

**Button/Label Descriptions:**

*Auto Mode* - This will put the bagger in an auto cycle mode

*Filler Mode* - This will put the bagger in Filler Mode.

*Printer HMI* - This button will allow the operator to view the printer's HMI (Human Machine Interface)

*Parts Counter* - The Parts Counter can be enabled from the Bagger Settings screen.

*Batch Counter* - The Batch Counter can be enabled from the Bagger Settings screen.

*Last Loaded Job* - The name of the last job that was successfully loaded

*Last System Cycle Time* - The amount of time, in seconds, the previous successful machine cycle took to complete. Note: This includes filler drop time

*Calculated Cycles Per Minute* - This is the number of cycles per minute calculated using 60 divided by the last system cycle time.

*Filler Processing Time* - This displays the measured amount of time from when the bagger turns on the "Ready For Filler" output until it receives the "Filler Trigger" input signal from the Automatic Filler machine.

# DIRECTORIES SCREEN

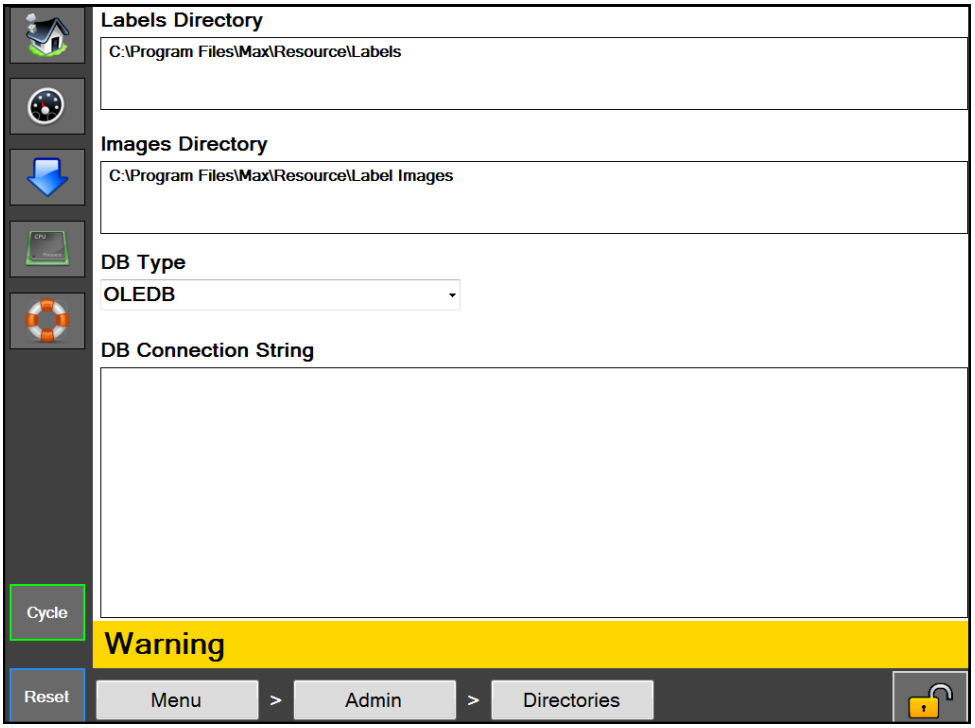



**Figure 4-12A. Directories Setup Screen.**

**DIRECTORIES SCREEN**

**General Description**

The Directories screen displays the file locations of certain files needed by the HMI.

**Minimum Security Access:** No Security

**Button/Label Descriptions:**

*Labels Directory* - This is the location on the HMI where the label formats are stored for jobs

*Images Directory* - This is the location on the HMI where images are stored for Job Verification

*DB Type* - This sets the database driver type used for the database storing saved jobs. (This should not be changed unless Job data is being stored in a different database than the one provided.)

*DB Connection String* - This is the connection string used to connect to the Jobs database. (This should not be changed unless moving the Jobs database to a different location.)

# EVENT LOG SCREEN

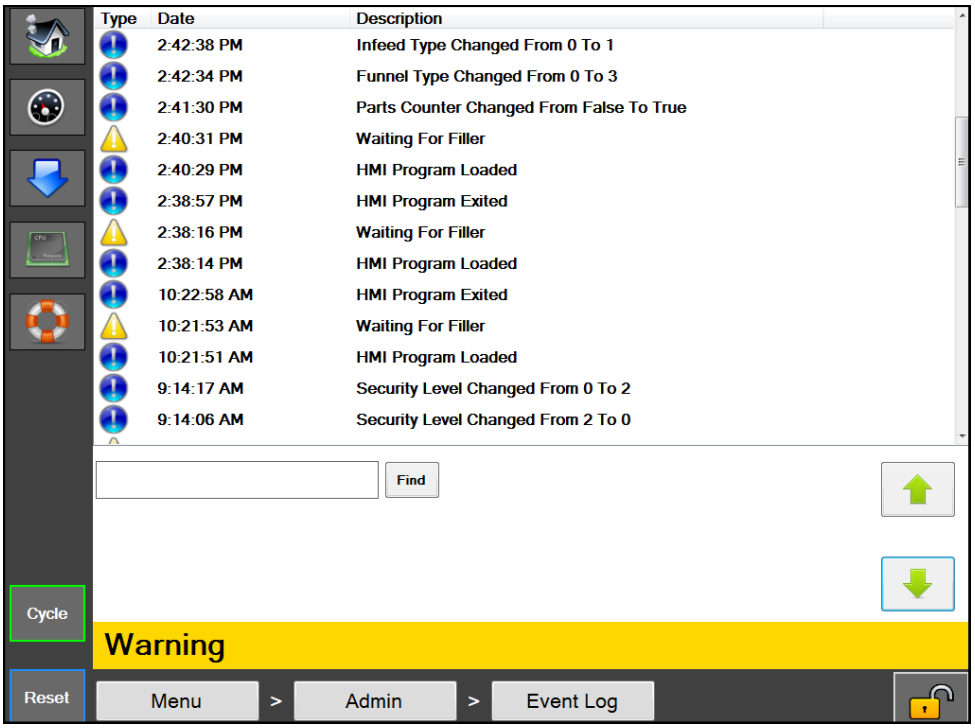



**Figure 4-13A. Event Log Setup Screen.**

## EVENT LOG

**General Description**

The Event Log screen displays a list of events that have occurred on the machine for the current day. This includes faults, warnings and user initiated events.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

The event log displays an indicator, timestamp, and short description of the event. A red indicator means a fault occurred, a yellow means a warning and a blue indicator means a general event. A search box is included that can be used to search specific events according to their description.

# MACHINE OPTIONS SCREEN

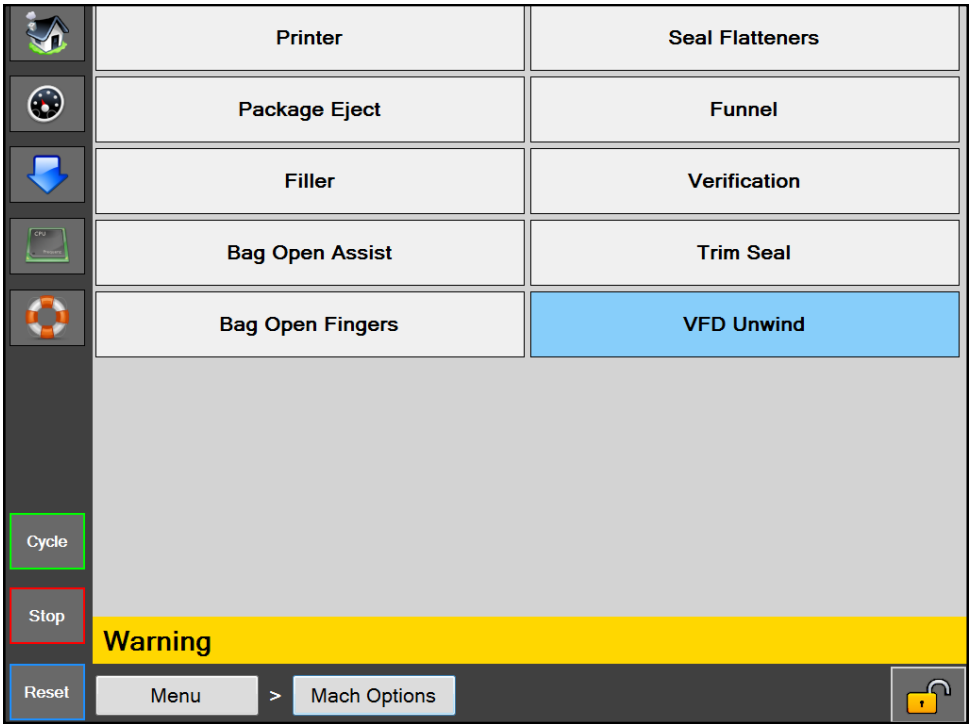



**Figure 4-14A. Machine Options Screen.**

## MACHINE OPTIONS

**General Description**

The Machine Options screen displays the many options that can be installed and selected on the bagger. (Not all of these options will be available on every machine. It depends on what has been purchased.) The buttons of the options that are currently selected will be highlighted.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Printer* - This will open the Printer configuration screen.

*Seal Flatteners* - This will open the Seal Flatteners configuration screen. Seal Flatteners are used to create an aesthetic seal.

*Package Eject* - This will open the Package Eject configuration screen. This option is used to support the bag during loading and then drop the finished package from the bagger.

*Funnel* - This will open the Funnel configuration screen. This option is used on baggers that have a funnel for loading product.

*Filler* - This will open the Filler configuration screen.

*Verification* - This will open the Verification configuration screen. This option will automatically verify a taught barcode that is printed on a bag.

# MACHINE OPTIONS SCREEN - CONTINUED

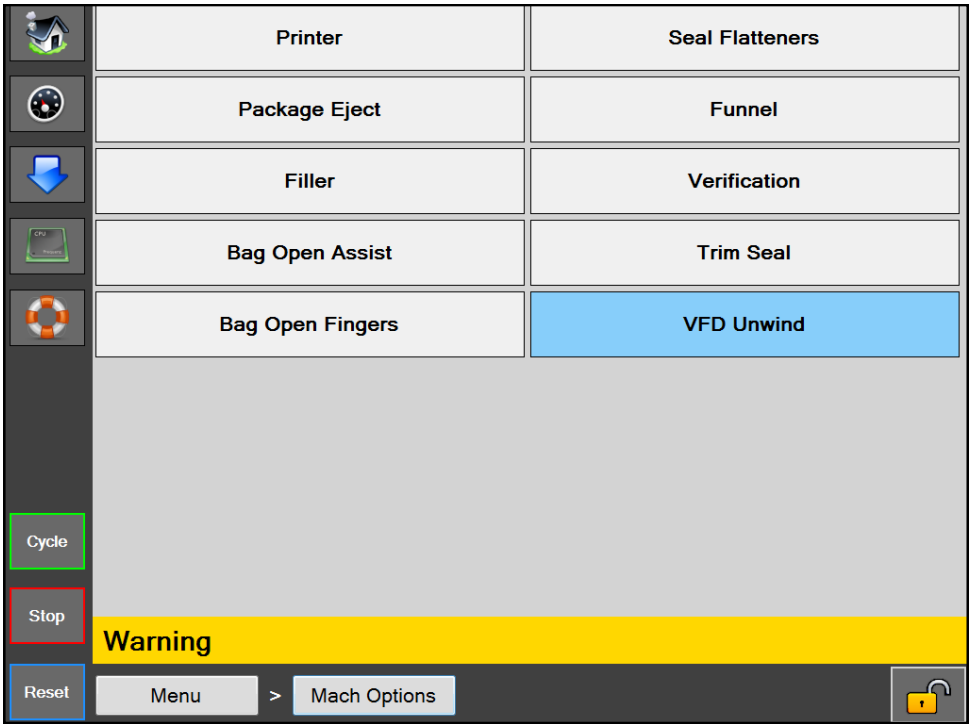



**Figure 4-15A. Machine Options Screen.**

*Bag Open Assist* - This will open the Bag Open Assist configuration screen. Bag Open Assist includes high/low pressure air, bag open sensor, and vacuum assist.

*Trim Seal* - This will open the Trim Seal configuration screen. This option is used to simultaneously seal and trim excess bag material.

*Bag Open Fingers* - This will open the Bag Open Fingers configuration screen. This option is found on the Max 20 with 10” pass-thru equipped with Pressure Bar  mounted vacuum open.

*VFD Unwind* - This will open the VFD Unwind configuration screen.

# MACHINE OPTIONS SCREEN - CONTINUED

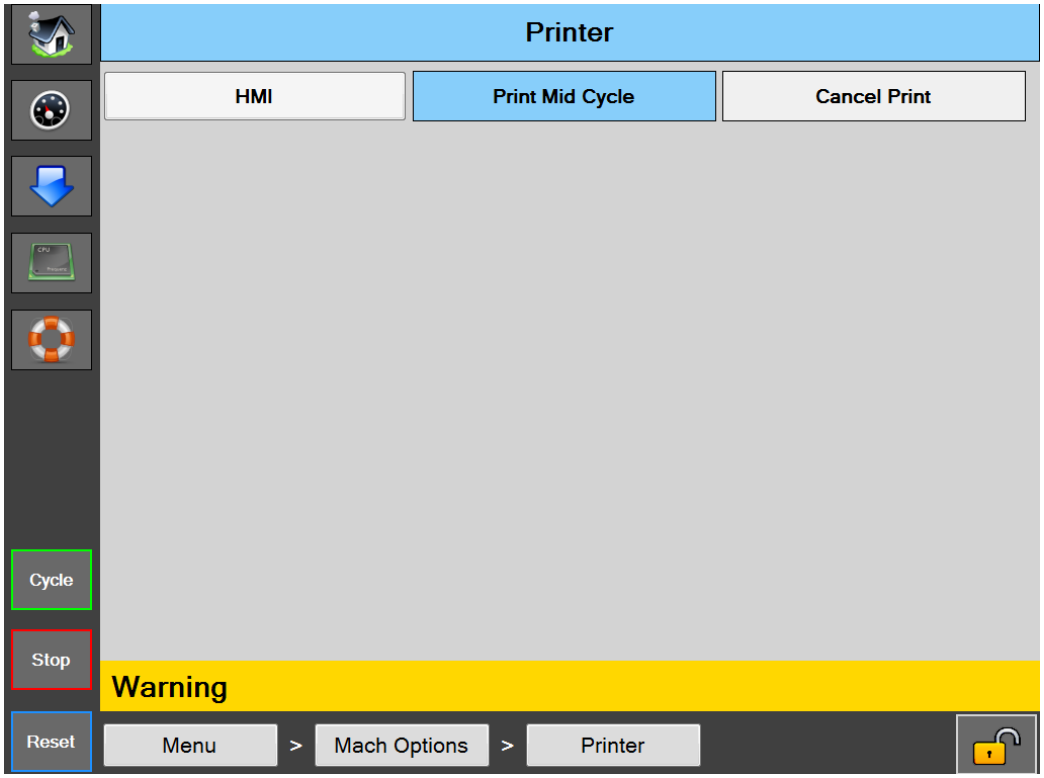



**Figure 4-16A. Printer Screen.**

**PRINTER SCREEN**

**General Description**
There are four types of printers that can be installed on the bagger; Intermittent or Continuous Videojet printer and A-Class 4" or 8" Stand Behind Datamax Printer.

**Button/Label Descriptions:**

*Printer* - This will toggle on/off the Printer option.

*HMI* - This will open the printer control panel for the Videojet printer. (Not accessible on Datamax printers)

*Print Mid Cycle* - This option is not valid for the Videojet Continuous printer. In this mode, the print cycle will occur when the we has backed up and stopped at the bag edge eye. When the printer cycle has completed the bag will feed out into load position.

*Cancel Print* - This button allows a print request to be canceled. The function occurs when the printer option is turned on and the bagger cycles, but not print jog was loaded into the printer. The bagger will display a yellow alert message "Waiting for Printer" is displayed. Pressing this button will cancel the print request and allows the bagger cycle to finish.

## MACHINE OPTIONS SCREENS - CONTINUED

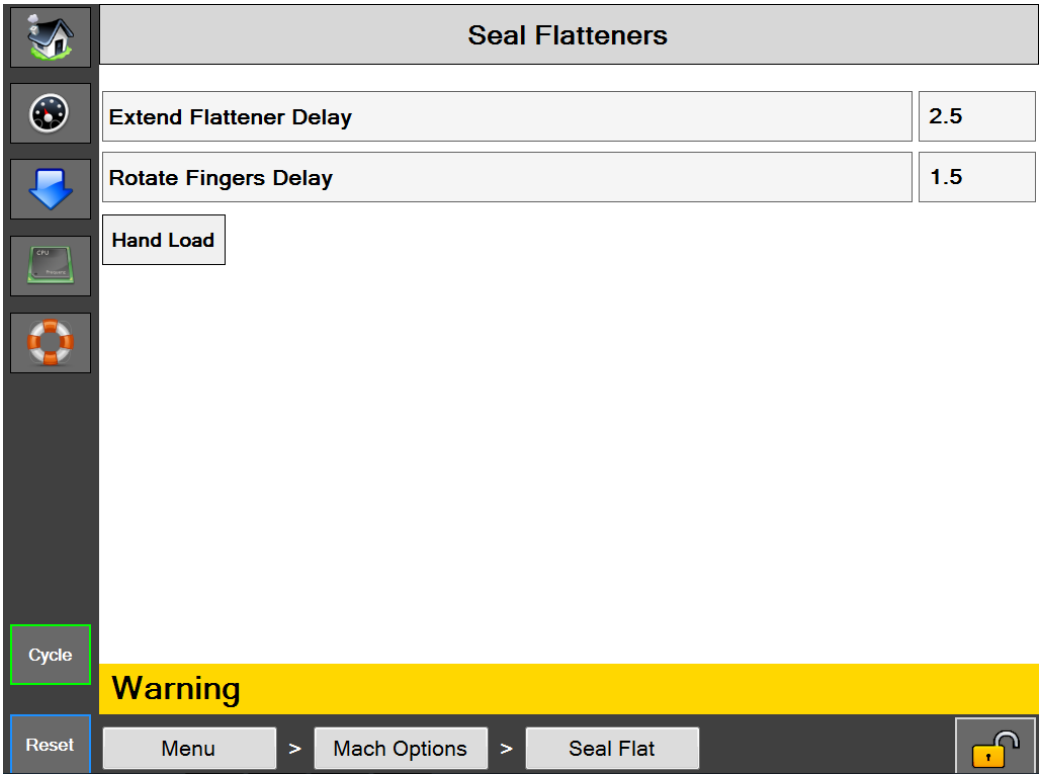



**Figure 4-17A. Seal Flatteners Screen.**

### SEAL FLATTENERS SCREEN

**General Description**

Seal Flatteners are designed to flatten out the opening of the bag prior to sealing. This has the effect of removing wrinkles from film in the seal area and creates an anesthetically pleasing seal.

**Button/Label Descriptions:**

*Seal Flatteners* - This will toggle on/off the Seal Flatteners option.

*Extend Flattener Delay* - Amount of time, in seconds, that the seal flattener fingers extend motion is delayed following the completion of the HP Air timer.

*Rotate Fingers Delay* - Amount of time, in seconds, that the seal flattener finger rotate motion is delayed following the completion of the extend motion.

*Hand Load* - This feature changes the sequence of the seal flattener operation. With Hand Load active, the seal flatteners do not enter the bag until the product is loaded and the cycle is initiated. With Hand Load inactive, the seal flatteners will enter the bag directly following the opening of the bag.

# MACHINE OPTIONS SCREEN - CONTINUED

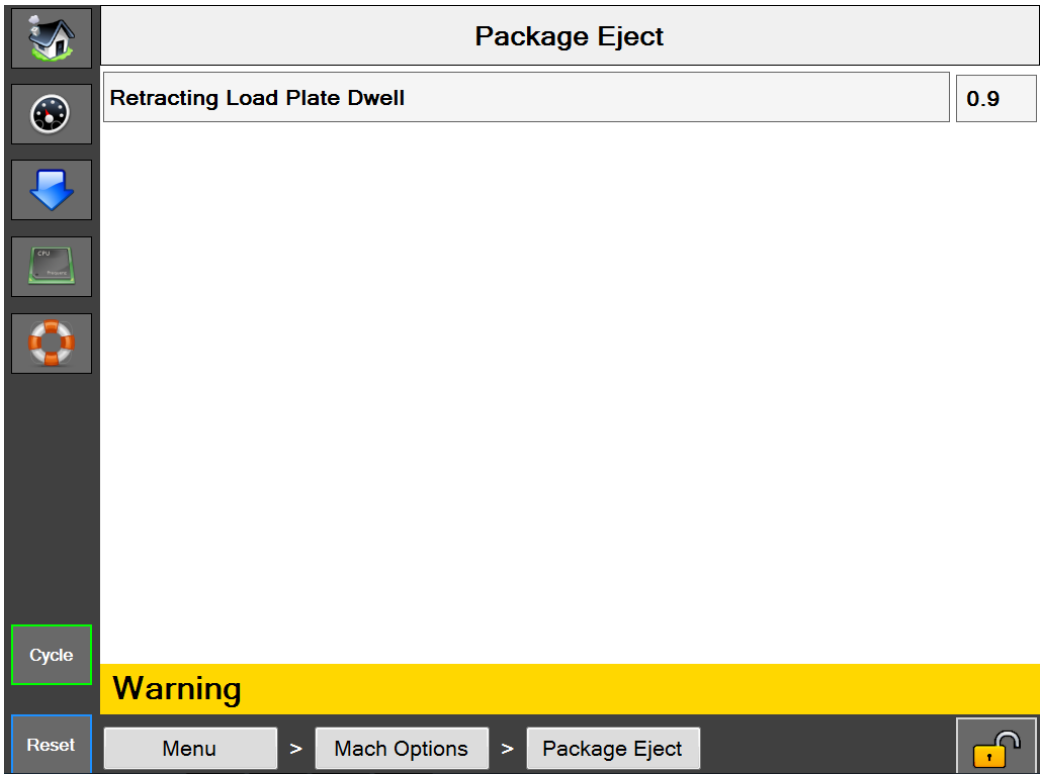



**Figure 4-18A. Package Eject Screen.**

## PACKAGE EJECT SCREEN

**General Description**

The Package Eject option helps remove the sealed bag from the loading area. There are several versions of this option. A Retracting Load Plate, Retracting Load Shelf, Side Retracting Load Shelf, and 2-Axis Package Eject.

**Button/Label Descriptions:**

*Package Eject* - This will toggle on/off the Package Eject Option.

*Retracting Load Plate Dwell* - The amount of time the Load Plate is retracted.

## MACHINE OPTIONS SCREENS - CONTINUED

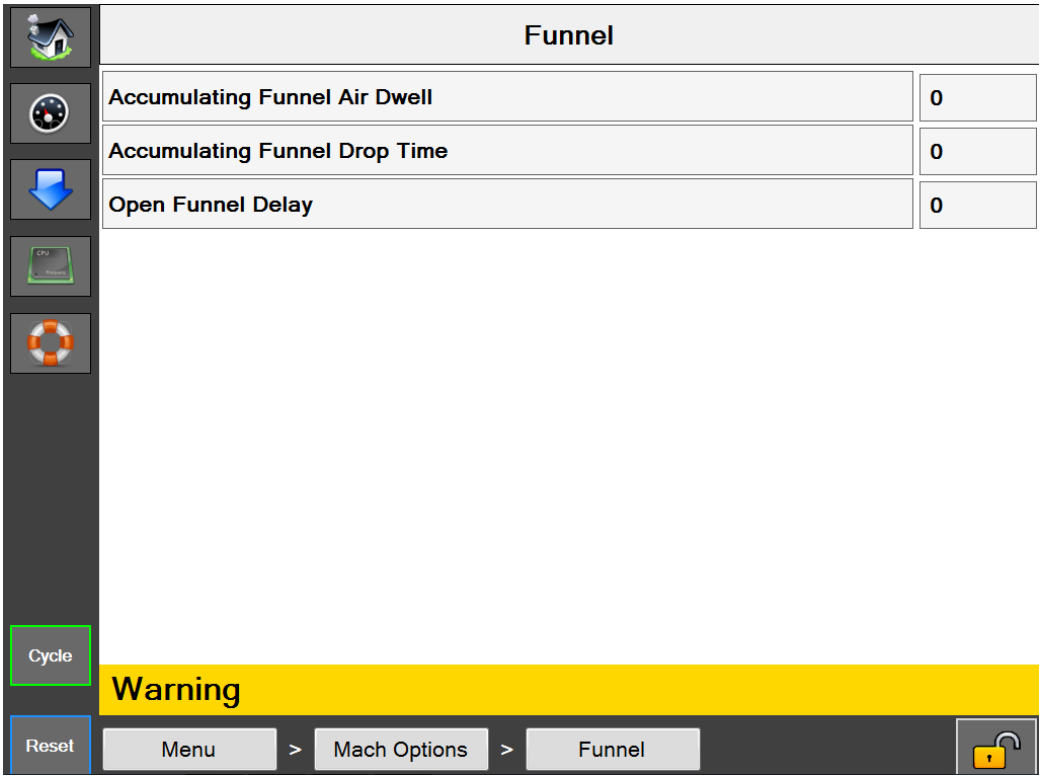



**Figure 4-19A. Funnel Screen.**

**FUNNEL SCREEN**

**General Description**

The Funnel Option screen displays available Funnel settings.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Funnel* - This will toggle on/off the Funnel Option.

*Accumulating Funnel Air Dwell* - Amount of time, in seconds, that the accumulating funnel air knife will be active starting from the moment the accumulating doors are opened.

*Accumulating Funnel Drop Time* - Needed amount of time, in seconds, from the time the accumulating funnel has closed to allow the product to clear the pressure bar.

*Open Funnel Delay* - Amount of time, in seconds, that the opening of the Positive Entry Funnel will be delayed before opening. This delay begins after the completion of the HP Air Dwell.

# MACHINE OPTIONS SCREEN - CONTINUED

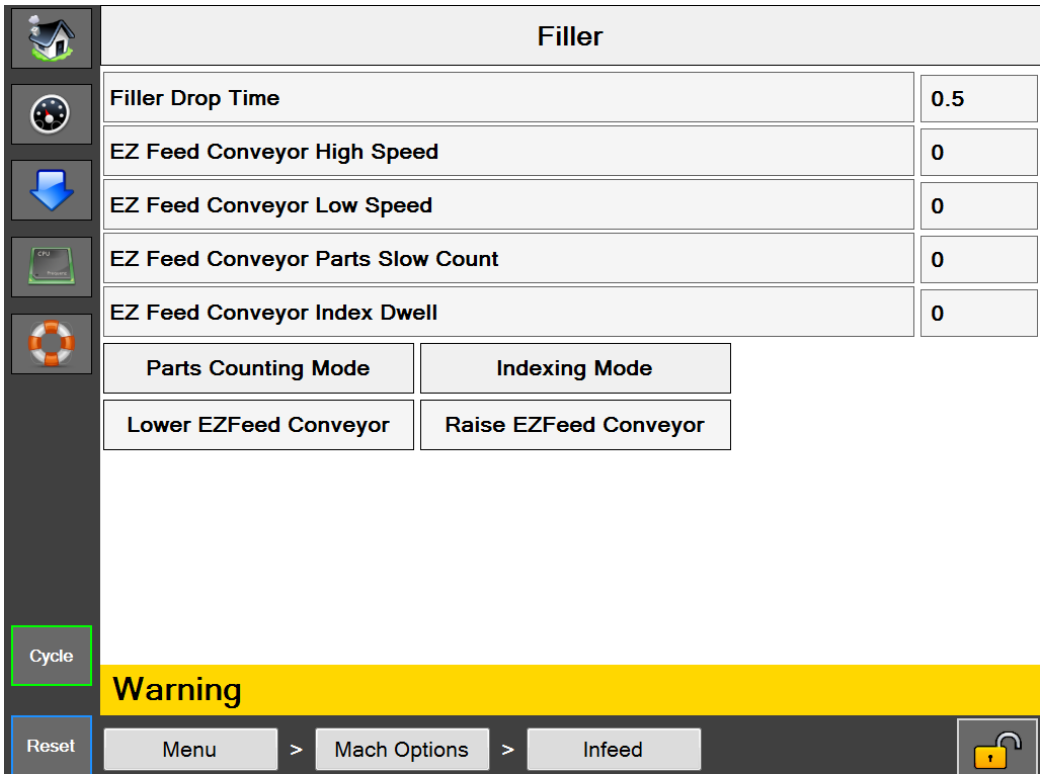



**Figure 4-20A. Filler Screen.**

**FILLER SCREEN**

**General Description**
The Filler Option screen displays available Filler settings.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Filler* - This will toggle on/off the Filler option.

*Filler Drop Time* - This setting determines the amount of time from when the Filler Trigger is a applied until the bagger cycles. This should be set long enough to allow the product to drop below the pressure before the sealing cycle begins.

*EZ Feed Conveyor Index Dwell* - The time that the EZ Feed is stopped between Indexing Cycles.

*Parts Counting* - Used when counting parts in Filler Mode.

*EZ Feed Indexing Mode* - Conveyor runs starts/stops in a cyclical fashion.

*EZ Feed Continuous Mode* - Conveyor runs in continuous fashion.

# MACHINE OPTIONS SCREENS - CONTINUED

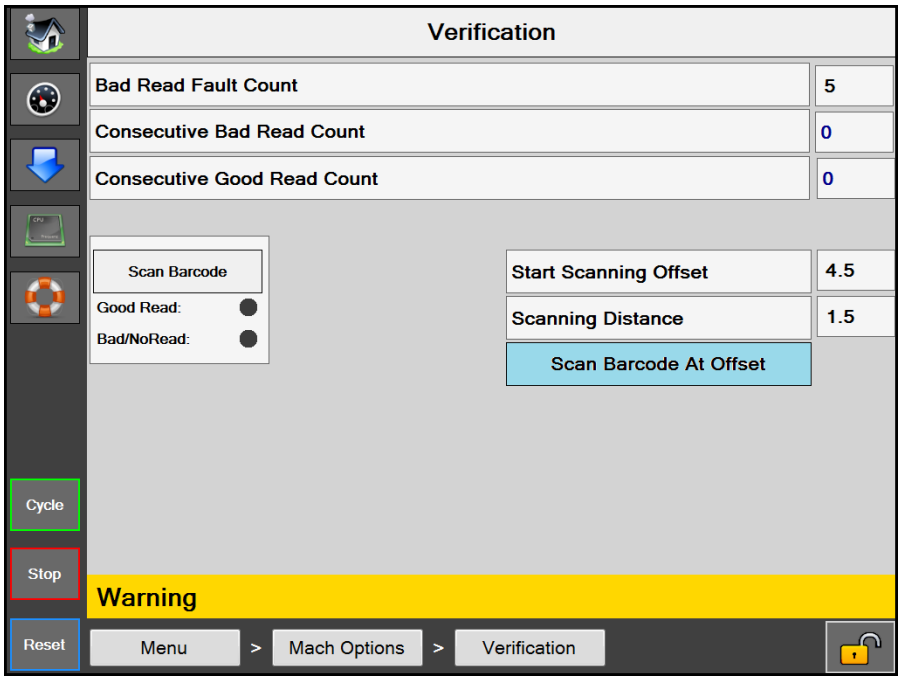



**Figure 4-21A. Verification Screen.**

## VERIFICATION SCREEN

**General Description**

The Verification Option screen displays available Verification settings.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Verification* - This will toggle on/off the Verification option.

*Bad Read Fault Count* - This setting determines how many consecutive bad reads are required before the machine is faulted.

*Consecutive Bad Read Count* - A numeric display of how many *Consecutive* bad reads attempts have occurred.

*Consecutive Good Read Count* - A numeric display of how many *Consecutive* good reads attempts have occurred.

*Start Scan Offset* - A numeric setting to start the barcode scan some distance from where the web starts to either print or feed forward.

*Scanning Distance* - A numeric setting which determines the scanning distance or length in inches. This value gets added to the Scan Offset and determines when the scanner stops.

*Scan Barcode At Offset* - This button selects the Scan Offset feature.

*Scan Barcode* - This is a test button that allows the user to scan a barcode when the bagger is not cycling.

*Good Read Indicator* - This will light up when a good read occurs. It stays on until the next scan

*Bad/NG Indicator* - This will light up when a either bad read or no read occurs. It stays on until the next scan.

# MACHINE OPTIONS SCREENS - CONTINUED

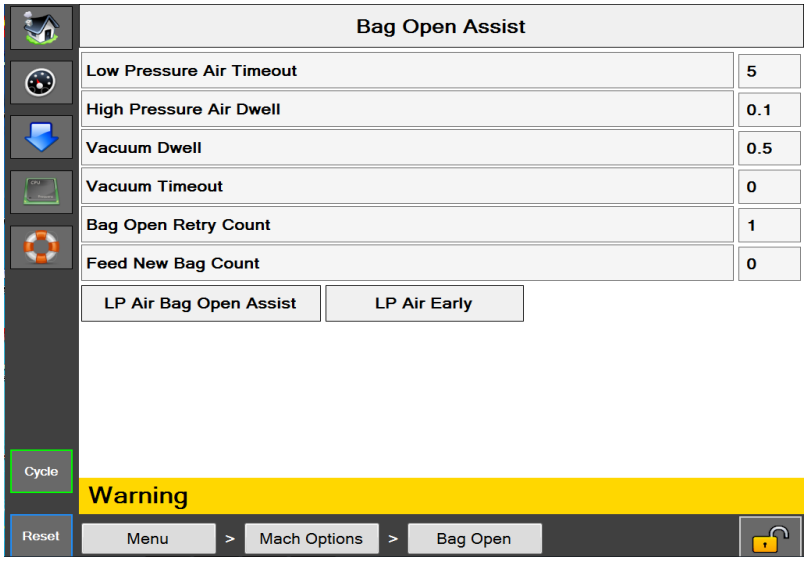



**Figure 4-22A. Bag Open Assist Screen.**

## BAG OPEN ASSIST

**General Description**

The Bag Open Assist Option screen displays available Bag Open settings

*Bag Open Assist* - This will turn on Bag Open Assist. When OFF, the High/Low pressure air opens the bag.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*Bag Open Assist* - This will toggle on/off the Bag Open Assist option.

*Low Pressure Air Timeout* - [Enter Text Here]

*High Pressure Air Dwell* - [Enter Text Here]

*Vacuum Dwell* - [Enter Text Here]

*Vacuum Timeout* - [Enter Text Here]

*Bag Open Retry Count* - Adjustable setting (0-9) that determines how many times the funnel door will cycle in an effort to open the bag. Once the terminal count is reached, the bagger will attempt to feed a new bag if the Feed New Bag Count is greater than 0. If the Feed New Bag Count setting = 0, then the bagger will fault when the Bag Open Retry Count has reached its terminal count.

*Feed New Bag Count* - Adjustable setting (0-9) that determines how many total bags will be fed out during the bagger Recovery Cycle. If this counter and the Bag Open Retry Counts reach their terminal counts, then the bagger will fault with "Bag Failed to open". X * Y = Total Rejected Bags when X = print queue and Y = Feed New Bag Count

*LPA Vacuum Assist* - This option uses Low Pressure Air to inflate the bag once it is opened. When this is ON LPA turns on when vacuum switches Off. When this is OFF, LPA turns on at the end of the bagger cycle. If no LPA is desired, set the LPA timeout to 0.

*LP Air Bag Open Assist* - LPA will help the HPA open the bag.

*LP Air Early* - This feature turns on the LPA at the beginning of the bag feed instead of the end of feed.

## MACHINE OPTIONS SCREENS - CONTINUED

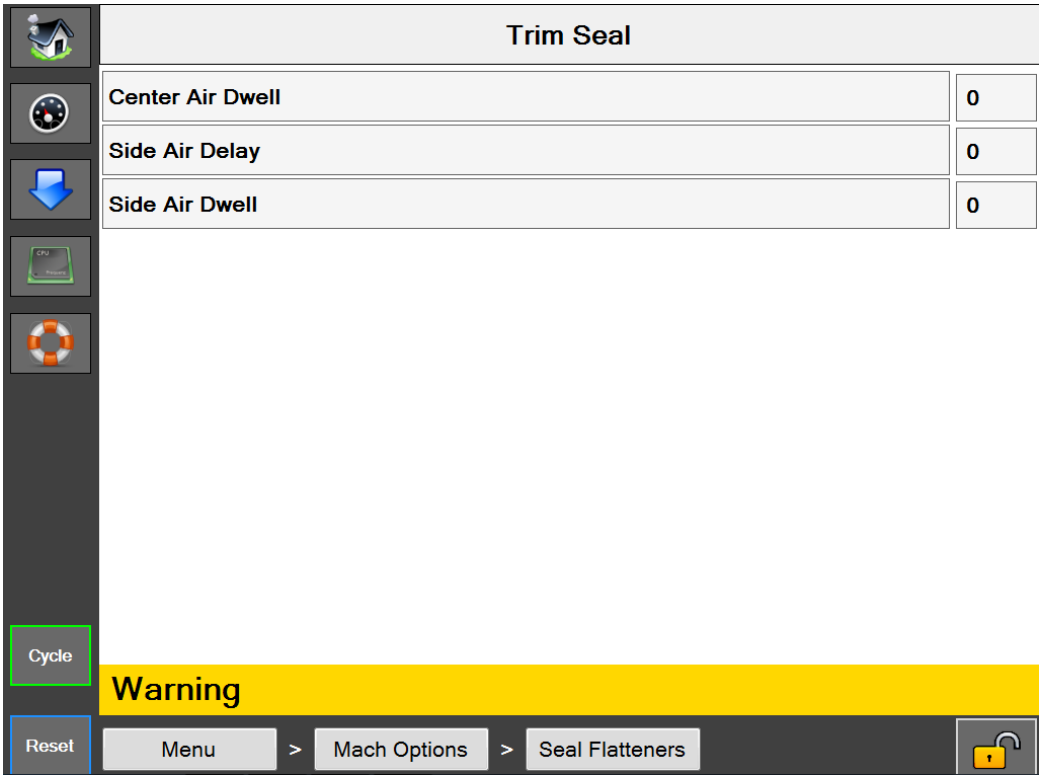



**Figure 4-23A. Trim Seal Screen.**

### TRIM SEAL SCREEN

**General Description**

This option utilizes a Seal Trimming Knife attached to the Seal Bar. This removes the excess material fro the sealed bag. The options includes Air Knives to blow off the trimmed scrap material into a waste bag.

**Button/Label Descriptions:**

*Trim Seal* - This will toggle on/off the Trim Seal option.

*Center Air Dwell* - Adjustable from 0.0 to 3.0 seconds. (Functional only on the ***MAX Plus***© Bagger).

*Side Air Delay* - Adjustable from 0.0 to 1.0 seconds.

*Side Air Dwell* - Adjustable from 0.0 to 3.0 seconds.

A Feed Delay may be needed. This can be added from t he Job Settings Screen. In this case, the Feed Delay should be set to a value greater than or equal to the combined Side Delay and Side Dwell settings. This ensures that the scrap is out of the way before feeding out the next bag.

## MACHINE OPTIONS SCREENS - CONTINUED

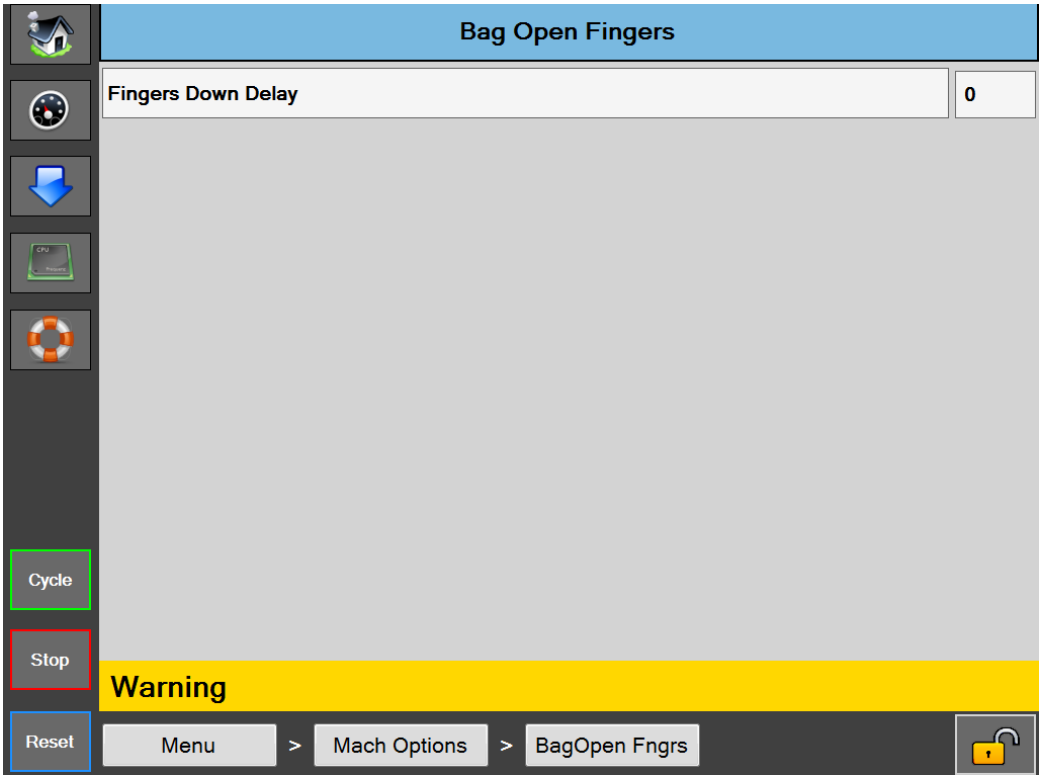



**Figure 4-24A. Bag Open Fingers**

### BAG OPEN FINGERS SCREEN

**General Description**

This option consists of two mechanical fingers operated by rotary air actuators. The fingers are mounted outside the Finger Funnel. The fingers rotate into the bag as the Pressure Bar begins to open the bag. When the fingers are down, they pin the bag to the Pressure Bar and held to open or form the bag into a 10" x 10" square opening.

**Button/Label Descriptions:**

*Fingers Down Delay* - The fingers Down Delay will delay the rotation of the fingers. It is recommended to keep this setting to a minimum. Start with 0 and add time only if necessary.

## MACHINE OPTIONS SCREENS - CONTINUED

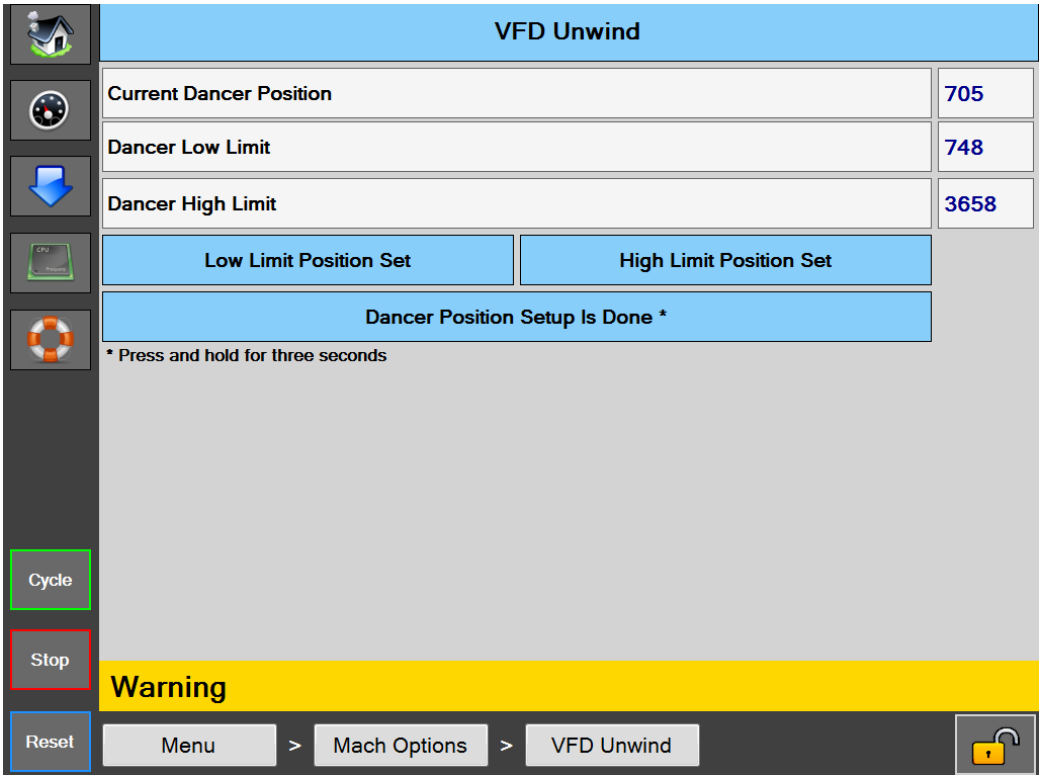



**Figure 4-25A. VFD Unwind Screen**

**VFD UNWIND SCREEN**

**General Description**

The VFD Unwind Option screen is used to setup the Dancer Feedback positions.

**Minimum Security Access:** Medium

**Button/Label Descriptions:**

*VFD Unwind* - This button is automatically turned on by the PLC and can not be turned off whenever a VFD Unwind is enabled in the Factory Configuration

*Current Dancer Counts* - This is a live numeric reading of the raw analog counts from the dancer position sensor.

*Low Dancer Position* - This is the numeric value that was captured when the Set Low Position button is pressed.

*Dancer Upper Limit Position* - This is the numeric value that was captured when the Set High Limit Position button is pressed.

*Set Low Dancer Position* - Pressing this button during the Setup Mode will capture and store the Low Position.

*Set High Dancer Limit* - Pressing this button during the Setup Mode will capture and store the High Operating Limit Position.

*Setup Dancer Positions* - Press and Hold This Button for 3 seconds to activate the Dancer Setup mode.

# SERVICE SCREEN

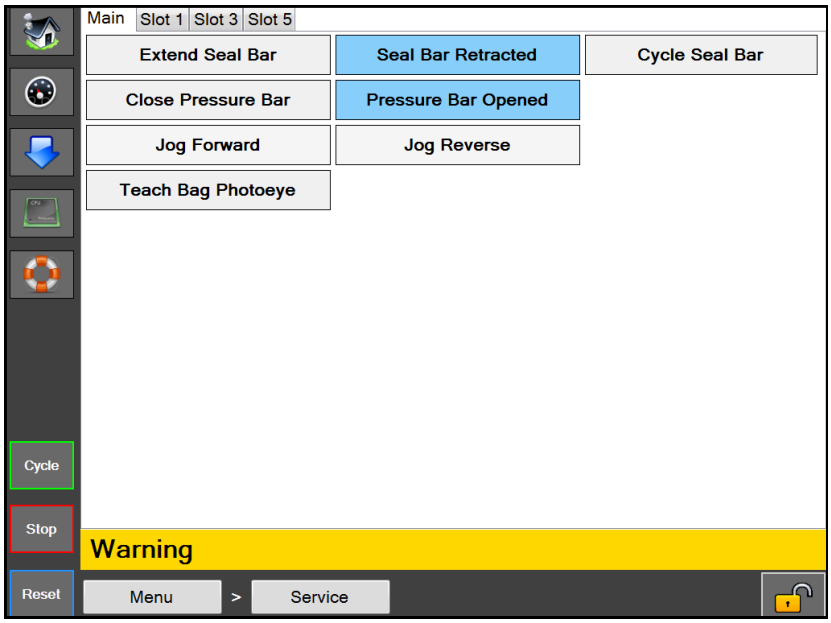



**Figure 4-26A. Service Screen.**

**SERVICE SCREEN**

**General Description**

The Service Screen provides manual control over the major components of the machine. Use this screen when troubleshooting options on the machine.

**Minimum Security Access:** No Security

**Button/Label Descriptions:**

**Main**

*Extend Seal Bar* - This will extend the seal bar. The button will display *Seal Bar Extended* when the Seal Bar Extended Sensor is made.

*Retract Seal Bar* - This will retract the seal bar. The button will display *Seal Bar Retracted* when the Seal Bar Retracted Sensor is made.

*Cycle Seal Bar* - This will extend the Seal Bar and then retract the Seal Bar.

*Close Pressure Bar* - This will close the pressure bar. The button will display *Pressure Bar Closed* when the Pressure Bar Closed Sensor is made.

*Open Pressure Bar* - This will open the pressure bar. The button will display *Pressure Bar Opened* when the Pressure Bar Opened Sensor is made.

*Jog Web Forward* - This will move the web forward.

*Jog Web Reverse* - This will back the web up.

*Teach Bag Photoeye* - Film should not be in between eye and reflector. Pressing this button will teach the eye. The button will display *Teaching Bag Photoeye* for 3 seconds.

# SERVICE SCREEN

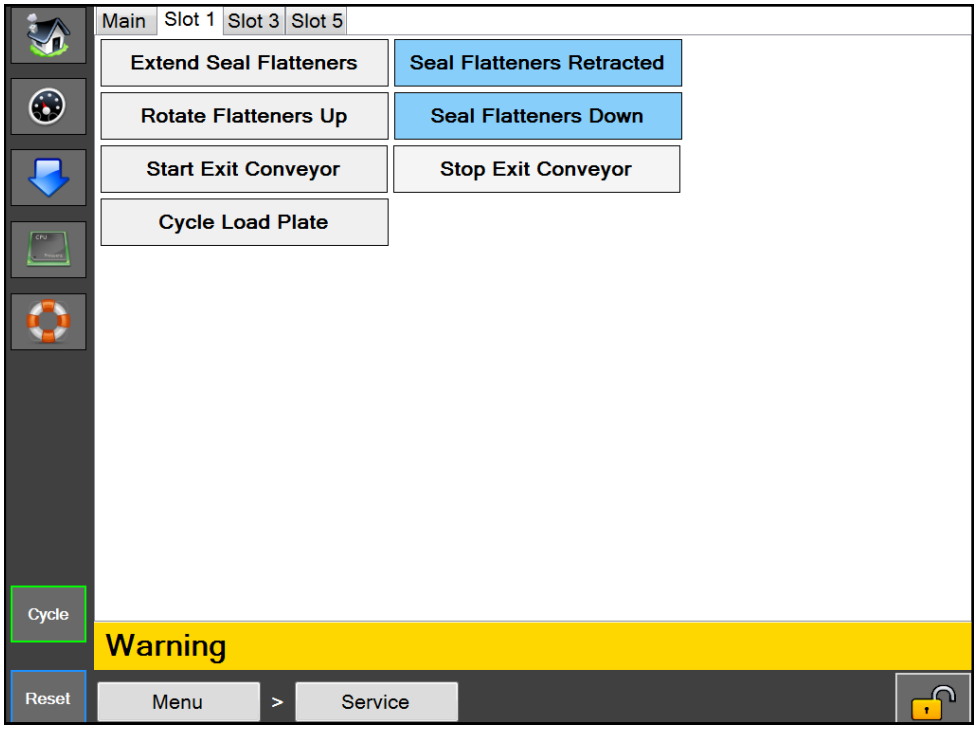



**Figure 4-27A. Service Screen - Slot 1.**

**SLOT 1**

*Extend Flatteners* - This will extend the seal flatteners. The button will display *Flatteners Extended* when the Seal Flatteners Extended Sensor is made.

*Retract Flatteners* - This will retract the seal flatteners. The button will display *Flatteners Retracted* when the Seal Flatteners Retracted Sensor is made.

*Rotate Flatteners Up* - This will rotate the seal flatteners up. The button will display *Seal Flatteners Up* when the Seal Flatteners Up Sensor is made.

*Rotate Flatteners Down* - This will rotate the seal flatteners down. The button will display *Seal Flatteners Down* when the Seal Flatteners Down Sensor is made.

*Start Exit Conveyor* - This will start indexing the Exit Conveyor.

*Stop Exit Conveyor* - This will stop indexing the Exit Conveyor.

*Cycle Load Plate* - This will retract and then extend the Load Plate.

# SERVICE SCREEN

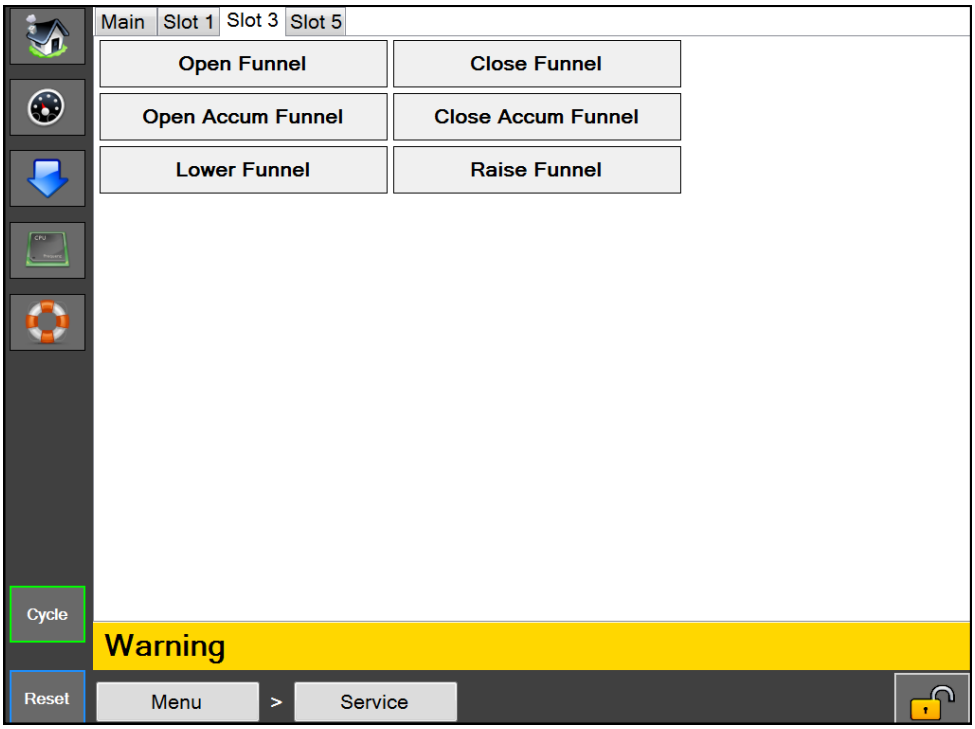



**Figure 4-28A. Service Screen - Slot 3.**

**SLOT 3**

*Open Funnel* - This will open the funnel door. The button will display *Funnel Opened* when the Funnel Opened Sensor is made.

*Close Funnel* - This will close the funnel door. The button will display *Funnel Closed* when the Funnel Closed Sensor is made.

*Open Accum Funnel* - This will open the accumulating funnel door. The button will display *Accum Funnel Opened* when the Accumulating Funnel Opened Sensor is made.

*Close Accum Funnel* - This will close the accumulating funnel door. The button will display *Accum Funnel Closed* when the Accumulating Funnel Closed Sensor is made.

*Raise Funnel* - This will raise the dunk funnel. The button will display *Funnel Raised* when the Dunk Funnel Raised Sensor is made.

*Lower Funnel* - This will lower the dunk funnel. The button will display *Funnel Lowered* when the Dunk Funnel Lowered Sensor is made.

# SERVICE SCREEN

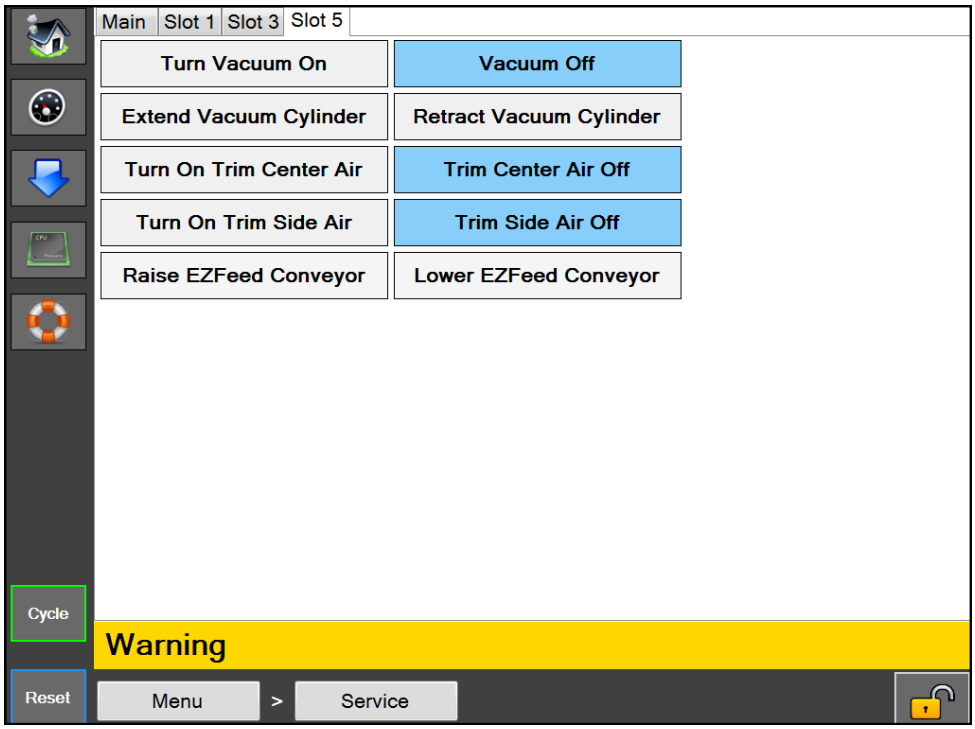



**Figure 4-29A. Service Screen - Slot 5.**

**SLOT 5**

*Turn Vacuum On* - This will turn the vacuum on. The button will display *Vacuum On* when the vacuum is ON.

*Turn Vacuum Off* - This will turn off the vacuum. The button will display *Vacuum Off* when the vacuum is OFF.

*Extend Vacuum* - This will extend the Vacuum Cylinder on a cylinder-mounted vacuum. The button will display *Vacuum Extended* when the Vacuum Cylinder Extended Sensor is made.

*Retract Vacuum* - This will retract the vacuum cylinder on a cylinder-mounted vacuum. The button will display *Vacuum Retracted* when the Vacuum Cylinder Retracted Sensor is made.

*Turn On Trim Center Air* - This will turn the Trim Seal Center Air ON. The button will display *Trim Center Air On* when the Trim Seal Center Air is ON.

*Turn Off Trim Center Air* - This will turn OFF the Trim Seal Center Air. The button will display *Trim Center Air Off* when the Trim Seal Center Air is OFF.

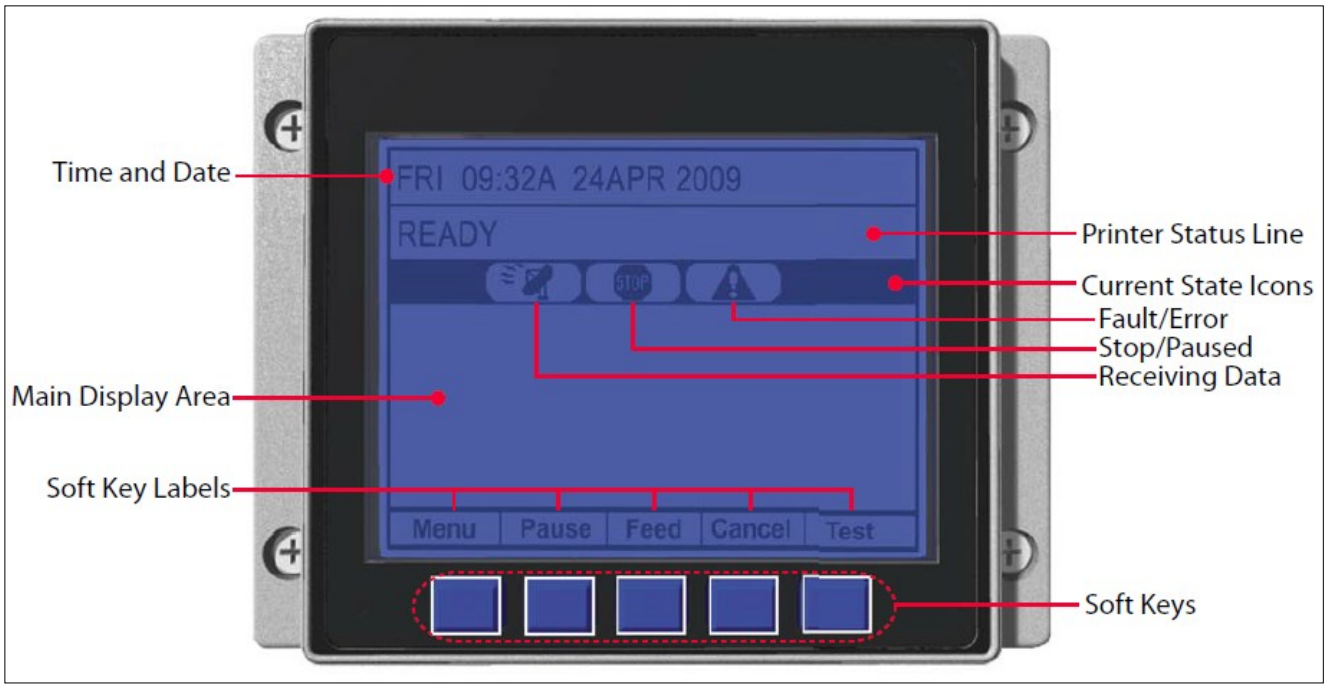
*Turn On Trim Side Air* - This will turn the trim seal side air on. The button will display *Trim Side Air On* when the trim seal side air is on.

*Turn Off Trim Side Air* - This will turn OFF the Trim Seal Side Air. The button will display *Trim Side Air Off* when the Trim Seal Side Air is OFF.

*Raise EZ Feed Conveyor* - This will raise an attached EZ Feed Conveyor with lift column.

*Lower EZ Feed Conveyor* - This will lower an attached EZ Feed Conveyor with lift column.

## PRINTER DISPLAY




The graphic display is a window into printer operations, displaying the following information

**Time And Date**

The current setting for time and  date.

**Printer Status Line**

Following initialization, the 'READY' message and label counter during a batch print job, but also any prompt condition, warning, or fault message.

**Current State Icons**

Displays, in real time, the current function of printer.

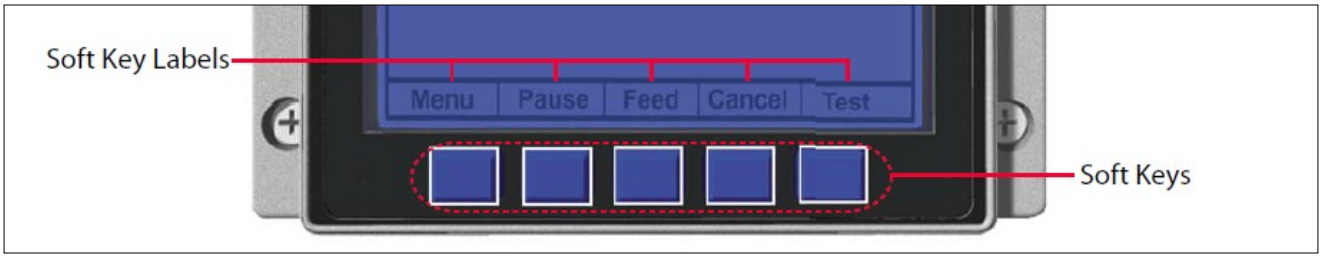
**Soft Key Labels**

Identify the Soft Key functions.

# PRINTER DISPLAY

## SOFT KEYS

The Soft Keys are mode-dependent, changing functions as needed. Depending upon the printer's stat, many functions can be accessed by pressing (or pressing and holding for various durations) the keys and buttons.




### Menu

The menu key takes the printer offline and enters menu mode.

### PAUSE

The pause key temporarily suspends printing, as noted by the current state indicators. Pressing the key again will return the printer to normal operation.

### Feed

The feed key advances one label, and clears any corrected faults.

### Cancel

The cancel key 'pauses' the printer and prompts you for confirmation. If yes the current job is cancelled. The printer remains paused until the 'pause' key is pressed again.

### Test

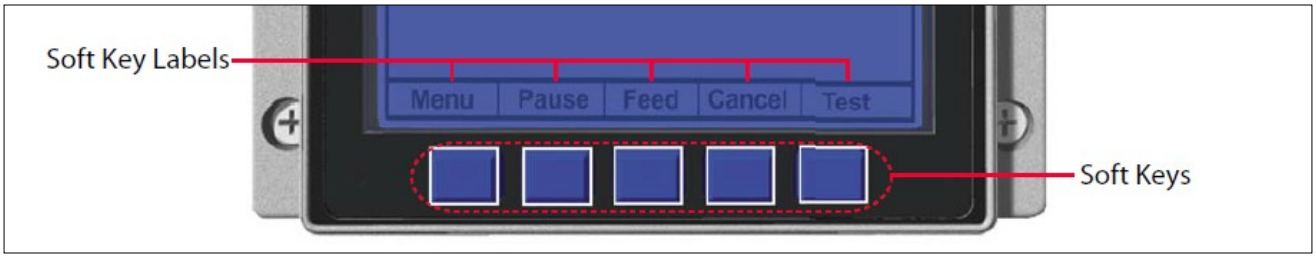
The test key opens the Test Menu. The Test Menu contains resident format selections that are printed at selected heat and speed settings. The Test Menu contains sample labels.

- Print Quality Label - This format serves as an overall quality indication. Consisting of compliant fence and ladder bar codes, assorted font sizes, and fill patterns, this format can be used to ensure conformance as well as aesthetics.
- Ribbon Test Label - This format can be used to ensure component functions and ribbon path alignment.
- Test Label - This format serves as an indicator of printhead functionality. The format consist of patterns that exercise all thermal elements.
- Validation Label - This format serves as an overall quality indicator. This format can be used to ensure conformance as well as aesthetes.

# PRINTER DISPLAY

## THE SYSTEM MENU

To enter the System Menu, press Menu Soft Key. (This places the printer in Menu mode, taking it offline, halting the processing of the new data.)




### Media Settings

The Media Settings menu contains label and ribbon settings, and printhead maintenance selections. Media Type, Sensor Type, Label Length, Maximum Label Length, Paper Empty Distance, Label Width, Ribbon Low Options, Sensor Calibration, and Printhead Cleaning.

### Print Control

The Print Control menu contains print quality, throughput and formatting functions. Heat, Print Speed, Feed Speed, Reverse Speed, Slew Speed, Row Offset, Column Offset, Present Distance, TOF Precedence, and Custom Adjustments.

### Printer Options

The Printer Options menu contains module, file handling, and option functions. Modules, Cutter, Ribbon Saver, RFID, and GPIO Port.

### System Settings

The System Settings menu contains operating, control, and formatting functions. Menu Mode, Configuration File, Internal Module, Default Module, Scalable Font Cache, Single Byte Symbols, Double Byte Symbols, Time and Date, Media Counters, Print Configuration, Configuration Level, Set Factory Defaults, Format Attributes, Head Bias, Label Rotation, Imaging Mode, Pause Mode, Peel Mode, Security, Units of Measure, Input Mode, User Label Mode, DPL Emulation, Column Emulation, Row Emulation, SOP Emulation, Back After Print, Font Emulation, Label Store, Menu Language, Display Settings, Fault Handling, and SCL Font Bold Factor.

### Communications

The Communications menu contains interface port and host control functions. Serial Port A, Serial Port C, Serial Port D, Parallel Port A, and NIC Adapter,

### Diagnostics

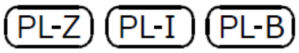
The Diagnostics menu contains testing functions. HEX Dump Mode, Options Testing, Print Test Rate, Sensor Readings, Ribbon Sensor Limits, iPH Report, Flash Module Report, and Icon Descriptions.

### MCL Options

The MCL Options menu contains alternate operating selections. MCL Options.

## PRINTER DISPLAY

### REAL TIME STATUS INDICATORS

| Icon | Description |
|---|---|
|  | Initialization, typically brief (but a damaged or invalid printhead can delay the process). |
|  | Display large fonts. |
|  | Input Mode – DPL. |
|  | Input Mode – LINE. |
|  | Input Mode – Emulation. |
|  | RFID detected. |
|  | SD memory card detected. |
|  | USB memory (or keyboard) detected. |
|  | Wired network detected. |
|  | Server inaccessible. |
|  | WLAN associated with Access Point. |
|  | WLAN not associated with Access Point. |
|  | WLAN ADHOC Mode. |
|  | Receiving data. |
|  | Paused. |
|  | Faulted. |

## USER SETTINGS

**The printer is preset at the factory. There are settings to check if you are having issues with the printer.**

**Note:** The Blue Buttons under the Datamax ® screen correspond to the boxes at the bottom of the screen.

**MEDIA TYPE: Set to 'THERMAL TRANSFER'**

At the Main menu screen Press 'MENU'. Scroll down to 'MEDIA SETTING' Press 'ENTER' select 'MEDIA TYPE' Press 'ENTER'. Select 'THERMAL TRANSFER' there will be a (*) next to select setting. Press 'ESC' until you get to the save changes screen. Press 'YES' to save changes or 'NO' to exit without saving changes.

**SENSOR TYPE: Set to 'CONTINUOUS'**

At the Datamax® main screen. Press menu, Press 'MEDIA SETTINGS', Press SENSOR TYPE, highlight 'CONTINUOUS' Press enter. Press 'ESC' till you get to the 'SAVE CHANGES' screen .Press 'YES' to save changes or 'NO' to exit without saving changes.

**GPIO PORT: Set to 'APPLICATOR'**

At the Datamax® main screen Press 'MENU' then go to PRINTER OPTIONS, Press 'ENTER' scroll down to 'GPIO' Press 'ENTER' 'GPIO DEVICE' Press ENTER highlight 'APPLICATOR' Press ENTER. Press 'ESC' until you get to the save changes screen .Press 'YES' to save changes or 'NO' to exit without saving changed.

**START OF PRINT: Set to 'ACTIVE LOW'**

At the Datamax® main menu screen Press 'MENU'. Using arrow keys highlight 'PRINTER OPTIONS', Press 'ENTER'. Using arrow keys highlight 'GPIO PORT' Press 'ENTER'. Highlight 'START OF PRINTING' Press 'ENTER' highlight 'ACTIVE LOW' and Press 'ENTER'. Press 'ESC' until you get to the save changes screen Press 'YES' to save changes or 'NO' to exit without saving changes.

**END OF PRINT: Set to 'ACTIVE LOW'**

At the Datamax® main menu screen .Press 'MENU'. Using arrow keys highlight 'PRINTER OPTIONS, Press 'ENTER'. Using arrow keys highlight 'GPIO PORT' Press 'ENTER'. Highlight 'END OF PRINTING' Press 'ENTER' highlight 'ACTIVE LOW' and Press 'ENTER'. Press ESC until you get to the save changes screen Press 'YES' to save changes or 'NO' to exit without saving changes.

**PRESENT DISTANCE: Set to 'Ø' (Zero)**

At the Datamax® main menu screen Press 'MENU'. Using the arrow keys scroll down to 'PRINTER CONTROL' Press 'ENTER'. Arrow down to 'PRESET DISTANCE' Press 'ENTER'. Using the arrow keys set 'PRESET DISTANCE' to '0" and Press 'ENTER'. Press 'ESC' until you return to Datamax® main screen.

**HEAD BIAS: Set to 'STANDARD'**

At the Datamax® main menu screen. Press 'MENU'. Using arrow keys highlight 'SYSTEM SETTINGS'. Press 'ENTER' arrow key to' HEAD BIAS' Press 'ENTER' arrow key to 'STANDARD' Press 'ENTER'. Press 'ECS' until you get to the 'SAVE CHANGES SCREEN. Press 'YES' to save changes or 'NO' to exit with out saving changes.

# OPERATION

Before attempting to operate the machine, read all information under Important Safety Information, page 1-2 and Controls, page 3-1.

1. Make sure machine is plugged into the properly grounded outlet and connected to clean dry air regulated to 80 psi. See *Air Pressure Regulator Adjustment*, page 2-1.
2. Release the E-Stop Button. **Figure 5-1A**.
3. Turn on power switch at Power Entry Module. **Figure 5-1B**. On ***CE*** Models, the PEM is on the Step-Down Transformer, See Appendix B.
4. Push the green Power Pushbutton. **Figure 5-1A**.

**NOTE: The machine will be in fault status until set temperature is achieved.**

1. Load film material as illustrated in Web Threading Diagram on machine. See *Loading Bag Film, page 2-2*.

**NOTE: If an optional Box Power Unwind or Roll Power Unwind is installed, the Web Threading Diagram will be on the side of power unwind.**

2. Load product into bag.
3. Press Foot Control or optional Dual Palm Buttons to initiate sealing cycle.

**NOTE: To stop the machine for any reason, press the Emergency Stop Button. To completely remove all power from the machine turn off the Power Switch at Power Entry Module or remove Power Cord.**


**Figure 5-1A. E-Stop & Power Pushbutton.**

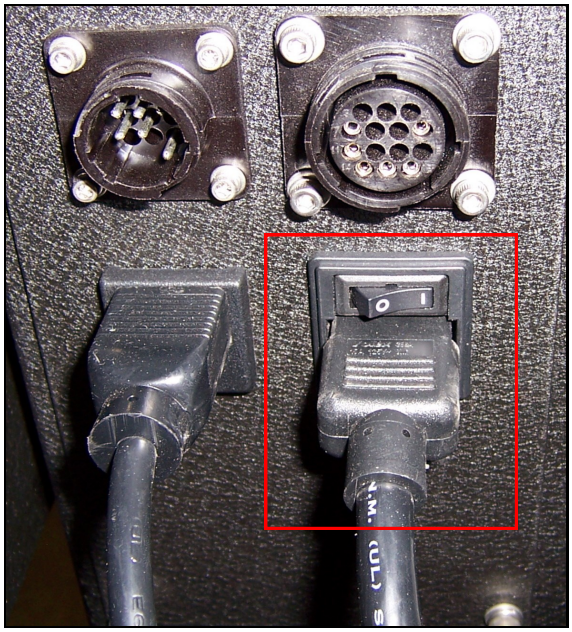


**Figure 5-1B. Power Entry Module Switch.**

### TECHNICAL ASSISTANCE

Assistance with your **Sharp *MAX*™** can be obtained by contacting Sharp Packaging Systems Technical Service Hotline by phone or e-mail. To help serve you better, Sharp Packaging requests that you provide the serial number of bagger and a brief description of the problem.

Phone: +1 (262) 246-8815 (ext. 1572)

E-mail: **sharpservice@pregis.com**

# CREATING A JOB

The following steps will create a job. The security level is medium for this procedure. To change security, See *Security Pass Codes*, page 1-11.

1. From the Main Menu, press the Job Setup button.
2. From the Job Setup Screen, press the Green Plus (+) button. **Figure 5-2A**.

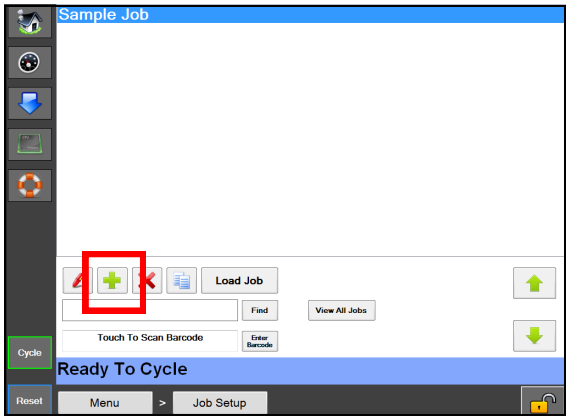



**Figure 5-2A. Job Setup Screen.**

3. Highlight the **New Job** in the Job Details Screen. **Figure 5-2B**.
4. Press the Red Pen button. **Figure 5-2B**.

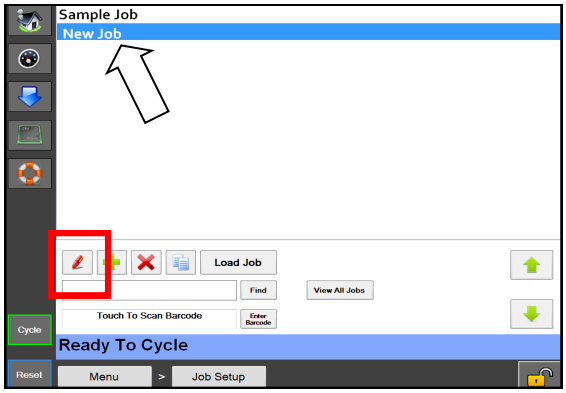



**Figure 5-2B. New Job Listed.**

5. Rename job in Job Details Screen, then enter the appropriate information in each box. **Figure 5-2B**.
6. Press the back button.
7. Press the Load Job Button. This will send the highlighted job to the PLC and send the label, if applicable, to the printer. **Figure 5-2D**.
8.

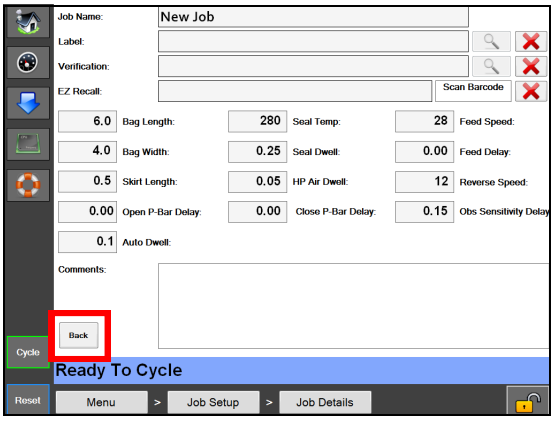



**Figure 5-2C. Job Details Screen.**

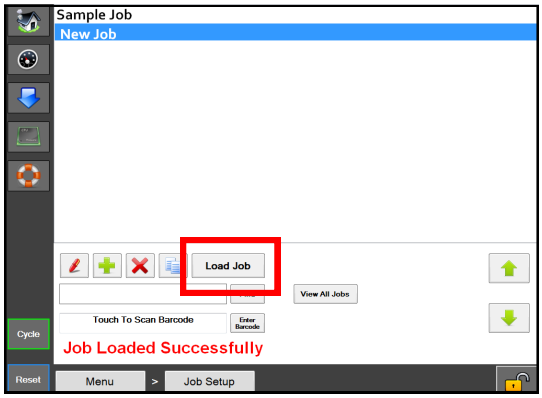



**Figure 5-2D. Load Job Button.**

**NOTE: If temperature settings are +/- 10° from previously loaded job, a fault message will appear. The message will automatically resolve when temperature setting is reached.**

# EDITING A JOB

The following steps will edit a saved job. The security level is medium for this procedure. To changes security, See *Security Pass Codes*, page 1-11.

1. From the Main Menu, press the Job Setup button.
2. From the Job Setup Screen, highlight the job to be edited and press the Red Pencil button. **Figure 5-3A**.

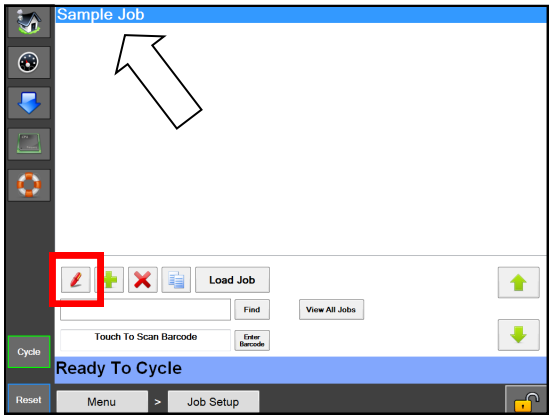



**Figure 5-3A. Editing Job.**

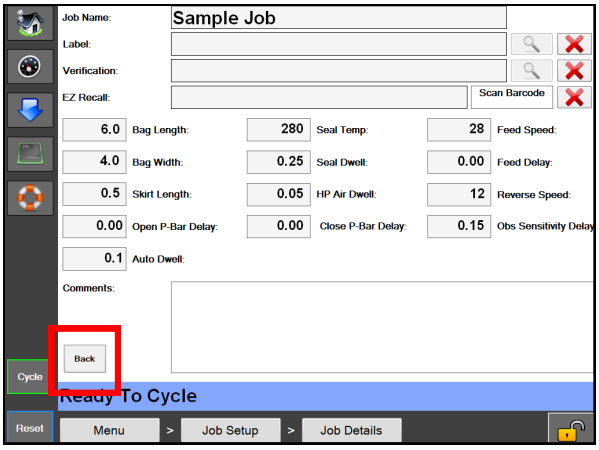



**Figure 5-3B. Job Details Screen.**

3. Edit the appropriate information in each box. **Figure 5-3B**.
4. Press the back button. **Figure 5-3B**.
5. Press the Load Job Button. This will send the highlighted job to the PLC and send the label, if applicable, to the printer. **Figure 5-3C**.

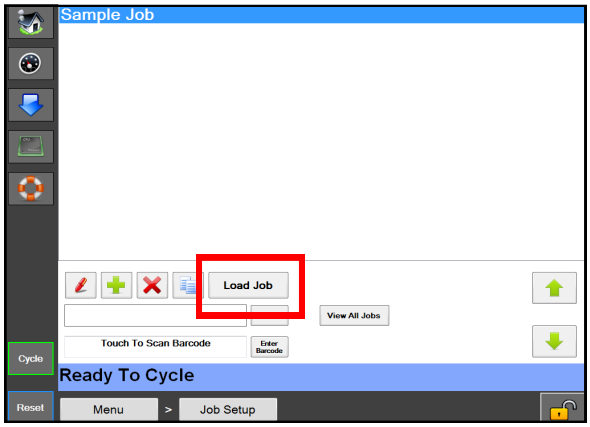



**Figure 5-3C. Load Job Button.**

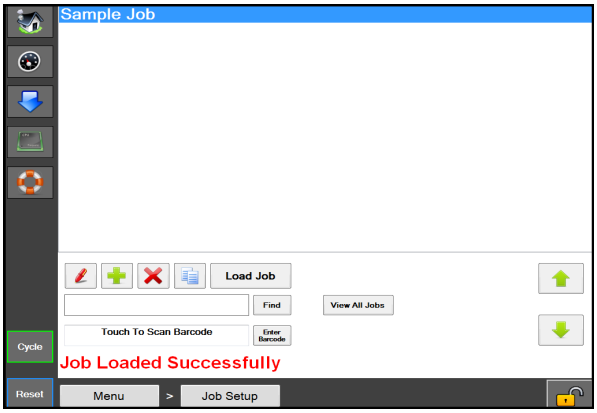



**Figure 5-3D. Job Loaded Successfully Message.**

**NOTE: If temperature settings are +/- 10° from previously loaded job, a fault message will appear. The message will automatically resolve when temperature setting is reached.**

# DELETING A JOB

The following steps will delete a saved job. The security level is medium for this procedure. To change security, See *Security Pass Codes*, page 1-11.

1. From the Main Menu, press the Job Setup button.
2. From the Job Setup Screen, highlight the job to be deleted.
3. Press the Red "**X**" button. **Figure 5-4A**.
4. A pop-up window will appear asking if you are sure you want to delete job. If you are, press yes. If not, press no.

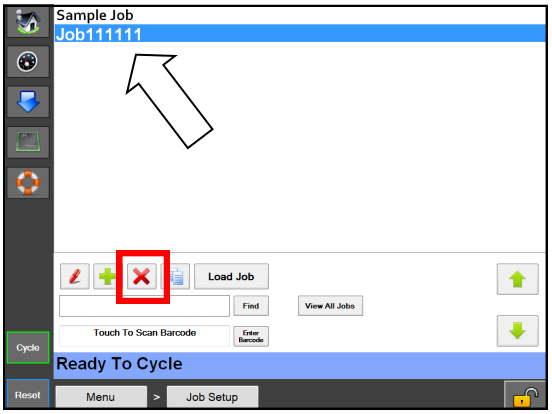



**Figure 5-4A. Deleting Job.**

# LOADING PRINT LABEL

# CLEANING

This machine requires regular, periodic cleaning to ensure reliable service. The Operator with a minimum of training can perform daily cleaning.

Regular cleaning is important for the proper operation and performance of the machine. During operation, there will be a normal build up of dirt, dust, and film residue on various parts of the machine.

Keep the areas directly adjacent to machine clean of debris as these can create safety hazards for the Operator and/or damage the machine.

No cleaning should be performed unless these safety precautions are thoroughly understood and are adhered to without exception.

**WARNING**

**DISCONNECT THE *MAX*™ 20 FROM ALL ELECTRICAL POWER SOURCE AND AIR HOSES FROM THE MACHINE PRIOR TO PERFORMING ANY MAINTENANCE ON MACHINE. UNEXPECTED START-UP CAN RESULT IN PERSONAL INJURY AND DAMAGE TO THE MACHINE.**

**WARNING**

**DO NOT SPRAY ANY ELECTRICAL COMPONENTS OF THIS MACHINE WITH ANY LIQUID AT ANY TIME. LIQUIDS CAN CAUSE ELECTRICAL SHORT CIRCUITS, DAMAGE COMPONENTS, AND PERSONAL INJURY.**

**WARNING**

**DO NOT ATTEMPT TO CLEAN THE MACHINE WHILE IT IS RUNNING. SPONGES AND CLEANING RAGS CAN BECOME FOULED IN THE CYCLING MOTION OF THE MACHINE AND CAUSE SERIOUS INJURY AS WELL AS DAMAGE THE MACHINE.**

Inspect the machine to determine if there has been an accumulation of dust or other contaminations. Clean if necessary.

- ALWAYS SHUT-OFF & UNPLUG machine power cord AND dump air supply before cleaning or removing any guards.
- Never defeat any safety device or interlock on the machine.
- DO NOT use steel wool on machine surfaces. Particles of steel wool may break off and cause rusting or contaminate lubricated surfaces.
- DO NOT allow wrenches, fittings or other metallic objects to lie on machine surfaces during operation.
- DO NOT use chlorine, ammonia, alkalis, acids, or cleaning solutions that will damage metallic machine surfaces, cause corrosion, or contaminate containers.

**SEVERE DUTY APPLICATIONS**

Some applications may require a more comprehensive maintenance procedure performed by a qualified Service Technician.

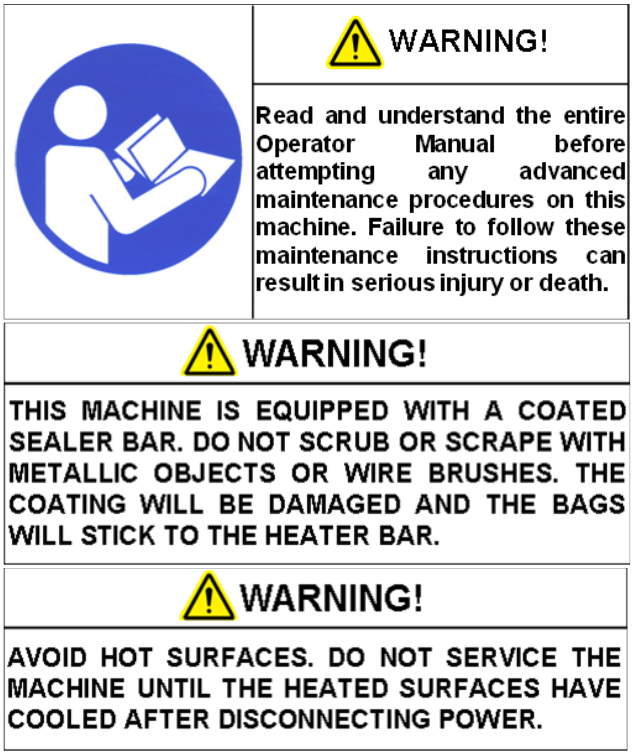
The applications, which may require the extra-ordinary maintenance, include, but are not limited to, extremely dusty or corrosive environments. Sharp Packaging recommends the use of a vacuum, compressed air or both to remove all foreign substances that may have accumulated on or inside the packaging machine.

It may be necessary to remove some or all of the guards and covers protecting the machine to access the areas in need of cleaning. Some disassembly of the sealer and film feed assemblies may also be necessary.

**It is extremely important to follow all of the safety guidelines and warning detailed inside the Sharp Operator Manual before removing any guards or servicing the machine.**

# MAINTENANCE

## WEEKLY MAINTENANCE




- Inspect the rubber Driver Roller. Clean as needed. Use a lint free cloth and isopropyl alcohol to scrub all debris from the surface of roller.
- Inspect the aluminum Pinch Roller. Clean as needed. Clean with a lint free cloth and isopropyl alcohol to scrub all debris from the surface of the roller.
- Verify the Driver Roller Assembly moves freely with power removed.
- Inspect and clean the Seal Bar. Extend the Seal Bar by using the **Extend Seal Bar** button located on the Service Screen, page 4-26.
    - **NOTE: The machine must be at normal operating temperature for best results. Care must be taken to avoid scratching the surface of the Seal Bar. Use the supplied cleaning tool for best results. Remember to retract the Seal Bar when finished.**
- Inspect the Electric Eye. Clean with a cotton swab if dirty. Do not use any solvents or cleaning solutions on the sensing portions of the Electric Eye.
- Inspect the Teflon® Tape that covers the Pressure Bar Anvil Rubber and replace is worn or damaged.

## MONTHLY MAINTENANCE

- All of Weekly maintenance.
- Inspect the Air Filter for debris and replace as necessary.
- Inspect all external wiring for loose connections and wear. Tighten any loose connections and replace any worn cables.

## SEMI - ANNUAL MAINTENANCE

- All of Weekly and Monthly maintenance.
- Inspect the Linear Guide Bearings located on the Pressure Bar Guide Shafts for wear and replace.
- Inspect the Linear Guide Bearings located on the Sealer Assembly Guide Shafts for wear. Replace as necessary.

## ANNUAL MAINTENANCE

- All of Weekly, Monthly, and Semi-Annual maintenance.
- Inspect entire machine for loose hardware.
- Inspect all air lines for any sign of wear or damage. Replace any lines that appear worn or damaged.
- Inspect all wires and cables for any sign of wear, damage, or loose connections. Tighten any loose connections and replace anything that appears worn or damaged.
- Inspect all Drive Belts for wear and proper tension. Replace any belts that appear to be worn or damage.

| FAULT | CAUSE | SOLUTION |
|---|---|---|
| Printer Offline | Printer Option is turned on, but the printer is faulted or offline | Go to Printer HMI Screen for detailed information. |
| Barcode Fault | Consecutive Bad Read Counter = Barcode Fault Setting. | There is a problem with the Barcode Scanner. The taught label is not the same as the printed label or the print quality of the label is poor and cannot be read. |
| Master Control Relay Failed to Open | Master Control Relay contact is welded in the closed position after the E-Stop button was pressed. | Master Control Relay should be inspected and/or replaced by a qualified service technician. |
| Light Curtain Violation | Safety Light Curtain was broken while the bagger was in cycle. | Operators must wait until the bagger cycle is completed before loading parts. |
| Datamax Ribbon Fault | Broken or missing printer ribbon on printer. The Ribbon Motion Sensor did not register any rotation of the Rewind Roll during a print cycle. | Replace or repair ribbon. |
| Model Select R1 Missing | The electronic circuit for model detection did not find the R1 resistor in the circuit or the circuit is open. | Power down the system and power back up. Contact Sharp Packaging Service Department. |
| Model Selection Failed | The model selection cycle did not function on power-up. The bagger does not know what model is selected. | Power down the system and power back up. Contact Sharp Packaging Service Department. |
| Excessive Parts Counted | The Actual Number of parts loaded into the open bag exceeded the Target Count. | The Filling Device is delivering parts after the “Ready for Filler” switched off, or the filling device delivered multiple parts in a single charge and those parts were counted by the counting device, i.e. Light Curtain, Photo eye, etc. |
| Vacuum Cylinder Failed to Extend | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Vacuum Cylinder Failed to Retract | The commanded motion did not complete before the fault timer expired. | See Cylinder Motion Fault. |

| FAULT | CAUSE | SOLUTION |
|---|---|---|
| Vacuum Cylinder Sensor Conflict | The cylinder position sensors are providing conflicting position status. | See Sensor Conflict Fault. |
| Master Control Relay is Off | E-Stop Button was pressed or E-Stop is released but the green Power Button has not been pressed. | Release the E-Stop and press the green Power Button. |
| Funnel Door Did Not Open | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Funnel Door Did Not Close | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Funnel Open/Close Conflict | The cylinder position sensors are providing conflicting position status. | See Sensor Conflict Fault. |
| Funnel Door Did Not Lower | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Funnel Door Did Not Raise | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Funnel Raise/Lower Sensor Conflict | The cylinder position sensors are providing conflicting position status. | See Sensor Conflict Fault. |
| Pressure Bar Failed to Open | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Pressure Bar Failed to Close | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Pressure Bar Sensor Conflict | The commanded motion did not complete before the fault time expired. | See Sensor Conflict Fault. |

| FAULT | CAUSE | SOLUTION |
|---|---|---|
| Pressure Bar Obstruction | The Pressure Bar attempted to close, but was blocked by an obstruction. | This is usually a part that did not drop past the Pressure Bar. Increase the Filler Drop Timer setting. |
| Seal Bar Failed To Close | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Accumulating Funnel Did Not Open | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Accumulating Funnel Did Not Close | The commanded motion did not complete before the fault time expired. | See Cylinder Motion Fault. |
| Accumulating Funnel Open/Close Sensor Conflict. | The cylinder position sensors are providing conflicting position status. | See Sensor Conflict Fault. |
| Reverse Fault | The Bag Edge Photo-Eye did not detect the trailing edge of the film as the web was backing up. | Check that the Photo-Eye is not falsely sensing the Funnel Door. It should only turn on when it sees the film in front of it. It should turn off just as the trailing edge of the film unblocks the eye. Clean the Photo-Eye lens with a soft cloth. |
| No Bag Covering The Eye | There is no film in the machine or the film is not being detected by the Bag Edge Photo-Eye. | Press the Job Button once and the bagger will jog the web for 10 seconds until the Photo-Eye is covered by film. |
| Seal Bar Over Temp. | The actual Seal Bar temperature is 10 or more degrees below the Set Point. | If the temperature Set Point was just lowered, wait for Seal Bar Temperature to cool down. If the Over Temp. Fault occurred when no change was made to the Set Point, there any be a failure in the Temperature Control System. Press the E-Stop button if the temperature continues to rise. A qualified service technician must troubleshoot the circuits. |

| FAULT | CAUSE | SOLUTION |
|---|---|---|
| Seal Bar Under Temp. | The actual Seal Bar temperature is more than 10 degrees below the Set Point. | If the temperature Set Point was just raised, wait for Seal Bar Temperature to heat up. If the Under Temp. Fault occurred when no change was made to the Set Point, there any be a failure in the Temperature Control System. Press the E-Stop button if the temperature continues to fall. A qualified service technician must troubleshoot the circuits. |
| Thermocouple Failed - Open Circuit | The Seal Bar actual temperature display reads 32 degrees. The Thermocouple circuit is open and is not being read by the Thermocouple/ Voltage Transducer or the PLC Analog input. | A qualified service person should test the Thermocouple and its associated circuits. |
| Dancer at Upper Limit | The Unwind Dancer made the Upper Limit Switch during the Film Feed. | The Unwind Speed Setting is too low for the Film Feed Speed Setting. Lower the Film Speed Setting or increase the Unwind Speed. |
| Out Of Bags | The bagger detected that the web is broken or the bagger is out of bags. | Splice the broken web or replace the empty roll/box. |
| Stepper Drive Faulted | The Film Stepper Drive is reporting a fault condition. | Reset the fault. If it does not clear, power down the bagger for 2 minutes and power back up. If fault does not clear, a qualified service person must diagnose the problem. |
| Opened Bag Was Removed | A bag was opened and verified as open by the Bag Open Sensor. The opened bag was physically removed or came off the Bag Opened Sensor before the Filler could finish delivering its product. | Check that the Funnel door is pinning the opened bag to the Pressure Bar. Verify that the bag is properly supported by the Load Shelf as it is being filled. It may be that as the bag is being filled, it shifts or slips off the shelf and pulls the bag away from the Funnel. |
| Bag Failed To Open | The Bag Opened Sensor failed to make as the Funnel Door was attempting to open the bag. | This fault is usually the result of a bag quality problem or a problem with the Funnel Door/Pressure Bar Pass Through Adjustment. Also check that the Sensor operates correctly. |

| FAULT | CAUSE | SOLUTION |
|---|---|---|
| Print Label Failed To Load | A label was sent to printer but did not load correctly. | This fault should clear if the label is sent again and loads correctly. The fault can also be reset by turning off the printer option. |
| Temp. Transducer Failed | The Seal Bar actual temperature display reads 616 degrees or higher. | A qualified service person should test the Thermocouple to Voltage Transducer and its associated circuits. |
| Cylinder Motion Fault | 1. Check the compressed air supply to machine is 80 PSI Clean & Dry.<br>2. Check for a kinked or disconnected air line to the cylinder.<br>3. Check for mechanical interference or binding in the cylinder motion.<br>4. Check the Cylinder Position Sensor operation. Verify that the correct sensor is ON when the cylinder is fully extended or retracted. Verify that the matching PLC input is ON when the sensor is ON.<br>5. Check that the Solenoid Valve energizes when the designated PLC Output switches ON.<br>6. Check that the Flow Controls are not misadjusted and causing a lazy or excessively slow cylinder motion. | |
| Sensor Conflict Fault | 1. The PLC has detected that both Cylinder Position Sensors were on at the same time (**Conflict** - a cylinder can not be both extended and retracted at the same time). One of the sensors has failed in the ON condition (short circuit). Replace the defective sensor.<br>2. An unknown magnetic or ferrous object is within sensing range of the sensor and causing unintended switching of the sensor. Remove the foreign object and retest circuit. | |
| Print Length Too Long | The Print Length setting must be less than the Bag Length Setting | Adjust the Print Length to be less that the Bag Length. |
| Excessive Length for Consecutive Bags | The Bag Length Setting multiplied by the Consecutive Bags setting may not exceed 50 inches total. | Lower the number of consecutive bags until the fault clears itself. |

| ALERT | CAUSE | SOLUTION |
|---|---|---|
| Batch Count Is Completed | The Batch Counter actual value has reached the Target Count. This alert will not interrupt the bagger cycle, but subsequent cycles are not possible until the Alert has been reset. | Batch is done. Reset and bagger is free to cycle again. |
| Factory Setting Saved | The current bagger settings and options have been backed up to the PLC Data Table. | This is simply an alert to let the user know that the settings have been successfully saved. The message can be cleared by pressing the Reset button, or it will automatically clear on the next bagger cycle. |
| Waiting For Filler | The bagger has signaled the Filler machine that it is read to accept produce and is waiting for the Filler to trigger the next bagger cycle. | Filler must complete the delivery of product and torn on the Filler Trigger Input. |
| Recovery Mode Bag Open Retry | The bagger Funnel Door is cycling and retrying to open the original bag. | No action is required. |
| Recovery Mode Feeding New Bag | The bagger is feeding out a replacement bag. It could not open the original bag. | No action is required. |
| Cycle Bagger To Activate Filler | The bagger is in Filler Mode. The operator must cycle out the first bag to activate the Filler cycle. | Cycle Start is required by operator. This can be done from the HMI, Foot Switch, etc. |
| Bag Is Filled | A bag has been filled and sealed in Filler Mode. | No action is required. |

| ALERT | CAUSE | SOLUTION |
|---|---|---|
| Infeed Conveyor Out Of Parts | Applies when equipped with an EZ-Feed Integrated Conveyor. The conveyor was running in Parts Counting Mode and not parts are being counted at the Parts Counting Light Curtain. The conveyor is either empty or there is a problem with the Part Counting device. | Load parts on the conveyor belt and the Cycle Start device. Conveyor should resume running to count parts. |
| E-Stop Button Pressed | The E-Stop button is pressed. | Twist to release the E-Stop. |
| Service Mode Testing Model Selection | Service Personnel are testing the Model Selection Circuits. No cycle is possible. | Service person should cancel this function when finished with testing. |
| Low Pressure Air Timed Out | Low Pressure Air Timed Out | No intervention required by operator. |
| Machine Not Tested | The bagger has not passed the QA test of 1000 cycles without a fault. | Bagger should be run for 1000 continuous cycles without a fault to clear alert. |
| Waiting For Printer | The bagger requested a print form the printer, but the printer has not responded with “Printer Busy”. | Printer is either not printing or there is a signaling problem between the PLC and the printer. |
| Factory Settings Loaded | The settings stored in the PLC have been recalled by the user. | This is simply an alert to let the user know that the setting have been successfully reloaded. |

# WARRANTY

## SHARP PACKAGING SYSTEMS ("SHARP")
## STANDARD TERMS AND CONDITIONS FOR PACKAGING MACHINERY

By placing an order, Buyer agrees to the following terms and conditions:

1. **TERMS OF PAYMENT:** Cash in lawful U.S. currency payable as follows: For base machinery w/o automatic in-feed divides, (2/3) of net price with the order and the final (1/3) of net price within thirty (30) days after shipment. For all custom systems and systems with automatic in-feed devices, (50%) of net price with the order, (40%) of net price prior to shipment and (10%) of net price within thirty (30) days after shipment. In addition to any other remedy of Sharp hereunder, if the final payment is not received by Sharp within (30) days after shipment, Buyer shall pay interest thereafter at the rate of eighteen (18) percent per year of the maximum rate permitted by law, whichever is less.
2. **SHIPMENT:** All prices are f.o.b. Sharp's plant in Sussex, Wisconsin. Method and rout of shipment are at Sharp's discretion and freight is prepaid and added to Buyer's invoice unless Buyer supplies to Sharp explicit written instructions as to method and route of shipment in which case freight is billed collect. All shipments are insured at Buyer's expense and made at Buyer's risk.
3. **DELIVERY:** Shipping promises are made in good faith. Shipping dates appearing on acknowledgments or orders, or given Buyer in any other manner, are approximate. When Buyer delays in supplying information necessary to proceed with the order, the date of shipment may be extended accordingly and determined by the conditions of Sharp's factory at the time specifications are completed. Sharp shall not be liable for any failure or delay of delivery or performance of this order due to caused beyond its reasonable control. The existence of such causes of delay shall extend the time of delivery or performance of this order by the period of time lost for such reasons unless Sharp and Buyer shall have otherwise expressly agreed in writing.
4. **QUOTATIONS AND PRICES:** Sharp's written quotations of prices automatically expire thirty (30) calendar days from the date issued and are subject to change or to termination by notice within the period. Clerical errors are subject to correction.
5. **TITLE: RIGHTS RESERVED UNTIL PAYMENT:** Until payment of the entire purchase price of the machine purchased: (a) ownership title shall remain in Sharp; (b) Buyer shall not sell, pledge, mortgage or otherwise encumber the machine or permit the machine to be encumbered, shall not remove the machine from its premises, shall protect and keep insured the machine at Buyer's expense (with proceeds payable to Sharp as its interest appears) against injury, loss or destruction, and shall execute and file such Financing Statement as to the property under the Uniform commercial Code as Sharp shall reasonably request. No injury, loss or destruction of the machine after deliver to Buyer shall release Buyer from its obligation to pay Sharp the entire purchase price. Upon receipt by Sharp of payment of the entire purchase price for the machine, title shall automatically vest in Buyer and Sharp will execute releases or other documents as Buyer may request to confirm that fact.
6. **DEFAULT:** On cancellation of the order by Buyer or default by Buyer in any payment of the price or in the performance of any terms or conditions impose on Buyer herein, Sharp, without notice, may (a) take immediate possession of the machine as Sharp's own individual and sole property, free and clear of any claim by Buyer, and retain any and all payments made as liquidated damages for Sharp's lost profits, any use of the machine by Buyer, any depreciation of the machine, and any expense to Sharp of taking possession of the machine; or (b) take immediate possession of the machine and sell the machine, without notice, in which case the proceeds of sale shall be applied on the unpaid balance of the price and expenses to Sharp of taking possession, storage and resale, Buyer agrees to promptly pay to Sharp any deficiency. Buyer herby irrevocably grants to Sharp, or Sharp's agents or servants, the right to enter at any time, with or without force, any premises in which the machine may be located, and the right to examine or take possession of the machine. Buyer waives any right of action, which might accrue by reason of the entry, or the taking of possession of the machine.
7. **TAXES:** Sharp's prices do not include sale, use, excise or similar taxes or changes now or hereafter imposed. The amount of any such taxes or charges shall be paid by Buyer, or in lieu thereof, Buyer shall provide Sharp with a tax exemption certificate acceptable to the taxing authorities.
8. **LIMITED WARRANTY:** Sharp warrants to the original Buyer only that each new machine will be free from defects in material and workmanship, when properly maintained and under normal use and service, subject to the terms of this warranty. Buyer's sole and exclusive remedy under this warranty shall be limited to repair or replacement, at Sharp's option, of any defective part of the machine which is returned, transportation prepaid, to Sharp's authorized service center within the warranty period. The warranty starts on the date the machine is delivered to the original Buyer and expires one (1) year for parts, and ninety (90) days for labor, after that date. Buyer, at Sharp's request, shall provide documents establishing the delivery date. Exclusions: This warranty shall not apply to: (a) any machine subjected to misuse, abuse, or accident; (b) damage in transit or from external sources; (c) overloading of machine capacity; (d) failures which are due to a lack of proper maintenance or care as prescribed in the operating and maintenance instructions; (e) normal wear and tear or relatively minor adjustments; (f) replacement of consumable items (including, but not limited to, heating elements, silicon pads and Teflon cloth/tape); (g) repairs or alterations performed by any organization other than Sharp or Sharp's authorized service centers and (h) parts, accessories, or other items manufactured by other which are in any way used and/or installed in or on the machine; such machine components may be covered under their own manufacturer's warranties. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY SHALL CONSTITUTE THE SOLE REMEDY OF BUYER AND THE SOLE LIABILITY OF SHARP, WHETHER IN CONTRACT, TORT OR STRICT LIABILITY. IN NO EVENT SHALL SHARP BE LIABLE FOR ANY LOSS PROFITS OR OTHER INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES ARISING OUT OF, RELATED TO, OR CONNECTED WITH THE FURNISHING, PERFORMANCE, USE OF OR INABILITY TO USE THE MACHINE, EVEN IF SHARP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM AGAINST BUYER BY ANY OTHER PARTY. Buyer shall give written notice to Sharp of any alleged failure or refusal of Sharp to repair or replace as promised by this warranty within fifteen (15) days after Buyer learns of the alleged failure or refusal. If Buyer fails to do so, this warranty shall be void as to the alleged failure or refusal. No action for breach of this warranty shall be commenced more that one year after the cause of action accrues. No modification of this warranty or waiver of its terms shall be binding on Sharp unless approved in writing by an authorized corporate officer of Sharp. This warranty is the entire warranty given by Sharp on the machine and supersedes any prior statements or representations.
9. **INDEMNIFICATION:** Buyer agrees to indemnify and hold Sharp harmless from all claims, demands, losses, damages, costs and expenses, including legal fees, arising out of: (a) any machine subjected to misuse, abuse, or accident; (b) damage in transit or from external sources; (c) overloading of machine capacity; (d) failures which are due to a lack of proper maintenance or care as prescribed in the operating and maintenance instructions; (e) normal wear and tear or relatively minor adjustments; (f) replacement of consumable items (including, but not limited to, heating elements, silicon pads and Teflon cloth/tape); (g) repairs or alterations performed by any organization other than Sharp or Sharp's authorized service centers and (h) parts, accessories, or other items manufactured by others which are in any way used and/or installed in or on the machine.
10. **COLLECTION: If Sharp commences any action against Buyer to collect any amount due from Buyer to Sharp in connection with the order, Buyer shall pay Sharp's costs of collection, including reasonable attorneys' fees, whether incurred before or after judgment.**
11. **GENERAL:** The "Agreement" means only the provision of these Standard Terms and Conditions. Acceptance of Buyer's order is expressly made conditional on Buyer's assent to these Standard Terms and Conditions. The Agreement states the entire agreement of the parties concerning the order. The Agreement supersedes all prior agreements, communications, and representation between Buyer and Sharp concerning the order, including any provisions in any order or other from initiated by Buyer which are not expressly accepted by Sharp in writing. The Agreement may not be modified or amended except by written agreement of Sharp signed by an authorized corporate officer of Sharp. Sharp's remedies under the Agreement shall be cumulative. Sharp's election of one remedy shall not preclude pursuit of other remedies. Sharp's waiver of any right shall not prevent Sharp from exercising that right subsequently. Any notice to Buyer shall be deemed given when (a) mailed to Buyer by first class mail at its last known address, or (b) transmitted to Buyer by facsimile at its last known facsimile number, or (c) received by Buyer, whichever is first. If any part of the Agreement is invalid, the rest of the Agreement shall remain in effect.
12. **GOVERNING LAW AND FORUM:** The Agreement shall be interpreted under and governed by the laws of the United States and the State of Wisconsin. Any action arising out of, related to, or connected with the Agreement or machines sold under the Agreement shall be commenced only in the United States District Court for the Eastern District of Wisconsin or the Circuit Court for Waukesha county, Wisconsin. Buyer consent to personal jurisdiction and venue in such court.

Revised: November 27, 2006 Supersede: July 19,2006

**Sharp Packaging Systems P.O. Box 124 Sussex, WI 53089 1-+1 (262) 246-8815 FAX: (262) 246-8885**

# AIRBORNE NOISE EMISSIONS

**Test procedure:**

**1) All measurements were taken of the machine at locations indicated on the attached drawing number:**

**a) Machine under test location? Engineering/Sales test lab.**

**2) Meter position was per the Machinery Directive 2006/42/EC.**
**Where workstations are undefined or cannot be defined, sound pressure levels must be measured at a distance of 1 meter from the surface of the machinery and at a height of 1.6 meters from the floor or access platform. The position and value of the maximum sound pressure must be indicated. (See table below)**

**3) The meter was set on the "A" - weighting scale, fast response setting. The meter was not calibrated.**

**Equipment under Test:** 1143/MAX 12, 1145/Max 20, 1147/MAX 20-10

**Test equipment: EXTECH Instruments Model 407735 Sound level meter.**

| Location | dB (A) Measured | Machine Speed |
|---|---|---|
| PC Display | 81 | 28/inches/second |
| Loading | 81.6 | 28/inches/second |
| Unwind | 82 | 28/inches/second |
| | | |
| | | |
| | | |
| | | |
| | | |
| Ambient | 49 | |

**Peak C - weighted instantaneous sound pressure was not taken.**

**Tested by: DCSI** **Date: 2/4/2014**

# CE MANUFACTURER DECLARATION

Pregis

N59 W22387 Silver Spring Drive
Sussex, WI 53089
P.O. Box 124

Phone: (800) 634-6359
(262) 246-8815

Fax: (262) 246-8885 Sales

E-Mail: info@sharppackaging.com
www.SharpPackaging.com or
http://www.pregis.com (Contact Us)

## EU Declaration of Conformity

According to EC Machinery Directive 2006/42/EC, Annex II A

We, Pregis Sharp Systems LLC N59 W22387 Silver Spring Drive, Pewaukee, WI 53072 USA, hereby declare that this Declaration Of Conformity is issued under our sole responsibility and belongs to the following equipment described below:

| | | | |
|---|---|---|---|
| Product: | MAX 12 Packaging Machine | Model: | 1143 |
| Product: | MAX 20 Packaging Machine | Model: | 1145 |

Object of the declaration:


The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

# CE MANUFACTURER DECLARATION

Pregis

Applicable EU Directives:

Machinery Directive 2006/42/EC
Low - Voltage Directive 2014/35/EU
Electromagnetic Compatibility Directive 2014/30/EU

Applicable Harmonized Standards:

BSEN 60204-1:2006+A1:2009
BSENISO 12100:2010
BSENISO 4414:2010
BSEN 415-3:1999+A1:2009
IEC 61000-6-4:2006+A1:2010
Generic Emission Industrial Standard

| | |
|---|---|
| CISPR 16-1-2:2014+A1:2017 | Conducted Emissions |
| CISPR 16-2-1:2014+A1:2017 | Conducted Emissions |
| CISPR 16-2-3:2016 | Radiated Emissions |

IEC 61000-6-2:2005
Generic Immunity Industrial Standard

| | |
|---|---|
| IEC 61000-4-2:2008 | ESD |
| IEC 61000-4-3:2006+A1:2007+A2:2010 | RF IMMUNITY |
| IEC 61000-4-4:2012 | EFT |
| IEC 61000-4-5:2014+A1:2017 | SURGE |
| IEC 61000-4-6:2013 | COND IMMUNITY |
| IEC 61000-4-8:2009 | MAG FILED |
| IEC 61000-4-11:2004+A1:2017 | DIP & INTERRUPT |

In case of alteration of the machine, not agreed upon by us, this declaration will lose its validity.

Authorized Signature: _____

Printed Name: ROBERT P. HUBBELL

Title: ELECTRICAL ENGINEER

Date: 6/5/2018

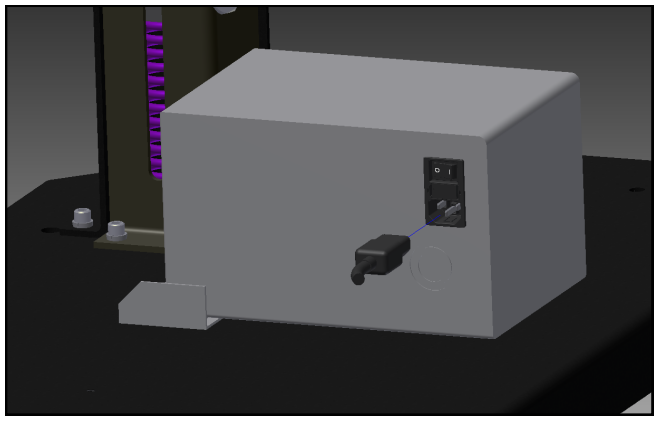
# POWER UP PROCEDURE - CE MODELS

## COMPLETE POWER-UP PROCEDURE

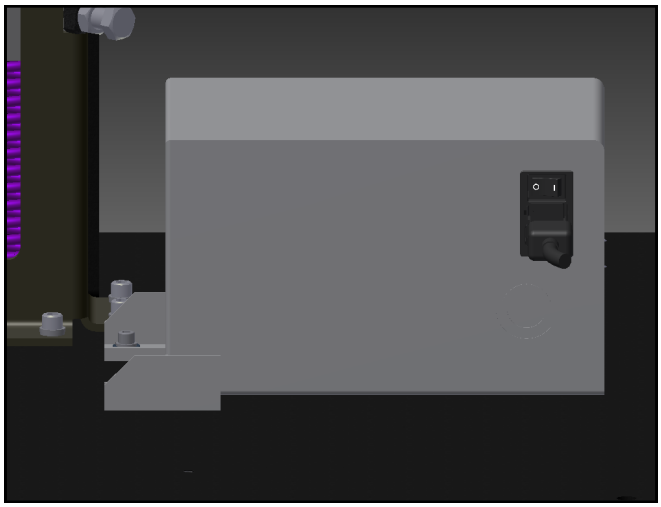
**WARNING!**

**Read and understand the entire Operator Manual before attempting any procedures on this machine. Failure to follow these instruction can result in serious injury.**

1. Connect Power Cord to the 230V Power Entry Module.



2. Turn switch to the ON position. The HMI will automatically start up when Power Entry Module Switch is turned ON.



3. Release the E-Stop Button and press the Green Power Button. The green light should illuminate and energize the MCR.

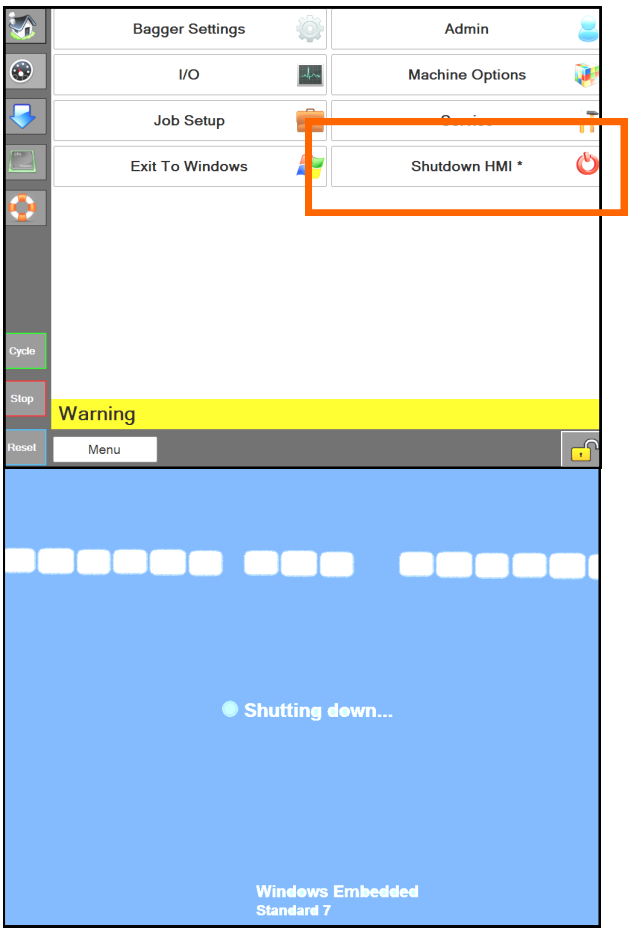

**Note: If the bagger has the Stack Light option, the horn will sound until the HMI program has finished loading. To prevent horn blowing, do not press the Green Power Button until HMI program is loaded. The horn then can be silenced by pressing the Reset Button.**

# POWER DOWN PROCEDURE - CE MODELS

## COMPLETE POWER DOWN SEQUENCE

***The bagger must be properly power down in the correct sequence.***

1. From the **Main Menu** Screen, press and hold the "**Shutdown HMI**" button for 3 seconds. The HMI program will start shut down.

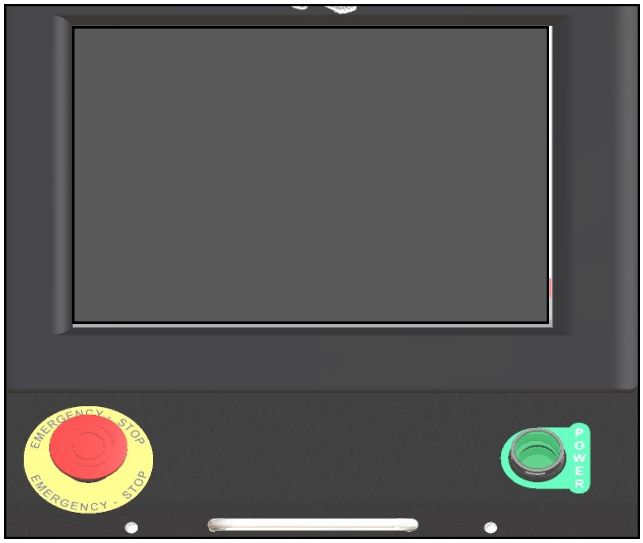


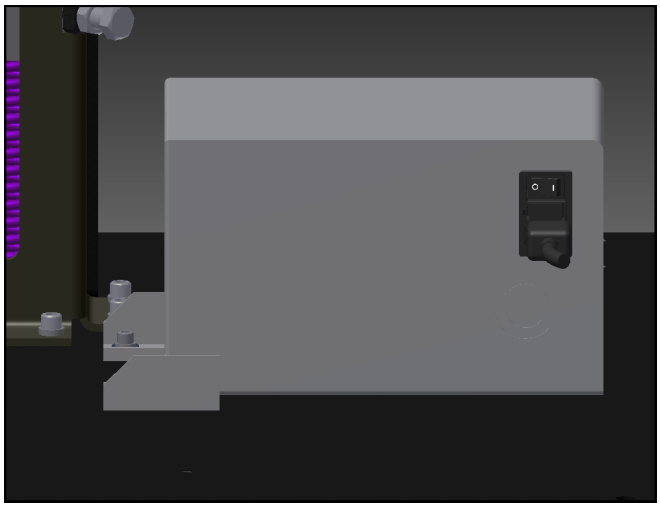

2. ***IMPORTANT! ALLOW THE HMI/PC TO POWER DOWN COMPLETELY BEFORE CONTINUING TO NEXT STEP***.

   - The Windows software must shut down properly.

   - Do not remove power during this process. Corruption of Windows files could occur.

3. ***WHEN SCREEN IS BLACK***, switch Power Entry Module Switch to OFF. The machine is now electrically shut down.



# MACHINE PLACEMENT - CE MODELS

Your Sharp Bagger has been shipped to you well crated in order to prevent any damage to the machine. It is important that you follow the Uncrating Instructions attached to crate.

After being uncrated, place the Sharp Bagger on a rigid and vibration free surface. Before continuing with the installation of the machine, ensure all nuts, bolts and screws are tightened as they can come loose during shipping.

The **Sharp *MAX*™** should be placed on a smooth level surface with access to 100 PSI of clean, dry compressed air, and 230 VAC, 1 Phase, 5 Amp, 50/60 Hz, (minimum) properly grounded electrical outlet.

Locate the machine so there is adequate access to the back side for loading bag film.

**WARNING**

**Do not operate the machine in or around standing water. Failure to observe the warning may result in damage to the equipment and/or severe bodily injury.**

Make sure unit is located at a comfortable height for operation and product loading. See *Height Adjustment* (page 2-6).

The unit is equipped with two swivel locking casters for easy maneuverability. Lock the casters after placing machine in desired location.

**ELECTRICAL**

**WARNING**

**Failure to have properly grounded outlet may cause damage to equipment or severe bodily injury.**

The **Sharp *MAX*™** is equipped with a 3-prong electrical plug for standard, properly grounded, 230 VAC, 1 Phase, 5 Amp, 50/60 Hz service.

1. Before plugging the cord into the back Step-Down Transformer, depress the Emergency Stop Button on the front of the control panel. **See Figure 1-3A.**
2. Make sure wall outlet or electrical drop is rated for proper voltage and that the outlet is grounded.

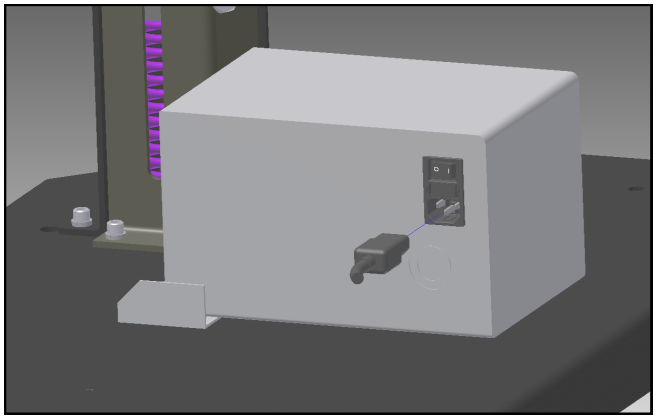


**Figure 8-1A. Electrical Connections**

3. Plug power cord into wall outlet or electrical drop.
4. Place the female end of the electrical cord provided into the back of the machine, **Figure 8-1A**.
5. Turn the switch to ON position.

**Note: Power is only supplied to PLC, HMI/PC, and Sensors. HMI/PC will boot automatically.**

6. Release the E-Stop Button and press the Green Power Button.
7. The machine now has full power.