PROMACH®

ORION®

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CTS
Revision 3.2

# CTS
# STRETCHWRAPPER MANUAL

4750 County Road 13 NE • Alexandria, MN 56308 • 320.852.7705

## Liability Waiver

The information in this manual is subject to change without notice and does not represent a commitment on the part of Pro Mach and assumes no responsibility for any errors that may appear in this manual. In no event will Pro Mach or its employees, partners, contracted workers/ companies or any association who participates in the writing of this manual be liable for technical or editorial omissions made herein; nor for direct, indirect, special, incidental, or consequential damages resulting from the use or defect of this manual.

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# Introduction and Safety Contents

# 1. Introduction and Safety

## Introduction

Thank you for choosing Orion stretch-wrapping equipment. It is a wise choice, which will benefit your company now and in the future.

Orion uses a unique combination of functional, rugged steel structure and sophisticated control systems to offer equipment high in durability and low in maintenance requirements. Our advance control systems mean that Orion equipment can be operated safely and efficiently without the need for special operator expertise.

Please read this manual carefully and keep it handy. Following these simple operating instructions will insure the safe and efficient performance of this machine while simple maintenance procedures will guarantee a long and productive life of the equipment.

**Note:** This manual covers standard features of the machine. Certain options may not be fully covered due to their unique application. Every effort has been made to ensure document accuracy however, Orion Packaging retains the right to change specifications without notice.

In order to acquire more information about custom made features of your machine and to provide quicker service, the following information is required when making an inquiry:

1. Model CTS Flex Stretchwrapper
2. Serial Number Listed on Electrical Control Panel
3. Revision 3.2
4. Built in Alexandria Minnesota, USA

# About this Manual

Orion is committed to helping you maximize the productivity of your system. This manual is specifically designed for your packaging system, to assist you in the operation and maintenance of your new equipment. Please take the time to familiarize yourself with the contents of this manual.

- Section 1 is the Introduction and Safety section. This section discusses safety, lock out/ tag out, hazard messages, and installation information.
- Section 2 is the System Description section. This section discusses machine specifications. A Machine Layout Drawing is found at the end of this section.
- Section 3 is the System Operation section. This section describes the operator control panels, the Human Machine Interface, and operational procedures.
- Section 4 is the Troubleshooting section. A Troubleshooting chart is found in this section.
- Section 5 is the Maintenance section. In this section you will also find a suggested maintenance schedule including a maintenance log. Assembly drawings conclude this section.

# Copyright Notice

# Warranty Claim Process

How to file a claim:

## *Step 1 Contact Orion*

- Email: Orion.Parts@ProMachBuilt.com

  Or

- Call: 320-852-7705 and ask for Parts

Provide the following information:

- Company Name and Shipping Address
- Machine Serial Number
- Part Number and Description
- Machine status (Down, Running, etc.)
- Contact Name and Phone Number

## *Step 2 Provide a PO for the replacement part*

**Note:** PO must reference "Warranty Consideration"

A Orion Customer Service Rep will generate a formal estimate for the replacement part. Once a PO is received, Orion will source or fabricate the replacement part and send it to you as soon as possible.

## *Step 3 Request an RMA# and ship your part back*

Once you have received a Orion issued RMA # simply ship the part back for evaluation.

Purchased parts (anything not manufactured by Orion) is sent to the manufacture for warranty evaluation. If the manufacture deems the part warranty, they may offer warranty repair, replacement or credit. Orion will pass the warranty to the customer.

Orion fabricated parts will be evaluated here, and if deemed warranty - will be repaired or replaced and sent back to the customer.

# Automatic Warranty (MA, FA, OR, CTS, & RTC Series)

## *WARRANTY*

5-years on all Structural Components without limitation on cycles.

## *EFFECTIVE JANUARY 1, 2020*

The Automatic series by Orion is covered by a 5-year warranty from the delivery date of its products to be free from defects in materials and workmanship as described below. This warranty assumes that normal maintenance as outlined in your machine operation manual, will be performed by the user.

### STRUCTURAL COMPONENTS

All Structural Components on the Automatic series by Orion are warranted to be free from defects in material and workmanship for a period of 5-years. During the warranty period Orion will, at its option, either repair or replace any failed component. Structural components are defined as the Base weldment, Tower weldment and Carriage backplate. Components bolted to these items fall under the Mechanical and Electrical components listed below.

### MECHANICAL & ELECTRICAL COMPONENTS

All Mechanical and Electrical Components on the Automatic series by Orion are warranted to be free from defects in material and workmanship for a period of 1-year or Manufacturer's Warranty whichever is greater. During the warranty period Orion will, at its option, either repair or replace any failed component. This warranty does not include any labor, travel, or equipment downtime cost for part replacement.

### POLYURETHANE PRE-STRETCH ROLLERS

The polyurethane pre-stretch rollers on the Automatic series by Orion models carry a Limited Lifetime warranty and are guaranteed to be free from defects in material and workmanship. Rollers are not warranted against physical damage, corrosion, abuse, or negligence.

Wear parts including, but not limited to belts, fuses, light bulbs, circuit breakers, brakes, motor brushes, slip ring, brushes, casters, chains, sprockets, etc. are excluded from this warranty.

## *DAMAGE IN TRANSPORT*

Damage in transport is the responsibility of the carrier and is not covered under our warranty.

## *FREIGHT CHARGES*

There will be no freight charges for warranty parts that are ordered for shipment via FedEx regular ground service from Orion. Any other method of shipment, (FedEx next day /second day, etc., UPS, common carrier, etc.) will be at the expense of the customer/distributor.

## *PARTS RETURN POLICY*

Most components valued at under $300 list price, Orion does not require that the defective component be returned. All defective components valued at $300 or more list price must be returned to Orion in Alexandria, MN. It is at Orion's sole discretion as to whether any given component must be returned, regardless of its value, for the purpose of determination of warranty status and the nature of the defect. Furthermore, confirmation that the part does not need to be returned must be provided by Orion at the time of order placement. Please contact Orion Parts to learn more about the RMA (Returned Materials Authorization) procedure.

## *IMPORTANT EXCLUSIONS*

Except as stated herein, Orion makes no other warranty, expressed or implied and in no event shall be liable for incidental or consequential damages. Orion makes no warranty as to fitness of equipment for particular purpose. Orion neither assumes nor authorizes anyone else to assume for it, any other obligation or liability relating to its equipment. This warranty does not apply to damage to equipment which, in the judgment of Orion, has been subject to incorrect voltage supply, normal wear and tear, to misuse, neglect, or has been repaired or altered by unauthorized personnel. Defective parts must be returned to Orion, freight prepaid, within 30 days of shipment of the replacement part, except for components valued at under $300 list price under the conditions stated above. Defective parts must be returned in their original state along with the RMA documentation. Defective parts that have been disassembled, damaged during removal, or otherwise tampered with, will not be covered under warranty, unless otherwise stated in writing. Orion's sole obligation under this warranty will be to provide repairs to components or replacement parts, F.O.B. Orion's point of shipment except as stated above. All aspects of the above stated warranty and procedures related to ordering parts under warranty will be upheld with no exceptions.

Orion recommends that the purchase of an Orion Essential Spare Parts Kit be considered to maximize system uptime. See your Orion parts representative for details.

This document supersedes all Automatic warranty documents created prior to January 1, 2020.

# Safety

Orion's stretchwrappers should be operated with caution and common sense as any other industrial equipment. To prevent injury and/or electrical shocks, careful operation of the machine and awareness of its many automatic functions is required.

**Note:** All electrical power and compressed air must be disconnected prior to all inspection, maintenance or repair work.

At Orion, we are committed to building quality packaging and material handling equipment. To achieve this, our machines must be efficient, easy to maintain, and safe to operate.

Before attempting to operate the equipment, become familiar with the safety recommendations and operational components of your Flex Stretchwrapper. You should also become familiar with the technical information pertaining to components used within the system, including their operating and safety features. This information is located in the Vendor Data Manual and in other literature supplied with the equipment. To maximize machine safety and efficiency you must operate the machine correctly and comply with the safety features described.

**Stay alert and remember**: Safety is the responsibility of everyone who operates or services your BEC system.

# System Safety Recommendations

Safeguarding personnel that operate and/or maintain automated equipment is the primary consideration. Because it is very dangerous to enter the operating space (work envelope) of a machine during operation, adequate safeguards must be in place and safety precautions must be observed.

The following general precautions are recommended for all personnel who perform system operation or maintenance.

- Do lockout-tagout procedures whenever you do maintenance and repair work.
- All personnel who repair, maintain, or operate the equipment need to know the location of all EMERGENCY STOP buttons.
- Do not operate the equipment with any of the safety guards removed.
- Do not wear neckties, loose clothing, or long loose-hanging hair around any equipment.
- Observe and follow the DANGER, WARNING, and CAUTION messages throughout this manual, in vendor manuals, and displayed on the equipment.
- DO NOT use steps or stands that allow anyone to reach over guards.
- Personnel should attend all available safety and operational training courses.
- Personnel should know and follow the recommended safety procedures whenever they must enter the packaging systems motion area.
- Personnel should not enter the packaging system while control power is "ON".
- Personnel should not power up the system if someone is in the working path of the machine
- The system should be powered down when not in use.
- Personnel should pay special attention to all the posted warnings and cautions located on any devices. Observe all safety and/or precautionary steps and procedures when working with the system.
- Personnel should keep the system clean to make it easier to spot hazards.

# Hazard Messages

Notations appear on pages of this manual to alert the reader to important messages regarding a significant hazard for personnel or equipment. These messages convey three levels of risk as defined below. Failure to observe these instructions can result in death, serious injury, damaged equipment, or loss of product or production.




**DANGER** Denotes the possibility of serious injury or death to personnel.

**WARNING** Denotes the possibility of potential injury or damage to equipment.

**CAUTION** Denotes the possibility of damage to product or an interruption of production.

# Operation Safety

The following safety precautions are recommended for all personnel who will operate this Flex Stretchwrapper.

- Operators should immediately report unsafe working conditions to a supervisor.
- The operator should understand the function of the entire system including all external devices and equipment that interact with the system.
- Before starting operation, the operator should understand the complete task that the system is designed to accomplish.
- The operator should know the location and functional status of all devices (switches, sensors, control signals) that can cause the system to move.
- The operator should know where each EMERGENCY STOP button is located for both main and external control devices. Do not hesitate to use them in an emergency.
- The operator should make sure all safety devices are functioning and periodically checked for proper operation.
- The operator should ensure that all personnel are outside the system before starting operation.
- The operator should never enter, or allow others to enter the system during automatic operation.

# Maintenance Safety

The following safety precautions are recommended for all personnel who are responsible for the maintenance or service this Flex Stretchwrapper.

- Personnel should ensure that all safety devices are functioning and periodically checked for proper operation before performing maintenance.
- Before performing any maintenance, service, or inspection inside the main control panel, the power source should be turned off and locked out.
- Maintenance should be performed on the system with the power OFF. Lockout and tag out procedures should be followed to protect personnel from injury and to indicate the equipment is being serviced.
- Place a lock on the main electrical disconnect while performing maintenance.
- Personnel should pay careful attention to all devices that may be powered or capable of motion, such as conveyors and pneumatic devices.
- Release or block all stored energy devices (hydraulic or pneumatic) that may present a danger when working with the system. Before working with pneumatic devices, shut off the air supply and purge the air lines.
- Be aware when removing a servomotor or brake that the associated mechanical part will fall unless supported in some manner.
- Use only specified replacement parts. Never use non-specific fuses that have not been specified. Potential fire and/or damage may result.
- Before restarting the system, ensure personnel are not in the system and that the system and external devices are operating properly.

# Lockout and Tagout Recommendations

## *Electrical System*

(See OSHA 1910.147 & OSHA 1910.333 (b)(2) for exception to procedures)

To avoid hazards of electrical shock or other personal injuries, the main power disconnect for the system and any other separate sources of power for the system shall be locked out & tagged as a safety precaution during entry and maintenance to the system.

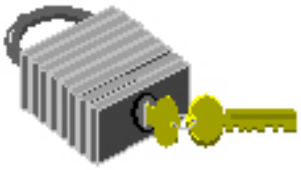
To accomplish this, set the Main Power Disconnect operating handle to the "OFF" position and install a personal locking device through the padlock hole on the operating handle. Attach a Danger tag to the handle containing a statement prohibiting unauthorized operation of the disconnect and removal of the tag signed by the individual responsible for locking out the system. If several personnel are performing maintenance, each individual shall install a lockout device and tag.

A qualified person shall verify that the equipment is de-energized by:

1. Operating controls to verify equipment cannot be restarted.
2. Using test equipment to test circuits and electrical parts that will be exposed to personnel.

Stored electric energy that might endanger personnel shall be released by discharging the circuits. Check appropriate equipment manuals on exact procedures.

To re-energize equipment, a qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that equipment can be safely energized. Personnel exposed to the hazards associated with re-energizing equipment shall be warned to stay clear of equipment. Each lock and tag shall be removed by the person who applied it or under their direct supervision. A visual determination that all personnel are clear of the equipment shall be accomplished before the operating handle on each Main Power Disconnect is placed to the "ON" position.



**Danger!**

When performing maintenance, inspection, repair or changeover, execute the Lockout & Tag Out procedure to prevent personal injury – before entering the machine. When you see this symbol, DO LOCK OUT/TAG OUT.

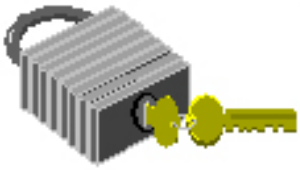
# Pneumatic and Vacuum Systems

To avoid hazards of moving mechanisms, pinch points and other personal injuries, the main compressed air supply valve for the system shall be locked out & tagged as a safety precaution during entry and maintenance to the system.

1. To accomplish this, turn the Main Air Supply valve to the "OFF" position and install a personal locking device through the padlock hole on the valve handle.
2. Also attach a Danger tag to the handle containing a statement prohibiting unauthorized operation of the disconnect and removal of the tag signed by the individual responsible for locking out the system.

If several personnel are performing maintenance, each individual shall install a lockout device and tag. Qualified personnel shall vent any stored or accumulated air in pneumatic/vacuum devices before working on them. Check appropriate equipment manuals on exact procedures.

To re-supply compressed air to the equipment, a qualified person shall conduct visual inspections, as necessary, to verify that mechanisms are properly connected, as well as all tools and other objects have been removed so that equipment can safely operate. Personnel exposed to pneumatic/vacuum hazard areas shall be warned to stay clear of equipment. Each lock and tag shall be removed by the person who applied it, or, under their direct supervision. A visual determination that all personnel are clear of the equipment shall be accomplished before the main air supply valve is turned to the “ON" position.



**Danger!**

When performing maintenance, inspection, repair or changeover, execute the Lockout & Tag Out procedure to prevent personal injury – before entering the machine. When you see this symbol, DO LOCK OUT/TAG OUT.

# Installation and First Time Power Up

## Unloading

Machine can be easily unloaded and transported by a forklift with a minimum capacity of 2500 lbs.

1. Carefully insert the forks into the lifting tubes to the maximum possible depth. Depending on the model, a forklift access may be either at the tower end of the machine frame, the tower end or both. Look for the forklift tube access stickers shown below.

**Figure 1 - 1**
**Fork Tube Access Sticker**


2. Lift the machine (or other part of system) only to the necessary height to move it with no bouncing or friction on the floor.
3. Sit the machine down assuring uniform contact with the floor, which is necessary to ensure correct and smooth operation.

# Inspection

1. Remove all packing and supporting additions - these may include the blocks under the carriage and the restraining bar over the table.

**Note:** When removing the packing materials covering the machine, care must be taken not to cut any of the electrical wires and/ or polyurethane covering on the film carriage rollers.

2. Perform a visual inspection of the electrical and mechanical parts for loosened joints and / or broken connections. Any suspected shipping damage must be reported immediately to the freight carrier. Any transport damage cannot be claimed to Orion Packaging Inc.

Items that are vulnerable to damage and must be inspected are as follows:

- Motors and transmissions
- Junction boxes
- Electrical conduits
- Proximity and limit switches
- Photocells

3. Check around the tower to ensure that there is no crippling of the movable parts i.e. casters, center axle or drive assembly.
4. Verify the following:

- Check wires and conduits for crushed sections or loose fittings.
- Verify the film carriage to be sure that it is correctly aligned with the tower
- Verify the tension on the lift belt.
- Verify all the dials and knobs on the control panel for smooth action.

# Machine Installation

- After the visual inspection has been completed, the electrical power and the compressed air shall be connected as specified on the diagrams supplied with the machine.
- An electrical diagram is provided with each machine.
- Make sure the machine is on a level surface.
- Orion Packaging insist on a dedicated circuit be used for this wrapper. Extension cords are not allowed and can void your warranty.

# Assembly Procedure

**Note:** The structural frames of the machine have to be installed on a leveled floor. The base deviation from vertical must not exceed 1/4" on the distance of 10 feet (angle: 0 degrees 6').

Move the wrapper into its final position. If the wrapper is to be secured to the floor, we recommend that the wrapper base section be bolted to the floor by the 1/2" concrete floor anchors (leg & shield or expandable type-Red Heads).

# System Description Contents

# 2. System Description

## Machine Specifications

### *Utilities*

- 230 VAC / 1 PHASE / 60 HZ
- Built to UL508A Standards UL Listed (Enclosures Optioned for CE will not Carry a UL Label)
- 3 CFM @ 80 PSI

### *Turntable and Load*

- 15 RPM Variable Turntable Speed VFD Controlled Motor
- Load Weight - Maximum 4,000 lbs.
- Min Load Size - 36” W X 36” L X 15” H
- Max Load Size - 48” W X 48” L X 110” H

### *Control Features*

- Available In Various Flow Direction/Conveyor Configurations
- AC motors with B&R VFD’s
- Positive Alignment Feature (True Home Position)
- Nema 12 Control Panel
- User Friendly Touch Screen with Easy-to-Use Icon Based Interface
- IP Address is Modifiable for Networking
- Web-based Production Data Dashboard
- Downloadable VFD Parameters
- Variable Speed Film Carriage Up/Down Control
- Photocell For Automatic Load Height Detection
- Main Drive Jogging
- Semi-automatic Reinforce Wrap Feature

## *Film Delivery*

- Insta-thread Full Corner Compensating Powered Film Drive.
- 260% Stretch From The Factory. 20" Film Tension Delivery System. **optional 30"
- Full Authority, Corner Compensating, VFD Powered Prestretch
- Electronic Film Tension Control Adjustment On The Panel < Or = 90 Ga Film Capacity. Higher Gauge Film Requires A Heavy Film Upgrade.
- Film Carriage Elevator Drive
- Belt Lift Carriage
- Variable Speed Up and Down

## *Structural Features*

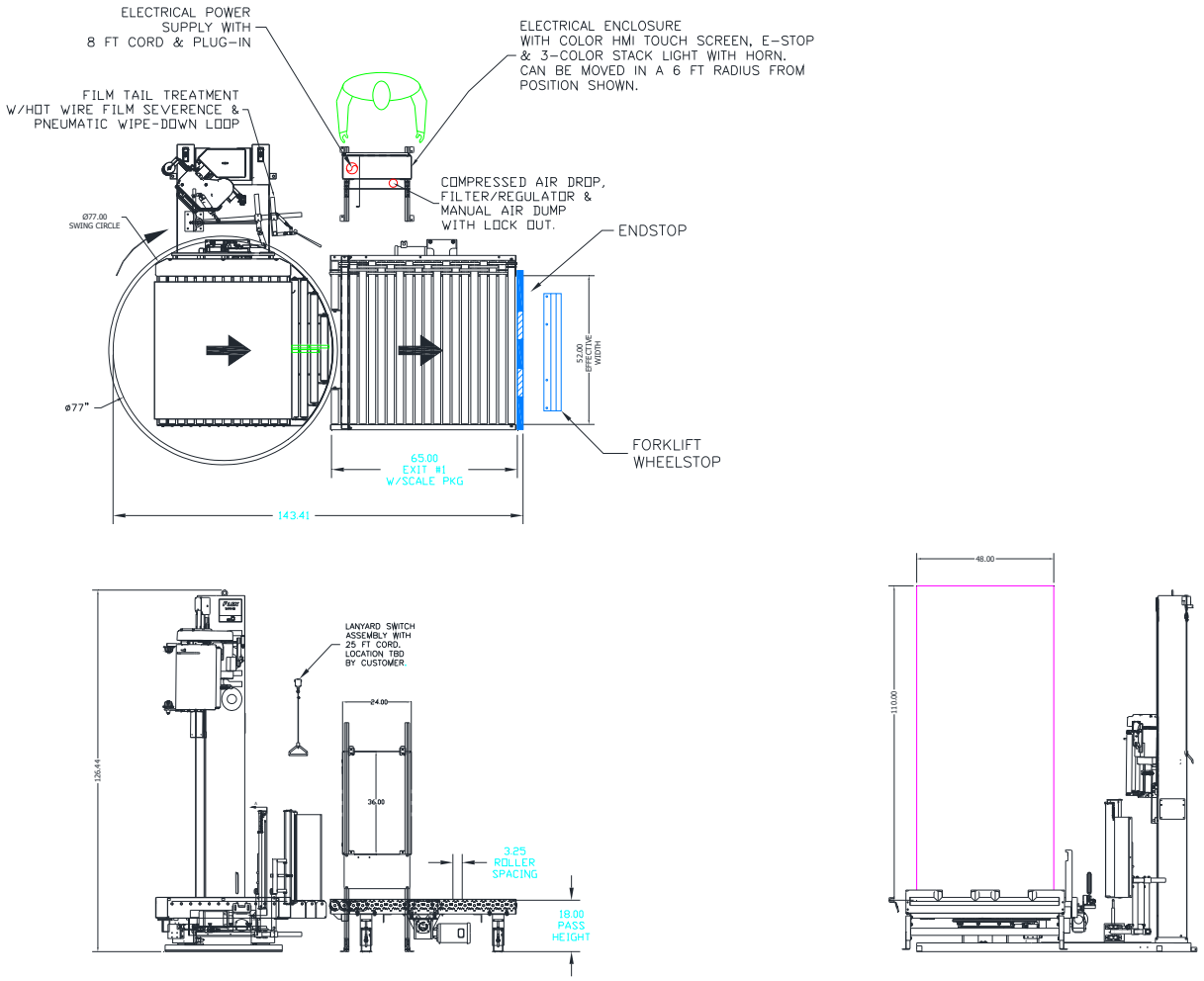
- Structural Steel Construction Throughout
- Baked-on Powder Coat Paint Traffic Gray
- Limited Proprietary Parts For Ease Of Maintenance

Visit our Website At www.orionpackaging.com

# Machine Floor Plan

The floor plan drawing below shows an example layout for the standard CTS.

**Figure 2 - 1**
**Machine Floor Plan**



# System Operation Contents

# 3. System Operation

## Operating Procedures

## How to Start and Shut Down Your Wrapping System

**Note:** Do not use extension cords. Plug your Flex Stretchwrapper directly into an outlet.

### *POWER SWITCH*

Located on the panel door, the lockable power switch has two settings:

- ON - connects a power source to the machine.
- OFF - disconnects the power source.

### *START AND EMERGENCY STOP SWITCHES*

- Press the **START** button to gain Control Power prior to starting.
- The **START** switch is used to start the cycle once the load is available.
- The cycle may be stopped at anytime by pressing the **E-STOP** button.

The FLEX series machines are engineered to give the operator different levels of operation, the front panel or USER settings, and MENU DRIVEN parameters. The menu driven parameters offer even more flexibility and security.

# Loading The Film

The film roll can be loaded on the carriage mandrel from either end of the roll. When using tacky film, please verify that the tacky surface of the film is inward on the load.

1. Press in the E-stop.
2. Swing up the top mandrel spool.
3. Put the roll of film on the bottom mandrel.
4. Install the top mandrel on top of the roll to prevent upward movement.
5. Turn the two knobs to unlatch the carriage door, then pull out on the carriage door to open it. The film carriage is equipped with a magnetic switch that detects when the carriage threading door is open. When opened, it will set off an alarm on the HMI and prevent the carriage from moving.
6. Pass the roped tail of the film through the opening.
7. Push the carriage door closed. Turn the two knobs to latch the carriage door.
8. When the film feeding is completed, release the E-stop.
9. Peel off the first few winds of the film (multistretch will run due to displacement of the dancer roller) and fix the film end onto the load-or film clamp if so equipped.
10. The system is now ready to begin the first wrapping cycle.
11. Press and hold the Start button for the amount of time set in the machine settings to start the machine.

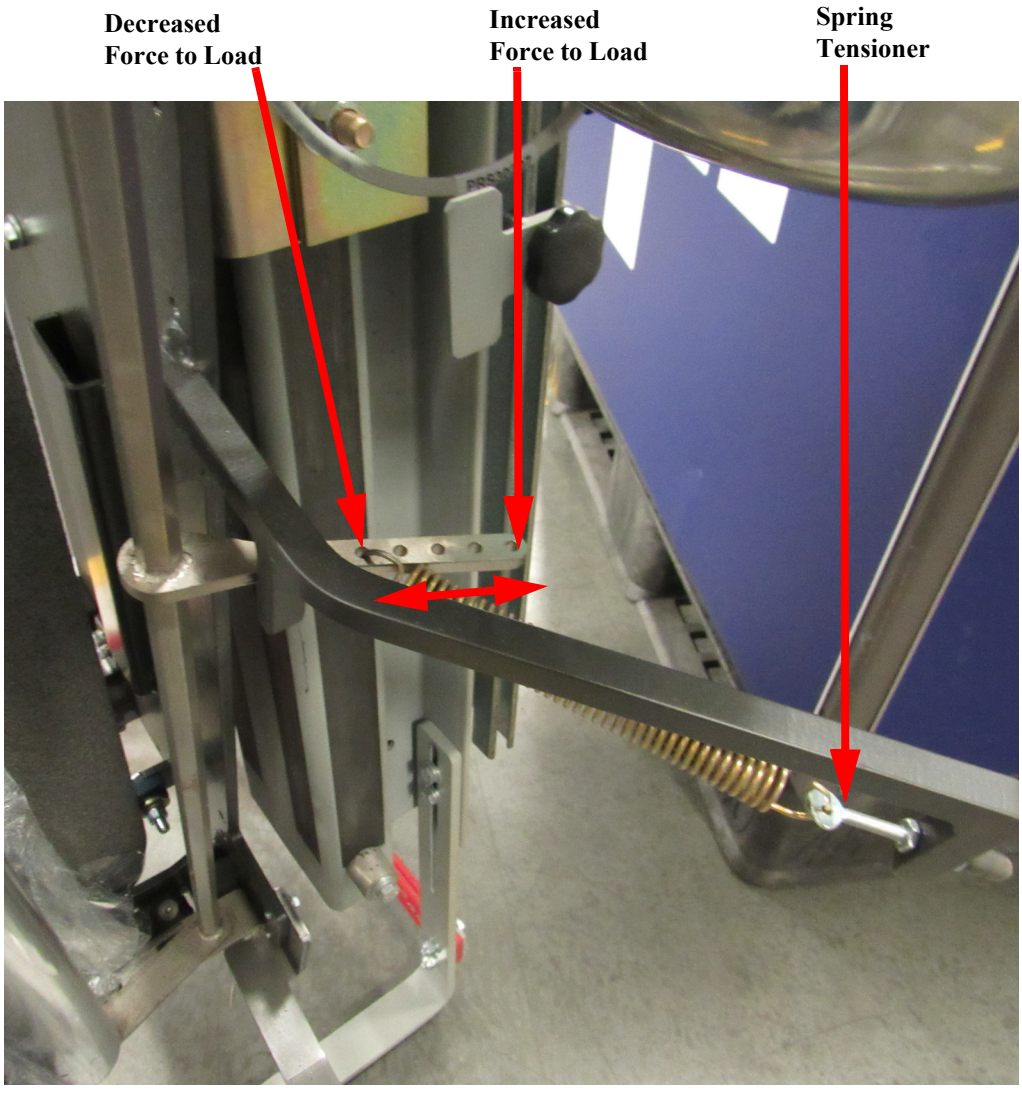
**Figure 3 - 1**
**Loading the Film**

# Dancer Bar Tension Adjustment

The S-Carriage has a tension adjustment that allows the user to change the tension on the dancer bar. The standard tension is at the furthest inward position, as shown below.

- Adjust the spring to another position to increase the force to the load. Take into account that the film tension setting may need to be adjusted on the HMI if changes are made to the dancer bar tension adjustment.
- For additional adjust-ability use the spring tensioner, shown below. The further the spring is pulled, more tension is added to the dancer bar.
- The light and heavy gauge springs are provided with your machine. Use the light spring to for less tension and the heavy spring for more tension.

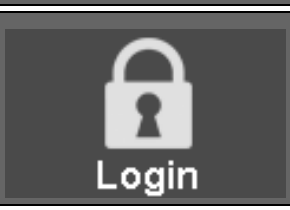
**Figure 3 - 2**
**Dancer Bar Tension Adjustment**



# Universal Go-To Buttons

The buttons in the chart below are found throughout most HMI screens. The buttons allow the user to easily navigate back to any of the screens.

**Table 3-1. The Universal Go-To Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|  | The Info icon displays information about each button on the HMI screen that you are currently viewing. |
|  | Press this button to go to the Run Screen. The icon will illuminate in green when the screen is currently active. |
|  | Press this button to go to the Wrap Settings Screen. The icon will illuminate in green when the screen is currently active. |
|  | Press this button to go to the Menu Screen. The icon will illuminate in green when the screen is currently active. |
|  | Press this button to go to the Machine Settings Screen. The icon will illuminate in green when the screen is currently active. |
|  | Press this button to go to the Diagnostics Screen. The icon will illuminate in green when the screen is currently active. |
|  | Press this button to go to the Security Settings Screen. |

# Log In Permissions

## No Login

1. Machine Operation via the 'Run' screen
   - **A.** Start Machine
   - **B.** Stop Machine
   - **C.** Fault Reset
   - **D.** Reinforcement Wrap activation
   - **E.** High/Low rotational speed selection
   - **F.** Home Machine
2. Menu Screen
   - **A.** Manual jogging
   - **B.** Wrap Recipe Selection
   - **C.** Production Data
3. Diagnostics Screen

## User Login

- Everything above, plus:

1. Wrap Settings
   - **A.** Top/Bottom Wraps
   - **B.** Carriage Up/Down Speed
   - **C.** Wrap Direction
   - **D.** Additional wrap options

## Maintenance Login

- Everything above, plus:

1. Maintenance Settings
   - **A.** Main Drive settings
   - **B.** Reinforcement settings
   - **C.** Timers
   - **D.** Machine Setup
   - **E.** Multistretch Settings
   - **F.** VFD Parameters
   - **G.** Additional machine settings

## Admin Login

- Everything above, plus:

1. Maintenance Settings
   - **A.** Factory Defaults

# Run Screens

## Run Screen

This is the Run screen used for primary functions of the machine. The red block in the Orion block logo will travel the perimeter of the logo showing the position of the main drive in relation to the home proximity sensor.

**Figure 3 - 3**
**The Run Screen**

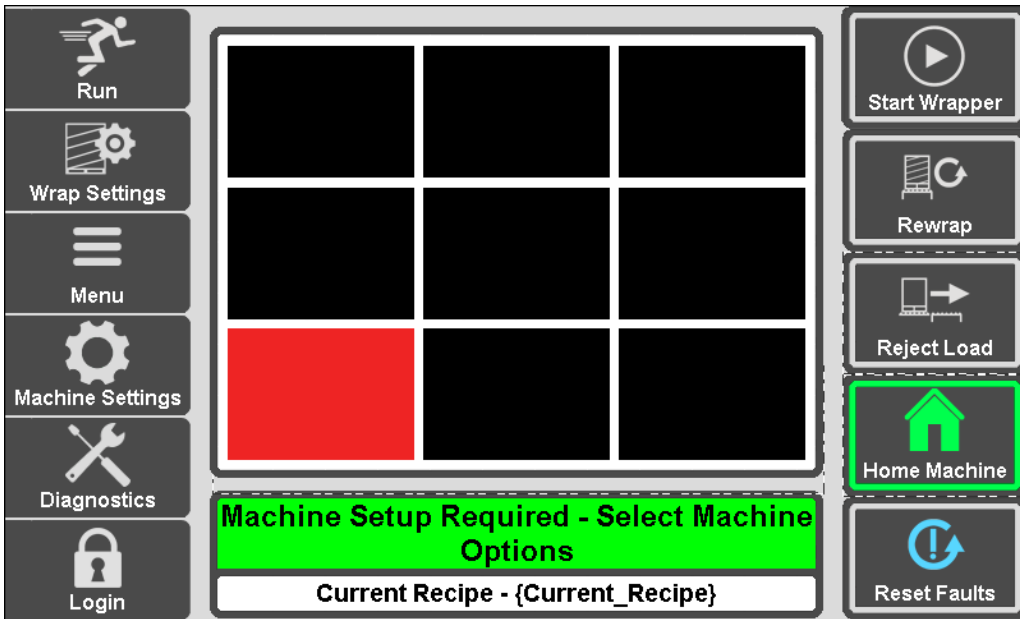



**Table 3-2. The Run Screen Button Descriptions**

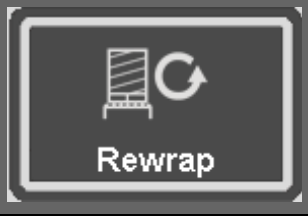
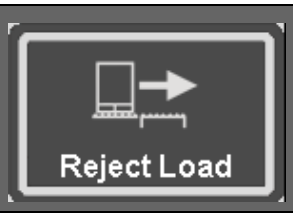
| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|   | Press and hold Start Cycle to start the machine. This must be held until the Start Delay timer is complete to start the machine. Press Release Load to index the load to the downstream conveyor. |   |
|   | Press this button to wrap the load again. The same wrap parameters are used. | |

**Table 3-2. The Run Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to index the load to the exit conveyor. This button is available on certain machine configurations when the machine is reset. | |
|  | Press this button to send the machine to its Home Position. When pressed, the Carriage will travel to its bottom limit, and the Main Drive will travel to its predefined End of Cycle Position. | |
|  | Press this button to reset the current fault condition. | |

# Maintenance Prompt

This is the Maintenance Prompt Screen. When preventative maintenance is required the prompt and picture of the maintenance is displayed. Press Acknowledge to confirm that the procedure was completed and reset the counter. Press Snooze to delay the counter for 100 cycles before the prompt re-displays.

**Figure 3 - 4**
**The Maintenance Prompt Screen**

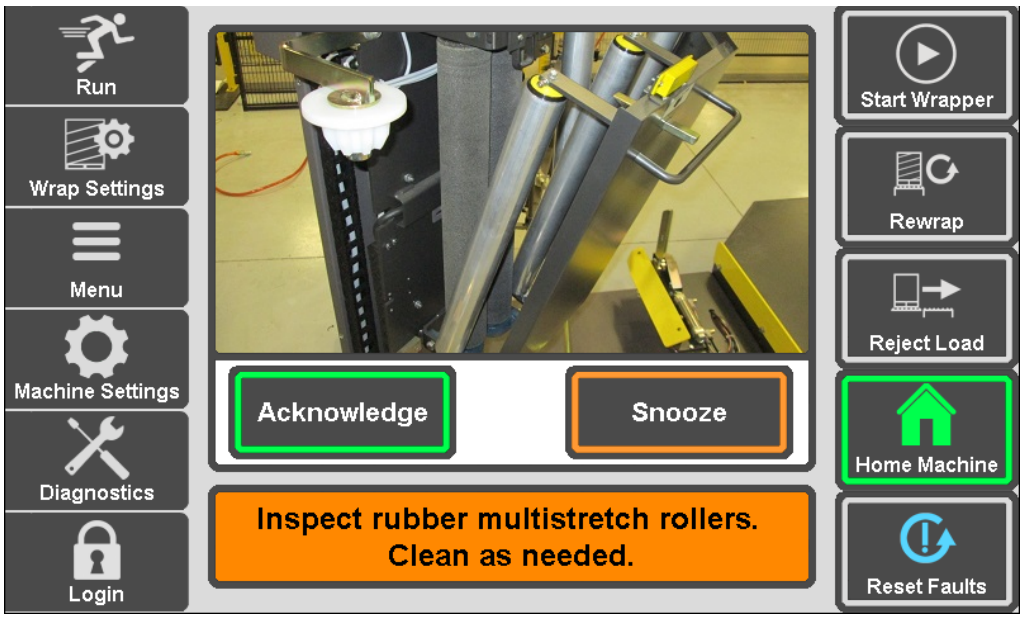



**Table 3-3. The Maintenance Prompt Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Acknowledge | Press this button to acknowledge the required maintenance prompt as completed. |
| Snooze | Press this button to snooze the required maintenance prompt. The prompt will remain in the alarm list and redisplay after 100 cycles and re-display until it is acknowledged. |

**Table 3-4. The Maintenance Prompts**

| PREVENTATIVE MAINTENANCE REQUIRED | FREQUENCY (LOADS) |
|---|---|
| INSPECT RUBBER MULTISTRETCH ROLLERS. CLEAN AS NEEDED. | 5,760 |
| INSPECT BELT CONDITION. ADJUST AS NEEDED. | 5,760 |
| INSPECT MULTISTRETCH CHAIN AND BELT. TENSION AND/OR LUBRICATE AS NEEDED. | 17,280 |
| CHECK HOT WIRE FOR EXCESSIVE BUILDUP. REPLACE IF KINKED OR BENT. | 17,280 |
| INSPECT PNEUMATIC HARDWARE. ADJUST AS NEEDED. | 17,280 |
| LUBRICATE RING BEARING. | 34,560 |
| INSPECT CARRIAGE LIFT BELT. TENSION AS NEEDED. | 34,560 |

# Default Security Settings Screen

This is the Security Settings screen. This screen allows you to choose the default security setting used after the login expires.

**Figure 3 - 5**
**The Default Security Settings Screen**

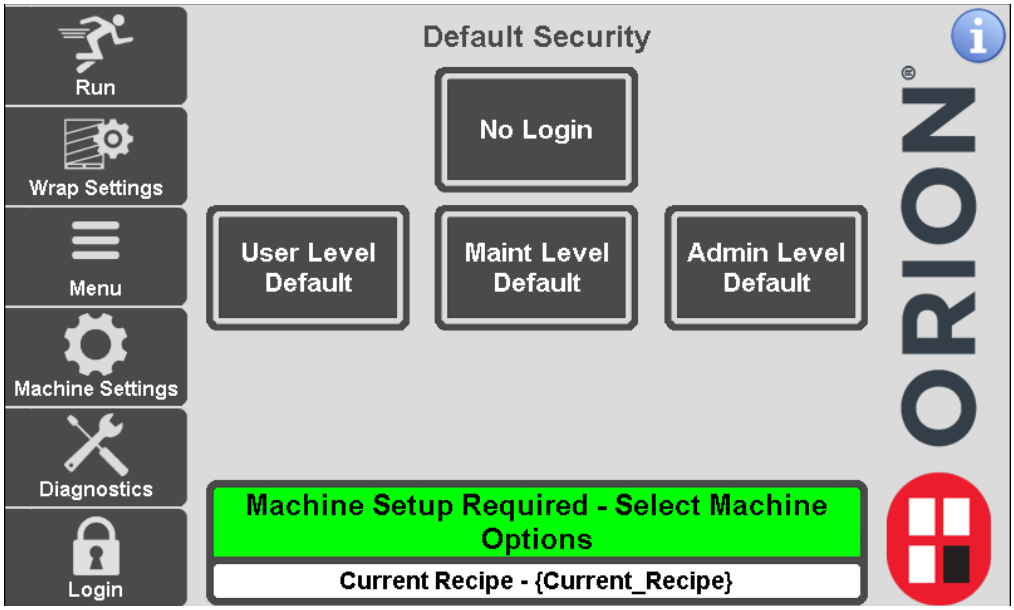



**Table 3-5. The Security Settings Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to set the Default Security level to 'No Login'. When selected, the machine will automatically log out on powerup, or after the logout timer has expired. |
|   | Press this button to set the Default Security level to 'User'. When selected, the machine will automatically log in to the User security level on powerup, or after the logout timer has expired. |

**Table 3-5. The Security Settings Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to set the Default Security level to 'Maintenance'. When selected, the machine will automatically log in to the Maintenance security level on powerup, or after the logout timer has expired. |
|  | Press this button to set the Default Security level to 'Administrator'. When selected, the machine will automatically log in to the Administrator security level on powerup, or after the logout timer has expired. |

# Passwords Screen

This is the Passwords screen. This screen allows you define the passwords for each user.

**Figure 3 - 6**
**The Passwords Screen**

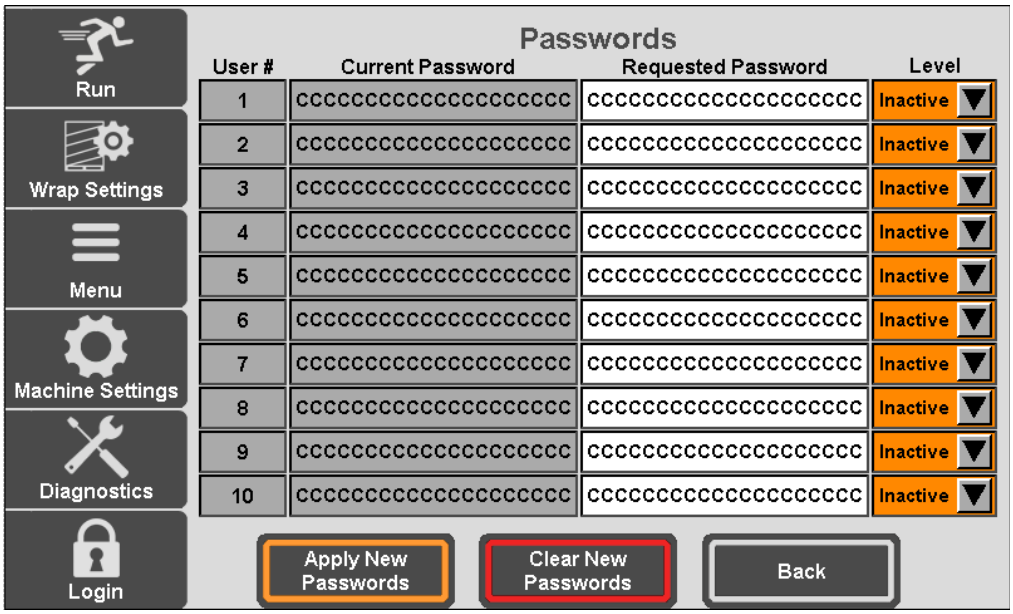
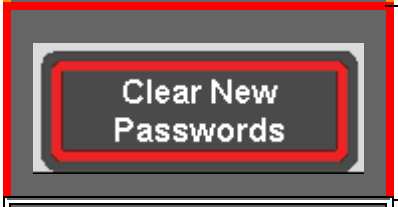



**Table 3-6. The Passwords Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to apply the entered passwords. |
|   | Press this button to clear the new passwords fields. |
|   | Press this button to go back to the previous screen. |

# Wrap Setting Screens

## Wrap Settings Screen

**Note:** To adjust the wrap settings, you must be logged in. Press the login button in the bottom left corner of the screen. Enter ADMIN then press the checkmark, then X to close the keypad.

This is the Wrap Settings screen. This screen allows you to set the number of top and bottom wraps and the speed percentage of the carriage up and down travel. You may also choose wrap pattern options such as, Wrap Bottom First, Wrap Top First, Low Speed/ High Speed, Unstable Load Enabled or Disabled, Autoheight Enabled or Disabled, or Film Fault Enabled or Disabled. You can view each pattern settings on the Recipe Viewing Screen, see “Recipe Viewing Screen” on page 3 - 26.

**Figure 3 - 7 The Wrap Settings Screen**

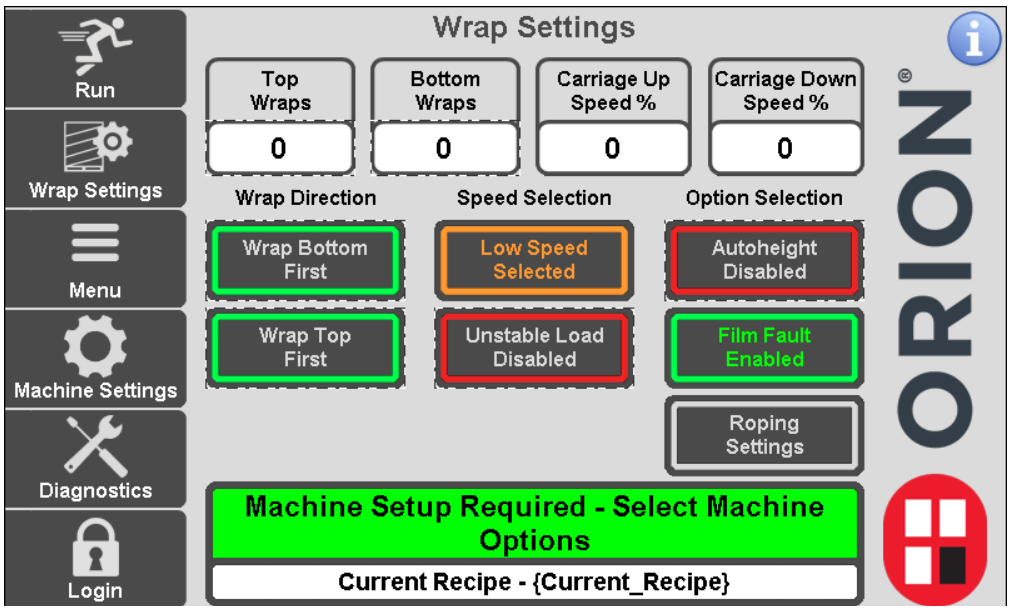



**Table 3-7. The Wrap Settings Screen Button Descriptions**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|   | Press this button to set the number of top wraps applied to the load. Parameters are 1-20. | |

**Table 3-7. The Wrap Settings Screen Button Descriptions (Continued)**

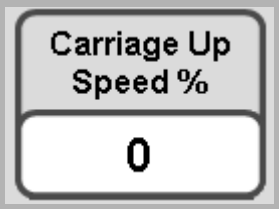
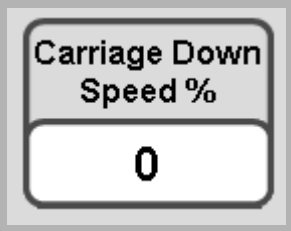
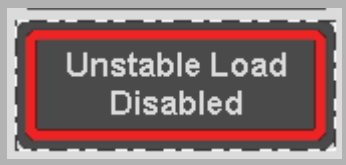
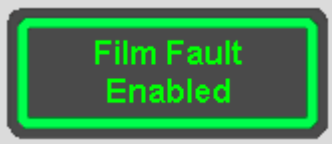
| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to set the number of bottom wraps applied to the load. Parameters are 1-20. | |
|  | Press this button to change the speed of the carriage on the upward move, in terms of percentage. Min - 5% Max - 100% | |
|  | Press this button to change the speed of the carriage on the downward move, in terms of percentage. Min - 5% Max - 100% | |
|  | Press this button to select the Wrap Bottom First wrap sequence. When selected, the wrapper will apply the bottom wraps first. When complete, the Carriage will travel to the top of the load and apply the top wraps. When complete, the Carriage will travel to the bottom and complete the cycle. | |
|  | Press this button to select the Wrap Top First wrap sequence. When selected, the Carriage will immediately travel to the top of the load and apply the top wraps. When complete, the Carriage will travel to the bottom, apply the bottom wraps, and complete the cycle. | |
|  | Press this button to toggle between High Speed and Low Speed operation. When High Speed is selected, the Main Drive will travel at the predefined High Speed value during the wrap cycle. When Low Speed is selected, the Main Drive will travel at the predefined Low Speed value during the wrap cycle. | **HIGH SPEED SELECTED** |

**Table 3-7. The Wrap Settings Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to enable or disable the Unstable Load wrap cycle. When enabled, the Main Drive will travel at Low Speed until the wrapper has completed one top wrap. After one top wrap is completed, the Main Drive will travel at High Speed for the remainder of the cycle. If Low Speed is selected, the Main Drive will travel at Low Speed for the entire cycle. | **UNSTABLE LOAD ENABLED** |
|  | Press this button to enable or disable the Autoheight photoeye. When enabled, the Carriage will travel up, during the wrap cycle, until the Autoheight photoeye no longer sees a load. It will continue to travel until the Autoheight Delay time is complete. When disabled, the Carriage will travel up, during the wrap cycle, until it reaches the Top Limit sensor. | **AUTOHEIGHT ENABLED** |
| **FILM FAULT DISABLED** | Press this button to enable or disable the End of Roll or Broken Film fault. When disabled, the wrap cycle will continue even if the film has broken or there is no film left on the roll. |  |
|  | Press this button to go to the Roping Settings Screen (if applicable.) If your machine does not having the roping carriage feature, this button will not appear on the screen. | |

# Menu Screens

## Menu Screen

This is the Menu screen. This screen allows you to navigate the HMI screens.

**Figure 3 - 8**
**The Menu Screen**

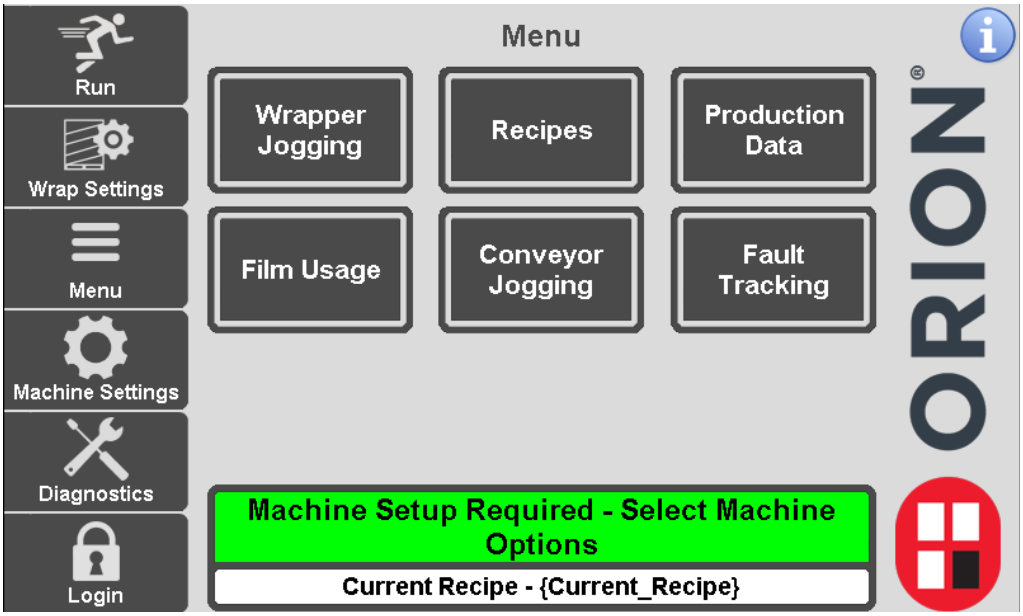
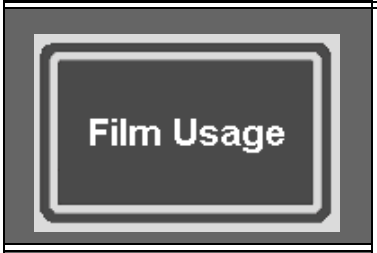



**Table 3-8. The Menu Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to go to the Jogging Screen. See “Wrapper Jogging Screen” on page 3 - 18. |
|   | Press this button to go to the Recipes Screen. See “Production Data Screen” on page 3 - 29. |
|   | Press this button to go to the Production Data Screen. See “Production Data Screen” on page 3 - 29. |

**Table 3-8. The Menu Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to go to the Film Usage Screen. See “Film Usage Screen” on page 3 - 20. |
|  | Press this button to go to the Jogging Screen. See “Conveyor Jogging Screen” on page 3 - 27. If your machine does not have conveyance, this button will not appear on the screen. |
|  | Press this button to go to the Fault Tracking Screen. See “Fault Tracking Screen” on page 3 - 31. |

# Wrapper Jogging Screen

This is the Wrapper Jogging Screen. This screen allows jogging of each component of the machine.

**Figure 3 - 9**
**The Wrapper Jogging Screen**

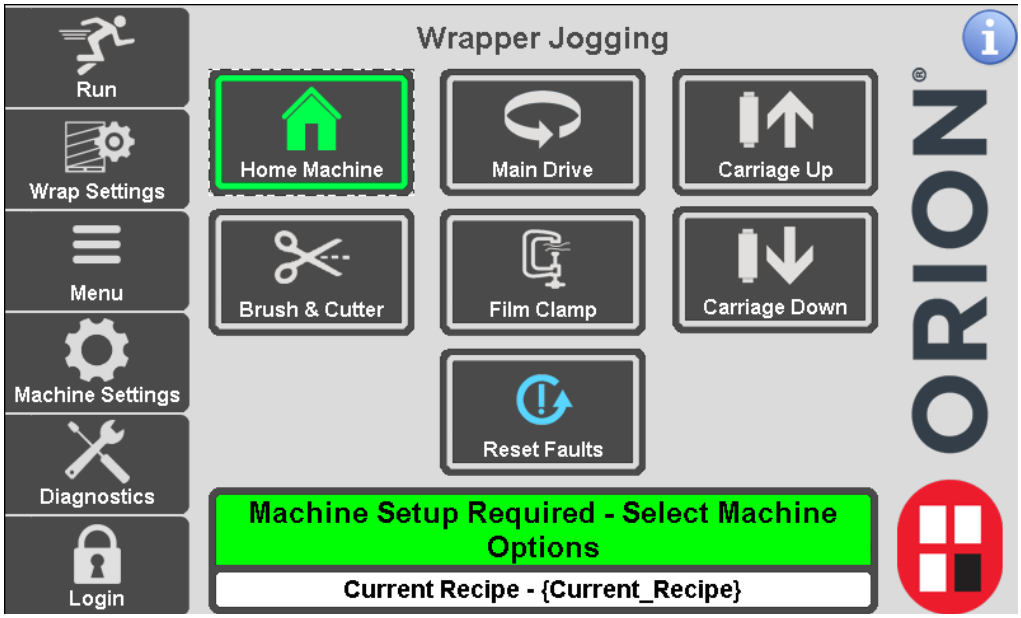



**Table 3-9. The Wrapper Jogging Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to move the machine to the home position. |
|   | Press this button to jog the main drive Turntable in the direction of normal operation. The main drive moves until the operator releases the jog button. |
|   | Press this button to jog the carriage upwards. The carriage move slowly upwards until the operator releases the jog button. |

**Table 3-9. The Wrapper Jogging Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to jog the carriage downwards. The carriage move slowly downwards until the operator releases the jog button. |
|  | Press this button to manually trigger the brush and cut sequence. |
|  | Press this button to toggle through the film clamp stages. |
|  | Press this button to reset the current fault condition. |

# Film Usage Screen

This is the Film Usage screen. The entries on this screen are used to calculate the film usage when Theoretical film usage is selected.

**Figure 3 - 10**
**The Film Usage Screen**

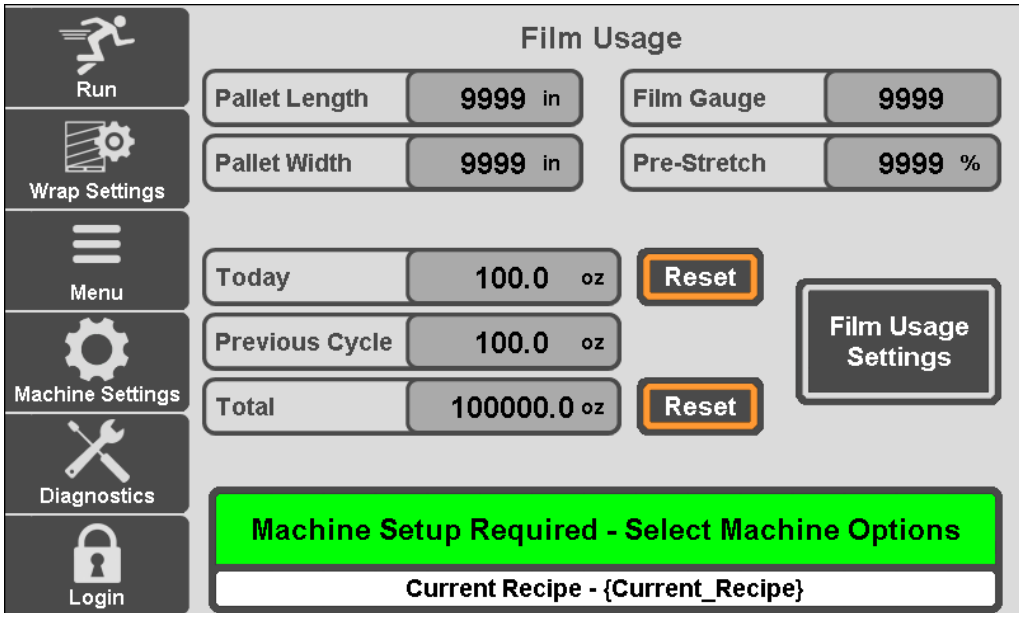



**Table 3-10. Film Usage Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| PALLET LENGTH | Press this button to enter the Pallet Length for film usage calculation when theoretical calculation is used. |
| PALLET WIDTH | Press this button to enter the Pallet Width for film usage calculation when theoretical calculation is used. |
| FILM GAUGE | Press this button to enter the Film Gauge used on the machine for film usage calculation when theoretical calculation is used. |
| PRE-STRETCH | Press this button to enter the Pre-stretch Percentage that the carriage is running. 260% is the standard carriage. The entered percentage is used to calculate film usage when theoretical calculation is used. |
| TODAY | This display shows the number of ounces of film used today. |
| Reset | Press this button to reset the Today Film ounces display to zero. |
| PREVIOUS CYCLE | This display shows the number of ounces of film used on the previous cycle. |
| TOTAL | This display shows the total number of ounces of film used since the last reset. |

**Table 3-10. Film Usage Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to reset the Total Film ounces display to zero. |
|  | Press this button to go to the Film Usage Settings Screen. See “The Film Usage Settings Screen” on page 3 - 22. |

# The Film Usage Settings Screen

This is the Film Usage Settings screen. This screen is used to set the parameters that allow the machine and film monitoring system to calculate the film usage of the machine.

**Figure 3 - 11**
**The Film Usage Settings Screen**

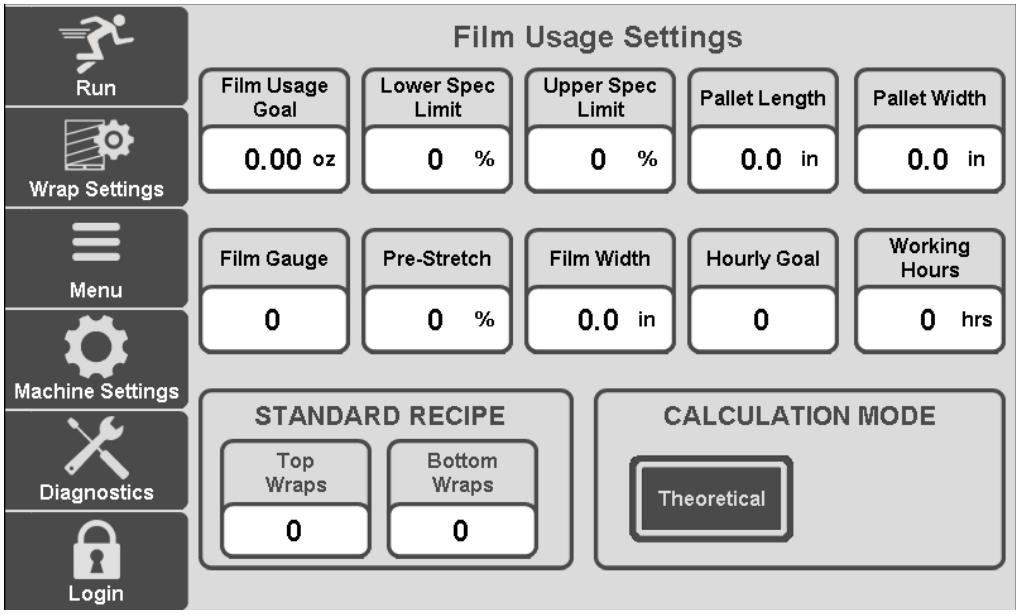



**Table 3-11. Film Usage Screen Button Descriptions**

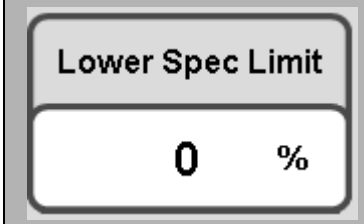
| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to enter the film usage goal, in ounces, per load. This information will be used to display your film goal and actual use data in the machine and film monitoring system. |
|  | Press this button to set the lower spec limit. This information will be used to display your film goal and actual use data in the machine and film monitoring system. |

**Table 3-11. Film Usage Screen Button Descriptions (Continued)**

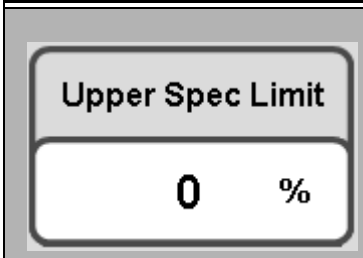
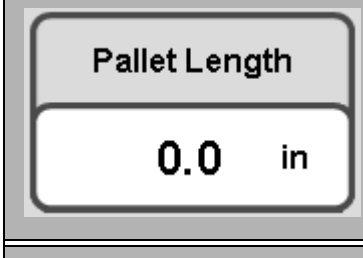
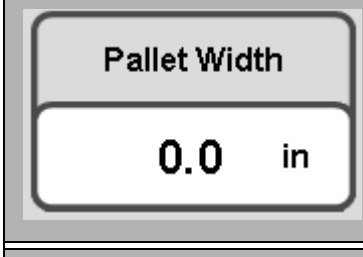
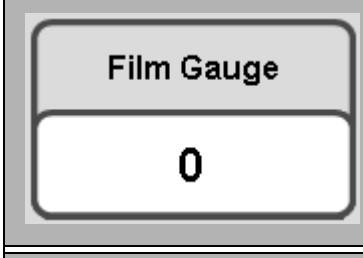
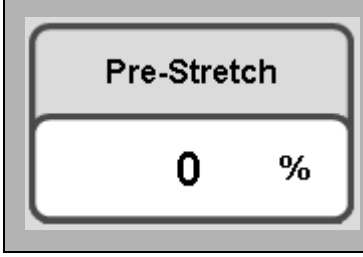
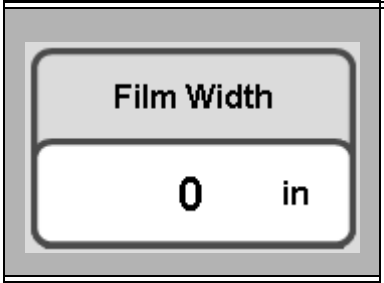
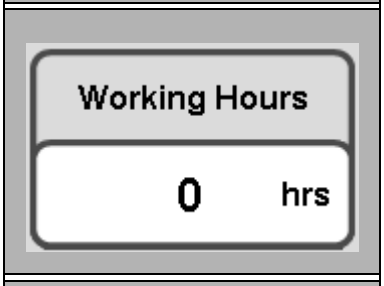
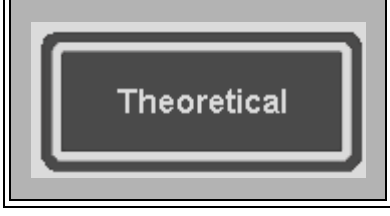
| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to set the upper spec limit. This information will be used to display your film goal and actual use data in the machine and film monitoring system. |
|  | Press this button to enter the Pallet Length for film usage calculation when theoretical calculation is used. |
|  | Press this button to enter the Pallet Width for film usage calculation when theoretical calculation is used. |
|  | Press this button to enter the Film Gauge used on the machine for film usage calculation when theoretical calculation is used. |
|  | Press this button to enter the Pre-stretch Percentage that the carriage is running. 260% is the standard carriage. The entered percentage is used to calculate film usage when theoretical calculation is used. |

**Table 3-11. Film Usage Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to enter the film width used. 20 inch and 30 inch carriages are available. |
|  | Press this button to enter the hourly goal for wrap cycles. The goal will affect the charts in your Machine and Film Monitoring System output. |
|  | Press this button to choose the number of working hours in a day of production. The working hours will affect the charts in your Machine and Film Monitoring System output. |
|  | Press this button to set the standard recipe number of top wraps. This is the number of top wraps your quality department has determined to use on a standard wrap. |
|  | Press this button to set the standard recipe number of bottom wraps. This is the number of bottom wraps your quality department has determined to use on a standard wrap. |
|  | When is theoretical mode, the film usage is calculated based on the user entered parameters entered on this screen. |

# Recipe Screen

This is the Recipe screen. This screens allows the user to select different wrap recipes quickly. Changes made to a recipe are saved to the active recipe.

**Figure 3 - 12**
**The Recipe Screen**

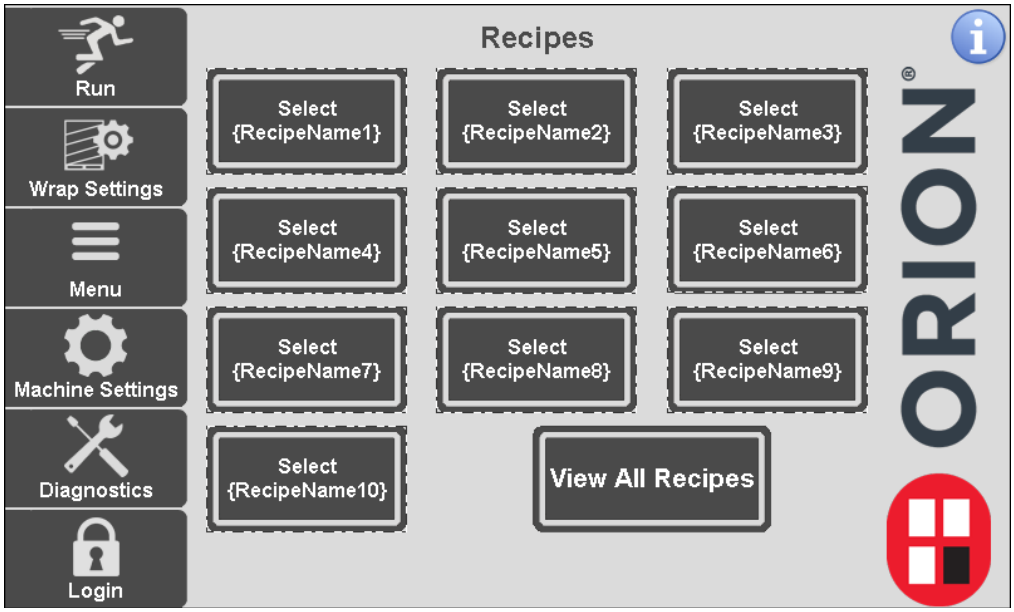



**Table 3-12. The Recipe Screen Button Descriptions**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
| SELECT RECIPE # | Press a recipe button to choose between the different recipe wrap settings. Changes made to a recipe are saved to the active recipe. If you attempt to change to a different recipe while the wrapper is loading, then the new recipe you select will display as loading and will only change once the current wrap cycle is complete. | RUNNING RECIPE 1<br>LOADING RECIPE 1 |
| View All Recipes | Press this button to go to the Recipe Viewing screen. See “Recipe Viewing Screen” on page 3 - 26. | |

# Recipe Viewing Screen

This is the Recipe Viewing screen. This screen allows you to view each recipe settings. This is helpful for a quick glance at each recipe's parameters.

**Figure 3 - 13**
**The Recipe Viewing Screen**

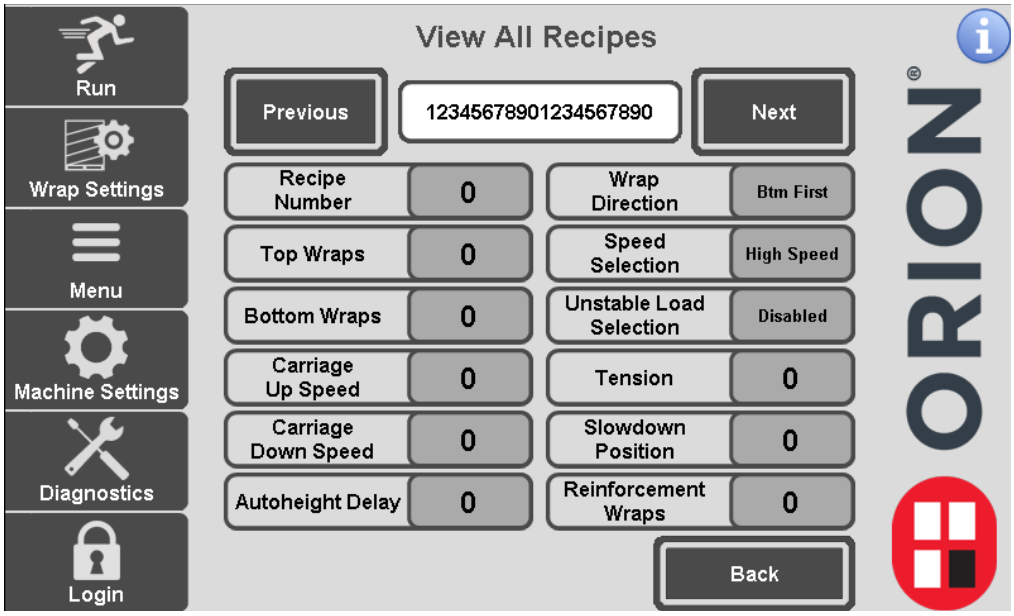



**Table 3-13. The Recipe Viewing Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to go to the previous Recipe View screen. |
| **RECIPE** | Press the recipe name to edit the name of the recipe. |
|   | Press this button to go to the next Recipe View screen. |
|   | Press this button to go back to the Recipe screen. |

# Conveyor Jogging Screen

This is the Conveyor Jogging Screen. Your screen may vary depending on the configuration of your CTS.

**Figure 3 - 14**
**The Conveyor Jogging Screen**

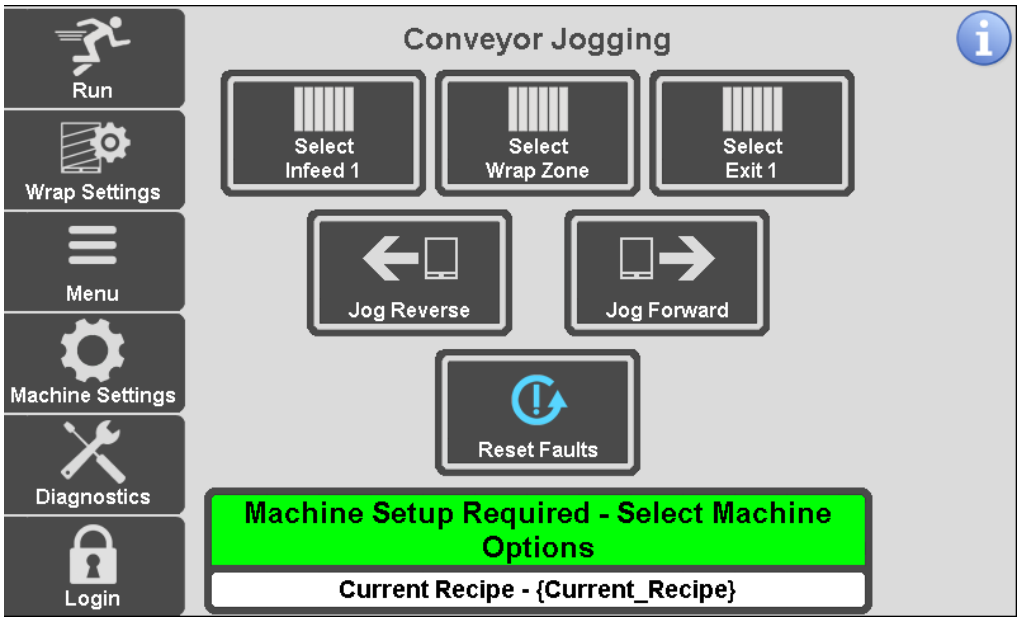



**Table 3-14. The Conveyor Jogging Screen Button Descriptions**

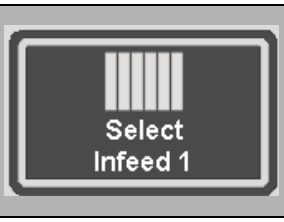
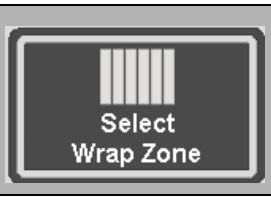
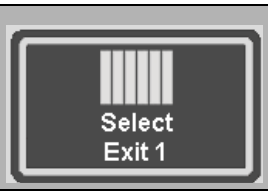
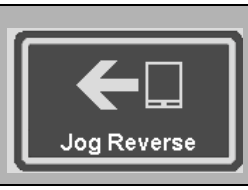
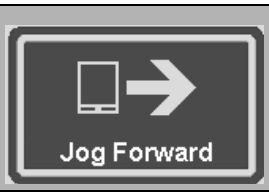
| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to enable the indicated infeed conveyor jog. Press and hold the Jog Forward or Jog Reverse button to jog the enabled conveyors. |
|   | Press this button to enable the wrap zone conveyor jog. Press and hold the Jog Forward or Jog Reverse button to jog the enabled conveyors. |
|   | Press this button to enable the indicated exit conveyor jog. Press and hold the Jog Forward or Jog Reverse button to jog the enabled conveyors. |

**Table 3-14. The Conveyor Jogging Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press and hold this button to jog the enabled conveyors backwards. Release this button to stop the jog. |
|  | Press and hold this button to jog the enabled conveyors forward. Release this button to stop the jog. |
|  | Press this button to reset the current fault condition. |

# Production Data Screen

This is the Production Data screen. This screen displays the lifetime cycles and shift cycles. You may also reset the shift cycle counter.

**Figure 3 - 15**
**The Production Data Screen**

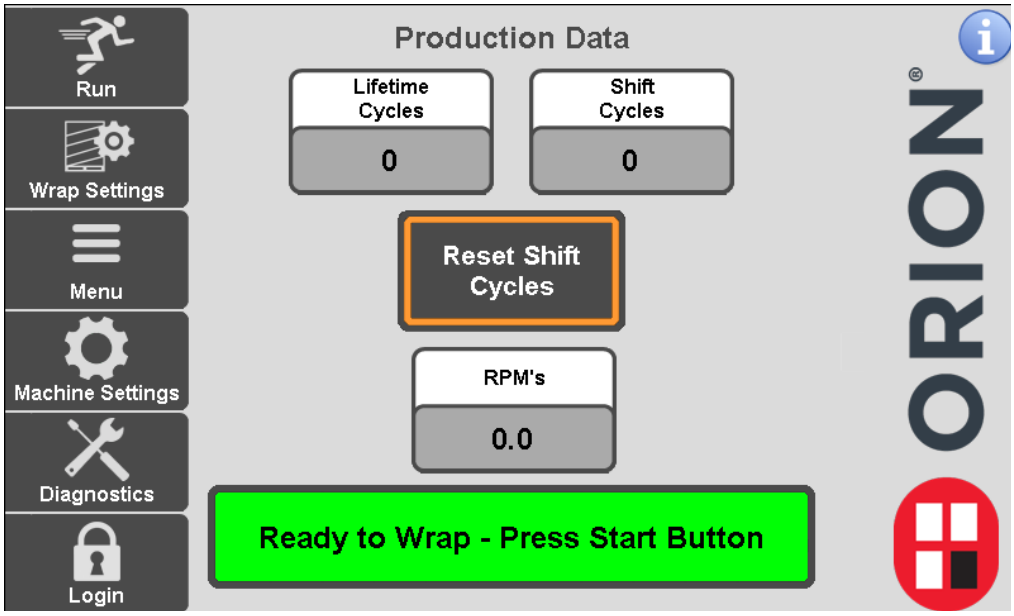
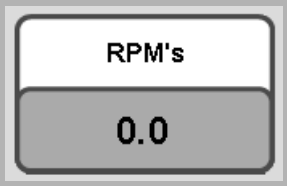



**Table 3-15. The Production Data Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Lifetime Cycles 0 | This display shows the number of cycles the machine has run, in total. |
| Shift Cycles 0 | This display shows the number of cycles the machine has run since the last shift cycle reset. |
| Reset Shift Cycles | Press this button to reset the shift cycle counter to zero. |

**Table 3-15. The Production Data Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | This display shows the current speed, in rotations per minute. |

# Fault Tracking Screen

This is the Fault Tracking screen. This screen displays various fault counts since the last reset.

**Figure 3 - 16**
**The Fault Tracking Screen**

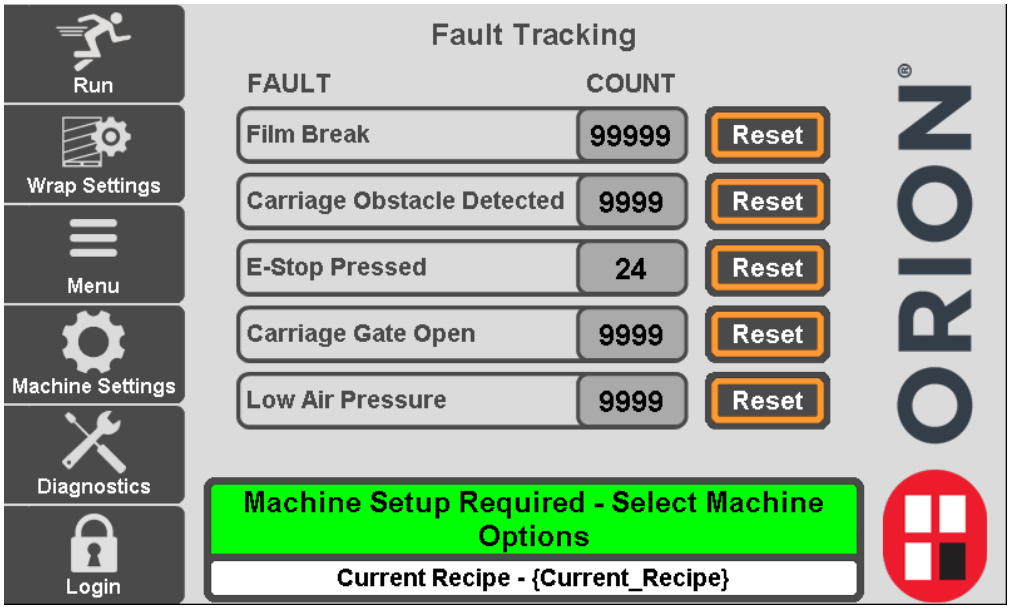



**Table 3-16. The Production Data Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| FILM BREAK | This counter shows how many times the Film Break fault was detected since the last reset. |
| CARRIAGE OBSTACLE DETECTED | This counter shows how many times the Carriage Obstacle detect fault was detected since the last reset. |
| E-STOP PRESSED | This counter shows how many times the E-Stop fault was detected since the last reset. |
| CARRIAGE GATE OPEN | This counter shows how many times the Carriage Gate Open fault was detected since the last reset. |
| LOW AIR PRESSURE | This counter shows how many times the Low Air Pressure fault was detected since the last reset. |
| Reset | Press this button to reset the indicated fault count to zero. |

# Machine Settings Screens

## Machine Settings Screen

This is the Machine Settings Screen. This screen allows access to each of the machine setting adjustments.

**Figure 3 - 17**
**The Machine Settings Screen**

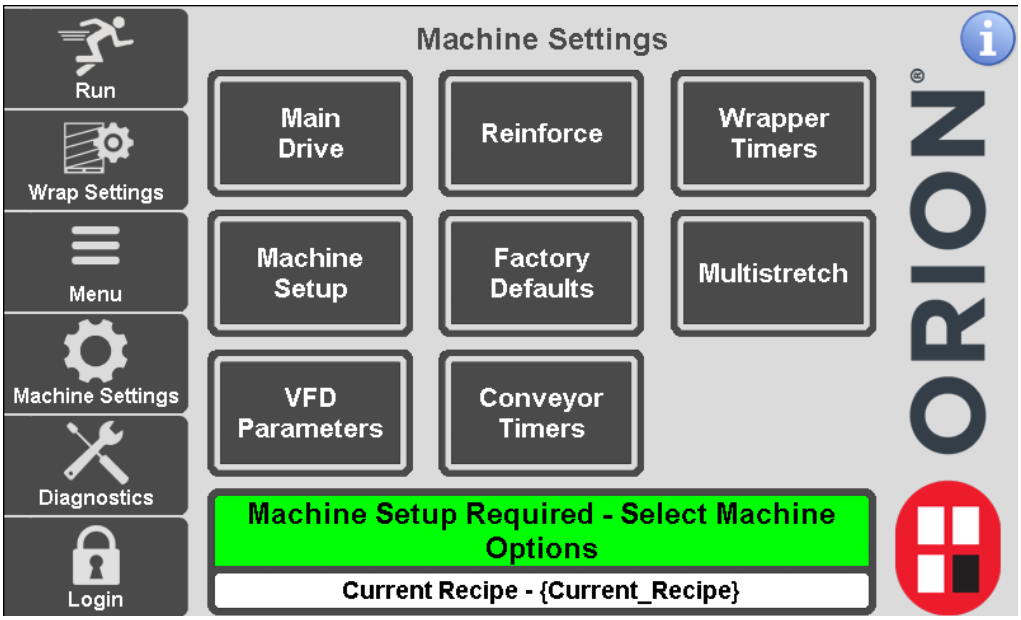
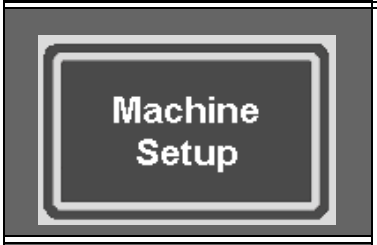



**Table 3-17. The Machine Settings Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Main Drive | Press this button to go to the Main Drive Screen. See “Main Drive Screen” on page 3 - 34. |
| Reinforce | Press this button to go to the Reinforce Screen. See “Reinforce Wrap Setup” on page 3 - 36. |
| Wrapper Timers | Press this button to go to the Wrapper Timers Screen. See “Wrapper Timers Screen” on page 3 - 37. |

**Table 3-17. The Machine Settings Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to go to the Machine Setup Screen. See “Machine Setup Screen” on page 3 - 39. |
|  | Press this button to go to the Factory Defaults Screen. See “Factory Defaults Screen” on page 3 - 43. |
|  | Press this button to go to the Multistretch Screen. See “Multistretch Settings Screen” on page 3 - 44. |
|  | Press this button to go to the VFD Parameters Screen. See “VFD Parameters Screen” on page 3 - 56. |
|  | Press this button to go to the Conveyor Timers Screen. See “Conveyor Timers Screen” on page 3 - 46. |

# Main Drive Screen

This is the Main Drive screen. This screen allows adjustment of the Main Drive (Turntable.)

**Figure 3 - 18**
**The Main Drive Screen**

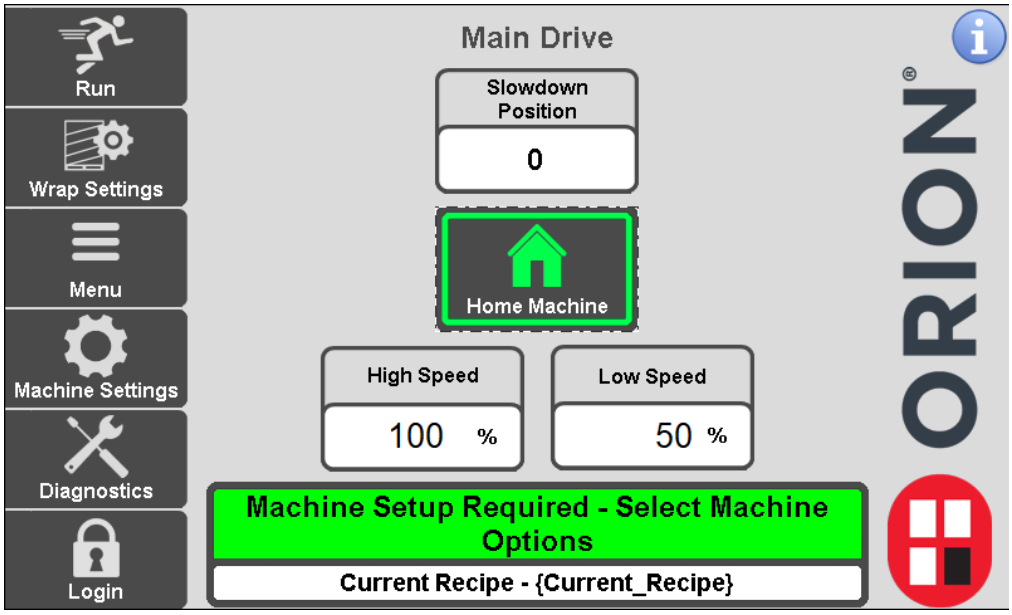



**Table 3-18. The Main Drive Screen Button Descriptions**

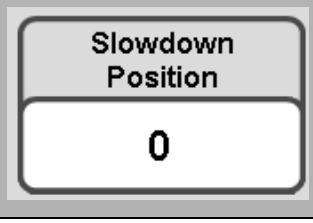
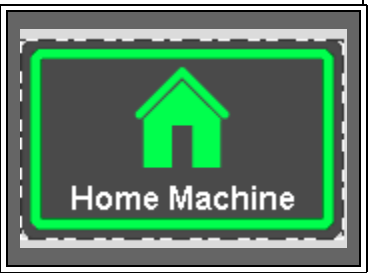
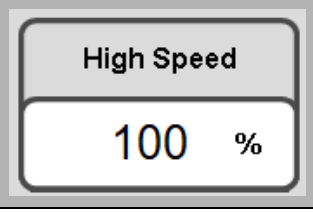
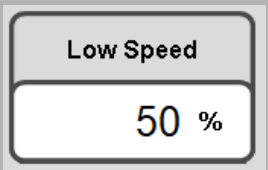
| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|   | The slow down position is when the Turntable starts to decel before stopping at home. An earlier slow down position might be needed for heavier loads and a later slowdown position for lighter loads. The value is the tooth count in which the machine will start to decelerate. | |
|   | Press this button to send the machine to its Home Position. When pressed, the Carriage will travel to its bottom limit, and the Main Drive will travel to its predefined End of Cycle Position. |   |
|   | Press this button to modify the High Speed value, in terms of hertz. This value determines the speed at which the Main Drive will travel during the wrap cycle when High Speed is selected. Min - 8 Hz Max - 27 Hz | |

**Table 3-18. The Main Drive Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to modify the Low Speed value, in terms of hertz. This value determines the speed at which the Main Drive will travel during the wrap cycle when Low Speed is selected. Min - 27 Hz Max - 55 Hz | |

# Reinforce Wrap Setup

This is the Reinforce Wraps Setting Screen. This screen allows the user to set the number of reinforce wraps that are applied when the reinforce button on the Run Screen is pressed.

**Figure 3 - 19**
**The Reinforce Setup Screen**

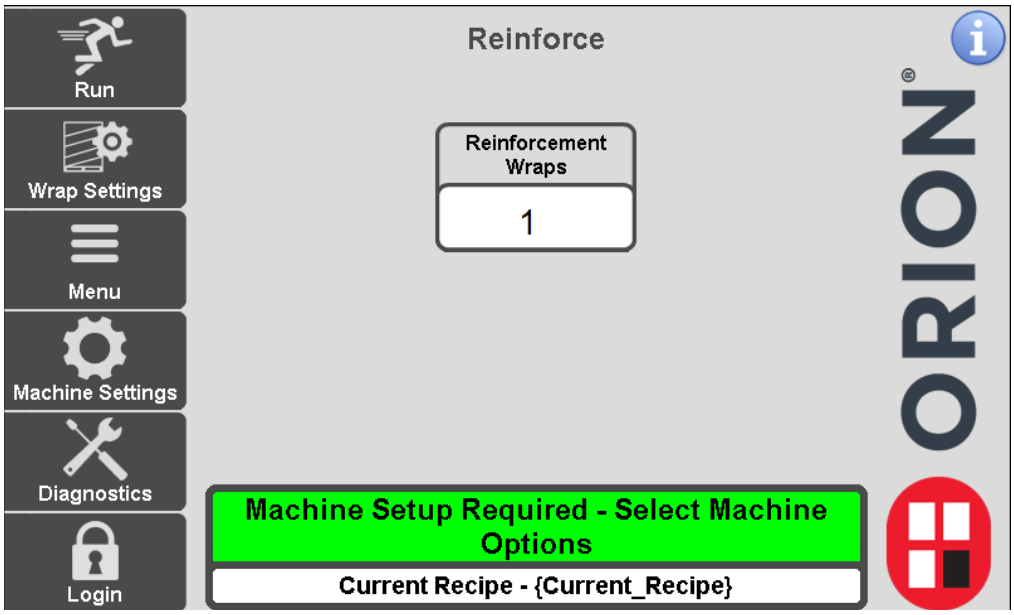
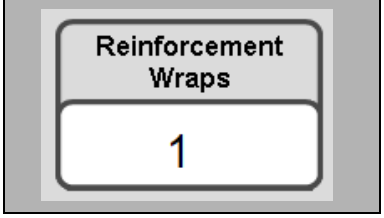



**Table 3-19. The Reinforce Wraps Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to set the number of reinforce wraps that are applied when the enable reinforce wraps button is pressed on the Run screen. |

# Wrapper Timers Screen

This is the Wrapper Timers Screen. This screen allows adjustment of the timers involved in the machine cycle. See the Table below for descriptions and parameters of each setting.

**Figure 3 - 20**
**The Wrapper Timers Screen**

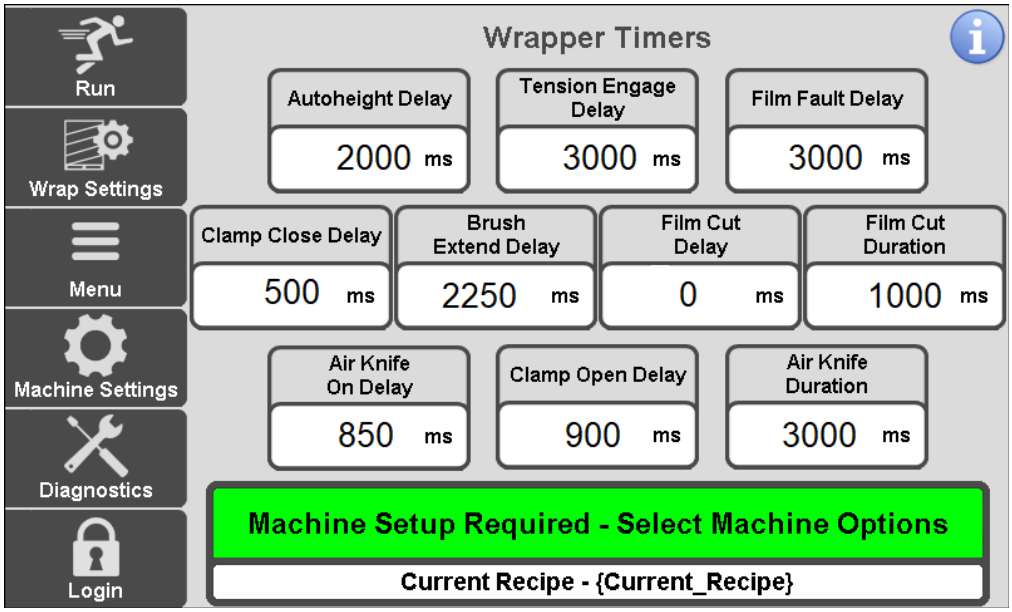
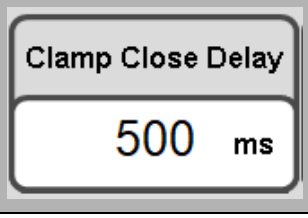
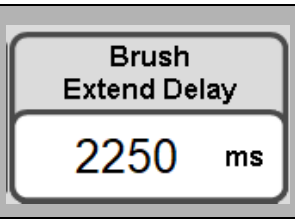
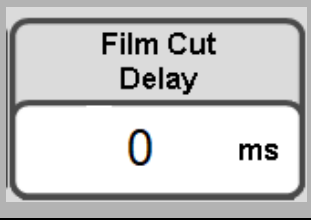
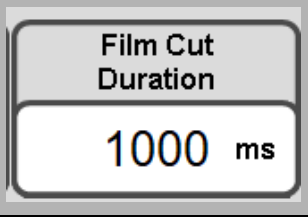
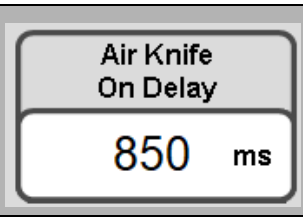
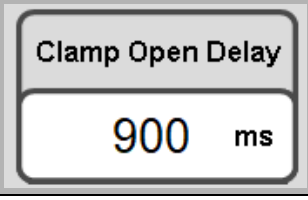
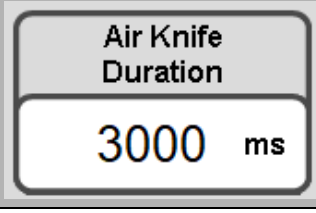



**Table 3-20. The Wrapper Timers Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Autoheight Delay 2000 ms | Press this button to modify the Autoheight Delay value, in terms of milliseconds. This value determines the amount of time that the Carriage will continue to travel up during the wrap cycle after the Autoheight photoeye no longer detects a load. This is used to adjust the amount of overlap on the top of the load. Min - 0 ms Max - 10000 ms |
| Tension Engage Delay 3000 ms | Press this button to modify the Tension Engage Delay value, in terms of milliseconds. This value determines the amount of time, at the beginning of the wrap cycle, that the Multistretch will pay out film at normal speed before applying tension. This is to keep film from pulling out of the clamp or away from the load. Min - 0 ms Max - 10000 ms |
| Film Fault Delay 3000 ms | Press this button to modify the Film Fault Delay value, in terms of milliseconds. This value determines the amount of time, during a wrap cycle, that the Multistretch must be inactive before triggering an End of Film Roll or Broken Film fault. Min - 0 ms Max - 10000 ms |

**Table 3-20. The Wrapper Timers Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to modify the Clamp Close Delay value, in terms of milliseconds. This value determines the amount of time, after the Main Drive has reached the End of Cycle position, that the machine will delay before initiating the Clamp and Cut sequence. Min - 0 sec Max - 3 sec |
|  | Press this button to modify the Brush Extend Delay value, in terms of milliseconds. This value determines the amount of time, after the Brush and Cutter arm has begun to extend, that the Brush will delay before extending to wipe the film tail against the load. Min - 0 ms Max - 5000 ms |
|  | Press this button to modify the Hot Wire On Delay value, in terms of milliseconds. This value determines the amount of time, after the Brush and Cutter arm has begun to extend, that the Hot Wire will delay before turning on to cut the film. Min - 0 ms Max - 5000 ms |
|  | Press this button to modify the Hot Wire Cut Duration value, in terms of milliseconds. This value determines the amount of time, after the Hot Wire has turned on, that it will remain on to cut the film.<br>**Warning**: Too high of a value may destroy the hot wire. Min - 1000 ms Max - 7000 ms. |
|  | Press this button to set the airknife on delay timer. This is the amount of time that the airknife (film tail blower) waits before blowing, during the cycle. |
|  | Press this button to set the clamp open delay timer. This is the amount of time that the clamp waits to open, during the cycle. |
|  | Press this button to enter the duration of the air knife blow time. |

# Machine Setup Screen

This is the Machine Setup Screen. This screen allows access to the Machine Setup screens for various parameters when setting up the machine for the first time.

**Figure 3 - 21**
**The Machine Setup Screen**

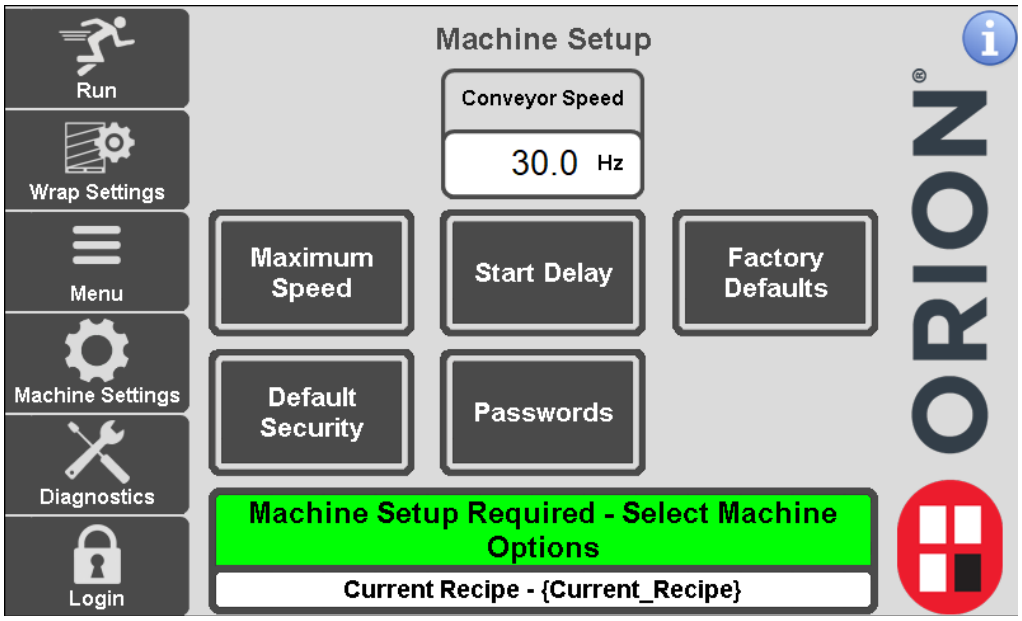



**Table 3-21. The Machine Setup Screen Button Descriptions**

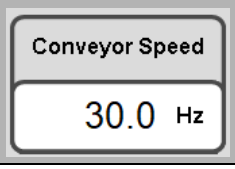
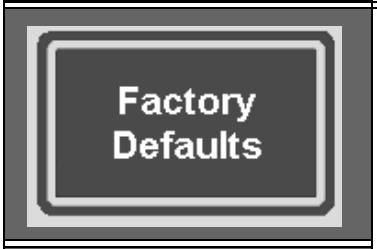
| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|   | Press this button to set the maximum speed of the Conveyor motor, in Hertz. | |
|   | Press this button to go to the Max Speed Screen. See “Maximum Speed Screen” on page 3 - 41. | |
|   | Press this button to go to the Start Delay Screen. See “Start Delay Screen” on page 3 - 42. | |

**Table 3-21. The Machine Setup Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to go to the Factory Defaults Screen. See “Factory Defaults Screen” on page 3 - 43. | |
|  | Press this button to go to the Security Settings Screen. See “Default Security Settings Screen” on page 3 - 10. | |
|  | Press this button to go to the Passwords Screen. See “Passwords Screen” on page 3 - 12. | |

# Maximum Speed Screen

This is the Maximum Speed screen. This screen allows you to choose the Maximum Multistretch and Main Drive Speeds.

**Figure 3 - 22**
**The Maximum Speed Screen**

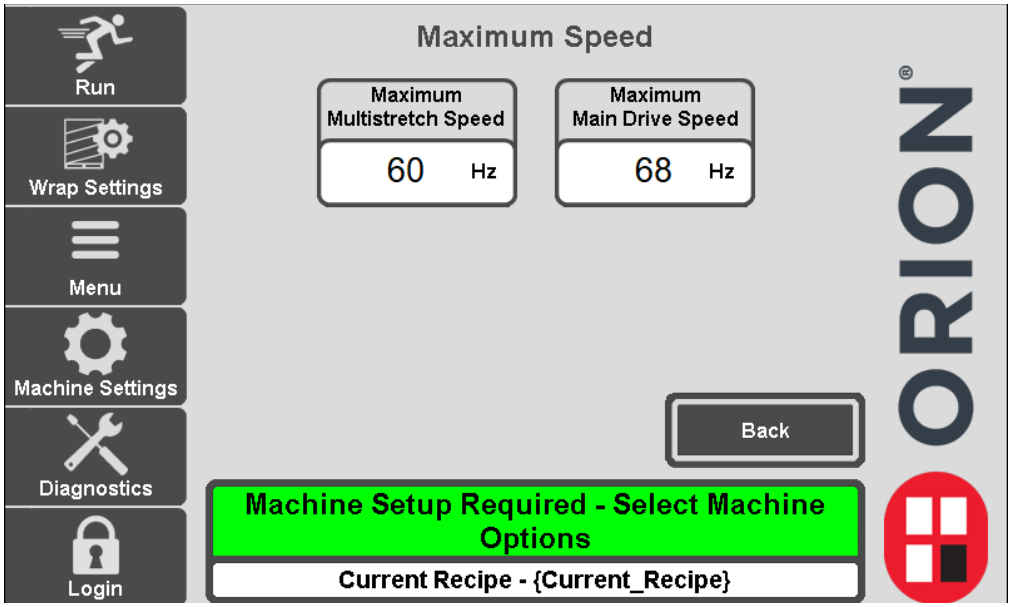



**Table 3-22. The Maximum Speed Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Maximum Multistretch Speed 60 Hz | Press this button to set the maximum speed of the Multistretch motor, in Hertz. |
| Maximum Main Drive Speed 68 Hz | Press this button to set the maximum speed of the Main Drive motor, in Hertz. |
| Back | Press this button to go back to the previous screen. |

# Start Delay Screen

This is the Start Delay screen. On this screen, you may set the amount of time, in milliseconds that the start button must be pressed before the machine starts.

**Figure 3 - 23**
**The Start Delay Screen**

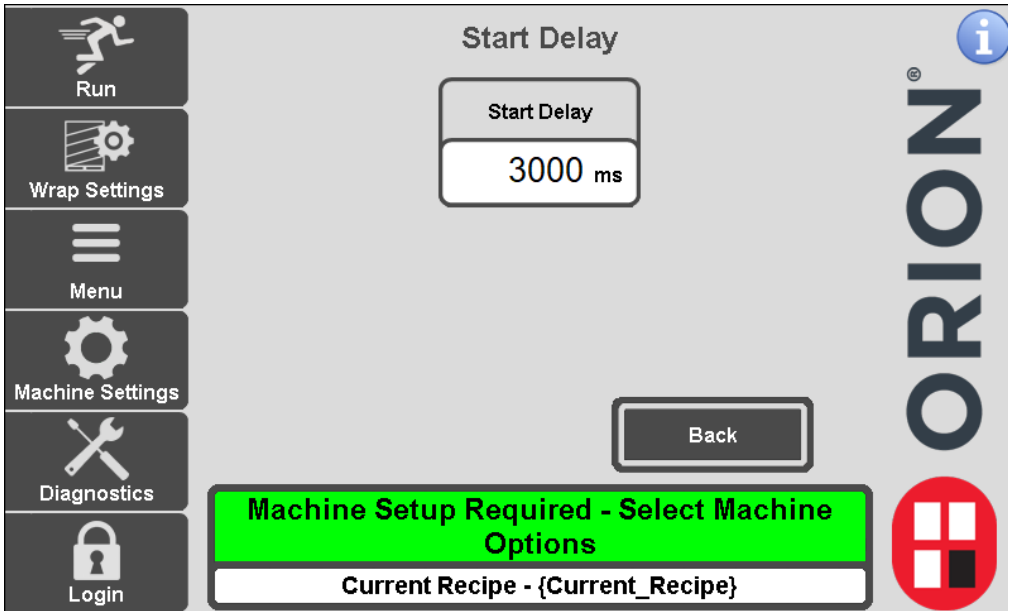



**Table 3-23. The Start Delay Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Start Delay 3000 ms | Press this button to modify the Start Delay value, in terms of milliseconds. This value determines the amount of time that the Start pushbutton must be pressed before the machine will start. Min - 500 ms Max - 5000 ms |
| Back | Press this button to go to the Machine Setup screen. |

# Factory Defaults Screen

This is the Factory Defaults Screen. This screen allows authorized users to go back to the factory default settings.

**Figure 3 - 24**
**The Factory Defaults Screen**

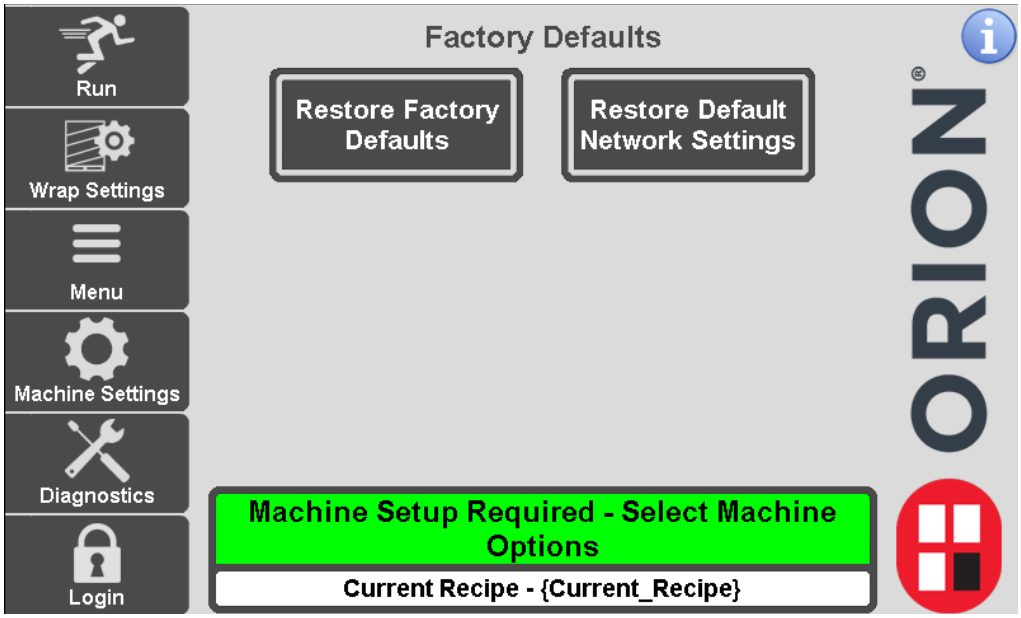



**Table 3-24. The Factory Defaults Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Restore Factory Defaults | Press this button to delete the currently entered factory settings and replace them with the original factory default settings. This will replace all Wrap Settings, Machine Settings, and Recipes with the factory default parameters. |
| Restore Default Network Settings | Press this button to restore default network settings to the machine. |

# Multistretch Settings Screen

This is the Multistretch Settings (MIB) screen. This page is useful primarily to repair personnel when troubleshooting the machine.

**Figure 3 - 25**
**The Multistretch Screen**

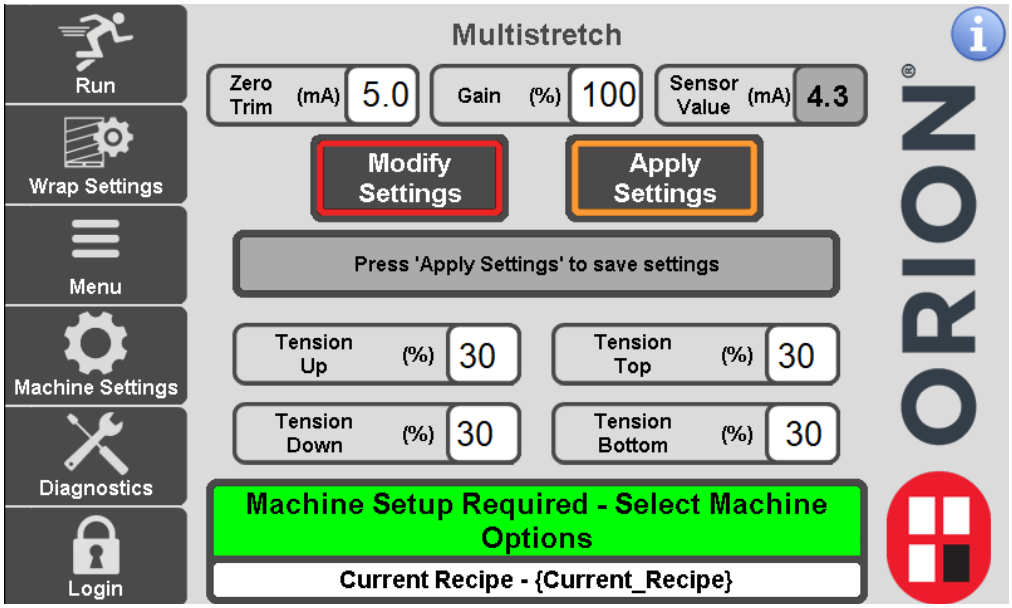
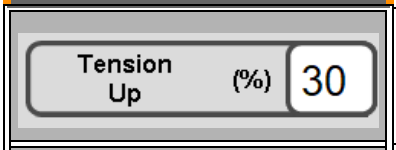
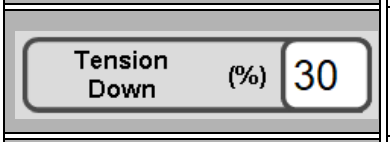
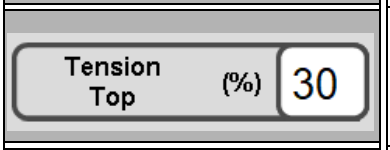
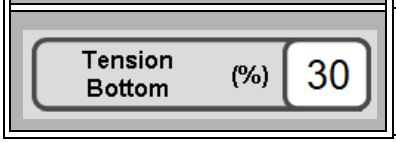



**Table 3-25. The Multistretch Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Zero Trim (mA) 5.0 | Press this button to modify the Zero Trim datapoint, in terms of milliamps. This value determines at which point the Multistretch will begin paying out film as the dancer bar is deflected. This value should be .5 mA higher than the Hall Effect Sensor reading with the dancer bar at rest. Min - 3.mA Max - 8 mA |
| Gain (%) 100 | Press this button to modify the Gain datapoint, in terms of percentage. This value sets percentage of deflection of the dancer bar that is required for the Multistretch to pay out film at maximum speed. Min - 10% Max - 100% |
| Sensor Value (mA) 4.3 | This displays the current dancer bar Hall Effect Sensor reading, in terms of milliamps. |
| Modify Settings | Press this button for access to modify the Zero Trim or Gain datapoints. The Multistretch is disabled while modifying the datapoints. |

**Table 3-25. The Multistretch Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to accept the current Zero Trim and Gain datapoints and apply them to the Multistretch. When complete, the drive will be enabled again. |
|  | Press this button to enter the film tension percentage from 0-100% while the carriage is traveling up. |
|  | Press this button to enter the film tension percentage from 0-100% while the carriage is traveling down. |
|  | Press this button to enter the film tension percentage from 0-100% while the carriage is wrapping the top. |
|  | Press this button to enter the film tension percentage from 0-100% while the carriage is wrapping the bottom. |

# Conveyor Timers Screen

This is the Conveyor Timers screen. On this screen, you may set the amount of time, in milliseconds that each conveyor runs past the load at conveyor sensor. This screen will vary depending on your machine configuration.

**Figure 3 - 26**
**The Conveyor Timers Screen**

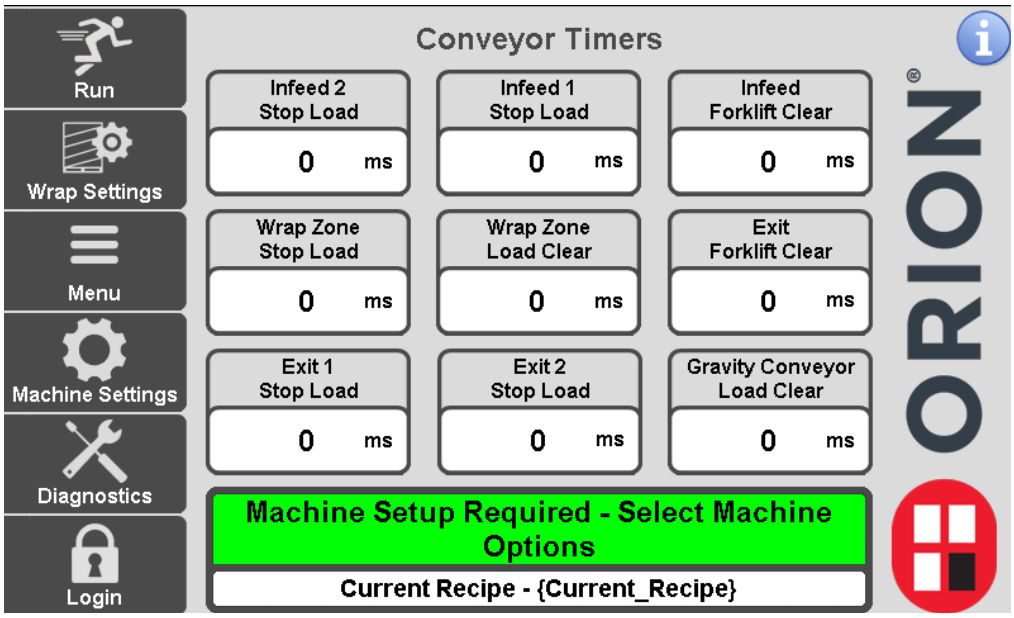



**Table 3-26. The Conveyor Timers Screen Button Descriptions**

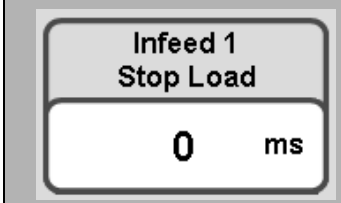
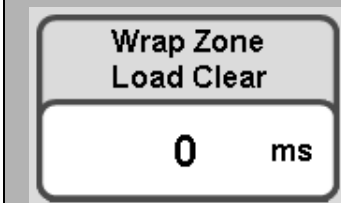
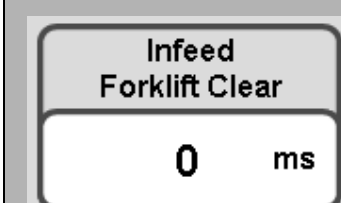
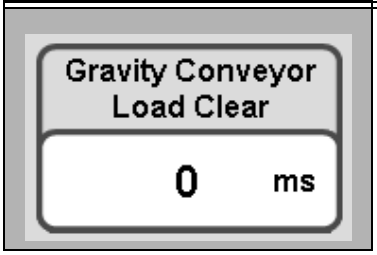
| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to enter the stop load timer, in milliseconds. This is the amount of time that the load continues to travel past the indicated at Conveyor sensor. |
|  | This setting adjusts the delay timer for the indicated conveyor. This is the amount of time the that the wrap zone needs to be clear before the indicated conveyor stops, in milliseconds. |
|  | Press this button to set the clear timer for the indicated forklift clear sensor. This is the amount of time that the forklift present sensor must be clear before the conveyor will run normal operation. |

**Table 3-26. The Conveyor Timers Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to set the clear timer for the indicated gravity conveyor clear sensor. This is the amount of time that the forklift present sensor must be clear before the conveyor will run. |

# Wrapper Timers Screen

This is the Wrapper Timers screen. This screen allows adjustments to the timing and speed settings of the machine.

**Figure 3 - 27**
**Wrapper Timers Screen**

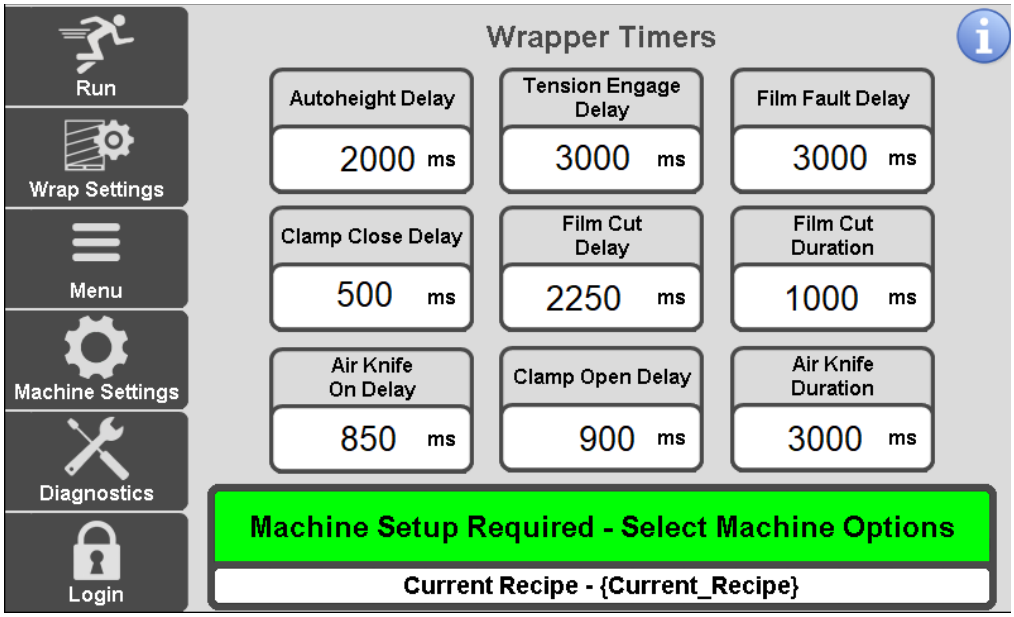



**Table 3-27. The Wrapper Timers Screen Button Descriptions**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
| Autoheight Delay 0 ms | This is the autoheight delay setting. Increasing this value will increase the delay, which is useful to create overlap at top. | |
| Clamp Close Delay 0 ms | Press this button to set the clamp close delay timer. This is the amount of time that the clamp waits to close, during the cycle. | |

**Table 3-27. The Wrapper Timers Screen Button Descriptions (Continued)**

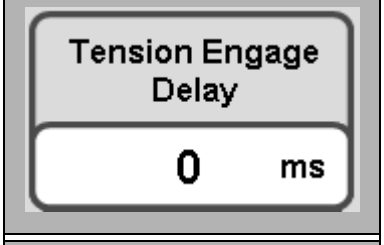
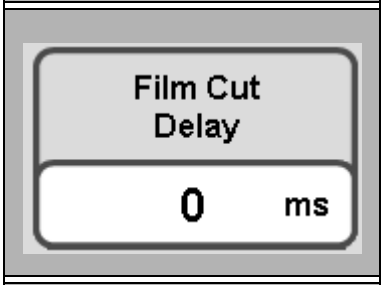
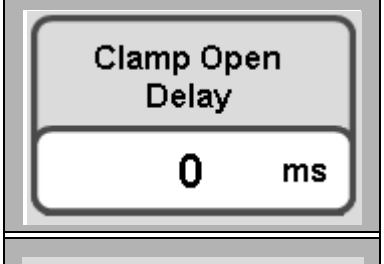
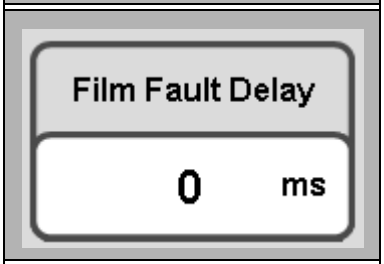
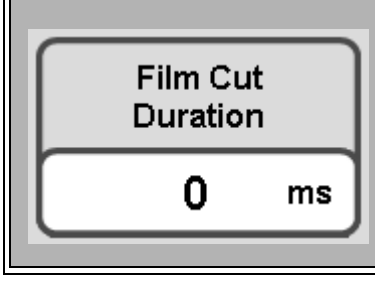
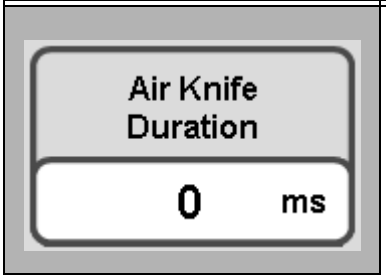
| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to set the airknife on delay timer. This is the amount of time that the airknife (film tail blower) waits before blowing, during the cycle. | |
|  | Press this button to enter the delay timer for the tension on delay. This is the amount of time, in milliseconds, at the beginning of the cycle where there is no tension applied. | |
|  | Press this button to set the amount of time that the film cut is delayed prior to starting, in milliseconds. | |
|  | Press this button to set the clamp open delay timer. This is the amount of time that the clamp waits to open, during the cycle. | |
|  | Press this button to set the amount of time that the film fault waits to trip the fault. This is also known as a “debounce” delay to prevent the film fault from tripping unnecessarily. | |
|  | Press this button to set the amount of time that the film cut is energized, in milliseconds. | |

**Table 3-27. The Wrapper Timers Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION | STATE 2 |
|---|---|---|
|  | Press this button to enter the duration of the air knife blow time. | |

# Diagnostics Screens

## Diagnostics Screen

This is the Diagnostics screen. This screen allows navigation to each of the Diagnostic Screens.

**Figure 3 - 28 The Diagnostics Screen**

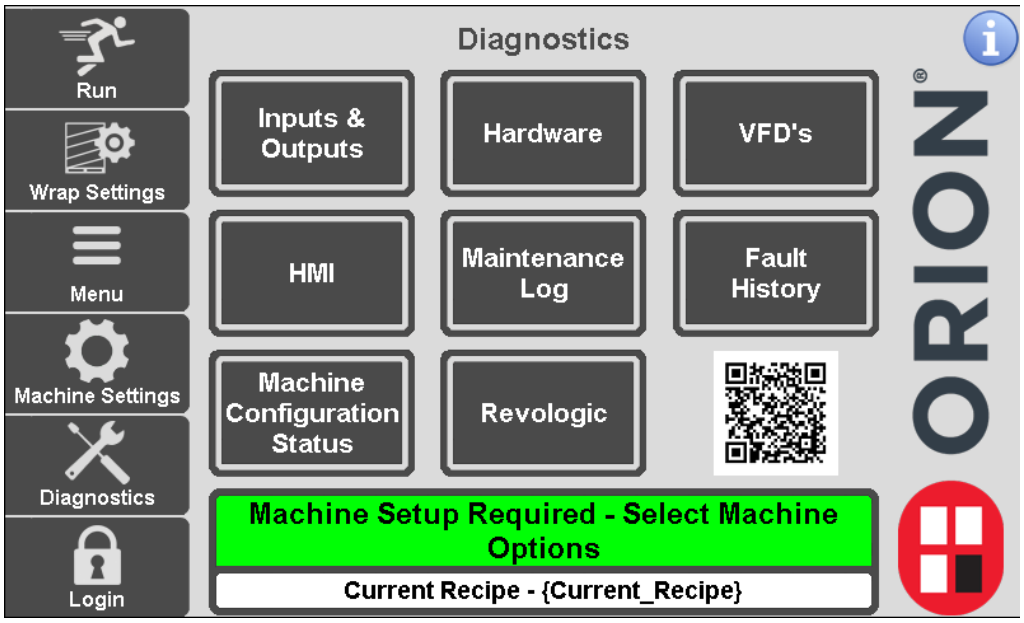



**Table 3-28. The Diagnostics Screen Button Descriptions**

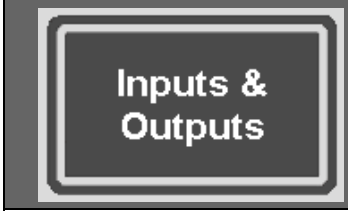
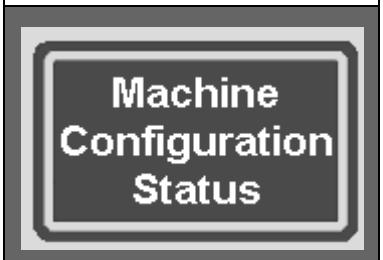
| STATE 1 | DESCRIPTION |
|---|---|
|   | Press this button to go to the Inputs Screen. See “Inputs Screens” on page 3 - 53. |
|   | Press this button to go to the Hardware Screen. See “Hardware Screen” on page 3 - 55. |

**Table 3-28. The Diagnostics Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to go to the VFD's Screen. See "Conveyor Timers Screen" on page 3 - 46. |
|  | Press this button to go to the HMI Screen. See "HMI Setup" on page 3 - 60. |
|  | Press this button to go to the Maintenance Log Screen. See "Maintenance Log Screen" on page 3 - 61. |
|  | Press this button to go to the Fault History Screen. See "Fault History Screen" on page 3 - 62. |
|  | Press this button to go to the Machine Configuration Status Screen. See "Machine Configuration Status Screen" on page 3 - 63. |
|  | Press this button to go to the Revologic Screen. See "Revologic Screen" on page 3 - 64. |

# Inputs Screens

This is the Inputs screen. This screen shows the status of the machine inputs. There is another screen similar to this for displaying output status.

**Figure 3 - 29**
**The Inputs Screen**

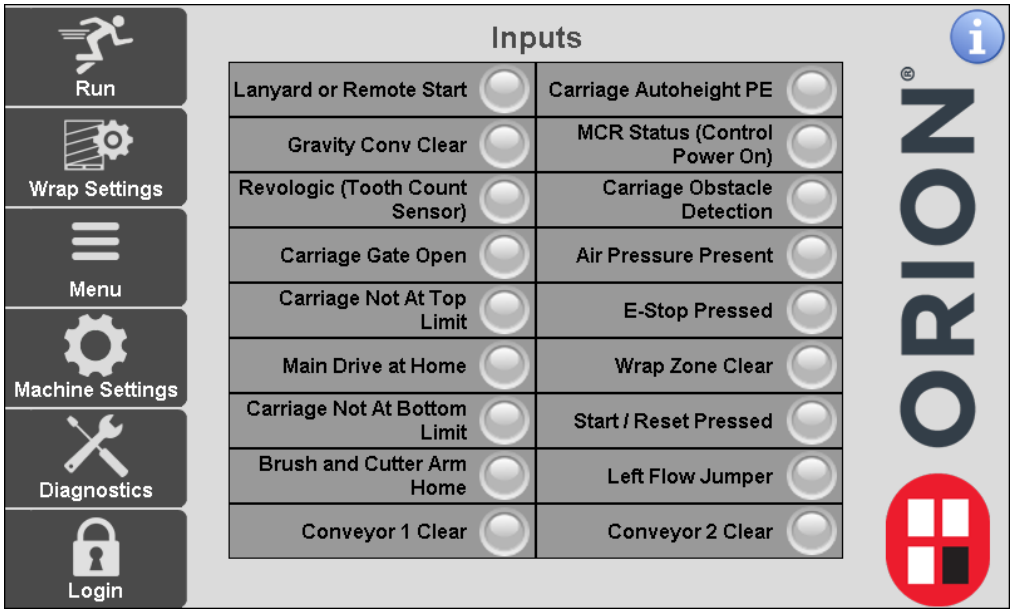
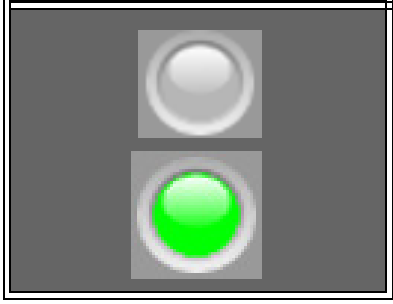



**Table 3-29. The Input Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Gray represents an inactive input. Green represents an active input. |

# Outputs Screens

This is the Outputs screen. This screen shows the status of the machine outputs. There is another screen similar to this for displaying input status.

**Figure 3 - 30**
**The Outputs Screen**

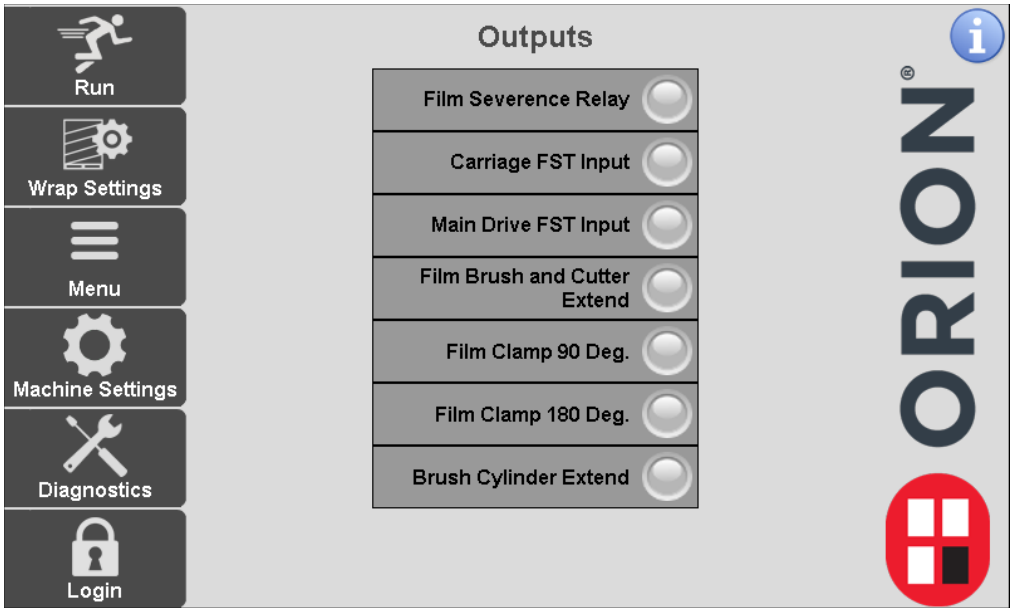



**Table 3-30. The Output Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Gray represents an inactive output. Green represents an active output. |

# Hardware Screen

This is the Hardware screen. This screen shows the connected hardware and identifies any communication faults.

**Figure 3 - 31**
**The Hardware Screen**

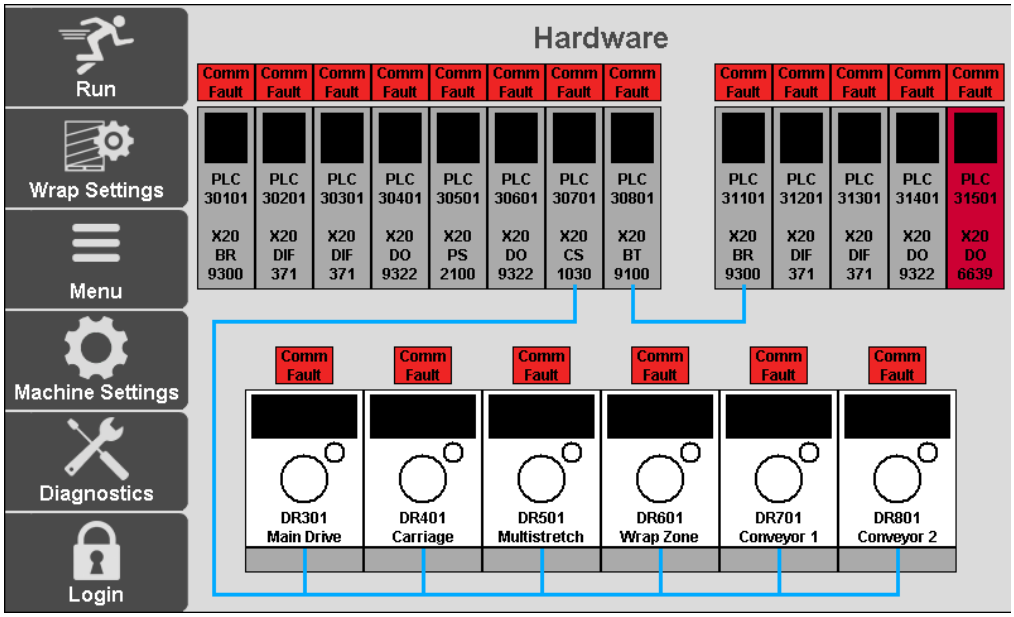



**Table 3-31. The Hardware Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
|   | These indicators show the status of the connected hardware on the machine. This allows the user to see which connected devices are active and which devices are not communicating to the PLC. |

# VFD Parameters Screen

This is the VFD Parameters screen. On this screen, you can identify the horsepower for each drive or transfer VFD parameters from the PLC to the VFD's.

**Figure 3 - 32**
**The VFD Parameters Screen**

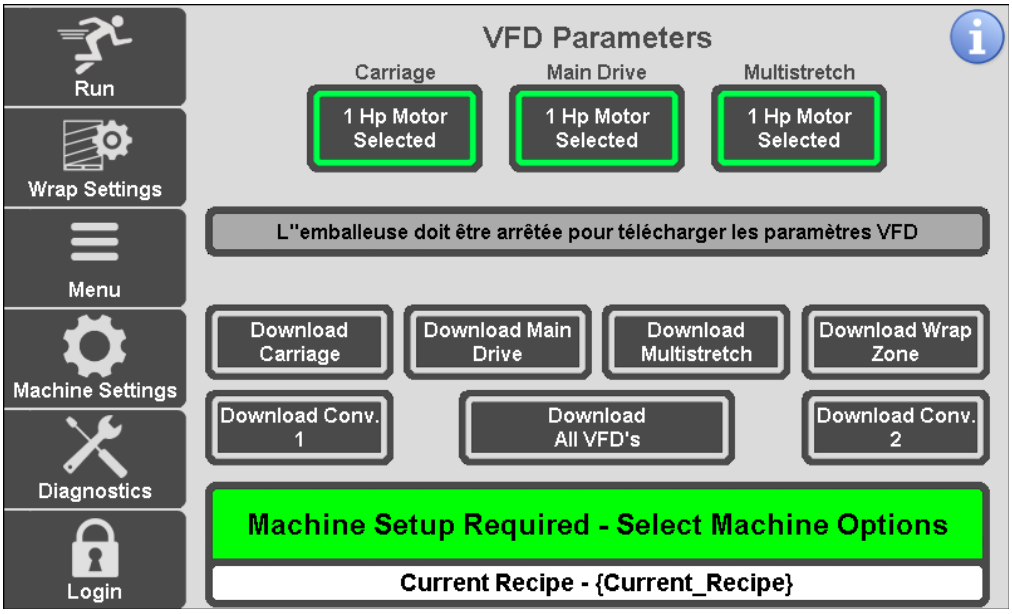
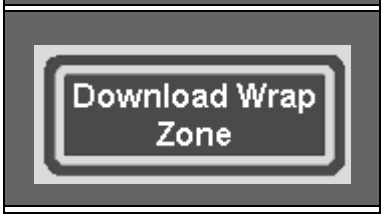
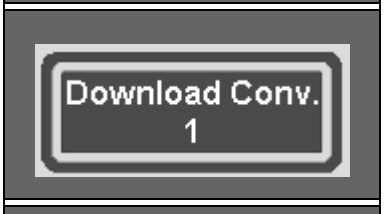



**Table 3-32. The VFD Parameters Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| NOT IDENTIFIED | Displayed if the machine cannot automatically identify the size of VFD currently installed. In this case, the VFD size must be manually selected before downloading. |
| 1/2 HP IDENTIFIED | Displayed if the machine identifies the current VFD as half horsepower drive. |
| 1 HP IDENTIFIED | Displayed if the machine identifies the current VFD as a one horsepower drive. |
| SELECT VFD SIZE | If the machine cannot automatically identify the size of the VFD, press this button to manually select the size of VFD currently installed. |
| 1/2 HP SELECTED | Displayed if the current VFD is manually selected as a half horsepower drive. |
| 1 Hp Motor Selected | Displayed if the current VFD is manually selected as a one horsepower drive. |
| Download Carriage | Downloads the default Carriage VFD parameters from the PLC to the VFD. |

**Table 3-32. The VFD Parameters Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Downloads the default Main Drive VFD parameters from the PLC to the VFD. |
|  | Downloads the default Multistretch VFD parameters from the PLC to the VFD. |
|  | Downloads the default Wrap Zone VFD parameters from the PLC to the VFD. |
|  | Downloads the default Conveyor 1 VFD parameters from the PLC to the VFD. |
|  | Downloads the default Download Conveyor 2 VFD parameters from the PLC to the VFD. |
|  | Downloads the default VFD parameters from the PLC to the VFD. |

# VFD Diagnostics Screen

This is the VFD Diagnostics screen.This screen allows you to view the diagnostics information about each VFD.

**Figure 3 - 33**
**The VFD Diagnostics Screen**

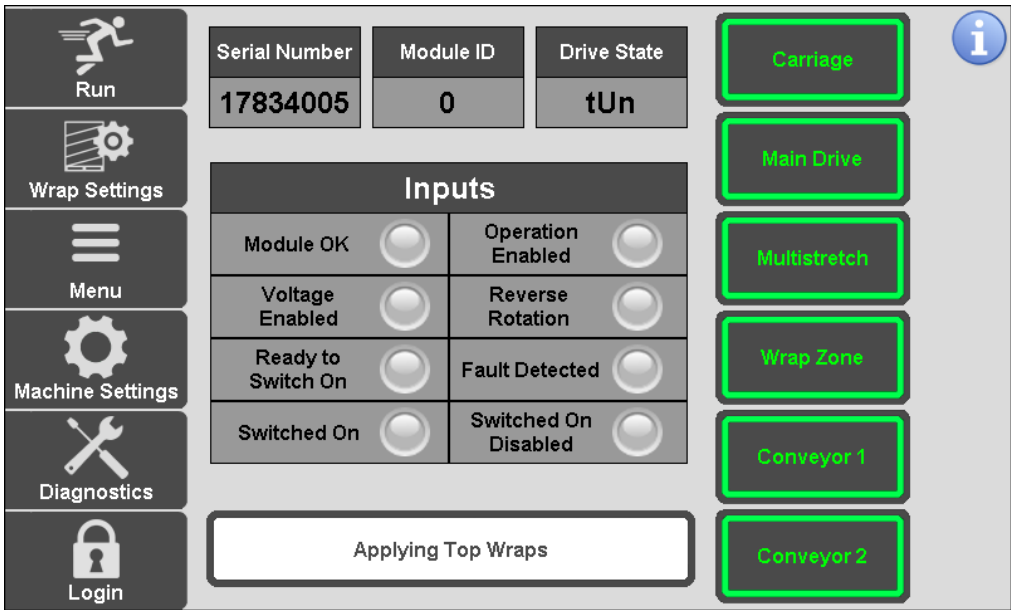
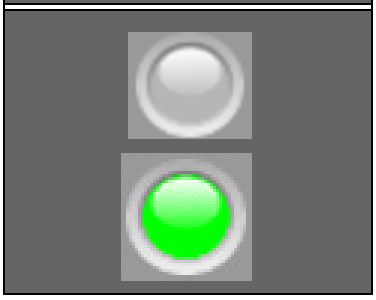



**Table 3-33. The VFD Diagnostics Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| SERIAL NUMBER | This displays the serial number of the selected VFD. |
| MODULE ID | This displays the Module ID of the selected VFD. |
| DRIVE STATE | This displays the current Drive State of the selected VFD. |
| Carriage | Press this button to select the Carriage input view. |
| Main Drive | Press this button to select the Main Drive (Turntable Drive) input view. |

**Table 3-33. The VFD Diagnostics Screen Button Descriptions (Continued)**

| STATE 1 | DESCRIPTION |
|---|---|
|  | Press this button to select the Multistretch input view. |
|  | Press this button to select the Wrap Zone input view. |
|  | Press this button to select the Conveyor 1 input view. |
|  | Press this button to select the Conveyor 2 input view. |
|  | Gray represents an inactive input. Green represents an active input. |

# HMI Setup

This is the HMI Setup Screen. This screen allows you to choose the HMI language, set the screen brightness, adjust the network settings, calibrate the touchscreen touch points, and set the date and time.

**Figure 3 - 34 The HMI Setup Screen**

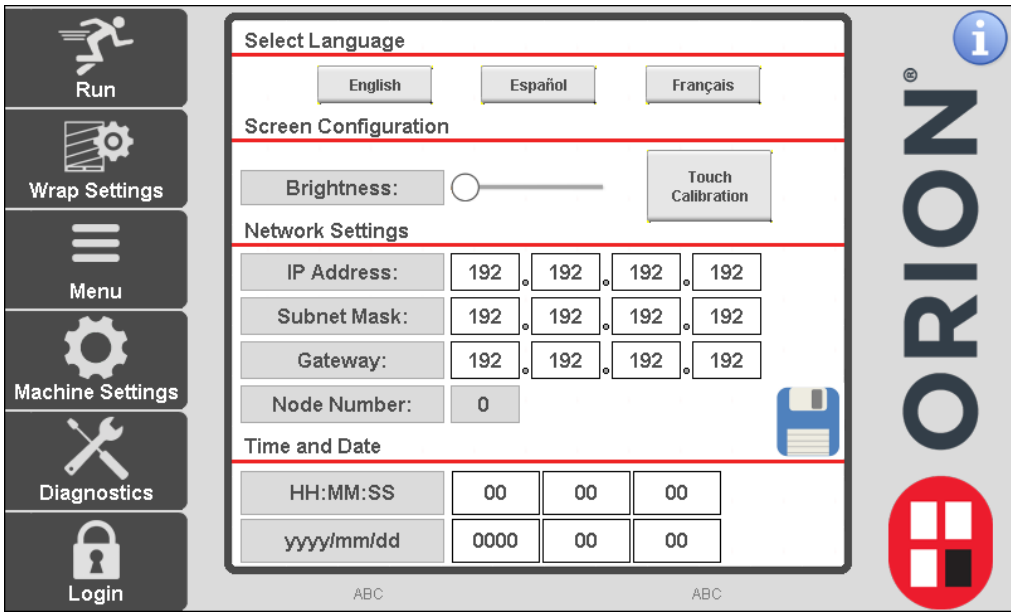



**Table 3-34. The HMI Setup Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| ENGLISH | Press this button to switch the HMI text to English. |
| ESPANOL | Press this button to switch the HMI text to Spanish. |
| BRIGHTNESS | Use the slider to adjust the brightness of the HMI screen. Slide to the right to increase the brightness. Slide to the left to decrease the brightness. |
| TOUCH CALIBRATION | Press this button to go to the touch calibration screen. This is used to set the alignment of the touch screen. There are multiple targets to press to align the screen. |
| NETWORK SETTINGS | When logged in as an Administrator, you can edit the IP Address, Subnet Mask, Gateway, or Node number. Press save, when done editing. If you are not logged in with the correct credentials, these settings are read-only. |
|  | Press this button to save the Network Settings. If you navigate away from the screen without saving, the entered network settings will not take effect. |
| TIME AND DATE | Press the numbers to edit the time and date. The format is hours (01-24), minutes (0-59), seconds (0-59). The date is set by year (####), month (1-12), and day (1-31). |

# Maintenance Log Screen

This is the Maintenance Log screen. This screen allows you to look back at the maintenance alarms and whether they were Acknowledged or Snoozed.

**Figure 3 - 35**
**The Maintenance Log Screen**

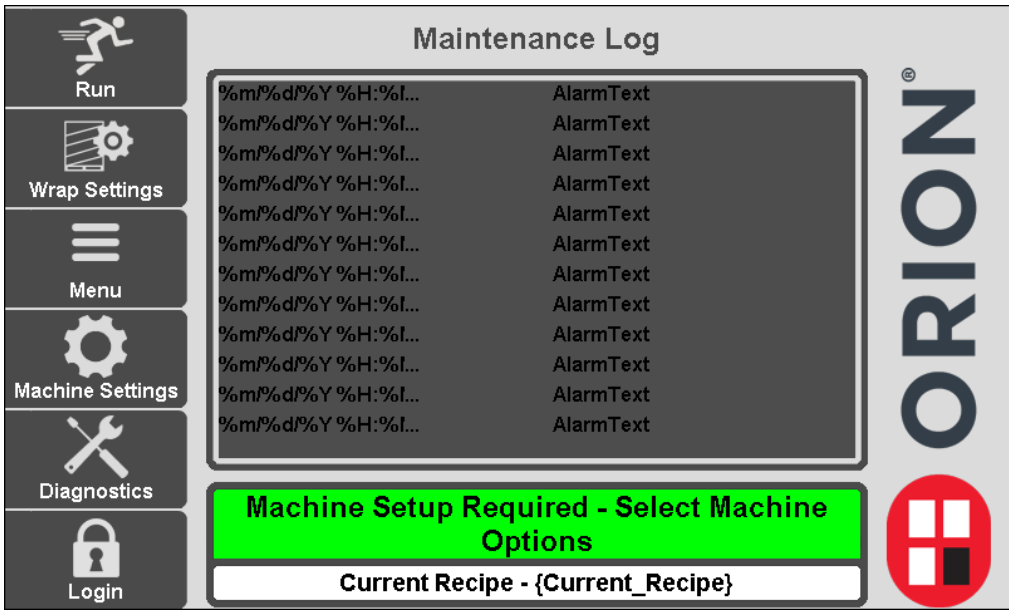



**Table 3-35. The Maintenance Log Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| ANY DISPLAY | The displays on this screen cannot be altered on this screen. These displays show the Maintenance Log for the indicated maintenance notifications. |

# Fault History Screen

This is the Fault History screen. The screen displays the faults and the time they occurred.

**Figure 3 - 36**
**The Fault History Screen**

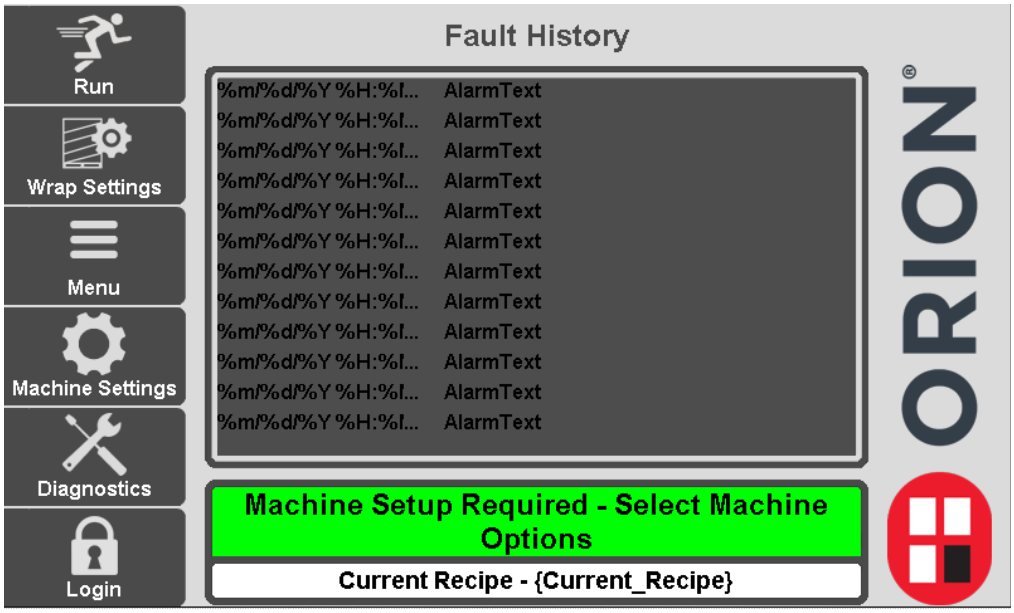



**Table 3-36. The Fault History Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| ANY DISPLAY | The displays on this screen cannot be altered on this screen. These displays show the Fault History Log. |

# Machine Configuration Status Screen

This is the Machine Configuration Status screen. The screen displays the status of the jumpers and each conveyor.

**Figure 3 - 37**
**The Machine Configuration Status Screen**

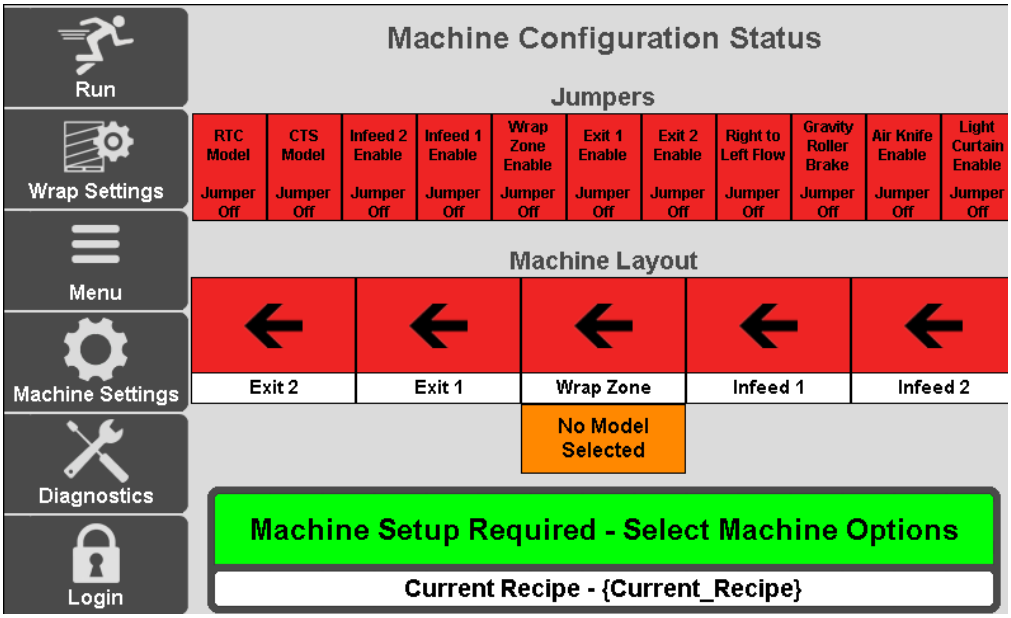



**Table 3-37. The Machine Configuration Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| ANY DISPLAY | The displays on this screen cannot be altered on this screen. These displays show status of each of the jumpers and conveyors in the machine layout. |

# Revologic Screen

This is the Revologic screen. This screen displays the revologic counts for each of the previous cycles.

**Figure 3 - 38**
**The Revologic Screen**

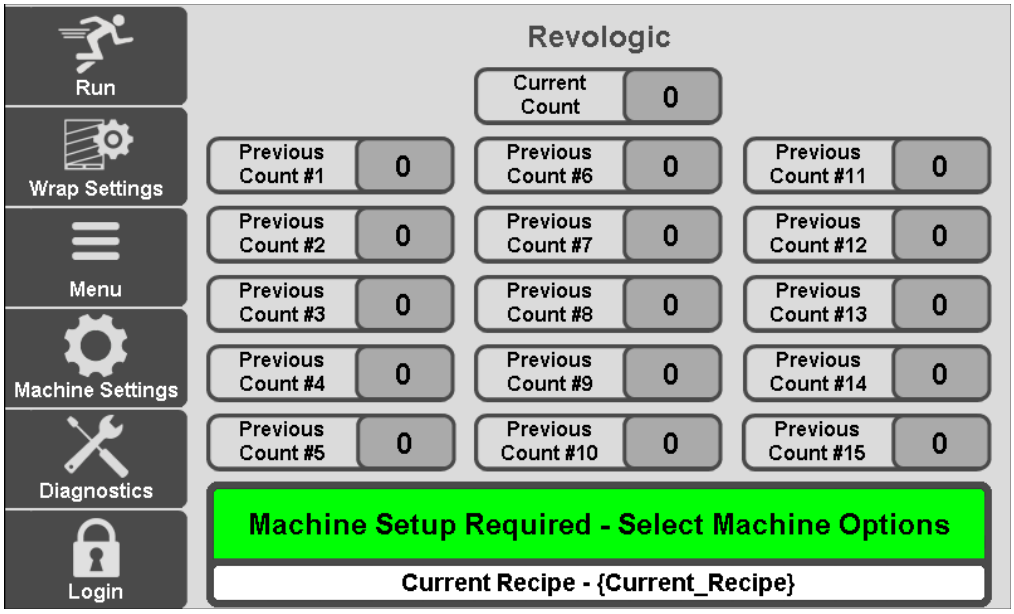



**Table 3-38. The Revologic Screen Button Descriptions**

| STATE 1 | DESCRIPTION |
|---|---|
| Current Count 0 | These indicator show the revologic counts for each of the previous cycles displayed. |

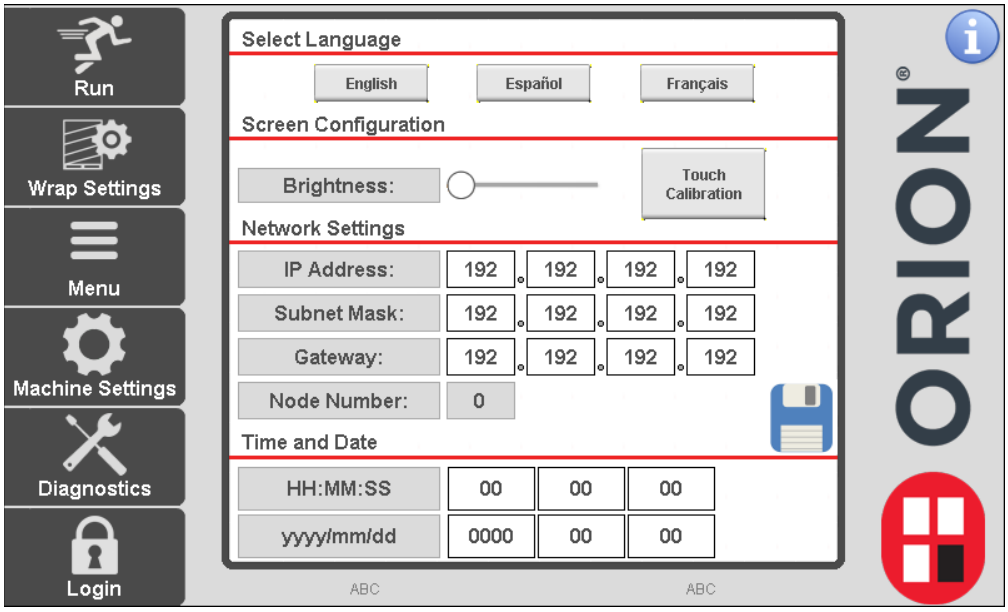
# Flex Dashboard Remote Viewing

## Setting up Dashboard Remote Viewing

Your new flex machine has the capability of remotely viewing the status from your computer browser on the same network. You will need your network administrator to advise what IP address should be used for your flex machine.

1. Press Login to log into Admin level security.
2. Enter the user password. Press Enter.
3. Press Diagnostics.
4. Press HMI.
5. Enter the IP network settings approved by your system administrator.
6. Press Save (Disk Icon.)

**Figure 3 - 39**
**Setting the IP Address**

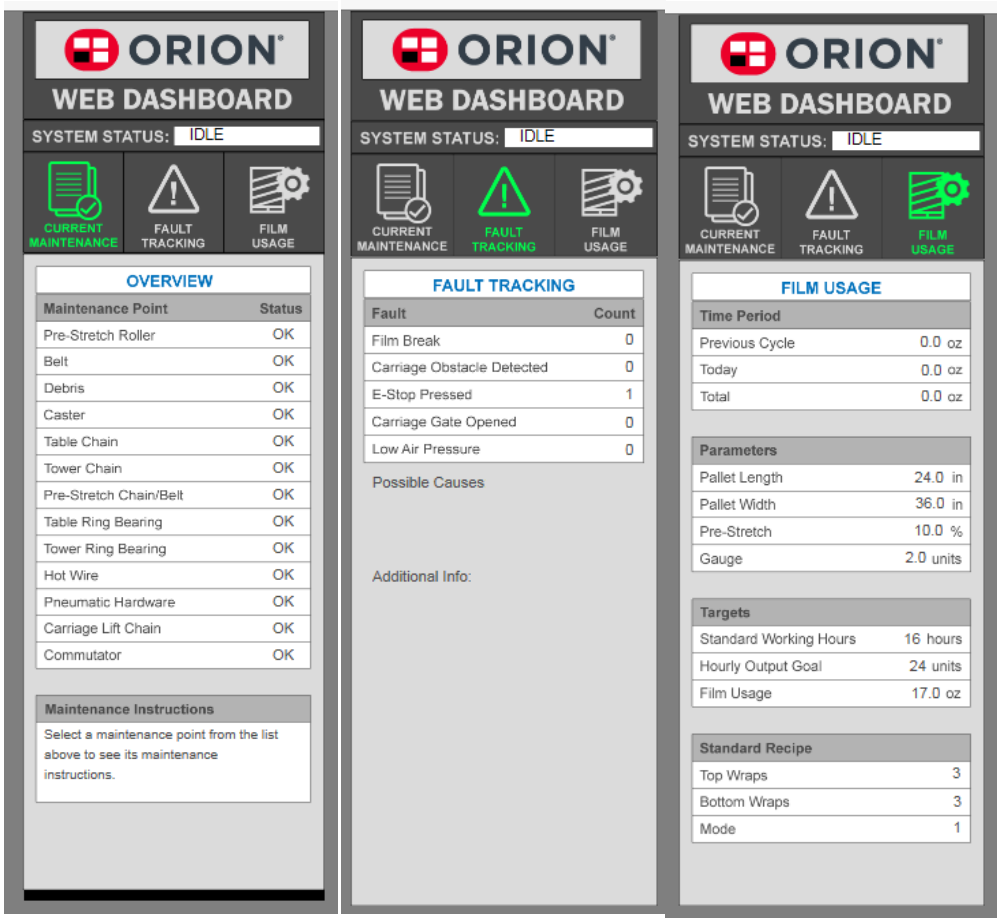



7. On the back of the HMI, connect an ethernet cord to the Eth IF2 connector. Route to your network router.
8. On your computer bowser connected to the same network, enter the IP address you assigned to the flex machine then /dashboard.asp.
9. Example: **192.168.1.2/dashboard.asp**

(Continued on Next Page)

10. Once the correct address is entered followed by /dashboard.asp, the dashboard will display.
11. This screen allows you to view the Status of your machine, the Production data, Recent Faults, and Current Recipe running.

**Figure 3 - 40**
**Flex Dashboard**



# Information & Alarm Messages

The message and alarm displays are divided into two separate charts in this section.

- Message Displays - Various non-critical status messages
- Alarm Displays - Operation critical alarms/faults

## Message Displays

The messages in this section are the various non-critical status messages. These messages are for informational purposes. For critical alarms, see “Alarm Displays” on page 3 - 71.

**Note:** Not all messages in this list are applicable to your machine. The alarm messages on you machine may vary based on machine options.

**Table 3-39. The Message Displays**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **MACHINE SETUP REQUIRED - SELECT MACHINE OPTIONS** | The machine setup parameters are not set. | See “Machine Setup Screen” on page 3 - 39. |
| **APPLYING TOP WRAPS** | The machine is currently applying the top wraps. | This is for informational purposes only. No correction necessary. |
| **END OF FILM ROLL OR BROKEN FILM** | The film has broken or the roll ran out. | Re-load a new roll if out. If broken, monitor the film. Replace roll if problem persists. See troubleshooting chart for broken film troubleshooting tips. |
| **CYCLE ENDING** | The cycle is ending. | This is for informational purposes only. No correction necessary. |
| **CYCLE PAUSED** | The cycle is paused. | Resume, when ready. Press the resume button on the Run screen. |
| **E-STOP PRESSED** | The E-stop button is currently pressed. | Release the E-stop button to allow operation. Press Start to reset control power, then press and hold start for the amount of time set up in the parameters. |

**Table 3-39. The Message Displays (Continued)**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **CARRIAGE GATE OPEN** | The carriage gate is currently open. | Close the carriage to allow operation. Check the interlock switch. |
| **HOMING MACHINE** | The machine is homing. | Allow the machine to home prior to starting. |
| **LOW AIR PRESSURE** | The machine pneumatic pressure is low. | Check the pneumatic supply. Ensure 80 PSI is available. |
| **PRESS START BUTTON TO RESET CONTROL POWER** | The machine is not reset. | Press Start to reset control power prior to starting. |
| **MOVING TO BOTTOM OF LOAD** | The carriage is moving to the bottom of the load. | This is for informational purposes only. No correction necessary. |
| **MOVING TO TOP OF LOAD** | The carriage is moving to the top of the load. | This is for informational purposes only. No correction necessary. |
| **READY TO WRAP - PRESS & HOLD START BUTTON** | The machine is reset and ready to run. | Press and hold the start button for the amount of time set in the parameters to start the machine. |
| **APPLYING REINFORCEMENT WRAPS** | Reinforce wraps are currently being applied. | Once the reinforce wraps are completed, the machine will continue its cycle. |
| **TOWER OBSTACLE DETECTED** | The tower has an obstruction. | Check for a mechanical bind. Clear the cause of the fault. Reset and restart, when ready. |
| **APPLYING BOTTOM WRAPS** | The bottom wraps are currently being applied. | This is for informational purposes only. No correction necessary. |
| **WRAP CYCLE IS COMPLETE** | The wrap cycle is now complete. | Remove the load, when ready. |
| **CLAMPING & CUTTING FILM** | The machine is now in the clamp and cut cycle. | This is for informational purposes only. No correction necessary. |

**Table 3-39. The Message Displays (Continued)**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **INITIALIZING** | The machine is initializing. | There is a brief initialization sequence once the machine is reset. Allow the machine to initialize prior to starting. |
| **LIGHT CURTAIN BLOCKED** | The light curtain is blocked (if equipped.) | Clear the obstruction from the light curtain to allow operation. |
| **SAFETY SYSTEM NOT READY** | The safety controller is not ready to run. | Allow the safety system to initialize prior to running. |
| **FAULTS EXIST** | Faults currently exist. | Correct the cause of the fault. Press reset to reset the fault condition once the cause is corrected. |
| **CARRIAGE MOVING UP TOO SLOWLY** | The carriage is moving upward too slowly. | Check for the cause of the carriage not moving correctly. Check the belt drive behind the back panel. Check for a jam or obstruction on the track. |
| **CARRIAGE MOVING DOWN TOO SLOWLY** | The carriage is moving downward too slowly. | Check for the cause of the carriage not moving correctly. Check the belt drive behind the back panel. Check for a jam or obstruction on the track. |
| **BRUSH AND CUTTER NOT HOME** | The brush and cutter are not home. | Cycle the brush and cutter. Check why the brush and cutter can't reach the home position. |
| **MULTISTRETCH VFD NOT READY** | The indicated VFD is not ready to run. | Check the fault code on the VFD display in the electrical cabinet. See VFD manual for fault code information. |
| **MAIN DRIVE VFD NOT READY** | | |
| **CARRIAGE VFD NOT READY** | | |
| **DOWNLOADING VFD PARAMETERS - PLEASE WAIT** | The VFD parameters are transferring to the VFD's from the PLC. | Wait until the process is completed. |

**Table 3-39. The Message Displays (Continued)**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **X2X COMMUNICATION FAULT - PRESS E-STOP TO CLEAR FAULT** | There is an X2X communication fault, press and release the E-stop button to clear the fault. | Contact Orion Packaging if problem persists. |
| **RS485 COMMUNICATION FAULT - PRESS E-STOP TO CLEAR FAULT** | There is an RS485 communication fault, press and release the E-stop button to clear the fault. | Contact Orion Packaging if problem persists. |
| **MODIFYING MULTISTRETCH SETTINGS** | The stretch settings modification is in progress. | Allow the settings to complete prior to start-up. |

# Alarm Displays

The messages in this section are the various critical status messages. For non-critical alarms, see “Message Displays” on page 3 - 67.

Correct the condition and press the Fault Reset button to clear the message and continue machine operation. A description of these messages appears on the following pages.

**Note:** Not all messages in this list are applicable to your machine. The alarm messages on you machine may vary based on machine options.

**Table 3-40. The Alarm Displays**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **NO CONTROL POWER** | Control Power is not present. | Press the Control Power reset button prior to starting the machine. |
| **REWRAP TIMED OUT** | The re-wrap cycle timed out. | Check for the cause of the machine not completing the re-wrap cycle. |
| **MACHINE NOT HOME** | The Turntable is not home. | Re-home the machine via the HMI Home Machine button on the Main screen. |
| **CARRIAGE GATE OPEN DURING CYCLE** | The carriage gate opened during the cycle. | Check for the cause of the unlatch. Re-latch and restart, when ready. |
| **END OF ROLL OR BROKEN FILM** | The film has broken or the roll ran out. | Re-load a new roll if out. If broken, monitor the film. Replace roll if problem persists. See troubleshooting chart for broken film troubleshooting tips. |
| **INFEED LOAD PROTECT PE BLOCKED** | The infeed load protection eye is blocked. | Check the alignment of the load protect eye. Ensure the load is not blocking the load protection eye. The load protect eye ensures the load is not struck by the arm. |
| **EXIT LOAD PROTECT PE BLOCKED** | The exit load protection eye is blocked. | Check the alignment of the load protect eye. Ensure the load is not blocking the load protection eye. The load protect eye ensures the load is not struck by the arm. |

**Table 3-40. The Alarm Displays (Continued)**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **BOTH CTS AND RTC JUMPERS CONNECTED** | Both machine select jumpers are in place. | The jumper must be in place for the correct model. |
| **NO MODEL SELECT JUMPER CONNECTED** | There is no model select jumper in place. | Install the model select jumper. |
| **CARRIAGE MOVING UP TOO SLOWLY** | The carriage is moving upward too slowly. | Check for the cause of the carriage not moving correctly. Check the belt drive behind the back panel. Check for a jam or obstruction on the track. |
| **CARRIAGE MOVING DOWN TOO SLOWLY** | The carriage is moving downward too slowly. | Check for the cause of the carriage not moving correctly. Check the belt drive behind the back panel. Check for a jam or obstruction on the track. |
| **CARRIAGE DOOR OPEN** | The carriage door is currently open. | Close the carriage door to allow operation. |
| **LOW AIR PRESSURE** | The machine pneumatic pressure is low. | Check the pneumatic supply. Ensure 80 PSI is available. |
| **BRUSH AND CUTTER NOT HOME** | The brush and cutter are not home. | Cycle the brush and cutter. Check why the brush and cutter can't reach the home position. |
| **OBSTACLE DETECTED** | The tower has an obstruction. | Check for a mechanical bind. Clear the cause of the fault. Reset and restart, when ready. |
| **CONVEYORS RUNNING WITH MAIN DRIVE MOVING** | The conveyors are moving and the main drive is also moving. | Only the main drive or the conveyors should move at a time. This is a fail safe to ensure that a load is not lost. Rehome the machine and restart. Monitor while running. |

**Table 3-40. The Alarm Displays (Continued)**

| MESSAGE | DESCRIPTION | CORRECTION |
|---|---|---|
| **MULTISTRETCH VFD NOT READY** | The indicated VFD is not ready to run. | Check the fault code on the VFD display in the electrical cabinet. See VFD manual for fault code information. |
| **MAIN DRIVE VFD NOT READY** | | |
| **CARRIAGE VFD NOT READY** | | |
| **(*NAME*) CONVEYOR VFD NOT READY** | | |
| **X2X COMMUNICATION ERROR** | There is an X2X communication fault, press and release the E-stop button to clear the fault. | Contact Orion Packaging if problem persists. |
| **RS485 COMMUNICATION ERROR** | There is an RS485 communication fault, press and release the E-stop button to clear the fault. | Contact Orion Packaging if problem persists. |
| **(*NAME*) CONVEYOR TIMEOUT FAULT** | The indicated conveyor sensor didn't change states within the time required in the system program. | Check that the load isn't hung up. Ensure that the load indexes properly. Check photoeye alignment. |
| **MAIN DRIVE COULDN'T STOP AT HOME** | The main drive couldn't stop in time to make it to the home position. | The End of High Speed timer may have to be adjusted. The end of high speed timer sets how long, after the main drive crosses home on the last rev, before it will go into decel to jog speed. Too much time can allow the Turntable to "overshoot" home and increase cycle time. |
| **INVALID CONVEYOR CONFIGURATION** | The conveyor configuration is not valid. | Check the config screen. Ensure that the conveyors are properly set up. |

# Troubleshooting Contents

# 4. Troubleshooting

## Troubleshooting

This troubleshooting chart details problems you may encounter with your Flex series stretchwrapper along with the cause and solution. If the problem(s) cannot be solved after consulting this section and/or appropriate sections of this manual, call Orion at (800) 333-6556.

**Table 4-1. Troubleshooting Chart**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Control Panel / Error Messaging - No Control Power / E-stop Is Flashing** | E-Stop circuit is activated. E-stop is depressed. | Perform E-Stop reset sequence.<br>1. Reset all safety circuits and close carriage door.<br>2. Close guard door security interlock.<br>3. Pull E-Stop to the OUT position.<br>4. Press Green Start Button.<br>5. Press Cycle Reset button on screen. |
| | Safety Photocells not aligned. Photocell lights should change state when objects block, then unblock photocells. | Re-align photocells with their respective reflectors, then perform an E-Stop Reset. |
| | Wiring in the E-stop circuit is compromised. Perform continuity Check on all wiring in the e-stop circuit. | Refer to the electrical schematic for wiring layout and wire numbers. |
| | Components in the E-Stop circuit have failed. Test components individually including contact bodies. | Refer to the electrical schematic for wiring layout and wire numbers. |
| **Stored Values Revert To Zero Or Unusable Settings** | High voltage spike or voltage brownout below 200 VAC has occurred. With a meter, observe voltage at the main power switch on the control panel during a wrap cycle. | 1. Remove all household extension cords.<br>2. Move machine to a different power outlet.<br>3. Have an electrician verify site power supply. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Turntable Will Not Stop In The Correct Position. (Table Does Stop At End Of Cycle-but In Wrong Position** | Turntable end of cycle positioning counter value is set incorrectly. Observe the Turntable end of cycle positioning counter value on the HMI. | Refer to the factory default settings value list. |
| | Slow Down Position for Turntable Timer is adjusted too high. Observe the Slow Down Position for Turntable Timer value on the HMI. | Refer to the factory default settings value list. |
| | Turntable preset speeds are set incorrectly. The Turntable is over-hauling and the drive can not stop the load fast enough. Check the value of the SP-2-SP-3 and SP-4 parameters on the Turntable VFD. Ensure that they are set within correct values. | Refer to the factory default settings value list. |
| | Turntable deceleration value is set incorrectly. The Turntable is over-hauling and the drive can not stop the load fast enough. Check the value of the DEC parameter on the Turntable VFD. Ensure that it is set within the Orion factory default values. | Refer to the factory default settings value list. |
| | Component failure. | Check error message on the Turntable VFD display.<br>Refer to the supplied VFD user manual for error message. Replace if needed. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Turntable Will Not Stop In The Correct Position. (Table Does Not Stop Until E-stop Is Depressed Or Power Is Removed)** | Revo-logic™ sensor is mis-aligned with the Turntable driven sprocket. | Verify the gap setting between the Revo-logic™ sensor and the driven sprocket. Readjust if needed.<br>Check the pulse count input on the PLC for an LED indication as each tooth passes in front of the Revo-logic™ sensor. |
| | Revo-logic™ sensor has failed. | Check for 24VDC at the sensor. Check for 24VDC Switching on the return wire to PLC at the sensor.<br>No VDC Switching out? Replace sensor. |
| | Wiring in the Revo-logic™ sensor circuit has failed. | Run a continuity test on wiring from the sensor to the PLC and 24VDC supply rails.<br>No continuity on any wire? Repair or replace wiring. |
| | True Home sensor has failed. | Check for 24VDC at the sensor. Check for 24VDC Switching on the return wire to PLC at the sensor.<br>No VDC Switching out? Replace sensor. |
| | Wiring in the True Home sensor circuit has failed. | Run a continuity test on wiring from the sensor to the PLC and 24VDC supply rails.<br>No continuity on any wire? Repair or replace wiring. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Turntable Rotates Inconsistently-(Turntable Turns With A Jerking Motion)** | Current Limiter in the rotation VFD is activating. | Check for a mechanical bind in the rotation mechanicals, such as: worn bearings, incorrectly tensioned chain, worn chain, alignment issues etc.<br>Identify and repair or replace worn parts. |
| | VFD parameter settings are incorrect. | Review the parameter settings in the VFD. Refer to the supplied VFD Manual for procedure.<br>Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for maximum frequency settings. |
| | Machine's supply voltage is too low. | Check AC voltage (at the On-Off switch terminals) while the machine is running under load.<br>If voltage drops below 200, the supply is not strong enough to run the machine correctly. Contact plant electrician. Do not use household extension cords with the machine. |
| | Loose connections in the rotation circuit. | Remove power from machine. Check for loose connections in the rotation circuit such as; Primary supply to the rotation VFD, Secondary supply from the VFD to the drive motor and all connections in between.<br>Re-seat all loose connections. Tighten connections correctly. |
| | Motor Failure. | Perform motor test per motor manufacturer's recommendations.<br>Replace motor as needed. |
| | Reducer Failure. | Remove rotation reducer-separate motor from reducer. Rotate input shaft and check for binding.<br>Replace reducer as needed. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Turntable Will Not Rotate** | No control Power / E-Stop Condition. | E-Stop button is Flashing or Green Start button is not illuminated.<br>Perform E-Stop Reset (pull E-Stop button to the out position then press the Green Start button so that it is Illuminated. Press Cycle reset on the Touchscreen. |
| | Machine is in Cycle Pause. | Observe the Cycle Pause Icon on the Run Screen. If it is illuminated, the machine is in a Pause state.<br>Press Resume to resume wrapping. |
| | VFD parameter settings are incorrect. | Review the parameter settings in the VFD. Refer to the supplied VFD Manual for procedure.<br>Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for maximum frequency settings. |
| | Blown Fuse. | Locate Turntable rotation control fuse. Remove fuse and check continuity.<br>Bad Fuse? Replace with correct type. |
| | VFD Error. | Check the status of the Turntable motor controller (VFD) for error message.<br>Refer to the VFD manual supplied with the machine for error messaging solutions. |
| | Open circuit to the motor. | Check wire continuity from VFD to Motor.<br>Repair or replace open wiring. |
| | Motor Failure. | Perform motor test per motor manufacturer's recommendations.<br>Replace Motor as needed. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Carriage Lift (Up & Down) Carriage Will Not Move Up Or Down (In Either Manual Mode Or During An Auto Wrap Cycle)** | Carriage Speeds set below 5%. | Check the numerical value of the carriage up and down speeds on the touchscreen. Password may be required depending on the Security Settings.<br>Increase the carriage up and down speeds on the touchscreen to above 5%. |
| | Carriage Travel limit strikers set improperly. | Check the physical positions of the travel limit strikers.<br>1. Set the Up Travel limit striker to the highest wrapping requirement position within the machine's capability or a jam may occur.<br>2. Position the Bottom travel striker to the lowest wrapping requirement level within the machine's capability or a false Belt Error may occur. |
| | VFD parameter settings are incorrect. | Review the parameter settings in the VFD. Refer to the supplied VFD Manual for procedure.<br>Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for maximum frequency settings. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Carriage Lift (Up & Down) Carriage Will Not Move Up Or Down (In Either Manual Mode Or During An Auto Wrap Cycle)** | Chain sprocket binding or mis-aligned. | Inspect that the chain is properly aligned in the center of the sprockets. |
| | Maximum speed setting on the VFD is incorrect. | Review the maximum frequency parameter settings in the VFD. Refer to the supplied VFD Manual for procedure.<br>Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for maximum frequency settings. |
| | Machine's supply voltage is too low. | Check AC voltage (at the On-Off switch terminals) while the machine is running under load.<br>If voltage drops below 200, the supply is not strong enough to run the machine correctly. Contact plant electrician. Do not use household extension cords with the machine. |
| | Loose connections in the carriage lift circuit. | Remove power from machine. Check for loose connections in the carriage lift circuit such as; Primary supply to the Lift VFD, Secondary supply from the VFD to the drive motor and all connections in between.<br>Re-seat all loose connections. Tighten connections correctly. |
| **Carriage Lift (Up & Down) Carriage Will Not Move Up Or Down (In Either Manual Mode Or During An Auto Wrap Cycle)** | Blown Fuse. | Locate carriage lift control fuse. Remove fuse and check continuity.<br>Bad Fuse? Replace with correct type. |
| | Motor failure. | Perform motor test per motor manufacturer's recommendation.<br>Replace Motor as needed. |
| | Reducer failure. | Remove Carriage Lift reducer-separate motor from reducer. Rotate input shaft and check for binding<br>Replace reducer as needed. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Carriage Will Not Move Up Or Down (In Auto Wrap Cycle Only-but Works Fine In Manual Mode).** | Auto-height photocell positioned incorrectly. | Check the position of the Auto-height photocell. Make sure it is aimed at the load. If the load is too short for the photocell to see, the carriage will not move up- this is normal.<br>Re-Aim the photocell correctly. |
| | Auto-height sensor has failed. | Check for 24VDC at the sensor. Check for 24VDC switching on the return wire to PLC at the sensor.<br>No VDC Switching out at the sensor? Replace sensor. |
| | Wiring in the Auto-height sensor circuit has failed. | Run a continuity test on wiring from the sensor to the PLC and 24VDC supply rails.<br>No continuity on any wire?= repair or replace wiring. |
| **Film Feed / Stretch Functions No Power Feed** | No control -power / E-Stop condition. | E-Stop button is flashing or green start button is not illuminated.<br>Perform E-Stop reset sequence.<br>1. Reset all safety buttons and interlocks.<br>2. Pull E-Stop to the OUT position.<br>3. Press Green Start Button.<br>4. Press Cycle Reset button on screen. |
| | Film is threaded incorrectly. | Compare film with threading diagram on top of carriage.<br>Re-thread film carriage. |
| | VFD parameter settings are incorrect. | Review the parameter settings in the VFD. Refer to the supplied VFD Manual for procedure.<br>Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for maximum frequency settings. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Feed / Stretch Functions No Power Feed** | Zero or Gain settings for the hall effect (Film Feed Trigger) are incorrect. | Observe the feedback value of the hall effect located on the touchscreen. Re-set the ZERO and GAIN values according to the film feed setup instructions in the manual. ZERO setting should be a value of at least ten above the hall effect feedback value to operate properly. |
| | Maximum speed setting on the VFD is incorrect. | Review the maximum frequency parameter settings in the VFD. Refer to the supplied VFD Manual for procedure. Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for maximum frequency settings. |
| | hall effect device is positioned incorrectly. | Check to make sure hall effect device is not touching the dancer bar cam. Adjust the hall effect-to-cam gap is correct... approx 16th of an inch gap. |
| | Dancer bar cam is positioned incorrectly. | Make sure the cam rotates in such a way as to create a gap between the hall effect device and the cam itself. Adjust the cam correctly. |
| | Hall effect sensor has failed. | Check for 24VDC at the sensor. Check for variable 24VDC on the return wire to PLC at the sensor. No variable VDC out? Replace sensor. |
| | Open circuit from the hall effect device to the analog input card. | Check wire continuity from hall effect device to the analog input card. Repair or replace open wiring. |
| | Analog I.O. card has failed. | Check the hall effect feedback value on the MIB screen. If the hall effect value increases with dancer movement, but the analog I.O. card toes not fluctuate voltage out, then the analog I.O. card has failed. Replace analog I.O card. |
| | Open circuit from the PLC analog card to the VFD analog input. | Check wire continuity from the PLC analog card output to the VFD analog input. Repair or replace open wiring. |
| | Open circuit from the stretch VFD to the film feed motor | Check wire continuity from the stretch VFD outputs to the film feed motor. Repair or replace open wiring. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Feed / Stretch Functions No Power Feed** | Motor failure. | Perform motor test per motor manufacturer's recommendations.<br>Replace Motor as needed. |
| **Film Feed Runs Or Creeps Continuously** | MIB values at the touchscreen are out of calibration. | Observe the feedback value of the hall effect located on the touchscreen.<br>Re-set the ZERO and GAIN values according to the film feed setup instructions in the manual. ZERO setting should be a value of at least ten above the hall effect feedback value to operate properly. |
| | Hall effect device is positioned incorrectly. | Check to make sure hall effect device is not touching the dancer bar cam.<br>Adjust the hall effect-to-cam gap is correct… approx 16th of an inch gap. |
| | Dancer bar cam is positioned incorrectly. | Make sure the cam rotates in such a way as to create a gap between the hall effect device and the cam itself.<br>Adjust the cam correctly. |
| | Hall effect device has failed | Perform tests mentioned above.<br>If this does not resolve the issue, replace the hall effect device. |
| | Minimum speed setting on the VFD is incorrect. | Review the minimum frequency parameter settings in the VFD. Refer to the supplied VFD Manual for procedure.<br>Refer to the VFD manual and the Orion parameter settings sheet supplied with the machine for minimum frequency settings. |
| **Film Breakage Issues Film Breaks Inside The Carriage (Usually Between The Rubber Stretch Rollers)** | Incorrect gauge / type film is being used for the application. | Review the film's stretch capability. The film used should be able to effectively stretch 280% at ambient temperatures.<br>Remove any film that does not comply with the machine's requirements or, change the stretch sprocket on the machine to stretch below the film's fatigue value. |
| | Film is damaged. | Observe the edges and sides of the roll for damage from handling.<br>Replace improper film with film in good condition. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Breakage Issues<br>Film Breaks Inside The Carriage (Usually Between The Rubber Stretch Rollers)** | Film is wound incorrectly. | Film may be wound incorrectly from the manufacturer. Look for heavy, raised stripes along the feed axis of the film. This is known as "gauge banding".<br>Replace improper film with film in good condition. |
| | Film core is damaged or incorrectly sized. | The film core should fit the machine's film mandrels. Cores that are too small or damaged can cause the film to not rest in the correct position.<br>Replace improper film with film in good condition. |
| | Film roll sets too low in relation to the feed rollers. | Look for film traveling under the bottom edge of the trailing rubber roller.<br>Adjust the bottom film mandrel to allow the bottom edge of the film to run correctly on the trailing rubber roller. |
| | Film mandrel drag or resistance is not allowing the film to unwind properly. | Look for excessive wear under the bottom mandrel.<br>Lubricate the bottom and center of the mandrel. Replace worn parts. |
| | Film carriage aluminum "pressure" rollers are mis-aligned with the rubber rollers. Film is slipping across the rollers. | With the film removed from the carriage, look for an inconsistent gap between the aluminum and rubber rollers-top and bottom on both sides of the rubber rollers.<br>Using the socket head cap screws, re-align the aluminum rollers to the rubber rollers.<br>Set the gap between the aluminum and rubber rollers so that there is only a slight rotational resistance between the rollers. |
| | Aluminum pressure rollers are damaged. | Carefully review the aluminum rollers for cuts or nicks. Any raised spots can damage the film and propagate a tear.<br>Polish the affected areas with a fine abrasive until the protrusions are leveled or replace with a new part. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Breakage Issues Film Breaks Inside The Carriage (Usually Between The Rubber Stretch Rollers)** | Rubber rollers are damaged | Carefully review the rubber rollers for cuts or nicks. Any raised spots can damage the film and propagate a tear. Raised spots can be carefully shaved or sanded smooth but if the surface showing craters or holes so that the surface is not level, then the roller needs to be replaced. |
| **Film Is Breaking Between The Last Aluminum Roller And The Load** | Film tension is set too high. | Film runs through the carriage properly and there are no sharp corners on the load, but the film still breaks. Lower the film tension value at the touchscreen. |
| | Zero or Gain settings for the hall effect (Film Feed Trigger) are incorrect. | Observe the feedback value of the hall effect located on the touchscreen. Re-set the ZERO and GAIN values according to the film feed setup instructions in the manual. ZERO setting should be a value of at least ten above the hall effect feedback value to operate properly. |
| | Tension spring is too heavy for the application. | Film carriage appears to be calibrated correctly and film appears to be correct. Film still breaks or damages a light load with the film tension set at values below 10%. Replace the standard tension spring with the light duty tension spring (supplied with the machine). |
| | Film roll sets too low in relation to the feed rollers. | Look for film traveling under the bottom edge of the trailing rubber roller. Adjust the bottom film mandrel to allow the bottom edge of the film to run correctly on the trailing rubber roller. |
| | Sharp edges are cutting the film | Observe the load. See if the film break starts at any one sharp edge. Options are:<br>1. Correct the load if possible.<br>2. Reduce the film tension at the touchscreen.<br>3. Change film type used.<br>4. Reduce the prestretch ratio. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Is Breaking Between The Last Aluminum Roller And The Load** | Pallet greatly overhangs the load. | Observe the load. See if the film break starts at the corners of the pallet.<br>Options are:<br>1. Reduce the film tension at the touch-screen.<br>2. Reduce the stretch ratio.<br>3. Do not wrap the pallet with the load.<br>Raise the bottom position striker. |
| | Film is damaged. | Observe the edges and sides of the roll for damage from handling.<br>Replace improper film with film in good condition. |
| | Film is wound incorrectly. | Film may be wound incorrectly from the manufacturer. Look for heavy, raised stripes along the feed axis of the film. This is known as "gauge banding".<br>Replace improper film with film in good condition. |
| | Stretch chain and / or belt geometry is incorrect. Out of alignment components can cause feed drag. | Remove film carriage cover. Look for loose chain and / or belt. Look for the belt pulleys and the chain sprockets to be in correct alignment.<br>Adjust as needed by repositioning the combination sprocket-pulley. |
| | Intermittent break in the cabling between the carriage and the control panel. | Observe the film feed during a cycle. If the film only breaks when the carriage is in a certain spot in it's travel, then continuity is suspect.<br>Perform a continuity check on all wiring pertaining to the carriage while jogging the carriage up and down. If a break in continuity occurs, repair or replace the cable. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Clamp Not Operating Properly. (Opening And Closing Inconsistently)** | Clamp close delay timer at the touchscreen is incorrect for the application. | Look for the clamp to close smoothly, but at the wrong time.<br>Observe the factory preset value on the settings screen. Re-adjust the clamp close delay timer as needed. |
| | Air pressure to the machine is too low. | Observe the pressure gauge at the pressure regulator behind the lower rear access panel.<br>Air supply to the machine should be 80 PSI @ 3CFM. |
| | Air cylinder flow controls are set incorrectly. | If the regulator shows correct pressure, the flow controls are suspect.<br>Check the flow controls by manually activating the clamp jog function on the touchscreen. Adjust the flow controls on the clamp cylinders so that they operate smoothly. |
| | Air lines are pinched or obstructed. | Observe all 1/4 inch polyflow tubing. Remove any obstruction. Correct any pinched lines. |
| | Debris or condensation is in the air lines. | Purge the air filter / regulator.<br>If water appears, then condensation is in the air lines. Correct the water issue, then purge the air lines by manually jogging the clamp until no water remains. |
| | Break in the wiring to the clamp solenoid. | There is DC voltage at the clamp PLC output, but no voltage at the clamp solenoids. Locate and repair break in the signal wiring between the PLC and solenoids. |
| | Clamp solenoids are defective | There is DC voltage at the clamp solenoids but the solenoids do not activate. Replace the clamp solenoids. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Cutter/Brush Arm Not Operating Properly** | Brush extend timer at the touch-screen is incorrect for the application. | Look for the arm to activate smoothly, but at the wrong time.<br>Observe the factory preset value on the settings screen. Re-adjust the brush extend timer as needed. |
| | Air pressure to the machine is too low. | Observe the pressure gauge at the pressure regulator behind the lower rear access panel.<br>Air supply to the machine should be 80 PSI @ 3CFM. |
| | Air cylinder flow controls are set incorrectly. | If the regulator shows correct pressure, the flow controls are suspect.<br>Check the flow controls by manually activation of the cutter jog function on the touchscreen. Adjust the flow controls on the clamp cylinders so that they operate smoothly. |
| | Air lines are pinched or obstructed. | Observe all 1/4 inch polyflow tubing. Remove any obstruction. Correct any pinched lines. |
| | Debris or condensation is in the air lines. | Purge the air filter / regulator.<br>If water appears, then condensation is in the air lines. Correct the water issue, then purge the air lines by manually jogging the cutter/ brush until no water remains. |
| | Break in the wiring to the cutter solenoid. | There is DC voltage at the cutter PLC output, but no voltage at the cutter/ brush solenoid.<br>Locate and repair break in the signal wiring between the PLC and solenoids. |
| | Cutter/Brush solenoids are defective | There is DC voltage at the cutter / brush solenoids but the solenoids do not activate.<br>Replace the cutter/ brush solenoids. |

**Table 4-1. Troubleshooting Chart (Continued)**

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| **Film Cutter Not Cutting Film** | Load not positioned properly. | Look for underhung loads, or loads that are not centered on the table or in the proper wrap zone. The rear side of the load must be in line with the pallet stop for the clamp, brush and cutter to work properly.<br>Re-center the load to the proper position in the wrap zone. |
| | Brush extend timer at the touchscreen is incorrect for the application. | Look for the arm to activate smoothly, but at the wrong time.<br>Observe the factory preset value on the settings screen. Re-adjust the brush extend timer as needed. |
| | Cutter wire is loose. | Check for wavy or bent cutter wire. The wire expands as it is heated. If the wire is not straight and under tension, then it will not be in the correct position to cut properly.<br>If wire is loose or bent, repair or replace the wire. |
| | Blown Fuse. | Locate hot wire control fuse. Remove fuse and check continuity.<br>Bad Fuse? Replace with correct type. |

# Maintenance Contents

# 5. Maintenance

## Maintenance Schedule

All general information about machine maintenance is based on normal machine working conditions: indoor, moderate dust and low moisture environment, and at maximum rotation outlined on the product specification sheet. They should be regarded as guidelines, reviewed and corrected according to requirements of actual use and conditions. The quick reference chart below displays the maintenance procedure, the length of time required to perform the maintenance and the frequency the maintenance should be performed marked with an X. Descriptions of each maintenance procedure follow later in the chapter.

**Table 5-1. Automatic Maintenance Schedule**

| TASK | TIME REQUIRED (MINUTES) | DAILY (AT STARTUP) | WEEKLY | MONTHLY | EVERY 3 MONTHS | EVERY 6 MONTHS |
|---|---|---|---|---|---|---|
| Blow Debris Out From Under the Machine And Out Of Drive Motors | 5 | X | | | | |
| Sensor Alignment Check | 5 | X | | | | |
| Pneumatic System Check | 5 | | X | | | |
| Hot Wire Cleaning | 5 | | X | | | |
| Polish Carriage Alum Rollers with a Purple Scotch Bright Pad | 5 | | X | | | |
| Tower Raceway Greasing | 5 | | | X | | |
| Check For Loose Bolts | 15 | | | X | | |
| Clean Stretch Rollers | 15 | | | | X | |
| Carriage Prox Sensor Adjustment | 30 | | | | X | |
| Chain Maintenance | 30 | | | | X | |
| Lube Ring Bearing and Check Ring Bearing Bolts to Match Ring Bearing Drawing Torque Settings | 5 | | | | | X |

# Daily Maintenance

## General Cleaning

Blow out debris from underneath the machine with compressed air on a daily basis.

## Motor Maintenance

The drive motors require little maintenance. Simply blow out debris with compressed air on a regular basis.

## Photoeyes and Proximity Switches Sensor Alignment

Photoeyes are placed on the machine to monitor the motion and location of the loads on the conveyors. For each optional, additional conveyor on the machine an additional photoswitch will be added.

A proximity switch is located on the perch position. Its purpose is to monitor the Turntable position, and to signal the controller every time the Turntable passes the home position. The proximity switches proper adjustment ensures that rotary tower will stop in the correct position for the lock to be activated.

**CAUTION** The Proximity Switch is factory adjusted and should not need any further adjustment unless it has been disturbed.

## Load Height Sensing Photoeye Sensor Alignment

Located on the carriage and stops it from moving higher than the highest point on the load. The photoswitch position on the track can be adjusted in order to make the carriage pass the top of the load and make the film overlap the top. A maintenance function on the HMI allows you to adjust the timer for the top of the load clear.

## Load Location Photoeye Sensor Alignment

The load location photoeye is the middle one of the three photoeyes that are pointed at the process conveyor from behind the tower. Its purpose is to stop the load on the process conveyor in a suitable position for wrapping. The process conveyor is programmed to stop on an adjustable delay.

# Process Conveyor Safety Photoeye Sensor Alignment

Safety photoeyes are the photoeyes pointed at the process conveyor from behind the tower. Their purpose is to prevent the cycle from starting if the load is not properly positioned on the process conveyor.

# Infeed and Outfeed Photoeye Sensor Alignment

The Infeed and Outfeed photoeyes are located approximately one foot from the side of each conveyor in the middle of the section. Their purpose is to monitor the position of the loads as load transfers are occurring. When the photoeye is activated there is an adjustable delay before the conveyor stops.

When testing the conveyor without the load the photoswitch must be kept activated for at least 1.5 seconds in order to have the conveyor stop. For a downstream conveyor, when the load is moved out the photoeyes range there will be delay of about 5 seconds before an upstream conveyor is activated to move a load.

# Carriage Top and Bottom Proximity Sensors Alignment

There are two proximity sensors located on the tower that detect the top-most and bottom-most limits of the carriage. This is determined by location of the elevator's drive and idler sprocket.

**CAUTION** These proximity sensors are factory adjusted. When setting the machine, please double check their proper position.

# Weekly Maintenance

## Pneumatic System Maintenance (When Applicable)

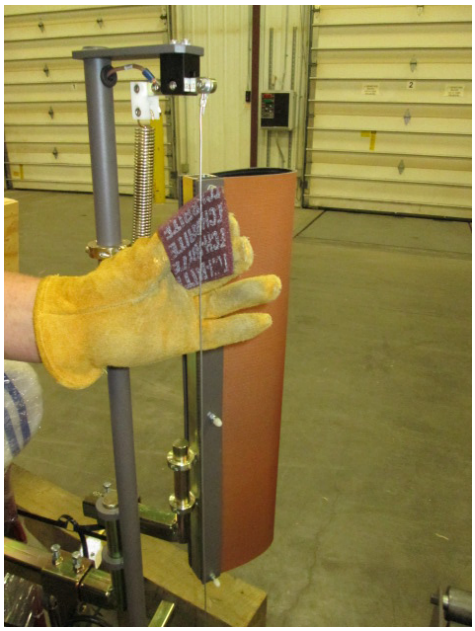
The air supply system must be checked weekly and must be free from the moisture. In cold environments, it may be necessary to drain the air supply system daily.

## Hot Wire Cleaning

**WARNING** The hot wire is hot, when active. Use a leather or protective glove to prevent burns.

Clean the hot wire with a dry maroon (low abrasion) Scotch Brite pad. Once remnants of film are removed, wipe down with a clean dry shop rag.

**Figure 5 - 1**
**Cleaning Hot Wire**



# Polish Aluminum Rollers

Clean the aluminum rollers with a dry maroon (low abrasion) Scotch Brite pad. Once remnants of film are removed, wipe down with a clean dry shop rag.

**Figure 5 - 2**
**Cleaning Aluminum Rollers**

# Monthly Maintenance

## Tower Raceways Maintenance

The film distributor (carriage) is sliding on the plastic guides attached behind its back plate. The section of the tower on which the plastic guides move (raceways) should be cleaned and re-greased approximately every 600 hours of machine operation.

**Note:** If the machine works in a dusty and corrosive environment, the raceways should be re-greased more often (at least every 100 hours).

## System Bolt Check

Check that the bolts haven't become loose. Especially check components that are part of a moving mechanism such as cylinders (see below.) Torque settings vary, but no bolts should move when light pressure is applied with a wrench.

**Figure 5 - 3**
**Check Cylinder Con-Rod For Tightness**

# Quarterly Maintenance

## Cleaning The Stretch Rollers

**WARNING** Lockout and Tagout the machine before maintenance and cleaning.

The film carriage requires the most attention when cleaning. The film carriage requires regular cleaning even if there are no product spills into the carriage area. Absolutely DO NOT use wash down methods on the film carriage.

- As the film goes though the rollers, a static charge develops from the film and pulls air borne dust and contaminants into the rollers. The glue that is impregnated to the film, called Tackifier, traps these contaminants to the rollers. Finally, the aluminum pressure rollers on the threading gate press the debris into the rollers causing the rubber rollers to glaze.
- If the rollers become glazed, the film may slip, causing film shear, thus causing film payout to be inconsistent or cause the film to tear regularly. This is completely normal under continued use and occurs on every stretchwrapper made-no matter who the manufacturer is.
- The aluminum rollers are recommended to be cleaned every 100 hours of running.
- The rubber rollers are recommended to be cleaned every 2000 hours of running. Do not clean the rollers more than once a month unless special circumstances demand. This can cause the rollers to dry out. The cleaning requires only a stiff nylon bristle brush, rubbing alcohol (only)*, and compressed air. The procedure is as follows.

**CAUTION** This procedure should only be performed by qualified service personnel.

1. Raise carriage to chest height.
2. Disconnect power from the machine.
3. Remove the film from the carriage.
4. Open the threading gate.
5. With the brush wet with rubbing alcohol, lightly scrub both rubber rollers while rotating them. The goal is to just get any debris out of the rollers.

**Note:** Rubbing alcohol is recommended because it is light enough to penetrate the rubber and it evaporates quickly.

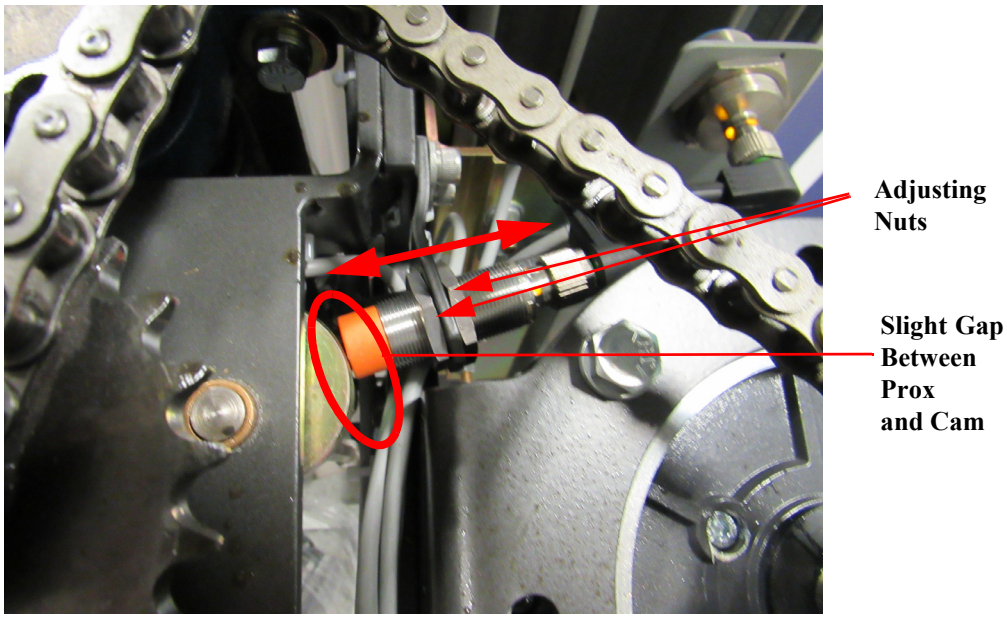
6. After the entire rollers' surface has been cleaned, apply compressed air to the rollers to dry quickly.
7. Re-apply power.
8. Re-load film as discussed earlier.

# Proximity Sensor Adjustment

Occasionally the Feed Back Proximity Sensor may need some adjustment. The position of the feed back proximity sensor against the cam is shown in Figure 5 - 4.

1. Power down machine.
2. Remove the carriage cover.
3. Loosen the two nuts holding the proximity switch.
4. Turn the proximity sensor to adjust the gap between the cam and the front side of the proximity sensor to 1/32” or about the thickness of a drivers license.

**Figure 5 - 4**
**Proximity Sensor Adjustment**




5. Tighten the nuts securing the Proximity Sensor.
6. Put the cover back on.
7. Power up machine.
8. With the Multistretch screen displayed and the E-Stop button pressed, press the dancer bar to full swing to read the Dancer Bar Current Value. See “Multistretch Settings Screen” on page 3 - 44.
9. Enter this value into the Max Speed Value numeric input.
10. If the dancer bar is too responsive, increase the entered number. If the dancer bar is not responsive enough, decrease the entered number.
11. If not satisfied repeat the procedure.

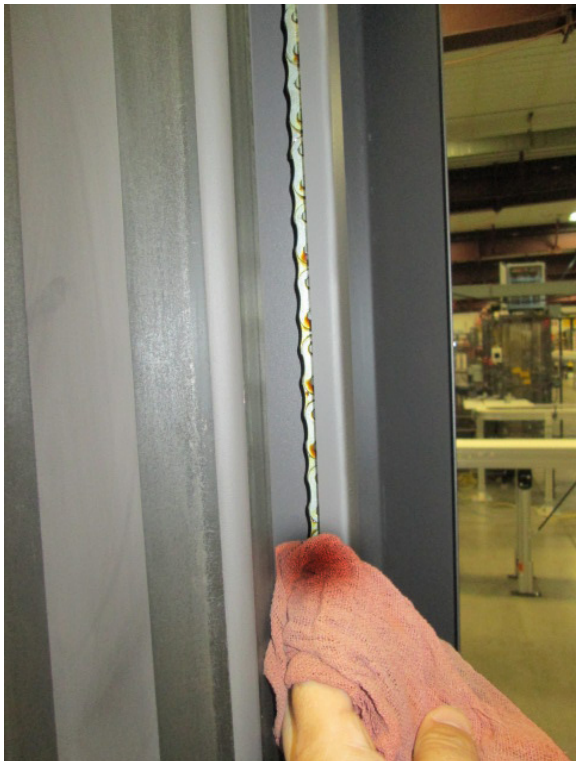
# Chain Maintenance

To clean the stretch chain, wipe it with an oily cloth once a service quarter. When machine is working in a dusty and damp environment, it may be necessary to repeat the cleaning operation more often. Regarding chain lubricants, please use the most common chain lubricants on the market. With time, the chain will tend to stretch. The tower is equipped with automatic chain tensioner and does not need any adjustment.

**WARNING** Lockout and Tagout the machine before maintenance and cleaning.

**Note:** First chain tension inspection must be done after the first two weeks of machine usage.

**Figure 5 - 5 Example Wiping Chains with Oil Soaked Rag**



# Bi-Quarterly (6 Months) Maintenance

## Ring Bearing Maintenance

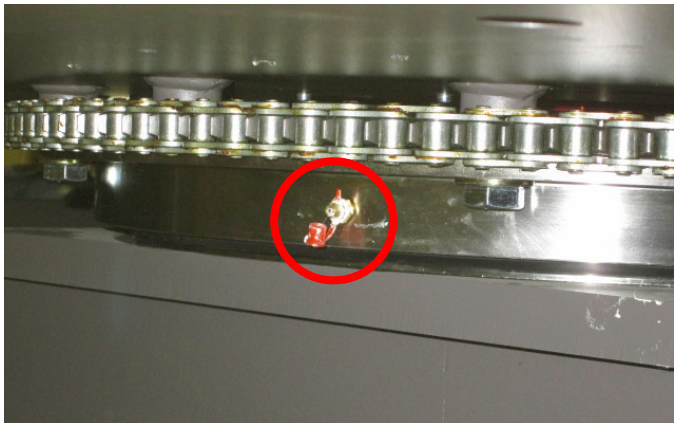
Externally: by lubricating and wiping the chain drive with oily cloth. The frequency of lubrication depends on entirely upon the usage of the machine and environment in which the machine is placed (dust, moisture etc.). Machines working under extremely dirty conditions should be lubricated every 750 operating hours but at minimum, every 6 months. Longer lubrication intervals may occur only when machine is working under very clean and dry conditions but should be not be longer than 6 months.

Internally: Lubricate one of the zerks with a manual grease gun once per 3 months of operation or every 750 operating hours. Over lubrication is more harmful than under lubrication, however missing a lubrication cycle can also be detrimental to the ring bearing.

**CAUTION** It is extremely important to lubricate the ring bearing, but not over lubricate, every quarter (3 months.)

**Note:** The location of your grease zerk may vary from the photo.

**Figure 5 - 6**
**Ring Bearing Grease Zerk**



List of recommended lubricants for the ring bearing lubrication.

**Table 5-2. Recommended Ring Bearing Lubricants**

| MANUFACTURER | LUBRICANT |
|---|---|
| BP | Energrease LS2 |
| Castrol | Speeroll AP2 |
| Esso | Beacon 2 |
| Gulf | Crown Grease 2 |
| Mobil | Mobilus 2 |
| Shell | Avania Grease R2 |

**Table 5-2. Recommended Ring Bearing Lubricants**

| MANUFACTURER | LUBRICANT |
|---|---|
| Texaco | Glissando FT 2 |
| Valvoline | LB-2 |