Lantech®

SLA Series (LG) V2

Automatic Stretch Wrapping System

Machine Manual

Serial Number: SLA07729

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1.0 Introduction

Section 1 - Introduction
This manual tells the operator and maintenance personnel how to safely install and operate the machine. The function of the manual is to make sure that the operator and maintenance personnel have complete instructions.
Section 2 – Specifications **Section 3 - Options**
These sections contain data about your machine and special options. This is important as you install and operate the machine.
Section 4 - Safety
This section points out the Warnings and Cautions to make sure that all personnel work in a safe environment.
Section 5 – Installation **Section 6 – Operator Instructions**
These sections tell you how to install and use the machine safely and efficiently.
Section 7 – Maintenance
This section tells you how to make sure that the machine stays at top performance.
Section 8 – Appendix
This section can include the CE – Declaration of Conformity, Glossary and Warranty procedures.
Section 9 – Parts List and Drawings
This section includes the Bill of Materials (BOMs)
This manual helps you operate your machine safely and efficiently. The value is to increase your productivity and decrease the packaging costs.

INTRODUCTION

1.1 Support

For support, use the phone and email data below:

LANTECH AFRICA & EUROPE – MALDEN NETHERLANDS		
Phone	Email	Fax
Parts +31 (0) 485 751 771	Parts europarts@lantech.com	+31 (0) 485 330 755
Service +31 (0) 485 751 770	Service euroservice@lantech.com	
LANTECH ASIA PACIFIC – MELBOURNE AUSTRALIA		
Phone	Email	Fax
+61 3 9796 5275	Parts aus.spares@lantech.com	+61 3 9703 2725
	Service aus.service@lantech.com	
	Support aus.support@lantech.com	
LANTECH CHINA - SHANGHAI		
Phone	Email	
Parts +86 21 6221 5688	Parts LCH.Parts@Lantech.com	
Service Hotline +86 40 0877 1972	Service LCH.Service@Lantech.com	
LANTECH NORTH & SOUTH AMERICA – LOUISVILLE KENTUCKY		
Phone	Email	Fax
Parts 502-815-9101	Parts tsg@lantech.com	502-267-8864
Service 502-815-9103	Service tsc@lantech.com	
Retrofits 502-815-9104	Retrofits retrofits@lantech.com	

2.0 Specifications

All Lantech® machines have a serial number tag in 1 of these locations:

On the Door of the Enclosure

On the Electrical Enclosure

Note: The "exposed" metal parts on all Stretch Wrap Machines have a heavy Rust Preventative applied before shipment.

You can use Mineral Spirits or a similar cleaner to remove it.

If you remove it, make sure that you apply a "light" Rust Preventative to the "exposed" metal before you operate the machine.

2.1 Machine Specifications

Note: Standard machine is 2032 mm (80”) wrap height and 457 mm (18”) conveyor pass height.

General Data	**Low Speed – 25 rpm**	**Standard Speed – 35 rpm**	**High Speed – 40 rpm**
Dimensions – Without Conveyor	5588 mm L x 5004 mm W x 3581 mm H (220” x 197” x 141”)	5588 mm L x 5004 mm W x 3581 mm H (220” x 197” x 141”)	7264 mm L x 5004 mm W x 3581 mm H (286” x 197” x 141”)
Weight - Without Conveyor	3945 kg (8700 lb)	3945 kg (8700 lb)	3945 kg (8700 lb)
Noise Level – Without Film	≤ 75 dB(A)	≤ 75 dB(A)	≤ 75 dB(A)
Performance Data			
Throughput Based on 10 Revolutions	Up to 68 loads per hour	Up to 77 loads per hour	Up to 115 loads per hour
Conveyor Speed	9 m/minute (30 fpm)	9 m/minute (30 fpm)	Infeed and Wrap Zone – 18 m/minute (60 fpm)
Minimum Load Dimensions with 508 mm (20”) Film	762 mm x 762 mm x 737 mm (30”W x 30”L x 29”H)	762 mm x 762 mm x 737 mm (30”W x 30”L x 29”H)	762 mm x 762 mm x 737 mm (30”W x 30”L x 29”H)
Maximum Load Dimensions	1219 mm x 1372 mm x 2032 mm (48”W x 54”L x 80”H)	1219 mm x 1372 mm x 2032 mm (48”W x 54”L x 80”H)	1219 mm x 1372 mm x 2032 mm (48”W x 54”L x 80”H)
Maximum Load Weight	Conveyor capacity	Conveyor capacity	Conveyor capacity
Wrap Arm	**Low Speed – 25 rpm**	**Standard Speed – 35 rpm**	**High Speed – 40 rpm**
Wrap Arm Diameter	2032 mm (80”) Standard	2032 mm (80”) Standard	2032 mm (80”) Standard
Wrap Arm Speed	Maximum 25 rpm	Maximum 35 rpm	Maximum 40 rpm
Wrap Arm Drive	VFD Motor Control 1.5 kW (2 HP) 460 VAC 3-Phase Inverter Duty Motor 10:1 Speed Reducer	VFD Motor Control 2.2 kW (3 HP) 460 VAC 3-Phase Inverter Duty Motor 10:1 Speed Reducer	VFD Motor Control 2.2 kW (3 HP) 460 VAC 3-Phase Inverter Duty Motor 10:1 Speed Reducer

SPECIFICATIONS

Automation Unit			
Film Cut	Pulsed Cutter Wire and Film Wipe Down	Pulsed Cutter Wire and Film Wipe Down	Pulsed Cutter Wire and Film Wipe Down
Film Clamp	Load Seeking Clamp® 4.0	Load Seeking Clamp® 4.0	Load Seeking Clamp® 4.0
Film Delivery System (FDS)			
FDS Lift Drive	VFD Motor Control 1.5 kW (2 HP) 460 VAC 3 Phase Inverter Duty Motor 40:1 Speed Reducer	VFD Motor Control 1.5 kW (2 HP) 460 VAC 3 Phase Inverter Duty Motor 40:1 Speed Reducer	VFD Motor Control 1.5 kW (2 HP) 460 VAC 3 Phase Inverter Duty Motor 40:1 Speed Reducer
Film Pre-stretch	Metered Film Delivery® system With EZ Thread FDS and Pallet Grip®	Metered Film Delivery® system With EZ Thread FDS and Pallet Grip®	Metered Film Delivery® system With EZ Thread FDS and Pallet Grip®
FDS Drive	VFD Motor Control .75 kW (1 HP) 460 VAC 3-Phase Inverter Duty Motor	VFD Motor Control 1.1 kW (1 ½ HP) 460 VAC 3-Phase Inverter Duty Motor	VFD Motor Control 1.1 kW (1 ½ HP) 460 VAC 3-Phase Inverter Duty Motor
Standard Film Pre-stretch	225%	225%	225%
Film	All Commercial Grade Stretch Films	All Commercial Grade Stretch Films	All Commercial Grade Stretch Films
Standard Film Capacity	254 mm (10”) Diameter 508 mm (20”) Width (Standard) 762 mm (30”) Width (Optional)	254 mm (10”) Diameter 508 mm (20”) Width (Standard) 762 mm (30”) Width (Optional)	254 mm (10”) Diameter 508 mm (20”) Width (Standard) 762 mm (30”) Width (Optional)
Conveyor	**Low Speed – 25 rpm**	**Standard Speed – 35 rpm**	**High Speed – 40 rpm**
Configuration	Infeed: 1524 mm (60") Wrap Zone: 3658 mm (144") Exit: 1524 mm (60")	Infeed: 1524 mm (60") Wrap Zone: 3658 mm (144") Exit: 1524 mm (60")	Infeed: 2438 mm (96") Wrap Zone: 1829 mm (72") Exit: 2438 mm (96")
Load Staging	The photoelectric sensors align the load in the middle of the wrap zone	The photoelectric sensors align the load in the middle of the wrap zone.	The photoelectric sensors align the load in the middle of the wrap zone.

SPECIFICATIONS

Electrical Requirements			
Electrical Service Standard – US Refer to the Electrical Drawings	480 VAC, 3-ph, 60 Hz, Wye w/Ground Lockable Fused Disconnect switch	460 VAC, 60 Amp, 3-Phase, 60 Hz Lockable Fused Disconnect switch	460 VAC, 60 Amp, 3-Phase, 60 Hz Lockable Fused Disconnect switch
Electrical Service Standard – Europe Refer to the Electrical Drawings	3L-PE-400V-50 Hz (w/Neutral) Lockable Fused Main Disconnect switch	3L-PE-400V-50 Hz (w/Neutral) Lockable Fused Main Disconnect switch	3L-PE-400V-50 Hz (w/Neutral) Lockable Fused Main Disconnect switch
Controls	PLC and HMI	PLC and HMI	PLC and HMI
Main Enclosure	1727 mm x 1219 mm x 305 mm (68” x 48” x 12”) UL Type 12	1727 mm x 1219 mm x 305 mm (68” x 48” x 12”) UL Type 12	1727 mm x 1219 mm x 305 mm (68” x 48” x 12”) UL Type 12
Pneumatic Data			
Pneumatic Supply	85 – 142 Lpm @ 6 Bar (3 - 5 CFM @ 80 Psi) Clean, Dry Air	85 – 142 Lpm @ 6 Bar (3 - 5 CFM @ 80 Psi) Clean, Dry Air	85 – 142 Lpm @ 6 Bar (3 - 5 CFM @ 80 Psi) Clean, Dry Air
Fence			
Fence	2388 mm (94”) Height Access Gate with Electrical Interlock Switch	2388 mm (94”) Height Access Gate with Electrical Interlock Switch	2388 mm (94”) Height Access Gate with Electrical Interlock Switch Light Curtains at the Infeed and Exit of the Wrap Zone
Warranty	3 Years	3 Years	3 years

3.0 Options

This section includes the options that are not on the standard machine.

3.1 Ultrasonic Sensor - Forklift Unload

This option adds an ultrasonic sensor to let the operator use a forklift to remove a load from the conveyor.

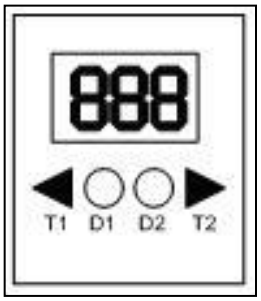
The sensor attaches below the conveyor rail.

Sequence of Operation

1. The sensor sees the forklift at the “unloading” conveyor and stops the conveyor.

   Note: The forklift must be in the range of the sensor for a minimum of 3 seconds.

2. The operator uses the forklift to remove the load.
3. There is a 5 second delay after the forklift moves out of range of the sensor.
4. The load “Staging” sequence continues.



Ultrasonic Sensor Setup

Set the “Switching Point”

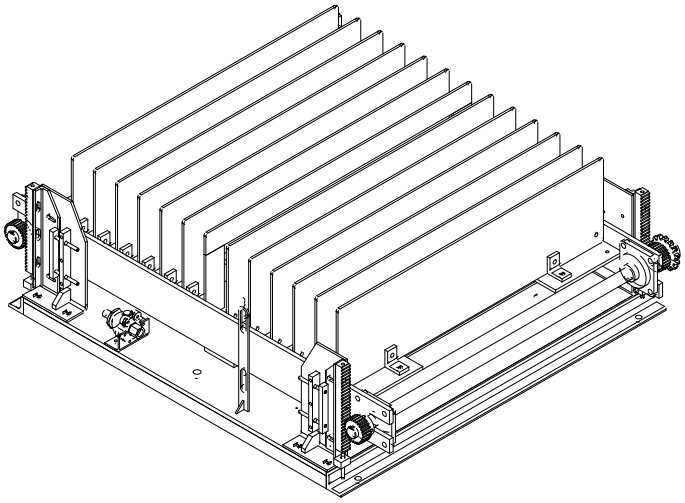
The default value for the distance is 610 mm (24”).

1. Point the sensor at an object.
2. Push and hold “T2” until “d” shows on the display.
3. The current distance shows on the display.
4. Push “T2” until “End” shows on the display.

Set the “Normally Open” and “Normally Closed” Contactors

1. Push and hold “T2” until it decreases from “-8-” to “-0-”.
2. Release the button when the “NO (“-C-”)” or “NC (“-r-”)” symbol shows.
3. Push “T2” to change the function of the output.
4. Push “T1” and “T2” until “End” shows.

3.2 Load Lift for Standard Spaced Conveyor

General Data
This option adds a Load Lift to the wrap zone, to apply a full wrap to the bottom of the load.
The option can wrap the loads on pallets and slip sheets.
The pneumatic assembly uses bars that are below the conveyor and lift between the conveyor rollers.
The “Rack and Pinion” controls the elevation to make sure that the load stays level. The load lift uses an air bag to raise and lower the load.
The maximum load weight is 1814 kg (4000 lbs).


OPTIONS

Pneumatic Requirements
There are no additional pneumatic supply requirements for the load lift.
The load lift uses a pressure regulator on the pneumatic assembly to control the air pressure to the pneumatic valve. It uses a flow control valve to control the rate that the air bag inflates.
Set the regulator 2.8 Bar (40 PSI). There is a quick exhaust valve that lowers the load onto the conveyor.
Electrical Requirements
There are no additional electrical requirements for the load lift.
Space Requirements
The load lift uses the space below the wrap zone conveyor. Refer to the drawings for the dimensions.
Functions
Manual Functions
In the Manual mode, use the buttons to raise, lower the load lift.
Automatic Functions
In the Automatic mode, the load lift automatically raises and lowers the load during the wrap cycle.
Sequence of Operation Refer to the Sequence of Operation section of the manual.
1. The FDS moves to the top of the load and applies the top wraps. 2. The load lift lifts the load. 3. The load stays in the "up" position until the wrap cycle completes the last bottom wrap revolution. 4. The load lowers onto the conveyor.

OPTIONS

Installation

Use the centerlines of the machine and the conveyor to install the load lift.

1. Use the Effective Width (roller width) of the conveyor to install the load lift in the correct position.

   Refer to floor plan for the dimensions.

2. Use the center lifting bar as a reference point.

   a. Put the load lift in the wrap zone area on the machine centerline.

   b. Put it on the conveyor centerline.

3. Make sure that the air connection, on the load lift, points to the Automation Unit.

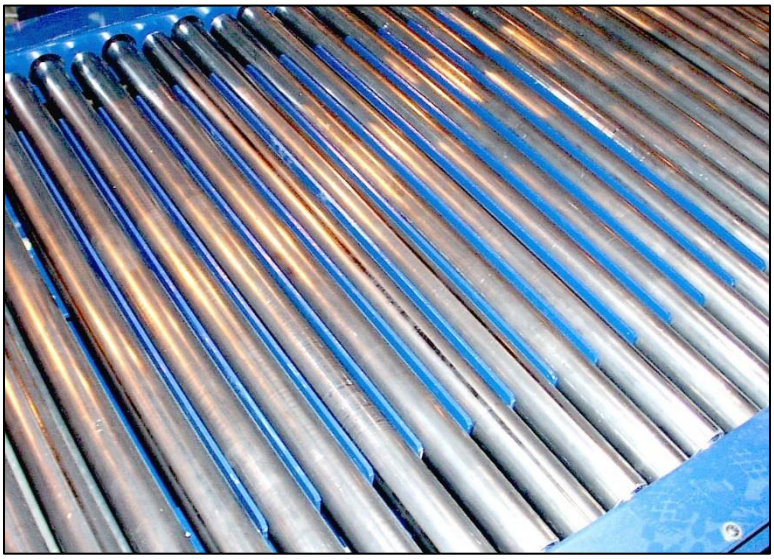
   Do not attach the load lift to the floor.

4. Carefully set the wrap zone conveyor in position above the load lift and align the assemblies.

5. Attach the load lift to the floor. If you cannot get access to drill the holes for the anchors, remove the wrap zone conveyor.

   Make sure that you keep the load lift in the correct position.

6. Attach the wrap zone conveyor to the floor.



OPTIONS

Maintenance

WARNING

Release the air pressure before you do the maintenance procedures on the Load Lift. There is "Trapped Air" in the Load Lift.

Release the "Trapped Air"

Use the manual controls to lower the load lift and move the load out of the wrap zone.

If you cannot lower the load lift with the manual controls:

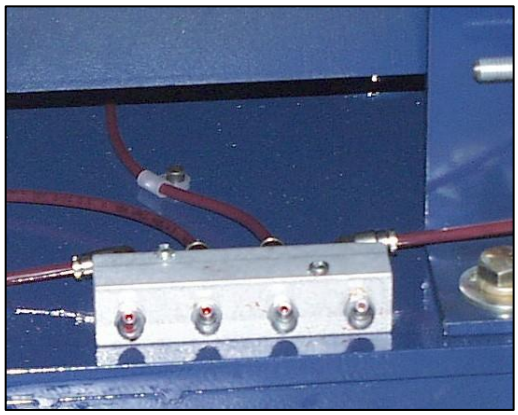
- Disassemble the load by hand to remove it from the wrap zone.

Disconnect the air hose from the load lift to remove the air pressure.

Rack and Pinion

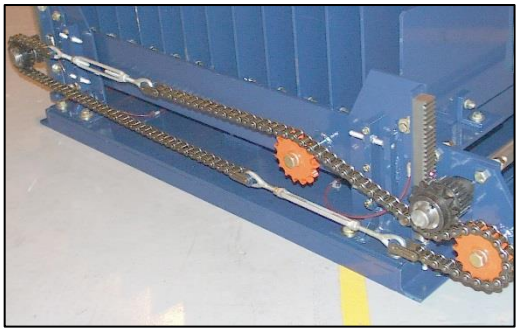
Use the lubrication block on the base of the load lift to lubricate the rack and pinion.

1. Examine the "rack and pinion" monthly.
2. Use Fuchs Cassida EPS 2 grease to lubricate the load lift a minimum of every 6 months.



Chain Lubrication

1. Examine the chain on the load lift monthly.
2. Lubricate the chain with SAE 30 oil a minimum of every 6 months.



OPTIONS

Proximity Sensor Adjustments

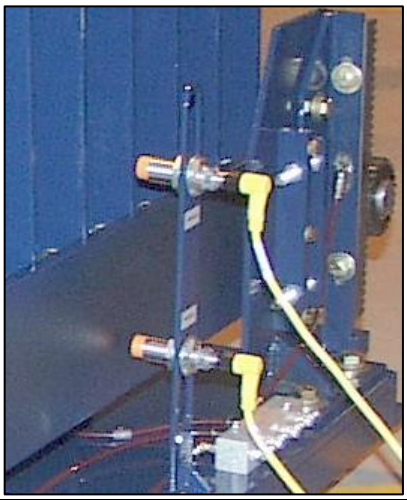
The load lift uses 2 proximity sensors to sense the position of the load lift.

To adjust the top sensor:

1. Raise the load lift.
2. Loosen the nuts and adjust the sensor

To adjust the lower sensor:

1. Lower the load lift.
2. Loosen the nuts and adjust the sensor.



3.3 Standard and Gravity Conveyor

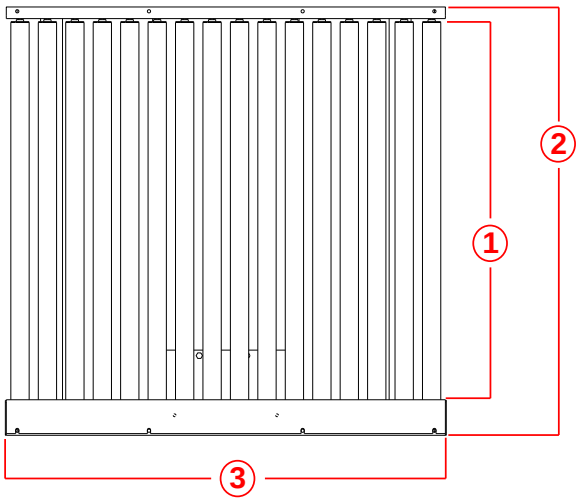
A chain moves each roller.

- Each roller has 2 sprockets on the outer diameter of the roller.
- Each roller connects with 2 sets of chain.

1 – Effective Width

2 – Total Width

3 – Conveyor Length

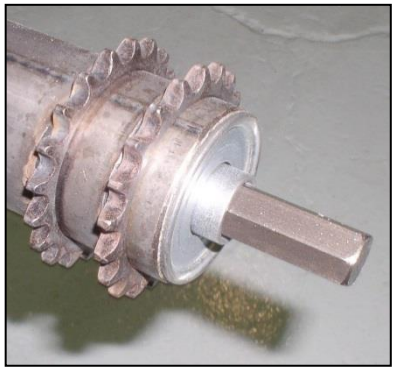


Effective Width is the available roller surface of the conveyor.

	Roller Conveyor	Gravity Conveyor	Weight Capacity
Standard Conveyor			
Effective Width	915 mm (36”)		1814 kg (4000 lbs)
	1016 mm (40”)		1814 kg (4000 lbs)
	1067 – 1220 mm (42” – 48”)		1814 kg (4000 lbs)
	1320 – 1372 mm (52” – 54”)	1397 mm (55”)	1814 kg (4000 lbs)
	1524 mm (60”)	1600 mm (63”)	1361 kg (3000 lbs)
	1651 mm (65”)		1089 kg (2400 lbs)
Conveyor Speed			
Standard	30 FPM (9 m/min)		

Roller Spacing	
“Standard-Spaced”	Rollers are 95 mm (3 ¾”) from center to center.
“Closed-Spaced”	Rollers are 76 mm (3”) from center to center.
“Tight-Spaced”	Rollers are 70 mm (2 ¾”) from center to center.
“Gravity Conveyors”	Rollers are 76 mm (3”) from center to center.

OPTIONS

“Standard Spaced” Roller Chain	
Roller	
“Close/Tight Spaced” Roller Chain	
“Powered” Roller Conveyor	

OPTIONS

Safety, Maintenance

	**WARNING** **Obey all Lockout/Tagout procedures before you change, adjust, repair a part.**
	**WARNING** **Obey all safety decal instructions and warnings.**
	**WARNING** **Do not sit or walk on the conveyors. The conveyors can start automatically.**
	**WARNING** **Do not operate the conveyors without the guards in the correct position.**
	**WARNING** **Disconnect the power to the conveyors before you before you change, adjust, repair a conveyor component.**

Daily and Weekly Maintenance

- Tighten, replace loose fasteners.
- Look for oil leaks.
- Listen for unusual noise during operation.
- Clean the photoelectric sensor lenses.
- Align the sensor.

Monthly

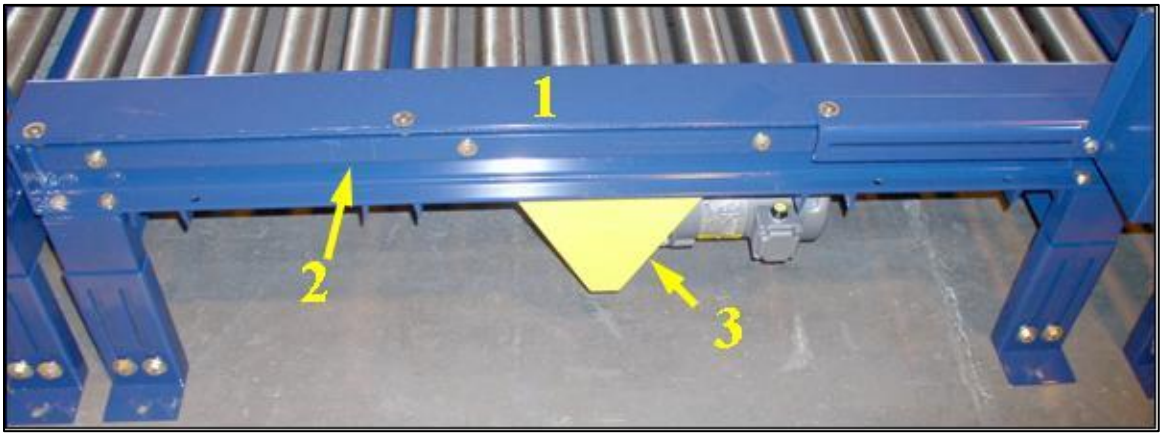
- Examine the chain tension and lubrication.
- Lubricate with SAE 30 oil.
- Examine the chains for wear.
- Examine the sprockets for wear.

OPTIONS

Replace a Roller

1. Remove the chain guard to get access to the roller chains.
   - The standard-spaced conveyors have 1 guard.
   - The tight-spaced conveyors and close-spaced conveyors have the chain guards on each sides of the conveyor.
2. Remove the “connecting link(s)” on the chain.
3. Remove the hex shaft retaining channel on one side of the conveyor.
4. Pull the hex shaft out of the conveyor rail until you can lift the end of the roller.

   Pull the roller and hex shaft out of the opposite side conveyor rail.
5. Do these steps in the opposite sequence to install the roller.



1 – Roller Chain Guard

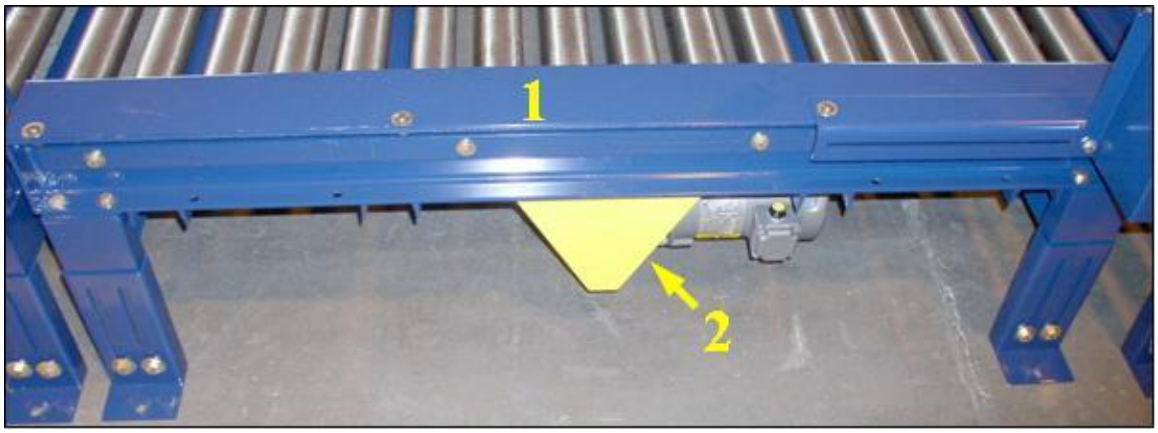
2 – Channel

3 – Chain Guard

OPTIONS

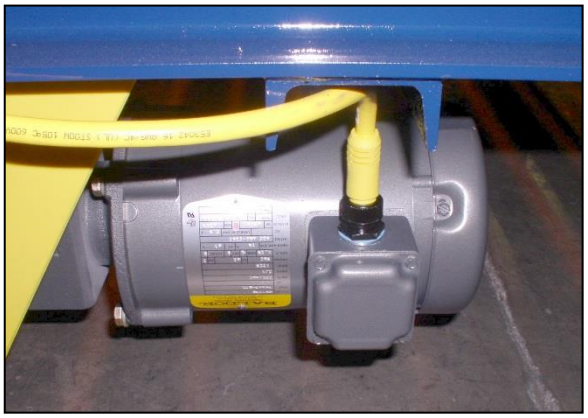
Replace the Motor

1. Disconnect the power to the conveyor.
2. Disconnect the motor cable.
3. Remove the drive chain guard and the chain guard to get access to the roller chains.
4. Remove the “connecting link(s)” on the drive chain.
5. Remove the hex nuts on the motor mounting plate to remove the drive.



1 – Roller Chain Guard

2 – Chain Guard



Motor with Quick Connect Cable

Mount for the Motor

OPTIONS

4.0 Safety

This manual tells the operator and maintenance personnel how to safely install and operate the machine. This section includes:

- General safety
- Personnel safety
- Lockout/Tagout Procedures
- Safety & Environmental Controls
- Warnings, Cautions and Notes
- Pictograms
- Residual Risk

4.1 General Safety

General Safety

Read the manual to install, operate, and repair the machine safely.

- Obey all safety decals.
- Obey all warnings to prevent an injury to personnel.
- Obey all cautions to prevent damage to the machine.
- Obey all Lockout/Tagout procedures before you change, adjust, repair a part.
- Refer to the adjustment data to prevent a safety hazard.

4.2 Personnel Safety

Personnel Safety

- To prevent an injury and safety risk, do not install, operate, repair the machine while influenced by drugs, alcohol, medication.
- A part that moves can catch loose clothing, long hair, jewelry and cause injury to personnel.
- Refer to the Installation section for personnel and tools to safely install the machine.

4.3 Lockout/Tagout Procedures

Lockout/Tagout Procedures
Obey these procedures to prevent an injury from unexpected energizing, start-up, release of stored energy.
This applies to local, regional, and federal controls, and includes the current controls for: • Australia – OSHA – Prevention of Unexpected Startup • Europe – CE – Machinery Directive – Isolation of Energy Sources • USA – OSHA – Control of Hazardous Energy
Automatic Machines
1. Disconnect the main power. a. Move the Main Disconnect switch to the “Off” position. b. Lock the Main Disconnect switch in the “Off” position.
2. Disconnect the main pneumatic supply. a. Move the main pneumatic valve to the “Off” position. b. Lock the main pneumatic valve in the “Off” position
Semi-Automatic Machines
1. Move the “Main Disconnect” switch to the “Off” position.
2. Lock the “Main Disconnect” switch in the “Off” position.
3. Disconnect the power cord from the electrical outlet.
4. Lock the power cord.

4.4 Safety and Environmental Controls

Safety and Environmental Controls
Make sure that you recycle all waste.
Release all chemical waste to a certified Waste Processing Company only.
To decommission the machine, the owner of the machine and all auxiliary equipment, must: • Obey applicable environmental regulations and discard electrical components safely. • Obey all applicable environmental, plant, and industrial safety regulations. This applies to local, regional, and federal controls, and includes all OSHA and CE regulations.

4.5 Warnings, Cautions and Notes

Warnings, Cautions and Notes
Warning Tells the operator that there is a hazard that can cause a serious injury.
Caution Tells the operator that there is a hazard that can cause: • A minor injury • Damage to the equipment, environment.
Note Gives additional data that is helpful to the operator.

4.6 Pictograms

The pictograms tell personnel of possible dangerous areas around the machine. Obey all pictograms and safety decals.

Some of the pictograms in the list below do not apply to your machine.

	Do Not Operate Without Guard in Position		No Entry
	Maximum Capacity		Do Not Step
	Do Not Reach		Fire Can Occur
	Chemical Waste		Environment
	Important Note		Refer To Manual
	Hot Surface		Electrical Warning
			Explosion Warning
	Release of Pressure		Electrical Shock Warning

SAFETY

			Do Not Walk on Conveyor
	Pull In Warning		Hit is Possible From Above
			
	Machine Can Fall		Obey the Safety Instructions
			Hit is Possible From The Side
	Fall Warning		Do Not Reach
	Cut Warning		Film Delivery System Warning
			Crush Warning
			

4.7 Residual Risk

Residual Risk - There is a risk when you operate, repair this machine even when personnel obeys all safety requirements.	
Q Series®, S Series™, Lanringer and Ring Straddle	
Risk:	There is a risk of shock when you perform a troubleshooting task with the power to the machine "On". Make sure that only qualified personnel complete these tasks when the power to the machine is "On".
PPE	Use of PPE against injury is not applicable
Q Series® and S Series™	
Risk:	The Film Delivery System (FDS) can fall during maintenance if you do not use sufficient support to hold the FDS. Make sure that the supports hold the FDS when you change, adjust, repair the lift motor or belt.
PPE	Use of PPE against injury is not applicable

Machine Option – Film Sealer	
Risk:	The heater element in the Film Sealer is hot. Let the temperature of the heater element decrease to a cool temperature before you do maintenance work on the film sealer.
PPE	Use heat-protective gloves and clothing during service, maintenance work on the Film Sealer.

5.0 Installation

Read the Installation section and do the steps in sequence.

Note: Illustrations are for reference only.

Note: Functions, descriptions and data can be different on your machine. Refer to Section 3 Options.

Note: Make sure that only qualified personnel complete the steps for Installation, Maintenance and Troubleshooting.

	**WARNING** **Obey all safety decal instructions and warnings.**

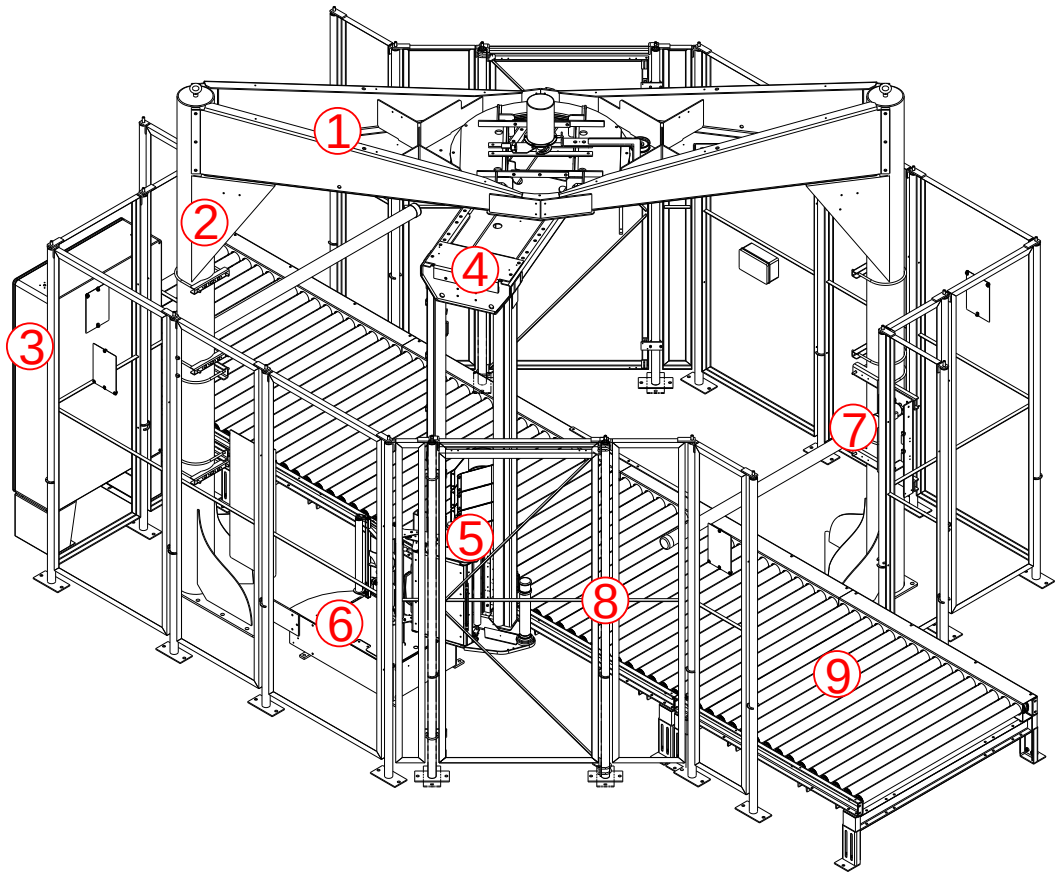
	**CAUTION** **Complete the installation before you apply the power to the machine.**

	**CAUTION** **Obey the torque specifications to prevent damage to the fasteners. Too much torque can cause the fasteners to loosen.**

Note: The "exposed" metal parts on all Stretch Wrap Machines have a heavy Rust Preventative applied before shipment.

You can use Mineral Spirits or a similar cleaner to remove it.

If you remove it, make sure that you apply a "light" Rust Preventative to the "exposed" metal before you operate the machine.



1	Top Frame
2	Legs
3	Enclosure with Remote Operator Station
4	Wrap Arm
5	Film Delivery System (FDS) with Pallet Grip®
6	Automation Unit
7	Safety Gates (Standard Speed System)
8	Safety Fence with Access Gates (Includes Light Curtains on High Speed System)
9	System Conveyors (if applicable)

5.1 Prepare the Area

The space requirements can be different on each machine. Refer to your machine dimensions when you prepare for the installation.
Location:
The standard minimum floor space: • 5588 mm L x 6629 mm W x 4801 mm H (220” L x 261” W x 189” H) • Minimum ceiling clearanace of 610 mm (24”) above the highest point on the machine.
Concrete Floor Requirements
This machine transmits the forces that occur during the wrap cycle safely into the foundation. This gives a protection to the machine and the structure of the building.
Requirements:
• A concrete floor thickness of 152 mm (6”). o Recommend rebar reinforced concrete.
• A flat and level floor. o If the floor is not flat, install the shims below the leg base plates.
• Compressive Strength 21 MPa (3000-PSI).
• No cracks, joints in the floor within 254 mm (10”) of the anchors.
Refer to section 1.1 for support: • For alternative options to install the machine if the area does not align with these requirements. • The machine is in a seismic area.

5.2 Personnel, Equipment and Tools

Personnel and Safety Equipment

- 1 - 2 Forklift Operators
- 2 Electrical Technicians
- 2 Mechanical Technicians
- Safety Glasses
- Steel Toe Shoes
- Hard Hats

Equipment

- 1 - 2 Forklifts with 2000 kg (4400 lbs) capacity and minimum 5 m (15’) Lift
- 1 Personnel Safety Cage (for Forklift) or Work Platform
- 1 Ladder – Minimum height 3 m (10’)

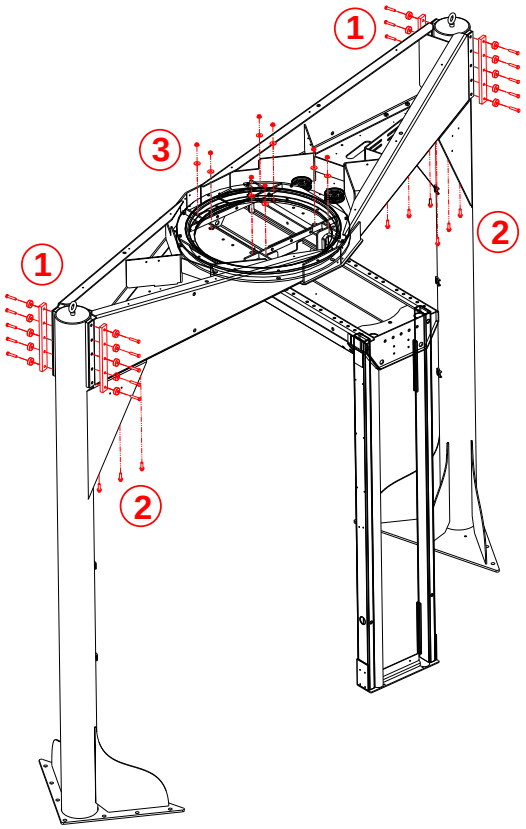
WARNING
Obey the Stepladder Safety Standards

Tools

- Metric and Standard Wrenches and Sockets
- Allen wrenches
- Torque wrench
  (Up to 150 N-m, 110 lb-ft)
- Hammer Drill
- 18 mm (11/16”) Masonry Bit
  152 mm (6”)
- 1 Lift Strap, Chain
- (2) 3 m (10’) Lift Straps
  1000 kg (2200 lbs) Capacity
- (4) 1000 kg (2000 lbs) Shackles
- Belt Tension Gauge
- Container
  Minimum 1.4 L (48 oz) (to mix the Grout)
- Duct Tape
- Funnel (to pour the grout)
- Plumbers Putty - approximately 2 kg (5 lb)
- Transit or Laser Level
- Magnets
- Plumbline
-

5.3 Fasteners

Note: Lantech supplies the anchors to install the legs only.



1	Quantity 20 - M12-1.75 x 60 mm Class 10.9 “Geomet” Coated Clamp Plates M12 Thick Hardened Washers	Apply Loctite to the male threads and female threads and tighten to 102 N-m (75 lb-ft)
2	Quantity 12 - M12-1.75 x 40 mm Long Flanged Head Bolts Class 10.9	Apply Loctite to the male threads only and tighten to 102 N-m (75 lb-ft)
3	Quantity 8 - M12-1.75 Flanged Nuts with Flat Washers Class 10.9	Apply Loctite to the male threads on the wrap arm studs only. Tighten to 102 N-m (75 lb-ft).

5.4 Reference Charts

Metric Torque Chart		
Fasteners	**Class**	**Torque**
6 mm	8.8	14 N-m (10 lb-ft)
8 mm	8.8	24 N-m (18 lb-ft)
10 mm	8.8	47 N-m (35 lb-ft)
12 mm	10.9	102 N-m (75 lb-ft)

Anchors	**Torque**
16 mm (5/8”) Adhesive Anchors	102 N-m (75 lb-ft)
12 mm (1/2”) Expansion Anchors	81 N-m (60 lb-ft)

Cure Time for the Adhesive Anchors	
Concrete Temperature	**Time**
-5° to 0° C (23° to 32° F)	5 Hours
1° to 10° C (33° to 50° F)	1 Hour
11° to 20° C (51° to 68° F)	30 Minutes
More than 20° C (68° F)	20 Minutes

- The 16 mm (5/8”) anchor bolts are the standard adhesive anchors.
- Use the 12 mm (1/2”) expansion anchors in cold/freezer environments only.

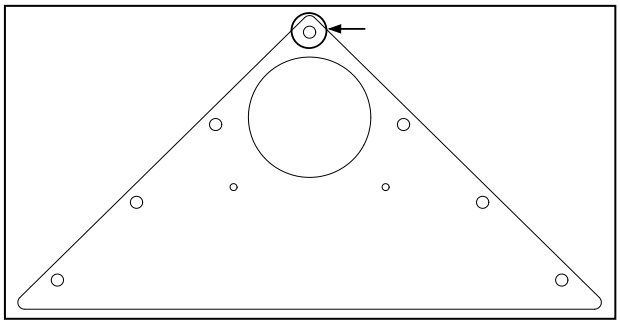
WARNING
Do not use the Adhesive Anchors if the temperature of the concrete floor is less than -5° C (23° F).

5.5 Installation

Step 1

Put a mark on the floor for the centerlines of the:

- Machine
- Conveyors
- First 2 anchor positions

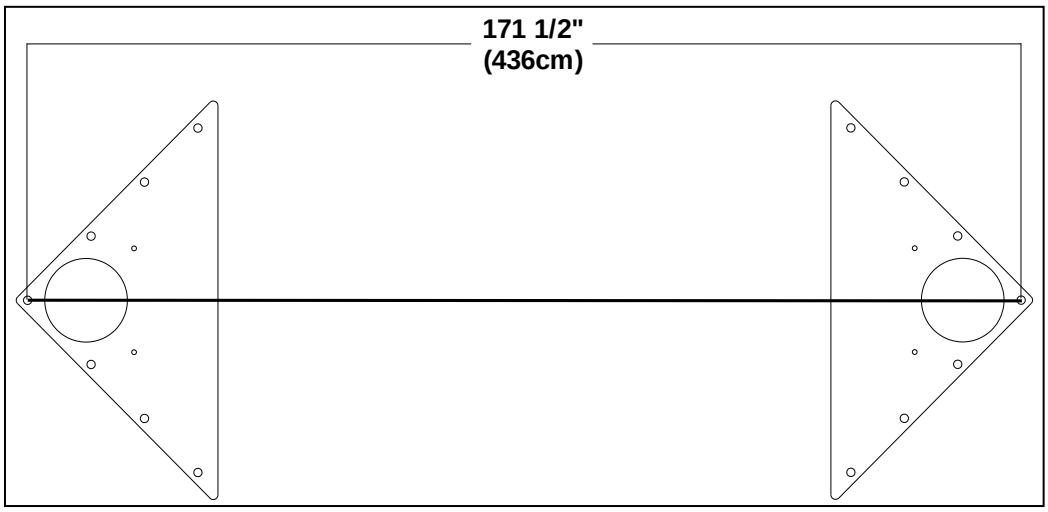


Note: The correct position for the first 2 anchors is important.

Use them as a reference point to complete the installation of the anchors.

The correct position for the anchors:

- At the opposite ends of the machine, at the corner of the leg base plates.
- The standard dimensions between the anchors is 4356 mm (171 1/2"). Refer to the floor plan.



WARNING
Use only the anchors from Lantech to install the machine.
Other anchors can cause a hazardous condition, injury to personnel.

Step 2 - Set the first 2 anchors

Note: Lantech supplies the anchors to install the legs only.

Refer to the instructions for the Expansion Anchors below if you install the machine in a cold, freezer environment.

Adhesive Anchors

1. Drill the holes in the concrete for the first 2 anchors.

   Dimensions:

   - 18 mm (11/16") diameter
   - 127 mm (5") depth

2. Use the bottle brush, vacuum and compressed air to clean the holes.

   Note: The adhesive does not bond to the concrete if there is debris in the holes.

3. Use a plug to increase the strength to the bottom of the hole if:

   a. The depth of the hole is more than 5 1/4" (133 mm).

   b. The concrete breaks through the bottom of the hole.

4. Put the adhesive cartridge into the anchor hole.

5. Put 2 nuts, with a washer between them, together at the top of the anchor.

6. Use a drill, impact wrench with a 15/16" socket, and put the anchor into the adhesive cartridge.

7. Put the anchor through the cartridge to the depth band on the stud. Use the stud to mix the adhesive.

8. Let the adhesive cure before you move to the next step. Refer to the "Cure Time" chart for the time requirements for the adhesive to cure.

9. Do not remove the nuts until the adhesive cures.

Expansion Anchors (Cold/Freezer Environment)

1. Drill the holes in the concrete for the first 2 anchors.

   Dimensions:

   - 18 mm (11/16") diameter
   - 105 mm (4 1/8") depth

2. Use the bottle brush, vacuum and compressed air to clean the holes.

3. Put the anchor sleeves into the holes.

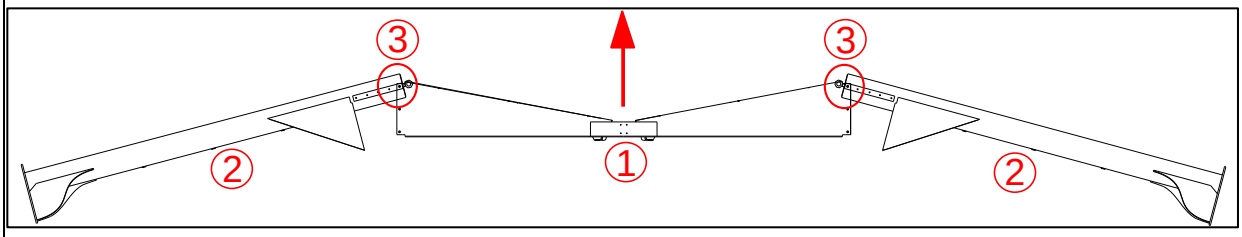
Step 3 - Install the legs

1. Refer to the floor plan for the correct flow direction and position for the machine.
2. Align the letters on the legs with the letters on the top frame.

   Examine the leg at the base plate. If it includes a cap, put the grout in through the weep holes in Step 11.
3. Clear a 5 m x 15 m (15’ x 45’) area to set up the top frame and legs.
4. Set the top frame on blocks in the middle of the area.

   Use caution to prevent damage to the conduits, cables, air hoses, and grease lines on the bottom of the top frame.
5. Put the top of each leg in position at the top frame.
6. Align the top 2 holes on the leg with the top 2 holes in the top frame.
7. Install 2 M12 x 60 bolts in the top hole with the clamp bars and M12 washers on each leg.
8. Do not apply the Loctite or tighten the bolts at this time.

   These bolts are pivot points for the legs when you raise the top frame.
9. Loosen the rotation drive belt. This lets you turn the saddle when you install the wrap arm.



1 – Top Frame

2 – Leg

3 – Pivot Points

Step 4 - Lift the Top Frame

1. Attach a lift strap, chain to the 4 eyebolts on the top frame.
2. Use caution when you lift the legs - They can move freely.
3. Slowly lift the top frame and let the legs move across the floor and below the top frame.
4. Raise the top frame until the legs are in position below the machine.

Step 5 - Set the machine in position

1. Move the machine into position over the 2 bolts installed in step 2.
2. Slowly lower the machine until 1 bolt is through the hole in the base plate.
3. Install a nut and washer onto the bolt.

   Do not tighten.
4. Lower the machine and move the other leg until the bolt aligns with the hole in the base plate.
5. Lower the machine to the floor and install the second nut and washer to the anchor.

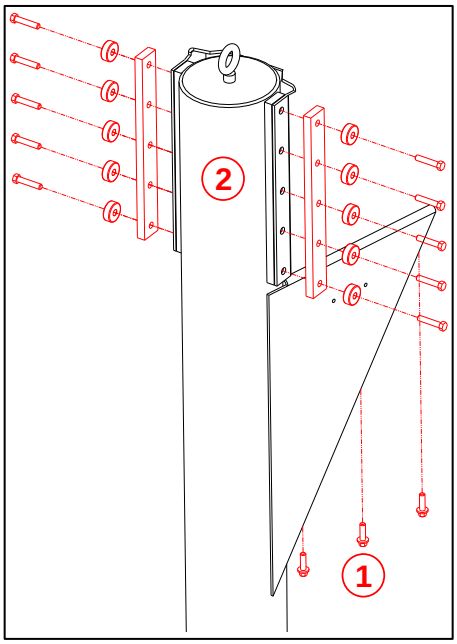
   Do not tighten.
6. Do not remove the lift strap, chain from the machine or forklift.

Step 6 - Complete the installation of the leg.

1. With the machine in position, start the bolts on the legs and gussets.

   Do not apply the Loctite.
2. Tighten by hand:
   a. The (6) M12 x 40 mm bolts on the gussets below the top frame for each leg.
   b. The (8) M12 x 60 mm bolts with clamp plates and M12 washers on the sides of each leg.

      Do not tighten the bolts until the legs are level.



1 - **Bottom Bolts - (6) M12 x 40 mm**

2 - Side Bolts - (10) M12 x 60 mm

Step 7 - Complete the installation of the anchors (Adhesive and Expansion).

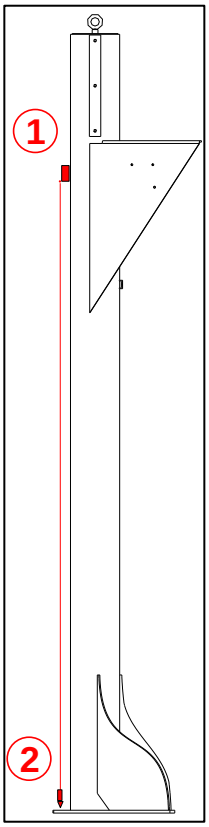
1. Install the remainder of the anchor bolts.
2. Use the leg base plates as a template and drill the holes.
3. Refer to Step 2.
4. Let the adhesive cure before you continue with Step 8.

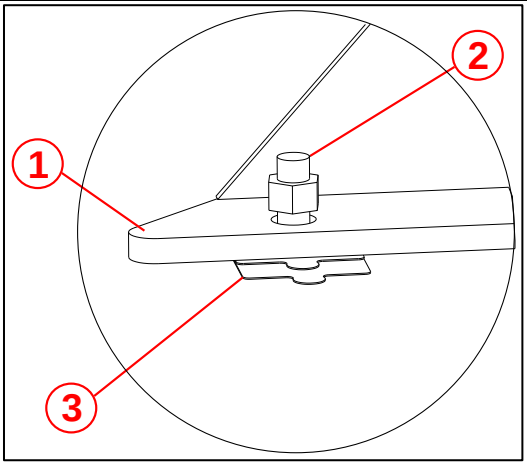
Step 8 – Level the Legs

Use a laser level or transit to make sure that the elevation of the legs is the same.

1. Attach a magnet to the leg below the top frame at the leg gussets.
2. Attach a plumb line to extend to the floor.
3. Measure the distance from the leg to the plumb line:
   a. At the top of the leg, and
   b. At the bottom of the leg.
4. Make sure that the distance is equal.
5. If the distance is not equal, install the shims.
   a. Put the shims below the base plates.
   b. Measure at 4 points (90° intervals) around the leg.
   c. Install the shims until the machine is level.
   d. Add the shims below the base plate at the anchors.

      Make sure that you fill the gaps at the anchors to keep the leg level.
   e. Do these steps again for the second leg.





1 – Leg Base Plate

2 – Anchor

3 - Shims

Step 9 – Torque the Bolts

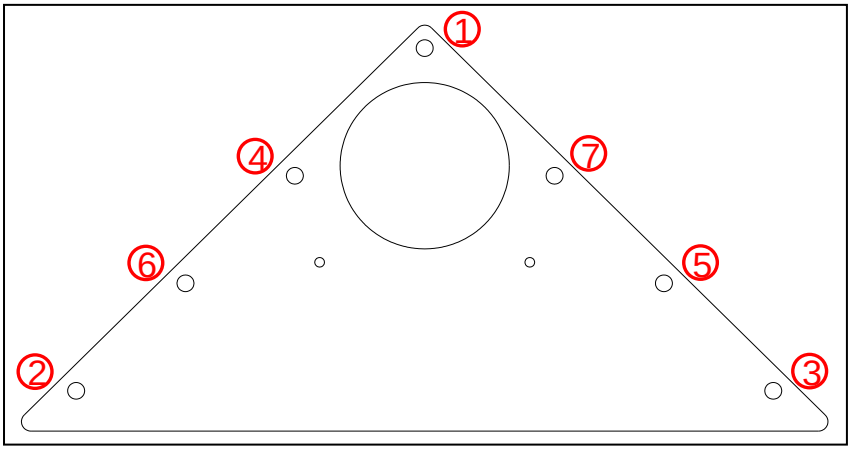
Adhesive Bolts

- Tighten and torque the bolts to 102 N-m (75 lb/ft).

Expansion Bolts

- Tighten and torque the bolts to 81 N-m (60 lb/ft)

Sequence to Tighten the Bolts:



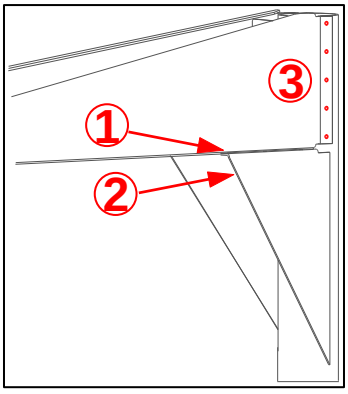
Step 10 - Install the shims at the top frame

1. Put the shims between the top frame and leg gussets at the bolts to fill the gaps.
2. Remove each bolt and apply Loctite to the threads of the bolt only.

   Tighten the bolts by hand.
3. Remove each side bolt.

   Apply Loctite to the threads of the bolt and to the female threads on the leg.

   Tighten the bolts by hand.
4. Torque the bolts in numerical sequence and in the increments in the data below:



INSTALLATION

Bottom Bolts:

a. Start with #1 and torque to 34 N-m (25 lb-ft).

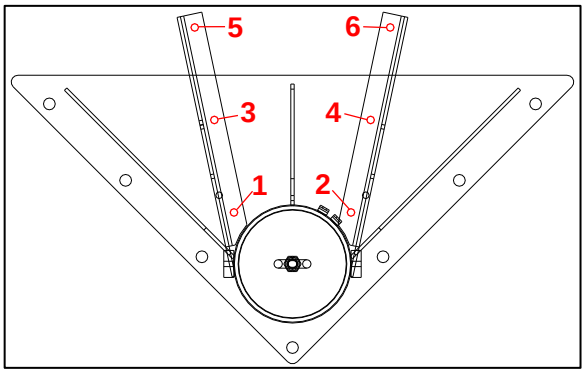
b. Continue with #2 through 6 and torque to 34 N-m (25 lb-ft).

c. Torque #1 to 68 N-m (50 lb-ft)

d. Continue with 2 through 6 and torque to 68 N-m (50 lb-ft)

e. Torque #1 to 102 N-m (75 lb-ft).

f. Continue with 2 through 6 and torque to 102 N-m (75 lb-ft).



Side Bolts:

a. Torque #7 to 34 N-m (25 lb-ft).

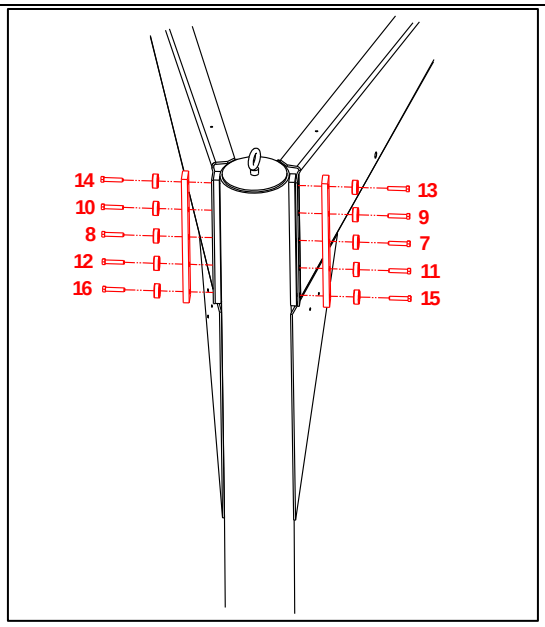
b. Continue with #8 through 16 and torque to 34 N-m.

c. Torque #7 to 68 N-m (50 lb-ft)

d. Continue with 8 through 16 and torque to 68 N-m.

e. Torque #7 to 102 N-m (75 lb-ft).

f. Continue with 8 through 16 and torque to 102 N-m.



Step 11 - Apply the grout to the leg base plate (if applicable)

Do not use the grout if the floor temperature is less than 10˚ C (50˚ F)

1. Put the duct tape on the floor around the edge of the base plates.

   This helps to remove the plumbers putty when the grout cures.

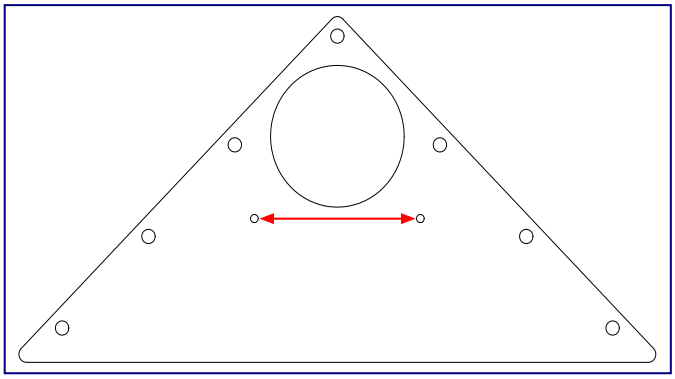
2. Apply the plumbers putty around the edge of the base plates.

   Make sure that it is a minimum of 1/2 of the thickness of the base plate.

   Make sure that there are no gaps that can cause the grout to leak.

3. Refer to the manufacturer directions and mix the grout.

Leg Base Plate with Weep Holes



4. Remove the eyebolt at the top of each leg.

5. Use a funnel and put the grout into the hole at the top of each leg.

   The grout fills the gaps below the leg base plates.

   Each base plate has 2 weep holes.

   If the legs include the caps at the base plate, put the grout in through the weep holes.

6. Make sure that you can see the grout in each weep hole.

7. Let the grout cure. Refer to the cure time data.

Cure Time for the Grout

Temperature	Time
10° C (50° F)	6 - 7 Hours
16° C (60° F)	5 - 6 Hours
21° C (70° F)	2 -4 Hours
27° C (80° F)	1 - 2 Hours
32° C (90° F)	45 - 60 Minutes

Step 12 – Attach the Wrap Arm

1. Tighten the 8 bolts on the Wrap Arm to 34 N-m (25 lb-ft)

   Each bolt has a black line on the threads.

   Use the line to make sure that the bolt does not turn when you tighten the nuts.

2. Attach a lift strap to the Wrap Arm and to the Forklift.

   Lift the Wrap Arm into position.

a. Use the labels on the Wrap Arm and Saddle to align the Wrap Arm.

b. Align the bolts with the Saddle

c. Put the flat washers on the bolts.

d. Apply 2 – 3 drops of Loctite on the bottom 2 – 3 threads near the flat washer.

e. Thread the nut onto the bolt until it connects with the flat washer.

f. Tighten by hand to remove the gap between the Saddle and the Wrap Arm.

g. Use a torque wrench to tighten the nuts on the inner bolts from the top side of the Top Frame.

h. Torque to 102 N-m (75 lb/ft).

i. Use the18 mm wrench to tighten the nuts on the outer bolts approximately 75 - 90° of the wrench turn.

   This removes the gap between the saddle and the wrap arm. This is equal to 102 N-m (75 lb/ft).

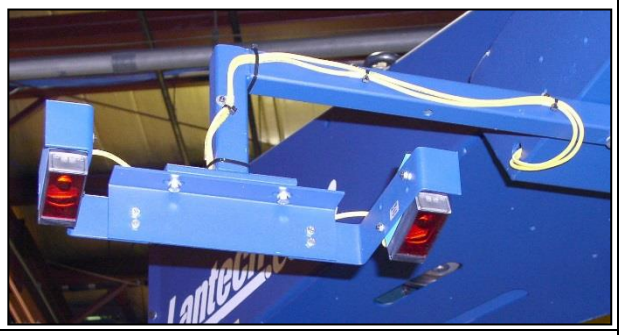
j. If a bolt turns when you tighten the nut, loosen the nut and torque the bolt to 34 N-m (25 lb-ft).

k. Tighten the nut

1 – Inner Bolts and Nuts

2 – Outer Bolts and Nuts

3. Install the Safety Photoelectric sensor for the Wrap Arm.



4. Attach the Quick Connect Plug from the Slip Ring to the receptacle in the Wrap Arm.

5. Remove the FDS shipping bracket. Refer to the Safety Decals on the FDS.

Step 13 – Install the Wrap Zone Conveyor

Refer to the floor plan to put the wrap zone conveyor into position.

1. Use the conveyor centerline for the correct position.

   Do not attach the wrap zone conveyor to the floor until you install the automation unit.

2. Manually move the wrap arm and make sure that there is a clearance above the conveyor.

   The correct clearance is a minimum of 13 mm (½") above the highest point on the conveyor.

Step 14 – Install the Automation Unit

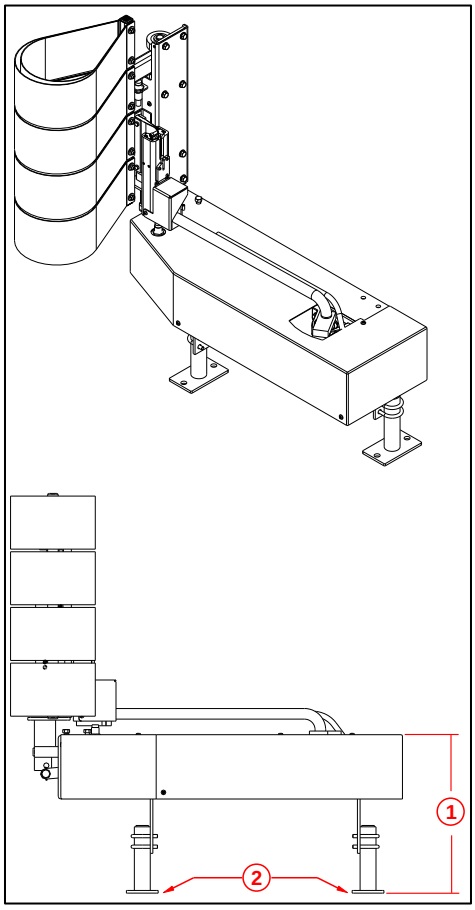
Note: Illustration is Standard Flow

If your machine does not include the wrap zone conveyor, install the Freestanding Automation Unit.

If the machine includes the wrap zone conveyor, the Automation Unit attaches to the conveyor.

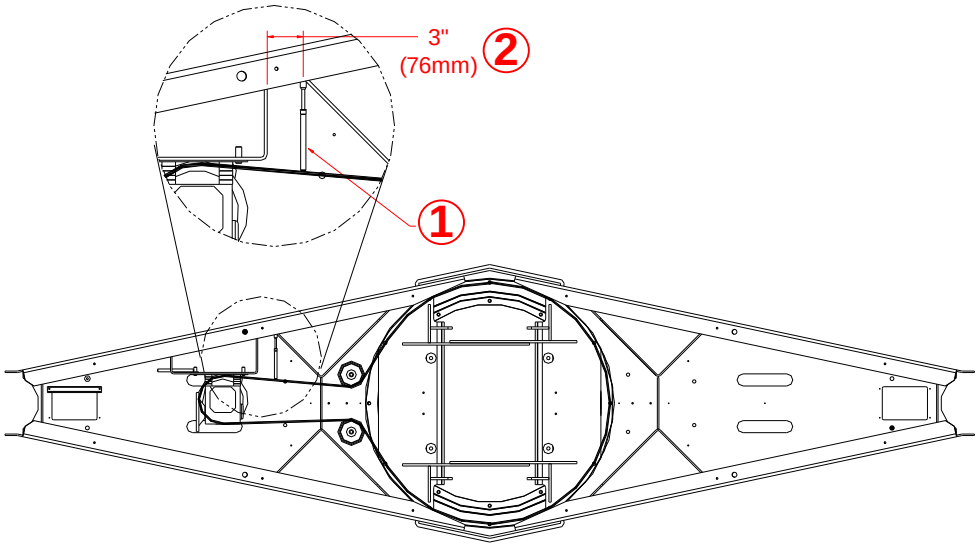
The position of the Automation Unit is important for the machine to operate correctly.

1. Refer to the floor plan and set the automation unit in position.
2. Adjust the height of the unit to the conveyor pass height.
3. Install the shims below the leg base plates if it is not level.
4. Manually move the wrap arm to the automation unit to make sure that the clearance for the rotation is correct.



1 – Adjustment of the Conveyor to the Pass Height

2 – Shims



1	Belt Tension Gauge
2	Position of the Gauge

Tension for the Wrap Arm Belt	
Deflection	**Force**
8 mm (5/16”)	7.7kg (17 lb)

Step 15 - Adjust the tension on the drive belt

1. Use a tension gauge to measure the tension on the drive belt.
2. Adjust the tension.
3. Tighten the nut on the tensioning screw until the correct tension is set.
4. Tighten the bolts on the drive.
5. Examine and adjust the tension after the first 100 cycles.

Step 16- Install the Enclosure

1. Refer to the floor plan for the correct location of the enclosure.
2. Attach a lift strap to the eyebolts on the top of the main enclosure.

   Use caution when you use the forklifts and other equipment to prevent damage to the enclosure.
3. Lift the enclosure slowly. Do not damage the cables and connectors on the bottom of the enclosure.
4. Move the enclosure into position.
5. Attach the enclosure to the floor.

WARNING
Do not open the door to the enclosure before it is attached to the floor.
The open door can cause the enclosure to fall.

Step 17 - Install the Options - Refer to Section 3

Refer to the floor plan for the correct location for the options.

Examples: Film Hoist, Top Sheet Dispenser, etc.

Step 18 -Install the Fence

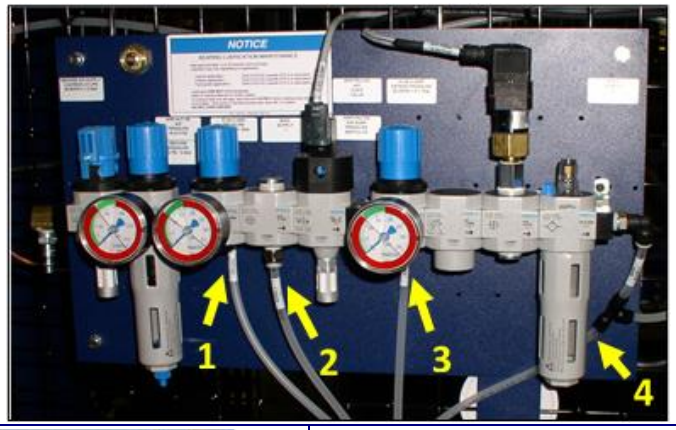
1. Refer to the floor plan for the correct location of the fence.
2. Set the fence sections in position and attach to the floor.

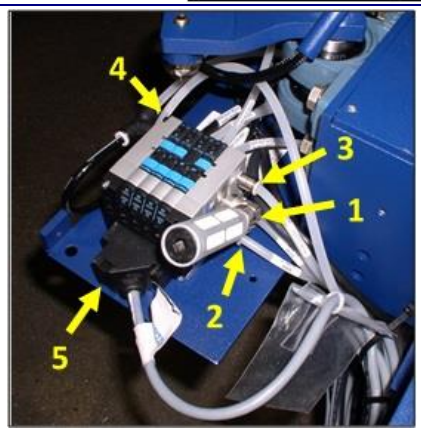
Step 19 – Attach the Cables, Air Hoses and Grease Line

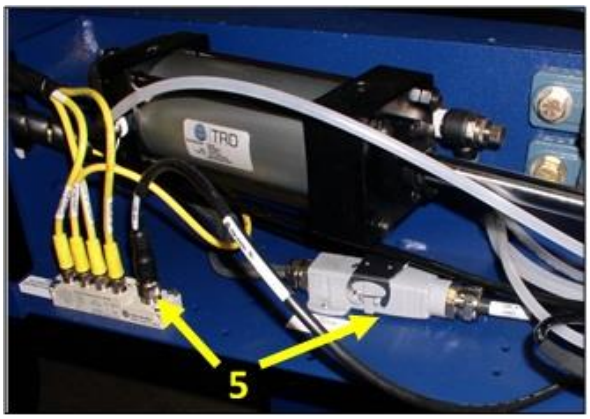
CAUTION
Before you apply the air pressure for the first time, turn the supply regulator on the FRL down.
This prevents the sudden movement of some devices.
When you apply the air pressure, increase the pressure slowly to 6 Bar (80 PSI).

Automation Unit

Connect the cables and air hoses to the automation unit. Refer to the pneumatic and electrical drawings..







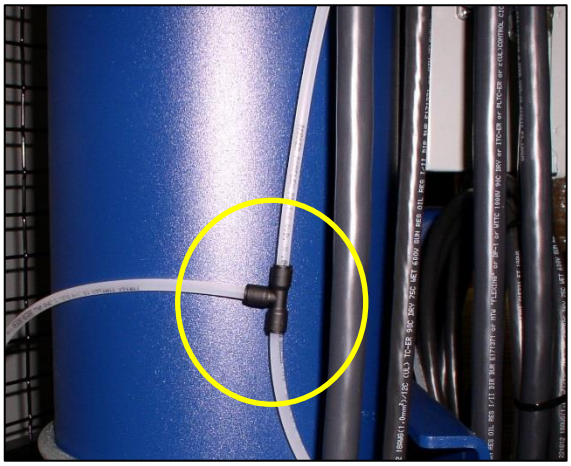
1	Clamp Bladders Inflate
2	Main Supply 1
3	Film Clamp Arm Extend
4	Main Supply 2
5	Cable Connections

Safety Gates – Infeed and Exit (if applicable)

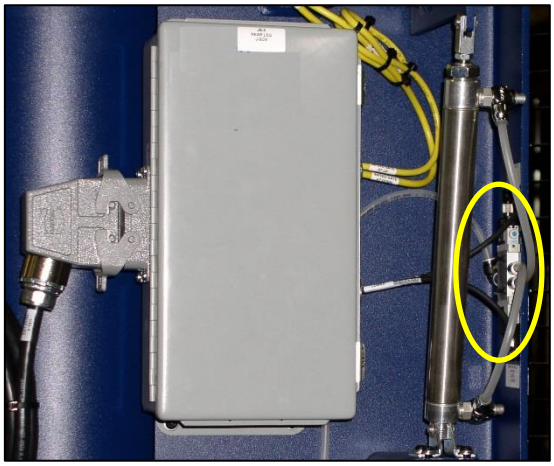
Make the air hose connections for the infeed and exit safety gates.

- Connect the air hose from the main pneumatic assembly to the near side leg.
- Connect the air hoses to the pneumatic valves on each gate.

Connections for Safety Gates - Near Side Leg

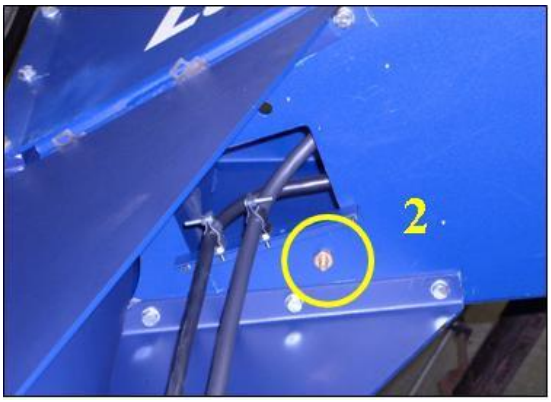


Safety Gate Pneumatic Connection

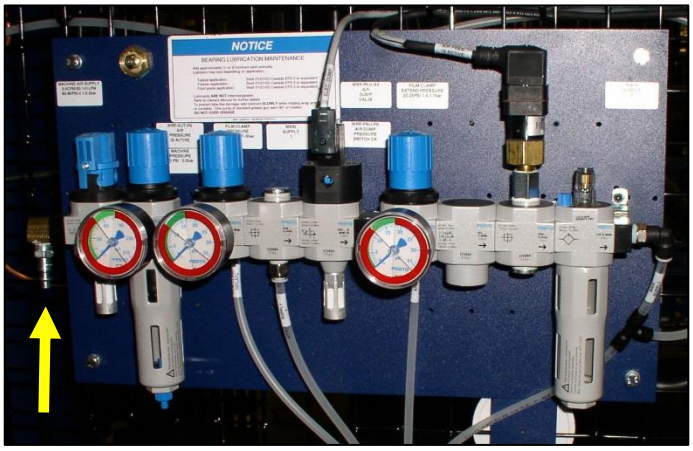


Grease Line

1. Connect the grease line:
   a. Between the top frame at the near side leg.
   b. The grease fitting on the mount plate for the pneumatic supply.

Grease Line at Pneumatic Assembly	Grease Line at the top of the Leg
	

Pneumatic Assembly

Connect the main pneumatic supply to the main air valve at the pneumatic assembly. Fill the pneumatic lubricator.	

Pneumatic Lubricator	
Application/Environment	Lubricant
Standard - Cold/Freezer Food Grade	Summit HySyn FG-32

Step 20 – Complete the Electrical Connections

Standard Machine:

1. Attach the quick connects.

Refer to the labels on the cables, receptacles and components.

Align the labels and complete the connections.

2. Attach the quick connect from the slip ring on the top frame to the receptacle in the wrap arm.

3. Make sure that the key to the access gate engages the gate switch. The switch is on the fence.

4. Connect the main power supply to the top of the "Main Disconnect" in the enclosure. Refer to the electrical drawings for service requirements.

Hardwired Machine:

1. If the machine is hardwired, individual wires replace the quick connect plugs (except the slip ring).

Connect the wires to the terminals:

- At the main enclosure
- At the junction box at the opposite side of the safety gate
- At the conveyor junction boxes.

2. Refer to the electrical drawings.

Step 21 - Connect the Wires for the Conveyor (If Applicable)

Standard Machine:

The conveyor motors and the staging photoelectric sensors have quick-connects.

The cables are "pre-wired" to the enclosure.

Thread the cables to the motor or photoelectric sensors and connect to the receptacle.

Hardwired Machine:

The conveyors are "pre-wired" with conduit and junction boxes, or connect to a junction box on the conveyor.

If the conveyors are pre-wired, the conduits are attached and the wires are terminated in the junction boxes.

If the conveyors are not pre-wired, connect the wires from the main enclosure to the junction box on the conveyor.

INSTALLATION

6.0 Operator Instructions

Note: Illustrations are for reference only.

Note: Functions, descriptions and data can be different on your machine. Refer to Section 3 Options.

Note: It is important to know all components. This includes how to thread the film and operate the controls.

Note: Some machines have a remote Emergency Stop. It is important to know the location of all E-stops before you operate the machine.

	**WARNING** **Obey all safety decal instructions and warnings.**

	**WARNING** **Obey all Lockout/Tagout procedures before you change, adjust, repair a part.**

	**WARNING** **Do not make a change to this machine without approval from Lantech. It can cause a safety hazard and cancel the warranty.**

	**WARNING** **Do not use this machine with hazardous materials.** **Do not operate this machine in a hazardous environment.** **Do not operate this machine in an explosive environment.**

6.1 Sequence of Operation

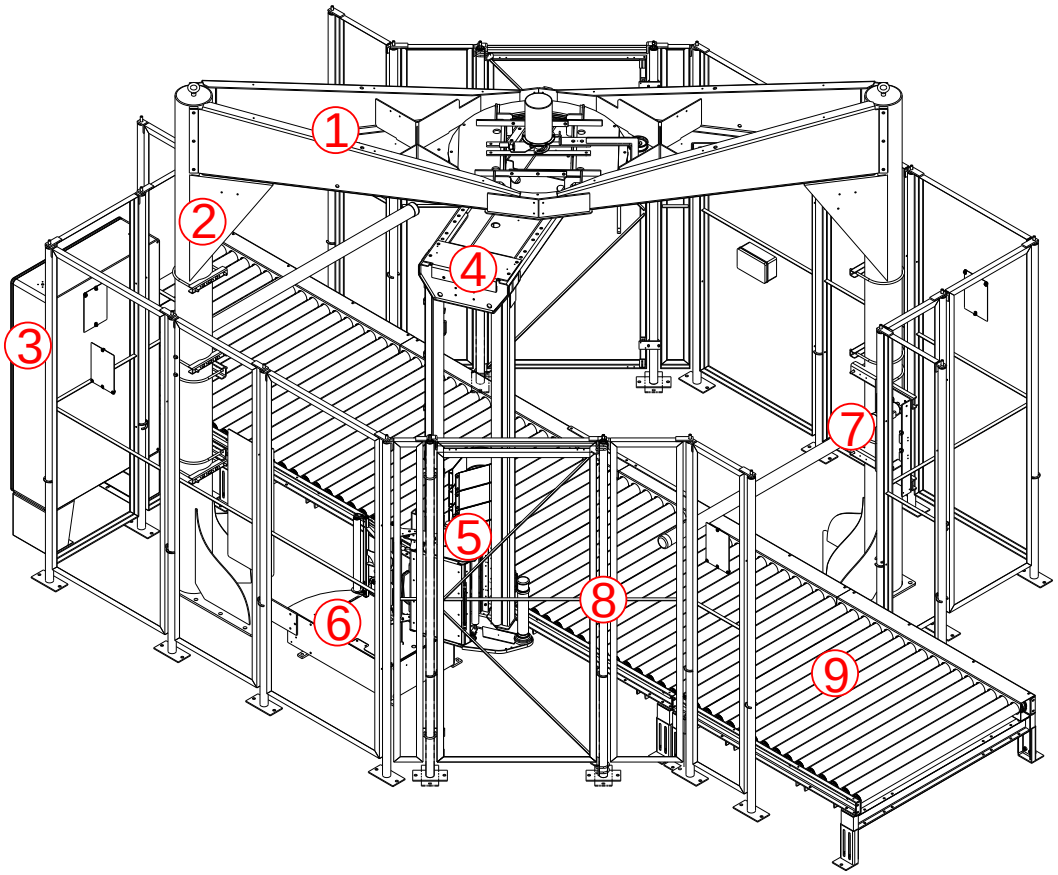
6.1.1 Standard Speed

Standard Speed
The sequence starts with the machine in the “Auto” mode and a load on the infeed conveyor.
1. The safety gate (if applicable) raises and the load moves into the wrap zone.
2. The load moves out of the sight of the transition sensor and the infeed safety gate lowers.
3. The “Under Travel” and “Over Travel” sensors put the load in the correct position in the wrap zone.
4. The wrap arm turns and the film clamp extends to the side of the load.
5. After the first rotation, the film clamp releases the film tail.
6. The wrap arm moves around the load.
7. The FDS raises and applies the film to the load.
8. When the FDS is at the top of the load, the wrap arm speed increases to the maximum rpm.
9. The FDS applies the top wraps.
10. The FDS lowers to the bottom of the load.
11. The Pallet Grip engages and applies the bottom wraps to the load.
12. On the last rotation the film clamp retracts.
13. The speed of the wrap arm decreases to the “Homing” speed
14. The wrap arm stops at the “Home” position
15. The safety gate on the exit conveyor raises.
16. The Film Cutter raises.
17. The Wipe Down assembly moves into position to wipe the film to the load.
18. The Film Plow pushes the film into the clamp and the bladder inflates to hold the film.
19. The Cutter Wire energizes for approximately 2.5 seconds to break the film. 20. The heat of the cutter wire melts and separates the film.
21. The load moves to the exit conveyor.
22. The wipe down loops wipe the film tail to the load.
23. The wipe down retracts and the cutter assembly moves to the “lowered” position.
24. The machine can accept the next load.

6.1.2 High Speed

High Speed
1. The machine receives a signal that a load can move to the infeed conveyor.
2. The machine sends a signal to the upstream system to release the load.
3. The load moves to the infeed conveyor photoelectric sensor.
4. The load stays at the sensor until the wrap arm completes the last rotation of the current wrap cycle.
5. The clamp retracts and the wrap arm speed decreases to “homing” speed and stops at the home position.
6. The film cutter raises and the wipe down assembly extends to the load.
7. The Film Plow pushes the film into the clamp and the bladder inflates to hold the film.
8. The Cutter Wire energizes for approximately 2.5 seconds to break the film. The heat of the cutter wire melts and separates the film.
9. The load on the wrap zone conveyor and the load on the infeed conveyor start to move.
10. The film cutter lowers.
11. The “Under Travel” and “Over Travel” photoelectric sensors put the load in the correct position in the wrap zone.
12. The wrap arm turns and the film clamp extends to the side of the load.
13. After the first rotation, the film clamp releases the film tail.
14. The wrap arm moves around the load.
15. The FDS raises and applies the film to the load.
16. When the FDS is at the top of the load, the wrap arm speed increases to the maximum rpm.
17. The FDS applies the top wraps.
18. The FDS lowers to the bottom of the load.
19. The Pallet Grip engages and applies the bottom wraps to the load.
20. On the last rotation the film clamp retracts.
21. The speed of the wrap arm decreases to the “Homing” speed.
22. The wrap arm stops at the “Home” position.
23. The machine can accept the next load.

6.2 Components



1	Top Frame
2	Legs
3	Enclosure with Remote Operator Station
4	Wrap Arm
5	Film Delivery System (FDS) with Pallet Grip®)
6	Automation Unit
7	Safety Gates (Standard Speed System)
8	Safety Fence with Access Gate (Includes Light Curtains if applicable)
9	System Conveyors (if applicable)

1. Top Frame

- Slip ring
- Ring bearing with wrap arm saddle
- Wrap arm rotation drive.

2. Leg

The standard legs are:

- 3353 mm - 4572 mm (11’ – 15’) Length
- 219 mm (8 5/8”) Diameter

3. Main Enclosure

- HMI in remote operator station
- Machine control devices
    - Relays
    - Contactors
    - Motor starters
    - Frequency Drives
    - PLC

4. Wrap Arm

- Film Delivery System (FDS)
- FDS Lift drive

5. Film Delivery System (FDS)

- Metered Film Delivery® system
- 225% pre-stretch gears
- Pallet Grip®

  Pallet Grip locks the load to the pallet.

  It includes a groove roller and a tilting roller.

  As the FDS lowers, Pallet Grip engages and makes a cable of film.

  The cable attaches below the top boards of the pallet to lock the load to the pallet.

6. Automation Unit

- Load Seeking Clamp®
    - The Load Seeking Clamp eliminates the film tail at the start of the wrap cycle.
    - It lets the film wrap near the side of the load during the wrap cycle.
    - The vacuum clamp extends to the side of the load as it wraps.
- Wipe Down loops

7. Safety Fence with Access Gate

- The safety fence is a guard for the perimeter of the wrap zone. It includes an access gate with an Electrical Interlock switch.
- The control power to the machine disengages when the access gate is open.

Light Curtains (if applicable)

The Light Curtains are a guard for the infeed and exit conveyor areas for the high speed systems.

8. Conveyors (if applicable)

The standard conveyor is:

- 1321 mm (52”) Effective Width
- Powered Roller Conveyor
- Weight capacity 1814 kg (4000 lbs)

6.3 Controls

“Main Disconnect”

This is a lockable switch that starts and stops the main power supply.

“HMI”

The standard HMI is a touch screen.

“Reset (//)

This blue illuminated button controls the power to the machine.

The button illuminates and all functions are available to the operator.

“Power Off” (O)

This red button stops the operation of the machine.

It stops the Stretch Wrap machine only.

“Emergency Stop” (E-stop)

This red button stops the operation of the machine.

Use this button for emergencies only.

Push the button to disengage the control power to the machine.

Reset the E-stop before you push the “Reset” button.

A second Emergency Stop is on the opposite side of the machine for personnel safety.

"Illuminated Gate Unlock" - This button is also the "Cycle Stop Request"

Use this button to request entry into the wrap zone.

This button is adjacent to the access gate.

This function is available only when the machine is not in operation.

If the machine is not in operation:

1. Push the button.
   The power to the machine disengages and the pneumatic system releases the air.
2. When the button illuminates, push it again to go into the wrap zone.

If the machine is in operation:

1. Push the button.
   The machine completes the current wrap cycle.
   The button flashes until the wrap cycle is complete.

   The power to the machine disengages and the pneumatic system releases the air.
2. When the button illuminates, push it again to unlock the gate and go into the wrap zone.

6.3.1 Icon List

	Active Alarms		Edit
	Add		Edit Text
	Alarm Counter		Email
	Alarm History		Energize (Pulse) the Wire Cutter
	Alarm Silence		Extend/Retract
	Bypass		Extend/Retract
	Cancel		Film Break
	Clockwise		Film Calibration
	Close		Film Coverage
	Containment Force		Film Coverage Mode
	Conveyor		Film Setup
	Conveyor Tracking		Film Tension
	Counterclockwise		Film Thickness
	Cut and Clamp		Forward/Reverse
	Decrease		Help
	Delete		High Speed Inputs
	Diagnostics		Home
	Dispenser		Hot Wire
	Done		I/O Status

	Increase		Profile Number
	Interface/Interface Condition		Reports
	Load Guardian™		Reset
	Load Twist		Reset to Defaults
	Loads per Film Roll		Rotate Home
	Loads per Hour		Rotate 90°
	Login		Rotation
	Machine Calibration		Rotation Speed
	Main Menu		Runout Mode
	Maintenance		Scheduled Maintenance
	Manual Functions		Security Setup
	More Profiles		Settings
	Options		Shift Setup
	Password		Short Load
	Performance Audit		Start
	Pre-Stretch Percentage		Stop
	Production Counter		System Data
	Production Reports		Units
	Profile Color		Up/Down
	Profile Icon		VFD

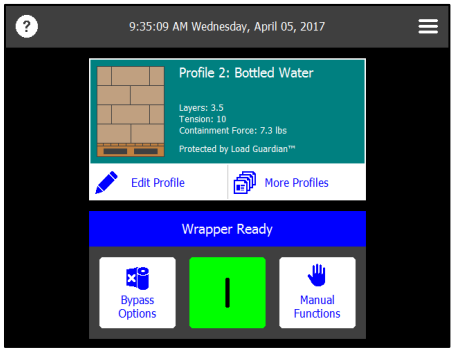
	Wrap Cycle Data		Wrapper Jog
	Wrap Height		Wrapper Options/Settings
	Wrap Problems		Yes
	Wrap Quality		

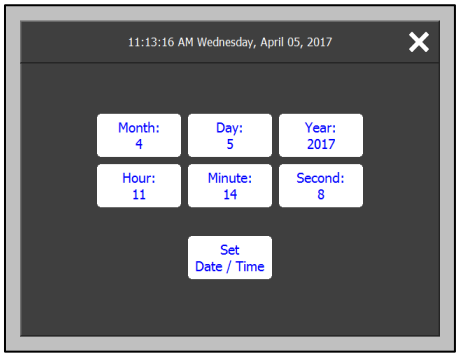
6.4 Display

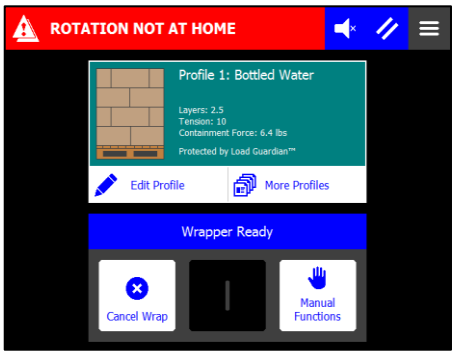
The HMI shows the machine status, fault conditions, and instructions.

The list below includes the selections that can show on the HMI.

	“Message Display” The display shows the current condition for the machine.
	**“Profile”** This shows the current “Wrap Profile”.
	**“Edit Profile”** Push this button to get access to the current profile.
	**“More Profiles”** Push this button to get access to the profile list.
	“Date and Time” Push the date and the time on the screen to get access to the settings.
	**“Alarm Condition”** These conditions stop the operation of the machine. The operator must correct the fault and start the machine. The display shows the fault and the location of the fault.
	**“Alarm Reset”** This button resets the alarm condition
	**“Alarm Silence”** This button disengages the audible alarm.
	**“Cancel Wrap”** This button cancels the wrap cycle and moves the machine to the “home” position.





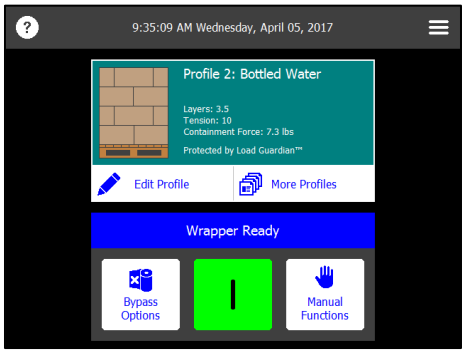


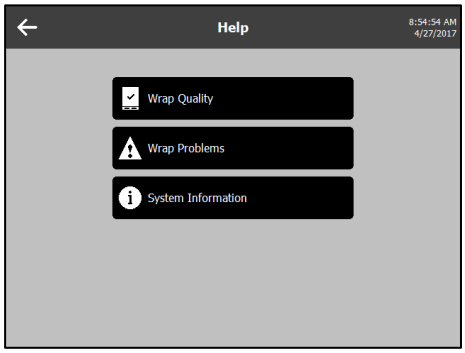
6.5 Operator Controls

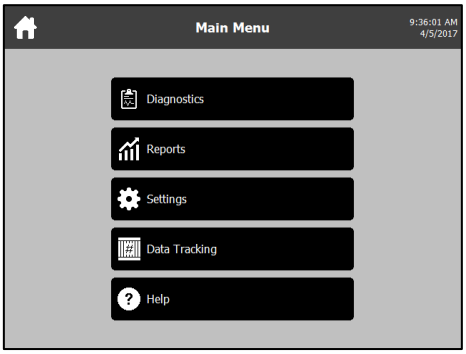
6.5.1 "Home" Menu

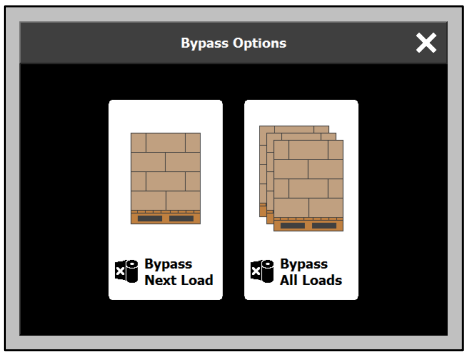
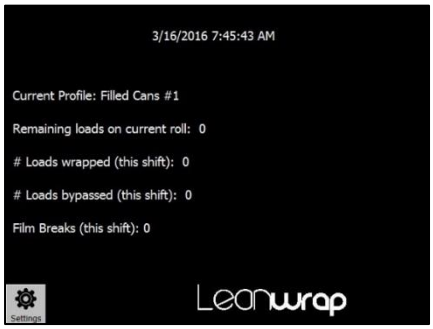
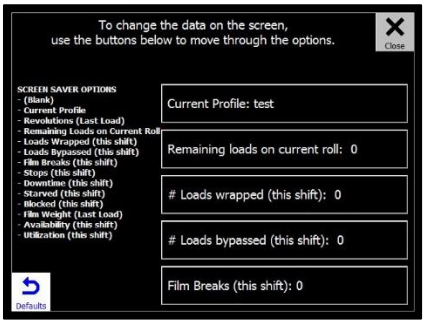
When the power is on, the "Home Menu" shows on the display.

I	**"Start"** Push and hold this button for 3 seconds to start the machine in the automatic mode.
	"Manual Functions" Push this button to get access to the manual functions for the machine. This button changes to the "Stop" button when the machine starts in the automatic mode.
O	**"Stop"** Stops the machine at the end of the current stage in the wrap cycle. This button replaces the "Manual Functions" button when the machine starts in the automatic mode.
?	**"Help"** Push this button to get access to the "Help" menus. The "Help" screens give information and instructions on the functions and operation of the machine
	"Main Menu" Push this button to get access to the list of menus. These menus give data for the machine status, performance, setup and operation.

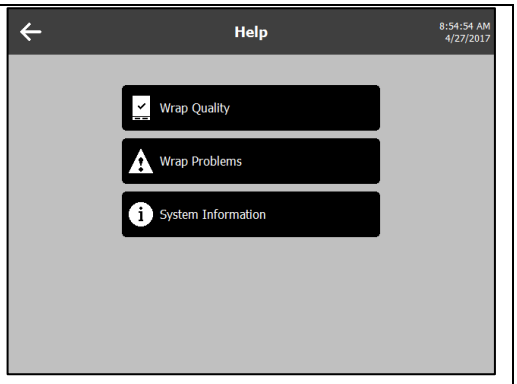
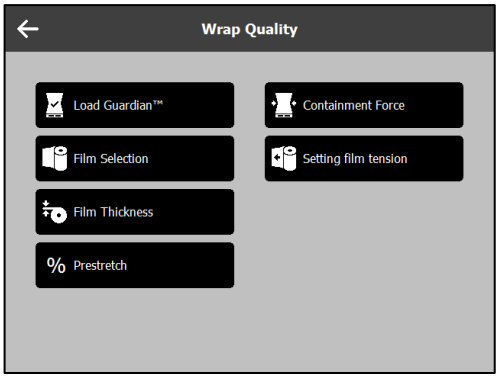






	**"Bypass Options"** This button gives access to the "Bypass Options" menu	
	"Bypass Next Load" This is a "single load bypass" function. This moves the next load through the wrap zone and does not wrap the load. This is for 1 load only. The next load wraps by the selected profile.	
	"Bypass All Loads" This function moves all loads through the wrap zone and does not wrap the loads.	
	"Screen Saver" This screen includes different machine operation data. This screen shows after 1 minute of no activity on the "Home Menu", and 5 minutes on all other menus. You can select a maximum of 5 options for the data to show on the screen saver.	
	**"Settings"** This button gives access to the screen saver options. Push the buttons to select the options for each field.	
	**"Reset Defaults"** This button resets the options for the screen saver to the default settings.	

6.5.2 "Help Menus"

	**"Help"** The "Help" screens give information and instructions on the functions and operation of the machine This menu includes: • Wrap Quality • Wrap Problems • Profile Details • System Information	
	**"Wrap Quality"** The "Help" screens give information and tips to improve the wrap quality. The screens for "Wrap Quality" include: • "Load Guardian" • "Film Selection" • "Film Setting" • "Pre-stretch" • "Containment Force" • "Film Tension"	

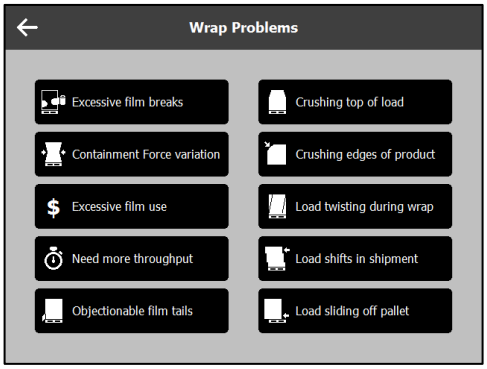
“Wrap Problems”

“Wrap Problems”

This menu gives the possible causes and solutions for problems that can occur during the wrap cycle.

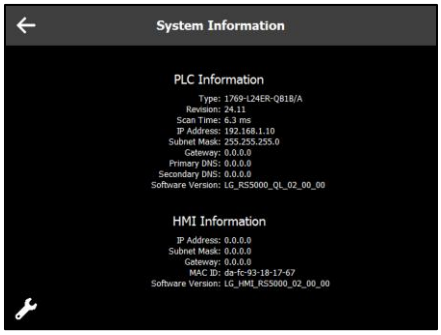
The “Wrap Problems” include:

- “Excessive Film Breaks”
- “Containment Force Variation”
- “Excessive Film Use”
- “Need more Throughput”
- “Objectionable Film Tails”
- “Crushing the Top of the Load”
- “Crushing the Edges of the Product”
- “Load Twists during the Wrap Cycle”
- “Load Shifts in Shipment”
- “Load Slides Off the Pallet”



“System Information”

This gives the system data for the PLC and the HMI.

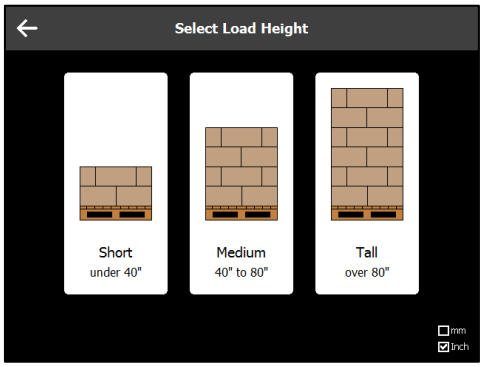


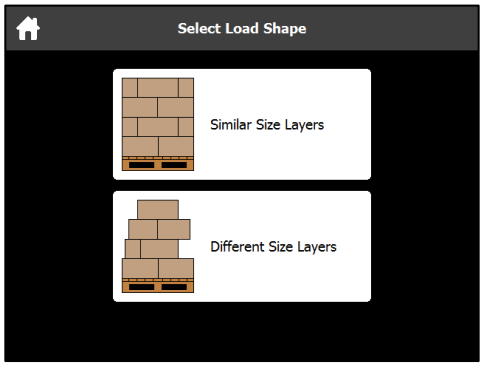
6.5.3 "Wrap Profile Menu"

	"Wrap" Menu Use this menu to: • Select a Profile • Edit a Profile • Add a wrap profile
	**"Select a Profile"** 1. Push "More Profiles" on the "Home" menu. 2. Select a profile.
	**"Add a Profile"** 1. Push "More Profiles" on the "Home" menu. 2. Push "Add a Profile". This gives access to the "Profile Settings" menu. 3. Refer to the steps below to set up a wrap profile. 4. Save the profile
	**"Edit a Profile"** 1. Select the Profile. 2. Push "Edit Profile" on the "Home" menu. This gives access to the "Profile Settings" menu. 3. Make the changes to the profile. 4. Save the profile.

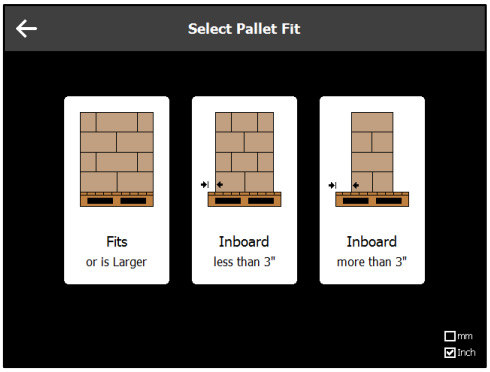
6.5.4 Profile Settings

"Profile Settings" Menu	
To make a new Profile: 1. Push "More Profiles" on the "Home" menu. 2. Push "Add a Profile"	

"Select the Load Height"		
"Short"	The height of the load is less than 1016 mm (40").	
"Medium"	The height of the load is 1016 mm to 2032 mm (40" to 80").	
"Tall"	The height of the load is more than 2032 mm (80").	

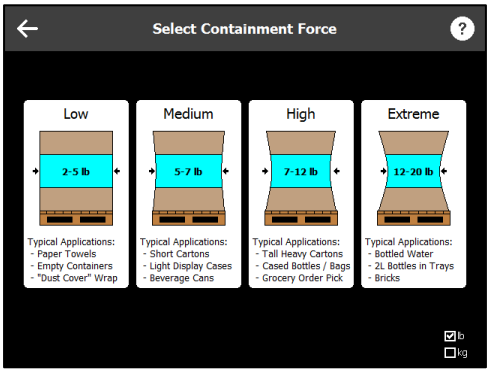
"Select the Shape of the Load"		
"Similar Size Layers"	This selection is for loads with layers of the same dimensions. This load type uses a higher Film Tension and fewer layers of film.	
"Different Size Layers"	This selection is for loads with layers of different dimensions. This load type uses a lower Film Tension and more layers of film.	

Select How the Load Fits on the Pallet	
"Fits"	The dimensions of the load are equal to, greater than the pallet.
"Inboard"	The load is set less than 75 mm (3") from the edge of the pallet.
"Inboard" (Extreme)	The load is set more than 75 mm (3") from the edge of the pallet. This load type decreases the wrap force on the pallet and adds a band of film above the pallet.



Select the Containment Force (CF)

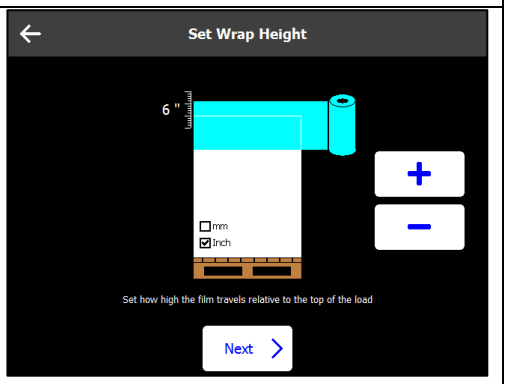
"Low"	These loads include paper towels, tissues, empty PET bottles, etc.	1- 2 kg (2 - 5 lb)
"Medium"	These loads include short case goods, short trays, light order pick, etc.	2 - 3 kg (5 - 7 lb)
"High"	These loads include tall case goods, bagged goods, grocery order pick, etc.	3 - 5 kg (7 - 12 lb).
"Extreme"	These loads include concrete blocks, bottled water, tall bottles in trays, etc.	5 - 9 kg (12 - 20 lb)



"Set the Wrap Height"

This sets the quantity of film to wrap above the top of the load.

1. Use the "Plus" (+), "Minus" (-) symbols to increase, decrease the quantity of film (mm, inch).
2. Select "Next".



"Set the Film Width and Thickness"

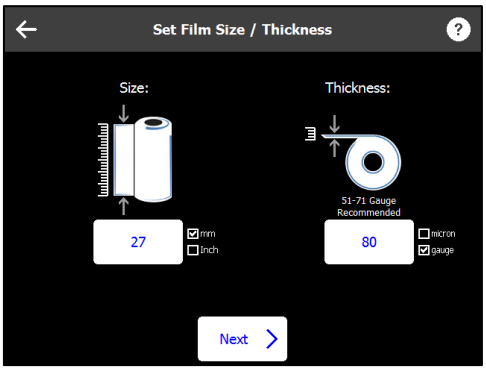
"Set the Film Width"

The standard film roll is 508 mm (20"), 762 mm (30").

1. Push the button
2. Enter the width of the film.

"Set the Film Thickness"

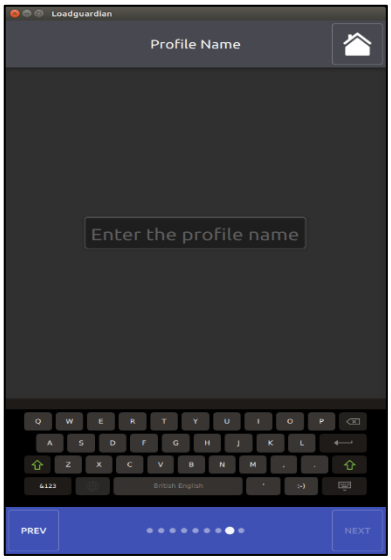
1. Push the button
2. Enter the thickness (micron, gauge) of the film.
3. Select "Next".



6.5.5 Profile Specifications

"Enter a Profile Name"

1. Enter a name for each profile.



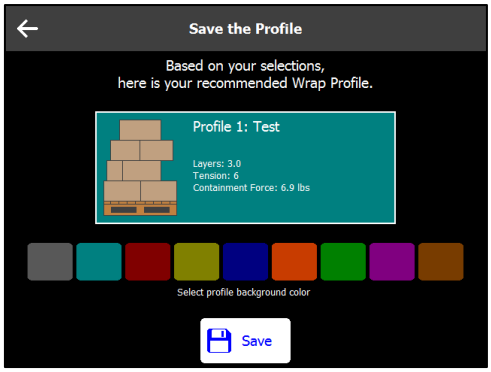
“Save the Profile”

This screen shows an overview of the profile.

It includes:

- Film Layers
- Film Tension
- Containment Force

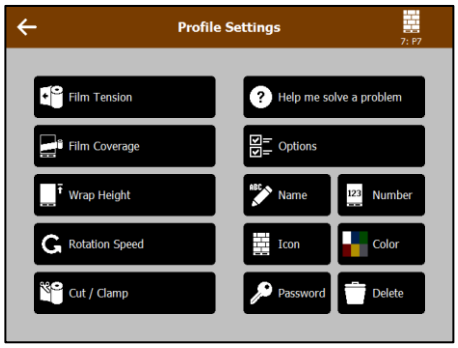
1. Use this screen to select a profile color
2. Push “Save”.



“Edit a Profile”

1. Push “More Profiles” on the “Home” menu.
2. Select a profile.
3. Push “Edit Profile”.

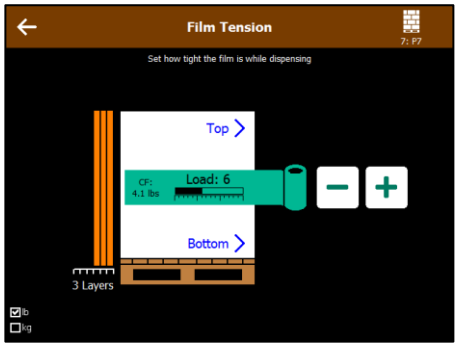
   This gives access to the “Profile Settings” menu.



“Film Tension”

Increase, decrease the film tension for the top, the bottom and the middle of the load.

These adjustments are not available when Load Guardian™ is engaged.

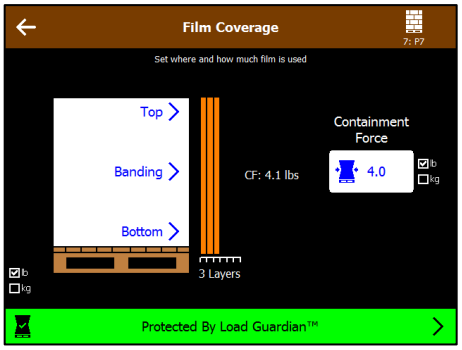


Lantech

“Film Coverage”

Increase, decrease the top and the bottom wraps, the film overlap up, down.

These adjustments are not available when Load Guardian is engaged.



“Protected by Load Guardian”

This controls the position of the film and the tension on the film to hold the set Containment Force.

“Monitored by Load Guardian”

This is for special applications. It shows the Containment Force based on the settings for the Film Coverage.

“Load Guardian Disabled”

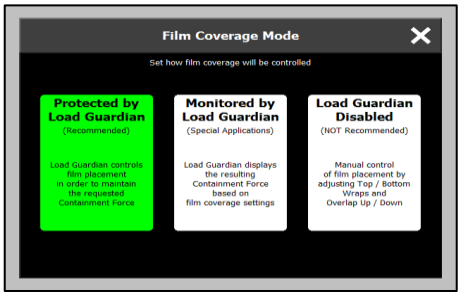
This gives manual control of the position of the film by adjustments to:

- The Top and the Bottom wraps
- The Overlap Up and Down.

“Film Coverage Mode”

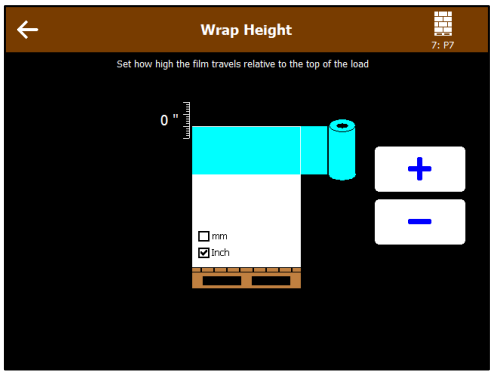
This sets the control for the film coverage.

Engage, disengage Load Guardian™.



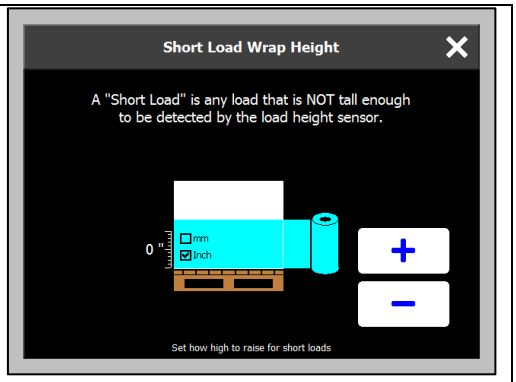
“Wrap Height”

Increase, decrease the quantity of film to wrap above the top of the load.



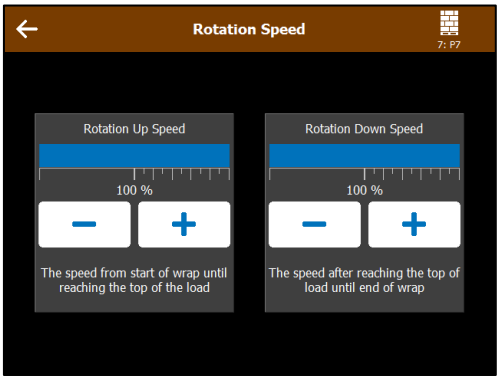
Short Load Wrap Height”

Set the distance to raise the FDS to wrap a short load.



“Rotation Speed”

Increase, decrease the turntable rotation speed during the FDS up and down travel.

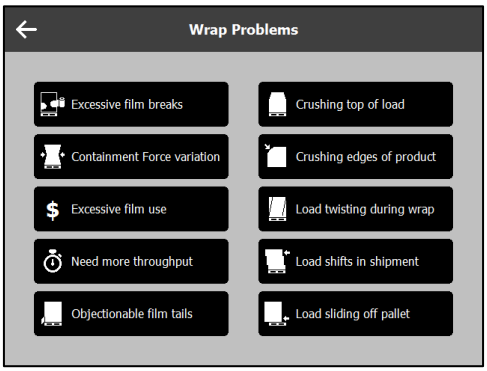


“Cut/Clamp”

Increase, decrease the film tension for the cut and clamp.

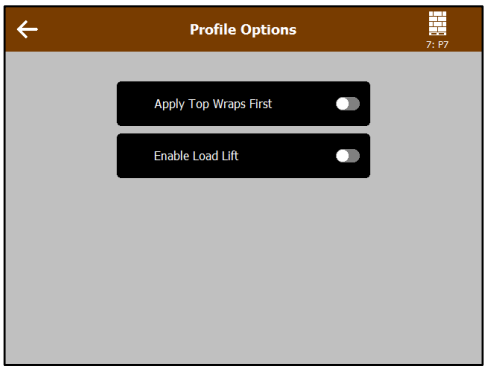
“Help me solve a problem” (Wrap Problems)

Gives data on possible wrap problems.



“Options”

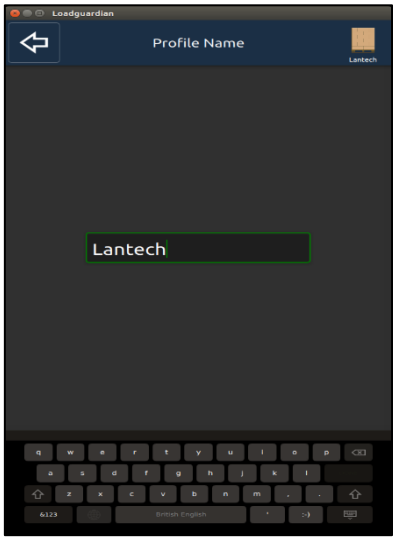
This screen shows the available options that the operator can engage, disengage.

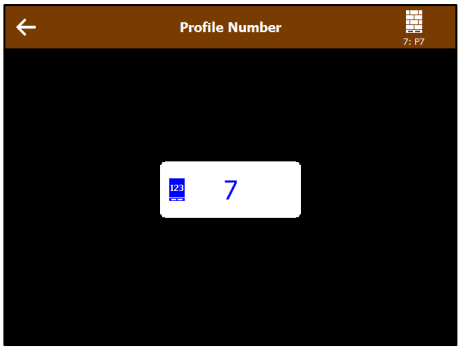


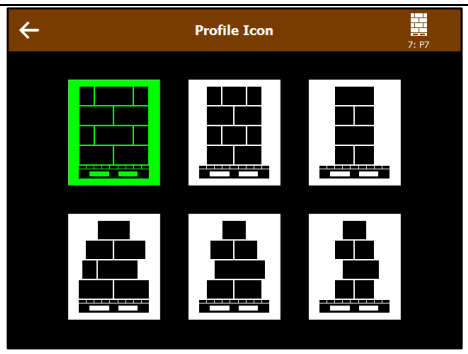
“Name”

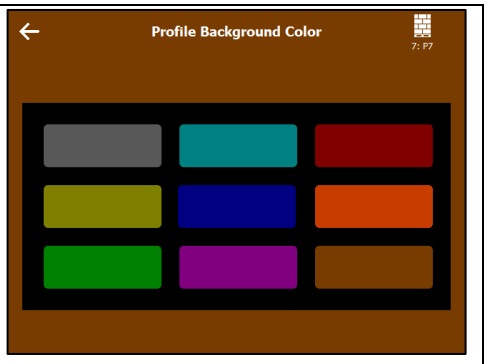
Change the name of the profile

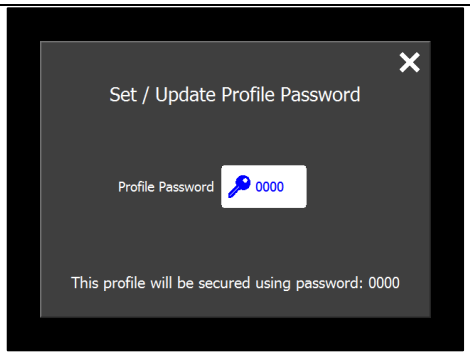
1. Enter the new name of the profile.
2. Select  to Save.



Profile Number”	
Change the number of the profile 1. Enter the new number of the profile. 2. Select to Save.	

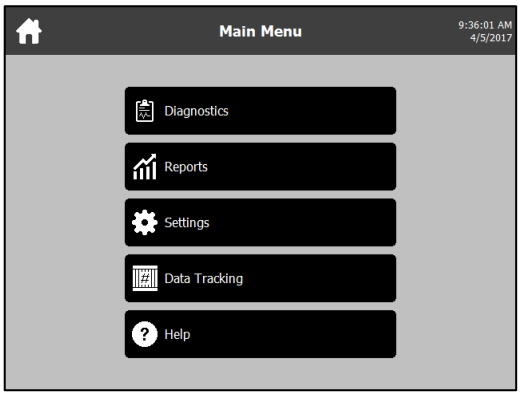
“Profile Icon”	
Change the icon for the profile. 1. Select the new icon. 2. Select to Save.	

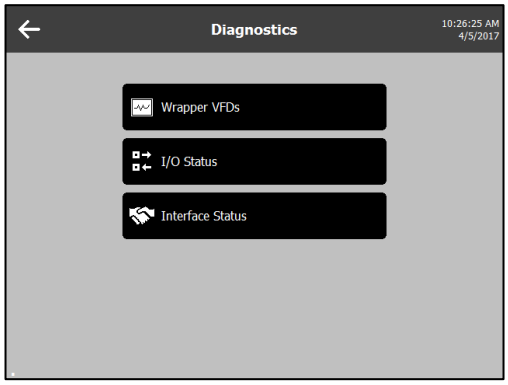
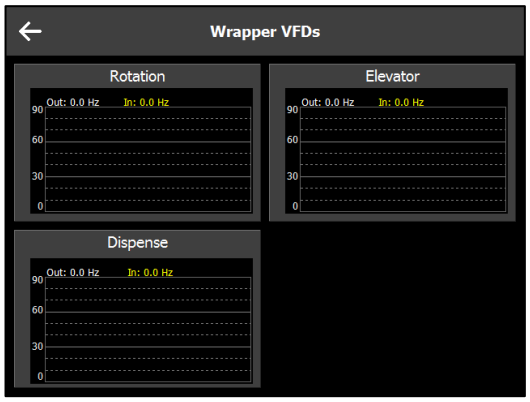
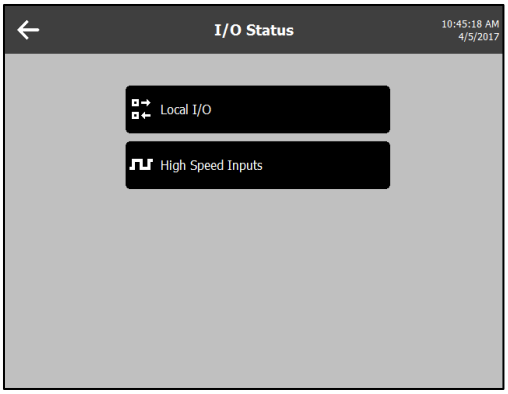
“Profile Color”	
Change the color for the profile. 1. Select the color. 2. Select to Save.	

 **"Profile Password"**	
Add the requirement for a password to change a profile. 1. Enter the 4 digit password 2. Select  to Save.	

 **"Delete"**	
Erase the current profile. 1. Select the Profile. 2. Select "Delete". 3. Select "Yes" to erase the profile.	

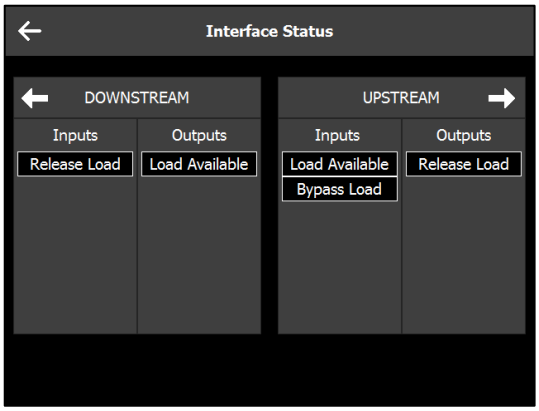
6.5.6 "Main Menu List"

Main Menu List	
These menus give data for the machine status, performance, setup and operation.	

	**“Diagnostics”** This menu shows the current data for the VFDs and the I/O status.	
	**“Wrapper VFDs”** This screen shows the current status of each VFD.	
	**“I/O Status”** This screen shows the current status of each input, output.	

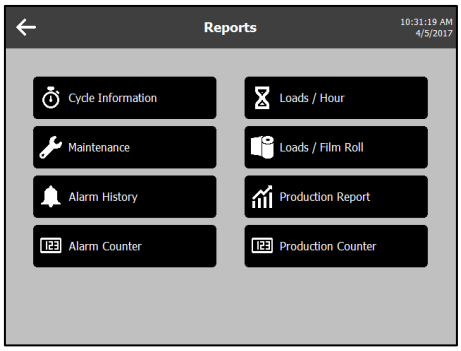
"Interface Status"

This screen shows the status of the "upstream" and "downstream" interface.



"Reports Menu" – This menu gives access to the machine production data.
The data includes:

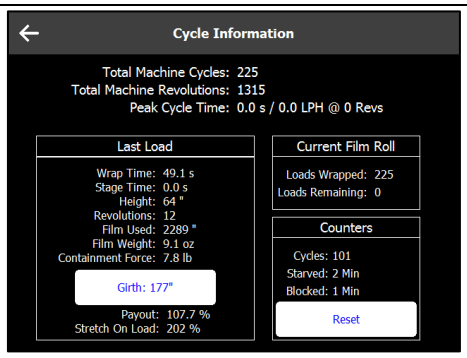
- Wrap Cycle Data
- Maintenance
- Alarm History
- Alarm Counter
- Loads per Hour
- Loads per Film Roll
- Production Report
- Production Counter

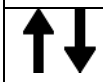


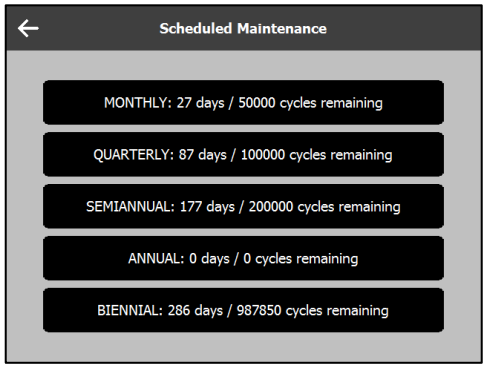
"Cycle Information"
This screen shows:

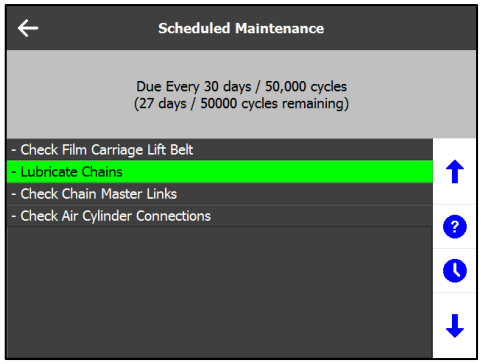
- The total machine cycles
- The wrap cycle data for the last load
- A cycle counter.

"Reset" – Use this button to reset this cycle counter to 0.



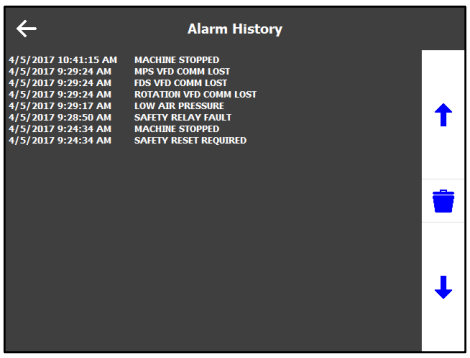
	**“Maintenance”**
	This gives access to the “Scheduled Maintenance” menu. This menu includes the scheduled maintenance items for the machine. Each maintenance item includes the instructions for the procedure.
	“Scheduled Maintenance” This shows the time that remains in each of the maintenance intervals.
	“Maintenance Intervals” This shows the maintenance items for each maintenance interval. The maintenance intervals include: • Monthly (1 Month) • Quarterly (3 Months) • Semiannual (6 Months) • Annual (1 Year) • Biennial (2 Years)
	The maintenance interval time resets when you complete the maintenance item. You must have Level 2 access to complete the maintenance procedures.
	Use the arrows to select the maintenance procedure.
	**“Help”** Push this button for data on the maintenance procedure.





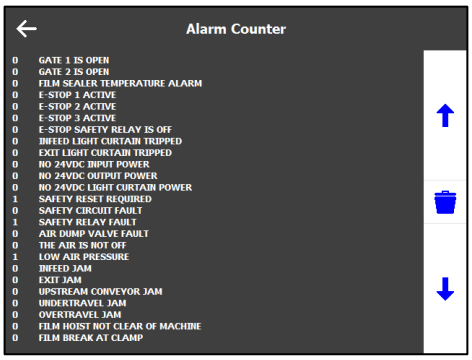
"Alarm History"

This screen shows the list of the faults and alarms that have occurred.



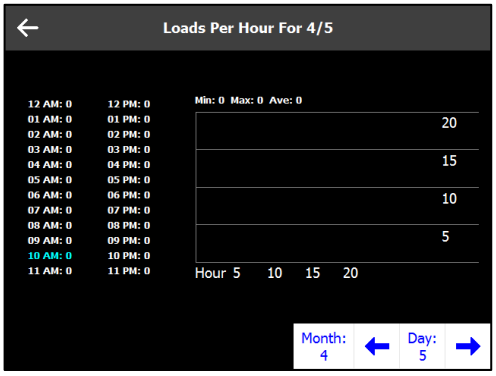
"Alarm Counter"

This screen shows the list of the alarms and the number of times that each alarm has occurred.



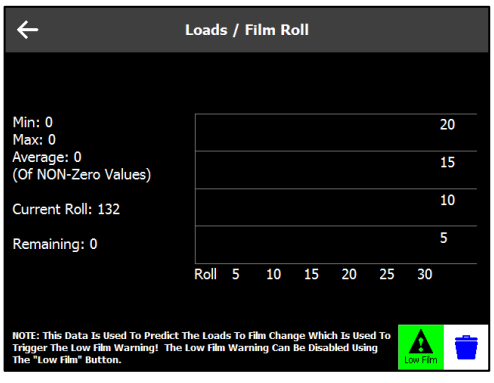
"Loads / Hour"

This menu gives the loads per hour data.

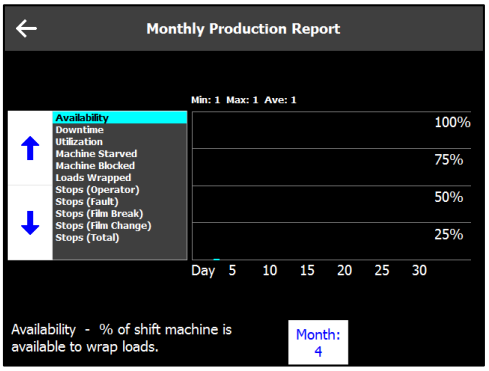


"Loads / Film Roll

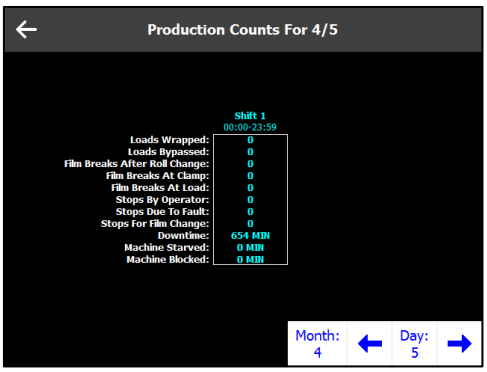
This menu gives the loads per film roll data.

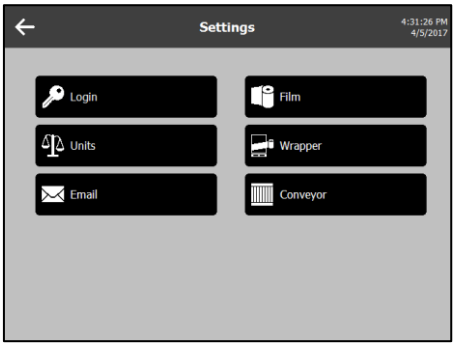


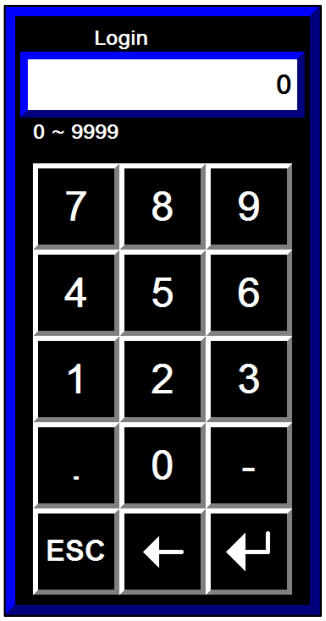
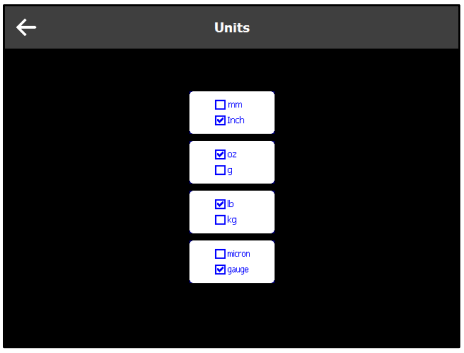
	“Production Report”
	This menu gives the monthly production data for the machine. The monthly data includes: • Availability • Downtime • Utilization • Machine Starved • Machine Blocked • Loads Wrapped • Stops (Operator) • Stops (Fault) • Stops (Film Break) • Stops (Film Change) • Stops (Total)

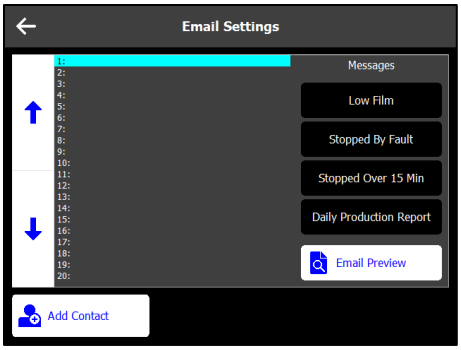
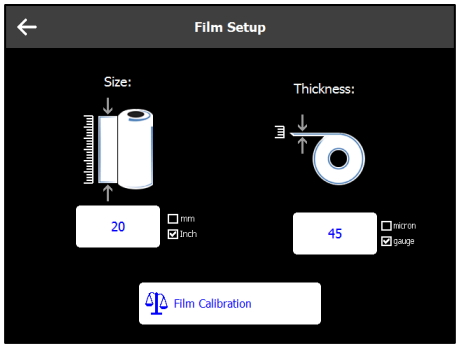


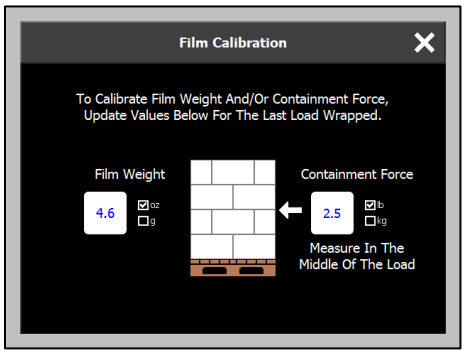
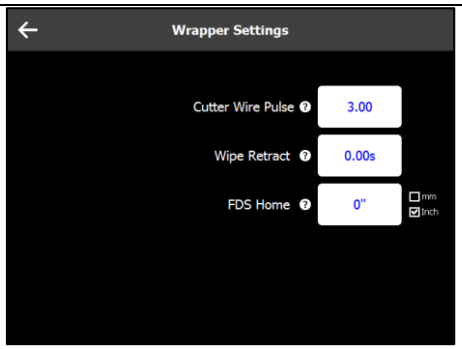
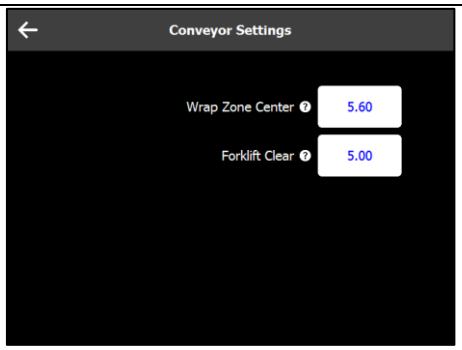
	“Production Counter”
	The monthly data for the “Production Counter” includes: • Loads Wrapped • Loads Bypassed • Film Breaks After a Film Roll Change • Film Breaks at the Clamp • Film Breaks at the Load • Stops (Operator) • Stops (Fault) • Stops (Film Change) • Downtime • Machine Starved • Machine Blocked



	**"Settings"** Use this menu to get access to the machine settings. The settings include: • Login • Units • Email • Film Setup • Wrapper Settings • Conveyor Settings	

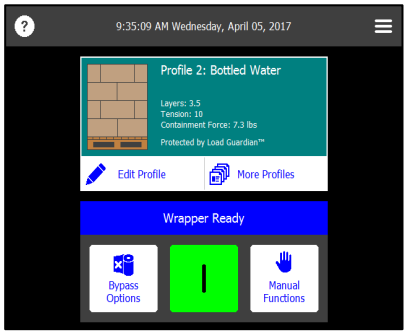
<table>
<tr><td>  </td><td colspan="2">“Login”
The user access includes the Default, Level 1 and Level 2.</td></tr>
<tr><td></td><td colspan="2">Default User
Minimum access (Operator): No login.</td></tr>
<tr><td></td><td>Level 1 User
Medium access (Operator, Maintenance):
The user must use their Login to get access to the screen.
The user can:
Change the profiles
Change the machine settings</td><td rowspan="2"> 
</td></tr>
<tr><td></td><td>Level 2 User
Full access (Maintenance, Engineer):
The user must use their Login to get access to the screen.
The user can:
Complete the maintenance
Clear alarm history
Delete the profiles</td></tr>
<tr><td></td><td>“Default Passwords”
Make sure that you change the passwords after you complete the start-up.
The default passwords for Level 1 and Level 2 access are:</td><td>Level 1: 9999
Level 2: 1234</td></tr>
<tr><td>  </td><td>“Units”
This menu lets you set the units of measure that shows on the HMI.
Each set of units include the metric and the imperial values.</td><td> 
</td></tr>
</table>

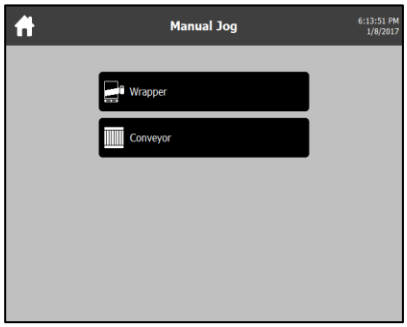
	**“Email”** This menu lets you see the “email” messages from the machine. You must engage the “Email” setup for it to operate correctly.	
	**“Film Setup”** Use this screen to set the width (mm, inch) and the thickness (gauge, micron) of the film. This menu is only visible for Level 1, Level 2 access.	

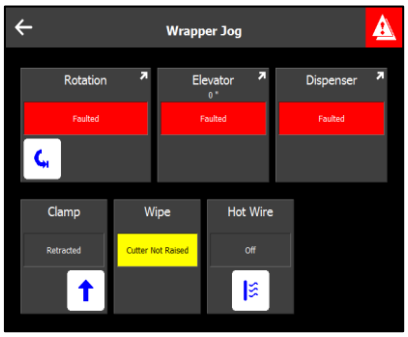
	**"Film Calibration"** This menu gives access to calibrate the film weight, Containment Force. Use this menu to calibrate the film weight (oz, g) and Containment Force (lb, kg).	
	This helps to monitor the film use. 1. Use the Containment Force Tool (CFT) to measure the Containment Force on the load. Refer to the CFT manual Measure the force in the middle of the load. 2. Push "Containment Force" to change the setting. 3. Remove the film from the load and weight it. 4. Push "Film Weight" to change the setting.	
	**"Wrapper Settings"** Use this menu to change, adjust the settings Push the "Number" button to adjust the setting.	
	Push this button to see the detail of the settings.	
	**"Conveyor Settings"** This menu gives access to the conveyor settings. Push the "Number" button to adjust the setting.	
	Push this button to see the detail of the settings.	

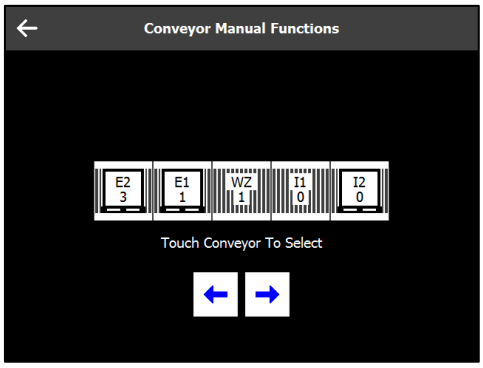
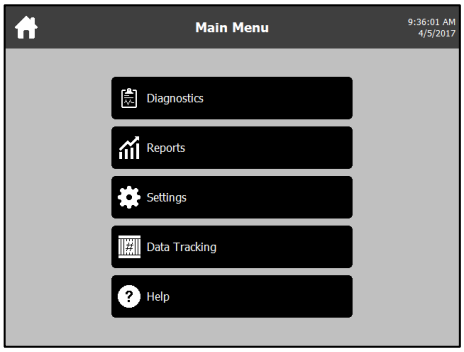
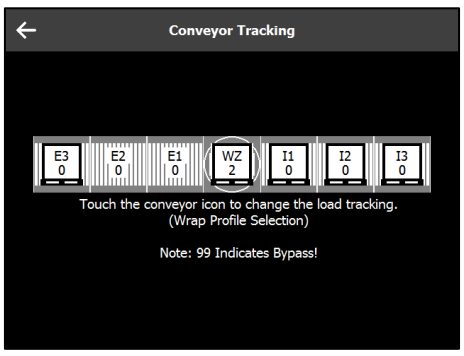
6.5.7 “Manual Functions Menu”

	**“Manual Functions”** This screen gives access to the manual controls and settings for the machine and the conveyors.
	**“Wrapper Jog” (Machine)** This screen gives access to the manual controls and settings for the machine. It includes:
	**“Rotation” (Wrap Arm)** Use the direction arrows to move the Wrap Arm. The Display shows the position of the Wrap Arm.
	**“Wrap Arm Home”** Use this button to move the Wrap Arm to the home position.
	**“Elevator Up, Down”** Use the arrows to move the FDS in the up, down directions. The display shows the distance (mm, inch) from the down, “Home” position.
	**“Dispenser”** Use this button to release the film from the FDS.
	**“Clamp Extend, Retract”** Use the arrows to extend, retract the film clamp. The display shows the position of the clamp.
	**“Wipe Extend, Retract”** Use the arrows to extend, retract the wipe arm The arrows only show when the cutter is in the “Up” position.
	**“Hot Wire”** Use this button to “Pulse” the hot wire film cutter. The hot wire engages for approximately 2.5 seconds.







	**"Conveyor"** This is the manual controls for the conveyors. Select the conveyor section from the menu. Push it a second time to remove the selection.	
	**"Forward/Reverse"** Use the arrows to manually move the selected conveyors.	
	**"Raise, Lower Gates" (if applicable)** Use the arrows to move the infeed and safety gates. **Note:** The gates must be in the "Up" position before the wrap zone, first infeed and first exit conveyor can operate.	
	**"Conveyor Tracking"** This menu shows the "Conveyor Tracking" data for the loads on the conveyors. The number on the load shows the "Wrap Profile" that is selected for the load. Touch the conveyor icon to change the "Wrap Profile" for the load. **Note**: When a load has a 99 "Wrap Profile" the load "Bypasses" and does not wrap.	 

6.6 Initialize the System

6.6.1 Lockout/Tagout Procedures

Obey these procedures to prevent an injury from unexpected energizing, start-up, release of stored energy.

1. Disconnect the main power.

a. Move the Main Disconnect switch to the "Off" position.

b. Lock the Main Disconnect switch in the "Off" position.

2. Disconnect the main pneumatic supply.

a. Move the main pneumatic valve to the "Off" position.

b. Lock the main pneumatic valve in the "Off" position.

6.6.2 How to Stop the Machine

Standard Shutdown – Use during standard operation:

1. Push the "Stop" button on the HMI, the illuminated "Unlock Gate" button. If the machine is in operation, the "Unlock Gate" button flashes until the machine stops.

   The machine completes the current stage of the wrap cycle and stops at the "Home" position.

Note: There are 3 "Stages" of the wrap cycle:

- The load moves from the infeed conveyor to the wrap zone conveyor.
- The machine wraps the load.
- The load moves from the wrap zone conveyor to the exit conveyor.

2. When the machine stops and the "Unlock Gate" button illuminates, push the button and open the gate. It is safe to go into the wrap zone.

To disconnect the main power to the machine:

1. Push the E-stop.
2. Move the Disconnect switch to the "Off" position.

Emergency Shutdown – Use only in an emergency condition:

1. Push the E-stop.

   This immediately stops the operation of the machine.

The standard system has 2 E-stops.

There is:

- 1 at the operator controls; and
- 1 on the safety fence on the opposite side of the machine. (Refer to the floor plan)

6.6.3 How to Start the System

The standard machine has 2 modes of operation:

- Manual
- Automatic
- Bypass

Before you make the selection, apply the power and initialize the machine.

To Initialize the Machine:

1. Move the “Main Disconnect” to the “On” position.
2. Apply the air pressure and adjust to 6 Bar (80 psi).
3. Close the Access Gate.
4. Reset the Emergency Stops.
5. Push the “Reset” (//) button.
   The “Reset” button illuminates and the Main Menu shows on the display.

After an emergency stop, the cycle can continue from the point where the shutdown occurred, if:

- The operator did not push the “Cancel Cycle” button.
- The machine is not in a “Film Break Recovery”.

If any of these conditions occur, the machine moves to the home position and cancels the wrap cycle.

6.7 Operate the System

6.7.1 “Manual Mode”

To Engage the “Manual” Mode:

1. Reset all Emergency Stops.
2. Push the “Reset” button (//).
   Make sure that the button illuminates.
3. The “Reset” alarm sound.
4. The “Home” menu shows on the display.
5. The machine is in the “Manual” mode and all manual functions are available to the operator.

6.7.2 "Automatic Mode"

To Engage the "Automatic" Mode:
1. Reset all Emergency Stops.
2. Push the "Reset" button (//). Make sure that the button illuminates.
3. The Main menu shows on the display.
4. Push and hold the "Start" button for 3 seconds to start the automatic wrap sequence.
5. Components that are not in the home position automatically move to the home position.
6. When all components move to the home positions, push and hold the "Start" button for 3 seconds. This engages the automatic wrap sequence.
7. The machine is set to accept a load.

	**WARNING** **Obey all safety decal instructions and warnings.**

6.7.3 “Bypass Options”

“Bypass Options”

There are 2 “Bypass” functions.

“Single Load Bypass”

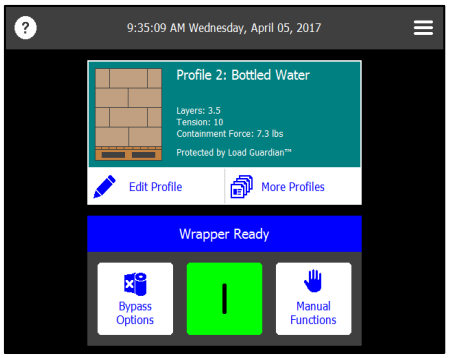
Before the load on the infeed conveyor starts to move into the wrap zone:

- Push the “Bypass Options” button on the “Home Menu”.
- Push the “Bypass Next Load” button.

  This moves the next load through the cycle but does not wrap the load.

  This is for 1 load only.

  The next load wraps by the selected profile.



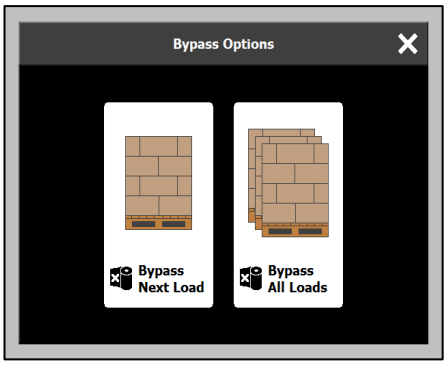
“Continuous Load Bypass”

This function moves all loads through the wrap zone but does not wrap the loads.

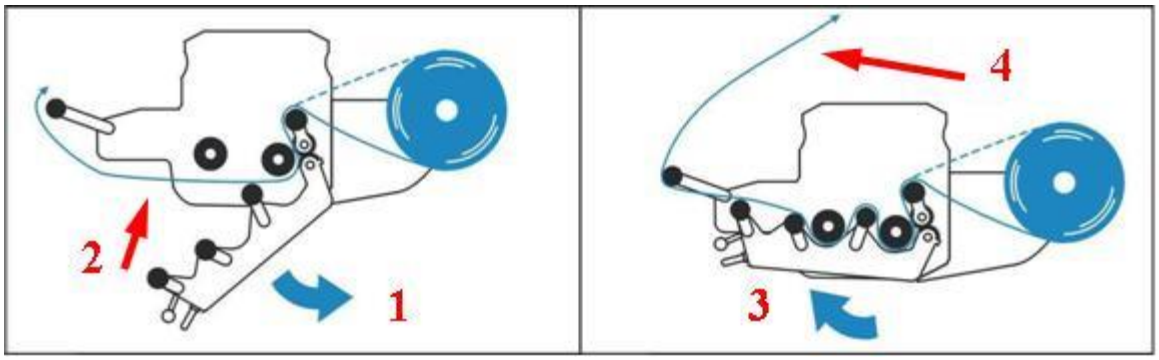
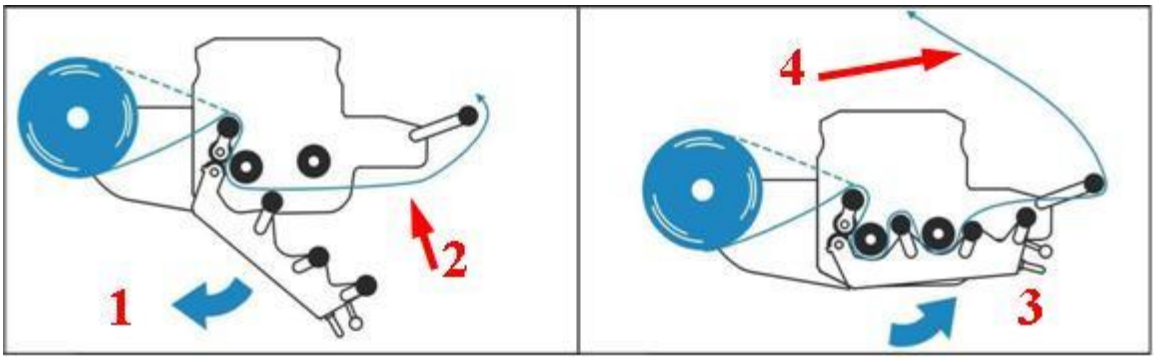
This continues until you change the profile.

1. Go to the “Home Menu”.
2. Push the “Bypass All Loads” button.

The machine bypasses all loads until you disengage the “Bypass” option.



6.8 Thread the Film

Thread the Film
The standard film roll is 254 mm (10”) in diameter and 508 mm (20”) in width. If the machine has a 762 mm (30”) FDS, you can use the 762 mm (30”) wide film.
Refer to the illustration and the diagram on the top cover of the FDS.
Standard Flow

Reverse Flow


1	Open the EZ Thread Gate and Thread the Film
2	Thread the Film
3	Close the gate
4	Adhesive is on this Side

Thread the Film
1. Make sure that all components are in the home position.
2. Push the “Unlock Gate” button.
3. Open the Access Gate.
4. Put a film roll on the film post of the FDS. The “tacky” side of the film points to the load
5. Examine the film roll for defects, holes.
6. Open the EZ Thread gate. Release the latch and pull the gate handle.
7. Refer to the diagram and thread the film around the rollers.
8. Pull the film through the FDS. Make sure that the quantity of film is sufficient to attach to the film clamp after you close the gate.
9. Keep the film slack to make sure that it does not break.
10. Close the gate.
11. Pull the film around the last idler roller and attach the film tail to the clamp.
12. Cut the film if the film tail measures more than 152 mm (6”) from the clamp.
13. Close the Access gate.
14. Start the machine.

6.8.1 Film Roll Depletion/Film Break Recovery

If the film breaks, if the film roll is empty, a cycle for “Film Break Recovery” automatically starts. The components go to the home position.
1. Push the “Unlock Gate” button.
2. Open the Access gate.
3. Replace the film roll, correct the film break condition.
4. Thread the film.
5. Start the machine.

7.0 Maintenance

Note: Illustrations are for reference only.

Note: Functions, descriptions and data can be different on your machine. Refer to section 3 for options.

Note: Some machines have a remote Emergency Stop. It is important to know the location of all E-stops before you operate the machine.

	**WARNING** **Obey all Lockout/Tagout procedures before you change, adjust, repair a part.**

	**WARNING** **Obey all safety decal instructions and warnings.**

	**WARNING** **Do not make a change to this machine without approval from Lantech. It can cause a safety hazard and cancel the warranty.**

	**WARNING** **Obey all safety procedures. You must apply the power to the machine for some electrical adjustments.**

	**WARNING** **Do not use this machine with hazardous materials.** **Do not operate this machine in a hazardous environment.** **Do not operate this machine in an explosive environment.**

	**CAUTION** **Obey the torque specifications to prevent damage to the fasteners. Too much torque can cause the fasteners to loosen.**

7.1 Daily and Weekly Maintenance

Daily and Weekly Maintenance	
Pneumatic Lubricator	
Application/Environment	Lubricant
Standard Cold/Freezer Food Grade	Summit HySyn FG-32

- Tighten, replace loose fasteners.
- Look for oil leaks around the speed reducers.
- Look for air leaks.
- Make sure that the pneumatic supply and pressure settings are correct.
- Look for, drain the water in the air supply filter.
- Listen for unusual noise during operation.
- Clean the Cutter Wire. Use the "Pulse" function to clean the wire.
- Adjust the tension on the Cutter Wire. Adjust, replace the wire.

Note: The cutter wire does not touch the film when it cuts.

- Examine, fill the pneumatic lubricator.

7.1.1 Pallet Grip

Pallet Grip®

- Remove the debris from in and around the Pallet Grip.
- Make sure that the tilting roller moves freely and retracts fully.
- Examine the film groove roller and make sure that it turns freely.
- Make sure that the film moves over the groove in the roller as the load wraps.

7.2 Monthly Maintenance

- Examine the FDS lift belt for wear.
- Examine the Wrap Arm drive belt for correct tension and wear.
- Examine the pre-stretch chains and sprockets for wear.
- Examine the conveyor chain for wear.
- Lubricate the chains with SAE 30 oil.
- Examine, adjust the clevis connections on the air cylinder.

7.3 Bi-Annual Maintenance

	**CAUTION** **Do not use a solution to clean the slip ring.** **The ring self-lubricates and solutions can cause damage to the component.**

Bi-Annual Maintenance		
Note: We recommend that personnel wear a dust mask for this step.		
• Remove the cover of the electrical slip ring in the top frame. Use clean, dry, compressed air to remove the debris.		
• Examine, torque the bolts on the leg and the anchors. Refer to Torque Reference Chart in section 5.		
• Lubricate the wrap arm ring bearing with 7.4 ml (.25 oz) of grease (approximately 4 pumps of a standard grease gun). The grease fitting is on the pneumatic assembly. Turn the wrap arm when you lubricate the ring bearing. This can be done during standard operation.		
• Examine, lubricate the bearings on the film clamp.		
• Refer to section 3 - Options for other lubrication requirements.		
Environment	Lubricant	Temperature Range
Standard/Cold/Freezer Clean Design/Food Grade	Shell (Fuchs) Cassida EPS 2 Or Aluminum Complex Equivalent	-35° to +120° C (-31° to +248° F)

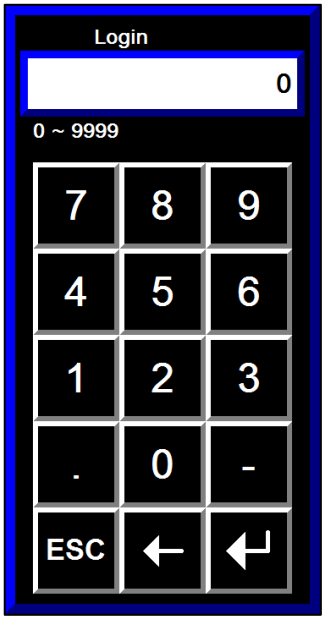
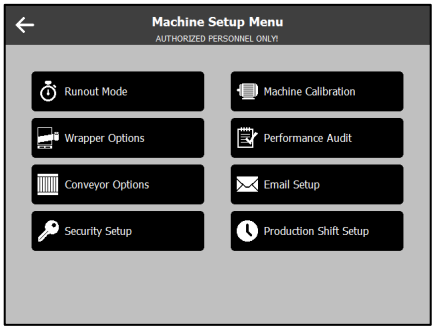
	**CAUTION** **Do not apply more lubrication than the quantity shown to lubricate the ring bearing.** **Too much lubrication can cause damage to the bearing seal.** **If the lubrication leaks out, it can cause the drive belt to slip.**

7.4 Annual Maintenance

Lubrication:
Drain the oil from and fill the speed reducers with Klubersynth UH1 6-460 synthetic oil.
• Wrap Arm Rotation • FDS Lift Drive

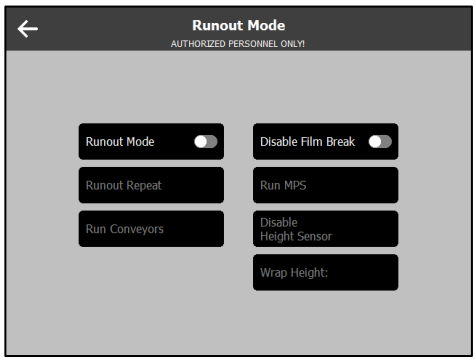
7.5 Control Menus

7.5.1 "Login"

	**"Login"** The user access includes the Default, Level 1 and Level 2.	
	Default User **M**inimum access (Operator): No login.	
	Level 1 User Medium access (Operator, Maintenance): The user must use their Login to get access to the screen. The user can: • Change the profiles • Change the machine settings	
	Level 2 User Full access (Maintenance, Engineer): The user must use their Login to get access to the screen. The user can: • Complete the maintenance • Clear alarm history • Delete the profiles	
	Default Passwords Make sure that you change the passwords after you complete the start-up. The default passwords for Level 1 and Level 2 access are:	Level 1: 9999 Level 2: 1234
	"Qualified Personnel Only" These menus are for the system setup. Use the current time on the touch screen (hours and minutes – 1:45 PM = 1345) as the password for this menu. The "Machine Setup" menu shows on the display.	

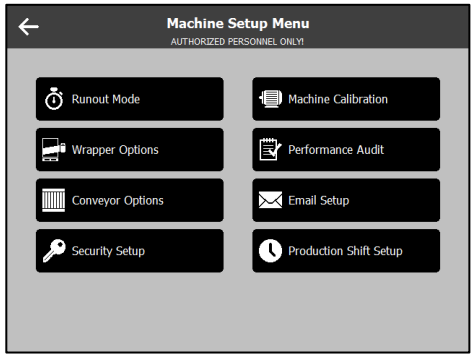
7.5.2 "Machine Setup Menu"

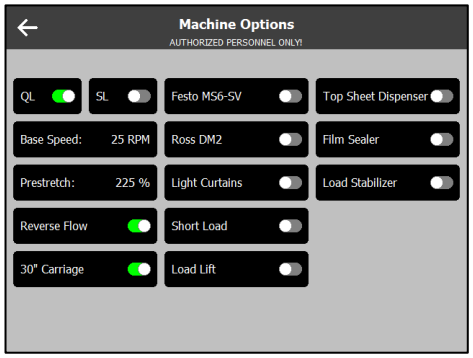
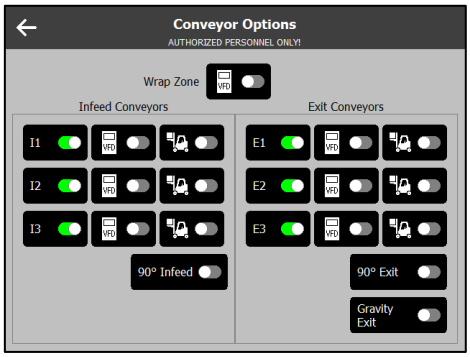
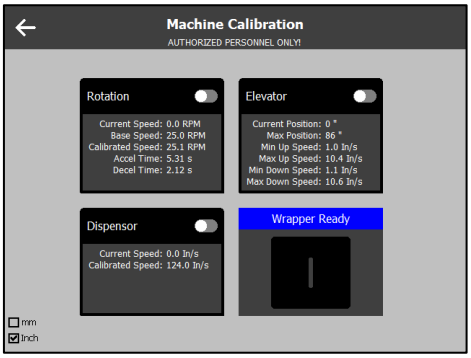
	**"Runout Mode"** This sets the machine in the "Runout" mode. Use this menu to setup, runout, troubleshoot, calibrate the machine.
	"Runout Repeat" This selection continuously repeats the wrap cycle for the load in the wrap zone.
	"Run Conveyors" This selection lets the conveyors operate without a load.
	"Disable Film Break" This function lets the machine wrap a load without the film (dry cycle).
	"Run MPS" This function lets the MPS (Film Delivery System) operate without film.
	"Disable Height Sensor" This function disengages the load height sensor. You must set a height for the MPS travel.
	"Wrap Height" Set the MPS travel height.

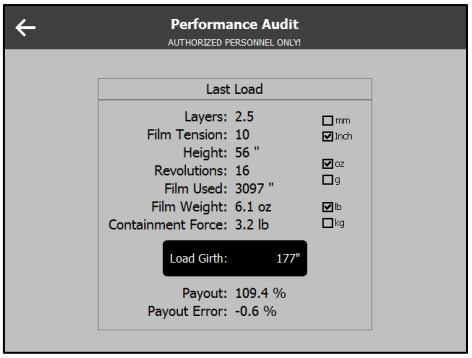
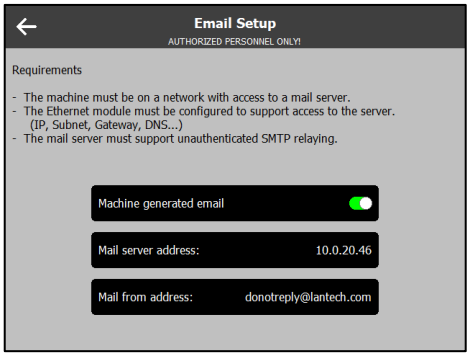
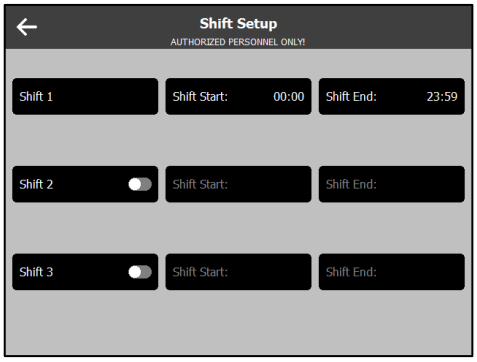
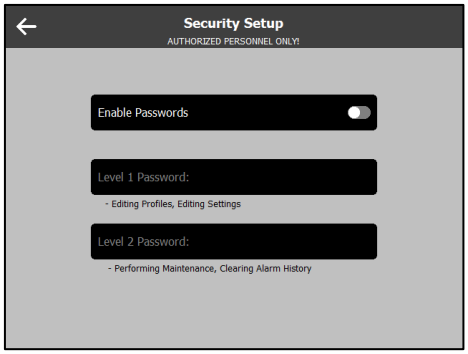


	**CAUTION** **Personnel must be at the machine when it operates with film in the "Runout Repeat" mode.** **Too many layers of film on a load can cause damage to the load.**

	**"Wrapper Options"** This menu gives access to the Machine Options menu



	“Machine Options” This menu engages, disengages the options for the machine. You can select the options that apply to the machine.	
	“Conveyor Options” This menu engages, disengages the configurable options for the conveyor system. You can select the options that apply to the conveyor system.	
	“Machine Calibration” Use this menu to calibrate the speed of these motors: “Rotation” Wrap Arm “Elevator” (FDS Lift) “Dispenser” (FDS)	

	**"Performance Audit"** This menu shows the wrap data for the last load.	
	**"Email Setup Menu"** Use this menu to setup the "Machine Generated Email".	
	**"Shift Setup Menu"** Use this menu to setup the shifts and shift times.	
	**"Security Setup Menu"** Use this menu to: • Lock, unlock the security levels. • Set the passwords for the security levels.	

7.6 Encoders

Encoders

The encoders, with high speed counter modules, send data to the PLC.

The encoders are for:

- FDS position and movement
- RS2 Pre-stretch Roller
- S1 Idler Roller on the FDS

FDS Travel

This encoder is below the belt roller in the mast.

- It senses the distance of the FDS from the down travel limit. The position of the FDS sets the deceleration point when the FDS moves down.
- The encoder senses the movement of the FDS. A fault occurs if the drive engages for 2.5 seconds and the encoder count does not change.
- The encoder calculates the minimum and maximum travel speeds during the "Calibrate" function.
- The encoder gives the data for the overlap and overwrap settings

FDS – RS2

This encoder is on the top of the RS2 (pre-stretch) roller. It has 2 functions:

FDS RS2 Count:

- It tracks the quantity of film applied to each load and the quantity on each film roll.
- It senses if the RS2 roller moves with the film. A fault occurs if the drive engages for 2.5 seconds and the encoder count does not change.

FDS RS2 Rate:

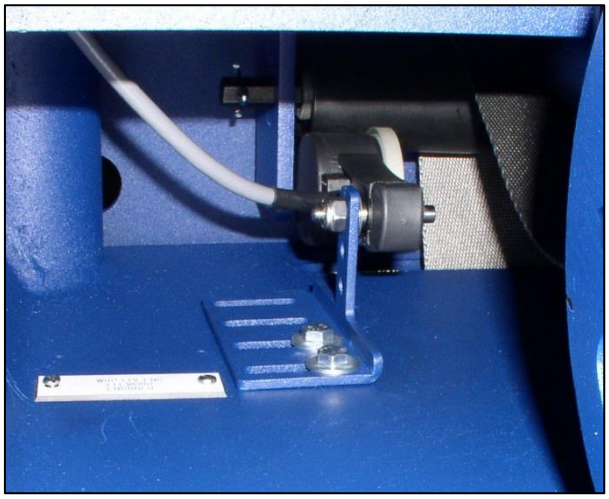
The machine uses the data to calculate the roller rpm. A fault occurs if the speed error is too high.

FDS – S1

This encoder is on the top of the S1 idler roller.

- It senses a film break, film roll empty condition.
- It senses the film payout during the wrap cycle.

7.6.1 FDS Belt Encoder

Adjust the FDS Belt Encoder	
The “spring loaded” encoder stays against the idler roller on the FDS lift belt. Adjust the bracket to make sure that the encoder roller stays against the idler roller.	
1. Remove the rubber cap on the end opposite of the wheel.	
2. Put the 3/32” hex key into the set screw on the spring collar.	
3. Use the hex key for leverage. Turn the collar around the pivot shaft to increase the spring force.	
4. Hold the pressure and tighten the setscrew. (15-18 in-lb recommended). **Note:** The standard setting for the spring is in the “mid-range” (approximately 2 lb). Make sure that you can lift the wheel 1/8” to 1/4” off of the roller surface.	
5. Install the rubber cap.	

7.7 Factory Settings and Adjustments

Use these settings as a base line when you make the adjustments. Record the changes.

7.7.1 FDS Up, Down Travel

Adjust the Sensor for the FDS Up, Down Travel

There are 2 proximity sensors to control the up/down travel of the FDS.

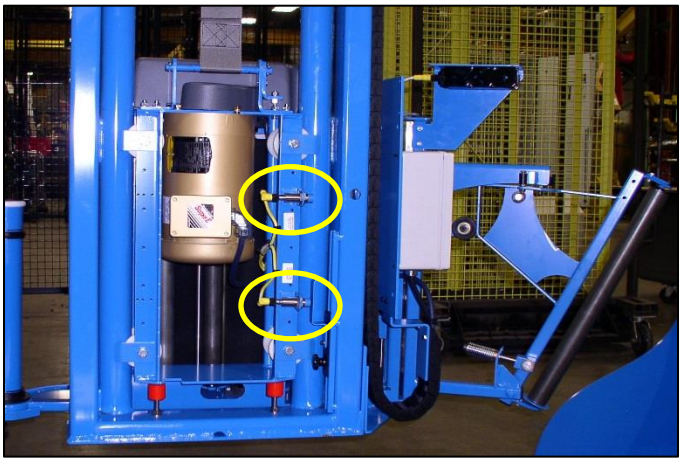
The adjustable actuators engage the sensors.

To Adjust the Sensors:

1. Loosen the nuts on the sensor.
2. Move the sensor until it sees the actuator.
3. Tighten the nuts.

To Adjust the Up, Down Travel limit positions:

1. Loosen the adjustment knob on the actuator.
2. Move the actuator up, down to the correct height.
3. Tighten the knob.
4. Examine the “tilting roller” and make sure that it is set 13 mm (½”) above the conveyor guard.



7.7.2 Belt Slack Switch

Adjust the Limit Switch for the Belt Slack

The belt slack switch senses a belt fault.

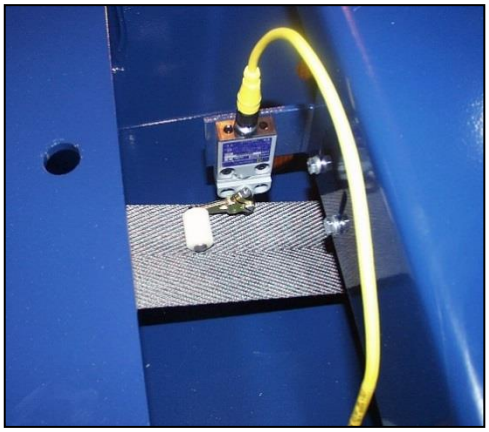
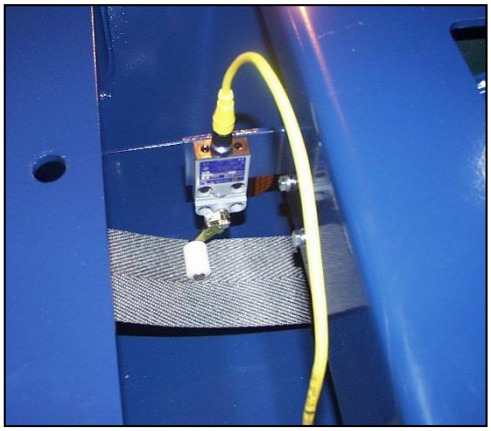
The switch is on the bracket for the FDS Lift Drive.

Before you adjust the switch, remove the tension from the belt:

1. Move the FDS Down proximity sensor to the lowest point.
2. Move the FDS down to the Mechanical Limit.

To adjust the switch:

1. Use a 10 mm wrench to loosen the (2) M6 bolts on the bracket.
2. Use a 5/32 Allen wrench to loosen the switch lever arm.
3. Turn to the correct position.
4. Adjust the switch to approximately 45° to the floor when the switch is disengaged.
5. Tighten the bolts.

Actuated – Tight Belt	Not Actuated – Slack Belt
	

WARNING
Disconnect the power to the machine before you change, adjust, repair a component.

7.7.3 Wrap Arm Home Proximity Sensor

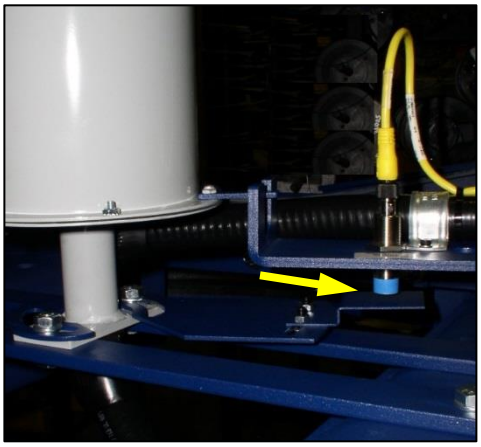
Home Proximity Sensor for the Wrap Arm

The wrap arm uses a proximity sensor to sense the home position (start and stop points).

The actuator adjusts the position of the wrap arm home position.

The sensor and the actuator are in the top frame at the ring bearing.

Before you adjust the sensor, make sure that the actuator is below the sensor.



1. Loosen the nuts on the sensor.
2. Adjust the sensor until it senses the actuator, approximately 5 mm (3/8”).
3. Tighten the nuts.

When you adjust the home position for the wrap arm, use the first home position as a reference point.

The actuator has 2 brackets.

Adjust the small bracket:

1. Make a note of the position of the proximity sensor on the actuator before you move it.
2. Loosen the 2 bolts on the home proximity sensor.
3. Adjust it to see the actuator.
4. Tighten the bolts.

Adjust the large bracket only if you cannot adjust the small bracket.

1. Loosen the 2 bolts on the bracket – below the slip ring.
2. Adjust to increase the range for the small bracket.
3. Tighten the bolts.

After you adjust the home position, move the wrap arm to the new position.

- Make sure that the wrap arm is not in a position above the conveyor.
- Make sure that it is not in the path of the cutter arm.

7.7.4 Light Curtain Adjustment

Light Curtain Adjustment

The Light Curtain emitters and receivers are level and parallel.

The lowest beam on the Light Curtain is less than 305 mm (12”) above the top of the conveyor.

Adjust the position and sensitivity of the “muting” photoelectric sensors to prevent incorrect signals/alarms.

To Adjust:

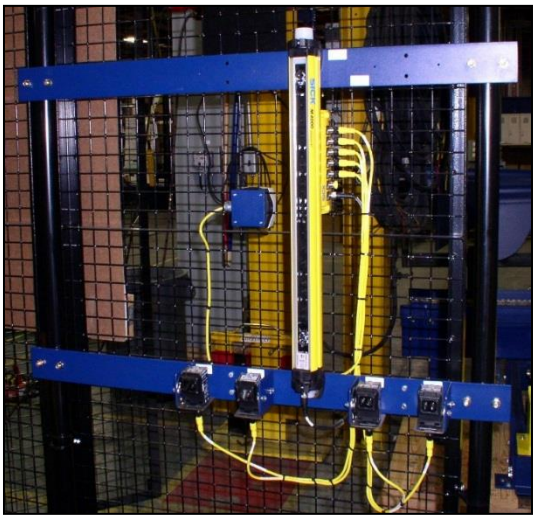
Remove the loads from the conveyors at the light curtains

Emitter Height Adjustment

1. Measure the distance from the lowest light curtain beam to the top of the conveyor.

   Adjust it if the distance is more than 305 mm (12”).
2. Loosen the (8) nuts on the top and bottom brackets of the emitter unit.
3. Move the assembly to make the lowest beam less than 305 mm (12”) above the top of the conveyor.
4. Put a level on the bottom bracket.

   Adjust and tighten the bolts.



5. Put a level on the top bracket. Adjust and tighten the bolts.

Adjust the height of the Reflector Bracket

Measure the height of the brackets.

Use the same reference point on the conveyor.

- The reflector bracket height is 76 mm (3”) below the height of the light curtain bottom bracket.
- The reflections from the load can cause incorrect signals.

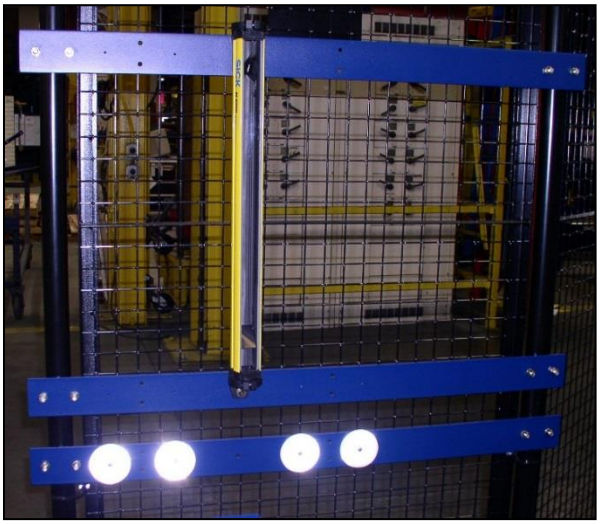
The height difference lets you adjust the sensors at an angle to prevent incorrect signals.

To Adjust:

1. Loosen the 4 nuts on the bracket.
2. Move the bracket to the correct height.
   - 76 mm (3”) below the height of the light curtain bottom bracket.
3. Use a level and adjust the bracket.
4. Tighten the bolts.

Adjust the Height of the Receiver

1. Measure the height of the bottom brackets on each side of the machine.
2. If the height is not equal,
   a. Loosen the 8 nuts on the top and bottom brackets.
   b. Move the assembly until the brackets are equal.
   c. Use a level and adjust.
   d. Tighten the nuts.
   e. Level the Light Curtain
   f. Put a level on the bottom receiver bracket.
   g. Adjust the unit and tighten the bolts.



   h. Put a level on the top receiver bracket.
   i. Adjust the unit and tighten the bolts.
3. Adjust the Emitter and Receiver until they are parallel.
4. Use the 4 mm Allen wrench to loosen the top and bottom screws that hold the emitter in position.

Align the emitter and receiver units.

1. Loosen the top and bottom screws that hold the receiver in position.
2. Turn the emitter to the parallel position. Make sure that it is parallel to the receiver and to the side of the conveyor.
3. Tighten the screws.
4. Do steps 1 – 3 for the receiver.

   Align the "muting" sensors with the reflectors.

   Make sure that the beam of each sensor is in the middle of the applicable reflector.

To Adjust:

1. Loosen the bolts on the sensor bracket and adjust the angle of the beam.
2. Tighten the bolts.
3. Loosen the nut on the sensor to align the beam horizontally.
4. Tighten the nut.
5. Make sure that all sensors align with the reflectors.

To Adjust the Sensitivity:

1. Open the cover on the sensor.
2. Turn the sensitivity counterclockwise.
3. Slowly turn the sensitivity clockwise until it sees the reflector.
4. Continue to turn the sensitivity clockwise for 1/4 rotation.
5. Close the cover.
6. Adjust each photoelectric sensor.
7. Complete a test of the light curtains.
8. Wrap multiple loads in the Auto Mode.

   Make sure that the light curtains operate correctly.

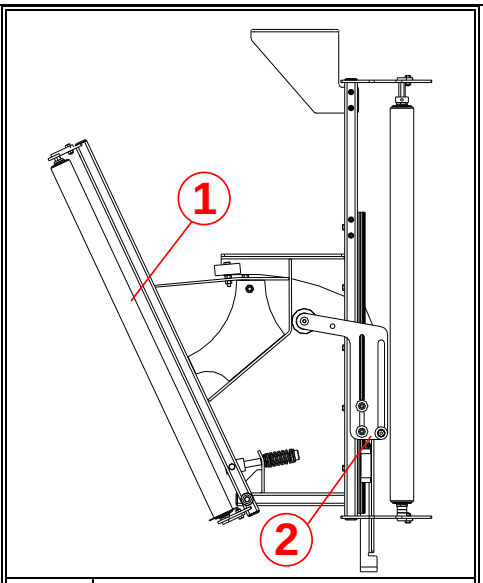
7.8 Pallet Grip® Set up and Adjustments

The Tilting Roller moves the cable of film down on the pallet.

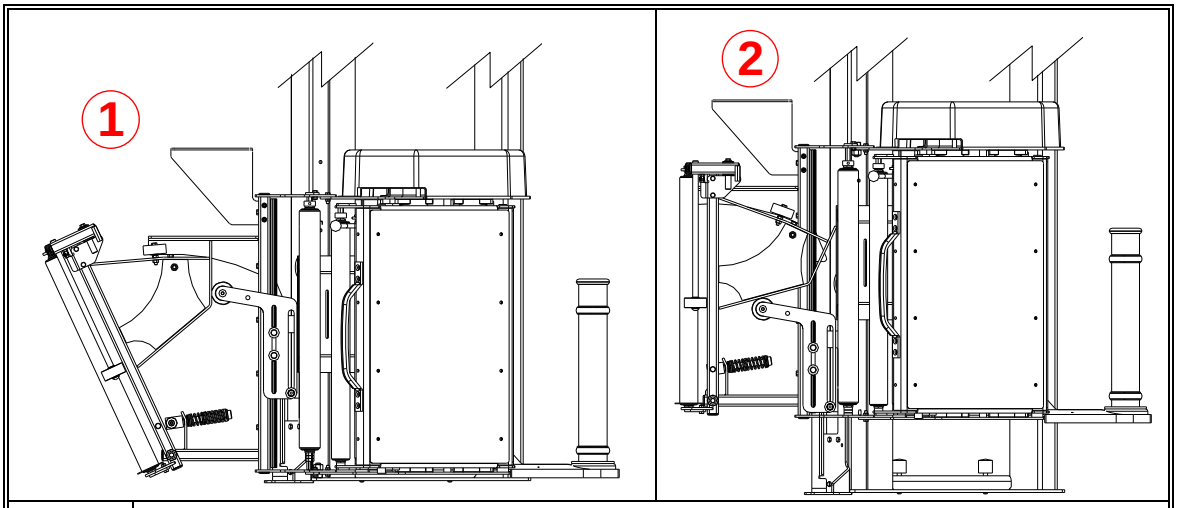
Adjust the actuator to increase, decrease the angle of the roller when it is engaged.

The Groove Roller rolls the film into a cable. It sets the quantity of film that makes the cable.

Adjust the roller to increase, decrease the quantity of film that makes the cable.



1	Tilting Roller
2	Groove Roller

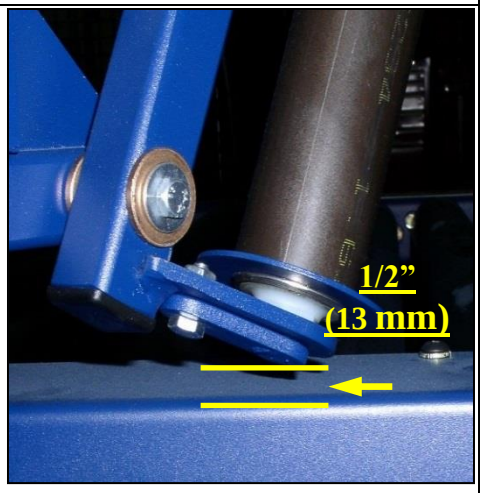


1	Pallet Grip® Activated
2	Pallet Grip® Deactivated

7.8.1 FDS Height Adjustment

Adjust the Height of the FDS

1. Adjust the actuator for the FDS “Down Travel”
2. Make sure that the bottom of the tilting roller is approximately 13 mm (1/2”) above the highest point on the conveyor.



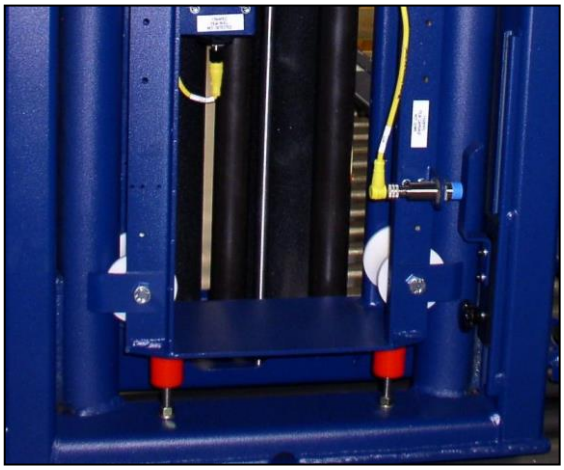
7.8.2 Mechanical Limit Adjustment

Adjust the Mechanical Limit

The Mechanical Limits control the travel of the FDS.

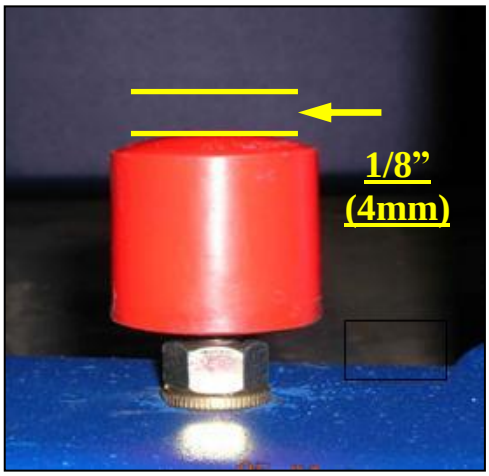
They are at the bottom of the wrap arm below the FDS.

The stud threads into the wrap arm and uses a jam nut to lock the stud in position.



To adjust the actuator:

1. Make sure that the FDS extends below the bottom of the wrap arm.
2. Use a 9/16” wrench to loosen the jam nut and adjust.
3. Set the height to make sure that the FDS does not move too low.
4. Move the FDS to the lowest point. Approximately 13 mm (1/2") above the highest point on the conveyor.



5. Measure 4 mm (1/8”) between the FDS bottom plate and the top of the bumper stop.
6. Move the FDS to the mechanical limits.
7. Make sure that there is a clearance of 10 mm (3/8”) between:
   - The FDS, and
   - The highest point on the wrap zone conveyor.

7.8.3 Groove Roller Height

Adjust the Height of the Groove Roller

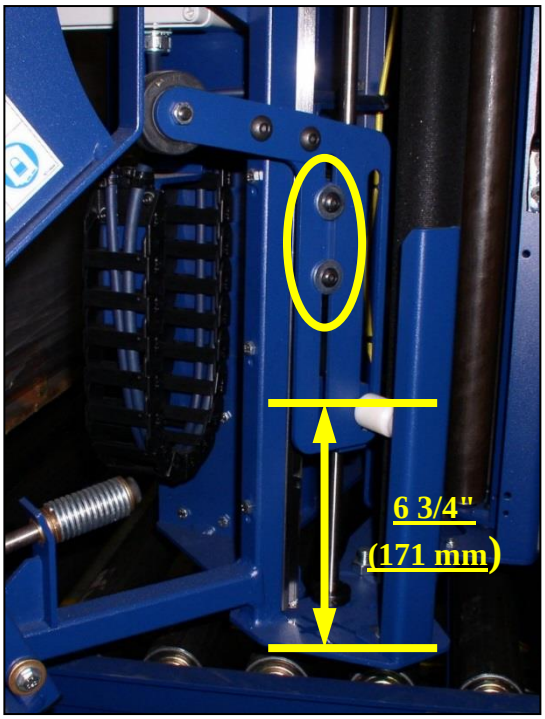
The Groove Roller rolls the film into a cable.

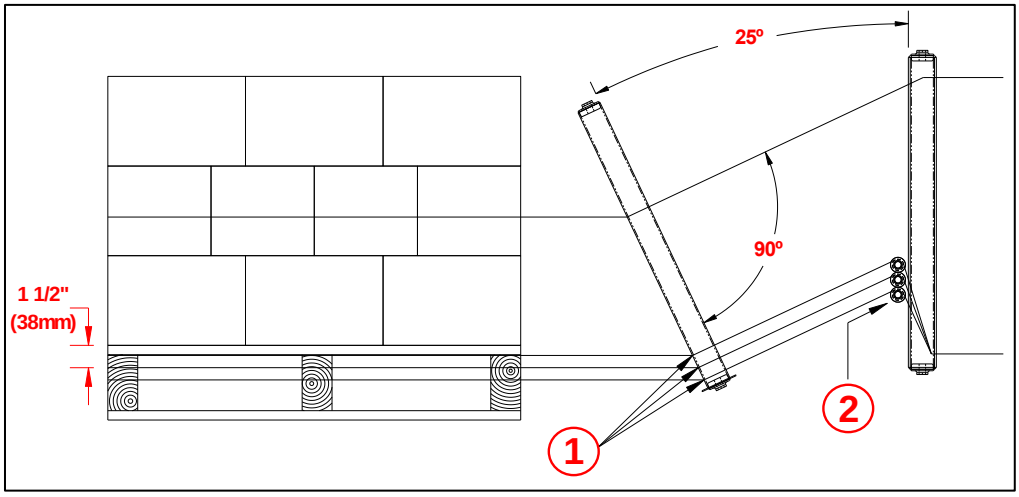
It sets the quantity of film that makes the cable.

1. Make sure that the FDS is in the down position (Pallet Grip® activated).
2. Measure 171 mm (6 3/4”) from the FDS bottom plate to the top of the groove in the groove roller.

   This setting puts the film cable on the pallet at 38 mm (1 1/2”) below the top of the pallet.
3. Loosen the 2 bolts on the roller.
4. Adjust the height of the roller up, down to move the “payoff point” of the film on the tilting roller.

   This raises, lowers the cable on the pallet.

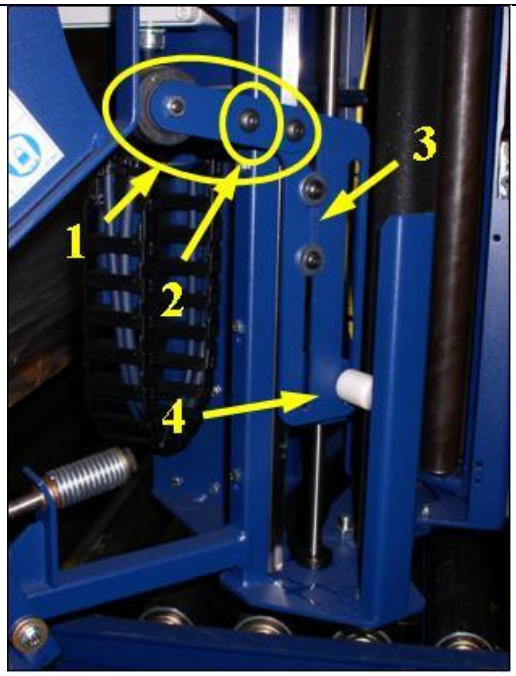




1 – Film Payoff Points

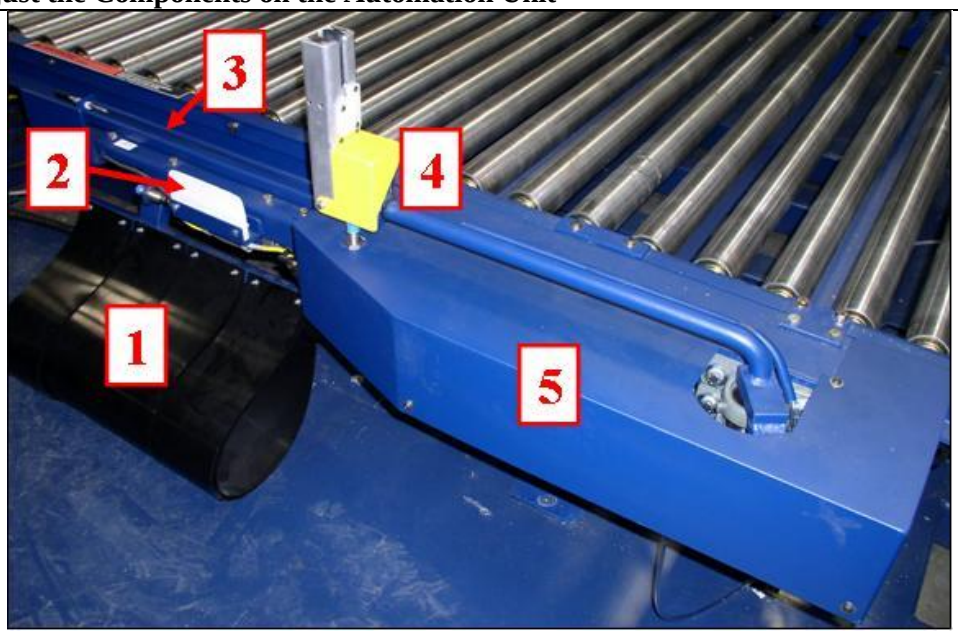
2 – Roller Adjustment

7.8.4 Disengage the Pallet Grip®

Disengage Pallet Grip	
Remove the groove roller and disengage the Pallet Grip	
The tilting roller continues to engage to wrap the bottom of the load.	
1. Remove the “Activation Wheel” bracket and remove the Wheel.	
2. Install the “Activation Wheel” in the rear mount hole.	
3. Adjust the “Activation Plate” to the lowest position.	
4. Remove the Groove Roller from the Slide Bearing Plate.	
5. Attach the Groove Roller in the Slide Bearing on the Opposite Side of the Plate.	

7.9 Automation Unit Adjustments

Adjust the Components on the Automation Unit



1	Wipe Down Loops
2	Film Plow
3	Cutter Head
4	Film Clamp Head and Arm
5	Automation Unit Cover – Pneumatic Valve, Extend/Retract Air Cylinder, Cutter Head Up, Down Proximity Sensors

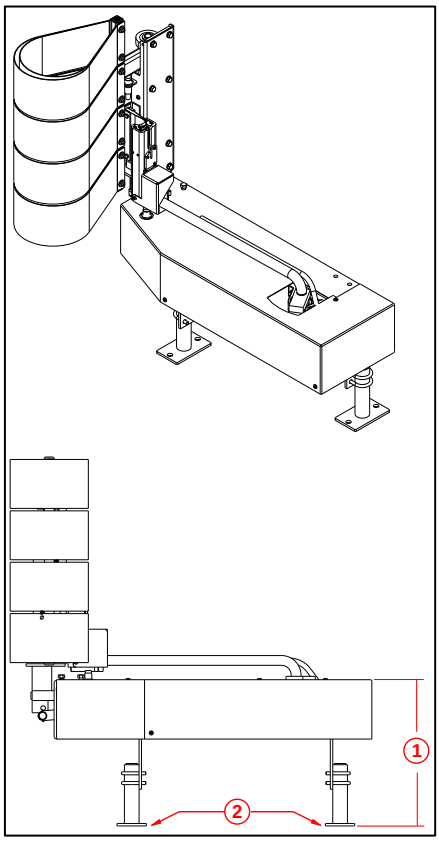
7.9.1 Level the Automation Unit (Freestanding)

Level the Freestanding Automation Unit

The freestanding Automation Unit must be level to operate correctly.

There are 2 positions for the anchors on each leg.

1. Loosen the anchors and install the shims at the anchor positions.
2. Make sure that the top plate of the automation unit is parallel with the top of the conveyor rollers.
3. Use a level on the top plate.
4. Tighten the anchors.



1 – Adjustment of the Conveyor to the Pass Height

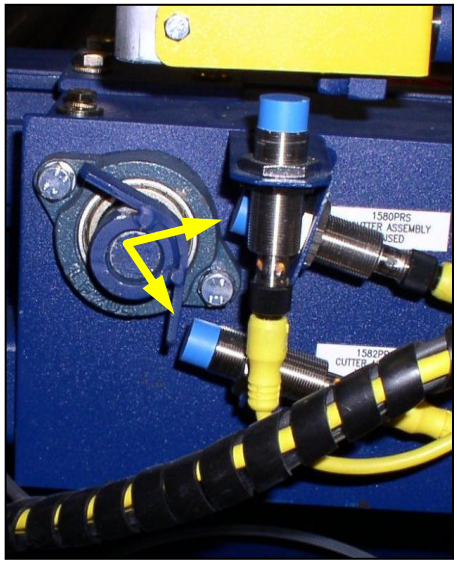
2 – Shims

7.9.2 Raise and Lower Proximity Sensors

Adjust the Proximity Sensors

The Automation Unit uses 2 proximity sensors to sense the position of the Film Cutter.

The sensors are below the cover of the Automation Unit.



Adjust the proximity sensors to give the Film Cutter full movement.

- In the “Lowered” position:

  Make sure that the Film Cutter is clear of the Wrap Arm when the sensor sees the flag.

- In the “Raised” position:

  Make sure that the film clamps and cuts correctly.

To Adjust:

1. Loosen the nuts on the sensor.
2. Adjust the sensor to see the wrap arm actuator.

   The standard range is 10 mm (3/8”).

7.9.3 Flow Control for the Cut and Wipe Assembly

The Cut and Wipe Assembly uses flow controls on the pneumatic valve to control the movement of the arm.

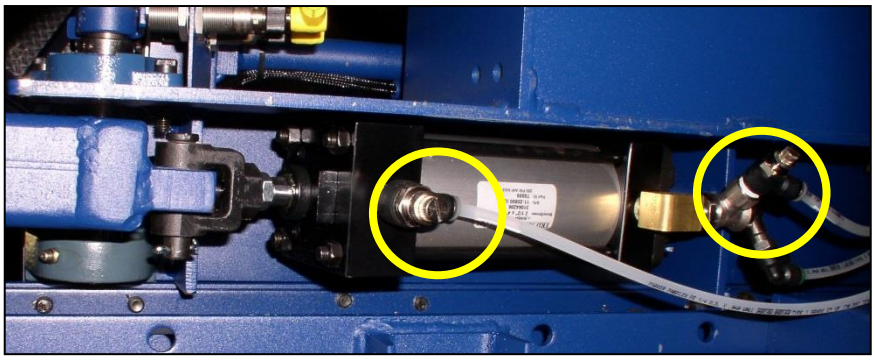
The valve is below the Automation Unit cover.

Make sure that the arm moves smoothly.

- If the film cutter raises too slowly, it extends the wrap cycle time.
- If the film cutter lowers too quickly, it can cause damage to the film cutter.

Adjust the flow controls on the valve assembly to raise, lower the film cutter.

The “retract” time shows on the “Manual Controls 2” Menu.



7.9.4 Flow Control for the Wipe Down

The Wipe Down Assembly uses flow controls on the pneumatic valve to control the speed.

The valve assembly is below the Automation Unit cover.

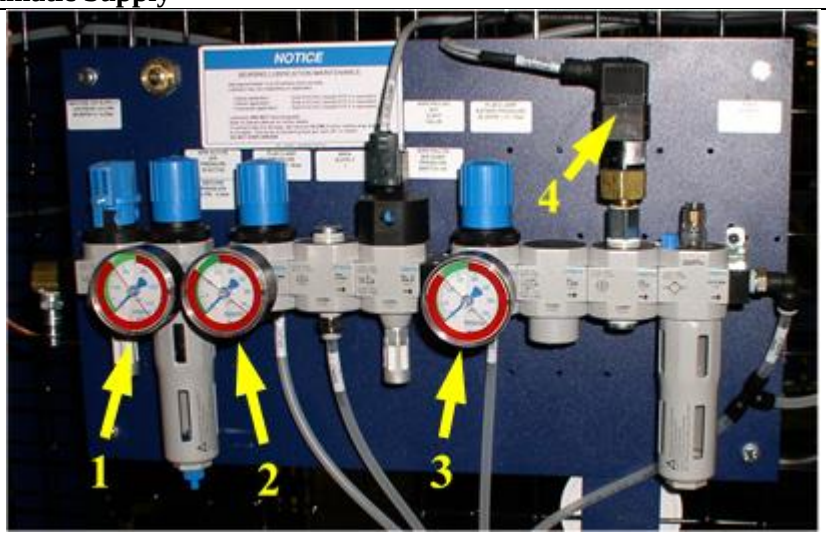
It controls the “Extend” and “Retract” movements.

- Make sure that the wipe down assembly moves smoothly.
- Make sure that it touches the side of the load as the load moves from the wrap zone.

Adjust the flow controls to increase, decrease the “Extend” and “Retract” speeds of the wipe down loops.

7.9.5 Film Clamp Pneumatic Adjustments

Adjust the Pneumatic Supply



1	Pressure Regulator for the Main Pneumatic Supply: 80 PSI (6 Bar)
2	Pressure Regulator for the Film Clamp Bladders: 10 - 15 PSI (.7 - 1 Bar)
3	Regulator for the Arm Extend on the Load Seeking Clamp®: 20 - 25 PSI (1.4 - 1.7 Bar)
4	Low Air Pressure Switch

To Adjust:

1. Adjust the main pneumatic supply regulator to the recommended setting.
2. Adjust the film clamp bladders.

This setting is important:

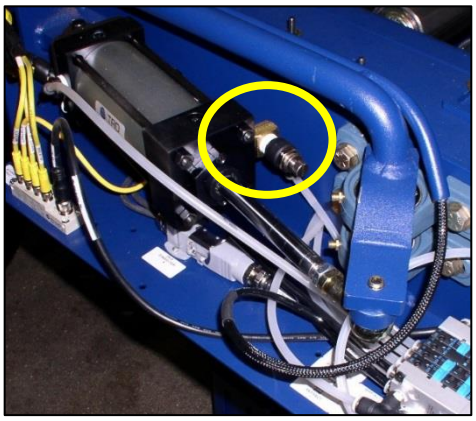
- If the pressure is set too high, the film does not release from the clamp smoothly.
- If the pressure is set too low, the clamp does not catch the film tail.

Note: If the pressure for the clamp bladder setting is more than 25 PSI (1.7 Bar):

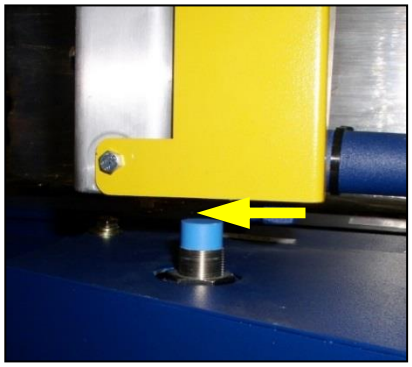
- The air hoses can separate from the "Y" connector in the clamp.
  This prevents the bladders from bursting if the pressure is too high.

3. Adjust the regulator on the Load Seeking Clamp®.
   This setting lets the clamp extend to the load and does not damage the clamp or the load.
4. Complete a cycle to make sure that the regulators operate correctly.

7.9.6 Film Clamp Arm

Film Clamp Arm	
The flow control for the air cylinder is below the cover of the automation unit on the air connection. Make sure that the arm retracts smoothly to the home position.	
Before you adjust the flow control valve, make sure that the air pressure regulator is set correctly.	
To Adjust:	
1. Loosen the locknut on the flow control.	
2. Turn the stem in, out to adjust the air flow.	
3. Tighten the locknut.	

7.9.7 Proximity Sensor for the Film Clamp Retract

Sensor for the Film Clamp Retract
The sensor must see the clamp in the retract position to cut and wipe the film. The proximity sensor sees the clamp guard only in the fully retracted and the vertical position. The standard range is 10 mm (3/8”).
To Adjust:
1. Remove the top cover from the automation unit.
2. Loosen the nuts on the proximity sensor.
3. Move the film clamp to the retract position.
4. Adjust the proximity sensor to approximately 10 mm (3/8”) gap between the guard and the sensor.
5. Complete a test in the manual mode to make sure that the sensor operates correctly.
6. Replace the cover.
7. Make sure that the sensor target does not touch the sensor when the film cutter turns.
 

7.9.8 Cutter Wire

Adjust the Cutter Wire

The cutter wire is between 2 idler rollers on the cutter head. The heat of the wire cuts the film.

Note: The cutter wire does not touch the film when it cuts.

The film buildup on the cutter wire can cause the wire to cut incorrectly. Use the "Pulse" function to clean the wire.

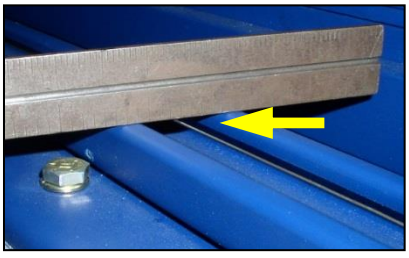
Worn roller bearings can cause the cutter wire to touch the film. Examine the bearings for wear.

WARNING
Disconnect the electrical power and release the air from the pneumatic supply before you continue.

1. Remove the top and bottom covers of the film cutter.
2. Loosen the screws on the top and bottom bushings.
3. Turn the bushings to adjust the wire.
4. Put a straight edge across the cutter head frame.

   Make sure that the wire does not touch the straight edge. Move the film clamp to the retract position.
5. Tighten the screws.

   Use caution because the bushings are soft. Do not over tighten.
6. Replace the covers.
7. Complete a test of the wrap cycle and make sure that the film cuts correctly.



7.9.9 Replace the Cutter Wire

Replace the Cutter Wire

The cutter head uses a “Pulsed Cutter Wire” to cut the film at the end of the wrap cycle.

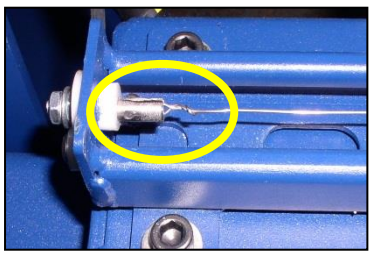
The Nichrome wire is .032 diameter-.66 ohms per foot.

- A 508 mm (20”) cutter head uses 635 mm (25”) of wire.
- A 762 mm (30”) cutter head uses 889 mm (35”) of wire.

WARNING
Disconnect the electrical power and release the air from the pneumatic supply before you continue.

Replace the Wire:

1. Loosen the screws on the top and bottom studs.
2. Remove the wire.
3. Thread the Nichrome wire through the bottom mount, around the screw.
   Twist the wire.
4. Fully compress the top mount spring.
   Thread the wire through the mount and around the screw.
   Bend the wire down, pull and twist it.
5. Tighten the screws to hold the wire in position and cut the excess wire.
6. Complete a test of the wrap cycle and make sure that the film cuts correctly.

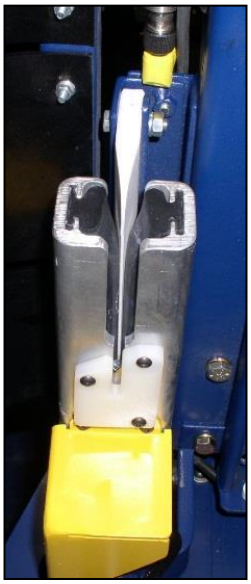


7.9.10 Load Seeking Clamp®

Load Seeking Clamp

Sequence of Operation:

1. The Load Seeking Clamp® uses 2 inflatable bladders to hold the film in the clamp.
2. A film plow on the wipe arm pushes the film into the clamp with the bladders deflated.
3. The wire cuts the film and the bladders inflate to hold the film tail in the clamp.
4. The load moves and the wipe arm retracts.
5. The plow releases from the clamp.
6. The film tail stays in the clamp.

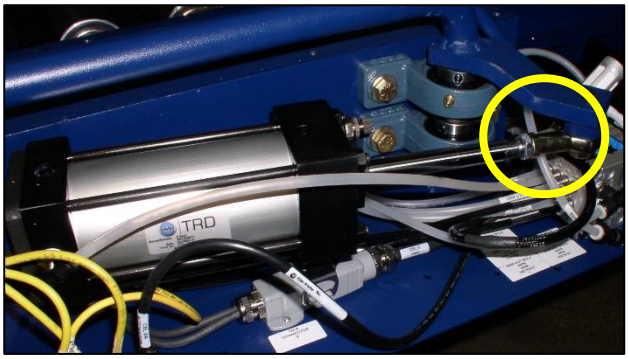


Align the Clamp and the Film Plow

This adjustment makes sure that the film plow moves into and exits the bladders smoothly.

Clamp

1. Loosen the locknut on the air cylinder shaft.
2. Turn the shaft in or out of the rod end to align the plow in the clamp.
3. Tighten the nut.
4. Make sure that the plow aligns in the middle of the housing for the clamp.



Film Plow

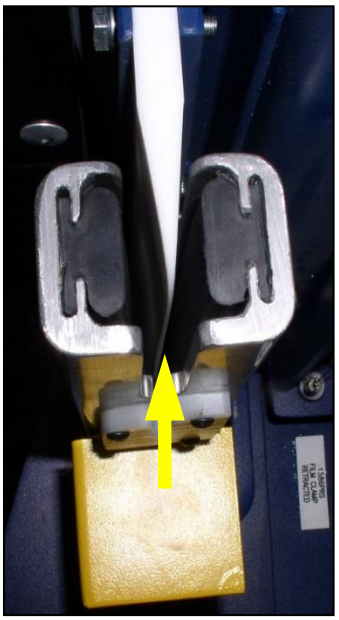
1. Move the film cutter to the “Raised” position and make sure that the plow is in the clamp.
2. Loosen the bolts on the film plow.
3. Align the plow with the middle of the opening between the bladders.
4. Make sure that the plow does not touch the housing of the clamp.
   - Make sure that the plow goes into the clamp smoothly.
   - Make sure that the plow does not touch the clamp when the bladders are deflated.
5. Tighten the bolts.
6. Manually retract the clamp arm and extend the film plow.
   Make sure that they align.

Adjust the Depth of the Film Plow

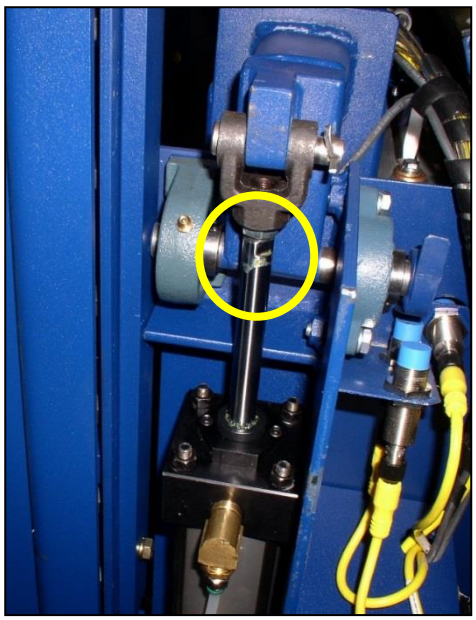
1. Move the film cutter to the “Raised” position, and make sure that the plow is in the clamp.
2. Adjust the plow if it touches the frame of the clamp.
   a. Loosen the locknut on the air cylinder shaft.
   b. Turn the shaft in, out of the rod end.
   c. Set the depth of the plow into the clamp with clearance of 5 mm (3/16”).
   d. Tighten the nut

Film Plow

Film Plow in Bladder Clamp



View from Below the Automation Unit



7.9.11 Replace the Pivot Spring

Replace the Pivot Spring

The pivot spring lets the film clamp move to the vertical position.

1. Remove the guard from the clamp.

2. Remove the bolt to release the clamp.

3. Remove the clamp from the shaft. Do not damage the air line.

If the tension on the spring is low:

- Remove the longer side of the spring from below the bolt before you remove the spring

4. Remove the spring and install the new spring.

5. Put the roll pin in the 12:00 o'clock position.

6. Replace the clamp on the shaft.

7. Install the long leg of the spring below the bolt on the clamp.

8. Install the bolt and the washer to hold the clamp on the shaft.

9. Make sure that the clamp moves to the vertical position when pushed over.

10. Put the air hose above the set collar and replace the guard. Refer to the drawings.

11. Tighten the screws.

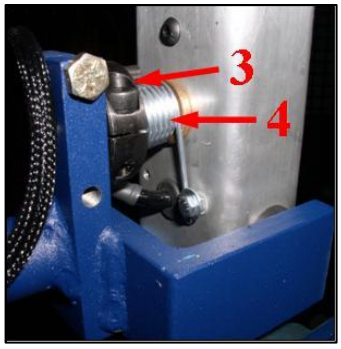
1 – Clamp Guard

2 - Clamp Head Bolt

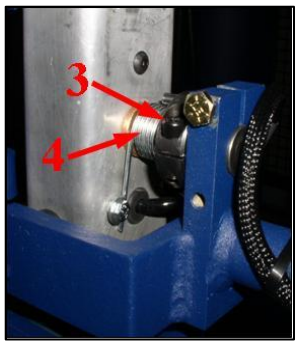
3 – Retaining Collar with Roll Pin

4 – Pivot Spring

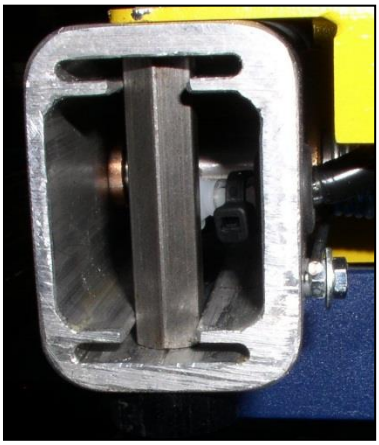
Standard Flow



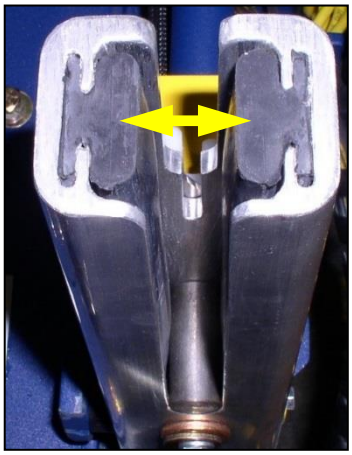
Reverse Flow



7.9.12 Replace the Clamp

Replace the Clamp	
1. Remove the guard from the clamp.	
2. Loosen the bolt on the clamp arm to release the clamp from the shaft.	
3. Carefully remove the air hose from the bottom of the clamp. Keep the air hose and connectors for new clamp.	
4. Connect the air hose and attach the clamp on the arm.	
5. Tighten the bolt.	
6. Align the film plow.	
Guard 	**Bottom View** 

7.9.13 Replace the Bladder

Replace the Clamp	
1. Remove the guard from the clamp.	
2. Loosen the bolt on the clamp arm to release the clamp from the shaft.	
3. Carefully remove the air hose from the bottom of the clamp. Keep the air hose and connectors for new clamp.	
4. Loosen the setscrews on the side of the clamp housing	
5. Remove the bladder from the top.	
6. Put the new bladder into the housing and tighten the setscrews.	
7. Make sure that the setscrews are below the surface of the housing.	
8. Make sure that the bladder is flush to the top of the housing.	
9. Connect the air hose.	
10. Refer to the drawings and attach the clamp on the arm and tighten the bolt.	
Bladders – Top View 	**Setscrews** 

7.9.14 Replace the Cutter Blade

Replace the Cutter Blade
1. Remove the safety guard.
2. Remove the blade.
3. Put the new blade on the roll pins.
4. Refer to the drawings and attach the guard.

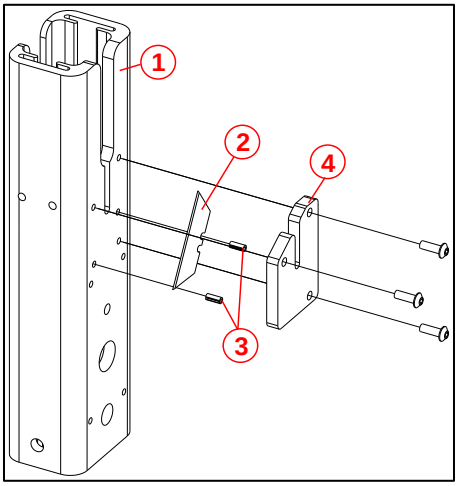
Cutter Blade

1 – Clamp Head

2 – Cutter Blade

3 – Roll Pins

4 – Blade Guard



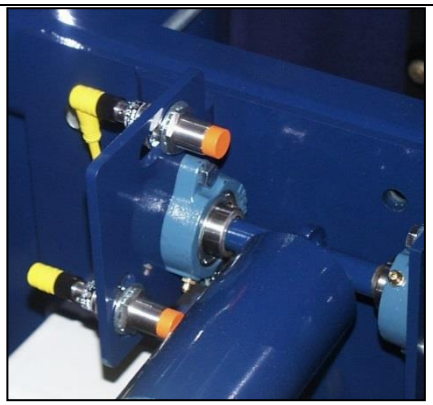
7.10 Safety Gate Adjustments

7.10.1 Safety Gate Proximity Sensors

Adjust the Sensors for the Safety Gate

The infeed and exit gates use the proximity sensors to sense the position of the safety gates.

The sensors have the indicator lights that illuminate when the gates are in the “raised” and “lowered” positions.



Adjust the sensors to the middle of the detection range for each direction.

The standard range is 12 mm (1/2”)

1. Loosen the nuts on the sensors.
2. Adjust the sensors in each direction.

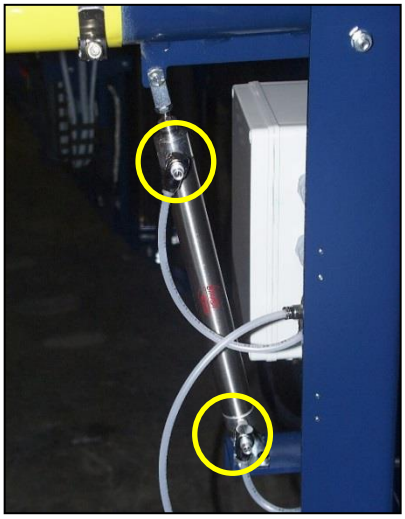
7.10.2 Flow Controls

Adjust the Flow Controls on the Safety Gates

The flow controls on the safety gates control the movement of the gates.

The flow controls are on the air cylinder at the gates.

Make sure that the gates raise and lower smoothly.



To set to the factory settings:

1. Use a small screwdriver and turn the top and bottom flow controls clockwise. This closes the flow controls.
2. Turn the top flow control counterclockwise 2 full revolutions.
3. Turn the bottom flow control counterclockwise 1 1/2 revolutions.

Adjust the settings to:

- Raise, lower the gates
- Increase, decrease the speed to align with the throughput of the machine.

7.10.3 Air Cylinder Cushion

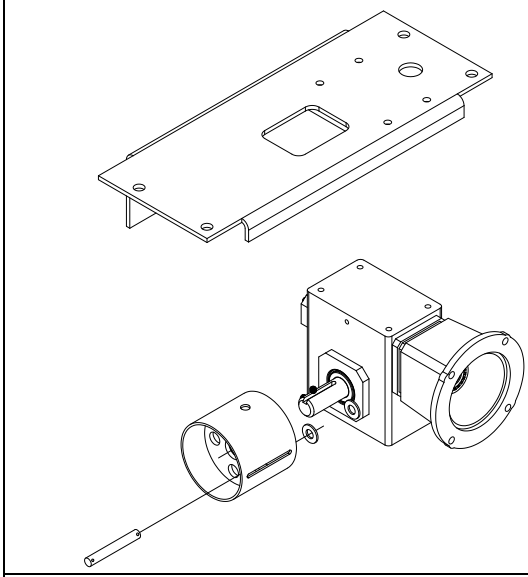
Adjust the Air Cylinder Cushion
The air cylinder has a cushion at the top of the cylinder. The cushion helps the cylinder to stop smoothly when the safety gates raise and lower.
To set to the factory settings:
1. Use a small screwdriver and turn the screw fully clockwise.
2. Turn the screw counterclockwise 1 1/2 turns.

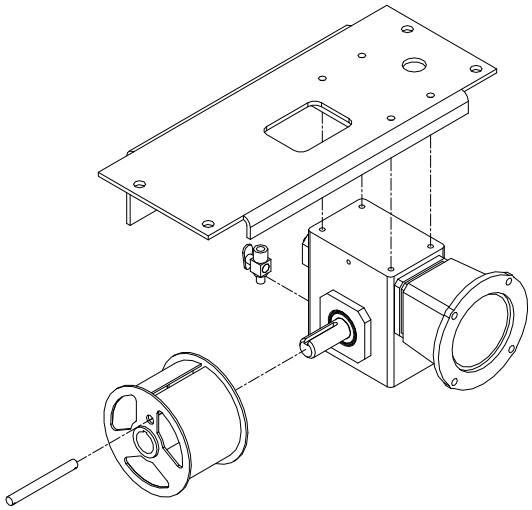
7.11 Standard Parts Replacement

7.11.1 FDS Lift Belt

Replace the FDS Lift Belt

Refer to the illustrations for the correct lift drum assembly for the machine.





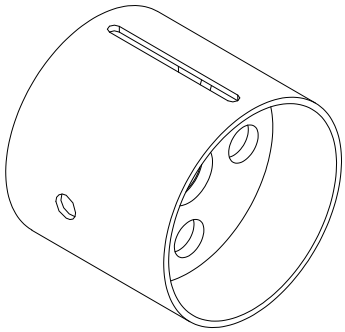
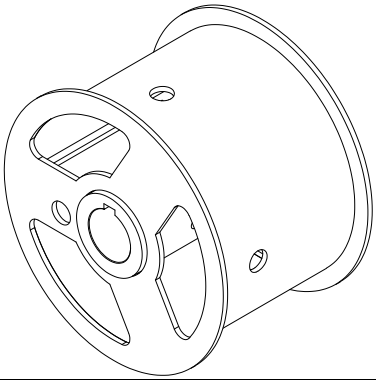
1. Move the wrap arm to get access to the FDS lift drive from the top of the wrap arm.
2. Move the down travel proximity sensor to the lowest point.
3. Move the FDS down until it stops at the mechanical limit and the lift belt is slack.
4. Obey the Lock out/Tag out procedures.

WARNING
Disconnect the electrical power and release the air from the pneumatic supply before you continue.

5. Remove the shaft from the belt on the FDS.
6. Unwind the belt from the drum on the FDS lift drive in the wrap arm.

Note: Examine the position of the belt on the drum and count the number of revolutions of the belt on the drum. Use this data when you install the new belt.

7. Examine the position of the drum on the shaft of the reducer.
8. Loosen the 2 set screws that hold the drum on the shaft of the speed reducer.

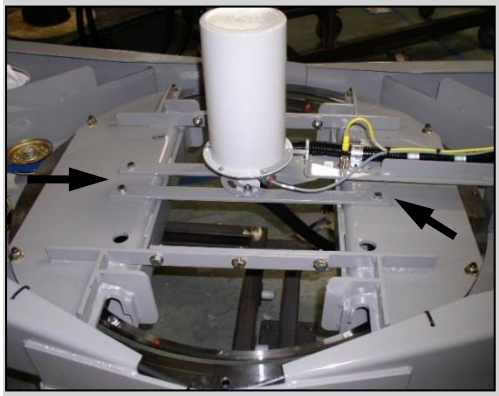
9. Remove the drum from the shaft of the reducer.
10. Remove 1 of the cotter pins from shaft and remove the belt.
11. Attach the new belt to the drum.
12. Remove the 2 set screws. Put the “thread lock” compound on the set screws and put them in the drum.
13. Apply the “anti-seize” compound to the speed reducer shaft.
14. Put the drum on the shaft of the speed reducer. Make sure that the key is in the slot on the reducer shaft.
15. Tighten the set screws on the shaft of the reducer.
16. Wrap the belt on the drum with 1 less revolution that was on the old belt.
17. Thread the belt below the “Belt Slack” switch and above the idler roller.
18. Attach the belt to the FDS.
19. Apply the power and the air to the machine.
20. Move the FDS up and down on the wrap arm. Make sure that the belt “tracks” correctly on the drum and the idler roller.

7.11.2 Drive Belt for the Wrap

	**WARNING** **Disconnect the electrical power and release the air from the pneumatic supply before you continue.**

1. In the junction box in the wrap arm, disconnect the slip ring to wrap arm electrical connector.
2. Remove the 4 bolts from the slip ring bracket on the wrap arm saddle.
3. Loosen the bolts on the wrap arm drive.
4. Loosen the tensioning nut until you can remove the belt from the sprocket.
5. Remove the belt and examine the urethane ring on the ring bearing for wear.
6. Install the new belt around the ring bearing.
7. Thread the belt between the idler pulleys and around the sprocket.
8. Align the belt on the ring bearing before you set the tension on the belt.
9. Use a tension gauge and set the tension on the belt.
10. Tighten the bolts.
11. Install the slip ring and connect the electrical connector to the junction box.

    Make sure that the cable from the slip ring stays below the saddle.
12. Move the wrap arm at high speed and make sure that the belt does not slip when you start and stop the wrap arm.
13. Examine and adjust the belt after 100 cycles.



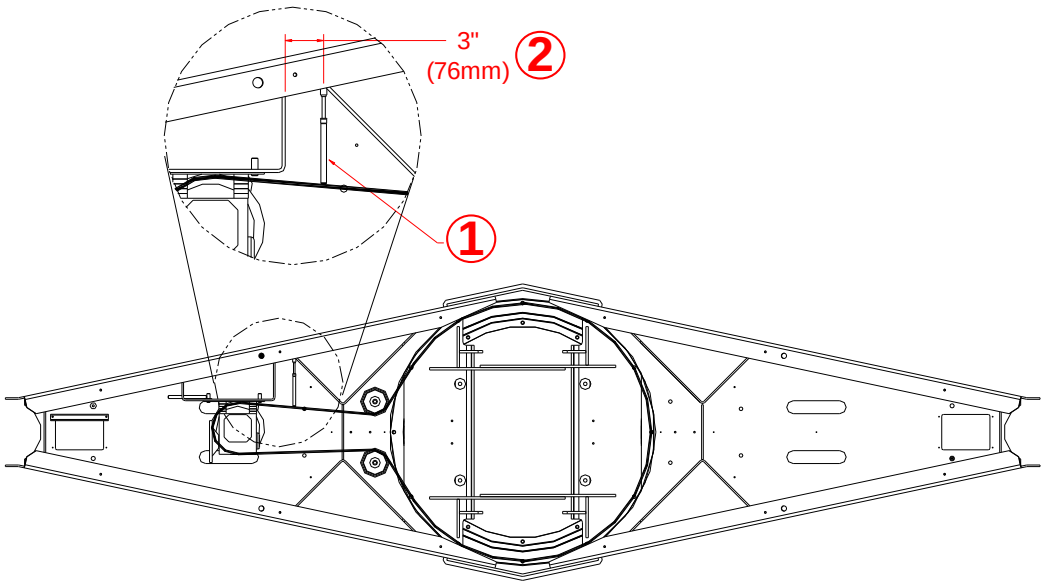


Figure 7.52

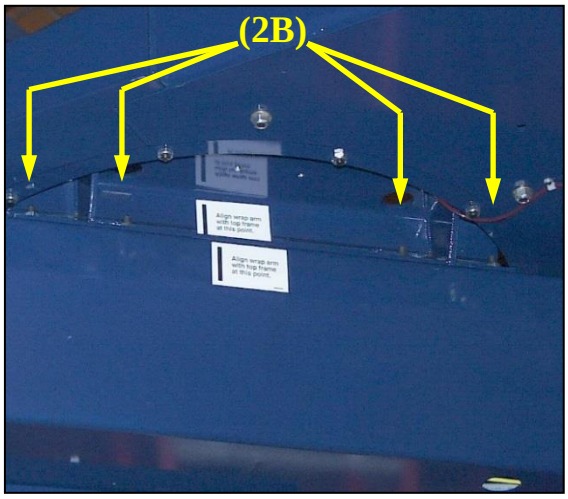
1	Tension Gauge
2	Position of the Gauge

Tension for the Wrap Arm Belt	
Deflection	**Force**
8 mm (5/16”)	7.7 kg (17 lbs)

7.11.3 Ring Bearing

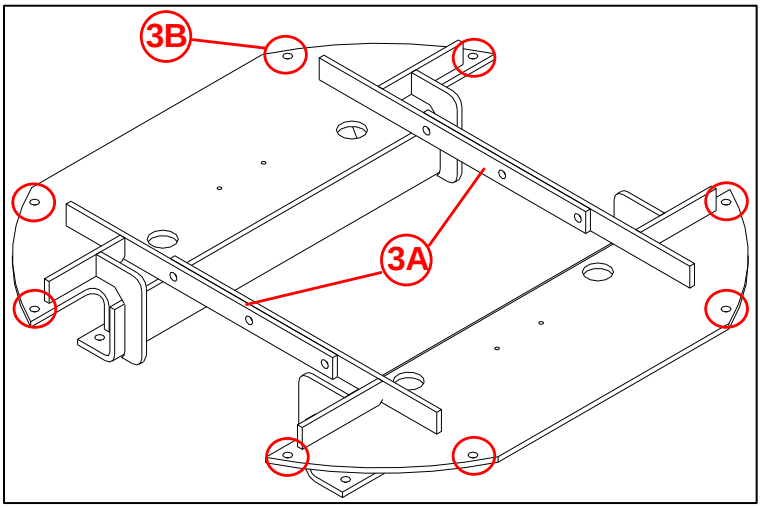
	**WARNING** **Disconnect the electrical power and release the air from the pneumatic supply before you continue.**

Replace the Ring Bearing
Remove the Slip Ring and the Drive Belt
1. In the junction box in the wrap arm, disconnect the slip ring to wrap arm electrical connector.
2. Remove the 4 bolts from the slip ring bracket on the wrap arm saddle.
3. Loosen the bolts on the wrap arm drive.
4. Loosen the tensioning nut until you can remove the belt from the sprocket.
Remove the Wrap Arm
1. Use a forklift to remove the wrap arm.
2. Attach a lift strap to the wrap arm at the FDS lift drive and to the forklift.
3. Remove the 8 nuts (4 on each side) from the saddle.
4. Remove the wrap arm.



Remove the Saddle

1. Use a 19 mm wrench to remove the 6 bolts, nuts and washers from the tie bars on the saddle.
2. Use a 3/4" wrench to remove the 8 bolts, nuts and washers that attach the saddle to the ring bearing.
3. Remove the 2 sections of the saddle.



3A – Saddle Tie Bars

3B – Holes for the Ring Bearing

Remove the Ring Bearing

1. Disconnect the grease line and remove the grease fitting from the bearing.
2. Keep the fitting for the new bearing.
3. Remove the jam nuts on the 12 ring bearing to adaptor ring bolts.
4. Remove the 12 bolts.
5. Attach the eyebolts to the ring bearing on opposite side holes
6. Attach a strap, chain to lift the ring bearing.
   Tilt the ring bearing to clear the top frame.

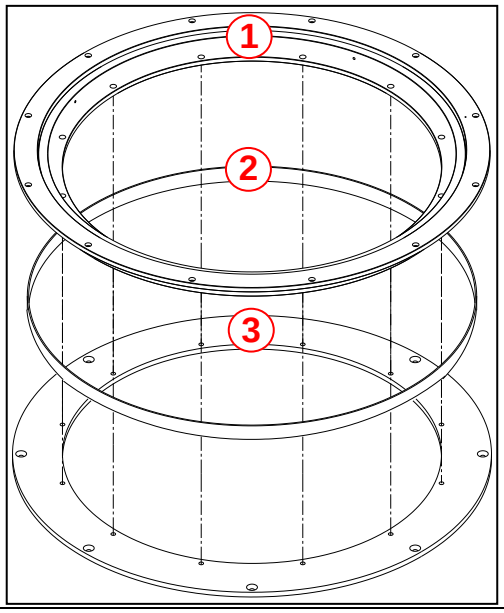
Install the Ring Bearing

1. Look at the original bearing and make sure that the ring bearing has a urethane band.
2. Use the steps above in the opposite sequence to install the new ring bearing.
3. Put the bearing in position and align the grease port for the grease fitting.
4. Install the ring bearing to the adapter ring and torque the bolts to 108 N-m (80 lb-ft).
5. Use a "star" pattern to tighten the bolts.
6. When you assemble the saddle, tighten by hand, the 6 bolts on the tie bar and the 8 saddle bolts.
7. Tighten the saddle to ring bearing bolts.
8. Tighten the bolts on the tie bar.
9. Torque the bolts to 102 N-m (75 ft-lb).
10. Refer to section 5 to install the wrap arm to the saddle.

1 – Ring Bearing

2 – Urethane Band

3 – Adaptor Ring



7.12 Variable Frequency Drives (VFD)

Variable Frequency Drives (VFD)

The Variable Frequency Drives control the speed of the motors.

Refer to the electrical drawings for the settings for the VFDs.

Refer to the VFD manufacturer manual.

WARNING
Obey all safety procedures. You must apply the power to the machine for some electrical adjustments.

APPENDIX - GLOSSARY

8.0 Appendix

CE - Declaration of Conformity

Glossary

Warranty

8.1 Glossary

Automation Unit	The assembly between the wrap zone conveyor and the FDS when all components are at the home position. It holds the beginning film tail, cuts the film and wipes it to the load. It eliminates the film tail at the end of the cycle.
Bypass	A load moves through the wrap cycle but does not wrap.
Containment Force	The cumulative force on the load from the layers of film, measured at any point. It is the best indicator for load shipment success.
Cut and Clamp	The assembly that clamps and cuts the film at the end of the wrap cycle.
Cutter Wire	A component of the Cut and Wipe or Top Sheet Dispenser that energizes to raise the temperature. The heat in the wire cuts the film.
Emergency Stop (E-stop)	A button that safely stops the machine in an emergency condition.
EZ Thread	An option that is standard on most Film Delivery Systems. It includes a gate that makes it easy to thread the film.
Film Break Recovery	To start or continue the wrap cycle after a film break.
Film Delivery System	The assembly that pre-stretches the film and generates the wrap force before it applies the film to the load. The FDS can apply Netting as an alternative to the film.
Film Plow	The assembly that pushes the film into the film clamp.
Initialize	This sets the safety circuits and puts all components in the start position.
Intelli-sensor	The trade name for a photoelectric sensor that sees a variety of colors and surface variations on a load.
Jog	To move a machine component with manual functions, controls. Examples are to "Jog" the wrap arm, turntable.
Load Guardian™	A machine control system that eliminates the need for an operator to understand the complex interaction of wrap setup parameters. The operator answers simple questions about the load. The machine sets the wrap parameters to produce a “safe to ship” wrap profile.
Load Height Sensor	A sensor that sees the top of the load and stops the Film Delivery System to apply the top wraps.
Load Seeking Clamp®	The trade name for a vacuum clamp that pivots and holds the beginning film tail on the load. The clamp holds the film against the load to increase the containment force.
Lockout/Tagout	Safety procedures that align with OSHA requirements and give protection to personnel. The procedures make sure that the power is off and not started up again before the completion of maintenance, service work.

APPENDIX - GLOSSARY

Metered Film Delivery®	The trade name for a Film Delivery System that overcomes many of the limitations of conventional “demand based” systems. Metered Film Delivery systems can apply more containment force with less film than conventional systems and not “distort or crush” the load. The Metered Film Delivery system also decreases the number of film breaks.
Pallet Grip®	The trade name for a "Lock Your Load to the Pallet" system. It makes a cable of film that attaches and locks the load to the pallet.
Payout Percentage	The payout is the length of film that the Film Delivery System applies. Use the percentage of the girth of the load to calculate the payout.
Personal Protective Equipment	PPE refers to protective clothing, goggles, other garments or equipment. It gives protection to personnel from injury, infection.
Photoelectric Sensor	A component that senses the distance, absence, or presence of an object. The sensor uses a light transmitter and a photoelectric receiver.
Plumbers Putty	A pliable substance that makes watertight seals. Use this material to install the legs for the S Series™ machines.
Pre-stretch	A procedure that extends the length of the film before the Film Delivery System applies it to the load.
Proximity Sensor	A component that senses objects in the range of the sensor without physical contact. The sensors change information on the movement or presence of an object into an electrical signal.
Qualified Personnel	Personnel who completes the training and receives certification to start-up, change, adjust, repair the machine.
Saddle	An assembly at the top of an S machine that holds the wrap arm.
Tensioner	A component to adjust the tension. This usually applies to a belt or chain.
Throughput	The number of loads that move through the wrap cycle.
Variable Frequency Drive (VFD)	An adjustable speed drive that changes the motor input frequency and voltage to control the motor speed and torque.
Wrap Arm	The assembly on the S Series™ machines that holds the Film Delivery System. The wrap arm moves around the load and the FDS applies the film to the load.
Wrap Cycle	The sequence of steps to wrap a load.
Wrap Force	An adjustable setting that controls the tension, pressure applied to the load during the wrap cycle.
Wrap Height	The maximum load height that a machine can wrap.
Wrap Profile	A group of settings to make a repeatable sequence of operations for a specific load type.
Wrap Zone	The area of the machine where the Film Delivery System applies the film to wrap the load.

APPENDIX - WARRANTY

8.2 Warranty

All Lantech machines include a warranty against a defect in:

- Material
- Design
- Manufacturing

Lantech has the option to repair, replace the machine or part, if:

- Lantech is the manufacturer, vendor of the part
- The part is defective
- Lantech knows about the defect before the warranty period ends

Obey the steps below to prevent the cancellation of your warranty.

These actions can cancel the warranty:

- The failure to operate the machine by Lantech instructions
- The failure to obey the maintenance instructions
- A change to the parts, the machine without Lantech approval
- An accident that can cause the machine to be damaged
- An environment where the weather conditions can cause the machine to be damaged.
- The failure to operate the machine by the environmental specifications.

This includes:

- An environment where moisture causes corrosion of parts
- Explosive environment
- The failure to prepare the area correctly for installation and maintenance

This includes:

- The electrical supply is not sufficient
- The floor is not flat
- The thickness of the floor is not correct
- The floor has a crack in the area where the machine is installed
- The machine is installed near joints in the floor

The warranty stops if the machine moves to a new customer.

Unless Lantech agrees in writing, this warranty does not include the requirements for federal, local, safety, environmental regulations and standards.

European standards:

- Supply of machine with Orgalime General Conditions

APPENDIX - WARRANTY

9.0 Parts List and Drawings

Parts List and Drawings
This section helps the operator and maintenance personnel find the parts and assemblies. The drawings follow each parts list.
How to Find a Part Number
6. Find the drawing that contains the part.
7. Find the part on the drawing and the item number for the part.
8. Use the item number to find the part on the parts list. Refer to the part number, description and quantity.
Send your parts order to the local Lantech® Distributor.
Refer to Section 1.1 for Lantech support.