Lantech®

QL-400

Semi Automatic Stretch Wrap Machine

Manual

Serial Number: QM04156

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INTRODUCTION

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

LANTECH AFRICA & EUROPE – CUIJK NETHERLANDS		
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LANTECH ASIA PACIFIC – MELBOURNE AUSTRALIA		
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LANTECH CHINA - SHANGHAI		
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Service Hotline +86 40 0877 1972	LCH.Service@Lantech.com	
LANTECH NORTH & SOUTH AMERICA – LOUISVILLE KENTUCKY		
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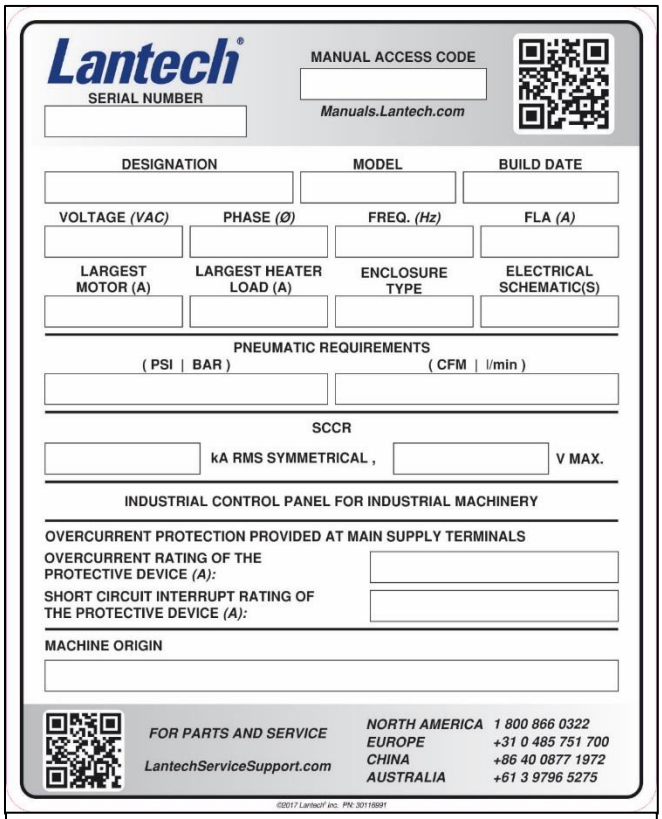
Service 1-502-815-9103	Service tsc@lantech.com	
Retrofits 1-502-815-9104	Retrofits retrofits@lantech.com	

For support, use the phone and email data below.

Note: This chart is available online – LantechServiceSupport.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.

SPECIFICATIONS

2.1 Machine Specifications

QL-400	
General	
Dimensions Standard Height	2032 mm (80”) Wrap Height 3023 mm L x 1702 mm W x 2337 mm H (119" L x 67" W x 92" H)
Weight with Pallet	671 kg (1480 lb)
Performance	
Speed*	25 - 35 Loads/Hour
Minimum Load Dimensions	762 mm x 762 mm x 508 mm (30” W x 30” L x 20” H)
Maximum Load Dimensions - Standard Height **Note**: Maximum wrap height increases 254 mm (10”) for 762 mm (30”) FDS option	2032 mm (80”) Wrap Height 1321 mm x 1321 mm x 2032 mm (52” W x 52” L x 80” H)
Maximum Load Dimensions - Extended Height	2794 mm (110”) Wrap Height 1321 mm x 1321 mm x 2794 mm 52” W x 52” L x 110” H
Load Dimensions - Diagonal	1829 mm (72") Recommended
Maximum Load Weight	2268 kg (5000 lbs)

*** Note**: Changes to the load dimensions, wrap pattern and the steps to load, unload the turntable can change the throughput.

SPECIFICATIONS

Turntable	
Turntable Diameter	1651 mm (65”)
Turntable Speed	15 rpm
Turntable Height	70 mm (2 ¾”)
Turntable Bearing Support	1219 mm (48”) Diameter
Turntable Drive	1 hp (.75 kW) 230/460 VAC 1800 rpm 3 Phase, 50/60 Hz TEFC Motor - 40:1 Speed Reducer
Film Delivery System (FDS)	
FDS Lift Drive	1/2 hp (.37 kW) 230/460 VAC 1800 rpm TEFC 37:1 Speed Reducer 24 VDC Brake
Film Pre-stretch	Power Roller Stretch Plus with EZ Thread and Pallet Grip®
FDS Drive	1/2 hp (.37 kW) 230/460 VAC 3 Phase, 1800 rpm TEFC
Film Pre-stretch Percentage	250%
Film	All Commercial Grade Films (50 - 150 Gauge)
Standard Film Capacity	254 mm (10”) Diameter 508 mm (20”) Width (Standard) 762 mm (30”) Width (Optional)
Film Tension	Electronically controlled with Reduced Film Tension at the start of the wrap cycle
Auto Film Cut-off	Automatically cuts the film at the end of the wrap cycle
Electrical Requirements	
Electrical Supply	Dedicated, Grounded Electrical Supply Do not use on GFCI circuit
Power - US	120 Volts, 20 Amps
Power - EU	220 Volts, 16 Amps
Controls	Single Board Computer with Touch Screen Interface
Warranty	5 Years

SPECIFICATIONS

3.0 Options

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

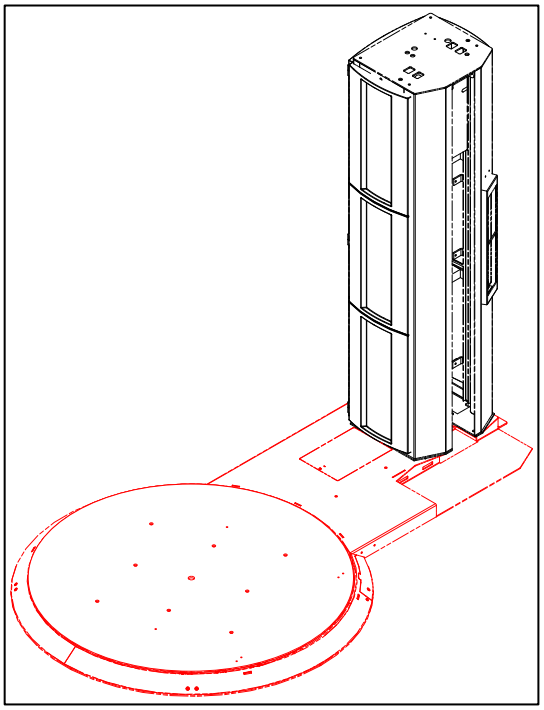
3.1 EZ Weigh Integrated Scale

EZ Weigh Integrated Scale

The EZ Weigh Integrated Scale is built into the turntable.

The weight of the film roll does not cause an incorrect value on the scale.

- The 3 load cells make the scale level.
- The design of the turntable makes sure that lateral forces do not inflate the weight.
- The design of the turntable also prevents damage to the load cells.
- The scale increases the height of the turntable by 16 mm (5/8”).
- The low profile design can decrease the ramp length.
- The turntable anchors to the floor and prevents debris from below the turntable.
- The scale is calibrated before the shipment.
- The scale is compatible with most standard options.
- The controls for the scale are in the mast.



Standard Specifications

General	
Maximum Load Weight	1815 kg (4000 lbs)
Capacity	
Turntable Dimensions	1651 mm (65”) Diameter 1829 mm (72”) Diameter
Maximum Speed	12 rpm
Turntable Height	88 mm (3 15/32”)
Electrical Data	
Power Requirements	120 VAC 20 Amp

SAFETY

Controls for the Scale	Model 180 Weight Indicator with 9 m (30') cable

Installation Requirements

- Install the shipping brackets before you move the machine. This prevents damage to the load cells and base. There are 3 load cell brackets and turntable brackets.
- Attach the machine to the floor before you put it in operation.
- The anchors are for the base only.
  - Quantity (4) 1/2-13 x 5 1/2" SS304 expansion anchors (Seismic Rated).
- Maximum 6 mm (1/4") variation in concrete surface.

Tools

- Forklift
- Metric and SAE wrenches and Sockets
- Allen wrenches
- Torque Wrench (50 ft-lbs)
- Hammer Drill and 1/2" Masonry Bit

Installation

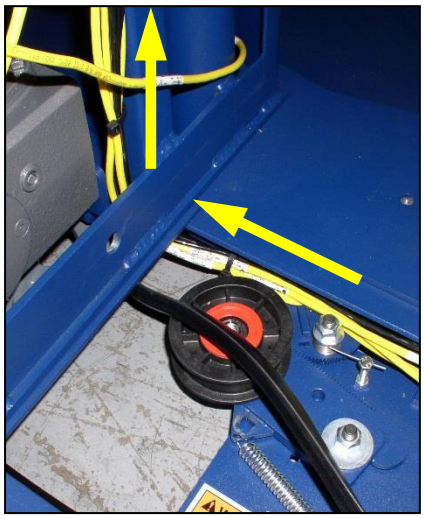
Refer to the scale installation drawings.

Extended Height Mast (If Applicable)

The mast is in the horizontal position

Refer to the extended height mast installation in section 5. Do the steps below after you attach the mast to the base.

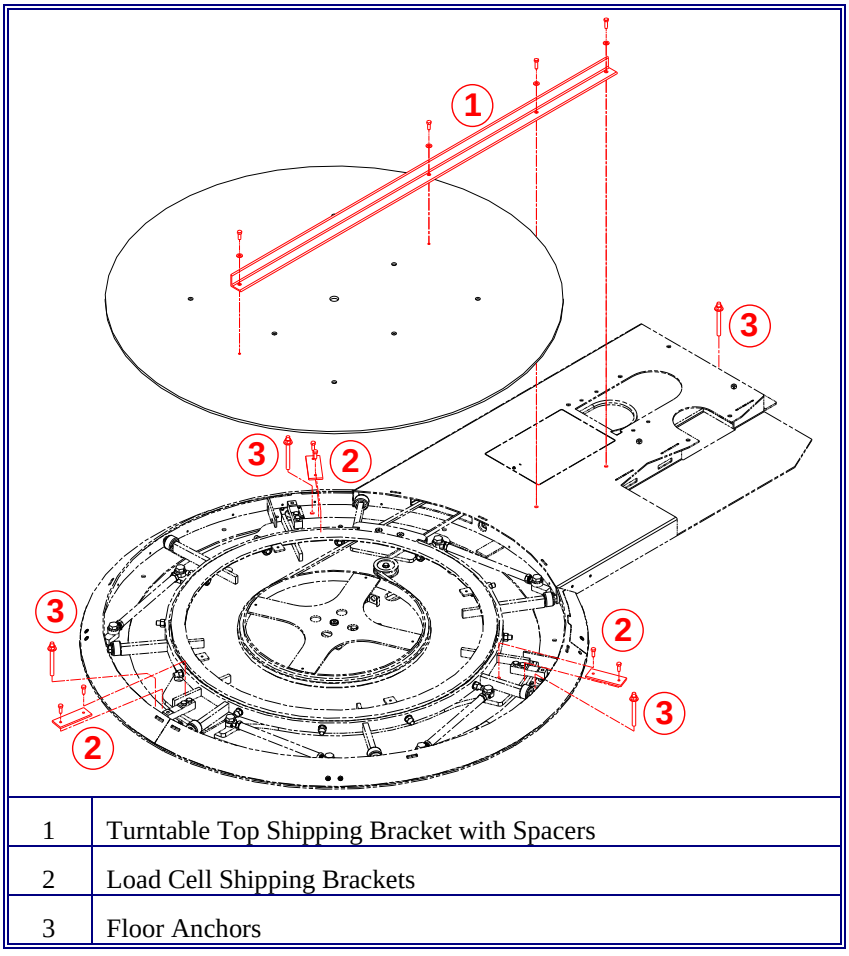
1. Remove the access door and the panel on the turntable side of the mast.
2. Put the scale junction box and wires from the base through the bottom of the mast. Make sure that the cables do not cause a blockage to the tensioner pulley.
3. Move and attach the wires to the outer side of the machine frame to prevent interference from the counterweight.
4. Install the junction box in the mast above the electrical panel.



Step 1
Set the machine in the installation area.

Step 2
1. Remove the lag bolts, banding.
2. Remove the machine from the skid and set in position. **Do not** remove the turntable brackets until the machine is set in position.

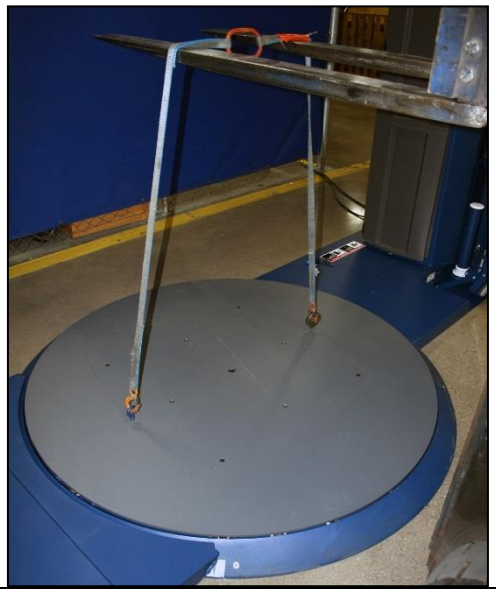
Step 3
1. Remove the turntable shipping bracket.
2. Remove the steel angle that attaches to the turntable top and the base.
3. Stow the brackets and spacers. Use these if you move the machine.



1	Turntable Top Shipping Bracket with Spacers
2	Load Cell Shipping Brackets
3	Floor Anchors

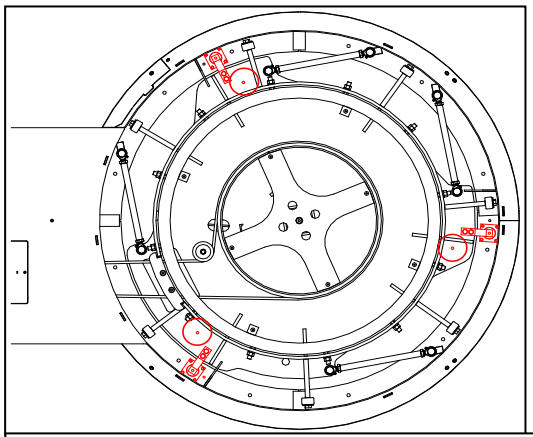
Step 4

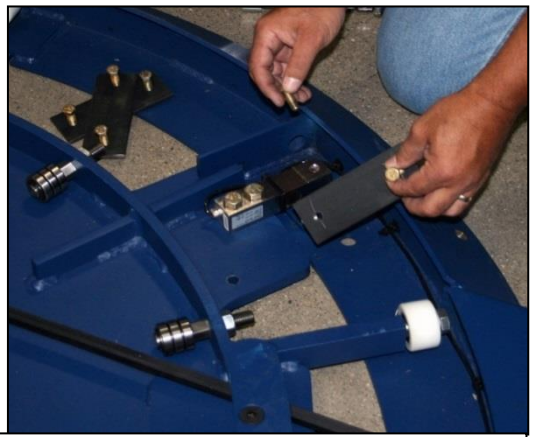
1. Remove the turntable top.
2. Install 2 eyebolts (3/8-16) in the same holes used to attach the turntable shipping bracket.
3. Remove the 4 bolts that hold the top to the drive ring.
4. Attach a strap, chain to the eyebolts and to the forklift.
5. Remove the turntable top.



Step 5

1. Remove the load cell shipping brackets.
2. Remove the 3 load cell shipping brackets adjacent to the each load cell.
3. Stow the brackets and bolts.





Load Cell Shipping Brackets

Step 6

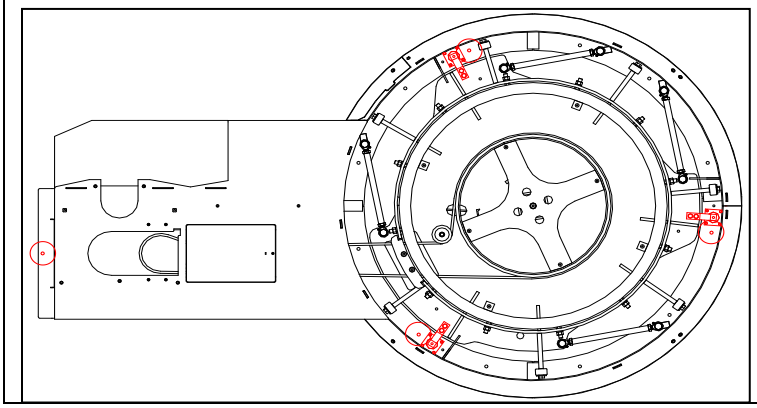
1. Install the anchors.

   The anchor holes are adjacent to each load cell and at the end of the base at the mast.

2. Use the base as a guide to drill the anchor holes.
3. Use a hammer drill with 13 mm (1/2”) diameter bit and drill 114 mm (4 1/2”).
4. Use compressed air and vacuum to remove the concrete debris from the holes.

5. Install the anchors and torque to 54 N-m (40 lb-ft).

Positions for Anchors



Step 7

1. Attach the turntable top to the base.
2. Use the 4 flat head bolts and attach to the drive ring.
3. Torque to 24 N-m (18 lb-ft).

Step 8

1. Install the weight indicator.

   The indicator cables are in the mast above the electrical panel. The cables are 762 mm (30') in length and can be routed out the top of the mast.

2. Use the bracket above the control console to attach the indicator to the machine.

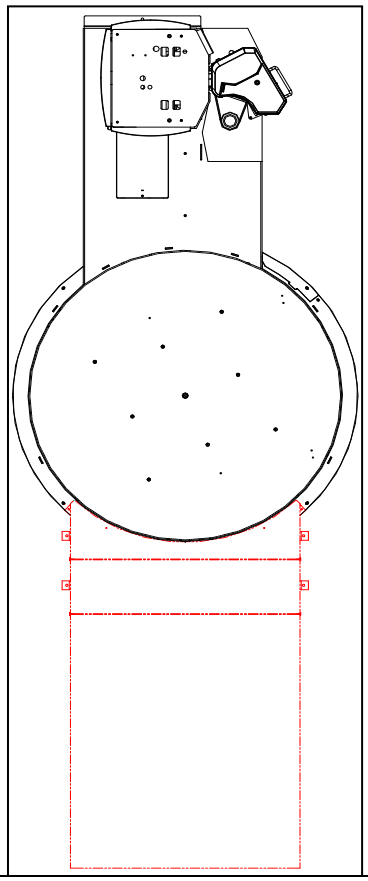
3. Attach the cables to the indicator and connect the power cord.

Weight Indicator

Ramp and Forklift Bumper (If Applicable)

The Ramp and Forklift Bumper options attach to the turntable base.

There are 3 different positions for the installation of the ramp and bumper on the Q300. The XT has 2 available positions.



Ramp Installation

The ramp includes:

- Porch – Use (2) M8 x 25 mm bolts to attach to the turntable.
- Porch extension – 305 mm (12”)
- Ramp – 1448 mm (57”)

The length from edge of the turntable is approximately 1866.9 cm (73 1/2”) with a 2.5º incline.

The anchor points are on the ramp.

You must attach the bumper to the floor.

The option does not include the anchors.

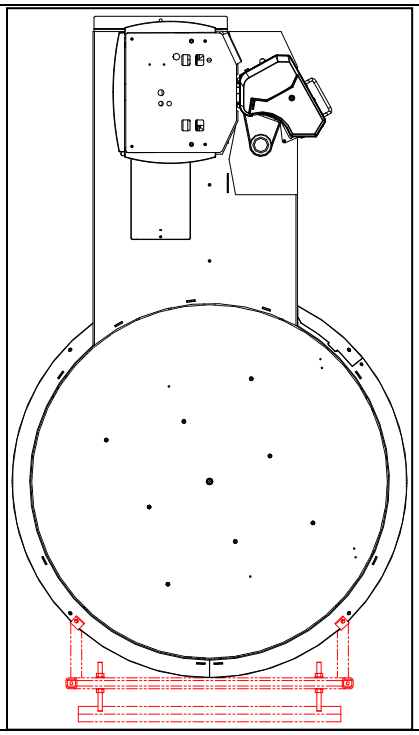
Forklift Bumper

To install, use (2) M8 x 25 mm bolts to attach to the turntable.

The anchor points are on the bumper.

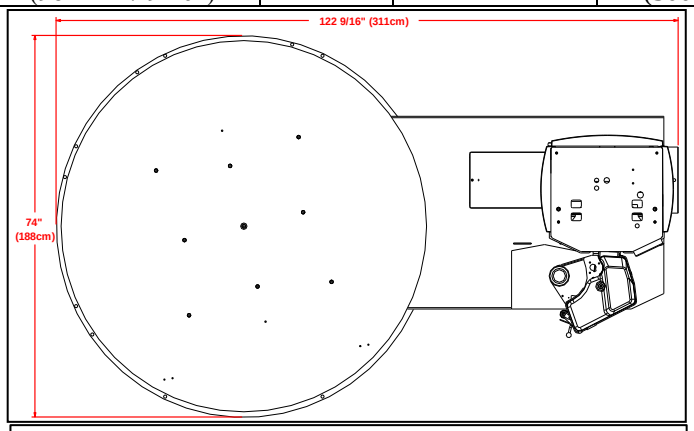
You must attach the bumper to the floor.

The option does not include the anchors.

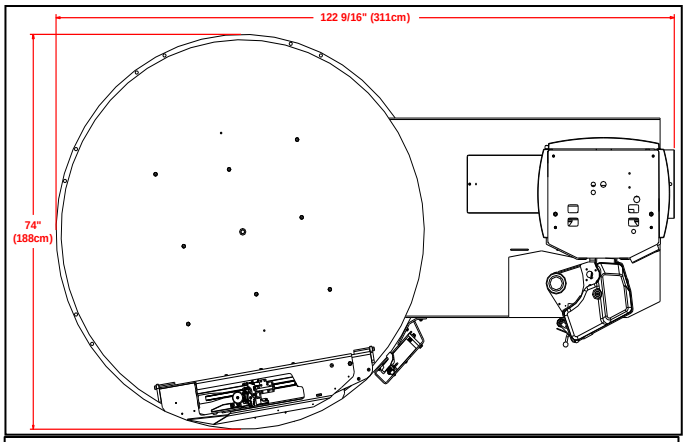


3.2 Oversize Turntable

	Diameter	Dimensions	Turntable Speed	Home Position	Weight Capacity	Turntable Drive
Q300	183 cm (72”)	188 cm W x 311 cm L (74” x 122 9/16”)	12 rpm	Standard	1814 kg (4000 lb)	.56 kW (3/4 hp)
XT	183 cm (72”)	188 cm W x 311 cm L (74” x 122 9/16”)	12 rpm	10° in opposite direction	1814 kg (4000 lb)	.56 kW (3/4 hp)
Q300	244 cm (96”)	249 cm W x 375 cm L (98” x 147 9/16”)	8 rpm	Standard	1814 kg (4000 lb)	.56 kW (3/4 hp)
XT	244 cm (96”)	249 cm W x 375 cm L (98’ x 147 9/16”)	8 rpm	13° in opposite direction	2268 kg (5000 lb)	.75 kW (1hp)



Q Semi



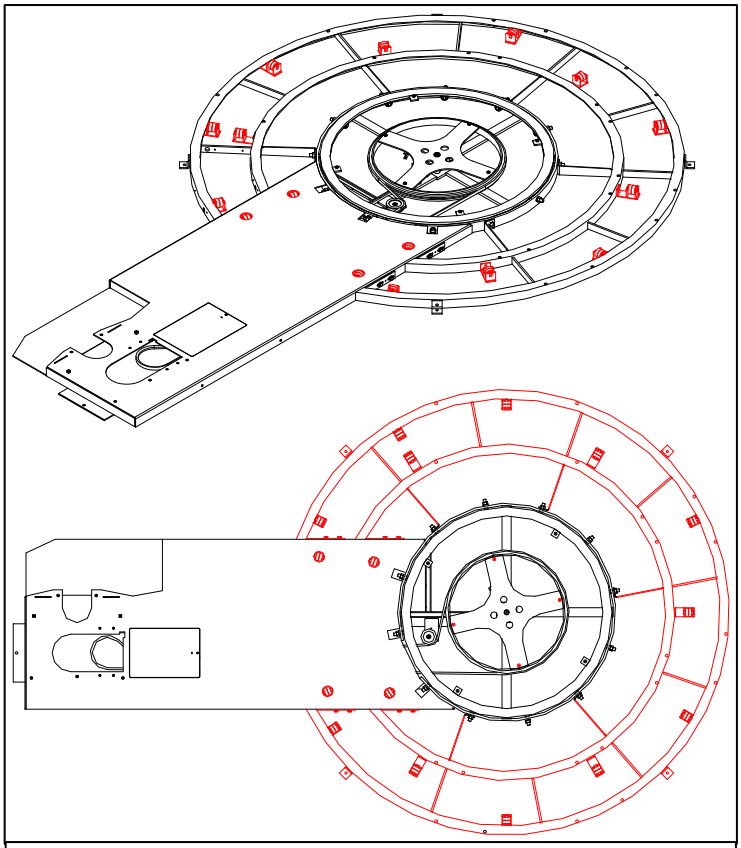
QXT

Note: If the machine has an extended base, the length of the base can change the speed.

Installation for 244 cm (96”) Turntable

1. Remove the turntable base from the skid and set it in position.
2. Remove the turntable skirt from the skid and set it in position on the turntable base.
3. Attach the turntable skirt to the base.
4. Put the bearing assemblies in the turntable skirt.
5. Attach 2 eyebolts to the turntable plate.
6. Attach a strap, chain to the eyebolts and to the forks of the forklift.
7. Remove the shipping bracket from the turntable plate.
8. Set the turntable plate in position on the turntable.
9. Attach the turntable plate to the drive ring with the 4 flat head bolts.

Turntable Top and Skirt



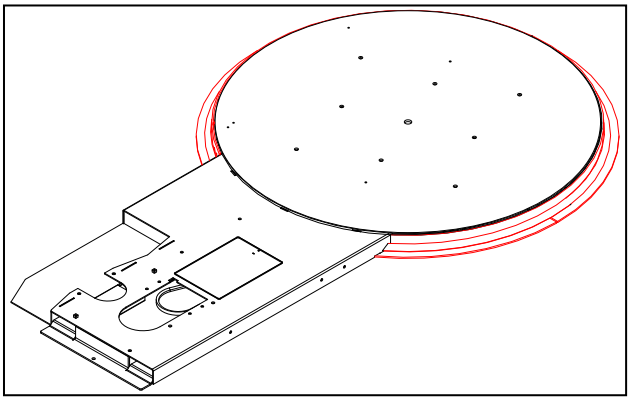
Skirt and Bearing Assemblies

3.3 Pit Mount with EZ Weigh™ Integrated Scale

Pit Mount with EZ Weigh™ Integrated Scale

This option puts the base of the machine in a pit.

This lets the operator put a load on the turntable at floor level.



To Install:

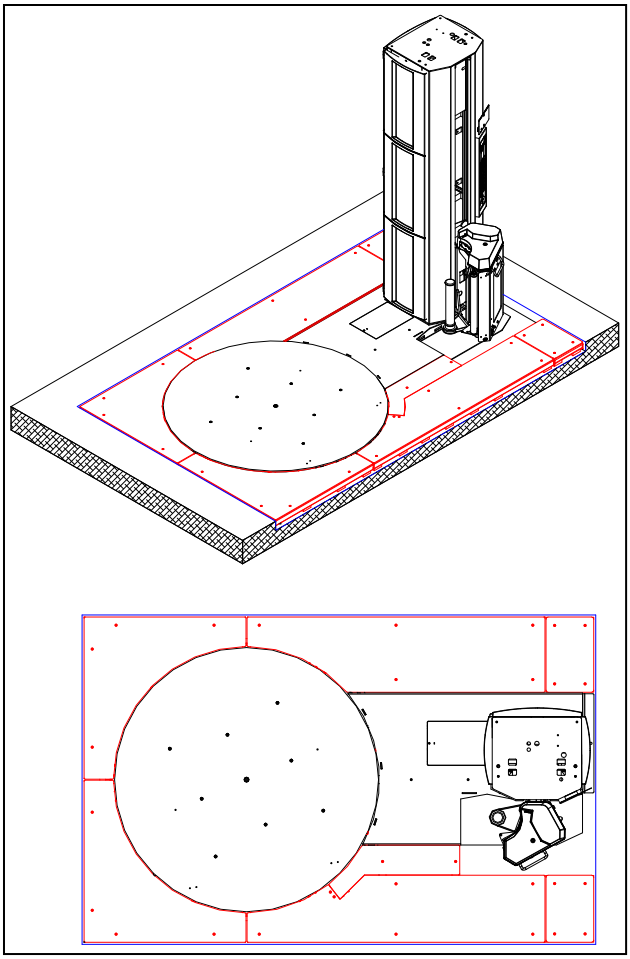
1. Install the pit.

   Refer to the pit drawing for the correct dimensions and the installation of the pit.

   Refer to the dimensions of the base and the turntable.

2. A lever on the roper lets the operator engage the roper during the wrap cycle.

   Make sure that the concrete floor in the pit is a minimum of 127 mm (5”) thick.



3. Put the machine in the pit.
4. Put the pit frame and the covers in position around the machine base.

   Make sure that the machine base and the pit frames are in the correct position.

5. Remove the turntable top.
6. Refer to the “EZ Weigh” installation instructions.

   Attach the machine base to the floor of the pit.

7. Remove the pit covers and attach the frame to the floor of the pit.
8. Attach the pit covers to the frame.
9. Make sure that the loads do not hang over the edge of the turntable plate.

Note: This machine cannot hold the weight of a forklift on the turntable.

SAFETY

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

	Pull In Warning		Do Not Walk on Conveyor
			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
Q Series®	
Risk:	The counterweight can fall during maintenance if you do not use sufficient support to hold it. Install the FDS shipping brackets and the counterweight brackets before you change, adjust, repair the lift motor or belt.
PPE	Use of PPE against injury is not applicable

5.0 Installation Instructions

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.

	**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.

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

Make sure that the mast has a clearance of a minimum of 762 mm (30") to the nearest blockage.

A flat and level floor – no more than 6 mm (¼").

Make sure that the floor can hold the weight of:

- The machine
- The maximum load weight
- Forklift
- Pallet Jack
- Other equipment in the area
- Personnel

5.2 Personnel, Equipment and Tools

Standard Height

Personnel and Safety Equipment
• 1 Forklift Operator • 1 Electrical/Mechanical Technician
Equipment
• Forklift with 2000 kg (4000 lb) capacity and 5 m (15’) lift • 1 Ladder
Tools
• Wrenches and Sockets (Metric and Standard)

5.3 Installation

Standard Height - Mast is in the upright position

Step 1 - Set the Machine in position	
1. Remove the bolts, brackets and boards that hold the machine and components to the skid. Use a 9/16” socket to remove the lag bolts.	 **Fork Loops**
2. Put the forks of the forklift fully into the loops in the base	
3. Slowly lift the machine and set it in position	

INSTALLATION

CAUTION

Use caution when you lift a machine with an extended base, oversize turntable. Remove the turntable plate to prevent damage to the turntable base.

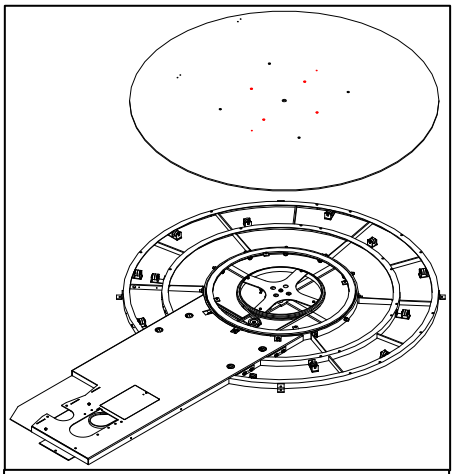
If the Machine has:

- **Extended Base -** The length of the turntable is more than 3048 mm (120”).
- **Oversize Turntable -** The diameter of the turntable plate is more than 1651 mm (65”).

1. Remove the Turntable Plate.
   a. Attach 2 eye bolts to the turntable.

      Make sure that the eye bolts align correctly.

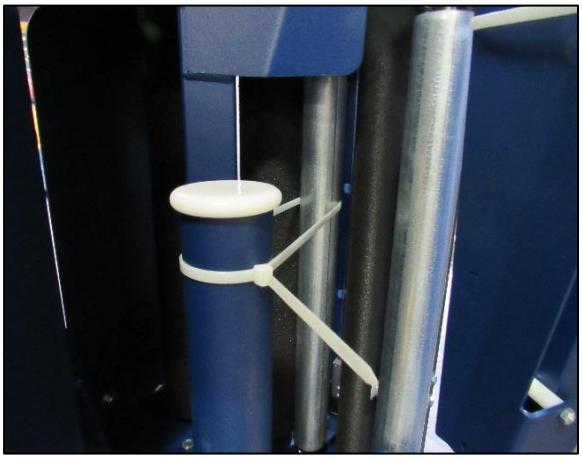
   b. Attach a strap to the eye bolts and to the forklift.
   c. Remove the 4 flat head bolts, in the middle of the turntable, that attach the plate to the drive ring.
   d. Remove the plate.
2. Put the forks fully into the fork loops in the base.
3. Slowly lift the machine and set it in position.



Turntable Plate

Step 2 - Remove the wire ties from the FDS.

Remove the wire ties from the FDS.



Step 3 – Remove the FDS Shipping Bracket from the Mast

1. Remove the M10 nut that holds the bracket to the base.
2. Remove the M8 bolt and nut that hold the bracket to the FDS.

FDS Shipping Bracket

Step 4 – Remove and Stow the Counterweight Bracket

The counterweight is in the access panel on the mast.

There are 2 brackets that hold the counterweight in position

1. Remove the (2) M10 bolts.
2. Remove the brackets.
3. Stow the shipping brackets and the counterweight brackets in the mast.

Counterweight Brackets

CAUTION
Before you move the machine to a different location, install the brackets for the FDS and the counterweight.

Step 5 - Connect the power cord to the dedicated, grounded electrical supply.

Note: The machine has a 3.6 m (12') power cord with a 20-amp plug. Use a 20-amp receptacle.

Do not use an extension cord. Do not use on GFCI circuit.

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 Lockout/Tagout procedures before you change, adjust, repair a part.**
	**WARNING** **Obey all safety decal instructions and warnings.**

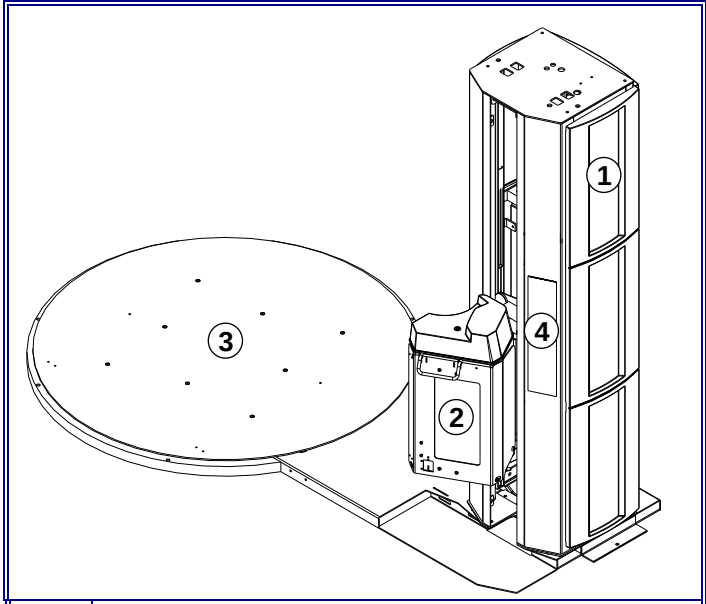
	**WARNING** **Do not make a change to this machine without approval from Lantech. It can cause a safety hazard and cancel the warranty.**
	**WARNING** **Do not use this machine with hazardous materials.** **Do not operate this machine in a hazardous environment.** **Do not operate this machine in an explosive environment.**

	**WARNING** **Do not use a sharp object to remove the film that is wound onto the pre-stretch roller. It can cause damage to the roller.**
	**CAUTION** **Do not let a heavy load stay on the turntable for a long period of time. This can cause damage to the turntable.**

6.1 Sequence of Operation

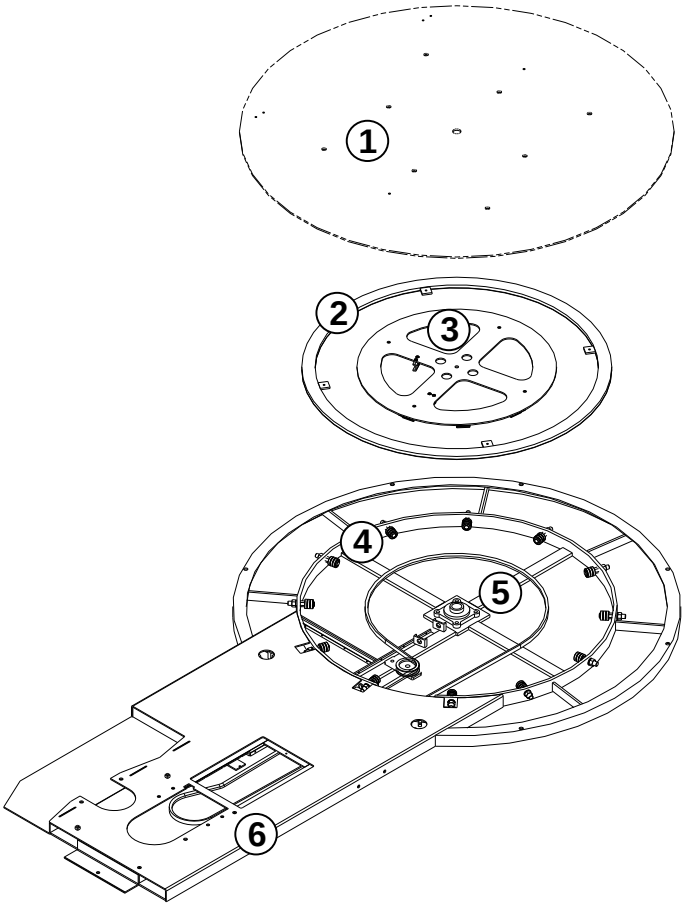
The sequence starts with a load on the turntable.	
1.	Move the “Main Disconnect” switch to the “On” position.
2.	Reset the E-stop.
3.	Push “Reset”.
4.	Refer to Section 6.6.7 and make a new a profile.
5.	Select a Profile.
6.	Push “Film Assist”.
7.	Pull the film and attach it to the load.
8.	Push “Start”.
9.	The turntable turns and the FDS moves up.
10.	The film pre-stretches and is applied to the load.
11.	The load height sensor senses the top of the load and the FDS stops to apply the set number of layers.
12.	The FDS lowers to wrap the bottom of the load.
13.	Pallet Grip engages and makes a cable of film on the bottom edge of the film.
14.	The tilting roller engages and applies the cable of film to the pallet.
15.	On the last rotation of the turntable, the FDS raises and disengages the Pallet Grip.
16.	The Auto Film Cut-off engages and the pre-stretch motor stops to break the film.

6.2 Components



1	Mast
2	Film Delivery System (FDS)
3	Turntable
4	Controls

Turntable



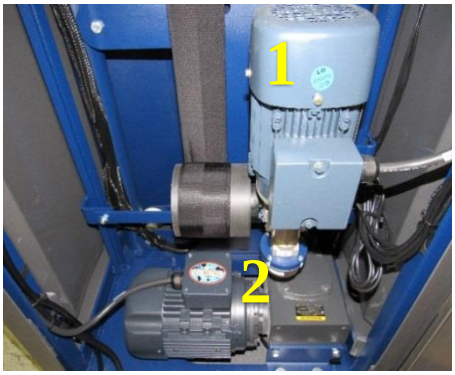
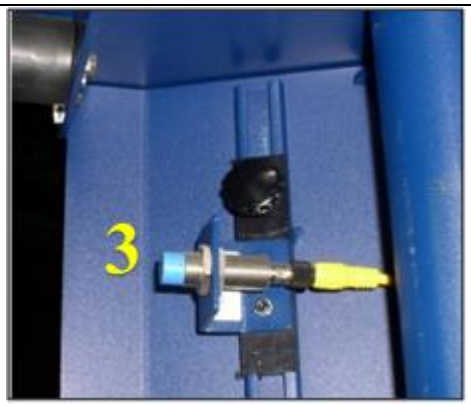
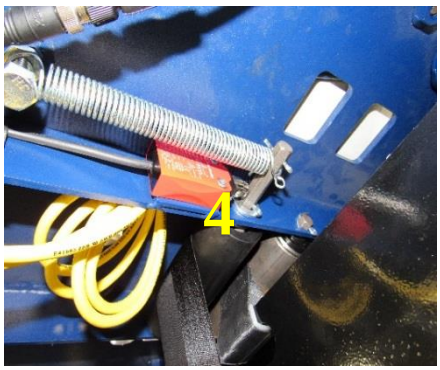
1	Turntable Top
2	Urethane Ring
3	Drive Ring with Home Proximity Actuator
4	Bearing Support Ring
5	Center Bearing
6	Motor and Belt Tensioner (Motor not Shown)

6.3 Assemblies

6.3.1 FDS and Counterweight

The FDS pre-stretches and applies the film.
The belt connects the counterweight and the FDS.
The counterweight balances the weight of the FDS.

6.3.2 FDS Lift Drive

The drive raises and lowers the FDS during the wrap cycle. #1 – FDS Lift Drive #2 – Turntable Drive	
FDS Up, Down Proximity sensors	
The mast includes 2 sensors that sense the maximum travel of the FDS. Use these adjustable sensors to set the maximum up and down travel limits of the FDS. #3 – FDS "Up Travel" sensor	
FDS "Belt Slack" Switch	
This switch senses a loose belt condition. A loose belt stops the FDS down travel. #4 – FDS "Belt Slack" switch	

6.3.3 EZ Thread Gate

The gate opens to 2 positions:

To thread the film:

- Release the latch to open the gate to thread the film.

To get access to the Rollers and the Gate:

- Lift the lever on the bottom right side of the gate for the access position

6.3.4 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.

"Groove Roller"

The Groove Roller rolls the film into a cable when the FDS is at the bottom of the load.

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

It sets the height of the cable on the pallet.

"Tilting Roller"

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

The actuator is adjustable to increase, decrease the angle of the roller.

6.4 Controls

The Operator Controls are on the side of the mast.

“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.

“Emergency Stop” (E-stop)

This red button disengages the control power to the machine.

1. Push the E-stop to stop the machine in an emergency condition.
2. Reset the E-stop before you push the “Reset” button.

6.4.1 Icon List

	Active Alarms		Load Guardian™
	Add		Login
	Alarm Counter		Main Menu
	Alarm History		Manual Functions
	Back		No
	Cancel		Options
	Decrease		Pre-stretch Percentage
	Delete		Production Reports
	Diagnostics		Profile Color
	Dispenser		Profile Icon
	Down		Reports
	Edit		Reset
	Film Coverage		Rotation Speed
	Film Tension		Security Setup/Password
	Film Thickness		Settings
	Help		Start
	Home		Turntable Home
	I/O Condition		Up
	Increase		VFD

	Cycle Data		Profiles
	Wrap Height		Wrap Quality
	Wrap Problems		Wrapper Options/Settings

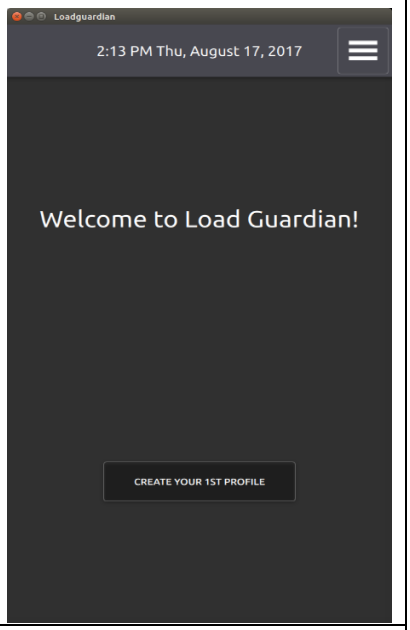
6.5 Display

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

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

"Home"

This shows the available wrap profiles.

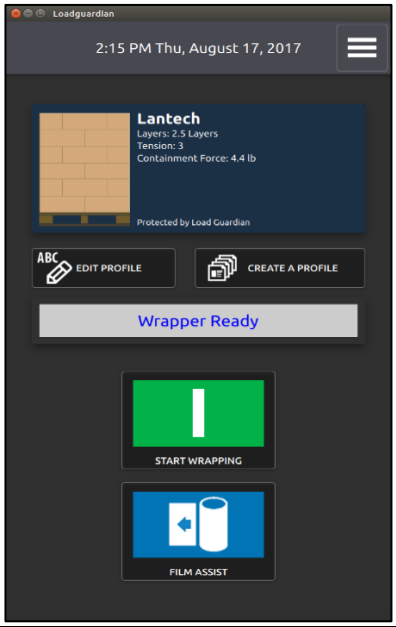


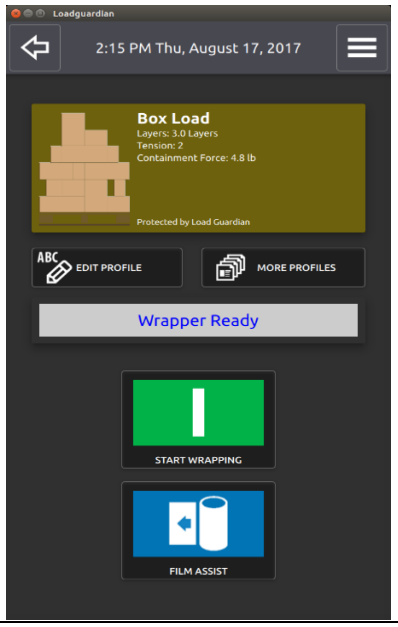
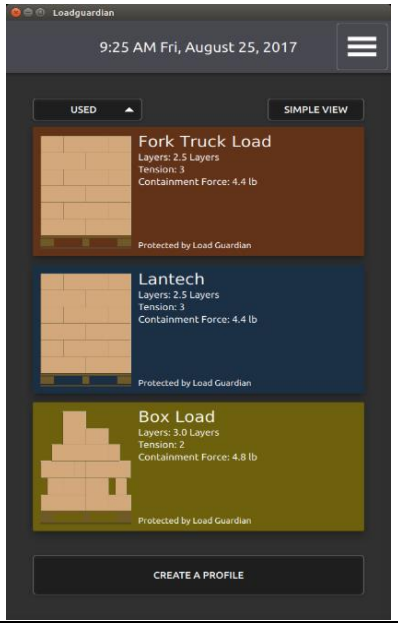
"Edit Profile"

Push this button to get access to the current profile.

"Create a Profile"

Push this button to make a new profile.

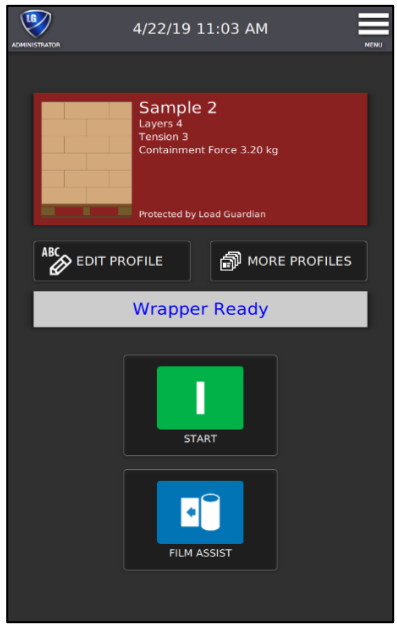


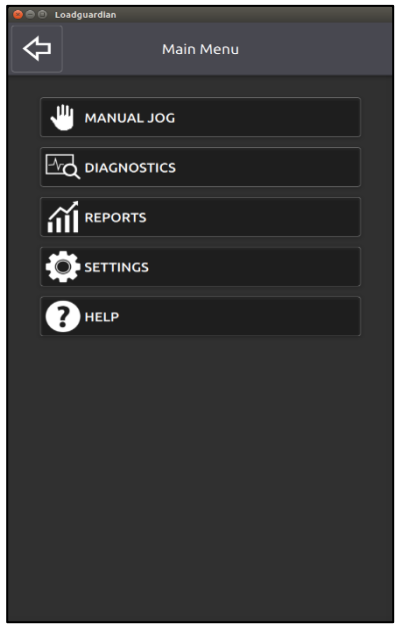
	**"More Profiles"** Push this button to get access to the profile list.	
	"Home" Screen for Multiple Profiles	

6.6 Operator Controls

6.6.1 "Home" Menu

When the power is "On", the "Home" menu shows on the display.





"Start"

Push the button to start the wrap cycle.

"Film Assist"

Push this button to release the film from the FDS for a preset time.

"Wrap Profile" Menu

Use this menu to:

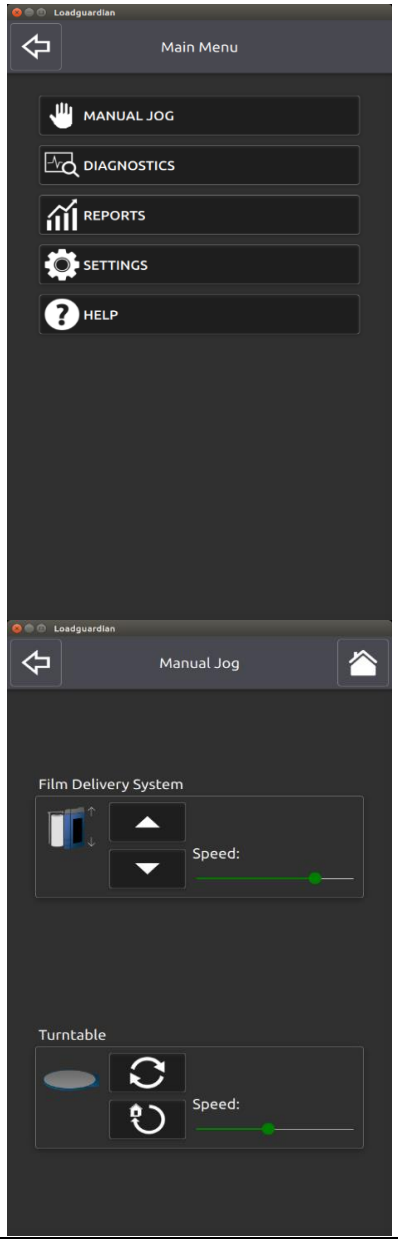
- Select a Profile
- Make a new Profile
- Edit a Profile

"Main" Menu

Push this button to get access to the list of menus.

- Manual Jog
- Diagnostics
- Reports
- Settings
- Help

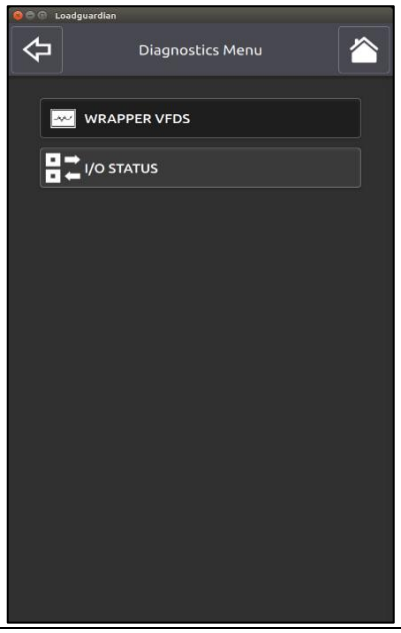
6.6.2 “Manual Jog”

	**“Manual Jog”** This screen gives access to the manual controls and settings for the machine	
	**“Film Delivery System”** **(FDS)** Use the arrows to move the FDS in the up, down directions. Use the Speed control to increase, decrease the FDS travel speed.	
	“Turntable” Use the Speed control to increase, decrease the rotation and the home speed.	

6.6.3 “Diagnostics”

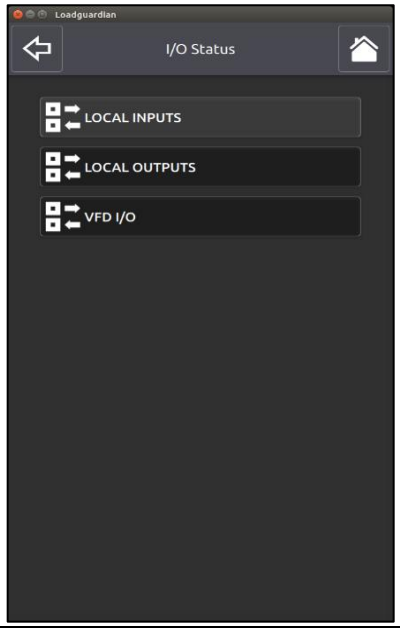
“Diagnostics”

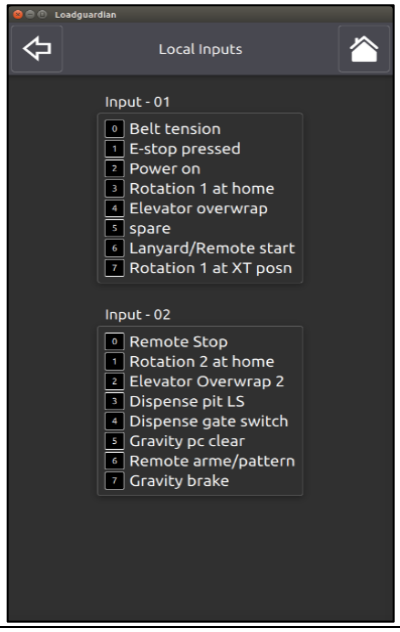
This menu shows the current data for the Variable Frequency Drives (VFD) and the I/O (Input/Output) status.



“I/O Status”

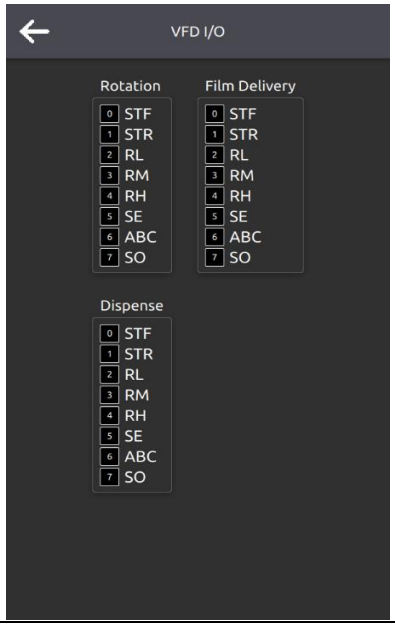
This screen shows the current status of each input, output.



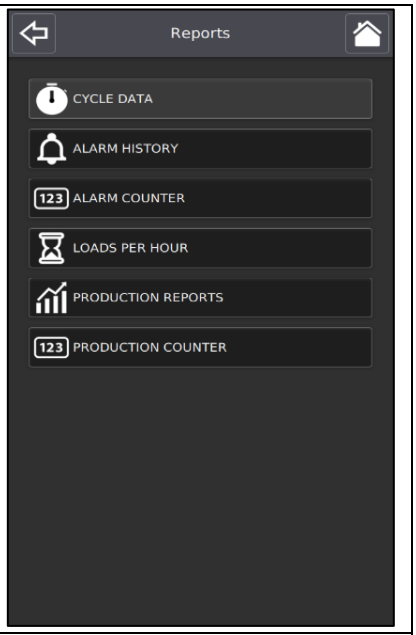
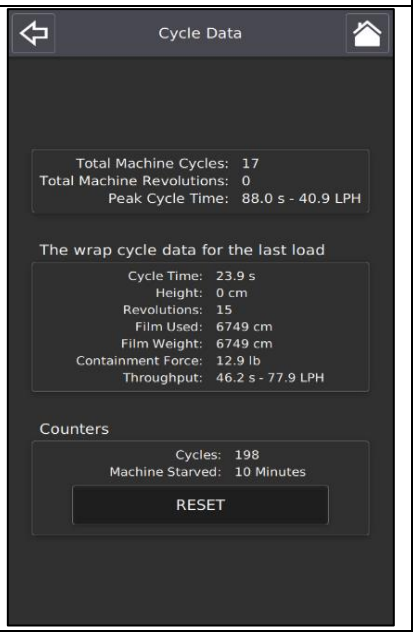


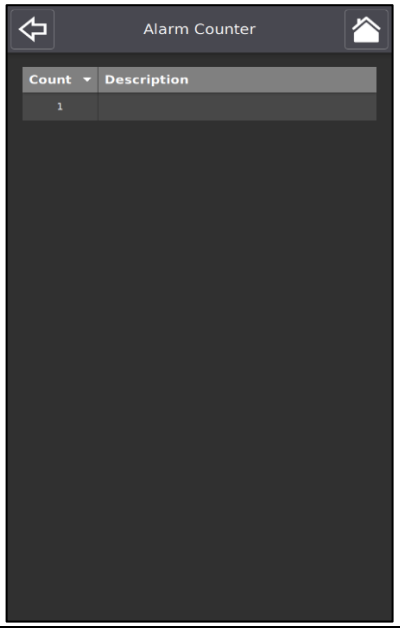
“VFD I/O”

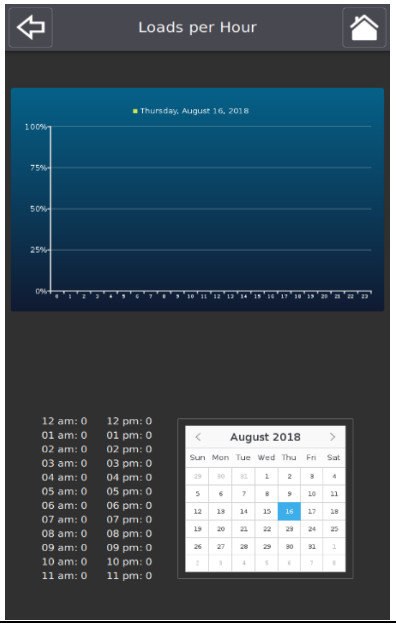
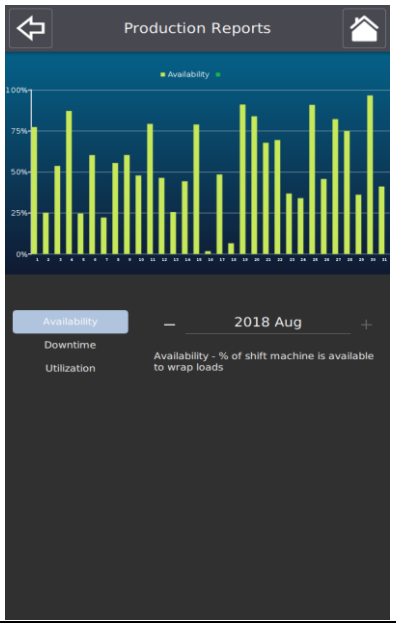
This screen shows the current status of each VFD.

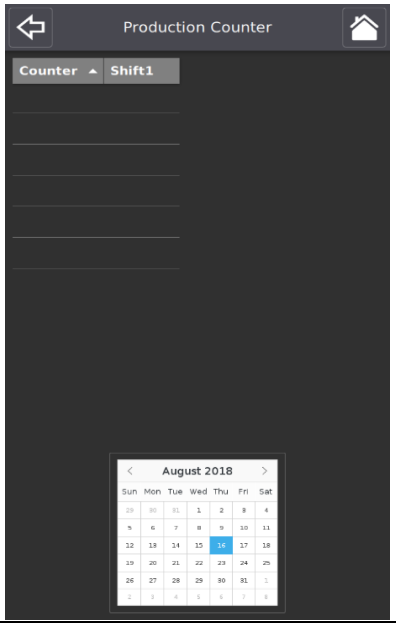


6.6.4 “Reports”

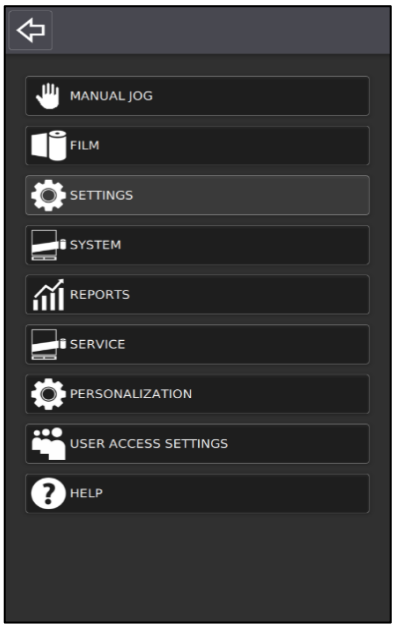
	**“Reports”** This menu gives access to the machine production data. The data includes: • Cycle Data • Alarm History • Alarm Counter • Loads Per Hour • Production Reports • Production Counter	
	**“Cycle Data”** This screen shows: • Total Machine Cycles • Cycle Data of Last Load	

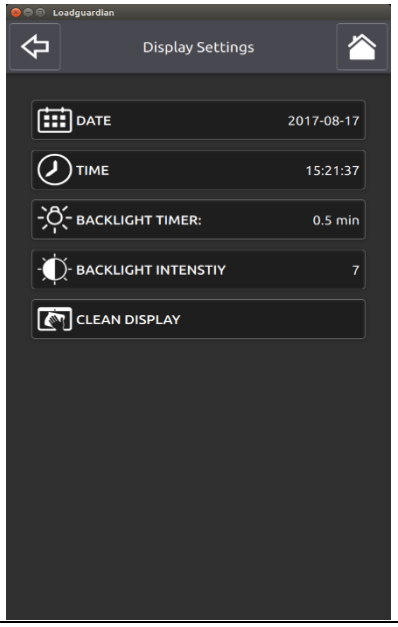
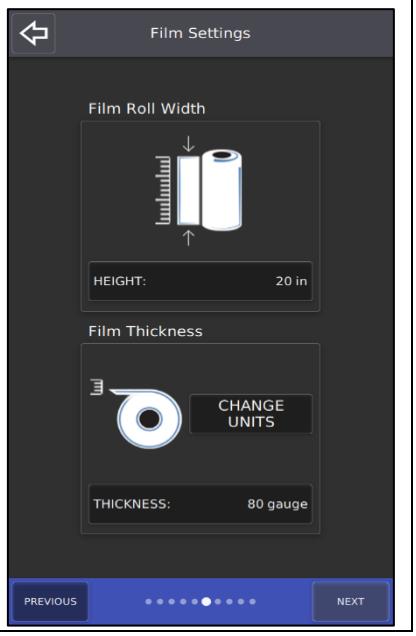
	**“Alarm History”** This screen shows the list of the faults and alarms that have occurred.	
	**“Alarm Counter”** This screen shows the list of the alarms and the number of times that each alarm has occurred.	

	**“Loads Per Hour”**	
	**“Production Reports”** This screen shows machine: • Availability • Downtime • Utilization	

	**“Production Counter”**	

6.6.5 “Settings”

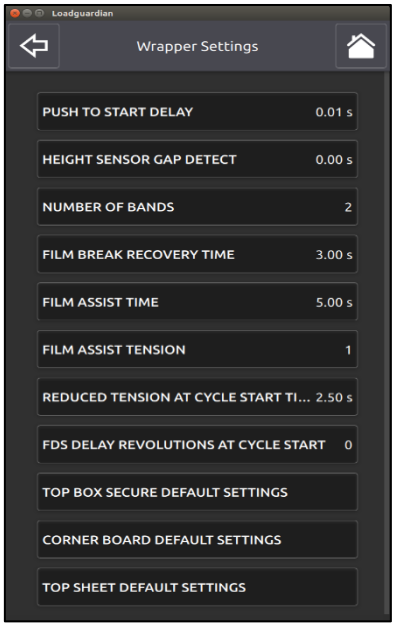
	**“Settings”** Use this menu to get access to the machine settings. The settings include: • Machine Configuration • Display • Communications • Directories • Film Settings • Wrapper Settings • Imperial, Metric measures	
	“Imperial, Metric Units” • Imperial units show on the display when the green light is on. • Metric units show on the display when the light is off.	

<table>
<tr>
<td>  </td>
<td>“Display Settings”
Use this menu to get access to the display settings.
The settings include:
• Date/Time
• Backlight Timer
• Backlight Intensity
• Clean Display – Locks the display for 30 seconds.</td>
<td> 
</td>
</tr>
<tr>
<td>  </td>
<td>“Film Settings”
Use this screen to set the width (mm, inch) and the thickness (gauge, micron) of the film.</td>
<td> 
</td>
</tr>
</table>

Wrapper Settings

“Wrapper Settings”

Use this menu to change, adjust the settings.



The settings include:

“Push to Start Delay”

This sets the time before the wrap cycle starts after you push “Start”.

“Height Sensor Gap Detect”

This sets the time that the FDS travels after the load height sensor finds the top of the load.

“Number of Bands”

This sets the number of bands of film applied to the load during the wrap cycle.

“Film Break Recovery Time”

This sets the time that the turntable turns before the FDS continues the wrap cycle after a film break occurs.

“Film Assist Time”

This sets the time that the film releases from the FDS.

“Reduced Tension at Cycle Start”

This sets the time that the load wraps with Reduced Film Tension at the start of the wrap cycle.

“FDS Delay Revolutions at Cycle Start”

This sets the time that the FDS stays at the bottom of the load when the wrap cycle starts.

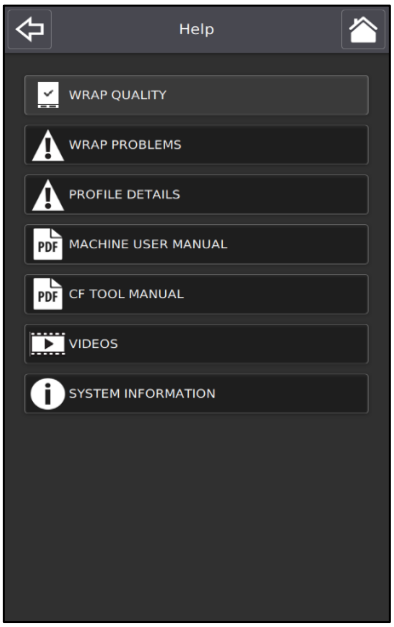
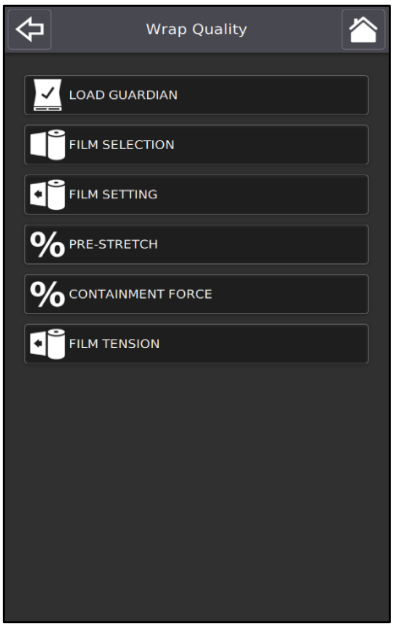
The settings in the list below are adjustable for the specific Wrap Apps:

“Top Box Secure Defaults”

“Cornerboard Defaults”

“Top Sheet Defaults”

6.6.6 “Help” Menu

	**“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 • Machine User Manual • CF Tool Manual • Videos • 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”	

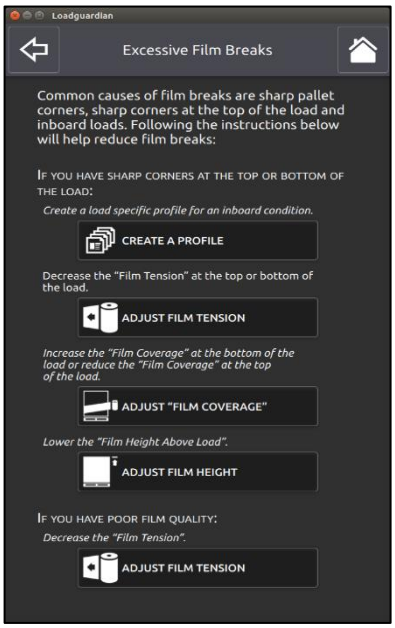
“Wrap Problems”

“Wrap Problems”

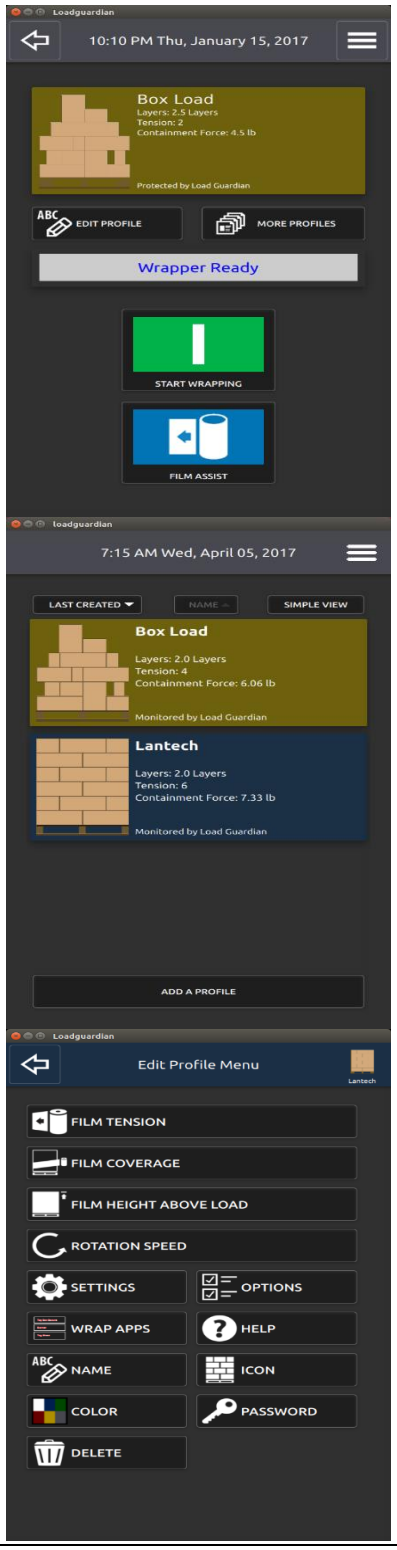
This menu gives the possible causes and solutions for problems that can occur during the wrap cycle.

The “Wrap Problems” include:

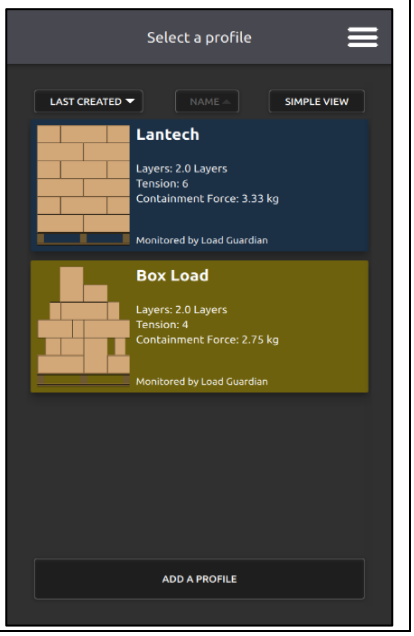
- “Excessive Film Breaks”
- “Containment Force Variation”
- “Excessive Film Use”
- “Need more Throughput”
- “Objectionable Film Tails”
- “Crushing the Top of the Load”
- “Crushing the Edges of the Product”
- “Load Twists during the Wrap Cycle”
- “Load Shifts in Shipment”
- “Load Slides Off the Pallet”

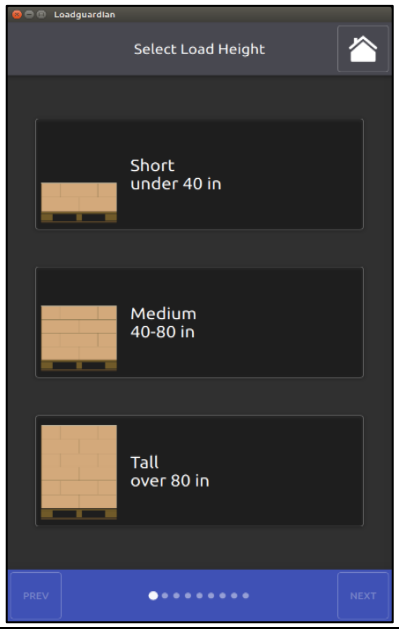


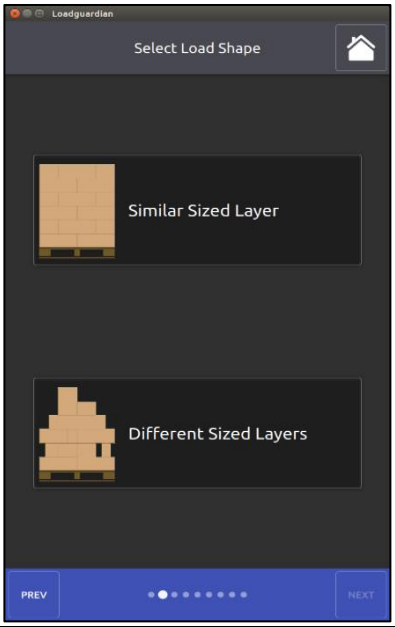
6.6.7 “Wrap Profile” Menu

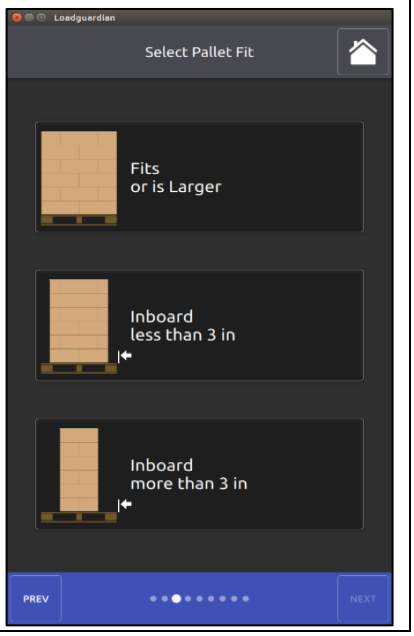
	“Wrap” Menu Use this menu to: • Select a Profile • Edit a Profile	
	**“Select a Profile”** 1. Push “More Profiles” on the “Home” menu. 2. Select a profile.	
	“Add a Profile” 1. Push “More Profiles” on the “Home” menu. 2. Push “Add a Profile”. This gives access to the “Profile Settings” menu. 3. Refer 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.	

6.6.8 Profile Settings

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

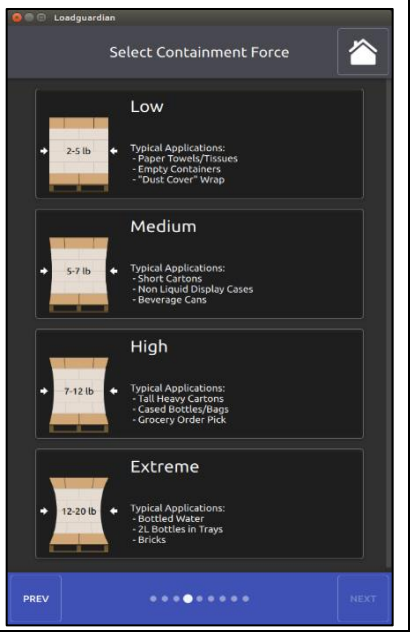
“Select the Load Height”		
“Short”	The height of the load is less than 1016 mm (40”).	
“Medium”	The height of the load is 1016 mm to 2032 mm (40” to 80”).	
“Tall”	The height of the load is more than 2032 mm (80”).	

"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)

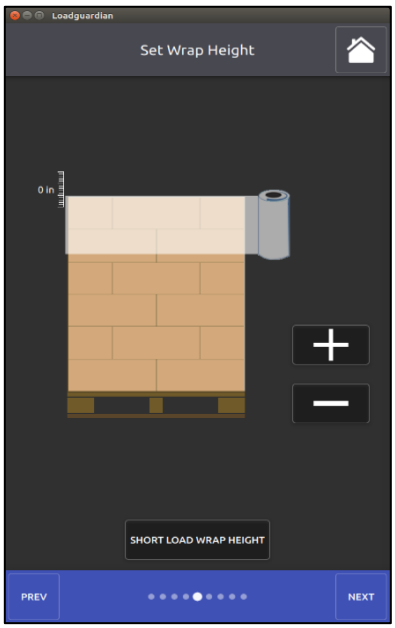
		CF Range
"Low"	These loads include paper towels, tissues, empty PET bottles, etc.	1- 2 kg (2 - 5 lb)
"Medium"	These loads include short case goods, short trays, light order pick, etc.	2 - 3 kg (5 - 7 lb)
"High"	These loads include tall case goods, bagged goods, grocery order pick, etc.	3 - 5 kg (7 - 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”

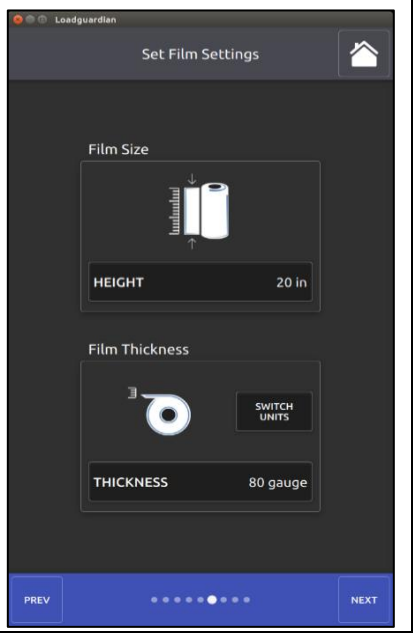
“Set the Film Width”

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”.



“Wrap Apps”

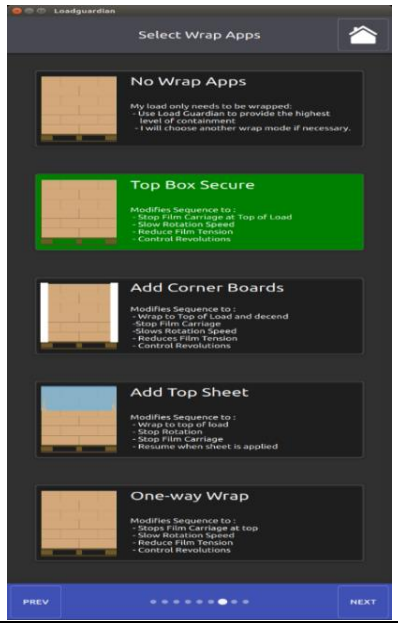
Use this menu to change, adjust the wrap sequence.

You can add multiple Wrap Apps for the wrap sequence.

The “Wrap Apps” include:

- “No Wrap Apps”
- “Top Box Secure”
- “Add Cornerboards”
- “Add Top Sheet”
- “One-way Wrap”

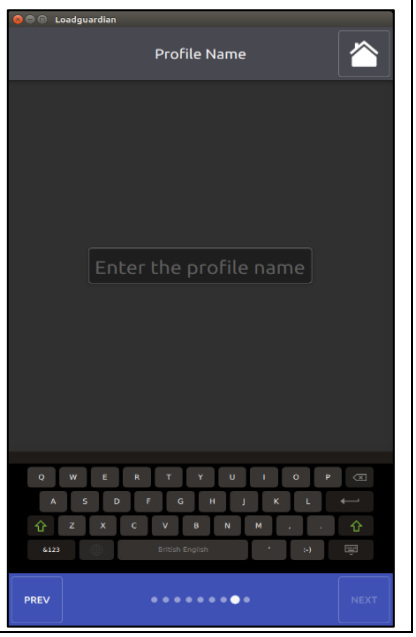
Select “Next”



6.6.9 Profile Specifications

“Enter a Profile Name”

1. Enter a name for each profile.



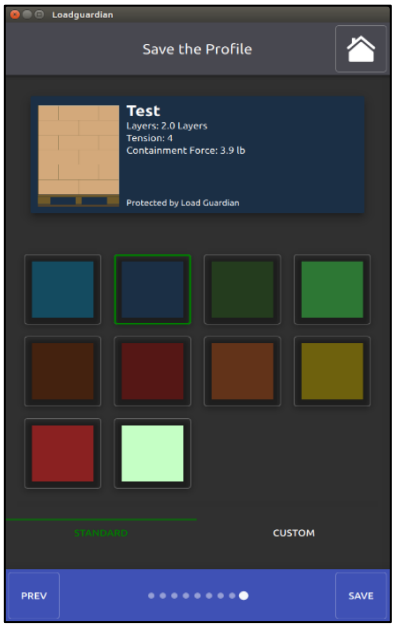
“Save the Profile”

This screen shows an overview of the profile.

It includes:

- Film Layers
- Film Tension
- Containment Force

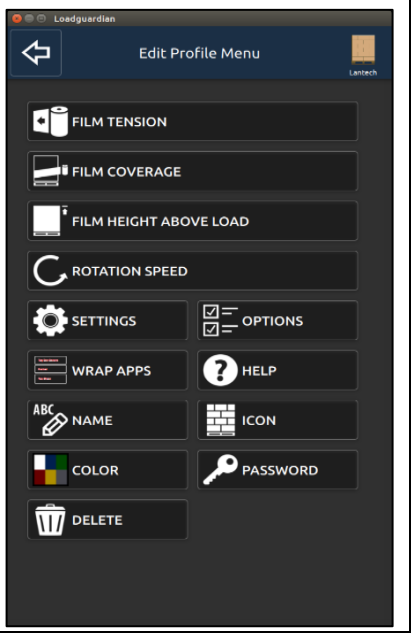
1. Use this screen to select a profile color
2. Push “Save”.



“Edit a Profile”

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

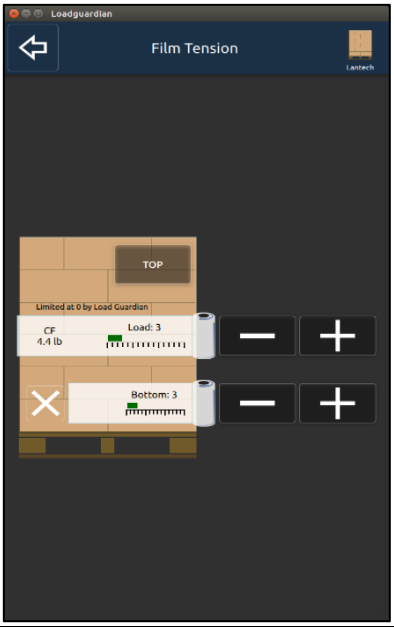
   This gives access to the “Profile Settings” menu.



“Film Tension”

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

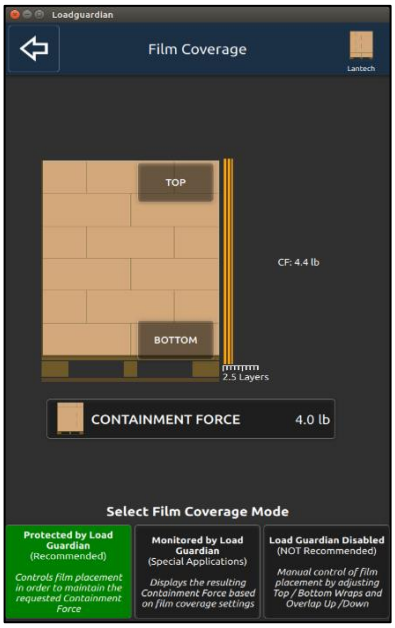
These adjustments are not available when Load Guardian™ is engaged.



“Film Coverage”

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

Select the Film Coverage mode:



“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.

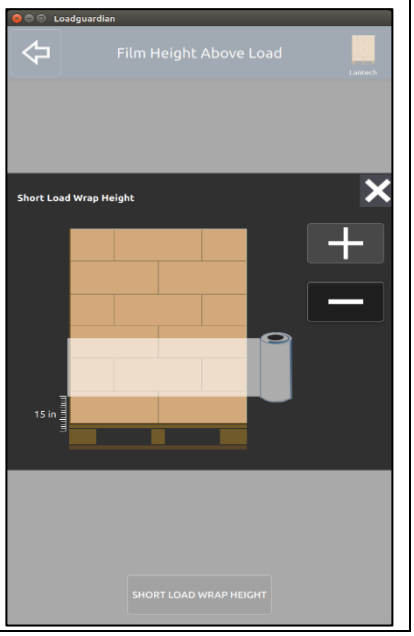
“Load Guardian Disabled”

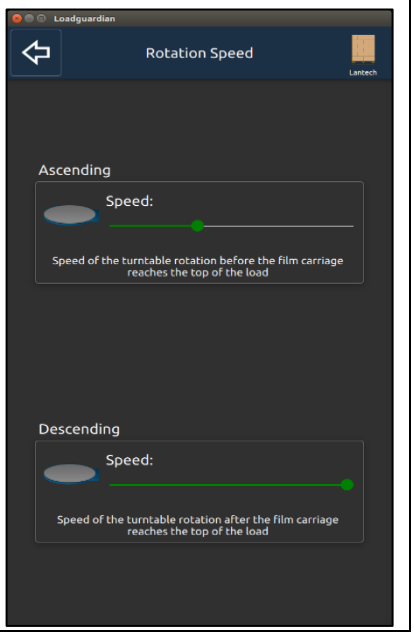
This gives manual control of the position of the film by adjustments to:

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

“Short Load Wrap Height”

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



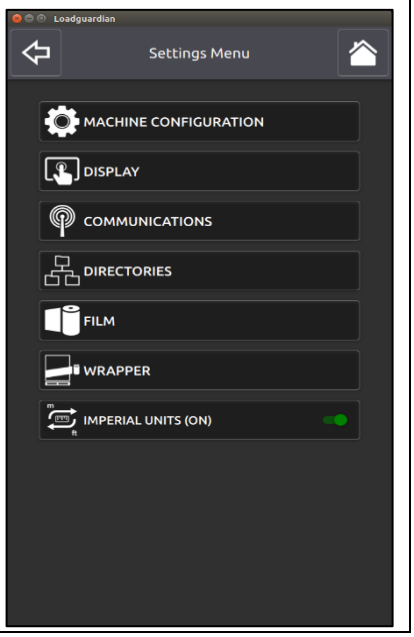
	**“Wrap Height”** Increase, decrease the quantity of film to wrap above the top of the load.	
	“Rotation Speed” Increase, decrease the turntable rotation speed during the FDS up and down travel.	

“Settings”

Use this menu to get access to the machine settings.

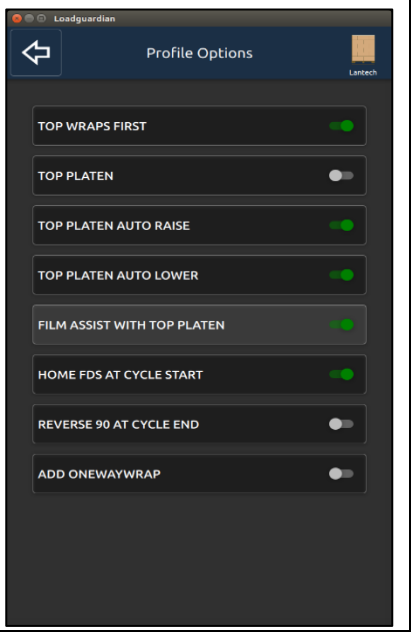
The “Settings” include:

- Machine Configuration
- Display
- Communications
- Directories
- Film Settings
- Wrapper Settings
- Imperial, Metric Measures



“Options”

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



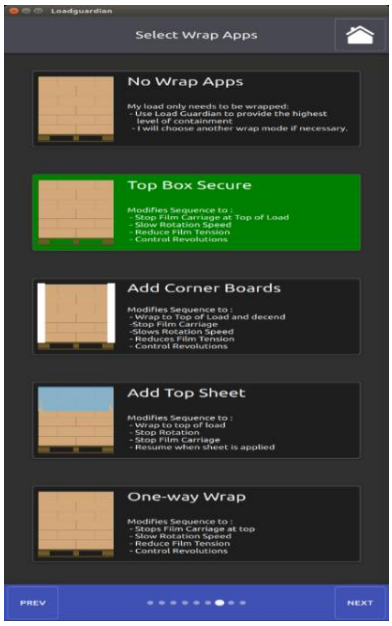
“Wrap Apps”

Use this menu to change, adjust the wrap sequence.

You can add multiple Wrap Apps for the wrap sequence.

The “Wrap Apps” include:

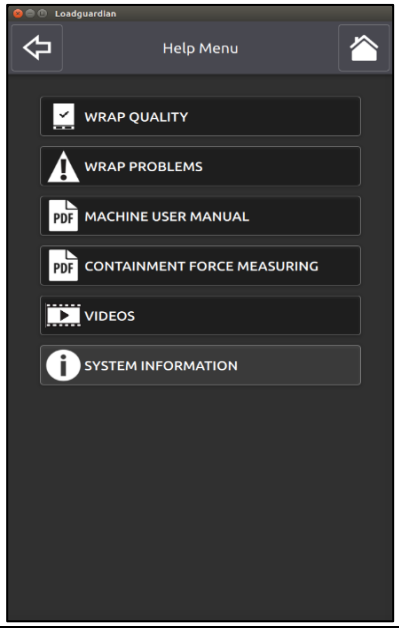
- “No Wrap Apps”
- “Top Box Secure”
- “Add Cornerboards”
- “Add Top Sheet”
- “One-way Wrap”



“Help”

This menu includes information and instructions for:

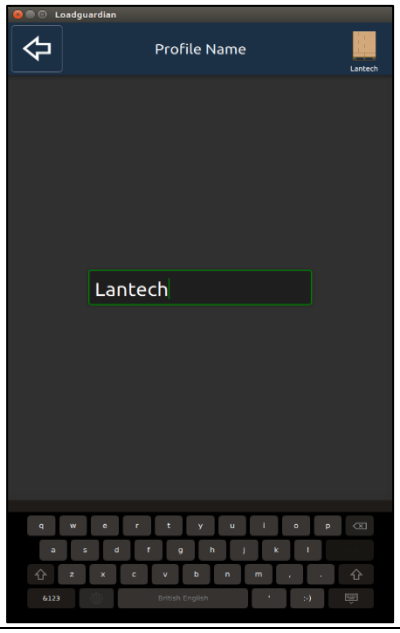
- Wrap Quality
- Wrap Problems
- Machine User Manual
- Measure the Containment Force
- Videos
- System Information



	**“Profile Name”**

Change the name of the profile

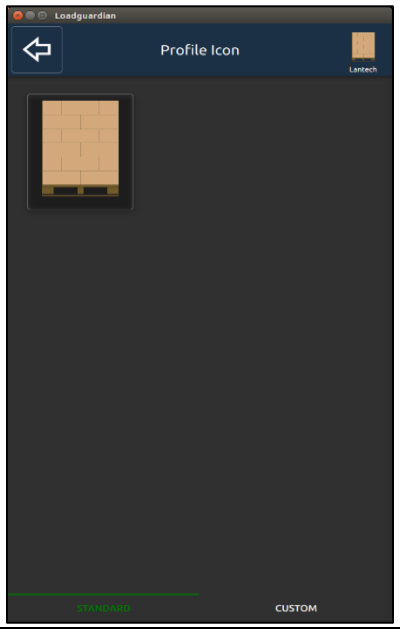
1. Enter the new name of the profile.
2. Select  to Save.



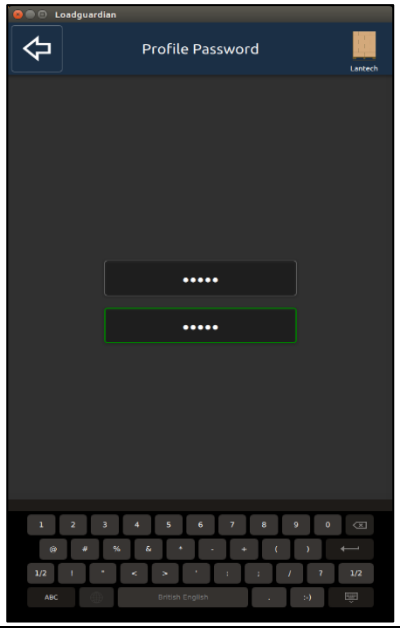
	**“Profile Icon”**

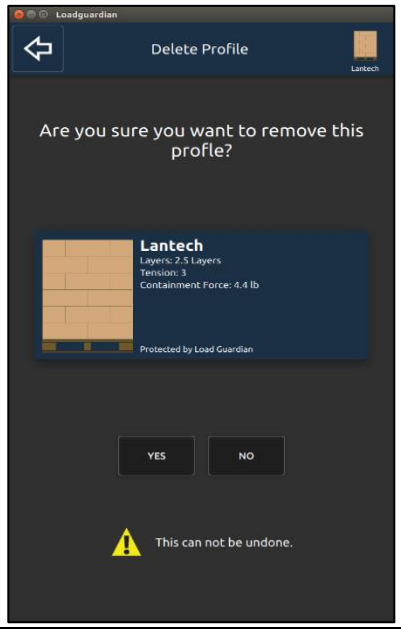
Change the icon for the profile.

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.	

6.7 Initialize the Machine

	CAUTION **Before you initialize the machine, read "How to Stop the Machine".**

6.7.1 Lockout/Tagout Procedures

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

6.7.2 How to Stop the Machine

Push the E-stop.
This red button safely stops the operation of the machine.
Note: Some machines have a remote Emergency Stop. It is important to know the location of all E-stops before you operate the machine.

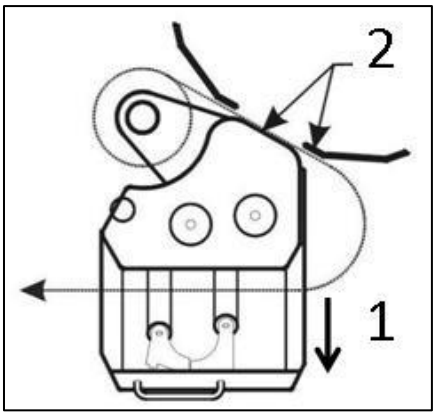
6.7.3 Apply the Power to the Machine

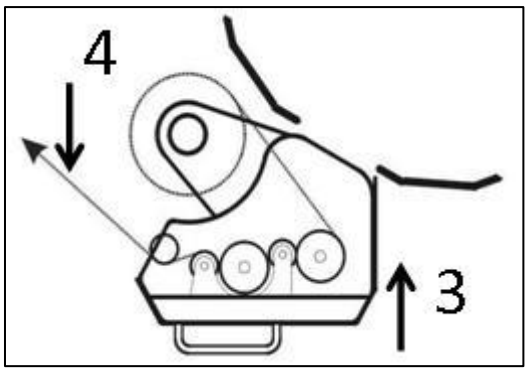
1. Move the “Main Disconnect” to the “On” position.
2. Reset the E-stop.
3. Push the “Reset” button. The “Reset” button illuminates and all functions are available to the operator.

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

6.8 Thread the Film

1. Push the E-stop.
2. Refer to the illustration below and make sure that the film roll is in the correct position.





1	Open the EZ Thread Gate
2	Thread the film between the Mast and the Top Guard and between the Rollers
3	Close the Gate
4	The Tackifier is on this Side

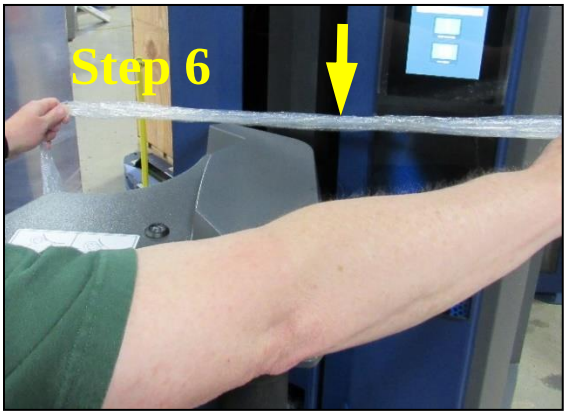
OPERATOR INSTRUCTIONS

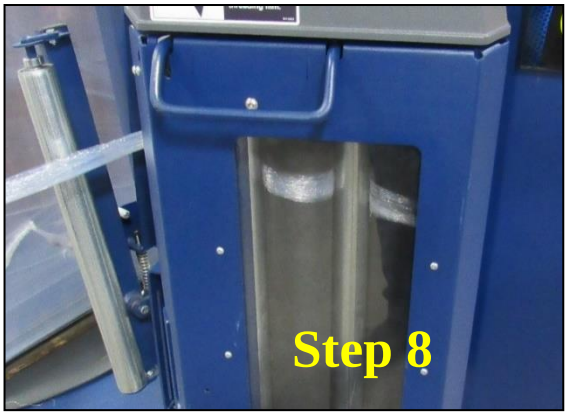
Thread the Film

The standard film roll is 254 mm (10”) in diameter and 508 mm (20”) in width.

1. Move the FDS up until Pallet Grip disengages.
2. Push the E-stop.
3. Look for damage on the film roll.
4. Put the film roll on the film post.
5. Release the latch on the EZ Thread gate.
6. Pull out 914 – 1219 mm (3’ - 4’) of film and twist it into a rope. (See illustration below)
7. Refer to the diagram and thread the film.
8. Close the gate. The film must be loose to make sure that it does not break.
9. Reset the E-stop.
10. Push the “Reset” button.
11. Push “Film Assist”.

    Note: This is only available after you select a profile
12. Pull the film and attach it to the load, pallet.





6.9 Operate the Machine

1.	Reset the E-stop.
2.	Push the “Reset” button.
3.	Select a profile.
4.	Push “Film Assist”.
5.	Pull the film and attach it to the load.
6.	Push “Start”.

6.9.1 Manual Override

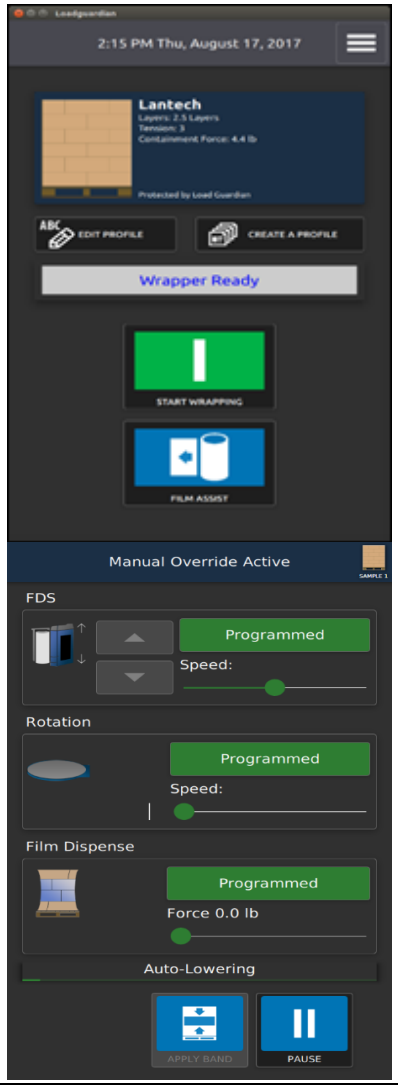
“Manual Override”

This screen shows the current wrap cycle.

Adjust the settings to override the wrap profile.

Note: These adjustments do not change the profile settings.

“Film Delivery System”	Use the arrows to move the FDS in the up, down directions. Use the Speed control to increase, decrease the FDS travel speed.
“Turntable”	Use the Speed control to increase, decrease the turntable rotation speed.
“Film Dispense”	Use the Force control to increase, decrease the Film Tension.
“Programmed”	Push this button to continue the current wrap cycle.
“Apply Band”	Push this button to apply a set number of bands to the load. Refer to the settings for the “Banding Counter” in the “Wrapper Settings” menu to set the number of bands.
“Pause”	Push this button to pause, start the wrap cycle.



6.10 Film Roll is Empty

1.	Push the E-stop
2.	Replace the film roll.
3.	Thread the film.
4.	Reset the E-stop.
5.	Push “Reset” button.
6.	Push “Film Assist”.
7.	Pull the film and attach it to the load.
8.	Push “Start”.

If the  button is pushed in the Film Break Recovery mode:

- Use the “Manual Jog” screen to move the FDS and the turntable to the home position.

6.11 Film Break Recovery

The FDS and the turntable stop. The fault screen for “Film Break” shows on the touch screen.

Select “Help Me Solve the Problem” on the “Fault” screen.

1. From the “Help” screen, select the fault setting that applies:
   - Add the Profile
   - Adjust the Film Tension
   - Adjust “Film Coverage”
   - Adjust the Wrap Height
2. Make the adjustments on the “Edit Profile” screen.
3. Push  2 times to go to the “Manual Override” screen.
4. Push “Film Assist”.
5. Pull the film and attach it to the load.
6. Push “Start”.

If the  button is pushed in the Film Break Recovery mode:

- Use the “Manual Jog” screen to move the FDS and the turntable to the home position.

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.**
	**CAUTION** **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.**
	**WARNING** **Do not use a sharp object to remove the film that is wound onto the pre-stretch roller. It can cause damage to the roller.**

	**CAUTION** **Do not let a heavy load stay on the turntable for a long period of time. This can cause damage to the turntable.**
	**CAUTION** **Obey the torque specifications to prevent damage to the fasteners. Too much torque can cause the fasteners to loosen.**

MAINTENANCE

7.1 Daily and Weekly Maintenance

Daily and Weekly Maintenance
• Tighten, replace loose fasteners.
• Look for oil leaks.
• Listen for unusual noise during operation.

7.1.2 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 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.	
• Remove the debris from in and around the Pallet Grip.	

7.2 Monthly Maintenance

• Examine the FDS belt for wear.
• Examine all belts for correct tension.
• Examine all belts for wear.
• Examine the pre-stretch chains and sprockets for wear.
• Lubricate the chains with SAE 30 oil.
• Refer to section 3, Options, for other lubrication requirements.

7.3 Settings and Adjustments

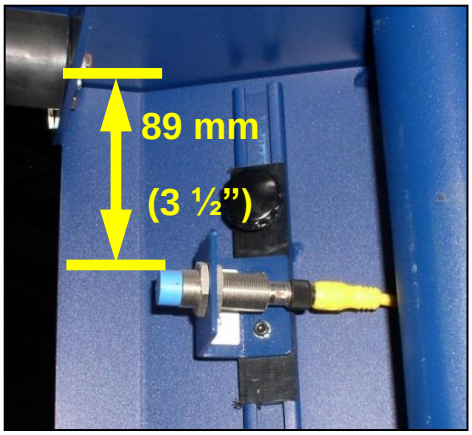
7.3.1 FDS Up, Down Travel

Adjust the Sensor for the FDS Up, Down Travel

There are 2 proximity sensors to control the Up, Down travel of the FDS.

The sensors are in the mast.

Open the door on the mast to get access to the sensors.

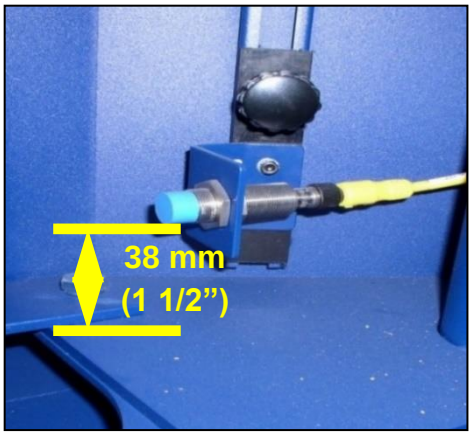


To adjust the sensors:

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

To adjust the up, down travel limit positions:

1. Loosen the adjustment knob on the sensor.
2. Move the sensor up, down to the correct height.
3. Tighten the knob.



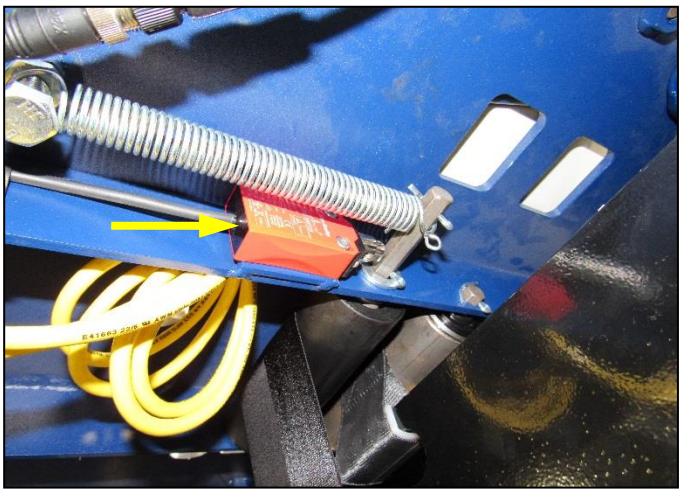
Adjust the sensor to limit the "Up" Travel

- The Factory Setting is 89 mm (3 ½")

Adjust the sensor to limit the "Down" Travel

- The Factory Setting is 38 mm (1 ½")
- Measure from the bottom of the sensor to the base of the mast.

7.3.2 “Belt Slack” Switch

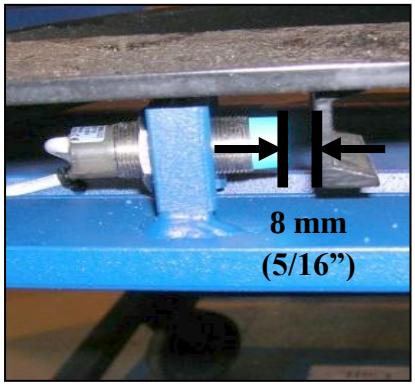
The “Belt Slack” switch senses a fault in the FDS down travel.	
The switch is on the bottom side of the top cap.	
Install the switch through the top door of the mast.	

7.3.3 Home Proximity Sensor for the Turntable

Home Proximity Sensor for the Turntable

The turntable uses a proximity sensor to see when it is in the home position.

The sensor is below the turntable top and sees an actuator tab on the drive ring.



Measure from the actuator for the "Turntable Home" to the end of the sensor.

- The Factory Setting is 8 mm (5/16")

1. Push the E-stop.

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

3. Obey the Lockout/Tagout procedures.

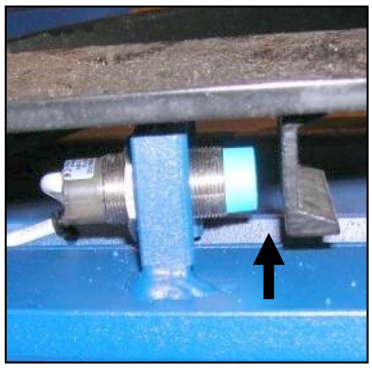
4. Remove the turntable tensioner guard and loosen the tension on the drive belt.

5. Remove the turntable top.
   a. Install (2) 3/8"-16 eyebolts into the holes on the turntable top.
   b. Remove the (4) M8 flat head screws from the middle of the turntable.
   c. Attach a strap, chain to the turntable top and to the forklift.
   d. Remove the turntable top.

6. Examine the sensor.
   a. Connect the power to the machine.
   b. Reset the E-stop.
   c. Push the "Reset" button.

CAUTION

Use caution when the turntable top is off. There are parts that move that can cause an injury.

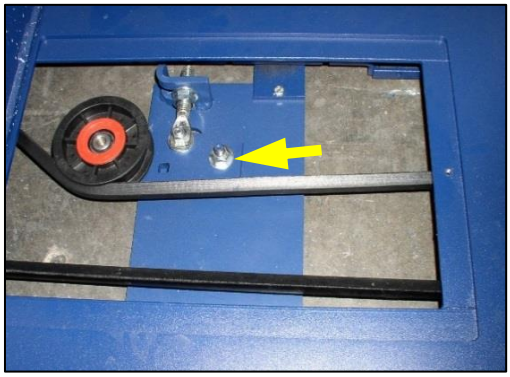
7. Adjust the sensor: a. Push the E-stop. b. Move the “Main Disconnect” switch to the “Off” position c. Loosen the jam nuts on the sensor. d. Adjust to a clearance of 8 mm (5/16”) between the sensor and the actuator. e. Tighten the jam nuts.	
8. Reset the E-stop.	
9. Push the “Reset” button.	
10. Turn the drive ring to the home position.	
11. Replace the turntable top.	
12. Apply an anti-seize compound to the M8 screws before you attach to the turntable top.	
13. Torque to 24 N-m (18 lb-ft).	

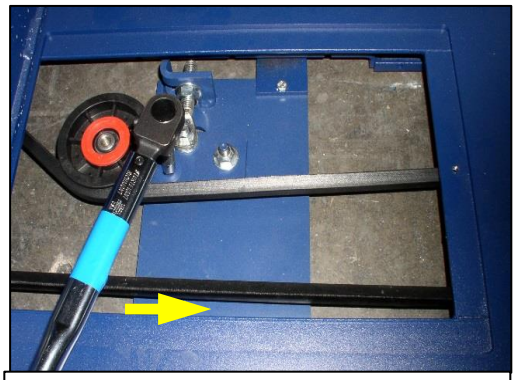
7.3.4 Turntable Drive Belt

Adjust the tension on the belt.

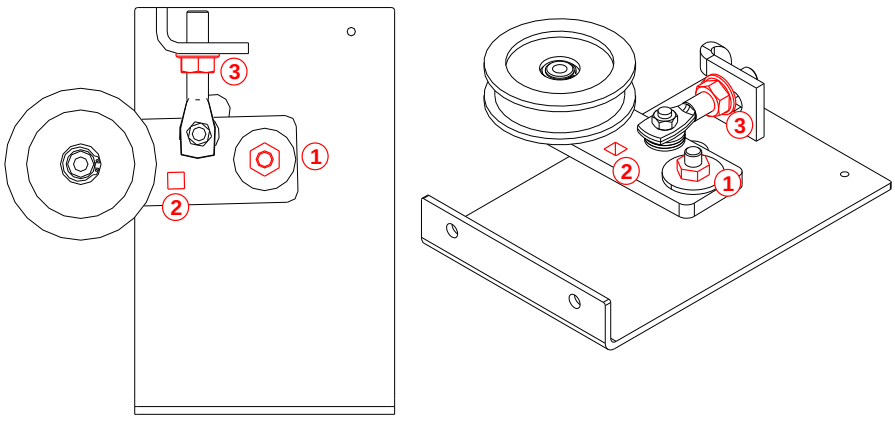
1. Remove the cover from the belt tensioner.
2. Make sure that the belt is installed correctly.
3. Loosen the 10 mm locknut until the plate moves freely.
4. Put a 3/8” torque wrench with a short extension into the 3/8” square opening on the pivot plate.
5. Torque counterclockwise to 34 N-m (25 lb-ft).

   Tighten the flange locknut by hand as you set the torque.
6. Use the torque wrench to tighten the 10 mm locknut on the plate to 52 N-m (39 lb-ft).
7. Replace the cover.





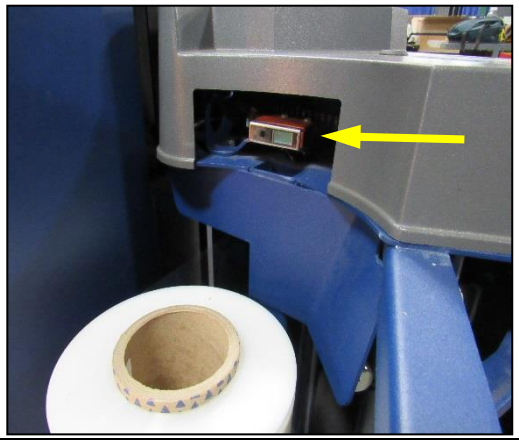
Torque



Belt Tensioner

1	Pivot Plate Locknut
2	3/8” Drive Slot
3	Flange Locknut

7.3.5 Load Height Sensor

The load height sensor sees objects in its view. The sensor is on the FDS. • The sensor sees the height of the load. • The range for the sensor is factory set.	

7.4 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
Make sure that only qualified personnel make these adjustments.

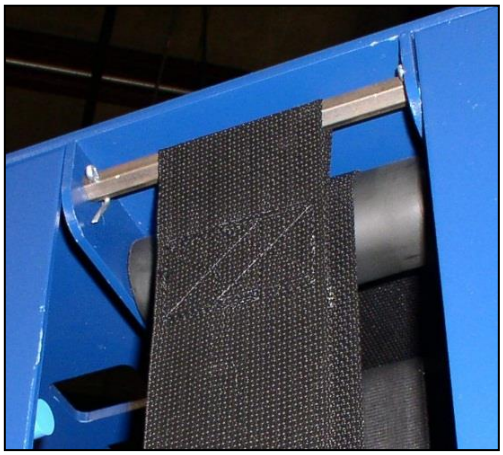
WARNING
Obey all safety procedures. You must apply the power to the machine for some electrical adjustments.

7.5 Standard Parts Replacement

7.5.1 FDS Lift Belt

Replace the FDS Lift Belt

1. Move the FDS to the correct height to install the shipping brackets.
2. Push the E-stop
3. Refer to the Installation Instructions and install the FDS shipping bracket and the counterweight brackets.
4. Reset the E-stop.
5. Push the “Reset” button.
6. Move the FDS down until the belt is slack.
7. Push the E-stop.
8. Move the “Main Disconnect” switch to the “Off” position.



9. Obey the Lockout/Tagout procedures.
10. Look at the routing of the belt and the rollers in the mast.
11. Remove the cotter pins from the shaft at the top cap of the mast.
12. Remove the belt from the shaft.
13. Remove the belt from around the rollers in the mast, down to the FDS lift drive.
14. Unwind the belt from the drum and count the number of revolutions.
15. Remove the pin from the pocket of the belt.
16. Pull the belt out of the slot in the drum.
17. Put the new belt through the slot in the drum.

    Make sure that the open end of the pocket points to the drum.

18. Put the pin in the pocket of the belt.

19. Wind the belt around the drum the same number of revolutions recorded in step 14.
    - This helps align the belt when you install it and attach it to the top cap.

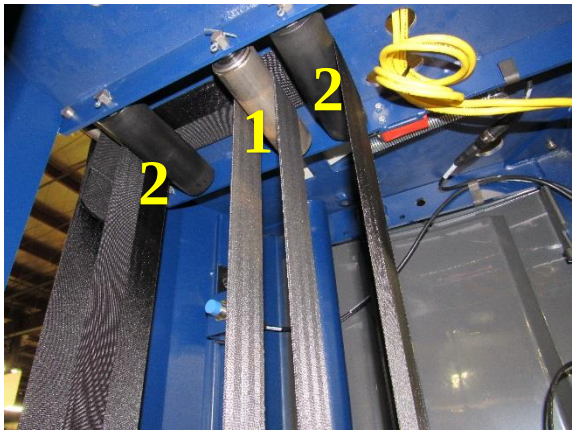
20. Install the belt:
    a. Over the rollers at the top of the mast, and
    b. Below the roller on the FDS.
    c. Attach the belt to the shaft on the top cap.
    d. Replace the cotter pins in the shaft.

21. Apply the power to the machine.
    - To tighten the belt, move the FDS up at minimum speed.

22. Remove the FDS shipping bracket and counterweight supports and stow in the mast.

#1 – Counterweight Roller and Belt

#2 – FDS Lift Belt and Rollers



23. Apply the power to the machine.

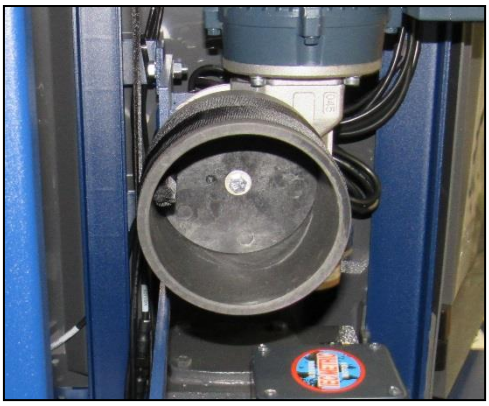
24. Push the FDS “Up” and “Down” buttons to make sure that the belt is aligned.

7.5.2 FDS Lift Drive

Replace the FDS Lift Drive

1. Move the FDS to the correct height to install the shipping brackets.
2. Push the E-stop.
3. Refer to the Installation Instructions and install the FDS shipping bracket and the counterweight brackets.
4. Apply the power to the machine.
5. Move the FDS down until the belt is slack.
6. Push the E-stop.
7. Move the “Main Disconnect” switch to the “Off” position.
8. Obey the Lockout/Tagout procedures.
9. Open and remove the access door
10. Remove the panels from the mast to get access to the drive.
11. Disconnect the motor wires in the electrical panel and remove the motor cable.
12. Use a 10 mm socket to remove the M6 bolt on the lift drum.
13. Remove the lift drum from the reducer shaft.

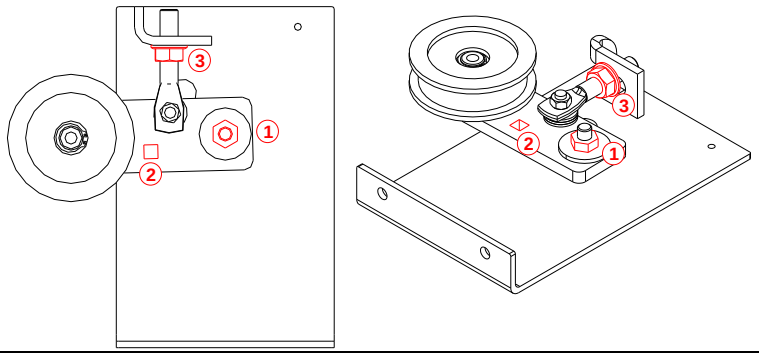
    Keep the shaft key.
14. Remove the drive.
15. Use the same steps in the opposite sequence to install the replacement drive.



7.5.3 Turntable Drive Belt

Replace the Turntable Drive Belt

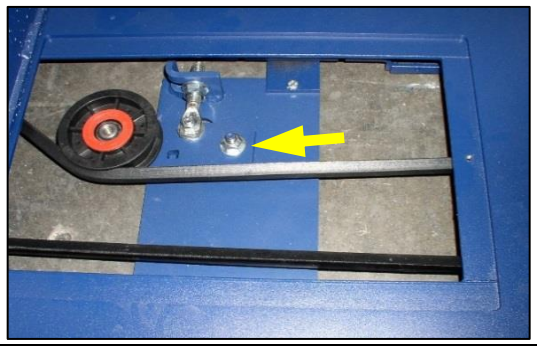
1. Push the E-stop.
2. Move the “Main Disconnect” switch to the “Off” position.
3. Obey the Lockout/Tagout procedures.
4. Install (2) 3/8-16 eyebolts into the holes on the turntable top.
5. Attach a strap, chain in the eyebolts and attach to the forklift.
6. Remove the (4) M8 flat head screws from the middle of the turntable.
7. Remove the turntable top.
8. Remove the tensioner cover.



1	Pivot Plate Locknut
2	3/8” Drive Slot
3	Flange Locknut

9. Loosen the 10 mm locknut on the pivot plate.
10. Loosen the flange locknut on the tensioner rod.
11. Remove the drive belt from the pulley and the drive ring on the turntable.
12. Install the new belt on the drive ring and then on the pulley.

    Note: Do not use force to install the belt on the pulleys.



13. Attach the turntable top to the drive ring on the turntable base.
14. Apply an anti-seize compound to the M8 screws before you install the turntable top
15. Torque to 25 N-m (18 lb-ft).
16. Refer to section 7.3.4 for tension setup for the turntable drive belt.
17. Replace the tensioner cover.

7.5.4 Turntable Drive

1. Push the E-stop
2. Move the “Main Disconnect” switch to the “Off” position.
3. Obey the Lockout/Tagout procedures.
4. Open and remove the access door.
5. Remove the panels on the mast to get access to the drive.
6. Disconnect the motor wires.
7. Remove the cover from the belt tensioner.

8. Retract the tensioner.
   a. Use a 3/8” drive ratchet and short extension, small flat blade screwdriver and a small Phillips screwdriver.
   b. Put the 3/8” drive extension into the square opening on the arm and turn counterclockwise.
   c. Put the flathead screwdriver into the slot on the tensioner cam and turn it clockwise.
   d. Turn the arm clockwise to release the tension on the belt.
   e. Put the Phillips screwdriver into the hole on the plate to hold the assembly in position.
9. Install (2) 3/8-16 eyebolts in the holes in the turntable top.
10. Remove the (4) M8 flat head screws near the middle of the turntable and lift the top.
11. Attach a strap, chain in the eyebolts and attach to the forklift.
12. Remove the bolts and remove the drive.
13. Remove the brackets from the drive and attach to the replacement unit.
14. Attach the drive and connect the wires.
15. Attach the drive belt to the drive ring and then on the pulley.
16. Remove the screwdriver to release the tensioner.
17. Attach the turntable top to the drive ring on the turntable base.
18. Apply an anti-seize compound to the M8 screws before you attach to the turntable top.
19. Torque to 24 N-m (18 lb-ft).
20. Refer to the procedures for tension setup.
21. Replace the tensioner cover.

7.6 Pallet Grip®

7.6.1 Tilting Roller

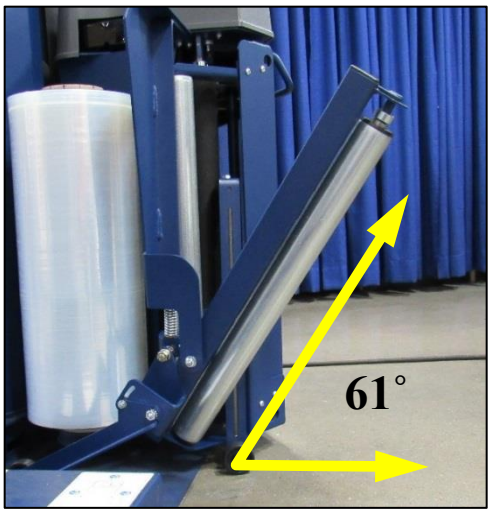
The Tilting Roller moves the cable of film down on the pallet.

- The Factory Setting is 61˚

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

2. Increase the movement of the roller to lower the position of the cable on the pallet.

   The standard adjustment for the roller is 61° from floor level.



3. Loosen the bolts to adjust.

7.6.2 Groove Roller

The Groove Roller rolls the film into a cable.

It sets the quantity of film that makes the cable.

It sets the height of the cable on the pallet.

- The Factory Setting is 219 mm (8 5/8”)

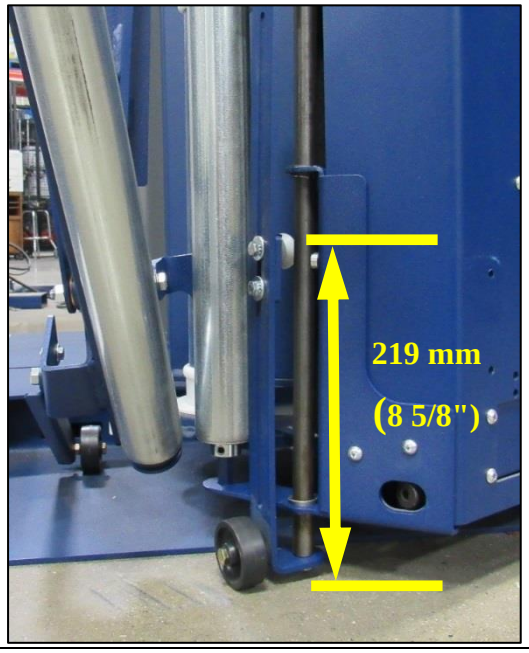
Adjust the groove roller to increase, decrease the quantity of film that makes the cable.

To adjust:

1. Fully engage the tilting roller and loosen the 2 bolts on the groove roller.
2. Adjust the roller.

The standard adjustment for a standard height 127 mm (5”) pallet:

- 219 mm (8 5/8”) from the floor to the top of the groove in the guide roller.



MAINTENANCE

APPENDIX - GLOSSARY

8.0 Appendix

Glossary

Warranty

8.1 Glossary

Banding	Banding refers to the layers of film that the FDS applies to a set section of the load.
Bottom Wrap	The layers of film that the Film Delivery System applies to the bottom of the load.
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.
Emergency 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 Assist	The function to release the film for a set period of time. This lets the operator pull the film and attach it to the load before it moves through the wrap cycle.
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 Tension	An adjustable setting that controls the tension, pressure applied to the load during the wrap cycle.
HMI (Human Machine Interface)	Gives information to an operator or user about the status of a process. It accepts and implements the operators control instructions.
Initialize	This sets the safety circuits and puts all components in the start position.
Jog	To move a machine component with manual functions, controls. Examples are to "Jog" the wrap arm, turntable.
Load Cell	A transducer that changes the force or pressure into a measurable electrical output. A transducer is a device that changes the power from one system into a different form for a different system.
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.

APPENDIX - GLOSSARY

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.
Mast	The upright section of some machines that holds the Film Delivery System and the control panel.
Overwrap	The quantity of film that extends above the load during the wrap cycle.
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.
Personal Protective Equipment	PPE refers to protective clothing, goggles, other garments or equipment. It gives protection to personnel from injury, infection.
Pre-stretch	A procedure that extends the length of the film before the Film Delivery System applies it to the load.
Profile	The required settings to align with the characteristics of a specified type of load. The settings can include the height, shape, Containment Force, etc.
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.
Tensioner	A component to adjust the tension. This usually applies to a belt or chain.
Top Wrap	The layers of film that the Film Delivery System applies to the top of the load.
Turntable Top	This is a circular plate that holds the load and turns during the wrap cycle.
Variable Frequency Drive	An adjustable speed drive that changes the motor input frequency and voltage to control the motor speed and torque.
Wrap Cycle	The sequence of steps to wrap a load.
Wrap Height	The maximum load height that a machine can wrap.

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

8.3 Wrap Problems

8.3.1 Containment Force Variation

Containment Force Variation	
Possible causes for differences between the Containment Force measurement and the Load Guardian reading:	
Problem	The Containment Force value is incorrect.
Solution	Review the instructions and take a second reading. Make sure that the scale is calibrated.
Problem	The setting for the film thickness is incorrect.
Solution	Make sure that the values for the film weight and the Containment Force are set correctly.
Problem	The “Film Coverage” mode is not set to “Protected by Load Guardian”.
Solution	This holds the correct Containment Force.

8.3.2 Product Crushes at the Edges of the Load

Product Crushes at the Edges of the Load	
Problem	The Edges of the Load are crushed
Solution	Use a lower gauge film and increase the layers (Film Coverage) of film. If you change the type of film, adjust the setting for the Film Thickness
Solution	Decrease the tension on the film and increase the layers of film
Solution	Decrease the Containment Force. • Adjust the “Film Coverage” • Select “Protected by Load Guardian” • Monitor for load damage.

8.3.3 Product Crushes at the Top of the Load

Product Crushes at the Top of the Load	
There can be damage to the top of the load even with the correct Containment Force.	
Problem	The product is crushed at the top of the load
Solution	Decrease the “Film Tension” on the top of the load
Solution	Decrease the “Film Coverage” at the top of the load. • Select “Protected by Load Guardian” • Select “Top” • Remove 1 layer on the top of the load
Solution	Lower the wrap height

8.3.4 Excessive Film Breaks

Excessive Film Breaks	
Common causes of film breaks are:	
Problem	Film Quality
Solution	Decrease the “Film Tension”
Problem	Sharp corners at the top of the load and inboard loads.
Solution	Make a load specific profile for an inboard condition. • Decrease the “Film Tension” at the top or the bottom of the load. • Increase the “Film Coverage” at the bottom of the load, or decrease the “Film Coverage” at the top of the load. • Lower the “Film Height Above Load”

8.3.5 Excessive Film Use

Excessive Film Use
The points below tell the operator how to decrease the amount of film used to wrap a load:
1. Increase the tension on the film which decreases the number of layers of film on the load. • Make sure that there are no film breaks.
2. Decrease the Containment Force. • Adjust the "Film Coverage" to decrease the number of layers of film on the load. • Monitor for load damage.

8.3.6 Reduce, Eliminate the Film Tails

Reduce, Eliminate Film Tails	
Problem	Your machine operates correctly but you continue to see film tails.
Solution	If your machine has Auto Film Cut-off: • Make sure that the load is in the correct position on the turntable. • Make sure that the "tacky" side of the film is against the load
Solution	If your machine has an XT Cut and Clamp: • Make sure that the "Early Clamp Release" is set to the "On" position.

8.3.7 Load Shifts in Shipment

Load Shifts in Shipment	
Problem	Your loads shift during shipment
Solution	Increase the Containment Force. • Adjust the “Film Coverage” • Select “Protected by Load Guardian” • Monitor for load damage.
Solution	Increase the “Film Tension”.
Solution	Increase the “Film Coverage” where the load requires a higher Containment Force. • Select “Protected by Load Guardian” • Select “Top” or “Bottom” • Add 1 layer on the top of the load

8.3.8 Load Twists

Load Twists	
Problem	Your load “twists” during the wrap cycle.
Solution	Decrease the Containment Force. • Adjust the “Film Coverage” • Select “Protected by Load Guardian” • Monitor for load damage.
Solution	Decrease the “Film Tension”
Solution	Make a profile for the specific load type.
Solution	Use a lower gauge film

8.3.9 The Load Slides off the Pallet

The Load Slides off the Pallet	
Problem	The Load “Slides” off the pallet during shipment
Solution	Make sure that Pallet Grip applies a cable of film below the top boards of the pallet.
Solution	If it applies the cable of film and the loads slide off the pallet: • Increase the “Film Coverage” at the bottom of the load. • Increase the “Film Tension” at the bottom of the load. • Monitor for film breaks.

8.3.10 Increase the Throughput

Increase the Throughput
1. Increase the Rotation speed.
2. Increase the “Film Tension”, which decreases the number of layers of film on the load.
3. Decrease the Containment Force. • Adjust the “Film Coverage” • Select “Protected by Load Guardian”
4. Decrease the “Film Coverage” at the top and the bottom of the load • Monitor for film breaks.

8.4 Wrap Quality

8.4.1 What is Load Guardian®?

What is Load Guardian?
Load Guardian is a control system that helps the operator set the wrap profiles quickly and easily. • It monitors and adjusts to changes to the tension on the film, and • It holds the Containment Force set for the applicable wrap profile.
For the profile to automatically hold the Containment Force: • Set the "Film Coverage" mode to "Protected by Load Guardian".

8.4.2 How to Select the Film for Your Load

How to Select the Film for your Load
Find the right film • Select the gauge of film that aligns with the required Containment Force • Look for a film with the highest possible film tension without breaks.

8.4.3 How to Select the Correct Film

How to Select the Correct Film
1. Find the correct Containment Force for your load.
2. Make sure that the film can hold the Containment Force and wrap the correct number of layers.
Thin Film is 40 – 60 gauge film (10 – 15 microns) • Use thin film for light Containment Force – less than 2.5 kg (5 lbs). Thin film can cause more film breaks. It can require a higher number of revolutions (cycle time) for the correct Containment Force.
Medium Film is 60 - 80 gauge film (15-20 microns) • Use medium film for moderate Containment Force – 2.5 – 5 kg (5 – 10 lbs).
Thick Film is 80 - 120 gauge film (20 - 30 microns) • Use thick film for higher Containment Force – 5 kg (10 lbs) • Thick film can be resistant to film breaks and have a lower cost.

8.4.4 Find the Correct Pre-stretch

Find the Correct Pre-stretch
The standard pre-stretch is 250%. This lets the operator use the highest film tension at the lowest cost.
Pre-stretch kits, to a maximum of 300%, are available. • Use a higher pre-stretch for light loads that can use lower film tension. • Use a lower pre-stretch for irregular or inboard loads that have frequent film breaks.
Note: An increase in the pre-stretch percentage lowers the film tension and can cause film breaks.

8.4.5 What is Containment Force?

What is Containment Force		
Containment Force is the number of layers of film x the film tension.		
Containment Force holds the load together and is the best indicator for load shipment success.		
Examples of Containment Force for a range of products:		
		Containment Force Range
"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 tray, etc.	5 - 9 kg (12 - 20 lb)

8.4.6 Set, Adjust the Tension on the Film

Set, Adjust the Tension on the Film
Film Tension is an adjustable setting that controls the pressure applied to the load during the wrap cycle.
To find the optimum setting for your product:
1. Set the film tension at the highest level that does not cause film breaks. Make sure that it does not cause the load to twist
2. Set the tension at 10 for loads that fit the pallet.
3. Set the tension at 5 for all other loads.
4. With some films you can set the tension at a higher setting and not cause film breaks.
5. Low quality film and lower gauge film can require a lower setting

9.0 Parts Lists 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
1. Find the drawing that contains the part.
2. Find the part on the drawing and the item number for the part.
3. 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.