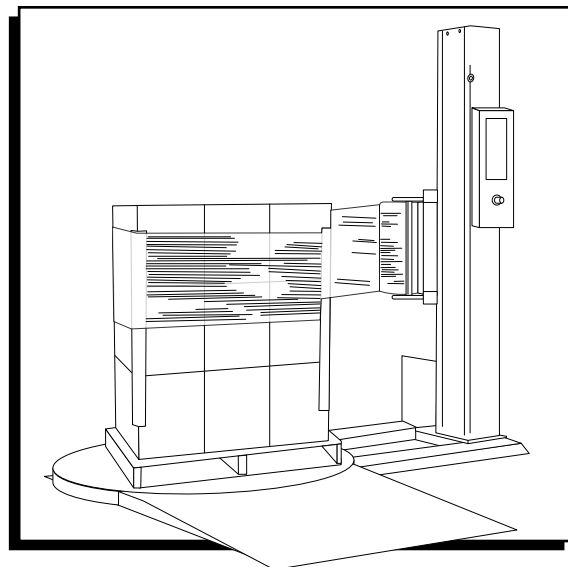


ULINE H-2957

AUTOMATIC STRETCH WRAP DISPENSER

1-800-295-5510
uline.com



SYSTEM SPECIFICATIONS

MACHINE DIMENSIONS

Length	116"
Width	65"
Height	92"
Turntable Diameter	65"
Turntable Height from Floor	3 1/4"
Wrapping Height	80"
Operation Space	125 x 70 x 100"
Maximum Load Size	56 x 56 x 80"
Approximate Shipping Weight	1220 lbs

ELECTRICAL SPECIFICATIONS

- 120 VAC, 60 Hz, Single-phase, 15 AMP
- NEMA-12 rated electrical panel
- Operating temperature: +32°F to +110°F
- Lockable disconnect switch
- NEC wiring standard
- Programmable Logic Controller (PLC) with input/output diagnostic lights

TURNTABLE SYSTEM

- Low Profile: 1/2 HP 3-phase AC motor, 1/2 HP AC frequency drive
- 20-30 loads per hour (spiral)
- 12 RPM turntable maximum speed
- 4,000 lbs turntable maximum load capacity

FILM CARRIAGE / ELEVATOR SYSTEM

- 1/2 HP 3-phase AC motor, 1/2 HP AC frequency drive

- Adjustable raise and lower speeds
- Automatic height detection photoelectric sensor

FILM DELIVERY SYSTEM

- 1/4 HP 3-phase AC motor, 1/2 HP AC frequency drive
- Adjustable film force
- 200% / 250% average pre-stretch level
- 10" diameter roll capacity
- 20" height roll capacity



CAUTION! Motor control equipment and electronic controllers are connected to hazardous line voltages. When servicing drive and controllers, there may be exposed components with housings or protrusions at or above line potential. Extreme care should be taken to protect against shock.

The user is responsible for conforming to all applicable code requirements with respect to grounding all requirements. Do NOT use extension cords to operate the equipment.

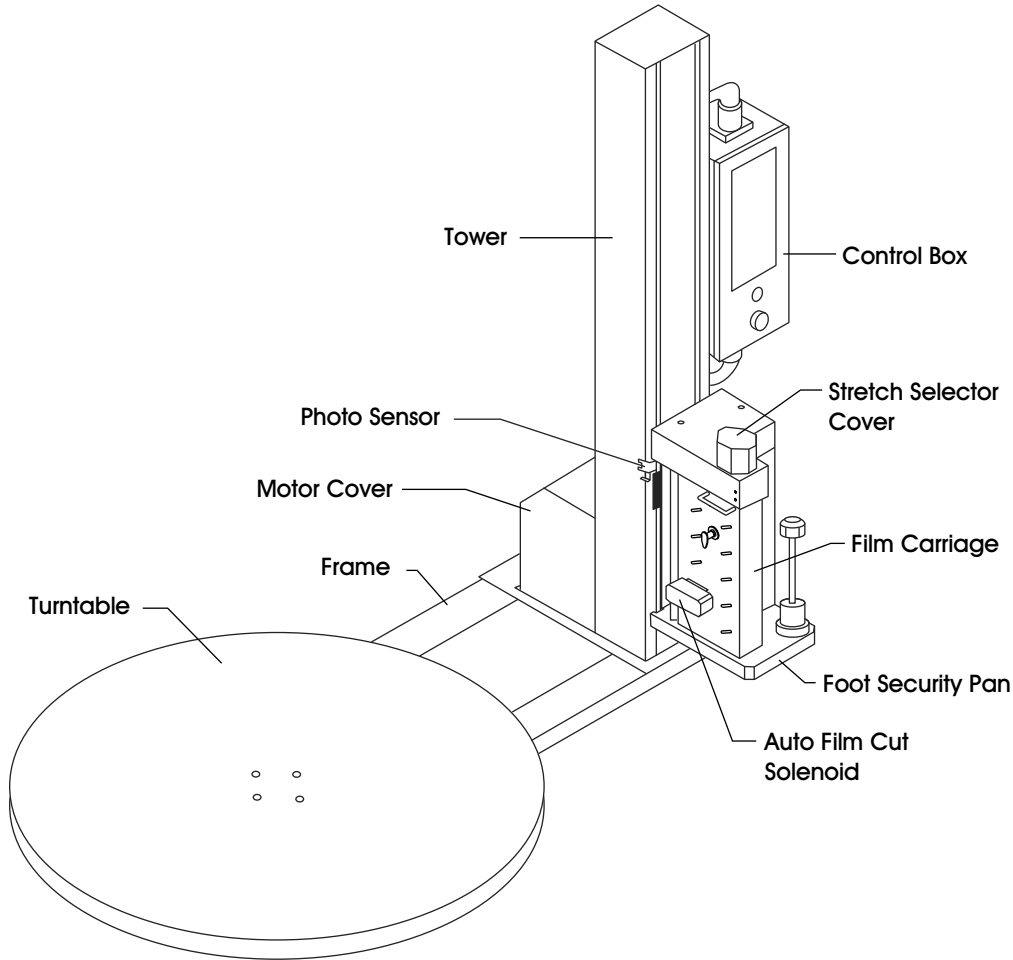
Disconnect AC input power before checking components, performing maintenance, cleaning up, and when the machine is not in use. Do NOT connect or disconnect wires and connectors while power is applied to circuit.

Wiring work should be carried out only by qualified personnel. There is a danger of electric shock or fire.

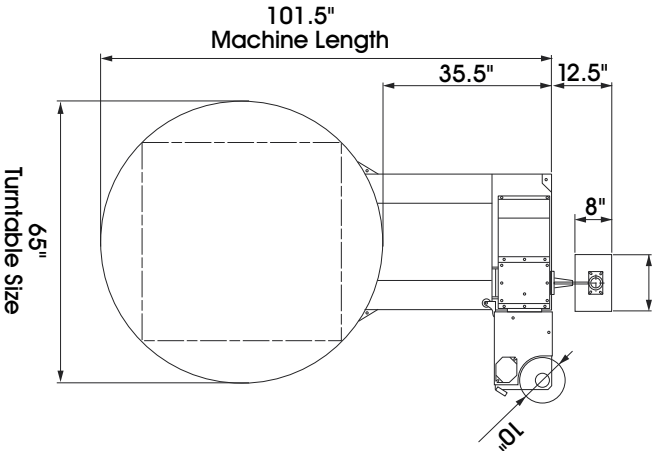
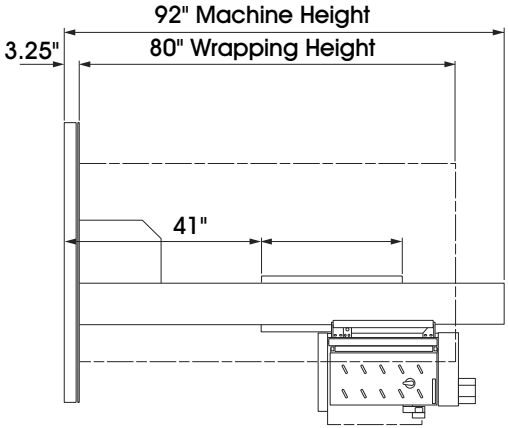


WARNING! Loose clothing must NOT be worn while the machine is in operation. Stay clear of moving parts while the machine is running.

SYSTEM DESCRIPTION



NOTE: Shown below are **STANDARD** assembly drawings. It may not reflect your purchased system, especially when optional items are added. Refer to assembly drawings shipped inside the electrical enclosure for more detail information.



SYSTEM SET-UP

MACHINE PLACEMENT

Place the Automatic Stretch Wrap Machine close to an area where you will be wrapping your pallet loads. Make sure that there is sufficient room to load/unload the machine and that you do not stretch the wiring cable. Remember, you will need to provide electrical service to a 120 VAC, 15-AMP outlet.

FLOOR WEIGHT BEARING TOLERANCE

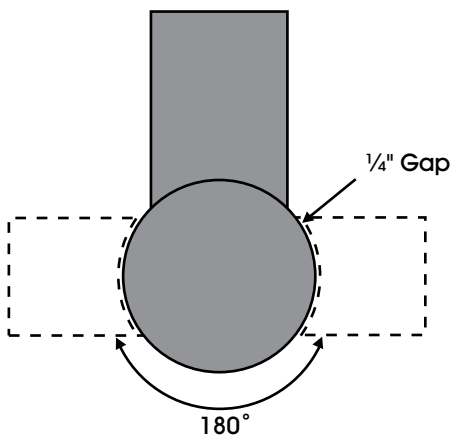
The floor must be able to bear the weight of the machine, the weight of the maximum load, plus a safety factor. The floor must also be able to tolerate the stress of the machine's operation. If the fork trucks will operate on the same weight bearing area, add the weight of the trucks to the weight bearing stress tolerance requirements.



WARNING! The Stretch Wrap Machine must be anchored securely to the floor, using the type of anchor recommended for your floor.

MACHINE SET-UP

1. Place skidded machine close to the designated wrap area. Remove all shipping fasteners holding the machine to the pallet. The machine may be crated with the tower tilted down with the motor cover front carriage roller removed for shipping purpose.
2. Place forks of the forklift through the tubes provided at the rear base of the module, remove the machine from these skids, and place it at the designated wrap area.
3. If the optional ramp (H-2958) is purchased: Select a ramp position as illustrated below. The ramp can be positioned anywhere in a 180° rotation around the front of the turntable. There should be a 1/4" gap between the turntable and the ramp. The ramp should be fully supported by the floor. Both the ramp and the machine should be lagged to the floor.



POWER AND SAFETY WIRING CHECKS

1. Using a voltage meter, check the AC voltage coming to the system to insure proper voltage is present.
2. Make sure the "E-STOP" button is pressed in. Turn the disconnect switch to ON position.
3. Pull the "E-STOP" button on the operator panel out. Power should be applied to the frequency drives, operating touch-panel, photoelectric sensors, switches, and LED's.
4. Press the "E-STOP" button. Make sure all machine power is completely removed when the "E-STOP" is depressed. Pull the "E-STOP" button out to resume.
5. Open the film carriage door. Make sure all machine power is completely removed when the carriage door is open. Close the film carriage door to resume.
6. Open the electrical control box. Make sure all machine power is completely removed when the electrical control box is open. Close the electrical control box to resume.
7. Trip the carriage foot security bar. Make sure all machine power is completely removed when the carriage foot security bar is tripped. Clear the bar to resume.

PLC'S INPUT MODULE CHECKS

1. Open the electrical control box, and insert the key latch onto the safety door switch.
2. Depress push buttons and activate selector switches on the operator panel, check for each corresponding input lights on the front face of PLC.
3. Block the "Product Height Detection" photoelectric sensor (located on the film carriage), check for corresponding input light on the front face of PLC.
4. Trigger magnetic proximity and limit switch sensors, check each corresponding input lights on the front face of the PLC.



WARNING! Do NOT remove or modify the fixed upper and lower limit switch stops.

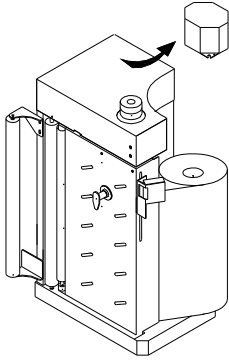
5. Remove the key latch, and close the electrical control box to resume.

PRE-STRETCH ADJUSTMENT

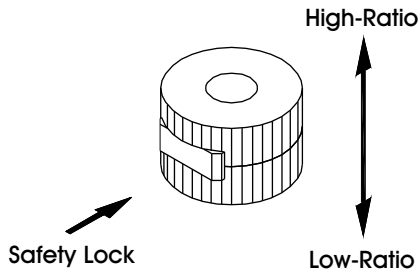
PRE-STRETCH PERCENTAGE CHANGE

To change the pre-stretch percentage, follow the procedure below:

1. Turn the main disconnect switch off.
2. Remove the knob cover on the film carriage.

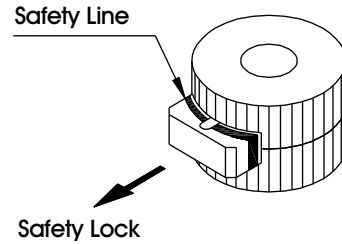


3. Push the safety lock and slide the knob to change the pre-stretch percentage. Lift the knob for the high percentage, or lower the knob for low percentage. Standard percentages are 200% (low) and 250% (high).

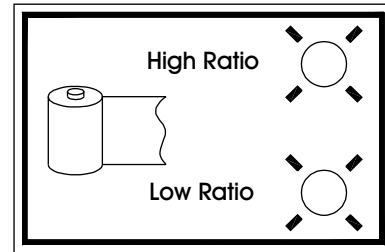


4. To ensure safety and correct operation of the stretch gears, check the following items:

a) The safety line is back to its home position following the profile of the knob.



b) The light indicates the selected pre-stretch percentage.



FREQUENCY DRIVE

An electronic frequency motor drive is a device that controls the 3-phase AC induction motor's speed by varying the frequency of the power sent to the motor. The Predator Turntable Stretch Wrapper uses Schneider Electrical Altivar 12 Adjustable Frequency Drives.

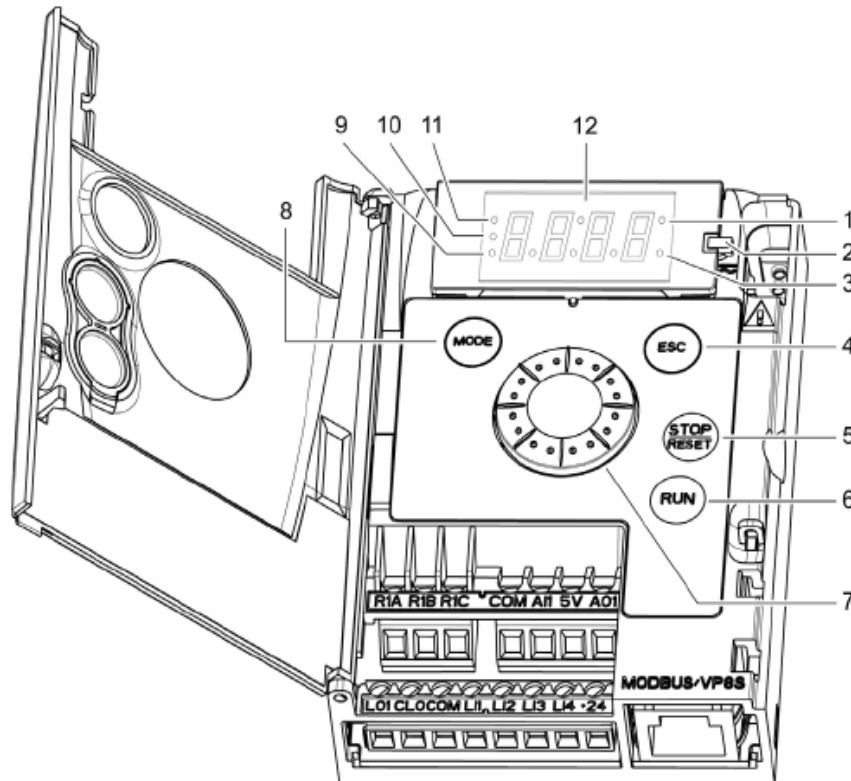
ALTIVAR 12 DIGITAL KEYPAD DESCRIPTION

The digital keypad includes the displays panel and the keypad. The display panel provides the parameter display and shows the operation status of the AC drive. The keypad provides programming and control interface.

DESCRIPTION:

1. Value LED (a) (b)
2. Charge LED
3. Unit LED (c)
4. ESC button: Exits a menu or parameter, or aborts the displayed value to return to the previous value in the memory.
5. STOP button: Stops the motor (could be hidden by door if function disabled). Important: See instructions for "RUN/STOP" cover removal.
6. RUN button: Starts running if the function is configured (could be hidden by door if function disabled).

7. Jog dial
 - For navigation when turned clockwise or counterclockwise
 - and selection / validation when pushed
8. MODE button
 - Switches between the control/programming modes. The MODE button is only accessible with the HMI door open.
9. CONFIGURATION mode LED (b)
10. MONITORING mode LED
11. REFERENCE mode LED
12. Four "7-segment" displays
 - (a) If illuminated, indicates that a value is displayed, for example, 0.5 is displayed for "0.5".
 - (b) When changing a value the configuration mode LED and the value LED are on steady.
 - (c) If illuminated, indicates that a unit is displayed, for example, AMP is displayed for "Amps".

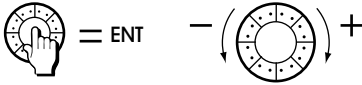


FREQUENCY DRIVE CONTINUED

MENU STRUCTURE

To access the monitoring parameters, press the wheel on the face of the frequency drive. Using the wheel, scroll through the list until the display shows Non (Mon) for monitoring mode. This gives the user access to all the monitoring parameters.

To access the complete set of drive parameters first press the wheel to access different modes. Using the wheel, scroll to "CO_nF" and press the wheel again; this will access different sets of parameters. Using the wheel, scroll to "FULL" and press the wheel; this will give the user access to the complete parameter set.



MONITORING PARAMETERS

CODE	NAME/DESCRIPTION	UNIT
LFr	External Reference Value: External keypad or local force mode configured. Forced local reference FLOC set to LCC and forced local assignment FLO different to nO. Displays the speed reference coming from the remote keypad. This value is not visible in factory setting.	Hz
rFr	Output Frequency: This function provides the estimated motor speed. It corresponds to the estimated motor frequency (on the motor shaft). In standard law the output frequency rFr is equal to stator frequency. In performance law the output frequency rFr motor speed is equal to the estimated motor speed. Range: -400 to 400 Hz	Hz
LCr	Motor Current: Estimation of the effective motor current from phase current measurements with an accuracy of 5%. During DC injection, the current displayed is the maximum value of current injected in the motor.	A
ULn	Main Voltage: Line voltage from the point of view of the DC bus, motor running or stopped.	A

CODE	NAME/DESCRIPTION
<i>StAt</i>	<input type="checkbox"/> Product Status This parameter shows the state of the drive and motor.
<i>rdY</i>	<input type="checkbox"/> Drive ready.
<i>rUn</i>	<input type="checkbox"/> Drive running, the last six segments to the right of the code also indicate direction and speed.
<i>ACC</i>	<input type="checkbox"/> Acceleration, the last six segments to the right of the code also indicate direction and speed.
<i>dEc</i>	<input type="checkbox"/> Deceleration, the last six segments to the right of the code also indicate direction and speed.
<i>dCb</i>	<input type="checkbox"/> DC injection braking in progress.
<i>CLl</i>	<input type="checkbox"/> Current limit, the four segments located on right down of display are blinking.
<i>nSt</i>	<input type="checkbox"/> Freewheel stop control.
<i>ObR</i>	<input type="checkbox"/> Auto-adapted deceleration.
<i>CLL</i>	<input type="checkbox"/> Controlled stop on mains phase loss.
<i>tUn</i>	<input type="checkbox"/> Auto-tuning in progress.
<i>FSt</i>	<input type="checkbox"/> Fast stop.
<i>nLP</i>	<input type="checkbox"/> No line power. When the control part is energized via the RJ45 connector and there is no power on the main input and no run order is present.

FREQUENCY DRIVE CONTINUED

PROGRAMMABLE FUNCTIONS

All functions have been Highlight factory set and tested. The factory settings listed in this manual are the drive manufacturer's factory setting, not the Highlight Industries factory settings. Refer to the Electrical Schematic Drive Parameters page for the Highlight

factory settings. Some of the most commonly adjusted programmable functions (parameters) are listed below:



NOTE: Refer to the manufacturer's operation manual or website for complete lists and explanations.

I_O MENU

CODE	SUB-CODE	NAME/DESCRIPTION	FACTORY SETTING
tCC		Type of Control: 2C – 2-wire control 3C – 3-wire control	2C
AI1-	AI1t	Analog Input 1 Type: 5U – 0-5VDC input voltage 10U – 0-10VDC input voltage 0A – 0-20mA current input	5U
rI		Relay Output 1 Assignment: nO – Not assigned Flt – No error detected rUn – Drive run	Flt
AO1-	AO1	Analog Output 1 Assignment: nO – Not Assigned OCr – Motor current OFr – Output Frequency	nO
	AO1t	Analog Output 1 Type: 10U – 0-10VDC 0A – 0-20mA 4A – 4-20mA	0A

drC MENU

CODE	SUB-CODE	NAME/DESCRIPTION	ADJUSTMENT RANGE	FACTORY SETTING
bFr		Standard Motor Frequency	50/60	50Hz
nPr		Rated Motor Power (% of drive rated HP)	0.5-1.2	1
UnS		Rated Motor Voltage	100-480V	230V
nCr		Rated Motor Current	plate	Varies
FrS		Rated Motor Frequency	10-400Hz	50 Hz
nSP		Rated Motor Speed	0-24000rpm	Varies
tFr		Maximum Frequency	10-400Hz	72 Hz
Ctt		Motor Control Type: PErF – Performance, Sensorless Vector Std – Standard, Volts/Hertz PUNP – Pump, low torque		Std
UFr		IR Compensation: Optimizes torque at very low speeds	25-200%	100%
SLP		Slip Compensation	0-150%	100%
StA		Frequency Loop Stability: Adjusts overshoots and oscillations at the end of acceleration or deceleration. A higher number decreases oscillations	0-100%	20%
FLG		Frequency Loop Gain: Adjusts the slope of the speed increase. A lower number decreases oscillations.	0-100%	20%
tUn		Motor Auto Tuning: Automatically tunes the drive to the motor profile	nO/YES/dOnE	nO

FREQUENCY DRIVE CONTINUED

CtL MENU

CODE	SUB-CODE	NAME/DESCRIPTION	FACTORY SETTING
Fr1		Speed Reference Channel 1: AI1 – Terminal analog input LCC – Remote Display Ndb – Modbus AIU1 – Jog dial (wheel) on drive	AI1
CHCF		Channel Configuration: SIN – Not separate mode. Speed and run commands from the same source. SEP – Separate mode. Speed and run commands from different sources.	SIM
Cd1		Command Channel 1 (run fwd/rev, stop): Only appears if CHCF is set to SEP. tEr – terminals LOC – Local LCC – Remote display Ndb – Modbus	tEr

FUn MENU

CODE	SUB-CODE	NAME/DESCRIPTION	ADJUSTMENT RANGE	FACTORY SETTING
rPt-	ACC	Acceleration Time (seconds)	0.0-999.9 s	3.0 s
	dEC	Deceleration Time (seconds)	0.0-999.9 s	3.0 s
	brA	Decel Ramp Adaptation Assignment: nO – Function inactive. (Used with dynamic braking) YES – Automatically increases the deceleration time to prevent a DC bus overvoltage dYnA – Most rapid deceleration possible without a dynamic braking resistor.		YES
Stt-	Stt	Type of Stop: rNP – Ramp Stop FSt – Fast Stop nSt – Freewheel		rNP
rrS		Reverse Direction Assignment: nO – Function inactive L1H – Input L1 active high L2H – Input L2 active high L3H – Input L3 active high L4H – Input L4 active high		nO
AdC-	AdC	Automatic DC Injection: nO – function inactive YES – Time limited DC injection Ct – Continuous DC injection		YES
	SdC1	Automatic DC Injection Current	0-120% if nCr	70%
	tdC1	Automatic DC Injection Time (seconds)	0.1-30 s	0.5 s
PSS-	PS2	Second Preset Speed Assignment: nO – Function inactive L1H – Input L1 active high L2H – Input L2 active high L3H – Input L3 active high L4H – Input L4 active high		nO
	SP2	Second Preset Speed Reference	0-400 Hz	10 Hz
CLI-	CL1	Current Limitation	0.25-1.5 plate	varies
SPL-	LSP	Low Speed Setting (Hz)	0-HSP	0 Hz
	HSP	High Speed Setting (Hz)	LSP-tFr	60 Hz

FREQUENCY DRIVE CONTINUED

FLt MENU

CODE	SUB-CODE	NAME/DESCRIPTION	FACTORY SETTING
rSF		Fault Reset Assignment: nO – Function inactive L1H – Input L1 active high L2H – Input L2 active high L3H – Input L3 active high L4H – Input L4 active high	nO
Atr-	Atr	Automatic Restart: nO – Function inactive YES – Automatic drive restart after fault condition	nO
	tAr	Max automatic restart time	5 min
FLr		Flying Restart (Catch on the fly): Restarts the motor at the estimated speed the motor is already going. nO – Function inactive YES – Function active	nO
tHt-	lH	Motor Thermal Current	varies

FAULT DETECTION

The AC drive has a comprehensive fault diagnostic system that includes several different alarms and fault messages. Once a fault is detected, the corresponding protective functions will be activated. The following faults are displayed as shown on the AC drive digital keypad display.



NOTE: Not all faults can be cleared by resetting at the keypad.

CODE	NAME	POSSIBLE CAUSES	REMEDY
<i>OCF</i>	Overcurrent	<ul style="list-style-type: none"> Parameters in the Motor Control Menu <i>drC</i> - are not correct Inertia or load too high Mechanical locking 	<ul style="list-style-type: none"> Check the parameters Check the size of the motor/drive/load Check the state of the mechanism Connect line motor chokes Reduce the Switching Frequency <i>SFr</i> Check the ground connection of drive, motor cable and motor insulation
<i>SCF 1</i>	Motor short circuit	<ul style="list-style-type: none"> Short circuit or grounding at the drive output Ground fault during running status 	<ul style="list-style-type: none"> Check the cables connecting the drive to the motor, and the motor insulation Connect motor chokes
<i>SCF 3</i>	Ground short circuit	<ul style="list-style-type: none"> Commutation of motors during running status Significant current leakage to ground if several motors are connected in parallel 	
<i>SCF 4</i>	IGBT short circuit	<ul style="list-style-type: none"> Internal power component short circuit detected at power on 	<ul style="list-style-type: none"> Contact your local Schneider Electric representative
<i>SOF</i>	Overspeed	<ul style="list-style-type: none"> Instability Overspeed associated with the inertia of the application 	<ul style="list-style-type: none"> Check the motor Overspeed is 10% more than Maximum Frequency <i>EFr</i> so adjust this parameter if necessary Add a braking resistor Check the size of the motor/drive/load Check parameters of the speed loop (gain and stability)

FREQUENCY DRIVE CONTINUED

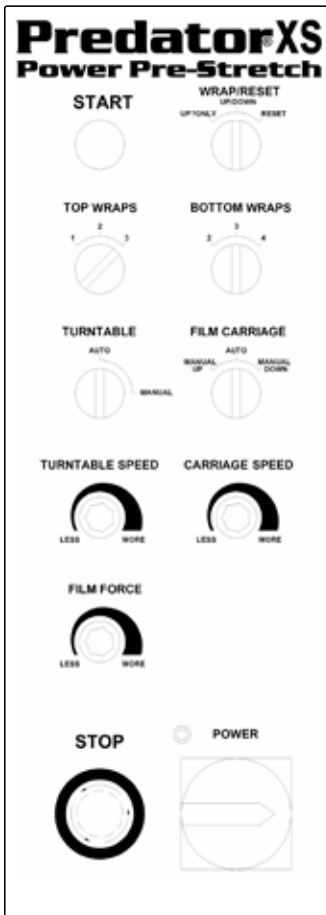
CODE	NAME	POSSIBLE CAUSES	REMEDY
<i>EnF</i>	Auto-tuning	<ul style="list-style-type: none"> • Motor not connected to the drive • One motor phase loss • Special motor • Motor is rotating (being driven by the load, for example) 	<ul style="list-style-type: none"> • Check that the motor/drive are compatible • Check that the motor is present during auto-tuning • If an output contactor is being used, close it during auto-tuning • Check that the motor is completely stopped
<i>LFF 1</i>	AI current lost fault	Detection if: <ul style="list-style-type: none"> • Analog input AI1 is configured as current • AI1 current scaling parameter of 0% <i>CrL 1</i> is greater than 3 mA • Analog input current is lower than 2 mA 	<ul style="list-style-type: none"> • Check the terminal connection
<i>OBF</i>	Overbraking	<ul style="list-style-type: none"> • Braking too sudden or driving load too high 	<ul style="list-style-type: none"> • Increase the deceleration time • Install a module unit with a braking resistor if necessary • Check the line supply voltage, to be sure that it is under the maximum acceptable (20% over maximum line supply during run status)
<i>OHF</i>	Drive overheat	<ul style="list-style-type: none"> • Drive temperature too high 	<ul style="list-style-type: none"> • Check the motor load, the drive ventilation and the ambient temperature. Wait for the drive to cool down before restarting. See mounting and temperature conditions
<i>OLC</i>	Process overload	<ul style="list-style-type: none"> • Process overload 	<ul style="list-style-type: none"> • Check the process and the parameters of the drive to be in phase
<i>OLF</i>	Motor overload	<ul style="list-style-type: none"> • Triggered by excessive motor current 	<ul style="list-style-type: none"> • Check the setting of the motor thermal protection, check the motor load
<i>OPF 1</i>	1 output phase loss	<ul style="list-style-type: none"> • Loss of one phase at drive output 	<ul style="list-style-type: none"> • Check the connections from the drive to the motor • In case of using downstream contactor, check the right connection, cable and contactor
<i>OPF 2</i>	3 output phase loss	<ul style="list-style-type: none"> • Motor not connected • Motor power too low, below 6% of the drive nominal current • Output contactor open • Instantaneous instability in the motor current 	<ul style="list-style-type: none"> • Check the connections from the drive to the motor • Test on a low power motor or without a motor: In factory settings mode, motor phase loss detection is active Output Phase loss detection <i>OPL = yES</i>. To check the drive in a test or maintenance environment, without having to use a motor with the same rating as the drive, deactivate motor phase loss detection Output Phase loss detection <i>OPL = n0</i> • Check and optimize the following parameter: IR compensation (law U/F) <i>UFr</i>. Rated motor voltage <i>UnS</i> and Rated motor current <i>nCr</i> and perform an Auto-tuning <i>tUn</i>.
<i>OSF</i>	Main overvoltage	<ul style="list-style-type: none"> • Line voltage too high: <ul style="list-style-type: none"> - At drive power on only, the supply is 10% over the maximum acceptable voltage level - Power with no run order, 20% over the maximum line supply • Disturbed line supply 	<ul style="list-style-type: none"> • Check the line voltage

FREQUENCY DRIVE CONTINUED

CODE	NAME	POSSIBLE CAUSES	REMEDY
<i>PHF</i>	Input phase loss	<ul style="list-style-type: none"> • Drive incorrectly supplied or a fuse blown • Failure of one phase • 3-phase ATV12 used on a single-phase line supply • Unbalanced load • This protection only operates with the drive on load 	<ul style="list-style-type: none"> • Check the power connection and the fuses • Use a 3-phase line supply • Disable the fault by setting Input Phase loss detection <i>IPL = n0</i>
<i>SCF 5</i>	Load short circuit	<ul style="list-style-type: none"> • Short circuit at drive output • Short circuit detection at the run order or DC injection order if parameter IGBT test <i>SErE</i> is set to <i>YES</i> 	<ul style="list-style-type: none"> • Check the cables connecting the drive to the motor, and the motor's insulation
<i>SLF 1</i>	Modbus communication	<ul style="list-style-type: none"> • Interruption in communication on the Modbus network 	<ul style="list-style-type: none"> • Check the connections of communication bus • Check the time-out (Modbus time out <i>EE0</i> parameter) • Refer to the Modbus user manual
<i>SLF 2</i>	SoMove communication	<ul style="list-style-type: none"> • Fault communicating with SoMove 	<ul style="list-style-type: none"> • Check the SoMove connection cable • Check the time-out
<i>SLF 3</i>	HMI communication	<ul style="list-style-type: none"> • Fault communicating with the external display terminal 	<ul style="list-style-type: none"> • Check the terminal connection
<i>ULF</i>	Process underload fault	<ul style="list-style-type: none"> • Process underload • Motor current below the application underload threshold <i>LUL</i> parameter during a period set by application underload time delay <i>ULt</i> parameter to protect the application 	<ul style="list-style-type: none"> • Check the process and the parameters of the drive to be in phase
<i>EJF</i>	IGBT overheat	<ul style="list-style-type: none"> • Drive overheated • IGBT internal temperature is too high according to ambient temperature and load 	<ul style="list-style-type: none"> • Check the size of the load/motor/drive • Reduce the Switching frequency <i>SFr</i> • Wait for the drive to cool before restarting

OPERATOR CONTROLS

The operator panel for Predator XS is shown and described as follows:



START

The "Start" button initiates all operations, in automatic or manual modes. When the system is in automatic mode, the button LED stays on until the wrapping cycle is complete. In manual mode, the button LED flashes until the operation is stopped.

WRAP/RESET

Switch to "Reset" and press the "Start" button to clear any operation. The film carriage will lower to the bottom limit switch and the turntable will return to its home position.

Switch to "Up Only" to select automatic single wrap mode. Press the "Start" button to begin cycle. The film carriage will begin applying the bottom wraps, travel upwards to

top of the product, apply top wraps, and then stops. Press the "Start" button again to lower the film carriage to the bottom limit switch.

Switch to "Up/Down" to select automatic double wrap mode. Press the "Start" button to begin cycle. The film carriage will begin applying the bottom wraps, travel upwards to top of the package, apply top wraps, and travel downwards to finish cycle.

TOP WRAPS

Switch to the desired number of rotations for applying wraps to the top of the product.

BOTTOM WRAPS

Switch to the desired number of rotations for applying wraps to the bottom of the product.

TURNTABLE

To run an automatic mode, switch to "Auto" and press the "Start" button. To jog the turntable manually, switch to "Manual" and press the "Start" button. To stop the turntable, switch to "Auto", or press the "Stop" button.

FILM CARRIAGE

To run an automatic mode, switch to "Auto" and press the "Start" button. To raise or lower the film carriage manually, switch to "Manual Up" or "Manual Down", and press the "Start" button. To stop, switch to "Auto", or press the "Stop" button.

TURNTABLE SPEED

The "Turntable Speed" potentiometer dial determines the speed of the turntable in both automatic and manual modes. Turn clockwise to increase, counter-clockwise to decrease. Adjusting this will affect the film overlap. The maximum turntable speed is 12 rotation-per-minute (RPM).

CARRIAGE SPEED

The "Carriage Speed" potentiometer dial determines the speed of the turntable in both automatic and manual modes. Turn clockwise to increase, counter-clockwise to decrease. Adjusting this will affect the film overlap.

FILM FORCE

The "Film Force" potentiometer dial determines the amount of film tension applied to the load in a wrapping cycle. Turn clockwise to increase, counter-clockwise to decrease. The best product wrapping and proper dancer bar response is achieved when the dancer bar is set to between half and two thirds of its full extension. This gives the proper force to load setting and allows a good proportion of the spring return travel on the dancer bar to be used when the turntable slows down at the end of cycle.

STOP

The "STOP" button cuts machine operation and removes power to frequency drives. In the event this button is pressed during the course of operation, it is necessary to pull this button fully out to reset the machine.



WARNING! If the "STOP" button is depressed while the turntable is rotating, the turntable will NOT stop immediately, but rather it will coast and decelerate to a stop.

POWER INDICATOR LIGHT

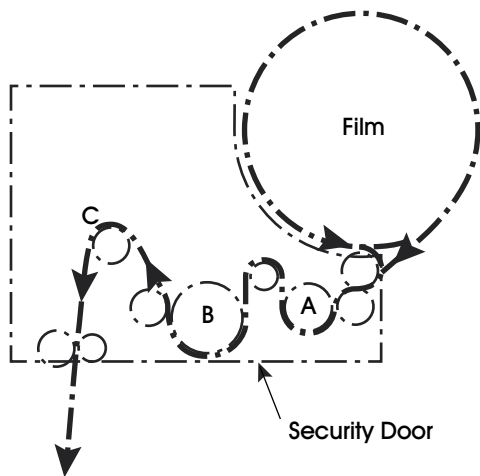
The LED indicates that power is supplied to the machine.

MACHINE OPERATION

FILM LOADING

Follow procedure below to thread film onto the carriage:

1. Rotate the handle and open the film carriage.
2. Pull six (6) feet of film off the film roll.
3. Follow the diagram below and "thread" the 6-foot film tail all the way through the rollers.
4. Close the film carriage and rotate the handle in the opposite direction to lock.
5. Attach the film securely to the pallet. Tying the end of the film in a knot often helps to secure the film to the pallet.



NORMAL SYSTEM START-UP

After the machine has been positioned and supplied with proper voltage, you are ready to begin operation. Read thoroughly and follow these steps to operate your system:

1. Place product on the turntable.
2. Make sure the turntable is at home position.
3. Make sure the film carriage is situated at the max down position.
4. Thread the film as instructed, and attach it to the product.
5. Set the desired numbers for top and bottom wrap counts.
6. Select the "Up Only" or "Up/Down" wrapping mode.
7. Turn the "Turntable" and "Film Carriage" selector switches to Auto position.
8. Press the "Start" button to initiate cycle.

STOP CONDITION

Follow procedure below in the event of emergency.

1. Press the "STOP" button. This cancels the current wrapping cycle and immediately stops the system.
2. Correct the problem.
3. Pull the "STOP" button out, and then perform normal system start-up procedure.



NOTE: After pressing the "E-STOP" button, wait for at least 60 (sixty) seconds before pulling the button back out. This will allow the frequency drives to completely go off.

APPLYING REINFORCEMENT WRAPS

Automatic operation can be paused in order to apply reinforcement wraps to an additional top sheet or corner boards on the product. Follow the procedure below.

1. Press the "Start" button as normal to initiate cycle.
2. As the carriage travels up, switch the "Turntable" selector from Auto to Manual. Both the turntable and the film carriage will pause.
3. Apply the top sheet or corner boards to the product.
4. Press the "Start" button to resume cycle. Leave the "Turntable" selector switch in Manual position. The turntable will now rotate in Manual mode.
5. Once the reinforcement wraps have been applied, switch the "Turntable" selector switch from Manual to Auto. The turntable will pause.
6. Press the "Start" button again to complete the automatic operation.

If the "Turntable" selector is switched from Auto to Manual while the carriage is traveling down, the carriage will travel back up and apply the top wraps before completing the wrap cycle. This to ensure the top sheet applied during the manual operation is properly wrapped into the product.

AUTOMATIC FILM CUT

The automatic film cut feature is always enabled in the automatic mode. On the last wrap revolution, the puncture solenoid, located on the film carriage, engages, tearing a small hole in the film. The powered film feed motor stops to allow the film force-to-load to increase the turntable rotates to its home position. The punctured film is stretched, until eventually cut.

MAINTENANCE

As with all machinery, proper attention and maintenance is the key to long component life, maximum performance, and safe operation. By spending a few minutes reading and following these preventive measures, you should reduce the downtime and prolong the life of your system.

It is important to understand that these maintenance schedules are minimum recommendations. Anyone who maintains or services a stretch wrap machine must first satisfy himself/herself as to the schedules of preventive maintenance based on cycling operation and environmental locations.



WARNING! All maintenance operations require the equipment to be powered down and locked out for personnel safety.

LOCK-OUT/ TAG-OUT PROCEDURES

Be sure that anyone performing any type of maintenance on this equipment is familiar with and is adhering to the lock-out/tag-out procedures set forth by the General OSHA or the State OSHA guidelines.

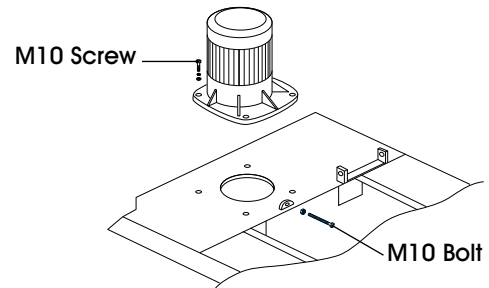
VISUAL CHECKS

Visual checks should be conducted at least once per month:

1. Keep the machine and surrounding area as clean as possible, especially near moving components.
2. Check for loose hardware, especially set screws located in: sprocket hubs, bearing hubs, and flanges.
3. Check for oil leaks around the speed reducers.
4. Check for dry seals at the bearings.
5. Check for chain wear and proper tension on the power roller stretch sprockets. The correct amount of chain tension can be checked by pulling the chain taut and having 3/8" slack.
6. Check for loose electrical connections and for frayed cords and cables. Replace immediately any damaged cords and cables.

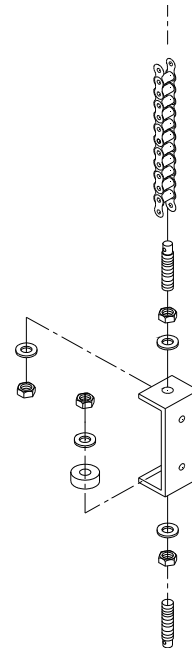
TURNTABLE BELT ADJUSTMENT

Refer to figure below to adjust the turntable belt. First, loosen the four motor flange (M10) screws. Turn the (M10) bolt on the adjuster tab until the belt is tensioned. Retighten the four motor flange screws.



FILM CARRIAGE LIFT CHAIN ADJUSTMENT

Refer to figure below to adjust the film carriage lift chain. First, loosen nut (M12) on the adjustment bracket. Turn the bottom bolt until desired tension is achieved. Retighten nut (M12). Note that the driving chain and adjustment bracket should be parallel with the moveable pulley base.



SPROCKET AND CHAINS

All sprockets should be inspected for wear, and chains should be checked for proper tension and lubrication on a periodic basis. Failure to do so will lead to premature sprocket failure. Any general-purpose chain lube should be sufficient for lubrication. Replace chain guards when preventative maintenance is complete.

MAINTENANCE SCHEDULE TABLE

PART	SCHEDULE	SERVICE WITH
Turntable Reducer	Sealed, lubricated with premium lubricant. No maintenance required.	N/A
Film Carriage Reducer	Sealed, lubricated with premium lubricant. No maintenance required.	N/A
Film Delivery Reducer	Sealed, lubricated with premium lubricant. No maintenance required.	N/A
All Pivot Bearings	N/A	N/A



NOTE: Refer to electrical and mechanical component's operations manuals shipped inside the enclosure for additional maintenance information.

TROUBLESHOOTING



WARNING! Make sure that only qualified personnel will perform inspection, troubleshooting, and part replacement.

HIGH VOLTAGE! Disconnect all power including external control power that may be present before servicing the frequency drive controllers. **WAIT for 3 (three) minutes for the DC bus capacitors to discharge. The frequency drive controller' display and/or LED's are not accurate indicators of the absence of DC bus voltage.**

This section will guide you in identifying typical problems while operating the Predator Turntable Stretch Wrapper, and provide you with corresponding solution(s). If further assistance is required, call the number listed on the last page of this manual. To receive quick and proper technical support, please be prepared to provide the following information:

1. Machine serial number
2. Date of purchase
3. Symptoms of any problem

OPERATING ISSUE	CAUSES	RECOMMENDATIONS
Machine not powering on.	<p>The electrical control box is not closed.</p> <p>The film carriage loading door is not closed.</p> <p>The film carriage foot safety switch is not clear.</p> <p>The system is not plugged into a 120VAC outlet.</p> <p>Use a voltmeter to test supply voltage from the plant's outlet. Is it reading 120VAC.</p> <p>Use a voltmeter to test supply voltage from the plant's outlet. Does it have continuity.</p>	<p>Close the control box properly.</p> <p>Close the carriage door properly.</p> <p>Remove obstruction from the switch.</p> <p>Plug machine into a 120VAC outlet.</p> <p>Plug machine into a 120VAC outlet.</p> <p>Replace the power cord to the machine.</p>
Turntable is malfunctioning.	<p>Turntable speed potentiometer dial not set high enough.</p> <p>Resistance of potentiometer not equal to 5KΩ across.</p> <p>Is the LED display on the turntable frequency drive.</p> <p>The frequency drive is not functioning. Push the "STOP" button. Wait 60 seconds, and then pull the button out. Is the fault cleared?</p> <p>The frequency drive is not connected properly to motor.</p> <p>The parameters of the frequency drive are not set correctly.</p> <p>The turntable motor is not running.</p> <p>None of the recommendations work.</p>	<p>Adjust potentiometer towards 100% to set speed.</p> <p>Tighten wiring, replace dial if necessary.</p> <p>Check and switch on main circuit breaker.</p> <p>Refer to frequency drive manual for specific fault.</p> <p>Tighten or replace wiring as necessary.</p> <p>Restore drive parameters setting.</p> <p>Check turntable motor for mechanical restrictions.</p> <p>Replace turntable frequency drive.</p>

TROUBLESHOOTING CONTINUED

OPERATING ISSUE	CAUSES	RECOMMENDATIONS
Turntable does not stop at home.	<p>Are the parameters of the frequency drive set properly.</p> <p>Does the indicator light of the turntable home proximity switch turn on when the table is at home position. If not, clear obstructions and adjust sensor to pick up target. Now does the indicator light turn on.</p>	<p>Restore drive parameter setting.</p> <p>Tighten power wiring the sensor, replace if necessary.</p>
Film carriage does not move.	<p>Film carriage speed is not set high enough.</p> <p>Resistance of potentiometer not equal to 5KΩ across.</p> <p>The carriage limit switch lever arm does not move freely.</p> <p>The limit switch is not wired properly.</p> <p>The LED display is not on the film carriage frequency drive.</p> <p>The frequency drive is not functioning. Push the "STOP" button. Wait 60 seconds, and then pull the button out. Is the fault cleared?</p> <p>The frequency drive is not connected properly to motor.</p> <p>The parameters of the frequency drive are not set correctly.</p> <p>The film carriage motor is not running.</p> <p>None of the recommendations work.</p>	<p>Adjust potentiometer towards 100% to set speed.</p> <p>Tighten wiring, replace dial if necessary.</p> <p>Remove obstruction, and/or clean limit switch head.</p> <p>Tighten or replace limit switch as necessary.</p> <p>Switch the film carriage circuit breaker on.</p> <p>Refer to frequency drive manual for specific fault.</p> <p>Tighten or replace wiring as necessary.</p> <p>Restore drive parameters setting.</p> <p>Check film carriage motor for mechanical restrictions.</p> <p>Replace film carriage frequency drive.</p>
The carriage does not raise in a wrapping cycle.	<p>The product height detection photoelectric sensor does not see the product.</p> <p>The indicator light does not turn on as the turntable passes the home position. If not, clear obstructions and adjust sensor to pick up target. Now does the indicator light turn on.</p>	<p>Adjust the sensitivity of the sensor.</p> <p>Tighten power wiring to the sensor, replace if necessary.</p>
The carriage does not stop at the top of product in a wrapping cycle.	<p>The film carriage product height detection photo sensor does not have power.</p> <p>The sensor sees objects other than the product.</p>	<p>Tighten power wiring to the sensor, replace if necessary.</p> <p>Adjust the sensitivity of the sensor.</p>
The carriage does not lower after the completion of top wraps count.	<p>The indicator light does not turn on as the turntable passes the home position. If not, clear obstructions and adjust sensor to pick up target. Now does the indicator light turn on.</p>	<p>Tighten power wiring to the sensor, replace if necessary.</p>
The film mandrel does not rotate.	<p>The film carriage dancer bar limit switch is not positioned correctly.</p> <p>The indicator light does not turn on as the dancer bar is pulled.</p> <p>The LED display is not on the film delivery frequency drive.</p> <p>The frequency drive is not functioning. Push the "STOP" button. Wait 60 seconds, and then pull the button out. Is the fault cleared?</p> <p>The frequency drive is not connected properly to the motor.</p> <p>The parameters of the frequency drive are not correct.</p> <p>The film delivery motor is not running.</p> <p>None of the recommendations work.</p>	<p>Adjust the switch so that it activates when the dancer bar is pulled.</p> <p>Tighten wiring to the sensor, replace if necessary.</p> <p>Switch the circuit breaker on.</p> <p>Refer to frequency drive manufacturers manual for specific fault.</p> <p>Tighten or replace wiring as necessary.</p> <p>Restore drive parameters setting.</p> <p>Check film carriage motor for mechanical restrictions. Replace if necessary.</p> <p>Replace film delivery frequency drive.</p>

TROUBLESHOOTING CONTINUED

OPERATING ISSUE	CAUSES	RECOMMENDATIONS
<p>The film does not stay attached to the product at start.</p>	<p>The film is not threaded correctly.</p> <p>The film is not in good condition.</p> <p>The acceleration parameter on the film delivery frequency drive is not set properly.</p> <p>The acceleration parameter on the turntable frequency drive is not set properly.</p>	<p>Refer to film loading diagram.</p> <p>Use proper film.</p> <p>Restore parameters as listed on the electrical schematics.</p> <p>Restore parameters as listed on the electrical schematics.</p>
<p>The film does not stay attached to the product in a wrapping cycle.</p>	<p>The film is not threaded correctly.</p> <p>The film is not in good condition.</p> <p>The "Film Force" dial on the operator panel is not set correctly.</p> <p>Resistance of potentiometer not equal to 5KΩ across.</p>	<p>Refer to film loading diagram.</p> <p>Use proper film.</p> <p>Make a small adjustment at a time to set the film force.</p> <p>Tighten wiring, replace dial if necessary.</p>