Operation and Maintenance Manual

Bremner Ripon

Model: 107-20

SN: 8873

October 2007

9511 River Street • Schiller Park, IL 60176 • 847 678-9034 • www.arpacgroup.com

WARRANTY

ARPAC warrants the equipment of its manufacture to be free from defective material or workmanship for a period of one year from date of shipment from the factory, provided that:

1. Such equipment is given normal and proper usage.
2. It is still owned by the original purchaser.
3. The equipment has been operated in accordance with generally approved practice and in accordance with ARPAC's instructions.
4. No repairs, alterations, or replacements have been made by others without ARPAC's written approval.

The purchaser shall notify ARPAC immediately of any defective parts and ARPAC shall take corrective action. If such correction requires the replacement of a defective part or parts, ARPAC will supply them F.O.B. the factory.

ARPAC shall in no event be held liable for damage or delay caused by defective parts and will not accept any charges for work performed by purchaser in making adjustments or repairs to the equipment unless such work has been authorized in writing by ARPAC.

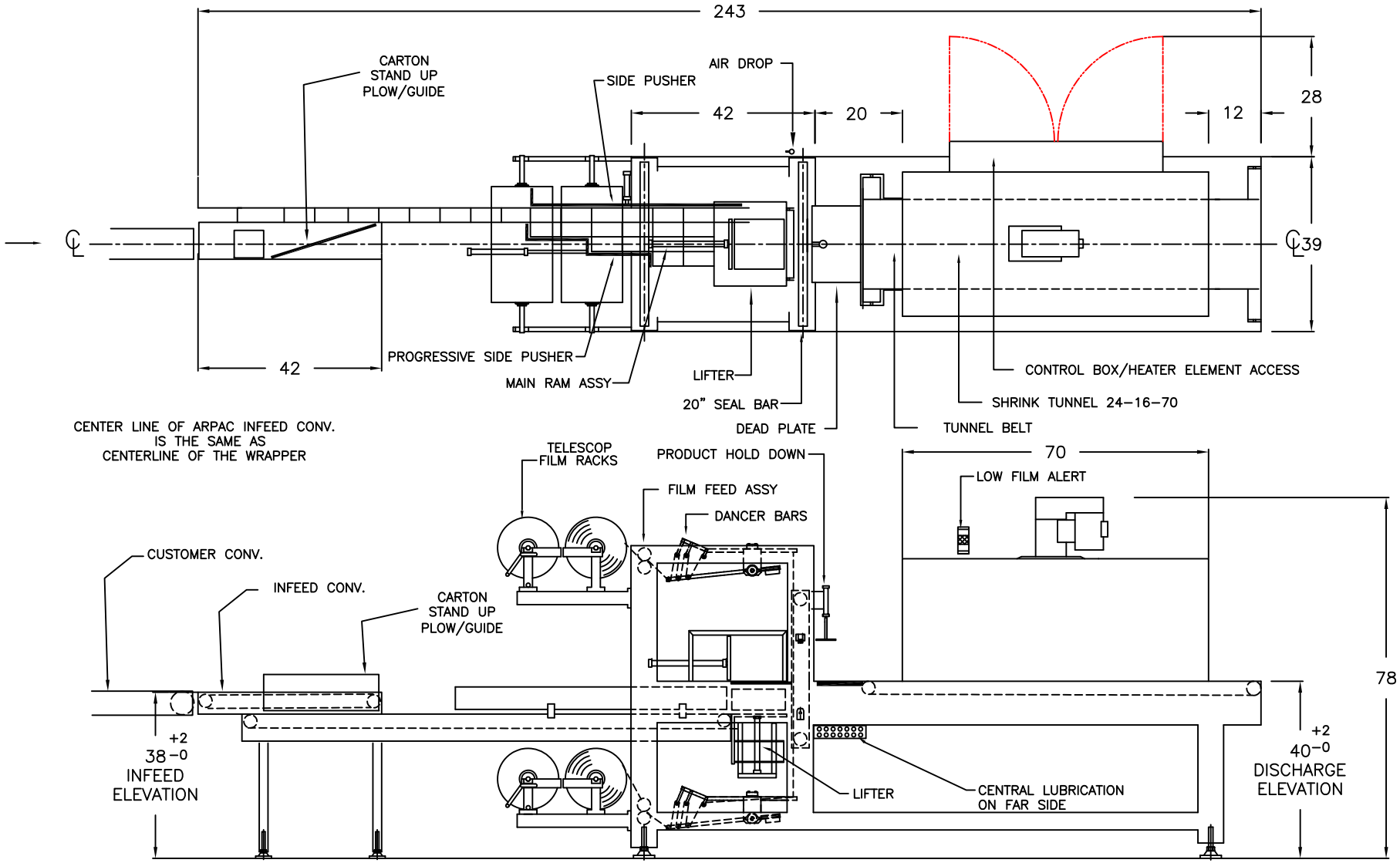
Any equipment or component not of ARPAC's own manufacture is sold under whatever warranty is provided by the maker, to the extent ARPAC is able to enforce such warranty. Such items are not warranted by ARPAC in any way.

When components are sold to be assembled in combination of purchaser's design, the warranty shall be limited to each separate component and shall not apply to any combinations or components.

ARPAC's liability (except as to title) arising out of the supplying of the equipment shall in no case exceed the purchase price of the said equipment. ARPAC makes no guarantee or warranty, expressed or implied, other than as stated above.

ARPAC factory trained, qualified technical services personnel are available for start-up and instructional assistance. If the customer does not utilize ARPAC personnel for this function, ARPAC is only liable for replacement of defective parts, not for labor or expenses necessary to adjust any problems out in the field.

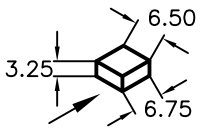
ARPAC personnel are available for ARPAC equipment training either on-site/hands on or in classroom environment, supported by visual aid and literature to be administered under a separate purchase order.



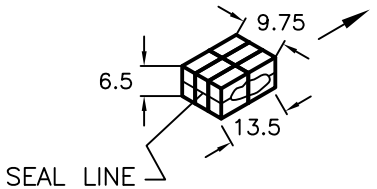
GENERAL NOTES:

INFEED AT 38 +2/-0", DISCHARGE AT 40 +2/-0"
ELEC. SPECS: 460V-3PH-60Hz
CONTROL BOX: L/H
AIR SUPPLY: 80 PSI MIN
FILM SIZE: 1.5 MIL LDPE

PRODUCT IN



BUNDLE OUT



ARPAC 9511 WEST RIVER ST. SCHILLER PARK, IL 60176

FILENAME s8873	DRAWN BY JW	SCALE: 4\Sdx3/64	SIZE:
DATE 8-21-07	REVISED	APPROVED BY: J W	

MODEL 107-20 AUTOMATIC SLEEVE WRAPPER

FOR BREMNER DRAWING NUMBER s8873

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SECTION 5

Operating Procedures

Operating Procedures

This section describes how to operate the machine. This includes startups, shutdowns, film roll installation, and film threading and sealing. In addition, procedures are provided for various machine and changeover adjustments.

Startup and Shutdown Procedure Descriptions

Initial Startup

Applies to the first time the machine is run and the initial start up of each shift or day or after an emergency shutdown has been initiated.

Quick Startup

Applies to a start up when the machine is pre-loaded with product or was stopped for a short-term shutdown.

Emergency Shutdown

Applies to times when the machine needs to be shut down immediately. This includes all times when personnel or the equipment are in danger of being damaged.

Short-Term Shutdown

Applies to times when the machine is not shut down completely, such as for a break or to perform certain adjustments.

Long-Term Shutdown

Applies to times when the machine will be shut down completely, such as overnight, weekends, or to perform changeover procedures.

Initial Startup

Applies to the first time the machine is run and the initial start up of each shift or day or after an emergency shutdown.

Pre-Start Inspection

1. Make sure the machine and the area around the machine is clear of all products and any other items not directly related to the normal operation of the machine.

2. Check the pneumatic lubricator, and regulator. Fill or empty accordingly.

3. Inspect the belts, seal bars and tunnel for film and any other debris.

4. Ensure all persons in the area of the machine are aware the machine is about to start.

Startup

1. Place the **main power disconnect** switch to the ON position.

DANGER: Stop the operation if you cannot adjust the regulator to read at least 80 psi. Do not try to run the machine. See your supervisor immediately.

2. Open the **master air supply regulator** valve. Verify the air regulator gauge is at least 80 psi.

3. Pull out all **emergency stop** push-pull buttons.

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Initial Startup

Startup

DANGER: Be aware while working with the machine during this time. There are many possibly hazardous moving parts, including chains and sprockets.

NOTE: If this is the first time the machine has been turned on in your plant, be sure to check the tunnel conveyor belt and blower motors for the proper rotation. If either are going in the reverse direction, then **STOP!!!** Shut off the machine immediately. Running the machine in reverse could damage the machine as well as cause bodily injury. See your supervisor immediately.

4. Press the **power on** push button. This will supply electrical power to the drive motors, tunnel blower motors and tunnel heaters.

5. Wait for the tunnel and seal bar to reach its set temperature point point.

6. Select the program using the operator interface. See Operator Interface.

7. Inspect the machine again. Be sure all conveyors and areas around the machine are clear and the doors and guards are closed and in place. Also, make sure all of the control switches are set correctly and that all error messages have been cleared.

8. Press the **cycle stop/reset** push button to reset any faults.

NOTE: In many plants the operator is required to call out “clear” before starting the machine.

For the first few minutes after the machine starts, we recommend the operator pay close attention to machine and the products.

9. Press the **cycle start** push button.

Quick Startup

Applies to a start up when the machine is pre-loaded with product or was stopped for a short-term shutdown.

DANGER: Be aware while working with the machine during this time. There are many possibly hazardous moving parts, including chains and sprockets.

Pre-Start Inspection

1. Make sure the machine and the area around the machine is clear of all products and any other items not directly related to the normal operation of the machine.
2. Check the pneumatic lubricator, and regulator. Fill or empty accordingly.
3. Inspect the belts, seal bars for film and any other debris.
4. Verify that the tunnel temperature has reached the set point.
5. Ensure all persons in the area of the machine are aware the machine is about to start.

Startup

DANGER: Stop the operation if you cannot adjust the regulator to read at least 80 psi. Do not try to run the machine. See your supervisor immediately.

1. Check the **master air supply regulator** valve. Verify the air regulator gauge is at least 80 psi.
2. Close the guard doors and press the **cycle stop/reset** push button to reset any faults.

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Quick Startup

Startup

NOTE: In many plants the operator is required to call out “clear” before starting the machine.

For the first few minutes after the machine starts, we recommend the operator pay close attention to machine and the products.

3. When the temperature controllers indicate that the machine is up to temperature, press the **cycle start** push button.

Emergency Shutdown

Applies to times when the machine needs to be shut down immediately. This includes all times when personnel or the equipment are in danger of being damaged.

DANGER: When the **emergency stop** push-pull button is pressed the machine will stop immediately. In most cases product will stop in a hot tunnel. It is very important to remove the products from the tunnel as soon as possible. Products left in a hot tunnel for any length of time will be damaged and depending on the contents may explode.

1. Press any **emergency stop** push-pull button.

2. Take care of the emergency situation and remove product from the tunnel as soon as possible.

Short-Term Shutdown

Applies to times when the machine is not shut down completely, such as for a break or to perform certain adjustments.

1. Stop the flow of product to this machine.

2. After the last product has cleared the tunnel, press the **cycle stop/reset** push button.

Long-Term Shutdown

Applies to times when the machine will be shut down completely, such as overnight, weekends, or to perform changeover procedures.

1. Stop the flow of product to this machine.

2. Press the **cycle stop/reset** push button.

3. After the last product has cleared the tunnel, place the **main power disconnect** switch to the off position.

4. Close the **master air supply regulator** valve.

Film Roll Installation and Threading

DANGER: Make sure that emergency stop button is pressed before doing this procedure. You may get seriously injured if you do not..

1. Press EMERGENCY STOP button on main control panel.
2. Remove empty shafts from machine.
3. If there is a full roll in the spare position, lift the transfer handle and roll the full roll to the active position.

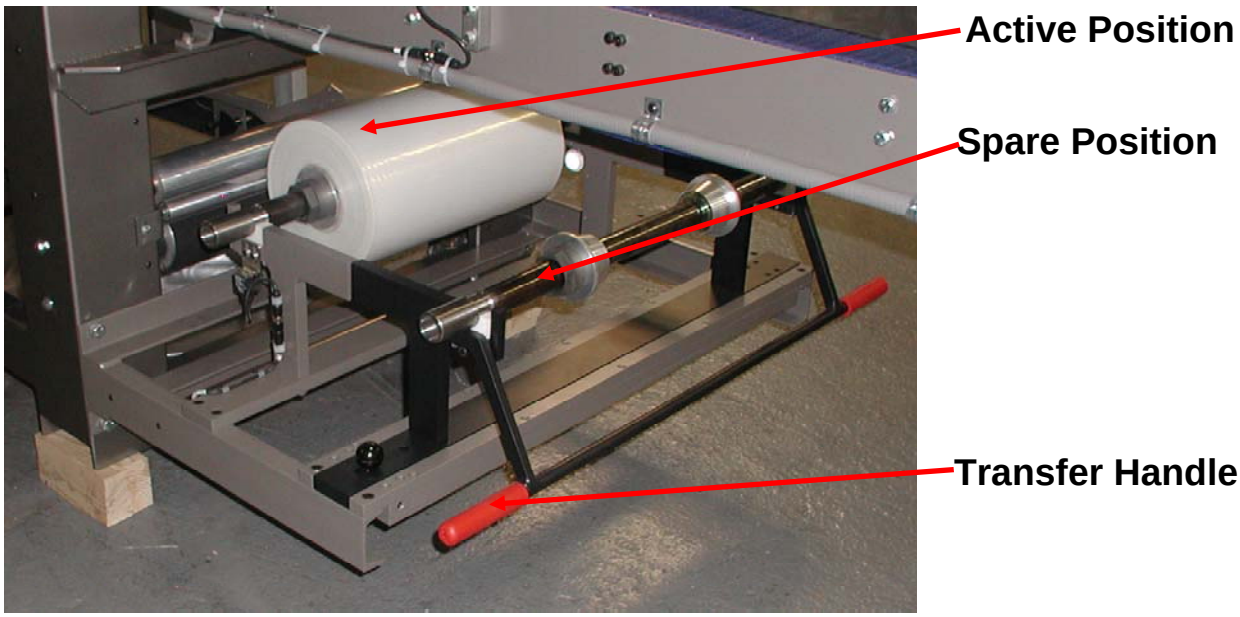

Figure 5-1. Advancing Spare Roll

4. Loosen and remove the right shaft nut (1 in Figure 5-2) on the empty shaft.
5. Slide the shaft (2) out of the empty roll (3).
6. Slide the shaft in the new roll.
7. Secure roll in place with nut (1). If the roll is a different width than the previous roll, loosen both nuts and center the shaft in the roll. Use a ruler to make sure that the shaft is centered in the roll within 1/4".

Figure 5-2. Film Roll Installation on Shaft

8. Pull up on the pin (1 in Fig. 5-3) and slide spare film rack (2) out.
9. Load roll of film onto rack. Make sure that roll is oriented so that film unwinds from top of roll as shown in film threading diagram (Figure 5-5 on page 5-10).
10. Slide rack back in.

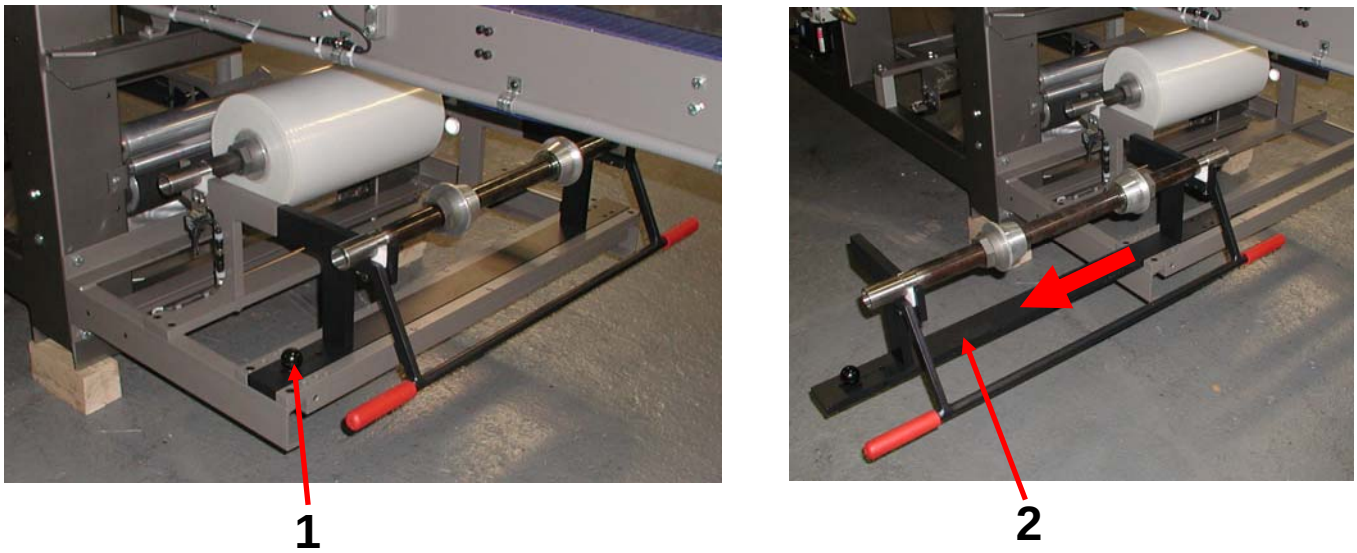

Figure 5-3. Sliding Rack Out

11. Lift the lower dancer roller assembly up and hook it to the upper roller assembly with hook on both upper and lower feed assemblies. This allows the film to be passed directly between the rollers instead being fed around each roller.

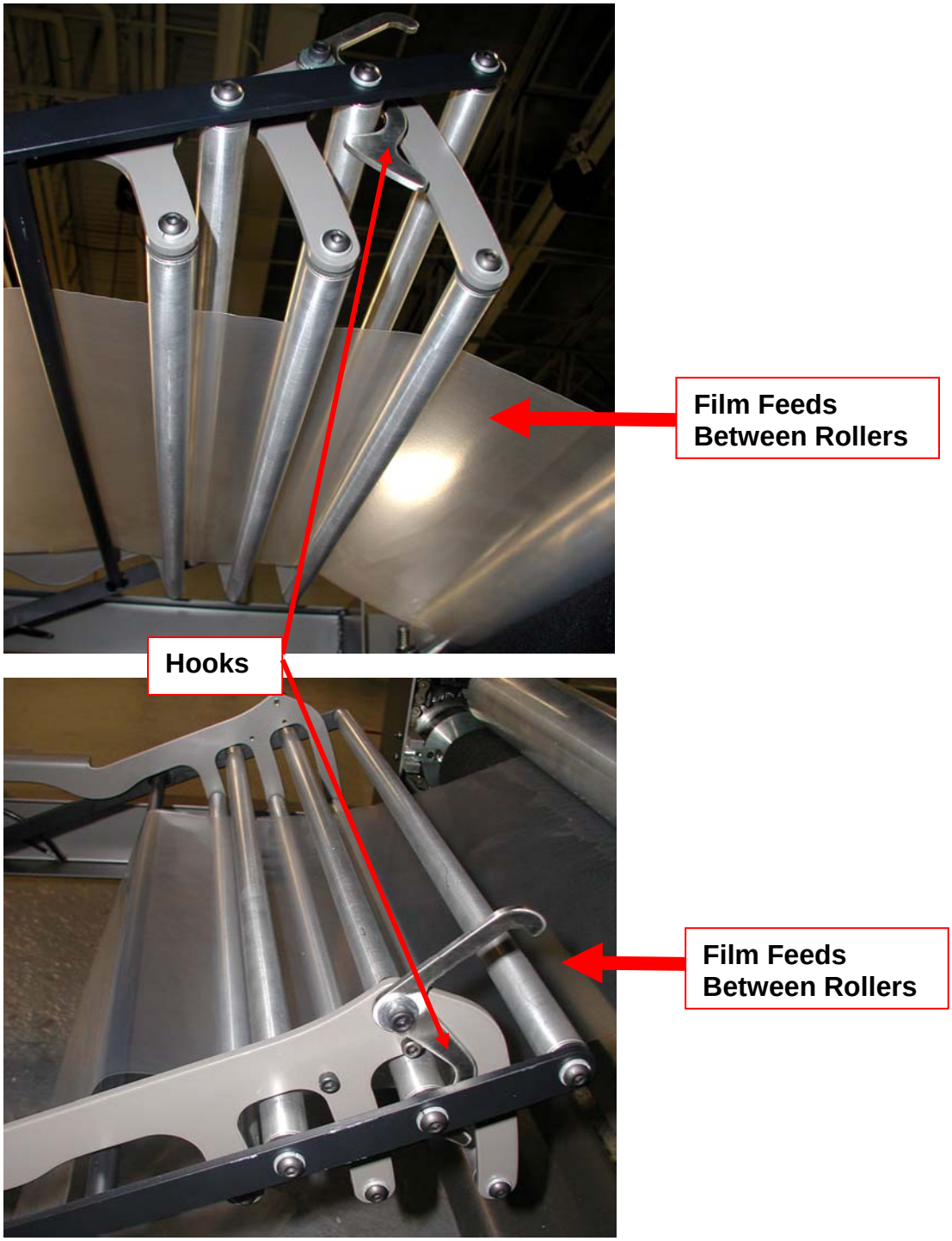

Figure 5-4. Upper and Lower Dancer Hooks

12. Thread the film using the film threading diagram.

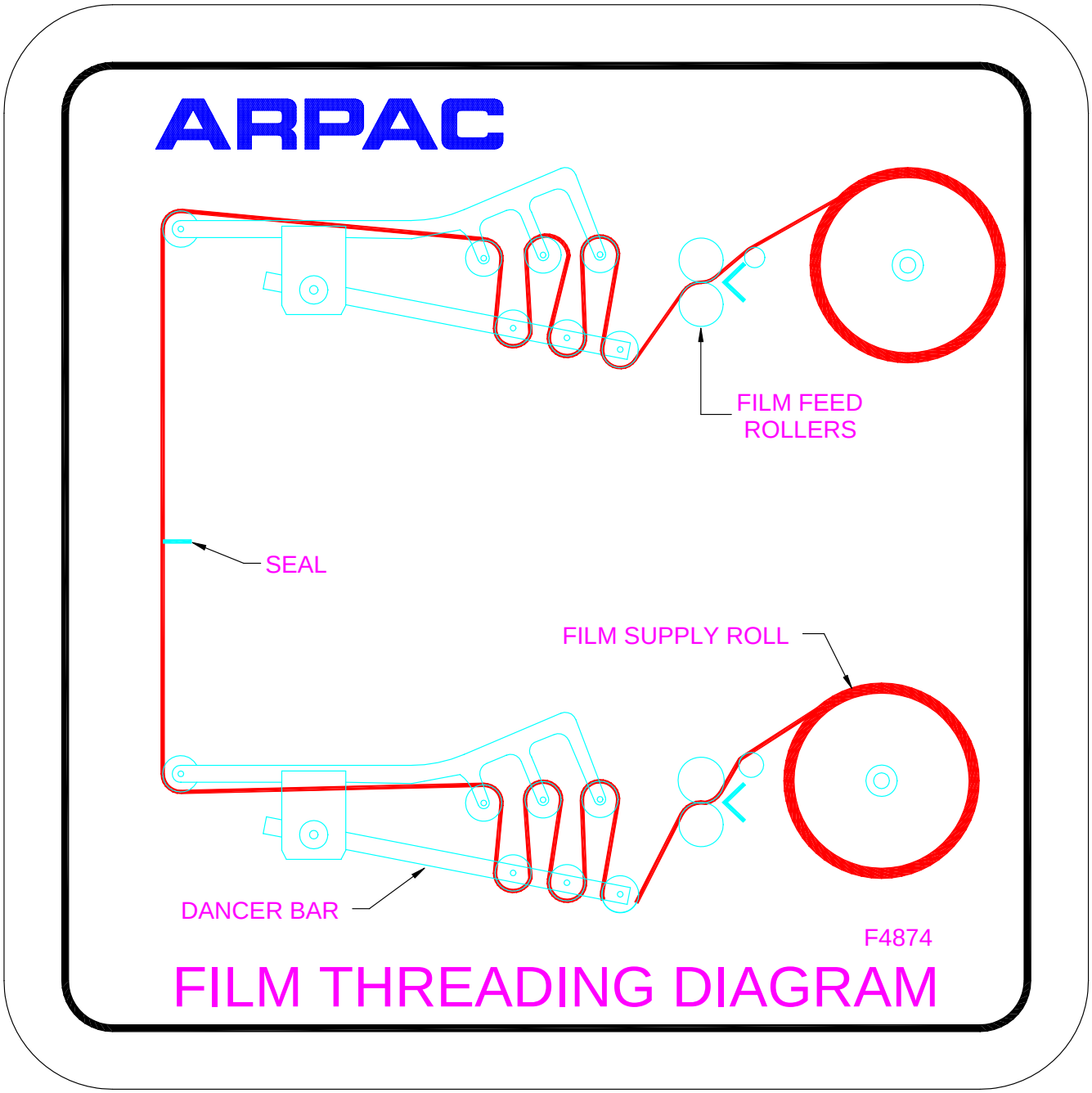

Figure 5-5. Film Threading Diagram

NOTE: When the film is threaded properly, it will lay flat on all of the film rollers.

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13. Open the guard door in the seal area.
14. Pull the film through the seal frame far enough, so that the film will lie flat on the dead plate.
15. Place a heavy object on the film on the conveyor to hold the film in place as shown in the figure below.
16. Make sure the seal area is free from debris and other obstacles.
17. Close the guard doors.
18. Pull out the EMERGENCY STOP button.
19. Press the CYCLE STOP/Reset button.

DANGER: The seal frame is very fast and strong. Do not override any of the machine's safety devices while sealing the film. Never allow anyone or anything to go under the machine during this process.

20. Press the **manual seal** push button. The seal bars will close and seal the film.
21. Press the EMERGENCY STOP button.
22. After the seal bars open, open the doors and remove the excess film and the object used to hold the film in place.

Figure 5-6. Manually Sealing Film

23. Inspect the seal for strength and appearance. If the seal is unacceptable, repeat the process. If the seal is still unacceptable, notify your supervisor.
24. Remove the hooks in the dancer bars (from step 11)
25. Close the doors and remove any slack in the film by rotating the film rolls backwards.

NOTE: You should rotate the film rolls backward until the upper and lower dancers raise a few inches.

26. Pull out the EMERGENCY STOP button.
27. Press the CYCLE STOP/Reset button.
28. Restart production.

Product Setup Chart

The following information is used to setup the machine for the current product and when changing from one product to another.

Product Program #				
Product Number	1			
Product Size				
Product Description				
Bundle Size				
W x L X H				
Type of Film Used				
Film Thickness				
Film Width				
Infeed Guide Width				
Seal Bar Temp				
Tunnel Temp				
Seal Dwell				
Delay to Start Seal Bar				
Delay to Start Main Ram				
Delay to Detect Product at Stacker				
Number of Stacker Counts				

NOTE: The measurements on this chart are approximate. Adjustments may need to be made for actual set up of the machine.

Adjustments

The following adjustments have been completed at the manufacturer facility. Due to the shipping of the machine some devices or assemblies may need to be readjusted at the end user's facility. This is normal.

Machine Temperatures

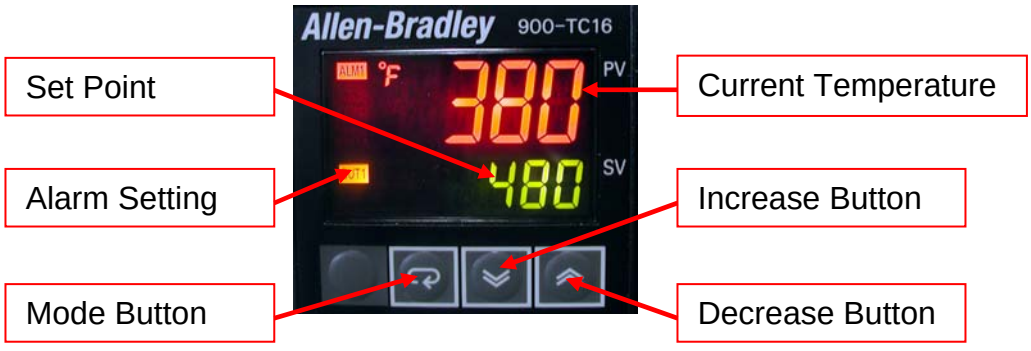
Temperature controllers typically control the temperature for the seal bars and tunnel heaters.

To change the preset temperature setting:

1. Press the **mode button** until the set point indicator light turns on.
2. Press the **increase** or **decrease button** until the desired temperature is reached.
3. Press the **mode button** twice to return to the actual temperature screen.

To change the alarm temperature setting:

1. Press the **mode button** until the alarm indicator light turns on.
2. Press the **increase** or **decrease button** until the desired temperature variance is reached.
3. Press the **mode button** once to return to the actual temperature screen.



Adjustments

Film Roll Centering

Check that the film pulls evenly through the film feed rollers, the dancer bars and finally through the seal frame. If you notice the film is not centered in the seal frame, loosen the film core plugs and slide the film roll accordingly.

If the film is centered in the seal frame, yet when the machine cycles, it pulls to one side, stop the machine and notify your supervisor. A trained maintenance person may have to adjust the dancer switch plates.

Tunnel Louvers

There are two adjusting knobs on either side of the exit end of the tunnel. One adjusts the velocity of the airflow and the other adjusts the direction. These knobs are marked accordingly.

Adjusting the velocity knob will change the amount of airflow to the sides and top of the product.

Adjusting the directional knob will change the direction of airflow to the sides of the product.

DANGER: The tunnel and its parts get very hot. Be very careful working with and around the tunnel. Never reach into a running tunnel. Never clean a tunnel with flammable or aerosol solvents.

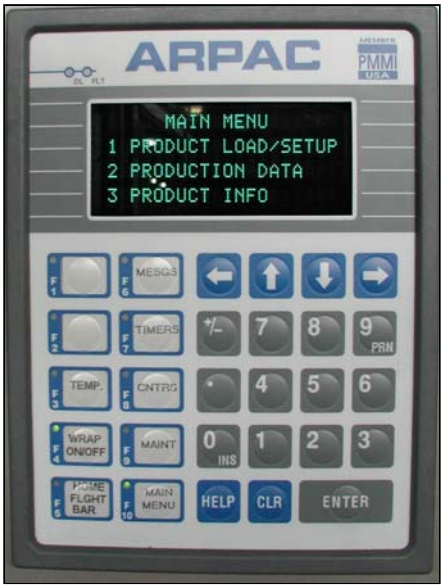
Operator Interface

The operator interface displays information about the current status of the machine and allows operators to changes timers, counters, conveyor speeds, etc. This allows operators and maintenance personnel to set up, adjust and troubleshoot the machine so that the machine will run their products at its optimum performance level.

NOTE: This summary of the operator interface is meant to be a general overview. Your machine may not be equipped with all of the functions described.

Navigating the Screens

Navigating the screens can be simple by observing the arrow located at the bottom of the screen. Simply press the corresponding arrow on the keypad to move to the next screen.



There are 10 function keys located on the left side of the interface. These keys allow quick access to a variety of options, depending on the machine.

A numeric keypad is used to change the value of options.

NOTE: There is a password lockout for a number of options, such as changing timers and program parameters.

Operator Interface

Selecting Product

If more than one product is programmed to run in the machine operators can select the specific program for the product using the **MAIN MENU** screens. To select a product program, do the following:

1. Press the **F10** key to select the **MAIN MENU** on the operator interface.
2. Press the number **3** key to select the **Product Info** menu. Scroll through preset products using the arrow keys to identify the number of the product to run.
3. Note the number of the product you want to run.
4. Press the **F10** key to select the **MAIN MENU** and then the number **1** key to select the **Product Load/Setup** menu.
5. Enter the appropriate password, if required, and press the **ENTER** key. Return to the **Product Load/Setup** menu.
6. Enter the product number assigned to the product using the numeric keypad or scroll and highlight the product number required and press the **ENTER** key. The product program is now loaded and ready to run.

NOTE: In some cases the machine is programmed for only one product. If this is the case, the interface will not display any additional options in the Product Load/Setup menu.

Operator Interface

Viewing, Changing and Saving Parameters

Program parameters are displayed, changed and saved using the **MAIN MENU** screens. To view and/or change a parameter, do the following:

To view a parameter(s):

1. Press the **F10** key to select the **MAIN MENU**.
2. Press the number **1** key to select **Product Load/Setup**.
3. If prompted for a **password**, enter it now.
4. Use the arrow keys to scroll through the parameters.

To change a parameter value(s):

1. Press the **INS** key. The numeric field will flash.
2. Use the arrow keys to scroll to the field to be modified.
3. Enter the new **numerical** value and press the **ENTER** key. The new value will now be displayed.

If the numeric key displays *** one of the following situations is true:

a) The unit is not communicating with the PLC.
   Notify the supervisor or maintenance.

b) The password entered is incorrect or not active.
   Exit the menu by pressing the **MESGS** key and enter the correct password.

c) The entered value is outside the acceptable range; too large or too small.
   Re-enter a different value.

NOTE: Not all parameters are used or applicable in all machines. Parameters marked **read only** or **restricted** can only be read: They cannot be changed. Parameters marked **reserved** are not used in the current application.

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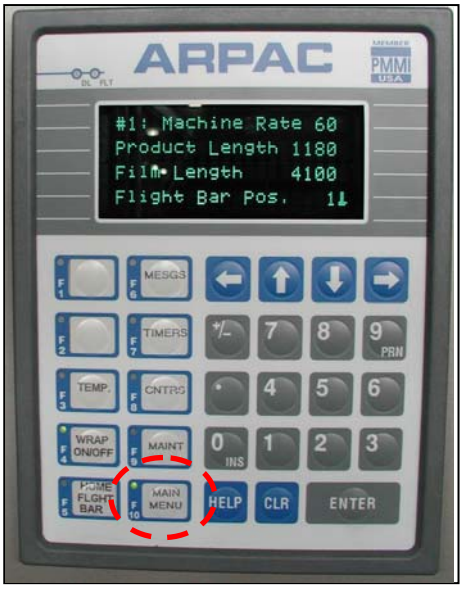
Operator Interface

Viewing, Changing and Saving Parameters

To save a parameter value(s):

1. Verify that the current parameters result in the machine to operating in a satisfactory manner.
2. While in the **Product Load/Setup** screen, press the **F2** key. The PLC will now save the setup.



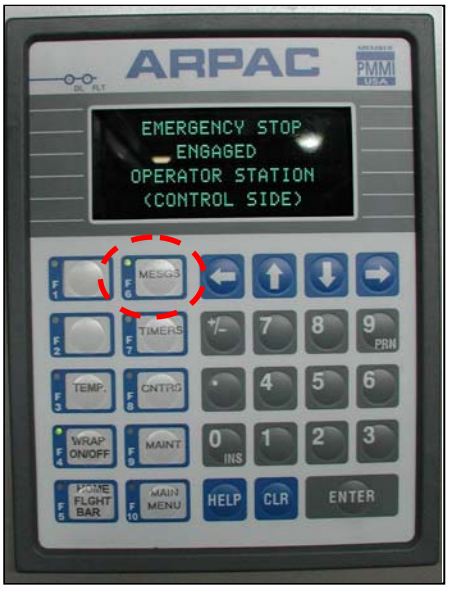
NOTE: If the operator does not save the setup and enters another product setting, the current setup will be overwritten and lost.

Operator Interface

Messages

The **F6** key displays the messages screen. This shows messages associated with the current status of the machine, such as “machine in cycle” or “tunnel zone #3 temperature too low”.

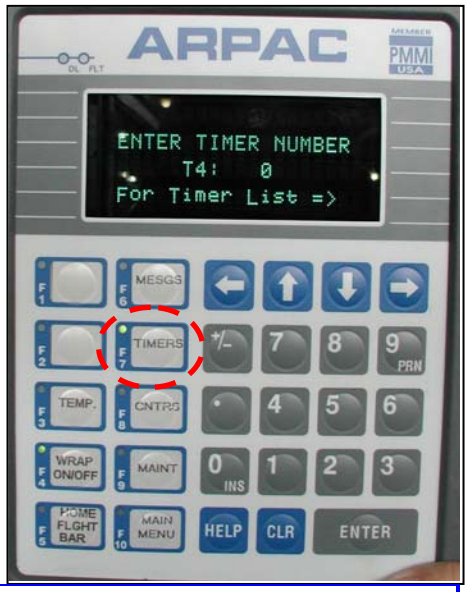
To view the messages associated with the current status of the machine press the **F6** key.



Timers

The **F7** key is used to display information about the machine timers. In order to effectively utilize this option you must have access to the machine program. The display shows the timer number and the current preset value. This screen is used during troubleshooting or reprogramming. To change the settings, do the following:

1. Press the **F7** key. The screen will indicate the timer number and the current preset value.
2. Press the **INS** key.
3. Use the arrow keys to position the cursor over the desired field to be modified.
4. Enter the value using the keypad and press the **ENTER** key.

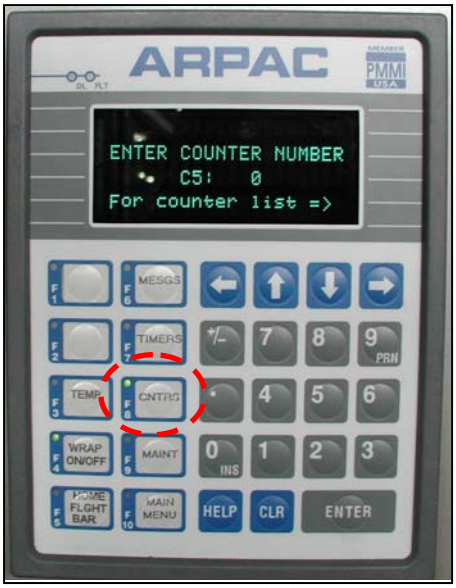


NOTE: There is a password lockout for this option.

Operator Interface

Machine Counters (optional)

The **F8** key displays the machine counters.



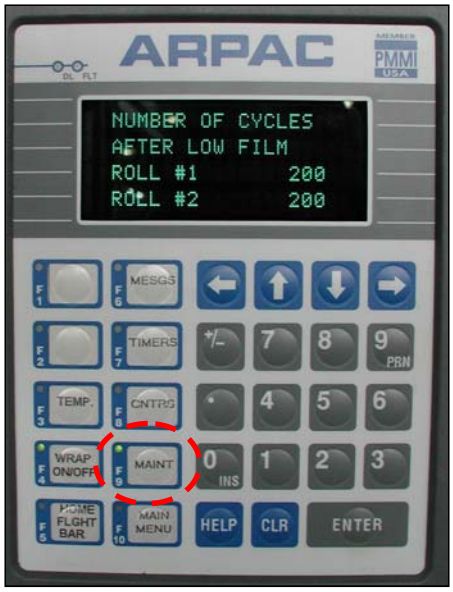
NOTE: There is a password lockout for this option.

Operator Interface

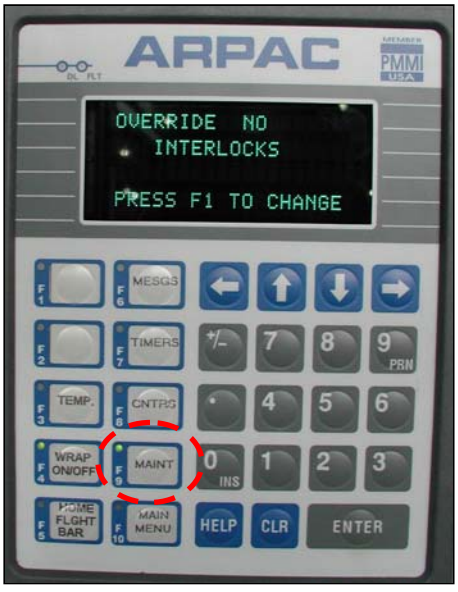
Maintenance

The **F9** key displays a menu of screens associated with the maintenance functions of the machine. These screens are primarily used to perform preventive and corrective maintenance. To view any option, select the option by pressing the corresponding number. To change an option, follow the directions on the screen. The following options are displayed when the **F9** key is pressed:

Machine Settings—depending on the machine, this option allows the operator to view and change machine settings, such as the number of times the machine will cycle when the low film alarm is sounded.



Override Interlock—allows the operator to override the wrapper or tunnel, regardless of signals received from other equipment. Select option using numeric keypad and press the **F1** key to toggle option on and off.



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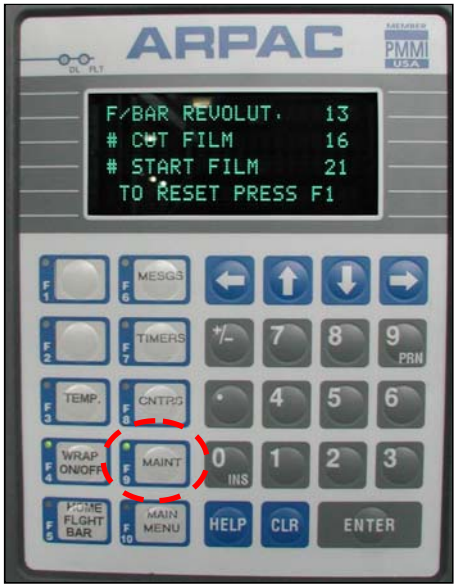
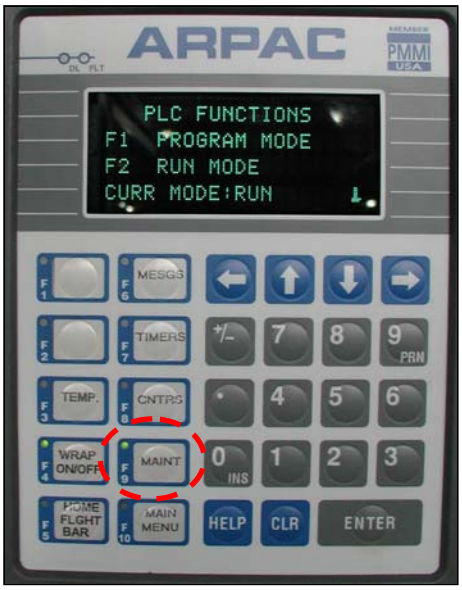
Operator Interface

Maintenance

Troubleshooting—gives data regarding the following: Flight Bar Revolutions, # Cut Film, and # Start Film. The number of times each of these actions is performed is recorded. This information is helpful when troubleshooting and allows the user to identify what is happening to cause a fault condition. During normal operating conditions these values should be equal. Press the **F1** key to reset the data.



PLC Functions—allows the machine to be run in either RUN or PROGRAM mode. The RUN option should be selected unless a qualified, trained engineer is performing programming functions on the machine. On some machines a key is needed to change this setting.

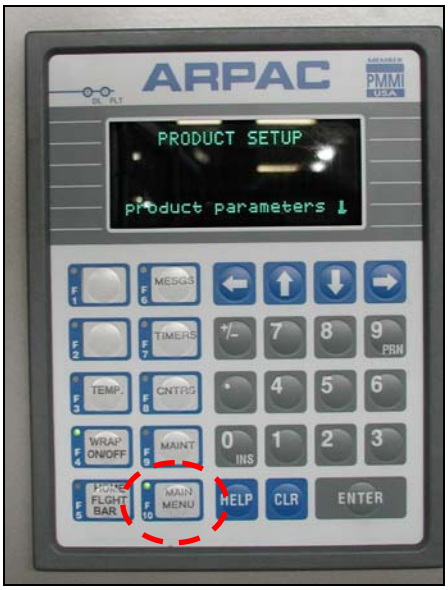


Operator Interface

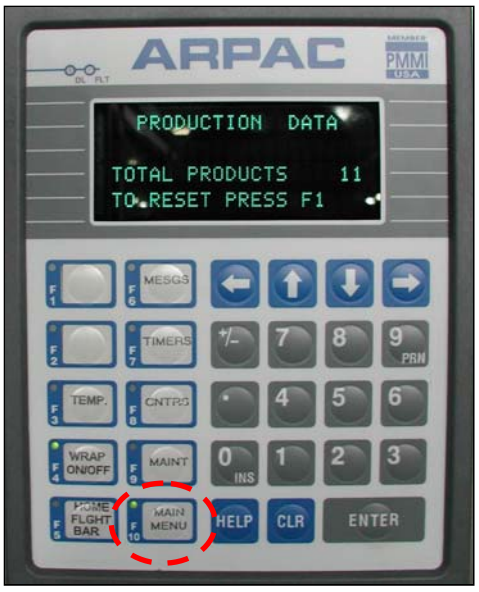
Main Menu

The **F10** key displays a menu of screens associated with machine set up functions. These screens are primarily used view and change settings related to a specific product. General data about the product profiles and the number of products run is also available. To view any option, select the corresponding number of the option. To change an option, follow the directions on the screen. The following options are displayed when the **F10** key is pressed:

Product Load/Setup—allows operator to view current settings for a specific product such as delay to start film, delay to start flight bars, machine rate, product length, product interval, machine rate, and film length, film feed and flight bar speeds, seal dwell time, maximum over-length allowed, and tunnel belt speed in normal operating mode and override mode.



Production Data—displays the current number of product that have been run through the machine. Press the **F1** key to zero out this count. This data is not kept in history and will be lost if the **F1** key is pressed.



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Operator Interface

Main Menu

Product Info—displays information such as product length, film length, and flight bar position.

NOTE: There is a password lockout for this option.

SECTION 6

Troubleshooting

Troubleshooting

This section was designed to help the operator and the maintenance personnel understand and resolve any possible abnormalities with the machine. Running conditions and operator interface error messages are covered.

Abnormal Running Conditions

The following section covers problems that may occur during the use of the machine. These problems do not trigger a message on the operator interface. For operator interface faults, refer to "Error Messages" below.

Weak Seal Line

The seal on the front, back or sides of the product pulls apart easily.

POSSIBLE CAUSE	SOLUTION
Dirty seal bars.	Inspect seal bars. Clean as necessary.
Defective cold bar.	Inspect Teflon tape on cold bar. Replace as necessary.
	Inspect the cold bar seal pad. Replace seal pads that are too hard or too soft.
Film not relaxed.	Adjust product spacing and/or speed of conveyors.
Defective temperature controller.	Inspect temperature controller. Replace as necessary.
Incorrect temperature setting (too high or low).	Adjust temperature on temperature control.
Blown circuit breaker.	Inspect circuit breaker. Correct as necessary.
Loose connection.	Check connection between thermocouple and temperature controller. Correct as necessary.
Seal dwell timer incorrect.	Change seal dwell time from the set point modify screen.
Incorrect seal bar alignment.	Inspect seal bar alignment. Correct as necessary.
Incorrect air pressure.	Check balance for equal pressure units with two air cylinders.

(Continued on the next page)

Abnormal Running Conditions

Weak Seal Line

The seal on the front, back or sides of the product pulls apart easily.

POSSIBLE CAUSE	SOLUTION
Incorrect air pressure.	Check and adjust the air pressure if necessary. Air pressure should be 80 psi minimum. Check airflow adjustment (solenoid/cylinder). Check for air leakage.
Incorrect data (auto preset option).	Check presets: film thickness and speed/minute.
Hot bar knife dull or misaligned.	Check that the knife blade is sharp and installed properly.
Improper film threading.	Inspect the film threading. Rethread as necessary.

Film Builds Up on Seal Bars

Film residue forms on the hot and/or cold seal bars, causing poor seals.

POSSIBLE CAUSE	SOLUTION
Dirty seal bars.	Clean the seal bars.
Temperature too high.	Adjust temperature on temperature control. Check thermocouple connection to temperature controller.
Defective cold bar.	Inspect Teflon tape on cold bar and replace if necessary.

Film Does Not Cut Completely

Seal bars close on the film but do not cut the film into two pieces.

POSSIBLE CAUSE	SOLUTION
Seal frame chain tensioners incorrectly tightened.	Check that the seal frame chain tensioners are adjusted equally and not over-tightened.
Knife blade improperly installed.	Check that the knife blade is sharp and installed properly.
Low air pressure.	Check the main air pressure.

Abnormal Running Conditions

Seal on Back of Product Opens

Film is cut, but the seal at the back of the package opens on the wrapper or in the tunnel.

POSSIBLE CAUSE	SOLUTION
Too much air is trapped with the sealed product.	Check to see that the perforators are positioned correctly. Consider the use of pre-punched or perforated film.
Seal line is not in the center of the product.	Readjust the seal head if needed.
Seal bars are closing too close to the back of the product.	Adjust product spacing.
Seal bar edge is damaged.	Inspect the seal bar and replace if necessary.
Defective film.	Inspect film for unusual sags or curls and replace film if necessary. If problem persists, contact your film supplier.
Low air pressure.	See the “Low Air Pressure” error message.
Defective air cylinder.	Inspect the air cylinder; replace as necessary.

Film is Not Feeding and Film Feed Rollers Turn

The film feed rollers are turning but no film is fed to the product.

POSSIBLE CAUSE	SOLUTION
Film feed rollers turn, but slip on the film.	Check that the pinch roller moves freely on its shaft. Check to see that the hold down springs at the end of the film feed roller are compressed to a height between 1 and 1-¼” Correct or replace as necessary.
Improper film threading.	Inspect the film threading. Rethread as necessary.

Abnormal Running Conditions

Film is Not Feeding and Film Feed Rollers Do Not Turn

The film feed rollers do not turn and no film is fed to the product.

POSSIBLE CAUSE	SOLUTION
Incorrect dancer bar trigger arm adjustment.	Adjust film feed trigger arms.
Film feed clutch does not engage.	Inspect connection between PLC and clutch. Correct as necessary. Inspect the clutch. Replace as necessary.
Film feed clutch engages, but slips.	Inspect the clutch. Clean or replace, as necessary.

Excessive Film Feed

More film than required is fed to the machine possibly accumulating in the dancer bar area.

POSSIBLE CAUSE	SOLUTION
Incorrect film tension	Adjust the dancer bar counterweights.
One or more film dancer rollers not turning freely.	Inspect dancer bar rollers and bearings. Clean or replace as necessary.
Incorrect dancer bar trigger arm adjustment.	Adjust the dancer bar trigger arm.

Machine is "Ready To Run" but Will Not Start

Machine will not begin cycle as indicated.

POSSIBLE CAUSE	SOLUTION
Latch or counter is locked in.	Press emergency stop push-pull button. Wait at least 30 seconds. This gives the machine's PLC time to reset. Pull out the emergency stop push-pull button. Press the power on push button to reset the latches and counters.

Abnormal Running Conditions

Poor Shrink Uniformity or No Shrink

The film does not shrink to the product as desired, or does not shrink at all.

POSSIBLE CAUSE	SOLUTION
Temperature too low.	Increase temperature preset on temperature controller. See section 5.
Incorrect air flow in tunnel.	Adjust the tunnel louvers. See section 5.
Air intakes on side of tunnel blocked by film.	Clean air intake openings in the tunnel.
Wrong rotation tunnel blower(s).	Inspect tunnel blower(s) motor rotation. Correct as necessary.
Tunnel blower(s) not running.	Check blower bearings. Replace as necessary. Check for overload. Correct problem or reset as necessary. Check for loose connections. Replace as necessary. Inspect tunnel blower motor(s). Replace as necessary.
Defective tunnel blower fan belt.	Inspect blower fan belt. Adjust or replace as necessary.
Cooling blower or other fan in plant blowing cooled air into tunnel.	Reposition blowers or fans.

Error Messages

The following section covers the error messages that may appear on the operator interface, and the course of action needed to rectify the problems.

Wrapper Door is Open

Connection between the wrapper door microswitch and magnet has been interrupted.

POSSIBLE CAUSE	SOLUTION
Wrapper door has been opened.	Close the wrapper door.
Door interlock damaged or defective.	Inspect the guard door interlock and wiring. Replace if necessary.

Downstream Interlock

The downstream equipment has stopped.

POSSIBLE CAUSE	SOLUTION
Downstream equipment halted.	Correct the problem and equipment will resume cycle mode automatically.
Bad connection to downstream equipment.	Inspect connection to downstream equipment. Adjust or replace as necessary.

Main Drive Fault

The PLC received a fault message from the adjustable frequency drive.

POSSIBLE CAUSE	SOLUTION
Drive controller fault.	Shut down the machine for a minimum of 1 minute and restart the machine. Refer to the controller specification.

Upper Film Supply Almost Empty

The low film photo eye on the upper or lower film rack has become unblocked.

POSSIBLE CAUSE	SOLUTION
Film supply is running low.	Be aware that the film roll will run out soon. Install new roll soon.
Dirty, defective or misaligned photo eye.	Inspect the photo eye and wiring. Clean, correct or replace as necessary.

Error Messages

Lower Film Supply Almost Empty

The low film photo eye on the upper or lower film rack has become unblocked.

POSSIBLE CAUSE	SOLUTION
Film supply is running low.	Be aware that the film roll will run out soon. Install new roll soon.
Dirty, defective or misaligned photo eye.	Inspect the photo eye and wiring. Clean, correct or replace as necessary.

Web Broken

The dancer bar film break trigger arm has moved away from the film break proximity switch.

POSSIBLE CAUSE	SOLUTION
Film web broken.	Remove film from machine. Reinstall the film roll.
Improper trigger arm adjustment.	Adjust the film break trigger arm as necessary.
Defective or misaligned proximity switch.	Inspect the proximity switch and wiring. Correct or replace as necessary.

Detect Excessive Run Time Upper Film Feed

The PLC has detected that the film feed has run continuously longer than the preset timer allows. Film may accumulate in the dancer bar area.

POSSIBLE CAUSE	SOLUTION
Incorrect film tension.	Adjust the dancer bar counterweights.
Improper film threading.	Inspect the film threading. Rethread as necessary.
One or more film dancer rollers not turning freely.	Inspect dancer bar rollers and bearings. Clean or replace as necessary.
Incorrect dancer bar trigger arm adjustment.	Adjust the dancer bar trigger arm.
Film feed rollers slip on the film.	Check to see that the hold down springs at the end of the film feed roller are compressed to a height between 1” and 1-¼”. Correct or replace as necessary.

Error Messages

Detect Excessive Run Time Lower Film Feed

The PLC has detected that the film feed has run continuously longer than the preset timer allows. Film may accumulate in the dancer bar area.

POSSIBLE CAUSE	SOLUTION
Incorrect film tension.	Adjust the dancer bar counterweights.
Improper film threading.	Inspect the film threading. Rethread as necessary.
One or more film dancer rollers not turning freely.	Inspect dancer bar rollers and bearings. Clean or replace as necessary.
Incorrect dancer bar trigger arm adjustment.	Adjust the dancer bar trigger arm.
Film feed rollers slip on the film.	Check to see that the hold down springs at the end of the film feed roller are compressed to a height between 1" and 1-¼". Correct or replace as necessary.

Seal Bar Blocked When Closing

The seal frame clear photoeye became blocked while the seal bars were closing.

POSSIBLE CAUSE	SOLUTION
Obstruction in the path of the seal bars.	Remove the obstruction.
Dirty, defective or misaligned photoeye.	Inspect the photoeye and wiring. Clean, replace or correct as necessary.

Error Messages

Seal Bar Temperature Too Low

The temperature in the seal bar has dropped below its preset amount.

POSSIBLE CAUSE	SOLUTION
Poor connection to temperature controller.	Inspect thermocouple connection to temperature controller. Adjust as necessary.
Blown circuit breaker.	Inspect circuit breaker, replace as necessary.
Defective thermocouple.	Inspect thermocouple, replace as necessary.
Defective temperature controller.	Inspect temperature controller. Replace as necessary. Also refer to Allen-Bradley Temperature Controller specification. It is included on the CD located in Chapter 12.

Seal Bar Jammed or Seal Bar Closing Time Too Long

The seal bar took longer than a preset amount of time to travel from the seal bar open proximity switch to the seal bar closed proximity switch.

POSSIBLE CAUSE	SOLUTION
Obstruction in the path of the seal bars.	Remove the obstruction.
Incorrect air pressure.	Check and adjust the air pressure if necessary. Air pressure should be 80 psi minimum. Check airflow adjustment (solenoid/cylinder). Check for air leakage.
Defective or misaligned proximity switch.	Inspect the proximity switch and wiring. Replace or correct as necessary.

Error Messages

Tunnel Heater Temperature Too Low

The tunnel heater temperature controller has detected that the tunnel has dropped below the set temperature.

.POSSIBLE CAUSE	SOLUTION
Open circuit in heater element tray.	Inspect heater element tray. Check for open circuit or loose wires. Tighten wires or replace coils as necessary.
Defective thermocouple.	Inspect thermocouple. Replace as necessary.
Defective temperature controller.	Refer to Allen-Bradley Temperature Controller specification. It is included on the CD located in Chapter 12.

Machine Power Off or Emergency Stop Engaged

Emergency Stop Button pressed.

POSSIBLE CAUSE	SOLUTION
E-Stop button pushed.	Pull EMERGENCY STOP button out and press CYCLE/STOP RESET.

In-Feed Drive Fault

In-feed drive stopped.

POSSIBLE CAUSE	SOLUTION
In-feed motor overload.	Check Allen-Bradley motor controller. Refer to Allen-Bradley Motor Controller specification. It is included on the CD located in Chapter 12.
Circuit breaker tripped.	Reset circuit breaker.

Error Messages

Lifter Jammed

POSSIBLE CAUSE	SOLUTION
Lifter jammed by obstruction.	Check for and remove any obstructions in lifter.
Proximity switches are malfunctioning or improperly mounted.	Check function of proximity switches 504PRX and 505PRX. There is a red LED mounted on each switch that lights up when it is supposed to be activated.
Solenoid valve malfunctioning.	Check function of solenoid valve 404SV. There is a red LED mounted on each switch that lights up when it is supposed to be activated. Also check air lines between solenoid valve and pneumatic cylinder that drives lift for kinks or leaks.

Main Ram Jammed

POSSIBLE CAUSE	SOLUTION
Main Ram jammed by obstruction.	Check for and remove any obstructions in main ram.
Proximity switches are malfunctioning or improperly mounted.	Check function of proximity switches 113PRX and 114PRX. There is a red LED mounted on each switch that lights up when it is supposed to be activated.
Solenoid valve malfunctioning.	Check function of solenoid valve 401SV. There is a red LED mounted on each switch that lights up when it is supposed to be activated. Also check air lines between solenoid valve and pneumatic cylinder that drives ram for kinks or leaks.

Error Messages

Side Pusher Jammed

POSSIBLE CAUSE	SOLUTION
Side pusher jammed by obstruction.	Check for and remove any obstructions in side pusher.
Proximity switches are malfunctioning or improperly mounted.	Check function of proximity switches 502PRX and 503PRX. There is a red LED mounted on each switch that lights up when it is supposed to be activated.
Solenoid valve malfunctioning.	Check function of solenoid valve 403SV. There is a red LED mounted on each switch that lights up when it is supposed to be activated. Also check air lines between solenoid valve and pneumatic cylinder that drives pusher for kinks or leaks.

Progressive Pusher Jammed

POSSIBLE CAUSE	SOLUTION
Main Ram jammed by obstruction.	Check for and remove any obstructions in main ram.
Proximity switches are malfunctioning or improperly mounted.	Check function of proximity switches 500PRX and 501PRX. There is a red LED mounted on each switch that lights up when it is supposed to be activated.
Solenoid valve malfunctioning.	Check function of solenoid valve 402SV. There is a red LED mounted on each switch that lights up when it is supposed to be activated. Also check air lines between solenoid valve and pneumatic cylinder that drives pusher for kinks or leaks.