



OPERATING & SERVICE PARTS MANUAL  
**HDS-215 COMBINATION SHRINK SYSTEM**  
**FOR HOT KNIFE AND IMPULSE MACHINES**



READ ALL INSTRUCTIONS CAREFULLY BEFORE OPERATING EQUIPMENT

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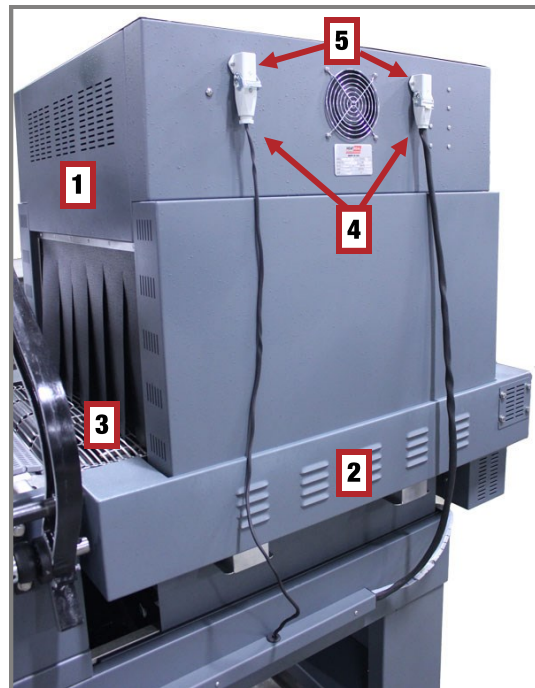


INSTALLATION AND OPERATION OF THIS SYSTEM MUST BE IN COMPLIANCE WITH ALL APPLICABLE ELECTRICAL AND SAFETY STANDARDS. A QUALIFIED ELECTRICIAN MUST CHECK THE ELECTRICAL SUPPLY CIRCUIT TO INSURE CORRECT VOLTAGE AND CAPACITY. THE SYSTEM IS DESIGNED FOR INDUSTRIAL USE BY QUALIFIED PERSONNEL ONLY.

- A single, grounded 220 volt circuit with a minimum 28 amp capacity dedicated circuit is all that is required to operate the unit. The power cord for the 220 volt system is shipped without a plug on it. The electrician or service person will have to install the proper plug to match the receptacle you are using or hard wire the power cord into a wall mounted box to meet local electrical codes.

## UNPACKING THE SYSTEM

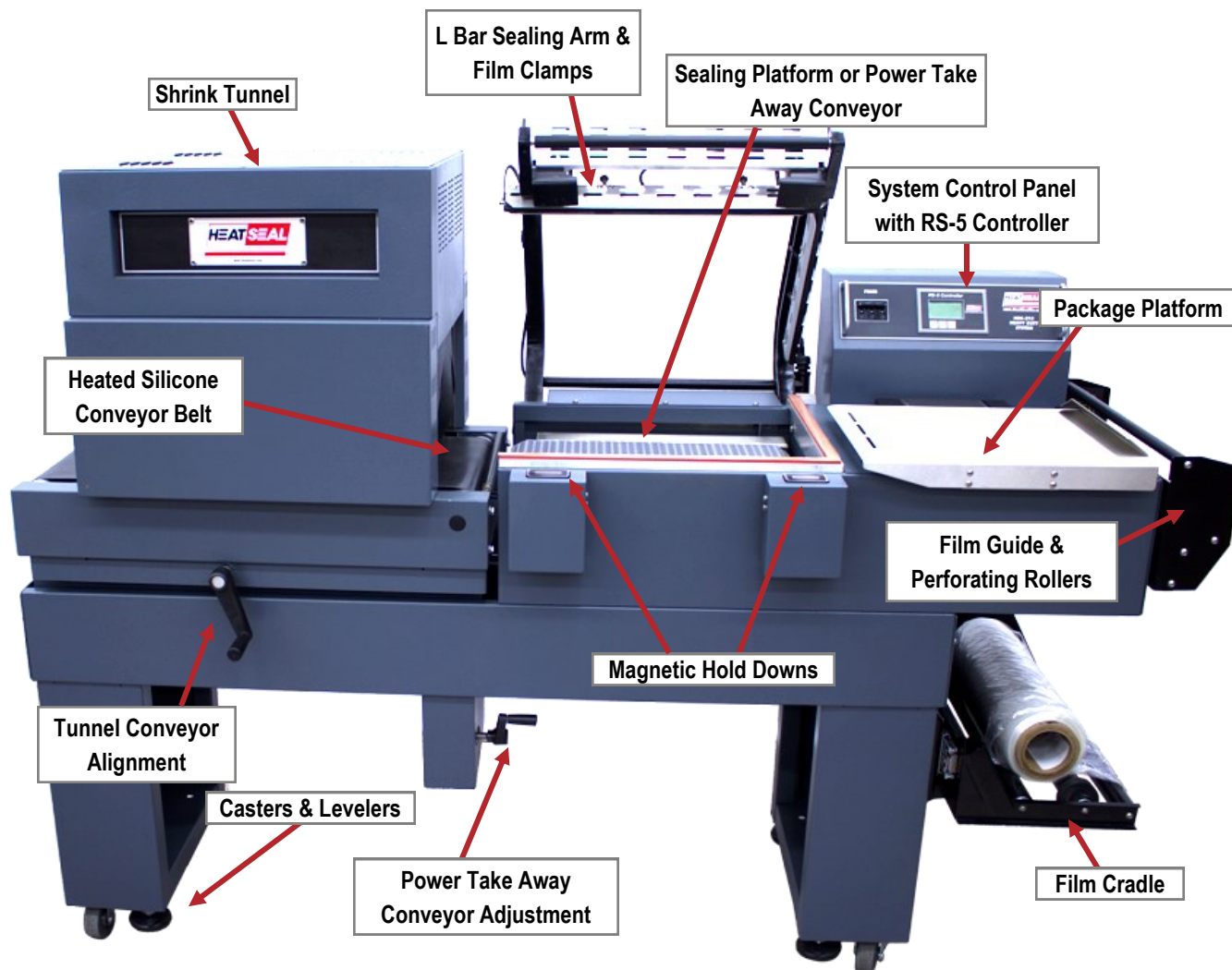
- The HDS-215 system is a unitized shrink wrapping machine that combines an L Bar Sealer with a Shrink Tunnel.
- Once the system has been unpackaged, check the system for any damage or missing parts. For your convenience, a wiring diagram is packaged with your unit. Heat Seal is not responsible for damage once the equipment has left our factory. Report any damage to your distributor and the shipping company. If there are missing parts, contact your distributor immediately.
- The shrink tunnel (1) is positioned on the base unit (2) over the heated conveyor belt (3) and rests on flanges of the belt (4) support plate locking into the notches of the conveyor housing.
- The tunnel chamber power cord (5) has a four pronged grounded plug (6) which should be connected to the receptacle on the back of the sealer base unit (7).
- Extra Non-Stick tape is shipped with each L Bar Sealer. This tape prevents film build up on the sealing wire and will assist in providing better seals with most films.
- On the back of the operating console is the main system power cord. The 220 volt system is shipped without the plug. Your local certified electrician or service technician will have to either install the proper plug to match the receptacle you use or hard wire the power cord into a power box to meet state and local electrical codes.



# STANDARD FEATURES



## MACHINE FEATURES



## MACHINE SPECIFICATIONS

Film Capacity	20" Wide
L Bar Sealing Area	20" L, 15" W
Inside Tunnel Dimensions	21" L, 14.5" W, 6" H
Overall Dimensions	76" L, 29" W, 57" H
Working Height	37" From Floor
Power Requirement	220V, 25A, 1P
Tunnel Wattage	3,600 Watts
Belt Wattage	500 Watts
Tunnel Conveyor Speed	0-20 feet/minute
Weight	625 lbs.

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# STANDARD FEATURES



## AIR VENTING

Air venting the film is required for most shrinking applications. The standard option is installed with a perforating roller (1) with adjustable punches (2) to make a series of small holes continuously as the film is being drawn from the roll in the normal operation of packaging. Another option is hot hole punch, where the a heated element located on the seal arm burns a single hole through the top layer of film.

## FILM CLAMPS

Film clamps (3) ensure a good seal. The clamps are located on the front and side sealing bars and are spring loaded (4) and set at the factory.



## MAGNETIC HOLD DOWNS

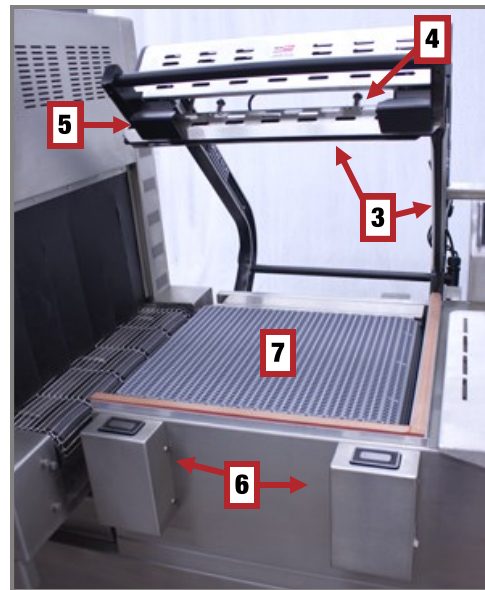
Magnet plates on the front of the sealing arm (5) and magnets on the front of the sealing area (6) are used to insure an even, consistent seal along the sealing pad. This will promote a high quality seal and improve your productivity of the machine.

The SEAL TIME control determines how long the magnets will hold down and release the arm when proper seal has been made.

## POWER TAKE AWAY CONVEYOR

This conveyor (7) is designed to increase wrapping efficiency by automatically moving the sealed package out of the sealing area once the sealing cycle has been completed.

An adjustment on the control panel marked PTA TIME controls how long the conveyor will run after the sealing cycle.





## SECURING THE SYSTEM

- The system is equipped with casters (1) for easy movement when necessary and levelers (2) to be used to level and provide stability to the system during the shrinking and sealing operation.



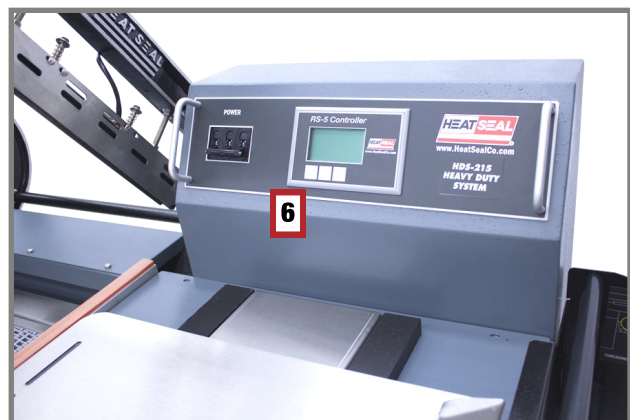
## SETTING UP THE FILM UNWIND

- The film cradle (3) is located on the legs of the unit and the film unwind rack (4) is located on the side of the base and is adjustable to accommodate various size packages with the same width roll of centerfold film.
- The powered film unwind (5) option is used to increase speed and productivity and allows the operator to easily insert the package into the film.



## MACHINE CONTROLS

- This single control panel (6) is for the operation of the complete system. It controls all functions for power, shrink temperature, sealing time and how frequently the conveyor moves packages out of the sealing area. It is essential that these functions be properly controlled to provide for the satisfactory performance of the system. These settings are detailed in the next few pages of this manual.

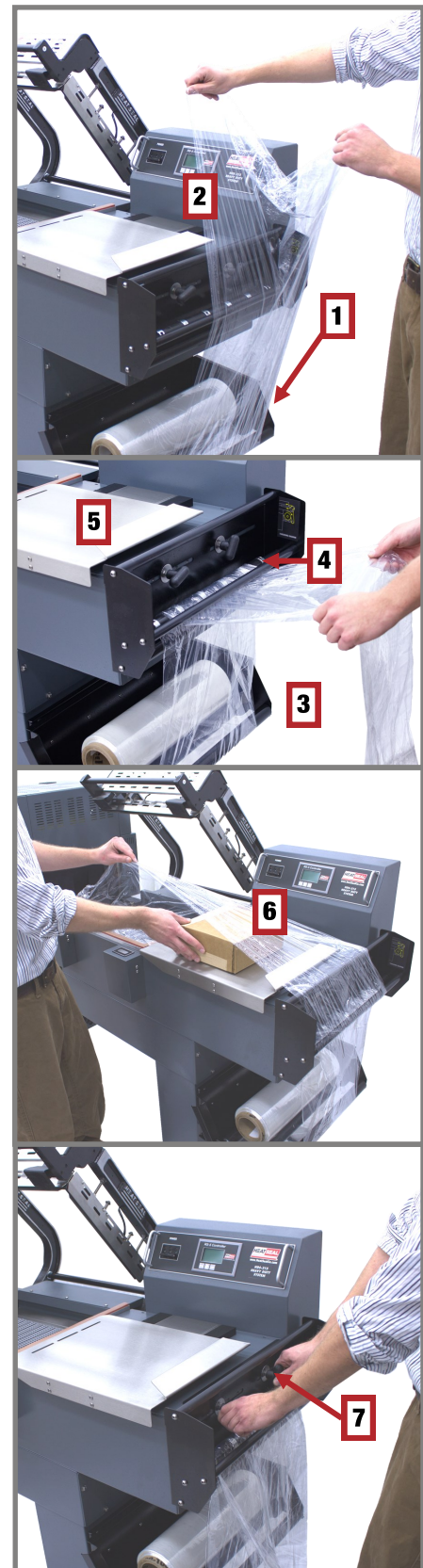
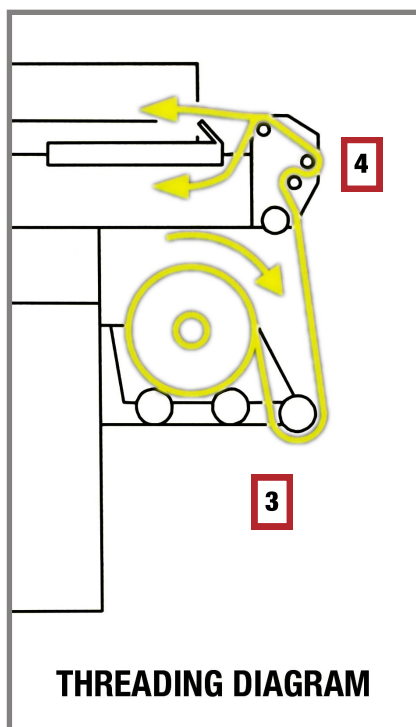


# PRELIMINARY SETUP & ADJUSTMENTS



## THREADING FILM

- Place roll of centerfold film on the film cradle (1) with the open side of the film (2) facing out towards the operator side and rolling out from underneath, coming over the top of the roll then under the front roller (3).
- Next, thread through the film rack and over the perforating roller (4) up to the package platform (5).
- (See Threading Diagram below)
- Place the package to be wrapped on the package platform.
- Place the top side of the open film (6) over the package to be sealed and then thread the bottom side underneath the platform to help pull film evenly from cradle.
- Then loosen the knobs (7) on the film rack to adjust the film to the back edge of the package to be sealed. Re-tighten the knobs to hold the rack in place.
- Using the correct width of film, this position will provide an adequate (about 2") amount of film across the front of sealing area.
- The above steps are a starting point and adjustments can be made to provide the appropriate amount of film around the package for shrinking and reduces the excess film.



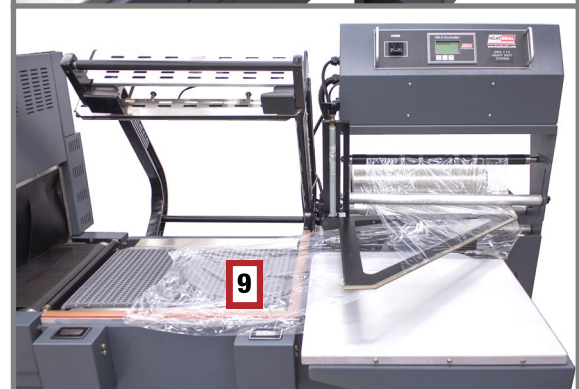
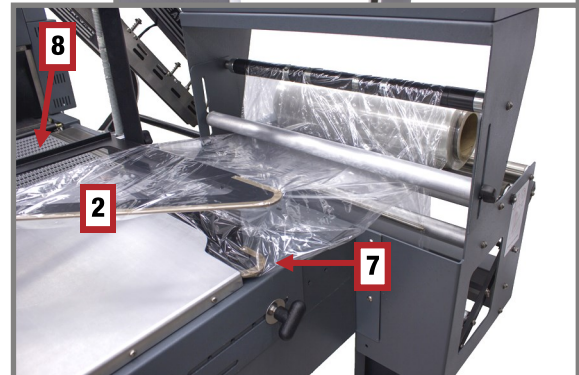
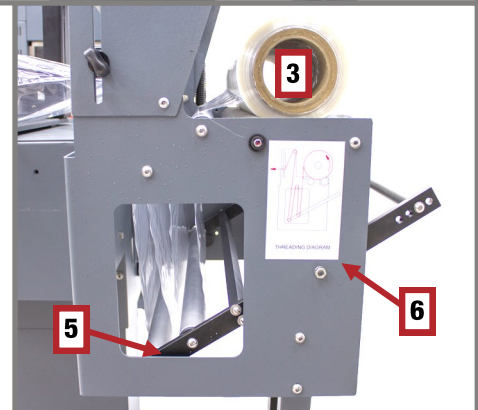
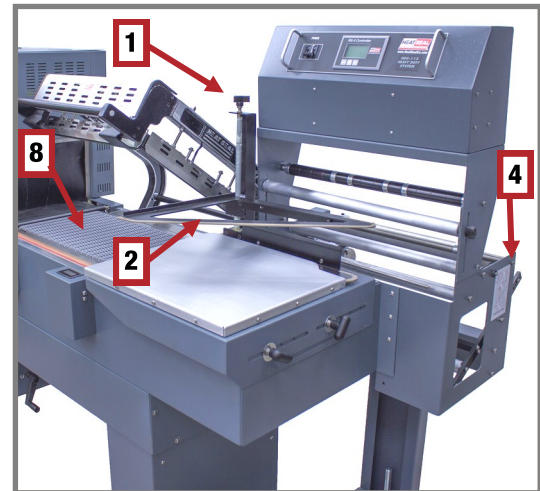
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# PRELIMINARY SETUP & ADJUSTMENTS



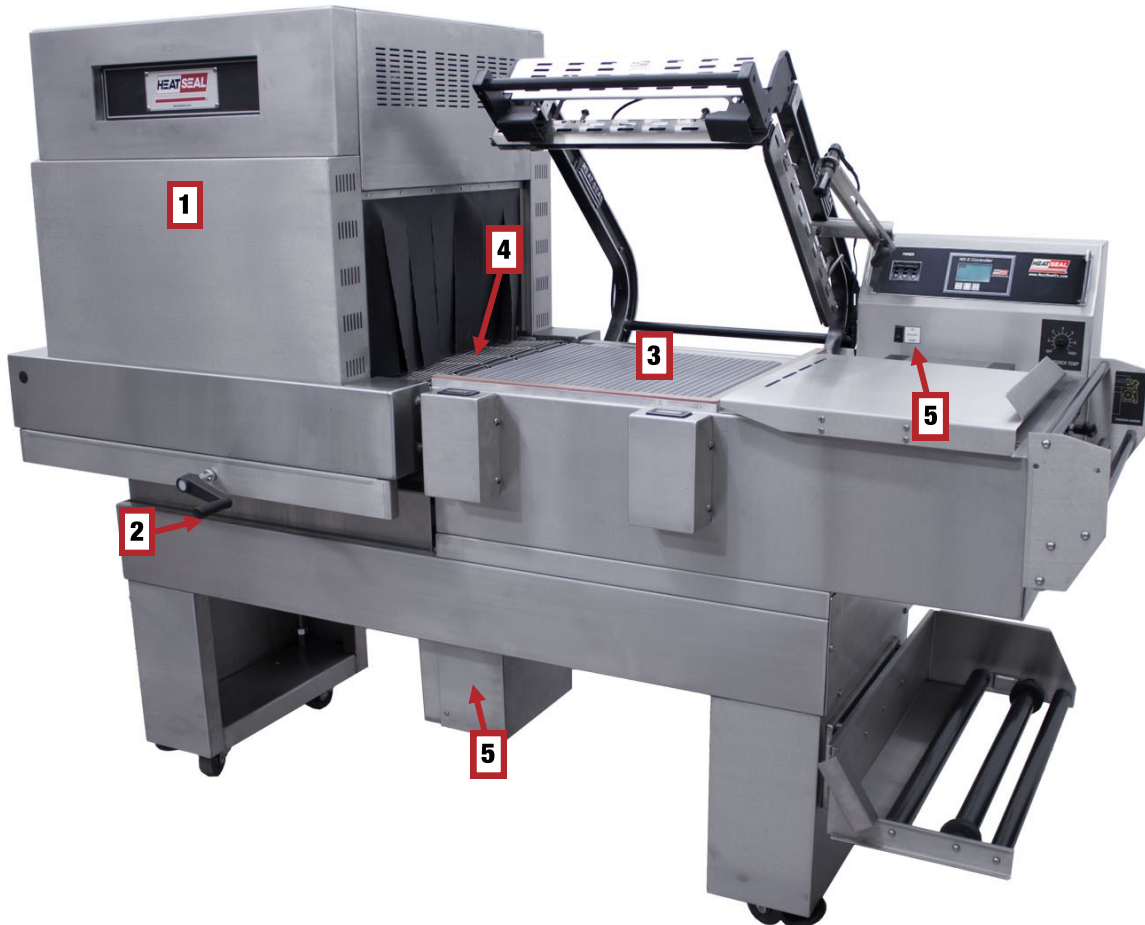
## THREADING FILM ON POWERED FILM UNWIND

- Adjust the film inverter (1) to the height necessary for your package by turning the knob with one hand and lowering the top bracket (2) with the other hand.
- Place centerfold film on the film cradle between the rollers (3) with the open, leading edges of the film to the right side of the cradle (4) with the open edge feeding over top of the roll down towards the dancer bar (5).
- The threading diagram (6) shows the proper way to thread the film across the rollers and dancer bar and up to the perforating rollers.
- To feed the film into the film inverter, pull a couple feet of film through the unwind and separate the two edges of the film and feed one edge over the top inverter plate (2) and feed the other edge under the bottom edge (7) between the top of the bottom edges and underneath the product tray.
- Then pull both edges of the film towards the sealing area (8) meanwhile smoothing the film out on the edge of the inverter plates (2).
- Once this is done, seal the open edges of the film (9) and place your package on the tray ready to be sealed.



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## ADJUSTING THE TUNNEL

- The tunnel chamber (1) on the HDS-215 can be adjusted with a back and forth adjustment to ensure the package is centered on the tunnel conveyor.
- The adjustment handle (2) for just the tunnel chamber is located in the front of the unit just under the tunnel conveyor.

## ADJUSTING THE CONVEYORS

- The power take away conveyor (3) from the L Sealer and the tunnel conveyor (4) can be adjusted simultaneously so that the seal from the L Bar will be at the vertical (profile) dimension of the package to be sealed.
- Adjust both the power take away and tunnel conveyors simultaneously by using the handle (5) at the end of the base or the powered lift option has an up and down button on the control panel.
- Although frequent adjustment isn't always necessary for most production applications, this adjustment makes it easy to quickly change over for products with different profiles and provides the stability needed when under load.

# RS-5 FEATURES & START UP



The RS-5 is a programmable digital controller designed to control adjustable machine settings with the easy to use control pad. The electronic controller is configured to control impulse or hot knife L Sealers equipped with or without a shrink tunnel.

## MENU SCREEN (1)

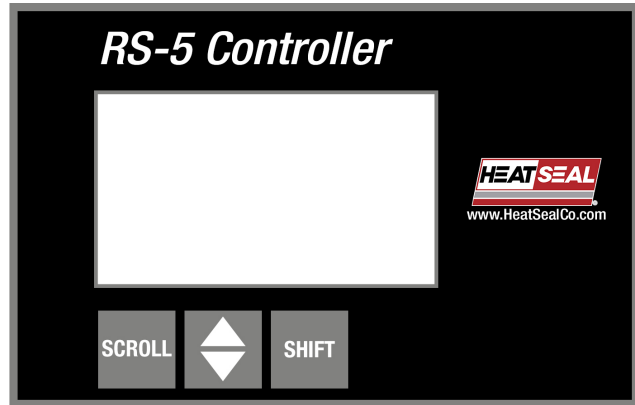
The Menu Screen displays the programmed machine settings.

## SCROLL (2)

The 'SCROLL' button navigates through menu options.

## UP/DOWN (3) & SHIFT (4)

Both the '▲ ▼' key and the 'SHIFT' key are used to make changes to individual variables within the menu options. The 'SHIFT' key is used in conjunction with the '▲ ▼' key. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key.



## POWERING ON AND WARM UP

If the machine is connected to service power, and the ON/OFF breaker is OFF, the menu screen will read OFF.

When the ON/OFF breaker is ON, the machine is beginning the warming up process. These are the screens that will show in the warm up mode:

- **For L Sealer Impulse Wire Machines**— the menu screen will change from 'OFF' to 'RUN', and is ready to begin the packaging process.
- **For L Sealer Hot Knife Machines**— the menu screen will read 'KNIFE TEMP OUT OF SPEC PLEASE WAIT'.
- **For L Sealer Shrink Tunnel Combination Systems with Impulse Wire**— the menu screen will read 'TUNNEL HEATING PLEASE WAIT' until the Tunnel Temp reaches the factory default or set point.
- **For L Sealer Shrink Tunnel Combination Systems with Hot Knife**— the menu screen will read 'KNIFE TEMP OUT OF SPEC PLEASE WAIT'.

Upon reaching the temperature set points, the menu screen will read 'RUN'. The operator may now begin the packaging process.

# OPERATING THE CONTROLLER



## BELOW DESCRIBES MENU SETTINGS FOR L SEALER IMPULSE MACHINES

### SEAL TIME

'SEAL TIME' is for impulse wire machines and is the amount of time the impulse wire is actually heating. This setting ranges from 0 to 2.5 seconds. The factory default setting is 1 second.

### TRIM

Depending on actual usage of the shrink machine, the 'TRIM' value uses an algorithm to adjust the seal time according to usage. This feature is used to help extend the life of the seal wire in high volume situations. The factory default setting is 5. Contact a local Heat Seal distributor for instructions on changing and adjusting the 'TRIM' function.

### DWELL TIME

'DWELL TIME' the amount of time the magnets hold the seal bars in the sealing position following the 'SEAL TIME' cycle, allowing the wire to cool and release from the film. The parameter is a number from 0 (Off) to 1.5 (Max) seconds. By pressing the '▲▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲▼' key. The factory default setting is at 0.8 seconds.

### SEAL CONV RUN TIME

The 'SEAL CONV RUN TIME' is the time the sealing conveyor runs after the seal has been made to transfer the product away from the seal area and/or into the Shrink Tunnel. The factory default setting is 2 seconds on a scale from 0 (Off) to 10 (Max) seconds. By pressing the '▲▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲▼' key.

### SEAL CONV SPEED

The factory default setting is set at 5 on a range from 0 (Off) to 10 (Fast). By pressing the '▲▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲▼' key. \*\*On retrofit kits, the Conveyor Speed is controlled by a knob on the control panel.\*\*

### CLEAN

Use this menu screen when cleaning the seal wires. Press the 'SHIFT' key to heat the wires for 2 seconds and burn off any film residue.

# OPERATING THE CONTROLLER



## BELOW DESCRIBES MENU SETTINGS FOR L SEALER HOT KNIFE MACHINES

### SEAL TIME

'SEAL TIME' is the amount of time the magnets hold the seal bars in the sealing position. This setting ranges from 0 to 2.5 seconds. The factory default setting is 1 second.

### SIDE SEAL TEMP

This menu option shows two temperature readings for the hot knife crossing the path of the seal conveyor. The first temperature reading is the Set Point (SET), the second temperature reading is the Actual temperature (ACT). The factory default setting for the Set Point is 300°F., and the Max setting is 375°F. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key.

### FRONT SEAL TEMP

This menu option shows two temperature readings for the hot knife running parallel to the seal conveyor. The first temperature reading is the Set Point (SET), the second temperature reading is the Actual temperature (ACT). The factory default setting for the Set Point is 300°F, and the Max setting is 375°F. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key.

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### CONV SPEED

The factory default setting is set at 5 on a range from 0 (Off) to 10 (Fast). By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key. \*\*On retrofit kits, the Conveyor Speed is controlled by a knob on the control panel.\*\*

### SEAL CONV SPEED (For Model HDS-320)

The factory default setting is set at 5 on a range from 0 (Off) to 10 (Max). By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key. \*\*On retrofit kits, the Conveyor Speed is controlled by a knob on the control panel. On an HDS-320 combination system the seal conveyor and the tunnel belt are adjusted separately. The SEAL CONV SPEED refers to the sealing conveyor. \*\*



## MENU SETTINGS CONTINUED FOR COMBINATION IMPULSE MACHINES

### TUNNEL TEMP

This menu option shows two temperature readings. The first temperature reading is the Set Point (SET), the second temperature reading is the Actual temperature (ACT) in the tunnel. The factory default setting for the Set Point is 300°F. The 'TUNNEL TEMP' has a Max setting of 375°F. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key.

### TUNNEL BELT TEMP

The 'TUNNEL BELT TEMP' has a parameter range from 0 (Off) to 10 (Max). The factory default setting is 5. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key.

\*\*This only applies to tunnels with a bottom heated belt.\*\*

### CONV SPEED

The factory default setting is set at 5 on a range from 0 (Off) to 10 (Max). By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key. \*\*On retrofit kits, the Conveyor Speed is controlled by a knob on the control panel. \*\*

### TUNNEL BELT SPEED (For Model HDS-320)

This parameter is a number from 0 (Slow) to 10 (Fast). The factory default setting is 5. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key. \*\* On retrofit kits, the Conveyor Speed is controlled by a knob on the control panel. On an HDS-320 combination system the seal conveyor and the tunnel belt are adjusted separately. The TUNNEL BELT SPEED refers to the tunnel belt. \*\*

### CLEAN

Use this menu screen when cleaning the seal wires. Press the 'SHIFT' key to heat the wires for 2 seconds and burn off any film residue.

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## BELOW DESCRIBES MENU SETTINGS FOR COMBINATION HOT KNIFE MACHINES

### SEAL TIME

'SEAL TIME' is the amount of time the magnets hold the seal bars in the sealing position. This setting ranges from 0 to 2.5 seconds. The factory default setting is 1 second.

### SIDE SEAL TEMP

This menu option shows two temperature readings for the hot knife crossing the path of the seal conveyor. The first temperature reading is the Set Point (SET), the second temperature reading is the Actual temperature (ACT). The factory default setting for the Set Point is 300°F., and the Max setting is 375°F. By pressing the '▲ ▼', the value of the menu option will increase. To decrease the value, hold the 'SHIFT' key while pressing the '▲ ▼' key.

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## MENU SETTINGS CONTINUED FOR COMBINATION HOT KNIFE MACHINES

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## TROUBLESHOOTING GUIDE FOR IMPULSE MACHINES L SEALER AND COMBINATION SYSTEMS

**PROBLEM:****TUNNEL HEAT DOES NOT SEEM ACCURATE****SOLUTION:**

Check the Actual (ACT) and Set point (SET) temperatures in the menu option 'TUNNEL TEMP'.

**If: The ACT is within 10°F of the SET,**

**Then:** Operation is normal. Stop operation for a few minutes to verify that the ACT temp comes back to the SET temp.

**If: The ACT shows an ambient (room temperature) reading,**

**Then:** Check the 'RUN' or start screen. If that screen reads 'TUNNEL HEATING PLEASE WAIT' for longer than 20 minutes, there could be a heating element, thermostat, or wire connection malfunction. Call a local Heat Seal distributor to properly diagnose and fix this issue.

**If: The ACT shows a reading between -58°F and 20°F,**

**Then:** There could be an issue with a temperature probe or RTD. For Impulse machines there is only one RTD probe, found in the Tunnel. Call a local Heat Seal distributor to properly diagnose and fix this issue.

**If: The ACT shows a reading of 392°F,**

**Then:** The temperature probe, or RTD, is probably disconnected. Reconnect the RTD in the Tunnel and check the 'TUNNEL TEMP'. If the ACT temperature comes back to the SET temperature, and is in normal range, continue operation.

**If: The ACT is more than 10°F above the SET temperature,**

**Then:** There could be an issue with the blower motor. If the 'RUN' screen states 'TUNNEL TEMP HIGH' for more than 20 minutes, or if the ACT TEMP continues to spike, TURN OFF AND UNPLUG THE UNIT. Call a local Heat Seal distributor to properly diagnose and fix this issue before any further use.

**PROBLEM:****SEAL WIRES ARE NOT GIVING A CLEAN CUT****SOLUTION:**

The Seal Wires may need to be cleaned. Check by looking at the wires to see if there is any film debris build up. To clean scroll to the menu option: 'CLEAN, PRESS SHIFT' and press the SHIFT key for 2 seconds to superheat and burn off any residue. We recommend cleaning the wires once a day to achieve optimal sealing production. To avoid burn-out of the wires, do not repetitively press the Shift button while in clean mode. When cleaning the wires more than once, wait at least five minutes between cleaning.

**\*\*Refer to the 'TROUBLESHOOTING L BAR & SHRINK TUNNEL PACKAGES' guide for a full list of film and sealing troubles and solutions.\*\***

**PROBLEM:****THE CONVEYOR SPEED CONTROL IS NOT CHANGING THE SPEED****SOLUTION:**

If the speed control for the Tunnel Belt or the Seal Conveyor Belt is malfunctioning, there may be an issue with the drive board. Call a local Heat Seal distributor to diagnose and fix this problem.

**PROBLEM:****CONTROLLER DISPLAY DOES NOT WORK****SOLUTION:**

First, check to see if the machine is plugged in and the outlet is in proper working condition. An absent display could indicate defective power cord, flipped breaker, loose wiring, or inaccurate power coming in. A certified electrician should diagnose and fix any electrical problem.

**PROBLEM:****THE L-BAR DOES NOT LATCH AND SEAL****SOLUTION:**

This could indicate a malfunctioning magnet, or defective cycle switch. Call a local Heat Seal distributor to properly diagnose and fix this issue.

- IF ANY OF THE PRECEDING TROUBLESHOOTING PROCEDURES DO NOT WORK, PLEASE CALL A LOCAL HEAT SEAL DISTRIBUTOR SERVICE DEPARTMENT FOR FURTHER ASSISTANCE.

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## TROUBLESHOOTING GUIDE FOR HOT KNIFE MACHINES L SEALER AND COMBINATION SYSTEMS

**PROBLEM:****TUNNEL HEAT DOES NOT SEEM ACCURATE****SOLUTION:**

Check the Actual (ACT) and Set point (SET) temperatures in the menu option 'TUNNEL TEMP'.

**If: The ACT is within 10°F of the SET,**

**Then:** Operation is normal. Stop operation for a few minutes to verify that the ACT temp comes back to the SET temp.

**If: The ACT shows an ambient (room temperature) reading,**

**Then:** Check the 'RUN' or start screen. If that screen reads 'TUNNEL HEATING PLEASE WAIT' for longer than 20 minutes, there could be a heating element, thermostat, or wire connection malfunction. Call a local Heat Seal distributor to properly diagnose and fix this issue.

**If: The ACT shows a reading between -58°F and 20°F,**

**Then:** There could be an issue with a temperature probe or RTD. For Hot Knife machines there are three RTD probes: one for the Tunnel, one for the Side Seal Bar, and one for the Front Seal Bar. Call a local Heat Seal distributor to properly diagnose and fix this issue.

**If: The ACT shows a reading of 392°F,**

**Then:** The temperature probe, or RTD, is probably disconnected. In a Hot Knife machine there are three RTD probes for the Tunnel, Side Knife, and Front Knife. To diagnose, check the temperature screen for the Tunnel, Side Knife, and Front Knife. The screen that reads 392°F corresponds to the disconnected RTD. Reconnect the RTD in question, and check the temperature screen again. If the ACT temperature comes back to the SET temperature, and is in normal range, continue operation.

**If: The ACT is more than 10°F above the SET temperature,**

**Then:** There could be an issue with the blower motor. If the ACT TEMP continues to spike, TURN OFF AND UNPLUG THE UNIT. Call a local Heat Seal distributor to properly diagnose and fix this issue before any further use.

**PROBLEM:****HOT KNIVES ARE NOT GIVING A CLEAN CUT****SOLUTION:**

This may indicate an issue with alignment, seal pads, non-stick tape, or seal magnet pressure.

**\*\*Refer to the 'TROUBLESHOOTING L BAR & SHRINK TUNNEL PACKAGES' guide for a full list of sealing or film troubles and solutions.\*\***

**PROBLEM:****THE CONVEYOR SPEED CONTROL IS NOT CHANGING THE SPEED****SOLUTION:**

If the speed control for the Tunnel Belt or the Seal Conveyor Belt is malfunctioning, there may be an issue with the drive board. Call a local Heat Seal distributor to diagnose and fix this problem.

**PROBLEM:****CONTROLLER DISPLAY DOES NOT WORK****SOLUTION:**

First, check to see if the machine is plugged in and the outlet is in proper working condition. An absent display could indicate defective power cord, flipped breaker, loose wiring, or inaccurate power coming in. A certified electrician should diagnose and fix any electrical problem.

**PROBLEM:****THE L-BAR DOES NOT LATCH OR SEAL****SOLUTION:**

This could indicate a malfunctioning magnet, or defective cycle switch. Call a local Heat Seal distributor to properly diagnose and fix this issue.

**PROBLEM:****HOT KNIFE ACT TEMP READS between -58°F and 20°F, or 392°F****SOLUTION:**

This could indicate a disconnected or bad RTD in the Front or Side Hot Knife. Call a local Heat Seal distributor to properly diagnose and fix this issue.

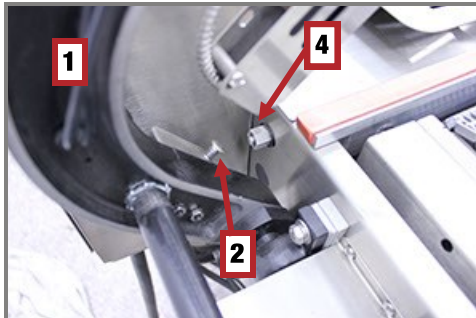
- IF ANY OF THE PRECEDING TROUBLESHOOTING PROCEDURES DO NOT WORK, PLEASE CALL A LOCAL HEAT SEAL DISTRIBUTOR SERVICE DEPARTMENT FOR FURTHER ASSISTANCE.

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## SYSTEM OPERATION

- Due to the various types and gauges of shrink films, the sealing temperature control will require adjustment to obtain the optimum setting for the film being sealed. Always use the minimum setting that will provide a satisfactory seal to achieve maximum heat knife life and minimize replacement of the sealing pads.

## ADJUSTING THE SEALING CYCLE



- Located at the back of the sealing arm (1) is an adjustment screw type actuator (2) which starts the sealing cycle as the sealing arm is brought into position. The seal cycle must start when the arm is approximately 1/8" above the seal pad (3). This is factory adjusted, however, if adjustment is required, use the following steps as a guide:

- Turn the machine off.
- Bring the arm slowly toward the seal position, the switch (4) will click when the cycle begins. If the arm is too high (over 1/8"), adjust screw away from the switch.



- If the arm reaches the seal position without actuating the sealing cycle, adjust the screw down to actuate at 1/8" above the seal pad, being careful not to extend the screw so far down as to damage the switch. Adjustments should be made no more than one turn of the screw at a time.

## ADJUSTING THE TUNNEL TEMPERATURE

- As with the "L" sealer, the various types and gauges of film will require some experimenting with the temperature setting of the shrink tunnel and the conveyor speed to obtain the desired shrink. Because some time is required for the tunnel chamber to adjust to a temperature setting change, it is recommended that the conveyor speed adjustment be used to change the time exposure of the package to the available heat for shrinking. If after achieving the

desired shrink of the package, the conveyor is running too slow for required production, increase the temperature setting on the tunnel. When the tunnel chamber has stabilized, increase the conveyor speed. It is recommended for the most economical operation, that the tunnel temperature be maintained at the lowest setting compatible with the shrink film and the rate of production.

# OPERATING & SHRINK PROCEDURE



## WRAPPING THE PACKAGE

After threading the film from the film cradle and rack and over and under the package tray (1), seal the open end of the film with the L sealer (2) by placing open end on the power take away conveyor and sealing open end, readying it to seal package.

## SEALING THE PACKAGE

Place the package to be wrapped (3) on the tray inserting it between the centerfold film. Holding the product firmly with the right hand (4) and the corner of the film with the left (5), move onto conveyor.

Placed package in the lower right corner near where the arms meet (6), allowing for sufficient film margin (about 2" each side) for an adequate shrink.

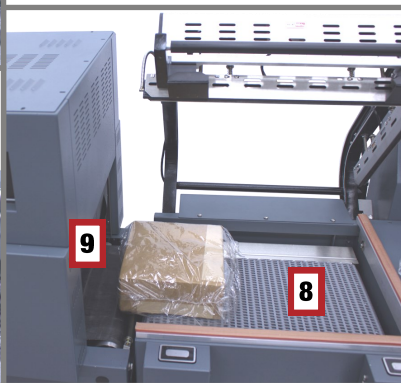
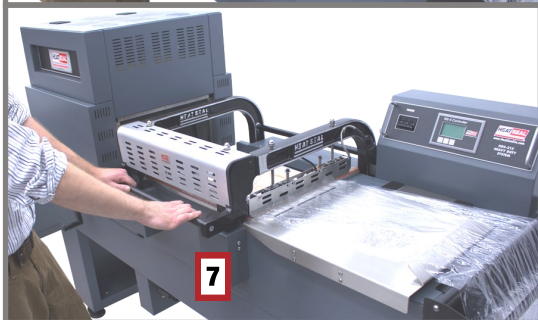
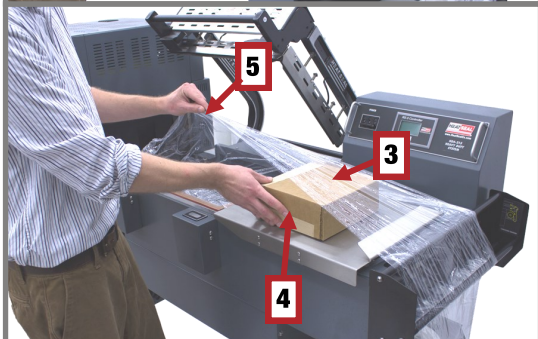
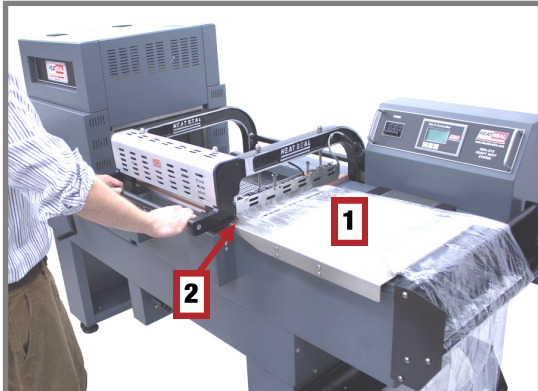
The arm is lowered to the sealing position which activates the sealing cycle. Magnets (7) will hold the arm in place during the cycle and release at the end of dwell cycle. The open sides of the film are sealed and is ready for the next package.

## SHRINKING THE PACKAGE

The sealed package in loose film is moved out of the seal area by the power take away conveyor (8) onto the tunnel conveyor belt (9). The package is conveyed through the tunnel chamber and recirculating, heated air shrinks the film creating a clear, tight package (10).

Once the first package has been wrapped, sealed and shrunk, check the package for any imperfections such as dog ears, broken seals, angel hairs and the like. These and other problems can be corrected by following the troubleshooting instructions at the end of this manual.

These procedures will help to achieve a clean and attractive seal and keep production at a maximum standard.







## RECOMMENDED CLEANING

### L BAR SEALER

HOT KNIFE	Clean with soft dry cloth only. Any abrasives will permanently damage the hot knife.
SEALING WIRES	Clean daily. Use a soft, brass wire brush.
SEALING PADS	Clean daily. Wipe clean with a cloth and then spray silicone to help keep clean.
PRODUCT TRAY	Wipe down daily.
PTA CONVEYOR	Clean periodically. Remove to clean underneath.


### SHRINK TUNNEL

CONVEYOR	Clean periodically. Tunnel hood can be removed for easy access.
EXTERIOR	Wipe down periodically.

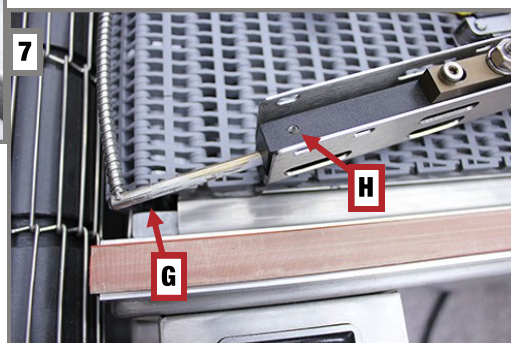
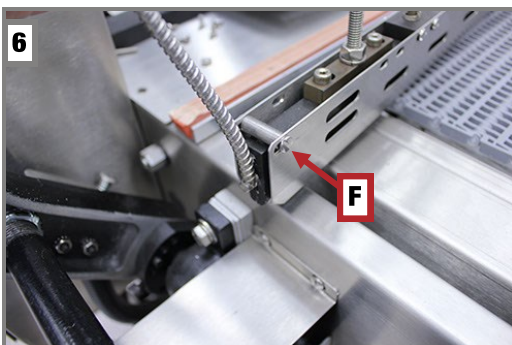
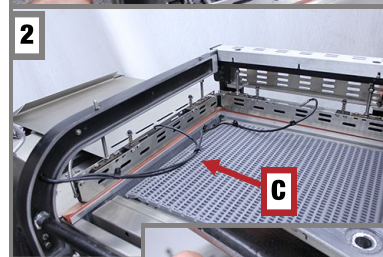
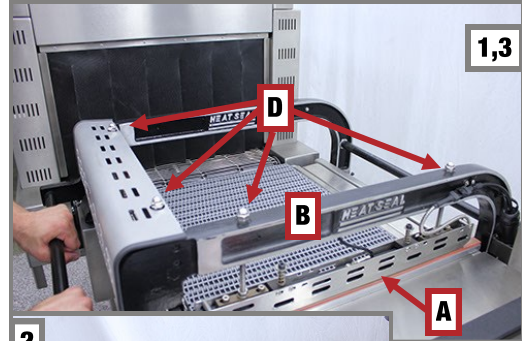
## CHECKING THE SEAL PADS

- The L Sealer seal pad will show wear from constant use and will need replaced when problems occur or it no longer provides a constant seal for your packages. See your Heat Seal Price List for replacement part information.

## SERVICING THE HEATING ELEMENTS FOR HOT KNIFE SYSTEMS

 **MAKE SURE ALL POWER HAS BEEN SHUT OFF AND DISCONNECTED AND ELEMENTS HAVE COOLED BEFORE SERVICING THE ELEMENTS TO PREVENT PERSONAL INJURY TO THE SERVICE TECHNICIAN AND DAMAGE TO EQUIPMENT. ONLY QUALIFIED SERVICE TECHS SHOULD PERFORM THIS SERVICING.**

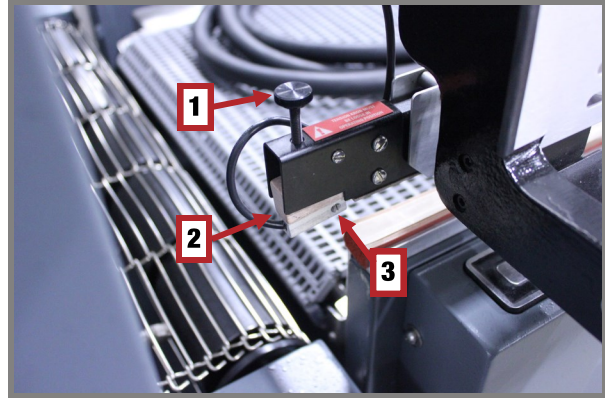
1. When replacing an old heater rod with a new heater rod assembly, the seal bars/film clamp assembly (A) must be removed from the seal arm (B).
2. Remove the flat head screws for the wire fasteners (C).
3. Remove the four 9/16 acorn nuts (D) and 1/2 nuts from the top of the seal arm assembly (B).
4. Unplug the heater element cord (E).
5. Slide the seal bars/film clamp assembly (A) out of the seal arm (B).
6. Remove the film clamp brace (F) at the end of the seal bar of the seal bar that needs to be replaced.
7. To remove the element (G) from the seal bar, loosen the set screw (H) and slide out the element.
8. Reassemble in reverse order above.
9. Restart machine and check seal head alignment.



## SERVICING THE SEALING WIRES

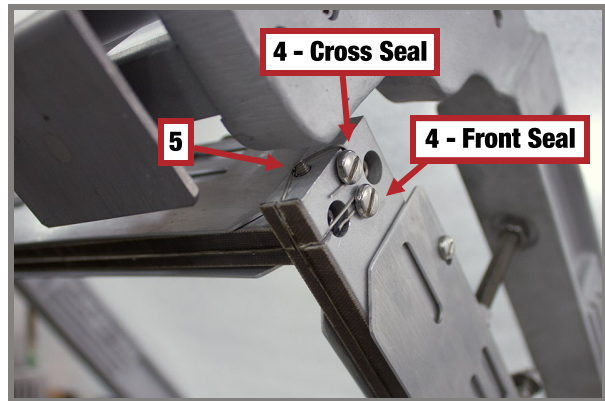
### TO REMOVE WIRES

- Tighten the knob (1) on the tension block (2) to relieve the sealing wire tension.
- Using a small screwdriver, loosen the screw (3) in the side of the tension block and pull out the sealing wire.
- Loosen the screw (4) at the other end where the wires cross and remove the sealing wire.



### TO REPLACE WIRES

- Insert the new wire in the tension block and re-tighten the screw.
- With pliers in hand, tightly wrap the new wire around the screw at the other end (4) and re-tighten the screw. Then loosen the knob (1) to create tension on the new wire.
- \*For HDS Impulse systems, wrap cross seal wire (4) around the set screw (5) before wrapping the wire around the tensioning screw.



COMPLETELY LOOSEN BOTH KNOBS ON THE TENSION BLOCKS BEFORE TESTING THE SEALER. IF THE WIRES ARE LOOSE WHEN COOL, FOLLOW THE REPLACEMENT STEPS ABOVE TO RETENSION WIRES.

# TROUBLESHOOTING GUIDE



<b>PROBLEM:</b>	<b>FILM SPLITS ALONG CENTER FOLD</b>
<b>SOLUTION:</b>	CHECK FOR DAMAGE TO FILM ROLL.
<b>PROBLEM:</b>	<b>FILM SPLITS AT HOLE PUNCH</b>
<b>SOLUTION:</b>	CHECK HOLE PUNCH FOR PROPER ALIGNMENT. CHECK THE CONDITION OF THE PUNCHED HOLES.
<b>PROBLEM:</b>	<b>FILM SPLITS AT TOP OF PACKAGE</b>
<b>SOLUTION:</b>	CHECK HOLE PUNCH FOR PROPER ALIGNMENT. CHECK THE CONDITION OF THE PUNCHED HOLES. MAKE SURE THE TUNNEL IS FUNCTIONING PROPERLY. SPEED UP THE TUNNEL CONVEYOR. DECREASE THE TUNNEL TEMPERATURE. ADJUST THE AIR FLOW.
<b>PROBLEM:</b>	<b>FILM SMOKES EXCESSIVELY</b>
<b>SOLUTION:</b>	CHECK AND CLEAN WIRE AND WIRE INSULATION. CHECK AND CLEAN KNIFE BLADE. CHECK CONDITION OF SEALING PADS. CHECK CONDITION OF NON-STICK TAPE. CHECK FOR EVEN ARM AND MAGNET PRESSURE. CHECK THE MINIMUM SEALING TEMPERATURES. INCREASE THE SEALING TEMPERATURES. DECREASE THE DWELL TIME.
<b>PROBLEM:</b>	<b>FILM BUILDUP ON SEALING WIRE</b>
<b>SOLUTION:</b>	CHECK AND CLEAN WIRE, WIRE INSULATION OR KNIFE BLADES. CHECK THE CONDITION OF THE SEALING PADS. CHECK THE NON-STICK TAPE. CHECK FOR EVEN ARM AND MAGNET PRESSURE. CHECK THE MINIMUM SEALING TEMPERATURES. INCREASE THE SEALING TEMPERATURES. CHANGE THE NON-STICK TAPE.
<b>PROBLEM:</b>	<b>CROWS FEET</b>
<b>SOLUTION:</b>	SLOW DOWN TUNNEL CONVEYOR. INCREASE THE TUNNEL CHAMBER TEMPERATURE.
<b>PROBLEM:</b>	<b>FISH EYES</b>
<b>SOLUTION:</b>	MAKE SURE TUNNEL IS FUNCTIONING PROPERLY. SLOW DOWN TUNNEL CONVEYOR. USE LESS FILM AROUND THE PACKAGE. INCREASE THE TUNNEL TEMPERATURE.

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# TROUBLESHOOTING GUIDE



**PROBLEM: ANGEL HAIR**

**SOLUTION:** CHECK AND CLEAN WIRE, WIRE INSULATION OR KNIFE BLADES.  
CHECK CONDITION OF SEALING PADS AND NON-STICK TAPE.  
CHECK FOR EVEN ARM AND MAGNET PRESSURE.  
CHECK THE MINIMUM SEALING TEMPERATURES.  
CHECK THE SEAL CYCLE IS COMPLETE.  
MAKE SURE THE MAGNETS RELEASE AT THE SAME TIME.  
CHECK THE CONDITION OF THE AIR RELEASE HOLES.  
INCREASE THE SEALING TEMPERATURES.  
CHANGE THE NON-STICK TAPE.

**PROBLEM: DOG EARS**

**SOLUTION:** USE LESS FILM AROUND THE PACKAGE.  
SLOW DOWN THE TUNNEL CONVEYOR.  
CHECK THE CONDITION OF THE AIR RELEASE HOLES.  
INCREASE THE TUNNEL TEMPERATURE.

**PROBLEM: BURN HOLES (HOT SPOTS)**

**SOLUTION:** CHECK THE CONDITION OF THE AIR RELEASE HOLES.  
SPEED UP THE TUNNEL CONVEYOR.  
DECREASE THE TUNNEL CHAMBER TEMPERATURE.

**PROBLEM: ERRATIC SHRINK**

**SOLUTION:** MAKE SURE THE TUNNEL IS FUNCTIONING PROPERLY.  
SLOW DOWN TUNNEL CONVEYOR.  
ADJUST THE TUNNEL AIR FLOW.  
INCREASE TUNNEL CHAMBER TEMPERATURE.

**PROBLEM: SEVERE BALLOONING**

**SOLUTION:** INCREASE THE TUNNEL TEMPERATURE  
CHECK CONDITION OF AIR HOLES.

**PROBLEM: OFF-CENTERED SEAL**

**SOLUTION:** ADJUST THE PACKAGE PLATFORM.  
LOOSEN THE KNOBS ON THE TENSION BLOCKS.

**PROBLEM: FILM CAN'T SEPARATE, STATIC OR FILM COLLAPSES PACKAGE**

**SOLUTION:** CALL YOUR FILM SUPPLIER.

- ANY OF THE PRECEDING TROUBLESHOOTING PROCEDURES DO NOT WORK, PLEASE CALL YOUR LOCAL HEAT SEAL DISTRIBUTOR SERVICE FOR FURTHER ASSISTANCE.

