



— QUALITY MADE IN THE USA —

OPERATING MANUAL HSE-100 COMBINATION SHRINK SYSTEM



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.

ELECTRICAL REQUIREMENTS

- A single, GROUNDED 110/120 volt circuit with a maximum 20 amp capacity dedicated circuit is all that is required to operate this system. Note that the three prong power cord plug has an offset blade denoting its 20 amp capacity. (A complete wiring diagram is included with your system.)

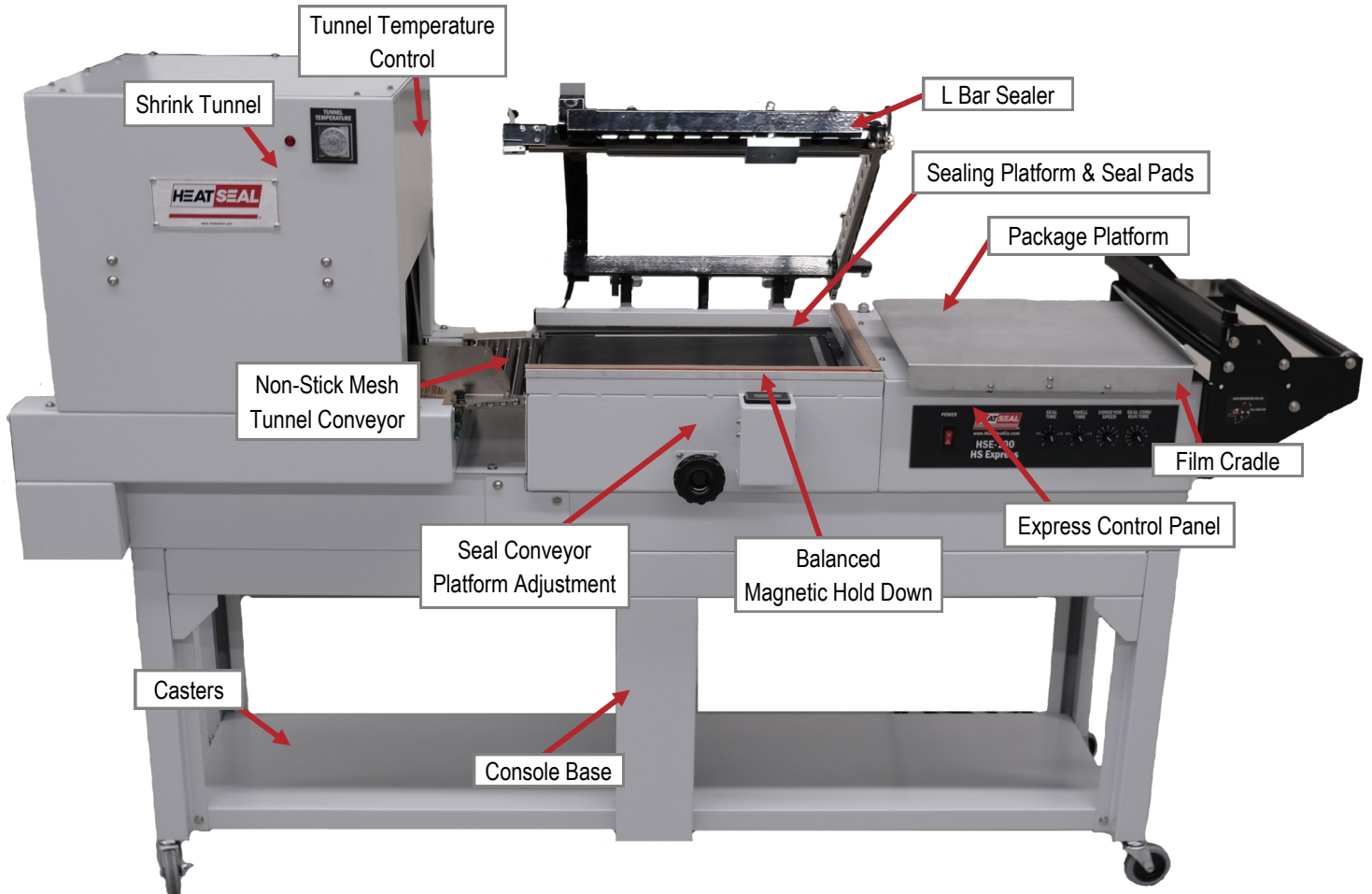
UNPACKING THE SYSTEM

- The HSE-100 system is a unitized shrink wrapping machine that combines an L Bar Sealer with a Shrink Tunnel. Your system is shipped fully assembled with leg kit, or as a tabletop on a pallet with the L Sealer and Shrink Tunnel in separate boxes. Once unpacked, the L Sealer and Shrink Tunnel are assembled together following assembly instructions.
- 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.

STANDARD FEATURES



MACHINE FEATURES



BASIC SPECIFICATIONS

- Film Capacity: 17" Wide
- Sealing Area: 16" W, 20" L
- Working Height: 36" H - With Leg Kit
- Inside Tunnel Dimensions: 20"L, 14"W, 6.5"H
- Electrical: 115 V, Single Phase, 17 Amp
- Tunnel Wattage: 2,000 W
- Conveyor Speed: 0-20 feet per minute

STANDARD FEATURES



SHRINK TUNNEL

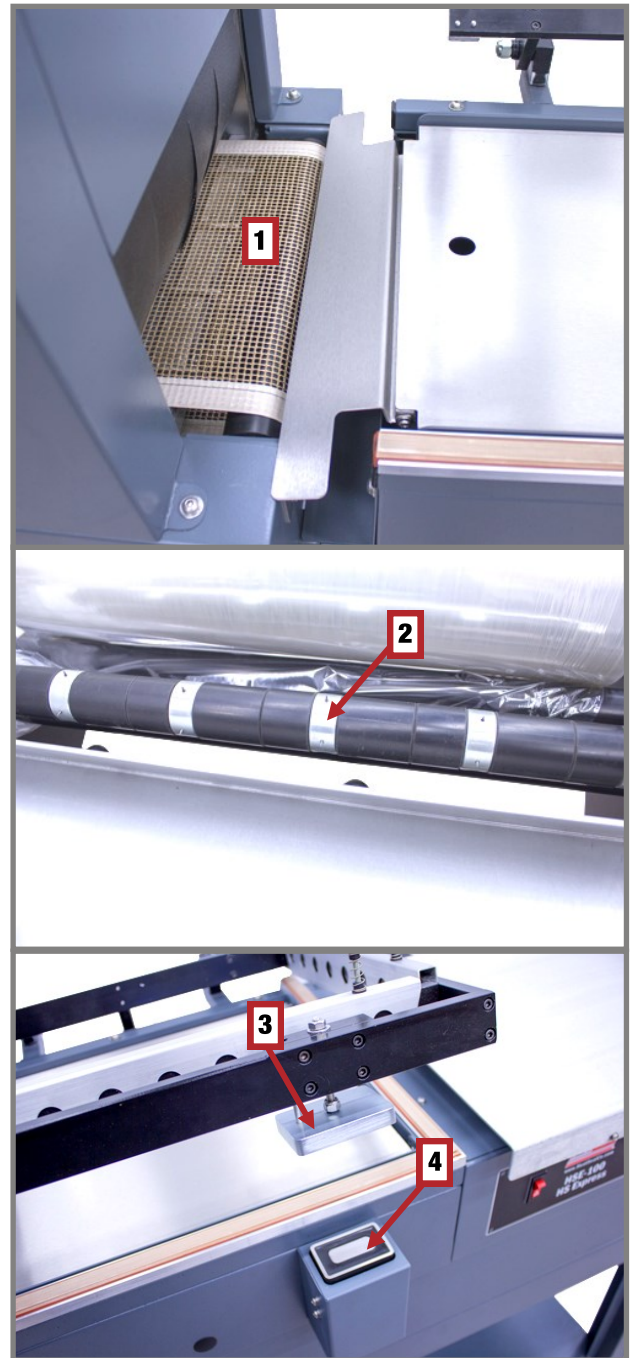
- The Non-Stick Mesh conveyor belt (1) is an integral part of the shrink wrapping unit. Heat is circulated to the underside of the belt, and adds positive shrink on the bottom for a more attractive package. Tunnel Belt Conveyor Speed is adjusted using the Express Control Dials.

AIR VENTING

- Air venting the film is required for most shrink applications. The L Sealer is equipped with a standard perforating roller for venting the film.
- The perforating roller (2) is used to make a series of small holes continuously as the film is being drawn from the roll during normal packaging operation, and is located in the film cradle before the loading platform.

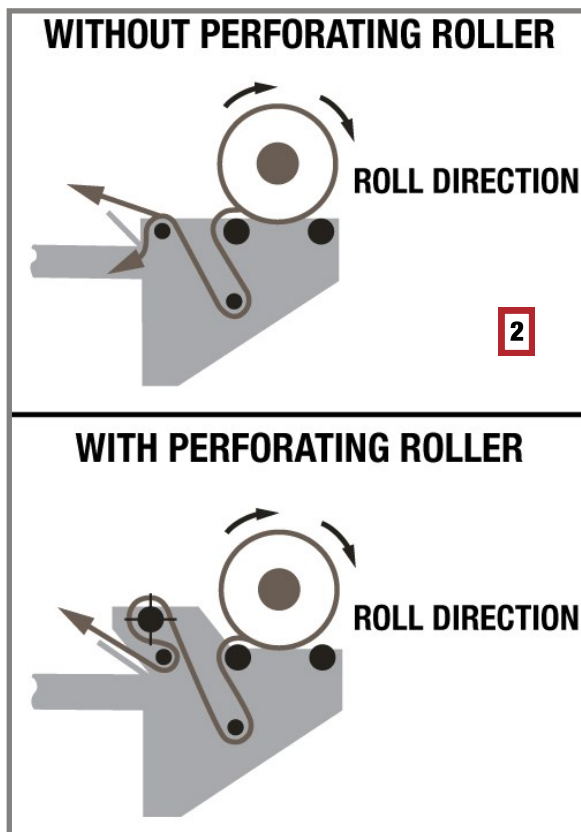
BALANCED MAGNETIC HOLD DOWN

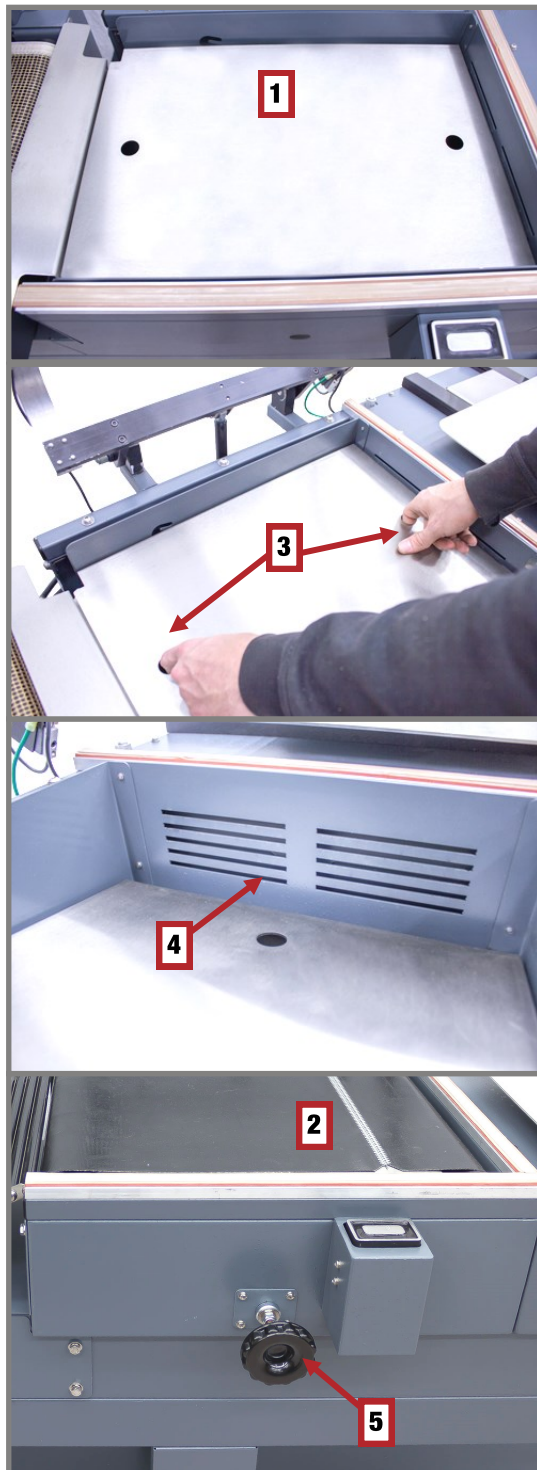
- A magnet plate (3) on the front of the sealing arm and a magnet (4) on the front of the sealing area are used to insure an even, consistent seal along the sealing pad. The position of the magnets have been engineered to apply the maximum seal pressure, and provide a clean seal every time.



THREADING THE FILM

- Place a roll of center folded film on the rollers with the open side of the film toward the operator (1). The cradle is adjustable to accommodate various size packages with the same width of film up to 17 inches wide. Thread the film as shown in the threading diagram on the machine below (2).
- Place the product to be wrapped in the lower corner of the sealing area (3), then loosen the knobs (4) under the film cradle and position the cradle so that the folded edge of the film is even with the back of the package to be wrapped (5).
- Re-tighten the knobs (4).
- If the correct width of center folded film is being used, this position will provide a minimum of 2 inches of film for trimming across the front of the sealing area (6).
- This is a general starting position and adjustments can be made to provide for adequate film around the package for shrinking and conservative use of your film.





ADJUSTING THE SEALING PLATFORM

To insure a neat looking finished package, the sealing platform (1) can be adjusted so the seal made by the L Bar will be at the center of the vertical (profile) dimension of the package to be sealed. The system is available with two styles of sealing platforms: static or Silicone Fabric seal conveyor (2).

Although frequent adjustment is not required for most production applications, the adjustable platforms permit quick change over for products with different profiles and provides positive locking for stability under loads.

To change platform positions:

STATIC PLATFORM AND ROLLER TRAY

The platform position is easily changed by inserting fingers in holes (3) and after lifting slightly, slide platform to the left (towards the tunnel), releasing projections from the notched brackets (4) in the right side of the sealing area.

With the platform held towards the left (tunnel side), raise or lower the platform to the desired height. Then insert the projections in the right side notches first, and slide the platform as far forward right as possible.

SEAL CONVEYOR

The knob in the front center of the sealing area (5) adjusts the conveyor to any desired height. Clockwise will raise the conveyor, counterclockwise will lower the conveyor.

L SEALER 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 sealing wire and/or knife blade life and minimize replacement of Non-Stick tape and sealing pads.

SHRINK TUNNEL OPERATION

As with the L sealer, the various types and gauges of films 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 of the chamber.

When the chamber has stabilized, increase the conveyor speed. It is recommended that for the most economical operation, the tunnel temperature be maintained at the lowest setting compatible with the shrink film being used and your rate of production.



OPERATING PROCEDURES



USE CAUTION WHEN CHECKING THE SEALING CYCLE AS SOME SURFACES ARE HOT. THE CYCLE FOR THE SEALER CAN ALSO BE CHECKED WITH THE POWER OFF.

MACHINE CONTROLS

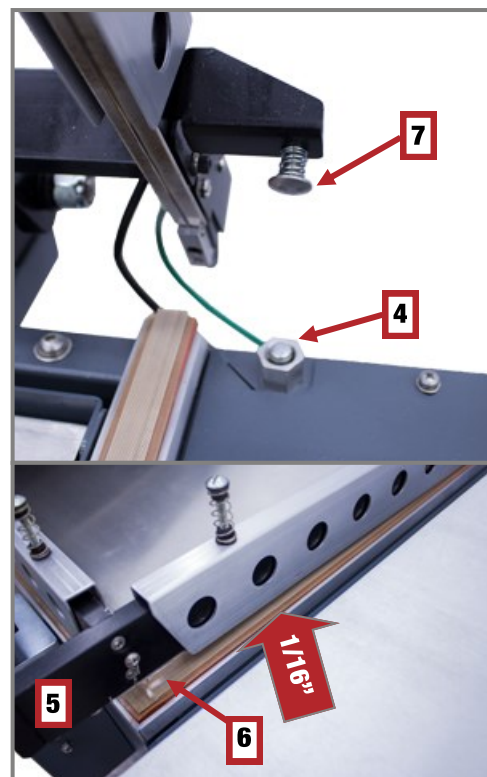
- There is two controllers for the operation of your machine. The Main Control Panel (1) will control Seal Time, Dwell Time, and Conveyor Speed. It will also control Seal Conveyor Run Time if the HSE-100 is equipped with a Seal Conveyor. The Tunnel Temperature Controller is located on the top right portion of the tunnel. Use the temperature dial as a reference point as actual tunnel temperature may vary slightly. The power indicator light (3) will illuminate when there is power running to the tunnel.
- It is essential that related functions be properly controlled to provide the sequence necessary for the satisfactory performance of the L Sealer and Shrink Tunnel. These control settings should be made before operating this equipment.



- **Seal Time:** (0-2 seconds) The amount of time the sealing wire is energized for while the magnet holds down the seal arm down.
- **Dwell Time:** (0-2 seconds) The amount of time the seal arm is held down after the seal time has expired and seal wire has de-energized.
- **Conveyor Speed:** (0-10 seconds) Controls the speed both the tunnel conveyor and seal conveyor will run at.
- **Seal Conveyor Run Time:** (0-10 seconds) Controls how long the seal conveyor will run after the seal arm is raised.

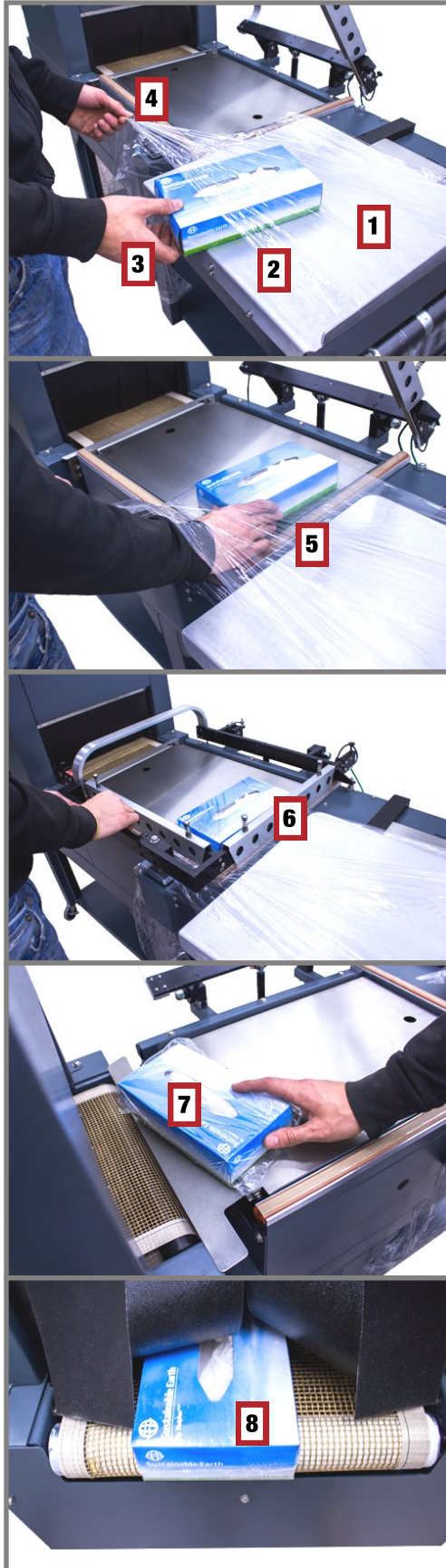
ADJUSTING OF THE SEALING CYCLE

- Located at the back of the sealing area is an adjustment screw type actuator and button (4) which starts the sealing cycle as the sealing arm is brought into sealing position. This is a function adjusted at the factory but if adjustment is necessary, proceed with the following steps:
 1. The timed impulse must start when the seal arm (5) is approximately 1/16 of an inch (or the thickness of a quarter) above the sealing pad (6).
 2. Bring the arm down slowly toward the sealing position, the wires will begin heating, or the magnet will engage when the sealing process has begun.
 3. If the arm is too high from the sealing pad (over 1/16 of an inch), adjust the screw (7) away from the Microswitch (4).
 4. If the arm reaches the sealing position without actuating the sealing cycle, adjust the screw closer to the microswitch to actuate at 1/16 of an inch above the sealing pad.



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OPERATING & SHRINK PROCEDURE



There are three steps in creating the package on the shrink wrapping system: wrap, seal and shrink.

WRAPPING

The operator places the product to be wrapped on the package platform (1) inserting it between the center fold film (2). Holding the product firmly with the right hand (3) and the corner of the film with the other hand (4), move the product onto the sealing area.

SEALING

The package is placed in the lower right corner of the sealing area (5), allowing for sufficient film margin on the side and front of the package (about 2 inches) for adequate shrink. The sealing arm is lowered into position (6) which actuates the sealing cycle. The two open sides of the film are sealed completing a bag around the product and leaving the end of the film sealed, ready for the next package.

SHRINKING

The sealed package in the loose film (7) is manually moved out of the sealing area and onto the conveyor belt. If equipped with a sealing conveyor, the package will automatically be taken into the shrink tunnel. The package is conveyed through the shrink tunnel and recirculating, heated air shrinks the film, creating a clear, tight package (8).



RECOMMENDED CLEANING

L BAR SEALER

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.

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 SEALING WIRES

TO REMOVE WIRES

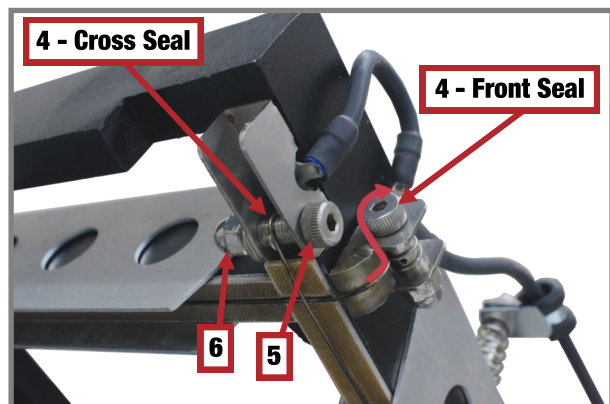
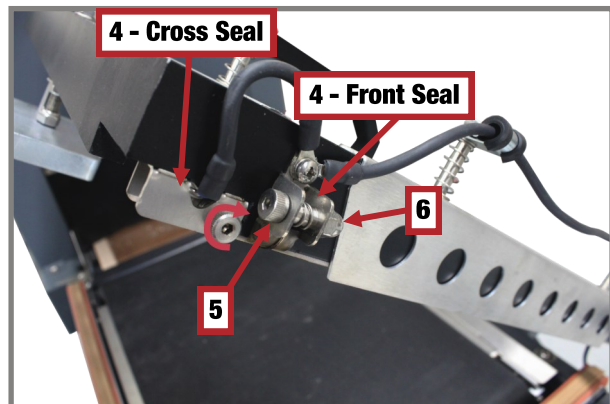
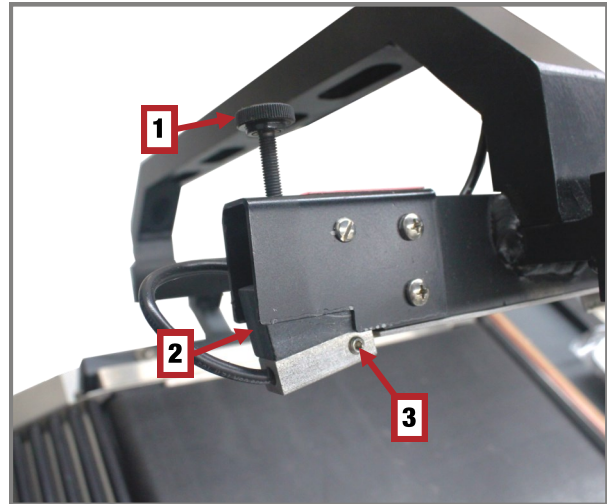
- Tighten the knob (1) on the tension block (2) to relieve the sealing wire tension.
- Using a small screwdriver, loosen the screw (3) in the side of the tension block and pull out the sealing wire.
- Loosen the screw (5) at the other end where the wires cross and remove the sealing wire.

TO REPLACE WIRES

- Insert the new wire in the tension block (2) and re-tighten the screw (1).
- Then, insert the other end of the wire into the hole on the tensioning screw (4) leaving the wire loose.
- Use a 1/8" Allen Key on the screw head (5), and a 3/8" wrench on the lock nut (6) to tighten the wire Clockwise. The wire will wind around the screw body Clockwise until the ideal tension is met.

- **WIRE MUST WRAP AROUND TENSION BOLT 2.5-3 TIMES TO ENSURE PROPER GROUNDING.**

*** Tensioning the wire Clockwise around the tensioning screw will provide longevity to the sealing wires. ***



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



PROBLEM: FILM SPLITS ALONG CENTER FOLD

SOLUTION: CHECK FOR DAMAGE TO FILM ROLL.
MAKE SURE PRODUCT TRAY IS POSITIONED CORRECTLY

PROBLEM: FILM SPLITS AT HOLE PUNCH

SOLUTION: CHECK HOLE PUNCH FOR PROPER ALIGNMENT.
CHECK THE CONDITION OF THE PUNCHED HOLES.

PROBLEM: FILM SPLITS AT TOP OF PACKAGE

SOLUTION: 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.

PROBLEM: FILM SMOKES EXCESSIVELY

SOLUTION: 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.

PROBLEM: FILM BUILDUP ON SEALING WIRE

SOLUTION: 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.

PROBLEM: CROWS FEET

SOLUTION: SLOW DOWN TUNNEL CONVEYOR.
INCREASE THE TUNNEL CHAMBER TEMPERATURE.

PROBLEM: FISH EYES

SOLUTION: MAKE SURE TUNNEL IS FUNCTIONING PROPERLY.
SLOW DOWN TUNNEL CONVEYOR.
USE LESS FILM AROUND THE PACKAGE.
INCREASE THE TUNNEL TEMPERATURE.

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.

