

HEAT SEAL

**Industrial "L" Bar Sealer,
Shrink Tunnel System**

Technical Bulletin

*Set-Up and
Operating Instructions*

Important: *Read all Instructions Before Operating Equipment.*

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The information in this bulletin applies to the following models only.

Model HS-115

Industrial Shrink Wrapping Unit (Painted)

Model HS-115 S

Industrial Shrink Wrapping Unit (Stainless Steel)

WARNING: *Installation and operation of equipment must be in compliance with all applicable electrical and safety standards. A qualified electrician must check the electrical supply circuit to assure correct voltage and capacity. The equipment is designed for industrial use by qualified personnel only. Depending on the film being used and environmental factors in locating the equipment, it may be necessary to provide positive ventilation in the packing area.*

ELECTRICAL REQUIREMENTS

A single GROUNDED 110/120 volt circuit with minimum 20 amp capacity is all that is required to operate the Model HS-115 Shrink Wrapping Unit. **Note** the 3-prong power cord plug which has an offset blade denoting its 20 amp capacity. For your convenience, a compatible wall receptacle has been included with the unit. **A completely separate line which is not overloaded with other appliances is recommended.** (See back cover, page 6, for complete Wiring Diagram.)

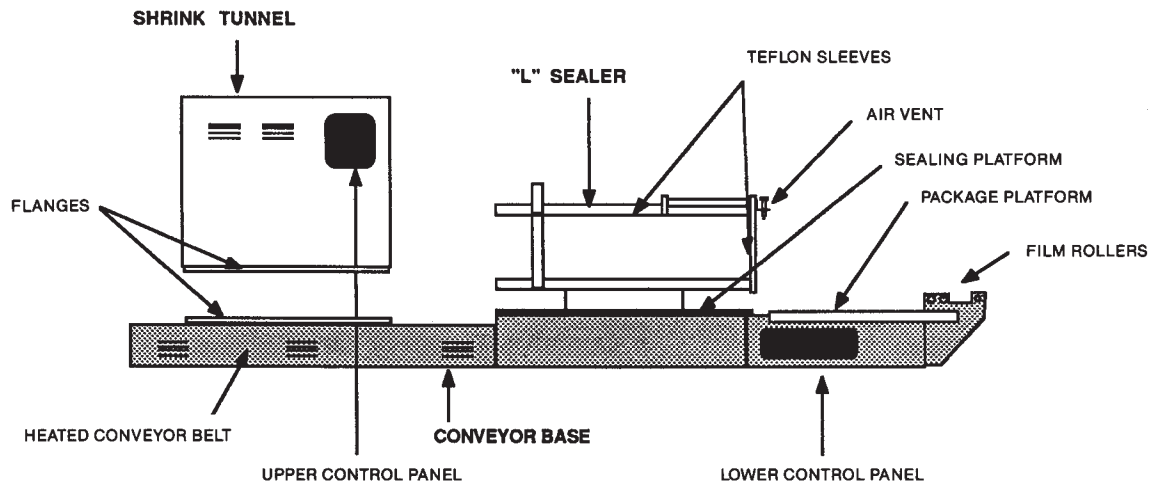
UNPACKING INSTRUCTIONS

This unit is a unitized shrink wrapping machine that combines an unequaled "L" Bar Sealer with a highly efficient Shrink Tunnel. Shipment is made in two cartons for the standard table model unit. The "L" sealer-conveyor base unit is packed operation ready in one carton and the shrink tunnel, also ready for operation, is in a separate carton. An optional console leg kit, including shelf and locking casters, is shipped in an additional carton. The console leg kit and shelf are easily assembled with common hand tools according to the procedure illustrated by the drawings included with the kit.

SET-UP INSTRUCTIONS

The Shrink Tunnel is positioned on the base unit over the heated conveyor belt and rests on flanges of the belt support plate locking into the notches of the conveyor housing. The tunnel chamber power cord has a 4-prong grounded plug which should be connected to the receptacle on the rear of the "L" sealer-conveyor base unit.

Teflon Sleeves are shipped with each "L" Bar Sealer. These sleeves prevent film build-up on the sealing wire and will assist in providing better seals with most films. These sleeves should be used unless it has been determined that the film being used provides better seals without the teflon sleeves.



PRELIMINARY ADJUSTMENTS

Film Rollers

Place a roll of centerfold film on the film rollers with the open side of the film toward the operator. The film rack is adjustable to accommodate various size packages with the same width roll of film. Place a product to be wrapped in the sealing area. Loosen the knobs under the film rollers and position the film rack so that the folded side of the film roll is in line with the back edge of the product. Re-tighten the knobs. If the correct width of centerfold film is being used, this position will provide a minimum 1.5" to 2" of film for trim across the front of the sealing area. This is a starting position and adjustments should be made to provide appropriate film around the package for shrinking and conservative use of film.

Sealing Platform

Adjust the height of the sealing platform so that the seal made by the "L"-bar will be at the center of the vertical (profile) dimension of the package to be sealed. This will insure a neat looking finished package. Although frequent adjustment is not required for most production applications, this adjustable platform permits quick change-over for products with different profiles and provides positive locking for stability under load.

1. Platform position is easily changed by inserting fingers in holes and after lifting slightly, slide platform toward you, releasing projections from notched brackets at rear of unit. An upward-forward motion will then release projections from notched brackets at front of unit.
2. With front edge of platform tilted down, raise or lower platform to desired height and insert projections in notched bracket at rear of unit first, then slide platform as far forward as possible and level platform to insert projections in notched bracket at front of unit.

A heated conveyor belt is an integral part of the shrink wrapping unit. Heat is provided to the underside of the belt by an electrical element mounted on the plate supporting the belt. Belt heat is constant and either "on" or "off" as controlled by the heat switch on the lower control panel. With some films, the heated belt can add positive shrink on the bottom for a more attractive package.

PRELIMINARY ADJUSTMENTS (Cont.)

Air Vent

Air venting the film is required for most shrink applications. The "L" Sealer is equipped with a standard cold hole punch for venting the film. The cold punch consists of an adjustable pointed screw mounted in a bracket located on the sealing arm in the front right hand corner. When sealing pressure is applied the punch passes through the two layers of the centerfold film and into a hole in the housing. The hole is made to the right side of the sealing arm in the film that will be used for the *next* package. It is important that the punch penetrates the housing hole to prevent any restriction of the sealing arm pressure.

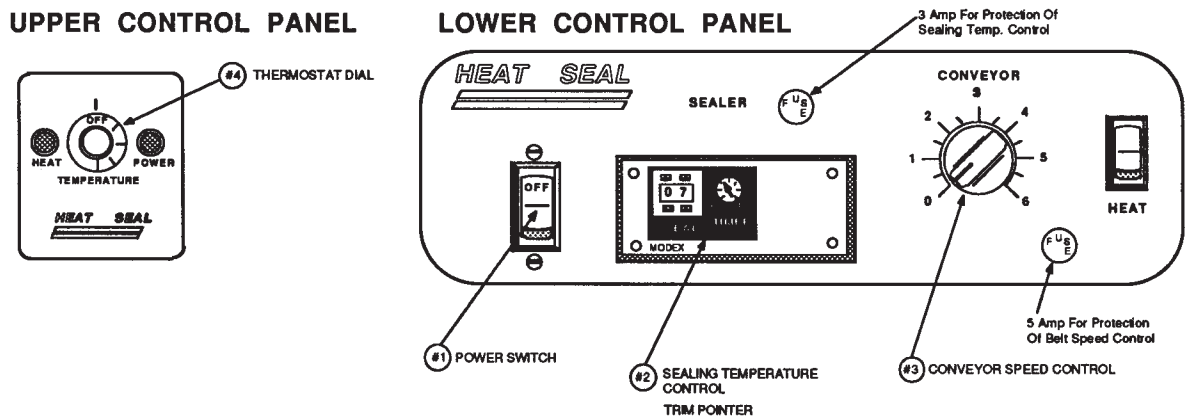
An optional perforating roller is available to make a series of small holes continuously as the film is drawn from the roll in normal operation of packaging. The perforating roller would be located in the film roller bracket ahead of the loading platform.

Some packaging films require the use of a hot hole punch to prevent break or run in the film when penetrated by a punch. A hot hole punch is available as an option.

Control Settings

There are two control panels for operation of the shrink wrapping unit. The upper control panel on the shrink tunnel contains the temperature control for the tunnel heat and two red indicator lights. One indicates power "on" to the chamber and the other indicates when the chamber heating element is on. The lower control panel on the "L" sealer section provides control for the "L" sealer and belt conveyor.

It is essential that related functions be properly controlled to provide the sequence necessary for the satisfactory performance of the unit. The following preliminary control settings should be made before the unit is connected for operation:



- #1. **Power switch** should be in the "off" position (No red showing in the rocker)
- #2. Set the **sealing temperature control** (#2) to a digital reading of 07 and the **trim pointer** to approximately 5 on the dial.
- #3. The **conveyor speed control** knob can be set at 3 on the dial for a good preliminary belt speed.
- #4. The **thermostat dial** on the tunnel chamber (upper control panel) **must be** in the "off" position.

With the controls set as outlined, connect the unit power cord to the power source. Then flip the power switch to the "on" position. (Red will show on the upper section of the rocker.) The red power light on the tunnel control panel will glow, the tunnel blower motor will be running, and the conveyor belt will be in motion.

After confirming these functions, observe the heat switch on the control panel. If the light indicating the "on" position is not glowing, flip the rocker to the "on" position for conveyor belt heat. Turn the thermostat dial on the tunnel chamber to the number 5 setting. The red heat light next to the dial will glow indicating the heat element is on and heating. Wait approximately 15-20 minutes for the tunnel chamber to reach operating temperature. After reaching operating temperature, this light will cycle on and off as the thermostat maintains the tunnel temperature.

"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 life and minimize replacement of the teflon tape and silicon seal pad.

The sealing temperature control is a unique automatic variable timer. When the control is energized by the impulse actuating switch, power is applied to the sealing wires. At the same time a DC current is produced within the control which is of a magnitude determined by the control setting. This current charges a capacitor within the control, and when the voltage on the capacitor reaches a pre-set level, the control is de-energized, removing the power to the sealing wires. The capacitor is then discharged at a rate determined by the trim control.

When the heat seal is demanded, the control is re-energized. However, the power impulse (which controls the sealing wire temperature) is determined by the seal time setting, less an adjustment for any residual charge on the capacitor.

After the first test seal, increase or decrease the seal setting to achieve a satisfactory seal. Wait at least one minute between seals to allow capacitor to discharge when satisfactory seal is achieved. Adjust the trim dial to maintain a constant seal. **CAUTION:** The temperature control should never require a setting greater than 15 for a satisfactory seal.

Located at the back of the sealing arm is an adjustment screw type actuator which starts the sealing cycle as the sealing arm is brought into the sealing position. This is factory adjusted, however, if adjustment is required, proceed as follows:

The timed impulse must start when the seal arm is approximately 1/16" above the seal pad.

Bring the arm down slowly toward the seal position; the buzzer will begin to sound when the impulse cycle begins.

If the arm is too high (over 1/16") adjust screw away from microswitch.

If the arm reaches the seal position without actuating the sealing cycle, adjust screw down to actuate at 1/16" above seal pad.

SHRINK TUNNEL OPERATION

As with the "L" sealer, the various types and gauges of shrink 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 temperature 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.

The heated conveyor belt provides positive shrink on the bottom of the package and also preshrink of the package bottom before entering the tunnel. If belt heat is not desirable for the film being used or the package being wrapped, flip the conveyor heat switch rocker to the "off" position.

OPERATING RECOMMENDATIONS

When turning the shrink wrapping unit "off", the shrink tunnel element life will be greatly increased if the tunnel thermostat and the conveyor belt heat switch are placed in the "off" position approximately 10-15 minutes before turning off the master power switch. When restarting the unit, reverse the procedure, turning the master switch on first.

CAUTION

Before turning the conveyor belt heat on and setting the tunnel temperature dial, check the blower fan for operation. If the blower is not running properly DO NOT turn on the heat controls. Check the trouble shooting section for recommendations.

Your film supplier is familiar with this type of shrink wrapping equipment and can be helpful by assisting you in developing the best operating technique for your product. Properly operated, the Model HS-115 shrink wrapping unit will provide years of excellent service.

OPERATION PROCEDURE

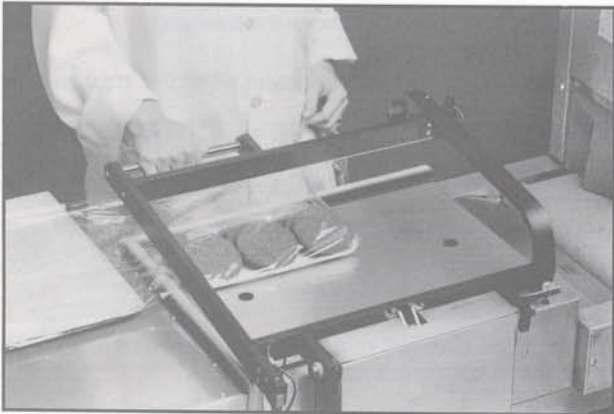
There are three steps in creating the package on the shrink wrapping unit: wrap, seal, and shrink.

WRAP



The operator places the product onto package platform inserting it between the centerfold film. Holding the product firmly with the right hand and the corner of the film with the left thumb, move the film covered product into the sealing area.

SEAL



Package is positioned in the lower right corner of the sealing area, allowing sufficient film margin on side and front of package for adequate shrink. The sealing arm is lowered to the sealing position which automatically activates the impulse sealing cycle and an audible buzzer sound. Moderate pressure must be applied and maintained on the arm during the sealing cycle until the buzzer sound stops. The two open sides of the film are sealed completing a bag around the product and leaving the end of the film roll sealed for the next package.

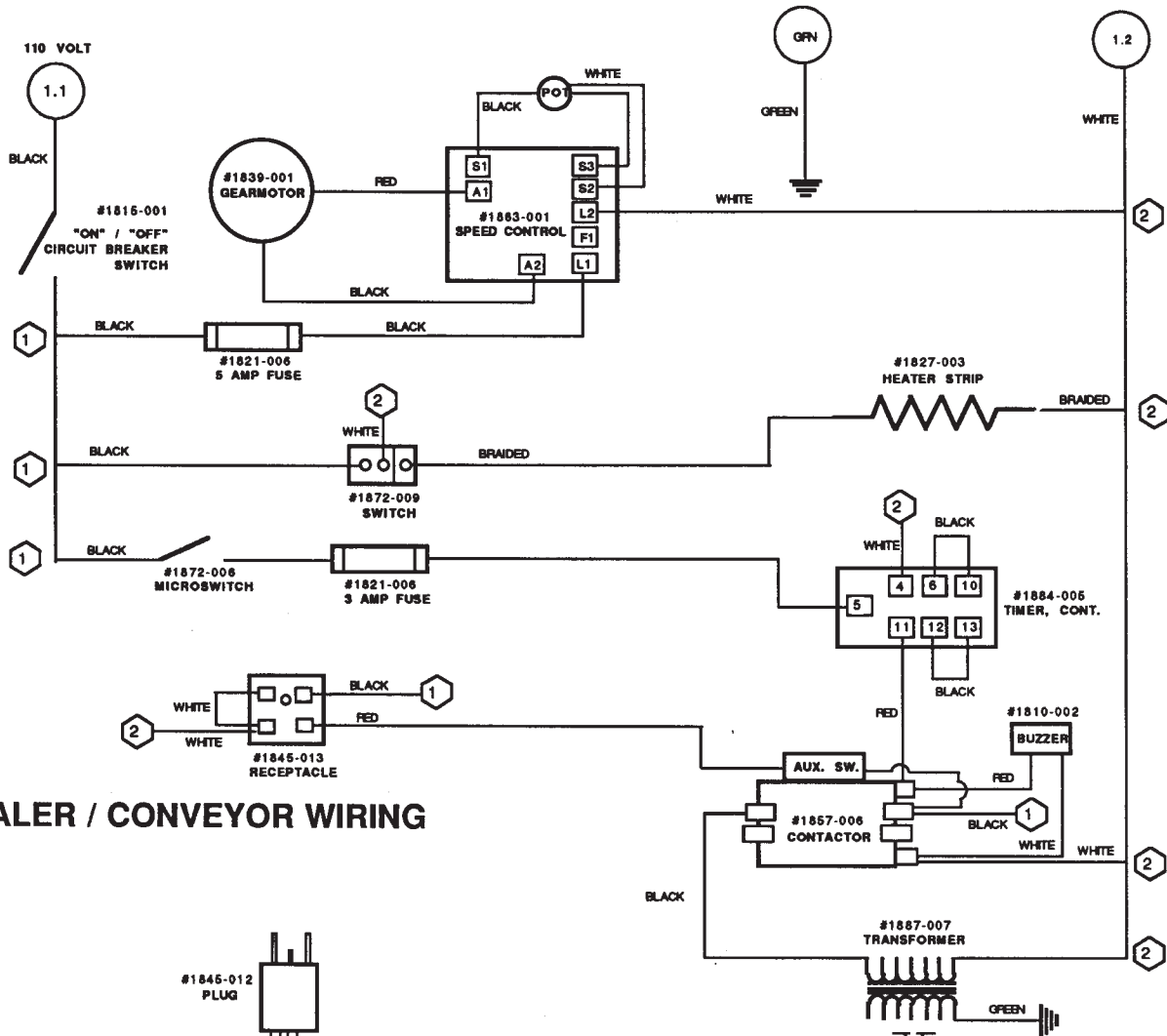
& SHRINK



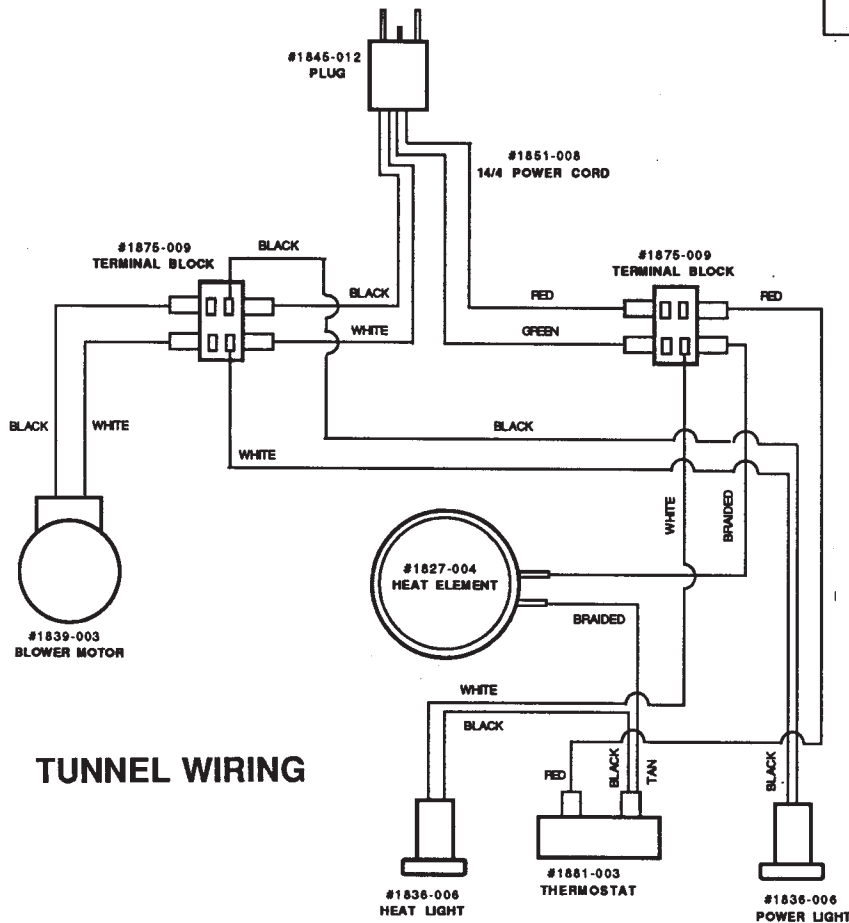
The sealed package in loose film is moved out of the sealing area and onto the heat conveyor belt. The package is conveyed through the shrink tunnel and recirculating heated air shrinks the film, creating a clear, tight package.

Wiring Diagram Model HS-115 / 115S Shrink Wrapping Unit

115 Volt, 17 Amp, Single Phase.



SEALER / CONVEYOR WIRING



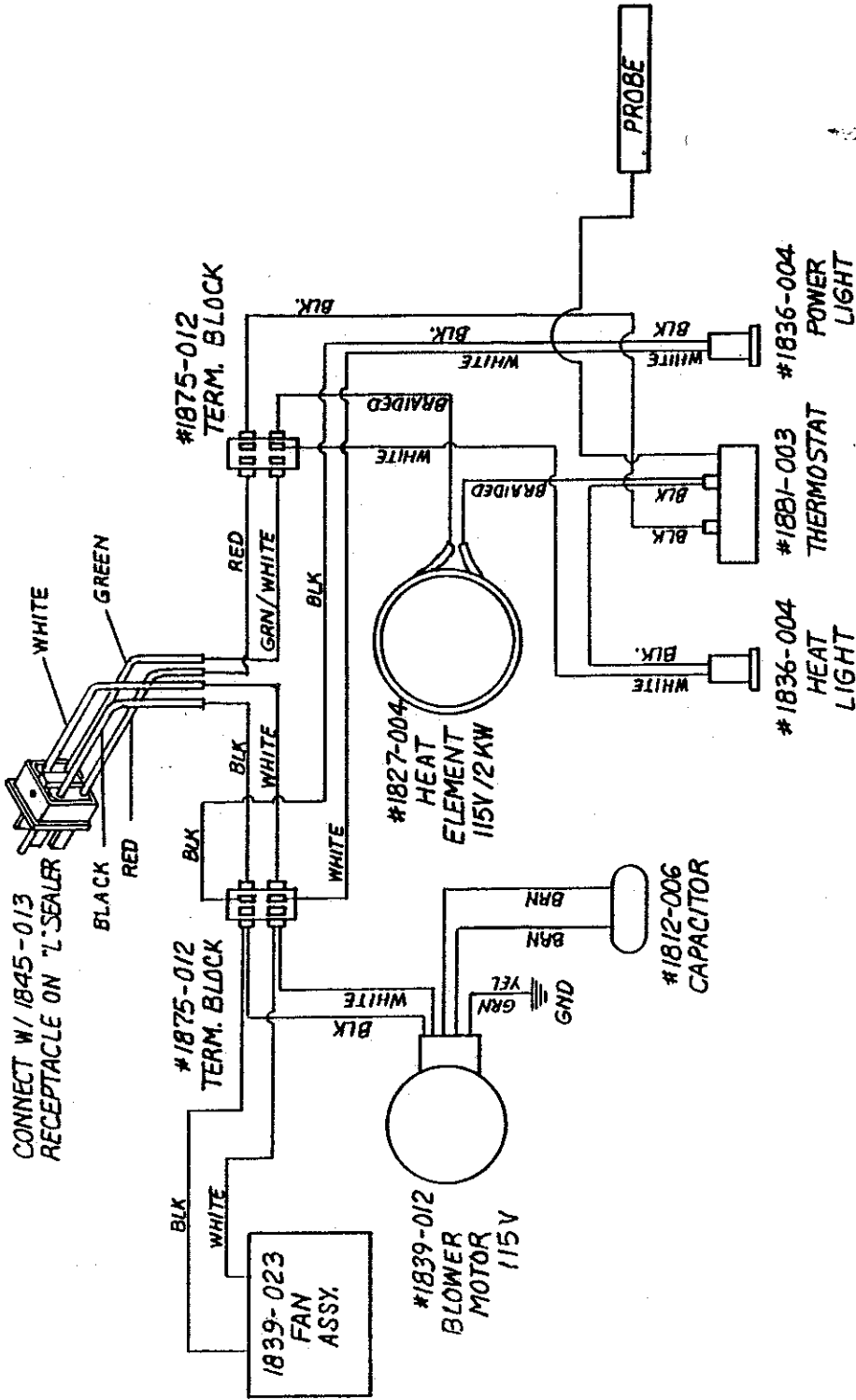
TUNNEL WIRING



HEAT SEALING EQUIPMENT MFG CO
 4580 EAST 71ST STREET
 CLEVELAND, OHIO 44125-1018
 (216) 341-2022
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#6003-071 POWER CORD ASSY.

CONNECT W/ 1845-013
RECEPTACLE ON "L" SEALER



SCALE: NTS	APPROVED BY:	DRAWN BY: DS
DATE: 01-06-95		REVISED:
WIRING DIAGRAM W/OPTIONS (SERIES H)		
MODEL: HS-115/115S SHRINK SYSTEM	DRAWING NUMBER	5803-075

11 & 17 PARTS OF 100, 1000 QUANTITY