



OPERATING & SERVICE PARTS MANUAL
THRIFTY PACK SKIN PACKAGING MACHINE
SERIES B



READ ALL INSTRUCTIONS CAREFULLY BEFORE OPERATING EQUIPMENT

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SAFETY PRECAUTIONS AND WARNINGS



ANY UNAUTHORIZED MODIFICATIONS TO THIS MACHINE MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL VOID THE AMPAK PRODUCT WARRANTY. PLEASE OBSERVE ALL PRECAUTIONARY STATEMENTS.

- DO NOT OPERATE THIS MACHINE WITHOUT READING THIS INSTRUCTION MANUAL FIRST.
- BE SURE THE MACHINE IS CONNECTED TO THE BUILDING ELECTRICAL SAFETY GROUND.
- BE SURE POWER IS OFF OR DISCONNECTED FROM THE MAIN DISCONNECT BEFORE PERFORMING MAINTENANCE OR SERVICE OF THE MACHINE
- DO NOT OPERATE THE MACHINE WITHOUT GUARDS IN PLACE.
- DO NOT OPERATE THE MACHINE IN A MANNER FOR WHICH IT WAS NOT INTENDED TO BE USED.
- DO NOT TOUCH HEATED SURFACES.

Some drawings included with this manual are shown with covers off for clarity purposes only. All guards must be in place before operating this machine.

Failure to replace, repair or report missing, defective or modified safety guards may result in injury to you or your fellow workers. ALWAYS REPORT UNSAFE CONDITIONS TO YOUR SUPERVISOR OR PLANT MANAGER.



Your attention is directed to the Ampak parts and service warranty which accompanies all new Ampak equipment. The terms and conditions of this warranty apply to non-modified machines. Any unauthorized modifications will void the warranty.

SHIPPING DAMAGE CLAIMS

Upon arrival of your new machine, inspect the crate for any visible damage to the crate. Then uncrate and/or unpack the machine and inspect it for visible damage or missing parts. If any damage is found, it is your responsibility to contact the carrier and immediately file a claim with the carrier. Also record your serial number so that in case you need something warranted it is available to reference.

Ampak is not responsible for any damages to the machine once it leaves our facility shipping dock in Cleveland, Ohio.

AMPAK WARRANTY

Ampak will warranty its equipment against defective parts for a period of one (1) year from the shipment of your machine unless specified otherwise.

Parts will be replaced by Ampak to your Authorized Distributor upon receipt of the defective part at our facility in Cleveland, Ohio. Any related labor, service or expendable parts such as wires, sealing bars, cut off rules, sealing pads, Spirad® heaters, non-stick covers and belting material is not included.

Any part not manufactured by Ampak will carry the manufacturer's warranty.

This warranty will be voided if the equipment is not installed by an Authorized Ampak Distributor service technician. The purchaser is solely responsible for the safe installation and operation of the machine. Damage caused by misuse, misapplication or modification will not be covered by this warranty.

RETURN PROCEDURE

To return warrantable parts, follow the below procedure:

Have your service technician examine the application, the machine and the parts to determine if they can be covered by the warranty.

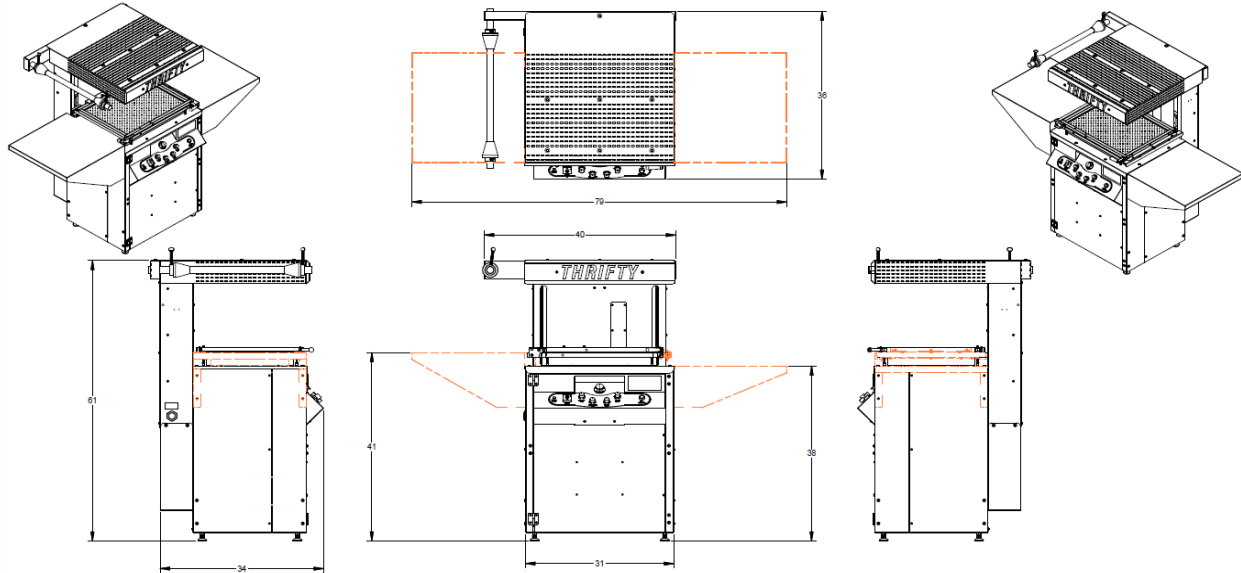
Next, have the technician call Ampak customer service (see back cover) and request a Return Authorization Number (RA#).

Then place an order for the replacement part or parts. On the order refer to the RA number, model and serial numbers of the machine (located on the side of the machine or printed on this manual).

Return the defective part or parts prepaid to Ampak.

Ampak engineering department will examine the returned items and customer service will issue a credit should the part or parts be defective.

MODEL CONFIGURATION AND DIMENSIONS



EXAMPLE:

MODEL ID	VOLTAGE	HOT WIRE CUT-OFF	MOUNTING	INFEED	OUTFEED	SERIES
TP	A	X	X	X	X	B
	208 1PH	NONE	LEVELERS	NONE	NONE	
	B	W	C	T	T	B
	220-240 1PH	WIRE	CASTERS	2FT TABLE	2FT TABLE	
	C					
	208 3PH					
	D					
	220-240 3PH					
	E					
	480 3PH					

VACUUM SYSTEM

Turbine Vacuum Motor: 96 Cubic Feet/Minute, 6.5 Hg

ELECTRICAL

	Single Phase	Three Phase	Hertz
208-240 VAC	50 Amps	30 Amps	50/60Hz

AIR

1 CFM @ 80 PSI

FILM & BOARD

Film: (3-20 Mil) Polyethylene, Surlyn, Co-Polymers, PETG, Primacor, PVC. Recommend electrostatic treatment to bonding surface.

Roll Width: 2" more than Platen width (20"), Roll O.D.: 9", I.D.: 3"

Board: Corrugated, all flutes and strengths - Shipmate cartons. Box board and SBS board for display packaging. Recommend coating bonding surface compatible with film.

INSTALLATION

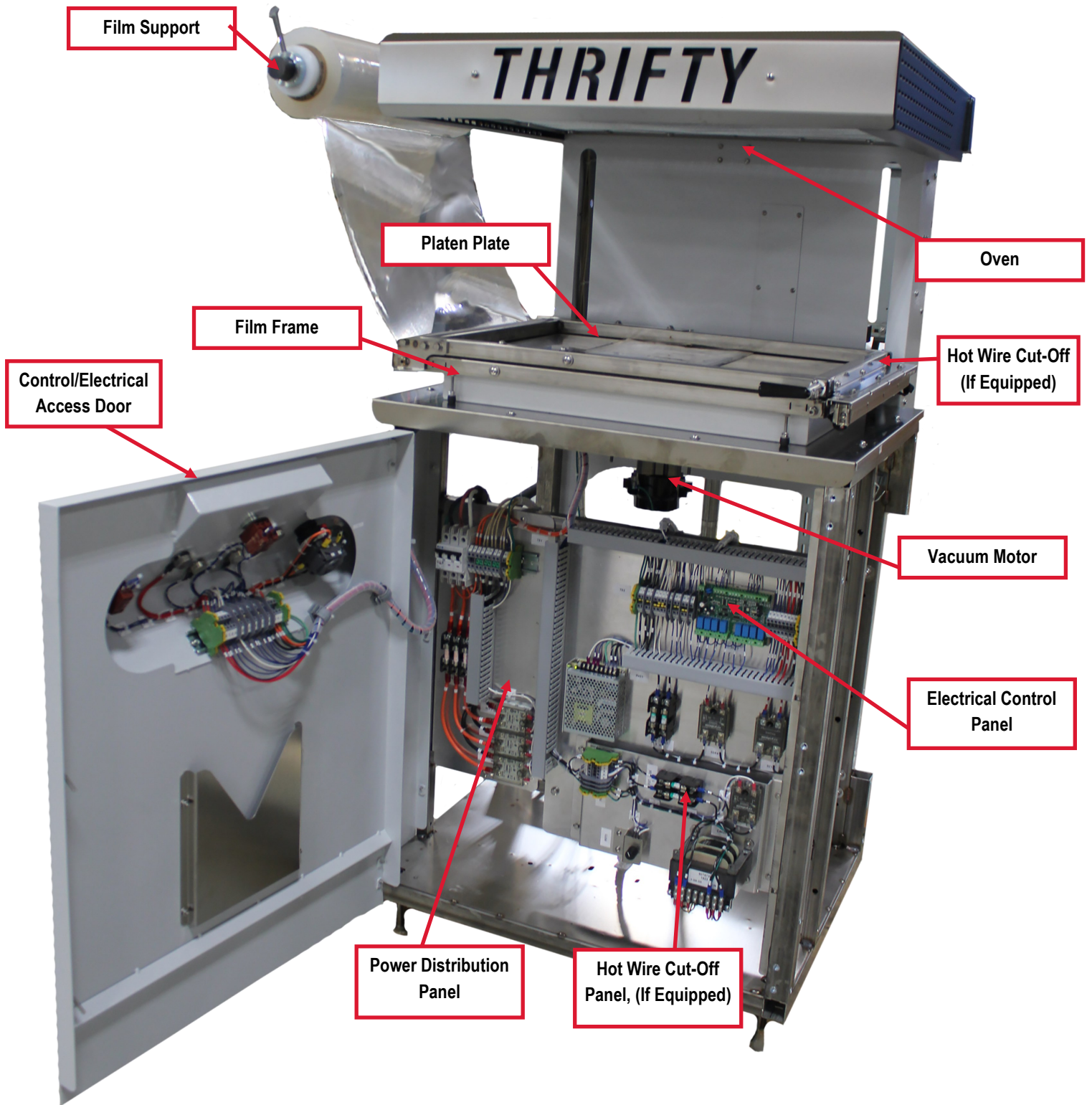


- Make sure that the electrical and pneumatic supplies are adequate for the model you received. Current requirements are listed on the machine nameplate and are full load maximum for this machine.
- Installation should be performed by factory trained personnel or qualified electricians to ensure compliance with local, state and federal safety codes.
- The machine should rest on a hard, flat surface. Leveling of the platen can be accomplished by adjusting the feet of the machine. Check and adjust the oven to ensure that it is relatively parallel to the platen.
- Do not install the machine in aisles or walkways. Provide adequate space around the machine to allow operators and service personnel plenty of room.
- Avoid installing your machine under or near fans, vents or open doorways and windows to prevent circulating air from distorting the oven heat pattern. Noticeably poor packaging will result from too much circulating air.

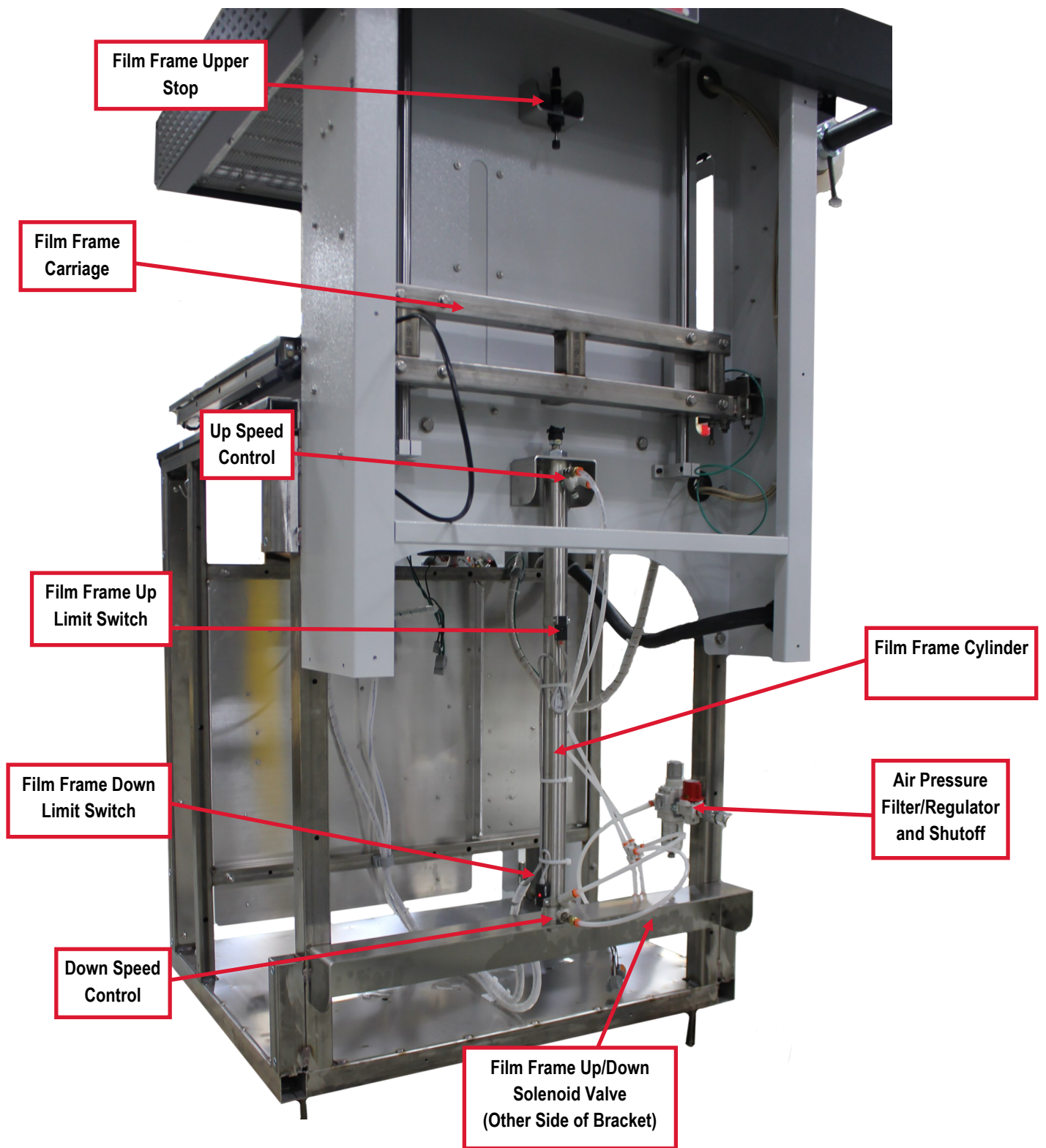


- A 10ft. cable is provided with the machine for electrical service connection.
- Do not connect the electrical service or switch on the machine circuit breaker until voltage is confirmed correct with a voltmeter. Machine warranty does not cover damage caused by unauthorized use or personnel.
- Prior to applying power to the machine, inspect all electrical connections for looseness that may have occurred during shipment.
- Tighten any bolts and fasteners that may have worked loose during transit.

PRIMARY MACHINE COMPONENTS



PRIMARY MACHINE COMPONENTS



OPERATOR CONTROL FUNCTIONS



1. MACHINE POWER LIGHT

This light is provided to alert the operator that power is applied to the machine and that the circuit breaker is on. ONLY QUALIFIED PERSONNEL SHOULD OPEN THE ELECTRICAL ACCESS DOOR WHILE THIS LIGHT IS ON TO PREVENT ELECTRICAL SHOCK OR DAMAGE TO THE MACHINE.

2. CONTROL POWER SWITCH

This switch applies power to the control circuits of the machine. It DOES NOT remove power from the machine.

3. HEAT FILM TIME (0-120 sec)

Used to adjust how hot the film gets before it is lowered onto the product. By turning this knob, you can vary the amount of time that the film is exposed to the heat from the oven, (0-120 sec)

4. HEAT PACKAGE TIME (0-30 sec)

This control is used to vary the time that the oven remains on after the film is heated. The oven keeps the film, product surface and the board hot while the film frame travels down and the vacuum system pulls the film around the product.

5. VACUUM TIME (0-60 sec)

This control is used to vary the amount of time that the vacuum system remains on. This time allows the package to cool before it is removed from the platen.

6. TURBINE SPEED

This control is used to vary the vacuum pressure that is applied during a cycle. It can be used to fine tune the packaging of complex geometries.

7. CYCLE START PUSHBUTTON/ CYCLE READY LIGHT

Pressing this button starts a cycle. When the light is on, the machine is waiting on operator input. The pushbutton can also be used to skip to the next step in the packaging cycle. DO NOT press and hold the button; this will result in the machine continuously skipping from step to step and will result in a failed package cycle.

8. EMERGENCY STOP BUTTON

Pressing the emergency stop button will stop all machine motion and end the cycle. After the fault has been cleared, the button can be re-set by twisting it clockwise. The CYCLE START button then needs to be pressed to continue operation. If the HEAT FILM TIME has not been completed the timer will re-start. If the HEAT FILM TIME has been completed the film frame will lower and re-set the cycle.

ACTUATION OF THE EMERGENCY STOP BUTTON DISCONNECTS THE POWER TO THE PLC OUTPUTS. IT DOES NOT REMOVE HIGH VOLTAGE FROM THE HIGH CURRENT DEVICES IN THE CONTROL CABINET.

THE MACHINE CAN ONLY BE CONSIDERED SAFE TO WORK INSIDE WHEN THE POWER HAS BEEN TURNED OFF BY AN EXTERNAL MACHINE DISCONNECT OR CIRCUIT BREAKER LOCATED ON THE POWER DISTRIBUTION PANEL.



SKIN PACKAGING CYCLE

Thread the film into the film frame completely then close and latch the upper film frame to clamp the film into place.

Press the "CYCLE START" button to initiate a cutoff cycle and to raise the film frame to the up position.

The film frame reaches the top position, actuating the frame up limit switch and the CYCLE READY light comes on.

NOTE: If you do not wish to run a cycle at this time, the frame will hold in the upper position. The machine can be turned off and left in this position and when power turned back on the cycle can continue. To stop the cycle and lower the film frame; clear the platen plate, set all times to zero, and then press the CYCLE START button.

Load a card and your product onto the platen.

Press the CYCLE START button. This starts the HEAT FILM timer.

The film continues to heat until the preset time is reached. If the film has reached desired temperature before the end of the timer the operator can press the CYCLE START button to end the HEAT FILM timer and proceed to the HEAT PACKAGE and VACUUM TIME timers.

When the HEAT FILM TIME is complete the HEAT PACKAGE and VACUUM cycle begins. The turbine comes on and the film frame lowers.

After the HEAT PACKAGE TIME is complete, the oven turns off. The VACUUM will remain on if it was set to a longer time than the HEAT PACKAGE TIME.

When the VACUUM TIME is complete the turbine will shut off ending the cycle.

Unlatch and open the film frame to remove the packaged product.

SERVICE

The following items should be checked on a regular basis

Drain any water that has accumulated in the Air Filter/Regulator unit

Clean and remove any debris from the screen in the bottom of the vacuum box that can block the vacuum inlet and negatively affect the performance of the turbine motor.

Lubricate liner bearings attached to the film frame carriage once a year

Replace sand paper tape and felt pad on film frame as needed. This needs to be done when the film pulls out of the frame after the HEAT FILM TIME.

Replace wire and insulator on the hot wire cut-off as needed.

Downtime can also be reduced by occasional checking and tightening of all fasteners and electrical connections throughout the machine. Keeping the top of the oven hood cleaned off will allow for quicker oven cool down and longer Spirad life.

TURBINE REPLACEMENT

When replacing a turbine, it is important to not over tighten the fasteners that hold the turbine to the vacuum box. While holding the turbine firmly in place, finger tighten a nut onto each of the three studs. Then, tighten each screw two or three turns only. Use jam nuts to lock these screws in place. Over tightening of the mount screws may collapse the turbine housing causing the internal blades to rub against the inside housing wall reducing vacuum ability and cause irritating noise.

Before calling our Customer Service department, please obtain the model and serial number from the machine nameplate usually located on the back side of your equipment (see the example below).

If you know the part number, we can usually help you very quickly. If you don't know the part number, it usually requires research on our part and a return call from our technician. Please give as much information as possible to the technician in his search for what you need. The technician's first priority is to help troubleshoot problems over the phone, parts research therefore, must be done as time permits. Please be patient as the technician will return your call as quickly as possible.

We welcome sketches or drawings sent by e-mail to aid in your part identification. See the contact information on the back cover for how to contact the Ampak Customer Service department.

Parts that are in stock can usually ship the same day. However, if a part requires assembly, programming or inspection, it may require additional time to ensure that the part you buy is correct and performs in working order. We make every effort to ship your part as quickly as possible.

Part orders weighing less than 75 lbs. (34.02 kg) are normally shipped UPS Surface. Second day or overnight service by UPS or FedEx is available. Shipping charges will be billed to the customer. In order for your parts to be shipped overnight via FedEx standard air, we will need to know your FedEx Shipper identification number before we can ship. All part shipments are F.O.B. Cleveland, Ohio.

Larger and heavier parts (above 75 lbs.) Are normally shipped via common carriers F.O.B. Cleveland. Air freight is available at your expense. All parts orders must be received with a valid purchase order when calling Customer Service.

WARRANTIED PARTS

Parts ordered under the machine warranty are handled the same as above except that a Return Authorization number is issued for the defective part. This RA number is given verbally at the time of the order. When returning the defective part(s) to the factory, be sure the RA number is written and clearly visible on the outside of the packaging or crating so it can be routed to the appropriate department once it is received by Ampak.

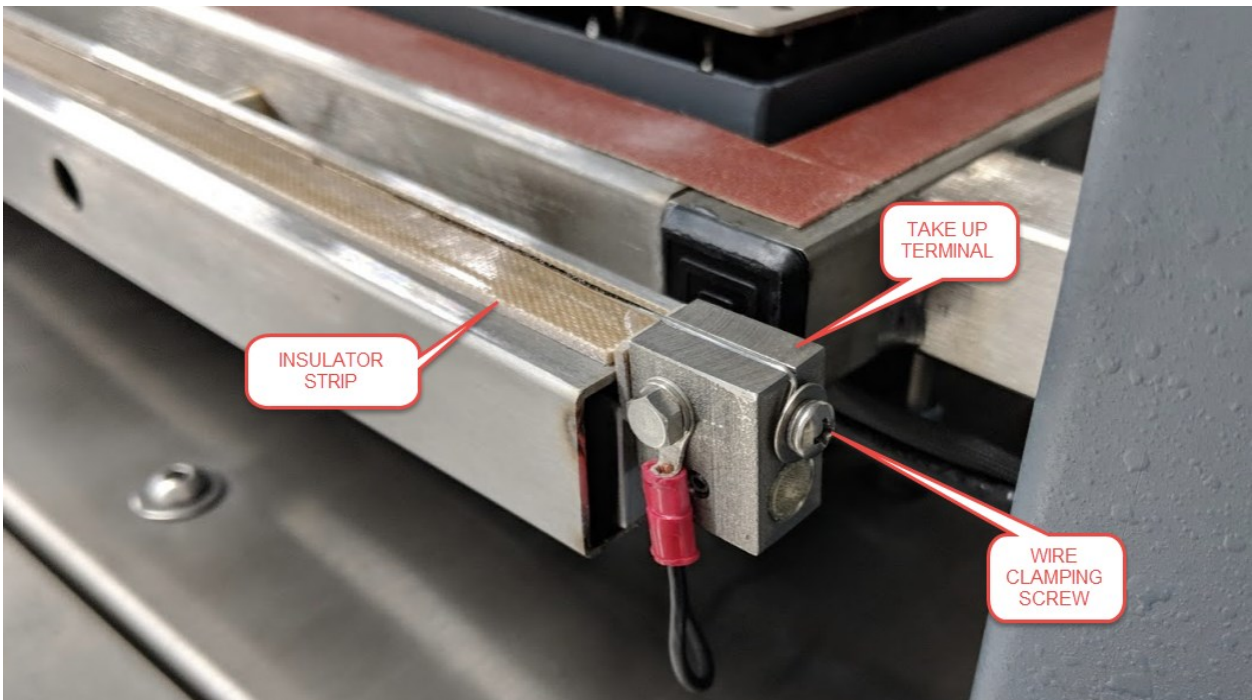
This RA number will insure you receive proper credit to your account. Credits are usually issued within thirty (30) days of the receipt of the defective part. Failure to return defective part or any evidence of damage caused by unauthorized use will prevent credit from being issued.



REPLACING THE CUTOFF WIRE

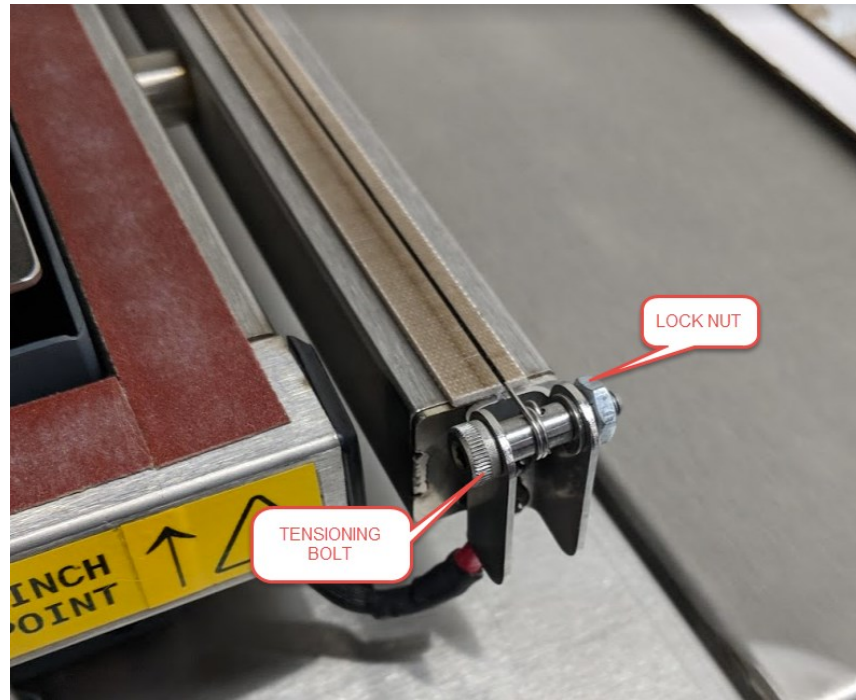


- REMOVE OLD WIRE
- IF NEEDED, REPLACE INSULATION STRIP
- REMOVE OLD STRIP
- CLEAN SURFACE WITH BRAKE CLEANER OR OTHER SOLVENT TO REMOVE ALL ADHESIVE RESIDUE AND ANY DIRT OR GRIME
- CUT NEW STRIP TO LENGTH AND STICK TO SURFACE



- LOOSEN SCREW ON BACK OF TAKE UP TERMINAL
- FORM A SMALL HOOK WITH THE WIRE AND LOOP IT AROUND THE CLAMPING SCREW.
- WHILE HOLDING WIRE, TIGHTEN SCREW

REPLACING THE CUTOFF WIRE



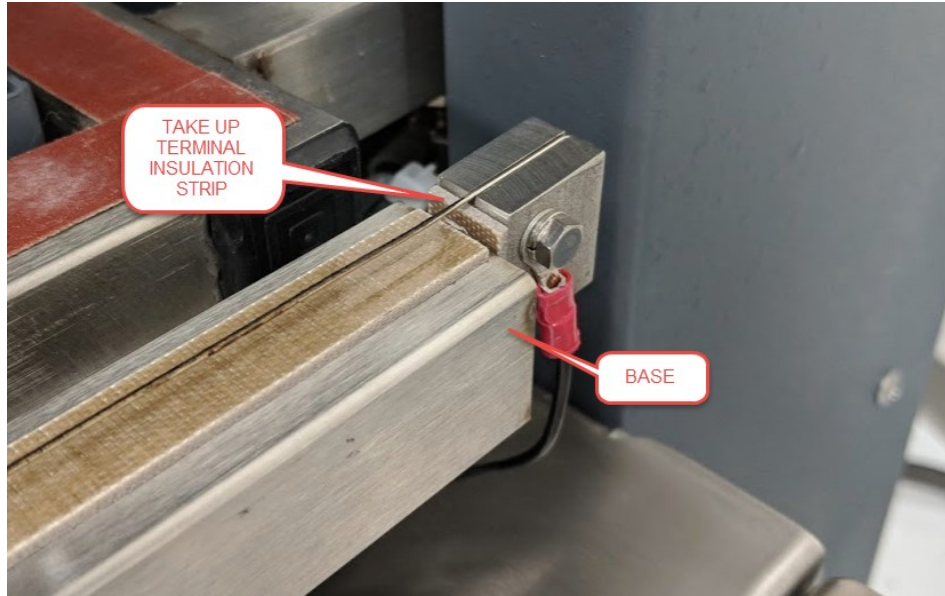
- WITH THE LOCK NUT LOOSE, TURN THE TENSION BOLT USING A 1/8" HEX WRENCH TO WIND THE WIRE AROUND THE BOLT.
- TO ENSURE A GOOD ELECTRICAL CONNECTION, MAKE SURE THE WIRE WRAPS AROUND THE BOLT AT LEAST 2 TIMES.
- TURN THE BOLT UNTIL THE TAKE UP TERMINAL INSULATION STRIP IS BOTTOMED OUT ON THE BASE.

REPLACING THE CUTOFF WIRE



WARNING:

MAKE SURE THE TAKE UP TERMINAL INSULATION STRIP IS ATTACHED TO TAKE UP TERMINAL. OTHERWISE AN ELECTRICAL SHORT MAY BE CAUSED.



- WITH THE TAKE UP TERMINAL BOTTOMED OUT AGAINST THE BASE, THE WIRE IS FULLY TENSIONED. WHILE HOLDING THE TENSION BOLT IN PLACE WITH THE HEX WRENCH, TIGHTEN THE LOCK NUT TO HOLD THE WIRE IN PLACE.

ORDERING PARTS



- Before calling our Customer Service department, please obtain the model and serial number from the machine nameplate usually located on the back side of your equipment (see the example below).

AMPAK®

ELEC RATING:

PHASE:

AIR:

WIRING DIAGRAM:

MODEL:

SERIAL #:

- If you know the part number, we can usually help you very quickly. If you don't know the part number, it usually requires research on our part and a return call from our technician. Please give as much information as possible to the technician in his search for what you need. The technicians first priority is to help troubleshoot problems over the phone, parts research therefore, must be done as time permits. Please be patient as the technician will return your call as quickly as possible.
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REPLACEMENT PARTS LIST

Part #	Qty.	Description
440008	12	CERAMIC BUSHING
440009	12	CERAMIC WASHER
017612	12	CLIP ASSEMBLY
021435-30	6	220 VOLT SPIRAD*
021435-32	6	208 VOLT SPIRAD*
2160-114	1	FILM FRAME SOLENOID VALVE
313012	2	BRUSHES FOR TURBINE
408160	2	FUSE, FNM 5 6/10
1815-028	1	CIRCUIT BREAKER, 2 POLE, 60AMP (SINGLE PHASE MACHINES ONLY)
1815-038	1	CIRCUIT BREAKER, 3 POLE, 40AMP (THREE PHASE MACHINES ONLY)
1836-011	1	MACHINE POWER LIGHT
1857-040	1	RELAY, SOLID STATE, 25 AMP
1857-039	2 (SINGLE PHASE) 3(THREE PHASE)	RELAY, SOLID STATE, 50AMP
1872-136	1	PUSHBUTTON (CYCLE START)
1872-138	1	24VDC LIGHT FOR PUSHBUTTON
1848-015	3	10 KOHM POTENTIOMETER (TIMERS)
1872-111	1	E-STOP SWITCH
434014	1	500KOHM POTENTIOMETER (TURBINE SPEED)
1872-126	1	CONTROL POWER SWITCH
2160-113	2	UPPER/LOWER LIMIT SWITCH
2160-106	1	FILM FRAME CYCLINDER



REPLACEMENT PARTS LIST

Part #	Qty.	Description
2160-110	2	SPEED CONTROL
2160-107	1	FILTER/REGULATOR
2160-115	1	AIR SHUT-OFF
2155-285	1	UPPER FILM FRAME STOP/DAMPENER
2155-291	1	FILM FRAME GAS SPRING
1853-011	1	24VDC/12DVC POWER SUPPLY
5821-365	1	PROGRAMMED PLC
434045	1	PROPORTIONAL CONTROL
921015	1	ADHESIVE
922012	25'	SANDPAPER STRIP, 3/4 IN. WIDE
922013	25'	FELT STRIP, 3/4 IN. WIDE
HOT-WIRE CUT-OFF PARTS		
431105	1	TRANSFORMER
408160	2	FUSE, FNM 5 6/10
1857-040	1	RELAY, SOLID STATE, 25 AMP
1848-015	1	10 KOHM POTENTIOMETER
2207-002	1	INSULATOR STRIP
70-212-0081	1	RESISTANCE WIRE

*Due to restrictions imposed upon Ampak regarding the liability involved in shipping Spirads, the following is set forth:

Spirad elements, regardless of size, can only be shipped in multiples of three.

Inspect Spirads immediately for damage and call Heat Seal customer service to file a damage claim and order replacements.

TROUBLESHOOTING



PROBLEM: MACHINE WILL NOT CYCLE
Procedure: Power light must be on.
Machine must have Air Pressure
Pull out emergency stop button.
Make sure circuit breaker is on.
Check that film frame down limit switch is on
Check input(s) to PLC for 24VDC
Check PLC output(s) for 24VDC
Check valve for 24VDC

PROBLEM: HEAT FILM CYCLE WILL NOT START
Procedure: Film frame must be in UP position.
Film frame limit switch must be made.

Check FU1-3
Check input(s) to PLC for 24VDC
Check PLC output(s) to SSR1-3 for 24VDC
Check SSR1-3 for 24VDC

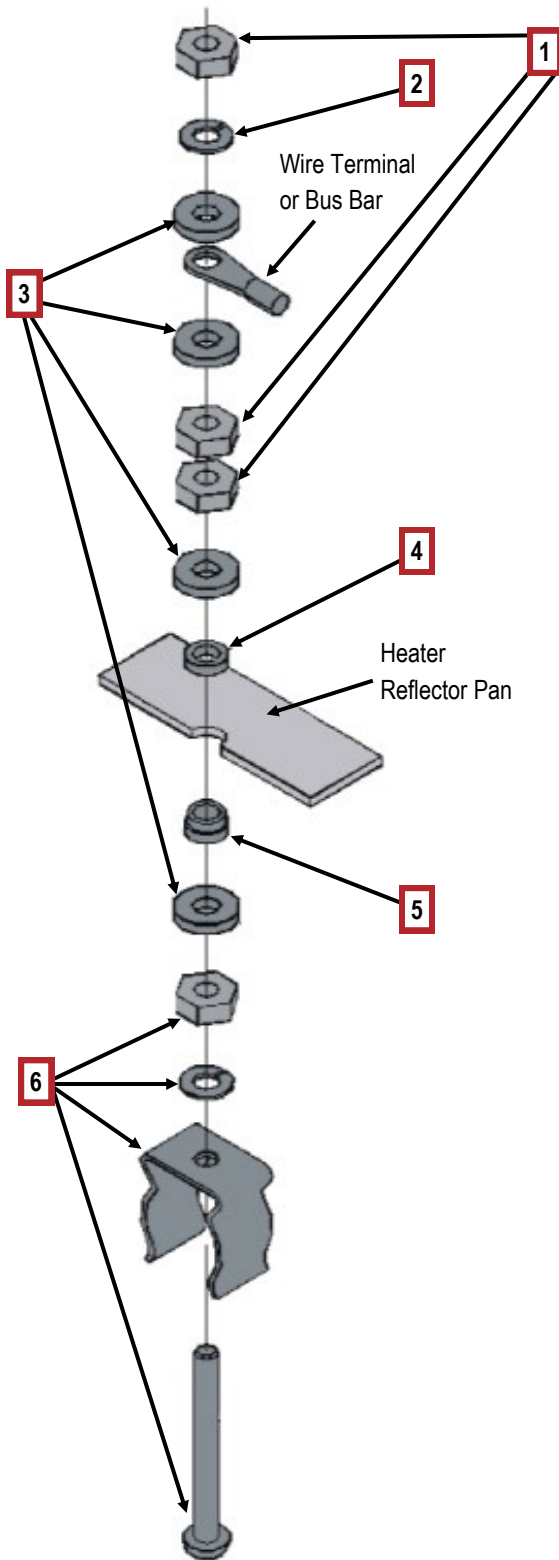
PROBLEM: FILM FRAME WILL NOT RAISE/LOWER
Procedure: Check air pressure.
Check input(s) to PLC for 24VDC
Check PLC output(s) for 24VDC
Check valve for 24VDC Empty filter if necessary.

PROBLEM: TURBINE WILL NOT RUN
Procedure: Check FU4 and FU5
Speed control must not be set at zero.
Check and replace brushes if necessary.
Check input(s) to PLC for 24VDC
Check PLC output(s) for 24VDC
Check valve for 24VDC
Replace speed controller.

PROBLEM: FILM CUTOFF WILL NOT FUNCTION
Procedure: Check FU6 AND FU7
Check SSR 5 FOR 24VDC
Check HW POT
Check HW transformer for proper voltage
Check PLC output for 24VDC
Check wire connections at cutoff wire.

PROBLEM: OVEN PROBLEMS
Procedure: Check the following in order:
1) Film frame UP limit switch made.
2) Oven relays SSR1-3 closed.
3) With all power OFF, check each end of Spirads for short to ground.
4) Short circuits can be caused by broken ceramic bushing and washers on Spirad clips. Replace as necessary with #440008 and 440009. Short circuits in the oven can be intermittent since the oven components expand when hot. The Spirad clip assemblies should be slightly loose to allow for this movement. When checking for shorts, wiggle the spirad clip assembly with your fingers while watching the meter.
5) Open or burned out spirad element. Replace accordingly to machine voltage from the electrical diagram in the back of this manual. Note that on some models the Spirads are arranged in series configurations. Always verify that the suspect spirad is indeed open with a meter. Rarely does more than one spirad burn out at a time. (See Spirad Assembly drawing)

PROBLEM: ADJUSTING FILM FRAME SWITCHES
Procedure: To adjust the limit switches, the film frame must be up to adjust the switch up or down to adjust the switch down.
Loosen the clamp screw holding the switch in place. Slide the switch up the rail until the frame up or down light comes on.
Re-tighten switch clamp.



Item	Part #	Description
1	1911-005	#6 Hex Nut
2	1907-004	#6 Split Lock Washer
3	1909-007	#6 Flat Washer
4	440009	Female Ceramic Washer
5	440008	Ceramic Bushing
6	017612	Spirad Clip Assembly

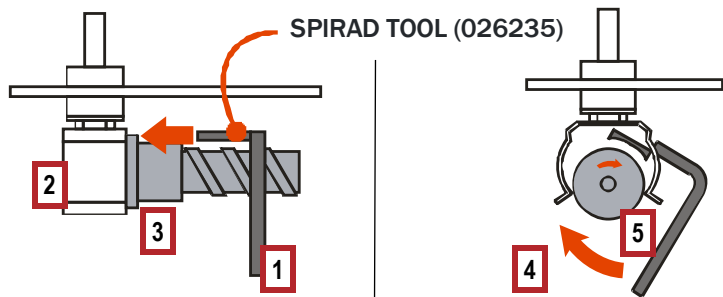
Due to restrictions imposed on Ampak regarding the liability involved in shipping Spirads®, the following policies are set forth:

- Spirad elements, regardless of size, are shipped from the factory in quantities of three to each order.
- Always open and inspect Spirad shipments for damage immediately upon receipt. If broken Spirads are discovered, contact Ampak customer service immediately. Damage claims must be filed quickly to allow for replacements and/or adjustments.

Order replacement Spirads by machine model and voltage.

REMOVING SPIRADS FOR SERVICING

ALWAYS TURN OFF MAIN CIRCUIT BREAKER BEFORE WORKING IN THE OVEN. WEAR SAFETY GLASSES WHEN HANDLING SPIRADS



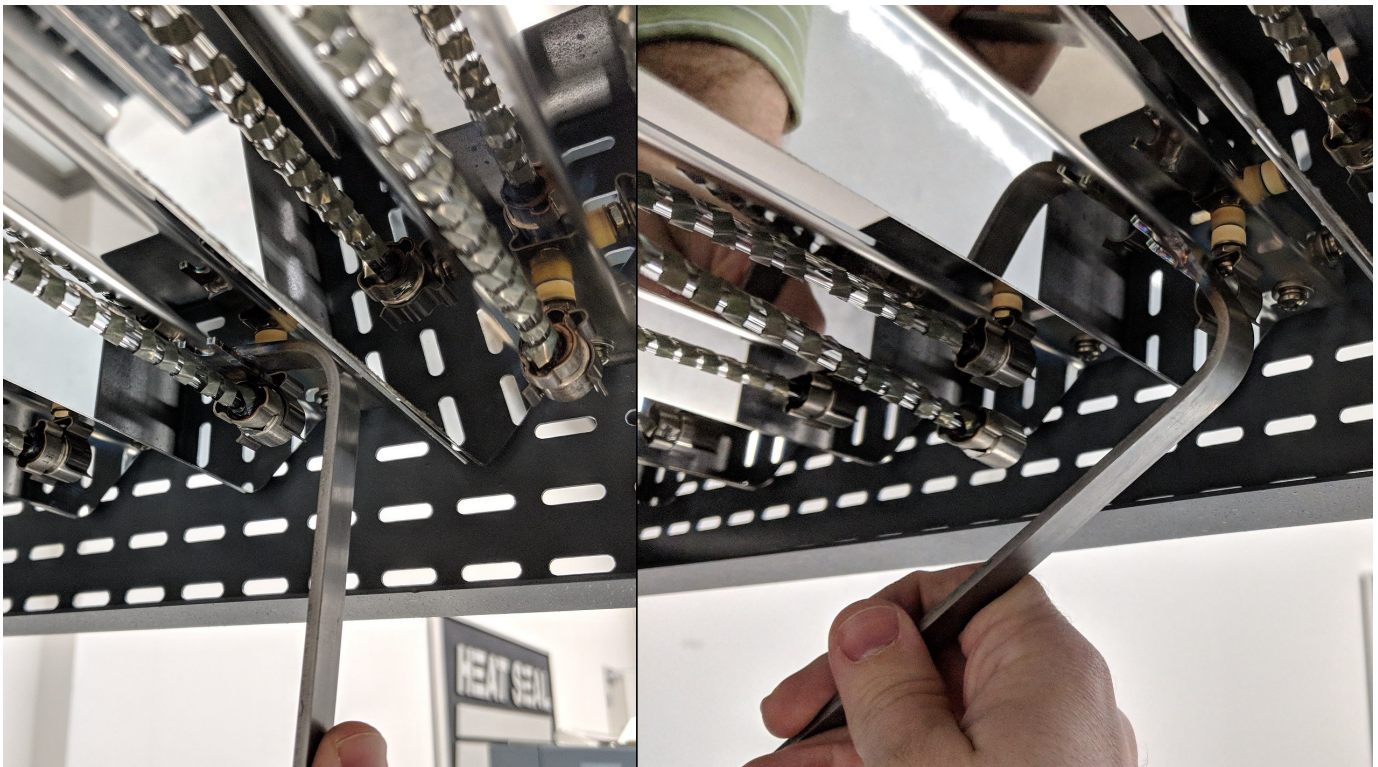
Insert Tool (1) Between Clip (2) and End Terminal (3) of Spirad Assembly

Pull Slowly In The Direction Of The Arrow (4) Above And Let Spirad (5) Roll Out Of Clip

SPIRAD INSPECTION & REPLACEMENT



1. LOWER FILM FRAME AND TURN OFF MACHINE
2. TURN OFF MAIN BREAKER, CB1
3. REMOVE OVEN SCREEN(S)
4. USING SPIRAD REMOVAL TOOL, REMOVE SPIRAD TO BE REPLACED
 - a. INSERT PRONG OF TOOL IN GAP BETWEEN SPIRAD TERMINAL AND CLIP
 - b. CAREFULLY ROTATE TOOL BACK AND FORTH TO WORK SPIRAD LOOSE FROM CLIP
 - c. WHILE HOLDING SPIRAD, REPEAT ON OPPOSITE END OF SPIRAD

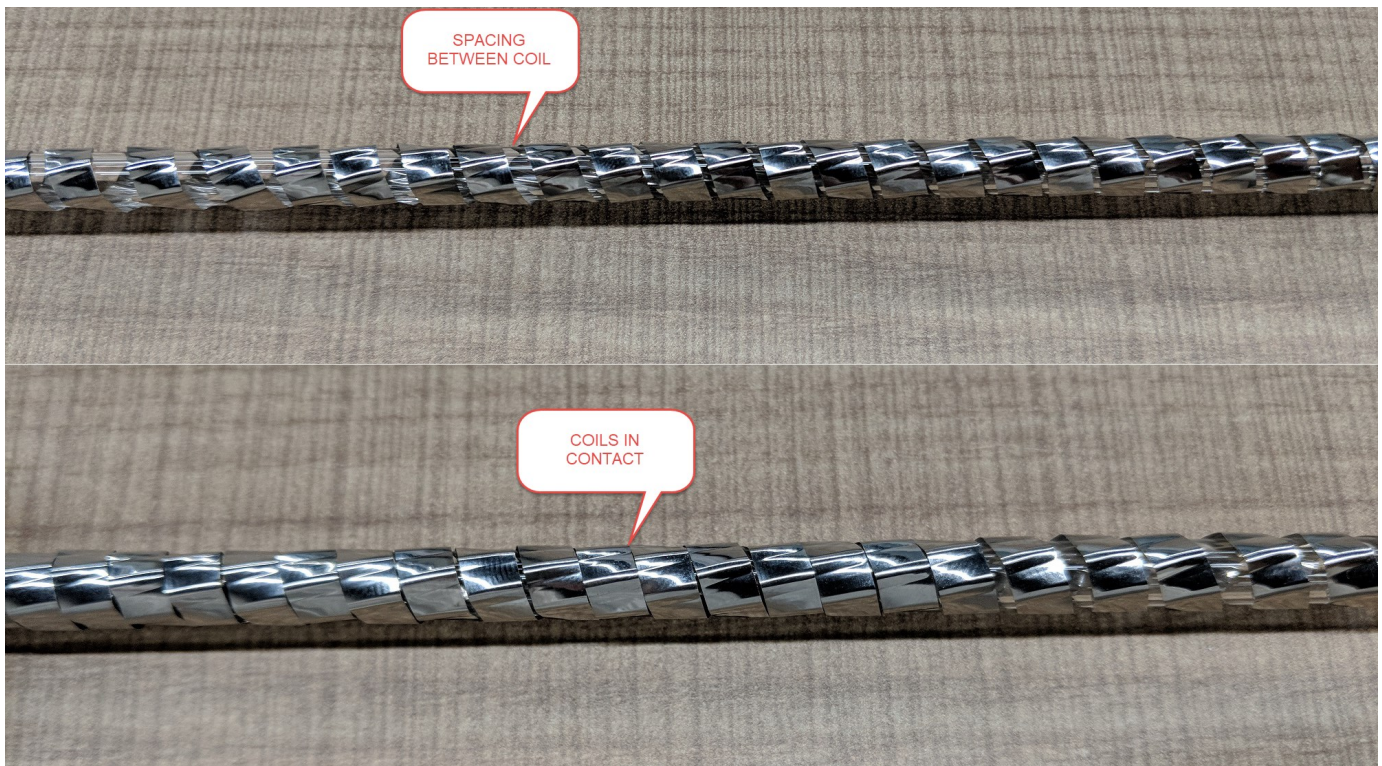


SPIRAD INSPECTION & REPLACEMENT



5. INSPECT NEW SPIRAD

- a. MAKE SURE THAT THERE IS AT LEAST A 1/16" GAP BETWEEN ALL COIL WINDINGS
- b. IF NEEDED, ADJUST THE COILS BY HAND TO ADJUST COIL SPACING
- c. IF COILS ARE IN CONTACT WITH EACH OTHER IT WILL CREATE A HOT SPOT IN THE SPIRAD AND WILL LEAD TO PREMATURE FAILURE
- d. SEE BELOW FOR EXAMPLES



SPIRAD INSPECTION & REPLACEMENT

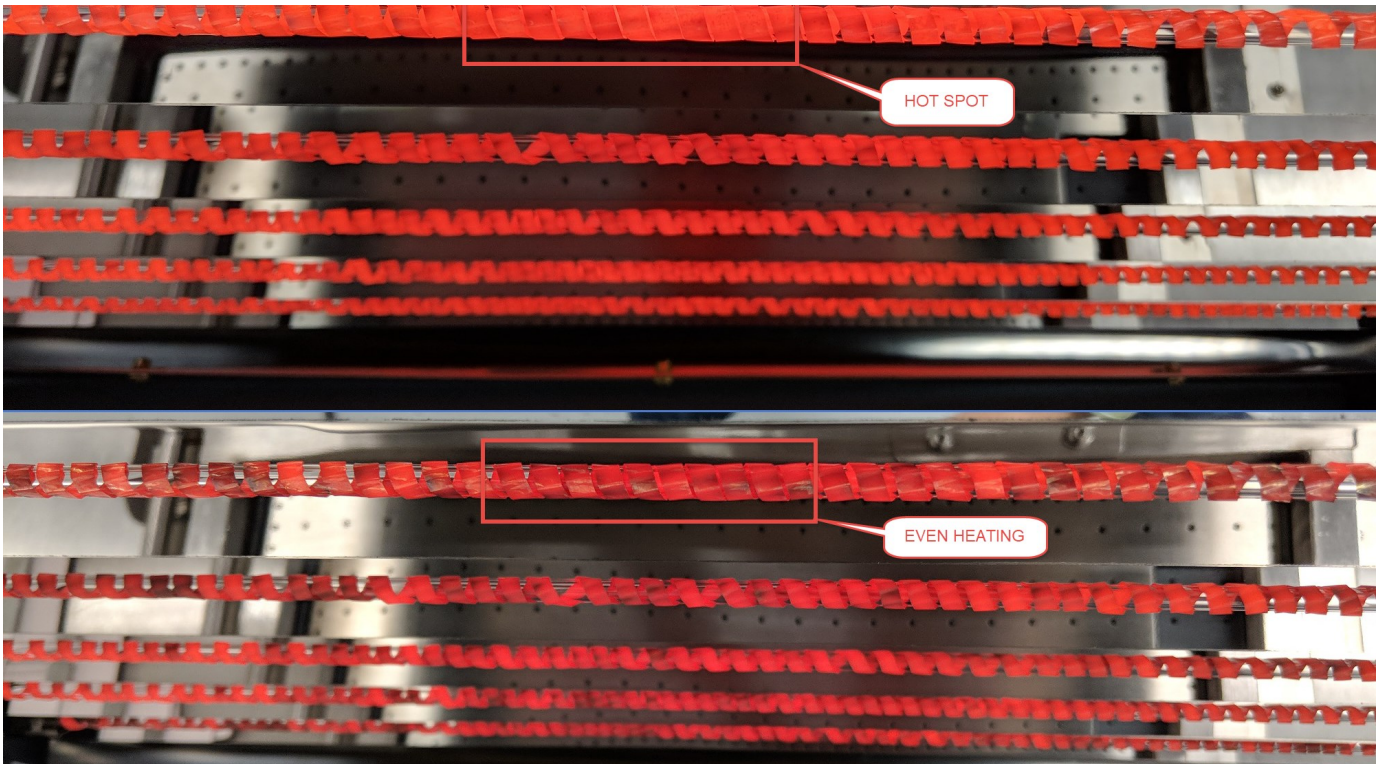


6. INSTALL NEW SPIRAD BY ALIGNING ENDS WITH CLIPS AND PRESSING INTO PLACE

CAUTION: KEEP HANDS, TOOLS, AND TEST INSTRUMENTS AWAY FROM THE OVEN WHILE TESTING

7. TEST NEW SPIRADS BEFORE RE-INSTALLING OVEN SCREEN

- a. REAPPLY POWER AND TURN ON MACHINE
- b. TURN ON THE OVEN BY RUNNING A SKIN CYCLE WITHOUT FILM BOARD OR PRODUCT
- c. WITH THE OVEN ON, INSPECT THE NEW SPIRADS FOR HOT SPOTS. HOTS SPOTS ARE IDENTIFIED BY SEEING A BRIGHTER GLOW OF THE WIRE IN A SMALL AREA. SEE BELOW FOR EXAMPLES.



8. RE-INSTALL OVEN SCREEN

NOTES



