

CSL2700 ROLL LAMINATOR



OWNERS MANUAL

CALL TOLL FREE

1-800-282-9290



Free
**Lifetime
Tech
Support**

**Customer
Service**
M-F 8am to
6pm EST

IMPORTANT INFORMATION

PLEASE DO NOT DESTROY THE SHIPPING CARTON!

USI urges you to store the original carton in which your laminator was shipped. Should you ever need to return your laminator to our repair and service center, it is best repacked in the original carton to avoid damage during transport. Our special foam filled carton ensures the laminator's safe transit to our service facility. Failure to use original packaging will result in a repacking fee. If you have any service inquiries, please contact USI's Technical Support Hotline, M-F 8am-6pm EST, at 800-752-9131.

Warranty: A Full Two Year Warranty will be issued from date of product shipment. Please supply the model and serial numbers on all correspondence concerning your laminator.

EQUIPMENT WARRANTY

1. Standard Manufacturer Warranty

We warrant to the original purchaser the equipment manufactured to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty shall be limited to the repair or exchange of any part or parts which may prove defective under normal use and service within two years from the date of shipment and which our examination shall disclose to our satisfaction to be defective. Warranty does not include damage due to operator error or general maintenance. When necessary, purchaser shall properly pack and return the unit to the USI Service Center, freight and insurance prepaid.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART, AND WE NEITHER ASSUME NOR AUTHORIZE ANY OTHER PERSON TO ASSUME FOR US, ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS LAMINATING MACHINE OR ANY PART THEREOF WHICH HAS BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATION, ABUSE OR MISUSE. WE MAKE NO WARRANTY WHATSOEVER IN RESPECT TO ACCESSORIES OR PARTS NOT SUPPLIED BY US. THE TERM "ORIGINAL PURCHASER," AS USED IN THIS WARRANTY, SHALL BE DEEMED TO THE PERSON OR COMPANY WHO FIRST PUTS THE EQUIPMENT INTO SERVICE. THIS WARRANTY SHALL APPLY ONLY WITHIN THE BOUNDARIES OF THE CONTINENTAL UNITED STATES.

2. Enhanced Manufacturer Warranty and Protection Plan

In addition to the Standard Manufacturer Warranty set forth above in Paragraph 1, USI also provides an Enhanced Manufacturer Warranty and Protection Plan to the original purchaser of the equipment for a period of Two (2) years from the date of shipment. The terms of this Enhanced Manufacturer Warranty and Protection Plan (hereinafter referred to as the "Plan") is set forth below:

- a. The Plan provides unlimited email, phone and web-based support from USI Support ("Support") as well as replacement parts, equipment, and return shipping due to normal wear and tear and accidental damage during the Coverage Period, subject to the following limitations:
- b. Customers will be covered for up to three (3) incidents under the Plan per year in a Coverage Period. An "incident" means that a Customer either receives (a) a replacement part and/or equipment from USI * or (b) mail-in, physical service on a Product performed by USI or its agents.
- c. The Plan will cover the following non-consumable parts: timing boards, rollers, switches, user interface components (buttons and dials), power supplies, cables and wire harnesses, motors and mechanical components.
- d. USI shall have the option, at its own discretion, whether to: (1) ship replacement parts to repair the equipment; (2) bring the equipment to USI for servicing and repair, and/or; (3) to provide replacement equipment, and/or (4) to coordinate a repair service at the site where the product is housed.
- e. Exclusions and Limitations. The Plan does not cover the following consumable parts: laminating film. The Plan does not cover damage due to abuse, neglect or misuse, extreme environment, unusual physical or electrical stress or interference, exposure to moisture, flooding, or fire.
- f. Support determines course of action. The decision to issue replacement parts or have Product or parts of Product returned for servicing under this Plan is at Support's discretion. If replacement parts are deemed necessary, Support will coordinate shipment to you. If replacement parts are deemed unnecessary by Support, Customer may purchase a replacement part at cost. For service requiring return of Product or parts of Product, Support will issue a Return Authorization ("RA") Number to Customer. Unauthorized returns will not be accepted under any circumstances. USI will cover shipping both ways, and Support will choose and pay for method of return shipment to Customer. If Customer requests expedited shipping, it will be arranged by USI at an additional fee to be pre-paid by Customer.

g. LIMITATIONS OF LIABILITY. TO THE FULLEST EXTENT PERMITTED BY LAW, NEITHER USI NOR ITS SUPPLIERS SHALL BE RESPONSIBLE OR LIABLE WITH RESPECT TO ANY SUBJECT MATTER OF THIS AGREEMENT OR TERMS OR CONDITIONS RELATED THERETO UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER THEORY FOR (A) LOSS OR INACCURACY OF DATA OR COST OF PROCUREMENT OF SUBSTITUTE GOODS, SERVICES OR TECHNOLOGY, OR (B) ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO LOSS OF REVENUES AND LOSS OF PROFITS. TO THE MAXIMUM EXTENT PERMITTED BY LAW, USI AGGREGATE CUMULATIVE LIABILITY HEREUNDER SHALL NOT EXCEED THE GREATER OF FIFTY DOLLARS (\$50.00) OR THE AMOUNT PAID BY YOU FOR THE PRODUCT THAT CAUSED SUCH DAMAGE.

SOME COUNTRIES, REGIONS, STATES OR PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF REMEDIES OR OF INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, OR THE APPLICABLE TIME PERIODS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY. EXCEPT TO THE EXTENT LAWFULLY PERMITTED, THIS LIMITED WARRANTY DOES NOT EXCLUDE, RESTRICT OR MODIFY STATUTORY RIGHTS APPLICABLE TO WHERE THE PRODUCT IS SOLD BUT, RATHER, IS IN ADDITION TO THESE RIGHTS.

h. SEVERABILITY. In the event that any of the provisions of this Contract shall be held by a court or other tribunal of competent jurisdiction to be unenforceable, the remaining portions of this Contract shall remain in full force and effect, provided that in such event the parties agree to negotiate in good faith substitute enforceable provisions which most nearly effect the parties' intent in entering into this Contract.

i. CHOICE OF LAW; JURISDICTION. This Contract shall be governed by and construed in accordance with the laws of the State of Connecticut, U.S.A., without regard to the choice-of-law principles thereof that would result in the application of the laws of a State other than Connecticut. Any dispute between the parties arising under or relating to this Contract shall be subject to the exclusive jurisdiction of the United States District Court for the District of Connecticut, state or the State courts sitting in the Judicial District of Middlesex County, Connecticut. A printed version of these Terms will be admissible in judicial and administrative proceedings based upon or relating to these Terms to the same extent and subject to the same conditions as other business documents and records originally generated and maintained in printed form.

Note: You will be charged for the replacement of any parts which are damaged as a result of improper packaging.

READ ME FIRST!

This manual contains all the information you need to properly unpack, operate and maintain your USI Laminator. Before unpacking your laminator we suggest you read and follow the manual step by step. It contains essential information about each and every facet of your laminator. Pay special attention to the work environment and safety precautions necessary for your laminating unit.

The manual is organized in the following way:

- There are seven major chapters, each covers a different subject heading.
- Each chapter is further broken down into parts.
- Each part contains a detailed discussion, including photographs and figures, covering either an operation or maintenance procedure for your laminator.
- Photographs and figures are numbered on each page for quick reference.
- Please pay special attention to particular notes and caution statements.
- These comments alert you to information the we feel essential to operator safety and damage prevention to the laminator.

Copyright Information:

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SAFETY PRECAUTIONS

WARNING: Please review the following safety precautions before unpacking your new laminator.

- Use care in unpacking and lifting the laminator. Keep laminator level when lifting or moving. Larger models weigh 60 pounds or more.
- Consider work area. A cluttered work space can lead to accidents. The laminator should be placed on a level sturdy surface. Do not attempt to operate the laminator in damp or wet environments. Do not operate electrical devices in the presence of flammable liquids, solvents or in gaseous/explosive atmospheres. Keep work area well lit. Allow sufficient access to front and back of machine. See the manual for additional work space requirements.
- Respect feed rollers. Keep hands away from feed rollers and any other moving parts. Turn drive switch OFF before attempting to clear film wrap-arounds or jams. Use reverse feature to clear film. Do not wear any loose clothing, ties, jewelry, etc., which can be caught by feed rollers and draw any body part into the machine.
- Respect heat shoes. Operating temperatures are hot enough to burn skin. If clearing a film wrap-around or jam on or near heat shoes, first turn the heat switch OFF and allow laminator to cool to room temperature. If your laminator is equipped with a heat shoe guard, do not operate without this guard in place.
- Watch out for cutter blade at rear of laminator. Blade is extremely sharp.
- Do not operate laminator with any panels or guards removed. Panels and guards protect operators from such moving parts as the drive chain and sprockets, roller ends, etc.
- Turn the drive switch OFF before walking away or leaving the laminator unattended.
- Before lifting or moving laminator, turn drive switch OFF, turn heat switch OFF, unplug unit and allow to cool to room temperature. Remove film rolls before lifting or moving machine. Film is easy to rethread, see the section in this manual.
- Keep children away. Make sure visitors are kept well back from an operating laminator.
- Do not abuse electrical cord. Never pull cord to disconnect it from a receptacle. Do not allow cord to contact heat, oil or sharp edges. Do not cut off or otherwise bypass the grounding prong on the plug.
- If an extension cord is necessary be sure it is properly rated and of at least the same wire gauge or smaller as the laminator cord. Capacity of the cord must prevent loss of power and overheating. Before using, inspect extension cord for any damage, including loose or exposed wires, broken fittings, damaged insulation, etc.
- If you service the laminator yourself, call USI's Technical Assistance department (1-800-752-9131) for additional safety recommendations. Use only USI parts for service or replacement. Failure to use USI parts could void manufacturer's warranty. Note: Always turn laminator off and unplug before servicing.
- Use common sense. Be cautious when operating your laminator. Do not operate laminator when you are tired or your reactions are impaired in any way.
- Do not allow anyone to operate the laminator who has not received proper instruction and has not read the safety instructions.

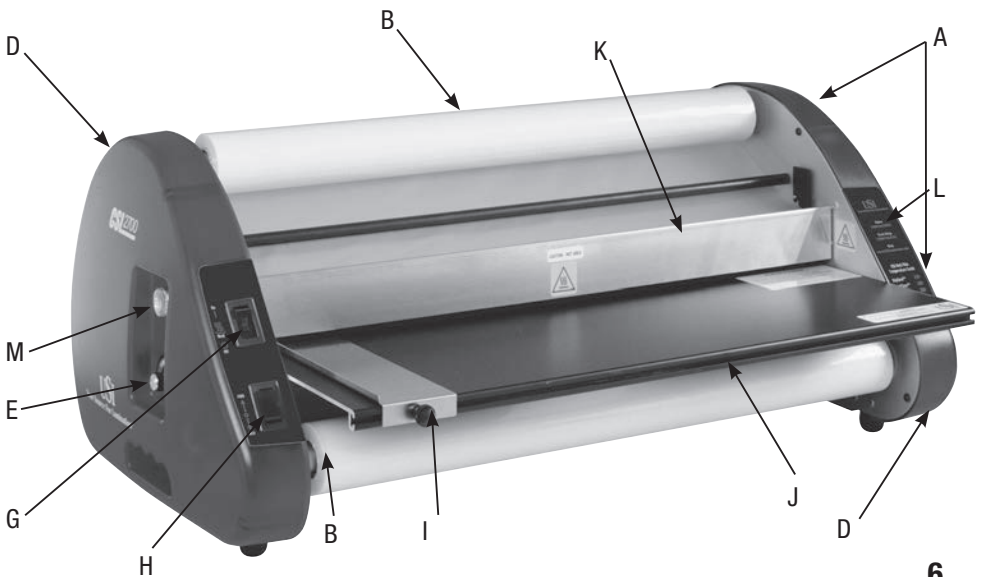
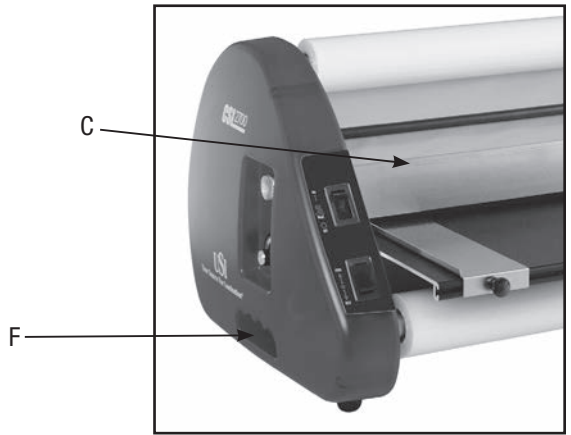
LAMINATOR INTRODUCTION

USI roll laminators are uniquely designed and engineered to be user friendly, reliable and virtually trouble free. USI's modular construction makes them easy to maintain and repair. All equipment controls are basic in design, functional and positioned for easy access.

CSL 2700

Feature Location:

- A Tension Adjusting Knobs
- B Color Coded Supply Mandrel (holds film)
- C Heat Guard
- D Side Housing
- E Temperature Adjustment Knob
- F Built-in Handles
- G Heat ON/OFF Switch
- H Motor Drive Switch
- I Paper Guide
- J Feed Tray
- K Heat Shoes (Behind Heat Guard)
- L Film Temperature Guide
- M Thermometer



FIND A WORK AREA

A separate work station is required to house your USI laminator. Ample room is necessary to access the laminator from all 4 sides. If the laminator is back against a wall, the laminating film may back up and jam the equipment. A USI laminator cabinet is an excellent choice for a work area. It can easily be moved and provide sufficient storage for film in the cabinet below.

WARNING: Do not place the laminator where the heat shoes will be in the direct path of a room cooling fan, air conditioner or similar forced draft.

Tools necessary to set up your laminator include cutting shears and any adhesive tape. For future service or maintenance, an assortment of Allen wrenches, a flat head screwdriver and a Phillips head screwdriver are necessary.

ELECTRICAL REQUIREMENTS

All USI laminators are powered by a standard 120 VAC, three prong outlet.

ELECTRICAL SPECIFICATIONS

CSL 2700 15amp / 1540 watts

UNPACKING YOUR LAMINATOR



Photo 8-1

Your laminator comes packed in one carton. It contains (1) laminator, (1) heat guard, (1) top supply mandrel, (1) bottom supply mandrel, (1) threading board, (1) feed table with guide, and this operation and maintenance manual. (See diagram page 6)

First, open the box. Using two people, carefully lift the laminator from the carton by grasping the side housings and lifting. Do not lift by the upper idler bar or supply mandrel. These are not weight bearing parts and can cause damage to the machine.

For shipping purposes, white plastic tie straps are used to hold the power cord, heat shoes, and accessories in place. These straps are approximately 1/8" wide and should be carefully cut and removed prior to set up.

Be sure to save the shipping carton... Should your laminator ever need to be returned for service, this carton ensures safe transit.

You new laminator comes ready to run. Load the laminating film as shown on page 9. Install the feed table and heat guard as shown on page 13. Plug the machine in and turn the heat switch to the "on" position and allow to heat for approximately 15 minutes.

After 15 minutes of heating time, set the Motor Drive Switch to the "Forward" position and allow the Rubber Rollers to rotate 1/2 turn. Set the Motor Drive Switch to the "Off" position and allow the machine to heat an additional 5 minutes before use. Check the heat setting and adjust if necessary as shown on page 12.



Photo 8-2

LOADING FILM

COLOR-CODED LAMINATORS & FILM:

Select the two rolls of laminating film that you wish to use. Both rolls of film should be of the same size, type and thickness. Next, take the bottom supply mandrel (marked with the blue Color-Code) and insert it into the roll of film so the blue end of the mandrel matches the blue end of the film roll. While inserting the mandrel, rotate it in the opposite direction of which the “gripper dog” points while pressing into the roll of film and center on the mandrel. Place the loaded mandrel on the machine by matching the blue end with the blue friction stud. To load the top, do the same as the lower, only match the red ends.

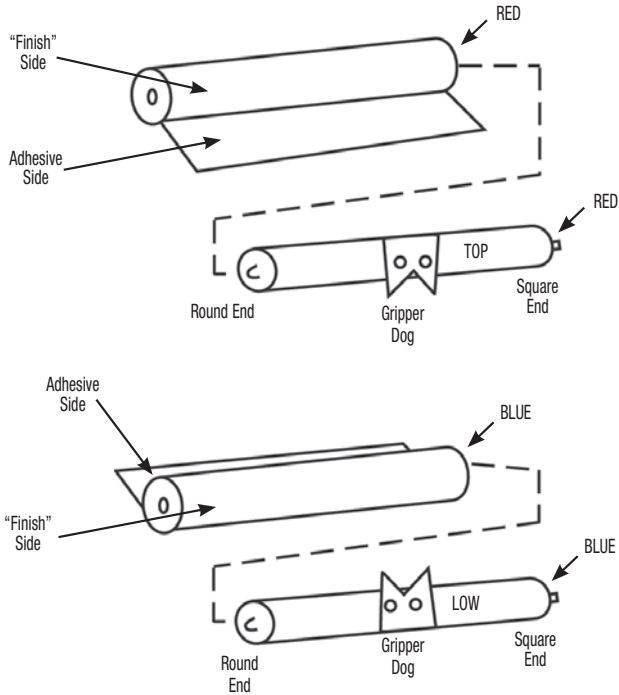


Figure 9-1

FOR NON-COLOR-CODED LAMINATORS & FILM:

Select the two rolls of laminating film that you wish to use. Both rolls of film should be of the same size, type and thickness. Next, take the bottom supply mandrel (labeled “Low”) and insert it into the roll of film until the “gripper dog” meets the film’s cardboard core (photo 10-1). Rotate the mandrel in the opposite direction from which the “gripper dog” points. As you rotate, apply pressure to force the mandrel into the roll of film and proceed to center it on the mandrel. See Figure 9-1.

Place the loaded mandrel on the laminator. Insert the right side first and then lower the left side into the roll bracket. Take the top supply mandrel (labeled “Top”), insert it into the roll of laminating film, and place it in the top position as with the lower (process shown in photos 10-1, 10-2, 10-3).

Note: 1” core laminating film is rolled adhesive side in (“poly in”). When loading film on mandrel, be sure roll is positioned correctly to unroll as shown in figure 9-1. If the roll is loaded in reverse, the film could adhere to the laminator when heated.

Note: When loading your laminating film, check for film splices. These rolls will be clearly marked. Splices are not common, but are unavoidable. If you find a spliced roll, place it in the top position on the laminator so that the splice can be monitored carefully. When the splice is ready to come through the laminator, turn the drive and heat off, allow the machine to cool, and rotate the spliced roll of film by hand so the film tension is very loose. Turn the drive switch on again and allow the splice to run through. If necessary, keep turning the roll of film by hand to keep it slack until the splice has passed through.

Caution: Do not apply excessive force to the ends of the mandrel (i.e. with a hammer, etc.). Excessive force will damage the mandrel. When loading the laminator, be sure the heat is turned off and the machine is cool to avoid chance of burns.

Note: Film rolls must be centered on supply mandrels. If the rolls are not aligned, hot adhesive will be deposited on the heatshoes and rubber rollers, necessitating a cleaning operation.

Caution: When loading the laminator for the first time, be sure that the heat is turned off and the machine is cool.



Photo 10-1



Photo 10-2

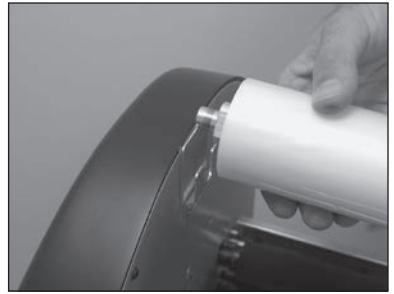


Photo 10-3

THREADING DIAGRAM

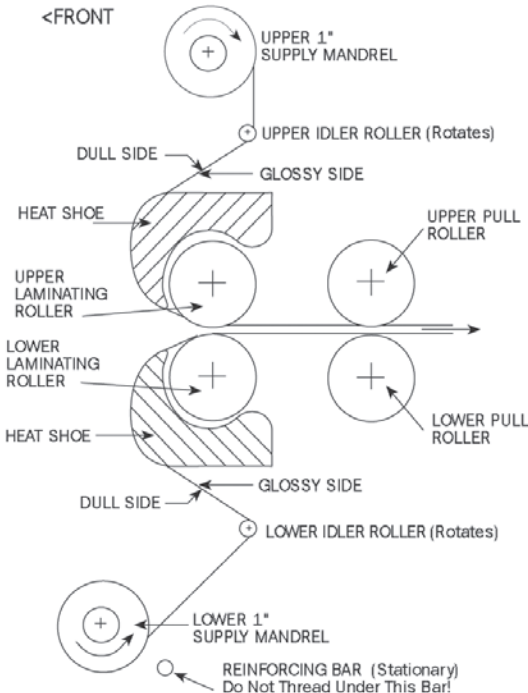


Figure 10-4

Thread the top roll of film under the idler roller as shown in the threading diagram on previous page (see Figure 10-4). Pull the film down so that the film's lead edge is below the lower heat shoe. Next thread the bottom roll of film under the lower idler bar pulling film upward until it is even with the top heat shoe (the film will overlap). Tape it to the top film edge. This creates a film "Web" (Photo 11-1 & 11-2).

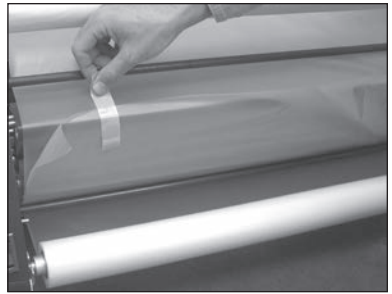


Photo 11-1

Using Tension Adjustment knobs, loosen tension on both rolls of laminating film. Turn on the "Drive" switch and using the threading board—push the film web into the laminating rollers. This process will push the web into the pull rollers and exit. Ensure that the threading board and film exit between the rear pull rollers (Photo 11-3 & 11-4).



Photo 11-2: Creating Film Web

NOTE: *If you lose your threading board or if it becomes damaged, you can make your own with a piece of poster board. Cut poster board 12" wide by the length of the laminator, 27".*

Your laminator is now loaded and ready to be heated. Remove the threading board and save for your next use.



Photo 11-3: Threading board and film web entering.



Photo 11-4: Threading board and film web exiting pull rollers.

HEAT SETTINGS

Prior to laminating, allow the machine to pre-heat at least 15 minutes in order to stabilize the temperature. Temperature settings depend on the film type being used. The temperature is preset at the factory, but may require adjustment depending on what type of film you are using.

Turn the heat on by depressing the heat power switch on the left side panel. The red indicator light will illuminate and remain lit while the machine is in the "on" position.

After the machine has been heated for 15 minutes, adjust the heat knob located on the end of the machine, in the side housing, to the desired temperature setting. Allow the machine to heat for another 5 minutes in order to get an accurate reading. Check your thermometer to confirm your temperature setting.



Photo 12-1

TYPE	HEAT RANGE
Standard	260-290°F
Opti Clear	210-245°F
Photo Plus	220-250°F
DigiSeal	180-220°F

TENSION

To adjust tension for upper and lower rollers, the laminator must be loaded and heated.

Remove the heat guard and feed tray. Loosen both tension control knobs by turning counterclockwise until there is no tension on upper or lower film rolls. Photos 13-1, 13-2.

Film should pull freely.

Turn the drive switch "On".

As film runs through it will appear wrinkled and bubbly, as pictured in photo 13-3.

Gradually increase tension on both rolls, by turning knobs clockwise, until film is smooth on heat shoes. Once film is smooth, stop tightening knobs.

NOTE: For best results, reset tension with EACH new pair of film rolls.

NOTE: As the film roll supply becomes low it is necessary to decrease tension on the rolls.

NOTE: Too little tension on the top or bottom roll causes vertical or diagonal streaks in the film as it passes over the heating shoe.

WARNING: Excessive tension will lead to increased wear and tear on the laminator.

Once the laminator is loaded, heated, tension adjusted—install the Feed Tray and Heat Guard, as shown below in Photos 13-4 and 13-5.



Photo 13-1



Photo 13-2

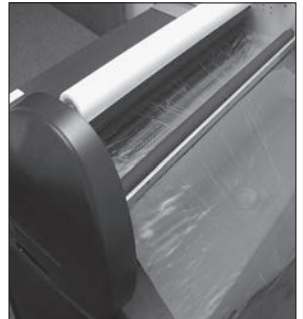


Photo 13-3



Feed Tray Photo 13-4



Heat Shoe Guard Photo 13-5

RELOADING A NEW ROLL OF FILM ON A HOT LAMINATOR

Allow the old film to run to a point just before it pulls off the cardboard cores. Turn the drive switch to "OFF."

Cut the film web with a blade so that approximately 5" of film extends beyond the idler bar. Photo 14-1.

CAUTION: When using a sharp object to cut film (blade or shears), avoid contact with heat shoes or rubber rollers.

Remove the old cardboard cores and replace with new rolls of film. Photo 14-2.

Loosen the tension on the top film roll. Thread the new web of film around the idler bar and tape it to the remaining segment of the expanded roll. Photo 14-3.

Repeat this procedure for the bottom film roll. Use caution when threading film near hot heat shoe .

Run film through the laminator until the new web of film clears the pull rollers. Photo 14-4. Readjust tension.



Photo 14-1



Photo 14-2



Photo 14-3



Photo 14-4

AUTOMATIC SHUT-OFF TIMER

This laminator is equipped with an Automatic Shut-Off timer (AST). If the drive motor is not activated for a period of 4 hours, the AST will turn off the power to the machine. To power the machine up after it has been timed out, momentarily press the drive switch to the on position. The AST will reset and after appropriate heat-up time, the machine will be fully operable. (You will also need to reset the drive switch upon turning on the machine for the first time of each day)

The AST works in conjunction with the drive motor. Each time the drive motor is turned on, the AST resets, therefore, the AST will not shut the machine down while you are in the middle of operating it, only when it is inactive.

CLEANING THE HEAT SHOES



Photo 15-1

With continuous use the heat shoes and rubber rollers may accumulate adhesive and dirt. It is recommended that you periodically inspect them for adhesive build-up. Use USI's Laminator Cleaning Kit, which contains cleaning fluid, a coarse scrubbing pad and a mesh covered sponge, for removal of any adhesive build up.

Moisten the sponge pad with the cleaning fluid and wipe down the heat shoes.

NOTE: *Be sure to clean the heat shoes only when the laminator is cool.*

CAUTION: Teflon coated heat shoes are scratchable.



Photo 15-2

CLEANING THE RUBBER ROLLERS

If indentations begin to appear on the surface of finished laminations, this may indicate that cleaning of the rollers is necessary.

Periodically inspect the rubber laminating and pull rollers for adhesive build-up.

Remove the upper heat shoe to gain access to the laminating rollers for cleaning.

Before cleaning be sure the laminator is cool.

Use a dry Scotch Brite® pad to remove excess adhesive from the rollers. Photo 15-3.

Turn the drive switch on and off to advance the rollers and clean each section at a time.

Wipe clean with the sponge pad and cleaning fluid from USI's Laminator Cleaning Kit.

NOTE: *Use cleaning fluid sparingly. Do not allow to "run" onto wiring or into "ends" of laminator.*

WARNING: Do not use any sharp metallic objects or steel wool to clean the rubber rollers. Use of such abrasive objects can damage the rubber surface of the rollers. USI strongly recommends the Laminator Cleaning Kit for all of your cleaning needs.



Photo 15-3

UPPER HEAT SHOE REMOVAL INSTRUCTIONS

1. Unplug laminator and allow it to cool to room temperature.
2. Remove the right side housing (Figure 16-3) by unscrewing four Allen head screws.
3. Unscrew wiring retainer. Note its orientation and location of wires for reassembly.
It is very important that wires are routed correctly or damage to machine may occur.
The location of wiring retainer should be marked before removal.
4. Unplug upper heat shoe wires (#2 in Figure 16-4) from the terminal block (#3 in Figure 16-4).
5. Gently lift the heat shoe and pull forward, being careful not to damage the wires.
Lift from the left first.



Figure 16-3

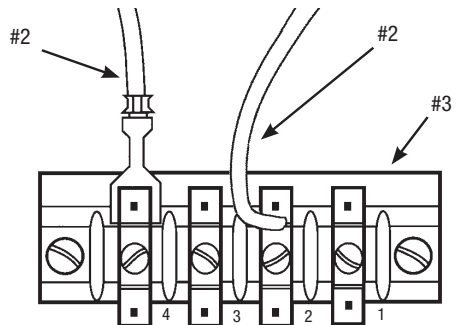


Figure 16-4

TO REINSTALL THE HEAT SHOE

1. Be sure laminator is unplugged.
2. Guide heat shoe wires exiting from the right end of the heat shoe through the slot in the right side of frame.
3. Lower the right end of the heat shoe onto its bracket first, then lower the left end and lock in place.
4. Plug the heat shoe wires into the terminal block.
5. Re-mount the wiring retainer. Be sure it is in its proper location and the correct wires are retained.
6. Check to make sure that no components are loose and in the path of the drive chain or sprockets.
7. Carefully install the right side housing and four Allen head screws.

REMOVING THE RUBBER ROLLERS

NOTE: Only remove rollers if they are cut or in poor condition.

NOTE: The following procedure removes all 4 rollers. In certain instances, it is not necessary to remove all 4 rollers, therefore, remove as required.

STEP 1:
Remove all film from laminator. Photo 18-1.

STEP 2:
Unplug laminator. Make sure it is cool.

STEP 3:
Remove the side housing on both sides of the laminator.

STEP 4:
Remove the top heat shoe. Photo 18-2.
Refer to diagram and instructions on page 16.

STEP 5:
Unfasten and remove the pressure adjusting screws and springs on both sides of the laminator. Photos 18-3, 18-4.



Photo 18-1



Photo 18-2



Photo 18-3

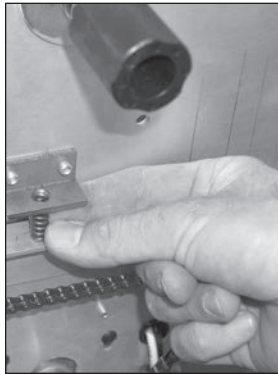


Photo 18-4

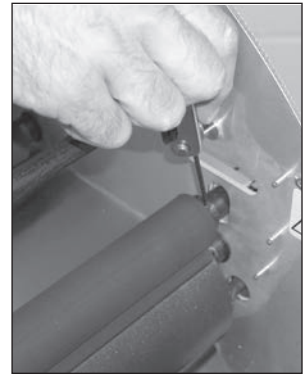


Photo 18-5

STEP 6:
Loosen the Allen head set screws on the left and right ends of the top rubber rollers. Photo 18-5.

STEP 7:

To remove the upper roller, slide the roll shaft out of the roller and then lift the top rubber rollers from the laminator (top laminating roller shown). Photos 19-1 and 19-2

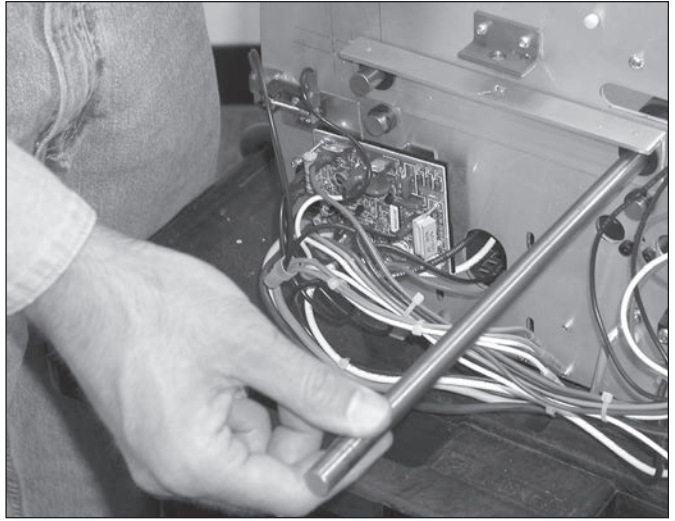


Photo 19-1

STEP 8:

Loosen the set screws of the lower roller sprockets (laminating roller shown) Photo 19-3.



Photo 19-2

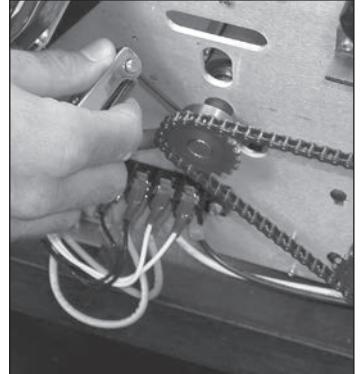


Photo 19-3

STEP 9:

Loosen the Allen head set screws on the left and right ends of the lower rubber rollers. (Lower laminating roller shown.) Photo 19-4.

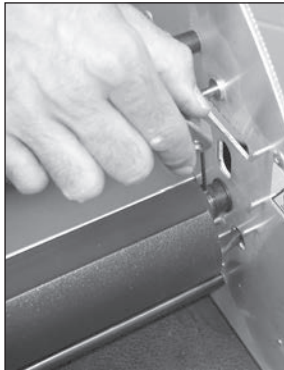


Photo 19-4

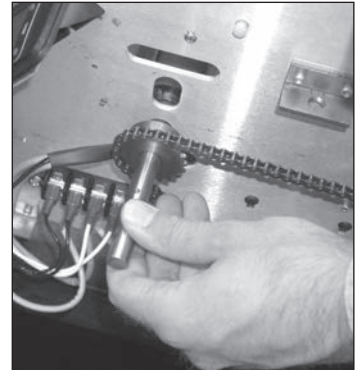


Photo 19-5

STEP 10:

Slide the roll shaft out of the rubber roller and the roll sprocket. (laminating roller shown.) Photo 19-5.

NOTE: *The chain can now be removed without loosening the motor mounting screws. Photo 20-1.(next page)*

STEP 11:

To install a new roller or replace the original roller, reverse the removal procedure. Be sure to properly reposition the sprockets and align the chain. All three sprockets should be in line with each other. Since the motor sprocket was not removed, use it as a guide for alignment of the pull roll and laminating roll sprockets.

NOTE: See page 24 for additional information on a sprocket alignment & tightening.

- The pull rollers on this laminator are interchangeable with the laminating rollers. If the laminating rollers have minor damage, each can be replaced by pull rollers. If the laminating rollers are too badly damaged, they must be replaced. The condition of the laminating rollers is very important for a good lamination.
- If the chain feels too loose, it may be tightened as follows:
Loosen the motor mounting screws. Push down on the motor sprocket and refasten the motor mounting screws.
Photo 20-2.

NOTE: Be sure to adjust the pressure on both pressure adjusting screws. 2-3 threads should show through the adjusting screw mounting bracket. See page 21.

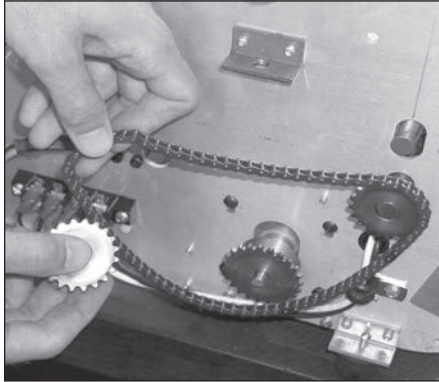


Photo 20-1

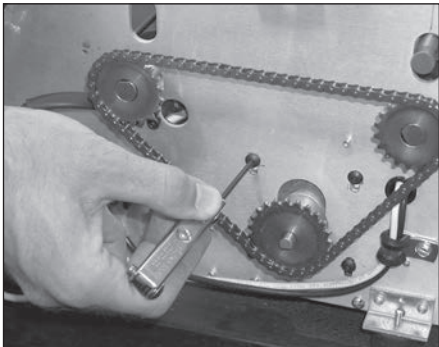


Photo 20-2

PRESSURE

The pressure settings for the rubber rollers on USI Laminators are preset at the factory and should not require adjusting. In most cases, it is necessary to adjust pressure after the rollers have been removed for service. (Generally this is the only time an adjustment is required.)

If an adjustment is necessary, disconnect electrical power and remove both the left and right housings.

Locate the Slotted Screw holding Compression Spring. Slotted Screw and Compression Spring locations are identical on both sides of the laminator. Photo 21-2.

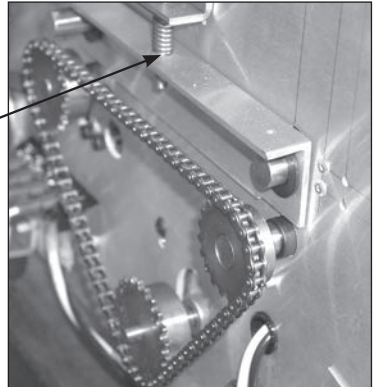
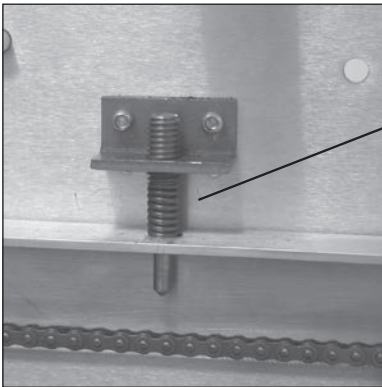


Photo 21-2

To increase pressure, turn the flat head screw clockwise. There should be 2-3 threads of the screw showing through the bottom of the bracket. Photo 21-3.

WARNING: It is extremely important that pressure adjustments are always made exactly the same on both sides of the laminator in order to maintain even pressure.

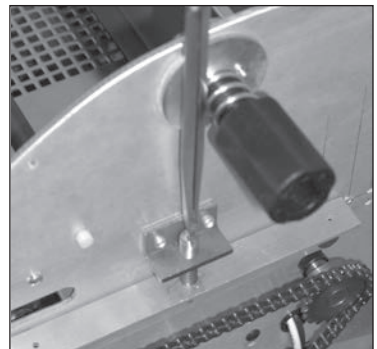


Photo 21-3

LAMINATOR LUBRICATION

Oil the drive chain once every six months with a light weight oil.

To avoid binding of the laminating and pull rollers, periodically oil the black plastic bushings. Bushings are located at the end of each roller. To gain access remove side housings.



Photo 22-1



Photo 22-2

NOTE: Any type of light oil (i.e. WD40) can be used for the above purposes. Use sparingly.

CLEANING FRICTION STUDS

If film rolls begin to shudder or squeak, cleaning of tension assembly is required.

STEP 1:

Remove the film rolls.

STEP 2:

Remove the right side housing.

STEP 3:

Disassemble the friction stud by unfastening and removing the knob. Photo 23-1.

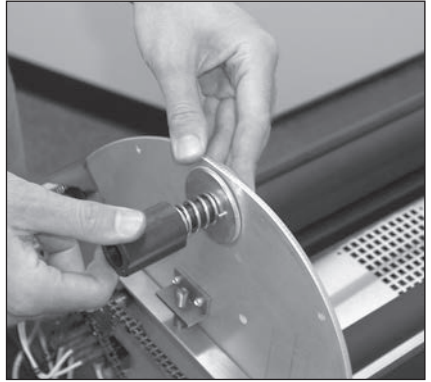


Photo 23-1

STEP 4:

Remove the spring, metal washer, leather washer and the friction stud. Photo 23-2.



Photo 23-2

STEP 5:

To clean, wipe the mounting hole free of excess debris. Use rubbing alcohol. Photo 23-3.



Photo 23-3

STEP 6:

Clean the friction stud groove and leather washer. Use the Scotch Brite® pad from the Cleaning Kit.

STEP 7:

To reassemble, reverse the procedure as noted above. Reset the tension as on page 13.

TIGHTENING SPROCKETS

STEP 1:

Remove the right side housing. Locate loose sprocket. Each sprocket has an Allen set screw located along the outer edge. If the set screw loosens, it will allow the sprocket to spin on the roll shaft, causing the rollers to slip.

STEP 2:

Align the set screw with the flat spot on the roll shaft. This can be accomplished by either turning the drive on and off or by using the manual crank (if equipped). Each shaft has a flat spot, causing the shaft to be D shaped. The sprocket set screw must be lined up on top of the flat spot.

Laminating Roll Sprocket

Pull Roll Sprocket

Motor Sprocket

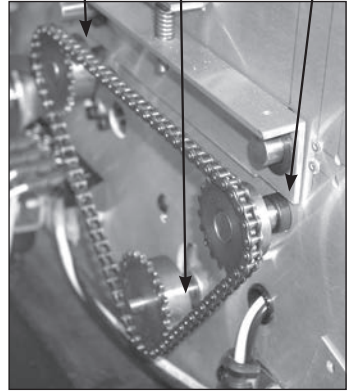


Photo 24-1

Lower laminating roll shaft.

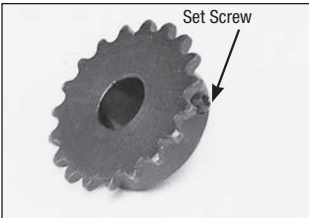


Photo 24-2



Photo 24-3

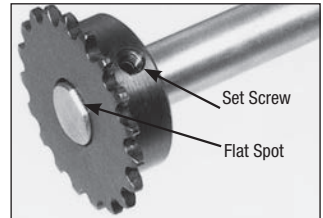


Photo 24-4

STEP 3:

Using an Allen wrench, remove the set screw. Clean the set screw and apply a drop of Loctite® or similar compound to the threads. Insert set screw, but do not tighten. Align the teeth of the sprocket with the teeth (or outer-face) of the other two sprockets (the drive chain must travel in a straight line). Tighten the set screw.

STEP 4:

Reinstall the right side housing.

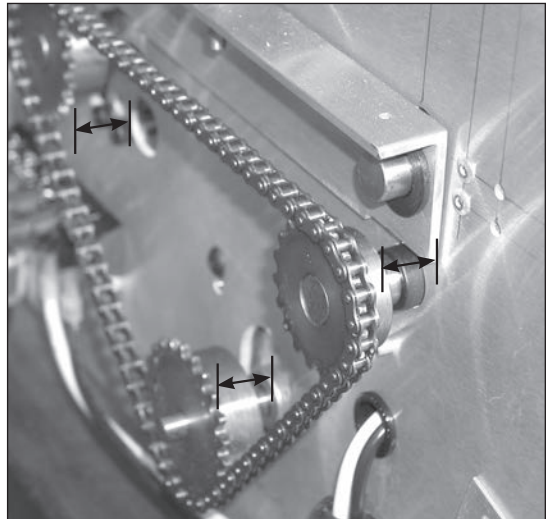


Photo 24-6

THERMAL FUSE REPLACEMENT - CSL Roll Laminators equipped with DualThermalFuse

1. Unplug the laminator from power supply and allow it to cool to room temperature. **Caution: never attempt to service a machine that is energized!**
2. Remove the right side housing by removing four Allen head screws on the side of the machine using a 3mm Allen wrench and then pulling the cover off gently.
3. Four wires will be noticed exiting the right end of either heat shoe. The two wires exiting from the frontal area of the heat shoe are heater element leads. The two wires exiting from the rear area of the heat shoe are thermal fuse leads. **Note:** before proceeding it may be helpful to take digital photos to document the routing of the thermal fuse wiring, and placement of wiring harness clamps and wire ties to aid in installation.
 - a. Replacement of the upper thermal fuse:
 - a1. When traced, one thermal fuse lead will end at terminal number "4" on the terminal block, unplug this lead. The second thermal fuse lead will connect to a black lead exiting from the Digital Temperature Control (DTC), disconnect this lead from the black DTC lead.
 - a2. Loosen, but do not completely remove the upper thermal fuse retaining screw. This screw is located at the rear of the upper heat shoe, in approximately 5.5 inches from the right end. **Note:** this screw may be either an Allen type requiring a 3mm Allen wrench to remove, or a Phillips type. Keep this screw to refasten the new thermal fuse.
 - a3. Unfasten any wiring clamps or wire ties securing the leads for the upper thermal fuse. Gently slide the old thermal fuse out of the end of the heat shoe. **Note:** be certain to carefully observe the routing of the thermal fuse wiring, location of wiring clamps and wire ties as the new thermal fuse wiring must be routed in exactly the same path and be secured in the same manner.
 - a4. If the new thermal fuse is not formed to the same shape as the old one, gently form a loop in it to match the old one. A gentle loop is best; do not sharply crease the part.
 - a5. Insert the new thermal fuse into the end of the upper heat shoe and hook it on the retaining screw. Tighten the screw to secure the thermal fuse. **Caution:** Do not pinch the thermal fuse under the retaining screw; doing so will cause an electrical short. Be certain the thermal fuse is hooked over the hex screw; gently pull on the leads and then push back in to feel that the thermal fuse can move and is not pinched. If the thermal fuse was pinched, it must be removed and inspected for damage; a replacement thermal fuse may be required.
 - a6. Plug the thermal fuse wires into the appropriate terminals. The thermal fuse must be plugged into the correct terminals to work properly.
 - b. Replacement of the lower thermal fuse:
 - b1. When traced, one thermal fuse lead will end at terminal number "3" on the terminal block, unplug this lead. The second thermal fuse lead will connect to a black lead exiting from the Digital Temperature Control (DTC), disconnect this lead from the black DTC lead.
 - b2. Loosen, but do not completely remove the lower thermal fuse retaining screw. This screw is located at the bottom of the lower heat shoe, in approximately 5.5 inches from the right end. **Note:** this screw may be either an Allen type requiring a 3mm Allen wrench to remove, or a Phillips type. Keep this screw to refasten the new thermal fuse.
 - b3. Unfasten any wiring clamps or wire ties securing the leads for the lower thermal fuse. Gently slide the old thermal fuse out of the end of the heat shoe. **Note:** be certain to carefully observe the routing of the thermal fuse wiring, location of wiring clamps and wire ties as the new thermal fuse wiring must be routed in exactly the same path and be secured in the same manner.
 - b4. If the new thermal fuse is not formed to the same shape as the old one, gently form a loop in it to match the old one. A gentle loop is best; do not sharply crease the part.
 - b5. Insert the new thermal fuse into the end of the lower heat shoe and hook it on the retaining screw. Tighten the screw to secure the thermal fuse. **Caution:** Do not pinch the thermal fuse under the retaining screw; doing so will cause an electrical short. Be certain the thermal fuse is hooked over the hex screw; gently pull on the leads and then push back in to feel that the thermal fuse can move and is not pinched. If the thermal fuse was pinched, it must be removed and inspected for damage; a replacement thermal fuse may be required.
 - b6. Plug the thermal fuse wires into the appropriate terminals. The thermal fuse must be plugged into the correct terminals to work properly.
4. Be certain to replace any wire ties that were cut or disturbed during the test procedure. Replace and refasten the right side housing. **NOTE: be certain that all tools and service supplies are removed from the laminator before replacing the side housings.**
5. Test run the laminator: allow the machine ample time to heat to the set temperature and stabilize; usually 35-45 minutes. Ensure that the unit is not exceeding 340°F when the DTC is set to the maximum temperature setting.

Note: if either of the thermal fuses were deemed as needing replacement, the machine should be checked additionally for an overheat cause.

THERMISTOR REPLACEMENT

1. Unplug the laminator from power supply and allow it to cool to room temperature. **Caution: never attempt to service a machine that is energized!**
2. Remove the thermometer and temperature adjustment knob. **Note: the temperature adjustment knob is retained by an Allen set screw located along the outer edge of the knob, do not try to remove the knob without first loosening the set screw; putting excess force on the knob by pulling can damage the temperature control.**
3. Remove the both the left and right side housings by removing four Allen head screws on the side of the machine using a 3mm Allen wrench and then pulling the cover off gently.
4. Mark the location of metal/rubber wiring harness retainer. Loosen and remove wiring harness retainer screw. Remove wiring harness retainer from wiring. **NOTE: To keep wires away from moving parts, the wiring harness retainer must be put back in its proper location---it must be marked before removal.**
5. Trace the two heater wires and the two thermal fuse wires from the right end of the lower heatshoe to the terminal block. Mark their locations, and then unplug them from the terminal block. Unplug the thermistor cable from the digital temperature control board. **NOTE: If there are any wire ties securing the lower heatshoe/thermistor wiring to any other wiring, mark their locations and carefully cut them and remove them.**
6. While supporting the heatshoe loosen and remove the two Allen head cap screws and spacers retaining the LEFT end of the heatshoe.
7. Continue supporting the heatshoe and loosen and remove the two Allen head shoulder screws retaining the RIGHT end of the heatshoe. Gently remove the heatshoe guiding the wiring out of the holes in the side frame.
8. Locate the thermistor retaining bracket located on the right end of the heatshoe near the heater wires. Loosen and remove the screw retaining the bracket. Remove thermistor assembly from the heatshoe. Be certain to note the orientation of thermistor. The new thermistor must be mounted in exactly the same location.
9. Clean out the thermistor mounting hole.
10. To install the new thermistor, reverse the above procedure. **Note: A small amount of thermally conductive grease needs to be applied in the thermistor mounting hole before inserting the new thermistor. Also, be certain that the new thermistor and the retaining bracket are oriented correctly.**
11. When reinstalling the lower heatshoe, be certain to guide the heater/thermal fuse wires/thermistor cable through the proper holes in the side frame and check to ensure that the wiring harness retainer is oriented correctly to keep the wiring from rubbing on any moving parts.
12. Before reinstalling the side housings replace any wire ties that were cut or disturbed during the repair procedure. Also be certain that all tools and service supplies are removed from the inside of the laminator.
13. Test run the laminator: allow the machine ample time to heat to the set temperature and stabilize; usually 35-45 minutes. Ensure that the unit is not exceeding 310°F when the temperature control is set to the maximum temperature setting.

TROUBLE SHOOTING

COMMON EXAMPLES OF POOR LAMINATING . . . and their causes.

A. FILM NOT BONDING TO SUBJECT OR TO ITSELF AT SEALED EDGES

Causes:

1. The heat is set too low.
2. Film tension is too tight.
3. Bottom roll of film is threaded incorrectly.
4. The pressure setting is not correct.

B. WRINKLES OR IRREGULAR WAVES RUNNING ACROSS THE LAMINATED WEB (PERPENDICULAR TO THE EDGE)

Causes:

1. The heat set is too high.
2. Not enough tension on the supply mandrels. (Large, irregular waves).
3. Too much tension on the supply mandrels. (Small, fine wrinkles - "orange peel" effect).
4. The rubber laminating rollers are not clean.
5. The pressure adjustment for the laminating and pull rollers is out of adjustment.
6. Speed is too fast.

C. STRETCH LINES RUNNING WITH WEB (PARALLEL TO THE EDGE)

Causes:

1. Too much tension on the supply mandrels.
2. The heat is set too high.
3. The heating shoes or rollers are not clean.

D. BLISTERS ON SURFACE OF SUBJECT OR ALONG EDGE OF SUBJECT

Causes:

1. The heat is set too high.
2. Excessive moisture in the paper being laminated. (If inks are not dry, this may also cause blisters).
3. The rubber laminating rollers are not clean, or are damaged.

E. CURLING OF THE FINISHED LAMINATION

Causes:

1. Unbalanced tension on the supply rolls. Too much tension on the top supply roll will cause the web to curl up. Too much tension on the bottom roll will cause a downward curl in the web.
2. Bottom roll of film has been threaded incorrectly.

F. WRINKLING AROUND EDGE OF LAMINATED ITEM

Causes:

1. Item to be laminated is too thick.
Possible Solutions:
 - a. Loosen tension
 - b. Use film with thicker adhesive layer
 - c. Flush cut item

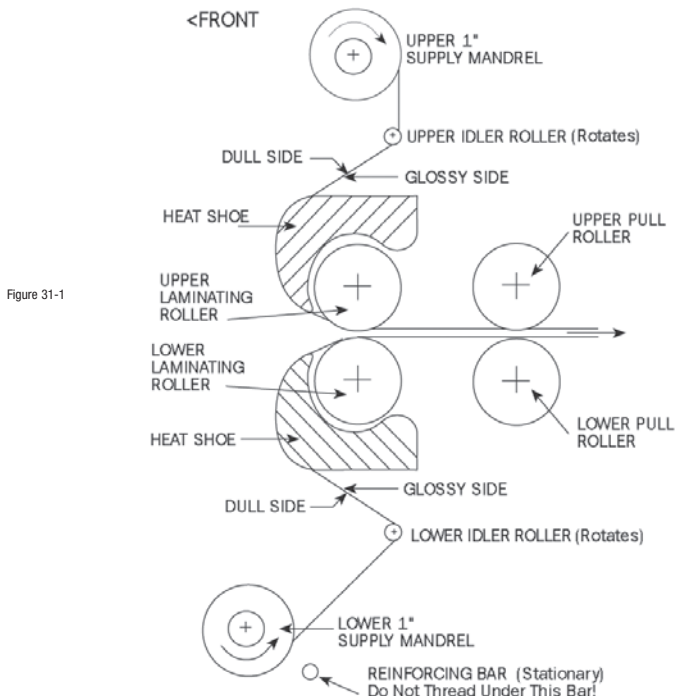
TROUBLE SHOOTING

COMMON EXAMPLES OF POOR LAMINATING

. . . and their causes. (continued)

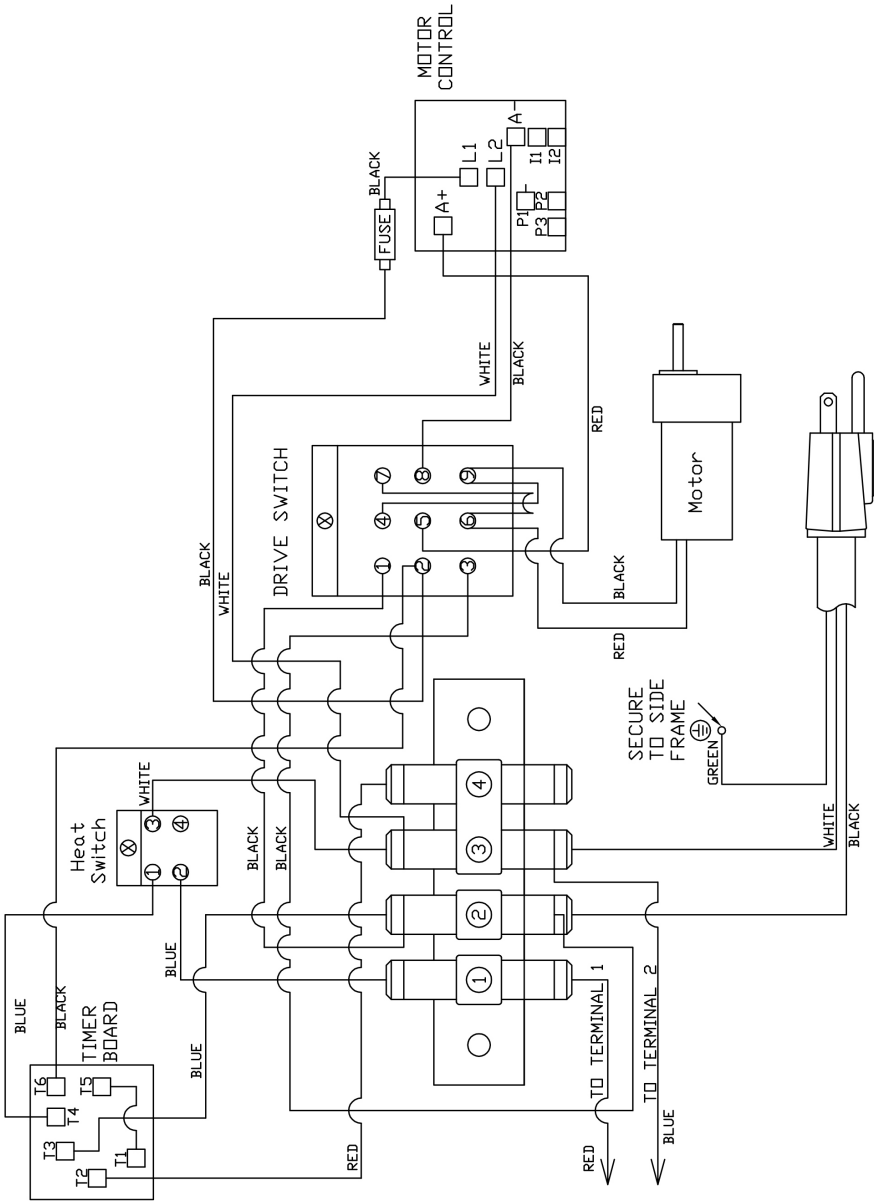
- G. HEAT DOES NOT WORK AND RED INDICATOR LIGHT DOES NOT ILLUMINATE
1. Check wiring of the laminator. Refer to wiring diagram on page 28 and 29.
 2. Replace heat switch and switch wires. NOTE: Switch should not be replaced without also replacing switch wires.
 3. Auto Shut Off Timer (AST-if equipped) has "timed out." Press Drive Switch on and off, or unplug and plug in laminator power cord to reset timer.
- H. BOTTOM RUBBER ROLLERS TURN BUT TOP RUBBER ROLLERS DO NOT
1. The tension is too tight.
 2. Film has not been threaded correctly.
 3. Film was loaded backwards. (adhesive against heaters)
- I. BOTTOM ROLLERS DO NOT TURN (BOTH OR INDIVIDUAL)
1. Be sure drive chain has not fallen off.
 2. Be sure sprocket set screws are securely fastened.
 3. Be sure roller set screws are securely fastened.
- J. DRIVE DOES NOT WORK - ROLLERS DO NOT WORK AND NO MOTOR SOUND
1. Check drive switch and wiring. Refer to wiring diagram on pages 28 and 29.

THREADING DIAGRAM FOR 1" MANDRELS



CSL WIRING DIAGRAM

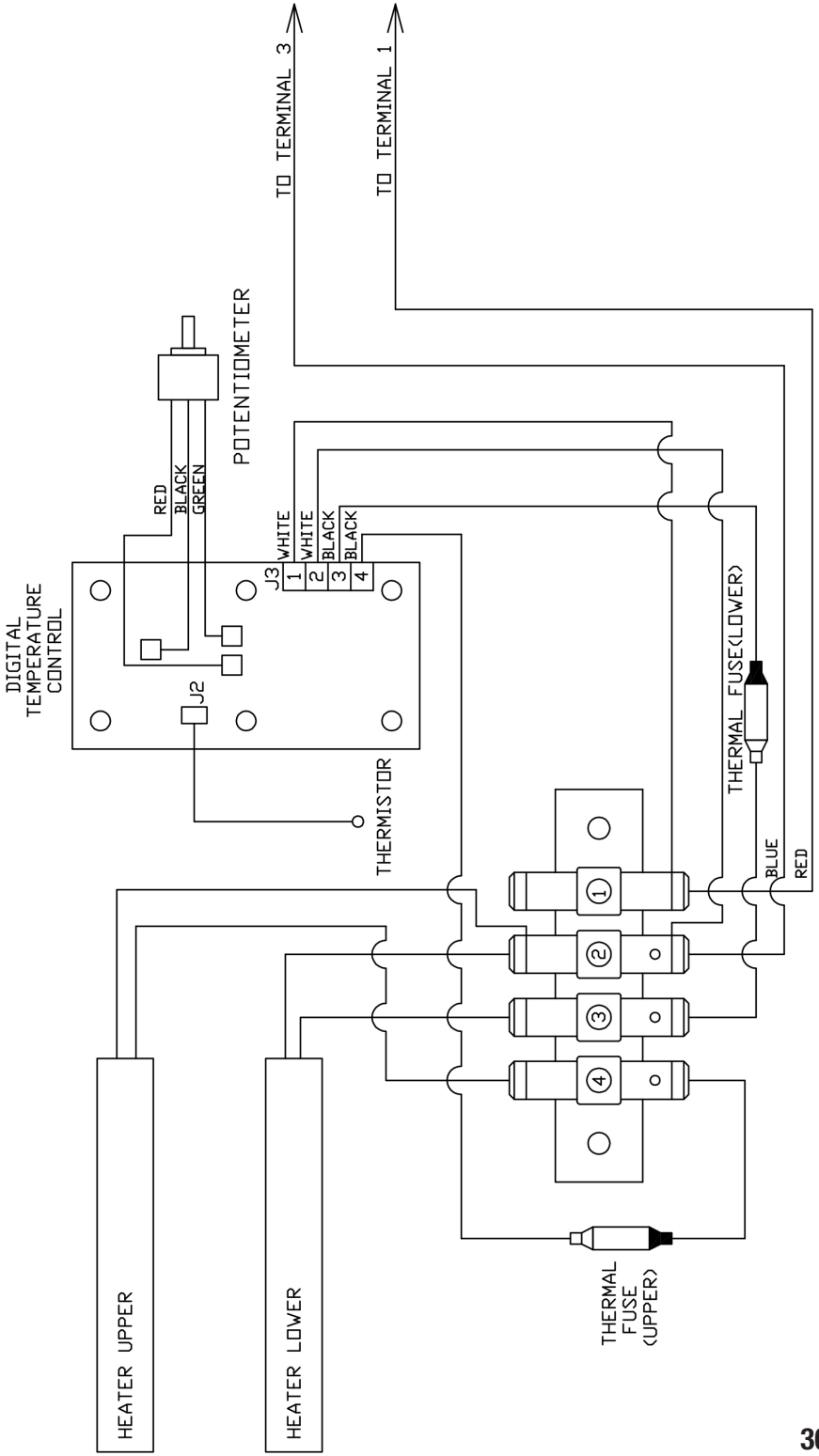
PART 1



NOTES:
 1, INDICATES VIEW FROM REAR

CSL WIRING DIAGRA

PART 2



PARTS LIST

PART #	COMPONENT DESCRIPTION
--------	-----------------------

Left Zone

A4536	MOTOR CONTROL BRACKET
S6102	MOTOR CONTROL BOARD (N020)
A5096	JONES SOCKET FOR FOOT SWITCH (N029)
A5510	HEAT SWITCH LIGHTED 2002
A5511	DRIVE SWITCH 2002
G5533	KEY LOCK SWITCH
A5846	TEMPERATURE CONTROL KNOB (N021)
A5847	TERMINAL BLOCK NUMBERED W/JUMPER
A9800B	AUTO SHUT-OFF TIMER 240/60/30 Minute Settings
A4500	FUSE HOLDER
A4504	STRAIN RELIEF BUSHING (805B)
G9906	POWER CORD (806P)
A5929	CLASSROOM LEFT SWITCH PANEL LABEL 2002
A5549	LEFT SIDE PLATE COMPLETE 2002
A9921	CLASSROOM BLUE LEFT SIDE HOUSING 2002
A4506	CLASSROOM THERMOMETER (915P)

Center Zone

A3882	PRESSURE ADJUSTMENT SPRING (402P)
G3883	PRESSURE ADJUSTMENT SCREW
A3884	UPPER ROLLER BUSHING (404B)
A3885	LOWER ROLLER BUSHING (405B)
A3888	27 LOWER HEAT SHOE SPACER (506P)
A3905	27 RUBBER ROLLER & TUBING (100C)
A3908	27 UPPER ROLLER SHAFT (101B)
A3909	27 LOWER ROLLER SHAFT (102B)
A4786	EXTERNAL SELF-LOCKING RETAINING RING 1/2"
K3907	27 IDLER ROLLER (013B)
A4543	NYLON IDLER WASHER
G4552	27 IDLER ROLLER DOWEL PIN
A3920	27 UPPER MANDREL COMPLETE (907B)
A3921	27 LOWER MANDREL COMPLETE (907B)
A4593	27 FEED TABLE ONLY (700C)
A3899	LEFT FEED GUIDE (701C)
G4687	FEED GUIDE KNOB WITH SCREW AND WASHER
A4772DTF	27 UPPER HEATSHOE, COMPLETE WITH HEATER
A4745DTF	27 DIGITAL LOWER HEATSHOE, COMPLETE WITH HEATER
G9703	HEATER CARTRIDGE ONLY
G4708B	THERMISTOR ONLY
G4710	THERMAL FUSE ASSEMBLY ONLY
A4940	27 PLASTIC DEFLECTOR 2002
G5516	27 MOTOR HOUSING COVER PLATE 2002

PARTS LIST CONTINUED

PART #	COMPONENT DESCRIPTION
G5935	27 MOTOR HOUSING
A5845	WIRE PROTECTIVE BUSHING (19F)
G5880	PRESSURE ADJUSTMENT PLATE 2002
A5926	SWITCH PLATE SET BLACK 200
A3937	27 HEATGUARD (512B)
A3993	27 REINFORCING BAR (616B)
A5844	27 CUT-OFF BRACKET W/KNIFE (605B)

Right Zone

A0970BU	BLUE FRICTION STUD (902B)
A0970RD	RED FRICTION STUD (902B)
A0971BU	FRICTION STUD LABEL, BLUE
A0971RD	FRICTION STUD LABEL, RED
A3226	LEATHER WASHER (905B)
A5104	FRICTION DISK (906B)
A3995	SUPPLY ROLL SPRING (910P)
A3998	TENSION ADJUSTMENT KNOB (903B)
G3225	VARIABLE SPEED MOTOR
A3874	MOTOR SPROCKET (Large) (301P)
A3876	PULL ROLL SPROCKET (Small) (303P)
A3877	LAMINATING ROLL SPROCKET (Medium) (302P)
A9978	DRIVE CHAIN (304PA)
S4690B	CLASSROOM SERIES TEMPERATURE CONTROLLER
A4707	TERMINAL BLOCK W/O JUMPER, RIGHT
A5930	CLASSROOM RIGHT PANEL LABEL 2002
A5559	RIGHT SIDE PLATE COMPLETE 2002
A9920	CLASSROOM BLUE RIGHT SIDE HOUSING 2002

Common

A1150	CABLE TIE 8"
A1151	CABLE TIES 4"
A1152	CABLE TIES 18"
G4525	SPLIT LOCK WASHER FOR REINFORCING BAR
A4746	WIRING HARNESS CLAMP
A5553	BLIND RIVET AD64BS (14V)
A3970	USI THREADING BOARD
G4511	ARL 27 SOCKET HEAD CAP SCREW, LOWER HEATSHOE LEFT
A4505	TIE MOUNTING PAD
A4508	NYLON SPACER, MOTOR CONTROL OR TIMER BOARDS
G4510	ARL 27 SOCKET CAP SHOULDER SCREW, LOWER HEATSHOE RIGHT
A5763	FOAM END CAPS 2002
A4507	DECALS/LABELS
G5792	CLASSROOM OPERATIONS MANUAL 2002
A5813	27 CARTON 2002

NOTE: Part numbers and descriptions are current at time of printing. To ensure that proper parts are received for your application, please contact Technical Service for latest updates. When ordering parts, please have complete machine model and serial numbers. These are located on an ID tag on the rear of the machine. For any hardware items not listed please contact Technical Service for assistance.

NOTES

