

LEDCO PREMIER 4 SERIES LAMINATOR

PROBLEM DIAGNOSTIC CHARTS

| Problem | Possible Cause | Repair Procedure | Procedure Number | Skill Level |
|--|---|--|------------------|-------------|
| Laminator will not heat up, heat switch does not illuminate (red) when engaged | No power | Check power cord | 1 | * |
| | | Check heat switch position | 2 | * |
| | | Check heat control fuse | 4 | * |
| | | Check for wires that are disconnected, broken or shorting out | 5 | ** |
| | Heat switch failure | Check heat switch | 6 | ** |
| | Heater failure | Check heaters | 7 | ** |
| | Heat sensor failure | Check heat sensor | 8 | *** |
| | Heat control board transformer failure | Check specific heat control board terminals | 12 | *** |
| | Heat control board relay coil failure | Check heat control board heat sensor terminals | 13 | *** |
| | Heat control board relay switch failure | Check heat control board relay switch terminals | 14 | *** |
| Heat switch illuminates, but digital display does not | Ribbon cable wires to display disconnected, loose or broken | Re-connect plastic wire harness to the back of digital display | 5 | ** |
| | | Re-connect plastic wire harness to heat control circuit board inside the machine | 9 | *** |
| | Digital display failure | Replace digital display | 10 | ** |
| | Ribbon cable failure | Replace ribbon cable | 11 | *** |
| Heat switch does not illuminate when engaged, digital display shows three dashes (- - -) | Heat sensor wires disconnected or loose | Check heat sensor wires | 5 | * |
| | Heat sensor failure | Replace heat sensor | 15 | ** |
| | Ribbon cable failure | Replace ribbon cable | 11 | *** |
| | Heat control board failure at specific terminals | Check specific terminals on heat control board | 13,14 | *** |
| | Heat control board failure | Replace heat control board | 16 | *** |

Skill Level Index: * Basic, End-User ** Intermediate or Dealer *** Advanced or Servicing Dealer/Technician

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|-------------------------------------|---|--|------------------|-------------|
| Laminator heat cannot be controlled | Heat controls set to "C" for celcius instead of "F" for Farenheit | Reset heat control for "F"per instructions in owners/ operators manual | | * |
| | Heat sensor failure | Check heat sensor wires. | 5 | ** |
| | | Check heat sensor. | 8 | *** |
| | | Replace heat sensor/bullet assembly | 15 | ** |
| | Heat control board failure | Check specific heat control terminals | 13,14 | *** |
| | | | | |
| Laminating rollers do not operate | No power | Check power cord. | 1 | * |
| | | Check drive switch position. | 17 | * |
| | | Check drive motor fuse | 18 | * |
| | | Check switch wires. | 19 | * |
| | | Check drive switch | 20 | ** |
| | | Check speed dial potentiometer | 21 | ** |
| | | Check drive motor control | 25 | ** |
| | | Check drive motor | 25 | ** |
| | Drivetrain failure | Check drive chain. | 22 | * |
| | | Check drive sprokets. | 23 | * |
| | | Check rubber roll gears | 24 | * |
| | | Replace drive motor control | 26 | *** |
| | | Replace drive motor | 27 | *** |
| | | | | |

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| Laminating rollers operate intermittently, sometimes with a clunking, skipping or grinding noise | Drivetrain failure | Check drive chain. | 22 | * |
| | | Check drive sprockets. | 23 | * |
| | | Check rubber roll gears | 24 | * |
| | Film "wrap-around" | Clear minor "wrap-around" | 28 | * |
| | | Clear "wrap-around" of front laminating rolls | 29 | ** |
| | | Clear "wrap-around" of rear laminating rolls | 30 | ** |
| | | Clear "wrap-around" by removing and cleaning or replacing rolls | 31 | *** |
| | Drive motor gear failure | Replace drive motor | 27 | *** |
| Cooling fans do not operate | | Check power cord. | 1 | * |
| | | Check fan switch position. | 32 | * |
| | | Check fan switch | 33 | ** |
| | | Check cooling fans | 34 | ** |
| | Fan motor failure | Replace fan motor(s) | 35 | *** |
| The lamination has wrinkles | Item being laminated has been folded, rolled, bent or wrinkled. | Smooth item on feed table as it is being laminated. | | |
| | | Only laminate items of the same thickness side by side. | | |
| | Thicker material causes wrinkles on each side. | This is normal. Trim off material with wrinkles. | | |
| | Inadequate supply roll tension. | Add tension to take wrinkles out of film before it gets past the heat shoes. | | |
| | | Check supply roll dog. | 36 | * |
| | | Check supply roll spring pin. | 37 | * |
| | Improper rubber roll pressure | Check rubber roll dwell line. | 38 | * |
| | | Adjust rubber rolls | 39 | ** |
| | | Replace rubber rolls | 40 | *** |

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|---|--|---|------------------|-------------|
| The film does not adhere to the document | Thicker documents absorb the heat. | Run at a higher temperature not to exceed 340 degrees | | |
| | Thin (1.5 mil) films lose heat from heat shoe to the roller nip. | Run at higher temperature increase speed slightly | | |
| | Thicker films do not absorb enough heat. | Reduce speed | | |
| | Film between heat shoe and nip cool while idle. | Run a few inches of film before inserting sheets to be laminated. | | |
| | Inkjet print still wet. | Let inkjet prints dry at least 2 hours. | | |
| | Incompatible Inkjet print media and inks. | Test samples before laminating many pieces. | | |
| Film shrinks as it passed over heat shoe. | Excessive supply roll tension | Reduce supply roll tension. | | |
| | Excessive heat. | Reduce heat. | | |
| Laminated item has "oily" spot near the leading edge. | Excess adhesive is created when machine left hot and idle for a few minutes. | Run a few inches of film before inserting sheets to be laminated. | | |
| Milky, hazy line appears after initial warm-up | Rollers not evenly heated. | When warming up the machine, keep the rollers moving slowly. | | |
| The machine squeals when laminating | Dirty heat shoes. | Clean heat shoes. | | |
| | Excessive heat. | Reduce heat. | | |
| | Excessive supply roll tension. | Reduce supply roll tension. | | |
| | Coating on film | Try different type or different brand of film. | | |

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| Laminated item has pitted, irregular surface. | Adhesive build-up or dirt on rollers. | Clean the rollers. | | |
| | Cuts or other damage to the rubber rollers | Replace rubber rolls. | 40 | *** |
| General haziness or cloudiness in film after lamination | Not enough heat. | Increase the temperature. | | |
| Bubbles in the center of the web and/or film | Excessive laminating roll pressure | Adjust rubber rolls | 39 | ** |
| not sticking to center | Worn rollers | Check rubber roll dwell line. | 38 | * |
| | | Replace rubber rolls. | 40 | *** |
| | | Adjust rubber rolls | 39 | ** |

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PREMIER 4 SERIES LAMINATOR

REPAIR PROCEDURES

1. Check power cord.

- a. Power cord must be securely inserted into the wall outlet (110v AC).
 - b. Power cord must be securely inserted into the receptical on the back of the laminator.
-

2. Check heat switch position.

Heat switch must be in the up or "I" position as denoted by the label markings next to switch.

3. Remove right or left plastic housing.

- a. **Disconnect the power cord.**
 - b. Remove the 11 screws from the plastic housing using a phillips head screw driver.
 - c. Remove the cam shaft handle using a 1/8" allen wrench (right side only)
 - d. Remove speed control knob using a small straight blade screwdriver (right side only)
 - e. Remove the plastic housing.
-

4. Check heat control fuse.

The heat switch will illuminate red when engaged, indicating power is getting to the system. If the switch does not light up, check the heat control fuse as follows:

- a. Remove the right plastic housing as described in 3 above.
 - b. Examine the 1.5 amp heat system fuse located to the right of the wiring terminal block
 - c. If the fuse appears discolored and the element inside is broken, replace it with a new 1.5 amp fuse.
-

5. Check for heating wires that are disconnected, broken or shorting out.

- a. Remove the right plastic housing as described in 3 above.
 - b. Examine all wires and connectors for the heat system. Use the wiring diagram included for reference
 - (1.) Power cord to terminal block
 - #14 Black wire from power cord to terminal block.
 - #14 White wire from power cord to terminal block.
 - (2.) Heat Switch
Check all wires and connections from back of heat switch to the terminal block, fan switch and 1.5 amp fuse.
 - (3.) Heat Control Board Wires
Check the 4 wires and connections coming from the heat control board (thru the side panel from inside the machine) to the terminal block and 1.5 amp fuse.
 - (4.) Heaters
Check 2 beige colored wires and connections from Bottom Heater Cartridge to terminal block, and the 2 beige colored wires and connections from Top Heat Cartridge to the quick disconnects, where they change to black and white wires, to the terminal block
 - (5.) Digital Display
Check ribbon cable wires and plastic harness connector at the back of digital display
 - (6.) Heat Sensor Wires
Check 2 thin, black Heat Sensor wires and connectors coming from the top heat shoe to the quick disconnects where they change to blue and yellow wires respectively.
 - c. If a wire is disconnected, re-connect exactly as shown in the wiring schematic.
-

6. Check heat switch.

- a. Remove the right plastic housing as described in 3 above.
 - b. Engage the switch.
 - c. Check continuity of the switch with a multimeter.
 - (1.) Disconnect the two inner most terminals of the heat switch (# 5 and # 6))
 - (2.) Place one probe on the # 5 terminal and one probe on the # 6 terminal of the heat switch
 - d. If there is no continuity, replace the switch (Part #PRS311) and rewire exactly as shown in the schematic.
-

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REPAIR PROCEDURES

7. Check heaters.

- a. Remove the right plastic housing as described in 3 above.
 - b. Check continuity of the top heater with a multimeter by placing a probe on each wire lead of the top heater. (disconnect them from the black and white wires first)
 - c. Check continuity of the bottom heater with a multimeter by placing a probe on each of the wire leads of the bottom heater (disconnect from terminal block)
 - d. If there is no continuity, replace the heater (Part #PRH147) and rewire exactly as shown in the schematic.
-

8. Check heat sensor.

- a. Remove the right plastic housing as described in 3 above.
 - b. Disconnect the two thin, black heat sensor wires (that come out of the top heat shoe) from where they connect with the blue and yellow wires
 - c. Check the resistance of the heat sensor using a multimeter. The sensor should have an approximate resistance of 1.089 at room temperature.
 - d. If the sensor has no resistance (or reads open line or circuit) replace the sensor (Part # PRC212S) and rewire exactly as shown in the schematic.
-

9. Access heat control board, motor control board, drive motor, fan motors and all interior wiring.

- a. Remove both plastic housings as described in 3 above.
 - b. Place machine upside down on work bench
 - (1.) Remove the five self tapping screws that secure the bottom motor cover to the front motor cover, using a phillips head screwdriver.
 - (2.) Remove the two flat head and two round head phillips screws that secure the bottom motor cover to the right and left hand side panels.
 - (3.) Carefully pull back the bottom motor cover enough to gain access to the components and wiring within. **NOTE:** You may find it necessary to disconnect the leads to the power cord receptacle and fuse holder to completely remove the bottom motor cover. Make careful note of these connections as to re-connect them correctly later.
 - c. If a wire is disconnected, re-connect exactly as shown in the wiring schematic.
-

10. Replace digital display.

- a. Remove the right plastic housing as described in 3 above.
 - b. Gently disconnect the plastic wire harness and ribbon cable from its receptacle on the back of the display by depressing the small tab on the harness.
 - c. Unscrew three plastic acorn nuts from back of display board to remove.
 - d. Install new display board in exact reverse sequence.
-

11. Replace ribbon cable

- a. Disconnect plastic wire harness and ribbon cable from the digital display as described in 10 above.
 - b. Access heat control board as described in 9 above.
 - c. Remove and replace the ribbon cable from the heat control board in the same manner as described in 10-b.
 - d. Re-assemble in exact reverse sequence.
-

PREMIER 4 SERIES LAMINATOR

REPAIR PROCEDURES

12. Check the heat control board transformer.

- a. Remove the right plastic housing as described in 3 above.
 - b. Access heat control board as described in 9 above.
 - c. Disconnect all wire leads from their respective terminals on the heat control board, make note of their locations.
 - d. Check for proper resistance readings with a multi meter by placing the probes on terminals:
T4(common) and T1(208V) should read approximately .910 k ohms.
T4 and T2(240V) should read approximately .765 k ohms.
T4 and T3 should read approximately .410 k ohms.
All readings at room temp., if any of these terminal checks show an open (infinite) or closed (no resistance) the heat control board has failed and should be replaced.
-

13. Check the heat control board relay coil.

- a. Remove the right plastic housing as described in 3 above.
 - b. Access heat control board as described in 9 above.
 - c. Disconnect wire leads from terminals T10 and T11.
 - d. Check the resistance of the relay coil with a multimeter by placing probes on terminals T10 and T11. The resistance should read 32.9 k ohms.
If the reading shows an open or closed circuit, the board has failed and should be replaced.
-

14. Check heat control board relay switch.

- a. Remove the right plastic housing as described in 3 above.
 - b. Access heat control board as described in 9 above.
 - c. Disconnect wire leads from terminals T6 and T7.
 - d. Check the resistance of the power switch with a multimeter by placing a probe on terminals T6 and T7.
 - e. With no power, there should be an open reading.
 - f. If you get a closed circuit reading with no power, the board has failed and should be replaced.
-

15. Replace heat sensor / bullet assembly.

- a. Remove both plastic housings as described in 3 above.
 - b. Disconnect top heater wires and heat sensor wires from their respective terminals.
 - c. Remove top heat shoe/threading guide/idler assembly.
 - (1.) Loosen 2 small thumbscrews that secure the heat shoes to the side panels near the feed tray.
 - (2.) Loosen and remove the two cap head screws and sleeves that secure the heat shoe through the side panels near the center of the side panels. Use a 9/64 allen wrench.
 - (3.) Cut the small white wire tie that secures the heater and heat sensor wires to the side panel (they are covered with black heat shrink tubing).Carefully lift out the top heat shoe/threading guide/idler assembly to gain access to heat sensor/bullet assembly.
 - (1.) Remove four flat head screws (and phenolic spacers) that secure the heat shoe to right and left heat shoe brackets.
 - (2.) Use a 5/64 allen wrench to loosen the set screw that secures the heat sensor and bullet to the inside of the heat shoe. This set screw is located in the center of the back of the heat shoe, in line with the round head phillips screws that hold the rubber roll heater in place.
 - (3.) Extract the faulty heat sensor /bullet from the inside of the shoe and replace with new (part #'s PRC212S and 4285-061.4).Reassemble in exact reverse sequence and rewire exactly as shown in the schematic.
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REPAIR PROCEDURES

16. Replace heat control board.

- a. Remove both plastic housings as described in 3 above.
 - b. Access heat control board as described in 9 above.
 - c. Disconnect all wire leads from their respective terminals on the heat control board, make note of their locations.
 - d. Remove the heat control board from its 4 plastic stand-offs by gently depressing the very small retaining tabs on the stand-off legs.
 - e. Replace with new heat control board (part # PRH130).
- Reassemble in exact reverse sequence and rewire exactly as shown in the schematic.
-

17. Check drive switch position.

Engage the Forward/Reverse Jog switch to the upper "I", forward position. The drive motor should be on.

18. Check drive motor fuse

- a. Gently pop out the spring loaded fuse holder and fuse from the rear of the machine next to the power cord receptacle, using a small straight blade screwdriver.
 - b. Visually examine the 3/4 amp fuse (part # PRF141).
 - c. If the fuse appears discolored and the element inside is broken, replace it with a new 3/4 amp fuse. Always replace fuses with exactly the same rated fuse.
-

19. Check switch wires.

- a. Remove the right plastic housing as described in 3 above.
 - b. Examine all wires and connectors for the drive system.
 - (1.) Power cord to terminal block
 - #14 Black wire from power cord to terminal block.
 - #14 White wire from power cord to terminal block.
 - (2.) Forward/Reverse Jog switch
 - Check all six wire leads and connectors as they come out of the back of the switch to their respective quick disconnects, and on to the side panel.
 - (3.) Speed Dial potentiometer
 - Check the grey and brown wires from the back of the potentiometer to their respective quick disconnects, and on to the side panel.
- If a wire is disconnected, re-connect exactly as shown in the wiring schematic.
-

20. Check the forward/reverse jog switch.

- a. Remove the right plastic housing as described in 3 above.
 - b. Check continuity of the forward/reverse jog switch with a multimeter
 - (1.) Move the switch to the forward position.
 - (2.) Identify the row of three terminals closest to you (marked 3, 2, and 1 on the switch).
 - (3.) Place one probe on the middle (common) terminal, 2.
 - (4.) Place probe on the lower terminal, 3.
 - c. Check continuity of the reverse jog switch with a multimeter
 - (1.) Hold the switch to the reverse jog position.
 - (2.) Place one probe on the middle (common) terminal, 2.
 - (3.) Place one probe on the upper terminal, 1.
 - d. If there is no continuity on either switch element, replace the switch (Part #PRS312) and rewire exactly as shown in the schematic.
-

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REPAIR PROCEDURES

21. Check speed dial potentiometer.

- a. Remove the right plastic housing as described in 3 above.
 - b. Check resistance of speed dial potentiometer with a multimeter
 - (1.) Disconnect the grey and brown wire leads at their quick disconnects.
 - (2.) Place probes on the grey and brown leads respectively.
 - (3.) With the pot set at zero (all the way counter clockwise), you should get a resistance reading of approximately 10.00 k ohms, gradually decreasing in resistance as you increase the speed dial (turning clockwise) to wide open.
 - (4.) At wide open you should get a resistance reading of approximately 00.0 ohms.
 - c. If the meter shows open or closed circuit, or if there is resistance but it does not change when rotating the potentiometer, potentiometer is bad and should be replaced (ref part # PRM219).
Reassemble in exact reverse sequence and rewire exactly as shown in the schematic.
-

22. Check drive chain.

- a. Remove the left plastic housing as described in 3 above.
 - b. If the connecting link is missing or damaged, replace the connecting link (Part # PRC 084).
 - c. If the drive chain is damaged, replace the drive chain (Part # PRC083A).
-

23. Check drive sprockets.

- a. Remove the left plastic housing as described in 3 above.
 - b. If the sprocket is not tight on its shaft:
 - (1.) Rotate the sprocket until the set screw will tighten on the flat surface of the shaft.
 - (2.) Align the sprocket with the drive chain 13/16" from the side panel.
 - (3.) Tighten the sprocket with a 1/8" allen wrench.
 - c. If the sprocket is broken or excessively worn, they must be replaced:
 - (1.) Remove the chain at the connecting link.
 - (2.) Remove the sprockets noting that the 19 tooth sprocket is installed on the front laminating roll and the 18 tooth sprocket is installed on the rear pull roll. (1/8" allen wrench)
 - (3.) Replace the sprockets (part # PRS249, PRS251, PRS243B)
-

24. Check rubber roll gears.

- a. Remove the left plastic housing as described in 3 above.
 - b. If the rubber roll gears are broken or excessively worn, they must be replaced as follows:
 - (1.) Remove the chain at the connecting link.
 - (2.) Remove the sprockets noting that the 19 tooth sprocket is installed on the front laminating roll and the 18 tooth sprocket is installed on the rear pull roll. (1/8" allen wrench)
 - (3.) Remove the rubber roll gear retaining clip rings using clip ring pliers.
 - (4.) Replace the rubber roll gears (part # LC25 PRG131).
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PREMIER 4 SERIES LAMINATOR

REPAIR PROCEDURES

25. Check motor control board and drive motor.

- a. Remove the right plastic housing as described in 3 above.
 - b. Check motor control board and drive motor voltage with a multimeter set at **volts DC**
 - (1.) Locate forward/reverse jog switch.
 - (2.) Trace two center terminal lead wires to their respective connectors to the black and red drive motor lead wires.
 - (3.) Place multimeter probes on contact points inside respective connectors.
 - (4.) Connect power cord to laminator and engage forward/reverse jog switch to forward.With the speed dial potentiometer at lowest (counter clockwise) setting, you should get between 0 to 10 volts on the meter.
With the speed dial potentiometer at highest (clockwise) setting, you should get between 90 to 96 volts on the meter.
If no voltage is present, the motor control is faulty and should be replaced (part # PRM219).
If the prescribed range of voltage is present and there is still no motor drive, the drive motor is faulty and it should be replaced (part # PRM220).
-

26. Replace drive motor control.

- a. Remove the right plastic housing as described in 3 above.
 - b. Access motor control board as described in 9 above.
 - c. Check all components and wiring for loose connections, broken or shorted wires.
If a wire is disconnected, re-connect exactly as shown in the wiring schematic.
 - d. Replace motor control
 - (1.) Gently disconnect the plastic wiring harness from its terminals on the motor control board.
 - (2.) Using a small phillips head screwdriver and small adjustable wrench, remove two 6-32 x 3/8 screws and nuts that secure the board to the front motor cover.
 - (3.) Remove faulty board and replace with new (part # PRM219).Reassemble in exact reverse sequence and rewire exactly as shown in the schematic.
-

27. Replace drive motor.

- a. Remove both plastic housings as described in 3 above.
 - b. Access drive motor as described in 9 above.
 - c. Replace drive motor.
 - (1.) Remove sprockets and drive chain by using a 1/8" allen wrench to loosen the set screws in the sprockets and gently sliding them off of their respective shaft ends.
 - (2.) Disconnect two motor wire leads from their quick-disconnects.
and to accommodate substrates up to 1/8" thick. The acorn nuts can now be tightened.
 - (3.) Remove the two bottom motor mounting screws (10-32 x 1/2" fhms) using a phillips head screwdriver.
 - (4.) Remove the two top motor mounting screws (10-32 x 1/2" button head cap screws) using a 1/8" allen wrench.
 - (5.) Remove faulty motor and replace with new (part # PRM220).Reassemble in exact reverse sequence and rewire exactly as shown in the schematic.
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REPAIR PROCEDURES

28. Clear minor "wrap-around".

- a. Visually check all four rolls for any film wraparound or foreign objects.
 - b. Carefully remove foreign objects.
 - c. If a "wrap-around" occurs while the laminator is cold, reverse the direction of the rubber rolls, permitting the laminator to release the film from the rolls.
 - d. If a "wrap-around" occurs while the laminator is hot,
WARNING: Be very careful not to touch the heat shoes when the machine is hot.
 - (1.) Leave the heat on so that the adhesive does not harden.
 - (2.) Remove the feed tray.
 - (3.) Cut the film on the top and bottom, just in front of the idler bars.
 - (4.) Loosen the film from the heat shoes and grip the two loose ends, holding them together.
 - (5.) Turn the drive switch to the reverse jog position and allow the laminator to back out the film that is wrapped around the rolls. Pull the film off the roller.
-

29. Clear "wrap-around" of front laminating rolls.

- a. Remove both plastic housings as described in 3 above.
 - b. Swing away top heat shoe by loosening small thumbscrews on right and left top heat shoe mounting brackets to gain greater access to top front roller.
 - c. Using a 5/32" allen wrench, remove the cap head screws that secure the bottom heat shoe thru the side panels.
 - c. Swing away the bottom heat shoe (without necessarily disconnecting it) to gain greater access to bottom front roller.
 - d. Create a loose end of film and use the reverse jog to unwind "wrap-around".
- It may be necessary to remove the chain and sprockets from the drive side to allow unrestricted rotation of the rolls. See 27 above for procedure.
-

30. Clear "wrap-around" of rear laminating rolls.

- a. Remove bottom motor cover as described in procedure 9 above to gain greater access to the bottom rear roller.
 - b. Remove the chain and sprockets (see 27 above) to allow unrestricted rotation of the rolls.
 - c. Create a free end of film and manually pull film off rollers.
-

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REPAIR PROCEDURES

31. Clear "wrap-around" by removing and cleaning or replacing rolls.

- a. Remove the rubber rollers
 - (1.) Remove drive chain and sprockets as described in 27 above.
 - (2.) Remove rubber roll gears as described in 24 above.
 - (3.) Remove the two 1/2" stop collars that secure the top front and rear rollers to the right hand side using a 1/8" allen wrench.
 - (4.) Use a 3/16" allen wrench to loosen and remove the pressure bolts and orange pressure springs (part # LC25 031.4) from the bottom bearing supports (part # 4285 028.4) and top bearing support (part 3 4285 030.4b).
 - (5.) Use a 9/64" allen wrench and a phillips head screwdriver to remove the cap head screws and button head phillips screws with stainless steel spacers that hold the top bearing support/cam spring support bar and roller bearing assemblies in place.
 - (6.) Slide these top assemblies off the ends of their respective shafts.
 - (7.) Remove the top front and top rear rollers by sliding them thru the roll change openings on the side panels.
 - (8.) Use a phillips head screwdriver to loosen and remove the flat head phillips screws that secure the bottom bearing supports to the side panels, then slide the bottom bearing supports off their respective shaft ends.
 - (9.) Remove the bottom front and bottom rear rollers by sliding them thru the roll change openings on side panels.
- b. If the "wrap-around" prevents the roll from fitting through the opening, some of the film must be removed **being very careful not to damage the rolls**.
- c. After the rolls are removed, remove the remaining film and clean the rolls thoroughly.
- f. If the rolls are damaged, they must be replaced (part # 0500-040.4).

Reassemble in exact reverse order of disassembly noting the following:

- (1.) The 19 tooth sprocket is installed on the front laminating roll and the 18 tooth sprocket is installed on the rear pull roll.
 - (2.) When re-installing the rubber roll pressure springs, the optimal measurement setting for the springs is 31/32".
-

32. Check fan switch position.

- a. Engage the green fan switch to the upper, "I", position. It should illuminate. Fans should operate.
-

33. Check fan switch.

- a. Remove the right plastic housing as described in 3 above.
 - b. Check continuity of the fan switch with a multimeter.
 - (1.) Engage fan switch.
 - (2.) Place multimeter probes on two inner most switch terminals.
 - c. If there is no continuity, the switch is faulty and should be replaced (part # PRS310), and rewired exactly as shown in schematic.
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PREMIER 4 SERIES LAMINATOR

REPAIR PROCEDURES

34. Check cooling fans.

- a. Remove both plastic housings as described in 3 above.
 - b. Access cooling fans and wiring as dedescribed in 9 above.
 - c. Visually inspect all wires and connectors to fan motors,replace or rewire as needed per schematic.
 - d. Check voltage being received at the fan motors with a multimeter.
 - (1.) Trace black and white wires from terminal block to first white wire cap connection for the fans.
 - (2.) Set the Multimeter to volts AC.
 - (3.) Connect the power cord.
 - (4.) Engage the forward drive switch.
 - (5.) Insert probes into first cap connector checking for 110 vac, then the second wire cap connector checking for the same.
 - d. If proper voltage is evident thru the entire circuit,and one or more of the fan motors fails to engage, that fan motor(s) has failed and should be replaced (part # PRF134).
-

35. Replace fan motor(s).

- a. Remove both plastic housings as described in 3 above.
 - b. Access cooling fans and wiring as dedescribed in 9 above.
 - c. Disconnect initial white wire cap connection to fan motors from the black and white wire leads from the terminal block.
 - d. Using a phillips head screwdriver,remove the four round head phillips screws that secure the fan mounting bracket to the right and left side panels.
 - e. Carefully remove entire fan motor/fan bracket assembly.
 - f. Remove the fan in question by loosening and removing the two 8-32 nuts that secure the fan motor to the bracket (slide off the press on fan blade first).
 - g. Replace with new fan motor(s),rewire exactly as shown in schematic and reassemble in exact reverse order.
-

36. Check supply roll dog.

- a. Check to see if the brass supply roll dog located in the center of the supply roll mandrel is missing or loose.
 - b. If the brass supply roll dog is missing, replace it (part # 0285-015.4).
 - c. If the brass supply roll dog is loose, tighten the retaining screw with a phillips head screwdriver.
-

37. Check supply roll spring pin.

- a. The supply roll hex adapter (part # 0285 023.4) on the supply roll opposite the black knob is secured to the round supply roll shaft with a spring pin.
 - b. If you can turn the supply roll hex adapter without turning the round supply roll shaft, the spring pin has sheared, making it impossible to put any tension on the supply roll mandrel.
 - c. Replace the supply roll mandrel.
-

PREMIER 4 SERIES LAMINATOR

REPAIR PROCEDURES

38. Check rubber roll dwell line.

- a. Create a "dwell line". The "dwell line" is the imprint the front laminating rolls leave in the web of a threaded and heated laminating machine after being stationary for 90 seconds.
 - b. Thread the laminator with a good quality film.
 - c. Warm up the laminator.
 - d. After the laminator is warm, run a short length of film and stop the drive motor for at least 90 seconds.
 - e. Advance the film 12 to 15 inches and look at the impression the laminating rollers left on the film.
 - f. This impression, "dwell line" should be two parallel lines running the full width of the film measuring approximately 3/16" to 1/4" in width.
 - (1.) If the dwell line is very narrow, the rubber roll pressure may not be great enough to grip and pull the film taut, resulting in wrinkles in the web that can't be corrected with supply roll tension.
 - (2.) If the dwell line is over 1/4" wide, there is too much pressure resulting in shifting of the film towards the path of least resistance, adding wrinkling in the area with less pressure.
 - (3.) If the dwell line is narrow on one side and much wider on the other, the roll pressure is not adjusted correctly, contributing to wrinkling problems.
 - (4.) If the dwell line has an hour glass appearance (wide on both ends and much narrower in the middle), there is either too much pressure on both ends or the rubber rolls are worn excessively.
-

39. Adjust rubber rolls.

- a. Remove both plastic housings as described in 3 above.
 - b. Using a 3/16" allen wrench, adjust the orange rubber roll pressure springs to the optimal measurement setting of 31/32", as specifically denoted in procedure 31 above.
-

40. Replace rubber rolls.

- a. If the rubber rolls have been damaged or produce an unacceptable dwell line that can not be corrected with adjustments to the pressure as outlined in procedure 39, the rolls need to be replaced.
 - b. Replace rubber rolls as detailed in procedure 31.
-

PREMIER 4 LAMINATOR PARTS LIST

Item/Components

Description

| | |
|--------------|---|
| 4025100 | 25" PREMIER 4", 110 VOLT |
| 0285 015.4 | SUPPLY ROLL DOG C |
| 0285 094.4LW | OFF-WHITE HOUSING 7016 COLOR ABS R59 |
| 0285 097.4L | FEED TABLE GUIDE LEFT C |
| 0285 097.4R | FEED TABLE GUIDE RIGHT C |
| 0285 099.4 | FEED TABLE KNOB NUT C |
| 0285 191.4 | RETAINING RING, #3100-50 ST 7767A 30 |
| 0500 002.5 | SUPPLY ROLL ASSY W-OUT DOG |
| 0500 040.4 | LD 25" RUBBER ROLL C |
| 0500 061.4 | RUB ROLL HTR C |
| 3285 133.4 | CAM |
| 3500 130.4 | CAM SHAFT C |
| 4285 025.4 | PREM IV LABEL |
| 4285 028.4 | BOTTOM BEARING SUPPORT, PREMIER IV |
| 4285 030.4 | TOP BEARING SUPPORT, PREM IV |
| 4285 031.4 | FAN SHROUD STANDOFFS, PREM IV |
| 4285 032.4 | FAN GUARD STANDOFFS, PREM IV |
| 4285 041.4 | SLITTER KNIFE HOLDER, PREM IV |
| 4285 042.4 | SLITTER HANDLE, PREM IV |
| 4285 056.4 | OPERATOR'S MANUAL, PREM IV |
| 4285 065.4L | LEFT HEAT SHOE BRACKET, PREM IV |
| 4285 065.4R | RIGHT HEAT SHOE BRACKET, PREM IV |
| 4285 090.4L | LEFT SIDE PANEL PREMIER IV |
| 4285 090.4R | RIGHT SIDE PANEL PREMIER IV |
| 4285 094.4R | RIGHT HOUSING, PREMI IV |
| 4285 140.4 | ROLLER BRG. BOSTON GEAR #1602DC, 1/4 X |
| 4285 142.4 | PHENOLIC SPACER KEYSTONE \$470, 3/8 X 3/4 |
| 4285 145.4 | X-ACTO BLADES FOR PREM IV SLITTER |
| 4285 190.4 | SAFETY SHIELD BRACKET L/R FOR PREM 4 |
| 4285 200.4 | NYLON MACH SCREW 4-40 X 1/4 #PPNY-0721 |
| 4500 051.4 | 25" IDLER TUBE SHAFT, PREM IV |
| 4500 052.4 | 25" IDLER TUBE, PREM IV |
| 4500 057.4 | 25" FAN MOTOR BRACKET, PREM IV |
| 4500 060.4 | TOP & BOTTOM HEAT SHOE, PREM IV |
| 4500 074.4 | 25" SAFETY SHIELD, PREM IV |
| 4500 092.4B | 25" BOTTOM MOTOR COVER, PREM IV |
| 4500 092.4BK | BACK MOTOR COVER, PREM 4 |
| 4500 092.4T | 25" TOP MOTOR COVER, PREM IV |
| 4500 095.4 | 25" THREADING GUIDE, PREM IV |
| 4500 096.4 | 25" FEED TABLE, PREM IV |
| LC25 011.4 | STABILIZER |
| LAB03 | INTERNATIONAL SYMBOL FO "HOT" LABEL |
| LAB06 | INTERNATIONAL GROUND SYMBOL LABEL |
| LAB31-1 | 25" PREMIER III, SERIAL # LABEL |
| LAB50 | DANGER ELECTRICAL HAZARD LABEL |
| LAB51 | LABEL POWER CORD USE ONLY M-III |
| PRB043 | BRG B8104 1/2 5/8 1/2 |
| PRB048 | BRG FB8104 1/2 5/8 1/2 |
| PRB058 | NYLINER 6L2FF |
| PRB064 | SNAP BSHG LG SB875-10 #2123 |
| PRC083A | MIII DRIVE CHAIN 15 7/8 |
| PRC084 | #25 CHAIN CONN LINK |
| PRC096 | 1/2 SHAFT COLLAR 9B323 |
| PRC117 | CORD RECEPTACLE, PANEL COMPONENTS |
| PRC118 | REMOVEABLE CORD #504 |
| PRH130 | PAKTRONICS HEAT CONTROL |
| PRF117 | FAN MOTOR 4M070 |
| PRG131 | 12 TOOTH RR GEAR LD |
| PRH147 | 25" 120V UL HTR 650W CRLX, UL/CSA APRVD. |
| PRK175 | #29632 LD CAM SHAFT KNOB, REAMED |
| PRK177 | SPI W/1/2" SCREW, #99-117-4 |
| PRM220 | 4Z536 MOTOR |
| PRM219 | MINARIK MM31701A |
| PRS249 | 25B18 1/2" BORE 1/4-28 SET SCREW |
| PRS251 | 25B19 SPROCKET W/1/2" BORE & SET SCREW |
| PRS252A | 25B20 SPROCKET W/1/2" BORE, PREM IV |
| XS08 | 25" CARTON |
| XS22 | M1 MIII SUP ROLL BOT |
| XS23 | M1 MIII SUP ROLL TOP LABEL |
| XS100 | FEED BOARDS FOR M-111 6" X 15" |
| XS11 | LGHT DTGY-MODEL 3 FOAM INSERT |
| XS33 | MADE-IN-AMERICA LABEL, STYPE: US6 |
| XS60 | WARRANTY CARD |