



DAVIS PACKAGING

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Dual Roll Console User Guide

DP-390 Fixed Height Dual Roll Console Wrapper



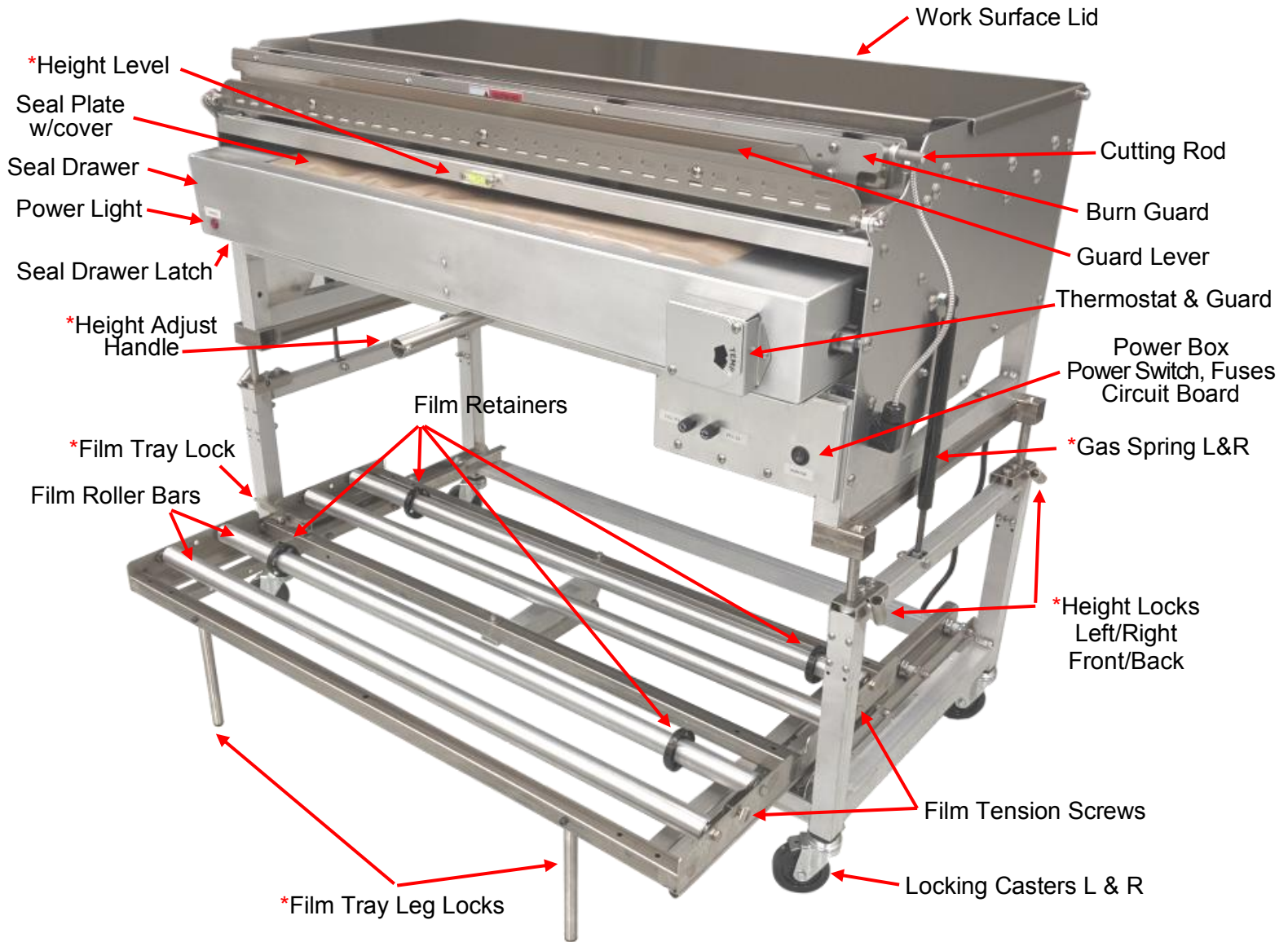
SPECIFICATIONS	
Overall Dimensions:	Closed: 42.75"W x 26.5"D x 33.75"H Open: 42.75"W x 36.25"D x 33.75"H
Work Surface Height:	33 1/2" (91cm)
Power Requirement:	115 Volt, 12 Amp, 60Hz
Wattage:	1300 Watts
Unit Weight:	150 lbs (68 kg)
Recommended Temp:	240 degrees

DP-392 Adjustable Height Dual Roll Console Wrapper



SPECIFICATIONS	
Overall Dimensions:	Closed: 44.5"W x 24.75"D Open: 44.5"W x 36"D
WorkSurface Height:	Min 34.75" / Max 42.25"
Power Requirement:	115 Volt, 12 Amp, 60Hz
Wattage:	1300 Watts
Unit Weight:	170 lbs (68 kg)
Recommended Temp:	240 degrees

Console Components



** DP392 Features Only*

Work Surface Lid Open



Console Setup

1. Pry open crate. Remove shrink wrap, cut banding, gently remove unit from crate.



Box containing 4 Wheels



Front Wheels

Rear Wheels

2. Locate and remove box secured to rear leg containing 2 front lockable wheels and 2 rear standard wheels.
3. Lift one side of console and insert one front lockable wheel into the front leg and one standard wheel into the rear leg. Lower unit and press down firmly to 'click' wheels securely into each leg. Repeat with opposite side.



Locking wheels in front



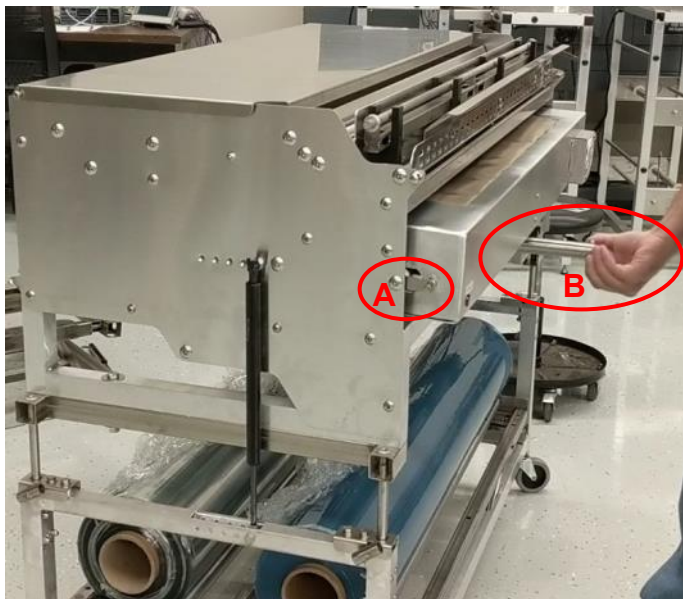
Press down turn lock 'ON' or 'OFF'

4. After console is placed in desired location, using your foot, gently push the 'ON' tab on each front wheel DOWN to lock. This will prevent the console from moving while in use. Press the OFF tab DOWN to unlock when needed.
5. Remove any remaining protective packaging and discard.

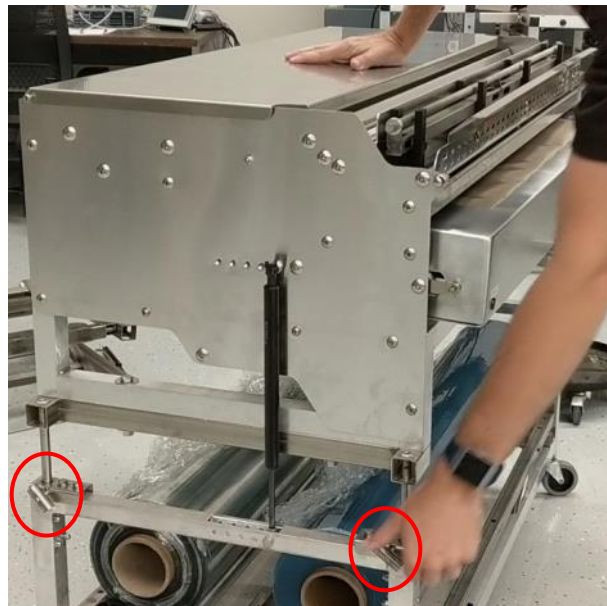
Adjust Console Height (DP392 Only)

- Recommended Work Surface Lid height is waist height of user.
- If adjusting height after loading film, pull extra length of film prior to unlocking to avoid film from being pulled back into the unit.

***Always lock all four Height Locks to secure and prevent injury or damage.**



1. Close and Latch Seal Drawer (A). Pull out Height Adjust Handle (B) from under Seal Drawer to assist in raising and lowering.



2. Unlock all four Height Locks by turning counter-clockwise. Unit will raise slightly when fully unlocked.



3. Using Height Adjust Handle for leverage, push down on center of Work Surface Lid to lower or lift handle to raise to desired height.



4. While maintaining desired height, lock one side of the unit to secure. Using the Height Level on the front center of the unit, adjust opposite side until the level bubble is centered in the vial then lock securely in place.

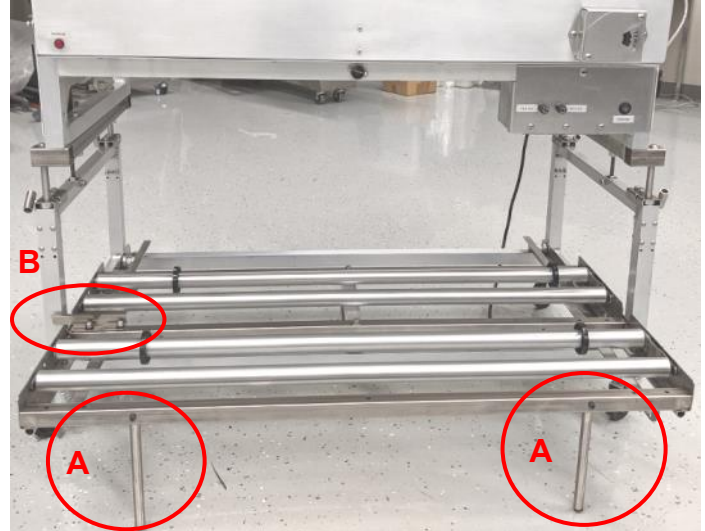
Loading Film Tray (DP392 Only)

This unit can be used with one or two rolls of wrap as desired. Front or back Film Tray location for single roll use is up to the user.

*** Always ensure both Tray Leg Locks are fully extended 90° down when open and fully recessed in Lock Channels when closed to avoid injury or damage.**



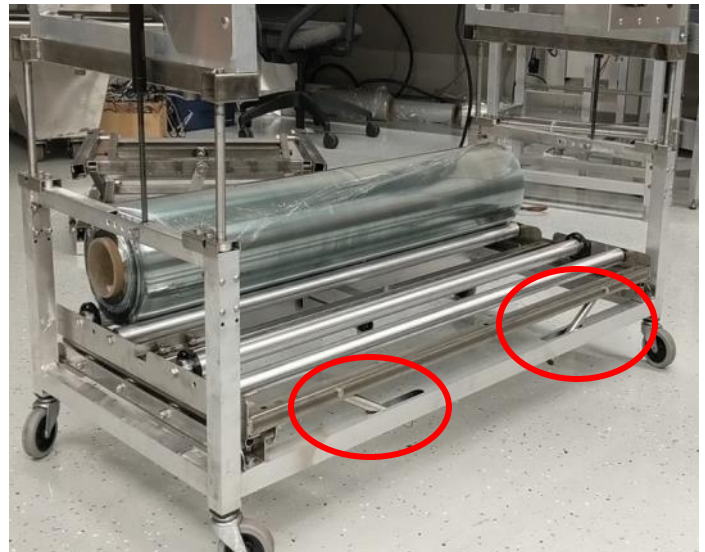
1. Lift both Tray Leg Locks from their Lock Channels and pull Film Tray out.



2. Lower Tray Leg Locks (A) 90° to floor. Slide Film Tray Lock (B) to the left to engage to keep the drawer from moving when loading film.



3. Slide Film Retainers to the **OUTSIDE** of the film roll. Rotate film roll so film unrolls from back side of roll (see threading diagram Page 7). Place film on top of Film Roller bars in desired location. Slide Film Retainers back to the outside edge of the film roll to keep rolls from shifting when pulled. *** Do NOT put film roll on top of black plastic Film Retainers.**

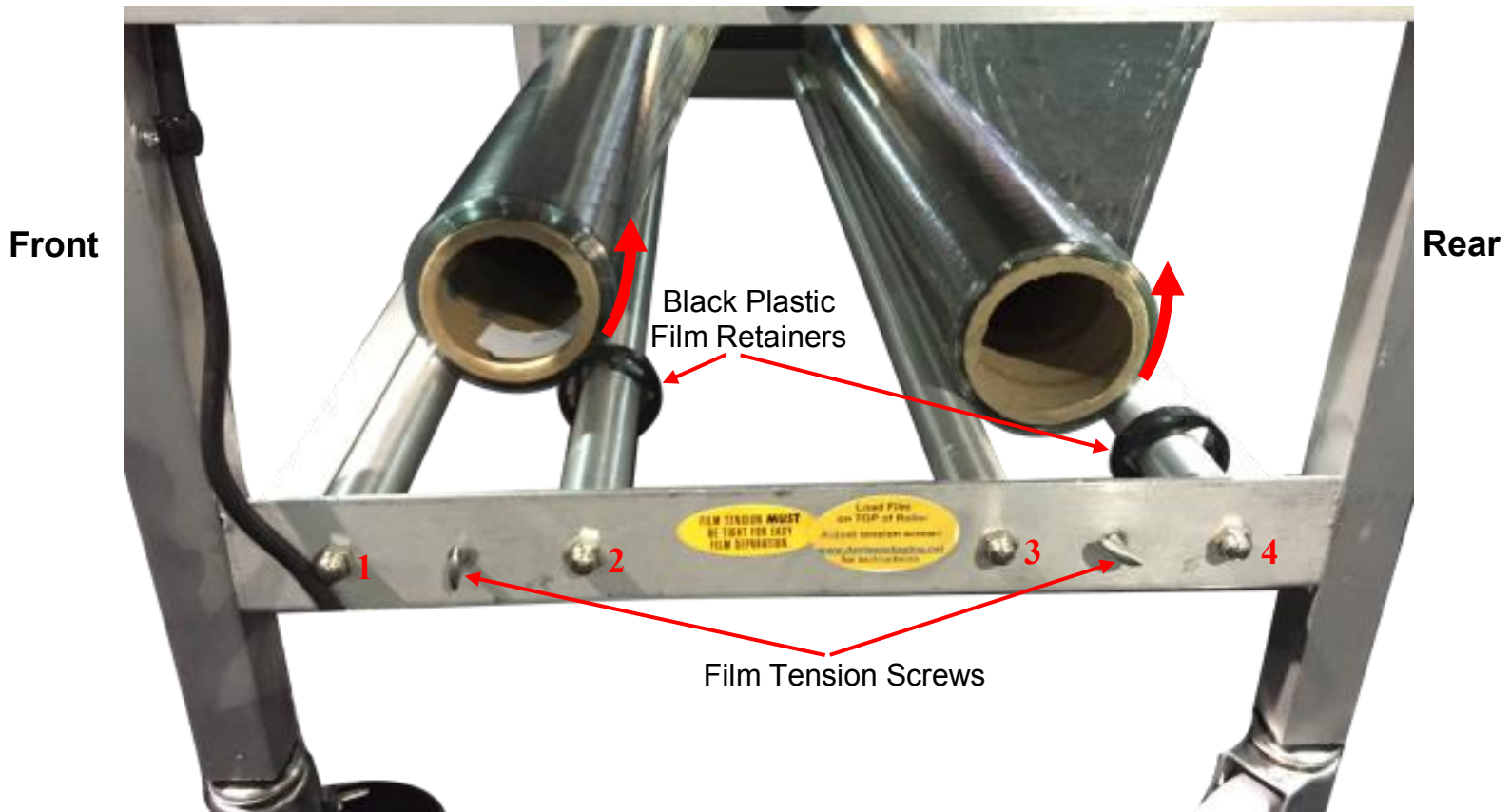


4. Disengage Film Tray Lock, lift Tray Leg Locks and close drawer. Lower Tray Leg Locks into Lock Channels to secure.

*** Always ensure both Tray Leg Locks are fully seated in the Lock Channels to prevent injury or damage.**

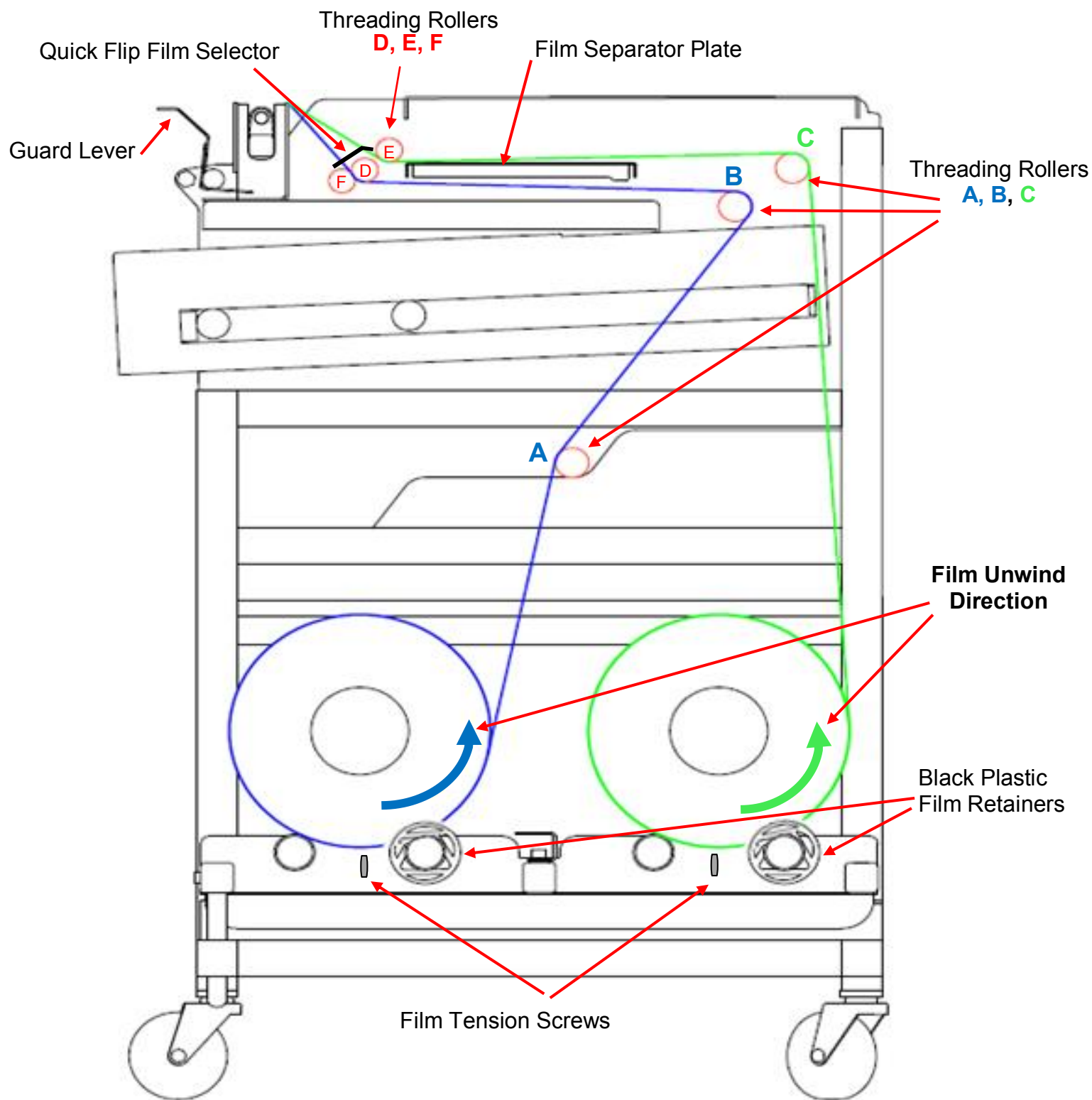
Loading Film (DP390 Only)

This unit can be used with one or two rolls of wrap as desired. Front or back Film Tray location for single roll use is up to the user.



1. Slide black plastic **Film Retainers** to each **OUTSIDE** end of roller bars **2** and **4**.
***Do NOT put film roll on top of black plastic Film Retainers.**
2. Place **Front Film** roll on top center of bars **1** and **2** so the film unrolls from the **back** of the roll as shown by the red arrow above.
3. Place **Rear Film** roll on top center of bars **3** and **4** so the film unrolls from the **back** of the roll as shown by red arrow above.
4. Slide **Left and Right Film Retainers** roughly 1/8" from outside edges of each film roll to keep roll from sliding across the roller bar.
***Do NOT put film roll on top of black plastic Film Retainers.**
5. Film Tension Screws will be adjusted after Threading Film.

Film Threading



*** Do NOT put film roll on top of black plastic Film Retainers.**

Confirm Film Unwind Direction is from rear of roll and adjust if necessary. Once film roll(s) are correctly placed on Film Rollers, open Work Surface Lid. Pull a length of film from each roll and feed around respective Threading Rollers (A - F) as shown above while simultaneously spreading and flattening film across the bars until no wrinkles appear. Close Work Surface Lid.

Tighten or loosen Front and Rear Film Tension Screws at Film Rollers until a very slight drag is felt when pulling film. This adjustment will prevent film rolls from overspinning.

Start Up

Positioning: Roll unit into desired floor position.

Use foot to press “ON” tab (A) DOWN on both front wheels to lock unit in place and prevent movement while wrapping. To unlock, use foot to press “OFF” tab to the down position. *Locking Casters should be on Front legs of unit.



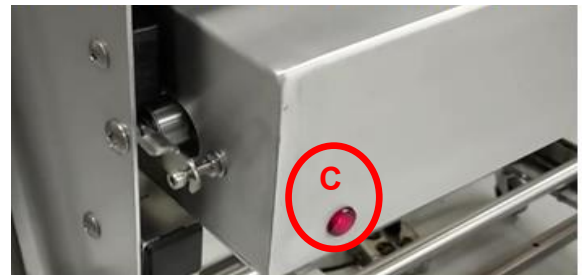
Power: Plug unit into a standard grounded three prong 110-120 volt outlet. A basic surge protector is recommended to protect unit circuitry from unexpected power surges.

Flip the Power Box Power Switch (B), located under the front right side of the Seal Drawer, to the **ON** position. Power Light (C) on the Seal Drawer should glow **Red** indicating power to the Cutting Rod and Seal Tray. The Power Switch is the Main On/Off for the Cutting Rod and Seal Plate.



Power Box Power Switch and Fuses

CAUTION: To avoid potential fire hazard or damage to the unit, power should be switched Off when the unit is not in use for extended periods.



Power Light on Seal Drawer Front

Temperature Setting: The Temperature Dial on the front of the Seal Drawer controls the temperature of the Seal Plate only, not the Cutting Rod. The Dial is covered with an Optional Tamper Guard (shown in Blue) to prevent undesired temperature changes. Once set, the main Power Switch will turn On/Off the Seal Plate.

Recommended starting Temperature is **200 degrees**. Rotate temperature dial clockwise until 200 degrees is at the **3 o'clock indicator pointer (D)**.



**Thermostat Dial with Tamper Guard
Recommended start temp: 200 degrees**

The unit should come to operating temperature within 3-5 minutes after Power Switch is turned ON and when film easily cuts across the Cutting Rod.

Test and Reduce temperature if Seal Plate melts holes in film when sealing and Increase temperature if film does not fully seal.

Once you've found your appropriate temperature, replace Tamper Guard.

***CAUTION:** The Cutting Rod and Heat Tray are **HOT** and may cause burns if touched directly or used incorrectly.

**** CAUTION HOT SURFACES ****

Seal Tray Cutting Rod



Quick Flip Film Selector

The wrapper is designed to use two rolls of film simultaneously to extend production time or utilize various film sizes. When loaded using the Film Threading Diagram on page 7, the Film Selector is used to alternate between the front and back rolls.

***DP392 Only: To avoid accidents, injury, or damage to unit, ensure all four Height Adjust Locks are tightened and both Film Tray Leg Locks are fully recessed in the Lock Channels.**

See Film Threading Diagram page 7

- Push Film Selector back for front roll.
- Pull Film Selector forward for Rear Roll (shown).



Film Selector Forward for Rear Roll

Before Selecting New Film:

Pull short extra length of film and bunch up across exposed film threading bar to prevent film end from falling back into unit.



Wrapping Technique

The following are two standard methods to wrap bundles. There is no incorrect method. Technique will evolve as one gains experience. As long as the final product is an attractive sealed bundle you are wrapping correctly! Both techniques start and end the same, the middle cut process is different.

***DP392 Only: To avoid accidents, injury, or damage to unit, ensure all four Height Adjust Locks are tightened and both Film Tray Leg Locks are fully recessed in the Lock Channels.**



1. Start with a clean-cut end of film by pulling a small amount of film past Cutting Rod and simultaneously pulling film forward and pushing down on the Guard Lever to cut.



2. Unhook Seal Drawer Latch on left side of drawer. With bundle centered on Work Surface Lid, walk towards the front of the machine pushing the sealing tray into the unit with your legs until it stops.



3. Pull enough film straight up from the front to wrap over, around, and roughly 2" under the back of the bundle.



4. Pull wrap over the back of the bundle and tuck at least two inches of film under the back of the bundle. Don't let go of the film.

Wrapping Technique

***DP392 Only:** To avoid accidents, injury, or damage to unit, ensure all four Height Adjust Locks are tightened and both Film Tray Leg Locks are fully recessed in the Lock Channels.



5. While holding the tucked film under the back of the package, slide hands around to the sides.

Next: Choose either of the following Cut Technique 6A or 6B to cut film:



6A. Drag and Drop

Use the weight of the bundle to push down the Guard Lever to cut the film.

- Lift the bundle off the work area.
- Take a large step backward to allow the Seal Tray to slide out.
- Drop the rear of the bundle down onto the Guard Lever to raise and cut film then lower onto the Seal Plate to seal the film.
- **Go to Page 12, Wrap Finish Step 7**



6B. Guard Lever Push

Use hands to manually push the Guard Lever down to cut the film.

- (A) Pull the bundle up and over the Guard Lever and set on the Seal Tray.
- (B) Grasp left and right side of film between front of Guard and behind Guard Lever. Simultaneously pull film forward and push down on guard lever with fingers to raise cutting rod and cut the film. Do not let go of the film.
- (C) Pull cut end of film and attach to back of bundle.
- **Go to page 12, Wrap Finish Step 7**

Wrapping Technique - Wrap Finish

* DP392 Only: To avoid accidents, injury, or damage to unit, ensure all four Height Adjust Locks are tightened and both Film Tray Leg Locks are fully recessed in the Lock Channels.



7. To seal the sides, lift the left side of the bundle with your right hand. Grab the center of the loose end with your left hand. Pull film outward to untangle and straighten.



8. Tuck straightened end tightly underneath the bundle. Lower onto the Seal Tray to seal. Alternate hands and repeat to seal the right side of the bundle. Pull less for delicate linens to avoid wrinkles.



Set bundle flat on Seal Plate for final seal. Within seconds, seams should be tack welded to the point that a fingernail across the seams will not separate or easily open. Raise thermostat heat if seams easily peel open or lower if melt holes exist. The bundle should be able to sit on the Seal Plate without melting holes in film and seams are secure.



FAQs

If a new machine doesn't turn on (heat up) what should we do?	Ensure power switch is ON. Check if fuse is blown. Check for loose wires in the electrical box, shipping may loosen wire connections.
My unit is tripping a GFCI?	The wires or black wiring terminal block in the hot plate may be shorting and should be checked or replaced. If the thermostat is shorting to ground, replace the thermostat.
What is the standard voltage on wrapping machines?	110 - 120 volts
How do I change my Non-stick cover?	When unit is cool, pull cover off, it is not attached.
What kind of film do I use?	PVC cling film for wrapping laundry, meat, or produce. PVC chemical characteristics provide barriers to protect the product. Clear stretch film for pallet wrap is Polyethylene and not to be used on wrappers.

ABOUT THE HOT ROD

My hot rod is cold, what should I do?	Check the fuse, replace if blown. Check the circuit board for loose wires and power. See detailed instructions for testing the Circuit Board on page 14.
My hot rod is not hot enough or too hot, what should I do?	a) Check the circuit board, see page 14. On older boards, if potentiometer has been adjusted the rod will no longer work correctly.
My hot plate works but my hot rod doesn't?	Hot Rod, Circuit Board and Fuse Holder work together. Hot Plate, Thermostat and Element work together. Hot Plate and Hot Rod are independent of each other. See page 14 for testing the Hot Rod and Circuit Board.

ABOUT THE HOT SEAL PLATE

Why is the Hot Plate smoking?	That is excess protective coating on the heating element burning off and should last no more than 10 or 15 minutes.
My hot plate is cold?	Check element then thermostat and wires to thermostat. See page 15.

****WHEN REPLACING THE HOT ROD OR CIRCUIT BOARD,
IT IS RECOMMENDED TO REPLACE BOTH SINCE THEY WORK TOGETHER.****

Electrical Troubleshooting

CUTTING ROD TOO HOT OR NOT HEATING

(See Page 16 for instructions to access circuit board)

1) Check the Fuse

If a visual inspection does not verify a blown fuse, check the following:

- **Circuit Tester:** With power **OFF**, locate and open **Power Box** on front right side of console frame. Disconnect red wire from **Circuit Board Terminal 1** and secure it out of the way without touching any metal. With power **ON**, test across **Circuit Board Terminals 3 and 4**. If tester does not light, replace fuse.
- **Multimeter:** Remove and check the fuse for continuity with meter across the two fuse ends. If meter does not show continuity, replace fuse.

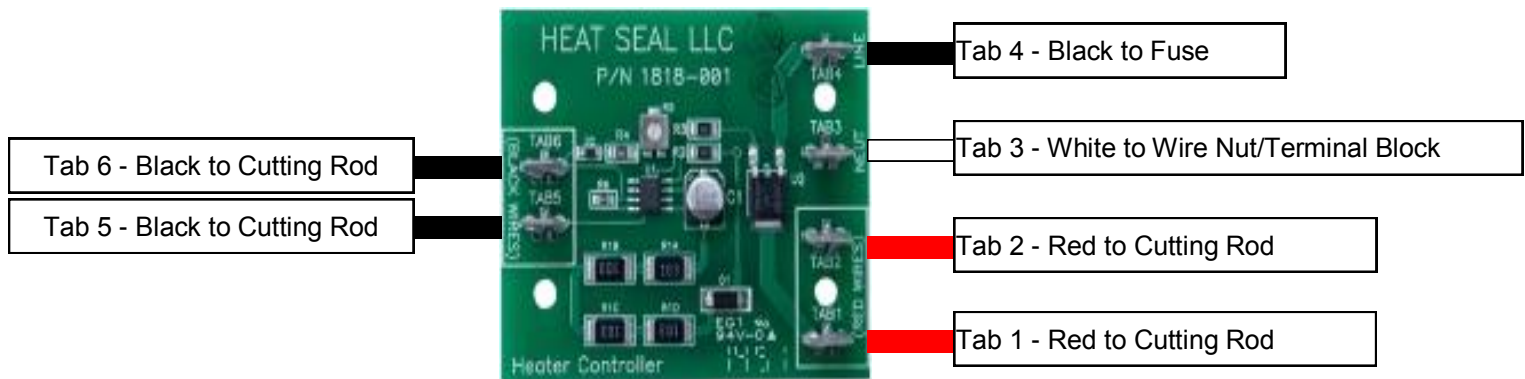
2) Test the Cutting Rod

- **Circuit Tester:** With power **OFF**, locate and open **Power Box** on front right side of console frame. Disconnect red wire from **Circuit Board Terminal 1** and secure it out of the way without touching any metal. With power **ON**, test between **Terminal 1** and end of disconnected wire. If tester does not light, replace cutting rod.
- **Multimeter:** With the power **OFF**, locate and open **Power Box** on front right side of console frame. Disconnect red cutting rod wires from **Circuit Board Terminals 1 and 2**. Measure resistance of the rod by connecting the leads of the meter to the red wires. If meter is outside of the following ranges, replace rod:

43.25" rod	65 - 75 ohms
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3) Check the Circuit Board

- **Circuit Tester:** With the power **OFF**, locate and open **Power Box** on front right side of console frame. Disconnect red wire from **Circuit Board Terminal 1** and secure it out of the way without touching any metal. With the power **ON**, test across **Circuit Board Terminals 1 and 2**. If tester does not light, replace circuit board.
- **Multimeter:** With the power **OFF**, locate and open **Power Box** on front right side of console frame. With all wires connected as shown below and power **ON**, test for 100-120 volts across **Circuit Board Terminals 1 and 2**. If there is no or low voltage, replace circuit board.



It is recommended that Cutting Rod and Circuit Board be replaced as a set.



THIS UNIT SHOULD NOT BE OPERATED IF CUTTING ROD TEMPERATURE EXCEEDS 275°F OR SEAL PLATE TEMPERATURE CAN NOT BE CONTROLLED BY TEMPERATURE DIAL. IF SMOKE OR FUMES ARE DETECTED, DO NOT USE TO AVOID DAMAGE TO YOUR EQUIPMENT OR PERSONAL INJURY

Electrical Troubleshooting

SEAL PLATE DRAWER TOO HOT

If you are unable to lower or control the temperature of the Seal Plate with the thermostat temperature dial on the front of the drawer, discontinue use to avoid additional damage and replace the thermostat.

**Recommended temperature dial setting is 200° and set by turning the dial to the indicator pointer at the 3 o'clock position. See Page 8 for additional information.*

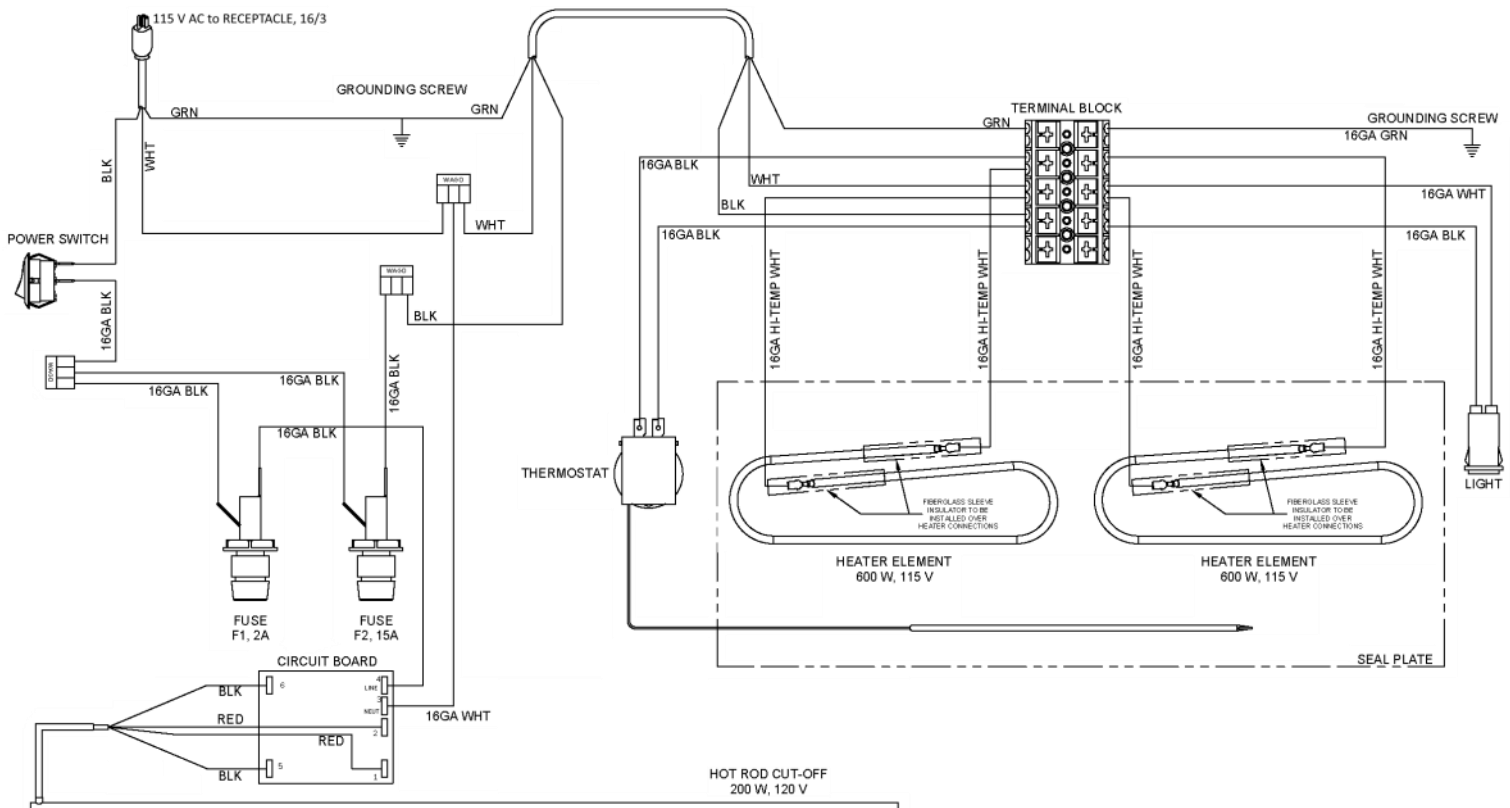
SEAL PLATE DRAWER NOT HEATING

1) Check Wiring and Terminal Block Connections for Shorts or Damage

- **Visual Test:** With the power **OFF**, open drawer and remove bottom cover to expose wiring, thermostat, and heat elements. Thoroughly inspect all wiring, connections, and terminal block for burns, broken insulation, loose terminal ends, cracks, or any other damage. Replace as needed.

2) Test Heat Plate Elements

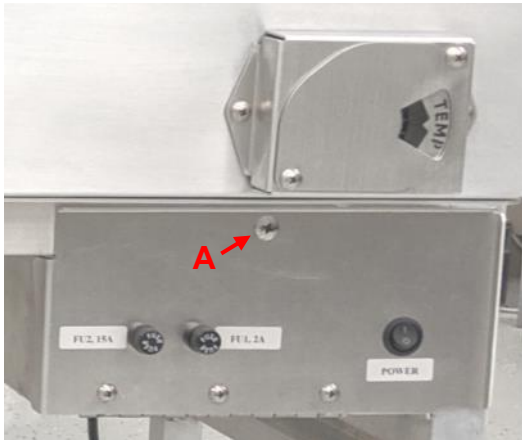
- **Visual Test:** With power **OFF**, open drawer and remove bottom cover. Inspect Elements for any cracks, broken, or loose connections. Replace as needed.
- **Multimeter:** With power **OFF**, remove element connections. Using the meter, measure the resistance of each element by connecting the leads of the meter to the element terminals. The meter should read between **20 - 26 ohms**. If the reading is out of this range, element is bad. If reading is within range, replace Thermostat.



THIS UNIT SHOULD NOT BE OPERATED IF CUTTING ROD TEMPERATURE EXCEEDS 275°F OR SEAL PLATE TEMPERATURE CAN NOT BE CONTROLLED BY TEMPERATURE DIAL. IF SMOKE OR FUMES ARE DETECTED, DO NOT USE TO AVOID DAMAGE TO YOUR EQUIPMENT OR PERSONAL INJURY

Accessing / Replacing Circuit Board

**** UNPLUG POWER AND LET WRAPPER COOL BEFORE PROCEEDING ****



1. Remove top center screw (A) on Power Box door front.
2. Take picture or note position of all wires connected to the board. See below for wiring diagram.
4. Disconnect wire terminals from board using care to not strip wires from terminal ends.
5. Remove board from corner pins by squeezing pin ends and rocking board outward.
6. Reconnect wires to new board in same position as original.
7. Push circuit board back onto each plastic pin ensuring each pin locks onto board.
8. Close Power Box door and replace screw.
9. Plug Console into power outlet.
10. Test.



Tab 6 - Black to Cutting Rod

Tab 5 - Black to Cutting Rod

Tab 4 - Black Line to Fuse

Tab 3 - White Neutral o Wire Nut/Terminal Block

Tab 2 - Red to Cutting Rod

Tab 1 - Red to Cutting Rod

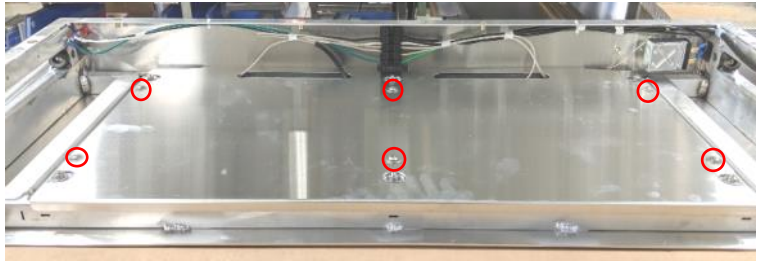
* Current board design and components pictured above are compatible with older board versions.

Accessing / Replacing Thermostat and Drawer Elements

**** UNPLUG POWER AND LET WRAPPER COOL BEFORE PROCEEDING ****



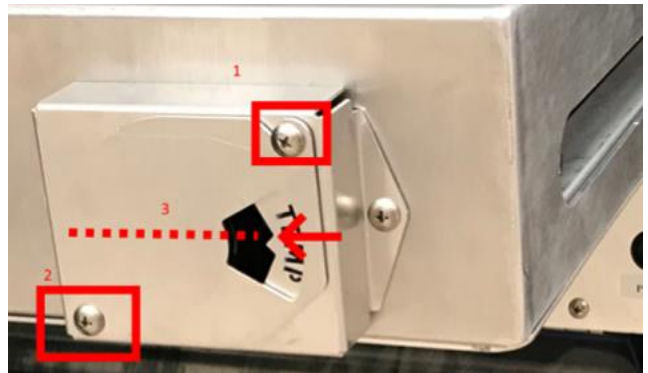
1. Open Seal Tray Drawer. From underneath drawer, remove 8 Phillips screws to remove bottom drawer cover. Set cover aside.



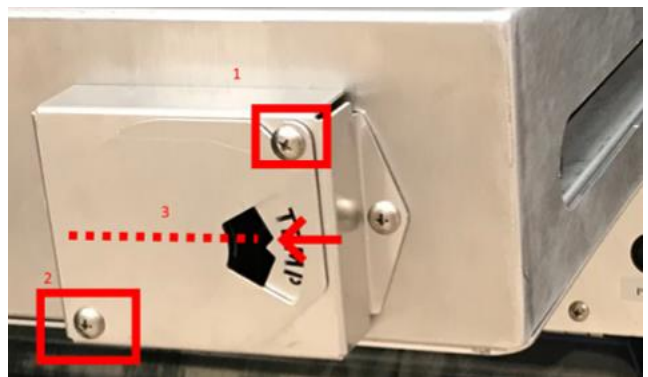
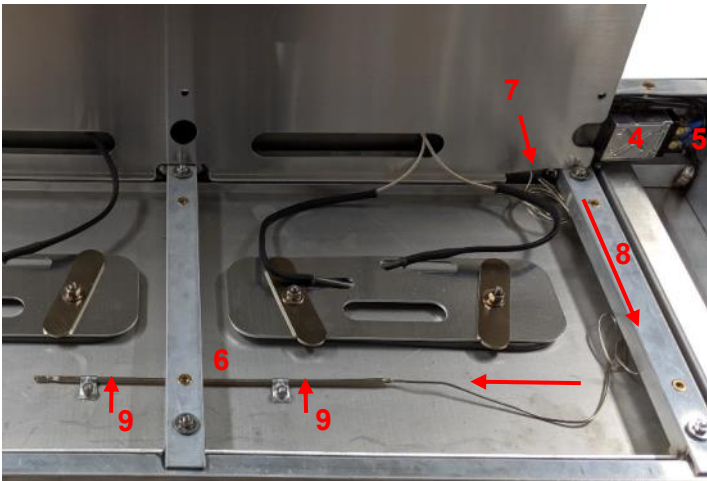
2. From inside drawer, remove 6 Phillips screws and washers to remove second interior element cover plate. Slide plate gently down and back for access.



3. Loosen, do not remove, two retaining clips on thermostat bulb. Slide bulb out from clips and let hang until next step.



4. Loosen, do not remove, two Phillips screws (1 & 2) securing thermostat tamper plate, and slide plate down to access knob. Pull knob off stem and lay on side and slide knob out from center of guard (3).
5. Remove two small Phillips screws behind knob to release thermostat body.



6. Remove thermostat body (4) from frame and unscrew thermostat wire leads (5).
7. Re-attach wire leads (5) to new thermostat.
8. Gently unwind thermostat bulb (6) and feed through access slot (7), under drawer frame arm (8) and under retainer clips (9) facing elements. Gently tighten retainer clip screws to avoid damage to bulb.
*Gently straighten any bends in bulb to ensure
9. Re-insert thermostat body and stem into position and re-install 2 Phillips screws to front for drawer.
10. Re-install knob, aligning flat shaped stem side to knob, through center position (3).
11. Set knob to 200° as starting temperature point.
12. Reconnect power and test hot plate for normal operation.
13. If tests successful, re-align tamper plate and tighten

CUTTING ROD

Rod should be cleaned of excess clear film residue once a month or more often as needed to prevent brown crusting of the Cutting Rod. Failure to clean rod will result in premature failure of Cutting Rod. If Cutting Rod is already browned skip to Deep Cleaning section to see if Rod can still be cleaned.

General Cutting Rod Cleaning

- Turn on unit and allow to heat until film cuts easily.
- Pull and tear off 2" - 4" of wrapping film. Wad film into small baseball sized ball.
- Gently rub film ball back and forth across Cutting Rod to remove any film residue. Residue should adhere to film wad or flake off of Rod.
***Use extreme care to avoid skin contact with hot Cutting Rod.**
- Turn off or unplug unit and let cool for approximately 4 minutes. After rod and seal plate have fully cooled, blow or brush film debris from unit.



Deep Cleaning Cutting Rod of Burnt Film

***TURN OFF, UNPLUG THE UNIT AND LET THE MACHINE COOL DOWN BEFORE CLEANING**

- Cover the unit surfaces with paper towels to protect them from over spray and debris.
- Spray and coat the Cutting Rod generously with an FDA approved "Degreaser" product.
- After soaking for a few minutes, lightly scrub the surface of the Cut-off rod with a **non-abrasive Scour Pad** (Scotch-Brite™ or any Teflon™ safe type scouring pad).
***Avoid using sand paper, steel wool, or blade edges to clean the Cutting Rod as this may damage the non-stick coating and cause the rod to prematurely burn out.**
- Wipe the surface clean of debris and residue with clean paper towels or cloths.

NON-STICK COVER & SEAL PLATE

***TURN OFF, UNPLUG THE UNIT, AND LET THE MACHINE COOL DOWN BEFORE CLEANING**

- The Non-stick cover is used to create a sanitary, stick free surface to seal bundles with the Seal Plate. It's recommended that the Non-stick cover be cleaned or replaced as needed depending on the level of daily wear and tear. The Non-stick cover should be changed if the surface is overly soiled, or holes, punctures, excessive wear, or damage are present.
- Avoid sharp objects being dragged across the cover. Rings, watches, and jewelry can tear or cause unnecessary wear if repetitively run across the cover.
- The metal hot plate below the non-stick cover can be cleaned, as needed, with a mild spray degreaser applied to a soft rag or paper towel and then wiped on the plate while cold.

ALUMINUM/STAINLESS STEEL FRAME

***TURN OFF, UNPLUG THE UNIT, AND LET THE MACHINE COOL DOWN BEFORE CLEANING**

- The machine can be completely wiped down using mild cleaning detergent and soft rags or paper towels. Do not hose down or submerge the unit.

Replacement Parts

CB	Circuit Control Board
CR4325	Cutting Rod, 43 1/4 Inches Long (TD-362/104-40)
CRLC	Cutting Rod Collar
FH	Fuse Holder
HE392	Heating Element (set of two), Clip Shaped
B10KB	Knob Only, Thermostat Temperature Dial
PCD163	Power Cord - Main, 5' 16/3
PLRD	Power Light, Round
STRK392	Sliding Tray Repair Kit, 2 x 41 5/8" Roller Bars Bearings, Retaining Screws
SW392	Toggle Switch, Terminal Blade Connectors
TCW1230	Teflon® Cover; 12" x 30"
B10	Thermostat with Knob
<i>Please call us at 800-622-3015 if part is not listed or known</i>	

Warranty

Warranty Coverage and Terms

Davis Packaging wrapping machines, as well as replacement parts, carry a 90 day warranty from date of original factory shipment covering defects in materials or workmanship under normal use and service. Parts will be considered for warranty replacement upon receipt and evaluation of the defective part at our factory. Customer will be responsible for full cost and shipping expenses of any pre-shipped replacement part if defective item fails warranty evaluation.

Warranty is limited to repair or replacement parts and does not include any necessary labor for removal or re-installation at buyers facility. Consumable parts, including but not limited to, non-stick covers, bearings, and belting material are not included. The Purchaser is solely responsible for the safe installation and operation of equipment and parts. Damage due to misuse, misapplication, modification, or damage occurring during transit/shipping is not covered.

EXCEPT AS EXPRESSLY PROVIDED ABOVE, ITEMS ARE PROVIDED AND SERVICES ARE PERFORMED WITHOUT REPRESENTATIONS, WARRANTIES OR CONDITIONS OF ANY KIND, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. NOTHING IMPLIES THAT OPERATION OF ITEMS WILL BE UNINTERRUPTED OR ERROR FREE OR THAT ERRORS WILL BE CORRECTED.

Warranty Procedure

Contact Davis Packaging or a Davis Packaging distributor with the MODEL NUMBER, SERIAL NUMBER, DATE OF PURCHASE, and DESCRIPTION OF ISSUE and request warranty replacement coverage. A Return Authorization (RA) number and shipping address will be provided in order for the failed part to be returned for evaluation. Return shipping costs must be prepaid and shipped within 30 days of granted RA number. Most replacement parts can be shipped within 1-5 business days. Warranty related replacement parts are Ground shipped only. Expedited shipping is available for an additional fee.

Limitation of Liability

BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING OR DEFECTIVE ITEMS OR SERVICE IS TO SEEK REPAIR OR REPLACEMENT OR RE-PERFORMANCE IN ACCORDANCE WITH THE WARRANTY. BUYER AGREES IT WILL SEEK NO OTHER REMEDY. NO ACTION OR SUIT SHALL BE BROUGHT BY BUYER AGAINST SELLER FOR DAMAGES ARISING OUT OF THIS TRANSACTION OR RELATING TO THE ITEMS OR SERVICES UNLESS SUCH ACTION IS COMMENCED WITHIN ONE (1) YEAR AFTER THE CAUSE OF ACTION HAS ACCRUED.

BUYER AGREES THAT SELLER AND ITS AFFILIATES WILL NOT BE LIABLE UNDER ANY THEORY OF RECOVERY, WHETHER BASED IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), OR OTHERWISE, FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL LOSS OR DAMAGE WHATSOEVER; DAMAGE TO OR LOSS OF PRODUCT; OR ANY LOSS OR DAMAGE CAUSED BY FAILURE OF THE ITEMS, INCLUDING BUT NOT LIMITED TO LOST PROFITS OR REVENUE, INCREASED COSTS OF ANY KIND, OR CLAIMS MADE BY A THIRD PARTY. THIS LIMITATION CANNOT BE WAIVED OR AMENDED AND WILL BE EFFECTIVE EVEN IF SELLER HAS BEEN ADVISED OF POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION APPLIES TO CLAIMS FOR PERSONAL INJURY TO THE MAXIMUM EXTENT PERMITTED BY LAW. BUYER AGREES THE REMEDIES PROVIDED HEREIN ARE EXCLUSIVE EVEN IF THEY FAIL OF THEIR ESSENTIAL PURPOSE, AND THAT UNDER NO CIRCUMSTANCES SHALL THE TOTAL AGGREGATE LIABILITY OF SELLER AND ITS AFFILIATES UNDER ANY THEORY OF RECOVERY EXCEED THE PRICE PAID TO SELLER FOR THE ITEMS OR SERVICE.