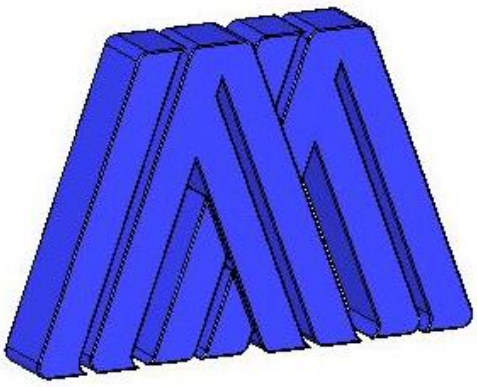


MEYERCORD TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

MTS-110
MANUAL TAX STAMP MACHINE
SERVICE & OPERATION MANUAL

January 2009
Version 1.01

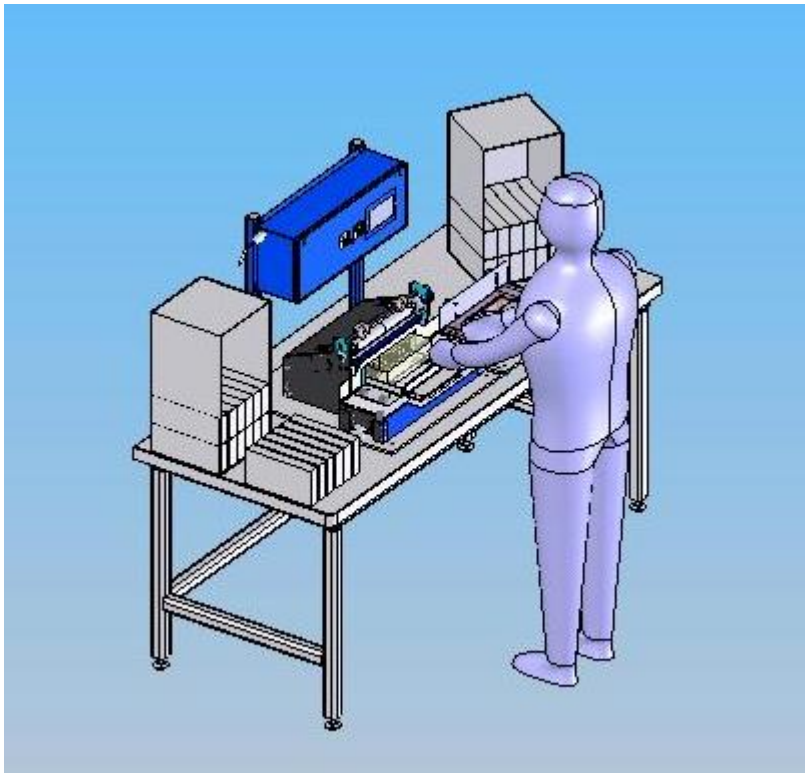
Table of Contents

1.0 Introduction:

Cigarette Distribution facilities frequently need to apply tax stamps to cigarettes that because of size constraints, low volume, or promotional items are not stamped with existing automated equipment. The stamps for these types of cartons are typically applied with hand irons.

The use of hand irons to apply tax stamps is well suited for applying individual stamps on packs, rework operations, and stamping applications with very low volumes. For volumes larger than a few cartons, hand stamping is an operator dependent skill where proficiency, quality and ergonomics are issues for distribution facilities.

The MTS-110 Tax Stamp Machine is a semi-automated table top machine designed to fill that "intermediate" tax stamping operation. The MTS-110 applies either "A" or "J" style stamps in roll form, can be easily be adjusted to stamp a wide range of carton sizes without tools, minimizes the issues associated with hand stamping, and when used with the optional hot glue unit, simplifies carton closing.

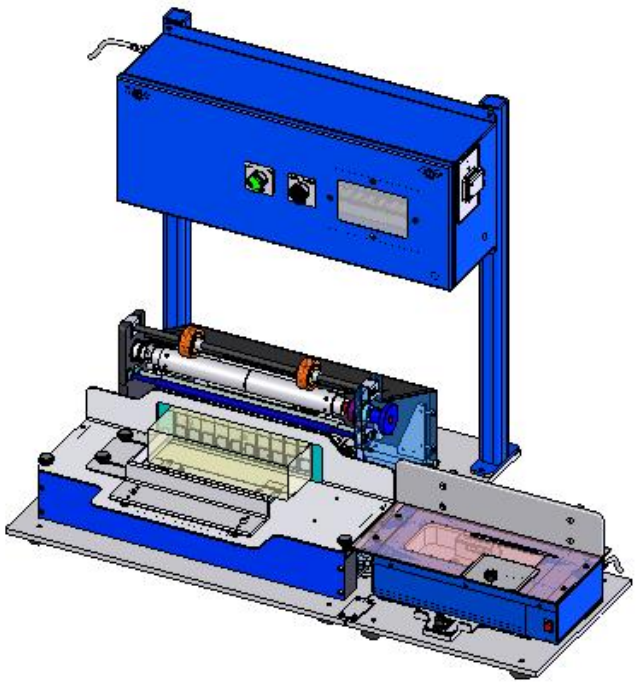


1.1 Specifications:

1. Utilities: 120 Volt, 15 Amp Single Phase Electric Service.

   Caution: *Incorrect voltage will cause severe damage to the equipment. For the protection of the operation personnel, the equipment must be electrically grounded.*

2. Footprint:
   a. MTS-110 - 24" wide x 24" deep x 28" high
   b. MTS-110 (with optional glue unit) 38" wide x 24" deep x 28" high.
3. Weight:
   a. MTS-110: 125 lbs
   b. Hot Glue Unit: 28 lbs



MTS-110 WITH HOT GLUE UNIT

2.0 Safety & Installation:

2.1 Safety First:

WARNING

- **DO NOT PERMIT UNTRAINED PERSONNEL TO OPERATE THIS EQUIPMENT.**
- **DO NOT PERMIT UNTRAINED PERSONNEL TO PERFORM, OR ASSIST IN, THE MAINTENANCE OR INSTALLATION OF THIS EQUIPMENT.**

This system is designed for safe operation and includes all required safety features to minimize possible injury to personnel. However, you are responsible for providing a safe environment for operating this system and other equipment at your facility. Do not remove any guards or defeat safety devices. Do not reach into the machine at any time while it is in operation. If any additional equipment is used or modifications made to the system, be sure to provide suitable operator protection.

Safety begins with permitting only properly trained personnel to install and/or operate any equipment. All personnel involved in installing, setting up, or maintaining of this system must be fully trained in performing electrical and mechanical installations.

Additionally, before performing any maintenance on this equipment:

1. Become familiar with the controls and know how to operate the machine properly.
2. Be sure that the machine is disconnected from the electrical power supply and that the stamp iron and hot glue units have cooled sufficiently.

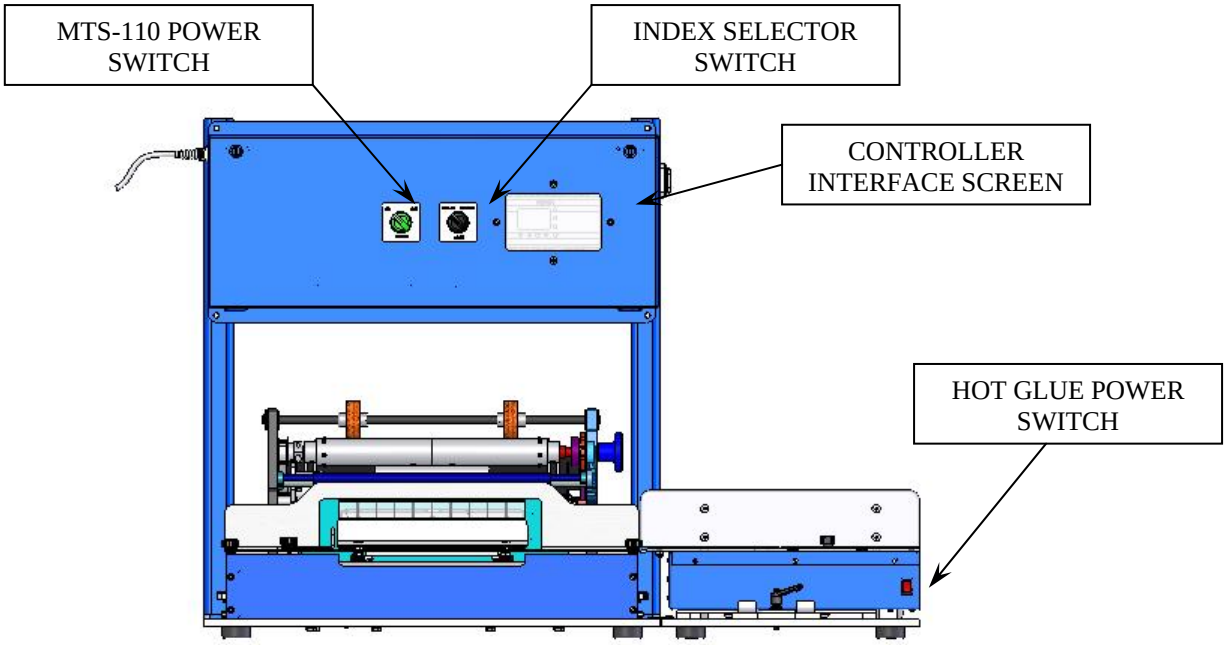
2.2 Installation:

1. Remove all plastic and corrugated packaging material.
2. Remove any machine banding straps and lag bolts from the shipping skid.
3. Place the machine on a suitable work surface. A recommended work surface should be:
   - Large enough to accommodate the machine and case unloading and post stamp loading. (Approximately 30 x 72 inches minimum)
   - Stable and sturdy enough to support the stamp machine and any additional operations. (Tables rated @ 1000 lbs & higher)
   - At a comfortable standing work height (32-36 inches high) with adjustable leveling feet.
   - Located near a 120VAC, 15 Amp, Single Phase outlet.
4. Inspect the machine for any components that may have become loose during shipment.
5. Connect the main power cord into an electric outlet with 120VAC, 15 Amp, Single Phase electric service.
6. If the optional Hot Glue unit is used, set it on the table to the right of the Stamp Machine & attach it to the stamp Machine's base with four #10-32 x 3/4 long screws.

A Meyercord company field service representative should be present at the time of installation. The service representative will supervise the machine installation, start-up procedure and provide initial training. Call 1-800-639-3799 to contact your nearest field service representative.

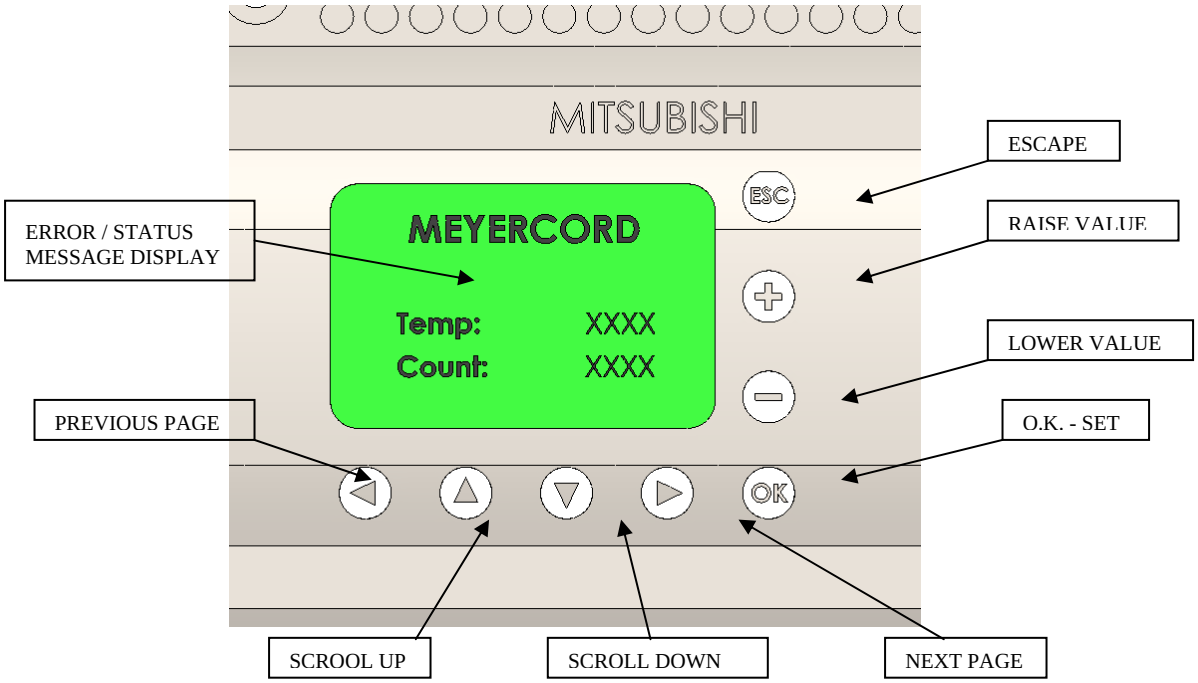
3.0 Machine Controls:

Prior to operating the machine it is important to familiarize yourself with the location and function of all machine controls & displays. The primary controls are located on the electrical enclosure and consist of a power switch, index selector switch, and controller operator interface screen.



- POWER - This switch energizes the machine and also supplies power to the outlet on the side of the enclosure.
- INDEX - Toggles between SINGLE and DOUBLE
    - Single - When this is selected, the stamp roll will advance 1 row of stamps after each stamping cycle. (typically used with "J" type stamp rolls)
    - Double - When this option is selected, the stamp roll will advance 2 rows of stamps after every 3 stamp cycles. (typically used with "A" type stamp rolls)
- CONTROLLER INTERFACE SCREEN - This screen displays machine status, error messages, and is used when making setting changes (iron temp set point and offset settings)
- HOT GLUE POWER SWITCH - This illuminated switch is mounted on the front of the Hot Glue Unit and turns the unit's heaters on & off. Note: If the Hot Glue Unit is connected to the outlet on the side of the electrical panel, it will also turn off when the MTS-110 is turned off.

3.1 PLC Operator Interface Description & Functions:



3.2 Operator Interface Description

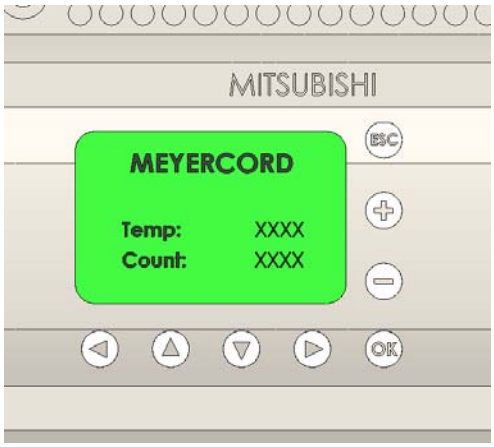
- The MTS-110 uses a Mitsubishi PLC to control & monitor the temperature of the stamp head and the automated functions of the machine. On the front of the PLC is an Operator Interface with a message screen that displays a single page of information and a series of buttons that are used to navigate to the various pages and make setting changes.

3.3 Button Functions:

- "Esc" Button: Escape - Pressing this button brings up the main message screen.
- "Arrow Left" Button: Previous Page - Scrolls the pages backwards.
- "Arrow Right" Button: Next Page - Scrolls the pages forward.
- "Up Arrow" Button - Scroll Up - Scrolls up on an individual page to the next setting that can be changed. (The number will flash indicating that the value can be changed).
- "Down Arrow" Button - Scroll Down - Scrolls down on an individual page to the next setting that can be changed. (The number will flash indicating that the value can be changed).
- "Plus" Button: Raise Value - Raises the value of a changeable setting. A momentary push will raise the value 1 increment. Press & hold for rapid increment changes.
- "Minus" Button: Lower Value - Lowers the value of a changeable setting. A momentary push will lower the value 1 increment. Press & hold for rapid increment changes.
- "OK" Button: Sets the current value and saves it to the controller as the new set point for that function.

3.4 PLC Page Descriptions:

3.4.1 Main Menu Page:



- **Temp:** Displays temperature reading of Stamp Iron thermocouple. This value is read only and is not representative of the true stamp iron temperature.
- **Count:** Displays the number of machine cycles since last reset. To reset the count to zero, press & hold both the "OK" and "Minus" buttons for 5 seconds. The counter will automatically reset after the count reaches 32,000 cycles.

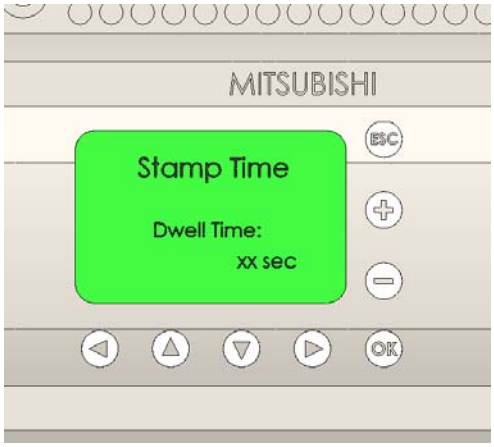
3.4.2 Temp Setup 1:

- **Actual:** Displays temperature reading of Stamp Iron thermocouple. This value is read only and shows the thermocouple temperature relative to the set point temperature.
- **Set Point:** Displays current stamp iron temperature set point or temperature the PLC tries to maintain.
  - To change the set point value, press either the scroll up or down buttons until the set point value flashes. Press the "+" or "-" buttons until the desired value is displayed. Press "OK" to set & save the new value and then press "ESC" to return to the main menu page.

3.4.3 Temp Setup 2:

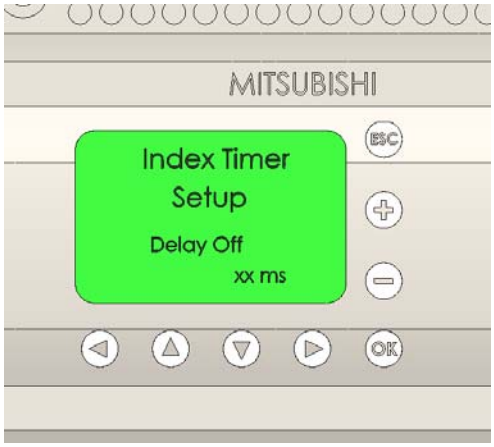
- **Actual:** Displays temperature reading of Stamp Iron thermocouple. This value is read only and shows the thermocouple temperature relative to the set point temperature.
- **Limit Set Point High:** Displays the maximum run temperature. This value will override the set point value on the Temp Setup 1 page.
  - To change the set point value, press either the scroll up or down buttons until the set point value flashes. Press the "+" or "-" buttons until the desired value is displayed. Press "OK" to set & save the new value and then press "ESC" to return to the main menu page.
- **Run Window:** Displays temperature range (max-min) that the stamp iron temperature is allowed to deviate from the set point. The "Temp out of range" error message occurs when the "Actual" value is greater than or less than 1/2 of the Run Window value from the set point value.
  - To change the Run Window value, press either the scroll up or down buttons until the Run Window value flashes. Press the "+" or "-" buttons until the desired value is displayed. Press "OK" to set & save the new value and then press "ESC" to return to the main menu page.

3.4.4 Stamp Time:



- **Dwell Time:** Displays the amount of time that stamp iron solenoid is energized. This includes both the stamp head extend and dwell time in the extended position.
  - To change the Dwell Time value, press either the scroll up or down buttons until the Dwell Time value flashes. Press the "+" or "-" buttons until the desired value is displayed. Press "OK" to set & save the new value and then press "ESC" to return to the main menu page.

3.4.5 Index Timer Setup:



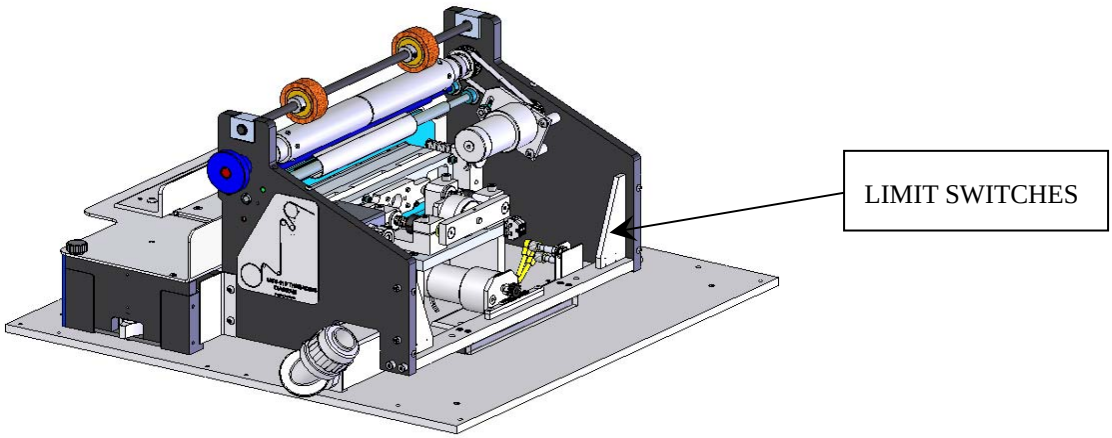
- **Delay Off:** Displays the amount of time that the index roller sensor is "off" before the index motor stops rotating. This controls the rotation of the detent on the index roller relative to the pawl on the carriage assembly.
  - To change the Delay Off time value, press either the scroll up or down buttons until the Delay Off value flashes. Press the "+" or "-" buttons until the desired value is displayed. Press "OK" to set & save the new value and then press "ESC" to return to the main menu page.

4.0 Set-up & Adjustments:

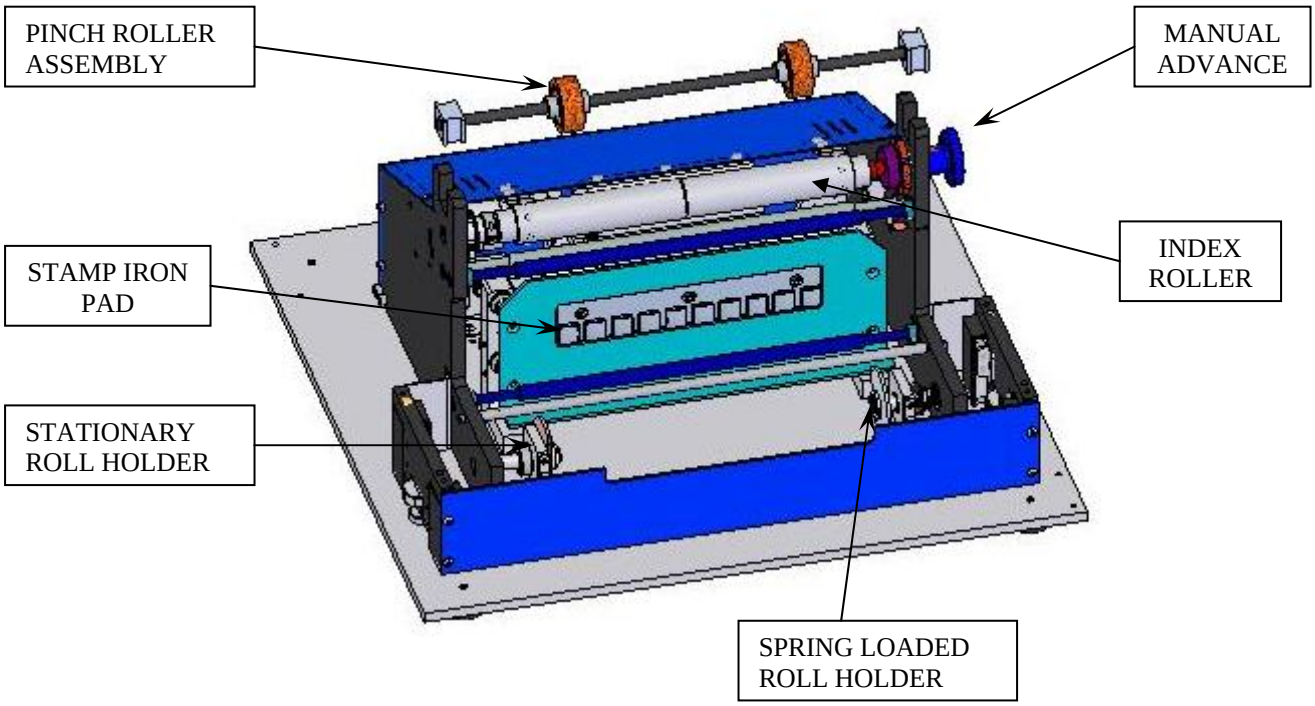
4.1 Machine Operation Overview:

Prior to setting up and running the machine it is important to understand what will happen when the machine goes thru a stamp cycle.

- Power-up: Whenever the machine is turned on; the controller checks the temperature of the stamp iron and compares it with the programmed set point. If the temperature is not within the set-point temperature range, the main menu page will display the message "Temp out of range" and the machine will pause until it is within range.



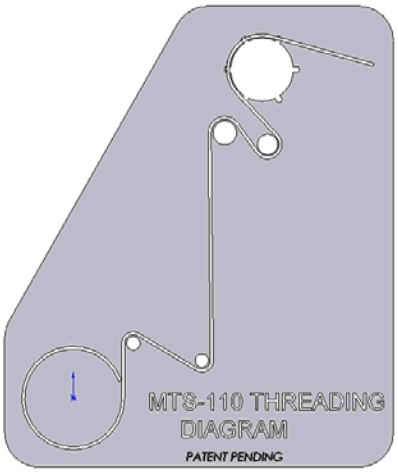
- Homing: Every time the machine is turned on and after the stamp iron is within the set point temperature range, the carriage assembly will go thru a homing sequence. This sequence is dependent on the position of the selector switch.
- "Single": The carriage assembly will travel to the left until limit switch 1 is "off" and limit switch 2 is "on" and then return to the center position. The return distance is determined by the PLC and cannot be changed.
- "Double": The carriage assembly will travel to the left until limit switch 1 is "off" and limit switch 2 is "on". If limit switch 1 is off and limit switch 2 is on when the power is turned on, the machine is already in its home position and will not move.
- Single Index Mode: When the front plate is depressed, it triggers the stamp iron to extend and press the tax stamp onto each pack and then retracts. After a short delay, the cogged stamp roll rotates to advance 1 row of stamps and is ready to repeat the cycle.
- Double Index Mode: The Double Index Mode operates in a similar manner to the Single index mode where every time the front plate is depressed; it triggers the stamp iron to extend. However, after each stamp cycle, it also shifts the carriage assembly 1 column on the stamp roll. The sequence for shifting the stamp head assembly is 1, 2, 3, and 3, 2, 1. After every third shift, the cogged roll rotates and advances 2 rows of stamps before repeating the cycle.



4.2 Stamp Roll Installation:

- Remove the pinch roller assembly from the Stamp Head Assembly by lifting it straight up.
- Remove top cover plate by removing the 2 top thumb screws.
- Insert the core of the stamp roll over the post on the spring loaded roll holder (located on the right hand side) & then insert the opposite end of the roll on the stationary (left hand) roll holder. Make sure that the roll is tight against the flat on the left hand roll holder to ensure proper stamp alignment with the pads on the stamp iron.
- Unroll 6 -12 inches from the roll such that the stamps are facing the operator when unrolled.

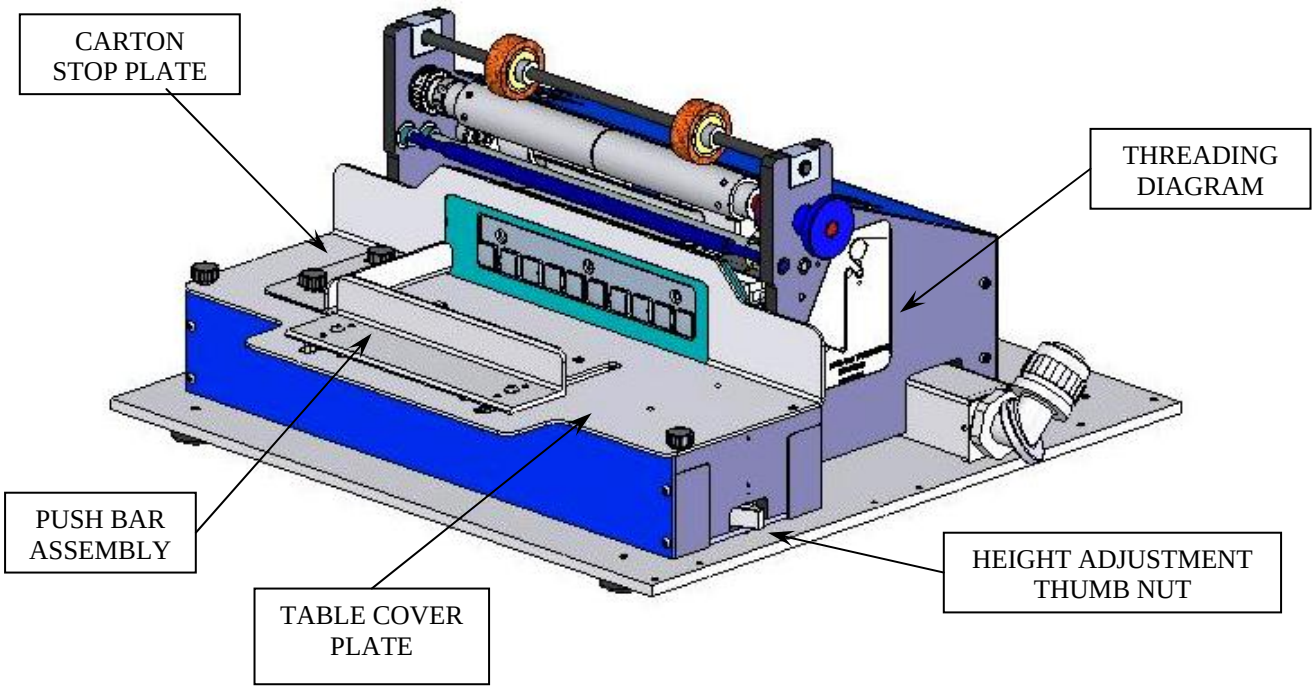
4.2 Stamp Roll Installation (con't):



- Feed the stamp paper over the rollers as shown on the threading diagram so that the holes on the paper fit over the pins on the feed roller and the first row of stamps on the paper is below the stamp iron pads. Note: Make sure that the paper is flat on the feed roller not skewed. This will help to ensure proper indexing of the paper and stamp iron pad/stamp alignment.
- Replace the pinch roller in the Stamp Head Assembly.
- Take up any excessive slack by gently rotating the stamp roll. Be careful not to tear the holes in the paper on the feed roller where the pins are sticking thru.
- Turn the Manual advance knob to index the stamps until the row or rows of stamps line up with pads on the stamp iron. If the stamps have advanced too far it will be necessary to remove the pinch roller, lift the paper off the pegs on the feed roller, and re-roll the paper on the stamp roll.
- Replace top cover plate and reinstall thumb screw hold downs.

4.3 Stamp Roll Removal:

- Cut off any excess waste stamp paper approximately 6 to 12 inches past the pinch roller assembly.
- Remove the pinch roller assembly and lift the stamp paper off the pegs on the stamp feed roller.
- Remove top cover plate by removing the 2 top thumb screws.
- Hold the stamp roll with one hand and push on the spring loaded roll holder with the other hand, releasing the stamp roll from the roll holder.
- Lift the stamp roll out and rewind the paper on the roll.
- Replace top cover plate and reinstall thumb screw hold downs.



4.4 Carton Stop Adjustment:

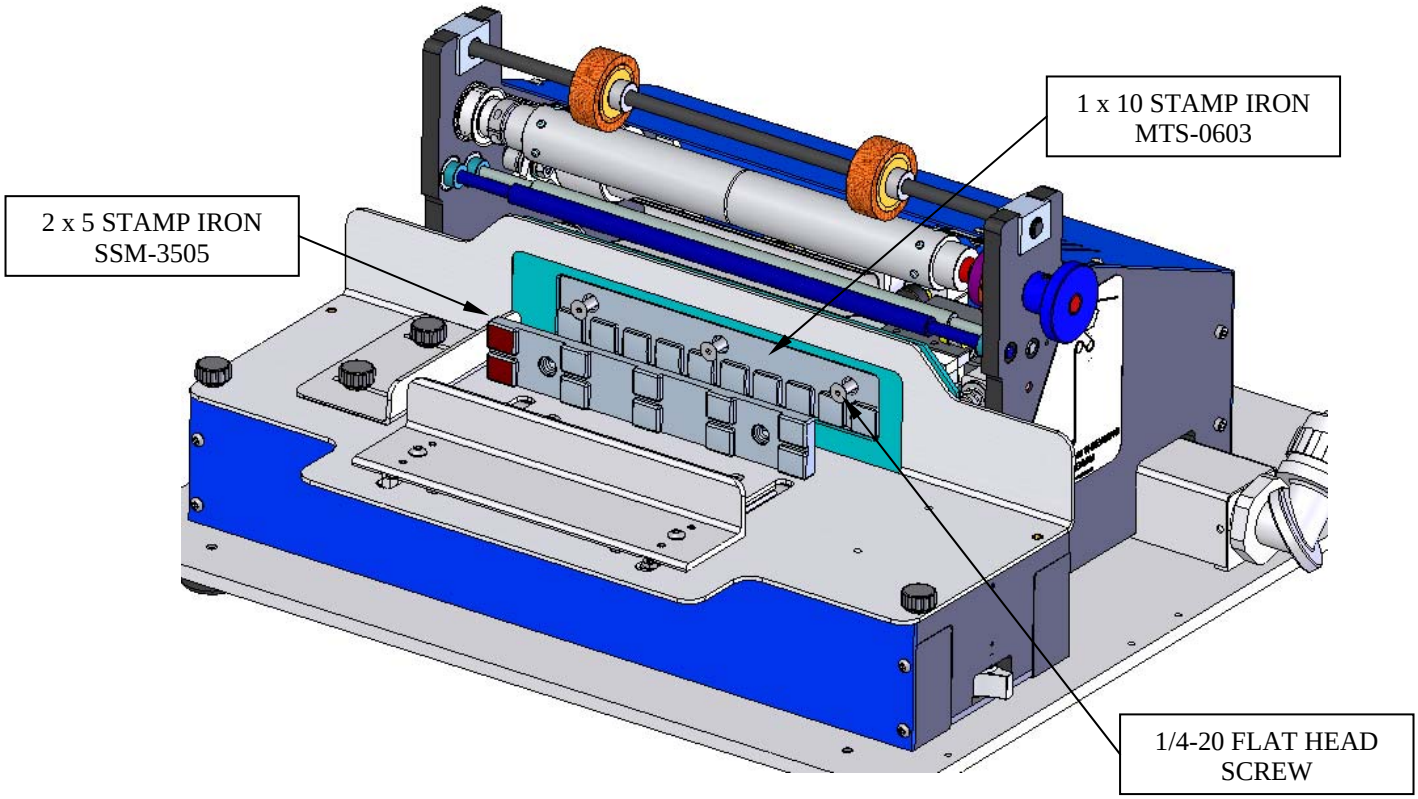
Carton sizes vary in length depending upon brand & manufacturer. To align a particular carton size with the stamp, it is necessary to adjust the Carton Stop. Do this by:

- Loosen the 2 thumb screws on stop plate and slide the plate out of the way.
- Place an open carton on the cover plate such that center of the stamps on the paper line up with the center of the individual packs in the carton.
- Slide the stop plate up to the carton (with-out moving the carton) and tighten down on the thumb screws.

4.5 Stamp Height Adjustment:

Occasionally it is desirable to adjust the vertical stamp placement in order to center the stamp on the pack. To do this it is necessary to raise or lower the cover plate. This is accomplished by:

- Turn the adjustment knobs at each end of the table assembly to raise or lower it the desired amount.
- Check to verify that the table is parallel to the stamp iron. Turn the individual adjustment knobs as required so that both ends of the table assembly are at the same height from the base.

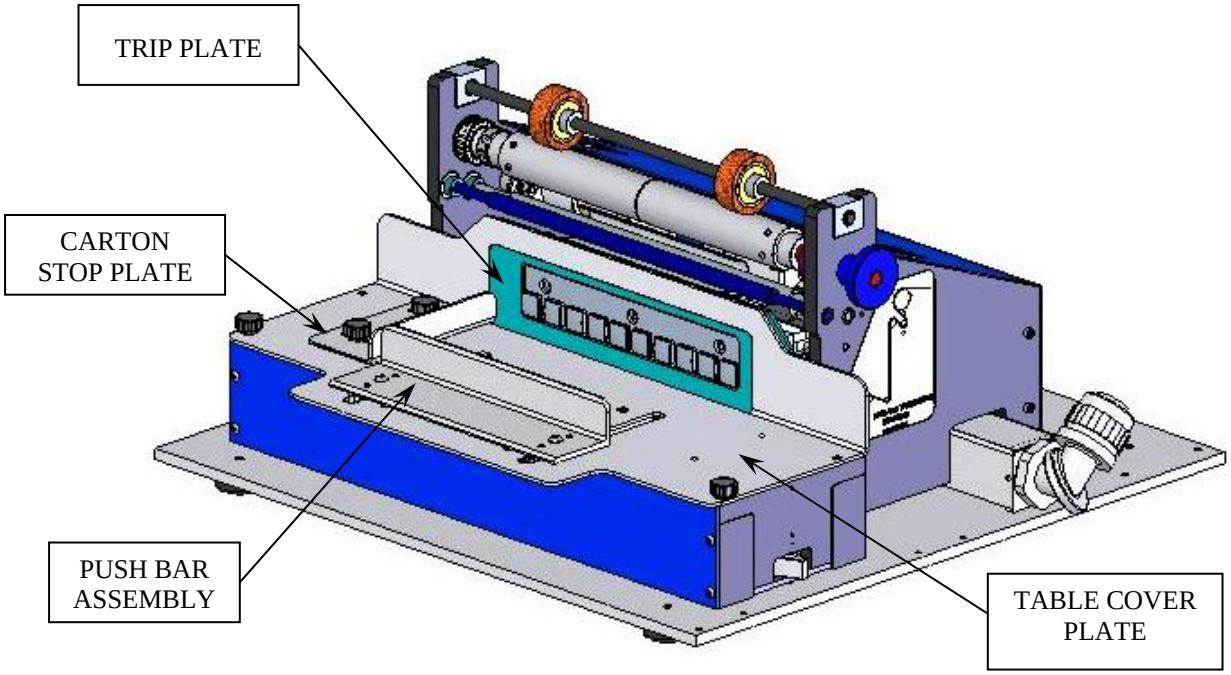


4.6 Stamp Iron Change:

The MTS-110 Stamp Machine is designed to be used with either "A" or "J" style stamp rolls. The "A" style stamp rolls have 15 stamps per row and are used with cartons that have the cigarette packs arranged in a 2 row x 5 column configuration. These stamps require that stamp iron #SSM-3505 be installed on the Stamp Head Assembly and the index selector switch on the control panel be turned to "Double".
The "J" style stamp rolls have 10 stamps per row and are used with cartons that have 10 cigarette packs arranged in a single row. These stamps require that stamp iron # MTS-0603 be installed on the Stamp Head Assembly and the index selector switch on the control panel be turned to "Single".

To replace stamp irons:

- Turn off the stamp machine and allow the iron to cool to room temperature.
- Remove the existing iron by removing the 1/4-20 Flat Head Screws from the face of the Iron.
- Install the new iron with 1/4-20 Flat Head Screws.
- Turn the stamp machine back on and allow it to warm up to operating temperature.



5.0 STAMPING PROCEDURE:

After the stamp roll has been loaded, and any desired adjustments have been made, the machine is ready to begin stamping.

- Slide the push-bar back to get so that it is out of the way for loading a carton.
- Fold both flaps on the carton back on itself.
- Place the carton on the stamp machine cover plate with the large flap down and one end of the carton against the stop.
- Slide the push bar up to the carton, and with your fingers on the top of carton and thumbs on the push bar, push the carton into stamp paper and against the stamp trip plate.
- After coming in contact with the trip plate, continue to push (approximately 1/8 inch) until the stamp iron extends and retracts. Note: Only exert enough force to "trip" or cause the stamp iron to extend. Too much force will cause unnecessary wear on the machine and increase operator fatigue.
- As soon as the iron retracts, back the carton out. Note: The paper will index within a couple of seconds after the stamp iron has retracted. Be sure to back the carton out of the way before it indexes to prevent jamming or tearing of the stamp paper.
- Visually verify that each pack has been stamped and that the quality of the stamp is acceptable prior to closing the carton.

6.0 Troubleshooting/Operation Guidelines:

It is important that personnel operating this machine be observant of the machine and their surroundings. Listed below are a few items to look for:

- Watch for paper tearing at the tractor holes on the feed roller. This can cause misalignment between the stamp and the iron and poor stamp quality.
- Make sure that the waste stamp paper can flow freely out the back of the machine. Paper backing-up on the feed roller can also cause indexing problems.
- If the machine does not cycle,
  - Check to see that the stamp iron temperature is within its temperature range setting. The controller will display an error message if it is out of range.
  - Check to see if the feed roller has completed its index. Rotate the manual index knob until it the pawl drops into the detent. If this is a repetitive problem, adjust the "Delay Off" value on the Index Timer Setup page of the controller.
- If the there is a problem with the paper tearing on the feed roller it will be necessary to remove the pinch roller, lift the paper off the pegs on the feed roller, and re-roll the paper on the stamp roll past the point where the last stamped row is below the stamp iron. Manually advance the paper so that the next unstamped row on the paper aligns with the iron. This will help to re-tension the paper and minimize problems.
- Keep the machine clean.

6.1 Factory Settings:

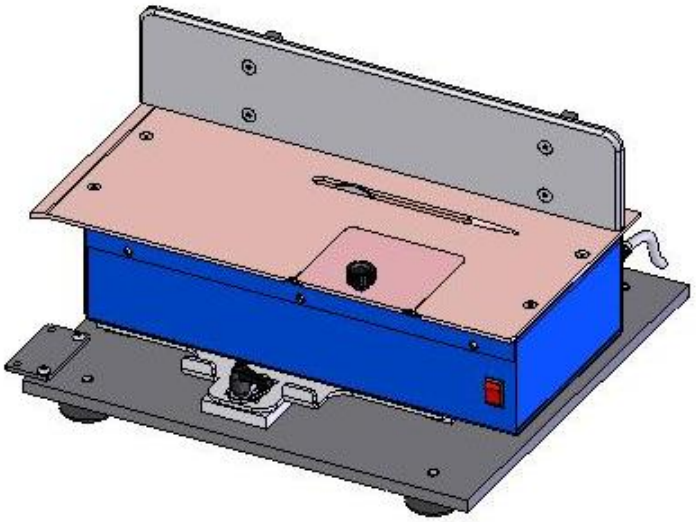
The MTS-110 has been thoroughly tested at the factory before shipping and set up to provide high quality stamp deposition. With time and variations in product it may be desirable to make changes to the original PLC setting values. Listed below are the recommended factory settings and ranges which can be used to set up the machine or as a starting point for troubleshooting.

- Set Point Temperature: 285 F (+/- 10)
- Limit Set Point High: 320 F (350 max)
- Run Window: 20 F (+/- 10)
- Index Timer Delay off Time: 38 ms (+/- 5)
- Stamp Timer Dwell: 0.5 s (+/- 0.2)

6.2 Recommended Spare Parts:

Occasional parts replacement may be required due to normal wear and aging. By stocking these parts, minimal downtime should be experienced in case of equipment malfunction.

Part No.	Description	Qty
41124043	8mm Proximity Switch	1
41124047	8mm Proximity Switch Cable	1
305308	500 Watt Strip Heater	1
41215006	Timing Belt	2
41173507	Thermocouple	1
41122025	Control Relay	1
41122081	Solid State Relay	1
41122033	Heat Solid State Relay	1
MDA-10	Time-Delay Fuse	1
MDA-5	Time-Delay Fuse	1
MDA-4	Time-Delay Fuse	1
AGC-1	Fast-Acting Fuse	1
41242004	Compression Spring	2



MEYERCORD
MTS-03 HOT GLUE UNIT

7.0 Hot Glue Unit:

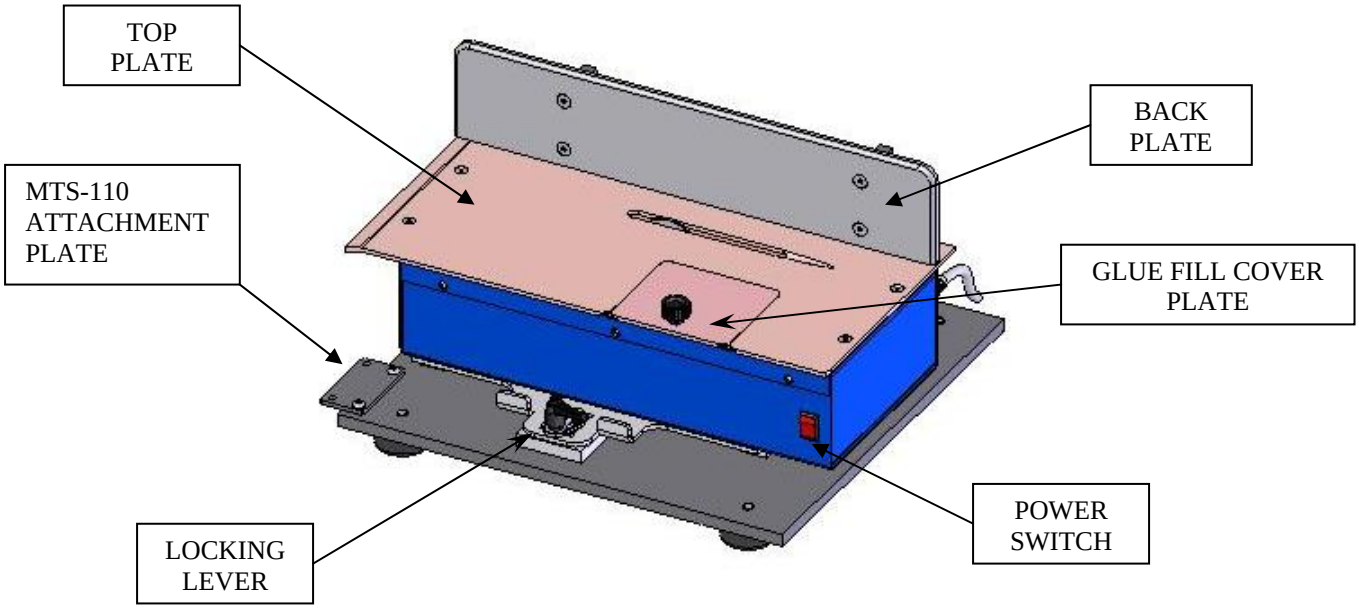
7.1 Description:

The Optional Meyercord Hot Glue Unit is designed for use with the MTS-110 Manual Tax Stamp Machine as a means to reseal cigarette cartons after the tax stamping operation has been completed. It can be attached to the MTS-110 or used as a stand alone unit.

7.2 Safety:

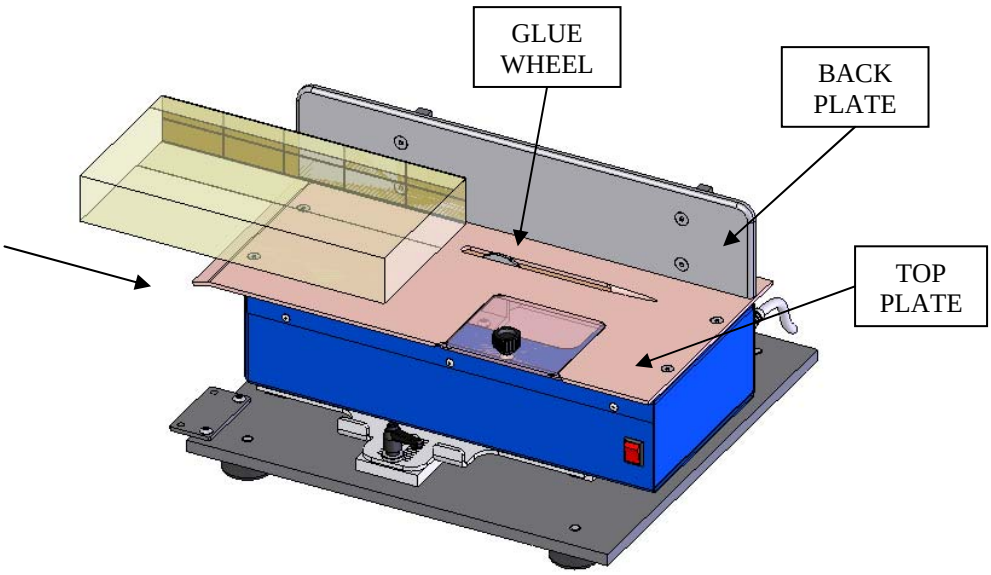
The Meyercord Hot Glue Unit is designed to use Meyercord part number M168768 Adhesive which is a "low temp" hot melt adhesive. Its operating temperature of 250 deg F is significantly lower than standard hot melt adhesives but is still hot enough that appropriate protective equipment be worn.

Safety glasses and protective clothing must be worn whenever operating, adjusting, and servicing hot adhesive application systems.



7.3 Set-up & Adjustments:

- Glue Deposit Location Adjustment: In order to accommodate carton sizes with different size flaps, the glue wheel can be moved in or out so that the glue is deposited in the right location. This is done by loosening the locking lever, sliding the unit in or out and retightening the locking lever.
- Glue Fill: To fill the glue unit, remove the Fill Cover plate on the top of the unit and add Meyercord Hot Melt Adhesive (PN M168768) thru the opening. The unit is full when the melted level is approximately 1/2 inch from the top of the aluminum pot.
- Temperature Adjustment: The temperature of the glue pot is set at the factory for the optimum performance of Meyercord Hot Melt Adhesive (PN M168768). Contact your Meyercord service representative if this value needs to be changed.



7.4 Operation:

- With the sufficient Meyercord Hot Melt Adhesive (PN M168768) in the pot and the unit connected to a 120V outlet, turn on the glue pot. Starting from room temperature, it will take approximately 10 minutes for the adhesive to reach its operating temperature.
- With the large flap on the carton folded back on itself, place the carton on the glue pot top plate so that the large flap is down and the stamped end of the carton is against the back plate of the glue pot.
- Slide the carton from left to right so that the large flap rides up and over the glue wheel.
- Immediately after the adhesive has been applied to the large flap, close the carton by pressing the large flap onto the small flap.

7.5 Cleaning:

- Exterior Surfaces: With the unit off and cooled, scrape any excess glue buildup from any of the exterior surfaces. The use of a plastic scrapper will prevent any scratching or marring of any surfaces.
- Glue Pot Interior: The accumulation of residue or introduction of contaminated adhesive may require that the glue pot be emptied and cleaned. When performing this operation wear protective clothing, gloves & eyewear to prevent injury.
    - Remove 4 Flat Head screws that hold pot top plate the on to the glue pot & remove the plate. Remove the locking lever.
    - Turn on the unit and allow any existing glue in the pot to melt. After the glue has melted, turn off the Glue Pot & disconnect it from its electric power supply.
    - Wearing the appropriate protective equipment (Gloves, glasses, long pants, long sleeve shirt), lift the glue pot off of its base and pour the melted glue into an appropriate container for disposal.
    - Using a plastic scraper, remove as much as possible any remaining residue and glue in the pot.
    - If additional cleaning is necessary, a flushing fluid Meyercord (PN L15653) may be used.
        - Fill the pot to within 1/2 inch from the top of the pot.
        - Plug the glue unit into an electric outlet, turn it on and allow it heat back up to operating temperature.
        - Wait 15 to 30 minutes for the fluid to dissolve any remaining adhesive. (Careful stirring of the fluid will help this process). Dispose of the fluid in an appropriate container.
        - Turn off the Glue Pot & disconnect it from its electric power supply.
        - Wearing the appropriate protective equipment, pour the solution into an appropriate container for disposal.
        - Repeat the above steps if needed.
    - After cleaning, return the pot to its base, reinstall the locking lever and the glue pot cover.
    - Refill the pot with fresh glue and return the unit to service.

8.0 WARRANTY

United Silicone (Seller) warrants Meyercord branded equipment to be free of any defects in material and workmanship. The Seller's sole obligation under this warranty is limited to replacing or repairing (at the Seller's discretion), FOB Lancaster, New York, any part of its product which, under normal and proper use and maintenance, is proven defective in material or workmanship within one year[1] after delivery to Buyer or Lessee, provided that notice of any such defect and satisfactory proof thereof is promptly provided to the Seller, and thereafter such part is returned to the Seller within 30 days, with transportation charges prepaid, and the Seller's examination confirms such part to have been defective.
This warranty does not apply to any damage to the product, accessory, or attachment thereof caused by overloading or other misuse, neglect or accident, nor does this warranty apply to any product or accessory or attachment thereof, which has been repaired or altered by other than the Seller or its authorized representative in any way, which in the sole judgment of the Seller affects the performance or purpose for which the equipment was manufactured.

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This warranty applies to United Silicone-manufactured components only. If components made by other manufacturers are used, the original equipment manufacturer's warranty applies, unless otherwise specified.