

# **VL-HP VALUE LINE** SERVICE & OPERATION MANUAL

April 13 Version 2

# U.S. TAX STAMPING EQUIPMENT

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# U.S. TAX STAMPING EQUIPMENT

# VL-HP

#### **1.0 Introduction**

The VL-HP is designed to open cigarette cartons, to apply tax stamps to cigarettes packs and to re-close the cartons at a rate of up to 90 cartons per minute. The machine maintains this production rate as long as the in-feed conveyor is supplied with cartons. The VL-HP can apply stamps to nearly all brands and sizes of cartons from regulars through 120s as long as the cigarette packs are arranged in the standard 2x5 row / column format within the carton. The VL-HP is designed to be simple to operate and maintain. It features an easy-to-load cartridge system to simplify the stamp roll threading process. The VL-HP uses a hot melt glue system to seal the cartons after the stamps are applied to the packs. This stamping machine is designed to work well with several different packing options including angle tables, lateral packing conveyors and fully automatic case packers.

NOTE: Most images used are of a left to right VL-HP

#### **VL-HP Machine Facility Requirements**

Air	5 <b>cfm @ 90psi dry air.</b> See appendix A "Supplying Compressed Air for Your Stamping Equipment" for details
Electrical	220 - 240 VAC / 30 Amps single phase @ 60hz The VL-HP is supplied with an 8' cord that is terminated with a NEMA L6-30 Plug. See appendix B for drawings.
Weight	Approximate 1950 lbs
Hot Glue	Use US Tax Stamping hot melt glue, P/N 168767
Footprint	Appendix D

\*Do not remove any guarding or safety equipment. If any safety equipment or guarding is damaged or malfunctioning immediately shut down the machine and lock it out. Call your qualified service technician to perform repairs.

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## 2.0 Overview of Operation

As the carton is traveling through the stamp machine, the carton is "floating" on a bed of springs which push the carton up against a fixed height trough ceiling. In this way, the tops of all cartons in the machine, regardless of the carton size (regular, 100s, kings etc) are all at the same height. This is true even if the cartons inside the carton trough are of different sizes. For example, it is completely acceptable to put a king size carton, immediately followed by a 120 size carton, immediately followed by a regular size carton into the VL-HP. It is never necessary for the machine to pause between sizes nor is it necessary to change any settings on the machine when changing sizes. The machine will continue to operate at the same speed whether the cartons passing through the machine are the same size or are of mixed sizes.

Each carton passing thru the VL-HP machine follows these steps (refer to figure 1):

- The carton is placed upright on the in-feed conveyor belt, oriented with the opening flaps on top of the carton. The VL-HP is set up to detect and open cartons regardless of orientation of the large (outer) and small (inner) flaps. It should be noted that switching the configuration of the closing elements adds a small amount of time to the overall cycle. Switching a few times per case will not cause a great impact, but switching many times will cause that small amount to add up and production time could be impacted.
- The carton rides the conveyor belt until it reaches the carton trough station #1.



Figure 1 VL-HP Stations

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- Once the presence of a carton is detected in the trough, the carton lifter at the in-feed assembly lifts the carton to the ceiling plate. As the carton is processed, it is held against the ceiling plate by a series of carton support springs.
- The pusher blocks advance (index) the carton downstream to station #2 where the leading edge of the carton is lightly squeezed by a set of wheels, causing the flaps to "dome up" allowing the opener plow to insert under the flaps. Note: cartons pause at the end of each index.
- During the next index, the pusher block advances the carton along the length of the opener plow causing the flaps to open. Once the index is complete, the carton flaps are detected at station #3. The flaps are detected by a set of sensors that determine that both flaps have opened and check whether the large flap is oriented to the front (near side) or to the back (far side) of the trough.
- The next index, the pusher block advances the carton to station #4, an idle station prior to stamping.
- During the next index, the carton is advanced onto the carton support assembly at station #5, pushing down a floating "ramp". When the index is complete the carton support assembly is locked into position and the stamp head cycles, applying stamps to the individual packs.
- The next index, the pusher block advances the carton again onto support springs at station #6. A mechanism at this station positions a closer horn adjacent to the small flap side (front or back), as determined by the sensors at station #3. There is space available between station #5 (stamping) and station #6 (small flap closer) to locate an optional cancelation device.
- The next index, the pusher block advances the carton along the small flap closer horn, closing the small flap. Once index is complete, the carton pauses at idle station #7.
- During the index from station #7 to station #8, the pusher block advances the carton under a pair of glue nozzles. The appropriate nozzle (as determined by the sensors at station #3) will apply a small amount of glue to the closed small flap.
- At station #8, a mechanism similar to the one at station #6 will position a closer horn adjacent to the large flap side (front or back) as determined at station #3.
- During the next index, the exit pusher block advances the carton along the large flap closer, pressing the large flap onto the recently glued small flap, sealing the carton. Once closed, the carton is ejected out of the trough and onto a packing device.

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Carton at Station

Sensor

## 2.1 Carton Trough Assembly

The carton trough is formed by the rear surface plates, a series of front door plates, the carton float springs, the carton drive assembly, and the ceiling top plates.

#### **2.1.1 Rear surface plates**

The rear surface plate holds a series of flat springs that keep the cartons centered in the trough. At each transfer station along the trough there is a sensor mounted to the rear surface plate to detect the presence of a carton.

Carton Centering Springs



Fig 2.1.1 Rear surface plates (typical)

#### 2.1.2 Front door plates

The front door plates are equipped with flat springs that keep the cartons centered. The doors are located along the trough at each of the stations and fold down to provide access to the cartons if needed. Each door is held closed by a toggle clamp.



Fig. 2.1.2 Front door plates (typical)

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#### **2.1.3 Carton float springs**

The cartons transfer through the machine on a series of angled flat springs. The springs "float" the cartons against the various ceiling top plates. The only exception to this is at the stamping station where the carton is held in position by the carton support assembly which locks in place to support the carton for the stamping operation.



Fig. 2.1.3 Carton float springs (typical)

#### 2.1.4 Carton drive assembly

The carton pusher blocks are connected to a continuous loop chain. Starting at the carton lift station, the pusher blocks move the cartons through the trough until they exit on far end of the machine. Each pusher block moves one carton in the downstream direction from one station to the next during each index of the main drive.



Carton Pusher Blocks

Fig. 2.1.4 Carton drive assembly

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## 2.1.5 Ceiling top devices

The ceiling top devices perform a variety of operations along the length of the carton trough assembly.

## 2.1.5.1 Lift station top plate

The lift station top plate establishes the "working height" for all the other top devices. The infeed carton lift assembly lifts the cartons against this plate at station #1.



Figure 2.1.5.1 In-Feed Top Plate

## 2.1.5.2 Opener horn

The cartons are supported at station #2 by the opener horn.



Figure 2.1.5.2 Opener Horn

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## 2.1.5.3 Flap detection

The cartons at station #3 and station #4 are supported by a single plate that mounts the flap sensors. These sensors detect that both flaps have opened and on which side the large flap is located.



Figure 2.1.5.3 Flap Sensor top plate

#### 2.1.5.4 Stamper top plate

At the stamping station (station #5), the carton is held against the stamper top plate. This plate is cut out to allow access for the stamp head while still supporting the cartons and retaining the individual packs.



Figure 2.1.5.4 Stamper top plate

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#### 2.1.5.5 Small flap closer mechanism

Because the VL-HP can open and close cartons regardless of flap orientation, it is necessary at the small flap closer for the carton to be supported down the centerline of the two rows of packs. This is accomplished by two support bars attached to the small flap closer mechanism. The first bar provides carton support at station #6 during the small flap closing function. The second bar provides carton support at station #7 and is cut for the application of glue as the carton passes under the glue nozzles.



Figure 2.1.5.5 Small flap closer mechanism

#### 2.1.5.6 Large flap closer mechanism

At station #8, the cartons are supported by a top plate, again down the centerline of the two rows of packs. This plate is mounted to the large flap closer mechanism and is cut out to allow the large flap to close, regardless of which side. It also applies pressure to the carton flaps while the hot glue sets.



Figure 2 1.5.6 Large flap closer mechanism

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## 3.0 Powering Up

There are 5 simple steps to turning on the VL-HP stamp machine:

Step 1: Check the glue tank, verifying sufficient hot melt glue is available (see section 6.0 for information on the glue system)

- Step 2: Turn on the electricity and compressed air. (On electrical panel & pneumatic panel)
- Step 3: Check for moisture in filter bowls-New bowls will auto drain
- Step 4: Load the cartridge with the tax stamps into the stamp machine. (refer to section 4 for information on loading stamps)
- Step 5: Ensure all guards are closed and reset Emergency Stop

#### Turning on Electricity and Compressed Air

To start the VL-HP machine, it is necessary to turn on both electrical power and the compressed air supply at the machine.

#### **3.1 Electrical**

Electrical power is turned on by turning the large knob on the electrical panel. This switch is located on the door of the main electrical enclosure. The enclosure is on the back side of the stamp machine. Turn the switch to the twelve o'clock position to turn it "ON". To turn off the power rotate the switch to the nine o'clock position. This switch is "Lock-Out, Tag-Out" compliant and a lock can be applied with the switch in the "Off" position.



Figure 3.1 Electrical Lock-Out switch

After main power is turned on, the operator display panel will display a series of screens followed by the main display screen.

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## 3.2 Air

An air control valve is located on the pneumatic panel located on the back of the stamp machine, near the electrical panel. For the stamp machine to operate, the air lockout must be pushed upwards to the correct position. This valve is "Lock-Out, Tag-Out" compliant and a lock can be applied with the valve in the "Off" position.



Figure 3.2 Air inlet panel

Prior to turning on the supply of compressed air to the stamping machine, it is important to check for the presence of water in the water separator bowl (1), the filter bowl (2), and the coalescing bowl (3). The VL-HP requires that the compressed air supplied to this stamping machine be clean and dry. All air coming from an air compressor is "wet" as a result of being compressed by the compressor. After the air compressor, the compressed air must be dried by passing through an aftercooler and/or air dryer. *Types and advantages of different compressed air dryers and other important information about air compressors are contained in Appendix A of this manual "Supplying Compressed Air to your US Tax Stamping Equipment"*.

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### 3.2.1 Moisture

If the air to the stamping machine is clean and dry, then there should be little or no moisture in the separator bowl and filter bowl. The filters used are "auto-drain" which release moisture as the air passes through the filter. The moisture will drain out of the bottom of the filter shown in figure 8. A drainage line from filters to a drain is recommended.

The separator and filter bowls are more likely to fill with water. Check daily for moisture or blockage. *The air compressor and air dryer should be checked to determine why moisture is present*. If there is no moisture in the separator bowl then the compressed air can be turned "ON" as shown.



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#### 4.0 Tax Stamps

The loading of stamps with the VL-HP has been greatly simplified. The use of a cartridge allows quick and easy changing of the stamps.



Figure 4.0.1 End view of stamp cartridge with a new roll.

- 1. Insert an empty roll core on the take-up roll holders as shown in Figure 4.0.1.
- 2. Insure the stamps are favored towards the hole with the black square.
- 3. Insert the new roll of stamps on the supply roll holders as shown.
- 4. Ensure both rolls are FULLY seated on the holders. There should be no gaps between the two roll cores and the roll support end plates.
- 5. The new roll (supply side) should come off the bottom of the roll as shown and immediately go over the large rear roller with the wax stamps visible. The black marks on the stamp paper will be on the side of the cartridge with the two gears, as shown in Figure 4.0.2.
- 6. The paper should then pass to the bottom of the cartridge where it passes over TWO brass rollers, as shown in Figure 4.0.3.
- 7. Tape the paper to the take up roll. It is very important to ensure this is done **securely**. Use **three** pieces of tape on the core as shown in Figure 4.0.4, otherwise you will likely encounter roll tension issues as the stamp paper indexes during production.

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Figure 4.0.2 Stamp cartridge shown with new stamp roll (top view)



Figure 4.0.3 Stamp cartridge shown with new stamp roll (bottom view)



Figure 4.0.4 Tape stamp paper to take up core securely in THREE places.

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## 4.1 Cartridge Exchanging

Before beginning these sequence of steps make sure the E-Stop is not pulled out, the main power switch is on and product is not being run.

1) Touch the Main screen in the (lower right) for the appropriate head number is displayed. The machine will display the Stamp Setup Screen for the selected head.

United Silicone Stamp Head 1 Setup Equipment Start Stop Reset
Stepper Motor Setup Control     F  Jog Away     Jog Towards     Auto Jog     Index  Steppe Desition Setup and Simulation
Stamp Present Stamp Present Stamp Present
(Jurisdiction) 1q063e Change Roll
Stamps         30000           Remaining         30000           100         Recalc SPI

- 2) Write down the stamps remaining in the roll number then press the emergency stop button on the control panel.
- 3) To remove the cartridge assembly open the (2) green-handled levers to unlock. Record the stamps remaining in roll # written down in step two on the used section of stamp carrier. This number should be verified using the numbers listed on the stamps.



4) Write down the number of stamps remaining on the replacement roll and insert the cartridge into stamp head. Close the two toggle clamp levers to lock the cartridge in place.

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- 5) The number of stamps should now be entered on the touch screen by touching the text box on the screen for Stamps Remaining and use the number pad to enter the stamps. The number should be rounded down to the nearest 10. If a roll has a remaining count of 301 the machine will not properly apply stamps to the first or last carton. When the operator rounds down to the nearest 10 the count entered will be 300 and the machine will end the roll on the last stamp. The old stamp should be skipped at the start of the roll and saved for hand stamping.
- 6) Pull the Emergency stop knob out two position to activate paper tension and jog modes
- 7) Jog carrier to position the next available stamp under stamp iron and input the display the stamp present / no stamp present by touching "left stamp" "middle stamp" "right stamp"

LEFT	MIDDLE	RIGHT												
LEFT	MIDDLE	RIGHT	-	_		_	_		_	_		_	_	
		USED			USED			USED			USED			USED
		USED			USED			USED			USED			USED
LEFT	MIDDLE	RIGHT	_									_		
LEFT	MIDDLE	RIGHT	10 - 32		( <u>)</u>	10 - 31			10 IS	18.		22 12	15.	
	USED	USED		USED	USED		USED	USED		USED	USED		USED	USED
	UPSED	USED		USED	USED		USED	USED		USED	USED		USED	USED

- 8) Touch "Jog away" so the back row of desired stamps is behind the brass roller and the front roll of stamps is visible in front of the brass roller. Touch "index" (upper right) to locate stamps under stamp iron.
- 9) Press the "main" button to return to the "main screen".
- 10) Press reset button and screen should display "machine ready to run".

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## 5.0 Run Mode

Once the stamps are loaded, the VL-HP is ready to run.

#### 5.1 Machine Emergency Stop (E-Stop)

Begin by resetting E-Stop. With all guards closed, pull out on the large red Emergency Stop button on the operator's panel. This is a three position switch.

5.1.1 With the button pushed all the way in, the VL-HP will be put in to an "Emergency Stop" mode, with most of the air and electrical functions disabled. This position is maintained until the button is moved to the middle position.

5.1.2 When the button is in the middle position the VL-HP will be in normal "Run" mode. This position also will be maintained until the button is either pushed in to cause a stop, or pulled out to the third position.

5.1.3 The third position for this button is pulled all the way out. This is the "Reset" position and will reset the e-stop circuit and put the VL-HP into "Ready" mode. This position is momentary and will spring back in to the middle position once e-stop has been reset and the button released.

There is a second E-Stop button located on the end of the machine near the carton out-feed. This button functions in the same manner as the button on the operator's panel. Pressing EITHER button will cause and Emergency Stop. Keep in mind that BOTH buttons must be in the normal "Run" position for the E-Stop circuit to reset.

#### **5.2 Machine Homing**

Once e-stop is reset, the machine will perform a brief homing cycle, moving the pusher blocks into position to receive product.

#### **5.3 Starting Auto Cycle**

Start the machine cycle by touching and holding the "Start" button on the main touch screen for a minimum of three seconds. The in-feed conveyor will turn on and the machine will be waiting to accept product for stamping.

When the "Start" button is touched the display should be monitored for messages. If the machine is not ready to start there will be a message displayed.

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## **5.3 Stopping the stamp machine** (*while running*)

There are 3 ways to stop the stamp machine:

- Push one of the "Emergency Stop" buttons (causes e-stop). Only For Urgent Stops
- Open one of the guard doors (causes e-stop). Only For Urgent Stops
- Press the "Stop" button on the touch screen (stops auto cycle). For Normal stops before pressing the emergency stop or opening a guard door.

The E-Stop removes power (air and electric) from most of the machine. The glue tower and stamp head sensors will still have power. After using the "E-Stop", the operator *must restart* the VL-HP by clearing the source of the error. You should ALWAYS press the E-Stop button before opening and/or reaching into the machine. As the E Stop button is pressed the air should be heard escaping from the machine. All cylinders should be free. If the air escaping is not heard or there indication of air remaining in the system the problem most be resolved before reaching passed any guarding.

If you need to open the front doors of the machine for access inside, simply lift up on the door handle and slide the door up and back. The doors each have a magnetic safety interlock which initiates an "Emergency Stop" whenever the door is opened.

Opening one of the front doors allows access to the machine. The doors each have a safety interlock which performs an E-Stop whenever the door is opened. All doors must be fully closed before the VL-HP will be able to run again.

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## 6.0 Glue System

The VL-HP uses a pressurized glue tower to apply a bead of hot melt glue to the small carton flap. The glue tank should never be filled more than about <sup>3</sup>/<sub>4</sub> full with glue chips. It is generally a good idea to add only the glue chips you expect to use that day to the glue tank each morning. The glue operates at an elevated temperature typically over 230° F. This can cause burns. Only employees instructed in the safe handling wearing appropriate equipment should perform the following steps.

In order to fill the glue tank, the first step is to raise the safety valve lever (1) to the open position (shown closed in Figure 6.0). The safety valve lever allows the hot pressurized air in the glue tank to safely vent away. A metal plate (shown transparent for clarity) covers the red second lever (2) which latches the glue pot lid. The cover makes it more difficult to accidentally open the pot with pressure still on it. Next, lift the black handled lever (3) to open the glue pot lid (shown already open).

It is very important to keep contaminants from entering and potentially clogging the glue tank nozzles. Hot melt glue chips should be carefully stored in a clean sealed container and care should be used to keep from accidentally letting dirt and all other foreign material from getting into either the glue storage container or the glue tank itself.

Close the glue tank lid (3) and re-pressurize the glue tank by first moving the clamping lever (2) back to its closed position. Ensure the clamp has drawn the lid fully closed. Only then lower the safety valve lever (1) to the "operate" position.



Figure 6.0 VL-HP Hot Glue System

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Application of glue to the carton is timed off the main drive servo signal. The VL-HP relies on the PLC program to determine when to apply the glue. The service technician can adjust when the glue is applied by selecting the proper adjustment screen. This screen is only accessible by using a password.

#### 7.0 Stamping Cigarettes

Once the VL-HP is running you are ready to begin stamping. The system will check to make sure that, if connected, the packing conveyor or case packer is also running. You may be prompted to reset the packer e-stop or to correct other issues if they are detected.

To apply stamps to a carton, simply place the carton on the in-feed conveyor such that the carton flaps are on top. The VL-HP is set up to detect and open cartons regardless of orientation of the large (outer) and small (inner) flaps. It is completely acceptable to put a king size carton, immediately followed by a 120 size carton, immediately followed by a regular size carton into the VL-HP. It is never necessary for the machine to pause between sizes nor is it necessary to change any settings on the machine when changing sizes. The machine will continue to operate at the same speed whether the cartons passing through the machine are the same size or are of mixed sizes.

# If the either carton flap does not open correctly at the horn, the machine will automatically stop and the screen will indicate a flap error message.

Operators must monitor the application of the stamps to the packs of cigarettes. Mechanical equipment is subject to malfunctions and improper use. The operator must monitor the application particularly during start up and fault recovery. The system can monitor operations while running. Once the machine has stopped or during a fault the system can assume the status of all the cartons. The operator should monitor the cartons after the stamp head check for the application of the stamps. The stamps should also be reconciled to the number of cartons run through to insure proper operation.

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#### **8.0 Operator Controls**

All machine control functions of the VL-HP can be accessed through the operator panel, located near the in-feed end of the machine. The panel consists of the main touch screen, which displays a number of screens that give access to all machine functions. An "Emergency Stop" button is also located on this panel. An additional "Emergency Stop" button is located on the end of the machine near the out-feed.

The operator panel will normally display the "Main Screen". See the following pages for all screen descriptions.



# U.S. TAX STAMPING EQUIPMENT

## 8.0.1 Screen banner functions

Each screen of the operator panel has a "banner" portion across the top. This banner is identical from screen to screen. Only the text in the screen title block will change.

United Silicone     Main Menu       Tax Stamping Equipment     Start								
UNITED SILICONE VLHP Stamping Machine								
MAIN	STAMP SETUP	TEMP SETUP						
STATISTICS	ALARM	SUPERVISOR						
ORDER REVIEW	GLUE	SERVICE						

Figure 8.0.1 Operator's panel touch screen "banner" functions

Button Label	Button Function					
Start	Push and hold for three seconds to put the VL-HP into Auto Cycle mode					
Stop	Push to stop the machine, stops the Auto Cycle mode					
Reset	Push to reset faults and acknowledge alarms					
Screen Title Block	Display only, no function					
Menu	Calls up the Main Menu screen					
X	Calls up the last screen displayed, like a "back" button					
Arrow	Calls up the next screen in the menu tree. Though it is always displayed, there may not be a "next" screen to call up. In such cases, this button has no function.					

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#### 8.1.0 Main Screen

U Tax	nited Silicone Main Screen
Cur Pr	* LOW GLUE * UNITED SILICONE VLHP Stamping Machine *SERVICE MODE * Updating Message (Head) Stamps Remaining - (1) 3000 (2) 3000 (3) 3000 rrent Order rocessing: 123456789 HEAD 1 HEAD 2 HEAD 3
FIELD	DESCRIPTION
Message field	Displays messages and status information to the operator
Machine Status	Displays the current machine operating modes which are also color coded. Green indicates running in "Auto Mode", yellow indicates waiting in "Standby", red indicates "Faulted" or "Emergency stop".
Head stamp setup button	"Head 1","Head 2", and "Head 3" call up the set up screen for the first stamp head. "Alarm" calls up the "Alarm Display" screen. This button will be replaced by a "Head 2" button on tandem machines. "Main" calls up the "Main Menu" screen. This button will be replaced by a "Head 3" button on triple head machines.

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#### 8.1.1 Main Menu Screen

United Silicone       Main Menu         Tax Stamping Equipment       Start         Stop       Reset							
	UI VLHF	NITED SILICON <sup>9</sup> Stamping Ma	VE chine				
	MAIN	STAMP SETUP	TEMP SETUP				
	STATISTICS	ALARM	SUPERVISOR	1			
	ORDER REVIEW	GLUE	SERVICE	1			
<u>FIELD</u>	No post	DESCRIPTION					
Allow button (next)	NO HEXT	No next screen nom uns screen. Button has no function.					
Message field	Displays	Displays messages and status information to the operator					
MAIN	Calls up	the "Main Screen"	page				
STAMP SETUP	Calls up	the "Stamp Setup"	page for Head 1				
TEMP SETUP	Calls up	the "Temperature S	Setup" page				
STATISTICS	Calls up	Calls up the "Statistics" page					
ALARM	Calls up	Calls up the "Current Alarms" page					
SUPERVISOR	level ma	Calls up a password entry page that will give access to the "Supervisor" level machine functions.					
ORDER REVIEW	Calls up	Calls up order review, order entry, network, or barcode					
GLUE	Calls up	Calls up "glue" screen					
SERVICE	Calls up machine	Calls up a password entry page that will give access to the "Service" level machine functions.					

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8. Order Review Screen

	United	Silicone 🛛 Order Review				X		
	Tax Stampin	ng Equipment	Start	Stop	Reset	Ð		
Í	Ord	er Descriptio	n	TSM G	ueued Ord)	lers		
	Ord #Car Order St Stamp He <u>123</u> Cartons Ei Stamps A	ler ID: <u>12345678</u> tons: <u>12345678</u> tatus: <u>12345678</u> eads: Tote ID: 04567890123450 ntered: <u>123456</u> applied: <u>123456</u>	90 90 90 90 90 6 7890 7890	1     2     3     4     5   Re-Insert Carton	12345678 12345678 12345678 12345678 12345678 MACHINE CY Manual Ove	9 . 9 . 9 . 9 . 9 . 9 . 9 . 9 . 9 . 9 .		
FIELD				]	DESCRIPT	ION		
ORDER DESCRIPTION		Displays all o Order Status.	rder inf Stamp	formation Heads and	box below d Tote ID.	including	: Order I	D, # Cartons,
ORDER ID		Customer ID	Numbe	r for their	customer's	s order.		
# CARTONS		The number of	of cartor	ns in tote	from 1-30.			
ORDER STATUS		Keeps track o	f the nu	umber of c	cartons stan	nped up to	o 30.	
STAMP HEADS		Shows which	stamp l	head is be	ing used.			
TOTE ID		Scanned ID number on customer's tote.						
CARTONS ENTERED		Keeps track of the stamped cartons that have entered the machine.						
STAMPS APPLIED		Keeps track of the stamps applied to the cartons.						
TSM QUEUED ORDERS		On the upper right, keeps track of orders queued into machine.						
MACHINE CYCLING		Re-insert Car	ton or N	Aanual O	veride			

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8. Glue Setup Screen



# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.2 Stamp Setup Screen

This screen is for setting up the stamps on the stamp head. For tandem and triple machines, this entire screen will be duplicated for the other head(s).



# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.3 Temperature Setup

	United Silic	Tempera	ature Setup			
	Tax Stamping Equ	ipment	Start	Stop F	Reset 🔁	
	Glu State: He Disat	ue at pled (	Head 1 Heat Disabled	Head 2 Heat Disabled	Head 3 Heat Disabled	
	Typical: 250	F	310 F	310 F	310 F	
	Set Point: 20	0	200	200	200	
	Temp: 0		0	0	0	
	Tip Temp: 0		Fahrenhe	eit Pre	e-Heat Setup NEXT ≻	
•						
<u>FIELD</u>				<u>D</u>	DESCRIPTIO	<u>N</u>
GLUE HEAT		Toggl will re	es glue he emain after	at on and of r the control	f. There is a is disabled	large heat mass present heat
HEAD 1 HEAT		Toggl will re	es glue he	at on and of	f. There is a is disabled	large heat mass present heat
HEAD 2 HEAT		Toggl	es glue he	at on and of	f. There is a	large heat mass present heat
		will re	emain after	r the control	is disabled.	Not displayed on single
НЕАДЗИЕАТ		head s	systems.	at on and of	f There is a	large heat mass present heat
TILAD J TILAT		will re	emain after	r the control	is disabled.	Not displayed on single or
		tander	n head sys	stems		
SET POINT		Bring	s up a key	pad to enter	the desired of	operation temperature for
TEMD		the se	lected near	ter	otuno noodino	of the heater listed above
		Displa	ays the cur	rent tempera	ature reading	of the heater listed above
EADDENILEIT/CELSILIS		Togal	ays the cur	n Tomporatu	ature of the g	When the range is shanged
PARKENHEIT/CELSIUS		the ter	mperature	settings mu	st also be adju	usted to the new range
Pre-Heat Setup NEXT	Displa the he	ays the scr	een for conf	iguring the st	tarting and stopping time for	

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.4 Pre Heat

	United Silic	one 📃 Pre-Heat Setup				
	Tax Stamping Equip	<sup>pment</sup> Start Stop Reset 🔿				
	Setup the Pre-H Schedual for the H Components, Set Heat atleast 1 H Before Shift Sta	Heat     Hour (Military)     On     Off       Heated     Sunday     6     6       tup to     Monday     6     6       four     Monday     6     6       arts.     Tuesday     6     6				
	Important No Schedule is Military Time ( Format.	Wednesday 6 6 in Thursday 6 6 24hr) Friday 6 6 Saturday 6 6				
FIELD		DESCRIPTION				
ON		When selecting a number box in the on column a number pad will be displayed to enter the starting time in a military time formatted in one hour increments for the machine to turn the heat on. Zero will disable the feature				
OFF		When selecting a number box in the on column a number pad will be displayed to enter the starting time in a military time formatted in one hour increments for the machine to turn the heat off. Zero will disable the feature				

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.5 Statistics

United Silie Tax Stamping Equ	cone Statistics Screen 📄 🔀 uipment Start Stop Reset 🔿	
	Machine Life Cycle Total: 1234567890 Average Index Time: 1234	
	Average Index Dwell Time: 1234	
	Average Index Torque: 1234	
	Current Index/Minute: 1234	
Shift Cartons F Shift 1	Per Hour Ave: 1234 Total Cartons: 1234	
Mir	nutes in Shift: 1234 Shift Stop	
FIELD	DESCRIPTION	
MACHINE LIFE CYCLE TOTAL	Displays the total number of cycle. This number may be affected by	
	program updated or loss of batter backed memory	
AVERAGE INDEX TIME	Displays the average index time for the main drive	
AVERAGE INDEX DWELL TIME	Displays the average dwell time for the main drive	
AVERAGE INDEX TORQUE	Displays the average index torque load to the motor	
CURRENT INDEX / MINUTE	Current average index per minute rate	
AVERAGE	Feature not enabled	
SHIFT TOTAL CARTONS	Feature not enabled	
MINUTES IN SHIFT	Feature not enabled	

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.6 Current Alarm Screen

	United Sil	icone	Current	Alarm		X
	Tax Stamping Ed	quipment	Start	Stop	Reset	→
	Gr	roup # Alari	m #	Alarm T	'ext	
	%H:%M.%S	01 01	AlarmText			
	%H:%M.%S	01 01	AlarmText			
	%H:%M.%S	01 01	AlarmText			
	%H:%M.%S	01 01	AlarmText			
	%H:%M.%S	01 01	AlarmText			
	%H:%M.%S	01 01	Alarmiext			
	76H: 76WI.76S	01 01	Alarmiext			
	96H-96M-96S	01 01	AlarmText			
	96H:96M 96S	01 01	AlarmText			
	%H:%M.%S	01 01	AlarmText			
<b>FUNCTION</b>	<u>[</u>			Ī	DESCRIP	TIO
GROUP #		Displa	ys group nu	mber of A	Alarm	
ALARM #		Displa	ys Alarm #			
ALARM TEXT		Displa	ys current al	larm desc	cription	
RESET (button on banner) Will		Will "r	Vill "reset" or acknowledge each alarm in turn as displayed in the			
		current	t alarm field	. If the c	condition t	that o
		the ala	rm will not	reset.		
Arrow button (next)		No nez	kt screen fro	m this sc	reen. But	ton

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.7. Supervisor Screen



# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.1.7. Supervisor Screen

<b>United</b> Tax Stampin	Silicone Supervisor Options E X g Equipment Start Stop Reset -
Enabled	CARTON LENGTH SENSOR 9.990
Open With	Sensor Stamp Index Check Enabled
Large Flap	in Back Enabled
Auto F Transition	ap inabled
Enabled	NETWORK BAR CODE Enabled (with Order#)
FUNCTION	Description
ENABLED CARTON LENGTH SENS	OR
OPEN WITH SENSOR	When enabled the opener triggers from the leading edge of the carton.
STAMP CHECK INDEX ENABLED	
LARGE FLAP IN	When the flap transition is disabled this sets the location for the large flap to be loaded
JUSRISDICTION CONTROL	When enabled the operator must enter the jurisdiction of the stamps when the count is entered. The machine will not run if the inputted number does not match the machine
AUTO FLAP TRANSITION	Toggles the automatic flap transition enabled to disabled
ENABLED NETWORK	
ENABLED BAR CODE	

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.2.1. Index Setup

	<b>Unite</b> Tax Sta	ed Silicone Index Setup Screen E X	
	essage Updating in Progress, Please Wait		
	E The li und	Desired Speed of the Indexer: 100 ndexer will adjust to this setpoint ler normal consistant operation.	
L		Index	
FUNCTION		DESCRIPTION	
DESIRED SPEED OF INDEXER		Displays a number pad to enter the desired speed of the machine in cartons per minute. This will act as a guide for the speed control	
Index		Manual indexes the main drive one station	

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.2.2. Alarm History

	Unite	d Silicone		Alarm H	listory	
	Tax Star	nping Equipment	Sta	rt	Stop Re	eset ラ
	Date /	Time	Group	#Alarn	n# Alarm	Text
	%m/%c	#/%Y_%H:%M.%S	S 01	01	AlarmText	
	%m/%o	1/%Y %H:%M.%S	S 01	01	AlarmText	
	%m/%o	1/%Y %H:%M.%S	S 01	01	AlarmText	
	%m/%c	1/%Y %H:%M.%S	S 01	01	AlarmText	
	%m/%c	1/%Y %H:%M.%S	S 01	01	AlarmText	
	Delete Histor	e Export to y USB1	l	qL	Down	
FUNCTION					DESCR	RIPTION
DELETE HISTORY		Deletes the cur	rrent h	istory		
EXPORT TO USB1		Exports the his	story to	o a US	B drive. Th	ne port is o
UP		Scrolls up				
DOWN		Scrolls down				

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.2.3. Date and Time



# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 8.2.4. Sensor and Valve Status



# U.S. TAX STAMPING EQUIPMENT

## 9.0 In-feed Table:

The PLC controls when the in-feed conveyor is on and off. The operator can turn off the table feed with a switch mounted on the side of the conveyor unit

#### 9.1 In-feed Tip-Over Sensing:

Infeed tip-over sensing is accomplished by two small cylindrical sensors located along the side of the infeed conveyor opposite the operator (Figure 9.1). As soon as the lower tip-over sensor is triggered, the system watches to see if the upper tip-over sensor is also triggered. If the top sensor is not "made" within about 0.05 seconds, then the machine assumes that a carton has tipped over on the in-feed conveyor. This causes the machine to enter a "tip-over mode". While in tip-over mode, the touchscreen displays a text fault message on the main operator screen.



Figure 9.1 Carton Tip-Over Sensors

#### **10.0 In-feed carton lift**

There are two "through beam" photo sensors that detect when a carton has dropped from the infeed conveyor onto the lifting plate (Figure 9.1). Both of these sensors must be made before the carton lifter assembly lifts the carton to the ceiling plate. This establishes the working height for the carton as it is advanced through the machine. A third sensor detects that the carton has been successfully lifted and must be made before the cycle can continue. As the carton drive indexes, the pusher block behind the carton will advance it to each station.

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 11.0 Carton opener

Figure 11.0 is a close up of the opener area. Included within this area are the pinch wheels and related parts. The function of this section is to open the flaps without damaging the carton and/or cigarette packs. It is very important that the carton remains fully pushed up and flat against the roof of the trough as it passes through this section of the machine. The float springs lift the carton against the ceiling plate. As the leading (downstream) end of the carton comes out from under the ceiling plate it will be engaged by the pinch wheels. This squeezing causes the flaps to "dome up", allowing the tip of the opener horn to pass under them. The pinch roller pressure is applied by a small pneumatic cylinder or "air spring". This function is set up during machine installation and further operator adjustment is not required.



Figure 11.0 Close-up of the opener area

# U.S. TAX STAMPING EQUIPMENT

## 12.0 Flap detection

Once the carton traverses the length of the opener horn, the flaps will be open. There are three sensors mounted at this point to detect the open flaps and to determine on which side of the trough the large flap is located. It is assumed that if there is a carton detected at this station that this carton will need to be stamped during the next cycle (after the shuttle moves the carton from the plow to the stamp head). The only time that the machine would not attempt to apply a stamp is in the event that the sensors determine that the flaps are not open. In the event of a flap error, the machine will stop (mid-cycle) and the operator display will prompt the operator to correct the problem.

#### 13.0 Stamp Head

The VL-HP is a fixed position stamping machine. This means that the stamps are always placed onto the carton at fixed positions as measured from pusher and back wall. Therefore the length of the carton will determine the location the stamp is placed.



Figure 13.0 VL-HP Stamping Station

# U.S. TAX STAMPING EQUIPMENT

#### **13.1 Carton support**

Since the bottom floor of the carton trough is comprised of only soft "float springs", it is not possible to simply push a heated stamp iron down onto the tops of the exposed packs in the cartons. When a carton arrives under the stamp head assembly, it rides onto and compresses the carton support mechanism. Once compressed, this mechanism is locked in place by a brake cylinder in order to provide support for the carton during stamping.



Figure 13.1 Carton Support Assembly

With the carton support clamped, the stamping cylinder cycles applying stamps to the individual packs. After the packs are stamped, the stamp head retracts and the carton support brake is released. When the carton transfer indexes again, the stamped carton moves off the carton support, which is reset upward by a set of springs, ready for the next carton to be stamped.

U.S. TAX STAMPING EQUIPMENT

*VL-HP* Service & Operation Manual

## **13.2 Shifting Between the Lanes of Stamps on the Stamp Roll**

The stamps are loaded into the VL-HP using cartridges. These cartridges slide and clamp into a stamp carriage. Together the carriage and cartridge shift upstream or downstream between each stamp application so as to position fresh stamps under the stamping iron. The stamp iron position along the carton trough is fixed and the cartons always stop *at the same position* along the carton trough. The stamp cartridge shifts so as to be able to position one of three "lanes" of stamps under the stamp iron pads.



Figure 13.2 Rear view of stamp head carriage

(From the operator's point of view) For the first application, the carriage shifts to the rightmost position. The second application uses the center stamping position and for the third application, the carriage shifts to the leftmost position. Then the head stamps again in the leftmost position. Then the carriage shifts to the middle position again for the 2<sup>nd</sup> application on the 2<sup>nd</sup> set of stamps. Finally it returns back to the first position for the third application of the 2<sup>nd</sup> set. The shifting is accomplished by opposing air cylinders mounted between the fixed frame of the stamping head and the carriage.

Simply put, the stamp order goes like this: one, two, three, (roll index), three, two, one (roll index), etc.

# U.S. TAX STAMPING EQUIPMENT

## **13.3 Stamp Paper Advancement**

The VL-HP paper advancement is controlled by a pair of opposed drive motors (shown in Figure 13.0). The payout roll of the stamp cartridge is located away from the operator, towards the back of the machine. As the stamps are used up, the paper advances toward and is wound up onto the take-up core, located nearer the operator. While the VL-HP is ON and the machine is not in E-Stop, the *payout* roll tensioning motor continuously turns so as to maintain back-tension on the stamp paper. The take-up core is direct-driven by a PLC controlled *take-up* stepper motor which has significantly more torque capability than the payout motor. The take-up motor turns the takeup core at a set speed during a given paper advance movement.

#### 13.3.1 Laser sensors

The paper advancement is monitored by two retro reflective laser sensors.

The primary laser sensor is mounted behind the stamp head and tracks the stamp paper as it goes around the large rear roller of the stamp cartridge. This sensor is set up to "see" the black index marks (or "eye marks") on the stamp paper. The dot of this laser tracks the eye marks in the area between the peg hole and the edge of the paper. This information is used by the PLC to determine the distance that the take up motor must move in order to precisely locate the next two rows of stamps under the stamping iron.



Figure 13.3.1.1 Primary laser sensor

# U.S. TAX STAMPING EQUIPMENT

The secondary laser is mounted on top of the stamp head and is used to sense the eye marks *after* the stamping cycle is completed (i.e. used stamp paper). This sensor is similar in function to the primary laser except that it senses the actual peg hole in the paper. This is particularly important at the end of the stamp roll because the tail of the roll does not have the black index marks used by the primary sensor.



Figure 13.3.1.2 Secondary laser sensor

If during a paper advance cycle the laser detector does not see the eye mark transitions, the machine stops and displays an error message on the touch screen indicating that the "EYE MARK WAS NOT FOUND". There can be a couple different causes for this type of error:

- If the tracking of the laser dot is not properly aligned, the laser dot may eventually miss the target area altogether causing the error.
- If the used core is slipping on the drive.
- If the stamps are not well aligned allowing the hole to stay from the beam.
- If the paper is ripped or torn.
- If the system does not see 2 negative transitions of the eye mark laser. (trailing edge of hole equals a negative transition)

# U.S. TAX STAMPING EQUIPMENT

![](_page_47_Figure_3.jpeg)

If the stamps are being placed too close to the edge of the carton, the laser unit may need to be repositioned. In effect the "timing" is off.

# 13.3.2 Adjusting the Primary Laser Sensors

The primary laser eye is adjusted by turning the red screw in the back. Minimal force is required to turn the screw. The adjustment should be set between the transition of the black mark and the paper. With the eye aligned on the paper turn the screw slowly counterclockwise until the yellow indicator light turns off and mark the position with a pencil. Reposition the paper to align the eye with the black mark. Turn the red screw clockwise until the yellow indicator light turns on and mark the position with a pencil. Adjust the screw to position it between the two marks. Test the index.

# 13.3.3 Adjusting the Secondary Laser Sensors

The only button to be pressed on the secondary laser eye is the minus button. To adjust the eye the head should be manual placed in the ready to stamp position. This position is lowered to just above the stamps. The carriage should be position to the left. With the stamps position to allow the eye to align with the center of a hole press and hold the minus button for approximately three seconds. The 5 and 6 indicator lights should toggle. Momentarily press the minus button, there will be a single pause in the blinking that will be easy to miss. Reposition the stamps to align the laser eye on the center of the paper once again momentarily press the minus button. The indicator lights should flash and then scroll towards the one. The yellow indicator light on the face should be off. Move the hole in the paper to align with the eye, the yellow indicator light should be on and the number indicator should be on eight. Depending on the alignment of the eye the number indication may not make the full transition toward the one or the eight. The less indicator lights move towards the one and eight the increased likely hood of missing stamp advancement.

## 14.0 Carton Closer

The carton closer consists of three stations, the small flap closer, the glue station, and the large flap closer.

# U.S. TAX STAMPING EQUIPMENT

## 14.1 Small flap closer

The small flap closer consists of two closing horns, mirror imaged, on either side of the carton trough. The appropriate horn (determined at the flap check station #3) will be positioned adjacent to the trough in order to close the small flap. The "unused" horn shifts out of the way. Both horns are actuated by a common air cylinder which can, if needed, switch positions for each successive carton.

Also mounted to the small flap closer mechanism are the two "top plate" devices discussed in Section 2.1.5.5 on page 11.

#### 14.2 Glue station

The glue station consists of the pressurized glue tank and two glue nozzles. The two nozzles are mounted to a heated block that positions them so that they apply a small bead of glue to the recently closed small flap. Only one nozzle will actuate for each carton, as previously determined by the flap sensors at station #3.

#### 14.3 Large flap closer

The large flap closer consists two closing horns, mirror imaged, on either side of the carton trough. The appropriate horn (determined at the flap check station #3) will be positioned adjacent to the trough in order to close the large flap. The "unused" horn shifts out of the way. Both horns are actuated by a common air cylinder which can, if needed, switch positions for each successive carton.

Also mounted to the large flap closer mechanism is the final "top plate" device discussed in Section 2.1.5.6 on page 11.

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### **15.0 Troubleshooting:**

#### 1) Replacing Fuses

Fuses are located inside the main electrical box.

#### 2) Checking tip over sensors.

The tip-over-sensors determine when the carton is inside the trough. Light bounces off of the carton back to the sensor. When the light is reflected back the led light on the sensor will be on. The sensors can be adjusted up and down as a pair. They can also be adjusted individually closer or further from the target carton.

#### 3) Carton Presence Sensor under the Plow

The VL-HP determines when a carton is present under the plow when the beam is reflected off the carton below. The photo sensor under the plow then sends a signal to the PLC.

#### 4) Flap Open Sensors

Mounted to the station #3 top plate, the flap sensors are reflected off the carton flaps and send these signals to the PLC. This information is used to determine the correct configuration at the various closing stations downstream.

#### 5) Carton present under stamp head

The VL-10 determines when a carton is present under the stamp head when the beam is broken as below. The photo sensor under the stamp head located toward the back of the machine and sends a signal on to the PLC.

#### 6) Iron Temperature Sensor

The iron temperature is monitored by a Type J thermocouple located on the iron which can be seen on the front part of the stamp head. The glue pot and iron use the same thermocouple (part # 41113022). Iron temperature is controlled internally to the PLC.

#### 7) Glue Pot Temperature Sensor

The glue pot temperature is monitored by a Type J thermocouple located on the glue pot located at the lower rear of the glue pot. The glue pot and iron use the same thermocouple (part # 41113022). Glue temperature is controlled internally to the PLC.

#### 8) E-Stop System

The E-Stop can be activated by the red mushroom button on the main panel, by the red mushroom button on the end of the machine by the out-feed, or by opening one of the front doors. Mounted on each front door is a red magnetic switch. Any of these items will force the safety module, located inside the electrical panel, to remove power from parts of the stamp machine.

# U.S. TAX STAMPING EQUIPMENT

- Adjusting Infeed Conveyor Belt Tracking Two 9/16" bolt heads located at the end of the infeed table can be loosen or tightened to affect belt tracking.
- 10) Replacing the Infeed Conveyor Belt -

Remove chain guard to access chain to remove master link. Loosen four set screws on large roller. Also loosen one set screw on one of the collars on the large roller shaft. With these steps completed slide out the shaft to remove the large roller. Remove the end plates where belt tension and tracking is adjusted. Now loosen both set screws on the opposite roller and four bolts on the roller plate (same side as set screw). Upon completion of these steps the plate, small roller, and cam follower can be removed. Next remove 4 of the leg bolts from one side of the conveyor. Finally, the belt can slipped between the leg and conveyor bed and over one side. Reverse the steps to install new belt, and readjust belt tension and tracking.

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

## 15.1 Alarm List:

Ma	in		Notes			
2	0	E-Stop Condition				
	1	Machine Air Pressure Low				
	2	Packer is Not Running				
	3	Indexer Out of Position				
	4	Indexer High Torque Condition				
	5	Packer Fault - Carton Push Arm Not Back				
	6	Packer Fault - Carton Push Arm Not Forward				
	7	Packer Fault - Stack Lift Not Down				
	8	Packer Fault - Stack Lift Not Up				
	9	Packer Fault - Stack Pusher Not Back				
	10	Packer Fault - Stack Pusher Not Forward				
	11	Packer Fault - Carton Tipped Over				
	12	Packer Fault - Infeed Overload (Kicker Plate Switch)				
	13	Packer Fault - First carton Not Detected At Measuring Station				
	14	Packer Fault - No Box Loaded For Packer Unload				
	15	Packer Fault - Packer is in ESTOP				
	16	Packer Fault - Outfeed Conveyor Swing Gate is Open				
	17	Packer Fault - Pneumatic Packer has stopped				
	18	Front Flap Error				
	19	Rear Flap Error				
	20	Front Flap Transition Alarm				
	21	Station 1 Transition Alarm (left sensor)				
	22	Station 2 Transition Alarm				
	23	Station 3 Transition Alarm				
	24	Station 4 Transition Alarm				
	25	Station 5 Transition Alarm				
	26	Station 6 Transition Alarm				
	27	Station 7 Transition Alarm				
	28	Station 8 Transition Alarm				
	29	Station 9 Transition Alarm				
	30	Station 10 Transition Alarm				
	31	Station 11 Transition Alarm				
	32	Station 12 Transition Alarm				
	33	Rear Flap Transition Alarm				
	34	Carton at Infeed Tipped Over				
	35	Module Status Alarm - X20BR9300 Bus Receiver Not OK				
	36	Buss Power Low or High - X20BR9300				

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

#### 37 I/O Power Low or High - X20BR9300 Module Status Alarm - X20DI9371 (PLC702) 38 Module Status Alarm - X20DO9322 (PLC722) 39 40 Module Status Alarm - X20DO9322 (PLC802) 2 Module Status Alarm - X20BT9400 41 42 Buss Power Low or High - X20BR9400 I/O Power Low or High - X20BR9400 43 Module Status Alarm - X67DM1321L08 (PICO902) 44 45 Module Status Alarm - X67DI1371 (PICO1002) Module Status Alarm - X67SM2436 (PICO1122) 46 47 Module Status Alarm - X67AT1402 (PICO1102) 48 Module Status Alarm - X67AT1402 (PICO1111) Module Status Alarm - 7XV116 (ValCon1500) 49 50 Module Status Alarm - 7XV116 (ValCon1520) Module Status Alarm - X67SM2436 (PICO1131) 51 Module Status Alarm - X67DI1371 (PICO1031) 52 53 X20BR9300 - Wrong Module plugged in 54 X20DI9371(PLC702) - Wrong Module plugged in X20DO9322(PLC722) - Wrong Module plugged in 55 56 X20DO9322(PLC802) - Wrong Module plugged in 57 X20BT9400 - Wrong Module plugged in X67DM1321L08(PICO902) - Wrong Module plugged in 58 59 X67DI1371(PICO1002) - Wrong Module plugged in X67SM2436(PICO1122) - Wrong Module plugged in 60 61 X67AT1402(PICO1102) - Wrong Module plugged in X67AT1402(PICO1111) - Wrong Module plugged in 62 7XV116.50-62(VAL1500) - Wrong Module plugged in 63 7XV116.50-62(VAL1520) - Wrong Module plugged in 64 X67SM2436(PICO1131) - Wrong Module plugged in 65 Glue Pot Temperature at the High Limit 66 67 Glue Pot Temperature at the High High Limit 68 Permanent Filing Error: {PermFile} Permanent String Filing Error: {PermStrFile} 69 70 Carton Info Filing Error:{CartonInfo} 71 Carton At Station #1 Not in Position 72 Debug File Error: {CartonInfo} X67DI1321(PICO1031) - Wrong Module plugged in 73 Glue Pot Heat Control Error- Check T/C 74 75 Flap Closer Transition Alarm - Check Flap Cylinders Main Clutch Disengaged - Inspect Indexer and Reset Clutch 76

# U.S. TAX STAMPING EQUIPMENT

Manufactured by United Silicone an ITW company

# Coperation Manual 77 Carton Direction Flap Transition Alarm 78 Lifter Timeout: Check Carton at Station #1. 79 Glue Pot Tip Heat Control Error- Check T/C 80 Packer INA Communications Lost Stamp

~	80	Packer INA Communications Lost
Sta	mp	
3	0	NOT IN USE
	1	Head 1: Adjustment Position Not Correct (Should Be-{Adjust})
	2	Head 2: Adjustment Position Not Correct (Should Be-{Adjust})
	3	Head 3: Adjustment Position Not Correct(Should Be-{Adjust})
	4	Head 1: Stamp Assembly Out of Position (Should Be-{Shift})
	5	Head 2: Stamp Assembly Out of Position (Should Be-{Shift})
	6	Head 3 Stamp Assembly Out of Position (Should Be-{Shift})
	7	Head 1: Out of Tax Stamps
	8	Head 2: Out of Tax Stamps
	9	Head 3: Out of Tax Stamps
	10	Head 1: Stamp Indexing Error- Check Stamp Position
	11	Head 2: Stamp Indexing Error- Check Stamp Position
	12	Head 3: Stamp Indexing Error- Check Stamp Position
	13	Head 1: Stamp Index Missed First Registration Mark
	14	Head 2: Stamp Index Missed First Registration Mark
	15	Head 3: Stamp Index Missed First Registration Mark
	16	Head 1: Stamp Index Missed Second Registration Mark
	17	Head 2: Stamp Index Missed Second Registration Mark
	18	Head 3: Stamp Index Missed Second Registration Mark
	19	Head 1: Head in Not in the Ready Position
	20	Head 2: Head in Not in the Ready Position
	21	Head 3: Head in Not in the Ready Position
	22	Head 1: Stamp Index Verification Failed (DBL Check using top)
	23	Head 2: Stamp Index Verification Failed (DBL Check using top)
	24	Head 3: Stamp Index Verification Failed (DBL Check using top)
	25	Head 1: Stamp Head Temperature at the High Limit
	26	Head 2: Stamp Head Temperature at the High Limit
	27	Head 3: Stamp Head Temperature at the High Limit
	28	Head 1: Stamp Index Did Not Complete in Time.
	29	Head 2: Stamp Index Did Not Complete in Time.
	30	Head 3: Stamp Index Did Not Complete in Time.
	31	Head 1: Iron Did Not Stamp
	32	Head 2: Iron Did Not Stamp
	33	Head 3: Iron Did Not Stamp
	34	Stamp Index Axis Error Head 1 at: {axisError1}

TCP Send Error:

1

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#### 35 Stamp Index Axis Error Head 2 at: {axisError2} 36 Stamp Index Axis Error Head 3 at: {axisError3} Head 1: Heat Control Error- Check T/C 37 Head 2: Heat Control Error- Check T/C 38 39 Head 3: Heat Control Error- Check T/C Head 1: Stamp Brake not Retracted - Check Prox. 3 40 41 Head 2: Stamp Brake not Retracted - Check Prox. 42 Head 3: Stamp Brake not Retracted - Check Prox. 43 Too Many Cartons for the Order - Need Order Separator 44 Not Enough Cartons for the Order 45 No Orders Loaded 72 7XV116.50-62(VAL1620) - Wrong Module plugged in 73 7XV116.50-62(VAL1600) - Wrong Module plugged in 74 X67DI1321(PICO1022) - Wrong Module plugged in 75 X67DI1321(PICO1011) - Wrong Module plugged in Module Status Alarm - 7XV116 (ValCon1620) 76 Module Status Alarm - X67DM1321 (PICO1022) 77 78 Module Status Alarm - 7XV116 (ValCon1600) 79 Module Status Alarm - X67DM1321 (PICO1011) Drive 4 No Error 0 1 Index Drive Error #:{DriveError} 2 Index Drive Error #:{DriveError} 3 Index Drive Error #:{DriveError} 4 Index Drive Error #:{DriveError} Index Drive Error: Axis Address Changed. Power Down and Power Back 5 Up TCP TCP Receive Error: 0 1

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## **16.0 APENDICIES**

**16.1 Appendix A:** Supplying Compressed Air for your US Tax Stamping Equipment

Most of US Tax Stamping's Cigarette Stamping Machines require a source of compressed air in addition to electrical power. The quality and quantity of compressed air you supply to this equipment will affect the reliability of the equipment, the frequency and cost of service calls and downtime on this equipment, as well as the initial cost and ongoing energy costs of the compressed air equipment you select.

#### 1) Compressed Air Capacity.

**T** 1 1 1

The values listed in Table 1 show the volume of compressed air at 90 psi which is necessary to be available on a *full-time continual basis* while each piece of equipment is operating.

Table 1	
Equipment	Compressed Air at 90 psi
	Required per single head machine
M120 stamp machine w/ cold glue	2.0
M120 stamp machine w/ hot glue	3.7
SSM stamp machine	5.1
SSMP stamp machine	5.5
LSM stamp machine	2.0
US Tax Stamping Pneumatic Case Packer	5.7
Universal Case Packer	10.5
12M Case Cutter w/o built-in compressor	7.0
CC612 Case Cutter	12.0
VL-10 Stamp Machine	4.0

The first step is to add together these requirements for each piece of stamping equipment you intend to operate simultaneously. A worksheet has been provided at the end of this document. Next add in any equipment which you expect you might add within the next 3-5 years. Most air delivery systems have significant leaks and losses within them. Even a small leak at a fitting, for example, can result in a large loss of compressed air. For new, high quality piping systems which have a total line length less than 25 feet, of large diameter, solid copper lines with few bends and connections, we recommend that you add at least 20% margin on top of your computed total air requirements. If your lines are old, longer, threaded pipe and or contain multiple quick-disconnect or other type fittings, you should add at least 30-40% margin to your calculated total air requirements.

For example, if you have a cold-glue M120 stamp line with a US Tax Stamping Case Packer, no plans to add additional equipment and an air run of threaded pipe 50' from your compressor to stamping equipment, you should select a compressor which can supply at least  $1.30 \times (2.0 + 5.7) = 10$  CFM of compressed air at 90 psi. If you are planning to use a reciprocating air compressor, it is typical practice to size the output of the compressor to be

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1.5 to 2.0 times larger than the amount of air you expect to consume on an ongoing basis. In this way, the compressor will not need to run continuously.

Following the example of the cold-glue M120 with a US Tax Stamping Packer, you would need to specify 15 to 20 CFM of compressed air at 90 psi to allow your compressor to run at a reduced duty cycle. Reciprocating compressor manufacturers often recommend that running on a reduced duty cycle will extend the life of your reciprocating compressor. (Scroll style compressors, on the other hand, are more commonly run 100% of the time and as a result, it is not necessary to include this extra factor when selecting a scroll compressor. Still, specifying a larger compressor always allows for future compressed air capability.)

When selecting an air compressor, it is important to note that the volume of air it can provide, usually stated in SCFM or CFM depends upon what pressure you are supplying the air at. For the purposes of selecting a compressor system to drive your US Tax Stamping equipment, you need only be concerned with how much air the compressor can supply at 90 psi. If a compressor is specified for an air output at a higher pressure, for example, 19 scfm @ 135 psi, you can estimate the amount of air this compressor will deliver at 90 psi by multiplying as follows: 19 scfm x (135 psi/90 psi) = 28 scfm.

2) Use of a shared source ("shop air") of compressed air for the Stamping Equipment.

While some customer facilities already have an available source of compressed air, typically known as "shop air", US Tax Stamping strongly recommends **against** using these sources of compressed air for operating our stamping equipment. Typically "shop air" is shared among multiple uses within a facility and the available volume of compressed air varies from moment to moment and day to day. Each time the available air volume on these shared systems drops below the levels required by our equipment, the stamping equipment will begin to perform irregularly. In addition, "shop air" is typically intended for low performance machines such as air-operated hand-tools. The air used to operate these lower performance machines typically has much higher levels of air line contamination (from grit, water and oil) than can be well tolerated within the precision machinery of the US Tax Stamping Equipment. The use of contaminated shop air can lead to costly and lengthy stamping equipment.

3) Moisture, dirt and oil in the compressed air system.

The quality of the air supplied to your stamping equipment is important. The three most common contaminants in compressed air supplies are water, grit and oil. Water is the most common contaminant. Water typically enters the system as incoming air is compressed. Air can "hold" less and less humidity as it is compressed. The humidity which is "squeezed out" of the air as it is compressed condenses within the compressor, tank and air lines. This is particularly common if the relative humidity of the incoming air is high such as in facilities near lakes, rivers and oceans. In addition, cold air holds less humidity than warm air. Air leaving a compressor is typically warm – often on the order of 150F or more. If this air is

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rapidly cooled, for example, if the air line leaves the compressor and then travels thru a cold warehouse or passes between two buildings, moisture can condense out and collect inside the air lines. Compressed air delivery systems need to be designed to remove excess moisture from the air and air lines. This is typically accomplished with a piece of equipment known as a dryer. Two types – desiccant dryers and refrigerated dryers are commonly used.

Most air compressors have built in air filters designed to remove dirt and grit from incoming air. Standard industrial grade air compressor filters typically remove all particles greater than 1 micron in diameter and are sufficient for use with all US Tax Stamping equipment.

Some compressed air systems are designed to ADD lubricant to the compressed air to reduce the wear and improve the performance of certain types of machinery. Other air delivery systems contain air/oil separators to remove oil from the compressed air. All US Tax Stamping equipment is designed to operate on clean (no particles or oil); dry (no water) air although the 12M case cutter can also accept lubricated compressed air.

All US Tax Stamping stamping machines which utilize compressed air contain their own, integral coalescing filter bowls which are designed to remove oil, water and dirt which may have passed thru the primary systems in the compressed air delivery system, but these systems are intended only to remove occasional contaminants and do NOT eliminate the need for properly filtered and dried air delivery systems.

#### 4) Related Compressor Equipment.

Most compressed air systems include each of the following components:

#### Compressor & Storage Tank

The primary choices among compressor types are piston/reciprocating vs rotary/screw. Among the piston compressors you will select between single and dual head compressors and lubricated vs oil-less. Screw compressors are generally more expensive but significantly quieter, usually less than 70 dBA at a distance of 3 feet from the compressor (a level of sound typical on a busy downtown street) while reciprocating compressors are often above 80 dBA (a level of sound similar to that near a typical residential gasoline powered lawn mower.) The level of sound-output is an important consideration and should not be overlooked. Since it is desirable to have the compressor located near the stamping equipment it should be noted that it is difficult to converse and sometimes distracting to work in the particularly noisy environment surrounding a reciprocating compressor. Ideally the compressor can be moved around a corner, behind a wall, or one floor above or below the area where operators will be working – but keep in mind that it is also important to try to have the compressor, delivery lines and stamping equipment all at nearly the same temperature as described elsewhere in this document. Screw compressors have fewer wearing components and generally require a simpler maintenance schedule. Screw compressors also deliver cleaner air with no oil in the air. This generally extends the life of the stamping equipment by reducing buildup inside of cylinders and air valves. If a reciprocating compressor is used it is important to select a high quality oil-

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coalescing filter to try to remove as much oil as possible from the compressed air stream. The number of heads (1 or 2) on a piston compressor relates to the total amount of air output. Generally dual head compressors will handle larger CFM requirements (typically 30+ CFM at 90 psi). As mentioned earlier, rotary compressors are usually designed to run a 100% duty cycle while most reciprocating compressors are usually used on a 50%-66% duty cycle. As such, it is usually necessary to specify a larger capacity reciprocating compressor in order to provide the same output as a rotary compressor.

A storage tank is designed to allow the compressor to not have to run full time to supply all of the necessary air flow. Typically a tank is sized to be 2-4 gallons per CFM output from the compressor (example: a 20 CFM compressor typically has a 40-80 gallon tank). In many cases, water will condense inside portions of the compressed air circuit – including the compressed air tank. These tanks are designed with drains so that the water can be removed regularly (typically daily). Keep in mind that a significant amount of water can be removed, so it is important to have a drain or other means to remove the collected water from your facility.

#### Aftercooler

The after cooler is used to bring the temperature of the compressed air to sufficiently low temperatures so that it can be properly dried by either a desiccant dryer or refrigerated dryer. In some systems, the aftercooler and dryer are integrated into a single system. Most aftercoolers are similar to automobile radiators consisting of a heat exchanger and a fan which forces room air past the heat exchanger to cool the compressed air.

#### Dryer

Under typical warehouse operating conditions, a dryer is needed which has a throughput (SCFM) equal to or greater than the total anticipated compressed air requirement. Drying capacity is specified in units of "Dew Point". A typical refrigerated dryer supplies air with a maximum dew point of around 37F meaning that the air exiting the dryer would not be expected to condense out moisture if it were kept above a temperature of 37F. When selecting a dryer for a facility where the ambient temperatures are expected to fall below the dew point of the dryer, US Tax Stamping recommends consulting directly with a compressor dryer manufacture to discuss the specific details of the installation. Special Desiccant Dryers are available that can produce very low dew points if needed. Regardless of which type of dryer you use, note that depending upon the conditions of operation, significant quantities of water may be removed by the dryer. It is usually necessary to have a floor drain or other provision near the dryer to allow easy removal of the condensed water from your facility.

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## Delivery Piping.

Delivery piping is often overlooked in the system design and problems with too small line diameters and too long piping runs can cause significant operational difficulties. Common problems to avoid include:

- Use large diameter piping. All piping should be a minimum of <sup>1</sup>/<sub>2</sub>" dia for 0-30 CFM and <sup>3</sup>/<sub>4</sub>" dia for 30-60 CFM. Above 60 CFM, US Tax Stamping recommends a custom piping plan be designed or reviewed by your chosen compressor equipment manufacturer.
- Use short piping runs between the compressor and the equipment. Maintain all piping runs of 1/2" tubing to less than 40 feet and 3/4" tubing to less than 75 feet. The maximum distance from the compressor to all pieces of stamping equipment should be less than 75 feet.
- Avoid serial placement of equipment along a single piping run instead use a central manifold with individual branches to each piece of equipment. (Otherwise the last piece of equipment on the piping run may become "starved" as equipment upstream consumes the air before it reaches the last piece.)
- The temperature of air surrounding the compressed air delivery system is very important. The simplest arrangement is when the compressor, all delivery piping and the stamping equipment all remain at nearly the same temperature. If you are planning to locate the compressor in a different room, or in an outdoor shed, or if the delivery piping will pass thru walls between areas of different temperature (for example, if the compressor is in one building and the delivery piping goes outside and then into the next building before reaching the stamping equipment) US Tax Stamping recommends that you work with a qualified local compressor company to address the specifics of your installation in a custom piping plan.

## 5) <u>Recommended Compressors.</u>

US Tax Stamping does sell/service air equipment, contact your service tech or a US Tax Stamping customer service representative. Note that our customers have had success using a wide range of equipment from many different suppliers. Ingersoll-Rand, Speedair, Atlas Copco, Gast and Dayton are among some of the more popular choices we observe in the field. We recommend that the selection be made primarily on the basis of purchase and operational costs, warranty, and service contract terms and availability. Secondary considerations might include noise output, utility requirements, vendor installation/service arrangements and other specifications.

VL-HP Service

& Operation Manual

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## 6) Local Laws / Codes Compliance.

United Silicone equipment is used in many different jurisdictions and regulatory environments. While we endeavor to provide safe and reliable equipment and installation recommendations which represent generally accepted industry practice, the end user is ultimately responsible for selecting, installing, wiring and plumbing the compressed air system in such a manner so as to meet all local ordinances and applicable safety and plumbing codes. United Silicone recommends that each customer work with a locally licensed contractor and/or plumber to ensure that the completed final system is in full compliance. United Silicone takes no responsibility in this regard and makes no representation that the recommendations in this document and those of our field service technicians and other employees are necessarily in complete compliance with our customer's site-specific regulatory and/or safety requirements.

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## <u>US TAX STAMPING EQUIPMENT AIR</u> <u>REQUIREMENT WORKSHEET</u>

Equipment	COLUMN A	COLUMN B	COLUMN C
	Compressed Air at	Number of these	Multiply each row in
	90 psi	machines at your	Column A by the quantity
	Required per single	facility, include	in Column B
	head machine	any extra	
		equipment you	
		may add within 5	
		years	
M120 stamp machine w/ cold glue	2.0		
M120 stamp machine w/ hot glue	3.7		
SSM stamp machine	5.1		
SSMP stamp machine	5.5		
LSM stamp machine	2.0		
US Tax Stamping Pneumatic Case	5.7		
Packer			
Universal Case Packer	10.5		
12M Case Cutter w/o built-in	7.0		
compressor			
CC612 Case Cutter	12.0		
VL-10 Stamp Machine	4.0		

Step 1: Complete this table ...

Step 2: Total all of the values in Column C = \_\_\_\_\_ CFM at 90 PSI

Step 3: Review Key Question #1 from this document and use this information to select an appropriate margin percentage based upon your specific site, piping type and length. The minimum recommended margin is 20%, but you may need a larger factor depending upon your facility. Enter your percentage on the line below. Write the value as a decimal number, for example, if your margin is 20%, write 0.20 on the line below.

Margin = \_\_\_\_\_

Step 4: If you are going to use a reciprocating compressor enter 1.75 on the line below. If you are going to use a rotary compressor enter the value 1.00 on the line below.

Compressor Factor = \_\_\_\_\_

Step 5: Multiply the values you wrote in steps 2, 3 and 4 together and write your answer on the line below. This is the minimum number of CFM your compressor will need to supply at 90 psi.

(Step 2 Total) x (Margin) x (Compressor Factor) = \_\_\_\_ CFM @ 90 psi

Step 6: Now select an aftercooler, dryer and air line hose and air circuit layout which can all accommodate at least this amount of air thru-put.

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# 16.2 Appendix B:

Electrical plug drawing 30amps 220vac

![](_page_62_Picture_5.jpeg)

Receptacle L6-30R

![](_page_62_Picture_7.jpeg)

Plug L6-30P

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**17.0 Recommended Spare parts** 

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Recommended Spare parts For VLHP			
Assembly	Component	Description	Recommended Quantity
41170414	41022010	Rebuild Kit for 41170414	1
41301020	41022056	Rebuild kit for 41301020	1
VL30HP33-1	41122073	4-POLE CONTACT BLOCK	1
41122070	41122090	Insert for relay	1
VLHP30-1	41124058	CYLINDER SWITCH, BAND STYLE	1
VLHPH03	41124045	EYE MARK LASER SENSOR	1
VLHP05-1	41126031	L-SHAPED SLOT SENSOR	1
VLHP17-1	41126050	SENSOR	1
VLHPH07	41170414	CYLINDER (04)	1
M733177	41173506	STRIP HEATER 5/16" x 1" x 10"	1
VLHP37-1	41174511	BRAIDED HOSE ASSY(45)	1
VL10HP20-1	41175628	PHOTOELECTRIC (56,06-S)	1
VLHP20-1	41177222	EXTENSION SPRING (72)	4
41172017	41179118	FLAT - CUSHION SPINDLE	4
VLHP15-1	41179215	VALVE (DYNATEC DYNAMINI)	1
VLHP20-1	41242058	SPRING, COMPRESSION	1
VLC35	41259002	CHAIN LINK-MASTER	1
VLHPH01-3	41301020	COMPACT CYLINDER	0
M742913	41312027	Rebuild kit for M742913, 2 per cylinder	2
M744749	41312034	Rebuild Kit for M744749, 2 per cylinder	2
VLHP25-1	7SSM06BELT	TIMING BELT (06-2,06-S)	1
	7SSMB0627-2	Link for Pusher blocks	1
VL30HP25-1	7SSMB0712	SPRING LEAF	1
VL30HP25-1	7SSMB1602	SPRING LEAF	20
VLHP16-1	7SSMC1814	PIVOT PIN	1
VL30HP33-1	LPCC0.5	0.5 AMP Fuse Included with Machine	0
VL30HP33-1	LPCC1	1 AMP Fuse Included with Machine	0

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1			
VL30HP33-1	LPCC10	10 AMP Fuse Included with Machine	0
VL30HP33-1	LPJ-30SP	30 AMP Fuse Included with Machine	0
VLHP35-1	M210545	DISK, NOZZLE, HG MOD .025	0
VL30HP33-1	MDA2	2 AMP Fuse Included with	0
		Machine	
VL30HP33-1	MDA4	4 AMP Fuse Included with Machine	0
VLHP35-1	MN00175	O-RING FOR GLUE MODULES	6
VLHPH07	VH0703	BRAKE SHOE	1
VLHP35-1	VLC1606	GLUE POT SEAL	2
VLHP60-1	VLHP6102	CARTON SUPPORT SPRING	20
VLHP60-1	VLHP6103	FRONT LEAF SPRING	20
VLHP60-1	VLHP6104	BACK LEAF SPRING	20
VL30HP33-1	41101042	PANEL I/O BACKPLANE	1
VL30HP33-1	41101043	PANEL I/O X2X RECEIVER	1
	41101052	MACHINE I/O STEPPER	1
		CONTROL	
VL10HP32	41121044	SWITCH-3 POS. RED MUSHROOM	1
VL30HP33-1	41122072	3-POLE CONTACTOR 24VDC	1
41122077	41122091	MECHANICAL RELAY insert for 41122077	1
VL30HP33-1	41122092	CONTACTOR, SOLID STATE	1
VLHPH01-3	41124043	PNP PROX. SENSOR	1
	41135117	PICO BLOCK	1
VL30HP07-1	41179070	MAGNETIC SAFETY INTERLOCK	1
VL30HP25-1	41179096	SENSOR	1
VLHP20-1	41179145	EXTENSION SPRING	8
VL10HP32	41179218	RED LED BULB (E-STOP)	0
VL10HP35-3	41401114	VALVE BANK	2
41411029	41419004	ELEMENT, FILTER for 41411029	1
41414009	41419005	ELEMENT, FILTER for 41414009	1
41414010	41419006	ELEMENT, FILTER for 41414010	1
VL30HP33-1	LPCC2	2 AMP Fuse Included with Machine	0
VL30HP33-1	LPCC3	3 AMP Fuse Included with Machine	0

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& Operation N	Ianual	
VL30HP33-1	LPCC4	4 AMP Fuse Included wit Machine
VL30HP33-1	LPCC5	5 AMP Fuse Included wit

MDA1

VL-HP Service

VL30HP33-1

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### 18.0 Recommended Preventative Maintenance

	Date		
VLHP and APMD Preventative	Machine Ser#		
Maintenance List			
Daily Service	OK	Adjusted	Replaced
Verify the operation of the Emergency Stop on all doors			
Verify the operation of the Emergency Stop Buttons			
Confirm all access panels and guards are in place			
Clear all carton & glue debris			
Clean up wax residue from stamps			
Check water traps			
Fill the hot melt glue to 3/4			
Visually inspect the machines for damage			
Check pusher blocks position after reset			
3 Month Service	ОК	Adjusted	Replaced
Check in-feed belt for tightness and wear			
Check APMD belt for tightness and wear			
Check indexing clutch			
Check pusher blocks (18)			
Check latches & bumpers on trough guide doors			
Check "J" Springs Check anti-reversing rollers			
Clear and check retro reflective sensors on trough wall			
Clean off face of flap sensors			
Check main drive chain tension			
Inspect wires and air lines for wear or damage			
Clean Ramp slides and brake			
Wipe clean all linear slides and inspect for wear			
Verify the air pressure settings			
6 Months Service	OK	Adjusted	Replaced
Change filter elements on pneumatic panel			
Inspect motor brushes on APMD and In feed conveyors			
Check for loose hardware			
12 Month Service	OK	Adjusted	Replaced
Purge & flush glue system.			
Replace glue filter			
Clear air filters on electrical enclosure			
Completed by:			

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## 18.0 Passcodes:

#### **Passcode Protection**

(*Remove this sheet after installation*)

These are the three levels of control this machine, two of which require that the operator login (refer to section 9.3.3. in this manual)

Level 0 - "Normal User" - password: no password required

Level 1 - "Supervisor" - password: 1234 (sensor screens)

Level 2 – "Factory" - password: \*\*\*\* (enable screens)