

Industrial Decorating Solutions

Manufactured by United Silicone an ITW Company

U.S. Tax Stamping Equipment

APM AUTOMATIC PACKING MACHINE Service & Operations Manual

September 2013 Version 2

SECTIONS OF THIS MANUAL

- 1.0 Introduction
- 2.0 This Chapter Omitted
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- 4.0 Operation Guide
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OVERVIEW

The Automatic Case Packer (Figure 1.0-1) repacks half cases (*30 cartons per half case*) of cigarettes after they have been opened for application of unique tax stamps to each pack. The system has a maximum re-pack rate of 100 cartons per minute and can accommodate cartons in the following range of sizes.

Carton	Minimum	Minimum	Maximum	Maximum
Dimension	Inches	mm	Inches	mm
Width, W	1.70	43	1.90	48
Length, L	10.55	268	11.25	286
Height, H	2.75	70	5.00	127

Cartons are received from the exit conveyer of a stamping machine where they hit the deadening plate at the end of the in-feed conveyer. They then drop onto the conveyer assembly which sends cartons to the part stop at the other end where they accumulate before an array of six photo sensors. When the sensors determine that six cartons are present, the articulating arm is activated sending all six cartons, (a "carton set") into the stacking chamber. It then retracts to await the arrival of the next carton set.

Within the stacking chamber, the carton set is raised by the stack lifter and gripped from both sides. This allows the lifter to drop back down to accept another carton set when the articulating arm sends it in from the conveyer. This process repeats five times until 30 cartons accumulate in the stacking chamber.

On the fifth cycle, the stack lifter pauses allowing the stack pusher to clear the stacking chamber; simultaneously packing the 30 cartons into an empty "flap-less" half case that has been manually loaded by the operator. The stack pusher retracts and the stack lifter drops back to the bottom of the stacking chamber where it awaits the next carton set from the conveyer assembly. The system has been designed to use the same half-case boxes from which the cartons were removed for stamping purposes. An operator must be present to load the empty boxes onto the box clamp assembly where they are held for packing. When the stack pusher clears the stacking chamber and packs the case full, the box clamp assembly releases the case. The case falls onto a conveyer and the operator loads another one into the box clamp assembly.

The system is designed for reduced installation and setup time, dependability, quiet operation, operator safety and convenience, and ease of operation. Its photo sensors, high-speed pneumatic actuators, and shock absorbing transition plates ensure optimum production efficiency.

Your system is designed for extended trouble-free operation. Built-in error messages aid in fault analysis in case of malfunction. United Silicone backs its equipment with a strong customer service organization. Telephone assistance for troubleshooting, equipment installation, setup, or other questions is provided at no charge.

To gain the most from your equipment, you are urged to read through this manual completely before beginning operation. These instructions will minimize the installation and setup time and assist you in properly operating the system following the installation. When selecting a location for the system, take into account the following concerns:

- Adequate lighting in the work area?
- Required utilities present?
- Sufficient space for receiving and forwarding inventory?

SPECIFICATIONS

Table 1.0-1 lists technical specifications for the automatic case packer.

SAFETY

WARNING

DO NOT PERMIT UNTRAINED PERSONNEL TO PERFORM, OR ASSIST IN, INSTALLATION OF THE EQUIPMENT OR SUBSEQUENT OPERATION.

The automatic case packer 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. 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 operate the equipment. All personnel involved in installing and setting up the system must be fully trained in performing electrical, pneumatic, and mechanical installations. All operators should be thoroughly trained in the safe and correct procedures described in this manual.



Figure 1.0-1. Automatic Case Packer

Table 1.0-1. Automatic Case Packer Specifications		
Utility Requirements	Electric and pneumatic	
Electrical	120 Vac, single phase, 10A, 60 Hz	
Air	80 PSI at 8 CFM, moisture-free,1/2" connections	
Production Rate (Approx.)	100 cartons per minute	
Overall Dimensions (Approx.)	72" H x 84" W x 46" D	
Weight (Approx.)	Approximately 500 lbs.	
Personnel Safety	High-impact plastic access door with interlock switch protection	



Figure 1.0-2. Approximate Dimensions In inches of the R-to-L (top) and L-to-R (bottom) Universal Case Packer. Arrows indicate the direction product flow onto, through and out of the Universal Case Packer.

2.0 (THIS SECTION INTENTIONALLY OMITTED)

Universal Case Packer 3.0 Description

3.0 DESCRIPTION

OVERVIEW

This automatic case packer will re-pack cartons of cigarettes into half cases from which they were previously removed for tax stamping purposes. It has been designed to receive cartons from the stamping machine out-feed conveyer and re-pack them into cases at a maximum rate of 100 cartons per minute.

NOTE: Your case packer may be configured to feed from left-to-right or right to left along the conveyer assembly, (when facing the control panel). All reference photographs in this manual were taken on a left-to-right configured machine.

Cartons are received onto the conveyer assembly where they hit the deadening plate and drop onto the conveyer bed. The conveyer carries cartons to the other end where they hit the part stop and collect before six photo sensors. When the sensors confirm the presence of six cartons, the articulating arm pushes all six cartons, (a "carton set") into the stacking chamber where they come to rest on the lift plate. The articulating arm then retracts to await the completion of the next carton set.

After a carton set is pushed into the stacking chamber, the lift plate raises and deposits it into the spring-loaded side pack guide assembly. This device holds the carton set at both sides, allowing the lift plate to drop down empty where it will wait for the arrival of the next carton set. When the lift plate raises a fifth carton set into the side pack guide assembly, the system recognizes that the stacking chamber is full, and the lift plate pauses while the stack pusher is activated. All thirty cartons are simultaneously pushed into an empty case waiting in the box clamp assembly.

Cases must be loaded manually and are initially held in place by two pneumatic clamps. Just prior to loading, a second set of clamps secures the top of the case. After the stack pusher has filled the case, the box clamps release and the stack pusher continues a short distance to push the full case onto a customer conveyer. The operator then loads another case into the clamp assembly.

Major components of your automatic case packer are as follows:

Conveyer Assembly Articulating Arm Stacker Assembly Pack Top Retainer Assembly Stack Pusher Assembly Box Clamp Assembly Control Panel

CONVEYER ASSEMBLY

Cartons are received from the stamping machine onto the conveyer assembly where they hit the deadening plate and drop onto the conveyer bed. The deadening plate is cushioned to ensure consistent carton delivery to the conveyer regardless of carton

Universal Case Packer 3.0 Description

exit speed from the stamping machine. The conveyer moves cartons to the other end where they hit the part stop beneath the guard assembly. Here, they collect in front of the photo sensor array.

If the stamping machine is feeding cartons to the case packer faster than it can pack them, the cartons will back up on the conveyer. This may happen as a result of the packer speed being set too slowly, or a malfunction within the stacker assembly. If cartons back up to the point of blocking the auto shut-off photo sensor, (see Fig. 3.0.1) the case packer and stamping machine will shut down and display an appropriate error message.



Fig. 3.0.1

ARTICULATING ARM

The articulating arm assembly, (Fig 3.0.2) is composed of a pneumatic cylinder that sends a slider block through an adjustable stroke along two guide shafts. An adjustable pusher arm that lowers on the push stroke and raises on the retracting stroke is attached to the slider block.



Fig. 3.0.2

When activated by the photo sensor array, the articulating arm assembly sends a carton set into the stacker assembly by lowering the pusher arm to make contact with the cartons. As the carton set is pushed into the stacker assembly, the conveyer continues to run and cartons can accumulate behind the pusher arm. On the retracting stroke, the pusher arm is raised to clear any cartons that have collected behind it at the part stop, and it is ready for the next push stroke.

STACKER ASSEMBLY

The stacker assembly consists primarily of the lift plate, the stack escapement assembly and the side pack guide assembly, The lift plate, (Fig 3.0.3) receives carton sets from the conveyer via the pusher arm, (Fig 3.0.2 and also visible in the background of Fig. 3.0.3).

Universal Case Packer 3.0 Description



Fig. 3.0.3

As the pusher arm retracts, the lift plate raises the carton set up through the stack escapement assembly and into the side pack guide assembly, (Fig 3.0.4)



Fig. 3.0.4

The side pack guide assembly grasps the carton set so that the lift plate can drop back down. The cycle repeats itself and when another carton set is pushed onto the lift plate, it raises through the escapement assembly and into the guide assembly. Each carton set is raised further within the guide assembly as additional sets are added from below, until the lift plate raises for the fifth time. When this happens, it waits until the stack pusher is activated and the stacking chamber is cleared. At that time, the lift plate drops back to the bottom to pick up the first carton set of the next case to be completed.

PACK TOP RETAINER ASSEMBLY

The pack top retainer assembly's primary function is to carry the two upper box clamps to the appropriate height for a range of carton sizes. It also carries movable side guides to the correct height for various sized cases. The guides help to ensure a consistently smooth case packing process.

When the stack pusher fills a case, the pack top retainer is no longer supported and it drops down against the top of the pusher assembly. When the pusher assembly fully retracts, the pack top retainer drops further down into the stacking chamber. How far it falls depends upon on the adjustment of the brake assembly, (Fig 3.0.5) located on the top of the stacking chamber. (*Refer to the* **Set-up and Adjustment** section for instructions on how to adjust this mechanism.)



Fig. 3.0.5

As carton sets are raised into the side pack guide assembly (Fig. 3.0.6) from below by the lift plate, they will eventually come into contact with pack top retainer assembly. When five carton sets have been raised into the side pack guide assembly, the pack top retainer is at it's highest point. At this time, the upper box clamps are closed to secure the top of the case just prior to the stack pusher beginning its stroke.

Universal Case Packer 3.0 Description



Fig. 3.0.6

STACK PUSHER ASSEMBLY

The stack pusher assembly is mounted to the back of the stacker assembly and is comprised primarily of a pneumatic cylinder and a pusher plate, (Fig 3.0.7). When the lift plate raises for the fifth time, it pauses and the pusher plate is activated sending 30 cartons into an empty case held by the four box clamps. Just prior to completing its stroke, the stack pusher activates a sensor that releases the box clamps. As the stack pusher completes its stroke, the full case is pushed out of the clamps and falls onto a customer conveyer.



Fig. 3.0.7

BOX CLAMP ASSEMBLY

The box clamp assembly refers to the two lower box clamps and their associated hardware, most importantly the lower box grip and the switch, (Fig, 3.0.8)





An operator loads an empty case by setting it in the box support frame and sliding it forward so that the lower edge of the box fits **under** the lower box gripper plate. When the case is loaded correctly, the lower edge will hit the switch in Fig 3.0.8 thus activating the lower

Universal Case Packer 3.0 Description

box clamps which will secure the case. The operator need not, and should not continue to hold the case as cartons accumulate in the stacker for packing.

When 30 cartons are ready for packing, the upper box clamps will close on the top of the case, and the stack pusher will begin its stroke. When the cartons fill the case completely, the box clamps will be released and the stack pusher will continue for a short distance to push the case free of the clamps. It will then fall to the customer's exit conveyer.

Universal Case Packer 3.0 Description

CONTROL PANEL

See figure 3.0.9 below



Fig 3.0.9

Power	Turning the power on, initially sends the machine into Emergency Stop, (E-Stop) mode. The operator must then pull the E- Stop button to send power to all electrical and pneumatic components. When the E-Stop button is pulled, the machine will go into Stand-By mode and the conveyer will begin moving. The other assemblies are powered but will not function until the CYCLE START button is pushed
Cycle Start	Puts the machine in Auto-Cycle mode. This brings the conveyer to production speed and readies the entire system for packing. After pressing CYCLE START, any product that comes down the conveyer will be processed.
Cycle Stop	Stops the system from pushing the next complete carton set into the stacker assembly and puts the system in Stand-By mode. If the machine has just begun pushing a carton set into the stacker when CYCLE STOP is pressed, that carton set will still be lifted into the guide assembly. Additionally, if it is the fifth carton set raised, the stack pusher will clear the stacker assembly. To immediately cease all production, use the EMERGENCY, (E-STOP) button.
Unload (Only works w/ machine in Stand-By mode)	Clears the stacker assembly regardless of how many carton sets are there. NOTE: The operator may need to manually raise the pack top retainer assembly to facilitate unloading. (See Chapter 4 OPERATION.)
Reset	Use the Reset button any time the machine ceases production due to a fault. Pressing CYCLE START will then put the machine back in the Auto-Cycle mode.
Emergency or "E-Stop"	Pushing the EMERGENCY, (E- STOP) button immediately kills all electrical and pneumatic power to the entire system.

4.0 OPERATION

OVERVIEW

This section describes the system startup conditions and normal operating procedures, as well as operator responsibilities.

Chapter 6 on **SET-UP AND ADJUSTMENT** includes instructions for adjusting pusher arm length, pack top retainer brake, and packer speed. All other adjustments come factory set and should not require attention at the customer's facility.

Prior to system start-up ensure that all safety guards and covers are securely in place. Also make sure that the sliding access door in the conveyer guard assembly, (Fig 4.0.1) is closed tightly.



FIG. 4.0.1

OPERATOR RESPONSIBILITIES

In most situations your Automatic Case Packer will be mated with a Synchronized Stamping Machine or "SSM". Newer models have been configured such that a single operator can run both machines. The focus of this manual are operator responsibilities as they relate to the Automatic Case Packer.

The primary responsibility of the operator is to load empty cases into the box clamp assembly. To do this, the case is set into the box support frame and pushed forward so that the lower edge of the case slips **under** the gripper plate, (Fig 4.0.2) As the case is pushed forward, it will throw a switch that activates the lower box clamps. Once the box clamps are activated, the operator does not need to continue to support the case.



Fig. 4.0.2

The operator is also responsible for air filter maintenance, draining the air filter as necessary by loosening the drain screw at the bottom of the unit. The air filter is located on the pneumatic panel adjacent to the shut-off valve.

Universal Case Packer 4.0 Operation

Additionally, the operator is responsible for correcting minor malfunctions as well as reporting them to a supervisor, (see Ch. 7).

SYSTEM START-UP

Plug the machine in and connect the air supply. The air shut-off valve is red, and is located at the upper left hand corner of the pneumatic panel, (Fig 4.0.3). After the air supply has been connected, open the shut-off valve.



Fig. 4.0.3

On the control panel, turn the POWER to "ON". The EMERGENCY, ("E-STOP") button will come on indicating that the machine is in Emergency Stop mode. Pull the E-STOP button all the way out to put the machine into Stand-By mode. The E-STOP light will go out and the conveyer will start moving. The machine is powered up, although it will not yet process any product that comes down the conveyer.

To enter the Auto-Cycle mode, press the CYCLE START button on the control panel. It will illuminate green and the conveyer will come to production speed. The machine is now prepared to process any product that comes down the conveyer.

UNLOADING THE STACKER

If the Case Packer needs to be unloaded with a partial load of cartons, the operator must first press the CYCLE STOP button to bring the machine out of Auto-Cycle. If fewer than19 cartons will be unloaded, the operator may need to manually raise the pack top retainer assembly prior to unloading. This may be necessary to clear the way for the stack pusher to empty the stacker assembly, Fig. 4.0.4



Fig. 4.0.4

To raise the pack top retainer, grasp the guide rod and lift the assembly high enough for the stack pusher to pass freely underneath it. Continue to hold the retainer assembly clear of the stack pusher, and press the UNLOAD button on the control panel. The push rod will clear the conveyer, the partial carton set will be lifted into the guide assembly, and the stack pusher will clear the stacker assembly.

If the operator fails to raise the pack top retainer and the stack pusher makes contact with it, it will push for five seconds and then display a fault code indicated by the number of flashes on the E-STOP button, (or by sending a message to the control screen on the SSM if the two are mated).

STATUS AND FAULT MESSAGES

If your Case Packer is mated to a Synchronized Stamping Machine, status and fault messages will be displayed on the SSM control screen. This manual is written to identify status and fault messages on the Case Packer as if it was not mated.

The Case Packer may be in any of five statuses identified in table 4.0.1 below.

STATUS	INDICATOR
Stand By	POWER is on and E- STOP is not illuminated.
Auto Cycling	CYCLE START button illuminated green.
Cartons Backed up on Conveyer	Tells SSM to shut down, (if mated).
No Case Loaded for Packer to Unload	E-STOP button flashes rapidly.
Emergency Stop	EMERGENCY button illuminated.

Table 4.0.1

There are 7 faults that the system can identify, and they are identified in Table 4.0.2 along with their corresponding Codes.

CODE	FAULT
1	Carton Push Arm Not Back
2	Carton Push Arm Not Forward
3	Stack Lift Not Down
4	Stack Lift Not Up
5	Stack Pusher Not Back
6	Stack Pusher Not Forward
7	Carton Tipped Over
	Table 4.0.2

The code number represents the number of times the E-STOP button will flash to identify a given fault. For instance, if a carton is tipped over, the E-STOP button will flash 7 times, pause and repeat.

The reason for the first six faults is the same; that being that there is an obstruction. To correct the fault, simply clear the obstruction. If a carton has tipped over, re-orient it correctly. After any fault, the operator must, press the RESET button and then press CYCLE START to resume Auto-Cycling.

5.0 INSTALLATION

OVERVIEW

The procedures in this section are designed to assist installation personnel in safely and properly placing the automatic case packer in its work environment and connecting the required utilities. Be sure to follow all personnel safety requirements during the installation. Before turning on and operating the system, follow the procedures in *Setup and Adjustment* to correctly prepare the system for safe, productive operation.

SHIPPING INSPECTION

Your system has been thoroughly tested and inspected before shipment. You should not see any visible damage or loose or missing parts. Carefully inspect the equipment to ensure that there are no apparent defects. Any damage or missing or loose parts should be reported promptly to the carrier.

SYSTEM PLACEMENT AND MOUNTING

Observe the following safety and operator precautions when placing the system at its operating location:

WARNING THE SYSTEM WEIGHS APPROXIMATELY 500 POUNDS. IT MUST BE HANDLED WITH A FORKLIFT OR OTHER SUITABLE VEHICLE FOR LIFTING AND POSITIONING.

- Place the system in a safe area having adequate lighting, and space on all sides to permit convenient access for operation and maintenance.
- Install system on a level, flat surface capable of supporting its weight.
- For operator comfort, provide adequate space around operator station for entrance and exit. Ensure adequate space provisions for the operator to receive and handle cases.

The positioning of the Universal Case Packer relative to the stamp machine varies by stamp machine type. Refer to the installation section of the Service Manual for your stamp machine for detailed alignment, connection and leveling guidelines for your particular stamping machine.

UTILITY REQUIREMENTS

The system requires single-phase electric power at 120 Vac 10 A 60 Hz. In addition, a source of moisture-free air at 80 to 100 PSI is required to operate the system.

AIR CONNECTION

Connect air source to inlet side of shut-off valve. Use 1/2" flexible neoprene tubing for the connection to minimize vibration transfer. Figure 5.0.1 shows the recommended air connection. A drain valve should be provided to permit removal of moisture when necessary.

AIR PRESSURE REGULATORS

Inlet air pressure should be adjusted at the air pressure regulators (Figure 5.0-2) to 40 to 60 PSI. During operation, pressure should not drop more than 10 PSI. If a greater pressure drop is noted, check for constriction in the incoming air line, which may cause insufficient air volume to system.



Figure 5.0-1. Air Connection

Universal Case Packer 5.0 Installation



Figure 5.0-2 Universal Case Packer Pneumatics Panel

Universal Case Packer 5.0 Installation



Universal Case Packer Lift Points

LIFT ONLY AS SHOWN ABOVE – DO NOT LIFT UNDER THE LEGS, ELECTRONICS ENCLSOURE OR PNEUMATIC PANEL !

Universal Case Packer 6.0 Setup and Adjustment

6.0 SETUP AND ADJUSTMENT

OVERVIEW

Procedures for preparing the automatic case packer for operation are included in this section. The setup and adjustment procedures apply to initial setup, as well as for future needs following component replacement or repair. For operating procedures following setup, as well as for operating principals, refer to **Operation**.

The automatic case packer has been thoroughly tested and adjusted at the factory. Generally, no adjustments should be required during the setup procedure. However, the procedures included in this section should be used to confirm factory settings in your work environment and make final adjustments, if needed. The following procedures are included:

> Pusher Bar Length Pack Top Retainer Brake Stack Pusher Delay

Pusher Bar

Prior to operation, it should be verified that the pusher bar is properly calibrated. The correct setting is 10 3/8" measured from the part stop to the end of the pusher bar. If the distance is not 10 3/8" adjust as follows.

NOTE: This adjustment should be performed with the machine unplugged.

Open the door in the top of guard assembly to gain access to the pusher bar. Loosen the two hex bolts that secure the pusher bar to the articulating arm assembly. Adjust the pusher bar to the correct length. Tighten the two hex bolts, and close the access door securely.

Pack Top Retainer Brake Adjustment

The pack top retainer brake assembly, (Fig 6.0.1) can be adjusted as follows:

Fig. 6.0.1

To increase tension on the guide rod, increase the distance between the legs by loosening the allen screws that secure the bottom of the legs to the track. To decrease tension on the guide rod, decrease the distance between the legs.

Stack Pusher Delay

Overall packer speed is controlled primarily by the delay of the stack pusher. If certain production problems are encountered, it may be necessary to adjust conveyer speed, (Covered in **Ch. 7** – **TROUBLESHOOTING**).

Stack pusher "extend" time can be modified from the control panel. To modify the stack pusher extend delay, hold the CYCLE STOP button and turn the POWER to ON. While continuing to hold the CYCLE STOP button each press of the RESET button will decrease the extend time by .01 seconds. Likewise, each press of the START button will increase the extend time by .01 seconds. Releasing the CYCLE STOP button or resetting the E-STOP will disable this feature.

7.0 TROUBLESHOOTING

Table 7.0.1. Troubleshooting			
Problem	Cause	Corrective Action	
E-STOP button	The pusher arm is not able to fully retract.	Visually inspect the articulating arm assembly, (Fig. 3.0.2 in Ch 3) through the access door in the guard assembly. If an obstruction is found, remove it, press RESET and then press CYCLE START to resume Auto-Cycling.	
pauses and repeats.		If no obstruction can be found, there may be a problem with the pneumatic cylinder in the articulating arm assembly or the sensors that detect its location. Please contact us for technical support if this appears to be the case.	
E-STOP button flashes twice , then pauses and repeats.	The pusher arm is not able to fully extend.	Ensure that the air is connected and the pneumatic shut-off valve is open. Visually inspect the articulating arm assembly, (Fig. 3.0.2 in Ch 3) through the access door in the guard assembly. If an obstruction is found, remove it, close the access door, press RESET and then press CYCLE START to resume Auto-Cycling. Also check the lower portion of the stacking chamber to ensure that no cartons have fallen out of the side pack guide assembly. If this happens, remove the carton(s) and immediately replace the springs in the side pack guide assembly. If some other obstruction is found, remove it, press RESET and then press CYCLE START to begin Auto-Cycling.	

Table 7.0.1. Troubleshooting			
Problem	Cause	Corrective Action	
E-STOP button flashes three times , then pauses and repeats.	The stack lifter, (aka lift plate) is not down.	Visually inspect the area under the lift plate for obstructions. If one is found, remove it, press RESET and then press CYCLE START to begin Auto-Cycling.	
		a problem with the pneumatic cylinder in the stack lifter assembly or the sensors that detect its location. Please contact us for technical support if this appears to be the case.	
E-STOP button flashes four times , then pauses and repeats.	The stack lifter, (aka lift	Visually inspect the stacking chamber for obstructions, namely a previously lifted carton set that has not been processed properly. Remove any obstructions, press RESET and then press CYCLE START to begin Auto-Cycling.	
		If no obstruction can be found, there may be a problem with the pneumatic cylinder in the stack lifter assembly or the sensors that detect its location. Please contact us for technical support if this appears to be the case.	
E-STOP button flashes five times , then pauses and repeats.	The stack pusher is not able to retract.	There may be a problem with the pneumatic cylinder in the stack pusher assembly or the sensors that detect its location. Please contact us for technical support if this appears to be the case.	
E-STOP button flashes six times , then pauses and repeats.	The stack pusher is not able to extend.	Ensure that the pack top retainer assembly is not blocking the motion of the stack pusher. If it is, grasp the guide bar and raise the pack top retainer assembly enough to allow the stack pusher to pass underneath, (see Fig 4.0.4 in Ch 4). Press RESET and then press CYCLE START to resume Auto- Cycling.	
		If no obstruction can be found, there may be a problem with the pneumatic cylinder in the stack pusher assembly or the sensors that detect its location. Please contact us for technical support if this appears to be the case.	

Universal Case Packer 7.0 Troubleshooting

Table 7.0.1. Troubleshooting			
Problem	Cause	Corrective Action	
E-STOP button flashes seven times , then pauses and repeats.	A carton is tipped over or not oriented correctly on the conveyer.	Re-orient the carton, press RESET and then press CYCLE START to resume Auto-Cycling.	
E-STOP button is flashing rapidly but the machine isn't processing anything	No case is detected in the Box Clamp Assembly.	Ensure that a case is loaded properly into the assembly, (see Operator Responsibilities in Ch. 4)The machine will continue Auto-Cycling when the box sensor is tripped and the operator will not need to press RESET or CYCLE START.	
POWER is ON but I can't get the E-	Access door in guard assembly is open.	Close the access door. Push E-STOP in, then pull it all the way out, (two clicks).	
out.	Not pulling E-STOP button all the way out.	Push E-STOP in, then pull it all the way out, (two clicks).	

U.S. TAX STAMPING EQUIPMENT 8.0 Recommended Spare Parts

8.0 RECOMMENDED SPARE PARTS

While your automatic case packer system is highly reliable and trouble-free, occasional parts replacement may be required due to normal wear and aging. This section contains a listing of parts, which are most likely to require future replacement. Stocking these parts will minimize any downtime.

Required ordering information is listed for each part. The recommended quantities listed in Table 8.0.1 are not necessarily the total installed on your machine, but rather the quantities we suggest you keep in stock.

Ordering Parts

When ordering parts, make a copy of the Parts Order Form on the following page. When filling out the form, be sure to enter all required information, which includes the drawing number upon which the required part is found, as well as the part number, description, item number and quantity.

Parts orders may be phoned or faxed and will be shipped within two days following receipt of order. Rush delivery is available.

Table 8.0-1. Recommended Spare Parts			
Part No.	Code	Description	
		1/4 " Dia x 2.0" LG Ext. Spring (for Deadening Plate)	1
		Photo Sensor	2
		Air Cylinder (for Articulating Arm Assembly)	1
		Air Cylinder (for Stack Pusher Assembly)	1
		Box Clamp (Upper Box Clamp)	1
		Air Cylinder ¼ 28 Rod End (for Lower Box Clamp)	2
		Extension Spring (for Lower Box Clamp Assembly)	1
		Assembly Switch Micro Plow (Lower Box Clamp Switch)	1
		Spring (for Stack Escapement Assembly)	1
		Air Cylinder (PNP) (for Stack Lifter Assembly)	1
		Spring .375" Dia (for Side Pack Guide Assembly)	2
		Extension Spring (for Pack Top Ret Brake Assembly)	1
		Safety Monitoring Relay	1
		Relay	1
		Time-Delay Fuse	1
		Time-Delay Fuse	1
		Fast-Acting Fuse	1
		Single Valve	2
		Double Valve	1

Universal Case Packer Electrical Schematics

Door Guards * Swing Gate * E-STOP

Universal Case Packer Electrical Schematics

CARTON PACKER TO M100 MACHINE HUBBELL # HBL7411C OR EQUV PLUG CONN 16-4 AWG MIN 8 FT LONG

U.S. TAX STAMPING EQUIPMENT Electrical

U.S. TAX STAMPING EQUIPMENT Electrica

