

Hamilton Manufacturing Corporation

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Single Stacker Operational Manual

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ABOUT THIS MANUAL

This manual will provide the operator with information about the operation and the maintenance of the Hamilton Single Stacker. Schematic and electrical connection diagrams are also provided to assist the operator.

Further assistance can be obtained by calling (800) 837-5561 or (419) 867-4858.

When calling for assistance, it is important to have the serial number readily available. Please record this number in the space provided.

STACKER SERIAL # _____

I. INTRODUCTION

Compatibility

Validator

The Stacker may be connected in a system using the XE Validator and a current version of the C2000 Controller (C230v1.9 or higher). The C2000 Controller will control the stacking operations. Configuration Switch #2 on the C2000 Controller and Switch #4 on the XE Validator must be in the OFF position in order for the XE Validator to function with the Single Stacker.



The Hamilton Single Stacker must have the letters “NR” at the end of the serial number. If these letters are missing, then the Stacker may not compatible with other Hamilton equipment.

Operation

After a bill is accepted, it passes out of the Validator and falls into the Stacker, on top of the rails. The Validator then sends a credit pulse to the Controller. The controller registers a credit and sends an activation pulse to the stacker which energizes the relay and starts motor. Then a cam on the motor shaft activates a switch that unlatches the relay and takes over running the motor. The cam also operates the pusher, which travels down and pushes the bill below the rails. As the cam completes one revolution, it comes back to the switch and deactivates the motor.

There is an additional switch operated by the cam. This switch is connected to the Stacker busy circuit of the Controller. It simply opens when the cam is turning and closes again when one revolution is complete. While the switch is open, the Controller knows that the Stacker is “busy”. If the switch remains open for too long, the Controller assumes the Stacker is jammed and shuts the machine down. A STACKER BUSY or STACKER MALFUNCTION error message is then displayed on the Controller.

II. INSTALLATION

Front Load Cabinet

The Stacker is attached to the rear of the cabinet by three screws, or on a Stacker Hanging Bracket, depending on the cabinet model. If using a Stacker Hanging Bracket, position the upper two holes in the Stacker over the top two screws and install the lower screw. Hook the Validator Mounting Bracket onto the mounting pins of the Stacker. Attach the Validator Support Bracket to the Validator Mounting Bracket and to the side of the cabinet. Connect the Validator and Stacker wiring harnesses. Place the Validator in the Validator Mounting Bracket.

Rear Load Cabinet

Place the Validator Wiring Harness over the top of the Validator to protect it during installation of the Stacker. Connect the Stacker wiring and place the wiring above the Stacker to protect it during installation. Place the Stacker just behind the Validator with the housing support pins slightly above the Validator Support Bracket and move the Stacker forward to contact the Validator bracket. Move the Stacker forward and down until the Stacker housing support pins rest in the slots of the Validator Support Bracket.



Proper operation of the Stacker requires it to be hanging vertically at this point.

The mounting system for Rear Load Changers equipped with a Stacker consists of a main bracket that bolts to the front of the changer cabinet and two side plates that are fastened to either side of the Validator. The Validator and plates slide into the main bracket and are secured. The Stacker is then hung on tabs provided on the side plates.

III. STACKER REMOVAL

Front Load Cabinet

First, disconnect the Main Validator Harness. Next, disconnect the Stacker Wiring Harness by gently pulling the connector apart. Remove the Validator and the Validator Support Bracket. Then remove the lower screw holding the Stacker to the rear of the cabinet. Lift the Stacker approximately $\frac{1}{2}$ " and pull forward. To continue operating the changer without the Stacker, attach the Stacker By-pass Plug. (Refer to APPENDIX B for instructions.)

Rear Load Cabinet

Lift the Stacker slightly to allow the Stacker pins to clear the Validator Support Bracket. Bring the Stacker straight out of the cabinet until there is room to disconnect the wiring harness that runs from the Stacker to the Controller. To continue operating the changer without the Stacker, attach the Stacker By-pass Plug. (Refer to APPENDIX B for instructions.)

IV. BILL REMOVAL

Front Load Cabinet

To remove the bills from the lower section of the Stacker, press the Pressure Plate downward with one hand while removing the stack of bills with the other hand.

Rear Load Cabinet

To remove the bills from the lower section of the Stacker, remove the rear gate and press the Pressure Plate downward with one hand while removing the stack of bills with the other hand.



In either the front or rear load application, the Stacker does not need to be removed from its mounted position to remove stacked bills.

V. MAINTENANCE

Monthly Maintenance

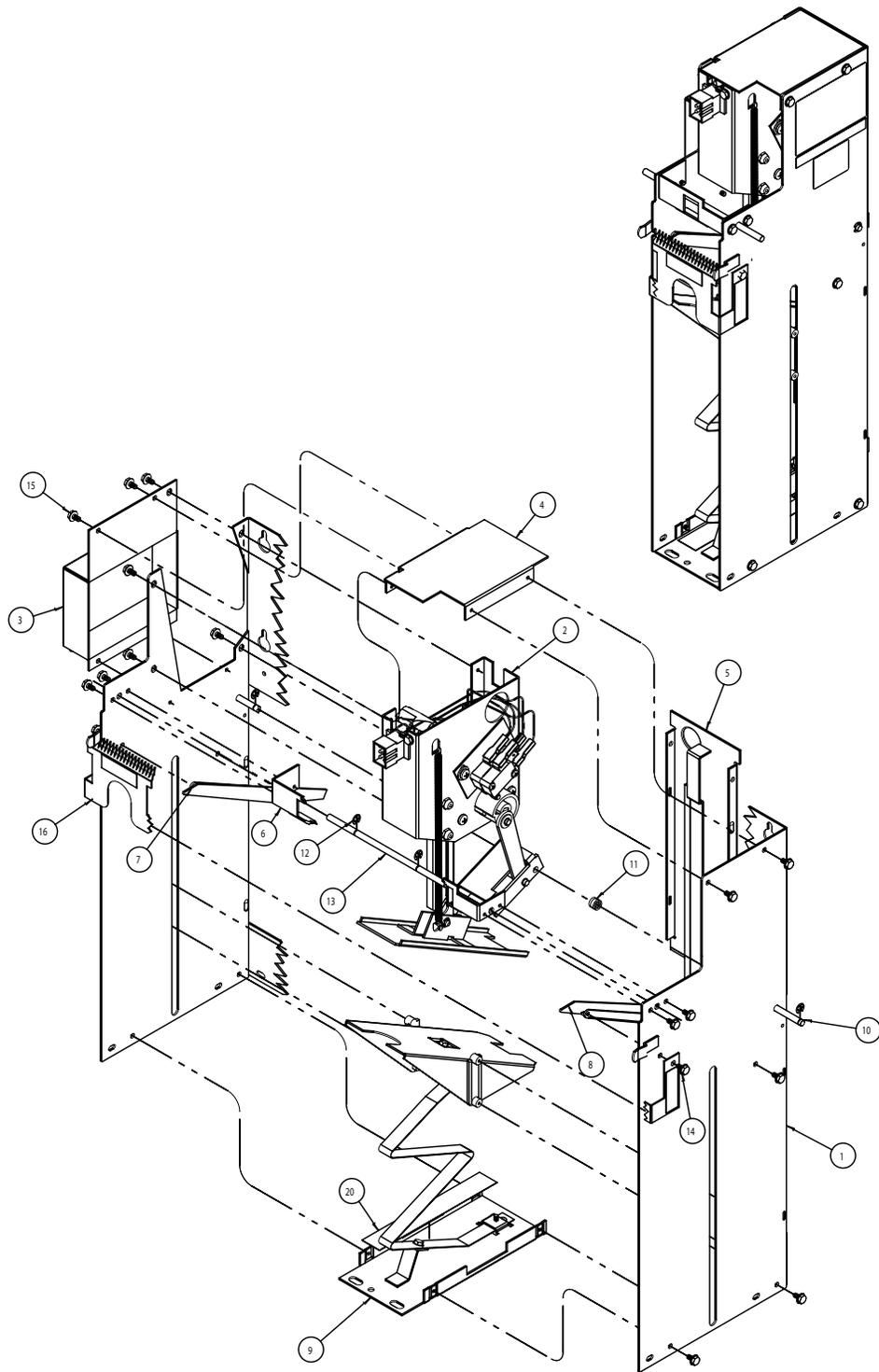
1. Keep the Stacker clean.
2. Check operation; the Stacker should cycle smoothly.
3. With the Stacker empty, check the pressure plate. Push the plate down and let it go. It should snap freely to the top.

Annual Maintenance

1. All pivot points must be cleaned and re-greased.
2. Check for bent, loose, worn, rusted or corroded parts.
3. Check the motor for coasting.
4. Use a small amount of Dry Slick™ (a liquid solvent cleaner and protectant) on the **slides**. Do not use grease or WD-40™ on the slides.

VI. PARTS

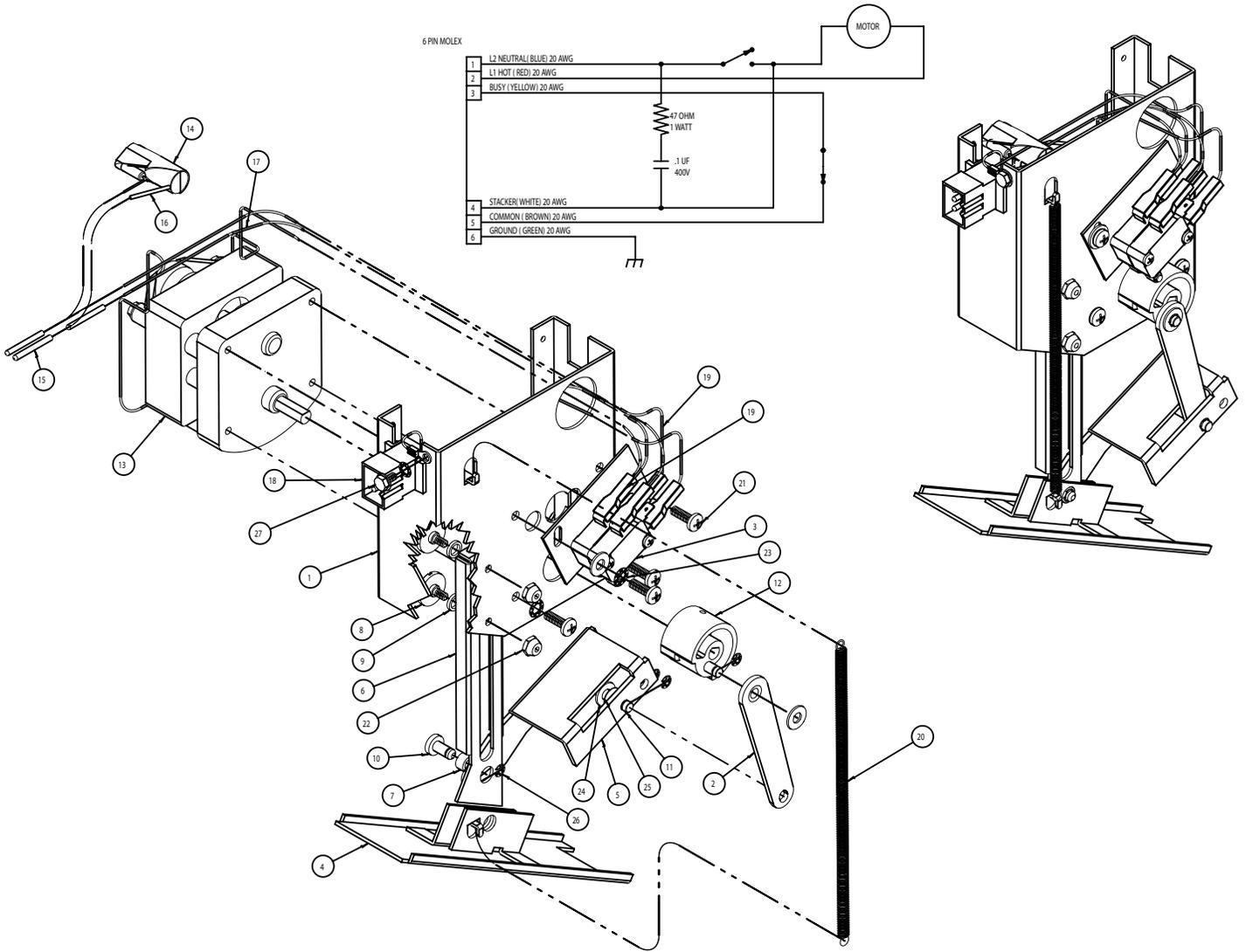
Single Stacker



Single Stacker Bill Of Materials

16	100-0099	KIT, SINGLE STACKER COMB	1
15	90-0132	SCREW, #6-32 x 1/4 LG. PAN HEAD PHILLIPS	18
14	90-0601	SCREW, #6-32 x SELF-TAPPING HEX	4
13	90-0547	STACKER MTG ROD	1
12	90-0507	3/16" RETAINING RING	5
11	36-0034	SPACER, PIVOT	1
10	36-0043	PUSHER PIN	1
9	36-0005A	BOTTOM PLATE ASSEMBLY	1
8	36-0014	RIGHT MOUNTING RAIL	1
7	36-0013	LEFT MOUNTING RAIL	1
6	36-0012	VALIDATOR BRACKET	1
5	36-0006	REAR GATE	1
4	36-0004	TOP COVER	1
3	36-0003	MOTOR COVER	1
2	36-0002A	MOTOR ASSEMBLY	1
1	36-0031	HOUSING AND CLIP	1
ITEM#	PART#	DESCRIPTION	QTY.
36-0036		SINGLE STACKER	

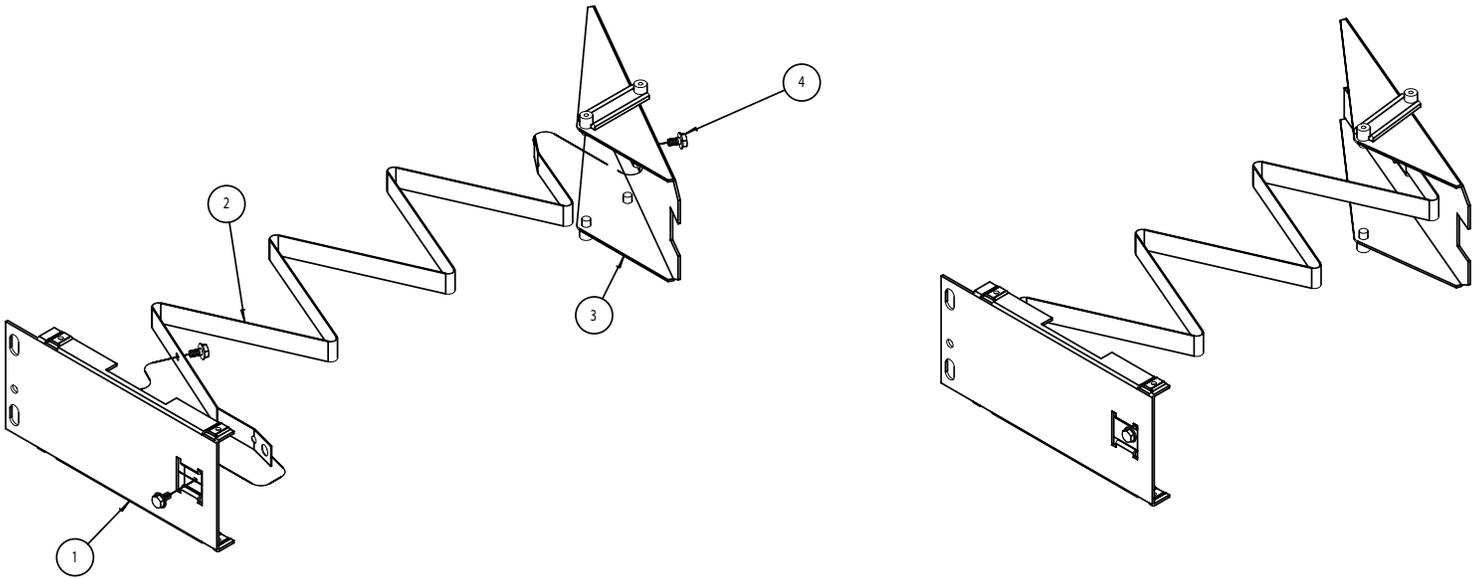
Motor Assembly



Motor Assembly Bill Of Materials

27	90-0132	SCREW, #6-32 x 1/4 LG. PAN HEAD PHILLIPS	1
26	90-0506	RETAINING RING 1/8	4
25	90-0425	SHIM, VENDING VALIDATOR	1
24	90-0417	WASHER, #10 BRASS	2
23	90-0411	WASHER, #8 INTERNAL LOCK	5
22	90-0308	NUT, #6-32 NYLON LOCK	2
21	90-0144	SCREW, #8-32 x 1/2 PH	4
20	50-0028	SPRING, SLIDE	1
19	49-9371	SPADE CONNECTOR BLUE 3/16"	2
18	48-3116	HARNESS, SINGLE STACKER MAIN	1
17	47-0000	WIRE, 20 GA	1
16	47-0220	SHRINK TUBE 1/16"	1.5
15	47-0011	TERMINAL, MALE	3
14	36-0079A	SNUBBER KIT, STACKER	1
13	36-0070	SINGLE STACKER, MOTOR	1
12	36-0050A	CAM ASSEMBLY	1
11	36-0045	PIVOT PIN	1
10	36-0044	LINK PIN	1
9	36-0042	PUSHER GUIDE SPACER	2
8	36-0041	PUSHER GUIDE STUD	2
7	36-0034	PIVOT PIN SPACER	1
6	36-0021	PUSHER GUIDE	1
5	36-0020	PUSHER LEVER	1
4	36-0018	PUSHER	1
3	36-0015A	SWITCH ASSEMBLY	1
2	36-0011A	CAM LINK ASSEMBLY	1
1	36-0002	MOTOR BRACKET	1
ITEM#	PART#	DESCRIPTION	QTY.
36-0002A		MOTOR ASSEMBLY	

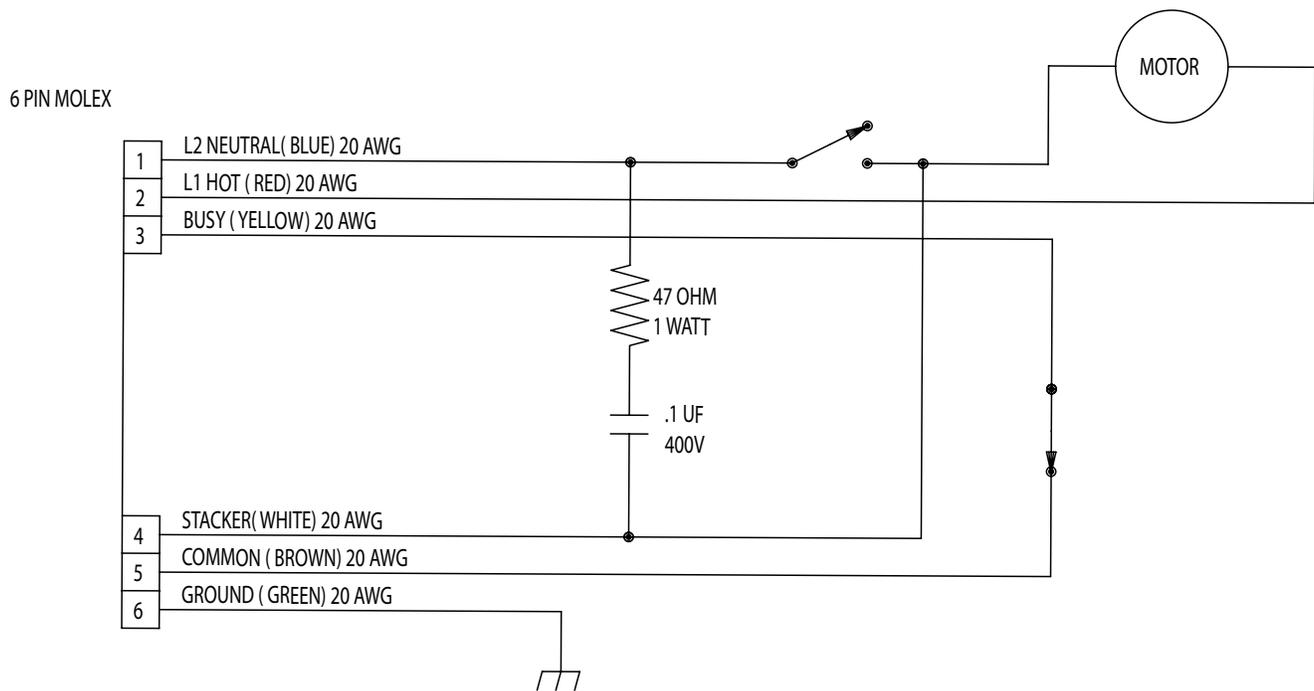
Bottom Plate Assmebly



4	90-0132	SCREW, #6-32 x 1/4 LG. PAN HEAD PHILLIPS	3
3	36-0007B	PRESSURE PLATE WITH SLIDES	1
2	36-0074	SPRING, STACKER PRESSURE	1
1	36-0005	PLATE BOTTOM	1
ITEM#	PART#	DESCRIPTION	QTY.
36-0005A		BOTTOM PLATE ASSEMBLY	

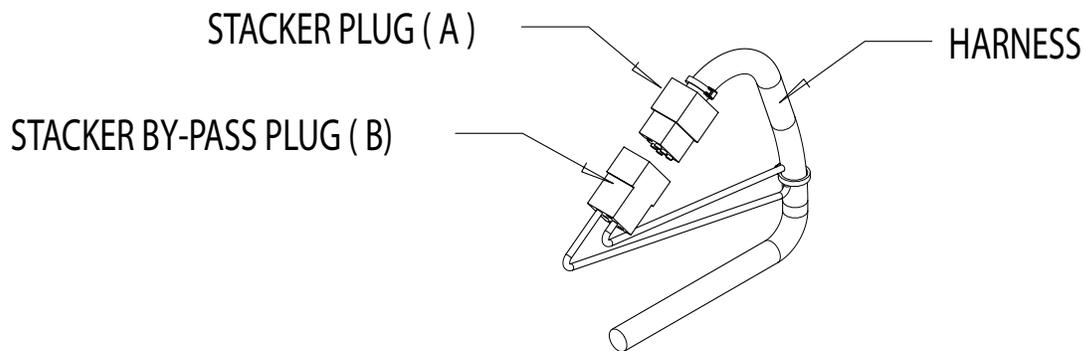
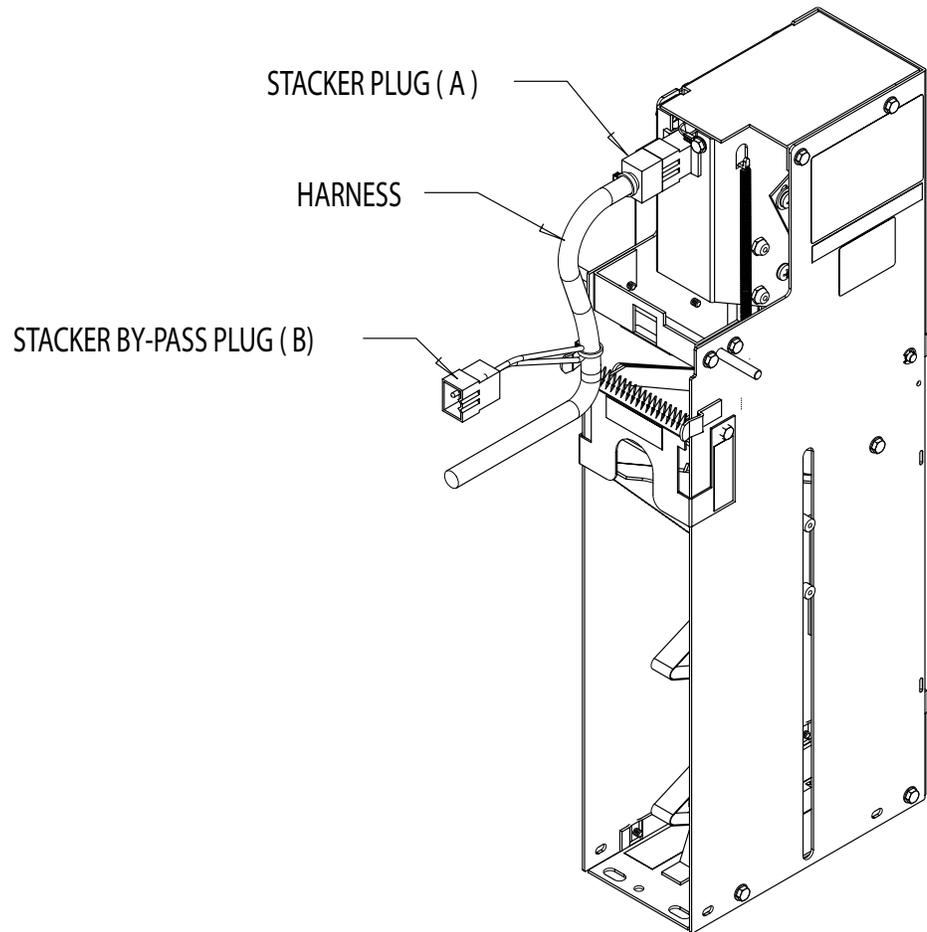
APPENDIX A

Single Stacker Schematic



APPENDIX B

Stacker By-Pass Plug



To operate the machine without a stacker, follow the steps below:

1. Turn off power to the machine.
2. Disconnect the Stacker Plug (A).
3. Locate the By-Pass Plug (B). The By-Pass Plug is approximately 3-4 inches away from the Stacker Plug, and is connected to the harness with a purple wire.
4. Plug the Stacker Plug (A) into the By-Pass Plug (B).

LIMITED WARRANTY AGREEMENT OF HAMILTON MANUFACTURING CORP.

Hamilton Manufacturing Corp., an Ohio Corporation, (“Seller”) warrants to Purchaser that all new equipment shall be free from defects in material and factory workmanship for a period of one (1) year from the original shipping date. Hamilton Manufacturing Corp. further warrants if any part of said new equipment in Seller’s sole opinion, requires replacement or repair due to a defect in material or factory workmanship during said period, Seller will repair or replace said new equipment. Purchaser’s remedies and the liabilities and obligations of Seller herein shall be limited to repair or replacement of the equipment as Seller may choose, and Seller’s obligation to remedy such defects shall not exceed the Purchaser’s original cost for the equipment. Purchaser EXPRESSLY AGREES this is the EXCLUSIVE REMEDY under this warranty. There are no other express or implied warranties which extend beyond the face hereof. All warranty repair service must be performed by either a Factory Trained Service Representative or **HAMILTON MANUFACTURING CORP., 1026 Hamilton Drive, Holland, Ohio 43528 PHONE (419) 867-4858 or (800) 837-5561, FAX (419) 867-4867.**

The limited warranty for new equipment is conditioned upon the following:

1. The subject equipment has not, in the Seller’s sole opinion, been subjected to: accident, abuse, misuse, vandalism, civil disobedience, riots, acts of God, natural disaster, acts of war or terrorism.
2. The Seller shall not be liable for any expense incurred by Purchaser incidental to the repair or replacement of equipment and Purchaser shall assume full responsibility for any freight or shipping charges.
3. The coverage of this warranty shall not extend to expendable parts.
4. Purchaser shall have a warranty registration card on file with Seller prior to any claim in order for warranty protection to apply.
5. No warranty coverage is applicable to any equipment used for currency other than that specified at the time of the purchase.
6. Seller expressly disclaims any warranty that counterfeit currency will not activate said equipment.
7. Seller expressly disclaims any warranty for any losses due to bill manipulation or theft or loss of cash under any circumstances.
8. Use of the equipment for anything other than its intended and designed use will void the Limited Warranty Agreement. Use of equipment for anything other than its intended and designed use includes, but is not limited to, downloading software/applications not certified by Seller such as e-mail, spyware, screen savers, viruses, worms, third party software, web search engines, cookies, spam, desktop applications, games, web surfing, etc.

Seller further warrants all repair or service work performed by a factory trained representative or Hamilton Manufacturing Corp. for a period of ninety (90) days from the date the repair or service work was performed. Purchaser’s remedies and the liabilities and obligations of Seller herein shall be limited to repair or replacement of equipment as Seller may choose, and Seller’s obligation to remedy such defects shall not exceed the Purchaser’s depreciated value of the equipment. Purchaser EXPRESSLY AGREES this is an EXCLUSIVE REMEDY under this warranty. There are no other express or implied warranties on repair or service work performed by a factory trained representative or Hamilton Manufacturing Corp. which extend beyond the face hereof.

The limited warranty for repair and service work is conditioned upon the following:

1. The subject equipment has not, in the Seller's sole opinion, been subjected to: accident, abuse, misuse, vandalism, civil disobedience, riots, acts of God, natural disaster, acts of war or terrorism.
2. The Seller shall not be liable for any expense incurred by Purchaser incidental to the repair or replacement of equipment and Purchaser shall assume full responsibility for any freight or shipping charges.
3. The coverage of this warranty shall not extend to expendable parts.
4. Purchaser shall have a warranty registration card on file with Seller prior to any claim in order for warranty protection to apply.
5. No warranty coverage is applicable to any equipment used for currency other than that specified at the time of the purchase.
6. Seller expressly disclaims any warranty that counterfeit currency will not activate said equipment.
7. Seller expressly disclaims any warranty for any losses due to bill manipulation or theft or loss of cash under any circumstances.
8. No person or entity other than a factory trained representative or Hamilton Manufacturing Corp. has performed or attempted to perform the subject repair or service.
9. Using equipment which has been serviced or repaired for anything other than its intended or designed use such as downloading software applications not certified by Seller will void the Limited Warranty Agreement. This includes software/applications such as e-mail, spyware, screen savers, viruses, worms, third party software, web search engines, cookies, spam, desktop applications, games, web surfing, etc.

THIS AGREEMENT IS MADE WITH THE EXPRESS UNDERSTANDING THAT THERE ARE NO IMPLIED WARRANTIES THAT THE EQUIPMENT SHALL BE MERCHANTABLE, OR THAT THE GOODS SHALL BE FIT FOR ANY PARTICULAR PURPOSE. PURCHASER HEREBY ACKNOWLEDGES THAT IT IS NOT RELYING ON THE SELLER'S SKILL OR JUDGMENT TO SELECT OR FURNISH EQUIPMENT SUITABLE FOR ANY PARTICULAR PURPOSE AND THAT THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THAT WHICH IS DESCRIBED HEREIN.

The Purchaser agrees that in no event will the Seller be liable for direct, indirect, or consequential damages or for injury resulting from any defective or non-conforming new, repaired or serviced equipment, or for any loss, damage or expense of any kind, including loss of profits, business interruption, loss of business information or other pecuniary loss arising in connection with this Limited Warranty Agreement, or with the use of, or inability to use the subject equipment regardless of Sellers knowledge of the possibility of the same.

Hamilton Manufacturing Corporation

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Customer Service Phone: (800) 837-5561 **Customer Service Fax:** (419) 867-4857
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