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**MODULAR SERIES**

**MC-MINI (MCM)  
Installation Guide &  
Operating Manual**

Part #8M00472 Rev. 6



**Standard Change-Makers, Inc.  
Indianapolis, Indiana**

**Two-Year  
Limited Product Warranty  
MCM Series**

Standard Change-Makers, Inc. ("Manufacturer") warrants the machine (the "Product"), excluding any component(s) not manufactured by Standard Change-Makers, Inc. (Third Party Product(s)), to be free from defects in material and workmanship if properly installed according to the Manufacturer's Installation Instructions and serviced and operated under normal conditions according to the Manufacturer's instructions. **THE MANUFACTURER MAKES NO EXPRESS WARRANTIES WITH RESPECT TO, AND DISCLAIMS ANY IMPLIED WARRANTIES APPLICABLE TO, ANY THIRD PARTY PRODUCT(S) INCORPORATED INTO THE PRODUCT INCLUDING WARRANTIES AGAINST INFRINGEMENT, WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE.** However, the manufacturer of Third Party Product(s) may have a warranty which is applicable to the owner of the product. Please contact the Manufacturer for additional warranty information regarding the Third Party Product(s).

No other promise or affirmation of fact concerning the Product and no other description, sample or model of the Product shall be construed as augmenting or supplementing this limited warranty, unless the additional warranty is in writing and signed by an authorized representative of Manufacturer. The warranty period commences on the date the Product is put into service ("Installation Date").

During the first twelve months after the Installation Date, Manufacturer shall repair or replace (without charge to the owner) the Product, or any component or part thereof (except Third Party Product(s)), which is determined, in the sole discretion of Manufacturer, to have defects in materials or workmanship prior to the Installation Date.

During the second twelve months after the Installation date, Manufacturer shall repair or replace the Product, or any component or part thereof, (except Third Party Product(s)), which is determined, in the sole discretion of Manufacturer, to have had defects in materials or workmanship prior to the Installation Date. During the second twelve months after the Installation Date, Manufacturer shall pay all costs for replacement parts, but the owner shall pay all labor costs.

**MANUFACTURER SHALL ONLY BE OBLIGATED TO PERFORM WARRANTY WORK IF THE PRODUCT, OR ANY COMPONENT OR PART THEREOF, IS RETURNED TO MANUFACTURERS FACTORY, OR ONE OF ITS COMPANY-OWNED SERVICE CENTERS. TRANSPORTATION CHARGES SHALL BE PREPAID BY THE OWNER.**

Each Product shipped from the factory contains Owner's Manuals. Before shipping a Product to Manufacturer or one of its company-owned service centers for warranty work, the owner shall be certain that the source of difficulty could not be corrected by performing one or more of the procedures described in the Owner's Manuals. If Manufacturer finds, in its sole discretion, that the difficulty could have been corrected by following a procedure in an Owner's Manual, **MANUFACTURER RESERVES THE RIGHT TO MAKE THEIR REGULAR CHARGE FOR ANY WORK PERFORMED.**

This limited warranty shall not apply to any Product which must be repaired or replaced because of normal wear, which has been subject to misuse, negligence, or accident, or which has been repaired or altered outside of Manufacturers factory, or one of its company-owned service centers, unless authorized by Manufacturer. Manufacturer shall not be liable for any loss, damage, or expense (including, without limitation, the loss of money caused by inadvertent machine dispense or by the use of counterfeit or bogus money) caused from or related in any way to the use of the Product or from any other cause.

No person, agent, dealer, or any other entity is authorized to give or alter any warranties on behalf of Manufacturer nor to assume for Manufacturer any other obligation or liability in connection with the Product. Manufacturer reserves the right to make design and/or operational changes to the Product without obligation to incorporate these changes in to the Product covered by this warranty.

**THIS LIMITED WARRANTY IS VALID ONLY IF AN OWNER'S WARRANTY REGISTRATION CARD HAS BEEN FULLY AND PROPERLY COMPLETED AND IS ON FILE WITH THE MANUFACTURER. THIS LIMITED WARRANTY SUPERSEDES AND IS GIVEN IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES APPLICABLE TO THE PRODUCT, THE BILL ACCEPTOR OR BILL DISPENSER (WHETHER ARISING UNDER STATUTE, COMMON LAW, CONVENTION OR TREATY), INCLUDING WARRANTIES AGAINST INFRINGEMENT, WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. MANUFACTURER'S OBLIGATION TO REPAIR OR REPLACE ANY PRODUCT, OR ANY COMPONENT OR PART THEREOF, AS SET FORTH ABOVE SHALL BE IN LIEU OF ALL OTHER REMEDIES. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Effective January 1, 2005



# Contents

<b>1.0 Quick Start Guide</b> .....	<b>2</b>
Familiarizing Yourself With The Machine .....	2
Unpacking The Machine .....	4
Lock Operation .....	4
Machine Placement And Mounting Considerations .....	4
Connecting Power To The Machine .....	6
Filling The Coin Dispenser .....	8
Testing The Machine Operation .....	8
Troubleshooting An Error Condition .....	9
Removing Bills From The Bill Stacker .....	10
Emptying The Coin Dispenser .....	11
<b>2.0 External Considerations</b> .....	<b>12</b>
Power Consumption Considerations .....	12
<b>3.0 Machine Features</b> .....	<b>12</b>
Bill Acceptance and Bill Security .....	12
Fast Vend Shutoff .....	12
Error Timeout .....	13
Power Reset .....	13
Hold Escrow .....	13
Accumulate .....	13
Dispenser Type .....	14
Dispenser Sub Type .....	14
Stringing Detection Level .....	14
Bonus Tokens .....	14
Dispenser Value .....	15
<b>4.0 Troubleshooting</b> .....	<b>17</b>
Flash Codes .....	17
Troubleshooting Chart .....	17
Frequently Asked Questions .....	18
Maintenance .....	19
<b>5.0 Dispenser Details</b> .....	<b>20</b>
Optional Coin Dispenser Counter .....	20
Coin Dispenser Sold-Out Configurations .....	20
Bill Acceptors .....	21
MDB Bill Acceptors .....	21
<b>6.0 Part Ordering Information</b> .....	<b>22</b>
Interconnecting Cables .....	23
Module Part Numbers .....	23
Miscellaneous Parts .....	23
Coin Dispenser Part Numbers .....	23
<b>7.0 How To Change A Feature Setting</b> .....	<b>24</b>
<b>Service Centers</b> .....	<b>A</b>

## 1.0 QUICK START GUIDE

Your machine has been shipped preprogrammed from the factory. All settings will be programmed to the factory default unless otherwise specified at the time of order. The majority of new machine owners need only read this section in order to learn the basic installation and operating features of your machine. For more detail, or if you just enjoy reading technical information, see the remaining sections of this manual.

### Familiarizing Yourself With The Machine

#### DIMENSIONS

	Width	Height	Depth	Weight
Cabinet	10.75"	14.625"	13.312"	40 lbs
Base	10.75"	32.00"	13.312"	45 lbs

#### COMPONENT LOCATIONS

FIGURE 1 – Bill To Coin

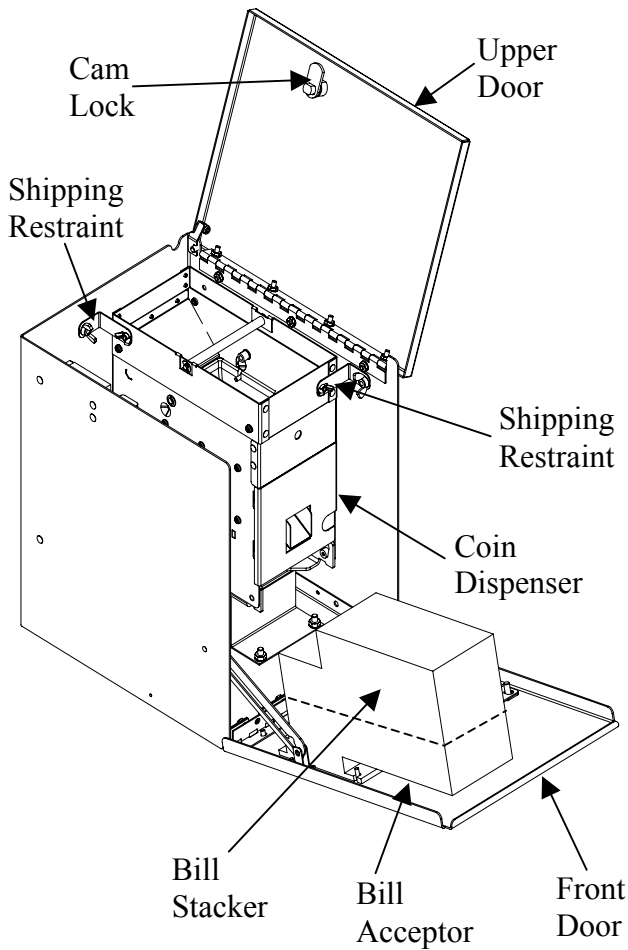
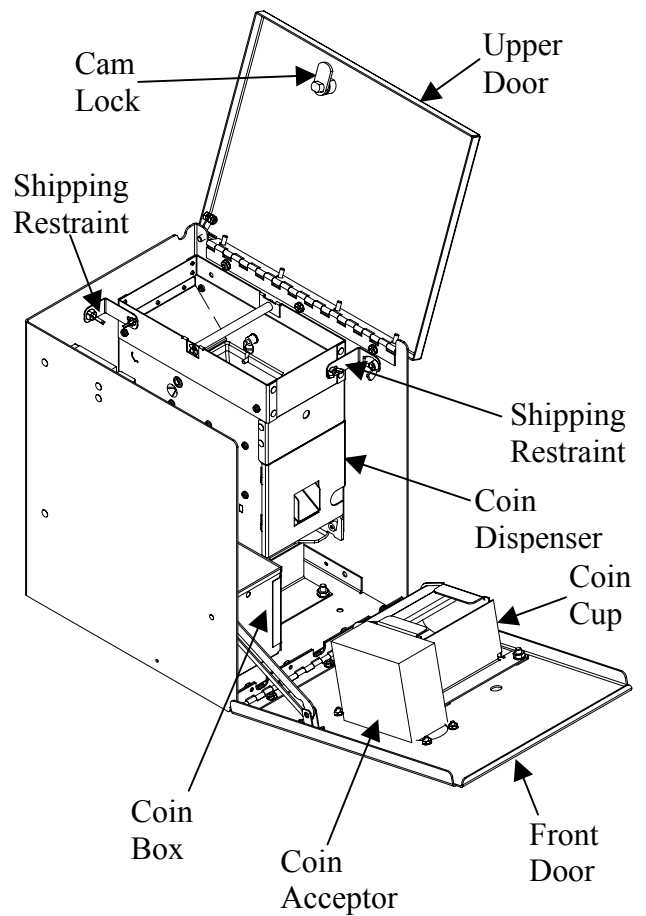
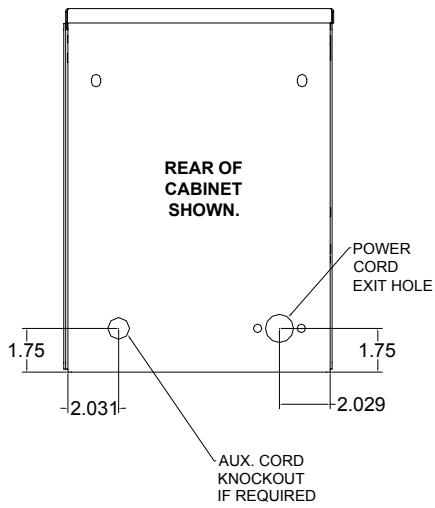
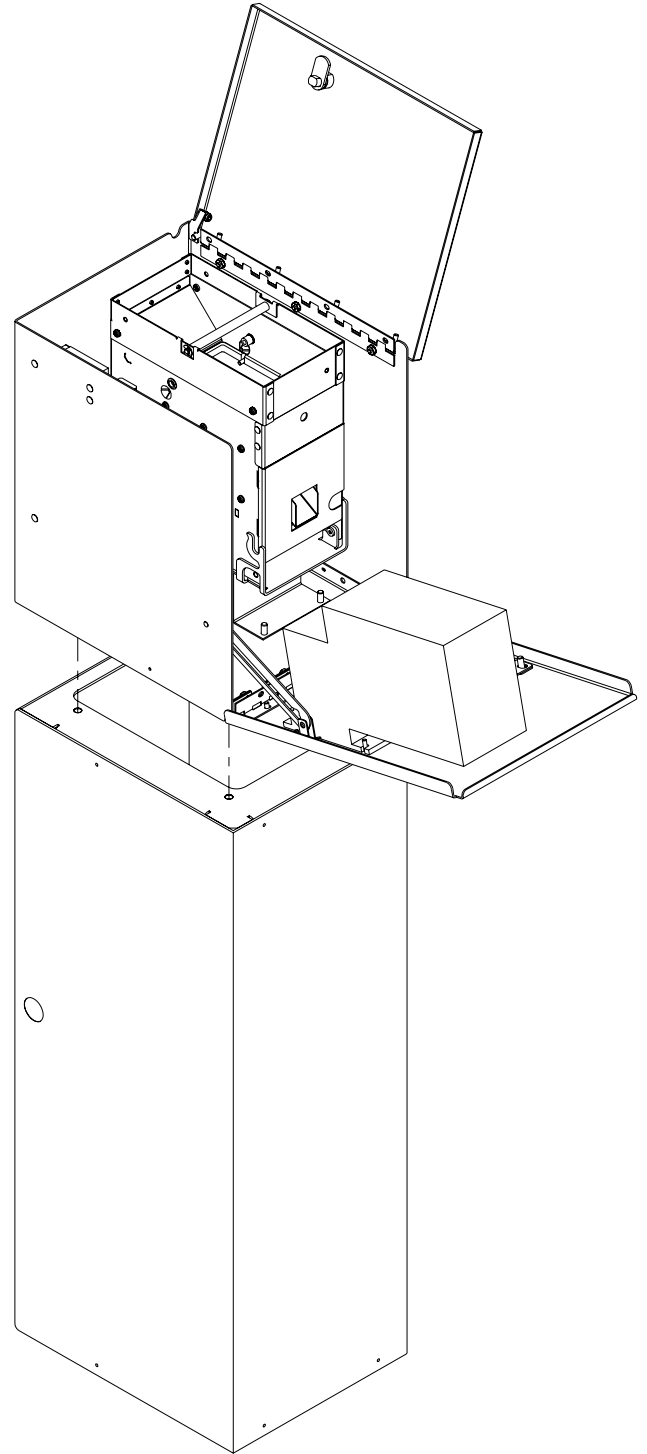
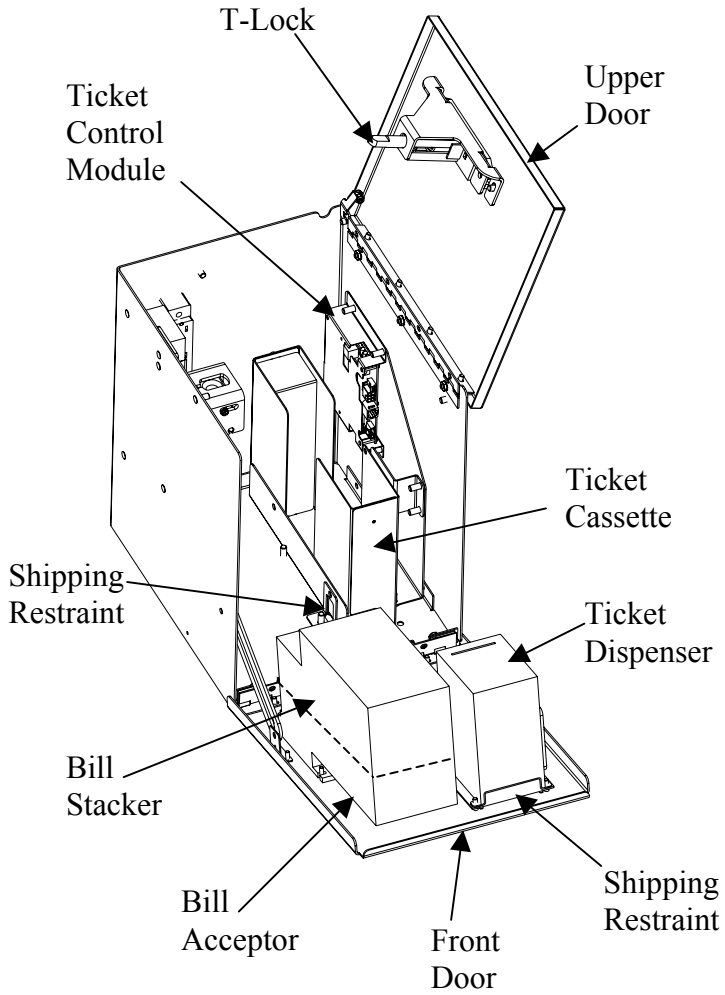


FIGURE 2 – Coin To Coin



**FIGURE 3 – Bill To Ticket**



**CABINET with OPTIONAL BASE**

### **!!!! CAUTION !!!!**

Always disconnect the 24V power supply before adding or removing a module. Failure to do so can result in settings being lost and/or component failure.

## **Unpacking The Machine**

Open box to remove top folded cardboard insert. Next, remove unit from box and plastic bag. Keys to unlock top door are in a plastic bag inside the coin cup.

Remove the two shipping restraints and wing nuts shown in Fig. 1 or Fig. 2 or remove the one restraint, screws & wing nuts from ticket cassette and restraint bar from ticket dispenser shown in Fig. 3.

## **Lock Operation**

Important Note – The cam lock type is not intended for unattended areas where security is a concern. The CAM lock used in this machine provides quick and easy access to the interior of the changer. To disengage the lock, insert the key and turn it ¼ turn counter-clockwise. To lock the door simply turn the key ¼ turn clockwise. Refer to Fig 1. for location of lock.

The T-Handle lock used in this machine provides quick and easy access to the interior of the changer. To disengage the lock it is only necessary to unlock the mechanism and turn the handle counter clockwise until it disengages from the interior lock mechanism (approximately five turns), then pull the top door open. The T-Handle lock must be parallel to the cabinet side for the lock to disengage. To lock the door, turn the handle parallel to the cabinet side, then push the door closed. The lock will be automatically engaged as the door is closed. If the door is pushed all the way closed, it will only be necessary to turn the handle couple of turns until the lock tightens. The lock handle can then be pushed into the recess of the door, securely locking the cabinet.

SUGGESTION: Place the extra key and key number tag to the changer in a safe place in the event it is needed at a later date.

## **Machine Placement And Mounting Considerations**

- Revenue Access - The machine should be located in a manner that allows easy access for filling or dumping the coin dispenser and for removing the deposited bills.
- Outdoor Locations – We do not recommend this machine model for outdoor use.
- Overall Space Required - When determining the overall space requirement, be sure to allow room for the top and front door to open. Refer to Fig 1. to identify the direction of the door swing.
- Machine Mounting Methods:
  - Countertop – We recommend installing the rubber feet provided in the owners manual packet. This will reduce the chance of sliding and scratching the countertop surface.
  - Mounted To A Base – The bolts used to mount the machine to the base have been included in the box the stand was shipped in. Also included in the box is a template used for drilling the holes needed to secure the base to the floor.



### WARNING!

CHANGERS MOUNTED ON BASES ARE TOP HEAVY - The changer MUST be secured to a rigid vertical surface, as well as to the stand to provide appropriate stability and safety.

- Mounting To A Wall - If mounting to the wall, it will be necessary to space the cabinet far enough away from the wall to allow the top door to be lifted. Use four 1/4-inch diameter bolts for mounting. Make sure that the cabinet is level and the mounting surface is flat. A specially designed wall mount bracket is available and can be purchased separately (See photo below).



Mounting Bracket  
Part No. 4K00612-FI

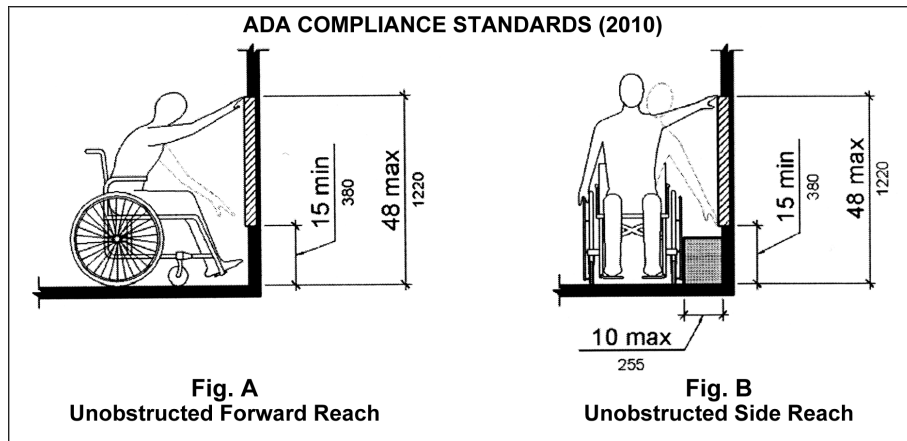
### CAUTION

Even the slightest uneven surface can cause cabinet distortion when mounting bolts are tightened. This can cause the doors to fit unevenly when closed. Should this occur, it may be necessary to shim one or more of the cabinet corners.

- Location of the Changer  
The following points should be considered when locating a changer:

**Service Access:** Full swing of the door when opened for removing and replenishing revenues.

**User Access: Easily accessed by customers and proper height from the floor.** The height will vary depending upon the changer model. Accessibility for the handicapped, as required by the Americans with Disabilities Act (ADA) specifies that all controls (coin cup, coin insertion slots and bill acceptor slots) shall not be higher than 48" (1220 mm), or no less than 15" (230 mm) from the floor for Forward Reach or "Straight On" access.



**Installation Height:** Below is a chart listing each Mini-Series cabinet model and the corresponding Maximum Installation Height necessary to comply with the ADA requirements. The measurement shown is taken from the base (bottom) of the machine to the floor.

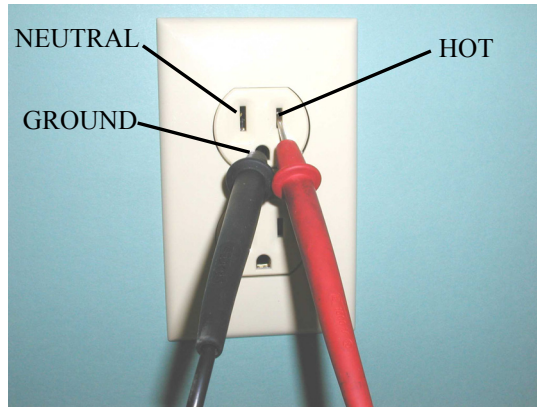
STYLE	ADA REQUIREMENTS MAX. INSTALLATION HEIGHT FLOOR TO CABINET BASE		HEIGHT TO BILL ACCEPTOR (or COIN) SLOT ON OPTIONAL BASE
	STRAIGHT ON	SIDE ACCESS	
BILL ACCEPTOR	42-1/2 IN.	42-1/2 IN.	37-1/2 IN.
COIN ACCEPTOR	39-3/4 IN.	39-3/4 IN.	40-1/4 IN.

Additionally, ADA requires a 30” (760mm) by 48” (1220mm) “clear floor space” to provide sufficient clearance for a single wheelchair and occupant.

### Connecting Power To The Machine

The machine requires connection to a properly grounded, standard 115VAC power outlet. If the machine is located in a harsh electrical environment, or if dedicated line is not feasible, the use of a high quality surge suppressor (same as used for home computers) is recommended. If hardwiring of the machine is necessary, a qualified electrician should perform it.

This machine has a service cord that ends in a 3-pin connector. The wall receptacle you plug the machine into must be properly polarized and grounded. Operating your machine from an improperly connected power source will VOID THE WARRANTY. The wall receptacle must be able to supply a constant 120 volts at 60Hertz. The receptacle should be protected by a 15 amp circuit breaker or fuse. Perform checks on the power source as follows: (See photo on following page).



### 1. Voltage Check

When placed across the **HOT** and **NEUTRAL** terminals, a volt-ohmmeter should indicate 110-130 volts AC.

### 2. Polarity Check

When placed across the **HOT** and **GROUND** terminals, a volt-ohmmeter should indicate 110-130 volts AC.

### 3. Noise Potential Check

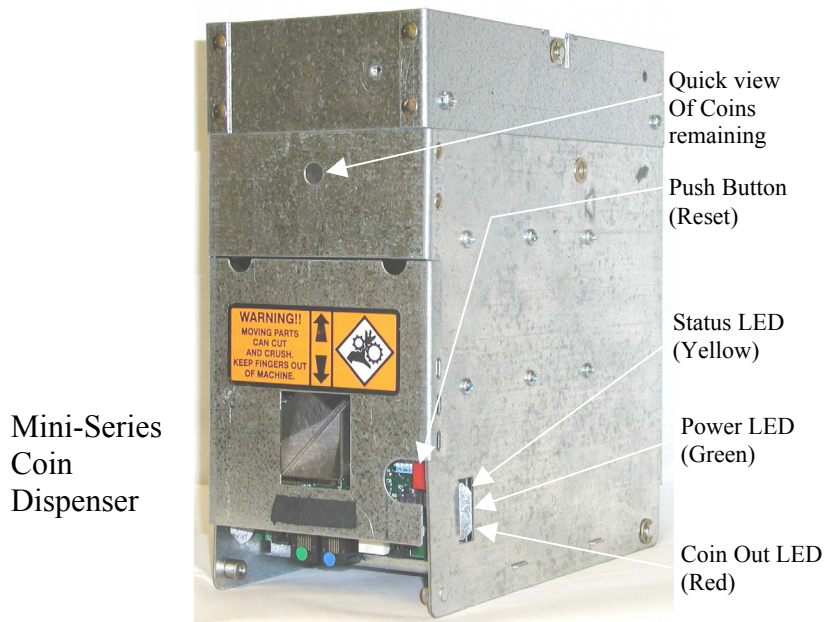
When placed across the **NEUTRAL** and **GROUND** terminals, a volt-ohmmeter should indicate no more than .5 volts AC. Readings greater than .5 volts AC indicate a poor grounding condition that could result in noise problems for the electronic circuitry.

If you are hard wiring the changer the same checks should be performed on the supply line going to the changer. Any deviation from these requirements may result in unreliable performance from your machine.

## Filling The Coin Dispenser

Filling the coin dispenser is a simple task. For coins contained in a bank bag, grasp the neck of the bank bag and twist it to choke the mouth of the bag. Invert the bag and insert the neck of the bag into the top of the coin dispenser. Loosen your grip on the bag neck slowly, letting coins feed down into the dispenser. The table below shows a convenient filling level for the various standard coin dispensers. When possible, you can turn your bank bags inside out and lessen the chance of small strings and threads from accumulating in your coin dispenser. Clean coffee cans or plastic pails can also be used to fill the coin dispensers.

<u>Type</u>	<u>No. of Coins</u>	<u>Value</u>
Nickel Dispenser	2,370	\$118
Dime Dispenser	4,870	\$487
Quarter Dispenser	2,000	\$500
Dollar Dispenser	1,500	\$1,500



## Testing The Machine Operation

When installation is complete, and an ample supply of coins has been loaded in the dispenser, and power has been turned on, the machine is ready for operation. The *Status LED* (yellow / top) on the dispenser should be flashing at a fast steady rate of approximately 5 flashes per second. This flash rate indicates that this dispenser is ready to operate. You are now ready to test the machine for proper operation.

Note: A slower flash rate (approx. 1 flash per second) indicates an error condition.

## Troubleshooting An Error Condition

If an error condition is present in the dispenser, the *status LED* will be flashing at a rate of one flash per second and there will be a brief delay (LED will be off for approx. 3 seconds) between consecutive flashes. This flash pattern indicates an error condition. If this occurs, count the number of flashes between the pause. Do this several times to verify the correct *Flash Code* (number of consecutive flashes before the pause). Refer to the “ATTENTION MACHINE OWNER” decal shown below (also found in machine) to determine the source of the error for this flash code. Next, refer to the troubleshooting section of this manual and find the probable causes for the error, as identified in the Troubleshooting Chart. Once the failure cause has been corrected, reset the dispenser using the procedure outlined below. The *status LED* flash rate should now return to the fast (5 flashes per second) steady rate.

### ATTENTION MACHINE OWNER

**FLASH CODES:** In the event of a machine OUT OF SERVICE CONDITION please use the FLASH CODE table below to determine the source of the machine error. To determine the flash code, count the number of consecutive flashes from the blinking LED indicator on the device in error. The flash code should always be noted before contacting your distributor or a service center.

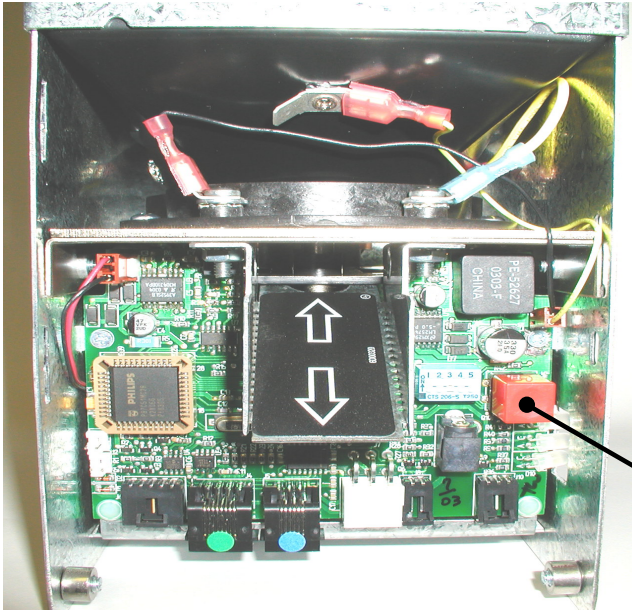
**Example:** For flash code #2 (Bill Acceptor Error): LED = ON - OFF - ON - OFF. The flash code will repeat until the error condition is cleared.

#### FLASH CODE TABLE:

FLASH CODE	PROBLEM	FLASH CODE	PROBLEM
1	Dispenser Sold-Out	8	Dispenser Error
2	Bill Acceptor Error	9	Fatal Memory Error
3	Stacker Missing or Full	10	Power Fault Detected
4	Bill Jammed Error	11	Unknown Error
5	Fast Vend Shut-Off	12	Illogical Programming
6	Stringing Detected	13	Data Bad Error
7	Coin Acceptor Error	14	Overpay Logic Error

To reset the device in error, press the red button on the device.

6D00327



Coin Dispenser without Door

### Resetting The Dispenser

The dispenser is equipped with a *push button* that can be used to reset the dispenser from an error condition. Allow at least 45 seconds after releasing the button, for the entire reset process to be completed. The flash code should change back to the steady flashing pattern if the error was successfully reset.

**PUSH BUTTON**

### Removing Bills From The Bill Stacker

The bill stacker is attached to the rear of the bill acceptor. Each bill stacker will have an access door that can be easily opened to allow the accepted bills to be removed. The location of the access door varies depending on the bill acceptor model, yet all are easily viewable. Most acceptor brands are equipped with a removable stacker. See the pictures below for the common access door locations.

Pyramid Acceptor



Mars Acceptor



Coinco Acceptor



## Emptying The Coin Dispenser

The majority of coins in a dispenser can be removed from the coin dispenser using the *bulk dump* method. Bulk dumping refers to the manual method of emptying coins from a dispenser into a container. A few coins will remain in the dispense disk following a *bulk dump*; these coins can be removed by performing an *electronic dump*.

### CAUTION

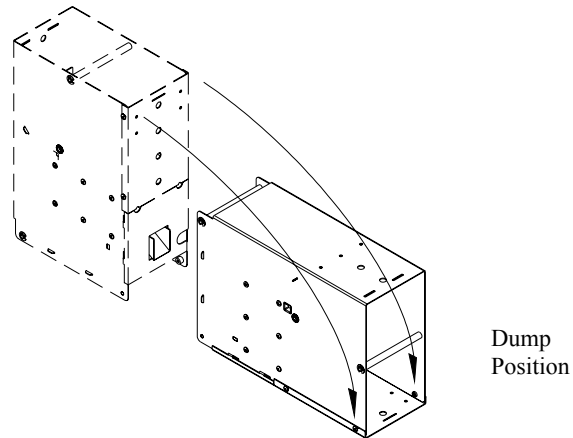
As a safety precaution you should never place your fingers in or near the coin dispense chute or in the coin storage area of the coin dispenser when power is applied to the dispenser.

### Bulk Dump Method

*Bulk dumping* is performed the same way for all COIN DISPENSERS with a capacity up to 3200 quarters. To tilt the coin dispenser, pull forward at the top edge of the dispenser.

NOTES: Always TURN POWER OFF before bulk dumping a COIN DISPENSER for safety purposes. Also, it is a good idea to check the COIN DISPENSER connections after restoring the COIN DISPENSER to the normal operating position.

Coin Dispenser – Bulk Dump



**Electronic Dump** - The coin dispenser must first be in a “Sold Out” condition and not in error. This condition occurs when the remaining coins are insufficient to complete a vend for a large denomination bill. The diagnostic LED will be blinking at a slow steady pace indicating a Sold Out condition. To begin, turn the machine power off, then back on. Wait for the machines Out Of Service lamp to change from the constant ON state to a BLINKING or OFF state. Make sure that the dispenser is flashing a dispenser sold out code. If any other flash code is shown when pressing the *Push Button* it will reset the dispenser. You will have to power cycle the dispenser again. Next, press and release the *Push Button* (see diagram on page 10 for location). The dispenser will begin dispensing within 5 seconds. The coin dispenser will stop when all coins have been cleared.

Note: The *push button* must be pressed within 5 minutes of the time the power was turned off / on to the machine.

## 2.0 EXTERNAL CONSIDERATIONS

### Power Consumption Considerations

GENERAL	RANGE
OPERATING VOLTAGE	105 VAC - 135 VAC
POWER CONSUMPTION	80W (min) - 360W (max)
OPERATING TEMPERATURE	0 - 60°C (32 - 140°F)
ELECTRICAL SERVICE	15A – DEDICATED RUN

The MC machine series is equipped with a highly efficient “*switching power supply*”. One advantage of this type of power supply is its ability to deliver steady output power when encountering large fluctuations in input voltage - **100VAC** to **135VAC**. In addition this supply will only use power when it is needed during the change making process. This means the heat created by the power supply is only generated for brief periods of time and as a result will create very little heat build-up inside the machine. Heat build-up can have adverse effects on the life of the machine components as well as the performance of the bill acceptor.

The power consumption of your particular machine model will vary depending on the number of modules in the model you have purchased. This machine will require a maximum of 60 Watts of momentary power.

## 3.0 MACHINE FEATURES

Below is the list of features provided by the MC Mini-Series changers, followed with a brief description of their functions. The factory uses the default settings as listed unless a change in the setting was specified by our customer. If you choose to change any of the feature settings, please refer to Appendix “A” in the back of this manual for the step by step procedures. Or if you choose, you may call any of our Factory Service centers and ask for assistance. You will find our Service Center locations and phone numbers on the back page of this manual.

### Bill Acceptance and Bill Security

- Default Settings for all bills: Security=High / Accept=Yes

The validation security for each bill denomination can be set HIGH or LOW depending on your security and acceptance requirements. Higher security requires greater authentication scrutiny and as a result will result in a lower acceptance rate of genuine bills. In addition, bill acceptance can be set to yes or no for each denomination. As an example, if you decide not to accept twenty dollars bills, you would select Security=High and Accept=No.

### Fast Vend Shutoff

- Factory Default Settings:
  - Time Period = 15 minutes for all bill denominations.
  - Max. Qty. of each bill supported (based on country) is:
    - U.S. currency: \$1 = 45, \$2 = 45, \$5 = 20, \$10 = 10, \$20 = 5, \$50 = 2, \$100 = 2.
    - Canadian currency: \$5 = 20, \$10 = 10, \$20 = 5, \$50 = 2, \$100 = 2.
    - Mexican currency: 20 peso = 20, 50 peso = 10, 100 peso = 5, 200 peso = 2, 500 peso = 2.



The Fast Vend Shutoff feature can be used to limit the loss of revenue in the event a thief has devised a method to successfully remove a bill after the vend has been initiated, and the bill acceptor cannot detect and report the presence of a string or other manipulation device.

This feature works by allowing the machine owner to establish a normal usage pattern for their individual site or environment. The usage pattern is based on a normal *quantity* of each bill denomination being deposited in a certain *time period*. In other words, if a large *quantity* of \$20 bills is deposited in a short *time period*, the machine can be set to identify this unusual pattern and shut itself off for a given time frame thereby preventing further revenue loss.

## **Error Timeout**

- Default Settings = 15 minutes

This feature allows the machine to automatically reset from certain error types. At this time the Error Timeout only applies to Fast Vend Shutoff and a Stringing Detected Error, error conditions. For these errors the machine will be automatically reset following a predetermined time period.

Notes: The 0 minutes setting (Choice 1) disables the error timeout. If power is cycled while the machine is in this condition, the Error Timeout (minutes setting) will be reset and the time out count down will start over.

## **Power Reset**

- Default Settings = Disabled

The Power Reset will allow all errors to be cleared upon a power cycle.

## **Hold Escrow**

- Default Settings = NO

During a coin accumulation through the coin acceptor (example: 2 dimes + 1 nickel = quarter payout) a customer may deposit three dimes and receive one quarter. If a five-cent hopper is not available in the machine, an escrow (unpaid balance) of 5 cents is present. This feature allows you to clear this escrow amount or simply “Hold” it and add the amount to the next deposit. To hold the escrow amount set this feature to YES.

## **Accumulate**

- Default Settings = Disabled

When this feature is enabled, a dispense will not occur until enough money has been accepted to meet or exceed the value of the device. Any amount over the Accumulate value will be automatically paid based on value of the device.

## Dispenser Type

- Default Settings = Coin

This feature is only necessary if you wish to convert a dispenser from one type (say a regular coin – quarter) to a token type (say a .984 token). Changing this feature can greatly alter how your machine works. Valid dispenser types are: Coin, token, ticket and card.

## Dispenser Sub Type

- Default Settings = Uninote Dispenser

Dispenser type must be set to Bill Dispenser before setting the Dispenser Sub Type. The Dispenser Sub Type allows the owner to select which Bill Dispenser model is being used in the machine. This will establish the correct communication and machine options for the selected Bill Dispenser.

## Stringing Detection Level

- Default Settings = Medium

**LOW** – Only validator detection will be used. If the validator detects a possible stringing attempt it will not issue credits. The System Controller will ignore all MDB codes that may indicate a possible stringing attempt.

**MEDIUM** – The Device will ignore MDB codes that may indicate a possible stringing attempt only when there are no credits. If there are credits or a payout is in progress, the changer will shut down with a bill acceptor error. No further transactions will occur until the machine is reset either manually or with the Auto Reset feature.

**HIGH** – The Device will go offline if any MDB codes that may indicate a possible stringing are received. The changer will shut down with a bill acceptor error. No further transactions will occur until the machine is reset either manually or with the Auto Reset feature. False errors may occur if bills are rapidly fed into the machine.

## Bonus Tokens

- Default Settings = 0

Bonus tokens (cards, tickets...) are those that are issued at no cost. In other words, they are given away as a bonus to the machine user. A common use of the bonus token feature is to give out extra (bonus) tokens with larger token purchases.

The Bonus Token for each bill can be from 0 to 99. It is necessary to enter two digits for each bill denomination. The tens digit for a denomination will be entered first, and in the following step the ones digit will be entered.

Note: The *Device* type must be set to TOKEN for the Bonus Token settings to be used.

Bonus Token Example: For a \$20 bill deposit you wish to give out 4 bonus (extra) tokens. The value of the token dispenser was set to 25 cents. With the dispenser value set at 25 cents, the machine will automatically give out 80 tokens. The *Bonus Feature* will then add the additional 4 bonus tokens to the total tokens to be issued for the \$20 deposit. The machine user will receive 84 tokens.

## Dispenser Value

- Default Settings = N/A

This feature allows you to set the dispenser for a value that is not listed in the DISPENSER VALUE SETTINGS table below. This allows you to set the value to anything between \$0.05 and \$99.95, in nickel increments. This would typically be used for ticket, token or card dispensers.

The method used is one whereby you set the four digits (of the value) starting with the tens digit of the dollar amount. For this value to be used, all the switches (SW1-SW5) must be in the DOWN position when you exit the *Programming Mode*. This is the only case condition where you would not return the dip switches to the operating mode settings. If any of the switches are up, the DISPENSER VALUE SETTINGS will override the value you have set in these steps.

An example of \$12.75 will be used.

**Steps 1** – Enter the tens digit for the dollar amount. \$1-.—

**Steps 2** – Enter the ones digit for the dollar amount. \$-2.--

**Steps 3** – Enter the tens digit for the cents amount. \$--.7-

**Steps 4** – Enter the ones digit for the cents amount. \$--.5

Setting the value for Step 4 is different than steps 1-3 in that you can only set it in nickel amounts. This means that the last digit can either be a zero or a five. As an example you can not have a dispenser value of \$12.77. It has to be either \$12.75 or \$12.80.

DISPENSER VALUE SETTINGS					
Value	SW1	SW2	SW3	SW4	SW5
Programmed	<b>DOWN</b>	DOWN	DOWN	DOWN	DOWN
\$.05	<b>DOWN</b>	DOWN	DOWN	DOWN	UP
\$.10	<b>DOWN</b>	DOWN	DOWN	UP	DOWN
\$.20	<b>DOWN</b>	DOWN	DOWN	UP	UP
\$.25	<b>DOWN</b>	DOWN	UP	DOWN	DOWN
\$.50	<b>DOWN</b>	DOWN	UP	DOWN	UP
\$1.00	<b>DOWN</b>	DOWN	UP	UP	DOWN
\$2.00	<b>DOWN</b>	DOWN	UP	UP	UP
\$5.00	<b>DOWN</b>	UP	DOWN	DOWN	DOWN
\$10.00	<b>DOWN</b>	UP	DOWN	DOWN	UP
\$20.00	<b>DOWN</b>	UP	DOWN	UP	DOWN
\$50.00	<b>DOWN</b>	UP	DOWN	UP	UP
\$100.00	<b>DOWN</b>	UP	UP	DOWN	DOWN
\$200.00	<b>DOWN</b>	UP	UP	DOWN	UP
\$500.00	<b>DOWN</b>	UP	UP	UP	DOWN
Not Used	<b>DOWN</b>	UP	UP	UP	UP

**VERY IMPORTANT:**

SW2-SW5 should always be set to reflect the correct dispenser value, and SW1 should always be in the *DOWN* position, when the dispenser is in the *Operating Mode*. The machine automatically figures out the proper dispense amount based on the Dispenser value set by the switch settings.

## 4.0 TROUBLESHOOTING

### Flash Codes

When an error occurs, the dispenser will use a flash code to indicate the particular error. If multiple errors occur the largest flash code will take priority.

### Troubleshooting Chart

The purpose of this chart is to assist you in troubleshooting failures that may occur during normal usage, and that do not require factory repair. *Example: a bent coin or a coin bag string that is stuck in the coin dispenser mechanism.* If you cannot resolve the issue in the field, contact your nearest service center or send the faulty module in for repair. Be sure to include a note that indicates the flash code error that was displayed as well as a detailed description of the circumstances (clues) surrounding the failure. These clues will assist the technician in quickly and accurately diagnosing the fault. This will ultimately reduce the cost of the repair.

General Troubleshooting Hints:

- Always check the connection, plugs, etc. for the device that has issued the error code.
- Check the associated cable (s) and connections. Look for loose plugs, broken wires or frayed wires where the wire meets the connector.
- Check associated cables for pinched or broken wires.
- Always reset the device by pressing the *push button* after you have performed the repair and reapplied power.

Flash Code	<b>TROUBLESHOOTING HELP &amp; COMMON FAILURE SOURCES</b>
1	THE DISPENSER IS <b>SOLD OUT</b> . This is a normal operating condition and it indicates that the dispense compartment needs to be refilled. Once refilled the error condition will automatically go away (reset). If this error is issued and the device is not sold out (near empty), check the device sold out sensing contacts / circuit for debris.
2	A <b>BILL ACCEPTOR ERROR WAS DETECTED</b> . The bill acceptor has detected an error. Check the items listed below. If this does help identify the problem source, note the flash code displayed on the bill acceptor and refer to the bill acceptor owners' manual for additional troubleshooting assistance. Ensure the bill acceptor cable is plugged in properly.
3	THE <b>BILL STACKER IS MISSING OR FULL</b> – Empty the Bill Stacker and press the reset button on the Primary Device. If the problem persist, remove the bill stacker and look for dirt or debris in the acceptors bill path. Reinstall the bill stacker, making sure it latches securely in place.
4	A <b>BILL JAMMED ERROR</b> – The bill acceptor has detected a stuck bill or foreign object in the note path (path bill travels through the Note Acceptor). Remove the item from the note path. Note: If this problem persists, check the note path drive roller system for excessive wear (missing, cracked or stretched) on the belts or O-rings. Clean or replace as necessary.
5	A <b>FAST VEND SHUT-OFF ERROR</b> – An abnormal sequence (quantity in certain time period) of bills was deposited and the machine was automatically disabled. See section of this manual that discusses the Fast Vend Shut-Off setting, for more details regarding this feature.
6	<b>STRINGING WAS DETECTED</b> – The stringing detection software has determined that a bill has been pulled out or attempted to be pulled out. Look for string, tape or debris. Balance (reconcile) your machine revenue.
7	A <b>COIN ACCEPTOR ERROR WAS DETECTED</b> . Check to ensure that a bent coin or piece of debris is not interfering with the coin deposit path. Check the associated cable (s) and connections.

8	<p><b>A DISPENSER ERROR WAS DETECTED.</b></p> <ul style="list-style-type: none"> <li>• If the Sold-Out contacts for the dispenser have been bypassed, this error will occur when the dispenser becomes completely empty. Press reset after refilling the dispenser.</li> <li>• Check for debris in the dispense path of the associated dispenser - If blocked or dirty, remove debris. Check the counting optics (device eyes) and remove excessive dust or debris. Check the associated cable (s) and connections. Check the dispensing mechanism for debris - bent coin, coin bag string, stuck bill...</li> </ul>
9	<p><b>A FATAL MEMORY ERROR WAS DETECTED</b> – Warning: the memory device that stores all critical setup information (dispense amounts, security settings...) is failing. DO NOT reset the associated device or place it back into operation!!! Replace the device logic board or send it in for repair with a note stating the following – “<i>The EE memory has failed and will need to be replaced</i>”.</p>
10	<p><b>POWER FAULT DETECTED</b> – Power was lost during a dispense. Check for intermittent connections or a faulty power line condition, i.e. loose plug, corroded connections, or too much load on one circuit. Warning: Power faults can result in short pays.</p>
11	<p><b>AN UNKNOWN OR UNDOCUMENTED ERROR WAS DETECTED</b> – Contact a service center for an updated error code list, and/or reset the machine and check for proper performance before placing back into service.</p>
12	<p><b>ILLOGICAL PROGRAMMING DETECTED</b> – An illogical program setting was detected. Example – all bill acceptance turned off. Check all program settings</p>
13	<p><b>DATA BAD ERROR</b> – The machine has lost a portion of temporary memory. This error is not fatal and the machine will remain on-line. If a vend was in progress when the error was detected, the vend amount and associated count were cleared. This error is typically caused by excessive power surges. Install a surge filter on the power line to the machine.</p>
14	<p><b>OVERPAY LOGIC ERR</b> – The device calculated it was told to dispense to many items. Check Dispense limit settings for the affected device. Check the Program settings.</p>

## Frequently Asked Questions

An owner can typically resolve many problems after he/she has been familiarized with our machine. The following are a few examples of questions and answers you may have concerning our equipment.

- My out of service light is blinking and the machine won't take a bill! *A flashing OOS light indicates a COIN DISPENSER sold out condition. Add enough coin/tokens to cover the black funnel inside the COIN DISPENSER.*
- My bill acceptor is rejecting too many bills! *Dirty sensors can cause bill rejection. Open up the bill path and clean the sensors and rollers. Also, check with the bill acceptor manual for error code and troubleshooting information.*
- How do I turn on or off the acceptance of certain bills? *Refer to Appendix “A”, Page “A” for step by step instructions.*
- My Out-Of-Service light is on solid and the machine won't take a bill! *Refer to the troubleshooting section of this manual for help on isolating the problem source.*
- My bill acceptor takes the money, but the COIN DISPENSER won't dispense change! *Check the dispenser control board for a flash code and use it to isolate the source. Also, check all connections. Dump the COIN DISPENSER and perform an “electronic dump” (refer to page 11) and verify that the feed mechanism is rotating. If not, remove any debris that is jamming the mechanism.*

- I need to send you a part for repair. Do I need a RMA number? (*Return material authorization number*). No, we only ask that you include your name, phone number, address and a brief description of the failure. We will process and return your product ASAP.
- I need to upgrade the software in the controller. Can I do this myself?  
*Software revisions for the Simple Function Modular Machines are not common. But as new features are added you may decide to upgrade your changer. Contact your nearest service center for information regarding our board exchange program. A board containing the software can be easily exchanged.*

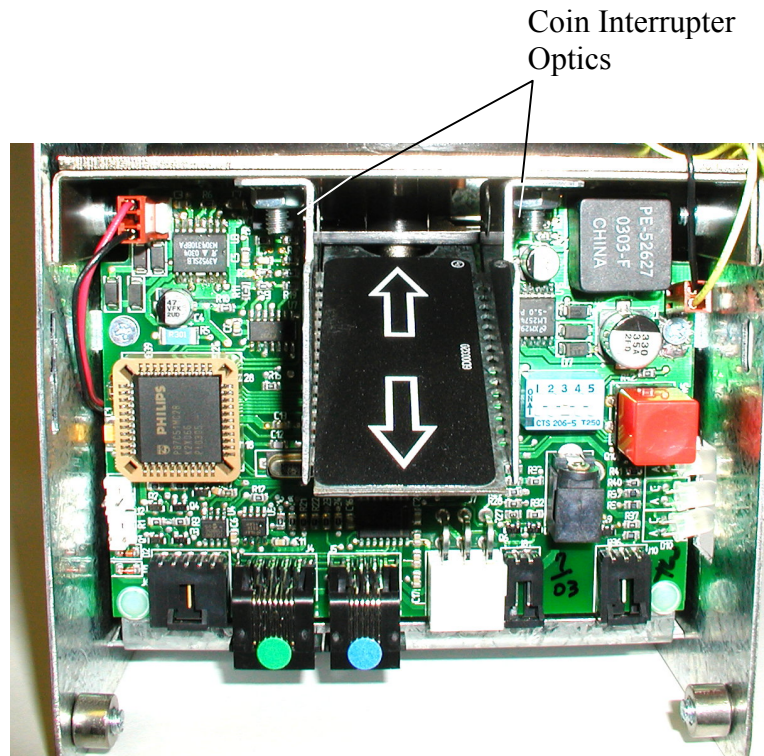
## Maintenance

### Bill Acceptor

- Use canned air regularly to remove dust and debris from bill path.
- Use clean damp rag to wipe off optic sensors on the upper and lower track assemblies.
- Review OEM manufacturers information for additional tips.

### Coin/Token Hopper

- Dump hopper once every six months and remove bent coins or tokens.
- Use canned air to remove dust and debris from hopper shell and dispenser area.
- Use a clean Q-tip and wipe off the coin interrupters located on either side of the coin chute openings.



## 5.0 DISPENSER DETAILS

### Optional Coin Dispenser Counter

The Optional Coin Dispenser Counter will show a count of the number of items (coins, tickets, bills...) that were dispensed. The counter is an electromechanical type.

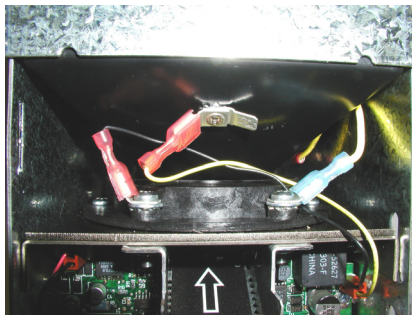
### Coin Dispenser Sold-Out Configurations

**Factory default settings: \$20 sold-out level**

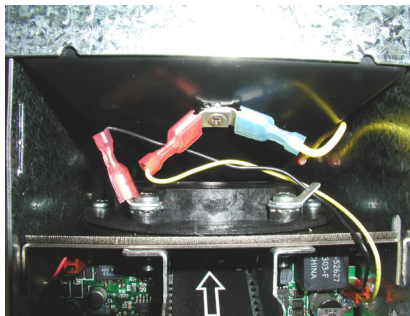
The sold-out level (level of coins remaining in the coin dispenser) for the dispenser should be set to prevent a short pay condition that can occur when the coin reserve is near empty and a patron inserts a large denomination bill. In other words, you will want to leave enough coins in the dispenser to ensure that the last person to use the machine before it shuts off due to an empty condition, receives all of their change. Therefore the sold-out level setting should match or exceed the value of the largest bill denomination to be accepted, typically a \$20 bill.

To determine how to set the optimum sold out level see the pictures below. To access the sold-out level settings, simply open the dispenser door. You may need to remove the shipping screw prior to opening the door.

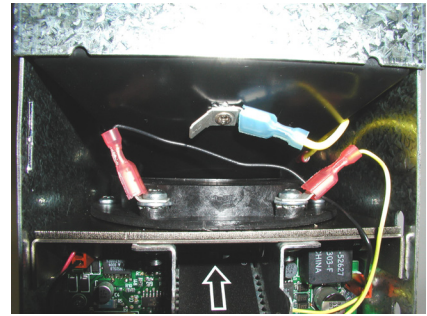
\$20 Sold-Out Level Setting



\$5 Sold-Out Level Setting



Sold-Out "Bypassed"



Note: If the Dispenser becomes empty in this configuration, a Dispense Error will occur. The Reset Button on the dispenser must be pressed



## Bill Acceptors

The MC Mini-Series is able to use most OEM style Multi-drop Bus (MDB) bill acceptors.

### MDB Bill Acceptors

The following is a list of MDB Bill Acceptors that will work in the MC Mini-Series:

<b>BRAND</b>	<b>MFG'S. PT. NO.</b>	<b>SCM PT. NO.</b>	<b>DESCRIPTION</b>
<b>Coinco</b>	Vantage Series	5V00352-M	USA, \$20, STD, 600
<b>Coinco</b>	Vantage Series	5V00353-M	CAN, \$20, STD, 400
<b>Mars</b>	AE2602 Series	5V00219-M	USA, \$20, STD, 500
<b>Mars</b>	AE2612 Series	5V00223-M	CAN, \$20, STD, 500
<b>Cashcode</b>	Currenza Series	5V00351-M	CAN, \$20, STD, 500
<b>Pyramid</b>	APEX-5400 Series	5V00300-M	USA, \$20, STD, 500
<b>Pyramid</b>	APEX-5400 Series	5V00332-M	MEX, 100P, STD, 500
<b>Pyramid</b>	APEX-5600 Series	5V00333-M	MEX, 500P, STD, 500
<b>Pyramid</b>	APEX-5400 Series	5V00343-M	AUS, \$20, STD, 500

**NOTE:** Pyramid APEX-7200 Series has replaced the APEX-5400 Series (April, 2013)

See the bill acceptor manual for more information regarding Multi-drop Bus operation and configuration.

Stackerless requires additional bill box SCM P/N 2F02248

## 6.0 PART ORDERING INFORMATION

To obtain service on a component or module, please follow these instructions.

1. Locate the fault to a specific component or module. See the troubleshooting section of this manual for assistance.
2. Call your nearest Standard Change-Makers service center. You will need to give the service representative the following.

**MODEL NUMBER OF YOUR MACHINE**  
**SERIAL NUMBER OF YOUR MACHINE**

3. If you cannot furnish these numbers it will be extremely difficult for the service department to help you. The serial number and model number are located on a label inside your machine. Service center phone numbers are given on the last page of this manual.
4. Always remove power from your machine prior to removal of a component.
5. Remove the faulty component from the changer cabinet.
6. If the component is to be returned to the factory or service center, pack the component in the original factory packaging if possible. If the original packaging is not available, use a suitable substitute. Care should be taken to prevent damage to the components from electrostatic discharge and mechanical shipping damage.

**NOTE:** Please avoid the use of Styrofoam “peanuts” when packing. If peanuts are used, the component should be encased in a plastic bag to prevent clogging the mechanism.

## **Interconnecting Cables**

Part Number	Description
4C00263	MDB Bill Acceptor
4C00300	Out Of Service

## **Module Part Numbers**

Part Number	Description
5H00274	Dollar / Quarter Dispenser
CALL	Bill Acceptor US MDB
CALL	Bill Acceptor CAN MDB

## **Miscellaneous Parts**

Part Number	Description
1L00133	Out Of Service Lamp

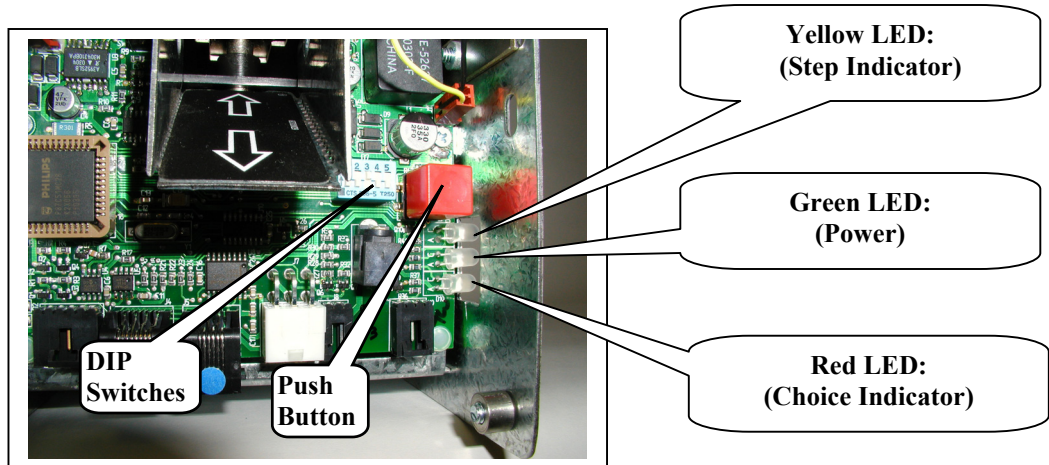
## **Coin Dispenser Part Numbers**

Part Number	Description
4M00684	Coin Dispenser Housing
4A00121	Coin Dispenser Funnel Assembly
4C00302	Sold-out Cable
4M00688	Coin Dispenser Feed Mechanism – Quarter/Dollar*
2P00105	Coin Dispenser Adapter Ring – Dollar*
1M00113	Coin Dispenser Motor , DC
2G00104	Motor Gear
4C00301	Motor Harness
3P00102	Split Pin
4E00322	Coin Dispenser PCB Assembly
4M00720	Cartridge, 2.0K

**\*For other Dispenser mechanical sizes, call for correct part number.**

## 7.0 HOW TO CHANGE A FEATURE SETTING

Appendix “A” which follows this section, simplifies the process of changing a feature if you so desire. The step by step procedures allows you to insert your “choice” or “choices” for the feature(s) you want to change. The photo below illustrates the components that are used for programming, followed with a description of their use.



**Step Indicator** - The yellow or top LED is the *Step indicator*. During the programming sequence, this LED flashes a code indicating which *Step* you are on or when flashing in unison with the red LED indicating which group you are in.

**Choice Indicator** - The red or bottom LED is the *Choice indicator*. During the programming sequence, this LED flashes a code that can be used to lookup the current choice for a given feature, or when flashing in unison with the yellow LED, will indicate which group you are in.

**Push Button** – The push button is used to enter a new setting (shown on the DIP switch) into the dispenser memory. This same button is also used to advance to the next *Step*.

**DIP Switches** –The dispenser includes a 5 position switch (see picture above) that is located on the dispenser circuit board which is used during the programming sequence. It is very important, be sure to return all five switches back to the original (*Operating Mode*) settings upon completion of the programming process.

### **RESTORING THE FACTORY SETTINGS**

If at any time you wish to set all of the *Feature Choices* back to the factory setting, you can do so by setting SW1-SW5 to the UP position. The Status/Step LED will flash a one. This will set all features back to the factory default settings.

## APPENDIX A – Switch Settings For All Features

**Page A** – Bill Acceptance and/or Bill Acceptance Security Level

**Page B** – Fast Vend Shutoff

**Page D** –Error Timeout

**Page E** – Power Reset

**Page F** – Hold Escrow

**Page G** –Accumulate Feature

**Page H** –Dispenser Type

**Page I** - Dispenser Sub Type

**Page J**– Stringing Detection Level

**Page K** – Bonus Tokens

**Page M** – Dispenser Value



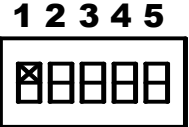
# Bill Acceptance and/or Bill Acceptance Security Level

(The Factory default settings for all notes is YES on Acceptance and HIGH on Security).

To make changes to the Bill Acceptance and/or Bill Acceptance Security Levels, follow the step by step procedures below.

Note: The five-position switch and red selection button are located on the dispenser control board.

IMPORTANT: Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP or DOWN on each switch.



1. Activate the Bill Acceptance and/or Bill Acceptance Security Level mode by setting: Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-OFF; Switch 5-ON
2. Press the red selection button one time. This advances you to the 1<sup>st</sup> Step as per the Chart below. This Step is for a U.S. \$1, a Canadian \$5, or a Mexican \$20 note.

COUNTRY and BILL DENOMINATION GROUPS								
Country	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
USA	\$1	\$2	\$5	\$10	\$20	\$50	\$100	N/A
CANADA	\$5	\$10	\$20	\$50	\$100	N/A	N/A	N/A
MEXICO	\$20	\$50	\$100	\$200	\$500	N/A	N/A	N/A

3. Now set switches to desired setting from the Choice numbers 1 through 4 below.  
Example: Set switches to match Choice 2 if you choose acceptance to YES and security to LOW.

BILL ACCEPTANCE and SECURITY LEVEL CHOICES							
CHOICE	SELECTION		SWITCH POSITIONS				
	Accepted	Security	SWITCH 1	SWITCH 2	SWITCH 3	SWITCH 4	SWITCH 5
1.	No	N/A	UP	UP	DOWN	DOWN	DOWN
2.	Yes	Low	UP	UP	DOWN	DOWN	UP
3.	No	N/A	UP	UP	DOWN	UP	DOWN
4.	YES	High	UP	UP	DOWN	UP	UP

4. Press the red selection button one time to accept these settings. This advances you to the next bill denomination step, as per the Country and Bill Denomination Groups table above.
5. Set Switches to next desired setting by viewing the Bill Acceptance and Security Level Choices table above and press the red selection button after selection.
6. Continue this process for all remaining denominations.
7. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

# Fast Vend Shutoff

(The factory default settings for Fast Vend Shutoff are as follows):

Time Period is 15 minutes for all bill denominations.

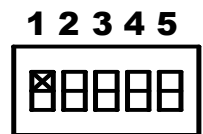
Maximum quantity of bills vary by denominations and by country.

- U.S. Currency: \$1=45, \$2=45, \$5=20, \$10=10, \$20=5, \$50=2, \$100=2
- Canadian Currency: \$5=20, \$10=10, \$20=5, \$50=2, \$100=2
- Mexican Currency: 20 peso=20, 50 peso=10, 100 peso=5, 200 peso=2, 500 peso=2

To make changes to the Fast Vend Shutoff feature, follow the step by step procedure outlined on the following two pages. Please note, selecting either time or maximum quantity to 0 will disable the Fast Vend feature for that bill denomination only.

Note: The five-position switch and red selection button are located on the dispenser control board.

**IMPORTANT:** Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP or DOWN on each switch.



1. Activate the Fast Vend Shutoff programming mode by setting:  
Switch 1–ON; Switch 2–OFF; Switch 3–OFF; Switch 4–ON; Switch 5–OFF
2. Press the red selection button one time. This advances you to the 1<sup>st</sup> step as per the Country Currency tables below. This step sets the maximum quantity of a bill type accepted **BEFORE** the Fast Vend feature is activated.

Example: Step 1 is for a U.S. \$1, a Canadian \$5, or a Mexican \$20 note.

## COUNTRY and BILL DENOMINATION GROUPS

UNITED STATES		
Steps	Parameter	Bill
Step 1	Max Qty	\$1
Step 2	Time Period	
Step 3	Max Qty	\$2
Step 4	Time Period	
Step 5	Max Qty	\$5
Step 6	Time Period	
Step 7	Max Qty	\$10
Step 8	Time Period	
Step 9	Max Qty	\$20
Step 10	Time Period	
Step 11	Max Qty	\$50
Step 12	Time Period	
Step 13	Max Qty	\$100
Step 14	Time Period	

CANADA		
Steps	Parameter	Bill
Step 1	Max Qty	\$5
Step 2	Time Period	
Step 3	Max Qty	\$10
Step 4	Time Period	
Step 5	Max Qty	\$20
Step 6	Time Period	
Step 7	Max Qty	\$50
Step 8	Time Period	
Step 9	Max Qty	\$100
Step 10	Time Period	

MEXICO		
Steps	Parameter	Bill
Step 1	Max Qty	20 Peso
Step 2	Time Period	
Step 3	Max Qty	50 Peso
Step 4	Time Period	
Step 5	Max Qty	100 Peso
Step 6	Time Period	
Step 7	Max Qty	200 Peso
Step 8	Time Period	
Step 9	Max Qty	500 Peso
Step 10	Time Period	



- Now set the switches to desired setting from the Choices numbered 1-16 from the adjacent table.

Example: Set switches to match Choice 15 if you want to set the maximum number of bills to be 45. This is only the first of two settings required for each bill denomination. The following step sets the time period for this same bill denomination.

MAX. QTY. of BILL CHOICES					
Choice	Qty	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	0	DOWN	DOWN	DOWN	UP
2	1	DOWN	DOWN	UP	DOWN
3	2	DOWN	DOWN	UP	UP
4	3	DOWN	UP	DOWN	DOWN
5	4	DOWN	UP	DOWN	UP
6	5	DOWN	UP	UP	DOWN
7	6	DOWN	UP	UP	UP
8	7	UP	DOWN	DOWN	DOWN
9	8	UP	DOWN	DOWN	UP
10	9	UP	DOWN	UP	DOWN
11	10	UP	DOWN	UP	UP
12	15	UP	UP	DOWN	DOWN
13	20	UP	UP	DOWN	UP
14	30	UP	UP	UP	DOWN
15	45	UP	UP	UP	UP

- Press the red selection button one time to accept the maximum quantity of bills setting. This will also advance you to the next step which is to set the Time Period (in minutes) in which the fast vend feature will activate **IF** the maximum quantity of bills setting is exceeded. View your choices from the adjacent table and set the switches to match your choice.

Example: Set switches to match Choice 14 if you want the Time Period set to 30 minutes. If the maximum quantity of bills exceeds the amount set (45 as the example above) in 30 minutes, the Fast Vend Feature will activate. The next bill will be accepted and change dispensed, but the machine will go out of service.

TIME PERIOD IN MINUTES CHOICES					
Choice	Time (min.)	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	0	DOWN	DOWN	DOWN	UP
2	1	DOWN	DOWN	UP	DOWN
3	2	DOWN	DOWN	UP	UP
4	3	DOWN	UP	DOWN	DOWN
5	4	DOWN	UP	DOWN	UP
6	5	DOWN	UP	UP	DOWN
7	6	DOWN	UP	UP	UP
8	7	UP	DOWN	DOWN	DOWN
9	8	UP	DOWN	DOWN	UP
10	9	UP	DOWN	UP	DOWN
11	10	UP	DOWN	UP	UP
12	15	UP	UP	DOWN	DOWN
13	20	UP	UP	DOWN	UP
14	30	UP	UP	UP	DOWN
15	45	UP	UP	UP	UP

- Press the red selection button one time to accept the Time Period choice. This will also advance you to the next step which is setting the Maximum Quantity of bills for the next highest bill denomination as determined by the "Country Currency" tables on the previous page.
- Set Switches to next desired choice by viewing the "Max Qty Of Bills" table on top of this page.
- Press the red selection button to accept the setting and to advance to the Time Period setting.
- View your choices from the "Time Period In Minutes" table above and make your selection. Once you've made your selection, press the red selection button to advance to the next highest bill denomination.
- Continue this process for all remaining denominations.
- End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

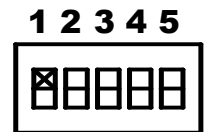
# Error Timeout

(The Factory Default Setting for Error Timeout is “15 MINUTES”).

To make a change to the Error Timeout feature, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board.

**IMPORTANT:** Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP or DOWN on each switch.



1. Activate the Error Timeout programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-ON; Switch 5-ON
2. Press the red selection button one time.
3. Advance to the Error Timeout selection step by setting;  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 -OFF; Switch 5-OFF
4. Press the red selection button one time.
5. Now set switches to desired setting Choice numbers 1 through 15 as per the chart below.  
Example: Set switches to match Choice 5 if you want the Error Timeout feature set to 20 minutes. Once you’ve made your selection, press the red selection button one time.
6. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

Note: Error Timeout will only reset the machine from a Fast Vend or “Stringing” error. Choosing 0 minutes will deactivate this automatic reset feature.

ERROR TIMEOUT CHOICES					
CHOICE	SETTING (minutes)	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	0	DOWN	DOWN	DOWN	UP
2	5	DOWN	DOWN	UP	DOWN
3	10	DOWN	DOWN	UP	UP
4	15	DOWN	UP	DOWN	DOWN
5	20	DOWN	UP	DOWN	UP
6	25	DOWN	UP	UP	DOWN
7	30	DOWN	UP	UP	UP
8	35	UP	DOWN	DOWN	DOWN
9	40	UP	DOWN	DOWN	UP
10	45	UP	DOWN	UP	DOWN
11	50	UP	DOWN	UP	UP
12	55	UP	UP	DOWN	DOWN
13	60	UP	UP	DOWN	UP
14	65	UP	UP	UP	DOWN
15	70	UP	UP	UP	UP

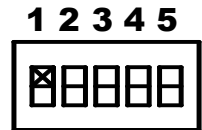
# Power Reset

(The Factory Default Setting for Power Reset is “OFF”).

To make a change to the Power Reset feature, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board.

**IMPORTANT:** Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP or DOWN on each switch.



1. Activate the Power Reset programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-ON; Switch 5-ON
2. Press the red selection button one time.
3. Advance to the Power Reset selection step by setting;  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 –OFF; Switch 5-OFF
4. Press the red selection button three times.
5. Now set switches to desired setting Choice numbers 1 or 2 as per the cart below.  
Example: Set switches to match Choice 2 if you want the Power Reset set to ON. Once you’ve made your selection, press the red selection button one time
6. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service

Note: The Power Reset will allow all errors to be cleared upon a power cycle when set to “ON”.

POWER RESET CHOICES					
CHOICE	SETTING	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	OFF	UP	UP	UP	UP
2	ON	DOWN	DOWN	DOWN	UP

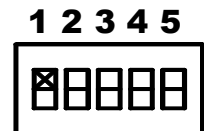
# Hold Escrow

(The Factory Default Setting for Hold Escrow is “NO”).

To make a change to the Hold Escrow feature, follow the step by step procedure outlined below

Note: The five-position switch and red selection button are located on the dispenser control board.

**IMPORTANT:** Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the diagram to the right by simply marking an “X” for UP or DOWN on each switch.



1. Activate the Hold Escrow programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-ON; Switch 5-ON
2. Press the red selection button one time.
3. Advance to the Hold Escrow selection step by setting;  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 -OFF; Switch 5-OFF
4. Press the red selection button four times.
5. Now set switches to desired setting Choice numbers 1 or 2 from the table below.  
Example: Set switches to match Choice 2 if you want the Hold Escrow set to “YES”. Once you’ve made your selection, press the red selection button one time.
6. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

Example: During a coin accumulation through the coin acceptor (example: 2 dimes + 1 nickel = quarter payout) a customer may deposit three dimes and receive one quarter. If a five-cent hopper is not available in the machine, an escrow (unpaid balance) of 5 cents is present. This feature allows you to clear this escrow amount or simply “Hold” it and add the amount to the next deposit. To hold the escrow amount set this feature to “YES”.

HOLD ESCROW CHOICES					
CHOICE	SETTING	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	NO	UP	UP	UP	UP
2	YES	DOWN	DOWN	DOWN	UP

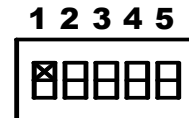
# Accumulate Feature

*(The Factory Default Setting for Accumulate is “DISABLED”).*

To make a change to the Accumulate feature, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board.

IMPORTANT: Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP (ON) or DOWN (OFF) on each switch.



1. Activate the Accumulate Feature programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-ON; Switch 5-ON
2. Press the red selection button one time.
3. Advance to the Accumulate setting step by setting;  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 -OFF; Switch 5-OFF
4. Press the red selection button nine times.
5. Now set switches to desired setting Choice numbers 1 or 2 as per the cart below. Once you’ve made your selection, press the red selection button one time.  
Example: Set switches to match Choice 2 if you want the Accumulate setting set to “ON”
6. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

With the Accumulate Feature set to “ON”, a dispense will not occur until enough money has been accepted to meet or exceed the value of the device. Any amount over the Accumulate value will be automatically paid based on value of the device.

ACCUMULATE CHOICES					
CHOICE	SETTING	SWITCH POSITIONS			
		<u>SW2</u>	<u>SW3</u>	<u>SW4</u>	<u>SW5</u>
1	OFF	UP	UP	UP	UP
2	ON	DOWN	DOWN	DOWN	UP

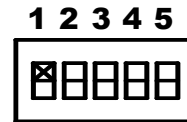
# Dispenser Type

(The Factory Default Setting for Dispenser Type is “COIN”).

To make a change to the Dispenser Type feature, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board.

IMPORTANT: Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP (ON) or DOWN (OFF) on each switch.



1. Activate the Dispenser Type programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-ON; Switch 5-ON
2. Press the red selection button one time.
3. Advance to the Dispenser Type selection step by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 -OFF; Switch 5-OFF
4. Press the red selection button ten times.
5. Now set switches to desired setting Choice numbers 1 through 5 as per the cart below. Once you've made your selection, press the red selection button one time.  
Example: Set switches to match Choice 2 if you want the Dispenser Type set to “TOKEN”.
6. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

DISPENSER TYPE CHOICES					
CHOICE	SETTING	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	COIN	OFF	OFF	OFF	ON
2	TOKEN	OFF	OFF	ON	OFF
3	BILL	OFF	OFF	ON	ON
4	CARD	OFF	ON	OFF	OFF
5	TICKET	OFF	ON	OFF	ON
6	ACCEPT ONLY	OFF	ON	ON	OFF

# Dispenser Sub Type

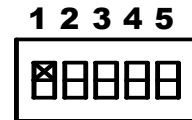
*(The Factory Default Setting for Dispenser Sub Type is 0)*

To make changes to the Dispenser Sub Type feature, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board. For machines with multiple dispenser, these settings must be set on each dispenser control board for this feature to be activated.

**IMPORTANT:** Please note the original switch setting before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP (ON) or DOWN (OFF) on each switch.

Activate the Dispenser Sub Type programming mode by setting:  
Switch 1 – ON; Switch 2 – OFF; Switch 3 – OFF; Switch 4 – ON; Switch 5 – ON



Press the red selection button one time.

Advance to the Dispenser Sub Type selection by setting:  
Switch 1 – ON; Switch 2 – OFF; Switch 3 – OFF; Switch 4 – OFF; Switch 5 – OFF

Press the red selection button eleven times.

Now set the switches to the desired setting Choice numbers 1 through 3 as per the chart below. Once you have made your selection, press the red selection button one time.

Example: Set switches to match choice 3 if you want the Dispenser Sub Type set to “Fujitsu F53/56”.

End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

DISPENSER SUB TYPE CHOICES					
CHOICE	SETTING	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	COIN/GD BILL DISPENSER	OFF	OFF	OFF	ON
2	FUJITSU F50 BILL DISPENSER	OFF	OFF	ON	OFF
3	FUJITSU F50 BILL DISPENSER	OFF	OFF	ON	ON

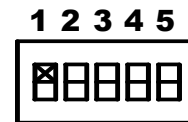
# Stringing Detection Level

*(The Factory Default Setting for Stringing Detection Level is “MEDIUM”).*

To make a change to the Stringing Detection Level feature, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board.

**IMPORTANT:** Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP (ON) or DOWN (OFF) on each switch.



1. Activate the Stringing Detection Level Feature programming mode by setting: Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4-ON; Switch 5-ON
2. Press the red selection button one time.
3. Advance to the Stringing Detection Level setting step by setting; Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 -OFF; Switch 5-OFF
4. Press the red selection button thirteen times.
5. Now set switches to desired setting Choice numbers 1 through 3 as per the cart below. Once you’ve made your selection, press the red selection button one time.  
Example: Set switches to match Choice 3 if you want the Stringing Detection Level set to “HIGH” (Switch 1-ON; Switch 2-OFF; Switch 3-OFF; Switch 4 -ON; Switch 5-ON).
6. End the programming sequence by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

STRINGING DETECTION LEVEL CHOICES					
CHOICE	SETTING (level)	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	LOW	DOWN	DOWN	DOWN	UP
2	MEDIUM	DOWN	DOWN	UP	DOWN
3	HIGH	DOWN	DOWN	UP	UP



# Bonus Tokens

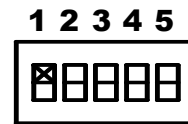
(The Factory Default Setting for Bonus Token is “0”).

Note: Dispenser “Type” must be set to “Token” to allow the Bonus Token feature to be activated.

To make a change to the Bonus Token feature, follow the step by step procedure outlined on the following two pages.

Note: The five-position switch and red selection button are located on the dispenser control board.

IMPORTANT: Please note the original switch settings before starting this procedure. You will need to return the switches to this original setting to assure proper operation after making any changes. As a convenience, you can enter these original settings in the diagram to the right by simply marking an “X” for UP (ON) or DOWN (OFF) on each switch.



- 1 Activate the Bonus Token Feature programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-ON; Switch 4-OFF; Switch 5-OFF
  
- 2 Press the red selection button one time. This advances you to the 1<sup>st</sup> Step as per the Country and Bill Denomination Group chart below. This first Step is for the tens digit of the bonus token amount for either the U.S. \$1, a Canadian \$5, or a Mexican \$20 note. Please note you may set the bonus amount from 01 to 99 for each denomination.

## COUNTRY and BILL DENOMINATION GROUPS

UNITED STATES		
Steps	Parameter	Bill
Step 1	Tens Digit	<b>\$1</b>
Step 2	Ones Digit	
Step 3	Tens Digit	<b>\$2</b>
Step 4	Ones Digit	
Step 5	Tens Digit	<b>\$5</b>
Step 6	Ones Digit	
Step 7	Tens Digit	<b>\$10</b>
Step 8	Ones Digit	
Step 9	Tens Digit	<b>\$20</b>
Step 10	Ones Digit	
Step 11	Tens Digit	<b>\$50</b>
Step 12	Ones Digit	
Step 13	Tens Digit	<b>\$100</b>
Step 14	Ones Digit	

CANADA		
Steps	Parameter	Bill
Step 1	Tens Digit	<b>\$5</b>
Step 2	Ones Digit	
Step 3	Tens Digit	<b>\$10</b>
Step 4	Ones Digit	
Step 5	Tens Digit	<b>\$20</b>
Step 6	Ones Digit	
Step 7	Tens Digit	<b>\$50</b>
Step 8	Ones Digit	
Step 9	Tens Digit	<b>\$100</b>
Step 10	Ones Digit	

MEXICO		
Steps	Parameter	Bill
Step 1	Tens Digit	<b>20 Peso</b>
Step 2	Ones Digit	
Step 3	Tens Digit	<b>50 Peso</b>
Step 4	Ones Digit	
Step 5	Tens Digit	<b>100 Peso</b>
Step 6	Ones Digit	
Step 7	Tens Digit	<b>200 Peso</b>
Step 8	Ones Digit	
Step 9	Tens Digit	<b>500 Peso</b>
Step 10	Ones Digit	

- Now set switches to desired setting Choice numbers 1 through 10 on Bonus Token parameter table below. Again, this sets the 10's digit of the bonus token amount for this bill denomination. Example: Set the switches to match choice number 10 if you want a 0 in the tens digit. This would reflect a bonus amount less than ten. The "ones" digit in the next step would then determine the bonus amount.

<b>BONUS TOKENS CHOICES</b>					
CHOICE	SETTING	SWITCH POSITIONS			
		<u>SW2</u>	<u>SW3</u>	<u>SW4</u>	<u>SW5</u>
1	1	DOWN	DOWN	DOWN	UP
2	2	DOWN	DOWN	UP	DOWN
3	3	DOWN	DOWN	UP	UP
4	4	DOWN	UP	DOWN	DOWN
5	5	DOWN	UP	DOWN	UP
6	6	DOWN	UP	UP	DOWN
7	7	DOWN	UP	UP	UP
8	8	UP	DOWN	DOWN	DOWN
9	9	UP	DOWN	DOWN	UP
10	0	UP	DOWN	UP	DOWN

- Press the red selection button one time to accept the "Tens Digit" settings. This will also advance you to the "Ones Digit" setting for this same denomination.
- Now set switches to desired setting Choice numbers 1 through 10 on the Bonus Tokens Choices table above. Again, this sets the "Ones Digit" setting for the bonus token amount for this bill denomination. Example: Set the switches to match Choice 4 if you want a 4 in the "Ones Digit". This will allow for four extra tokens (bonus tokens) to be dispensed in addition to normal payout for that particular bill denomination.
- Press the red select button one time to accept these settings. This advances you to the next bill denomination step, again, as per the Country and Bill Denomination Group table on the previous page.
- Continue by repeating steps 3 through 5 for all remaining denominations.
- End the programming sequence at any time by resetting the switch to their original settings, and then press the red selection button one time to put the machine back into service.

## Dispenser Value

To make a change to the Dispenser Value, follow the step by step procedure outlined below.

Note: The five-position switch and red selection button are located on the dispenser control board.

1. Activate the Dispenser Value programming mode by setting:  
Switch 1-ON; Switch 2-OFF; Switch 3-ON; Switch 4-OFF; Switch 5-ON
2. Press the red selection button one time. This advances you to the “Tens” digit of the dollar amount.
3. Now set switches to desired setting from the Choice numbers 1 through 10 below.
4. Press the red selection button one time. This advances you to the “Ones” digit of the dollar amount.
5. Now set switches to desired setting from the Choice numbers 1 through 10 below.
6. Press the red selection button one time. This advances you to the “Tens” digit of the cents amount.
7. Now set switches to desired setting from the Choice numbers 1 through 10 below.
8. Press the red selection button one time. This advances you to the “Ones” digit of the cents amount which will need to be set to a 0 or 5 (nickel increments).
9. Now set switches to desired setting from the Choice numbers 5 or 10 below.
10. Press the red selection button one time.
11. End the programming sequence by resetting the switches to the OFF (down) position, and then press the red selection button one time to put the machine back into service.

<b>DISPENSER VALUE CHOICES</b>					
CHOICE	SETTING	SWITCH POSITIONS			
		SW2	SW3	SW4	SW5
1	1	DOWN	DOWN	DOWN	UP
2	2	DOWN	DOWN	UP	DOWN
3	3	DOWN	DOWN	UP	UP
4	4	DOWN	UP	DOWN	DOWN
5	5	DOWN	UP	DOWN	UP
6	6	DOWN	UP	UP	DOWN
7	7	DOWN	UP	UP	UP
8	8	UP	DOWN	DOWN	DOWN
9	9	UP	DOWN	DOWN	UP
10	0	UP	DOWN	UP	DOWN





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