SC-MAX
System 500/600 Conversion Kit

INSTALLATION
INSTRUCTIONS

#8M00601   SC-MAX – System 500/600 Conversion Kit
INSTALLATION INSTRUCTIONS

Thank you for purchasing the SC-MAX System 500/600 Conversion Kit. This Kit is available in two different versions:

Part # 4K01151-FI – SC-MAX Conversion Kit with MEI (Mars) Bill Acceptor

Part # 4K01157-FI – SC-MAX Conversion Kit with Coinco Vantage Bill Acceptor

The basic parts of the Kit are the same. The Bill Acceptor included is dependent on which part number you ordered. Please check to be sure that you received the proper bill acceptor before proceeding.

INTRODUCTION

The SC-MAX Conversion Kit allows you to modify your existing Standard Change-Makers SC Series change machine that currently has one of the following bill acceptors installed:

► System 500 (Black cover plate) *circa 1987-1993*
► System 500-E (Blue cover plate) *circa 1993-1998*
► System 600-FST (Red cover plate) *circa 1998-2006*
► System 600-EF (White/US flag cover plate) *circa 2006 - 2012*

The SC-MAX Conversion Kit works well with one of two bill acceptors compatible with the MDB interface: Mars (MEI) AE2600 series or Coin Vantage series. The bill acceptor must be configured for the down-stacking option when used in the conversion kit. The SCM-MAX comes supplied with your choice of these two bill acceptor options.

The SC-MAX Controller controls the entire machine and interfaces between the coin hopper(s) and the bill acceptor. You can dispense any type of coins, including tokens - providing that you have the proper hopper configuration.

The installation process does not require a strong technical background and only a few basic tools are required. You should allow approximately 30-60 minutes to perform the conversion kit installation. Your subsequent installations will take less time.

The SC-MAX offers all the same functions that were available in the original Standard bill acceptor, including, a full detailed audit available on the SCM-MAX Controller display or printed via the Portable Audit Printer Kit (optional).

TOOLS REQUIRED:
□ 11/32" Nut Driver or Socket
□ 3/8" Nut Driver or Socket
□ 7/16" Nut Driver or Socket
□ Phillips #2 Screwdriver
□ Needle Nose Pliers

If you have any questions prior to or during the installation of this kit, please contact the SERVICE DEPARTMENT at Standard Change-Makers, Inc. – by calling 1-800-968-6955 – Monday through Friday: 8:30 AM – 6:00 PM (Eastern Time)

To begin the conversion, we should check to be sure you have everything needed in your Conversion Kit…

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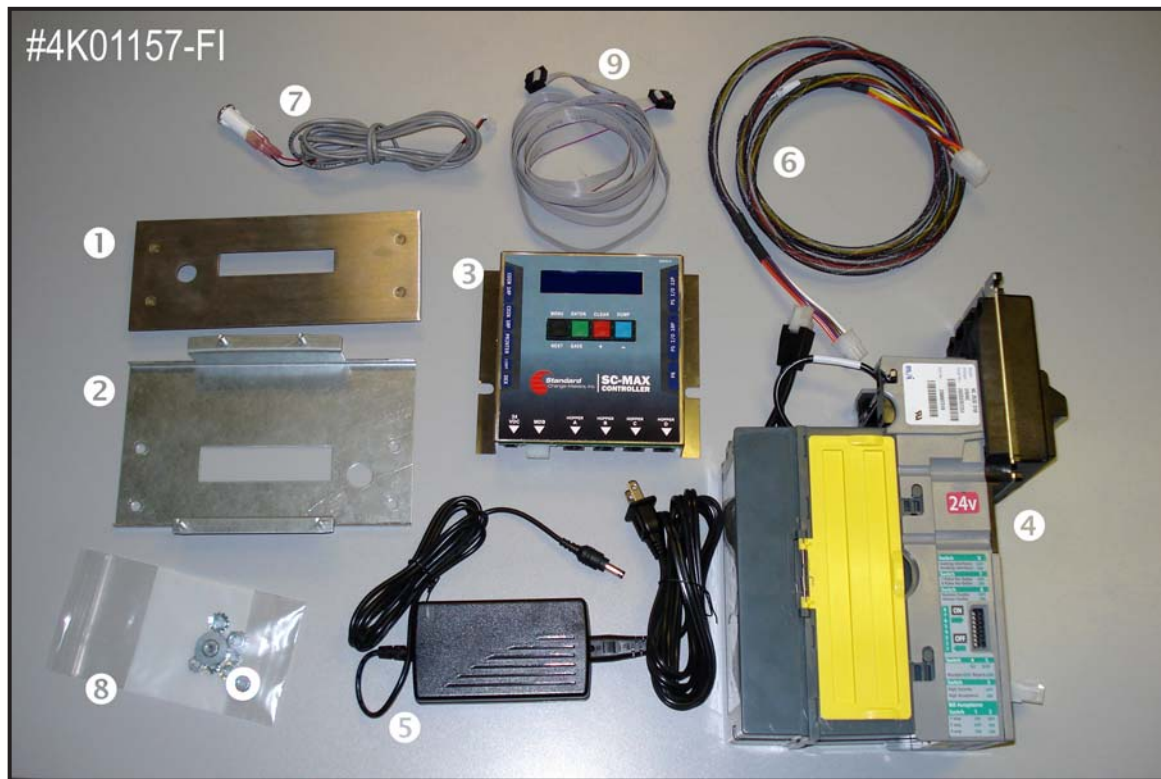
The **SCM-MAX CONVERSION KIT** consists of the following components (Please check to be sure you have all these components prior to starting the conversion of your change machine):

- □ (#1) External Stainless Steel Cover Plate/Bezel
- □ (#2) Internal Bill Acceptor Mounting Bracket
- □ (#3) SCM-MAX Controller - with blue LCD display & four buttons
- □ (#4) MEI #VN2632-D10M-US MDB Bill Acceptor

        - or -

- □ (#4) Coinco #VX63D45US00 Bill Acceptor
- □ (#5) 24V DC New Power Supply
- □ (#6) MDB Bill Acceptor cable
- □ (#7) 28V "Out of Service" Indicator Lamp harness
- □ (#8) Installation Hardware - plastic bag with assorted nuts, washers, retaining ring, and tie-wraps
- □ (#9) Flat cable for connection to MEI Cashflow 330 Coin Acceptor (if necessary)
- □ (Not Shown) Installation Instruction Sheet & Programming Flowchart

STEP 1 - REMOVING COMPONENTS:

NOTE: Take the audit reading before removing the bill acceptor. Otherwise it will be too late.

1. Shut main power OFF by unplugging machine from the wall outlet, or turning power off at the electrical panel (hard wired).

2. Disconnect all wires and cables from the System 500/500-E/600-FST/600-EF bill acceptor. Be sure to keep the Power Cable (GREEN ends – connects to 40-watt Power Supply), as you will re-use this cable with the Conversion Kit.

3. Pull the stacker down by pressing the lever under the stacker box. Disconnect the cables from the stacker and remove the stacker from its mounting brackets.

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4. Remove the bill acceptor. To remove, simply pull the black plastic clamps out and pull the unit up and back from the mounting bracket.

5. Remove the front black bezel held in place with (4) big slot screws. **(See Fig. B)**

6. Remove the internal bracket held in place with four 7/16" nuts. **(See Fig. B)**

7. Remove the keypad and its bracket.   (Recommended: Keep the communication wire as a spare for future use.)

8. You may also choose to remove the Stacker Mounting Brackets. To do so, simply remove the 7/16" nuts.

REMOVE INDICATED NUTS & SCREWS
FIG. B

NOTE: REPLACING THE LEXAN™ DECAL:

If you decide to change the Lexan™ decal of the machine, you will have to remove the coin bezel and the lock cylinders as well. Remove the old decal or vinyl while making sure there is no residue of glue remaining. Apply a new decal carefully. Make the necessary cuts. Re-install the lock cylinders and the coin bezel.

STEP 2 – INSTALLING CONVERSION COMPONENTS:
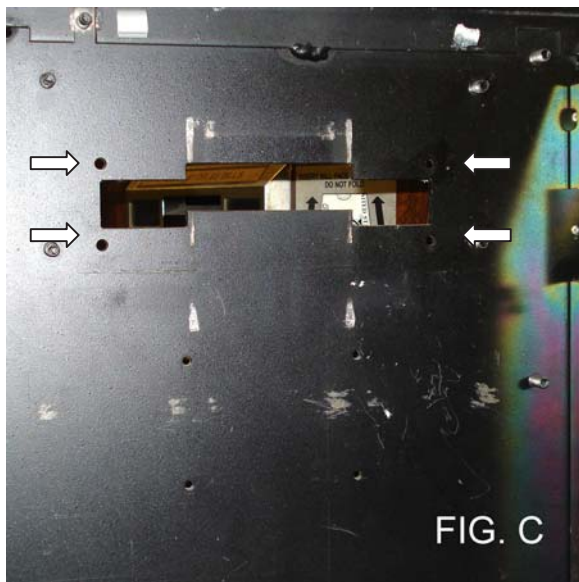
FIG. C

FIG. D

FIG C – Shows the old SC Series Bill Acceptor Assembly and Mounting Bracket removed from the cabinet, and the 4 holes where the External Cover Plate studs will fit through
FIG D – Shows the Stainless Steel External Mounting Plate installed & OOS Indicator Lamp wires inserted in opening

1. Take out all the SC-MAX Conversion Kit components from the box.

2. Locate the External Cover Plate (#1). Install this plate on the outside the machine door (front loads) or on the stainless steel faceplate (rear loads), by placing the studs through the four existing holes from removal of the SC Series acceptor removal **(See FIG. C)**.

3. Locate the small 28-volt "Out of Service" Indicator Lamp and harness (#7). Pass it by the round hole of the Stainless Steel Exterior Cover Plate **(See FIG. D)**

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4. Install the MEI or Coinco Bill Acceptor (#4), using the 11/32" nuts to the steel Internal Mounting Bracket (#2) **(See FIG E).**
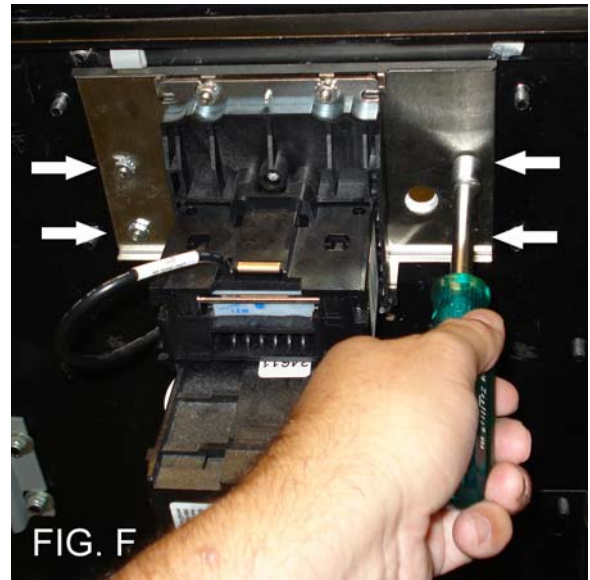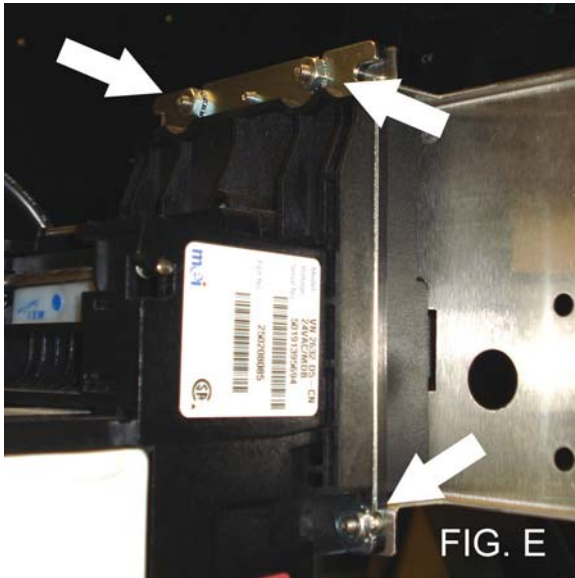

FIG. E – Attach the Bill Acceptor to the Internal Mounting Plate using (4) 11/32" nuts (arrows show 3 of 4 locations)

FIG F – Attach completed Bill Acceptor & Mounting Bracket assembly to the studs from the External Cover Plate

5. Affix the Internal Mounting Bracket & Bill Acceptor Assembly in place, matching up the threaded studs with the holes in the Internal Mounting Bracket **(See FIG F).**

6. Tight both plates together with the 3/8" nuts (included).

7. Place the SC-MAX CONTROLLER (#3) where the keypad and its support were, using the nuts and washers **(See FIG G).**

8. Pass the cables making sure you do not damage them with the continuous opening of the door or the hopper tilting or any other moving parts. The cables are: (1) MDB Bill Acceptor Communication cable, (2) "Out of Service" Indicator Lamp and (3) Flat Coin Acceptor Ribbon cable (only if you have a Coin Acceptor installed in your machine – See Instructions below).

9. Connect all the cables to the SC-MAX Controller (#3) into the indicated locations on the SC-MAX Controller label, including the original Power Supply cable (green ends) with flat black connector that is plugged into the 40-watt power supply. **(See FIG H on Page 5).**

10. The new 24VDC Power Supply (#5) connects directly into the 120-volt outlet in the machine. If you do not have a separate AC outlet in your machine, you will have to install one.

11. Connect all the Hopper Communication Cables (up to 4), in the appropriate location on the underside of the SC-MAX Controller. Be certain that you follow the Hopper Location Label (A, B, C, D) as shown on the hopper. Hopper A plugs into the Hopper A location on the Controller, etc.

FIG. H

SC-MAX CONNECTIONS:

SC-MAX controller

6D00750 vA

Coinco Coin Acceptor
(14-Pin Connector)

-or-

Mars Cashflow Coin Acceptor
(10-Pin Connector)

Portable Audit Printer

"Out of Service" Indicator Lamp

No Connection

COIN 14P
COIN 10P
PRINTER
LIGHT
DEX

MENU   ENTER   CLEAR   DUMP

NEXT   SAVE   +   –

Standard Change-Makers, Inc. | SC-MAX CONTROLLER

PS I/O 11P
PS I/O 10P
PB
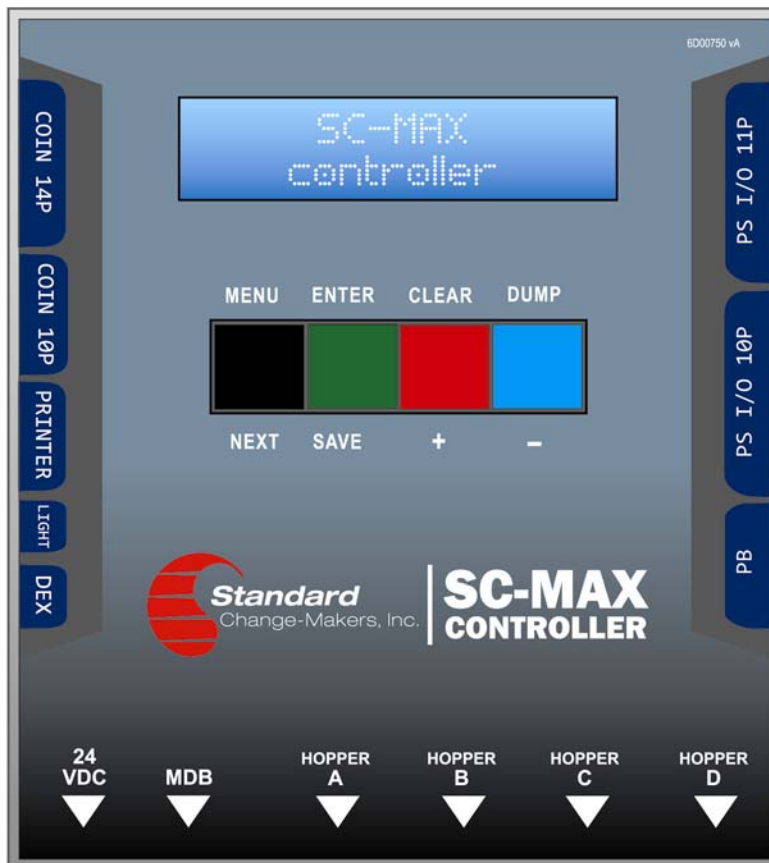
System 500-E/600 Power Supply
(11-Pin Connector)

-or-

System 500 ONLY Power Supply
(10-Pin Connector)

24 Volt AC Power Supply
(Connects to Sys. 500/600 Power Box)

24 VDC   MDB   HOPPER A   HOPPER B   HOPPER C   HOPPER D

SC-MAX Controller Power Supply

MDB from Bill Acceptor

Connections for up to 4 Hoppers

IMPORTANT NOTE:
The SC-MAX Controller Power Supply (connection at bottom-left) MUST be plugged into a 120 Volt/60 Hz. grounded outlet, but NOT the System 500/600 Power Supply where the Hoppers are plugged in. If your machine does not have a separate outlet, you will need to install an outlet for this purpose, or contact a qulaified electrician to install an outlet in the machine.

If your Change Machine does not have a Coin Acceptor – Proceed to Step 3.

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FOR MACHINES EQUIPPED WITH MEI CASHFLOW COIN ACCEPTOR:

NOTE: The System 500-E through System 600-EF have used the Mars (MEI) Cashflow 330 Electronic Coin Acceptor for many years. If you have a different model, please contact our Service Dept (1-800-968-6955) about any other model of coin acceptor.

MEI Cashflow 330 Coin Acceptor

1. Remove the Coin Panel from its mounting bracket.

2. On the backside of the Coin Panel you will see two Flat Ribbon Cables **(See FIG J).** One is connected to the 10-PIN connector at the bottom, and the other was connected to the SC Series Bill Acceptor. The other end of this cable is connected to a board in the Coin Panel. Unplug the 10-PIN connection from the back. You will not use this cable with the SC-MAX Conversion Kit.

3. Using the supplied Flat Ribbon Cable (#9), connect one end to the same 10-PIN connector and the other end will be connected to the 10-PIN Connection on the SC-MAX Controller (#3) – **(See FIG K)**

4. Using a rubber band or one of the supplied wire ties, secure the Flat Ribbon Cable with other cables being sure not to crimp or twist, and leaving enough slack to allow the door to open completely.

5. Replace the Coin Panel back into its Mounting Bracket.

EXISTING FLAT CABLE
FIG. J

FIG. K

EXISTING CABLE (STORED)

NEW CABLE CONNECTED
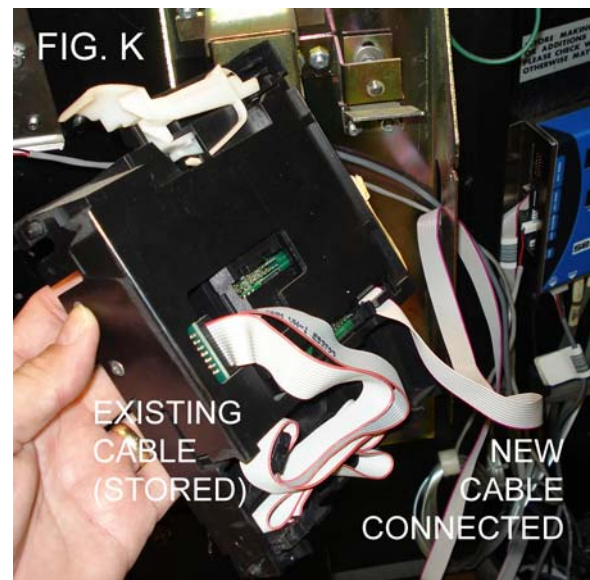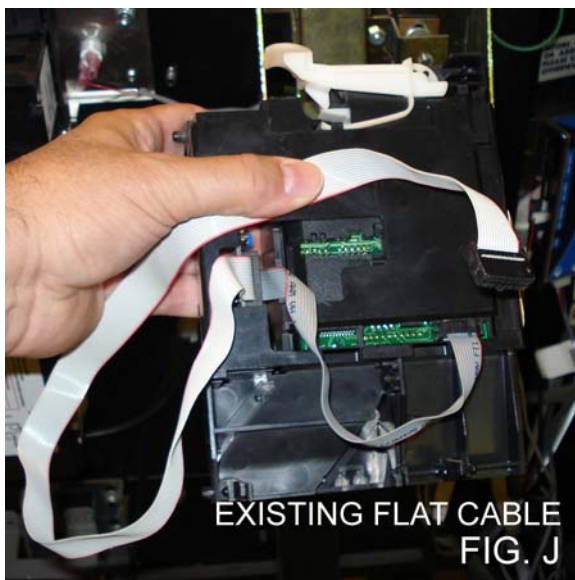
Once all components have been installed and cables connected, you are ready to proceed to Step 3.

STEP 3 – PROGRAMMING THE CHANGE MACHINE:

The SC-MAX offers the full range of programming functions that you had with the SC Series Bill Acceptors. The programming is achieved by using the push buttons located on the SC-MAX Controller, and feedback is provided by the blue LCD display. There is a flowchart available for download at this link: http://www.standardchange.us/scmax/flowchart.pdf

PROGRAMMING THE COINCO VANTAGE BILL ACCEPTOR:

If you are using a Coinco bill acceptor, it should ship from the factory with default settings similar to the Mars unit describe above. If you would prefer to change any of these default settings - consult the Quick Reference Guide included with the bill acceptor.

After you have installed the SC-MAX Controller, made your connections, and programmed your bill acceptor, you are ready to power up your change machine.

PROGRAMMING THE MEI (MARS BILL ACCEPTOR):

Programming which bills to accept is done directly on the MEI bill acceptor. On one of the side of the bill acceptor is a green and white sticker surrounding the programming dipswitches.

The Mars (MEI) Bill Acceptor switch settings are as follows:

1-2 Ways of Bill insertion (1, 2 or 4 way) (ON-ON)
  3 High security (OFF) or more permissive acceptation (ON)
  4 $10 bills accepted (OFF) or rejected (ON)
  5 $20 bills accepted (OFF) or rejected (ON)
  6 The enable signal is managed by the SC-MAX (OFF).
  7 Pulse per dollar (OFF)
  8 Vending Interface (ON)

Follow the Chart provided in FIG. L (right)

FIG. L

BEFORE APPLYING POWER YOU YOUR MACHINE, PLEASE READ THIS: The original Power Supply, also referred to as the 40-Watt Power Board, now only serves to provide power for the Coin hoppers only. It does not provide power to the SC-MAX Conversion Kit. In order for your machine to operate properly, the main switch must be turned on AND the new power supply must be plugged into the other AC outlet. This means, when you power down the machine, you must unplug the new power supply and turn off the main switch as well.
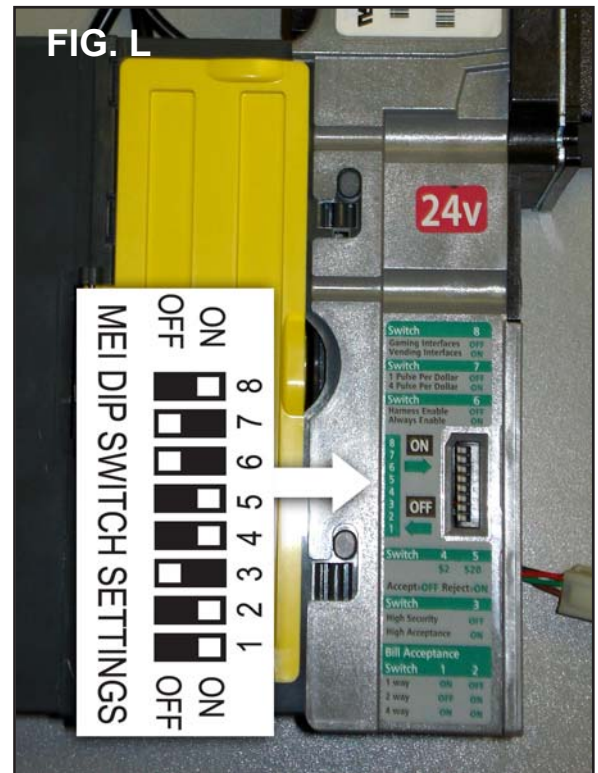
STEP 4 – POWERING UP YOUR MACHINE:

Apply POWER to your change machine by flipping the breaker or turning on the main power switch, and plugging in the new Power Supply into the 120 VAC outlet.

After you apply power to the machine, you will experience a 3-5 second delay before you hear the bill acceptor motor activate and the indicator lights activate. The blue LCD display on the SC-MAX Controller will turn on, and the show a software revision quickly, then the display will show the words "SC-MAX controller" to indicate it is ready.

At this point, you should put some coins in the hopper(s) and insert individual bills and coins and check the amount dispensed for proper change.

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OTHER FUNCTIONS:

HOPPER DUMP

A hopper dump process requires that the hopper be empty first. If a hopper is empty, there can still be a few coins left in the dispense mechanism. To dump it completely, you must press and hold for 3 seconds the BLUE "DUMP" button on the SC-MAX Controller. The hopper motor will activate and the mechanism will start turning, and will dispense any coins still in the mechanism.

ERROR MESSAGES

The SC-MAX provides a diagnosis of a problem through the blue LCD display. The "Out of Service" Indicator Light will serve as an alarm telling you to open the machine. If the "Out of Service" Indicator Light is flashing, that indicates that one or more hoppers is empty and needs to be refilled. If the "Out of Service" Indicator Light is steady on, it means that there is an error in the system that must be resolved, or the machine must be reset.

The blue LCD display will show the error message. All error messages can be cleared by pressing the RED "CLEAR" button on the SC-MAX Controller. Below is a table of the most common error messages:

SC-MAX CONTROLLER – COMMON ERROR MESSAGES		
ERROR MESSAGE:	**WHAT IT MEANS:**	**WHAT TO DO:**
Bill box out of position	Bill Stacker on Bill Acceptor is not on properly or missing	Replace it and be sure that it snaps into the proper position
Bill jammed, call service operator	Bill jammed in the bill acceptor	Remove the jammed bill
Check Hopper / Value Settings	No value has been assigned to the hopper(s)	Program the hopper value via the SC-MAX Controller (See flowchart)
Coin jam, push coin return	Coin jammed in the Coin Acceptor	Remove the jammed coin
Fast vend shut-off reached!	The quantity of specific bill inserted surpasses the limit set on the "Anti-Stringing" software (See System Settings)	Adjust the limit or reset the machine
Hopper(s) A/B/C/D anti-jack-pot	Hopper A, B, C, or D saw a coin passing by the sensor without authorization or more than 100 coins were dispensed	- Check the hopper - Clean the sensor on the coin chute, - Insert test bills to check for proper dispense amount, - Check dispense settings
Hopper(s) A/B/C/D has coin jammed	Hopper A, B, C, or D is jammed	- Shut off power to the machine - Tilt the hopper & dump the coins - Check the dispense mechanism for debris or bent coin - Clear any jam, refill hopper and turn power back on
Hopper(s) A/B/C/D opto blocked	Hopper A, B, C, or D has a coin optic/sensor obstruction	Open the hopper panel and clear the obstruction or wipe the optic/sensor with a clean, dry cloth
Hopper(s) A/B/C/D Sold Out	Hopper A, B, C, or D is empty	Fill the hopper with the appropriate value coin
Validator error, stacker full	Bill Stacker is full	Remove bills from bill stacker
STANDARD CHANGE-MAKERS SERVICE DEPT.: 1-800-968-6955		

SC90 AND SC100 SERIES MACHINES REQUIRE CABINET MODIFICATION
The SC90 (SC93, SC94, SC93-TOK, SC94-TOK, etc.) and SC100 (SC101 & SC102) Series changer require a small cabinet modification when installing the SC-MAX Conversion Kit.

In order to install the bill acceptor in these machine models, you must cut the lip of the cabinet – where the door meets the frame of the opening – because the bill acceptor is mounted higher on the door, and there is insufficient clearance for the new bill acceptor.

The modification requires you to install the External Cover Plate and Internal Mounting Bracket with the Bill Acceptor attached. Closing the door carefully – mark the area where the top of the bill acceptor meets the door frame. Using a metal saw or a high-speed rotary tool (such as a *Dremel*), make two vertical cuts in the lip of the cabinet. Once the cuts are finished, use a good pair of pliers pry the lip back into the cabinet to provide the needed clearance **(See FIG M)**.

SC90 & SC100 SERIES CABINETS REQUIRE SMALL MODIFICATION
TO PROVIDE CLEARANCE FOR THE NEW BILL ACCEPTOR
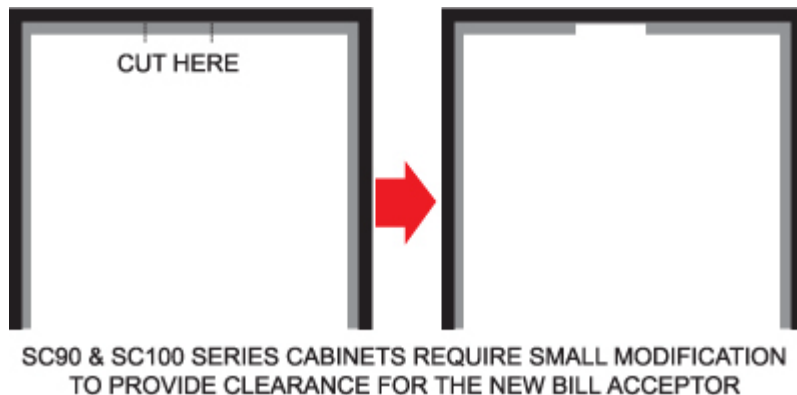
FIG. M

Congratulations! You have completed the installation of your SC-MAX Conversion Kit. If you have any problems with the operation of the machine during the testing phase, please re-read the instructions to be sure that all installation operations have been completed properly. Check to be sure that your cables are installed in the proper places and connected properly. If all of this checks out, please contact the Standard Change-Makers, Inc. Service Dept. at 1-800-968-6955.

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SC-MAX
Flow Chart
Audit & Programming

MENU Black button NEXT

ENTER Green button CONFIRM

CLEAR Red button +

DUMP Blue button –

Blue LCD (Display)

| Hopper A out: |
| Hopper A out: Cumulat.: 0 |
| Hopper B out: 0 |

Reset meters? Hold RED button

Press and hold 3 seconds

SC-MAX controller

Audit

Pressing the blue button at anytime will send the report to the printer. You can manually erase the audit after the print-out.

Last bills accepted

Pressing the blue button at anytime will send the log to the printer.

This will show you the last twenty bills that were accepted starting with the most recent.

To scroll

To exit !

Currency setting $1.00   yes

Currency setting

| Currency setting $0.05   no |
| Currency setting $0.10   no |
| Currency setting $0.25   no |

Hopper value

Choices are: .05, .10, .25, 1.00, 2.00, token, SCM relay interface, SEM relay interface, Without hopper

Accumulate value (Vend price set)

Accumulate value $0.00_

Press **+** or **–** enter the value. Confirm with **Green**.

Hoppers dispense

Accumulate value Hopper A: 0	For $1 Hopper A: 0	For $2 Hopper A: 0
Accumulate value Hopper B: 0	For $1 Hopper B: 0	For $2 Hopper B: 0
Accumulate value Hopper C: 0	For $1 Hopper C: 0	For $2 Hopper C: 0
Accumulate value Hopper D: 0	For $1 Hopper D: 0	For $2 Hopper D: 0

Press **+** or **–** enter the value. Confirm with **Green**.

System setting

Language

Language   English

Press **+** or **–** to change it.

Fast vend shut off

Max qty of bills 0 bills

Time period 0 minutes

Press **+** or **–** enter the value. Confirm with **Green**.

Events report

This will show all the errors that have occured and when it did, starting with the most recent.

To exit

To scroll

To print

SC-MAX controller

```
Hopper B out:          Hopper C out:        Hopper C out:        Hopper D out:        Hopper D out:
Cumulat.:     0        0                    Cumulat.:    0       0                    Cumulat.:     0

                       Cash box:            Bill box:            Cash in:             Cash in:
                       $0.00                $0                   $0.00                cumul.   $0.00
```

```
                       SC-MAX
                       controller

CLEARED !
```

```
Currency setting       Currency setting     Currency setting     Currency setting
$2.00         yes      $5.00        yes     $10.00       yes     $20.00       yes
```

Press **+** to toggle from YES to NO and confirm with **Green**.
Currency will vary depending type of peripherals connected to the SC-MAX

```
Hopper value    A:          Saving one          Hopper value    B:          Saving one
        1.00                moment please               2.00                moment please
   +      [green]                                  +      [green]
   −                                               −
```

```
Hopper value    C:          Saving one          Hopper value    D:          Saving one
        0.25                moment please               token               moment please
   +      [green]                                  +      [green]
   −                                               −
```

```
For          $5       For          $10      For          $20      Printing in
Hopper A:     0       Hopper A:     0       Hopper A:     0       Process...

For          $5       For          $10      For          $20
Hopper B:     0       Hopper B:     0       Hopper B:     0       Print paramaters

For          $5       For          $10      For          $20
Hopper C:     0       Hopper C:     0       Hopper C:     0       Para. Coin panel
                                                                                yes
For          $5       For          $10      For          $20
Hopper D:     0       Hopper D:     0       Hopper D:     0
```

Press **+**
or **−** to
change.
Confirm
with
Green.

```
Error time out              Clock setting              year/mo/dy-hr:mn         Para. Coin panel
0 minutes                                              2011/12/25-23:59
```

Press **+** or **−** enter the value. Press **Green** to move to next digit.

FLOW CHART - page 2 of 2