

SECTION 4:

PROGRAMMING

PROGRAMMING THE CENTURY 8 AND CENTURY 10 BILL AND COIN CHANGERS

There are three pushbuttons and one slide switch on the controller board. These are used to perform all programming activities.

The Program switch is positioned to the left for normal operations. In this position, if everything is normal, a dash will walk across the four displays, from left to right. If an error has occurred, an error code will be displayed, indicating what has caused the error. See Section 6 for Troubleshooting information.

Sliding the Program switch to the right will place the controller in the programming mode. In this mode the type of coin acceptor, bill validator, mode of operation, and payouts for each bill and coin may be set or adjusted.

The pushbutton switch on the left is the mode switch and is used to step through the options. The middle and right hand switches are used for adjusting the options choices or payout amounts. The middle switch steps up and the right switch steps down.

The middle and right switches are also used to reset any error codes. See Section 6 for details.

PROGRAMMING

NOTE:

Use the Serial setting for all applications. All bill validators must be 120 VAC or 12VDC. An additional transformer (not supplied by Rowe) is required for 24VAC operation.

Slide the normal / program switch to the right. The display will show *Pr o g*.

Press the mode button once for each option to be programmed. The options appear on the display in order as shown below. When a setting has been changed, always press the mode button at least once to "save" the setting.

Coin Acceptor Settings

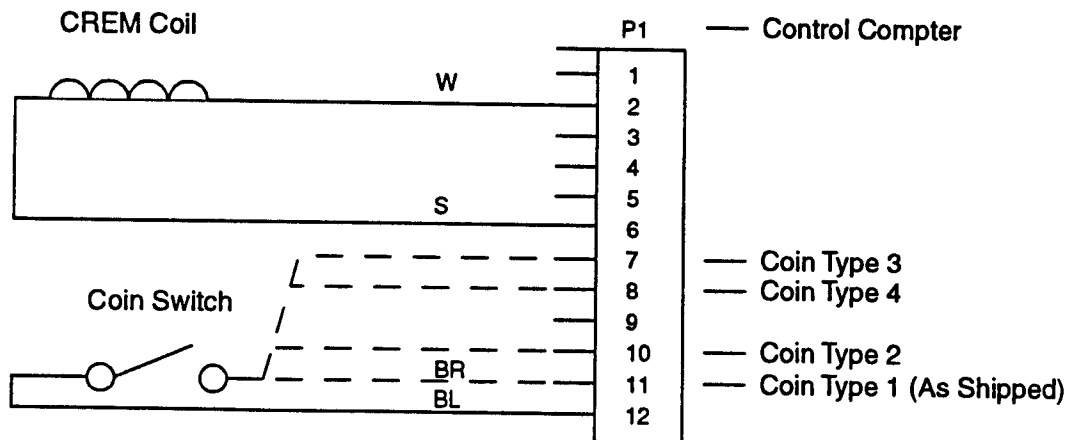
This option selects the type of Coin Accceptor installed in the machine. Using the up and down pushbuttons choose the appropriate type.

- 0* No Coin Acceptor is installed
- 1* A Standard Coin Acceptor is installed. (4 coin types max.)
- 2* A Special Electronic Coin Acceptor is installed. (8 coin types max.)
- 1* Coin type 1. This option selects the coins to be accepted. Use the up and down pushbuttons to enable or disable the displayed coin type. If the value is set to 0, the changer will not recognize that coin. If the value is set to 1, that coin will be recognized, and the change will be paid. Be sure to set the coin acceptor to accept *only* those coins you want accepted as the changer controller *cannot* control which coins the coin acceptor will accept and send to the cashbox.
- 2* Coin type 2. Program as in *1* above.
- 3* Coin type 3. Program as in *1* above.
- 4* Coin type 4. Program as in *1* above.
- 5* Coin type 5. Program as in *1* above.
- 6* Coin type 6. Program as in *1* above.
- 7* Coin type 7. Program as in *1* above.
- 8* Coin type 8. Program as in *1* above.

NOTE:

If the Coin Acceptor type was set to 0 - no acceptor installed - these options will not be displayed. If the Coin Acceptor type was set to type 1, only *1* through *4* will be displayed.

Figure 4-1
Mechanical
Coin Acceptor
Connections



45108301

Coin Acceptor Setup Information

If you purchased your Century Changer with a Coin Acceptor Installed, the following setup information is required.

Mechanical Coin Acceptor

With this system, a simple 3.5" acceptor will deliver a valid coin to the coin box, actuating a microswitch as it passes out of the acceptor. The harness from P1 of the Control Computer will deliver the signal to the Coin Type 1 input line. The computer will assure that the signal is between 15 and 175 milliseconds in duration before credit is issued.

The coin lockout solenoid, also connected to P1 of the Control Computer, will "drop out" and cause inserted coins to be redirected to the coin cup if: the machine is turned off or has no input power applied; if the machine is in the process of dispensing coins; or if the machine is otherwise out of service.

If you are using this system, select Coin Acceptor Type 1 and follow the instructions below.

For US/Canadian Machines:

The coin acceptor harness is shipped to you such that a valid coin is accepted as Coin Type 1. This credit signal will cause the money meter to advance once for every 4 coins accepted. This setting would be used if 25¢ coins are accepted. If you are accepting \$1 coins, move the brown credit wire (See Figure 4-1) connected to the Control Computer at P1, pin 11 over to pin 10 (Coin Type 2) and program the computer to accept Coin Type 2. This credit signal will cause the money meter to advance one count for each coin accepted. If you want to accept \$2 coins, move the brown credit wire to P1, pin 8 (Coin Type 4) and program the computer to accept Coin Type 4. This credit signal will cause the money meter to advance two counts for each coin accepted. Credit received as Coin Type 3 will never advance the money meter.

For Non-US Machines:

Program the computer to enable Coin Type 1, and set the payout accordingly. The money meter will advance based on other settings.

Electronic Coin Acceptor

Rowe also offers a Mars Cashflow 330 electronic coin acceptor option. This acceptor has the ability to accept many different denominations of coins from many different countries. The US/Canadian version of this acceptor can be enabled to accept 5¢, 10¢, 25¢ and \$1 coins from each country, plus the Canadian \$2 coin. This programming is done using DIP switches or with a Route Alpha Terminal available from Mars .

When connected to the P1 connector of the Control Computer, valid coins will provide credit to the Changer as follows:

COIN	COIN TYPE
US 25¢	5
Canadian 25¢	3
US \$1 (SBA)	6
Canadian \$1	4
Canadian \$2	7

Bill Acceptor Settings

bA 1 This option selects the type of Bill Aceptor installed in the machine. Using the up or down pushbuttons select the appropriate type.

1 Pulse type Bill Acceptor is installed. (2 bill types max.)

2 Rowe® Serial type Bill Acceptor is installed. (7 bill types max.)

3 Non-Rowe Serial type Bill Acceptor is installed.

Do not use **bA 1** in the Century 8 or Century 10. (Used in Century 2 only).

Use **bA 2** for Rowe® CBA-4 and RBA-7.

Use **bA 3** for all other bill acceptors.

NOTE: If the **bA 3** option is not available in your control's menu, choose **bA 2**. **bA 3** is present in Software Revision 2.3 and higher and has improvements in the area of Bill Acceptor fault handling.

b1 This option selects the bills to be accepted. Use the up and down pushbuttons to enable or disable the displayed bill type. If the value is set to 0, the changer will not recognize that bill. If the value is set to 1, that bill will be recognized, and change will be paid. There is a maximum of 7 bills for the serial type Bill Acceptors.

b2 Bill type 2. Program as in **b1** above.

b3 Bill type 3. Program as in **b1** above.

b4 Bill type 4. Program as in **b1** above.

b5 Bill type 5. Program as in **b1** above.

b6 Bill type 6. Program as in **b1** above.

b7 Bill type 7. Program as in **b1** above.

Coin Ratio Settings

U.S. and Canadian Changers, Control Computer P/N 45085902 -

This option sets the operating mode for the two coin hoppers. There are only two settings that should be used, although other selections are shown in the setup menu.

[r 1

Choose this setting if the coins in the hoppers are of different values, *or* if you do not want the computer to operate in the MC Mode as described below.

The maximum payout in this mode is 99 coins or tokens from each hopper.

[r 1.1 .

Choose this setting if the coins in the hoppers are of the same value and you want the changer to use the hoppers interchangeably to deliver coins to the customer. If one hopper should become low on coins or experience a failure, the other hopper will be used to pay the customer.

If both hoppers are functioning properly, they will be used equally to deliver change. This is referred to as "MC Mode".

The maximum payout in this mode is 99 *total* coins or tokens.

Do not use any of these settings:

[r 0, [r 2, [r 2.5, [r 4, [r 5, [r 10.

Non - U.S. and Canadian Changers, Control Computer P/N 45085903 -

This option selects the Coin Ratio between the coins in the two coin hoppers. The ratio is between the left hopper, which *must* contain the coin of the smaller monetary value, and the right hopper, which *must* contain the coin of the higher monetary value. Use the up and down pushbuttons to select the appropriate Coin Ratio.

Example: The left hopper contains .10 coins and the right hopper contains .25 coins, set the Coin Ratio to 2.5.

Do not use [r 0.

[r 1 (1:1) Same value coin in each hopper. Each hopper pays a distinct number of coins as programmed. See [r 1.1 . below.

[r 2 (1:2) The coin in the right hopper has 2 times the value of the coin in the left hopper.

[r 2.5 (2:5) The coin in the right hopper has 2.5 times the value of the coin in the left hopper.

[r 4 (1:4) The coin in the right hopper has 4 times the value of the coin in the left hopper.

[r 5 (1:5) The coin in the right hopper has 5 times the value of the coin in the left hopper.

$\text{Cr}1 \ 0$ (1:10) The coin in the right hopper has 10 times the value of the coin in the left hopper.

$\text{Cr}1 \ 1$ (1:1) Choose this setting if the coins in the hoppers are of the same value and you want the changer to use the hoppers interchangeably to deliver coins to the customer. If one hopper should become low on coins or experience a failure, the other hopper will be used to pay the customer. If both hoppers are functioning properly, they will be used equally to deliver change. This is referred to as "MC Mode".

The maximum payout in this mode is 99 *total* coins or tokens.

Money Meter Settings

This menu option appears only with non – U.S. and Canadian Changers, those using Control Computer P/N 45085903 –

$Pc \ 00$ This option selects the correct number of pulses to send to the money meter. The Pulse Count should be set to the number of coins from the left hopper that would be required to advance the Money meter 1 count. For example if the left hopper contains 50 centavo coins and it is desired that the money meter count in pesos, the pulse count should be set to 2 ($2 * 50c = 1$ peso). Even in the case where you might choose to pay no left hopper coins for a certain input, the money meter value will be calculated - using the Pc and Cr settings - and the meter will advance properly.

Use the up and down pushbuttons to select the appropriate setting. Any value between 00 and 99 may be set.

Note: Using the Pc and the Cr values the money meter will advance properly regardless of the number or mix of coins used to pay for any particular bill or coin inserted if the payout combinations add together to *exactly* equal the input value. If you are paying out tokens and provide a bonus for higher input denominations, the money meter will *not* exactly match the amount of money accepted by the changer.

Coin Level Settings

- L1 0.0** This option informs the controller of the minimum number of coins remaining in the **left** hopper when the low-level sensor signals that a low level has been reached. Use the up and down pushbuttons to set this option to an appropriate value. Any value between 60 and 990 may be set in 10 coin increments. Note the position of the illuminated decimal point on the display, indicating the left hopper level is being set.
- L1 00.** This option informs the controller of the minimum number of coins remaining in the **right** hopper when the low-level sensor signals that a low level has been reached. Use the up and down pushbuttons to set this option to an appropriate value. Any value between 60 and 990 may be set in 10 coin increments. Note the position of the illuminated decimal point on the display, indicating the right hopper level is being set.
- L1 0.0.** This option informs the controller of the number of coins remaining in either hopper, when the low-level sensor trips. Use the up and down pushbuttons to set this option to an appropriate value. Any value between 60 and 990 may be set in 10 coin increments. Note that two decimal points on the display are illuminated indicating the machine is set for MC MODE (C-R 1.1.), and the level for both hoppers is being set.

NOTE: This option will **only** be displayed if the Coin Ratio is set to MC MODE (C-R 1.1.).

These settings are used so that you may dispense the maximum number of coins or tokens, without the possibility of shortchanging a customer, before the changer goes out of service for lack of coins. The number you program here lets the computer know how many coins remain in the hopper when the coin level sensing system signals a low level.

B.B.BB The decimal points on the two leftmost displays indicate the state of the low-level sensors. The decimal point on the far-left display indicates a low-level condition exists in the **left** hopper, when lit. The decimal point on the second display from the left indicates a low-level condition exists in the **right** hopper, when lit.

The setting depends on the type of hopper being used and the type of coin or token loaded. To choose the correct setting, use one of the tables below based on the hopper and coins being used:

Recommended Low Coin Settings for Century 8

SMALL COINS HOPPER (65094907)			
US 5¢ (21.21mm)	US 10¢ (17.9mm)	US 25¢ (24.25mm)	.880" Token (22.35mm)
110	400	110	130

LARGE COINS TOKEN HOPPER (65094908)			
US 25¢ (24.25mm)	US SBA Dollar (26.5mm)	.984" Token (25mm)	Can. \$2/1.125 Token (28mm)
100	70	90	60

Recommended Low Coin Settings for Century 10

SMALL COINS HOPPER (65092903)			
US 5¢ (21.21mm)	US 10¢ (17.9mm)	US 25¢ (24.25mm)	.880" Token (22.35mm)
200	500	200	200

LARGE COINS TOKEN HOPPER (65092904)			
US 25¢ (24.25mm)	US SBA Dollar (26.5mm)	.984" Token (25mm)	Can. \$2/1.125 Token (28mm)
160	120	140	80

There is a second limitation on the number you set into the computer – it *must* be at least 30 higher than the highest number of coins or tokens to be paid to the customer.

You *must* choose the hoppers, coins or tokens used, and/or the operating mode as appropriate in order to maintain this 30 coin margin.

Coin Payout Settings

These functions will set the number of coins dispensed from the hoppers for the input coin types set earlier. If a coin type is disabled, its payout amount setting will not be displayed.

Non-MC Mode

1 c 0.0 Left Hopper Payout for Coin type 1. This number represents the number of coins dispensed from the left hopper. Use the up and down pushbuttons to set the number to the desired value. Any value between 00 and 99 may be set. *If a coin type was disabled, its programming will not be displayed.* Note the position of the illuminated decimal point on the display, indicating the left hopper payout amount s being set.

1 c 00. Right Hopper Payout for Coin type 1. This number represents the number of coins dispensed from the right hopper. Use the up and down pushbuttons to set the number to the desired value. Any value between 00 and 99 may be set. Note the position of the illuminated decimal point on the display, indicating the right hopper payout amount is being set.

2 c 0.0 Payout for Coin type 2, left hopper. Program as in 1 c 0.0 above.

2 c 00. Payout for Coin type 2, right hopper. Program as in 1 c 00. above.

3 c 0.0 Payout for Coin type 3, left hopper. Program as in 1 c 0.0 above.

3 c 00. Payout for Coin type 3, right hopper. Program as in 1 c 00. above.

4 c 0.0 Payout for Coin type 4, left hopper. Program as in 1 c 0.0 above.

4 c 00. Payout for Coin type 4, right hopper. Program as in 1 c 00. above.

5 c 0.0 Payout for Coin type 5, left hopper. Program as in 1 c 0.0 above.

5 c 00. Payout for Coin type 5, right hopper. Program as in 1 c 00. above.

6 c 0.0 Payout for Coin type 6, left hopper. Program as in 1 c 0.0 above.

6 c 00. Payout for Coin type 6, right hopper. Program as in 1 c 00. above.

7 c 0.0 Payout for Coin type 7, left hopper. Program as in 1 c 0.0 above.

7 c 00. Payout for Coin type 7, right hopper. Program as in 1 c 00. above.

8 c 0.0 Payout for Coin type 8, left hopper. Program as in 1 c 0.0 above.

8 c 00. Payout for Coin type 8, right hopper. Program as in 1 c 00. above.

MC Mode

1 c 0.0. This option sets the number of coins dispensed from both the left and the right hoppers for the coin types set earlier. Note that two decimal points are illuminated indicating the machine is set for MC MODE (C r l . l .). See above for programming.

NOTES:

1. This option is not displayed unless MC MODE is enabled.
2. The maximum number of coins that can be paid out is 99 in the MC MODE.
3. The above option will repeat for each type of coin accepted, in MC MODE.

Bill Payout Settings

These functions will set the number of coins dispensed from the hoppers for the input bill types set earlier. If a bill type is disabled, its payout amount setting will not be displayed.

Non-MC Mode

1 b0.0 Left Hopper Payout for Bill type 1. This number represents the number of coins dispensed from the left hopper. Use the up and down pushbuttons to set the number to the desired value. Any value between 00 and 99 may be set. *If a bill type was disabled, its programming will not be displayed.* Note the position of the illuminated decimal point on the display, indicating the left hopper payout amount is being set.

1 b00. Right Hopper Payout for Bill type 1. This number represents the number of coins dispensed from the right hopper. Use the up and down pushbuttons to set the number to the desired value. Any value between 00 and 99 may be set. Note the position of the illuminated decimal point on the display, indicating the right hopper payout amount is being set.

2b0.0 Payout for Bill type 2, left hopper. Program as in **1 b0.0** above.

2b00. Payout for Bill type 2, right hopper. Program as in **1 b00.** above.

3b0.0 Payout for Bill type 3, left hopper. Program as in **1 b0.0** above.

3b00. Payout for Bill type 3, right hopper. Program as in **1 b00.** above.

4b0.0 Payout for Bill type 4, left hopper. Program as in **1 b0.0** above.

4b00. Payout for Bill type 4, right hopper. Program as in **1 b00.** above.

5b0.0 Payout for Bill type 5, left hopper. Program as in **1 b0.0** above.

5b00. Payout for Bill type 5, right hopper. Program as in **1 b00.** above.

6b0.0 Payout for Bill type 6, left hopper. Program as in **1 b0.0** above.

6b00. Payout for Bill type 6, right hopper. Program as in **1 b00.** above.

7b0.0 Payout for Bill type 7, left hopper. Program as in **1 b0.0** above.

7b00. Payout for Bill type 7, right hopper. Program as in **1 b00.** above.

8b0.0 Payout for Bill type 8, left hopper. Program as in **1 b0.0** above.

8b00. Payout for Bill type 8, right hopper. Program as in **1 b00.** above.

MC Mode

1 b0.0. This option sets the number of coins dispensed from both the left and the right hoppers for the bill types set earlier. Note that two decimal points are illuminated indicating the machine is set for MC MODE (C-r-1 .! .). See above for programming.

NOTES:

1. This option is not displayed unless MC MODE is enabled.
2. The maximum number of coins that can be paid out is 99 in the MC MODE.
3. The above option will repeat for each type of coin accepted, in MC MODE.

Programming Examples

Example 1:

Typical for US/Canadian C-8 Model using US money

Coin accepted: \$1

Bills accepted: \$1.00, \$5.00, \$10.00, \$20.00

Hoppers: Left: NDQ (65094907), Right: \$1/Tokens (65094908)

Coins Used: 25¢ in left hopper, SBA \$1 in right hopper

Machine settings:

<i>C</i> <i>A</i> <i>2</i>	Electronic coin acceptor installed. (Mars ME330)	<i>L</i> <i>1</i> <i>0</i> <i>0</i>	Countdown starts at 100 coins after low level sensor trips for left hopper
<i>b</i> <i>A</i> <i>2</i>	Serial type Validator installed.	<i>L</i> <i>0</i> <i>7</i> <i>0</i>	Countdown starts at 70 coins after low level sensor trips for right hopper
<i>C</i> <i>1</i> <i>0</i>	Coin value 1 not accepted.	<i>B</i> <i>C</i> <i>0</i> <i>4</i>	4 x .25 = \$1.00
<i>C</i> <i>2</i> <i>0</i>	Coin value 2 not accepted.	<i>B</i> <i>C</i> <i>0</i> <i>0</i>	0 x 1.00 = 0.00
<i>C</i> <i>3</i> <i>0</i>	Coin value 3 not accepted.	<i>I</i> <i>B</i> <i>0</i> <i>4</i>	4 x .25 = \$1.00
<i>C</i> <i>4</i> <i>0</i>	Coin value 4 not accepted.	<i>I</i> <i>B</i> <i>0</i> <i>4</i>	0 x 1.00 = 0.00
<i>C</i> <i>5</i> <i>0</i>	Coin value 5 not accepted.	<i>3</i> <i>B</i> <i>0</i> <i>4</i>	4 x .25 = \$1.00
<i>C</i> <i>6</i> <i>1</i>	Coin value 6 accepted.	<i>3</i> <i>B</i> <i>0</i> <i>4</i>	4 x 1.00 = \$4.00
<i>C</i> <i>7</i> <i>0</i>	Coin value 7 not accepted.	<i>4</i> <i>B</i> <i>0</i> <i>8</i>	8 x .25 = \$2.00
<i>C</i> <i>8</i> <i>0</i>	Coin value 8 not accepted.	<i>4</i> <i>B</i> <i>0</i> <i>8</i>	8 x 1.00 = \$8.00
<i>b</i> <i>1</i> <i>1</i>	Bill value 1 accepted (\$1.00)	<i>5</i> <i>b</i> <i>1</i> <i>2</i>	12 x .25 = \$3.00
<i>b</i> <i>2</i> <i>0</i>	Bill value 2 not accepted (\$2.00)	<i>5</i> <i>b</i> <i>1</i> <i>7</i>	17 x 1.00 = \$17.00
<i>b</i> <i>3</i> <i>1</i>	Bill value 3 accepted (\$5.00)		end of programming
<i>b</i> <i>4</i> <i>1</i>	Bill value 4 accepted (\$10.00)		
<i>b</i> <i>5</i> <i>1</i>	Bill value 5 accepted (\$20.00)		
<i>b</i> <i>6</i> <i>0</i>	Bill value 6 not accepted (\$50.00)		
<i>b</i> <i>7</i> <i>0</i>	Bill value 7 not accepted (\$100.00)		
<i>C</i> <i>r</i> <i>1</i>	Coins are of different values		

Note: A C-10 Model would be setup exactly the same as the C-8, except for the Low Level Settings.

Example 2:

Typical for US/Canadian C-8 Model using Canadian money

Coin accepted: \$2

Bills accepted: \$5.00, \$10.00, \$20.00

Hoppers: Both \$1/Tokens (65094908)

Coins Used: \$1 in left hopper, \$2 in right hopper

Machine settings:

$\text{C}A$	C	Electronic coin acceptor installed. (Mars ME330)	$L060$	Countdown starts at 60 coins after low level sensor trips for right hopper
bA	C	Serial type Validator installed.		
$\text{C}1$	O	Coin value 1 not accepted.	$7\text{C}0.2$	$2 \times \$1.00 = \2.00
$\text{C}2$	O	Coin value 2 not accepted.	$7\text{C}00$	$0 \times \$2.00 = \0.00
$\text{C}3$	O	Coin value 3 not accepted.	360.3	$3 \times \$1.00 = \3.00
$\text{C}4$	O	Coin value 4 not accepted.	3601	$1 \times \$2.00 = \2.00
$\text{C}5$	O	Coin value 5 not accepted.	460.2	$2 \times \$1.00 = \2.00
$\text{C}6$	O	Coin value 6 not accepted.	4604	$4 \times \$2.00 = \8.00
$\text{C}7$	1	Coin value 7 accepted.	560.4	$4 \times \$1.00 = \4.00
$\text{C}8$	O	Coin value 8 not accepted.	5608	$8 \times \$2.00 = \16.00
$b1$	O	Bill value 1 not accepted (\$1.00)		end of programming
$b2$	O	Bill value 2 not accepted (\$2.00)		
$b3$	1	Bill value 3 accepted (\$5.00)		
$b4$	1	Bill value 4 accepted (\$10.00)		
$b5$	1	Bill value 5 accepted (\$20.00)		
$b6$	O	Bill value 6 not accepted (\$50.00)		
$b7$	O	Bill value 7 not accepted (\$100.00)		
$\text{C}r$	1	Coins are of different values		
$L07$	O	Countdown starts at 70 coins after low level sensor trips for left hopper		

Note: A C-10 Model would be setup exactly the same as the C-8, except for the Low Level Settings.

Example 3:

Typical for US/Canadian C-8 Model
using US money.

Coin accepted: \$1
Bills accepted: \$1, \$5, \$10, \$20
Hopper: Both \$1/Tokens (65094908)
Coins Used: .984 Tokens in each hopper

Machine settings:

<i>CR</i> <input checked="" type="checkbox"/>	Electronic coin acceptor installed. (Mars ME330)	<i>L09.0</i>	Countdown starts at 90 coins after low level sensor trips for left hopper
<i>BR</i> <input checked="" type="checkbox"/>	Serial type Validator installed.		
<i>C1</i> <input type="checkbox"/>	Coin value 1 not accepted.	<i>L090.</i>	Countdown starts at 90 coins after low level sensor trips for right hopper
<i>C2</i> <input type="checkbox"/>	Coin value 2 not accepted.		
<i>C3</i> <input type="checkbox"/>	Coin value 3 not accepted.	<i>500.4.</i>	4 Tokens for \$1
<i>C4</i> <input type="checkbox"/>	Coin value 4 not accepted.	<i>160.4.</i>	4 Tokens for \$1
<i>C5</i> <input type="checkbox"/>	Coin value 5 not accepted.	<i>362.4.</i>	24 Tokens for \$5
<i>C6</i> <input type="checkbox"/>	Coin value 6 accepted.	<i>465.0.</i>	50 Tokens for \$10
<i>C7</i> <input type="checkbox"/>	Coin value 7 not accepted.	<i>569.5.</i>	95 Tokens for \$20
<i>C8</i> <input type="checkbox"/>	Coin value 8 not accepted.		end of programming
<i>b1</i> <input type="checkbox"/>	Bill value 1 accepted (\$1.00)		
<i>b2</i> <input type="checkbox"/>	Bill value 2 not accepted (\$2.00)		
<i>b3</i> <input type="checkbox"/>	Bill value 3 accepted (\$5.00)		
<i>b4</i> <input type="checkbox"/>	Bill value 4 accepted (\$10.00)		
<i>b5</i> <input type="checkbox"/>	Bill value 5 accepted (\$20.00)		
<i>b6</i> <input type="checkbox"/>	Bill value 6 not accepted (\$50.00)		
<i>b7</i> <input type="checkbox"/>	Bill value 7 not accepted (\$100.00)		
<i>Cr1</i> <input type="checkbox"/>	Coins are of same value and use MC Mode		

Note: A C-10 Model would be setup exactly the same as the C-8, except for the Low Level Settings.

Example 4:

Typical for Mexican C-8 Model

Coin accepted: 5 Peso, 10 Peso

Bills accepted: 10, 20, and 50 Peso

Hopper: Left: NDQ (65094907),
Right: \$1/Tokens (65094908)

Coins Used: 1 Peso in left hopper, 2 Peso in right hopper

Machine settings:

<i>CA 2</i>	Coin acceptor installed	<i>L1 5.0</i>	Countdown starts at 160 coins after low level sensor trips for left hopper
<i>C1 1</i>	Coin value 1 is accepted		
<i>C2 1</i>	Coin value 2 is accepted	<i>L1 40.</i>	Countdown starts at 140 coins after low level sensor trips for right hopper
<i>C3 0</i>	Coin value 3 not accepted.		
<i>C4 0</i>	Coin value 4 not accepted.		
<i>C5 0</i>	Coin value 5 not accepted.	<i>1 C0.3</i>	3 x 1 = 3
<i>C6 0</i>	Coin value 6 not accepted.	<i>1 C01 .</i>	1 x 2 = 2
<i>C7 0</i>	Coin value 7 not accepted..	<i>2C0.6</i>	6 x 1 = 6
<i>C8 0</i>	Coin value 8 not accepted..	<i>1 C02.</i>	2 x 2 = 4
<i>BA 2</i>	Serial type Validator installed	<i>1 b0.6</i>	6 x 1 = 6
<i>b1 1</i>	Bill value 1 accepted (\$10.00)	<i>1 b03.</i>	2 x 2 = 4
<i>b2 1</i>	Bill value 2 accepted (\$20.00)	<i>2b0.4</i>	4 x 1 = 4
<i>b3 1</i>	Bill value 3 accepted (\$50.00)	<i>2b08.</i>	8 x 2 = 16
<i>b4 0</i>	Bill value 4 not accepted (\$100.00)	<i>3b1 .0</i>	10 x 1 = 10
<i>b5 0</i>	Bill value 5 not accepted (\$200.00)	<i>3b20.</i>	20 x 2 = 40
<i>b6 0</i>	Bill value 6 not accepted		end of programming
<i>b7 0</i>	Bill value 7 not accepted		
<i>Cr 2</i>	Right hopper coin is 2 times value of left hopper coin		
<i>PC01</i>	Money meter increments for every 1 left hopper coin (peso)		

Note: A C-10 Model would be setup exactly the same as the C-8, except for the Low Level Settings.

ERROR CODES

- Er 1* EEPROM error. Reprogram machine. If error repeats, replace controller board.
- Er 2* The bill acceptor accepted a bill that was not programmed. Program the bill acceptor the same as the changer.
- Er 3* Long pulse on bill acceptor credit line. Check for short to ground on credit line. Replace bill acceptor.
- Er 4* BA Fault. Check for full Stacker, or debris in bill acceptor. Replace bill acceptor.
- Er 5* Left hopper error. Check for coin jam, or binding parts in hopper. Verify that the left hopper motor is operating correctly.
- Er 6* Right hopper error. Check for coin jam, or binding parts in hopper. Verify that the right hopper motor is operating correctly.
- Er 7* Extra coin detected. Check brake stop pawl on hopper motors, replace or repair.
- Er 8* Left coin detector blocked. Clear debris. Clean or replace detector or LED.
- Er 9* Right coin detector blocked. Clear debris. Clean or replace detector or LED.
- Er 10* Programming Error. Check programming. A setting is incorrect for conditions.
Example: A bill has been enabled, but the payout was not programmed.
- Er 11* MC_Mode error. One or both hoppers are at fault. Check for coin jam, or binding parts in hopper. Verify hopper motors are operating correctly.
- Er 12* The changer is or was experiencing a low line voltage condition while dispensing coins. Check that the line voltage is maintained at 110 to 125 VAC. Check the Changer setup to be sure it is programmed as desired. An incorrect customer payout may have occurred.
- Er 14* MC_Mode empty. The hoppers are empty. Refill hoppers.
- Er 15* Left hopper empty. Refill left hopper.
- Er 16* Right hopper empty. Refill right hopper.
- Er 21* The computer experienced a problem while saving information in it's onboard
Er 22 memory chip. The most likely cause for this would be a power loss during the
Er 23 programming process. Another possible cause could be a recurring low line voltage condition—See *Er 12* above.
- Dashes walking through only first two LEDs. Check for stuck coin switch.
- Dashes walking through all four LEDs—condition normal.

To clear most errors, press the up and down pushbuttons simultaneously, then release. To clear error 01 or 10, enter Program Mode and make the necessary corrections.

SECTION 5:

MAINTENANCE & ADJUSTMENTS

INTRODUCTION

The modular design of the Century Series allows for fast field substitution and easy maintenance of changer components. This section provides instructions for removing Bill Changer components for service, and details mechanical maintenance procedures.

BILL ACCEPTOR

For specific Bill Acceptor information not included in this manual, refer to the *Bill Acceptor Field Service Manual and Parts Catalog* included with the Bill Changer.

REMOVING A JAMMED BILL — Rowe® Bill Acceptor Only

To remove a jammed bill from the Bill Acceptor, first try to determine where the bill is jammed in the transport.

Open the bill box and determine if the bill can be reached. If necessary, the gear on the side of the transport can be turned by hand, forward or reverse, to remove the bill.

If the bill is jammed near the bill inlet, first try removing it by turning the transport gear by hand. If this does not free the bill, you will need to remove the inlet. Follow the instructions in this section to remove the transport from the Bill Changer, then refer to Section 3 of your Bill Acceptor manual for instructions to remove the bill inlet.

If bills jam frequently, refer to the *Bill Jamming Checklist* in Section 3 of your Bill Acceptor manual.

If your Bill Changer is equipped with a non-Rowe Bill Acceptor, please refer to its manual for instructions.

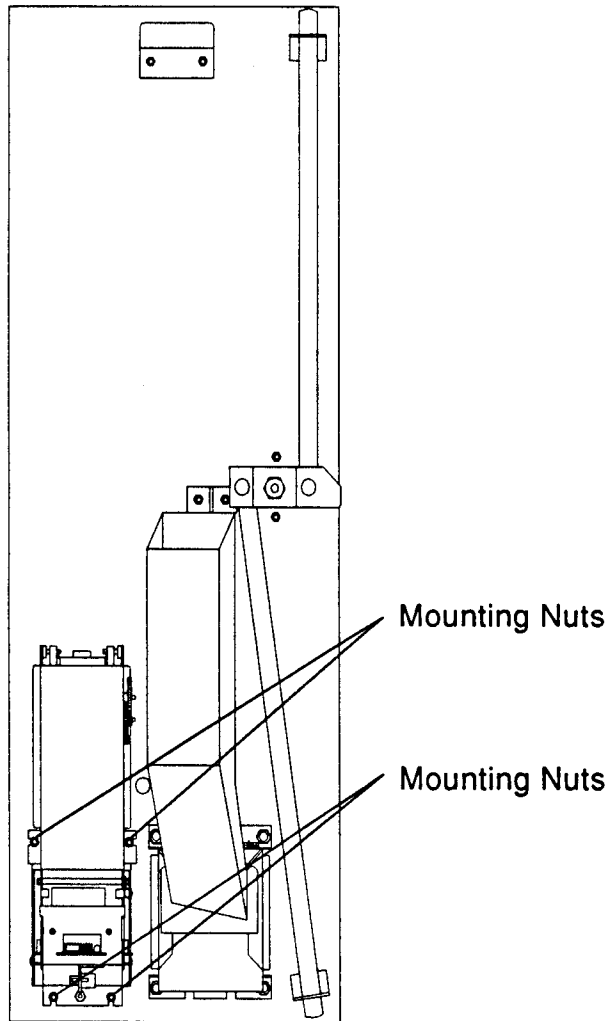
CAUTION:

Always turn the Bill Changer power to off before turning the Bill Acceptor gears by hand. Be careful not to pinch your fingers between the gears.

Figure 5-1
Removing the
Bill Acceptor

NOTE:

You may want to
open the bill box in
order to reach the
upper mounting nuts.



REMOVING THE BILL ACCEPTOR

Refer to Figure 5-1 as you remove the Bill Acceptor as follows:

1. Unplug the harness(es) from the Bill Acceptor. When certain bill acceptors are used, this step may need to be done after the unit is removed from the door.
2. Remove the 4 nuts holding the Bill Acceptor in place. Remove the Bill Acceptor.

INSTALLING THE BILL ACCEPTOR

Refer to Figure 5-1 as you install the Bill Acceptor as follows:

1. Plug the connector(s) into the Bill Acceptor.
2. Mount the Bill Acceptor to the door and tighten the 4 nuts used to hold it in place.

HOPPER

REMOVING THE HOPPER

If you are unfamiliar with the procedure to remove and replace the hopper, refer to *Unloading the Hopper* in Section 3 of this manual.

CLEANING THE HOPPER COIN PATH

NOTE:

Chain lubrication is not normally required.

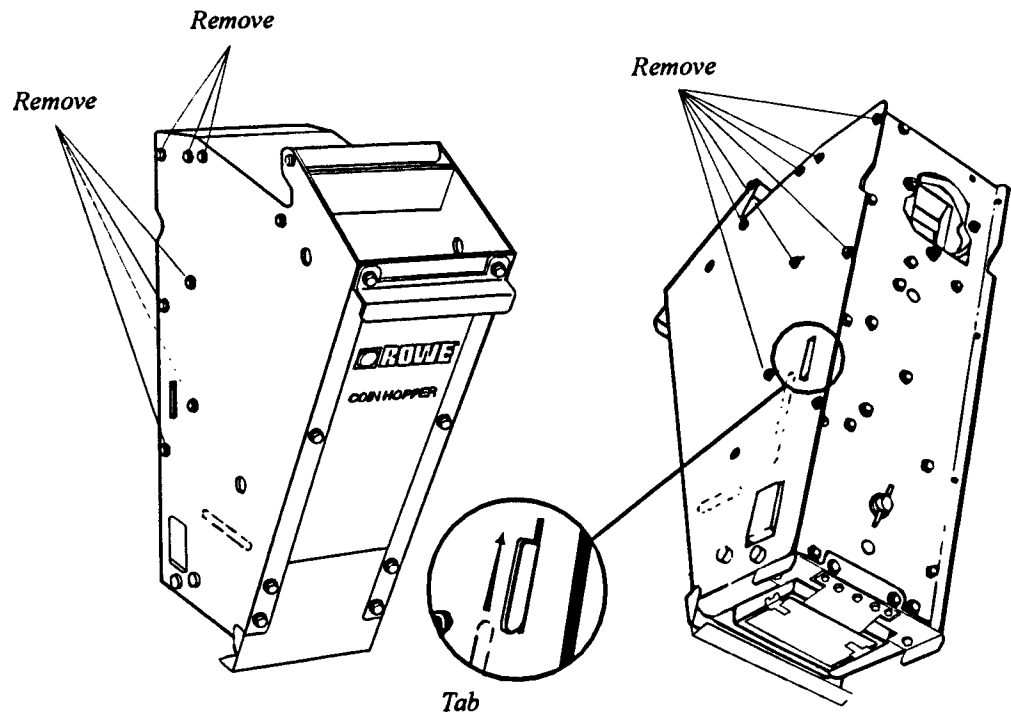
The coin tracks inside the hopper are Teflon coated to minimize dirt build-up. It may still be necessary to clean them at regular intervals, as dictated by the number of vends and the environment, to prevent dirt accumulation in the coin path.

Failure to keep the coin path clean may result in coins sliding out of the track, causing the *E-5* message to occur even though the hopper contains a sufficient amount of coins.

Clean the hopper as follows:

1. Remove the hopper from the bill changer and place it on a working surface.
2. Remove the black screws on each side of the hopper (*Figure 5-2, 17 total*), and lift the chain guide assembly up so that the tab (*Figure 5-2, enlarged*) can be pulled through the slot in the right hand side plate of the hopper assembly. When the tab is free, pull the chain guide assembly straight back out of the hopper.

Figure 5-2
Removing the
Hopper Chain
Guide Assembly

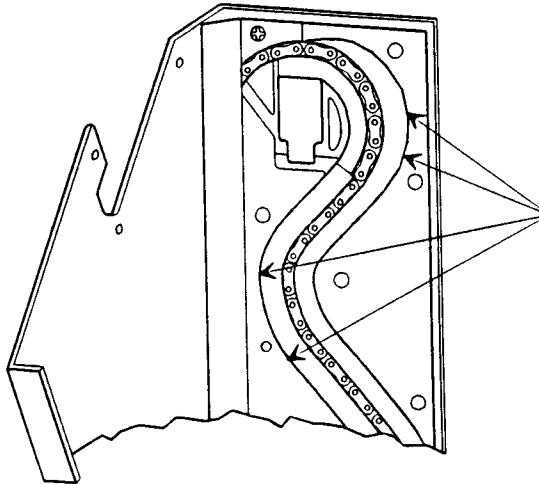


NOTE:

Do not use detergents to clean the hopper. Detergent cleaners destroy the hopper's factory lubrication.

3. Using the Nylon hopper cleaning brush supplied with each machine, remove all dirt from the angular sides and flat surfaces of the serpentine coin path (*Figure 5-3*).
4. To reassemble the hopper, replace the chain guide assembly, securing the tab in its slot, and then *start* each of the screws removed in step 2. When all of the screws have been started, tighten all screws.
5. Replace the hopper in the bill changer. Be sure it is sitting securely in the pivot brackets, snug against the dispenser plate, and the catch is engaged.
6. Make a test vend to check for proper hopper operation.

Figure 5-3
Cleaning the
Hopper Coin Path



Clean top and angular coin path surfaces, especially at guide edges, as shown

HOPPER CHAIN ADJUSTMENT

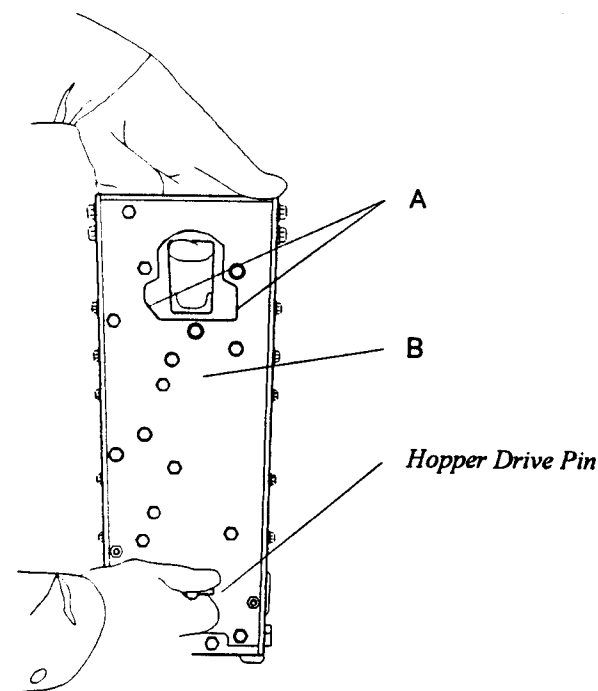
If the hopper coin path has been cleaned and the hopper still fails to operate correctly (jams or fails to pick up coins), you may need to adjust the hopper chain.

NOTE:

Make sure that all coins have been removed from the hopper before you adjust the chain tension.

1. Remove the hopper from the bill changer and empty it of all coins (*Section 3, Unloading the Hopper*).
2. Loosen the three screws at the top back of the hopper (*Figure 5-4, Ref. A and B*) which allow the black plastic upper chain guide ring to move diagonally upward.
3. Pull the chain guide ring up with your index finger as shown in Figure 5-4. At the same time, rotate the hopper drive pin clockwise with your other hand until all slack is removed from the chain, but no binding is evident.
4. Tighten the two top screws (A), and then the bottom screw (B), that you loosened in step 2. If a torque wrench is available, adjust the chain so that the torque input at the drive shaft is one to four inch pounds.

Figure 5-4
Hopper Chain
Adjustment

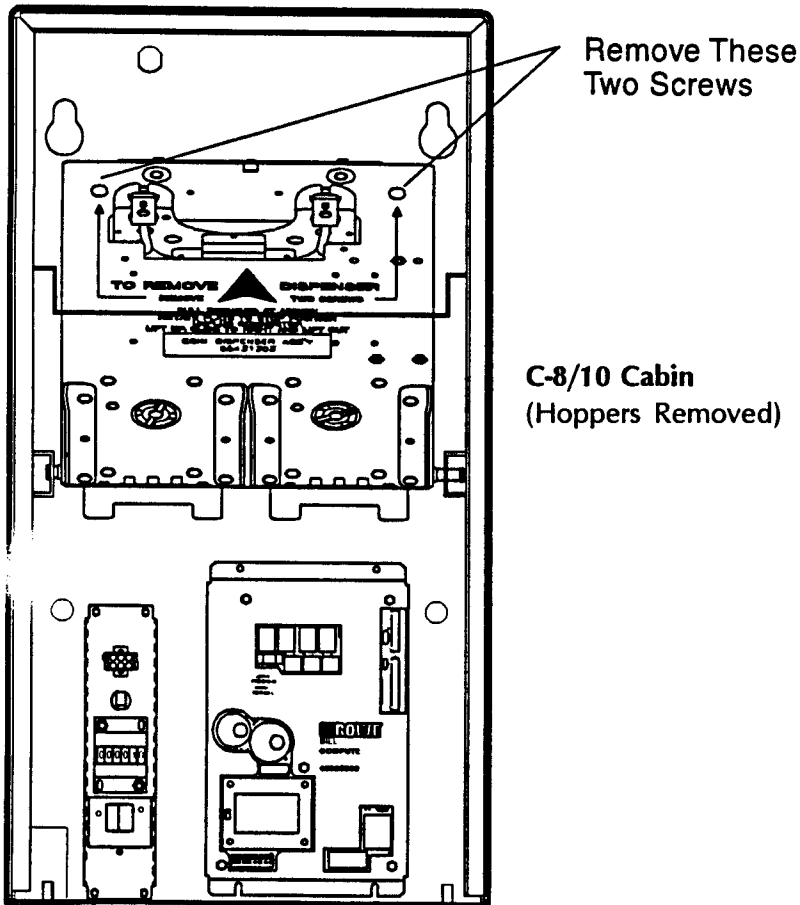


DISPENSER

REMOVING THE DISPENSER ASSEMBLY

1. Remove the hoppers from the Dispenser Assembly (*Section 3, Unloading the Hopper*).
2. Unplug the Dispenser harness from the P3 on the Control Computer.
3. Remove the two 1/4 - 20 screws on either side of the top of the Dispenser Plate.
4. Pivot the top of the Dispenser toward you, then slide the entire assembly to the right to release the left pivot pin from its bracket on the left side of the cabinet.
5. Pull the left side of the Dispenser toward you and move the assembly to the left to release the right pivot pin from its bracket on the left side of the cabinet.

Figure 5-5
Removing
The Dispenser
Assembly
C-8/10



INSTALLING THE DISPENSER ASSEMBLY

1. Insert the right pivot pin into its bracket on the right side of the cabinet and slide the assembly fully to the right.
2. Swing the left pivot pin into alignment with its bracket, then slide the assembly to the left to fully engage the left pivot pin in its bracket.
3. Pivot the top of the assembly back into the machine and re-install the two 1/4-20 screws on either side of the top of the Dispenser Plate.
4. Plug the Dispenser Harness into P3 on the Control Computer.
5. Replace the hoppers, making sure that they are fully seated in their pivot brackets.