SECTION 3:
LOADING & AUDITING

INTRODUCTION

This section provides instructions for loading and unloading the Century Series coin hopper.

LOADING THE BILL CHANGER

NOTE:

The hopper may be loaded with either quarters, dimes, nickels, OR tokens – but different coin types may not be mixed in the hopper.

Refer to Section 4: PROGRAMMING *to change the default coin payout.*

Loading the hopper is easiest when the coins are delivered via a coin bag. Hopper capacities vary depending on the machine model, hopper type, and coin/token size. Tables 3-1 and 3-2 give approximate capacities.

C2/C4 Hopper Capacities

Hopper Type	Dimes 17.9mm	Nickels 21.21mm	Quarters 24.25mm	.984" Tokens 25mm	SBA $1/ Canadian $1 26.5mm	Canadian $2 (1.10") 27.95mm	1.125" Tokens 28.57mm
65094904 (Small Coin)	5000	2400	2100	N/A	N/A	N/A	N/A
65094905 (Large Coin)	N/A	N/A	1850	1600	1400	1200	1000

Table 3-1

C6 Hopper Capacities

Hopper Type	Dimes 17.9mm	Nickels 21.21mm	Quarters 24.25mm	.984" Tokens 25.0mm	SBA $1/ Canadian $1 26.5mm	Canadian $2 (1.10") 27.95mm	1.125" Tokens 28.57mm
65092901 (Small Coin)	8000	4000	3400	N/A	N/A	N/A	N/A
65092902 (Large Coin)	N/A	N/A	3200	3000	2200	2100	1800

Table 3-2

LOADING THE HOPPER

Refer to Figure 3-1 and load the hopper as follows:

1. Open front door as far as it will go without releasing the door latch. On the C-6 ONLY, lift up the hopper catch and pull the hopper out to the second catch position.

2. Twist the top of a full coin bag one full turn. Grasp the twisted top with one hand and hold the bottom of the bag with the other. Invert the bag and insert the top into the mouth of the hopper.

3. Slowly release the twist as the bag empties. Avoid spilling coins into the changer. When the bag is almost empty, grasp it at the bottom and shake it to dislodge coins tucked in the folds of the bag.

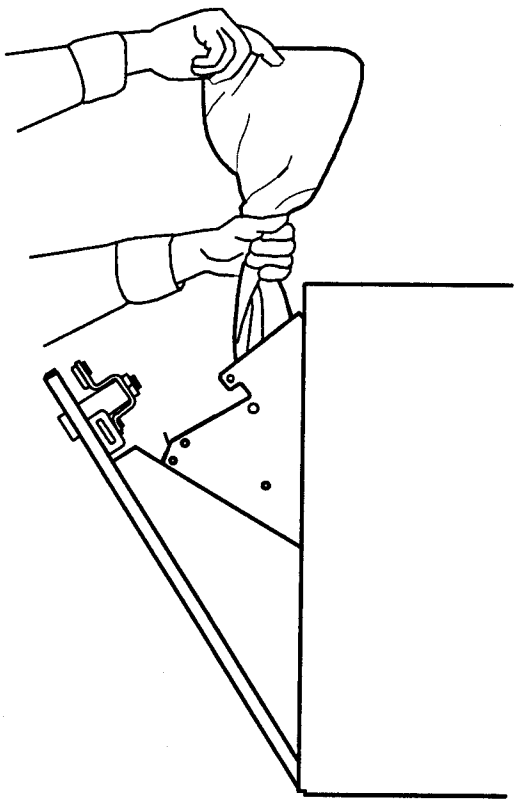
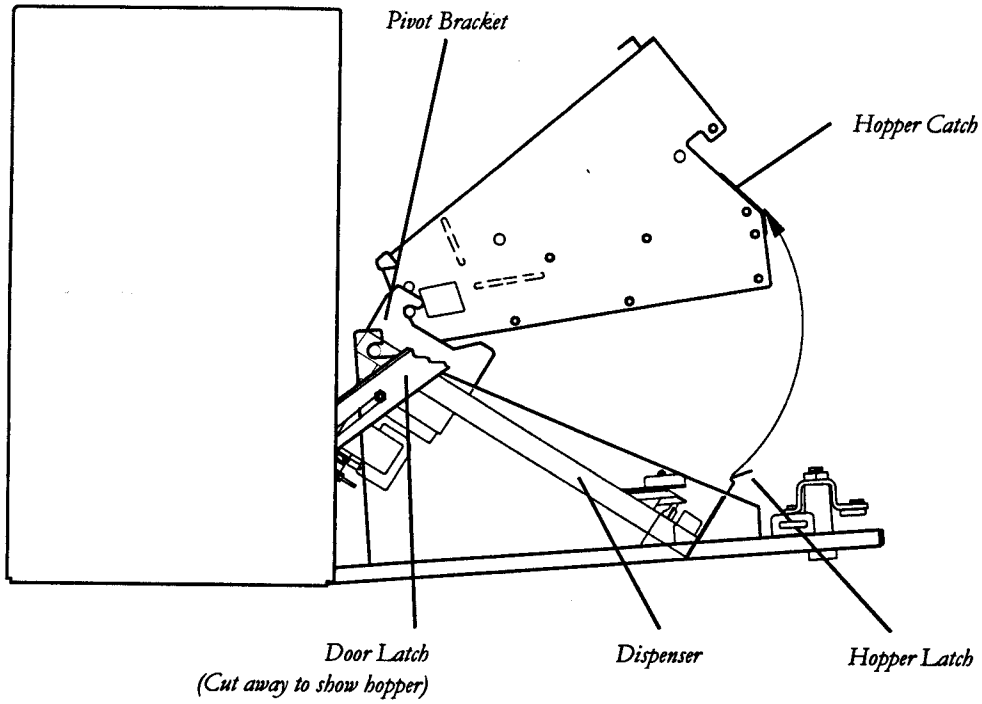


Figure 3-1.
Hopper Loading
(C-2/4 Shown)

Figure 3-2
Removing the Hopper C-2/4



NOTE:

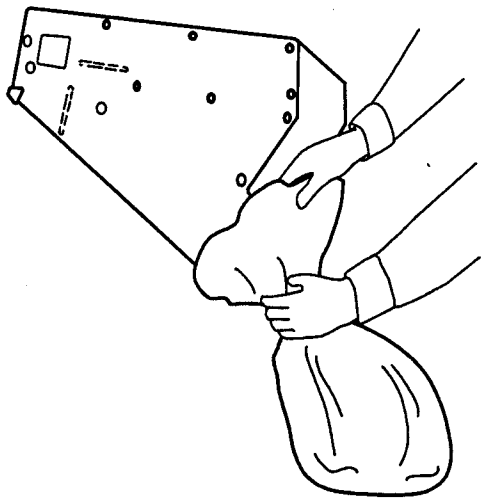
If the hopper is full, place your hand or an empty bag over the hopper opening to keep coins from spilling out of the top of the hopper.

UNLOADING THE HOPPER C-2/4

Refer to Figure 3-2 as you remove the hopper as follows:

1. Open the door as far as it will go without releasing the door latch.
2. While supporting the door with one hand, lift the latch handle to release the door latch and lower the door all the way down *(See Figure 3-2).*
3. Release the hopper catch and lift the hopper out.
4. Place the top of the bag over the hopper opening. Invert the hopper over the bag to empty it *(Figure 3-3).*
5. Replace the hopper. Be sure it is sitting securely in the pivot brackets, snug against the dispenser plate, and the catch is engaged *(Figure 3-2).*

Figure 3-3
Emptying the Hopper



UNLOADING THE HOPPER C-6

Refer to Figure 3-4 as you remove the hopper as follows:

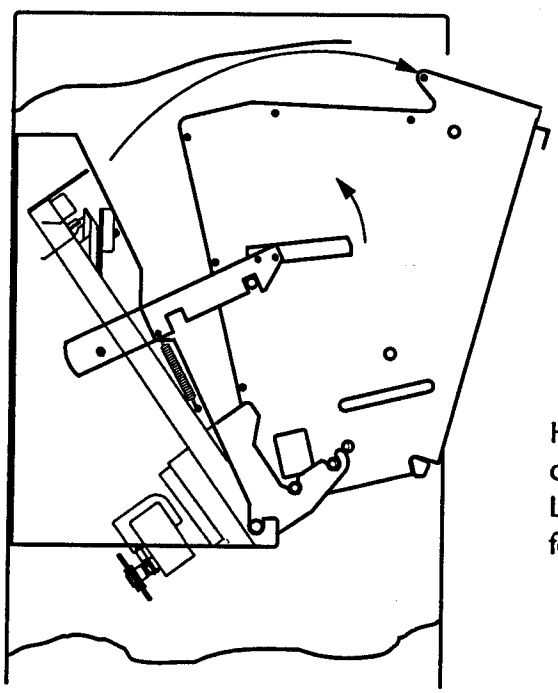
1. Open the door as far as it will go without releasing the door latch.

2. While supporting the door with one hand, lift the latch handle to release the door latch and lower the door all the way down *(See Figure 3-4).*

3. Lift up the hopper catch and pull the hopper out past the second catch position. Lift the hopper out.

4. Place the top of the bag over the hopper opening. Invert the hopper over the bag to empty it *(Figure 3-3).*

Figure 3-4
Removing the Hopper C-6



Hopper shown in second catch - loading position. Lift handle and pull hopper forward to remove.

Auditing

There are three pieces of information needed in order to thoroughly audit your bill changer. The amount of cash removed from the bill box (and coin box if you have a coin acceptor-equipped C-6) should match the difference in money counter readings. Also, the difference between the number of coins (or tokens) initially loaded in the hopper and the remaining number should match the total cash removed multiplied by the number of coins or token paid per unit or cash input. Some examples follow:

C2

Initially

Accepts: $1 and $5
Payout: 25¢ (4 for $1, 20 for $5)
Initial Hopper Load: 2,000 coins
Initial Counter Reading: 047233

At Service Interval

Intake Check:

Removed: 276 x $1 = $276
26 x $5 = $130
Total Intake = **$406**

Counter Reading: 047639
Counter Difference 47639 - 47233 = **406** ✓

Coin Count Check:

Hopper Contents: 376 Coins
Should have dispensed: 276 x 4 = 1104
26 x 20 = 520
Total = 1624

Actual dispensed: 2000 (initial)
- 376 (remaining)
1624 ✓

C6

Initially

Accepts: $1, $5, $10 and 25¢
Payout: Tokens (.984")
(1 for25¢, 4 for $1, 24 for $5, 50 for $10)
Initial Hopper Load: 3,000 coins
Initial Counter Reading: 047233

At Service Interval

Intake Check:

Removed: 40 x .25 = $ 10
154 x $1 = $154
26 x $5 = $130
23 x $10 = $260
Total Intake = **$524**

Counter Reading: 047757
Counter Difference 47757 - 47233 = **524** ✓

Coin Count Check:

Hopper Contents: 570 Tokens
Should have dispensed: 40 x 1 = 40
154 x 4 = 616
26 x 24 = 624
23 x 50 = 1150
Total = 2430

Actual dispensed: 3000 (initial)
- 570 (remaining)
2430 ✓

This page intentionally left blank.

SECTION 4:
PROGRAMMING

PROGRAMMING THE CENTURY 2 AND CENTURY 4 BILL 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 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 the error codes. See Section 6 for details.

PROGRAMMING

NOTE:

Use Pulse setting for Rowe UBA or CBA2 in a Century 2. Use Serial setting for Mars VN2501, Coinco BA30SA, or CashCode, etc. Use the Serial setting for all applications in the Century 4 and Century 6. 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 Pro9.

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 Acceptor installed in the machine. Using the up and down pushbuttons choose the appropriate type.

C2 and C4

CA 0 This setting must be set to 0 as no coin acceptors can be installed in these models.

C6

CA 0 No Coin Acceptor is installed

CA 1 A Standard Coin Acceptor is installed. (4 coin types max.)

CA 2 A Special Electronic Coin Acceptor is installed. (8 coin types max.)

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 C1 through C4 will be displayed.

C1 0 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.

C2 0 Coin type 2. Program as in C1 0 above.

C3 0 Coin type 3. Program as in C1 0 above.

C4 0 Coin type 4. Program as in C1 0 above.

C5 0 Coin type 5. Program as in C1 0 above.

C6 0 Coin type 6. Program as in C1 0 above.

C7 0 Coin type 7. Program as in C1 0 above.

C8 0 Coin type 8. Program as in C1 0 above.

Bill Acceptor Settings

bA 1 This option selects the type of Bill Acceptor 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 Serial type Bill Acceptor is installed. (7 bill types max.)

b1 0 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. Be sure to set the bill acceptor to accept **only** those bills you want accepted as the changer *controller* cannot select which bills the bill acceptor will accept and store in the stacker. There is a maximum of 2 bills for the pulse type of Bill Acceptors. There is a maximum of 7 bills for the serial type Bill Acceptors.

b2 0 Bill type 2. Program as in b1 0 above.

b3 0 Bill type 3. Program as in b1 0 above.

b4 0 Bill type 4. Program as in b1 0 above.

b5 0 Bill type 5. Program as in b1 0 above.

b6 0 Bill type 6. Program as in b1 0 above.

b7 0 Bill type 7. Program as in b1 0 above.

Coin Ratio Settings

Cr 0 Set to type 0 for the Century 2, 4 and 6.

Money Meter Settings

NOTE:

Setting the value of this option to 00 will disable the money counter.

This setting is **not** required on US or Canadian Models and will not appear in the setup sequence. On these models, the counter will increment once for every dollar inserted.

PcOO This option is used by the computer to calculate the number of times to increment the money counter when any particular denomination of coin or bill has been accepted. Bill Acceptors for different countries provide identical signals to indicate vastly different bills. For example, a single pulse from an English version of a popular brand means that a £5 bill was accepted; a single pulse from the same company's Mexican model means that a 10 Peso bill was accepted. Therefore, the input signal cannot be used to control the money counter increments as it does not indicate the same denomination from country to country.

To overcome this limitation, the computer of the Century changer provides this programmed variable to allow the user to define the money counter activity based on the number of coins or tokens *output* when a vend takes place.

This option selects the correct number of pulses to send to the money counter. The Pulse Count should be set to the number of coins from the hopper required to advance the Money Counter 1 count. Use the up and down pushbutttons to select the appropriate setting. Any value between 00 and 99 may be set.

Examples:

You want the Counter to count Pesos, and are dispensing ½ Peso coins from the hopper. Since there are 2 coins per Peso, choose Pc02. For every 2 coins delivered, the counter will increment - if a 10 Peso bill is accepted and there are 20 coins paid for this value, the counter will increment 20 /2 = 10 counts.

You want to count Pesos and are dispensing 10 Centavo coins. Since there are10 coins per Peso, choose Pc10. For every 10 coins delivered, the counter will increment - if a 10 Peso bill is accepted and there are 100 coins paid for this value, the counter will increment 100 /10 = 10 counts.

Coin Level Settings

LI 0.0 This option informs the controller of the minimum number of coins remaining in the hopper when it's 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.

These settings are used so that the changer can dispense the maximum number of coins or tokens, without the possibility of shortchanging a customer, before going 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.

88.88 The decimal point at the center of the display digits indicates the state of the low-level sensor. The decimal point indicates that a low-level condition exists in the hopper when it is 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 2 and 4

SMALL COINS HOPPER (65094904)			
US 5¢ (21.21mm)	US 10¢ (17.9mm)	US 25¢ (24.25mm)	.880" Token (22.35mm)
160	350	140	150

LARGE COINS TOKEN HOPPER (65094905)			
US 25¢ (24.25mm)	US SBA Dollar (26.5mm)	.984" Token (25mm)	Can. $2 (28mm)
130	70	90	55

Recommended Low Coin Settings for Century 6

SMALL COINS HOPPER (65092901)			
US 5¢ (21.21mm)	US 10¢ (17.9mm)	US 25¢ (24.25mm)	.880" Token (22.35mm)
220	500	200	210

LARGE COINS TOKEN HOPPER (65092902)			
US 25¢ (24.25mm)	US SBA Dollar (26.5mm)	.984" Token (25mm)	Can. $2 (28mm)
150	110	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.

Payout Settings

Coin Payout Setting - Century 6 Only

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

1 c00. Payout for Coin type 1. This option sets the number of coins dispensed from the hopper. Use the up and down pushbuttons to set this option to an appropriate value. Any value between 00 and 99 may be set.

2c00. Payout for Coin type 2. Program as in 1 c00. above.

3c00. Payout for Coin type 3. Program as in 1 c00. above.

4c00. Payout for Coin type 4. Program as in 1 c00. above.

5c00. Payout for Coin type 5. Program as in 1 c00. above.

6c00. Payout for Coin type 6. Program as in 1 c00. above.

7c00. Payout for Coin type 7. Program as in 1 c00. above.

8c00. Payout for Coin type 8. Program as in 1 c00. above.

Bill Payout Settings

These options will set the payout of coins for each type of bill accepted. If a bill type is disabled, its payout setting will not be displayed.

1 b00. This option sets the number of coins dispensed from the hopper for the bill types set earlier. Use the up and down pushbuttons to set the payout to the desired value. Any value between 00 and 99 may be set.

2b00. Payout for Bill type 2. Program as in 1 b00. above.

3b00. Payout for Bill type 3. Program as in 1 b00. above.

4b00. Payout for Bill type 4. Program as in 1 b00. above.

5b00. Payout for Bill type 5. Program as in 1 b00. above.

6b00. Payout for Bill type 6. Program as in 1 b00. above.

7b00. Payout for Bill type 7. Program as in 1 b00. above.

8b00. Payout for Bill type 8. Program as in 1 b00. above.

Programming Examples

Example 1:

Typical for **US/Candian** C2 Model

Coin accepted: None
Bills accepted: $1 (US), $5
Hopper: Small Coin (65094904)
Payout 25¢

Machine settings:

CA 0 No coin acceptor installed.
bA 1 Pulse type Validator installed.
b1 1 Bill value 1 accepted ($1 US)
b2 1 Bill value 2 accepted ($5)
Cr 0 Always set to 0 for the C2
L1 40. 140 coins – See Chart
1 b04. 4 x .25 = 1.00
2b20. 20 x .25 = 5.00
end of programming

Example 2:

Typical for **US/Canadian** C4 Model or C6 without Coin Acceptor

Coin accepted: None
Bills accepted: $1, $5, $10, $20
Hopper: Small Coin (65094904 - C4) or (65092901 - C6)
Payout 25¢

Machine settings:

CA 0 No coin acceptor installed.
bA 2 Serial type Validator installed.
b1 1 Bill value 1 accepted ($1 US)
b2 0 Bill value 2 not accepted ($2)
b3 1 Bill value 3 accepted ($5)
b4 1 Bill value 4 accepted ($10)
b5 1 Bill value 5 accepted ($20)
b6 0 Bill value 6 not accepted ($50)
b7 0 Bill value 7 not accepted ($100)
Cr 0 Always set to 0 for the C4 and C6

C4 –

L1 40. 140 coins – See Chart

C6 –

L200. 200 coins – See Chart
1 b04. 4 x .25 = 1.00 (US only)
3b20. 20 x .25 = 5.00
4b40. 40 x .25 = 10.00
5b80. 80 x .25 = 20.00
end of programming

Programming Examples

Example 3:

Typical for C2 Model

Coin accepted: None
Bills accepted: £5 and £10 (England)
Hopper: Small Coin (65094904)
Payout £1 (22.5mm Dia.)

Machine settings:

CA 0 No coin acceptor installed.
bA 1 Pulse type Validator installed.
b1 1 Bill value 1 accepted (£5)
b2 1 Bill value 2 accepted (£10)
Cr 0 Always set to 0 for the C2
PcO1 1 Coin per £
L1 50. 150 coins – See Chart
1 b05. 5 x £1 = £5
2b1 0. 10 x £1 = £10
end of programming

Example 4:

Typical for C4 Model or
C6 without Coin Acceptor

Coin accepted: None
Bills accepted: 10, 20 and 50 Peso
Hopper: Small Coin (65094904 - C4)
or (65092901 - C6)
Payout 1 Peso (24mm Dia.)

Machine settings:

CA 0 No coin acceptor installed.
bA 2 Serial type Validator installed.
b1 1 Bill value 1 accepted (10 Peso)
b2 1 Bill value 2 accepted (20 Peso)
b3 1 Bill value 3 accepted (50 Peso)
b4 0 Bill value 4 not accepted
b5 0 Bill value 5 not accepted
b6 0 Bill value 6 not accepted
b7 0 Bill value 7 not accepted
Cr 0 Always set to 0 for the C4 and C6
PcO1 1 Coin per Peso

C4 –

L1 40. 140 coins – See Chart

C6 –

L200. 200 coins – See Chart
1 b1 0. 10 x 1 = 10 Peso
2b20. 20 x 1 = 20 Peso
3b50. 50 x 1 = 50 Peso
end of programming

Programming Examples

Example 5:

Typical for C6 Model with Coin Acceptor

Coin accepted: $1
Bills accepted: $1, $5, $10, $20
Hopper: Small Coin (65092901)
Payout 25¢

Machine settings:

CA 1 Std. Coin acceptor installled.
bA 2 Serial type Validator installed.
C1 1 Coin 1 accepted ($1)
b1 1 Bill value 1 accepted ($1)
b2 0 Bill value 2 not accepted ($2)
b3 1 Bill value 3 accepted ($5)
b4 1 Bill value 4 accepted ($10)
b5 1 Bill value 5 accepted ($20)
Cr 0 Always set to 0 for the C6
L200. 200 coins – See Chart
1C04. 4 x .25 = $1
1b04. 4 x .25 = $1
3b20. 20 x .25 = $5
4b40. 40 x .25 = $10
5b80. 80 x .25 = $20
end of programming

Example 6:

Typical for Canadian C6 with Mars ME330 Coin Acceptor

Coin accepted: $2
Bills accepted: $5, $10, $20
Hopper: Large Coin (65092902)
Payout $1

Machine settings:

CA 2 Electronic coin acceptor installed.
bA 2 Serial type Validator installed.
C1 0 Coin value 1 not accepted (5¢)
C2 0 Coin value 2 not accepted (10¢)
C3 0 Coin value 3 not accepted (25¢)
C4 0 Coin value 4 not accepted (Can. $1)
C5 0 Coin value 5 not accepted (US 25¢)
C6 0 Coin value 6 not accepted (US $1)
C7 1 Coin value 7 accepted (Can. $2)
C8 0 Coin value 8 not accepted
b1 0 Bill value 1 not accepted ($1)
b2 0 Bill value 2 not accepted ($2)
b3 1 Bill value 3 accepted ($5)
b4 1 Bill value 4 accepted ($10)
b5 1 Bill value 5 accepted ($20)
b6 0 Bill value 6 not accepted
b7 0 Bill value 7 not accepted
Cr 0 Always set to 0 for the C6
L110. 110 coins – See Chart
7C02. 2 x $1 = $2
3b05. 5 x $1 = $5
4b10. 10 x $1 = $10
5b20. 20 x $1 = $20
end of programming