

EVWM-14 "OLD FAITHFUL" Vendor



Instruction Manual V1.0

INSTRUCTION MANUAL FOR OLD FAITHFUL WMV-14

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This **Limited Warranty** does not cover equipment that has been damaged due to misuse, neglect, incorrect programming or option setting (s), unintended applications, accident, incorrect primary and/or control wiring, improper connections, incorrect voltage & current supply, incorrect wiring size, improper supply phasing, missing or insufficient neutral reference and/or improper grounding, improper installation, power surges, shipping, utility (public or private) disruptions, water, vandalism, theft, attempted theft or units that have been altered or repaired outside of our factory.

Etowah Valley Equipment, Inc. makes no warranty concerning the compliance of the equipment with any local, state or federal/national laws or regulations. The purchaser agrees to accept full responsibility for complying with such laws.

There are no warranties other than those described on the face hereof and they are in lieu of all other warranties whether implied or expressed, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

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Etowah Valley Equipment, Inc. reserves the right to make any changes or improvements in our products without any notice or obligation and without being required to make corresponding changes or improvements in product theretofore manufactured or sold.

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IMPORTANT NOTICES

The unit must be securely fastened to the wall.

Disconnect power before connecting or disconnecting the changer, dollar bill acceptor, electronic controller or any other electrical device.

Vendor must be protected from lightning, electrical surge protection must be provided at the wall outlet.

Inspect the unit immediately upon receipt for freight damage. Claims must be made to the freight carrier.

Do not touch light bulbs with bare skin, it may be hot and premature failure will occur.

I. SET UP

A - Unpackage the WMV-14 carefully. Inspect immediately for hidden damage. If damage is found report this immediately to the freight carrier.

B - Mounting On The Wall:

1 — For best operation, position the WMV-14 out of direct sunlight. If the unit is not under an eave or a cover, a canopy may have to be provided.

2 — After positioning the unit, drill 4 mounting holes and 1 hole for the power cord through the wall.

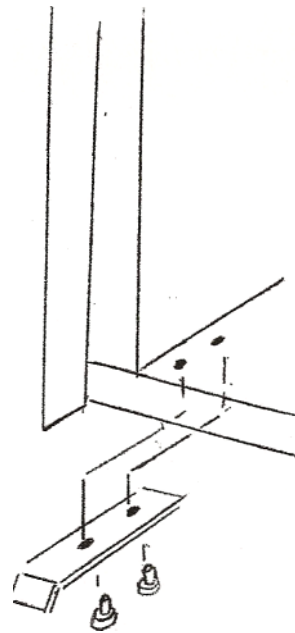
3 — Secure the WMV-14 to the wall with 1/4 inch diameter or larger bolts of sufficient length. Use heavy washers in the cabinet and behind the wall.

NOTICE: When tightening the WMV-14 to an uneven surface DO NOT WARP THE CABINET.

C — Add Door Support

A door support bracket and mounting hardware are located in the goody pack. Mount the bracket on the lower left hand side of the cabinet with the two 10-32 PEM studs and 10-32 KEPS nuts provided (See FIG I)

FIG I



D — Power Source/Transformer/Off Switch

NOTICE: Only connect the WMV-14 to an approved 115 VAC (230 VAC for export machines) power source that has a safety ground.

The transformer is mounted on the right hand side of the cabinet back wall. It has a built-in circuit breaker set for 4 amp maximum draw. If the breaker flips, repair the problem and reset it.

The off-on switch, located above transformer, should be off when servicing machine components.

E - Mount Changer/Cash Box

The changer is mounted on 3 studs located on the changer plate (see FIG II). The coin chute, reject lever, coin return cup and coin deflector are also located on the changer plate.

To install the changer plate first remove the changer plate latch located on the vertical brace then slide it carefully into the changer plate guides (see FIG II) until it homes. Replace the latch.

Dress the changer cord up the right side of the dollar bill acceptor and connect to the harness above.

CAUTION: When removing the changer plate hold firmly after clearing the changer plate guides.

The cash box is removed by rotation it up slightly to disengage the cash box locking tab and then pulling straight back. Reverse the procedure to install the cash box.

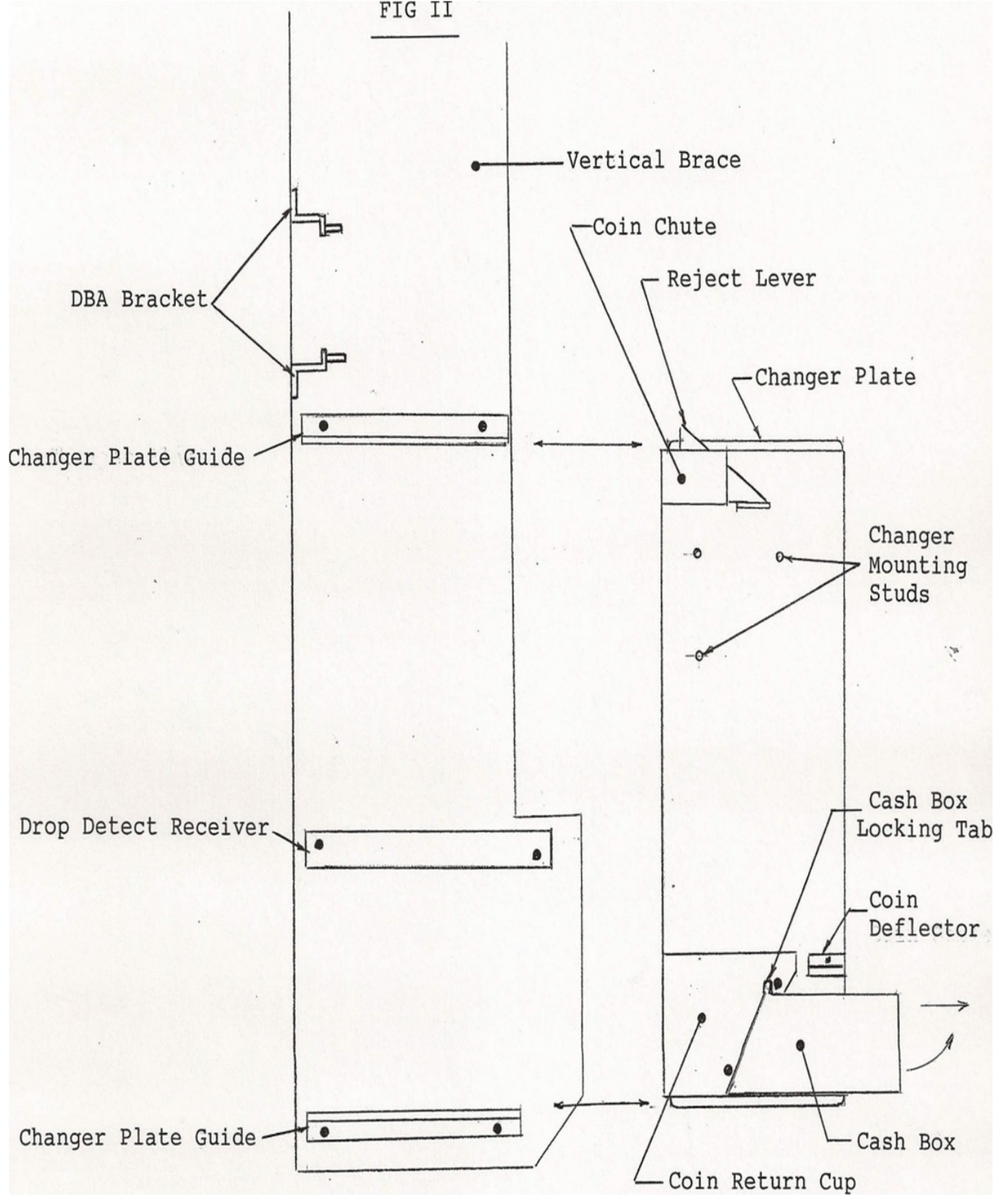
F - Mount Dollar Bill Acceptor

The dollar bill acceptor is mounted on the DBA brackets (see FIG II).

First remove the 4 nuts from the bracket studs and mount the validator. Then replace the nuts.

Dress the validator harness up the right side and connect to the harness from the electronic controller.

FIG II



G - Loading Product

NOTICE: Product must be loaded properly to insure a good vend. The bottom of large products must rest on the tray not on the spiral (see Fig III).
The bottom of short thin product must rest on the spiral (see Fig IV).

Fig: III

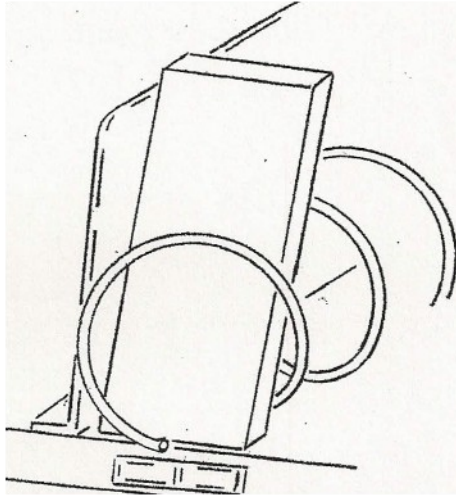
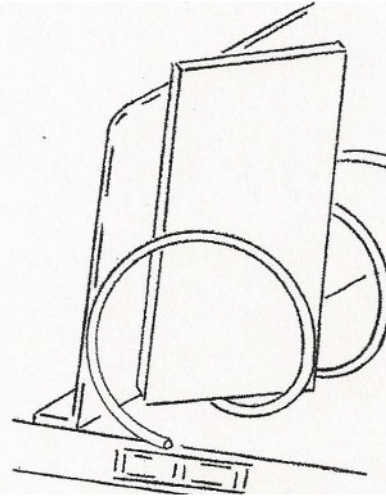
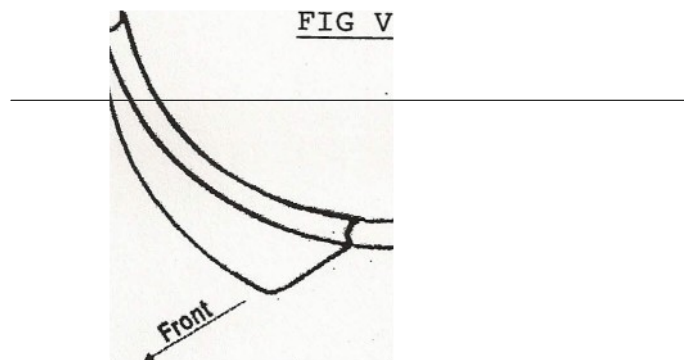


Fig: IV

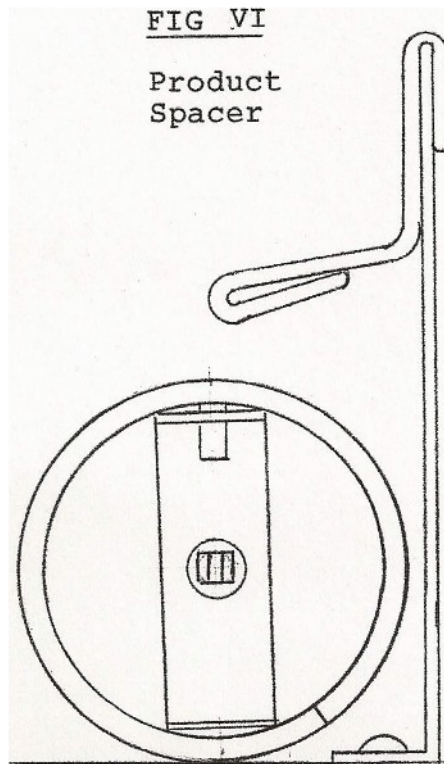


NOTICE: Never force the product between the spirals. If the product is too tight use the next larger spiral.

NOTICE: If the spiral is not long enough to push a product off the tray a "Product Pusher" can be snapped on the spirals end (see Fig V).



NOTICE: For tall thin products a "Product Spacer" can be pushed on a tray divider to keep them aligned (see FIG VI).



To load the products unlatch the tray by lifting the left hand side and swinging it to the right. After loading relatch the tray.

II SERVICE MODE

A — Menu Items

Errors
Coin Dispense/Insert
Cash Accountability
Sales Accountability
Set Price
Diagnostics
Options
Set Time & Date
Exits Service Mode

B — Enter Service Mode by pushing the mode button located on the controller.

Use keys 3 (up key) and 4 (down key) to navigate through the menu.
Press 9 (enter key) to enter a menu item.
Use keys 3 & 4 to navigate through elements within the menu item.
When you reach the desired element press 9 (enter key).

C — ERRORS

If no errors are found press 3 to move to the next menu item "Coin Dispense/ Insert".
If errors are found press 9 to enter and press 3 & 4 to scroll through errors. Clear each error by pressing 9 while the specific error is displayed.
Exit Errors by pressing E key (clear key).

D — Coin Dispense/Insert

When coin dispense/insert is displayed press 9 (enter key).
Use 3 & 4 keys to scroll through coin list.
Press 9 to eject a coin.
Coin can be inserted at this time only through the coin changer.

Press E to Exit menu item.

E — Cash Accountability

Press 9 to enter. The first total shown is total on-resettable cash sales.
Press 3 & 4 to view cash sales by selection (see electronics operation).
Press E to Exit menu item.

F — Sales Accountability

Press 9 to enter. The first total shown is the non-resettable sales count.
Press 3 & 4 to view sales count by selection. (see electronics operation).
Press E to Exit Menu.

G — Set Price

Press 9 to enter. Use 3 & 4 to scroll through:

- 1 — set all prices
- 2 — set price by row
- 3 — set price by item

When you reach the menu item desired press 9. Use 3 & 4 keys to find the row or selection wanted then press 9. The current price will display. Use 3 & 4 keys to change the price. Press 9 again to save changes (see Electronics Operation). Press E to Exit menu item.

H - Diagnostics

See Electronics Operation

Note: All motors can be homed in this menu item. This is a quick way to adjust un-homed motors.

I - Options

Press 9 to enter. Use 3 & 4 keys to scroll through:

- Multi Price — on/off
- Multi Vend — on/off
- Force Vend — on/off
- Free Vend — on/off
- Bill Escrow — on/off
- Delivery Detect on/off
- No Cheat Mode — on/off
- POS Disable — on/off
- Door Password — on/off
- Dex Auto Reset — on/off

When desired item is reached press 9. Use 3 & 4 to change off or on setting. Press 9 to enter setting. (see Electronics Operation).

Press E to Exit menu item

J — Set Time & Day

See Electronics Operation

K — Exit Service Mode

Press 9 when menu item is displayed or wait 3 minutes.

III DROP DETECTION OPERATION

When the drop detection feature is on (see Service Mode-Options) and the electronics does not detect a product drop during the vend cycle the motor will rotate another 1/3 of a revolution. If the drop occurs the motor is shut off. If drop does not occur the motor will rotate another 1/3 revolution. If no drop occurs the motor will rotate one more 1/3 revolution. If no drop occurs after the final 1/3 revolution the selection is taken out of the electronic matrix.

A drop problem may leave the motor not homed. See home all motors in the diagnostics section of the service mode.

If a motor is homed but out of the matrix, enter service mode to re-establish it. NOTICE:

Do not block drop detection emitter and receiver ports.

IV REMOVING CONTROLLER/DISPLAY/KEYPAD

NOTICE: The electronic controller, LCD display and keypad are mounted to a keypad back plate. The controller and display can be removed without removing the plate.

To remove the controller unplug the harnesses (note locations) and the 4 white plastic hex nuts. Always use extreme caution when handling delicate electronics.

To remove the display, remove the 2 white plastic hex nuts.

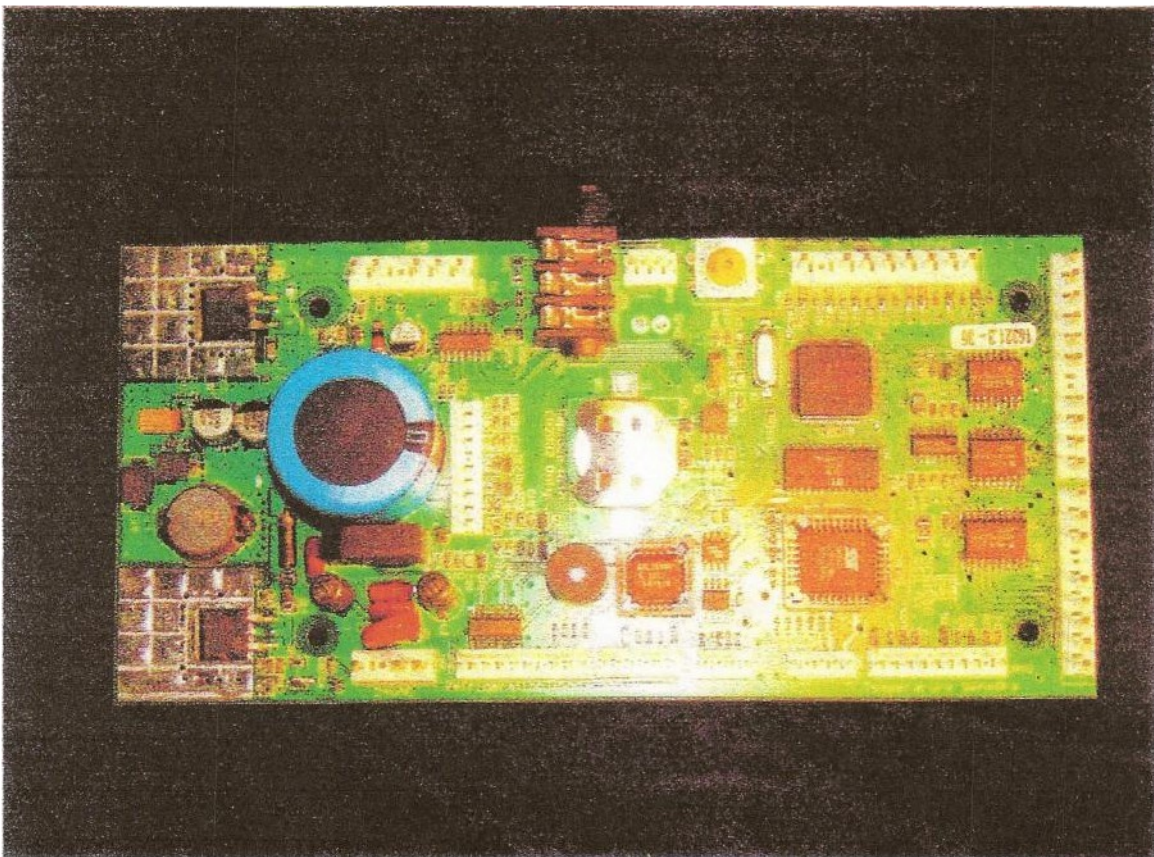
To remove the key pad the keypad back plate must be removed. It is held on by 2 nuts located on top and 2 on the bottom of the plate. First remove the harnesses from the controller and then the 4 nuts. Now the plate can be removed. The keypad is stuck to the front of the plate (note the position). Peel the keypad and overlay off the plate and replace with the new one.

NOTICE: Be sure to save the white pigtail extension attached to the keypad.

The Lexan protection sheet that is mounted between the door and keypad may have to be replaced.

APPENDIX I

Service Mode Manual



1.0 Four-button service mode

A	0	5
B	1	6
C	2	7
D	3	8
E	4	9

Figure 1: Sales mode keypad

	▲	
CLEAR	▼	ENTER

Figure 2: Service mode keypad

Movement in service mode is accomplished through the use of four of the product selection keys on the keypad mounted on the front of the machine. Figure 1 (above left) shows the normal, sales mode keypad definitions. When the vendor is placed in service mode, the definition of the product selection keys change and assumes the definitions shown in Figure 2 (above right). All service mode functions adhere to a four-button service mode scheme as defined in the table below:

Key	Definition
Key ▲ = Up	This key is used to increase a numeric value, or move forward through the various service mode functions.
Key ▼ = Down	This key is used to decrease a numeric value or move backward through the various service mode functions.
Key E = Clear	This key is used to exit or leave a service mode function
Key 9 = Enter	This key is used to confirm, accept, or enter into a service mode function

2.0 Entering service mode:

To enter into service mode open the vendor door and press the yellow mode switch. The switch is located near the left edge of the controller. After pressing the mode switch the controller will beep twice and the display will change to show stored errors. If no errors have occurred, the display will show the message "No Errors Found". At this time you can use the keypad on the front of the machine to move through the various service mode functions.

2.1 Exiting service mode:

The controller will remain in service mode as long as the user remains active and is moving through the various service mode functions. The controller will automatically exit service mode and return to sales mode if any of the following occur:

- The user remains inactive for more than 3 minutes
- The vendor door is closed
- The user navigates to the "Return" service mode option and presses the "9" (Enter) key

When service mode is exited the beeper will sound twice and the installed firmware version will be shown on the display for a three seconds, then the controller will revert to normal sales mode.

2.2 Service mode functions:

The table below is a summary list of the service mode functions available on the MCS 1080. Each service mode function is described in detail in its respective section.

Function	Description	Section
Errors	Allows errors to be viewed and cleared	2.2.1
Coin Dispense / Insert	Allows coins to be inserted or dispensed	2.2.2
Cash Accountability	Allows the user to view cash sales data	2.2.3
Sales Accountability	Allows the user to view product sales data	2.2.4
Set Price	Allows the prices to be changed	2.2.5
Diagnostics	Allows the user to perform various tests	2.2.6
Options	Allows the user to configure vend options	2.2.7
Set time and date	Allows the user to set the time and date	2.2.8
Sales blocking 1	Allows the user to setup primary sales blocking	2.2.9
Sales blocking 2	Allows the user to setup secondary sales blocking	2.2.10
Sales blocking 3	Allows the user to setup tertiary sales blocking	2.2.11
Discounts	Allows the user to setup programmable discounts	2.2.12
Overrides	Allows the user to setup programmable overrides	2.2.13
Return	Exit from service mode	2.2.14

2.2.1 Errors:

2.2.1.1 Accessing reported errors:

Errors: The MCS1080 controller constantly monitors its peripheral devices (vend motors, refrigeration, AC Power, coin mech., bill validator, etc) and records failures or out of tolerance conditions. These errors can be viewed by accessing the errors menu in service mode. The errors menu is the first service mode function in service mode. As such, it will always appear as the first menu item upon entry into service mode.

2.2.1.2 Errors: No errors found:

No Errors Found: If there are no errors to report when service mode is entered, the display will show the message "No Errors Found". In this case, where there are no recorded errors to be reported, pressing the "9" (Enter) key will have no effect.

2.2.1.3 Errors: Errors were detected:

Errors Were Detected: If there are recorded errors to report, the display will show the message "Errors Were Detected". To view the errors, press the "9" (Enter) key. The first stored error will appear on the display. Errors are grouped into categories, such as "Refrigeration Error" or "Vending Error". In most cases, you will first see the error category when you press the "9" (Enter) key. To view the errors within the category, press the "9" (Enter) a second time and the display should now show the specific error details.

If the controller has recorded multiple errors within in a single category, you can use the up and down keys to cycle through the errors. If the errors occur in multiple categories, use the "E" (Clear) key to abort to the category level and then use the up down keys to cycle through the various error categories. As before, use the "9" (Enter) key to enter into the category and view the specific errors.

2.2.1.4 Clearing reported errors:

To clear an error, press and hold the "9" (Enter) key while the specific error is shown on the display. The display should remove the error and then display either the next error category, or the "No Errors" message.

In some cases, reported errors may immediately re-appear after they have been cleared. This usually indicates that the condition that originally spawned the error still exists and even though the error has been cleared, the condition has not been corrected. Therefore the controller finds, and reports the same error over and over again. For example, if the controller reports a "Refrigeration" / "Too Hot" error, this error cannot be successfully cleared until the vendor temperature cools enough to reach the temperature set point and is no longer "Too Hot".

Some errors are transitory, and are only displayed as long as the error condition persists. An example of this is the "Coin Communications" error. This error is reported whenever the coin mechanism (if connected at power up) is no longer communicating. If communications are restored, the error is automatically cleared. If communications are interrupted when service mode is entered, this error will be reported.

2.2.2 Coin Dispense / Insert:

The Coin Dispense / Insert service mode function allows the user to manually insert or dispense coins from the coin mechanism. This is generally regarded as the best way to insert or remove coins from a coin mechanism because it allows the controller to maintain accurate counts of the coin tube inventory.

To access this function, enter service mode and use the "▲" or "▼" (Up or Down) keys to navigate to the "Coin Dispense / Insert" menu item and then press the "9" (Enter) key. The display should now change to show the lowest denomination coin type (in the U.S. and Canada this will be 0.05) and the number of that specific coin type that the controller believes that the coin mechanism has in its tubes.

2.2.2.1 Dispensing Coins:

To dispense a coin, use the "▲" or "▼" (Up or Down) keys to select the coin type that you would like to dispense and press the "9" (Enter) key. The coin mech. should pay out a single coin of the selected type. Subsequent presses of the "9" (Enter) key will dispense more coins of the selected type. You can use the "▲" or "▼" (Up or Down) keys at any time to select a different coin type for dispense. As before, pressing the "9" (Enter) key will dispense the selected coin. You can use the "E" (Clear) key to abort from the Coin Dispense / Insert service mode function.

As coins are dispensed, you should see the inventory level (as reported by the display) decrease with each coin dispensed. In some cases, such as under low tube inventory conditions, the coin inventory count may not decrease with every coin. Most coin mechanisms "hide" a few coins from the controller. This is done to increase the mass of coins at the bottom of the coin tubes to increase the reliability of coin payout. The controller is aware of this and uses a complex algorithm to keep track of coin tube inventory.

2.2.2.2 Inserting Coins:

When the controller first enters service mode coin and bill acceptance are disabled. When the controller is placed in "Coin Dispense/Insert" mode coin acceptance is automatically enabled. You can insert coins into the coin mechanism and they should be accepted and routed to the coin tubes. In addition, the type and number of the coin(s) of the most recently inserted coin type will be shown on the display.

Please note that the coin insert function was intended to be used for filling the coin tubes, thus non-tube coins (coins for which there are no coin tubes) will be rejected. In the US, the dollar coin is usually a non-tube coin and as such, will not be enabled for acceptance.

2.2.3 Cash Accountability

The controller keeps a running count of all transactions and can generate a cash sales report on demand. This report can be viewed from within the cash accountability section of service mode. An exhaustive report, perhaps more information than you may care to know, is available as an electronic "flat" file through the DEX interface. Please refer to the DEX portion of this manual for more details on DEX.

Cash accountability data is stored as both resettable (interval sales) and non-resettable (never cleared) totals. The cash accountability function shows the non-resettable totals for all selections, and the resettable totals for each individual selection.

To access the Cash Accountability information, press the "9" (Enter) key while the "Cash Accountability" menu item is shown on the display. You can use the "▲" or "▼" (Up or Down) keys to sequence through the various service mode functions until the Cash Accountability menu item appears.

The first total that you will see when you enter Cash Accountability is the cumulative non-resettable cash total. This total represents the total amount of cash (coins and bills) that has been received by the machine since the controller was first created.

To view cash sales by selection use the "▲" or "▼" (Up or Down) keys to sequence through the various selections. The corresponding resettable sales total for that selection will be shown on the display.

2.2.4 Sales Accountability

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The first total you will see when you enter Sales Accountability is the cumulative non-resettable sales total. This total represents the total number of vends that have been made by the machine since the controller was first created.

To view sales by selection, use the "▲" or "▼" (Up or Down) keys to sequence through the various selections. The corresponding resettable sales total for that selection will be shown on the display.

2.2.5 Set Price

The controller allows the user to set the price by individual selection, row of selections, or all selections simultaneously. To access "Set Price Mode" use the "▲" or "▼" (Up or Down) keys to sequence through the various menu items until the "Set Price" menu item is shown on the display and then press the "9" (Enter) key.

Upon entry into set price mode, the menu options that will be available to you will depend on the setting of the "Multi Price" option in the "Options" menu (see section 2.2.7.1). If Multi Price is set to "OFF", then the controller is in single price mode and only one price can be set for all of the selections in the vending machine. If Multi price is set to "ON" then the price mode is described below.

If Multi Price is ON, the first menu item is "Set Price — Multi / Set All Prices". You can use the "▲" or "▼" (Up or Down) keys to sequence through the other price setting options. These are "Set Price — Multi / By Row" and "Set Price — Multi / by Selection". You can press the "9" (Enter) key to enter into a particular price setting mode. Please note that the price increment will be controlled by the scale factor of the coin mechanism that is installed on the controller. In the US and Canada, the price should change by a \$0.05 increment. If you are unable to enter into set price mode there is probably a problem with the coin mechanism, or coin mechanism harness.

2.2.5.1 Set price by selection:

To set a price for an individual selection enter into "Set Price by Selection" and use the "▲" or "▼" (Up or Down) keys to sequence through the various selections. When the selection you wish to change is shown in the display, press the "9" (Enter) key. The display will now show the chosen selection and the current price for that selection. You can use the "▲" or "▼" (Up or Down) keys to increase or decrease the price. When you are satisfied with the new price press the "9" (Enter) key and the new price will be saved. If you are dissatisfied with the changes, press the "E" (Clear) key and the changes will be aborted.

2.2.5.2 Set price by row

To set a price for an entire row of selections enter into "Set Price by Row" and use the "▲" or "▼" (Up or Down) keys to sequence through the various rows. When the row you wish to change is shown in the display, press the "9" (Enter) key. The display will now show the row number and the current price for the left most selection in the row. You can use the "▲" or "▼" (Up or Down) keys increase or decrease the price. When you are satisfied with the new row price, press the "9" (Enter) key and the new price will be saved for all selections within the given row. If you are dissatisfied with the changes, press the "E" (Clear) key and the changes will be aborted.

2.2.5.3 Set all prices

To set the same price for every selection in the machine, enter into "Set All Prices". The display should now show the current price for the selection in the upper left corner of the machine (A1). Use the "▲" or "▼" (Up or Down) keys increase or decrease the price. When you are satisfied with the new price, press the "9" (Enter) key and the new price will be saved for all selections in the machine. If you are dissatisfied with the changes, press the "E" (Clear) key and the changes will be aborted.

2.2.6 Diagnostics

The Diagnostics function allows the user to test many of the devices connected to the controller. This may be useful in identifying and correcting a reported problem. Many of the normal precautions for operating a device, such as refrigeration timeout, are over-ridden in diagnostics mode. Therefore care should be taken not to damage peripheral devices through indiscriminate use or fast switching

To enter into Diagnostics mode use the "▲" or "▼" (Up or Down) keys to sequence through the various service mode functions until the "Diagnostics" message is shown on the display and press the "9" (Enter) key.

The diagnostics menu contains the menu items shown in the table below. Each menu item is discussed in greater details later in this section:

Count Motors	Test Display	Software Rev.
Home All Motors	Test Switches	Display Time
Test Vending	Test Bill Validator	Display AC Volts
Test Keypad	Delivery Detection	Test Relays
		Test Temp Sensors

The first menu item you will encounter in the Diagnostics menu is the "Test Vending" menu. You can use the "▲" or "▼" (Up or Down) keys to sequence through the various menu items within the diagnostics menu and press "9" (Enter) when the item of interest is shown on the display.

2.2.6.1 Diagnostics: Count Motors

Diagnostics Count Motors	The Diagnostics Count Motors feature can be used to verify the presence of vend motors in the vending machine. To access the Count Motors menu, use the "▲" or "▼" (Up or Down) keys to sequence through the various menu items within Diagnostics until the "Diagnostics / Count Motors" menu is shown on the display and press the "9" (Enter) key.
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The controller will sequence through all of the available selections (A1 through E10) and keep a running count of the number of motors that present in the machine.

2.2.6.2 Diagnostics: Home All Motors

Diagnostics Home All Motors

The Diagnostics Home All Motors feature can be used to return all vend motors to the home position. To access the Home All Motors menu, use the "▲" or "▼" (Up or Down) keys to sequence through the various menu items within Diagnostics until the "Diagnostics / Home All Motors" menu is shown on the display and press the "9" (Enter) key.

The controller will sequence through all of the available selections (A1 through E10) and return each selection to the home position. If a motor is already in the home position nothing will occur.

2.2.6.3 Diagnostics: Test Vending

Diagnostics Test Vending

The Diagnostics Test Vending feature can be used to perform a test vend by selection, by row, or every selection in the vendor. This feature is typically used to verify the proper operation of a motor or home vend motors. To access the test vend menu use the "▲" or "▼" (Up or Down) keys to sequence through the various menu items within Diagnostics until the "Diagnostics / Test Vending" menu is shown on the display and press the "9" (Enter) key.

2.2.6.3.1 Diagnostics: Test Vending One Selection At A Time

Test Vending One Selection Only

The first menu item you will encounter in the Test Vending menu is "One Selection Only". As the name suggests, this menu is used to test a single selection at a time. To enter into this menu press the "9" (Enter) key and the display will now show "Test Vending / Selection: A1". This is the left most selection in the top tray. You can use the "▲" or "▼" (Up or Down) keys to sequence through the other selections in the vendor. When you are satisfied with your selection press the "9" enter key and the selected vend motor should run and stop at its home position. If there is an error running the motor the controller will report the error before returning to the menu. You can repeat this test as needed.

2.2.6.3.2 Diagnostics: Test Vending one selection with delivery detection

Test Vending One With Detection

The second menu in test vending is "One with Detection". In some instances you may want to test vend the motor and the delivery detection. To enter into this menu press the "9" (Enter) key and the display will now show "Test Vending / Selection: A1". This is the left most selection in the top tray. You can use the "▲" or "▼" (Up or Down) keys to sequence through the other selections in the vendor. When you are satisfied with your selection press the "9" (Enter) key and the selected vend motor should run and stop at its home position. If a product passes through the delivery detection system the message "Pass" should appear on the display. If there is a error running the motor, or a product does not occlude the detection system then the controller will report the error before returning to the menu.

2.2.6.3.3 Diagnostics: Test Vending an entire row of selections

Test Vending Vend Entire Row

The third menu in test vending is "Vend Entire Row". This menu item allows the user to test every selection within a given row. To enter into this menu press the "9" (Enter) key and the display will now show "Test Vending / Vend Entire Row / Row A". The "Row A" is the alpha letter associated with the

top tray in the vendor. You can use the "▲" or "▼" (Up or Down) keys to sequence through the other rows. When you are satisfied with your selection press the "9" (Enter) key and the selected vend motor should run and stop at it's home position. If a product passes through the delivery detection system the message "Pass" should appear on the display.

2.2.6.3.4 Diagnostics: Test Vending every selection in the vendor

Test Vending Vend Every Selection

The last menu item in the Test Vending menu is "Vend Every Selection". This menu item allows the user to test every motor in the vendor in sequence. To enter into this menu, press the "9" (Enter) key and the display will now show "Test Vending / Selection A1". The "Selection A1" is the first selection to be vended. This is updated to the current selection as each motor is test vended. You can use the "E" (Clear) key to abort the test if needed. As each motor is successfully vended the message "Pass" will appear on the display after the selection ID.

2.2.6.4 Diagnostics: Test Keypad

Diagnostics Test Keypad

The test keypad feature is used to test all of the keys on the keypad. This may be helpful in finding a bad key if the location reports a problem, or a defective keypad row or column if selection is not vending as expected. To enter into this feature press the "9" (Enter) key when the message "Test Keypad" is shown on the display. The display will show the message "Test Keypad / Pressed Key 9", where the key that was last pressed in the "9" (Enter) key. You can press any key on the keypad and the "Pressed Key" should update and show the key that was pressed. When you are done you can press and hold the "9" (Clear) key to abort keypad test mode.

2.2.6.5 Diagnostics: Test Display

Diagnostics Test Display

The Test Display feature is used to test all of the pixels on the display. This may be helpful in testing the display if the location reports a problem with missing characters or pixels. To enter into Test Display press the "9" (Enter) key when the message "Test Display" is shown on the display. The display will show then go through a series of test patterns which among other things, blank all pixels, activate all pixels, test all numbers and letters. When you are done you can press the "E" (Clear) key and the Display Test will be aborted.

2.2.6.6 Diagnostics: Test Switches

Diagnostics Test Switches

The Test Switches feature is used to test the operation of the override switch (if equipped). To enter into Test Switches mode press the "9" (Enter) key while the message "Test Switches" is shown on the display. The ,display will show then show the word "Override" followed by the state (On or Off) of the override switch. When you are done you can press the "E" (Clear) key and the Test Switches function test will be aborted.

2.2.6.6 Diagnostics: Test Bill Validator

Diagnostics Test Bill Validator

The Test Bill Validator feature is used to test the operation of the bill validator (if equipped). To enter into Test Bill Validator mode press the "9" (Enter) key while the message "Test Bill Validator" is shown on the display. You can now insert bills into the validator. The display will show the bill type most recently accepted for 5 seconds. Please note that the controller will attempt to enable all bill types for acceptance accepted. The actual bill types accepted will be defined by the bill acceptor you are using.

When you are done you can press the "E" (Clear) key and the Test Bill Validator function test will be aborted.

2.2.6.8 Diagnostics: Test Delivery Detection

Diagnostics Delivery Detection

The Test Delivery Detection feature allows the user to test the operation of the delivery detection system. This may be useful if the location is reporting detection errors or if the vendor is not canceling credit after a vend has taken place. To enter into Test Delivery Detection mode press the "9" (Enter) key while the message "Delivery Detection" is shown on the display. The display will then show the message "Delivery Diagnostics / Vend Optics XXX" where the "XXX" is the current state of the detection field, either "Clear" or "Blocked". If you pass your hand through the detection field the "Blocked" message will appear on the display. When you are done you can press the "E" (Clear) key to exit Test Delivery Detection mode.

2.2.6.9 Diagnostics: Software Rev

Diagnostics Software Rev.

The Software Rev. (Revision) feature allows the user to display the version of the installed software. This may be helpful in determining feature set. To enter into Software Rev. mode press the "9" (Enter) key while the message "Software Rev." is shown on the display. The display will then show the message "Software Rev. / XXX" where the "XXX" is the installed software version. When you are done you can press the "E" (Clear) key to exit Software Rev mode.

2.2.6.10 Diagnostics: Display Time & Date

Diagnostics Display Time & Date

The Display Time & Date feature allows the user to display the current time and date information as reported by the RTC (Real Time Clock). This will allow the user to verify that the clock has been set, and is keeping accurate time. To view the current RTC time, press the "9" (Enter) key while the message "Display Time & Date" is shown on the display. The display will then show the current time and date. When you are done you can press the "E" (Clear) key to exit Display Time & Date mode.

2.2.6.11 Diagnostics: Display AC Volts

Diagnostics Display AC Volts

The Display AC Volts feature allows the user to display the AC voltage as measured at the machine location. This may be useful in diagnosing a power related problem due to sag or high line conditions. This condition can be quite pronounced if there are other vending machines or loads on the same branch circuit. It should be noted that AC Volts is an interpolated measurement based upon the DC voltage seen by the controller. The accuracy of this measurement will be less than 5% and scaled for a 120VAC circuit, to view the AC Voltage press the "9" (Enter) key while the message "Display AC Volts" is shown on the display. The display will then show the current AC voltage. If you suspect that the circuit is overloaded, you may want to watch the voltage over time. Refrigeration systems on nearby vending machines may draw down the AC power especially at compressor start-up. When you are done you can press the "E" (Clear) key to exit Display AC Volts.

2.2.6.12 Diagnostics: Test Relays (Only available in Refrigerated machines)

Diagnostics Test Relays

The Test Relays feature allows the user to test the relays used by the controller. This may be helpful in determining if the relays are operating properly and diagnosing problems with refrigeration system. To enter into Test Relay mode press the "9" (Enter) key while the message "Test Relays" is shown on the display. The display will then show the message "Test Relays / Refrigeration Off" where the "Off" is the current state of the relay. You can use the "9" (Enter) key to toggle the relay on and off and use the "▲" or "▼" (Up or Down) keys to sequence through the list of available relays. When you are done you can press the "E" (Clear) key and the relay test will be aborted and the relays will return to their normal state.

2.2.6.13 Test Temperature Sensors (Only available in Refrigerated machines)

Diagnostics Test Relays

The Test Temperature Sensors feature allows the user to test (by viewing the current temperature reported by) the refrigeration control and health safety temperature sensors. This may be useful if the location has reported high or low product temperatures, or a Health Safety error. To enter into Test Temp Sensors mode press the "9" (Enter) key while the message "Test Temp Sensors" is shown on the display. The display will then show the temperatures reported by each of the sensors. You may notice some nominal offset in temperature between the two sensors, this is usually real, and due to local differences in temperature. When you are done you can press the "E" (Clear) key to exit Test Temp. Sensors.

2.2.7 Options Menu

Options

The options menu contains a collection of on/off software "switches" that allow the user to change various parameters on the vendor. This allows the operator to configure the vendor for company preference, local conditions, and/or accepted practices. The options menu contains 10 programmable options, which can be enabled (on) or disabled (off) from within the options menu. To enter into the Options menu use the "▲" or "▼" (Up or Down) keys to sequence through service mode until the Options menu appears on the display then press the "9" (Enter) key. The table below is a summary of the option available in this menu. Each item is explained in detail in the corresponding section.

	Option	Default State	Preferred State	Section
1	Multi Price	Off		2.2.7.1
2	Multi Vend	Off		2.23.2
3	Force Vend	Off		2.2.7.3
4	Free Vend	Off		22.7.4
5	Bill Escrow	Off		2.2.7.5
6	Delivery Detection	Off		2.2.7.6
7	No Cheat Mode	On		2.2.7.7
8	POS Disable	Off		2.2.7.8
9	Door Password	Off		2.2.7.9
10	DEX Auto Reset	On		2.2.7.10

2.2.7.1 Options: Multi Price

Options

Multi Price: OFF

The Multi Price option allows the user to set a unique vend price for every selection in the vending machine. The state of this option will have an influence on what options are available in the set price menu. The Multi Price = "Off" (single price) option may be useful if the machine is vending the same product from all locations, or if every selection has the same value and sales price.

The current state of this option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state from On to Off or Off to On. When you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.2 Multi Vend

Options

Forced Vend: OFF

The Multi Vend option allows the user to configure the vendor to hold change due after a purchase. This is done to allow the customer to make a second purchase without re-inserting coins. This may be helpful in generating a second sale, but because this is not a standard practice, the use of multi-vend may lead to operator confusion.

The current state of the multi-vend option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.3 Force Vend

Options Free Vend: OFF

The Force Vend option is used to "Force" the customer to use inserted bill and non-tube coin (\$1.00) credit towards the purchase of a product. Forced vend is normally used to keep customers from using the vendor as a change machine thereby depleting the coin tube inventory. This is a problem most commonly seen in Laundromats when a bill changer runs out of coins or is out of service.

The current state of the Force-vend option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.4 Free Vend

Options Multi Vend: OFF

The Free vend option (as the name implies) is used to put the vendor into free vend mode. In this mode credit acceptance is inhibited and every selection is available free of charge. This feature may be useful for product demonstrations, or where the location sponsors vending as an employee benefit, such as to distribute personal protective gear, batteries, gloves, and/or job related paraphernalia.

The current state of the free-vend option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.5 Bill Escrow

Options Bill Escrow: ON

The Bill Escrow option is used to control whether or not bills will be stacked upon receipt. Under normal conditions, the controller will escrow the last bill accepted unless the highest price in the vendor is greater than the face value of the bill. Some operators prefer to escrow, rather than stack, bills because it allows the vendor to return the customer's bill instead of the equivalent change if the selection made is not available or jammed.

The current state of the bill escrow option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.6 Delivery Detection

Options Delivery Detection: ON

The Delivery Detection option is used to control whether or not the delivery detection system will be used to determine if a vend was successful. If the vendor is not equipped with a delivery detection system, this option should be set to the Off position.

The current state of the delivery detection option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.7 No Cheat

Options No Cheat: ON

The No Cheat option is used to control whether or not the vendor will be allowed to perform a vend under conditions whereby the customer's credit may be at risk. Under certain conditions, such as exact change, the vendor cannot guarantee that proper change will be dispensed after a vend, or in the event of a vend failure. If No Cheat is enabled, the vendor will return all credit and cancel a vend if it cannot verify that proper credit cannot be paid back. If No Cheat is disabled, the controller will always make a "good faith" attempt to pay back proper change after a vend, but will not require available change prior to making a vend.

The current state of the No Cheat option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.8 POS Disable

Options POS Disable: ON

The POS (Point Of Sale) disable option is used enable or disable the display of the POS Message. The POS message is an idle display message that is used to encourage impulse buys. Some locations and situations, such as where the message may be inappropriate based on the article vended, may prefer that the POS message be disabled.

The current state of the POS Disable option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.9 Door Password

Options Door Password: ON

The (Closed) Door Password is used to enable or disable access to the closed-door data retrieval mode. This mode allows the user to view certain key fields without opening the door and entering into service mode. If this feature is enabled, and the user presses the keys (1, 3, 2, 4) in quick succession, the controller will enter into closed door data retrieval mode. Within this mode, the user can view Cash Accountability, Sales Accountability, and stored errors. Normal sales mode can be returned to by allowing the timeout to expire or by pressing the "9" (Enter) key while the option "Return" is shown on the display.

The current state of the Door Password option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.7.10 DEX Auto Reset

Options DEX Auto Reset: ON

The DEX Auto Reset option is used to enable the clearing of the resettable DEX fields upon successful DEX download.

The current state of the DEX Auto Reset option is shown on the display when entering into the options menu. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.8 Set Time and Date

Set Time and Date

The controller uses time and date information to control various events, such as sales blocking and the display of time and date information. The time and date menu are used to set the correct time and date and setup clock parameters such as daylight savings and time display options. To enter into the Set Time and Date menu, press the "9" (Enter) key while the Set Time and Date message is shown on the display.

2.2.8.1 Set Time and Date: Enable

Set Time and Date Enable: Off

The first menu item in the Set Time and Date menu is Enable. The Enable option allows the user to enable or disable all RTC related functions. If Enable is set to off, the RTC will be turned off. If Enable is set to On the RTC will be turned on.

The current state of the Enable option is shown on the display while viewing the Enable menu item. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.

2.2.8.2 Set Time and Date: Date Argument

Set Time and Date
Set Date

The next menu item in the Set Time and Date menu is Set Date. The Set Date function allows the user to set the current date on the RTC. To enter into Set Date mode, press the "9" (Enter) key while the Set Date message is shown on the display.

The current date will be shown on the display while viewing the Set Date menu item. If you wish to change the date setting, press the "9" (Enter) key. The current day of month argument will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to change the day of month. Once you are satisfied with the day of the month setting you can press the "9" (Enter) key to save the changes. The controller will now allow you to edit the month of the year argument, and similarly the year argument. If at any time you are not satisfied with your changes you can press the "E" (Clear) key to abort the date setting without making changes.

2.2.8.3 Set Time and Date: Time Argument

Set Time and Date
Set Time

The next menu item in the Set Time and Date menu is Set Time. The Set Time function allows the user to set the current time on the RTC. To enter into Set Time mode, press the "9" (Enter) key while the Set Time message is shown on the display.

The current time will be shown on the display while viewing the Set Time menu item. If you wish to change the time setting, press the "9" (Enter) key. The current hour of the day argument will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to hour argument. Once you are satisfied with the hour setting you can press the "9" (Enter) key to save the changes. The controller will now allow you to edit the minute of the hour setting in the same way. If at any time you are not satisfied with your changes you can press the "E" (Clear) key to abort the date setting without making changes.

2.2.8.4 Set Time and Date: Daylight Savings

Set Time and Date
Daylight Savings

The next menu item in the Set Time and Date menu is Daylight Savings. The Daylight Savings mode allows the user to set the controller to conform to Daylight Savings mode in North America Europe, or Australia. Daylight Savings can also be disabled for operation in areas such as those that do not adhere to Daylight Savings programs. To enter into Daylight Savings mode, press the "10" (Enter) key while the Daylight Savings message is shown on the display.

The current state of daylight savings will be shown on the display. If you wish to change this setting you use the "▲" or "▼" (Up or Down) keys to cycle through the various settings. Once you are satisfied with the Daylight Savings setting you can press the "9" (Enter) key to save the changes. If at any time you are not satisfied with your changes you can press the "E" (Clear) key to abort the date setting without making changes.

2.2.8.5 Set Time and Date: Display Enable

Set Time and Date Display Time Off

The next menu item in the Set Time and Date menu is Display Time. The Display Time feature allows the user to set the controller to display the current time setting. To enter into Display Time mode, press the "9" (Enter) key while the Display Time message is shown on the display.

The current state of the Display Time option is shown on the display while viewing the menu item. If you wish to change the setting, press the "9" (Enter) key. The state (On or Off) will begin to blink and you can now use the "▲" or "▼" (Up or Down) keys to toggle the state on or off. If you are satisfied with the state of this option, press the "9" (Enter) key to save the changes. If you are not satisfied with your changes you can press the "E" (Clear) key to abort option setting without making changes.