HealthyYOU™ Vending System Manual

Model Number: HY-800/850/870

HealthyYOU Vending
A division of 1800.VENDING

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Machine Serial Numbers

Please record both "Serial Numbers" for the top, bottom and side part of your HealthyYOU™ Machines in the spaces below. *The serial numbers are located on the back of the machines on the identification plate and can also be programmed into the machine electronically. These serial numbers are necessary to provide quick service and detailed part information for your HealthyYOU™ Machines.*

Serial # for HY-800: _____	Serial # for HY-850: _____	Serial # for HY-870: _____
Serial # for HY-800: _____	Serial # for HY-850: _____	Serial # for HY-870: _____
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Part One – INTRODUCTION

Congratulations on investing in your new HealthyYOU™ Vending Systems! In this manual you will find information on how to setup, install, operate, and maintain your new vending equipment.

Specifications:

HY-800: (Top Portion – Snack and Electronic Control Unit)

- Weight: 187 lbs
- Electronics: 110 – 120V – 60Hz – 1A
- Dimensions: 32.2″ H × 30.7″ W × 29″ D
- Snack Capacity: Up to 200 items
- Selections: 20 snack selection rows
- Manufactured with UL certified components

HY-850: (Bottom Portion – Beverage Dispenser Unit)

- Weight: 312 lbs
- Electronics: 110 – 120V – 60Hz – 2.5A
- Dimensions: 43.6″ H × 30.7″ W × 29″ D
- Drink Capacity: Up to 177 cans/bottles
- Selections: 6 beverage columns
- Refrigeration: R134A CFC-Free
- Operation Temperature in degrees: 32F to 90F **(indoor use only)**
- Manufactured with UL certified components

HY-870: (Side Portion – Entrée/Side Dish Unit)

- Weight: 199 lbs
- Electronics: 101- 120 V – 60Hz
- Dimensions: 76" H x 16 W x 29" D
- Capacity: 65 Entrée/Side Dishes
- Selections: 16
- Manufactured with UL certified components

The HealthyYOU™ Vending System Includes:

HY-800:

1. HY-800 snack vending machine
2. HealthyYOU™ Vending System Manual (*February 2011- Revision A*)
3. Machine Keys:

    a. The first key is for the "front doors"; two keys are provided (**chrome** *headed barrel keys*)
    b. The second key is for the "Electronic Control Unit"; two keys are provided (**black** *headed barrels keys*)
    c. The third key is for the "back door"; two keys are provided *(black headed standard key)*
       (*The snack machine back door allows easy access to the motors*)

- *The Electronic Control Unit door key will be keyed the same for all of your machines. The back door on the snack machine will be keyed the same for all of your machines as well.*
- *The front doors for the snack unit and the drink unit will be keyed the same for each matched pair of units but not necessarily for all of your machines.*
- *Please separate your keys and put at least one complete extra set of keys in a safe place where you will not lose them. You will also want a system to let you know which key goes to which machine.*

    IMPORTANT: *If you put the wrong key in a lock and try to turn it, you could jam the lock and damage it.*

4. Price tag set for display
5. Combination screw M5X12 (*4 screws*)
6. #5 large washer (*4 pieces*)
7. Packing list

HY-850:

1. HY-850 drink dispensing machine
2. Front door key (*chrome headed barrel type, interchangeable with SNACK UNIT front door*)
3. Price tag set for display
4. Small spacers for B04 (2 *spacers*)
5. Large spacers for B05 / B06 (4 *spacers*)
6. Metal cable guard box
7. Packing list

HY-870:

1. HY-870 Entrée/Side Dish dispensing machine
2. Door key *(chrome headed barrel type key)*
3. Price tag set for display
4. Screws to attach this machine to the HY800/850
5. Metal cable guard box

Congratulations on the purchase of your new HealthyYOU™ Vending System. Let's get it set up!

NOTE: Your machine has been configured and pre-tested by factory technicians prior to shipment.

1. Follow sections 2.2 – 2.5 in the HealthyYOU™ Vending System Manual for directions on unloading, unpacking, and physically assembling and setting up your machine.
2. Plug the machines into wall power (surge protection recommended)
3. Wait until the machine cycles through startup and your LCD screen reads "Enjoy a Snack and a Beverage". The machine is now in "sales" or "vending" mode. Unlock and open the Electronic Control Unit.
4. Locate, press and release the small red "service mode" button on the inside of the Electronic Control Unit on the top right side of the Main Circuit Board until the LCD reads "SALES". You are now in "service" or "maintenance" mode.

5. Loading Coins:
   • Press the DOWN button on the keypad until the LCD reads "MANAGE".
   • Press ENTER. LCD reads "COIN MECH".
   • Press ENTER. LCD reads "Money $0.00 Load Coins (UP arrow) Unload coins (DOWN arrow)".
   • Press the UP arrow, and begin loading the coin changer with coins.
   • Roll the coins in through the coin slot on the front of the Electronic Control Unit or drop them **one at a time** into the **TOP** of the coin changer. You will see the money amount on the LCD screen increasing with every coin deposited. A bank roll of nickels, dimes, and quarters are a recommended amount of coins to initially load, but **load a minimum of $5.05 worth of coins.** When you've completed loading coins, press the CANCEL button 3 times until the LCD reads "Enjoy a Snack and a Beverage". When $5.05 worth of coins is loaded and the machine is in "sales" mode, the bill accepter's front blue LED lights will blink.

6. Loading snacks:
   • Load snacks in the coils in bin rows A1 through A20.
   • Press down on the white lever on the right side of the snack bin and pull the tray toward you. Make sure you load the items properly from the back coil to the front coil. The snack item should be positioned IN FRONT of the bottom left corner of the coils (refer to figure 20 in this manual).
   • Put your price labels for each bin in the space provided.

7. Loading B01, B02 and B03:
   • Load **5** cans of 12 oz drinks in the very bottom ramp of drink columns B01, B02, &B03. **Before finishing the complete loading of cans it is recommended that a test vend is done to ensure the machine is hooked up properly and working correctly. Refer to item 10 on the next page for test vending.**
   • **Once test vending of B01, B02, and B03 is complete and you are satisfied the machine is working properly proceed to load the rest of your cans.** These drinks vend from the bottom ramp, then the vertical back row, then from the top ramp down**.
   • Load the **FIRST 5 Cans** into the very **BOTTOM** ramp (**Labeled Ramp 1**). Load the very top ramp (Labeled Ramp 5) until it is full.
   • Look in the back to see that all the "GATES" are down and properly "shut" against the ramps by cans.
   • Load the rest of the ramps to capacity from the top down.
   • Place corresponding drink cans and bottles in the proper column indicator in the cold drink door display area.
   • Put price tags next to the bin location label under each can and bottle. Attach with transparent tape.

8. Loading the bottle section (B4;B5 and B6)
   • Push up and then pull forward and down the outer drink doors.

- Look into the interior of the bottle drink beverage section and pull forward the internal divider (look for round finger hole at the top of the divider and pull forward). 16.9 oz plastic bottles (typical water bottle) go in bin B04.
- **Load the back area first**, bottle cap **AWAY** from you. When full, push the internal divider shut and load the front area, bottle cap **AWAY** from you. If the bottles are too short, they will not push the sold out sensor closed properly. If a spacer is required, find the proper narrow spacer inside the white Styrofoam box that was shipped inside your drink section and insert it properly into the cutouts provided on the sides and bottom of the beverage column.
- Repeat for Bin B05 and B06. See the manual for more details and pictures.

9. Setting Prices
   - Once all price labels have been placed in all the spaces provided, **bin pricing needs to be entered into the** ECU keypad. All snack and drink bin prices are factory preset at $0.75 and $.085 respectively.
   - Open the Electronic Control Unit and press the red service mode button until the LCD reads "SALES".
   - Press the DOWN button until the LCD screen reads: "MANAGE".
   - Press ENTER. LCD reads "COIN MECH".
   - Press the DOWN button until the LCD screen reads: REVIEW PRICE".
   - Press ENTER. LCD screen reads "Review Price Bin A01 $0.75".
   - Press ENTER. A flashing black square will appear to the right of the 0.75 price.
   - Press the numbers on the keypad to correspond to the price you wish to charge on bin A01, and then press ENTER.
   - Press the DOWN Button and the LCD screen will read "Review Price Bin A02 $0.75".
   - Press ENTER. Repeat as above through each A & B location (C and D bin locations if add-on has been purchased).
   - When all prices have been entered, press the CANCEL button until you return to "Enjoy a Snack and a Beverage". To double check your prices, just repeat these steps until you get to REVIEW PRICE Bin A01 $x.xx and see that your prices were input and saved properly.

10. Test Vend an item(s).
    - With the LCD reading "Enjoy a Snack and a Beverage" and blinking blue lights on the front of the bill accepter, put a $1.00 bill in the bill accepter. It should take the bill and the LCD will read "CREDIT $1.00 SELECT: __.
    - On the keypad press any bin location in the snack area that is priced at $1.00 or less. Item should vend.
    - If change is due, press coin release button and change will be dispensed. Place item back in its bin.
    - Open the Electronic Control Unit and press and release the red service mode button until the LCD reads "SALES".
    - Press ENTER. LCD reads "Show Total Cash".
    - Press the DOWN button until LCD reads CLEAR SALES DATA?
    - Press YES. LCD reads "Clearing Data". LCD reads "Reset Bin Qty?"
    - Press YES.
    - Press CANCEL until your LCD reads "Enjoy a Snack and a Beverage". Your machine is now ready to vend.
    - Close and lock the Electronic Control Unit, close and lock the inner drink and outer main doors, push your machine into its location, and you are done.

11. For more detailed information about any of these setup procedures, reference this manual or call the Coaching Department at 1-800-785-5760.

> **Note: The HealthyYOU™ Entrée/Side Dish Installation Instructions are given to you as an addendum in the Appendices section found on page 38.**

HY-800/850 Features & Facts Sheet:

Your HY-800/850 vending machines have the following features:

"Fill it & Go"

"Fill it & Go" operation allows the operator /service employee to refill the machine without having to open the Electronic Control Unit/cash box area. This is great for owners who employ people to service their machines but don't want them to have access to the cash.

Change Back

The HealthyYOU™ Vending System does **not** automatically give a customer change after an item vends. It displays to the customer their credit after a purchase has been made and will require them to press the Coin Release button before their change is dispensed. If a selection is not made in two minutes or the Coin Release button is not pushed, that change is added to your CASH totals and the unit goes back into "Sales" mode, displaying "Enjoy a Snack and a Beverage". However, the machine may be set to automatically return any change due after a purchase has been made.

Coin Release

The HealthyYOU™ Vending System will allow a customer to put money in the machine, decide not to vend something, and get their money back. They simply push the Coin Release button and their change will be dispensed.

Bill Acceptor

The HealthyYOU™ Vending System has been set up to activate and accept bills based on the amount of coins registered in the coin changer. The bill accepter has been factory preconfigured to accept $1, $2, and $5 dollar bills as long as there is sufficient change in the coin changer. The operator can select that the bill accepter also accepts $10 and/or $20's, but the coin changer must have sufficient change to accept these denominations. Since this machine does not dispense dollar bills or dollar coins as change, it is recommended that the factory settings of $1, $2, and $5 be left as your default acceptance values.

Easy Empty

Your HealthyYOU™ Vending System features an "easy empty" feature when working with your coin changer. When in service mode for your coin changer, in the "unload coins" mode, you press 3 to dispense one quarter, 2 to dispense one dime, and 1 to dispense one nickel. To rapidly dispense 15 coins at once, press the corresponding number and the YES button at the same time.

Keep Track of Sales and Profits

You have easy access to information regarding your HealthyYOU™ machine sales and vending activity. When entering "service mode" your first visible sub-menu is "SALES". Press ENTER and you may navigate using the up/down arrows to see TOTAL CASH, TOTAL SALES, TOTAL VENDS, and TOTAL E-SALES (requires ePort). Keep track of your sales and profits! After you have recorded your sales numbers, scroll down to CLEAR SALES DATA and press YES to clear the history so you will have fresh numbers to record for your next vending period.

Drink Section Temperature Readout

This vending machine automatically gives you the temperature inside your HY-850 refrigerated drink unit. It is displayed periodically on the LCD, along with "Enjoy a Snack and a Beverage". You and your customers can see just how cold the drink section is at any time!

Tips for the Smooth Operation of Your HealthyYOU™ Vending System

1. The snack bins have **NO** sold out sensors. The visible bin (that is empty) is the sold out signal to customers. If you need to empty a bin of merchandise, it is easy to get into the snack bins and simply remove the items from between the coils. If you wish to **empty a can or bottle drink column,** you need to use the **EMPTY BIN** selection in "service mode".

- Open the Electronic Control Unit.
- Press/release the small red service mode button (top right corner of the Main Circuit Board) until the LCD display reads "SALES".
- Press the DOWN button until the LCD reads "MANAGE".
- Press ENTER. LCD reads "COIN MECH".
- Press the DOWN button until the LCD reads "EMPTY BIN".

- Press ENTER. LCD reads "EMPTY BIN" Press the bin location you wish to empty on the keypad (example B01) and press ENTER. The cans will eject from the B01 location one at a time.
- When finished, hold CANCEL button down until the motor stops.
- Press Cancel again 3 times to return to "Enjoy a Snack and a Beverage".

2. In order to load coins into or remove coins from the Coin Changer, you MUST first enter the COIN MECH menu in "service mode" It is important to note that **you must always be in this "service mode" menu when working with the coin changer.** Failure to do so will result in the CPU not knowing how much money is in your coin changer which could adversely affect the operation of your machine.

- Open the Electronic Control Unit.
- Press/release the small red service mode button (top right corner of the Main Circuit Board) until the LCD display reads "SALES".
- Press the DOWN button until the LCD reads "MANAGE".
- Press ENTER. LCD reads "COIN MECH".
- Press ENTER. LCD reads "Money $0.00 Load Coins (up arrow) Unload Coins (down arrow).
- Press the UP arrow, LCD reads LOAD COINS. You may load coins one at a time into the coin changer through the coin slot on the front of the Electronic Control Unit or from the inside of the ECU by placing coins one at a time in the very TOP of the coin changer.
- If you wish to remove coins, follow the above procedure but press the DOWN arrow for unload Coins, then press the 3 button to remove one quarter, the 2 button to remove one dime, and the

1 button to remove one nickel. To eject 15 coins at a time (provided there are that many in the tube) press the number and the YES button at the same time (example: press 3 and YES together and 15 quarters will eject in rapid succession.)
- Pressing enter after pressing the up or down arrow to choose to load or unload the Coin Changer will lock up the mechanism and will stop you from being able to load or unload the coins.
- When your coin changer work is complete press the cancel button 3 times until you return to "Enjoy a Snack and a Beverage".

3. You may test any snack bin or drink column motor to ensure it is operating properly.

- Press/release the small red service mode button on the top right corner of the Main Circuit Board until the LCD display reads "SALES".
- Press the UP button once, the LCD should read "TEST".
- Press ENTER. LCD reads "KEYPAD".
- Press the DOWN button until the LCD reads "MOTORS".
- Press ENTER. LCD reads "ONE BIN".

- Press ENTER. LCD reads "MOTOR TO RUN: "and has a black blinking cursor.
- Press the bin location you wish to test on the keypad (example: A01). The A01 coil will spin once if the motor is operation properly.
- Use the same procedure to choose any bin location.
- Press the CANCEL button when complete to get back to "Enjoy a Snack and a Beverage".

Part Two – INSTALLATION

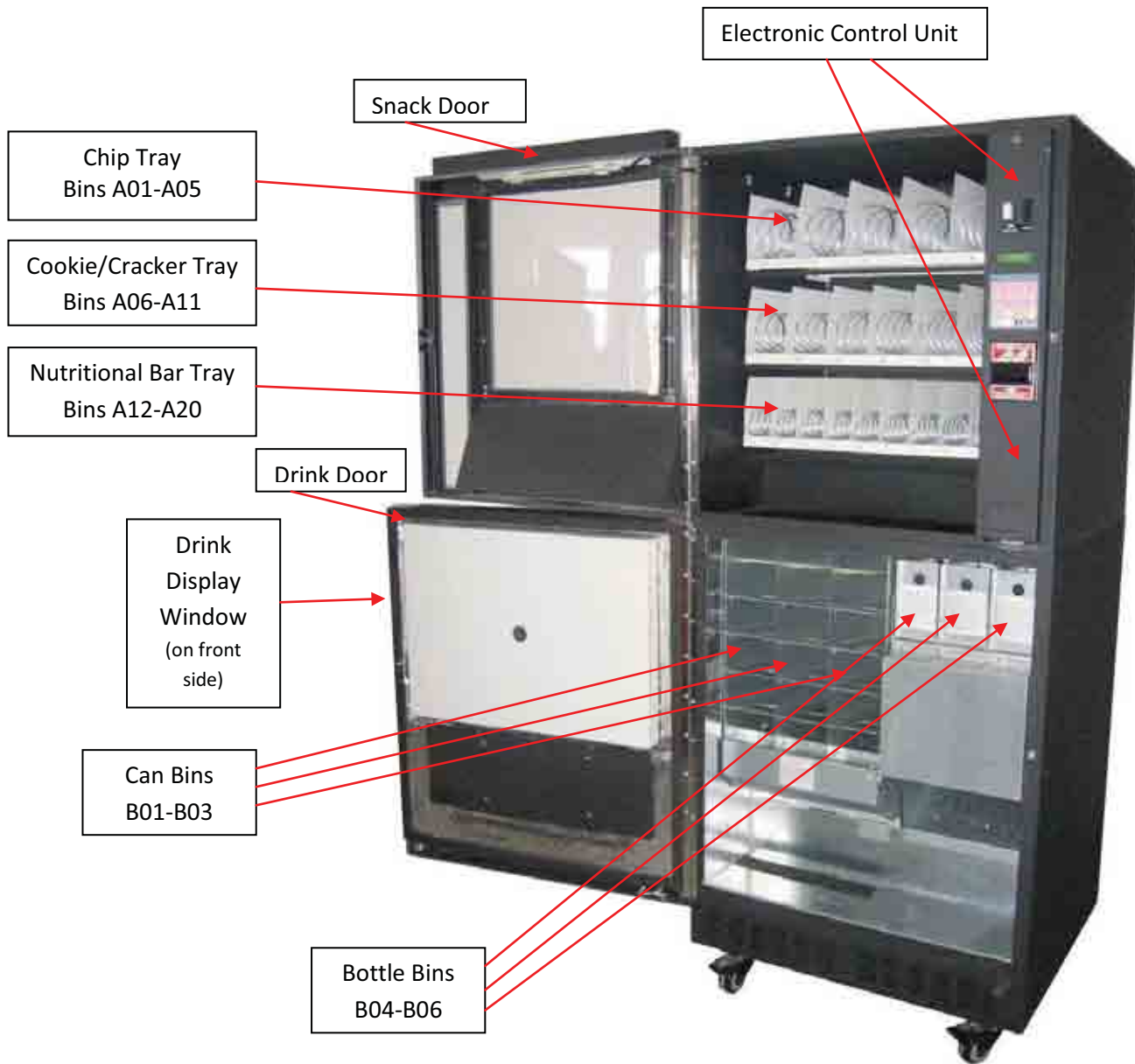## 2.1 - Components of the HY-800 & HY-850 Machine:

Electronic Control Unit

Snack Door

Chip Tray
Bins A01-A05

Cookie/Cracker Tray
Bins A06-A11

Nutritional Bar Tray
Bins A12-A20

Drink Door

Drink
Display
Window
(on front
side)

Can Bins
B01-B03

Bottle Bins
B04-B06

Figure 1 - Components of the HY-800 & HY-850 Machine

2.2 - Unloading the HealthyYOU™ Snack & Drink Units from the shipping pallets

> **NOTE: Units are HEAVY and BULKY. Use EXTREME CAUTION**
>
> **You <u>must</u> have two persons to perform the unloading and installation process.**

2.2.1 - For HY-800 SNACK UNIT:

1. Cut vinyl straps and remove the cardboard shipping box, Styrofoam and clear plastic cover from the vending machine *(use care if using a razor)*
2. Reach into the snack section via the door that says "Push" and remove the cardboard box which contains the keys, price labels, and packing slip.
3. Unlock the main outer door and remove all plastic sleeves wrapped on the snack coils.
4. The Snack Unit is usually attached to the pallet with screws in each corner. Open front & rear door and remove these screws.

2.2.2 - For HY-850 DRINK UNIT:

1. Cut vinyl straps and remove the cardboard shipping box, Styrofoam and clear plastic cover from the vending machine *(use care if using a razor)*
2. Using a screwdriver or power tool, remove Phillips head screws securing 2 long metal plates on both sides of the wooden skid *(Figure 3A)* and the four angled brackets (*Figure 3B*).
3. With one person holding on the left side, the other person should tilt the machine upward from the right side. When the vending machine is tilted sufficiently upward, remove the right side wood skid by pulling firmly on the skid *(Figure 4)*.
4. Gently lower the machine, it will sit on its own wheels. With one person holding the right side, the other person should tilt the machine upward from the left side. When the vending machine is tilted sufficiently upward, remove the left side wood skid by pulling firmly on the skid *(Figure 5)*.
5. Gently lower the machine onto its wheels *(Figure 6)*.
6. Reach into the beverage section via the door that says "Push" and remove the bag of keys. Open the outer door and remove the Styrofoam box that contains the spacers for B04, B05 and B06.

Figure 3A – Remove metal plates

Figure 3B– Remove metal plates

Figure 4 – Tilt right side upward and remove skid

Figure 5a –Tilt left side upward and remove skid

Figure 5b – Gently lower machine

2.3 – Assembly

Tools Required:
- Medium Phillips Screwdriver
- Stubby (short) Phillips Screwdriver *(or Drill Driver with Phillips Head)*
- 7mm Nut Driver

1. Using **two or more people**, lift and carefully place the SNACK UNIT on top of the DRINK UNIT *(see Figures 6a & 6b).* There are four screw holes that you will line up.

Figure 6a – Place snack unit on top of drink unit   *Figure 6b – Line up screw holes*

2. Open the front and rear doors on the SNACK UNIT. There are two screw holes in the front of the SNACK UNIT in the area where snacks drop after being purchased. There are two screw holes in the back, inside the SNACK UNIT just under where the rear door opens. You may want to pull the bottom tray of coils in the SNACK UNIT to have better access to these screw holes. To do this, CAREFULLY cut the zip tie holding the tray in place, push the white lever down and pull the tray forward *(Figure 18).* Connect both units together with the 4 combination screws and large washers provided *(Figures 7a-7d).* Using a short, stubby Phillips head screwdriver will make this process easier on some of the corners.

Figure 7a

Figure 7b

Connect the two units with 4 combination screws & large washers
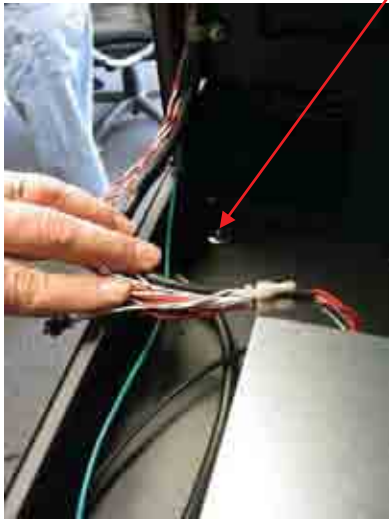
Figure 7c
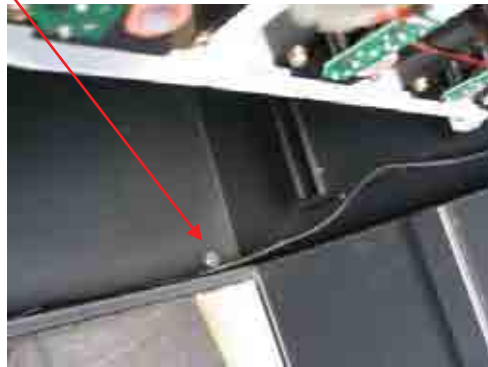
Figure 7d

3. Open the back panel on the HY-800 units.
4. Remove the small plate on the bottom-left side of the HY-800 machine by detaching two screws revealing a rectangular cut-out.

5. Locate the plugs (5-pin white and 2-pin black) from the back of the HY-850 unit.

6. Slip the 5-pin white and 2-pin black plugs through the rectangular cut-out on the back of the HY-800 machine as shown. Pull the cables all the way through giving them a little slack. Then tread the cables to the right and into the big main compartment.

7. Inside the HY-800 machine, locate a 5-pin white socket and 3 black 2-pin sockets.

8. Connect the 5-pin white socket from the HY-800 with the 5-pin white plug from the HY-850. You will feel a click linking the two together.

9. Place the connected cables inside the HY-800 machine and let them float inside.
10. Next, connect the 2-pin black plug from the HY-850 with any one of the 3 black 2-pin sockets from the HY-800. These sockets come out of the power supply box. You will feel a "click" linking the two together.
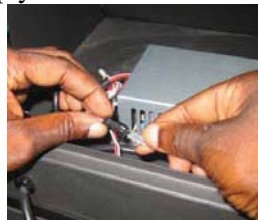
11. Place the connected cables inside the HY-800 machine and let them float inside.
12. Shield the exposed cable outside of the HY-800 and HY-850 with a cap and fasten it in place.
13. Close the back of the HY-800 and you are set.

14. Plug the two power cables, at the rear of the unit, into a Surge protector. The LCD screen will light up and cycle through power up and will read "Enjoy a Snack and a Beverage". The unit is now in "Sales" mode.

15. Press down on the small red button located on the top right corner of the circuit board (this is the Service Mode Button). The LCD now reads "Sales". You are now in "Service Mode". See the Service Mode Menu for the selections and descriptions of those selections. You may now begin to load and prepare your machine for vending.

Secure with clip

Figure 12

Attach cable guard

Figure 13

2.4 – Location

CAUTION:
If the machine is tilted more than 45 degrees during installation, you must keep the machine unplugged from the power outlet for at least 12 hours before plugging the machine back into the power outlet. Not doing this could damage the refrigeration unit and void the warranty.

(Moving the machine using an appliance dolly will not usually require a delay in plugging in the machine.)

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1. The HealthyYOU™ machine is **intended for indoor use only. (**Temp range = 32 to 90 degrees F.)
2. Select an area to place the machine that is near a power outlet.
3. Leave a minimum of at least one inch of space from the wall. The refrigeration unit must have good air circulation.
4. Secure with clip. (Figure 12)
5. Attach cable guard (Figure 13)

2.5 – Power and Surge Protection

It is recommended that a surge protection device be utilized. Multiple outlet surge protectors *(Figure 14 & 15)* are generally available at hardware stores, Radio Shack, electronics retailers, or manufacturers like Prime Wire and Cable *(www.primewirecable.com)*.

1. Plug the machine into a 110 VAC outlet with surge protection.
2. It is NOT recommended to use an extension cord. If an extension cord is needed, it must be a 16-gauge three-wire type.
3. Depending on the local climate, it will take up to 24 hours for the HY-850 (bottom part of the machine) to reach an operating temperature of 38-45 degrees F.

Figure 14   Figure 15

Part Three - ELECTRONIC CONTROL UNIT (ECU)

There is a small red "service mode" button in the Electronic Control Unit on the top right corner of the circuit board *(Figure 16a)*. When it is pressed down briefly, the system will switch from "sales mode" to "service mode". While in service mode, just press the "Cancel" button a few times on the front keypad *(Figure 17)* to come back to "sales mode".

Explanation to some of the keys:

"Enter"--------- Enter submenu or confirm

"Cancel"------- Return to upper menu option or sales mode

"Up"------------ Scroll up

"Down"-------- Scroll down
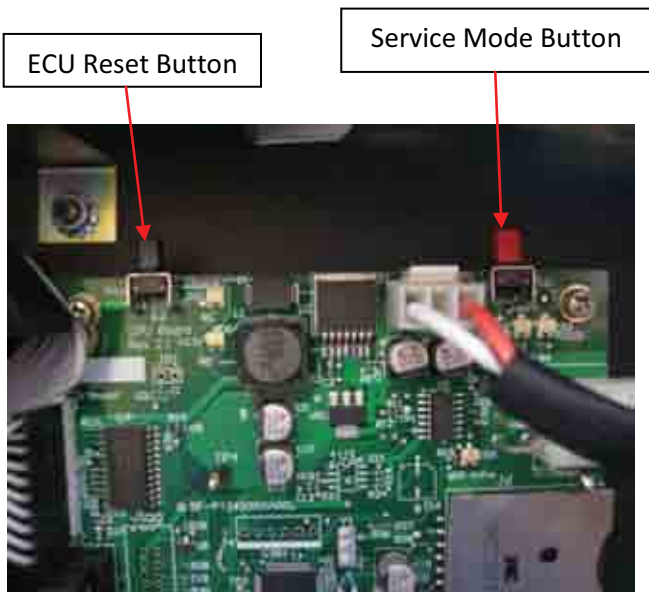
Figure 16a – ECU reset & service mode buttons
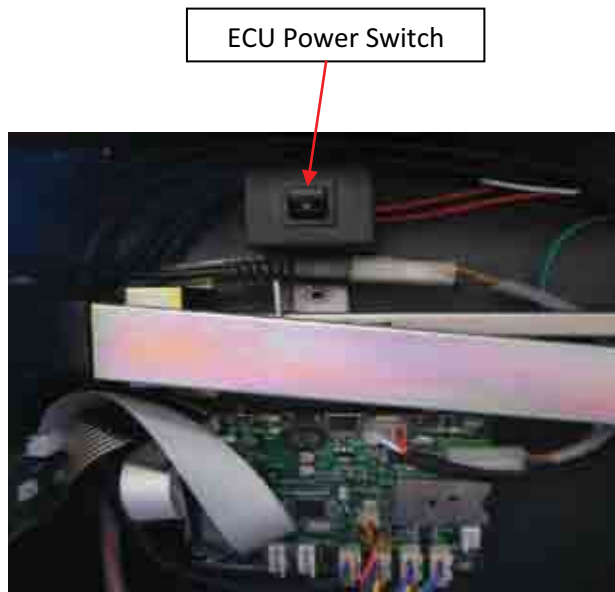
Figure 16b – ECU power switch

Figure 17 – Front of ECU

Two other buttons you will find in the Electronic Control Unit (ECU) are:

ECU Reset Button (Figure 16a): This is the black button on the top left corner of the main circuit board. Pressing this button performs a master reset of the vending machine controller. It is similar to restarting or rebooting a computer.

ECU Power Switch (Figure 16b): This toggle switch at the top of the ECU is used to turn off power to the ECU. Power should be turned off when removing the bill acceptor or coin changer or working on any other components in the ECU. This button only turns off power to the ECU itself.
It does not affect power going to the snack section, drink section, refrigeration unit, etc.

WARNING: You should unplug the power cords for both the snack and drink units when working on any electrical component outside the ECU.

You will also find one other button on the front of the ECU: the Employee Service Button (Figure 17). This is the red button on the front of the ECU next to the lock (front door on snack unit must be open to see this button). This button is used by employees to switch the ECU to the service mode. It allows employees to enter the service mode to retrieve information without giving them access to the cash inside the ECU. This button is covered by the snack door and therefore not visible or accessible by customers.

MAIN MENU	Sub-menu	Sub-menu	Sub-menu	DESCRIPTION OF ACTION
SALES	Show Total Cash			Shows total cash put into the machine.
	Show Total Sales			Shows total amount of cash sales made.
	Show Total eSales			Shows total amount of eport sales made.
	Show Total Vends			Shows total amount of vends made.
	Clear Sales Data?			Clears all the above data to zero.
	Reset Bin Qty?			Resets all bin quantities to factory presets.
MANAGE	Coin Changer	Money $0.00		*All Coin Changer functions done here. Add/remove change/see value of change.* **Note: use interior "Red" button** *for these management functions.*
		Load or Unload	Load Coins	Proceed to load coins into the machine.
			Unload Coins	Pressing 1-3 will dispense coins. 1= Nickles; 2= Dimes; 3=Quarters
				Holding YES + Coin # will dispense 15 of a coin at once, if available.
	Review Price	Bin:A01 $.75		Review and change bin price settings. Enter to change value.
		Save/Restore	1=Save 2=Restore	YES+NO enter Save Restore menu 1=Save 2=Restore
	Review Bin Qty	Bin: A01 7		Review and change bin quantity settings. Enter to change value
	Empty Bin	Sel Bin: A1 7	Empty bin 1 of 7 products	Empty a bin location of products
	Sold Out	Bin: B1 EnSO		Manually turn off **drink** sold out sensors. For use when sold out sensor fails. Enter 1-6 for sensor number SO=Soldout; OK= Sensor Active. Up/Down switches between EnSO and DisSO. "Enter" to save.
	Set Sys Ser #			Enter serial numbers on the backof the machines here.
SETUP	Set Qty Enable			Turn on or off Snack/Drink Bin Quantity Settings/Sold Out message
	Set Bill Enable			Bill Enable sets the max bill used to enable the bill acceptor. Change value here.
	Set ePort Fee			Sets the amount added to each purchase when using the credit mode.
	Set Cash Disc			Sets the amount subtracted to each purchase when using cash.
	Set Drink Size			For B04 only, Select 8.5 oz can or 16 oz bottle. Changes factory bin quanty presets.
	Set Coin Return			Sets whether after a purchase the change is returned without pressing coin return.
	Set Bill Stop			**OFF:** (default) Bills accepted up to total $ value in the coin changer. **ON:** Will not take bills larger than most expensive item in machine.
	Set Defaults			Resets ALL ECU settings to factory presets.
TEST	Motors	One Bin		Test one bin motor with one spin. You'll be asked to select bin #.
		One Bin Cont.		Test one bin motor with continuous spinning. Press CANCEL to stop
		All Bins		Test all bin motors with one spin, one after another.
		All Bins Cont.		Test all bin motors with continuous spinning. Press CANCEL to stop.
	Key Pad			Key pad test. Press any key and it will show up on LCD screen. CANCEL to stop.
	Test Interface	Testing Bd	Chan 1-6?	Test a motor board for correct functionality. Input Chan 1-6 and then card type.
			Card Type?	1&8=dual board all motors
				2&D=dual board 12 motor 6+6
				5=5 motor board
				6=6 motor board
				9=9 motor board
				B=6 motor with sold out sensors and temperature
				C=dual board 16 motors 8+8
				Error codes: 01=12C 10=temp sensor 20=motor timeout 40=A/D fall 80=No Motor

Part Four - CONFIGURING THE VENDING MACHINE FOR SALES

In order to get the machine ready for sales, the following **must** be done.
1. Set up / choose the drink size to be vended in Bin B04 *(8.5 oz or 16 oz).*
2. Load snack and beverage products.
3. Display drinks in display door behind window.
4. Load coins into coin changer.
5. Set snack bin and beverage bin prices and apply price tags to bins.
6. Clear System Sales Memory after product stocking/refilling.

4.1 – Set up / Choose drink size for bin B04

Bin B04 allows the operator the option of vending an 8.3-8.5 oz can or a 16 oz can or a 16.0-16.9 oz plastic bottle beverage. As part of the system setup, the operator needs to decide which beverage type they will vend from bin B04 and set that choice on the ECU keypad. NOTE: Some items such as 12 oz. or 16 oz. cans are too wide to work in this bin. Always test products prior to purchasing large quantities to make sure they will vend properly.

a. Ensure the HY-800 SNACK UNIT is properly attached to the HY-850 DRINK UNIT and all electrical connections are firmly and properly in place.

b. Ensure the vending machine is plugged into power.

c. Open the Electronic Control Unit by using the proper key to unlock it and pull the panel toward you/out until it stops.

d. Press/release the service mode button in the Electronic Control Unit and the LCD will read "SALES"

e. Press the down button twice. LCD reads "SETUP".

f. Press the ENTER button. LCD reads "Set Quantity Enable".

g. Press the DOWN button FOUR LCD reads "Set DRINK SIZE".

h. Press the ENTER button. LCD reads "Type: 16oz Drink". If selecting, press ENTER button.

i. If choosing an 8.5 oz drink, press the DOWN button. LCD reads "Type: 8.5oz Drink". If selecting, press ENTER button.

j. Once selected, LCD will read "Saving drink size" or "same" depending on whether it is changing from its previous setting.

k. Press CANCEL button three times until the LCD display reads: "Enjoy a Snack and a Beverage".

4.2– Loading Chips, Snacks, etc. and Beverages

1.   To begin loading items into the snack bins:

a.   Make sure the SNACK UNIT main front door is fully opened.

b.   CAREFULLY cut the zip ties that secure the wheels of the three product trays *(Figure 18)*.

c.   Hold the white lever down *(Figure 18)* and pull the product tray towards you.

d.   When fully extended the product tray will tilt downward for easy product loading *(Figure 19)*.

e.   Load the products correctly in between the coils in the product tray.

f.   NOTE: bottom left corner of product must be loaded in front of the coil to vend properly. *(Figure 20)*.

g.   After products are correctly loaded, tilt the product tray upwards and push it back into the original position.

h.   Put price labels on each bin location on the snack tray *(figure 18)*.

Please note the following snack capacities for each row of bins:

• Row A01-A05 can hold up to 7 snacks per row *(5 rows×7 snacks = 35 snacks/ W=4 ½" D=2")*
• Rows A06-A11 can hold up to 8 snacks per row *(6 rows×8 snacks = 48 snacks/ W=3 ½" D=1 ½")*
• Rows A12-A20 can hold up to 13 snacks per row *(9 rows×13 snacks = 117 snacks/ W=2 ½" D= 5/8")*

*Depending on the product you are vending you may choose not to place an item in the very back coil.

Push the lever down.

Cut the zip tie.

Apply price label here.
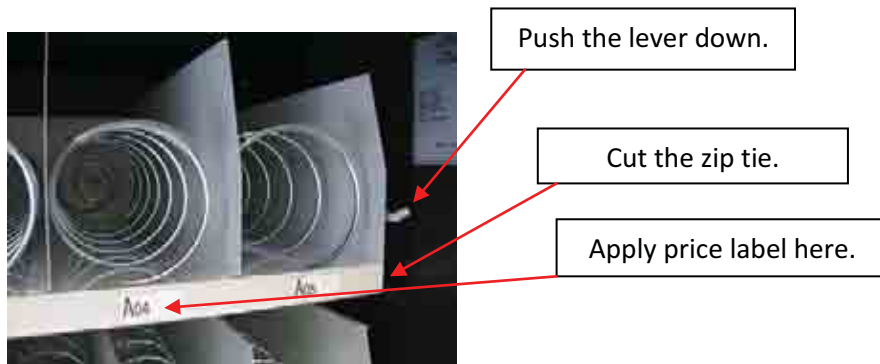
Figure 18 – Zip tie and lever
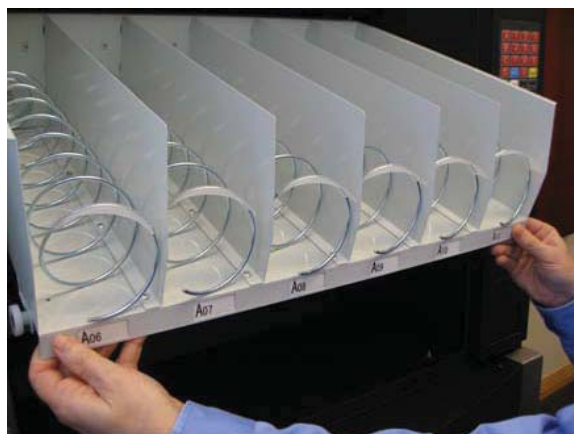
Figure 19 – Pull the tray towards you

Wrong   Right
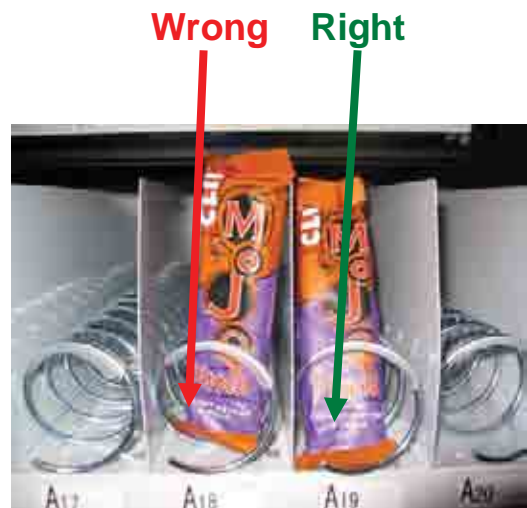
Figure 20 – Proper way to load product

DRINK UNIT Beverage Bin Capacities:

- There are three bins for 12oz. cans *(B01, B02, and B03)*, one bin for 16oz. plastic bottles or 8.3oz cans *(B04)* and two bins for 16 or 20oz. plastic bottles or 12oz to 16oz cans *B05 and B06)*.
- Locations B01-B03 will hold up to 46 cans *(12oz.)*.
- Location B04 will hold up to 13 plastic bottles *(16-16.9oz.)* or 15 small juice or other drink cans *(8.3-8.5oz.)*.
- Location B05 and B06 will each hold 11 plastic bottles *(20oz.)* or 12 (16.9 oz) plastic bottles each or 11 (12oz or 16 oz) cans each.

12 oz cans only in bins B01; B02; & B03

B04

B05 & B06

Beverage loading instructions:

IMPORTANT NOTE:
Loading instructions for the beverage bins must be followed for the machine to vend properly.

For Bins B01, B02, and B03:
1. The 12oz cans may be loaded in either direction side to side *(Figure 21).*

The beverages dispense from the bottom ramp, the back bin, the top ramp, and then the top ramps down. Loading the cans properly will allow proper dispensing and not cause cans to jam.

   a. Load the first 5 cans in the "**bottom**" (1st) ramp of B01, B02, and B03 *(Figure 21).*
   b. Then completely fill the "TOP" (5th) ramp of B01, B02, and B03 *(Figure 21). Note how the cans close all the rear "gates" as they fill up the back and block them from opening.*
   c. Then load cans in the remaining ramps until full *(Figure 21).* The order really doesn't matter after steps a & b have been accomplished.

When restocking the machine on subsequent service calls, it is important to make sure that all the gates are in the closed (vertical) position, before any additional cans are loaded in. This means any ramp that is not totally full will need to be emptied out so the gate will close. Then cans are added to the top row to make sure all the gates are blocked closed. You may then fill in the rest of the ramps.
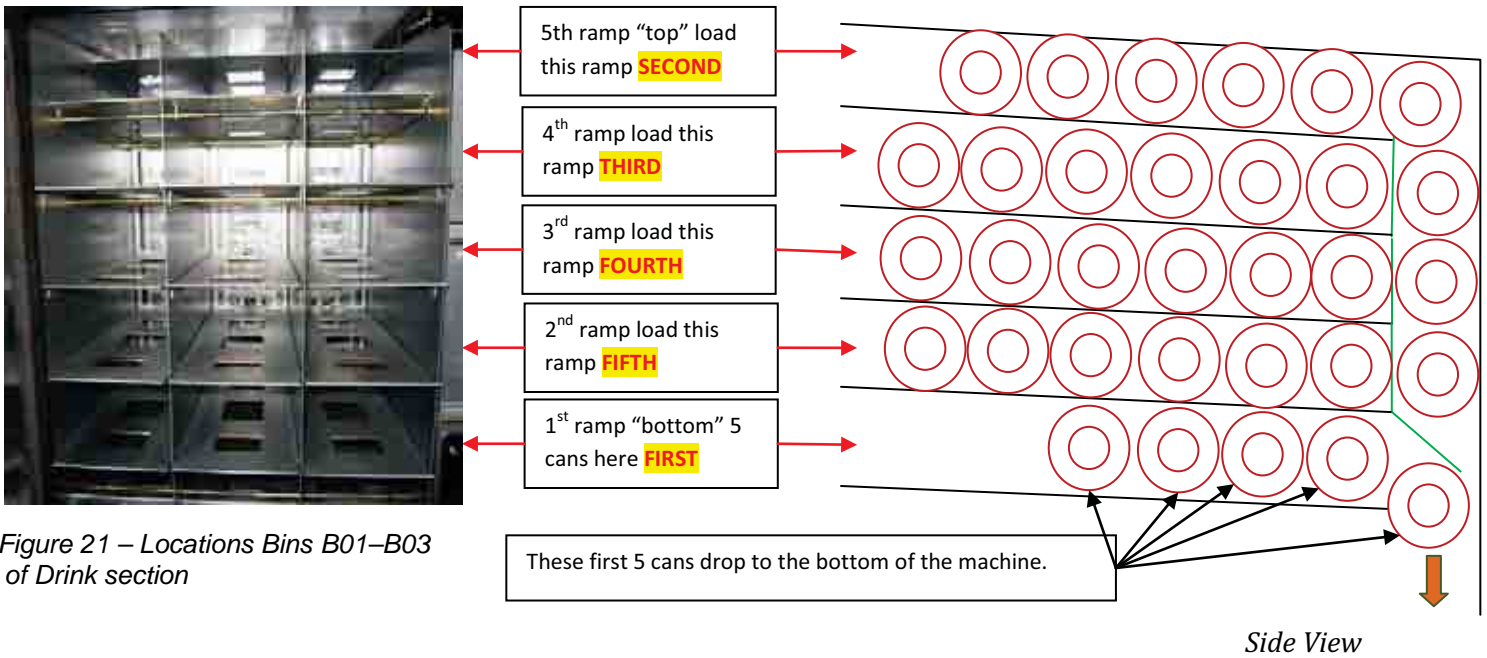
5th ramp "top" load this ramp **SECOND**

4th ramp load this ramp **THIRD**

3rd ramp load this ramp **FOURTH**

2nd ramp load this ramp **FIFTH**

1st ramp "bottom" 5 cans here **FIRST**

Figure 21 – Locations Bins B01–B03 of Drink section

These first 5 cans drop to the bottom of the machine.

Side View

Instructions for reloading cans when servicing machine.

It's important to understand the workings of the "can" section of this machine to be able to reload it. The reason you load the 1st (bottom) ramp first and then the 5th (top) ramp next is so you have a foundation of cans on the bottom and a row of cans down the back of the ramps blocking the sold out gates. Study the chart below to understand how the reloading concept works. You may use this concept for any partial row:

Figure 21 a – Example of how to refill cans in B01 –

Second, make sure this row has a can behind it.

Third, begin refilling this row … then work down.

First, clear partial row of cans using "Motor Test" "One Bin".

Side View
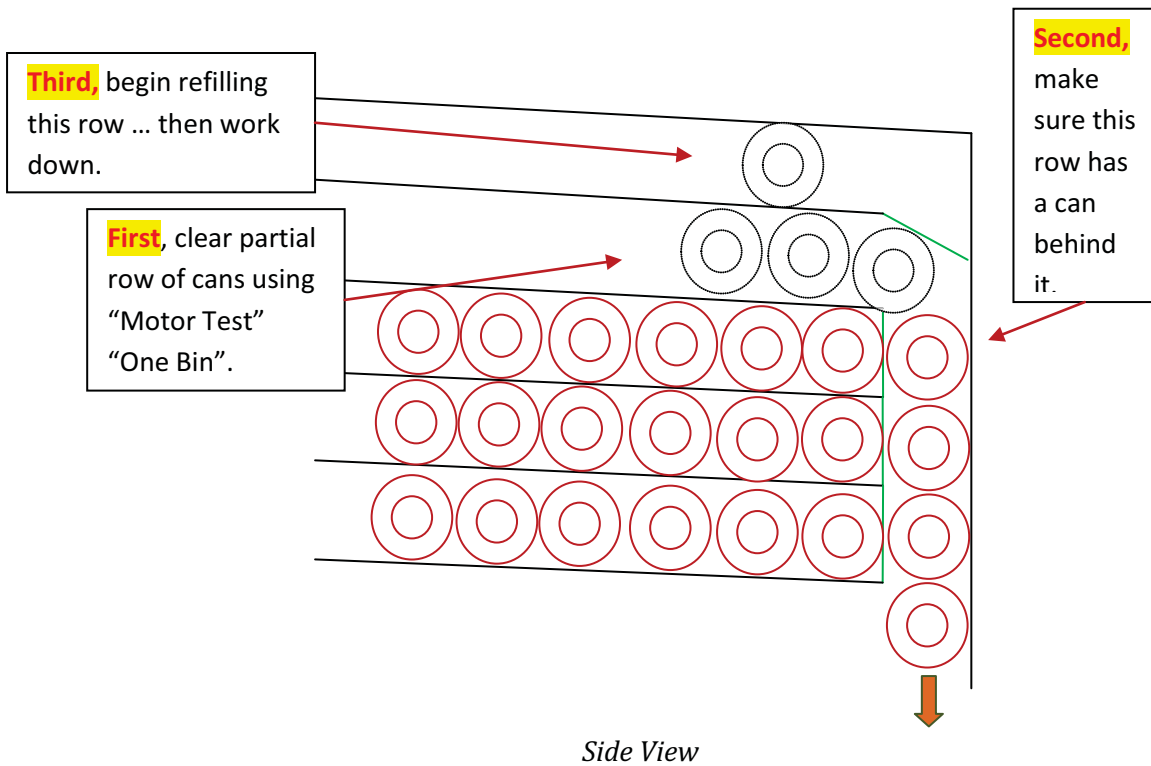
Figure 22 – Pull bottle door "up" then "out"

Figure 23 – Pull divider toward you
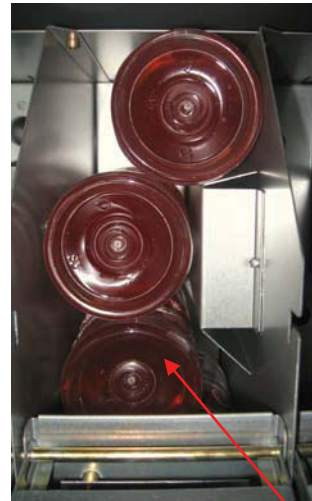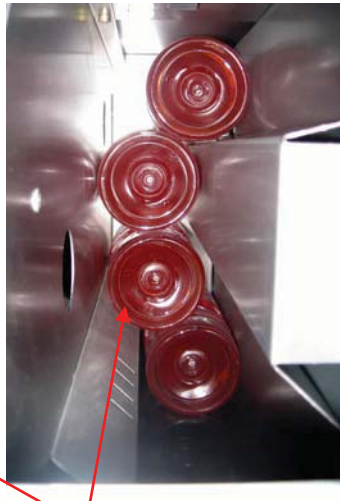
Figure 24 –

Fill "back" section first with cans or bottle tops away from you.

Figure 25 – Fill "front" section last, with cans or bottle tops away from you.

2. For locations B04-B06, different sizes of plastic bottles and cans may be loaded*.

a. For B04, see list of examples of acceptable cans and 16 oz water /beverage bottles on next page.
b. For B05 and B06, see list of examples of acceptable cans and 16/20 oz soda/beverage bottles, on the next page.
c. To load short cans or bottles, spacers must be inserted in the front and back sections. B04 uses a thin spacer; B05 /B06 use a wider spacer *(Figures 26, 27 and 28).*

*Note: *Some items such as 12 oz. or 16 oz. cans are too wide to work in B04. Always test products prior to purchasing large quantities to make sure they will vend properly.*

Refer to the spacer insertion and product-loading section.

Examples of some drinks that will vend in the HY-850

B01, B02, B03

Bins B01, B02 & B03 have been designed to vend standard 12 fl oz cans.

B04

8.3 oz Beverages:
Dole Juice cans 8.4 fl oz
Lifeway Kefir Pomegranate Smoothie 8 oz
Any similar brand 8.3 oz, 8.4 oz can or bottle
Note: 12 oz regular cans will not vend in B04

16 oz Beverages:
Blue Sky Blue Energy cans 16 fl oz
Penta Ultra Purified Water 16.9 fl oz
Balance Water for Your Mind 16.9 fl oz
HINT Blackberry Water 16 fl oz
Arrowhead Water 16.9 fl oz

B05 –B06

12 oz to 20 oz Beverages

Vitamin Water 20 fl oz
Dole Juice 15.2 fl oz
Tropical Juice 15.2 fl oz
Gatorade G2 20 fl oz

Minute Maid 15.2 fl oz
Cans 16 fl oz
Standard 12 fl oz can

Note: Any product less than 8" tall will need a spacer. Products taller than 8 7/8" will not vend properly.

If you have questions about the vendibility of a product we recommend purchasing the untested product in small quantities and testing it yourself. This will tell you if the untested product will vend properly. Do this prior to investing in large quantities of unproven products.

Note: This machine is not designed to vend glass bottles. Vending glass bottles may result in breakage, thus creating a hazard to your customers.

3. Spacer insertion and product loading:

    a. Select a can or bottle sample with which you wish to fill the bin. Place/hold it against the front of the bin. Make note of the first spacer slot closest to the top of your can or bottle sample *(Figure 29)*.

    b. Pull the bin divider towards you to open the back section *(Figure 23, page 19)*.

    c. Observe the corresponding spacer in the rear bin. Now, guide it into the rear bin slot using the finger slot hole as an aid *(Figure 30). See below - a flashlight is helpful for this procedure. Also, you may find a telescoping magnet will help you to place the rear spacers in the rear notches.*

    d. The spacer should slip into the three (3) slots *(left side, right side, and bottom)*. Again, the rear spacer position will correspond to the position you observed in Step a. *(Figure 31)*.

    e. Load your cans or bottles in front of the spacer until the rear bin is full. Then push the section divider back into place *(Figures 32, 33 and 34)*.

    f. Slip the second spacer into the proper front bin three slots *(left side, right side, and bottom) (Figure 35)*.

    g. Load your cans or bottles in front of the spacer. You will feel some resistance from the sensor flap as you push the cans/ bottles down into place *(Figure 36)*.

    h. Close outer door *(Figure 37)*.

    i. Cans or bottles that do not easily slide past the rectangular loading guides will not vend and can cause machine malfunctions. Always ensure your chosen can or bottle fits the bin properly.

Notes and helpful suggestions:

- **A flashlight is recommended to assist in locating the proper spacer slots, especially in the rear bin.**

- **Some have found a telescoping magnet to be helpful in positioning the rear spacers.**

- **Once again, standard 12 oz. soda cans are too wide to work properly in B04. But they can vend properly in B05 & B06; however, be sure you use a spacer in both the front and back half of the bin.**
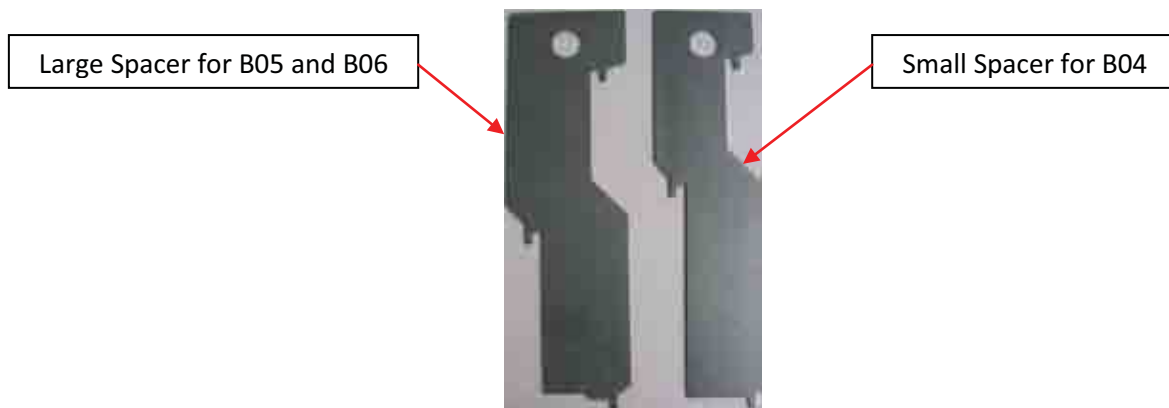

Large Spacer for B05 and B06   Small Spacer for B04

Figure 26 – Spacers

Install Spacer here

Figure 27 – Install inner spacer

Install Spacer here

Figure 28 – Install outer spacer
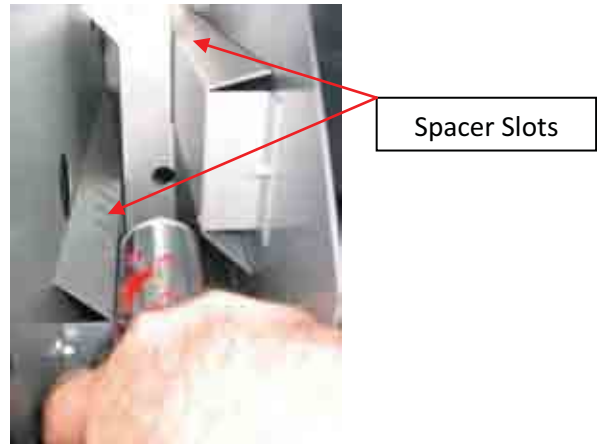
Spacer Slots

Figure 29

Folding down the Bin Divider

Figure 30

Spacer in the back
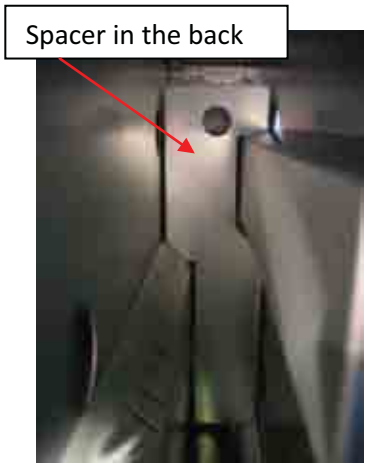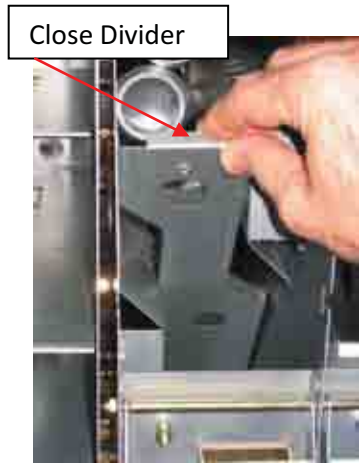
Figure 31

Load cans in back

Figure 32

Close Divider

Figure 33

Figure 34 – Divider closed   *Figure 35 – Install front spacer*
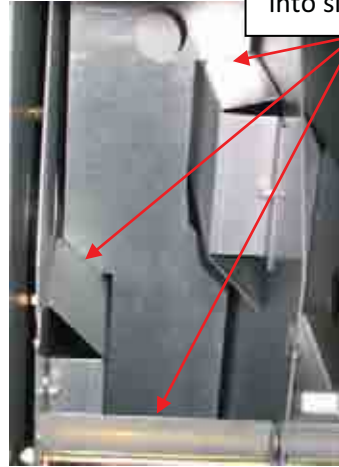
Figure 36- Load cans in front section   *Figure 37- Close door*

4.3 - Displaying beverages behind the window

- Open the cold drink door, and then open the drink display window door of the DRINK UNIT.
- Place the price tag for each sample beverage next to its beverage column location number *(B01 –B06)* on the vinyl sign inside the window or place price tag on the actual displayed product.
- Place sample cans/bottles on corresponding locations B01-B06, and then close the door of the display window.

4.4- Loading the Coin Changer

- Press/release the service mode button in the electronic control unit until the LCD reads "SALES".
- Press the DOWN button once, LCD reads "MANAGE".
- Press ENTER button. LCD reads "Coin Mech".
- Press ENTER. LCD reads "Money $0.00 Load Coins (UP arrow) Unload Coins(DOWN arrow).
- Load coins one at a time into the Coinco coin changer located in the Electronic Control Unit.

IMPORTANT: load coins **through the coin slot on the front panel, or directly from the TOP** of the Coinco coin changer.

- Load **at least $17.00** worth of coins into the Coinco coin changer (We suggest a bank roll each of quarters, dimes and nickels)

- Each Coinco Coin Changer coin tube can hold the following quantities:
    a. 78 Quarters $0.25
    b. 115 Dimes $0.10
    c. 79 Nickels $0.05
- Press the cancel button 3 times to return the LCD to read "Enjoy a Snack and a Beverage". The lights on the front of the dollar bill accepter should flash blue. You are now in vending mode and the machine is ready to be put into service.
- Remove the screw that secures the coin box, so that the coin box can be taken out of the control unit *(Figure 39).*

Do not insert coins here.

Remove this screw.
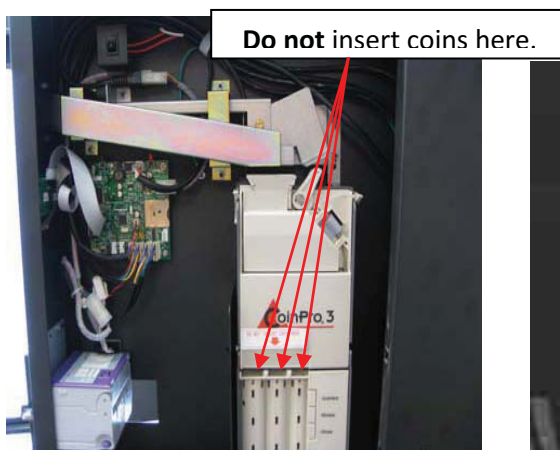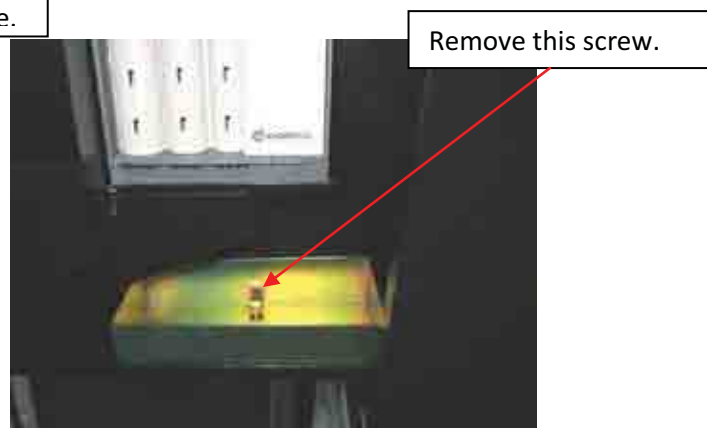
Figure38   *Figure 39*

4.5 - Setting Prices
NOTE: Factory pre-set prices are $ 0.75 on all snack bins, $0.85 on all drinks.

- Ensure the HY-800 SNACK UNIT is properly attached to the HY-850 DRINK UNIT and all electrical connections are firmly and properly in place.
- Open the Electronic Control Unit by using the proper key to unlock it and pull the panel toward you/out until it stops.
- Press/release the red service mode button in the Electronic Control Unit until the LCD reads "SALES".
- Press the DOWN button once. LCD reads "MANAGE"
- Press ENTER button, LCD reads "Coin Mech".
- Press DOWN button once, LCD reads "Review Price".
- Press ENTER button. LCD reads "Review Price / Bin: A01 $0.75".
- Press ENTER button. A flashing black square appears to the right of the 0.75 price.
- Press the numbers on the keypad that you wish to use for the price you wish to set for this bin location. Example: If you wish for location A01 to be set at $1.00, press 1, then 0, then 0, **then ENTER** the LCD reads "Review Price / Bin: A01 $1.00".
- Press the DOWN button, the LCD now reads "Review Prices / Bin: A02 $0.75".
- Repeat steps above after setting the price on each bin.

4.6 – Clearing machine cash, sales, and vend memory

Clearing the machine memory in preparation to vend, after the initial loading of coins, snacks and beverages, and after restocking or servicing the machine
.

- Ensure the HY-800 SNACK UNIT is properly attached to the HY-850 DRINK UNIT and all electrical connections are firmly and properly in place.
- Open the Electronic Control Unit by using the proper key to unlock it and pull the panel toward you/out until it stops.
- Press/release the red service mode button in the Electronic Control Unit until the LCD reads "SALES".
- Press Enter. LCD reads "Show Total Cash"
- Press ENTER button, LCD reads "Total Cash / Cash: $.xx".
- Press DOWN button, LCD reads "Total Sales / Sales: $.xx".
- Press DOWN button, LCD reads "Total Vends / Vends:X".
- Press DOWN button, LCD reads "Clear Sales Data?".
- Press YES button, LCD flashes "Clearing Data!" Then reads "SALES".
- Press CANCEL button twice until the LCD reads "Enjoy a Snack And a Beverage".
- Machine memory is now cleared and the machine is ready to vend.

4.7 – Selecting Coin Return Options

This vending machine is preset to **NOT** automatically give change to a customer who purchases an item and has change pending. If you, the operator, wish to allow customers to immediately receive their change, you may activate the "SET COIN RETURN" feature in this machine.

- Ensure the HY-800 SNACK UNIT is properly attached to the HY-850 DRINK UNIT and all electrical connections are firmly and properly in place.
- Open the Electronic Control Unit by using the proper key to unlock it and pull the panel toward you/out until it stops.
- Press/release the red service mode button in the Electronic Control Unit until the LCD reads "Sales"
- Press the down button twice. LCD reads "SETUP".
- Press the ENTER button. LCD reads "Set Quantity Enable".
- Press the DOWN button five times. LCD reads "Set Coin Return".
- Press ENTER button. LCD reads "Coin Return OFF".
- Press the UP button once. LCD reads "Coin Return ON".
- Press the ENTER button. LCD reads "Saving coin return on".
- Press CANCEL button two times until the LCD display reads: "Enjoy a Snack and a Beverage"

Part Five – SERVICE AND MAINTENANCE

5.1 – General Maintenance

5.1.1 – Cleaning

Clean the internal and exterior cabinet with a damp cloth. Do not use ammonia based window cleaners to clean the product display windows.
To lower the electricity costs and minimize service, it is very important to clean the condenser regularly. Check the condenser quarterly and clean as needed. The condenser is located at the front of the machine at the bottom. Remove the filter in front of the condenser *(Figure 40).* You can use compressed air or a vacuum to clean the condenser. A stiff brush can also be used, but brush lightly to prevent condenser fin damage *(Figure 41).*

Figure 40 - Filter

Figure 41 – Clean the condenser

5.1.2   – Clearing coin and bill acceptor jams

1. To clear jams on the bill acceptor, first turn off the ECU power switch. Then, push the two purple buttons on the bottom of the bill acceptor and pull the acceptor out. Then, press the two purple buttons on the front of the acceptor (arrows on Figure 42b instruct you to "Squeeze to Release"). Open the acceptor by pulling the front up like you were opening the hood of a car. Pull the top of the acceptor off. Remove the jammed bill and clean lenses and belts with a clean cotton cloth and WATER only.

2.   Put the top back on the bill acceptor by lining up the hinge pieces in the back so the "hood is open". Then close the acceptor until it clicks into place and the blue entry light comes on. Reinstall the bill acceptor by lining up holes in the acceptor with the guide pins on the machine and pressing the acceptor forward until it locks back into place.

DO NOT use substances such as alcohol, gasoline, paint thinner, etc. to clean bill acceptor *(Figure 43).*

Figure 42a - Push buttons to remove

Figure 42b - Squeeze buttons to open
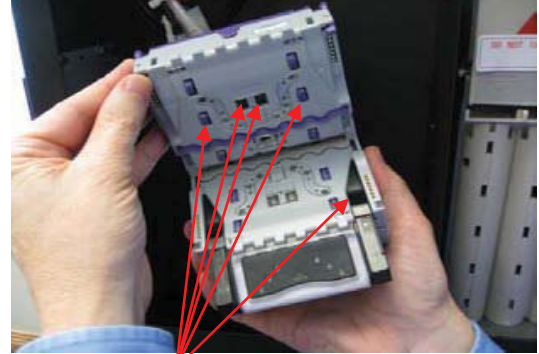
Figure 43 - Clean lenses & rollers with a clean cloth and water

3.   To clear coin jams press the Coin Release Button. You may also open the coin changer to check for jams by pulling forward on the funnel at the top of the Coin Changer.

Funnel on top of Coin Changer

5.2   Service and technical information

The Snack & Drink units of your HealthyYOU™ Vending System is comprised of 3 subsystems. Each subsystem is dedicated to perform its own function. These subsystems are:

1.   **Electronic Control Unit**
2.   **Vending Motors**
3.   **Refrigeration Unit**

The following information will describe each subsystem and how to maintain and service it.

5.2.1 Electronic Control Unit

Electronic Control Unit components are mounted on the service tray and mounting plate at the side and back of the snack trays *(Figures 44 and 45)*. To access the Electronic Control Unit, unlock the lock at the top, and pull on the bottom or sides to slide it out away from the vending cabinet. This gives you access to the service tray. To access the mounting plate containing the power supply, open the back door.

The Electronic Control Unit consists of the following components:

- LCD display
- Keypad
- Keypad terminal board
- Bill Acceptor

- Coin changer
- Master (main) circuit board
- Service button
- Power supply
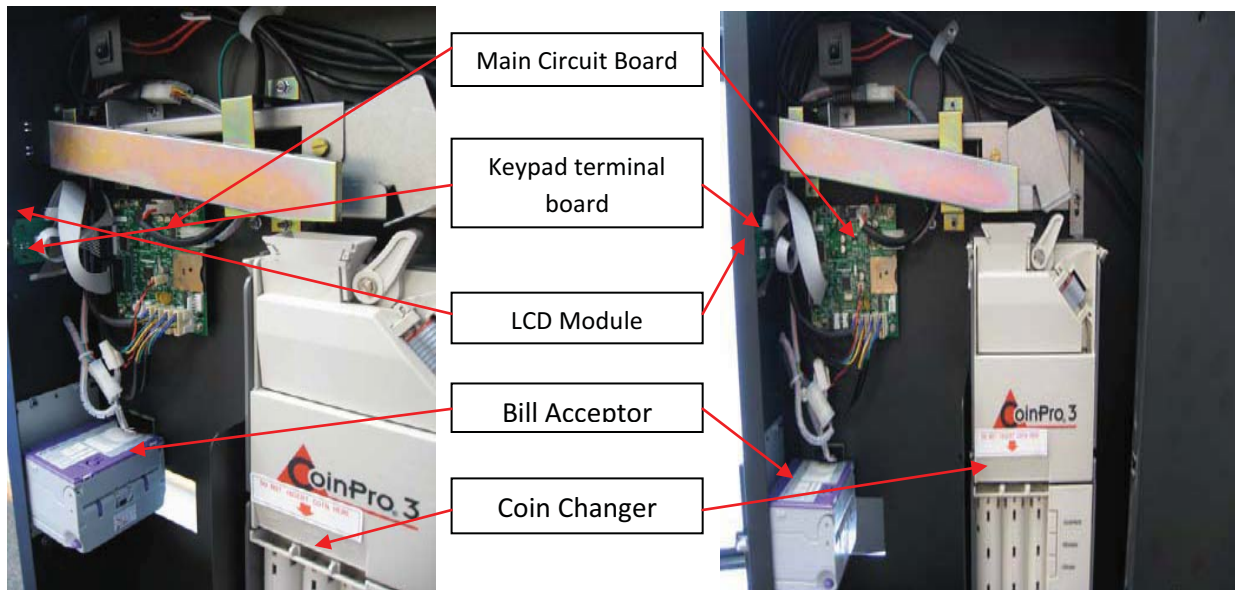
Figure 44 – Components in the Electronic Control Unit, angle view.

Figure 45 – Components in the Electronic Control Unit, straight on view.

All the components may be removed independently. To remove any components, follow the instructions below:

1. Turn off the ECU Power Switch or unplug the power cord first.
2. Disconnect all connectors from that component.
3. Remove the mounting screws.
4. Remove the component for service or replacement.

5.2.2 – Vending motor

The machine vends products by using a gear motor connected to a spiral.

How to remove a snack motor:

       a. Open the back door on the snack machine *(Figure 47)*
       b. Select the defective motor that requires replacement
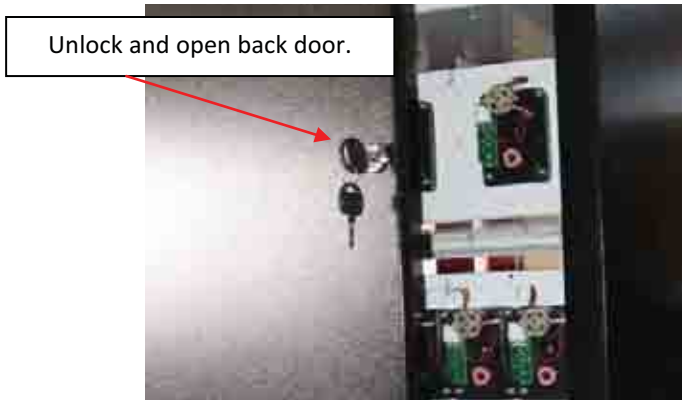   *c.* Remove the harness connector and the 4 mounting screws *(Figure 48)*

Unlock and open back door.
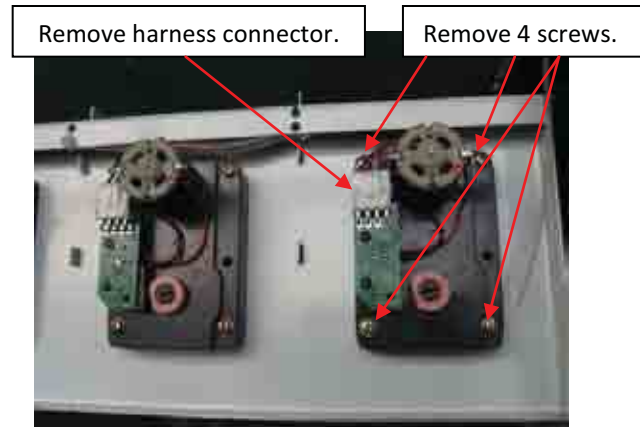
Remove harness connector.

Remove 4 screws.

Figure 47- Open the back door　　　　　*Figure 48 – Removing the motor*

How to remove a beverage motor:

In the beverage compartment, the motors are mounted behind the protective covers

       a. Remove the protective cover *(Figure 49)*
       b. Select the defective motor that requires replacement
       c. Remove the harness connector and the 4 mounting screws *(Figure 50)*

Remove screws from protective covers. Then remove the covers.
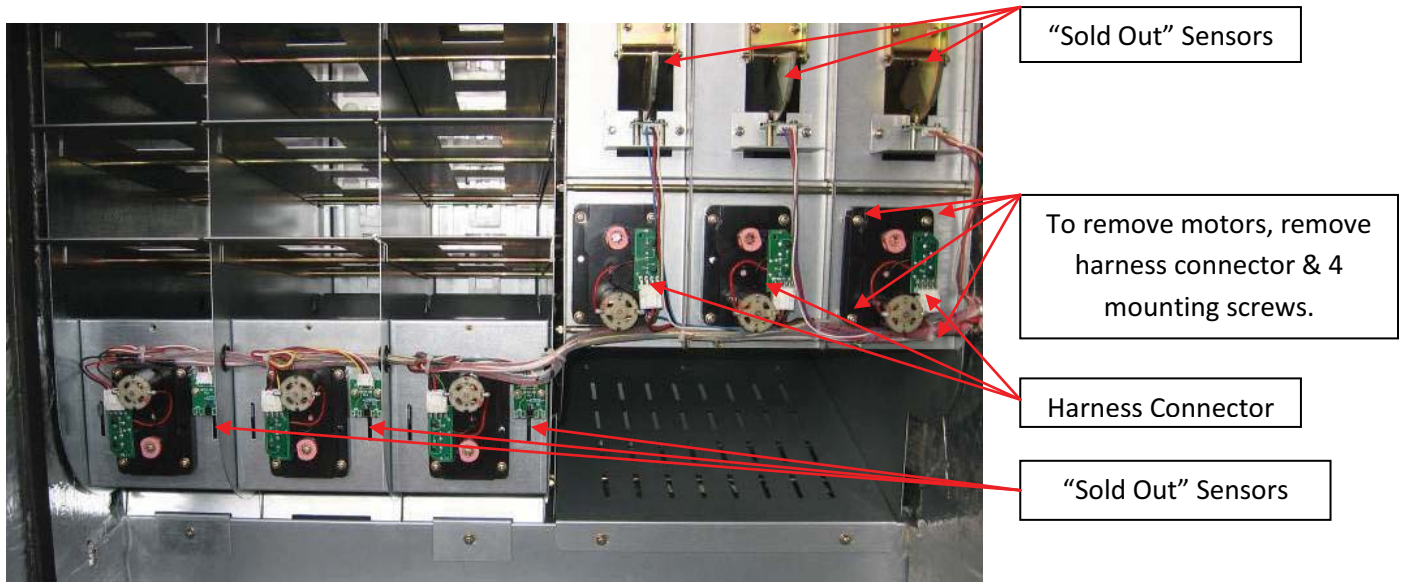
Figure 49 – Remove protective covers

Figure 50 – Beverage Motors and "Sold Out" Sensors

Installing Beverage Motors:

a. When installing replacement motors for B01, B02 and B03, make sure the copper sheath is aligned as shown in (f*igure 51a)*.

b. The copper sheath must be inserted in the recess of the vend plate. *(figure 51c)*. Push up on the underside of the vend plate to align the copper sheath with the recess.
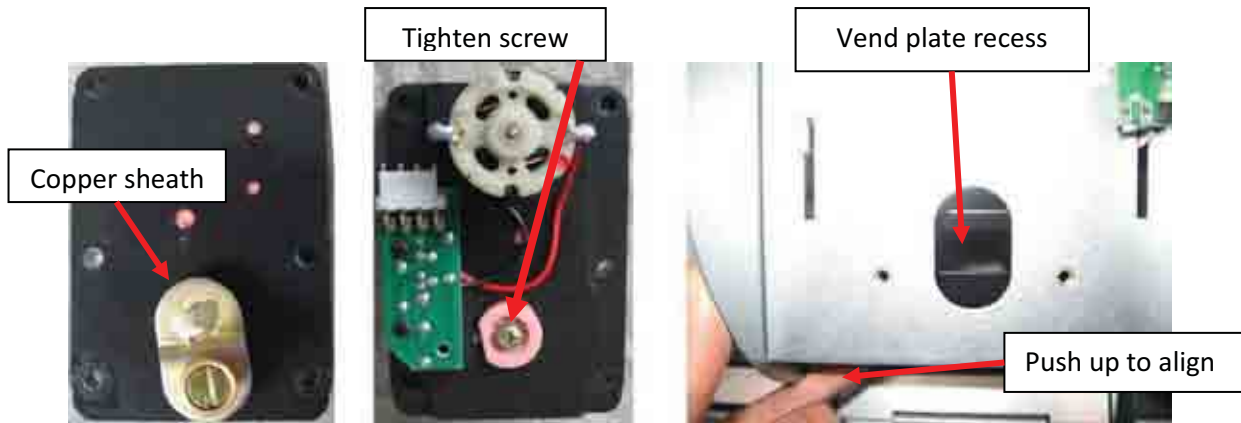
c. Tighten screw in *(figure 51b)*.

Figure 51a   *Figure 51b*   *Figure 51c*

These are the bottle dispensing tubes for B04, B05 and B06. They rotate 180 degrees for each vend cycle. They alternate dispensing from the front bin to the rear bin as they rotate. To see how this works, simply do a motor test and look underneath. You will see the rotation and will see how the products are dispensed.

Notice the bottle holder is face down in the front position. The next vend will show the bottle holder face down in the rear position.

5.2.3 - Refrigeration unit

The refrigeration unit is located at the lower back of the machine. It is completely self-contained. You can adjust the HY-850 (beverage machine) temperature by turning the temperature control screw clockwise (1/8" at a time) for a colder setting *(Figure 53)*.

Temperature Control

Figure 53 – Temperature control

If there is a service problem: *(Figure 54)*
1. Unplug the power cord
2. Remove the protection grid plate
3. Disconnect the power plug
4. Remove the mounting screws
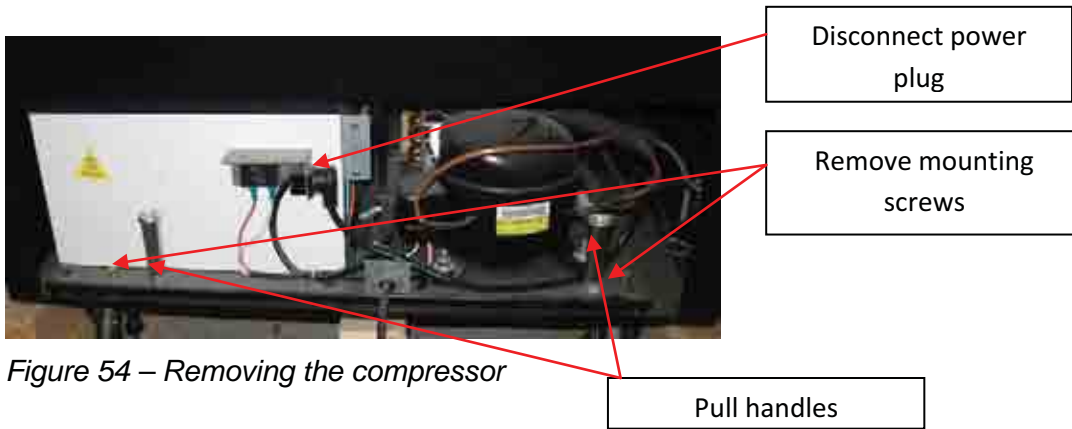5. Pull the refrigeration unit out by pulling the handles toward you.

Disconnect power plug

Remove mounting screws

Pull handles

Figure 54 – Removing the compressor

> **Note:**
>
> After extended use, the refrigeration unit may need to be serviced. To remove the refrigeration unit, we recommend sliding a "dull" thin blade, such as a flexible putty knife, over the top of the rubber gasket in the cooler chamber. This will break the seal between the rubber gasket and the metal surface of the machine, thus allowing the unit to slide out easier.
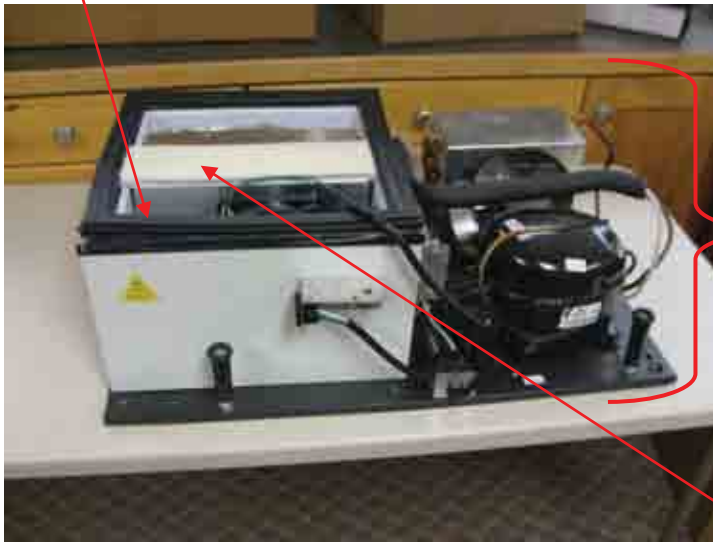
Self contained refrigeration unit is shown removed from the vending machine

Cooler chamber

Figure 55 – Refrigeration unit removed from machine

Appendices

The following have been included for your information and convenience:

- HealthyYOU™ Entrée/Side Dish Installation Instructions

- CoinPro 3™ Electronic Changer Operation and Service Manual

- Global Bill Acceptor – GBA ST2,
  - Maintenance
  - Diagnostics and Troubleshooting

HealthyYOU™ Entrée/Side Dish Vendor

Installation Instructions: HY-870

HealthyYOU™ Entrée/Side Dish Vendor Specifications

Height: 76"; Depth: 29"; Width: 16"; Weight: 199 lbs;
Total width attached to the Snack & Drink Units: 47"
Total Number of Selections: 16;
Capacity: 65 Entrées/Side Dishes;
Power Provided by the HealthyYOU™ Snack Unit
Specifications subject to change without notice

Your HY-870 Entrée/Side Dish Vendor is shipped with the following components:

1. HY-870 16 coil vendor
2. Keys, price labels, screws and washers
3. Communications wire cover (for rear of machine), attachment hardware

   Tools Required - Phillips screwdriver - 7mm Socket – Scissors

Instructions:

A. Remove all shipment/packing materials, inspect unit for damage. Ensure all listed parts (above) were received with your unit. If not, call the Technical Support department at 1-866-599-0214.
B. Place the HY-870 on the right side of the HY-800/850 (when standing/facing it), open the door and align the holes on the HY-870 with the holes on the HY-800/850. Using the screws provided (4), attach it to the HY-800/850. Do not over tighten.
C. Turn off power to the HY-800/850.
D. Connect Wire Harness from HY-870 to the HY-800/850's main circuit board. (See below)

Follow these steps to connect wire harness to HY-800/850:

1. Open the Electronic Control Unit (ECU) by using the proper key to unlock it and pull the panel toward you/out until it stops

Electronic Control Unit (ECU) – unlock and pull out.

2. Power off the vending machine by using the switch inside the ECU
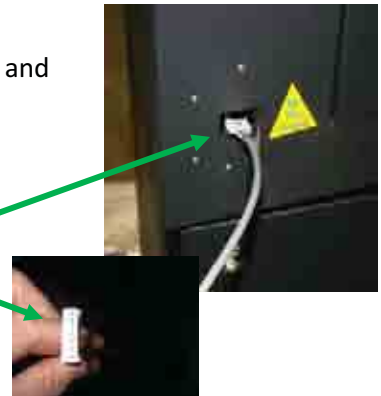

Turn off Power Switch inside ECU.

3. Remove the Phillips screws on the back cover of the vending machine

Unscrew and remove back cover

4. Insert the cable into the machine, the clearance is small so use care and do not force it into the machine. Then pull to the front of the ECU.

Insert cable from HY-870 to HY-800/850 and pull to front of the ECU

5. Unscrew a wire keeper from control panel to insert cable. Then wrap keeper around the wire and re-attach.

Unscrew wire keepers, insert wire and re-attach.

6. Pull cable up and over the Coin Pro 3 and down to the control panel.

Pull wire up and over the Coin Pro 3 and down to the control panel.

7. Attach the connector lock cable J12 to mother board Central Processing Unit (CPU)

Plug **J12** to the CPU – 5th plug from right is the plug for the HY-870

Plug installed

8. Replace back cover and install wire cover from HY-870 to HY-800/850 - inserting entrée/side dish vendor cable thru the cutout in side of   back cover.

Install protective wire covers.

9. Connect HY-870 to HY-800/850 with metal brackets using metal plates and screws provided.
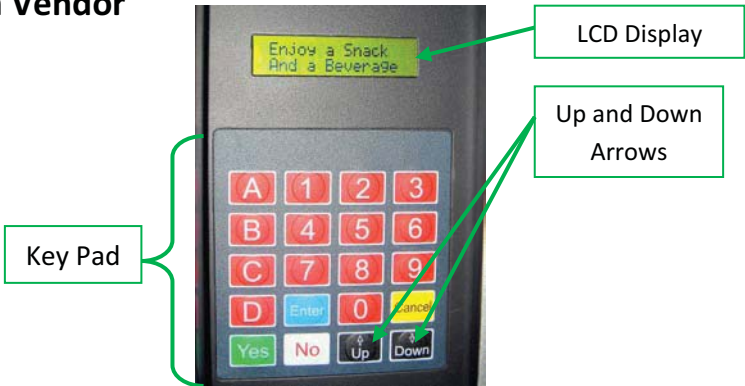
Metal connecting brackets.

10. Turn on power using the switch inside

Turn on Power Switch inside ECU.

You are now ready to begin testing, programming and loading your Entrée/Side Dish Vendor

LCD Display

Up and Down Arrows

Key Pad

Testing and Loading the Machine

Now that the machine is assembled and is working you can test it for functionality. Go through the following exercise to make sure the HY-870 is working with the HY-800/850:

1. Press the red service mode button on CPU or the front panel to go to "Service Mode" LCD should read "SALES".

2. Press the up arrow ⇧ so the LCD reads "TEST". Press enter.

3. LCD reads "MOTORS" press enter.

4. LCD reads one bin- press down button until LCD reads "All BINS" press enter.

5. LCD reads "BINS TO RUN" press "C", press enter.

6. All meal vendor motors should spin one at a time from top to bottom now. Once complete, LCD should read "PASS"

7. If LCD does not read "PASS" check cable connection at J 12 and retest from step (3).

8. If "PASS", press cancel multiple times and return to "Enjoy a Snack and a Beverage" your unit is working and ready to vend product .

9. Open door with provided key and remove cable/zip ties from merchandise bins carefully using scissors or sharp instrument.

10. Push the white lever on the right side of the bin down and pull tray forward and then down to loading position.

11. Load merchandise in all bins.

12. Push bins back into place.

13. Place price labels on all bins- Do Not cover bin location numbers (i.e. C01).

14. Close and lock outer door.

15. Press the red service mode button, LCD reads "SALES".

16. Press the down arrow ⇩ to "MANAGE". Press enter.

17. LCD reads "COIN MECH". Press down arrow ⇩.

18. LCD reads "Review Pricing". Press enter

19. LCD reads "Review Price Bin A01=X.XX" Press letter C.

20. LCD reads "Review Price Bin C01=1.50" Press Enter. To change prices a box will blink. Enter correct price and press Enter to store.

21. Black cursor blinks to the right. Press keypad numbers to correspond with price label at C01. Once completed press Enter. Press down arrow ⇩ to move to C02 and repeat previous step and continue.

22. Once all prices have been entered, press cancel multiple times to "Enjoy a Snack and a Beverage"

23. The HY-870 is now ready to vend

CoinPro 3

Coinco 9302-GX SERIES

ELECTRONIC CHANGER

Operation and Service Manual

Section 1: General Information

INTRODUCTION

This manual contains information on installing, operating and maintaining Coinco's CoinPro 3, 9302-GX coin changer. This manual is intended for owners, route operators and shop-level technicians as a primary source of information. Taking time to read this manual and becoming familiar with this information will help you obtain the best performance from your Coinco CoinPro 3, 9302-GX coin changer.

FOR YOUR RECORDS

A label indicating the coin changer model number and serial number is affixed to the side of the coin changer. Refer to the model and serial number whenever you call upon your Coinco Service Center for information or service. The first four digits of the serial number contain the manufacturing date code which indicates the beginning of the warranty period.

EXAMPLE: Serial No. 269907053. First and second digits indicate week of manufacture. Third and fourth digits indicate year of manufacture.

FEATURES

- Accepts U.S. nickels, dimes, quarters and dollar coins.
- Pays out nickels, dimes and quarters from self-loading, high capacity change tubes.
- Change capacity of $40.55.
- Modular design for easy service.
- Select high or low quarter tube level by simply flipping a switch.
- Heavy-duty D.C. payout solenoids provide fast, accurate payout.
- State-of-the-art electronic logic system is designed for reliability and performance.
- Lightweight, rugged plastic construction provides dependable, maintenance-free service.
- Provides the fastest and most accurate coin acceptance of any electronic unit available today.

AFTER UNPACKING

After unpacking the unit, inspect it for any possible shipping damage. If the unit is damaged, notify the shipping company immediately. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage. We recommend that you retain the original carton and packing materials to reuse if you need to transport or ship your changer in the future.

If the coin changer is being stored or used as a spare, always keep it in its shipping carton when not in use. This will keep it clean and offer the best protection for the unit.

Section 1: General Information

SPECIFICATIONS

Power Requirements
- 34VDC
- 3.6 Amp max. at 26VDC for 100 ms every 500 ms during payout
- 750 m Amp max. for 1 second for each coin accepted
- 200 m Amp. max standby

Operating Temperature
0 to 150 Degrees Fahrenheit
-18 to 65 Degrees Celsius

Storage Temperature
-22 to 160 Degrees Fahrenheit
-30 to 72 Degrees Celsius

Relative Humidity
20% to 98% Noncondensing

Operating Attitude
Vertical ±3 degrees

Physical Dimensions
Height: 14.81 inches high
(base to top of coin return lever
Width: 5.28 inches in width
(acceptor latch to acceptor latch
Depth: 2.86 inches (gate closed)

Physical Weight in Shipping Carton
4 pounds

Coin Tube Capacity

	5¢ tube	10¢ tube	25¢ tube	
			LO 25¢ Option Switch Set To OFF Position	LO 25¢ Option Switch Set To OFF Position
Low Sensor Level	7	9	7	7
Full Sensor Level	78	113	77	22
Hand Load Level	86	125	95	22

Figure 1

Section 2: Installation

INSTALLING THE CHANGER

1. Remove power from vendor.
2. Remove the acceptor from the changer by releasing acceptor latches and pulling the top of the acceptor forward, away from changer. Unplug ribbon cable from changer. Free lower acceptor studs from changer housing. With the acceptor removed, set key holes in back of changer housing over mounting screw in the vendor. Tighten snugly.
3. Set desired changer options (See Option Switch Setting).
4. Replace the acceptor by inserting bottom acceptor studs into changer housing guides. Plug the acceptor ribbon cable into the changer. Press top of acceptor into changer housing until top acceptor studs lock into changer's acceptor latches.
5. Plug changer into 6-pin vendor socket.
6. Load coin tubes making sure all coins lie flat.
7. Apply power to vendor.
8. Test changer with a variety of coins to ensure proper operation.

NOTE: SAVE THE COIN CHANGER CARTON. Always store coin changer in its shipping carton when not in use. This will keep the unit clean and protected.

OPTION SWITCH SETTING
See Figure 2.0

1. Hinge acceptor down by releasing acceptor latches and pulling the top of the acceptor forward, away from changer.
2. Located in the upper portion of the changer, behind the acceptor, is a single switch module containing three rocker switches. When the top of the rocker switch is pushed in it is the ON position. The switches correspond as follows:

1=USA/CAN	Not Used
2=LO 25¢	ON: Quarters are directed to cash box once change tube has approximately 28 quarters OFF: Quarters are put into change tube until it is full.
3=$ACPT	ON: Dollar coin will be accepted OFF: Dollar coin will be rejected

3. Set option switches to desired setting.
4. Return acceptor to operating position making sure acceptor latches secure acceptor.
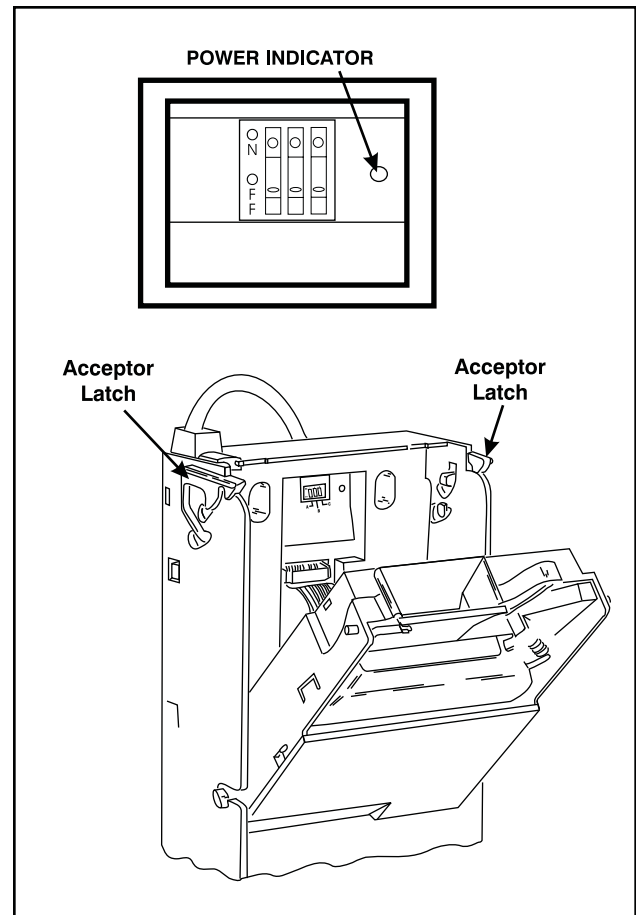5. Test with a variety of coins to ensure proper operation.

Figure 2

Section 3: Operation

COIN RECOGNITION

See Figure 3

As a coin enters the changer through the acceptor funnel, its impact is absorbed by a white ceramic rail which debounces the coin and allows it to continue down the coin rail at a smooth and steady speed. As a coin rolls down the rail, it passes between two sets of LED sensors which measure the speed and size of the coin. The coin also passes between two sets of coils which measure the metallic content of the coin. These measurements are used to determine if the coin is valid and the value (denomination) of the coin.

COIN SEPARATION

See Figure 3

After the coin's validity has been determined the coin rolls off the end of the coin rail and enters the separator section of the acceptor. The UPPER (coin tube) gate and the LOWER (cash box) gate are opened and closed by their respective solenoids. These solenoids are energized and de-energized by an electrical signal from the acceptor logic board based on the following criteria:
• the validity of the coin.
• the denomination of the coin.
• the status (full or empty) of the appropriate coin tube.

The positions of these two gates cause the coin to be routed to one of three places: the appropriate changer coin tube, the vendor cash box, or if the coin is rejected, the vendor coin return cup.
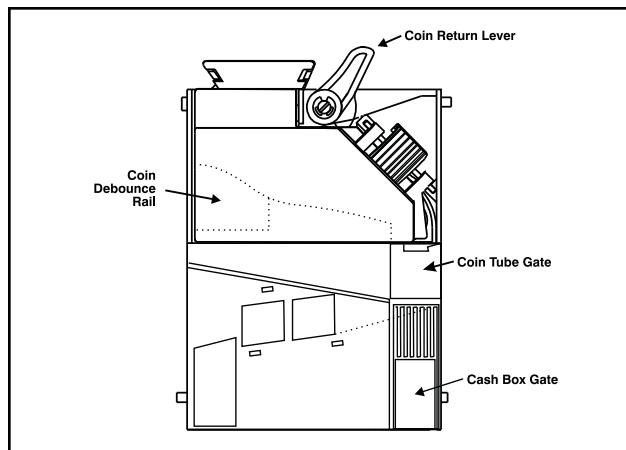

Figure 3

REJECTED COIN

See Figure 4

If a coin is rejected for any reason, both the UPPER (coin tube) and the LOWER (cash box) gate will remain closed. All rejected coins will drop into the vendor return cup via the coin changer coin return chute.
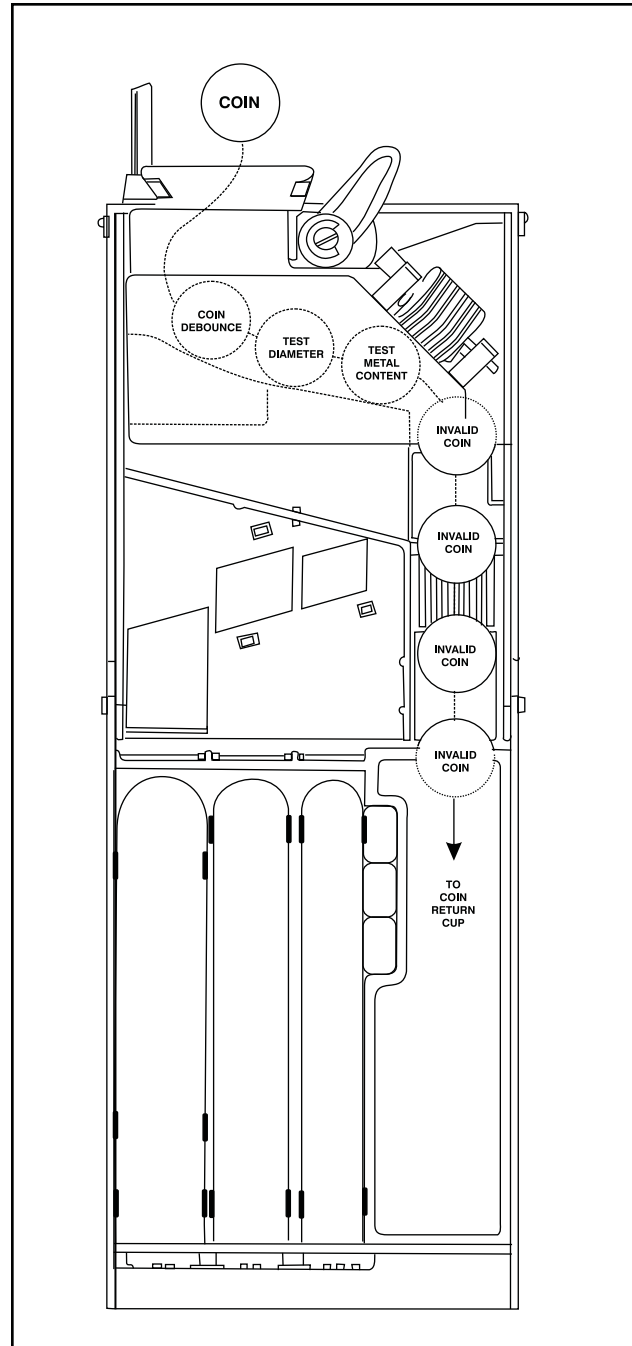

Figure 4

Page 6

Section 3: Operation

ACCEPTED COIN

See Figures 5 and 6

An accepted coin will be routed to either the vendor cash box or to one of the changer coin tubes. The (FULL) sensors in each coin tube determine which route the coin will take. If the coin tube corresponding to the validated coin is full (full sensor covered by coins in change tube), the cash box gate will open, allowing the coin to drop into the vendor cash box via the changer cash box chute. If the appropriate coin tube is not full (full sensor not covered by coins), the coin tube gate will open directing the coin down a ramp. Along the wall of the ramp are windows for entry into the coin tube. As the coin reaches a window of the appropriate size, it falls into the coin tube. All dollar coins are always directed to the cash box via the cash box chute.
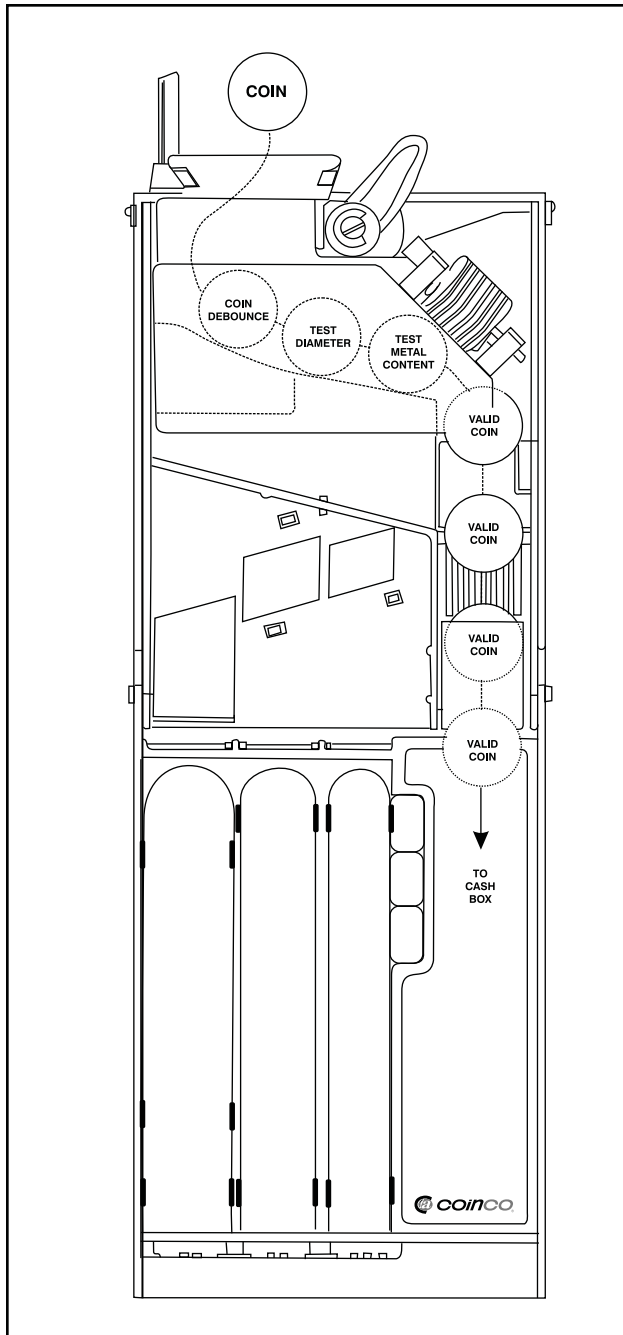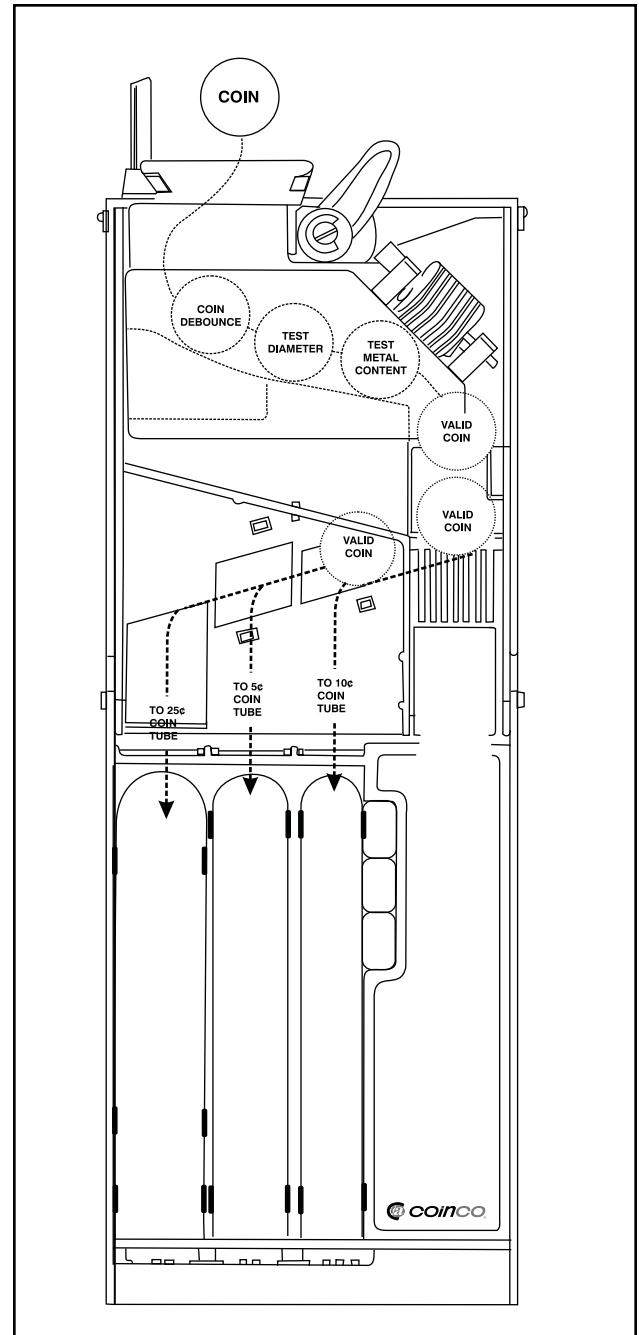

Figure 5

Figure 6

Section 3: Operation

CREDIT AND ACCUMULATION
See Figure 7

There are two sensors, one in the separation section of the acceptor and one in the cash box path of the acceptor. As coins pass either one of these sensors, the changer sends credit information to the vendor electronic controller where the coin credit is accumulated.

VEND

Vend is a function of the vendor electronic controller. The vendor controller accumulates all credit information received from the coin changer. As credit is accumulated in the vendor controller, vend selections can be made when their respective vend price settings are equalled.

COIN PAYOUT

Coins are paid out from the coin changer when a change payback is required or when either of the coin changer inventory switches are manually operated. Coins are dispensed by D.C. solenoid-operated slides located at the bottom of each of the three coin tubes. The payout solenoids are controlled by signals generated by the vendor controller or the three inventory switches.

When a solenoid energizes, the upward motion of its plunger compresses a spring and draws the solenoid lever, which in turn pushes a payout slide forward. This loads the coin for payout. When the solenoid de-energizes, the spring force returns the plunger to its de-energized state, which returns the solenoid lever and payout slide, dispensing a coin. Coin payout rate is determined by the vendor electronic controller board.

Inventory Switches
Located on the front of the coin changer is a nickel, dime and quarter inventory switch. These switches are used to manually remove coins from the changer coin tubes. They are disable while the vendor is in a vend cycle.
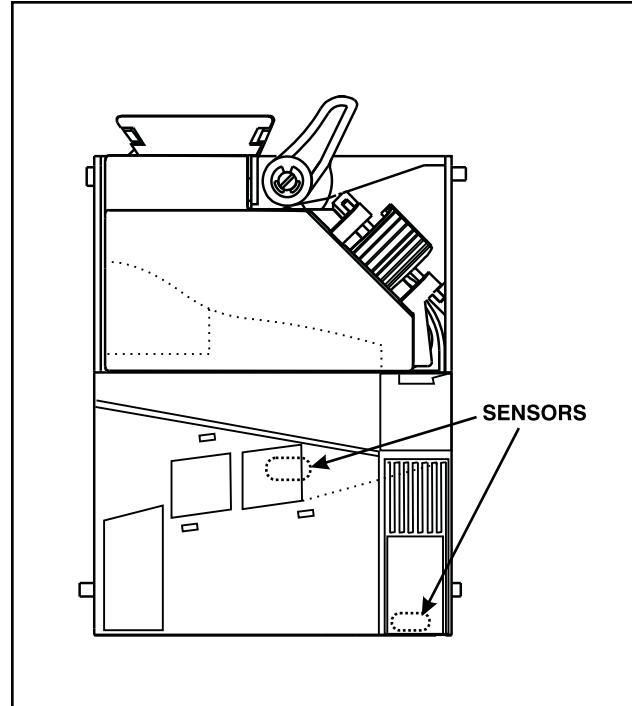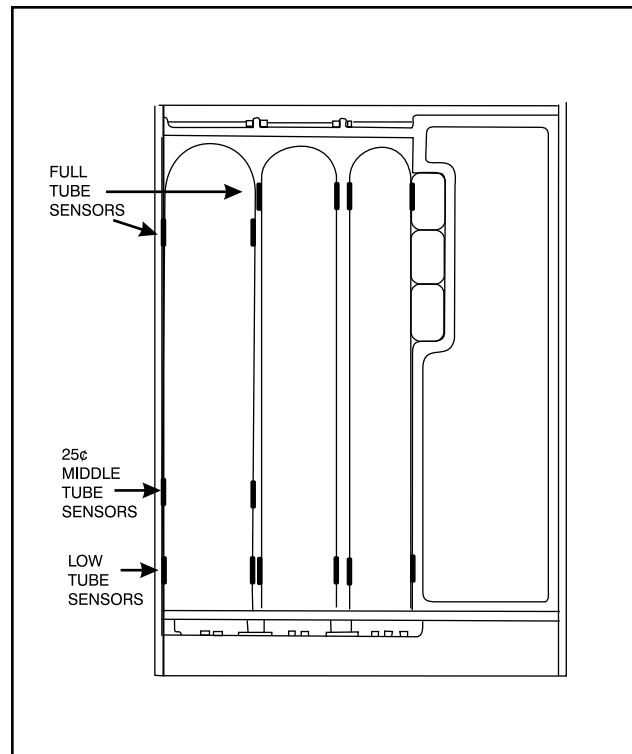

Figure 7

Figure 8

Section 3: Operation

CHANGE STORAGE

See Figure 8

The full tube sensors in each coin tube continually report the (full/not full) status to the coin changer logic board. The information is then used to determine the placement of the next accepted coin. This information controls the action of the acceptor coin tube and cash box gates.

EXAMPLE*: If the quarter tube is full (full sensor blocked by coins) the acceptor coin tube gate will remain closed and the cash box gate will open each time a quarter is accepted, routing all quarters to the vendor cash box via the changer coin chute.*

After one or more quarters are paid out as change, leaving the full sensor exposed (not full), the acceptor coin tube gate will open each time a quarter is accepted, routing quarters to the changer coin tube until it is full again. NOTE: If the changer (LO-$.25) option switch is set to the ON position, accepted quarters will be routed to the cash box when the (middle $.25 tube sensor) is blocked by coins.

The low tube sensors in each coin tube continually report the (blocked/not blocked) coin level status to the vendor controller. This information is used to determine if change is available for payout.

CORRECT CHANGE OPERATION

The coin changer continually reports the status of the low tube sensors to the vendor's controller. The logic control for correct change is initiated by the vendor controller.

ESCROW RETURN

Escrow return is a function of the vendor electronic controller. Coins are always accepted regardless of the coin tube levels.

The value of each coin is accumulated in the vendor controller. If a coin return is requested, a signal is sent to the appropriate payout solenoid(s) to pay back coins of the same denomination. If a dollar coin has been accepted, change will be returned in the least number of coins possible if an escrow return is requested.

INTERFACE BETWEEN THE 9302-GX COIN CHANGER AND VENDOR / CONTROLLER

See Figures 9 and 10

The 9302-GX changer's interface connector is shown in Figure 9. Figure 10 shows the interface between the 9302-GX, vendor and electronic controller.

Coin Changer Plug

Figure 9

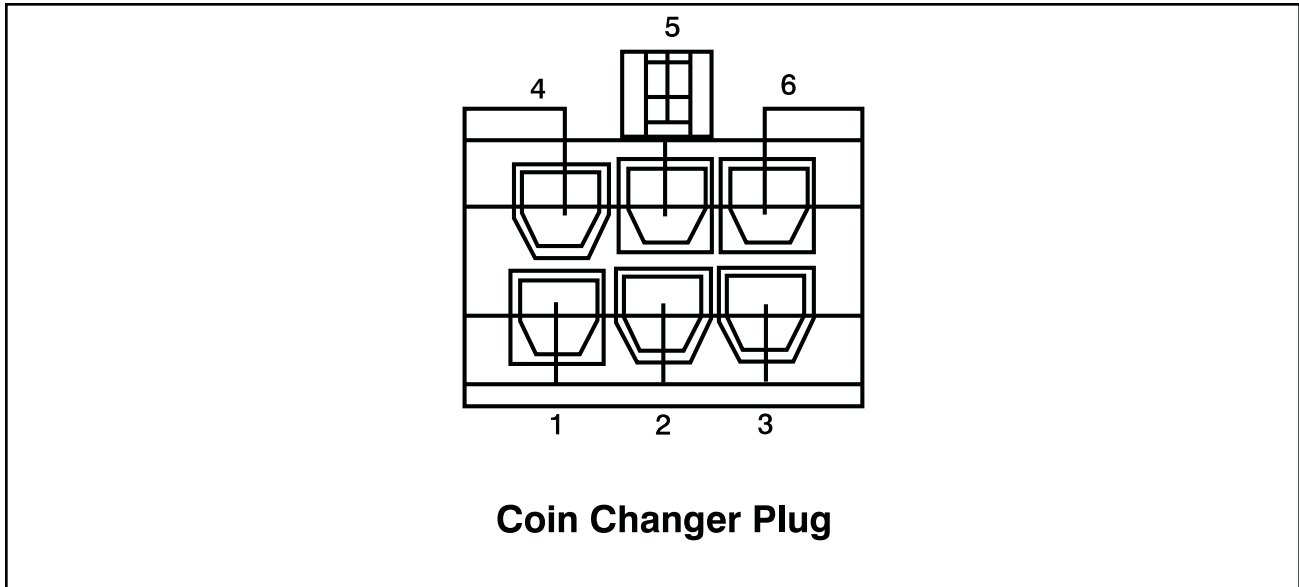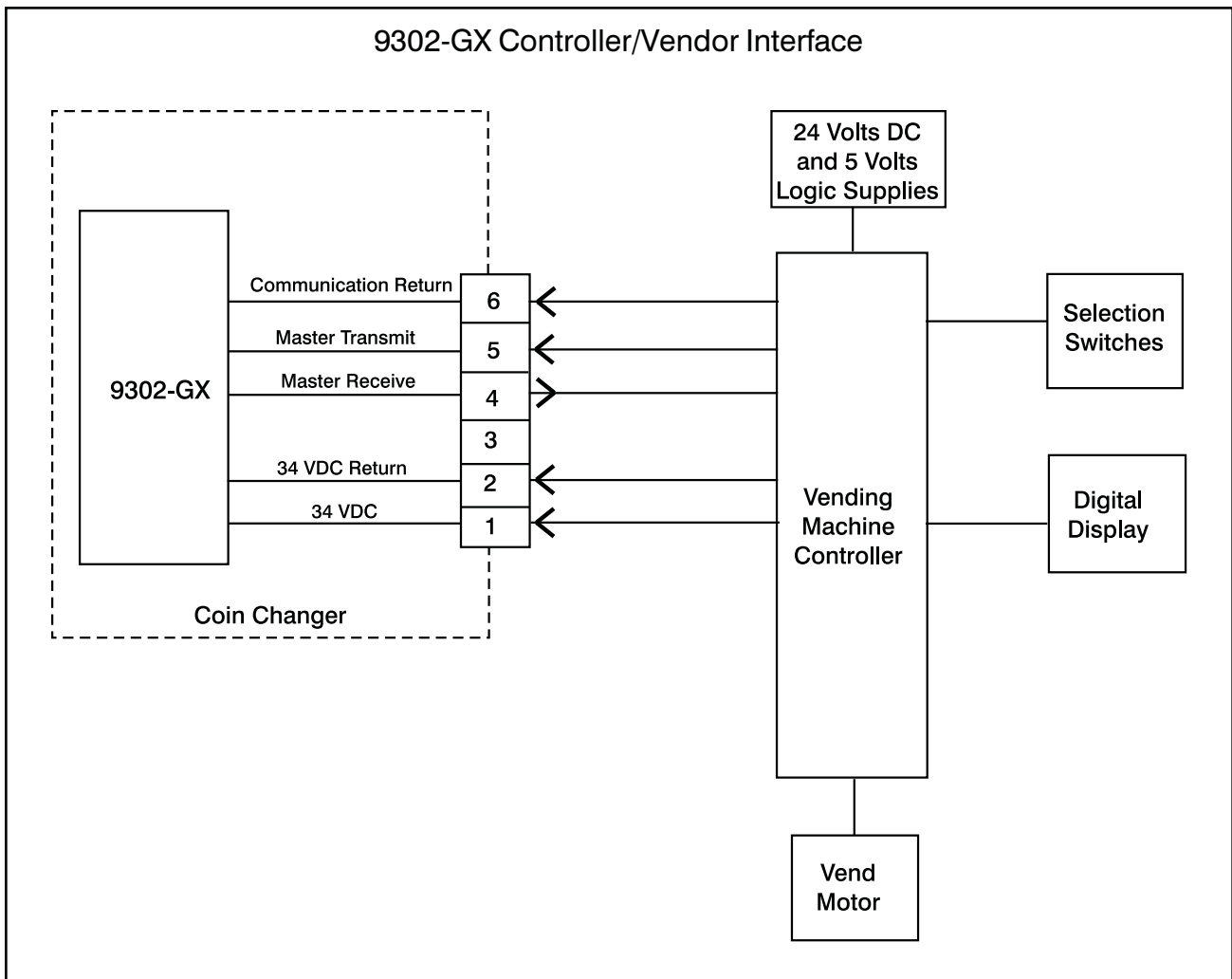9302-GX Controller/Vendor Interface

Figure 10

Section 4: Maintenance

ROUTINE MAINTENANCE

Routine maintenance will improve performance and extend the working life of the 9300 series changer and reduce the need for more involved repairs. Frequency of routine maintenance will depend on environment and number of transactions.

The coin changer should be kept in its original shipping carton when not in use.   This will keep the changer clean and provide the best protection for the unit.

REMOVING/REPLACING INDIVIDUAL MODULE ASSEMBLIES

Modular assembly replacement provides the basis of all 9300 series changer repair. Instructions for removing and replacing modules are provided below. These modules should be removed in the following sequence:

Acceptor

To remove the acceptor, raise the two acceptor latches and pull the top of acceptor forward and away from the changer housing. Unplug acceptor ribbon cable from main logic board. Raise acceptor and pull outward until the acceptor clears the housing slots.

Coin Tube and Sensor Assembly

Remove the logic board cover by inserting a straight tip screwdriver in the slot above the tube assembly. Twist the screwdriver to release the ccover.

Unplug tube sensor ribbon cable from logic board. Spread the lower part of the housing slightly and pullout on tube assembly. To separate the coin tube assembly from the tube sensor board assembly, place the assembly face down. While freeing the four locking tabs, pull up on tube sensor board. Be careful not to damage sensors on logic board.

Main Logic Board Assembly

Unplug payout solenoids, and main harness assembly from logic board. Lift logic board out of housing.

Payout Assembly

With payout solenoids disconnected from main logic board, remove the four screws - two from each side- at the bottom of the housing. Separate payout assembly from changer housing by releasing cash box chute locking tab on back of changer housing and pulling downward on payout assembly.

CLEANING

Your 9302-GX changer is made of a high-quality industrial grade plastic which should only be cleaned with a warm water and mild detergent solution.

> *CAUTION:*
>
> - *Never submerge changer in water.*
> - *Do not use petroleum solvents, steel wool, scouring pads, or a metal brush for cleaning.*
> - *Do not spray any part of changer with any type of lubricant.*

Since all coins share a common coin ramp, heavy usage or a dirty environment can result in dirt build up. To clean the coin ramp, lift the acceptor gate upward and diagonally to the right. Hold gate firmly to prevent it from snapping back. Wipe the exposed coin ramp and inner surface with a damp cloth. For excessively dirty units, use a damp cloth with a mild detergent. *NOTE: Do not submerge in water.*

For detailed cleaning of the acceptor, remove the front cover by pulling out and down of the front cover. Now remove the back cover by pushing in on two locking tabs on the side of the acceptor. To remove the coin sorting rail, snap the coin sense coils from the sorting rail and the cash box exit, being careful not to break coil wires. Free coil wires from the clip on the sorting rail. Now from the front of the acceptor, in area exposed by removing the front cover, locate the three locking tabs which secure the sorting rail. Using a small straight tip screwdriver, free the three locking tabs and remove sorting rail. See Figure 11.
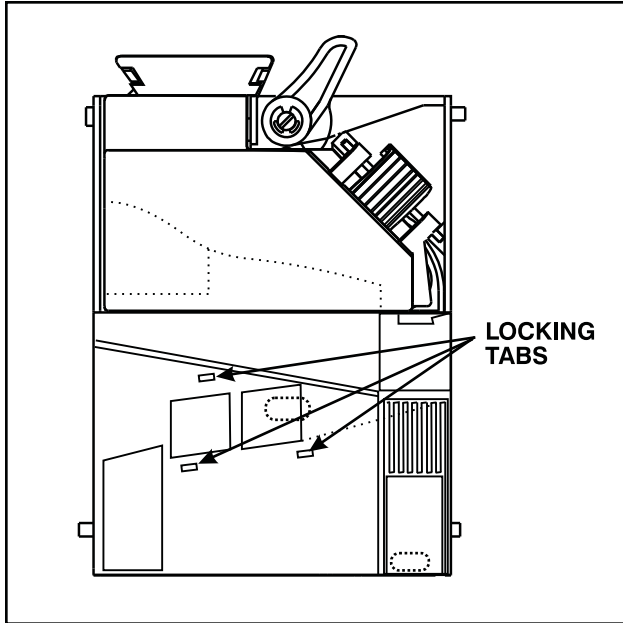
Section 4: Maintenance

Figure 11

DISASSEMBLING PAYOUT BASE FOR CLEANING

Remove the four Phillips head screws from the bottom plate. Remove bottom plate and individual slides. Clean parts with mild detergent and hot water as desired. **DO NOT SUBMERGE SOLENOIDS IN WATER.**

Replace slides making sure part numbers face up into changer. With the slides correctly seated on plunger tabs, reinstall the bottom plate, securing with bottom screws. Reinstall payout module into changer, securing with side screws.

CLEARING COIN JAMS

Should a coin jam occur in the cash box chute area, use the following steps to help dislodge coins:

1. Remove changer from vendor.
2. Keeping changer in an upright position, insert a narrow screwdriver into cash box chute or reject chute from bottom of changer to relieve jam. Access holes are also provided at the rear of the changer housing to help relieve coin jam.

CAUTION: Excessive screwdriver pressure or twisting can cause permanent damage to the coin changer.

Section 6: Troubleshooting

INTRODUCTION

The Troubleshooting Guide on the following pages is intended to help locate problems within the coin changer. If a changer cannot be repaired by following the guide, return the changer to the nearest Coinco Service Center for repair. If it is necessary to return the changer to Coinco, please accompany the changer with a brief description of the malfunction to help expedite the repair and return of the changer.

The vendor electronic controller board is in constant communication with the 9302-GX coin changer. The electronic controller board not only supplies operating voltage to the coin changer but is largely responsible for the operation and function of the coin changer. (Refer to Section 3, Figure 10)

Logic troubleshooting minimizes time spent in removing and replacing modules that are not defective. Some failures are caused by minor problems such as loose or faulty connections. Please check the following before replacing any parts:

- Connectors are inserted correctly.
- Connector pins are not bent or broken.
- All wires are properly secured.
- Inventory tubes are filled to their correct levels.

NOTE: The following Troubleshooting Guide is based on the fact that the tester or vendor, with which the defective changer is being tested, functions properly when used with a known good changer.

This guide is not intended to cover all failures, but to cover the most common failures.

9302-GX TROUBLESHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	PROCEDURE	REMEDY
No coin acceptance	No power	Make sure changer is plugged into vendor	Plug changer into vendor
	Acceptor	Check power/blocker LED behind acceptor. If LED is ON, replace acceptor with good acceptor and test. If changer funtions properly . . .	Replace acceptor
		If still no coin acceptance . . .	Replace changer main power harness
		If still no coin acceptance . . .	Replace changer main power harness
		If power/blocker LED is off, check to see that acceptor cable and changer power harness are properly connected to changer main logic board	Plug acceptor cable and/or changer power harness into changer main logic board
		If still no coin acceptance . . .	Replace changer main logic board
		If still no coin acceptance	Replace changer main power harness

Section 6: Troubleshooting

9302-GX TROUBLESHOOTING GUIDE			
TROUBLE	**POSSIBLE CAUSE**	**PROCEDURE**	**REMEDY**
No coin acceptance or rejects percentage of good coins	Coin return lever	Make sure changer is mounted correctly and coin return lever is in proper position	Reposition changer and/or vendor coin return lever.
	Acceptor is dirty or foreign matter in coin accept path	Check to see that acceptor coin path is clean and free of foreign matter	Clean acceptor and remove any foreign matter.
		If still rejects good coins . . .	Replace acceptor
		If still rejects good coins . . .	Replace changer main logic board
Accepts coins but gives no/or erratic credit	Acceptor	Replace acceptor with good acceptor and test. If changer functions properly . . .	Replace defective acceptor
		If still no/erratic credit	Replace changer main logic board
		If still no/erratic credit . . .	Replace changer main power harness
Accepted coins always go to cash box	Tube sensor board or acceptor	Check the sensor board for loose or broken components. Make sure tube sensor board is properly secured to the tube assembly. Check cable from sensor board for damage or improper connection	Replace tube sensor board
		If coin still goes to cash box, replace acceptor with good acceptor and test. If changer functions properly . . .	Replace acceptor
		If coin still goes to cash box . . .	Replace changer main logic board
Accepted coins always go to coin tubes	Coin tube gate in open position	Remove acceptor back cover, check solenoid for free operation . . .	Replace acceptor
	Tube sensor board	Replace tube sensor board with good tube sensor board and test. If changer functions properly . . .	Replace tube sensor board
		If coins still go to coin tubes . . .	Replace changer main logic board

Section 6: Troubleshooting

9302-GX TROUBLESHOOTING GUIDE			
TROUBLE	**POSSIBLE CAUSE**	**PROCEDURE**	**REMEDY**
Accepted quarters go to quarter coin tube when Lo-$.25 switch is ON	Quarter coin tube has less than 22 quarters	Check to see that quarter coin tube has a minimum of 22 quarters	Fill quater coin tube with 22 quaters to cover Lo-$.25 sensor
	Tube sensor board	Replace tube sensor board with good tube sensor board and test If changer functions properly . . .	Replace tube sensor board
		If coins still go to quarter tube . . .	Replace changer main logic board
Credits coins but does not escrow	Coin return lever	Make sure changer is mounted correctly and acceptor gate opens when vendor coin return lever is operated	Reposition changer and/or vendor coin return lever
	Acceptor	Replace acceptor with good acceptor and test If changer functions properly . . .	Replace defective acceptor
		If still no escrow . . .	Replace changer main logic board
No payout	Payout solenoid	Make sure solenoid wires are properly connected to changer main logic board	Plug solenoid wires into logic board
		If still no payout, replace solenoid with good solenoid and test If changer operates properly . . .	Replace defective payout solenoid
		If still no payout . . .	Rplace changer main logic board
		If still no payout . . .	Replace changer main power harness

9302-GX Wiring Diagram
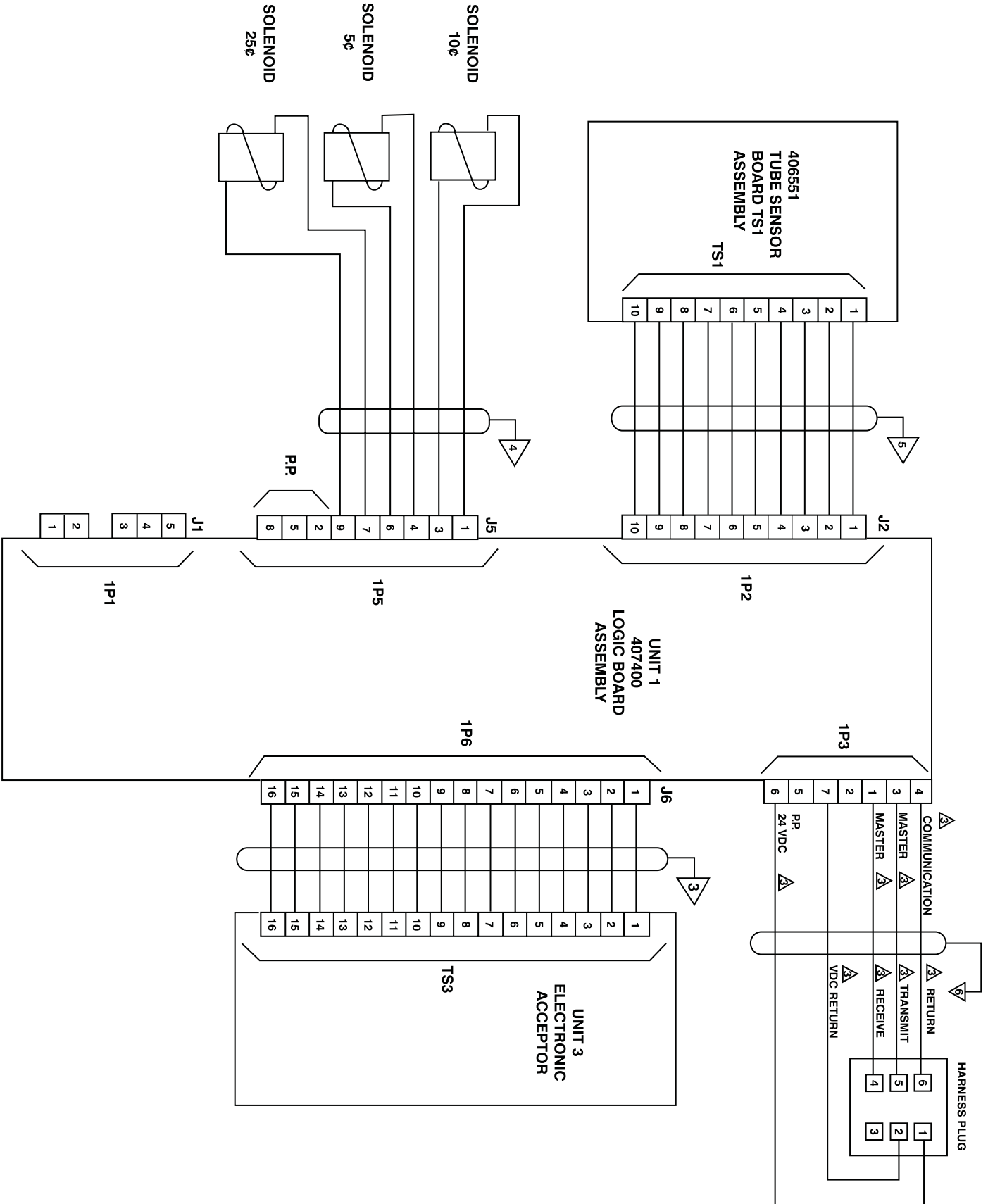
Global Bill Acceptor – ST2

If you have issues with your Bill Acceptor, not covered in this document, please call Technical Support at 1-866-599-0214 or email: techsupport@1800vending.com.

MAINTENANCE

CLEANING THE VALIDATOR NOTE PATH:

Equipment Required

Cotton Swab or lint free cloth.

Cleaning solution.

A mix of Water and up to 50% Isopropyl Alcohol is recommended.

(**DO NOT** use more than 50% Isopropyl alcohol)

(**NEVER** use cleaning agents such as "Amberclens" on this product as the unit may be severely damaged)

Procedure;

Anti-Static Precautions should be observed when cleaning validator head.

1. Ensure the supply to the validator is switched OFF.
2. Disconnect external host loom.
3. Move the two purple latches inwards to unlatch and then gently pivot top section backwards to open and remove.
4. Using the Cotton swab or cloth dipped in the cleaning solution – carefully clean all sensors and plastic windows using light force only.
5. Continue with swab etc to clean note path, all rollers and belts.
6. Use an additional swab or cloth to dry area cleaned, if required.
7. Re-attach top housing and gently push down on the lid until the latches re-engage.
8. Re-connect host loom.
9. The supply to the validator can now be switched ON.

Jam Clearance:

1. Ensure the supply to the validator is switched OFF.
2. Disconnect external host loom.
3. Move the two purple latches on the top of the reader inwards to unlatch and then gently pivot top section backwards to open and remove.
4. Clear any debris from note path.
5. Re-assemble unit.

9.2 – Image of GBA ST2 in open position for cleaning and jam clearance.

10.0 DIAGNOSTICS & TROUBLESHOOTING

Introduction:

The GBA ST2 is fitted with a tri-colour (Red/ Green/Orange) status LED, located on the top of the unit. The following functionality describes the operation of the LED.

Tri-colour LED

10.0 - Image of ST2 top plate

10.1 Diagnostics

10.1.1 LED Functionality:

The LED communicates validator status. This enables enhanced diagnostics for the user and for factory personnel when assisting customers over the phone or by email.

Normal Run Mode:
The LED will be permanently Green (solid on)

If a note is rejected a flash code is given (Green LED Flashed off):

If the note is rejected due to:	No of flashes (led goes off)
Unrecognised note	1
OASG Reject	2
Returned (due to escrow or SW inhibit)	3
Note slip during validation	4
Potential Note Cross-Validation	5

Validator Inhibited by Host:

If the host inhibits the unit then the green LED will flash slowly (rate 0.5Hz, approx 1 sec on / 1 sec off).

Fault Conditions:
Indicated by turning the LED Red.

Fault	LED State
Stacker full or Jam	Solid Red LED
Cashbox not present	Slow Flashing Red (approx. 0.5Hz)
OASG Lock out	Fast Flashing Red (approx. 1 Hz)

Order of precedence of Error Codes:

There may be situations where more than one fault/operating condition is applicable, in which case the order of precedence of displaying the codes is as follows:

1. Note Jam / Stacker Full   (solid red)
2. Anti-String Gate Lock-out   (fast flash red)
3. Calibration Mode   (flash red / green)
4. Cash Box Missing   (slow flash red)
5. Validator Master Inhibit On   (slow flash green)

10.1.2 Illuminated Note guide

The illuminated note guide is configurable so that it will relay the status of the ST2 unit to the user. There are 4 states:

1. Unit Out of Service
2. Host Disabled
3. Unit In Service
4. Reading Note

Each state above can be configurable through the use of GBA PC tools.

10.2 Troubleshooting

The following information is presented for customers' guidance in identifying problems with the GBA ST2. It does not necessarily cover every possible situation.

Problem Symptoms	Possible Cause	Investigate	Possible Solution
Unit does not work - belt motor does not run, no LED colour	1. Power supply not switched on. 2. Power supply not connected. 3. Poor electrical connection(s). 4. Unit carrying out self-test. 5. PSU failure	1. Power supply and power cable. 2. Diagnostics indicator or illuminated note guide (if fitted). 3. Interface cable assembly.	1. Ensure power to validator is connected and turned on. 2. Ensure Interface cable is connected firmly and correctly.
All programmed notes are rejected	1. Acceptance inhibited for all notes. 2. MASG not working. 3. Escrow sensor not working.	1. Software configuration. 2. Internal MASG	1. Use on-board button or GBA Talk to enable required notes. 2. Ensure internal MASG moves freely and is clear from obstruction.
Poor or no acceptance of one or more programmed notes	1. Note acceptance inhibited. 2. Poor sensor readings. 3. Insufficient power supply capacity.	1. Note inhibit settings. 2. Bottom Sensor Assembly fitting. 3. Note path cleanliness.	1. Use on-board button or GBA Talk to enable required notes. 2. Use GBA Talk to check sensor levels and re-calibrate if necessary. 3. Clean validator note path.
Unit does not communicate with host machine	1. Incorrect interface selected. 2. Poor electrical connection(s).	1. Configuration of validator. 2. Interface cable assembly.	1. Use on-board button or GBA Talk to select required interface. 2. Ensure Interface cable is connected firmly and correctly.
Belt motor runs continuously after power ON	1. Poor electrical connection(s)	1. Internal harnessing.	1. Ensure Interface cable is connected firmly and correctly.
Unit does not provide credit for accepted note	1. Incorrect interface selected. 2. Poor electrical connection(s).	1. Configuration of validator. 2. Interface cable assembly.	1. Use on-board button or GBA Talk to select required interface. 2. Ensure Interface cable is connected firmly and correctly.