JAN 2004 • P/N 4213392 • B

CB500-SA CAN/BOTTLE VENDOR INSTRUCTION MANUAL

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INTRODUCTION

This manual contains instructions, service and installation guidelines. Read and follow the instructions to minimize set-up time. Become familiar with the its features and functions.

It is equipped with an electronic control system. All programming of the vend functions, pricing and features is done on the control board. Changes can be made without any additional accessories or remote parts.

MODEL & SERIAL NUMBER

Record the Model and Serial Number of your vending machine (vendor) on the space below. The numbers are on the identification plate on the backside of the vendor. Refer to these numbers on all correspondence and inquiries concerning this vendor. They are needed if service and parts information is required for your vendor.

MODEL NUMBER: _____

SERIAL NUMBER: _____

Should you have any questions pertaining to the information in the manual, replacement parts or the operation of the vendor you should contact your local distributor or service entity.

FOR U.S.A. UNITS:

VendNet™
165 North 10th Street
Waukee, Iowa 50263-0488

PHONE: 1-515-274-3641
1-800-833-4411
PARTS FAX: 1-515-987-4447
SALES FAX: 1-515-274-0390

SPECIFICATIONS

MODEL	CB500-SA 3189	CB500-SA 3189A

ELECTRICAL			REFRIGERATION	
Voltage	115 VAC	230 VAC	Unit Size	1/3 HP Hermetically Sealed
Frequency	60 Hz	50 Hz	Refrigerant	R-134a
Current	7 Amps	3.5 Amps	Charge	8.8 Oz.

SIZE		CAPACITY	
Height	72 In (183 cm)	Selections	10
Width	31.25 In (79.4 cm)	Columns	10
Depth	33 In (83.8 cm)	12 Oz. Cans	50 per column, 500 total
Weight	575 Lbs. (261 kg)	20 Oz. Bottles	23 per column, 230 total

FEATURES

- On-Board 4-Digit, 7-Segment, Ultra high intensity LED Display.
- MDB (Multi-Drop Bus) coin mechanism and bill validator interface.
- Piezo "beeper" to provide audible feedback for key presses and control board activity.
- No change or loss of program/memory because of a power failure.
- Multi Vend.
- First-in, first-out for all selections
- Motorized delivery, electronically controlled.
- Impact sensor delivery system.
- Dual Regulated Power Supplies for logic and motor control.
- Fully featured Service Mode.
- Cash and Vend accountability. Information for individual selections, or total machine can be compiled and used for inventory and ordering records.
- Individual product pricing from free vend ($0.00) to $99.95.
- Motor vend testing selection.

UNPACKING

This vendor was thoroughly inspected before leaving the factory and the delivering carrier has accepted this vendor as their responsibility. Any damage or irregularities should be noted at the time of delivery and reported to the carrier. Request a written inspection report from the claims inspector to file any claim for damage. File the claim with the carrier (not the manufacturer) within 15 days after receipt of the vendor.

Carefully remove the outside packing material in a manner not to damage the finish or exterior of the vendor. Inspect the vendor for concealed shipping damage.

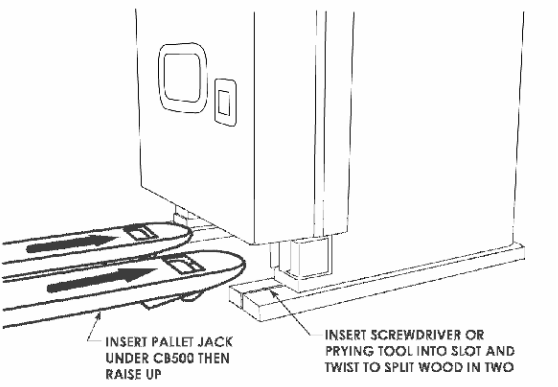

FIGURE 1. REMOVING KNOCK-AWAY SUPPORTS

Report any damage hidden by the shipping material directly to the delivering carrier on a Hidden Damage Report.

Remove the "Knock-A-Way" support by sliding a pallet jack under the vendor, inserting a screwdriver or prying tool into the groove of the Knock-A-Way and splitting it in two as shown in **Figure 1**. Turn the leveling screws in as far as possible.

INSTALLATION

Consult local, state and federal codes and regulations before installation of the vendor.

To minimize installation time and to avoid service problems due to improper installation, follow the instructions outlined in this manual.

Position the vendor in its place of operation no further than six feet from the power outlet or receptacle and check that the door will open fully without interference. Leave at least four inches of space between the back of the vendor and any wall or obstruction for proper air circulation.

CAUTION:	**Do not block the vent openings in front or in the rear of the vendor. Always allow free ventilation behind a bank installation, so that exhaust air is not trapped. Failure to do so could result in a refrigeration failure.**

Level the vendor, making sure all levelers are touching the floor. The vendor must be level for proper operation. If it is properly leveled, it should not "rock" or "teeter" on any of the levelers. When the vendor is level, the door can be opened to any position and not move by itself. Try the door half closed, straight out and in a wide-open position before deciding that the vendor is level.

Remove all shipping brackets, tape and inner packing material from the vendor. Operating the vendor without removing the tape and packing material could result in damage to the vendor.

GROUNDING (EARTHING) & ELECTRICAL

Prior to connecting the equipment, the integrity of the main electrical supply must be checked for correct polarity, voltage, (earth) ground, and (amperage) circuit protection. The fuse or breaker protecting the circuit must be rated at 15 amps or greater.

It is recommended that these checks be repeated at 6-month intervals with the routine safety electrical testing of the equipment itself. To correct negative voltage, amperage, polarity, or ground (earth) checks, consult a qualified electrician.

A noise suppresser has been installed in this vendor to compensate for any signal noise that could interfere with the normal operation of the control board. Vendor must be grounded for noise suppressor to work.

WARNING:	DO NOT USE EXTENSION CORDS.

INSTALL BOTTOM KICK PANEL

1. Open main door. Remove the Kick Panel from inside the Vend Rack.
2. Remove wing nuts from Kick Panel threaded studs. Save for step 6.
3. Open inner door.
4. Position Kick Panel under the main door with louvers facing front. See Figure 2.
5. Push Kick Panel threaded studs through holes in the bottom of the main door.
6. Lock the Kick Panel into position by re-installing the three (3) wing nuts as shown on Figure 2.
7. Close inner door and main door.

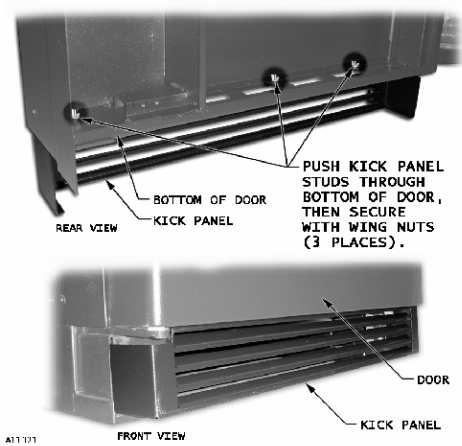

FIGURE 2. INSTALL KICK PANEL

INSTALLATION CHECKLIST

- ❑ All shipping brackets, packing material and tape have been removed.
- ❑ Make sure the vendor is level from left to right and front to back.
- ❑ The dedicated outlet is polarized and grounded.
- ❑ Bottom Kick Panel is installed on the bottom of the door.
- ❑ The coin mechanism switches have been set properly.
- ❑ Each coin tube has at least 12 coins and no tube is filled above the fill level line. Refer to **Coin Tube Fill** section on page 1 for information on using the MDB feature of the control board to track and maintain coin levels.
- ❑ All vend prices have been set correctly. Refer to **Set Price** section on page 2.
- ❑ Vendor has been properly loaded and all items in each selection correspond to the display product and vend price. Refer to **Live Display** section below.
- ❑ The vendor is plugged directly into a live 115 volt dedicated outlet.
- ❑ The vendor has at least 4" of space behind it.
- ❑ The vendor door is closed tightly and locked.

WARNING:	**This vendor is equipped with a 3 amp circuit breaker to protect the vend circuit only. The refrigeration system is not on this breaker.**

LOADING

VEND RACK

IMPORTANT SUGGESTION:	**Load the front rack with products that sell faster. When loading, fill the rear selections first. This method makes it easier to load the rack.**

1. Products featured in front door Live Display must match the product being loaded.
2. Funnel slides must be kept clean. Refer to **Figure 4** for part names, locations, and product orientation.
3. Refer to **Figure 4**. Product container bottoms must face towards the center of the rack as shown.
4. Do not store bottles in "spare" space of the cabinet. The refrigeration unit could be damaged.

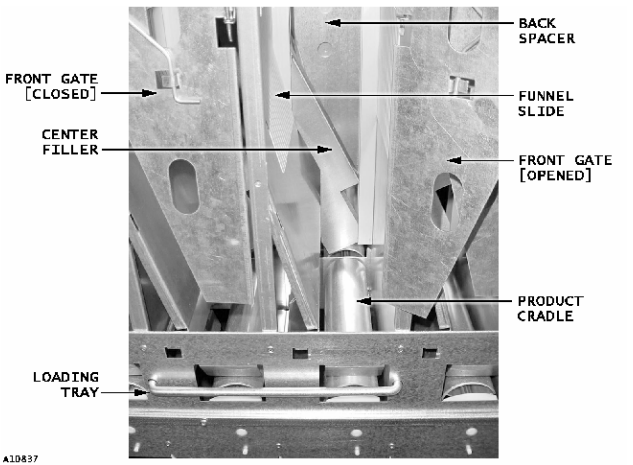

FIGURE 3. VEND RACK

5. A loading chart has been provided on the inner door to make it easier to keep track of what types of products have been loaded into the CB500-SA. Use a dry erase marker to avoid making a permanent mark.
6. If refilling with the same product size into the same column, then load products into the columns. Skip steps 7 through 11.
7. If a) Loading for the first time, or b) Changing a column to a different product size, or c) to reset product cradle (motor) to correct position, then load one row of products in each column and test vend each column using real money.

CAUTION	**Do not load dented or damaged cans or bottles in the columns. Possible jams could occur.**

8. Add five (5) rows of products in each column to check product spacing. Products should have not more than 1/4 to 1/2 inches of free space at the front or back of the columns as shown on Figure 4 below.

Adjust the back spacer, latch striker or gate assembly to achieve the required dimension. The Vend Rack has been factory set for most 20-oz. bottles or 12-oz. cans.

If vending 16.9-oz. water bottles, remove Filler (4211816) from the back of the inner door and install it in the Vend Rack. Follow instructions on Filler decal.

To adjust the back spacer:

Lift the back spacer and reposition it in the adjustment slots. Use notch markers as reference points to align it vertically. See Figure 4 on page 1.

To adjust the latch striker and gate assembly:

Pull and lift up on the lower end of gate assembly (or latch striker). Use a small screwdriver as a wedge to gently pry the dimple away from the slot opening. See Figure 4 on page 1. Reposition them in the adjustment slots. Use notch markers as reference points to align it vertically.

9. If product spacing is correct, then test vend each column using real money.
10. Load the columns to full capacity.

The vend rack has been factory set for most 20-oz bottles or 12-oz cans.

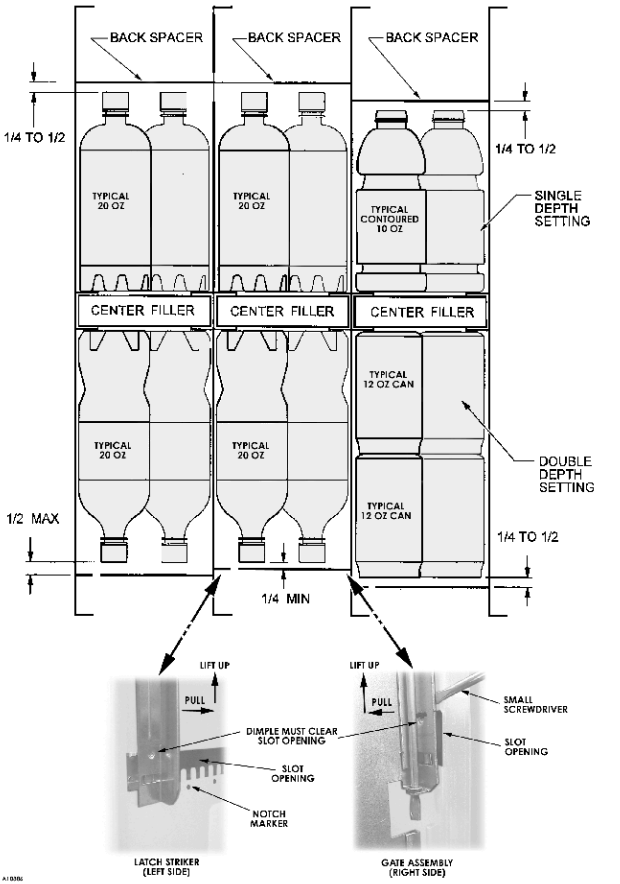

FIGURE 4. COLUMN DEPTH

LIVE DISPLAY

Make sure that the Live Display price and selection labels are set and installed correctly. Labels and product containers must face outward toward the customer and must match the products being loaded. See **Figure 5**.

LOADING THE LIVE DISPLAY

1. Open the main door, and then open the Inner Door.
2. Firmly grip the top edge of the Live Display. Lift it up then pull. Allow it to swing down to loading position. See **Figure 6**.
3. Insert the can or bottle between the spring retainers. See **Figure 7**.
4. Close the Live Display.

FIGURE 5. LIVE DISPLAY

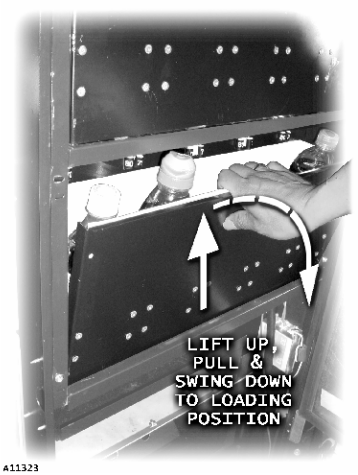

FIGURE 6. SWING DOWN TO OPEN

FIGURE 7. INSERT CAN OR BOTTLE

DROP SENSOR

A drop (vibration) sensor on the delivery chute detects if a product has been vended after a selection is made. The control board located on the back of the main door controls the drop sensor sensitivity.

The drop sensor sensitivity is factory calibrated and should not need adjustment.

DROP SENSOR FACTORY SETTING

1. Locate the sensor adjustment screw on the upper left corner of the control board. See **Figure** .
2. Use a small flat head screwdriver to slowly turn the adjustment screw counterclockwise (increase sensitivity) and stop when the indicator light comes on.
3. Slowly turn the adjustment screw clockwise (decrease sensitivity) and stop when the indicator light goes out. Continue to turn the adjustment screw clockwise three-and-a-half (3½) additional turns. Test the sensor for proper operation by tapping the delivery chute. The indicator light should blink when the chute is tapped.
4. Close the door and perform several test vends.

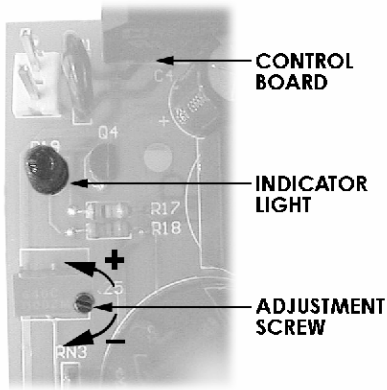

FIGURE 8. DROP SENSOR ADJUSTMENT

5. **If vending special products, the drop sensor may need the following additional adjustments:**
   - If vendor is sending more than one product per vend request, open the door and turn adjustment screw counterclockwise one half (1/2) turn to increase sensitivity. Perform a test vend. Repeat procedure if necessary.
   - If vendor fails to vend product upon vend request, open the door and turn adjustment screw clockwise one half (1/2) turn to decrease sensitivity. Perform a test vend. Repeat procedure if necessary.

NORMAL VEND OPERATION

1. STAND-BY CONDITION

When the control board is in sales mode the display will show the amount of credit. If a customer presses a select button before establishing a credit, the vend price for that selection will display, signaling the customer that more money is needed for that selection.

2. ESTABLISHING CREDIT

Feeding coins into the coin mechanism or bills into the bill validator results in the display of the corresponding credit value. The coin mechanism or bill validator will accept money until the highest vend price has been reached or exceeded. At this point a credit has been set up through the control board that will enable a vend for any selection less than or equal to the established credit.

3. VALID SELECTION

Making a selection causes the selection switch to close. A logic level signal is constantly sent out from the control board that then travels to each switch's common position. When the switch is closed, the signal travels out the normally closed position to the harness connection to the control board.

4. VEND SEQUENCE

The control board then distributes 24 volts DC through the door and cabinet wiring harnesses and to the coil of the selected product cradle motor. At the same time, the display will scroll. This indicates to the customer that a vend is in progress. As the product cradle motor receives power, it will turn the product cradle, attempting to vend a can or bottle.

5. PRODUCT DELIVERY

As the can or bottle drops onto the product delivery chute, the impact or vibration allows the drop sensor to send a low voltage signal to the control board indicating that a product has been vended. After receiving the drop sensor signal, the control board will recognize how the vendor is programmed and responds accordingly. Refer to Can/Bottle Menu section on page 2 for additional features.

CONTROLLER PROGRAMMING

CONTROL BOARD

This vendor has a MCB-12 Select control board. It is connected to product cradle motors arranged in a linear (non-matrix) method. It is also connected to a drop sensor (impact vibration) for delivery detection.

Open the main door, and then open the inner door. The control board is located on the back of the main door (on the left side). See Figure 9.

SALES MODE

The vendor defaults to sales mode when it is turned on. While it is in sales mode, the display will show the amount of credit.

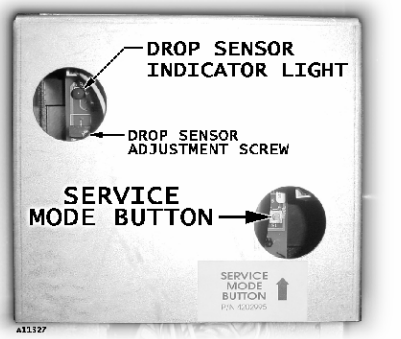

FIGURE 9. SERVICE MODE BUTTON

SERVICE MODE

Pressing the service mode button while the vendor is in sales mode will activate service mode. It will briefly display the number of working motors, then display Coin; the first menu in the service mode.

While in Service Mode, the control board will automatically revert to Sales Mode after one (1) minute if a keypad button is not pressed.

NOTE: Always watch display readout after pressing the Service Mode Button or keypad button.

FIGURE 10. DISPLAY

MOTOR COUNT

This menu displays the total count of working motors.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. The number of working motors will display for one (1) second.	Cnt 10 Coin
2	To exit, press **Service Mode Button** [•] 13 times.	.00

COIN TUBE FILL

This menu allows the user to let the **CB500-SA** control board track and maintain coin tube levels. As coins are added through the coin insert, the mechanism will keep track of the exact number of each. Denominations do not have to be added in order. The control board will then keep track of each coin as it is paid out.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** [•]. Add coins through the coin insert.	tUFL
3	To exit, press **Service Mode Button** [•] 12 times.	.00

COIN DISPENSE

This menu allows user to manually dispense coins from the coin mechanism by coin type.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	To dispense nickels, press [A].	.05
3	To dispense dimes, press [B].	.10
4	To dispense quarters, press [C].	.25
5	To exit, press **Service Mode Button** [•] 13 times.	.00

TOTAL VEND COUNT

Displays total vend count. This count cannot be reset to zero.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** [•] 2 times. If total count is greater than 9,999 then, the display will flash two sets of numbers. *Example: **3** and **0266** = **30,266**.*	SALE 3 0266
3	To display **Total Vend Count** of a selection, press a selection button. If total count is greater than 9,999 then, the display will flash two sets of numbers. *Example shown: Selection **B** has **1** and **4465** = **14,465***	B 1 4465
4	To exit, press **Service Mode Button** [•] 11 times.	.00

TOTAL CASH VALUE

Displays total accumulated cash value. This count cannot be reset to zero.

	STEP	DISPLAY
1	Press **Service Mode Button** ⊡. Wait one (1) second.	Cnt 10 Coin
2	To display **Total Cash Value**, press **Service Mode Button** ⊡ 3 times. If value is greater than 99.99 then, the display will flash two sets of numbers. *Example shown: **4** and **03.05** = **403.05***	CASH 4 03.05
3	To display **Total Cash Value** for a selection, press a selection button. If value is greater than 99.99 then, the display will flash two sets of numbers. *Example:* *Selection **B** has **1** and **42.35** = **142.35***	B 1 42.35
4	To exit, press **Service Mode Button** ⊡ 10 times.	.00

TOTAL RESETTABLE VEND COUNT

Displays total number of vends since last reset.

	STEP	DISPLAY
1	Press **Service Mode Button** ⊡. Wait one (1) second.	Cnt 10 Coin
2	To display **Total Reset-able Vend Count**, press **Service Mode Button** ⊡ 4 times. If total count is greater than 9,999 then, the display will flash two sets of numbers. *Example: **2** and **4465** = **24,465.***	rSLE 2 4465
3	To display **Total Reset-able Vend Count of a selection**, press a selection button. *Example: selection **C** = **727***	C 727
4	To exit, press **Service Mode Button** ⊡ 9 times.	.00

TOTAL RESETTABLE CASH VALUE

Displays total accumulated cash value of vends since last reset.

	STEP	DISPLAY
1	Press **Service Mode Button** ⊡. Wait one (1) second.	Cnt 10 Coin
2	To display **Total Resettable Cash Value**, press **Service Mode Button** ⊡ 5 times If value is greater than 99.99 then, the display will flash two sets of numbers. *Example shown: **3** and **67.90** = **367.90***	rCSH 3 67.90
3	To display **Total Resettable Cash Value** of a selection, press a selection button. If value is greater than 99.99 then, the display will flash two sets of numbers. *Example shown:* *Selection **C** has **1** and **23.40** = **123.40***	C 1 23.40
4	To exit, press **Service Mode Button** ⊡ 8 times.	.00

CLEAR RESETTABLE COUNTERS

This menu clears Total Resettable Vend Count and Total Resettable Cash Value and resets them to zero.

	STEP	DISPLAY
1	Press **Service Mode Button** ⊡. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** ⊡ 6 times.	CLr
3	To clear **all** resettable counters to zero, press any selection button.	0000
4	To exit, press **Service Mode Button** ⊡ 7 times.	.00

MOTOR TEST

This menu is used to test each selection motor.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** [•] 8 times.	tESt
3	To test selection **A**, press [A].	- A-
4	To test selection **B**, press [B].	- b-
5	To test selection **C**, press [C].	- C-
6	To test selection **D**, press [D].	- d-
7	To test selection **E**, press [E].	- E-
8	To test selection **F**, press [F].	- F-
9	To test selection **G**, press [G].	- G-
10	To test selection **H**, press [H].	- H-
11	To test selection **J**, press [J].	- J-
12	To test selection **L**, press [L].	- L-
13	To exit, press **Service Mode Button** [•] 5 times.	.00

MULTI VEND

Since the normal vendor operation is to give change after a vend is made, Multi Vend will hold the change (credit), allowing the customer to make more than one vend, provided there is sufficient credit remaining.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** [•] 10 times.	UL n
3	To toggle on or off, press any selection button. Note: **UL Y** = Multi Vend **YES**, **UL n** = Multi Vend **NO**.	UL Y
4	To exit, press **Service Mode Button** [•] 3 times.	.00

SET PRICE

This menu is used to set prices for each selection.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** [•] 7 times.	PrC
3	To display the current price of selection **A**, Press [A] and release.	.50
4	Press and hold the same button to increase or decrease the price. If the price is going one direction and you want it to go the other direction, then release, press and hold the button again.	(new price)
5	Repeat **steps 3** and **4** for selections **B** through **L**.	
6	To save price setting, press **Service Mode Button** [•].	PrC
7	To exit, press **Service Mode Button** [•] 6 times.	.00

FORCE VEND

This feature would require a customer to purchase an item from the vendor once credit equal to or greater than the highest selection price has been deposited.

	STEP	DISPLAY
1	Press **Service Mode Button** [•]. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** [•] 9 times.	FC n
3	To toggle ON or OFF, press any selection button. Note: **FC n** = Force Vend **NO** (OFF), **FC Y** = Force Vend **YES** (ON).	FC Y
4	To exit, press **Service Mode Button** [•] 4 times.	.00

BILL ESCROW

This feature will hold a bill in escrow (mechanically) until either a vend is performed or the return credit lever is pressed. This prevents the customer from using the vending machine as a bill changer.

	STEP	DISPLAY
1	Press **Service Mode Button** ⊡. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** ⊡ 11 times.	ES n
3	To toggle on or off, press any selection button. Note: **ES n** = Bill Escrow **NO** (OFF), **EX Y** = Bill Escrow **YES** (ON)	ES Y
4	To exit, press **Service Mode Button** ⊡ 2 times.	.00

CAN-BOTTLE

Allows setting for **can** or **bottle** vending. This setting is factory set to **can**. Can setting is normally used with double-depth loading of cans to double the product capacity of that selection. During a vend the product cradle stops rotating as soon as the drop sensor detects a vend. This is to prevent double vending.

Bottle setting is normally used with single-depth loading of bottles. This setting allows the product cradle to continue rotating a few more seconds so that it is positioned closer to the loading zone. This reduces customer's waiting time when the product cradle is activated for the next vend.

	STEP	DISPLAY
1	Press **Service Mode Button** ⊡. Wait one (1) second.	Cnt 10 Coin
2	Press **Service Mode Button** ⊡ 12 times.	Cb
3	To display selection **A** setting, press any button on the keypad. The letter on the far left is the selection while the far right is the setting. *Examples:* ***A C** = selection **A** set to **can**,* ***A b** = selection **A** set to **bottle**.*	A C
4	Press any button on keypad to toggle between **c**an or **b**ottle setting.	A b
5	If selection is set correctly, then press **Service Mode Button** ⊡ to display next selection setting.	b C
6	Repeat **steps 4** and **5** until selections **A** through **L** are set correctly and selection **n** is displayed.	n C
7	To exit, press **Service Mode Button** ⊡ 3 times.	.00

REFRIGERATION

CAUTION: Do not place any object in the evaporator assembly area or inside the cabinet area that will block the airflow. This may damage the refrigeration system, which may void the refrigeration warranty.

REFRIGERATION CONTROLS

The thermostat that controls the temperature has been **preset at the factory**. It is located on the right side under the hopper. See Figure 11.

If setting up for the first time, please allow sufficient time for the refrigeration system to cool the products.

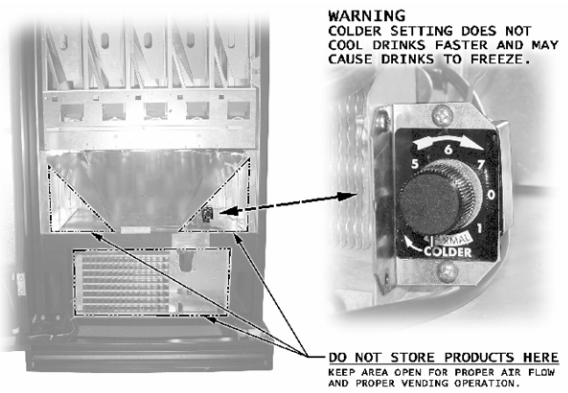

FIGURE 11. THERMOSTAT

REFRIGERATION TROUBLESHOOTING

Know and understand how to service the unit and how it operates. Units may vary, but the operation is basically the same. Never guess at the problem; find the symptom before attempting any repair.

NOTE: **90% of refrigeration problems are electrical.**

Unauthorized work done to the sealed hermetic system will void the warranty. The sealed hermetic system is not to be worked on outside the Factory Service Center. The three things that can go wrong with a sealed system and should be repaired at the Factory Service Center are:

1. Low Charge - usually caused by leaks; look for oil around seals and welds. Unit will not cool properly. The capillary tube will be frosted before it enters the evaporator inlet tube.
2. Restriction in Systems (unit frost, then melts) - not cooling properly.
3. Bad valves - unit does not cool properly; noisy compressor.

COMPRESSOR WILL NOT START

A. Vendor not plugged in.
B. Tripped breaker or blown fuse.
C. Faulty wall outlet.
D. Short or tear in power cord.
E. Improper wiring.
F. Low voltage: 5 % below. Check the power source with the Multi-Meter.
G. Overload defective: Trips too fast. Check overload with the Multi-Meter.
H. Start relay defective: Check start relay with the Multi-Meter.
I. Compressor has open windings. Check compressor windings with a Multi-Meter.
J. Defective thermostat.

COMPRESSOR TRIPS ON OVERLOAD

A. Improper voltage: 5-10% above, 5% below. Check power source with Multi-Meter.
B. Overload defective: Trips too fast. Check overload with Multi-Meter.
C. Relay defective: Won't open after starting. Check relay with Multi-Meter.
D. Compressor has shorted windings: Check compressor windings with Multi-Meter.
E. Short in other component: Isolate and eliminate each electrical component until short is found.
F. Compressor is too hot.
   - Dirty condenser.
   - Faulty condenser motor or blade.
   - Restricted airflow.

CAUTION: **Condenser must be kept clean of dirt and debris to allow for proper air circulation.**

NOISY OR VIBRATING UNIT

A. Components rubbing or touching each other.
   - ♦ Check fan blades and motor.
   - ♦ Loose shrouds and harness.
   - ♦ Copper tubing.
   - ♦ Loose or unsecured parts.

B. Worn or aged grommets.

C. Compressor
   - ♦ Bad valves.
   - ♦ Slugging.
   - ♦ Bad windings (see Figure 12).
   - ♦ Low voltage.

UNIT SHORT CYCLES

- Temperature setting set too warm. See Refrigeration Controls section above.

UNIT OPERATES LONG OR CONTINUOUSLY

A. Air flow restricted
   - ♦ Faulty evaporator motor or blades causing coils to ice over.
   - ♦ Loose connections on evaporator motor. (One motor not running.)
   - ♦ Air flow blocked by product in front of evaporator or air duct openings

B. Gasket leak around main door.

C. Gasket leak around delivery door.

D. Excessive load: After loading, unit will run longer to pull out excessive heat from product.

E. Shortage of refrigerant or restriction.

F. Check thermostat setting

REFRIGERATED SPACE TOO COLD

- Thermostat set too cold. See Refrigeration Controls section above.

REFRIGERATED SPACE TOO WARM

A. Thermostat set too warm. See Refrigeration Controls section above.

B. Restricted evaporator space.
   - ♦ Evaporator motor or blades faulty, causing the coils to ice over the evaporator.
   - ♦ Condenser airflow restricted.
     - Plugged or dirty condenser.
     - Condenser motor or blades bad.
     - Blade stuck.
   - ♦ Condensing space restricted.
     - Unit placed too close to a wall.
   - ♦ Compressor - bad valves.
     - Cap tube will start frosting 8 to 10 inches past evaporator connection tube.
     - Check for oil around brazed connections.
   - ♦ Leak around delivery door gasket.

TROUBLESHOOTING CIRCUITS WITH MULTI-METER

A. Check the power source. Use voltage section of the Multi-Meter. Should measure within 5-10% above, 5% below.

B. Check overload.

NOTE:	**Power must be off and fan circuit open.**

Using the resistance section of the Multi-Meter, check terminals 1 and 3 for continuity. If no continuity is measured (infinity), overload may be tripped. Wait 10 minutes and try again. If still no continuity, overload is defective.

C. Check relay. See **Figure 12** shown below. Unscrew lead terminals and remove relay from compressor. Keep relay upright.

D. Check terminals 1 and S, or L and S with the Multi-Meter. Replace relay if continuity exists.

E. Check compressor windings. See **Figure 12** shown below.

F. Check winding resistance with the Multi-Meter. If readings are not within 2 Ohms, the compressor is faulty.

WARNING:	Wiring diagram must be followed as shown. Wrong wiring can cause serious electrical hazard and potential damage or rupture component electrical parts

WINDING RESISTANCE

Approximate resistance reading across terminals - use RXI scale:

COMMON to START:	8 Ohms
COMMON to RUN:	1.2 Ohms
RUN to START:	9 Ohms
COMMON to SHELL:	No Continuity

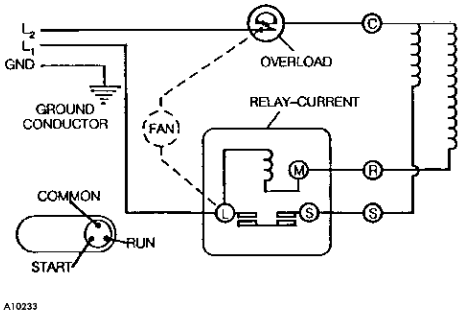

FIGURE 12. COMPRESSOR SCHEMATIC

REFRIGERATION UNIT REMOVAL

The refrigeration unit is a hermetically sealed and completely self-contained modular unit charged with ozone-friendly R-134a refrigerant. The complete refrigeration unit can be removed if there is a service problem.

WARNING:	Disconnect power before servicing.

1. Unplug the **CB500-SA** power cord from the electrical wall outlet.
2. Remove condenser assembly mounting screws. Refer to Figure 13.
   - A. Remove bottom condenser assembly screws.
   - B. Remove power panel screws (4 places). Remove power panel.
   - C. Remove sealant cover screws (2 places). Remove sealant cover. Remove sealant.
   - D. Remove hopper mounting screws (3 places).

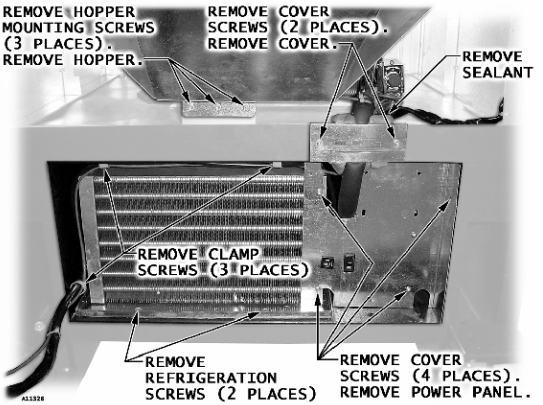

FIGURE 13. REMOVE MOUNTING SCREWS

3. Refer to Figure 14:
   - A. Gently remove hopper and set it on the right side.
   - B. Remove hopper bracket screws (2 places). Remove hopper bracket.
   - C. Remove the clamp screw holding the temperature sensor. Remove the temperature sensor.
   - D. Remove evaporator screws.

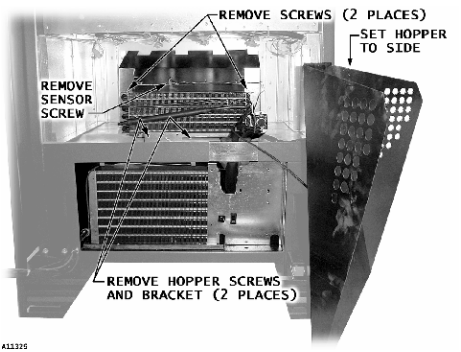

FIGURE 14. SET HOPPER OUT OF THE WAY

4. Carefully move wire harness and cables out of the way.
5. Grip the front lip of the condenser base and the evaporator base and pull out at the same time. See Figure 15.
6. To re-install the refrigeration unit, then reverse the steps.

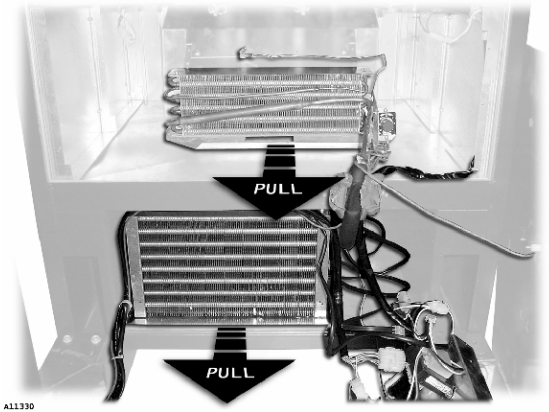

FIGURE 15. REMOVE THE REFRIGERATION UNIT

CARE & CLEANING

WARNING:	Always disconnect the power before cleaning.

CABINET EXTERIOR

Wash with a mild detergent and water, rinse and dry thoroughly. Wipe occasionally with a quality car wax. Plastic exterior parts may be cleaned with a quality plastic cleaner.

CABINET INTERIOR

Wash with a mild detergent and water. Including baking soda or ammonia in the cleaning solution may eliminate odors. Remove and clean drain hose to eliminate any deposits that may restrict condensate water flow.

The vend mechanisms must be kept clean. Any build-up of syrup deposits can cause the mechanisms to malfunction. Use soap and water with great care so as not to get water into the electrical components.

To insure proper vending keep delivery slide area free of dirt and sticky substances.

REFRIGERATION SYSTEM

Clean dust from condenser and screen in the front door with a soft bristle brush or vacuum cleaner. Remove any dirt or debris from the refrigeration system compartment. Remove and clean the condensation pan.

Do not block the evaporator or any area of the airflow with product or supplies.

PARTS ORDERING PROCEDURE

PLEASE HAVE THE FOLLOWING INFORMATION:

- The model number and serial number of the vendor.
- Correct part number and description from the pertinent part and/or parts manual.

  If you do not have the right parts manual, go online to www.vendnetusa.com or contact VendNet™ and we will provide a copy for you.

  NOTE: When "Right" and "Left" are used with a part name, it is taken to mean that the person is facing the vendor with the door closed.
- Shipping address.
- Address where the invoice should be sent.
- The number of parts required.
- Any special shipping instructions.
- Carrier desired: air or air special, truck, parcel post, or rail.
- If ordering by mail, need a signature and date.
- If a purchase order number is used, be sure that it is visible and legible.

PARTS ORDER OPTIONS:

- **Go online to www.vendnetusa.com.** Browse the parts manuals. Place a secured order online using your credit card or Vendnet™ account.
- **Email**: vendnet@vendnetusa.com. Please note that this is not as secured as placing an order online.
- **Phone**:
  USA & Canada ..... (888) 259-9965
  International ..... (515) 274-3641
- **Fax Order**: 515-274-5775.
- **Mail Order**:
  VendNet™
  165 North 10th Street
  Waukee, Iowa 50263
  USA

BEFORE CALLING FOR SERVICE

PLEASE CHECK THE FOLLOWING:

- Does your vendor have at least 4" of clear air space behind it?
- If the power is turned on at the fuse box, is the vendor the only thing that doesn't work?
- Is the vendor plugged directly into the outlet?

WARNING: DO NOT USE EXTENSION CORDS. Extension cords cause problems.

- Is the evaporator coil free of dust and dirt?
- Is the condenser coil free of dust and dirt?
- Is the compressor free of dust? (A blanket of dust can prevent the compressor from cooling off between workouts).
- Is the circuit breaker at the fuse box reset?
- Are evaporator fans running? Take a sheet of paper approx. 4" x 5" in size. Place the paper in front of the evaporator coil and see if the evaporator fans will draw the paper to the coil.
- Is the condenser fan running? Fold a sheet of 8 1/2" x 11" paper in half. Place the paper in front of the condenser coils and see if it draws the paper to it.
- Is the shelf in front of the evaporator coil clear? (No tools or other air restricting items).
- Is the cold control set between 0 and 2?

NOTE: Setting the cold control higher does not accelerate cooling of product.

TO CALL FOR SERVICE:

- Have model number and serial number.
- Call phone number listed below.

VendNet™
165 North 10th Street
Waukee, Iowa 50263-0488
United States of America

	USA & Canada	International
Service	**(800) 833-4411**	**(515) 274-3641**
Parts	**(888) 259-9965**	
Email	**vendnet@vendnetusa.com**	
Web Site	**www.vendnetusa.com**	