



CB300-SA STAND ALONE



A10930

**MODEL:
3179
3179A**

SERVICE MANUAL

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Record the Model Number and Serial Number of your machine below. They are necessary to obtain quick service and parts information for your machine. The numbers are available on the identification plate located on the backside of the cabinet of the vendor.

MODEL NUMBER: _____

SERIAL NUMBER: _____

INTRODUCTION

This manual contains instructions, service and installation guidelines for the **CB300-SA Stand Alone Can/Bottle Convertible Model 3179**.

Read this manual thoroughly to become familiar with the features and functions of this unit. The initial set-up of a vending machine is a very important step of insuring that the equipment operates in a trouble-free manner. Following the instructions during the initial installation of the machine will avoid service problems and minimize set-up time.

This model is a six (6) select, can or bottle vendor that operates on the “first-in, first-out” vending principle for all selections.

The six selections are priced individually from \$0.05 to \$99.95 in five cent increments (U.S. Currency). When adapted to accept international or foreign currency, the maximum vend price is 255 times the smallest denomination of coin accepted.

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

Each machine is identified by a model and a serial number given on the Serial Number Plate attached to the inside or back of the vendor. Record these numbers for your records in the space provided below the Table of Contents on page ii. All inquires and correspondence pertaining to this vendor should reference the model and serial numbers.

FOR U.S. UNITS:

VendNet™

165 North 10th Street

Waukee, Iowa 50263-0488

PHONE: 1-888-259-9965

1-800-833-4411

PARTS FAX: 1-515-274-5775

SALES FAX: 1-515-274-0390

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.

Features:

- Self-Diagnostics.
- Multi Vend.
- Free Vend.
- Hermetically sealed refrigeration system with R-134a refrigerant.
- Motorized delivery, electronically controlled.
- Visual feedback indicates when a product has been vended or when an error condition exists.
- No change or loss of program/memory because of a power failure.
- Cash accountability records Total Cash transactions and Total Vend cycles performed by the vendor. Information for individual selections, or total machine can be compiled and used for inventory and ordering records.

SPECIFICATIONS

GENERAL

Height:	68.5 Inches	174 cm
Width:	21 Inches	53 cm
Depth:	33.5 Inches	85 cm
Weight:	360 Pounds	163.3 kg

ELECTRICAL

Power:	120 VAC	230 VAC
Cycle:	60 Cycle	50 Cycle
Amps:	8 Amps	4 Amps

CAPACITY

	Selection	12 Oz. Cans	20 Oz. Bottles
Column:	1	52	23
Total:	6	312	138

PRICING

Multi-Pricing

REFRIGERATION

Unit Size:	1/3 HP Hermetically Sealed
Refrigerant:	R-134a
Charge:	3.5 Oz.

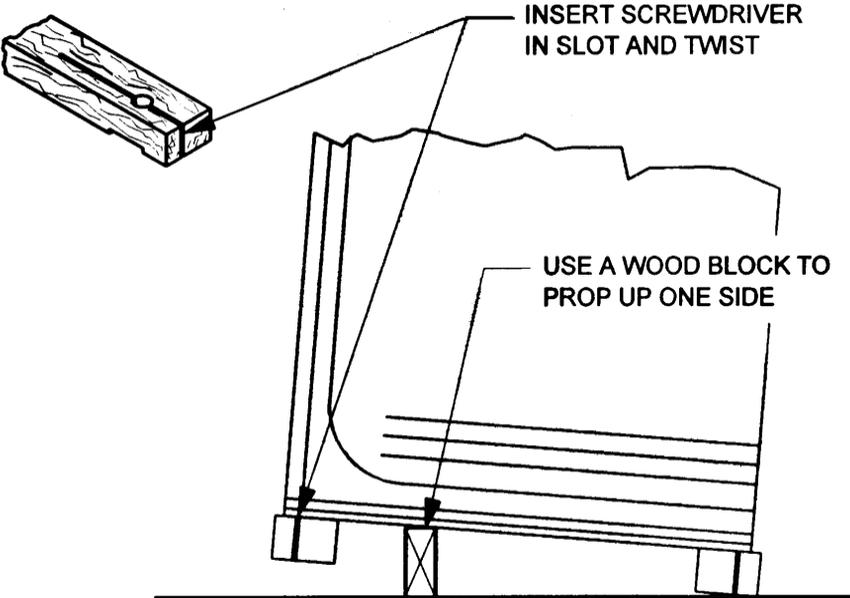
UNPACKING

This machine 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 machine.

Carefully remove the outside packing material in a manner not to damage the finish or exterior of the machine. Inspect the machine for concealed shipping damage. Report any damage hidden by the shipping material directly to the delivering carrier on a Hidden Damage Report.

Record the model number and serial number of the vendor for your records. Space is provided below the Table of Contents on page ii. These numbers are on the Serial Number Plate located on the back of the cabinet and/or inside the vendor. Refer to these numbers on all correspondence and inquiries pertaining to this vendor.

Remove the "Knock-A-Way" support by placing a 2x4 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.



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Figure 1. Removing Knock-Away Supports

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 machine and any wall or obstruction for proper air circulation.

CAUTION:

Do not block the ventilating screens 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 machine 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, presence of ground (earth) and correct voltage. 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 licensed electrician.

A noise suppresser has been installed in this machine to compensate for any mains signal noise that could interfere with the normal operation of the controller.

WARNING:

Do not use extension cords.

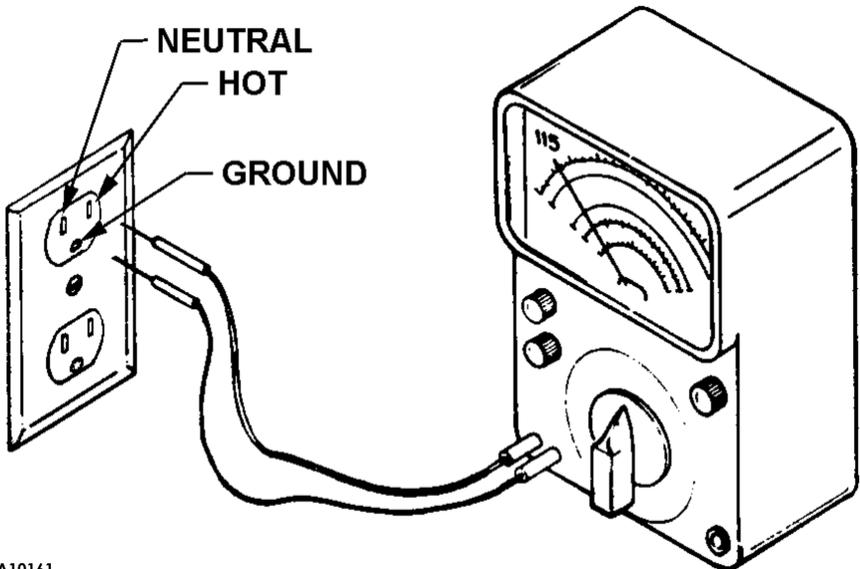
120 VOLT VENDORS

Power source must be 120 VAC ($\pm 10\%$) 60 cycle.

- **Voltage Check:** With a Multi-Meter set to check AC line voltage, insert one connector to the hot (live) terminal and the other connector to the neutral terminal. The Multi-Meter should indicate 108-132 volts AC.
- **Polarity and Ground (Earth) Check:** With a Multi-Meter set to check AC line voltage, insert one connector to the hot (live) terminal and the other connector to the ground (earth) terminal. The Multi-Meter should indicate 108-132 volts AC.
- **Amperage Check:** At the fuse box or circuit breaker panel, locate the proper circuit, and ensure that the fuse or breaker protecting that circuit is rated at 15 amps or greater.

NOTE:

The **hot (live)** terminal should always be counter-clockwise from the **ground** terminal. The **neutral** terminal is clockwise from the **ground (earth)** terminal. See **Figure 2**.



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Figure 2. Voltage Check

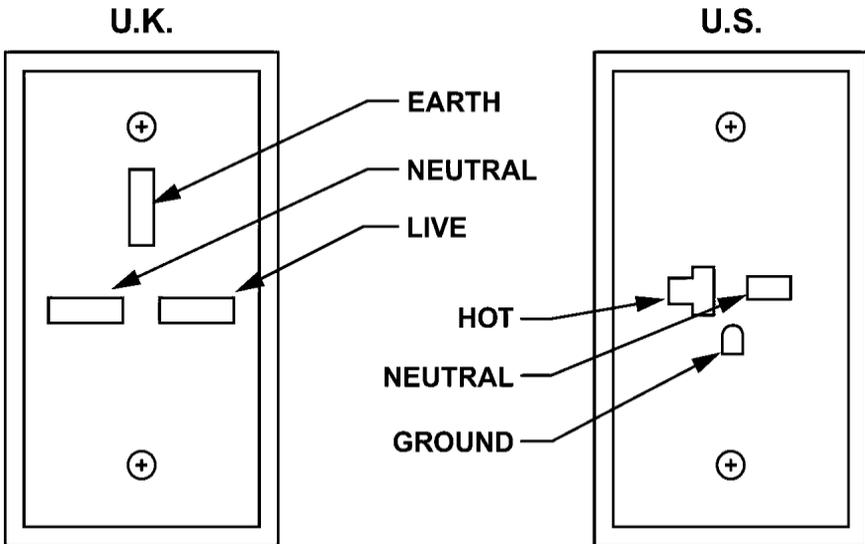
230 VOLT VENDORS

Power source must be 230 VAC ($\pm 10\%$) 50 cycle.

- **Voltage Check:** With a Multi-Meter set to check AC line voltage, insert one connector to the hot (live) terminal and the other connector to the neutral terminal. The Multi-Meter should indicate 216-264 VAC.
- **Polarity and Ground (Earth) Check:** With a Multi-Meter set to check AC line voltage, insert one connector to the hot (live) terminal and the other connector to the ground (earth) terminal. The Multi-Meter should indicate 216-264 VAC.
- **Amperage Check:** At the fuse box or circuit breaker panel, locate the proper circuit, and ensure that the fuse or breaker protecting that circuit is rated at 13 amps or greater.

NOTE:

The **ground (earth)** terminal is perpendicular to the other two terminals. In a standard 3-prong 230 V outlet the **neutral** terminal is counter-clockwise from the ground (earth) terminal and the **hot (live)** terminal is clockwise from the ground (earth) pin. See **Figure 3**.



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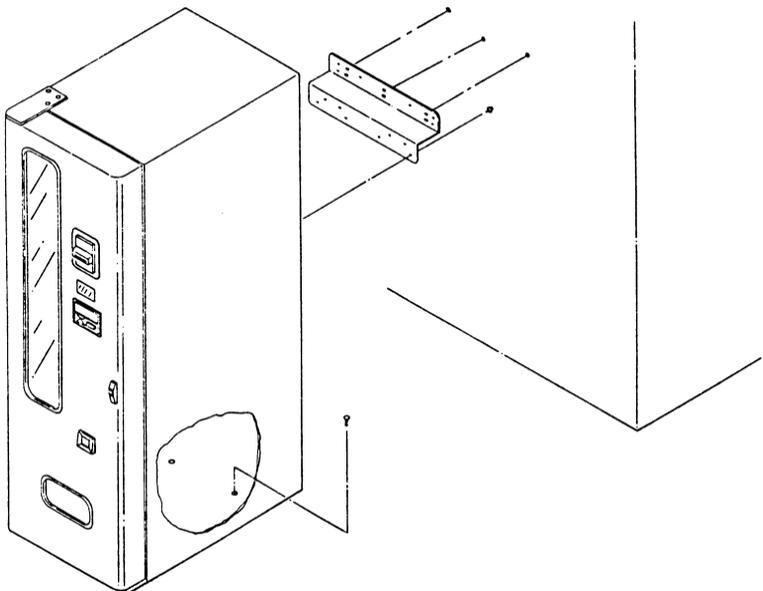
Figure 3. 230V Receptacles

INSTALL WALL MOUNT BRACKET

WARNING

Failure to install the Wall Mount Bracket in strict accordance with the following procedure may create an unintentional tipping, hazard, or may result in improper positioning of the machine against the wall, and possible damage to the refrigeration unit. All installation and service work must be done by a qualified service technician.

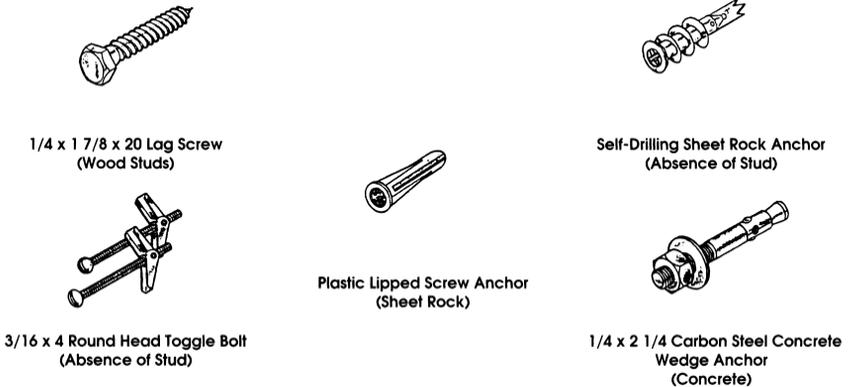
1. Find the Wall Mount Bracket and eight (8) screws in the service package.
2. Align holes of the Wall Mount Bracket with the hole pattern in the cabinet back. Use the eight (8) screws to attach the Wall Mount Bracket to the cabinet back. See Figure 4.



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Figure 4. Wall Mount Bracket

3. Push machine to desired position against wall and clearly mark, through Wall Mount Bracket, hole intended for mounting. These holes allow attachment to both concrete or sheet rock walls. Fasteners are determined by the type of wall machine is mounted to. For suggested fasteners see Figure 5.
 - Use the two center holes for a 24" stud sheet rock wall.
 - Use the outermost holes for a 16" stud sheet rock wall.
 - Use the smallest holes for sheet rock wall when studs are not available.
 - Use any pattern for a concrete wall.
4. Push the machine away from markings for desired mounting holes and drill these holes in wall. The fasteners used to attach bracket to wall will determine diameter of hole to be drilled.
5. Finally, push machine back to desired position against wall and securely attach Wall Mount Bracket to wall using proper fasteners. Fasteners are not provided. See Figure 4.
6. Holes are provided in the bottom of cabinet (see Figure 4) to allow machine to be mounted to floor. Follow similar procedures for marking and drilling holes. The construction of the floor determines the type of fasteners to use. See Figure 5 for suggested fasteners.



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Figure 5. Fasteners

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.
- 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 16 for information on using the MDB feature of the controller to track and maintain coin levels.
- All vend prices have been set correctly. Refer to Set Price section on page 19.
- Vendor has been properly loaded and all items in each selection correspond to the display product and vend price. Refer to Loading section on page 10.
- The machine is plugged directly into a live 115 volt dedicated outlet.

Note:

Extension cords cause problems – Do not use extension cords.

- The machine has at least 4" of space behind it.
- The vendor door is closed tightly and locked.

WARNING:

This vendor is equipped with a 5 amp and a 3 amp circuit breaker to protect the vend circuit only. The refrigeration system is not on this breaker.

LOADING

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 7 for part names, locations, and product orientation.
3. Refer to Figure 7. 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.
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 **CB300-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.

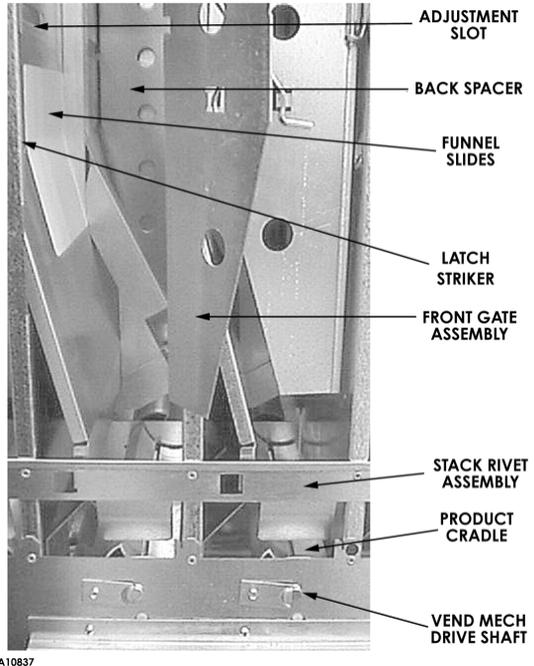


Figure 6. Vend Rack

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 $\frac{1}{4}$ to $\frac{1}{2}$ inches of free space at the front or back of the columns as shown on Figure 7 on page 12. 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 7 on page 12.

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 7 on page 12. 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.

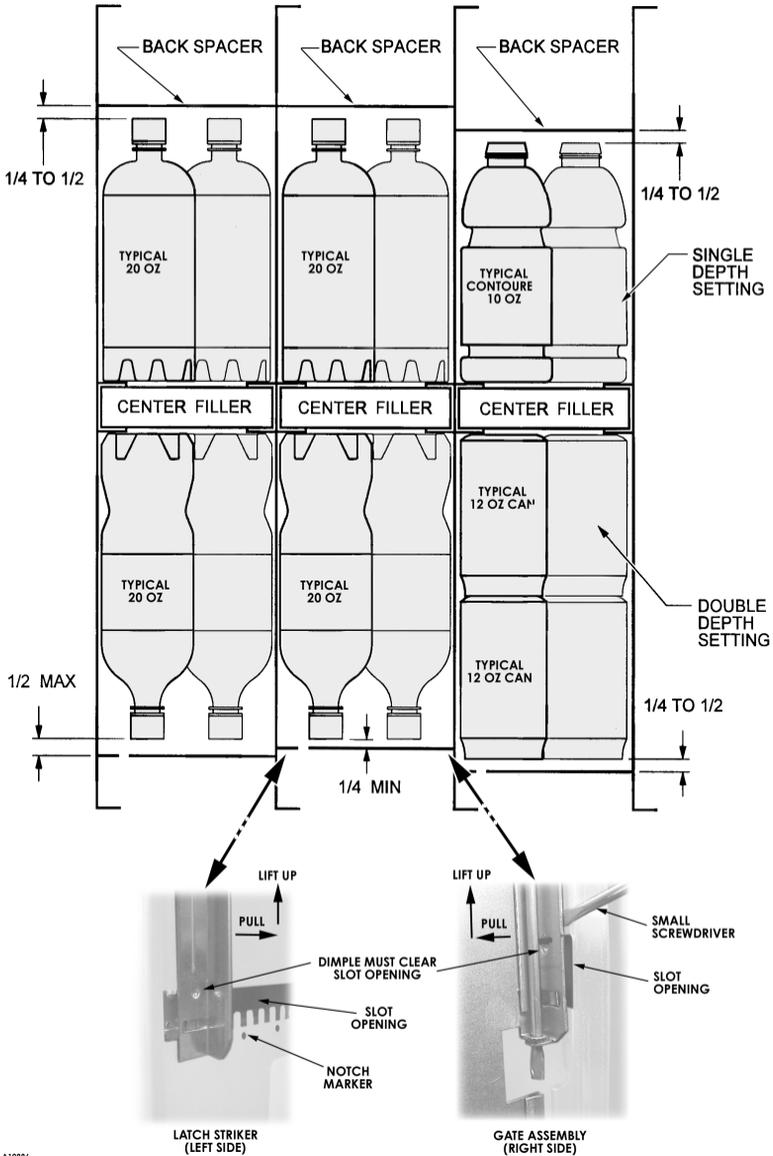


Figure 7. Column Depth

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.

To load the Live Display, simply slide the can or bottle into position from the rear. Secure in place with the elastic strap. See **Figure 8**.

DROP SENSOR

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

DROP SENSOR FACTORY SETTING

1. Locate the sensor adjustment screw on the upper left corner of the controller. See **Figure 9**.
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 ($3\frac{1}{2}$) 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.
5. **If vending special products**, the drop sensor may need the following additional adjustments:
 - If machine is sending more than one product per vend request, open the door and turn adjustment screw counterclockwise one half ($\frac{1}{2}$) turn to increase sensitivity. Perform a test vend. Repeat procedure if necessary.
 - If machine fails to vend product upon vend request, open the door and turn adjustment screw clockwise one half ($\frac{1}{2}$) turn to decrease sensitivity. Perform a test vend. Repeat procedure if necessary.



Figure 8. Live Display

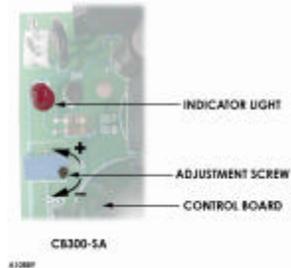


Figure 9. Drop Sensor Adjustment

CONTROLLER PROGRAMMING

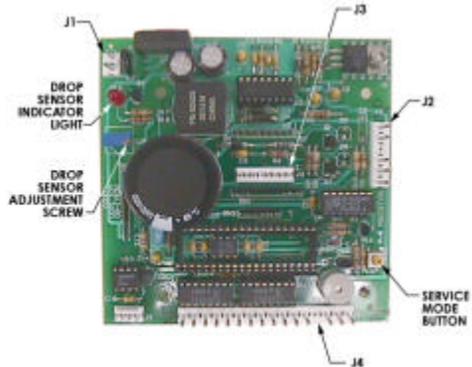
CONTROL BOARD

The **CB300-SA** has an MCB-12 Select control board. It is connected to six (6) product cradle motors arranged in a linear (non-matrixed) method. It is also connected to a drop (impact or vibration) sensor for delivery detection.



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Figure 10. Display & Keypad



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Figure 11. Control Board

FEATURES

- On-Board 4-Digit, 7-Segment, Ultra high intensity LED Display.
- MDB (Multi-Drop Bus) coin mechanism and bill validator interface.
- 3X4 matrix keypad interface allowing up to 12 selection switches .
- Support for up to 12 (non-matrixed) 24VDC vend motors.
- Piezo “beeper” to provide audible feedback for key presses and controller activity.
- Dual Regulated Power Supplies for logic and motor control.
- Fully featured service mode.
- Cash and Vend accountability.
- Individual product pricing from free vend (\$0.00) to \$99.95.
- Motor vend testing selection.
- Impact sensor delivery system.

SALES MODE

When the unit is in sales mode, the display will display the amount of credit.

SERVICE MODE

While in Service Mode, the controller will automatically revert to Sales Mode after one (1) minute if a keypad button is not pressed. Refer to Figure 10 and Figure 11 on page 14.

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

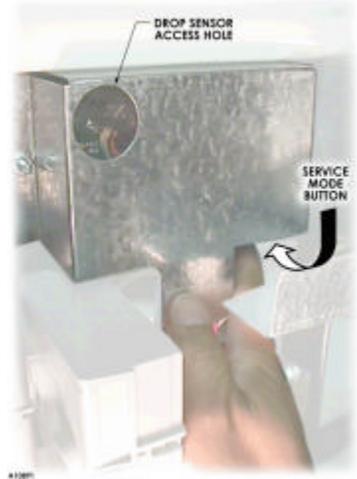


Figure 12. Service Mode Button

MOTOR COUNT

This menu displays the total count of working motors.

STEP	DISPLAY
1	Cnt
	6
	Co in
2	. 00

Press **Service Mode Button** [•].
The number of working motors will display for one (1) second.

To exit, press **Service Mode Button** [•] 13 times.

COIN DISPENSE

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

STEP	DISPLAY
1	Cnt
	6
	Co in
2	. 05
3	. 10
4	. 25
5	. 00

Press **Service Mode Button** [•].
Wait one (1) second.

To dispense nickels, press **A**.

To dispense dimes, press **B**.

To dispense quarters, press **C**.

To exit, press **Service Mode Button** [•] 13 times.

COIN TUBE FILL

This menu allows the user to let the CB300-SA controller 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 <input type="checkbox"/> . Wait one (1) second.	Cnt
		6
		Coin
2	Press Service Mode Button <input type="checkbox"/> . Add coins through the coin insert.	tUFL
3	To exit, press Service Mode Button <input type="checkbox"/> 12 times until .00 appears.	.00

TOTAL VEND COUNT

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

STEP		DISPLAY
1	Press Service Mode Button <input type="checkbox"/> . Wait one (1) second.	Cnt
		6
		Coin
2	To display Total Vend Count , press Service Mode Button <input type="checkbox"/> 2 times If total count is greater than 9,999 then, the display will flash two sets of numbers. <i>Example shown: 3 and 0266 = 30,266</i>	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. <i>Example shown: selection B has 1 and 4465 = 14,465</i>	B
		1
		4465
4	To exit, press Service Mode Button <input type="checkbox"/> 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 <input type="checkbox"/> . Wait one (1) second.	C n t
		6
		C o i n
2	To display Total Cash Value , press Service Mode Button <input type="checkbox"/> 3 times. If value is greater than 99.99 then, the display will flash two sets of numbers. <i>Example shown: 4 and 03.05 = 403.05</i>	C A S H
		4
		0 3 . 0 5
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. <i>Example shown: selection B has 1 and 42.35 = 142.35</i>	B
		1
		4 2 . 3 5
4	To exit, press Service Mode Button <input type="checkbox"/> 10 times.	. 0 0

TOTAL RESET-ABLE VEND COUNT

Displays total number of vends since last reset.

STEP		DISPLAY
1	Press Service Mode Button <input type="checkbox"/> . Wait one (1) second.	C n t
		6
		C o i n
2	To display Total Reset-able Vend Count , press Service Mode Button <input type="checkbox"/> 4 times. If total count is greater than 9,999 then, the display will flash two sets of numbers. <i>Example shown: 2 and 4465 = 24,465.</i>	r S L E
		2
		4 4 6 5
3	To display Total Reset-able Vend Count of a selection , press a selection button. <i>Example shown: selection C = 727</i>	C
		7 2 7
4	To exit, press Service Mode Button <input type="checkbox"/> 9 times.	. 0 0

TOTAL RESET-ABLE CASH VALUE

Displays total accumulated cash value of vends since last reset.

STEP	DISPLAY
1	Cnt
	6
	Coin
2	r C S H
	3
	67.90
3	C
	1
	23.40
4	.00

CLEAR RESET-ABLE COUNTERS

This menu clears Total Reset-able Vend Count and Total Reset-able Cash Value and resets them to zero.

STEP	DISPLAY
1	Cnt
	6
	Coin
2	CLr
3	0000
4	.00

SET PRICE

This menu is used to set prices for each selection.

STEP		DISPLAY
1	Press Service Mode Button <input type="checkbox"/> . Wait one (1) second.	Cnt
		6
		Coin
2	Press Service Mode Button <input type="checkbox"/> 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 F .	
6	To save price setting, press Service Mode Button <input type="checkbox"/> .	PrC
7	To exit, press Service Mode Button <input type="checkbox"/> 6 times.	.00

MOTOR TEST

This menu is used to test each selection motor.

STEP		DISPLAY
1	Press Service Mode Button <input type="checkbox"/> .	Cnt
		6
		Coin
2	Press Service Mode Button <input type="checkbox"/> 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 exit, press Service Mode Button <input type="checkbox"/> 5 times.	.00

FORCE VEND

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

STEP		DISPLAY
1	Press Service Mode Button <input type="checkbox"/> . Wait one (1) second.	C n t
		6
		C o i n
2	Press Service Mode Button <input type="checkbox"/> 9 times.	FC n
3	To toggle on or off, press any selection button. Note: FC n = Force Vend No , FC Y = Force Vend Yes	FC Y
4	To exit, press Service Mode Button <input type="checkbox"/> 4 times.	. 00

MULTI VEND

Since the normal machine 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 <input type="checkbox"/> . Wait one (1) second.	C n t
		6
		C o i n
2	Press Service Mode Button <input type="checkbox"/> 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 <input type="checkbox"/> 3 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 <input type="checkbox"/> . Wait one (1) second.	C n t
		6
		C o i n
2	Press Service Mode Button <input type="checkbox"/> 11 times.	E S n
3	To toggle on or off, press any selection button. Note: ES n = Bill Escrow NO , EX Y = Bill Escrow YES	E S Y
4	To exit, press Service Mode Button <input type="checkbox"/> 2 times.	. 0 0

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 <input type="checkbox"/> . Wait one (1) second.	C n t
		6
		C o i n
2	Press Service Mode Button <input type="checkbox"/> 12 times.	C b
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. <i>Examples: A C means selection A set to can setting, A b means selection A set to bottle setting.</i>	A C
4	Press any button on keypad to toggle between can or bottle setting. If selection is set correctly, then go to step 5 .	A b
5	Press Service Mode Button <input type="checkbox"/> to display next selection setting.	b C
6	Repeat steps 4 and 5 until selections A through F are set correctly and selection G is displayed.	G C
7	To exit, press Service Mode Button <input type="checkbox"/> 7 times.	. 0 0

VEND CYCLE

STAND-BY CONDITION

When the controller 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.

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. 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.

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.

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.

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 machine is programmed and responds accordingly. Refer to Can-Bottle menu on page 21 for additional features.

SOLD-OUT

The display will cycle to show the vend progress of each selection. If a product drop is not detected in 10 to 12 seconds, then **"MAKE ANOTHER SELECTION"** indicator light will flash several times. The customer may make a different selection or receive a refund by pressing the coin return lever. If the machine is set for forced purchase, the customer must make an initial selection.

"MAKE ANOTHER SELECTION" indicator light may be due to one of the following:

- Selected column is empty.
- Selected column is jammed.
- Drop Sensor does not detect product drop and needs adjustment.
- Invalid selections **G, H, J, L, N** and **P** were selected. These selections do not have any columns assigned.

REFRIGERATION UNIT

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

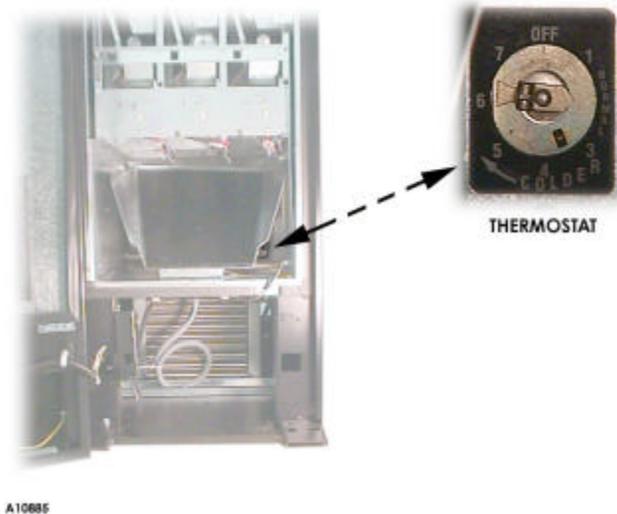


Figure 13. Thermostat

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.

The sealed hermetic system was not meant 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

Compressor has no power:

1. Machine not plugged in.
2. Tripped breaker or blown fuse.
3. Faulty wall outlet.
4. Short or tear in power cord.
5. Improper wiring.
6. Low voltage: 5 % below. Check the power source with the Multi-Meter.
7. Overload defective: Trips too fast. Check overload with the Multi-Meter.
8. Start relay defective: Check start relay with the Multi-Meter.
9. Compressor has open windings . Check compressor windings with a Multi-Meter.

COMPRESSOR TRIPS ON OVERLOAD

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

CAUTION:

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

NOISY OR VIBRATING UNIT

1. Components rubbing or touching each other.
 - Check fan blades and motor.
 - Loose shrouds and harness.
 - Copper tubing.
 - Loose or unsecured parts.
2. Worn or aged grommets.
3. Compressor
 - Bad valves
 - Slugging
 - Bad windings (See Figure 14. Compressor Schematic on page 27)
 - Low voltage

UNIT SHORT CYCLES

1. Temperature setting set too warm. See Refrigeration Controls section on page 23 of this manual.

UNIT OPERATES LONG OR CONTINUOUSLY

1. 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
2. Gasket leak around door.
3. Excessive load: After loading, unit will run longer to pull out excessive heat from product.
4. Shortage of refrigerant or restriction.

REFRIGERATED SPACE TOO COLD

1. Refrigeration control setting too cold. See Refrigeration Controls section on page 23 of this manual.

REFRIGERATED SPACE TOO WARM

1. Refrigeration control setting too warm. See Refrigeration Controls section on page 23 of this manual.
2. Restricted evaporator space.

Evaporator motor or blades faulty, causing the coils to ice over the evaporator.

Condenser air flow 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.

TROUBLESHOOTING CIRCUITS WITH MULTI-METER

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

- Check relay (See Figure 14. Compressor Schematic on page 27) Unscrew lead terminals and remove relay from compressor. (NOTE: keep relay upright)
- Check terminals 1 and S, or L and S with the Multi-Meter. Replace relay if continuity exists.
- Check compressor windings. (See Figure 14. Compressor Schematic on page 27.
- Check winding resistance with the Multi-Meter. If readings are not within 2 Ohms, the compressor is faulty.

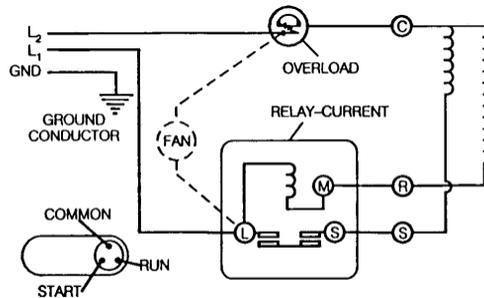
WARNING:

Wiring diagrams 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 RX1 scale:

COMMON to START: 12 Ohms
 COMMON to RUN: 2 Ohms
 RUN to START: 14 Ohms
 COMMON to SHELL: No Continuity



A10233

Figure 14. Compressor Schematic

REFRIGERATION UNIT REMOVAL

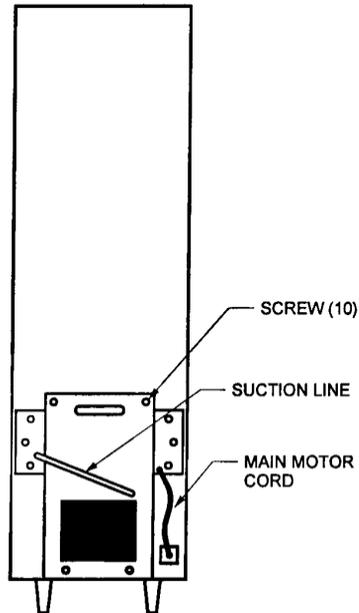
The refrigeration unit is a hermetically sealed completely self-contained modular 1/4 H.P. unit charged with 3.5 ounces of ozone-friendly R-134-a refrigerant. The complete refrigeration unit can be removed if there is a service problem.

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.

1. Unplug the power cord.
2. Remove the two screws holding the suction line cover.
3. Remove only the ten screws holding the refrigeration unit to the cabinet as shown in Figure 15.
4. From the front, disconnect the green ground (earth) wire from the power switch plate.
5. From the front, remove the screws holding the hopper and remove the hopper.
6. From the front, remove the air duct.
7. From the front, unscrew the "P" clamp that holds the main motor harness and the power harness to the power switch plate.
8. From the back, pull the unit out a few inches. Remove the Mastic from where the main motor cord enters the cabinet. Slide the cord out of the two slots (one on the outside of the panel and the other on the inside of the panel).
9. Use the handle on the unit and pull straight back to remove.

To re-install the refrigeration unit, reverse the above procedures.



A10775

Figure 15. Refrigeration Unit Removal

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. Odors may be eliminated by including baking soda or ammonia in the cleaning solution. 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

When ordering parts, include the following:

1. The model number and serial number of the machine.
2. Shipping address.
3. Address where the invoice should be sent.
4. The number of parts required.
5. Any special shipping instructions.
6. Carrier desired: air or air special, truck, parcel post, or rail.
7. Signature and date.
8. If a purchase order number is used, be sure that it is visible and legible.
9. Correct part number and description from the pertinent part and/or parts manual.

NOTE

When “Right” and “Left” are used with a part name, it is taken to mean that the person is facing the machine with the door closed.

10. Mail your order to: **VendNet**[®]
165 North 10th Street
Waukee, Iowa 50263 - USA
Phone: 515-274-3641
Parts Fax: 515-987-4447
Sales Fax: 515-274-0390
E-Mail: vendnet@vendnetusa.com

All orders are carefully packed and inspected before shipment. Damage incurred during shipment should be reported at once and a claim filed with the terminating carrier.

If you do not have the right parts manual, contact the above address. VendNet[®] will provide a copy for you, if available.

Do not wait to order until you receive the parts manual; instead use the most accurate description you can. Include the model number and serial number of the machine, the name of the assembly in which the part is used, and if practical, a sample part. Furnish any information to enable our Parts Department to pinpoint the exact part needed.

BEFORE CALLING FOR SERVICE

Please check the following:

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

WARNING:

Extension cords cause problems.
DO NOT USE EXTENSION CORDS.

- 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.

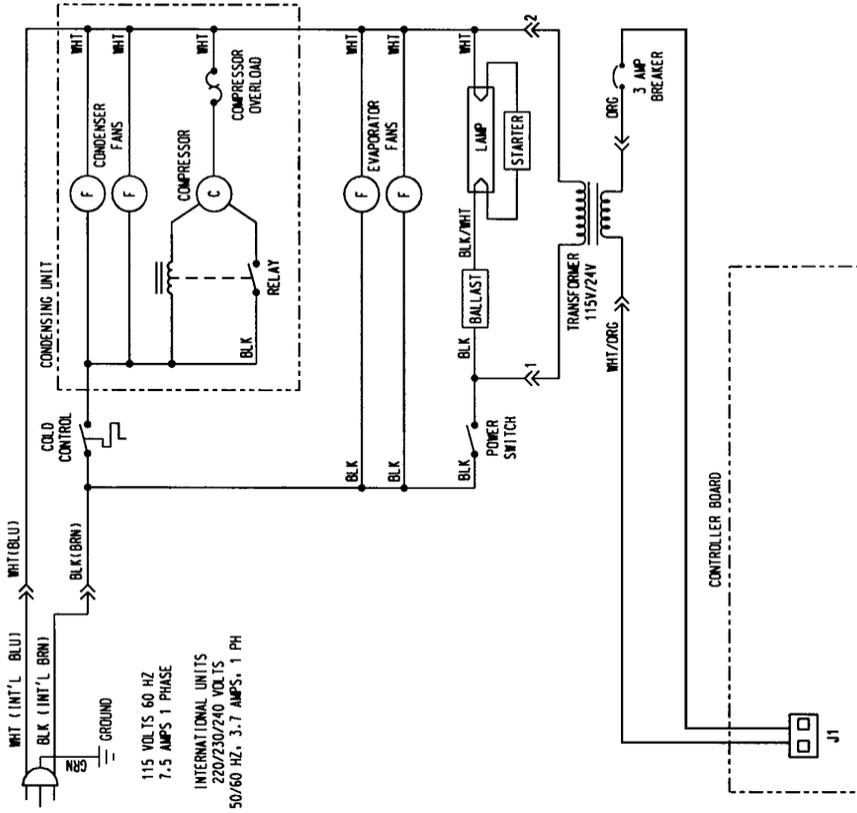
For additional information

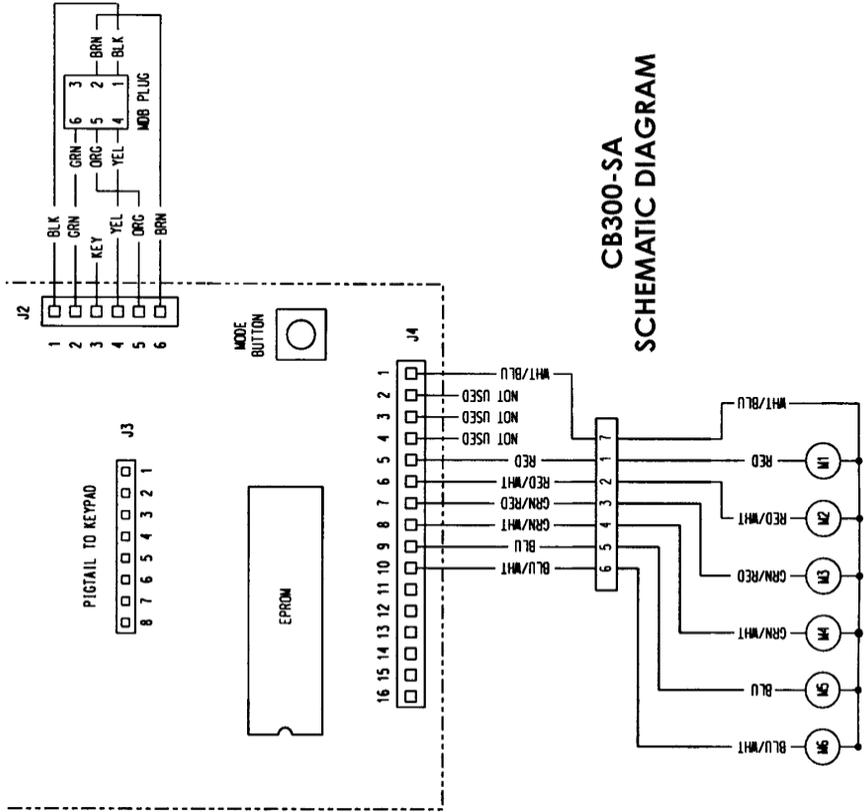
Phone: 1-800-833-4411 or

E-Mail: vendnet@vendnetusa.com

Include model number and serial number

SCHEMATIC





**CB300-SA
SCHEMATIC DIAGRAM**

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Waukee, Iowa 50263
United States of America



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Web Site	www.vendnetusa.com	