



CAN DRINK & CAN/BOTTLE SATELLITE SERVICE MANUAL MODELS 3172, 3172A, 3196

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INTRODUCTION

This manual contains instructions, service and installation guidelines for the **Can Drink or Can/Bottle Satellite Vendor**.

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 **SATELLITE VENDOR** uses the electronics and control systems of the host vendor for all vend functions, credit accumulation, and pricing.

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. All inquiries and correspondence pertaining to this vendor must reference the model and serial numbers.

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:

VendNet™
 165 North 10th Street
 Waukee, IA 50263
PHONE: 1-515-274-3641
1-800-833-4411
PARTS FAX: 1-515-274-5775
SALES FAX: 1-515-274-0390

MODEL NUMBER: _____

SERIAL NUMBER: _____

SPECIFICATIONS

DIMENSIONS			ELECTRICAL		
Height:	68.5 in.	174 cm	Power:	120 VAC	230 VAC
Width:	21 in.	53 cm	Cycle:	60 Hz	50 Hz
Depth:	33.5 in.	85 cm	Amps:	8 Amps	4 Amps
Weight:	360 lbs	163.3 kg	PRICING:	By Host Controller	
CAPACITY			REFRIGERATION		
	Selection	12 Oz. Cans	20 Oz. Bottles	Unit Size:	1/3 HP Hermetically Sealed
Column:	1	52	23	Refrigerant:	R-134a
Total:	6	312	138	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 above.

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.

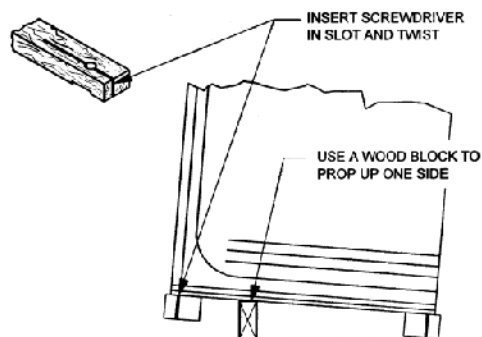


Figure 1. Removing Knock-Away Supports

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 (6 ft) 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.

1. GROUNDING (EARTHING) & ELECTRICAL

Refer to the **Safety Manual and Installation Guidelines (P/N 4206816)** that shipped in the service package with your machine.

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 6month intervals with the routine safety electrical testing of the equipment itself.

To correct negative voltage, amperage, polarities, or ground (earth) checks, consult a licensed electrician.

For proper operation of any equipment utilizing electronically controlled components, the equipment should be placed on an isolated or dedicated noise free circuit, properly polarized and grounded. Refer to the Electrical Specifications on this sheet to determine circuit amperage and protection.

WARNING:

Do not use extension cords.

2. PARTS CHECKLIST

Find the service package envelope inside the **SATELLITE VENDOR** on the second shelf near the hopper. Please remove it and verify that it contains the following parts:

- Screws for umbilical cord flat bracket.
- Wire ties.
- Tie bracket and mounting screws.

If so equipped, also verify that you have the optional Filler (rectangular shaped plastic) attached on the backside of the inner door. It might be needed if vending 16.9 oz. water bottles.

3. TOOLS NEEDED

- Flat Head and Phillips Head screwdrivers.
- Wire Cutter.

4. SATELLITE VENDOR LOCATION

Position the **SATELLITE VENDOR** so that it is on the right side of the host vendor. Refer to Figure 2. Swing doors open and check for clearance.

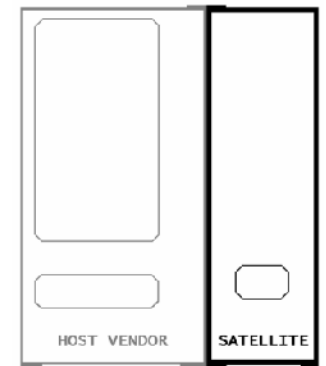


Figure 2. **SATELLITE VENDOR** located on right side of host

5. LOCATE HARNESS ENDS

Turn off the host vendor and unplug it from its power source.

Look for the extra 12-pin connector end of the motor harness inside the host vendor. The motor harness is usually hanging on the bottom right, or inserted through a hole on the second shelf, or laying on the second shelf. Refer to examples shown on Figure 3. Look for the MDB Power Harness 2-pin connector near the 12-pin connector. Have both the 12-pin connector and the 2-pin connector ready for the umbilical cord.

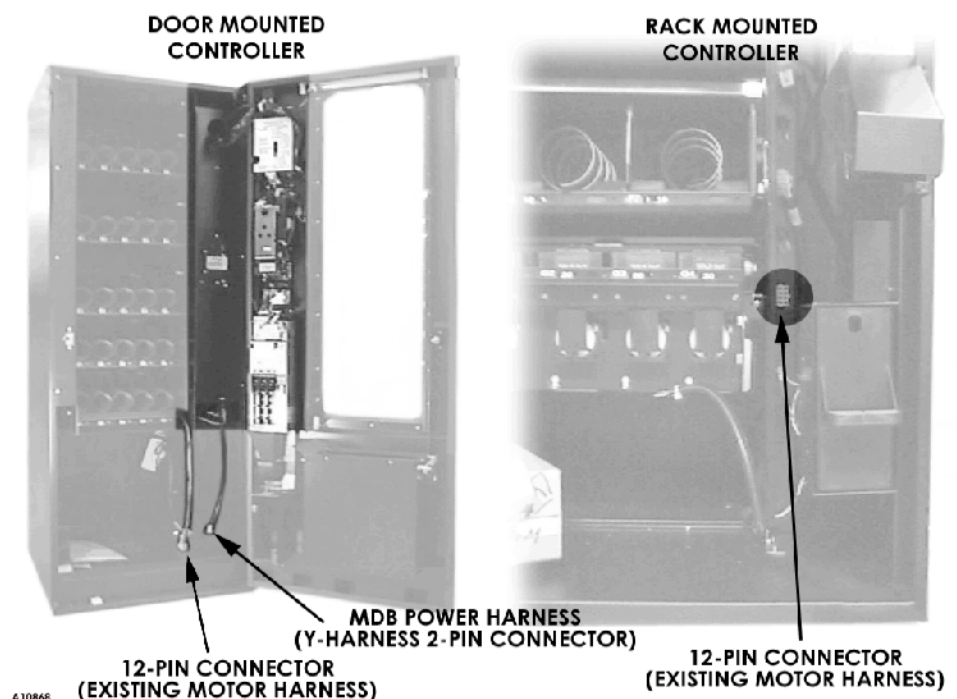


Figure 3. Typical 12-Pin Motor Wire Harness Locations

6. CONNECT UMBILICAL CORD

Remove the hole cover on the back of the host cabinet. Insert the **SATELLITE VENDOR** umbilical cord through the hole. Secure the bracket with screws provided. See Figure 4.

Connect the **SATELLITE VENDOR** umbilical cord to the 2-pin connector of MDB Power Harness and to the 12-pin motor harness. See Figure 5.



Figure 4. Remove Hole Cover. Insert Umbilical Cord

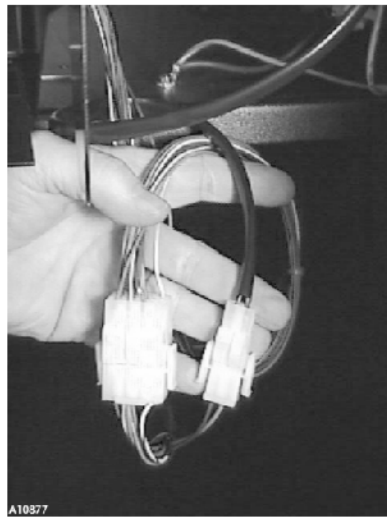


Figure 5. Connect SATELLITE VENDOR Umbilical Cord

Coil up wire harness and tuck away from any moving parts. Secure with wire ties. See Figure 6. Use wire cutter to cut off excess plastic from wire tie.

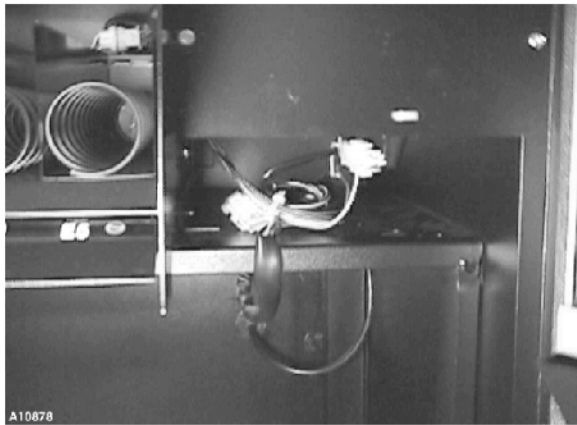


Figure 6. Tuck Away Wire Harness

7. POWER UP

Connect both the host vendor and the **SATELLITE VENDOR** into their electrical power source. Refer to host vendor manual for grounding and electrical power requirements.

Turn ON the host vendor. The host vendor controller will automatically recognize the motors on the **SATELLITE VENDOR**.

8. LOAD 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 strap. See Figure 7 and Figure 8.



Figure 7. Rear View of Can/Bottle Live Display



Figure 8. Rear View of Can Drink Live Display

9. SET PRICES

Set prices for selections H1 through H6 in the same manner you would set prices for existing selections. Refer to the host vendor for instructions on programming prices.

10. LOAD PRODUCTS

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 9 for part names, locations, and product orientation.
3. Product container bottoms must face towards the center of the rack as shown. Refer to Figure 10.
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 **SATELLITE VENDOR**. 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 loading for the first time, changing a column to a different product size, or 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.
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 10 on page 1. 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.
9. If product spacing is correct, then test vend each column using real money. Load the columns to full capacity.

CAUTION

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

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 10 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 10 on page 1. Reposition them in the adjustment slots. Use notch markers as reference points to align it vertically.

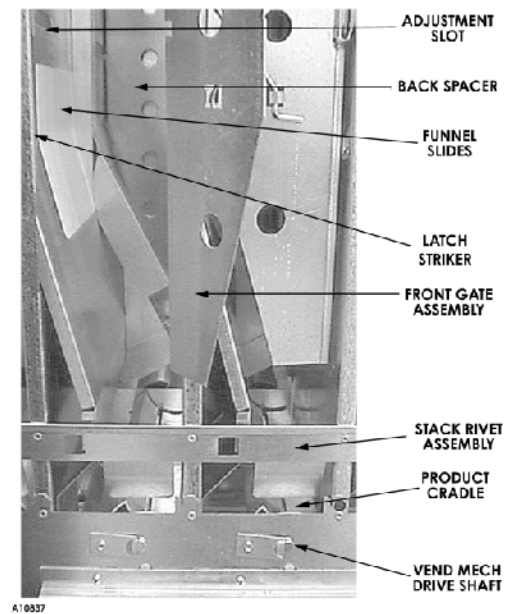


Figure 9. Vend Rack

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

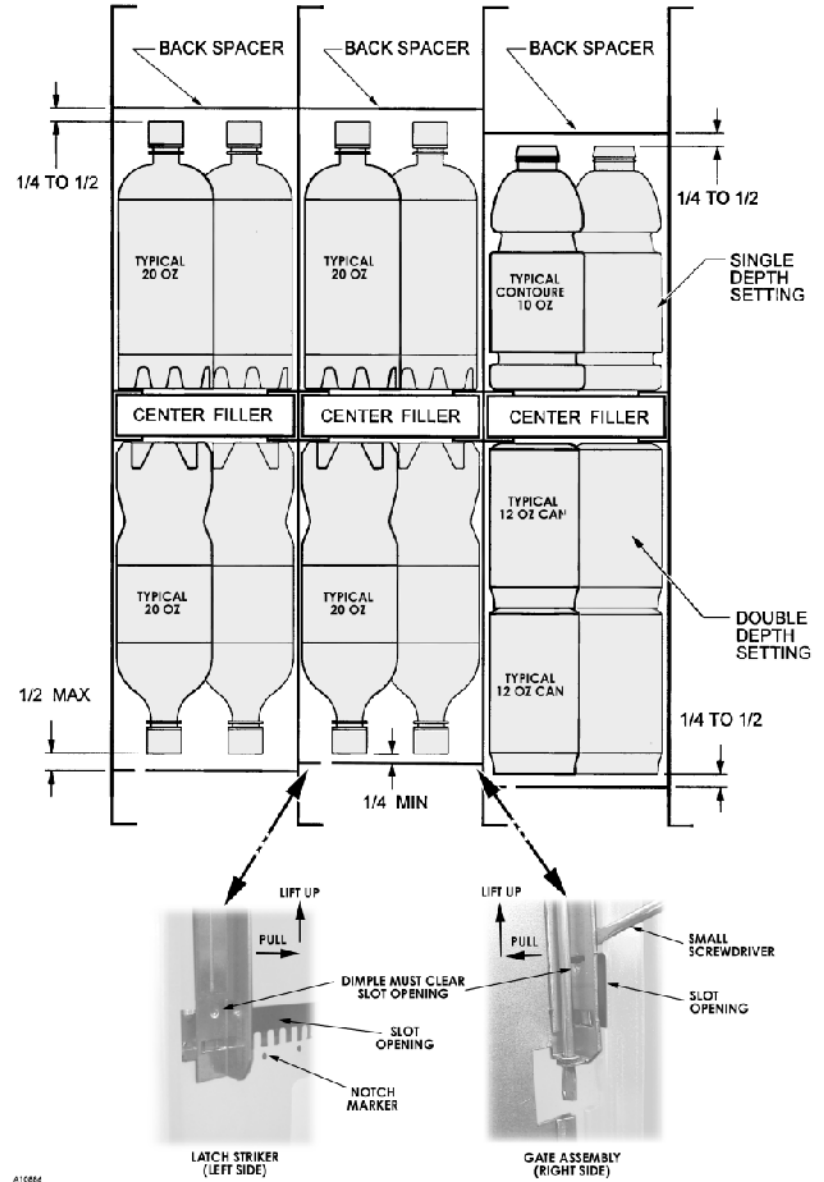


Figure 10. Column Depth

11. TEST VEND

Close host vendor door and **SATELLITE VENDOR** door. Test vend both vendors for proper operation. Use real money to simulate actual vend conditions.

12. INSTALL TIE BRACKET

WARNING

Failure to install the Tie Bracket in strict accordance with the following procedure may create an unintentional tipping or hazard. All installation and service work must be done by a qualified service technician.

Attach the **SATELLITE VENDOR** to the host vendor as shown on Figure 11. If attaching on the left side of the host vendor, it might be necessary to remove the anti-cheat upper bracket and use the other Tie Plate. Hook the Tie Plate furnished over the lip of the **SATELLITE VENDOR** and host vendor. Secure with screws provided.

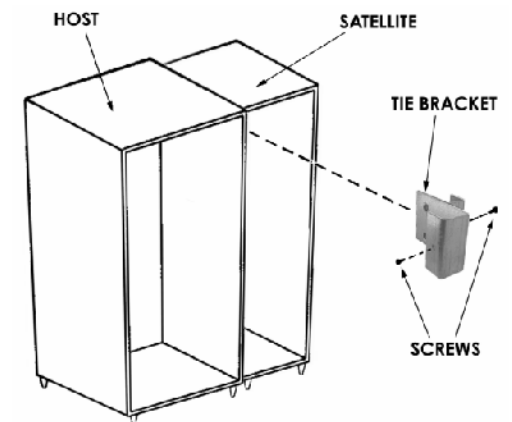


Figure 11. Tie Bracket

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 machine is plugged directly into a live dedicated outlet.

Note:

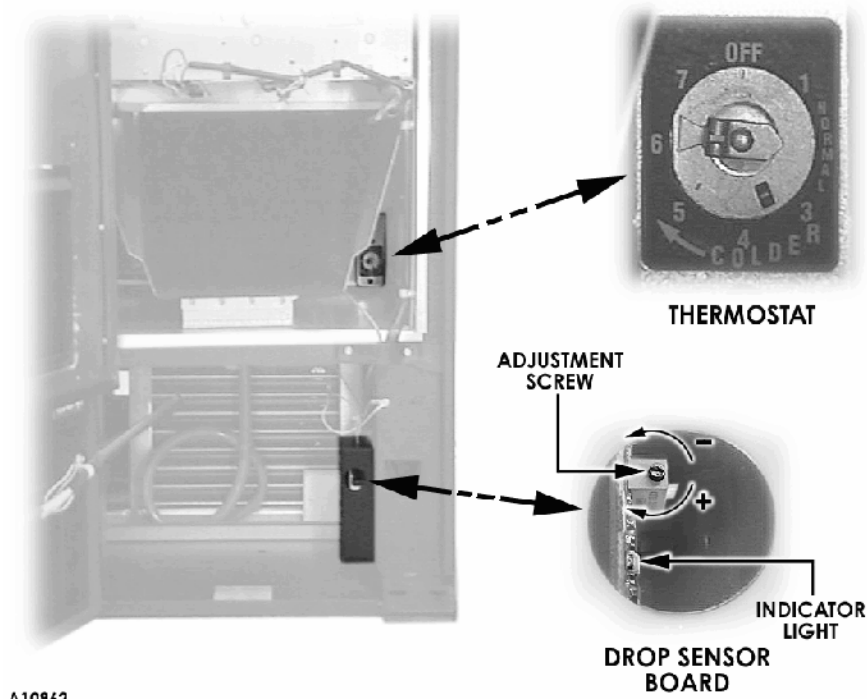
Extension cords cause problems – Do not use extension cords.

- ❑ The dedicated outlet is polarized and grounded.
- ❑ All vend prices have been set correctly on the host vendor. Refer to host vendor service manual.
- ❑ The **SATELLITE VENDOR** has been properly loaded and all items in each selection correspond to the display product and vend price. Refer to Load Products section on page 1.
- ❑ The machine has at least 4" of space behind it.
- ❑ The vendor door is closed tightly and locked.

DROP SENSOR

A drop (vibration) sensor on the delivery chute is your assurance that a product has been vended after a selection is made.

The drop sensor is factory calibrated and should not need adjustment. The sensor indicator light (located on the sensor board below the adjustment screw) will blink when a product hits the delivery chute. See Figure 12. If the light does not blink on impact, then an adjustment should be made.



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Figure 12. Drop Sensor Adjustment & Thermostat

DROP SENSOR ADJUSTMENT

1. Locate the sensor adjustment screw on the Drop Sensor Board. See Figure 12.
2. Use a small flat head screwdriver to slowly turn the adjustment screw clockwise (increase sensitivity) and stop when the indicator light comes on.
3. Slowly turn the adjustment screw counterclockwise (decrease sensitivity) and stop when the indicator light goes out. Continue to turn the adjustment screw counterclockwise three (3) 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 the adjustment screw clockwise ¼ turn to increase sensitivity.
 - **If machine fails to vend product upon vend request**, turn adjustment screw counterclockwise ¼ turn (to decrease sensitivity).

VEND CYCLE

When a can/bottle selection is made at the host vendor, then 24VDC is sent from the host controller to the **SATELLITE VENDOR** vend motor. The vend motor rotates the product cradle and lets the product drop off the cradle. 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 drop sensor board indicating that a product has been vended. The drop sensor board relays the information to the host control board. After receiving the drop sensor signal, the host control board will recognize how the machine is programmed and responds accordingly. Refer to host vendor service manual for controller and programming information.

SOLD-OUT

Some host vendors will require resetting. Refer to host vendor's service manual for additional information.

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 12 on page 2. If setting up for the first time, please allow sufficient time for the refrigeration system to cool the products.

WARNING

Colder setting does not cool drinks faster but may cause drinks to freeze.

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 frosts, then melts) - not cooling properly.
3. **Bad valves** - unit does not cool properly; noisy compressor.

COMPRESSOR WILL NOT START

Compressor has no power:

- | | |
|--|--|
| <ol style="list-style-type: none"> 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. | <ol style="list-style-type: none"> 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

- | | |
|--|---|
| <ol style="list-style-type: none"> 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. | <ol style="list-style-type: none"> 5. Short in other component: Isolate and eliminate each electrical component until short is found. 6. Compressor is too hot. <ul style="list-style-type: none"> • 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

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Components rubbing or touching each other. <ul style="list-style-type: none"> • Check fan blades and motor. • Loose shrouds and harness. • Copper tubing. • Loose or unsecured parts. | <ol style="list-style-type: none"> 2. Worn or aged grommets. 3. Compressor <ul style="list-style-type: none"> • Bad valves • Slugging • Bad windings (See Figure 13. Compressor Schematic on page 2) • Low voltage |
|---|---|

UNIT SHORT CYCLES

Temperature setting set too warm. See Refrigeration Controls section on page 2 of this manual.

UNIT OPERATES LONG OR CONTINUOUSLY

- | | |
|---|--|
| <ol style="list-style-type: none"> 6. Air flow restricted. <ul style="list-style-type: none"> • 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 | <ol style="list-style-type: none"> 7. Gasket leak around door. 8. Excessive load: After loading, unit will run longer to pull out excessive heat from product. 9. Shortage of refrigerant or restriction. |
|---|--|

REFRIGERATED SPACE TOO COLD

Refrigeration control setting too cold. See Refrigeration Controls section on page 2 of this manual.

REFRIGERATED SPACE TOO WARM

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Refrigeration control setting too warm. See Refrigeration Controls section on page 2 of this manual. 2. Restricted evaporator space. <ul style="list-style-type: none"> Evaporator motor or blades faulty, causing the coils to ice over the evaporator. Condenser air flow restricted. <ul style="list-style-type: none"> • Plugged or dirty condenser • Condenser motor or blades bad • Blade stuck | <ul style="list-style-type: none"> Condensing space restricted <ul style="list-style-type: none"> • Unit placed too close to a wall. Compressor - bad valves <ul style="list-style-type: none"> • 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.

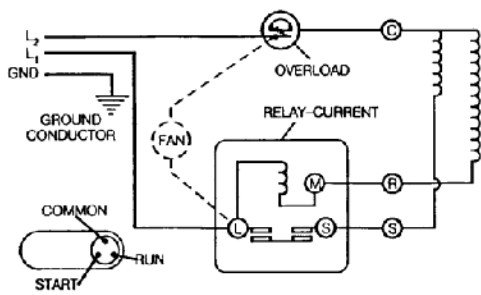
- Check relay (See Figure 13. Compressor Schematic on page 2) Unscrew lead terminals and remove relay from compressor. (NOTE: keep relay upright)
- Check terminals 1 and S, or L and S with the Multi-Meter. Replace relay if continuity exists.
- Check compressor windings. (See Figure 13. Compressor Schematic on page 2.
- 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

TABLE 2. 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 13. Compressor Schematic

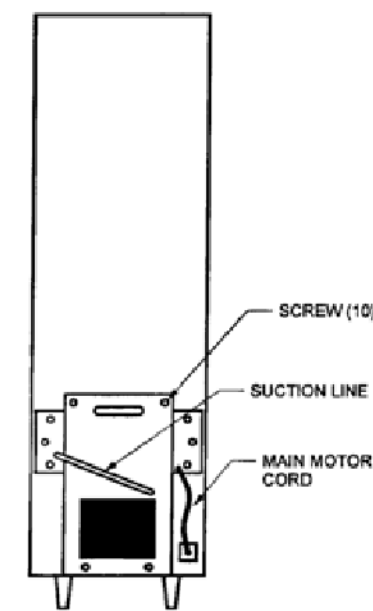
REFRIGERATION UNIT REMOVAL

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 14.
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.



A10775 Figure 14. Refrigeration Unit Removal

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

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 for which the parts are needed.
 2. Shipping address.
 3. Address where the invoice should be sent.
 4. The number of parts required.
 5. Always refer to the pertinent parts and/or parts manual for the correct part number and description of a specific part.
- NOTE:**
When RIGHT or LEFT is used with the name of a part, it means the person is facing the machine with the door closed.
6. Any special shipping instructions.
 7. Carrier desired: air or air special, truck, parcel post, or rail.
 8. Signature and date.
 9. If a purchase order number is used, be sure that it is visible and legible.

Mail your order to:

VendNet™
165 North 10th Street
Waukege, 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:

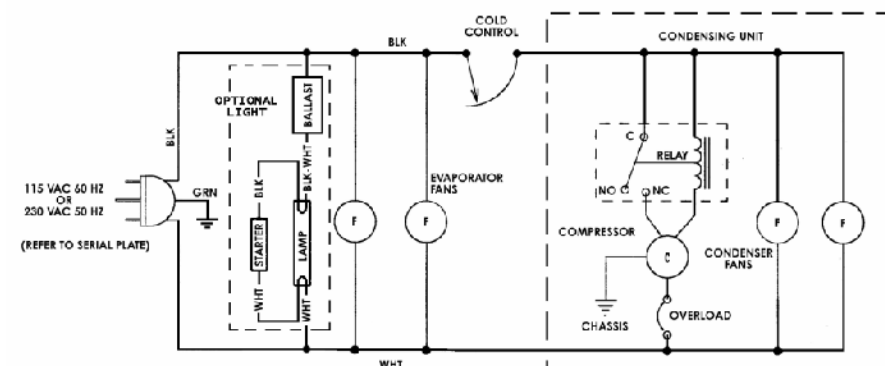
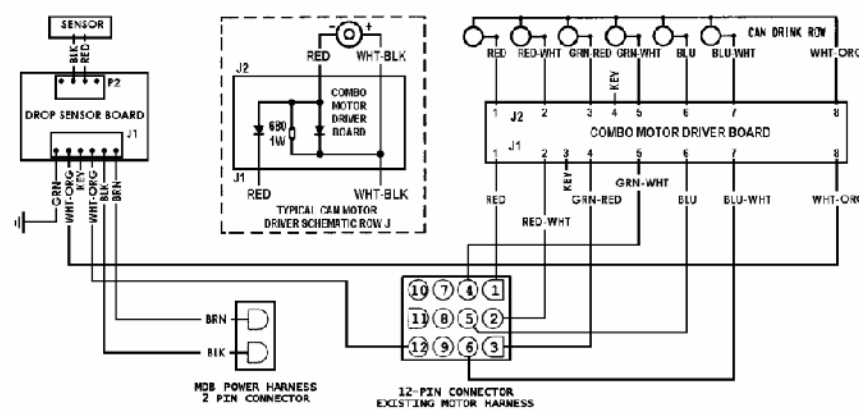
Setting the cold control higher does not accelerate cooling of product.

For additional information

Phone: 1-800-833-4411 or

E-Mail: vendnet@vendnetusa.com

Include model number and serial number

SCHEMATIC

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Waukege, Iowa 50263
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	

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