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**INSTALLATION AND SERVICE  
MANUAL  
FOR  
DELTA II REMOTE RECIRCULATING UNIT  
LANCER SERIES 9100**

*This manual is an initial issue.*



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## SPECIFICATIONS

### **DIMENSION**

Width	16 7/8 inches (42.86 cm)
Depth	24 3/4 inches (62.87 cm)
Height (without legs)	25 1/2 inches (64.77 cm)

### **WEIGHT**

Shipping	170 lbs (77.1 kg)
Empty	156 lbs (70.8 kg)
Operating	220 lbs (99.8 kg)

### **WATER REQUIREMENTS**

Minimum flowing pressure of 25 PSIG (1.76 kg/cm<sup>2</sup>, 1.72 BAR)

Maximum static pressure of 50 PSIG (3.52 kg/cm<sup>2</sup>, 3.45 BAR)

### WARNING

**IF WATER SOURCE EXCEEDS 50 PSIG (3.52 KG/CM<sup>2</sup>), A RECOMMENDED WATER REGULATOR ASSEMBLY (PN 18-0253) MUST BE USED TO LIMIT WATER PRESSURE TO 50 PSIG (3.52 KG/CM<sup>2</sup>). FAILURE TO USE REGULATOR WILL RESULT IN IMPROPER PERFORMANCE OF DISPENSER.**

### **CARBON DIOXIDE (CO<sub>2</sub>) REQUIREMENTS**

Minimum pressure of 70 PSIG (4.92 kg/cm<sup>2</sup>, 4.83 BAR)

Maximum pressure of 80 PSIG (5.62 kg/cm<sup>2</sup>, 5.52 BAR)

### **ICE BANK WEIGHT**

27 to 30 lbs (12.2 to 13.6 kg)

### **DRINK CAPACITY**

200 - 12 oz. drinks under 40°F (4.4°C) at 4 drinks per minute with 75°F (23.9°C) ambient inlet water and inlet syrup using 1/3 HP, 115 V, 60 Hz refrigeration system.

### **DISPENSER INSTALLATION HIGHLIGHTS**

Listed below are ten critical elements which will aid in a successful installation.

1. Fill water bath until water over flows from tank overflow tube.
2. The carbonator pump motor must be disconnected from the power supply (see Section 1.8A) prior to connection to water supply for initial build up of ice bank. Failure to do so will result in automatic shut off of carbonator (see item 6 below) or damage to the pump.
3. If this dispenser is installed in an area that is susceptible to ±10% variation of the nominal line voltage, consider installing a surge protector or similar protection device.
4. There is a **5 minute delay**, which prevents the compressor and condenser fan from starting until the delay has lapsed. If electrical current is interrupted, there is always a **5 minute delay** before the compressor starts.
5. The unit is equipped with a protective timer for the carbonator pump motor, set for 3 minutes. If the carbonator motor has timed out, it must be manually reset by either momentarily unplugging the unit or switching off the ON/OFF switch (if present). Once power is restored, the 5 minute compressor delay would be in effect.
6. Supply Water Pressure: Minimum - 25 PSIG (1.76 kg/cm<sup>2</sup>); Maximum - 50 PSIG (3.5 kg/cm<sup>2</sup>). If pressure is over 50 PSIG, a water pressure regulator must be used.
7. On units with the built in water regulator, the regulator must be removed if inlet water pressure is less than 25 PSIG.
8. CO<sub>2</sub> Pressure: Recommend nominal pressure 70 PSIG (4.92 kg/cm<sup>2</sup>, 4.83 BAR). Pressure may be reduced to a minimum of 60 PSIG (4.22 kg/cm<sup>2</sup>, 4.13 BAR) if remote syrup pumps are being used. It may be increased to a maximum of 80 PSIG (5.62 kg/cm<sup>2</sup>, 5.52 BAR), only when internal syrup pumps are being used with highly viscous syrups. **Important:** Internal syrup pumps may not work at pressures less than 60 PSIG. CO<sub>2</sub> pressure over 80 PSIG may result in damage or leakage from the syrup pump system, or may cause excessive foam in the drink.
9. Bag-in-Box syrup packages must be within 6 feet from unit when internal syrup pumps are being used.
10. Valve Adjustment: Make sure drink temperature is below 40°F (4.4°C) before adjusting brix.

## 1. INSTALLATION

### 1.1 RECEIVING

Each unit is tested and thoroughly inspected before shipment. At time of shipment, the carrier accepts the unit and any claim for damages must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect carton for visible indication(s) of damage. If damage exists, have carrier note same on bill of lading and file a claim with the carrier.

### 1.2 UNPACKING

- A. Cut plastic band and remove.
- B. Remove top portion of carton by lifting up.
- C. Remove accessory kit and loose parts from top packaging.
- D. Remove top inner carton pad and corners.
- E. Lift unit up by plywood shipping base, and remove lower portion of carton.
- F. Inspect unit for concealed damage(s) and if evident, notify delivering carrier and file a claim against same.
- G. Remove plywood shipping base from unit by moving unit, so that one side is off the counter top or table, allowing access to screws on the bottom of the plywood shipping base.

#### **NOTE**

IF UNIT IS TO BE TRANSPORTED, IT IS ADVISABLE TO LEAVE UNIT SECURED TO PLYWOOD SHIPPING BASE.

- H. If unit is to be installed with optional legs, assemble legs to unit by tilting unit. DO NOT LAY UNIT ON ITS SIDE OR BACK.

### 1.3 UNPACKING INSTALLATION KITS

- A. Inspect kits for concealed damage and if evident, notify delivering carrier and file a claim against same.
- B. Each kit contains a list of the parts and a drawing showing the proper assembly of the parts.

### 1.4 SELECTING A LOCATION

- A. Select a location close to a properly grounded electrical outlet and water supply that meet the requirements as scheduled on the Specifications page.
- B. Condenser air is drawn in the front of the unit and discharged out the top of the unit. A minimum of 8 inches (20.3 cm) clearance must be maintained over the top of the unit.

#### **WARNING**

**FAILURE TO MAINTAIN THIS CLEARANCE WILL CAUSE THE COMPRESSOR TO OVERHEAT AND WILL RESULT IN COMPRESSOR FAILURE.**

- C. Units with built-in syrup pumps must be located no more than 8 meters (25 ft.) from the dispensing tower, and no more than 2.4 meters (8 ft.) below the tower. Use external pumps if these limits are exceeded.

### 1.5 MOUNTING THE DISPENSER

- A. The dispenser is designed to be permanently mounted and sealed to the counter, or installed on 4 inch legs.
- B. For permanent mounting, use Lancer sealant kit (PN 15-0010) to seal the dispenser to the counter.
- C. For leg mounting, use Lancer leg kit (PN 82-0962).

#### **NOTE**

NSF listed units must be sealed to the counter, or have 4 inch legs installed.

### 1.6 FILLING UNIT WITH WATER

- A. Remove the bonnet from the unit.
- B. Remove the yellow plastic plug (located on the front of the unit's carbonator deck) from the unit's fill hole.
- C. Using a funnel or tube, fill the water bath compartment with water until it flows out of the

overflow tube into the drip tray.

**CAUTION**

THE WATER BATH COMPARTMENT MUST BE FILLED WITH WATER BEFORE PLUGGING IN THE UNIT. OTHERWISE, THE COMPRESSOR DECK AND CONDENSER FAN MAY NOT OPERATE PROPERLY.

D. Replace the yellow plug.

**1.7 CONNECTING TO ELECTRICAL POWER**

**WARNING**

**THIS UNIT MUST BE PROPERLY ELECTRICALLY GROUNDED TO AVOID POSSIBLE FATAL ELECTRICAL SHOCK OR SERIOUS INJURY TO THE OPERATOR. THE POWER CORD IS PROVIDED WITH A THREE PRONG GROUNDED PLUG. IF A THREE-HOLE GROUNDED ELECTRICAL OUTLET IS NOT AVAILABLE, USE AN APPROVED METHOD TO GROUND THE UNIT.**

**WARNING**

**FAILURE TO DISCONNECT THE MOTOR POWER SUPPLY WILL DAMAGE THE CARBONATOR MOTOR AND PUMP AND VOID THE WARRANTY.**

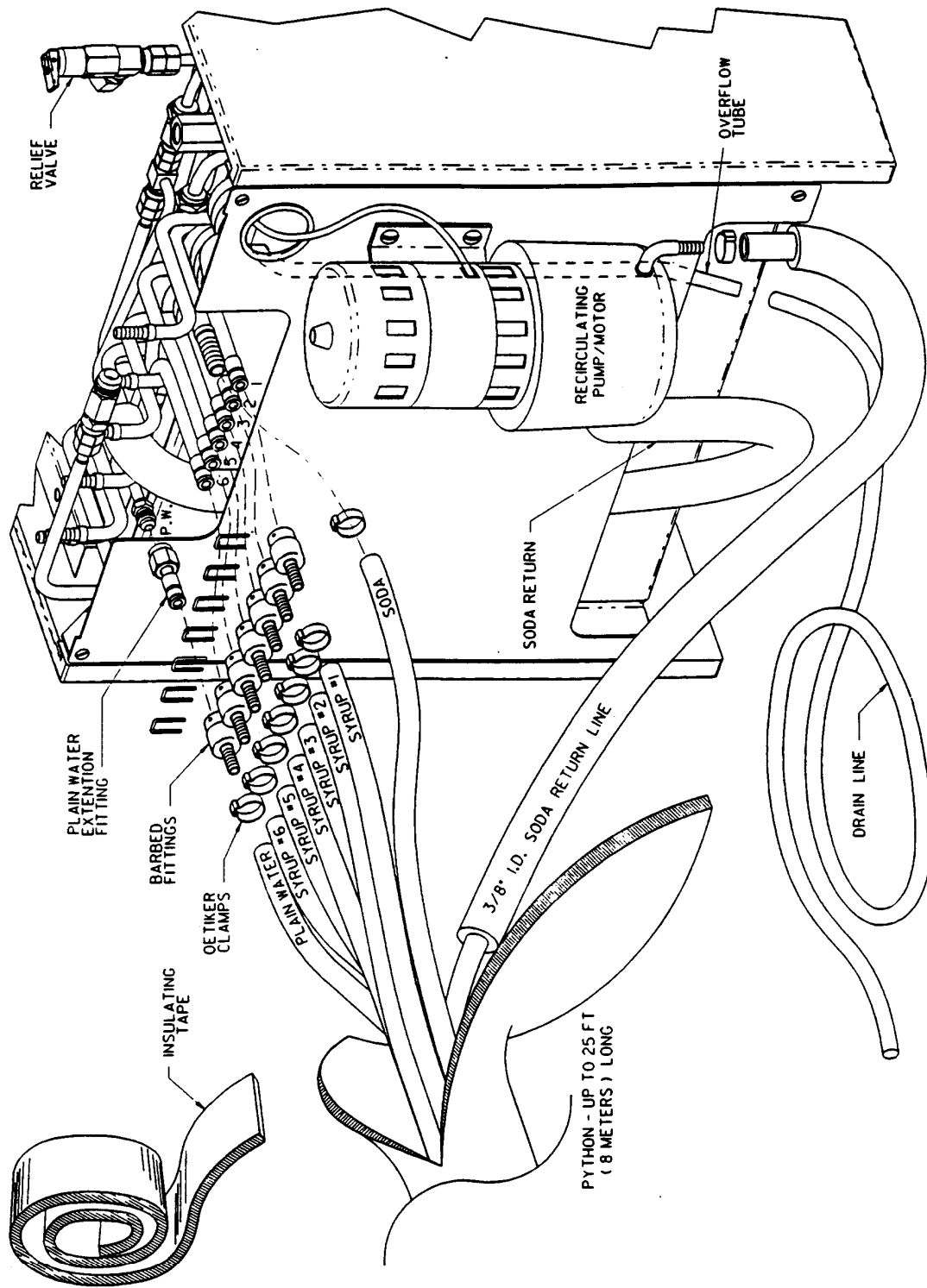
- A. If the unit is equipped with a built-in carbonator, disconnect the power supply to the carbonator motor by disconnecting the four pin connector, located near the top of the electrical control box on the refrigeration deck.
- B. Check the dispenser serial number plate for unit's correct electrical requirements. *Do not plug into wall electrical outlet unless serial number plate current shown agrees with local current available.*
- C. Route the power supply cord to a grounded electrical outlet of the proper voltage and amperage rating, and plug in the unit. This will turn on the refrigeration system and allow it to start cooling, while completing the rest of the installation. The agitator motor will start immediately, but the compressor and fan motor will not start until the 5 minute delay has elapsed.

**1.8 CONNECTING PYTHON TO REMOTE RECIRCULATING UNIT (see Figure 1)**

- A. All remote units have the plain water feature, factory installed. If plain water is not wanted, remove the barbed fitting and short extension fitting, and cap end of plain water line with cap from accessory kit.
- B. Determine length of python required, allowing additional length as required for servicing. The length of the python must not exceed 25 feet (8 meters) if built-in syrup pumps are being used.
- C. Position one end of python near remote unit. Slit the python insulation back 18 inches (45 cm) from end and roll insulation back to expose individual tubes. Take care not to cut into tubing bundle.
- D. Slide the tube insulation from the accessory kit over one of the 3/8 inch ID plastic soda lines. Connect this line to the 3/8 inch barbed 90° elbow located on the inlet to the recirculating pump. Secure with an Oetiker clamp from the kit.
- E. Connect the other 3/8 inch ID plastic soda line to the 3/8 inch barbed fitting on the stainless steel soda recirculating. Secure with Oetiker clamp from kit.
- F. Connect each of the 1/4 inch ID plastic lines from the python to the barbed fittings on each of the stainless steel lines (and plain water line, if used). Secure with Oetiker clamps. The individual barbed fittings for the lines can be removed for insertion into the python tubing by removing the "U" shaped retainer pin and g fitting off of syrup line.

**NOTE**

Do not insulate connections at this time. Leave all connects exposed for inspection for leaks. Refer to Section 1.17 to complete insulation.



Connecting Python to Remote Recirculating Unit  
 Figure 1

## 1.9 CONNECTING PYTHON TO TOWER (See Figure 2)

- A. Route opposite end of python to tower. Determine length required, and cut if necessary. Be sure to allow additional length as required for servicing.

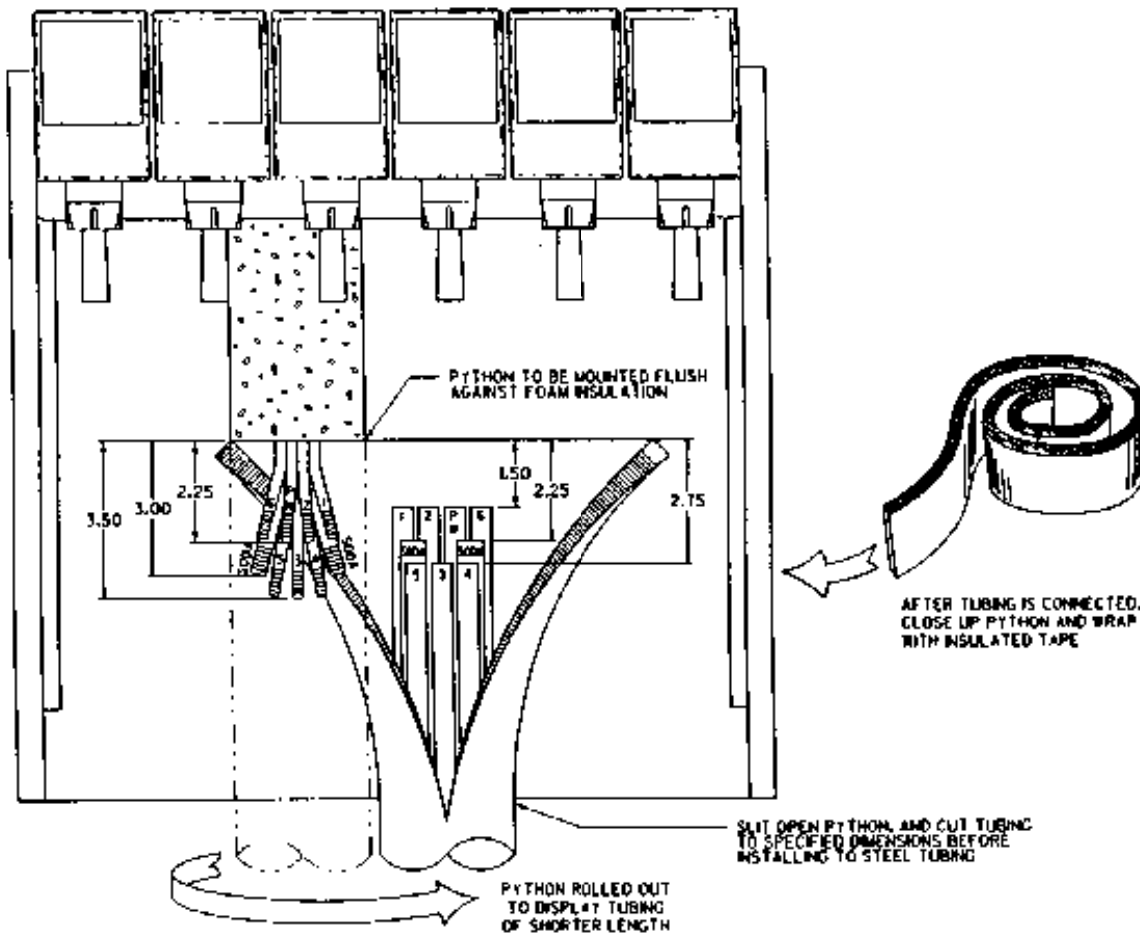
### **WARNING**

**USE A SHARP KNIFE, RAZOR BLADE, OR TUBE CUTTER TO CUT TUBING. TUBING CUT WITH A SAW WILL RESULT IN PLASTIC SHAVINGS, WHICH WILL PLUG THE FLOW CONTROLS IN THE DISPENSING VALVE.**

- B. Slit python insulation back 12 inches (30 cm) from end and roll insulation back to expose individual tubes. Cut tubing to length as shown in Figure 2.
- C. All Delta towers have the plain water feature, factory installed. If plain water is not wanted, splice a stainless steel, reducing, barbed hose tee (PN 01-0527) in the 3/8 inch soda line. Use a separate 1/4 inch tube to complete the connection from the barbed tee to the tower manifold.
- D. Connect each of the plastic lines from the python to the barbed fittings on each of the stainless steel syrup, soda, and plain water lines on the tower manifold. Start with connections at the back of the tower manifold first. Secure with Oetiker clamps.

### **NOTE**

Do not insulate connections at this time. Leave all connects exposed for inspection for leaks. Refer to Section 1.18 to complete insulation.



Connecting Python to Delta Tower  
Figure 2



## 1.10 CONNECTING 24VAC POWER SUPPLY TO TOWER

### NOTE

The remote recirculating unit is designed to supply 24VAC power to the valves on the dispensing tower. An extension cord of 25 feet (8 meters) is provided for this purpose in the tower. A separate power supply **must** be used if the tower is located more than 25 feet (8 meters) from the remote recirculating unit.

- A. Remove cover from electrical control box on remote recirculating unit, and route white and black wires (bundled) through the opening in side of control box. Replace cover.
- B. Connect extension cord to white and black wires.
- C. Route extension cord with python to tower.
- D. Connect white wire to terminal on key lock switch, and black wire to loose black wire in tower.
- E. A separate power cord is provided for the lighted merchandiser.

## 1.11 CONNECTING TO WATER SUPPLY

### WARNING

**IF WATER SOURCE EXCEEDS 50 PSIG (3.52 KG/CM<sup>2</sup>), A WATER REGULATOR KIT MUST BE USED TO LIMIT WATER PRESSURE TO 50 PSIG (3.52 KG/CM<sup>2</sup>). FAILURE TO USE REGULATOR WILL RESULT IN IMPROPER PERFORMANCE OF DISPENSER.**

- A. Using tubing and fittings from installation kit, connect tubing assembly to water source. *DO NOT CONNECT TO DISPENSER AT THIS TIME.*
- B. Flush water supply line thoroughly.
- C. *IF THE WATER SOURCE IS ABOVE 50 PSIG (3.52 KG/CM<sup>2</sup>), CUT TUBING ASSEMBLY AND INSTALL WATER REGULATOR KIT (PN 18-0253/01) AS SHOWN IN KIT INSTRUCTION SHEET.*
- D. Route tubing through hole in counter and through opening behind splash plate and connect to carbonator pump, using a flare seal washer (PN 05-0017). Use a back-up wrench to prevent damage to carbonator pump.
- E. Leave 1 foot (30 cm) of extra tubing length below the counter for servicing and moving the dispenser.
- F. Turn on water supply and check for leaks.
- G. Using test gauge assembly (PN 22-0138), set regulator at 50 PSIG (3.52 kg/cm<sup>2</sup>).

## 1.12 CONNECTING THE CO<sub>2</sub> SUPPLY

- A. Connect high pressure CO<sub>2</sub> regulator assembly to CO<sub>2</sub> cylinder. Use a new CO<sub>2</sub> tank washer if regulator does not have built-in o-ring seal.
- B. Place CO<sub>2</sub> cylinder in service location under counter, etc., and secure it with a safety chain.
- C. Using tubing and fittings from installation kit, connect tubing assembly to tank mount regulator using flare seal washer (PN 05-0011). Use a back-up wrench to prevent damage to regulator assembly.
- D. Route gas line through hole in counter and through opening behind the dispenser splash plate.
- E. Leave 1 foot (30 cm) of extra tubing length below the counter for servicing and moving the dispenser.
- F. Remove the protective plug from the CO<sub>2</sub> manifold (located on top of mini pumps on left side of unit) and connect the CO<sub>2</sub> supply line using a 1/4 inch elbow (supplied in installation kit.)

### WARNING

**DO NOT TURN ON THE CO<sub>2</sub> SUPPLY AT THIS TIME**

- G. If dispenser does not have built in syrup pumps, connect directly to the carbonator CO<sub>2</sub> inlet check valve.

## 1.13 CONNECTING TO BAG-IN-BOX (BIB) SYRUP SUPPLY (Units with Built-in Syrup Pumps)

- A. Remove the protective caps from the syrup pump inlets and connect syrup inlet tube assemblies, furnished in the installation kit, to the syrup pumps. Lubricate o-rings before installation, using food grade glycerine or equivalent. Be careful not to cut o-rings when installing in pump.

### **CAUTION**

THE SYRUP INLET TUBE ASSEMBLIES SHIPPED WITH THE INSTALLATION KIT, ARE 8 FEET (2.4 M) LONG. THESE LINES CAN BE EXTENDED UP TO A MAXIMUM OF 12 FEET (3.7 M). THE MAXIMUM HEIGHT OF THE PUMPS ABOVE THE LOWEST BIB PACKAGE SHOULD NOT EXCEED 8 FEET (2.4 M). IF EITHER THE HEIGHT OF PUMPS OR LENGTH OF INLET LINE LIMITATIONS ARE EXCEEDED, REMOTE SYRUP PUMPS OR PRESSURIZED SYRUP CONTAINERS SHOULD BE USED.

- B. Mark syrup tube assemblies at BIB hose connector end with product ID tape.
- C. Route the syrup supply tubes from the unit, through hole in counter, to the BIB syrup supply.
- D. Dip hose connectors in a cup of warm, potable water.
- E. Attach the BIB hose connectors to the appropriate syrup flavor.

#### **1.14 CONNECTING TO REMOTE BIB SYRUP PUMPS**

- A. Locate the remote BIB, syrup supply, and pumps in a convenient location.
- B. Attach the syrup supply tubes to the dispensers syrup inlet fittings (located behind the splash plate) using a 1/4 inch Oetiker clamp for each syrup flavor.
- C. Route the syrup supply tubes to the remote syrup pumps.
- D. Complete installation of the remote syrup pump system following the manufacturer's instructions.

#### **1.15 CONNECTING TO REMOTE PRESSURIZED SYRUP SUPPLY**

- A. Locate the five gallon syrup containers and the CO<sub>2</sub> cylinder and regulator set in a convenient location.
- B. Attach the syrup supply tube assembly to the dispensers syrup inlet fittings (located behind the splash plate) using a 1/4 inch Oetiker clamp for each syrup flavor.
- C. Route the syrup supply tubes to the five gallon syrup containers and attach them to the appropriate syrup flavor.
- D. Attach a CO<sub>2</sub> supply line from each of the five gallon syrup containers to the low pressure regulator and pressurize the containers.

#### **1.16 PURGING THE CARBONATION SYSTEM**

- A. The relief valve for the built-in carbonator is located on the right hand side of the unit's carbonator deck. Lift the yellow lever on the top of the relief valve until water flows from the holes in the relief valve. Then, release the relief valve.
- B. Reconnect the power supply to the carbonator pump.
- C. Back off on the CO<sub>2</sub> regulator pressure adjusting screw all the way. Open the CO<sub>2</sub> cylinder handle slowly. Turn the CO<sub>2</sub> pressure regulator up slowly to 75 PSIG (5.1 bar).
- D. Open a dispensing valve at tower, until water and syrup are flowing steadily from the valve.
- E. Repeat procedure "D" for each valve.
- F. Check all of the unit's syrup, water and CO<sub>2</sub> connections for leaks and repair if necessary.

### **NOTE**

To check for CO<sub>2</sub> leaks, close the valve on the CO<sub>2</sub> cylinder and observe if the pressure to the system drops with the cylinder valve closed for five (5) minutes. Open the cylinder valve after check.

- G. Replace the unit's bonnet and splash plate.

#### **1.17 COMPLETE INSULATION BETWEEN REMOTE UNIT AND PYTHON**

- A. Check all of the unit's syrup, water, and CO<sub>2</sub> connections for leaks and repair, if necessary.
- B. Close the python insulation, which had been rolled back earlier for connection to remote unit syrup, soda, and plain water lines. Seal python insulation with plastic tape. There should be no gaps in the insulation. The insulated soda line to the recirculating pump will protrude approximately 18 inches from the end of the python insulation.
- C. Starting as close to the remote unit as possible, wrap the syrup, soda, and plain water lines with a single layer of insulated tape until all plastic tubing has been covered.
- D. Deal the insulated soda line from the python to the recirculating pump. The soda line insulation

should be butted firmly against the recirculating pump and python insulation and sealed at both junctions with plastic tape.

### **1.18 COMPLETE INSULATION BETWEEN TOWER AND PYTHON**

- A. Check all of the unit's syrup, water, and CO<sub>2</sub> connections for leaks and repair, if necessary.
- B. Close the python insulation, which had been rolled back earlier for connection to tower manifold. Seal python and tower manifold insulation with plastic tape. There should be no gaps in the insulation.
- C. The python insulation should be butted firmly against the tower manifold insulation and sealed in place with plastic tape.

#### **CAUTION**

THE PYTHON INSULATION MUST BE AIR TIGHT TO PREVENT THE FORMATION OF CONDENSATION. ALL AREAS MUST BE SEALED WITH PLASTIC TAPE AND THEN COVERED WITH INSULATION TAPE. FAILURE TO SEAL BOTH ENDS OF THE PYTHON WILL RESULT IN POOR PERFORMANCE FROM THE DISPENSER.

## **2. SCHEDULED MAINTENANCE**

### **2.1 DAILY**

- A. With a clean cloth and warm soapy water, wipe off all of the units exterior surfaces.

### **2.2 WEEKLY**

- A. Remove the unit's bonnet and check the level of water in the water bath. Replenish as required, and replace the bonnet.

### **2.3 MONTHLY**

- A. Unplug the dispenser from its power source.
- B. Remove the bonnet. Clean the dirt from the unit's condenser, using a soft brush.
- C. Replace the bonnet, and plug in the unit.

### **2.4 EVERY SIX (6) MONTHS**

- A. Clean and sanitize the unit using the appropriate procedures (outlined in Section 3).

### **2.5 YEARLY**

- A. Clean water bath interior, including evaporator coils and refrigeration components.
- B. Clean the entire exterior of the unit.
- C. Sanitize syrup lines.

#### **NOTE**

Because of difficulty in rinsing, detergent solution should **not** be introduced into the carbonator.

## **3. DISPENSER CLEANING AND SANITIZING**

### **3.1 AMBIENT PROCESS**

- A. The ambient process is the most common method for cleaning and sanitizing dispenser equipment. The detergent should be caustic-based and the sanitizer should be low pH (7.0) chlorine solution.
- B. Disconnect syrup containers. Remove product from tubing by purging with carbon dioxide.
- C. Rinse the lines and fittings with clean, potable room temperature water to remove all traces of residual product.
- D. Fill lines with a caustic-based (low-sudsing, non-perfumed, and easily rinsed) detergent solution. The solution should be prepared in accordance with the manufacturer's recommendations, but should be at least 2 percent sodium hydroxide. Make sure the lines are completely filled and allow to stand for at least 10 minutes.
- E. Flush the detergent solution from the lines with clean water. Continue rinsing until testing with phenolphthalein shows that the rinse water is free of residual detergent.
- F. Fill the lines with a low pH (7.0) chlorine solution containing at least 50 PPM (50 mg/L) available chlorine. Make sure that lines are completely filled and allow to stand for 10 minutes.

- G. Reconnect syrup containers and ready Unit for operation.
- H. Draw drinks to refill lines and flush the chlorine solution from the dispenser.
- I. Taste the beverage to verify that there is no off taste.

### 3.2 ALTERNATE CLEANING AND SANITIZING AGENTS

- A. The above approach to cleaning and sanitizing is strongly recommended. However, the Division Quality Assurance Manager may approve the following cleaning and sanitizing agents.
- B. Chlorinated alkaline detergents. These compounds may be used as the cleaning agent, but may **not** be used as combined cleaner/sanitizer.

#### WARNING

**IODOPHORS AND QUATERNARY AMMONIUM COMPOUNDS (QUATS) ARE BROAD CLASSES OF COMPOUNDS. SOME MEMBERS OF EACH GROUP CAN CAUSE SERIOUS PROBLEMS WITH FOAMING, DISTORTION OR DISCOLORATION OF POLYMERIC PARTS, POOR RINSIBILITY, AND OFF TASTE. THE RINSIBILITY AND OFF TASTE PROBLEMS HAVE BEEN ESPECIALLY PREVALENT WITH QUATS. BECAUSE OF THE POTENTIAL PROBLEMS, APPROVAL MUST BE GRANTED BY THE DIVISION QUALITY ASSURANCE MANAGER TO SPECIFIC COMPOUNDS. THIS APPROVAL SHOULD BE BASED UPON TESTING IN THE LABORATORY.**

- C. Iodophors may be substituted for chlorine as the sanitizing agent.
- D. Quaternary ammonium compounds may be used as a combined cleaner-sanitizer, *but are generally not recommended*. These compounds are not to be utilized at concentrations exceeding 200 PPM (200 mg/L), or that concentration specified in local regulations, which ever is lower.

### 4. CONVERTING FROM EXTERNAL PRESSURIZED SYRUP SUPPLY TO BIB WITH BUILT-IN SYRUP PUMPS

This conversion can be done. Contact Lancer Corporation for parts and instructions.

### 5. CONVERTING FROM BUILT-IN SYRUP PUMPS TO REMOTE PUMPS OR SYRUP TANKS

#### 5.1 REMOVING EXISTING BUILT-IN SYRUP PUMPS

- A. Disconnect the unit from the power supply and remove the bonnet.
- B. Shut off the water supply to each Valve at the tower.
- C. Prepare three to four (3 to 4) gallons of warm, potable water in a suitable open container.
- D. Disconnect the syrup supply lines from the BIB syrup supply, assemble a BIB adapter to the end of each line, and place the line in the container of warm water.
- E. Open each dispensing valve until the water flowing from the valve shows no discoloration due to syrup.
- F. Remove the syrup supply lines from the warm water and open each dispensing valve to purge the water from the system.
- G. Turn off the CO<sub>2</sub> supply to the unit. Disconnect the CO<sub>2</sub> supply line from CO<sub>2</sub> inlet fitting on the built-in pump package.
- H. Disconnect the syrup inlet lines from the built-in syrup pumps, and remove them from the unit.
- I. Disconnect the pump's syrup outlet lines from the unit's syrup inlet fittings.
- J. Remove 1/8 inch barbed carbonator CO<sub>2</sub> check valve, if one is present.
- K. Remove the four (4) sheet metal screws that secure the pump assembly to the carbonator deck, and remove the pump assembly from the unit.
- L. Remove braided inlet tubes and elbow. It will be necessary to cut the securing Oetiker clamps.

#### 5.2 INSTALLING REMOTE PUMP OR SYRUP TANKS

- A. Install new 1/4 inch male flare CO<sub>2</sub> carbonator check valve.
- B. Connect the CO<sub>2</sub> supply line to the carbonator check valve.
- C. Connect the syrup outlet line from each remote pump to the appropriate syrup inlet fitting on the unit, using a 1/4 inch Oetiker clamp.

#### NOTE

Each 1/4 inch braided syrup tube will be looped from the inlet line to the remote pumps. Take caution not to bend, crimp, or kink the 1/4 inch tube at the loop. It may be necessary to use a tie wrap.

- D. Make all necessary connections on remote pump system or syrup tank.
- E. Turn on water (25 to 50 PSIG) and CO<sub>2</sub> (70 to 80 PSIG) supply.
- F. Open each valve until syrup flow is established. Check all connections for leaks.
- G. Replace the bonnet, and reconnect the unit to the power supply.
- H. Open the water supply to each valve.

### 5.3 CONNECTION FOR PLAIN WATER PRODUCT

- A. If plain water product is required, a separate plain water line has been pre-installed for easy connection to the second valve from the left side of the dispenser.
- B. Remove the comb insulation (foam rubber pad) from the top of the inlet tubes.
- C. Using a backup wrench, remove the cap from the plain water line. Save for reuse later.
- D. Push soda line out of the way and cap with fitting (removed from the plain water line). Ensure that the flare seal washer is in place. Tighten, using a backup wrench.
- E. Align the plain water extension with plain water line. Ensure that the flare seal washer is in place and lightly tighten by hand. Once the connection is engaged, tighten using a backup wrench.

## 6. TROUBLESHOOTING

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>
6.1 Miscellaneous leakage.	<ul style="list-style-type: none"> <li>A. Gap between parts.</li> <li>B. Damaged or improperly installed o-rings.</li> </ul>	<ul style="list-style-type: none"> <li>A. Tighten appropriate retaining screws.</li> <li>B. Replace or adjust appropriate o-rings.</li> </ul>
6.2 Insufficient water flow.	<ul style="list-style-type: none"> <li>A. Insufficient incoming supply water pressure.</li> <li>B. Foreign debris in water pump.</li> </ul>	<ul style="list-style-type: none"> <li>A. Verify incoming supply water pressure is a minimum of 25 PSI.</li> <li>B. Remove water pump strainer and strainer. Clean.</li> </ul>
6.3 Insufficient syrup flow.	<ul style="list-style-type: none"> <li>A. Insufficient CO<sub>2</sub> pressure to BIB pumps.</li> </ul>	<ul style="list-style-type: none"> <li>A. Adjust CO<sub>2</sub> pressure to 80 PSI (minimum 70 PSI) for BIB pumps.</li> </ul>
6.4 Erratic ratio.	<ul style="list-style-type: none"> <li>A. Incoming water and/or syrup supply not at minimum flowing pressure.</li> </ul>	<ul style="list-style-type: none"> <li>A. Check pressure and adjust, as necessary.</li> </ul>
6.5 No product dispensed.	<ul style="list-style-type: none"> <li>A. Electric current not reaching electric valve.</li> <li>B. Improper or inadequate water or syrup supply.</li> <li>C. Transformer failure.</li> </ul>	<ul style="list-style-type: none"> <li>A. Check electric current supplied to valve. If current is adequate, check solenoid coil, and switch. Replace, if necessary.</li> <li>B. Remove valve from mounting block and open shutoffs slightly and check water and syrup supply. If no supply, check dispenser for freeze-up or other problems.</li> <li>C. Reset transformer circuit breaker. If breaker pops again, refer to Item 6.23.</li> </ul>
6.6 Water only dispensed, no syrup; or syrup only dispensed, no water.	<ul style="list-style-type: none"> <li>A. BIB supply too far from dispenser.</li> <li>B. CO<sub>2</sub> pressure too low.</li> <li>C. Stalled or inoperative BIB pump.</li> <li>D. Kinked line.</li> </ul>	<ul style="list-style-type: none"> <li>A. Check that BIB supply is within six (6) feet of the dispenser.</li> <li>B. Check the CO<sub>2</sub> pressure to the pump manifold to ensure it is between 70-80 PSI.</li> <li>E. Check CO<sub>2</sub> pressure and/or replace pump.</li> <li>F. Remove kink or replace line.</li> </ul>

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
6.7 No water just syrup. (Ice bank grew to water inlet line to carbonator tank.)	<ul style="list-style-type: none"> <li>A. Low level.</li> <li>B. Unit not level.</li> <li>C. Syrup in water bath. All water. Refill. Locate and repair.</li> <li>D. Water cage is out of position.</li> <li>E. PCB relay sticking.</li>   <li>F. Refrigerant leak.</li> <li>G. Check water supply.</li> <li>H. Carbonator timed out.</li> <li>I. PCB malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>A. Add water until it flows from over flow tube.</li> <li>B. Level unit and add water.</li> <li>C. Melt ice bank and remove possible syrup leak area.</li>   <li>D. Reposition water cage.</li> <li>E. Check continuity of compressor relay. Compressor should time-out in 5 minutes.</li> <li>F. Find leak and recharge unit (if unit is not frozen).</li> <li>G. Turn on water and shut unit OFF, then ON to reset carbonator.</li> <li>H. Turn unit OFF, then ON to reset carbonator.</li> <li>I. Replace PCB.</li> </ul>
6.8 Syrup only dispensed, no water; but CO <sub>2</sub> gas dispensed with syrup.	<ul style="list-style-type: none"> <li>A. Improper water flow to dispenser.</li> <li>B. Carbonator pump motor has timed out.</li>   <li>C. Liquid level probe not connected properly to PCB.</li> <li>D. Faulty PCB assembly.</li> <li>E. Faulty liquid level probe.</li> <li>F. Water bath frozen.</li>   <li>G. Water line frozen.</li> </ul>	<ul style="list-style-type: none"> <li>A. Check for water flow to dispenser (see Item 6.4).</li> <li>B. Reset by turning the unit OFF and then ON, by using the ON/OFF switch on top of the unit, or unplugging unit momentarily.</li> <li>C. Check connections of liquid level probe to PCB assembly.</li> <li>D. Replace PCB assembly.</li> <li>E. Replace liquid level probe.</li> <li>F. Thaw water bath and repair faulty component. (See refrigeration related symptoms.)</li> <li>G. Refer to Item 6.14.</li> </ul>
6.9 Excessive foaming.	<ul style="list-style-type: none"> <li>A. Incoming water or syrup temperature too high.</li> <li>B. CO<sub>2</sub> pressure too high.</li> <li>C. Air in BIB lines.</li> <li>D. Poor quality ice.</li> <li>E. High beverage temperature.</li> </ul>	<ul style="list-style-type: none"> <li>A. Correct prior to dispenser. Consider larger dispenser, or pre-cooler.</li> <li>B. Adjust CO<sub>2</sub> pressure downward, but not less than 70 PSI.</li> <li>F. Bleed air from BIB lines.</li> <li>G. Check quality of ice used in drink.</li> <li>H. Check refrigeration system.</li> </ul>
6.10 Water continually overflows from water bath into drip tray.	<ul style="list-style-type: none"> <li>A. Loose water connection(s).</li> <li>B. Flare seal washer leaks.</li> <li>C. Faulty water coil.</li> </ul>	<ul style="list-style-type: none"> <li>A. Tighten water connections.</li> <li>B. Replace flare seal washer.</li> <li>C. Replace water coil.</li> </ul>
6.11 Compressor starts and continues to run until freeze up and will not cut off.	<ul style="list-style-type: none"> <li>A. PCB malfunctioning or faulty ice bank probe.</li>   <li>B. Ice bank probe positioned improperly.</li> <li>C. Ice bank probe shorted to ground.</li> </ul>	<ul style="list-style-type: none"> <li>A. Disconnect ice bank probe from PCB. <ul style="list-style-type: none"> <li>1. If compressor continues to run, replace PCB.</li> <li>2. If compressor stops, replace ice bank probe.</li> </ul> </li> <li>B. Check positioning of ice bank probe, and replace if needed.</li> <li>C. Replace ice bank probe.</li> </ul>

**NOTE:**

First, check to ensure that the 3 minute carbonator timer has not timed out. Turn unit OFF and then ON. If the pump shuts off in less than 30 seconds, the dispenser is not frozen.

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
6.12 Warm drinks.	<ul style="list-style-type: none"> <li>A. Restricted airflow.</li> <li>B. Dispenser connected to hot water supply.</li> <li>C. Refrigeration system not running.</li> <li>D. Refrigerant leak.</li> <li>E. Condenser fan motor not working.</li> <li>F. Dirty condenser.</li> <li>G. Dispenser capacity exceeded.</li> </ul>	<ul style="list-style-type: none"> <li>A. Check clearances around sides, top, and inlet of unit. Remove objects blocking airflow through grill.</li> <li>B. Switch to cold water supply.</li> <li>C. Refer to Items 6.16 through 6.20.</li> <li>D. Repair and recharge.</li> <li>E. Replace condenser fan motor.</li> <li>F. Clean condenser.</li> <li>G. Add pre-cooler, or replace with larger dispenser.</li> </ul>
6.13 Compressor does not start (no hum), condenser fan motor does not run and no ice bank.	<ul style="list-style-type: none"> <li>A. There is a 5 minute compressor and condenser fan delay.</li> <li>B. Ice bank probe not completely submerged.</li> <li>C. Circuit breaker or fuse tripped.</li> <li>D. Inadequate voltage.</li> <li>E. PCB malfunctioning.</li> <li>F. Incorrect wiring.</li> <li>G. Faulty ice bank probe.</li> <li>H. Transformer failure.</li> <li>I. Ice bank probe not connected properly to PCB.</li> </ul>	<ul style="list-style-type: none"> <li>A. Allow for 5 minute delay to lapse.</li> <li>B. Fill water reservoir until water flows from overflow tube.</li> <li>C. Reset breaker or replace fuse. If problem persists: <ul style="list-style-type: none"> <li>1. Determine reason and correct.</li> <li>2. Electrical circuit overloaded; switch to another circuit.</li> </ul> </li> <li>D. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>E. Replace PCB assembly.</li> <li>F. Refer to wiring diagram and correct.</li> <li>G. Replace ice bank probe.</li> <li>H. Reset transformer circuit breaker. If breaker pops again, refer to Item 6.25.</li> <li>I. Connect ice bank probe to PCB.</li> </ul>
6.14 Compressor does not start (no hum), but condenser fan motor runs.	<ul style="list-style-type: none"> <li>A. Compressor relay or overload malfunctioning.</li> <li>B. Inadequate voltage.</li> <li>C. Incorrect wiring.</li> <li>D. Compressor malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>A. Replace compressor relay or overload.</li> <li>B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>C. Refer to wiring diagram and correct.</li> <li>D. Replace compressor.</li> </ul>
6.15 Compressor does not start, but hums.	<ul style="list-style-type: none"> <li>A. Inadequate voltage.</li> <li>B. Incorrect wiring.</li> <li>C. Starting relay malfunctioning.</li> <li>D. Compressor malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>A. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>B. Refer to wiring diagram and correct.</li> <li>C. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure.</li> <li>D. Replace compressor or deck.</li> </ul>

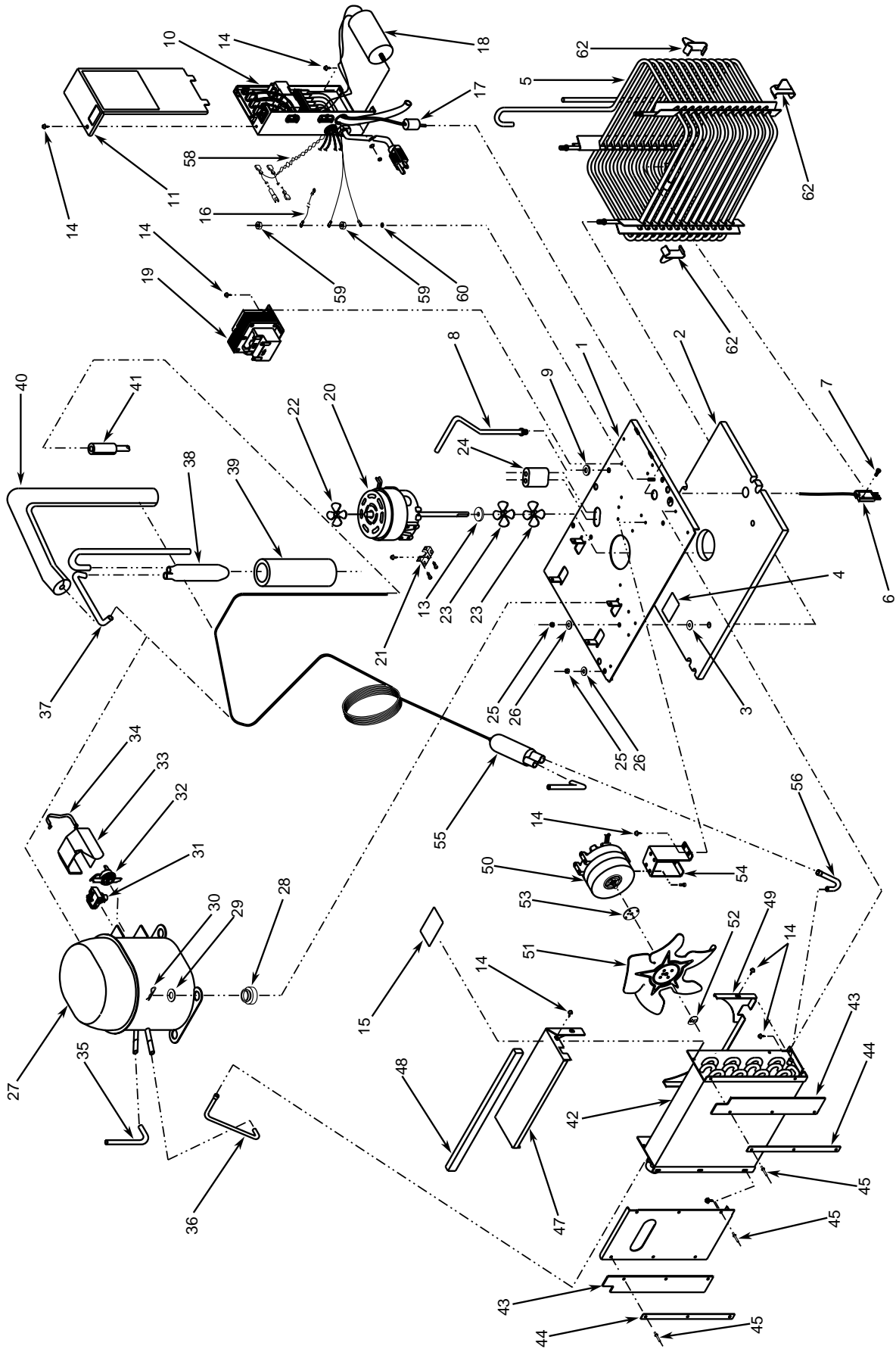
<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
6.16 Compressor starts, but does not switch off start winding (will run for only a few seconds before internal overload switches compressor off).	A. Inadequate voltage. B. Incorrect wiring. C. Starting relay malfunctioning.	A. Measure voltage across common and run terminal on compressor. B. Refer to wiring diagram and correct. C. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure.
6.17 Compressor starts and runs a short time, but shuts off on overload.	A. Dirty condenser. B. Insufficient or blocked air flow.  C. Inadequate voltage.  D. Incorrect wiring. E. Defective condenser fan motor. F. Refrigerant leak. G. Compressor malfunctioning.	A. Clean the condenser. B. Remove all obstructions and allow for minimum clearances of 8 inches (20.3 cm) over top. C. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. D. Refer to wiring diagram and correct. E. Replace condenser fan motor. F. Repair and recharge. G. Replace compressor.
6.18 Compressor runs normally, but water line is frozen.	A. Low water level in water bath. B. Syrup in water bath. C. Water cage is out of position. D. Low refrigerant charge/slow refrigerant leak.	A. Add water to water bath until water runs out of overflow into drip tray. B. Drain water from water bath and refill with clean water. C. Reposition water cage. D. Find and repair leak. Recharge system.
6.19 Compressor cycles on and off frequently during the initial pull-down and/or normal operations.	A. PCB malfunctioning. B. Defective probe.	A. Replace PCB assembly. B. Replace probe.
6.20 Circuit breaker popping.	A. Valve wire harness shorted to itself or to faucet plate.  B. PCB is bad.  C. Secondary wire harness is bad.  D. Transformer failure.	A. Detect short by disconnecting input faston to keylock and single pin connector. Restore power, if breaker doesn't pop. Then valve wire harness is shorted; if OK, reconnect. B. Detect short by disconnecting J1 connector (24 VAC input) from PCB. Restore power, if breaker doesn't pop. Then replace PCB. If breaker does pop, then PCB is OK. Reconnect J1 connector. C. If it does not pop, locate short in secondary harness between transformer, PCB and valve wire harness. D. Detect short by disconnecting both transformer fastons and restore power. If breaker does pop, replace transformer.



<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
6.21 BIB pump does not operate when dispensing valve is opened.	A. Out of CO <sub>2</sub> , CO <sub>2</sub> not turned on, or low CO <sub>2</sub> pressure. B. Out of syrup. C. BIB connector not tight. D. Kinks in syrup or gas lines.	A. Replace CO <sub>2</sub> supply, turn on CO <sub>2</sub> supply, or adjust CO <sub>2</sub> pressure to 70-80 PSI. B. Replace syrup supply. C. Fasten connector tightly. D. Straighten or replace lines.
6.22 BIB pump operates, but no flow.	A. Leak in syrup inlet or outlet line. B. Defective BIB pump check valve.	A. Replace line. B. Replace BIB pump.
6.23 BIB pump continues to operate when bag is empty.	A. Leak in suction line. B. Leaking o-ring on pump inlet fitting.	A. Replace line. B. Replace o-ring.
6.24 BIB pump fails to restart after bag replacement.	A. BIB connector not on tight. B. BIB connector is stopped up. C. Kinks in syrup line.	A. Tighten BIB connector. B. Clean out or replace BIB connector. C. Straighten or replace line.
6.25 BIB pump fails to stop, when dispensing valve is closed.	A. Leak in discharge line or fittings. B. Empty BIB. C. Air leak on inlet line or bag connector.	A. Repair or replace discharge line. B. Replace BIB. C. Repair or replace.
6.26 Low or no carbonation.	A. Low or no CO <sub>2</sub> . B. Excessive water pressure. C. Worn or defective carbonator pump.	A. Check CO <sub>2</sub> supply. Adjust CO <sub>2</sub> pressure to 70 PSI. B. Water regulator should be set at 50 PSI. C. Replace carbonator pump.

# 7. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS

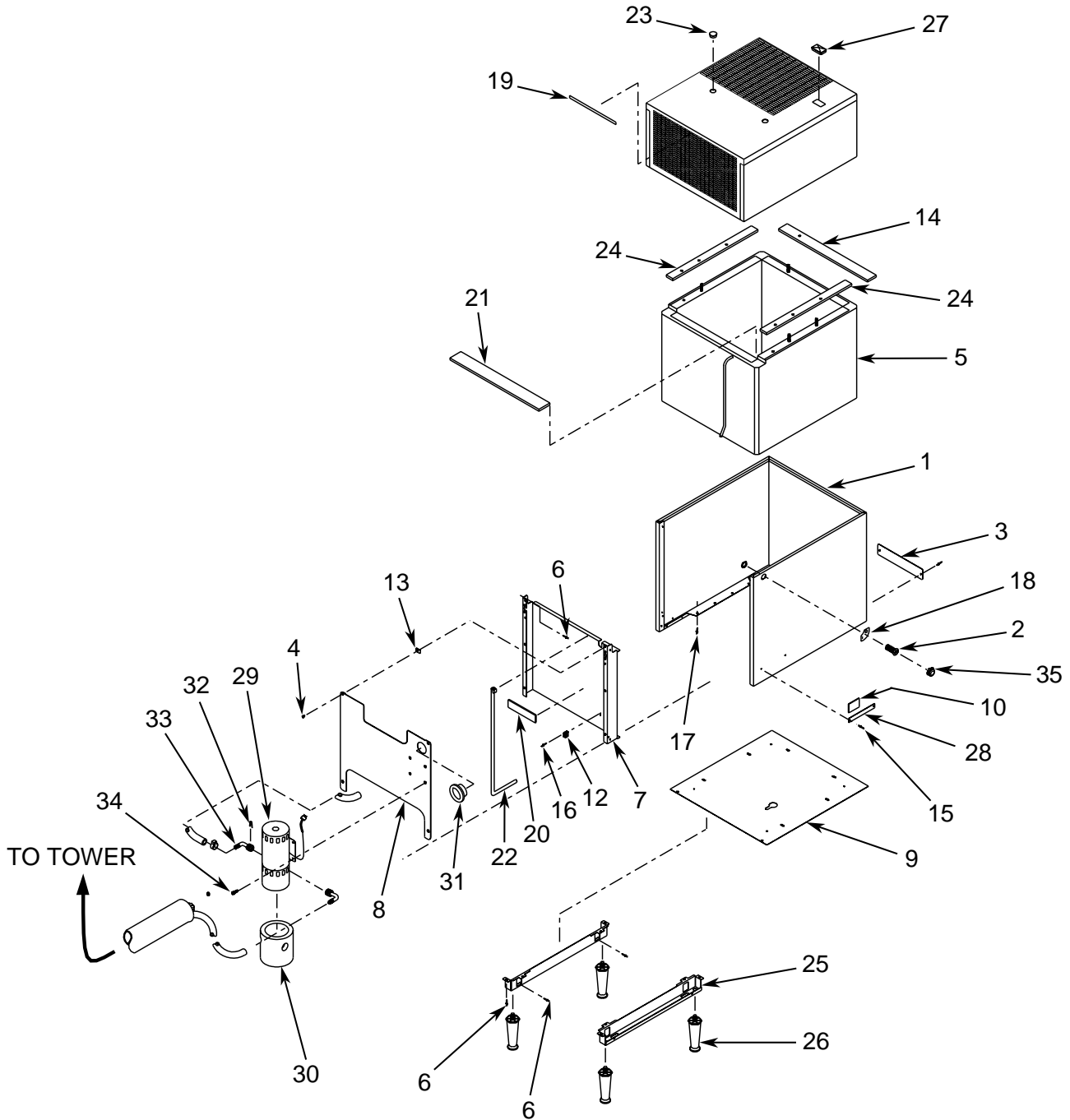
## 7.1 REFRIGERATION DECK ASSEMBLY



## 7.1 REFRIGERATION DECK ASSEMBLY (CONTINUED)

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
-	82-0942/01	Deck Assy Refrig, R-12, 220V 50Hz, Export	27	REF	Compressor
-	82-1010/01	Deck Assy Refrig, R-12, 220V 60Hz, Export	-	83-0005	Compressor, R-12, 220V 50Hz, Export
-	82-0959/01	Deck Assy Refrig, R-12, 115V 60Hz, Export	-	83-0010	Compressor, R-12, 220V 60Hz, Export
-	82-1286/01	Deck Assy Refrig, R-12, 115V 60Hz, Domestic	-	83-0002	Compressor, R-12, 115V 60Hz, Domestic & Export
-	82-1248/01	Deck Assy Refrig, R-134a, 220V 50Hz, Export	-	83-0033	Compressor, R-134a, 115V 60Hz, Domestic
-	82-1372/01	Deck Assy Refrig, R-134a 115V 60Hz, Domestic	-	83-0034	Compressor, R-134a, 220V 50Hz, Export
-	82-1428/01	Deck Assy Refrig. R-134a 115V60HZ, Export	28	02-0114	Grommet
1	51-5107/01	Sub Assy, Compressor Deck	29	04-0537	Washer, Flat (.467 ID)
2	50-0200/01	Insulation, Compressor Deck	30	03-0150	Retainer, Clip
3	04-0063	Washer, Flat	31	REF	Relay
4	89-0014	Cover, Hole	-	12-0005	Relay, R-12 & R-134a, 115V 60Hz
5	REF	Evaporator Coil Assy	-	12-0031	Relay, R-12 & R-134a, 220V 50Hz & 60Hz
-	82-1268	Evaporator Coil, R134a, Export	32	REF	Overload
-	82-1373	Evaporator Coil, R134a, Domestic	-	12-0004	Overload, R-12 & R-134a, 115V 60Hz
-	82-1157	Evaporator Coil, R12, Domestic	-	12-0032	Overload, R-12 & R-134a, 220V 50Hz & 60Hz
-	82-0884	Evaporator Coil, R12, Export	33	13-0006	Cover Terminal
6	54-0137	Probe Assy, IBC	34	03-0040	Bale Strap
7	04-0470	Screw, 6 - 19 x 0.438	35	47-0344	Tube, Process
8	51-0068	Handle	36	REF	Tube, Compressor
9	04-0574	Washer, Lock, 5/16	-	47-0718	Tube, Compressor (Hi Side)
10	REF	Control Housing Assy	-	47-0347-01	Tube, Compressor R-12, 220V 60Hz (Hi Side)
-	52-0900/01	Control Housing Assy, with "ON-OFF" Switch	37	47-0724	Tube, Return
-	52-0903/01	Control Housing Assy, without "ON-OFF" Switch	38	51-0061	Accumulator
11	REF	Cover, Control Housing	39	50-0211	Boot
-	30-5108/01	Cover, Control Housing, with "ON-OFF" Switch	40	50-0205	Insulation, Tube
-	30-5118	Cover, Control Housing, without "ON-OFF" Switch	41	50-0159	Insulation, Tube
12	06-0576/03	Label, Wiring Diagram	42	23-0985	Condenser
13	02-0032	Washer, Rubber, 1.0 inch	43	50-0201	Baffle, Condenser
14	04-0504	Screw, 8 - 18 x 0.375	44	30-5112	Plate, Retainer
15	06-0080-01	Label, Nameplate	45	04-0518	Rivet, .1250 x 0.328
16	52-1209	Lead Assy, Ground	46	30-5867	Shield, Air,Left
17	02-0041	Seal	47	30-5865	Shroud, Fan Top
18	REF	Capacitor, Carbonator	48	50-0249	Barrier, long
-	26-0374	Capacitor, Carbonator, 115V 60 Hz	49	30-5866	Shroud, Fan, Bottom
-	26-0377	Capacitor, Carbonator, 220V 50 Hz and 60 Hz	50	REF	Motor, Fan
19	REF	Transformer	-	91-0007	Motor, Fan, 115V 60Hz
-	25-0047	Transformer, 115V 60Hz	-	91-0009	Motor, Fan, 220V 50Hz & 60 Hz
-	25-0048	Transformer, 220V 50Hz and 60Hz	51	07-0354	Fan Blade
20	REF	Motor, Assy	52	04-0060	Nut
-	52-1262	Motor, Assy, 220V 50Hz and 60Hz	53	02-0413	Silencer
-	52-1261	Motor, Assy, 115V 60Hz	54	30-5864	Bracket, Fan Motor
21	30-5113/01	Bracket, Agitator	55	REF	Dryer Cap Assy
22	05-0495	Propeller, 2.062 Dia.	-	23-0982	Dryer Cap Assy R-134a, 115V 60Hz
23	05-0502	Propeller, 2.250 Dia.	-	23-0932	Dryer Cap Assy R-134a, 220V 50Hz
24	02-0040	Seal, Extrusion	-	23-0765	Dryer Cap Assy R-12
25	04-0032	Nut, Nylok, 1/4 - 20	56	47-0698	Tube, Condenser Out
26	04-0033	Washer, Flat (.281 ID)	57	REF	Freon
			-	95-0177	Freon, R-134a
			-	95-0077	Freon, R-12
			58	52-1213	Harness Assy, XFM12
			59	04-0110	Nut, 8 - 32, ST
			60	04-0576	Washer, Int., Tooth
			61	06-0877	Label, Ground
			62	REF	Bracket Assy Guide
			-	51-5147	Bracket Assy Guide, R-134a, 115V 60Hz
			-	51-0791	Bracket Assy Guide, R-12

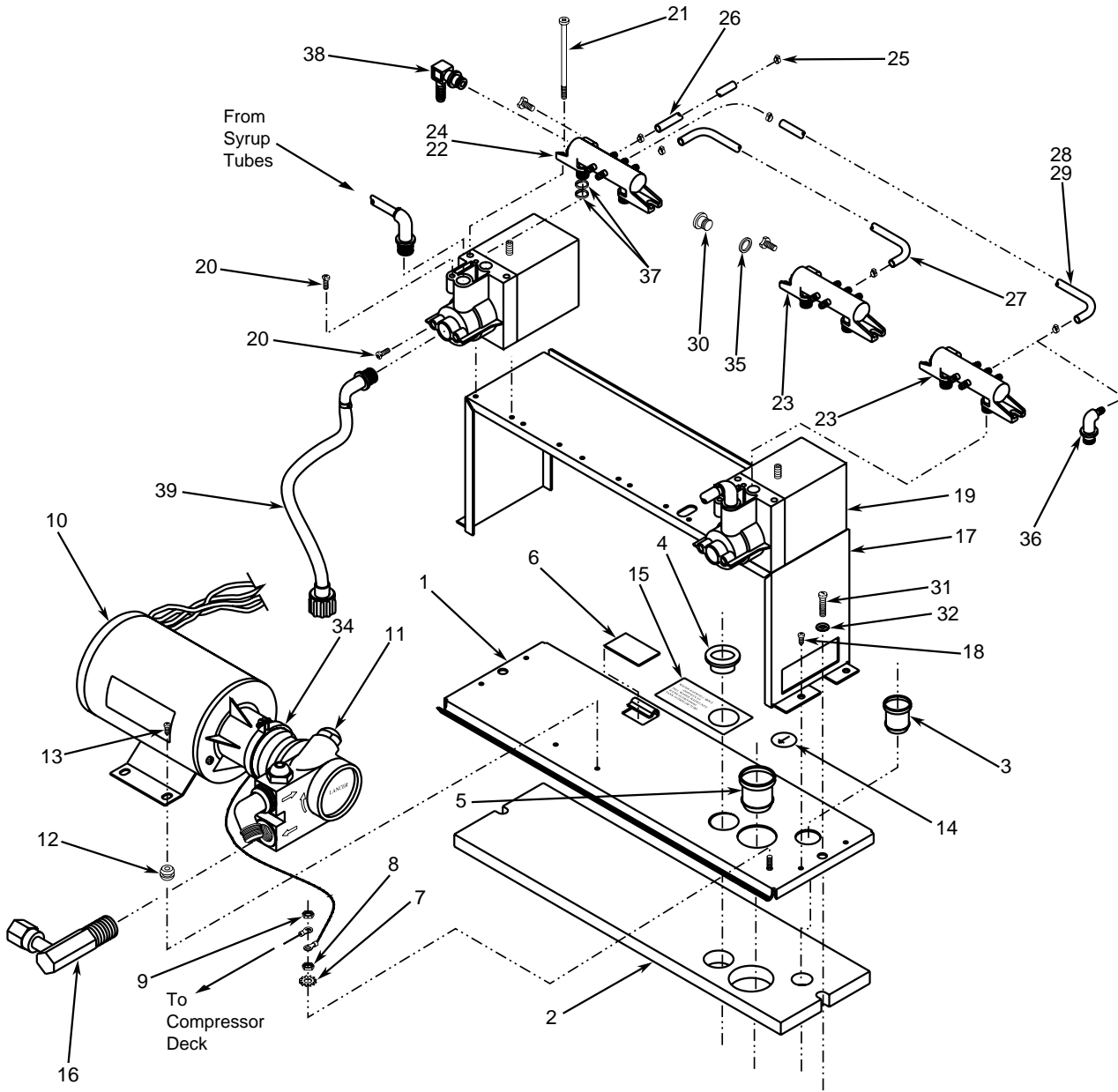
## 7.2 CABINET ASSEMBLY



## 7.2 CABINET ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
–	82-1107/01	Cabinet Assy, Lower, Delta II, Remote
1	51-0675/01	Wrapper Assy
2	12-0097	Key Switch
3	07-0347	Cover Plate
4	04-0068	Screw, 10 - 24 x 0.375 FH, Machine
5	82-1311	Tank Assy, Foamed
6	04-0504	Screw, 8 - 18 x 0.375 AB
7	30-5114/02	Front Plate Support
8	51-5112	Plate, Front Assy
9	30-5850	Plate, Bottom
10	06-0075-01	Nameplate, Serial Number
11	23-0782	Bonnet Assy (Graphics–ordered by Country)
12	03-0062	Clip, Retaining
13	04-0074	Nut, Clip
14	50-0150	Insulation
15	04-0072	Rivet
16	04-1002	Screw, 4 - 40 x 0.250 AB
17	04-0545	Screw, 8 - 16 x 0.780 Plastite
18	06-0881	Label, Key Switch (220V ONLY)
19	06-0632	Label Caution, Delta II Bonnet
20	06-0851	Label, Overflow
21	50-0248	Insulation, Front
22	82-1312	Drain Assy
23	13-0050	Plug, 5/8"
24	50-0151	Insulation, Side
25	51-0717/01	Leg Bracket Assy
26	81-0112	Legs
27	05-0786	Plug, Bonnet
28	REF	Name plate
	06-0075-95	Nameplate, 9005 Model
	06-0075-96	Nameplate, 9006 Model
29	REF	Pump, Recirculation
–	82-0795	Pump, Recirculation, 115V
–	82-0799	Pump, Recirculation, 220V
30	50-0194	Pump Insulation
31	13-0046	Bushing
32	03-0162	Retainer,Pump
33	01-1388	Elbow Assy Pump
34	04-0562	Screw, 1/4 - 20 x 0.375, THD, SL
35	05-1502	Plug, Key Lock (Mechanical Valve Units Only)

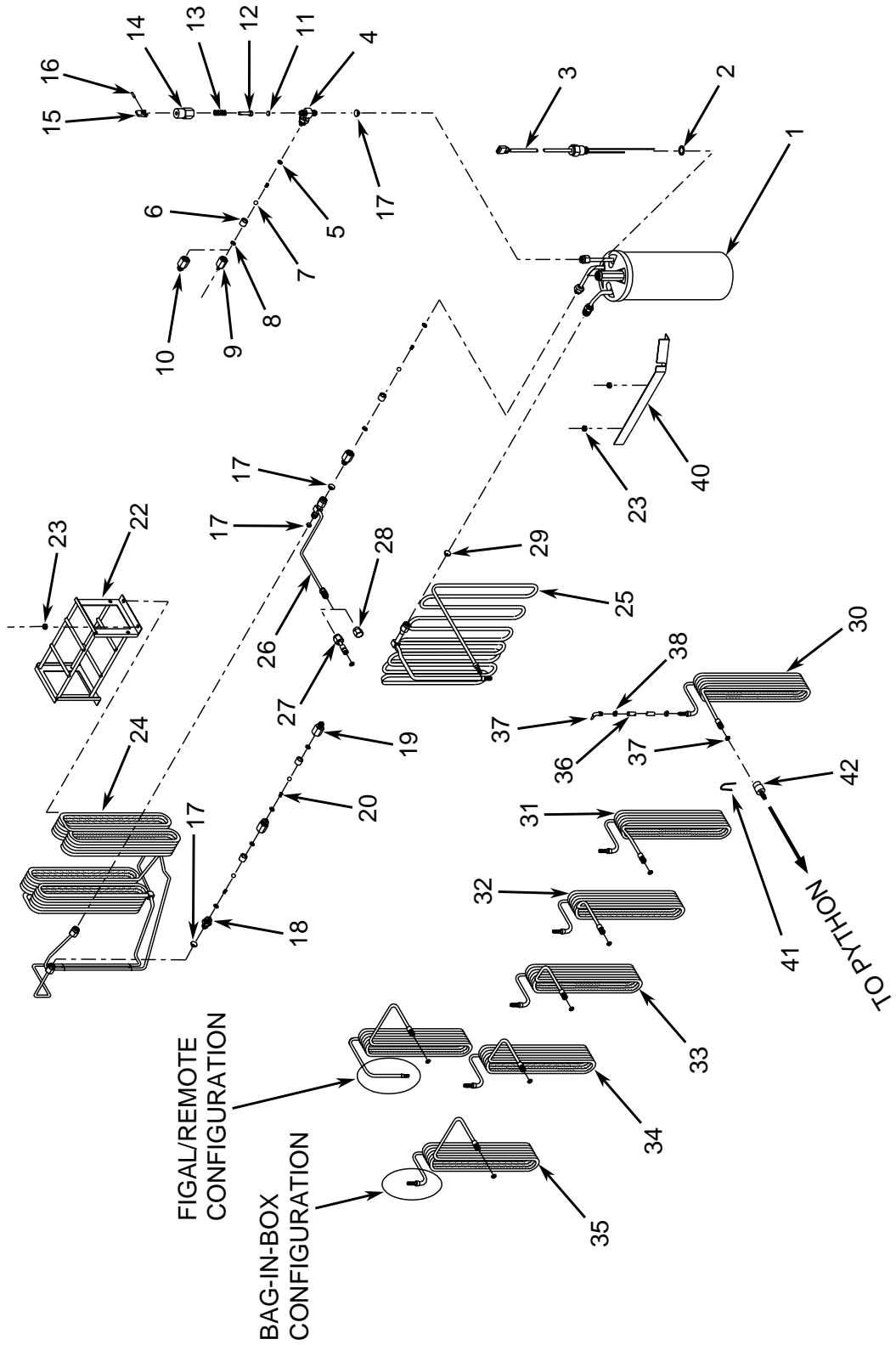
### 7.3 CARBONATOR DECK/PUMP BRACKET ASSEMBLY



### 7.3 CARBONATOR DECK/PUMP BRACKET ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
–	82-0887/01	Deck Assy, Carbonator 115V, 60 Hz
–	82-0943/01	Deck Assy, Carbonator, 220V, 50-60 Hz
1	REF	Plate, Carbonator Deck
–	51-5122	Plate Assy, Carbonator Deck
–	30-5891	Plate Carbonator (No Carbonator)
2	REF	Insulation, Carbonator Deck
–	50-0247	Insulation, Carbonator Deck
–	50-0254	Insulation, Carbonator Deck (No Carbonator)
3	05-0436	Sleeve, Probe
4	04-0711	Caplug
5	05-0435	Sleeve, CO <sub>2</sub> In
6	89-0014	Cover, Hole
7	04-0576	Washer, No. 8, Int. Tooth
8	04-0110	Nut, 8 - 32, ST
9	REF	Lead Assy, Ground (Compressor Deck to Carbonator Deck)
10	REF	Carbonator Motor
–	91-0063	Carbonator Motor, 115V, 60Hz
–	91-0065	Carbonator Motor, 220V, 50-60 Hz
11	86-0075	Pump, 100 GPH
12	02-0194	Grommet, 0.250 OD X 0.156 ID X 0.049 W
13	04-0061	Screw, 8 - 18 X 0.500 AB
14	06-0877	Ground Label
15	06-0856	Water Fill Label
16	01-1515	Pump Outlet Assy
–	82-0900	Pump Bracket Assy, 6 Pump
–	82-0906	Pump Bracket Assy, 5 Pump
–	82-0965	Pump Bracket Assy, 4 Pump
17	30-5111	Pump Support
18	04-0504	Screw, 8 - 18 X 0.375
19	82-0251	Mini Pump
20	04-0275	Screw, Half Moon
21	04-0359	Screw, 8 - 32 X 3.100
22	54-0091	Manifold Assy (Used on 6V and 5V)
23	54-0092	Manifold Assy (Used in 6V, 5V and 4V)
24	54-0093	Manifold Assy (Used on 4V)
25	07-0441	Clamp, Oetiker
26	08-0272	Tube, CO <sub>2</sub> Carbonator (Used on 6V, 5V and 4V)
27	08-0271	Tube, CO <sub>2</sub> Carbonator (Used on 6V, 5V and 4V)
28	08-0268	Tube, CO <sub>2</sub> Carbonator (Used on 6V)
29	08-0269	Tube, CO <sub>2</sub> Carbonator (Used on 5V)
30	05-0604	Plug, CO <sub>2</sub> Manifold
31	04-0334	Screw, 1/4 - 20 X 1.000, Round Head
32	04-0033	Washer, 1/4"
33	01-0987	Elbow, Brass
34	07-0017	Clamp with Screw
35	02-0089	O-Ring
36	01-1325/01	Elbow Assy, CO <sub>2</sub> (Used on 5V)
37	02-0005	O-Ring
38	01-1072	Elbow Assy (Included in Installation Kit)
39	49-0101/01	Tubing Assy, BIB

# 7.4 CARBONATOR WATER/SYRUP LINE ASSEMBLIES

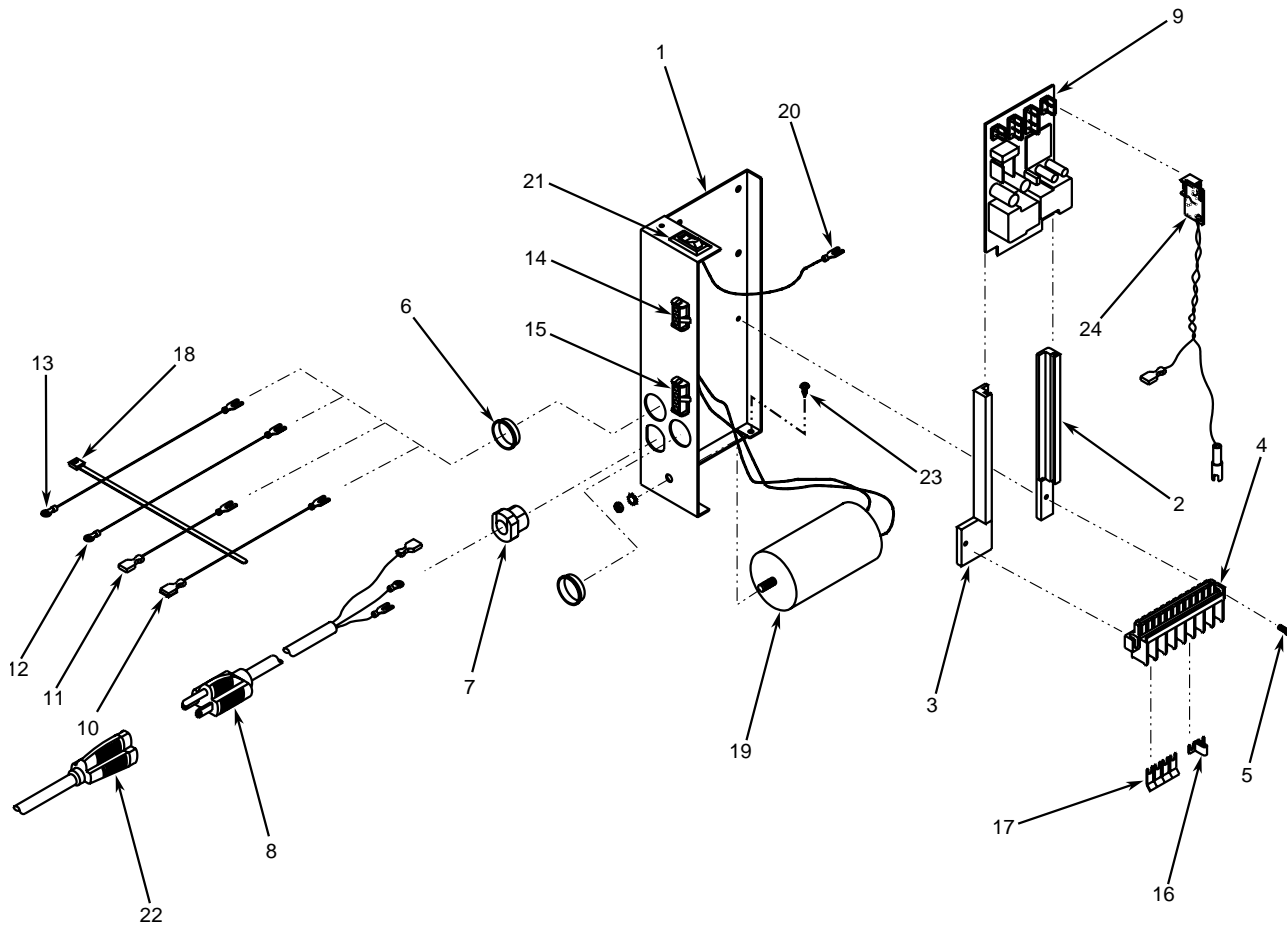




#### 7.4 CARBONATOR WATER/SYRUP LINE ASSEMBLIES (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
-	82-1379	Carbonator Assy, 60 Hz with Pumps	32	REF	Tube Assy, Syrup, No.4
-	82-1412	Carbonator Assy, 60 Hz, without Pumps	-	48-0476/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
-	82-1413	Carbonator Assy, 50 Hz with Pumps	-	48-0477/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)
-	82-1414	Carbonator Assy, 50 Hz, without Pumps	-	48-0478/01	Tube Assy, Syrup, Figal/Remote (Use on 4 Valve Units)
1	REF	Tank Assy, Carbonator	-	48-0452/01	Tube Assy, Syrup (Use on 6 Valve Units)
-	23-0770-02	Tank Assy, Carbonator, Export	-	48-0453/01	Tube Assy, Syrup (Use on 5 Valve Units)
-	23-0840-02	Tank Assy, Carbonator, USA	-	48-0454/01	Tube Assy, Syrup (Use on 4 Valve Units)
2	02-0096	Washer	-	48-0454/01	Tube Assy, Syrup (Use on 4 Valve Units)
3	52-0909	Probe Assy	33	REF	Tube Assy, Syrup, No. 3
-	17-0468	Fitting Assy, CO <sub>2</sub> IN (For Use with Pumps)	-	48-0475/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
-	17-0469	Fitting Assy, CO <sub>2</sub> IN (For Use without Pumps)	-	48-0503/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)
4	01-1311	Fitting Sub Assy, CO <sub>2</sub>	-	48-0477/01	Tube Assy, Syrup, Figal/Remote (Use on 4 Valve Units)
5	02-0003	O-Ring	-	48-0451/01	Tube Assy, Syrup (Use on 6 Valve Units)
6	01-0689	Sleeve	-	48-0501/01	Tube Assy, Syrup (Use on 5 Valve Units)
7	01-0674	Ball	-	48-0453/01	Tube Assy Syrup (Use on 4 Valve Units)
8	02-0025	O-Ring	34	REF	Tube Assy, Syrup, No. 2
9	01-1334	Body, Check Valve, Gas	-	48-0474/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
10	01-0669	Body, Check Valve, Gas	-	48-0502/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)
-	54-0066	Relief Valve Assy	-	48-0503/01	Tube Assy, Syrup (Use on 4 Valve Units)
11	02-0023	Seat	-	48-0450/01	Tube Assy, Syrup (Use on 6 Valve Units)
12	05-0536	Stem	-	48-0500/01	Tube Assy, Syrup (Use on 5 Valve Units)
13	03-0024/01	Spring	-	48-0501/01	Tube Assy, Syrup (Use on 4 Valve Units)
14	05-0537	Body, Relief Valve	35	REF	Tube Assy, Syrup, No. 1
15	05-0525	Lever	-	48-0473/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
16	81-0196	Pin	-	48-0449/01	Tube Assy, Syrup (Use on All Units)
17	05-0011	Flare Seal Washer, Small	36	08-0029	Tube, Flexible
-	17-0485	Double Check Valve Assy	37	REF	Adapter Assy
18	01-1466	Fitting, Check Valve	-	01-1483	Adapter Assy, Elbow
19	01-0673	Body	-	01-1022	Adapter Assy, Elbow, Stainless Steel
20	03-0021	Spring	38	07-0409	Clamp, Oetiker
21	01-0670	Body	39	02-0005	O-Ring
-	23-0972	Water Cage Assy	40	30-5102/01	Bracket, Syrup Line
22	23-0767	Cage Assy, Basket	41	03-0153	Retainer, Convert
23	04-0082	Nut, Hex, 10 - 24, SS	42	05-0781	Adapter, 1/4B x Dole
24	48-0924	Tube Assy, Cage			
25	48-0554	Tube Assy, Recirc, SST			
26	REF	Tube Assy, Plain Water OUT			
-	48-0716	Tube Assy, Plain Water OUT, 6 Valve			
-	48-0717	Tube Assy, Plain Water OUT, 5 valve			
-	48-0718	Tube Assy, Plain Water OUT, 4 valve			
27	48-0492/01	Adapter, CO <sub>2</sub> Water OUT			
28	01-0204	Cap			
29	05-0017	Flare Seal Washer, Large			
30	REF	Tube Assy, Syrup, No. 6			
-	48-0478/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)			
-	48-0454/01	Tube Assy, Syrup (use on 6 Valve Units)			
-	49-0221	Tube Assy, Syrup to Mini Pump (12")			
-	49-0221-01	Tube Assy, Stainless Steel, Syrup to Mini Pump (12")			
-	49-0222	Tube Assy, Syrup to Mini Pump (10")			
-	49-0222-01	Tube Assy, Stainless Steel, Syrup to Mini Pump (10")			
31	REF	Tube Assy, Syrup, No. 5			
-	48-0477/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)			
-	48-0478/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)			
-	48-0453/01	Tube Assy Syrup, (Use on 6 Valve Units)			
-	48-0454/01	Tube Assy Syrup, (Use on 5 Valve Units)			
-	48-0450/01	Tube Assy Syrup ( use on 6 valve units)			

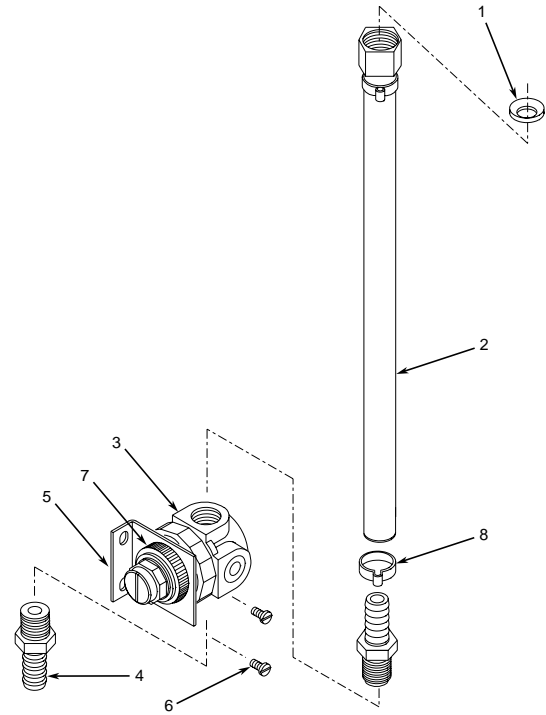
## 7.5 CONTROL HOUSING



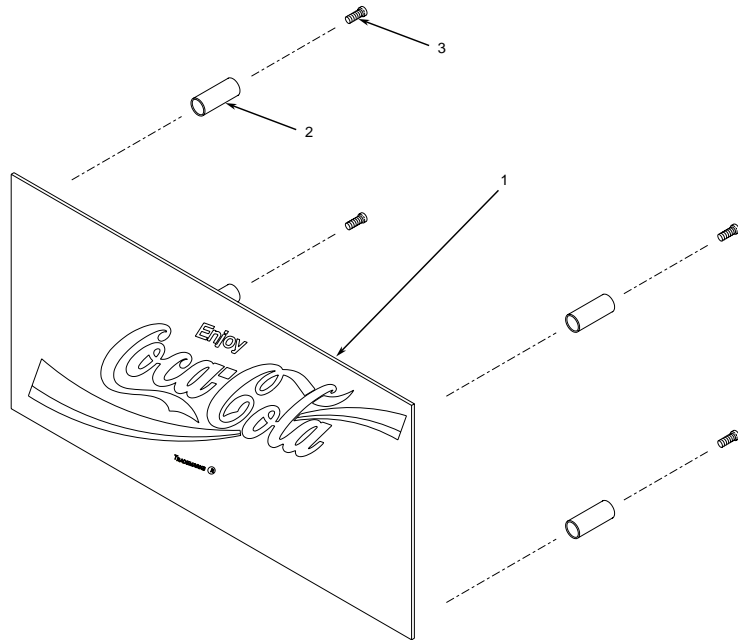
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
-	52-0900	Control Housing, with ON/OFF Switch (uses Items 20 & 21)	11	52-0905	Lead Assy, Transformer, PRI #2
-	52-0903	Control Housing, without ON/OFF Switch, Delta II	12	52-0906	Lead Assy, Compressor #1
1	30-5109	Control Housing	13	52-0907	Lead Assy, Compressor #2
2	05-0570	Guide, Right	14	52-1210	Harness Assy, Recirc
3	05-0571	Guide, Left	15	52-0908	Harness Assy, Carbonator
4	11-0185/01	Terminal Block	16	11-0187	Jumper, 2 Position
5	04-0710	Screw, 6 - 32 X 0.750, PHD	17	11-0186	Jumper, 4 Position
6	13-0059	Bushing	18	11-0008	Tie Wrap
7	13-0028	Strain Relief	19	-	Capacitor (See Appropriate Compressor Deck Assy)
8	52-1219	Power Cord Assy	20	52-0868	Lead Assy, ON/OFF Switch
-	52-1218	Power Cord Assy, without ON/OFF Switch	21	12-0089	Switch, ON/OFF
9	52-0952/01	PCB Assy	22	REF	Extension, Power Cord (Order by Country)
10	52-0904	Lead Assy, Transformer, PRI #1	23	04-0504	Screw, 8 - 18 x 0.375, PHD
			24	82-1121	Kit, Plain water P. S. I.

## 7.6 REGULATOR WATER ASSEMBLY

ITEM	PART NO.	DESCRIPTION
-	18-0253/01	Regulator Assembly, Water
1	05-0017	Washer, Seal, Flare, Nylon
2	49-0227	Hose, Regulator Assy
3	18-0252	Regulator
4	01-0446	Fitting, Barb
5	07-0481/01	Bracket, Regulator
6	04-0504	Screw, 8 - 18 x 0.375, AB
7	01-1429	Nut, 7/8 - 18, UNS
8	07-0438	Clamp, Oetiker



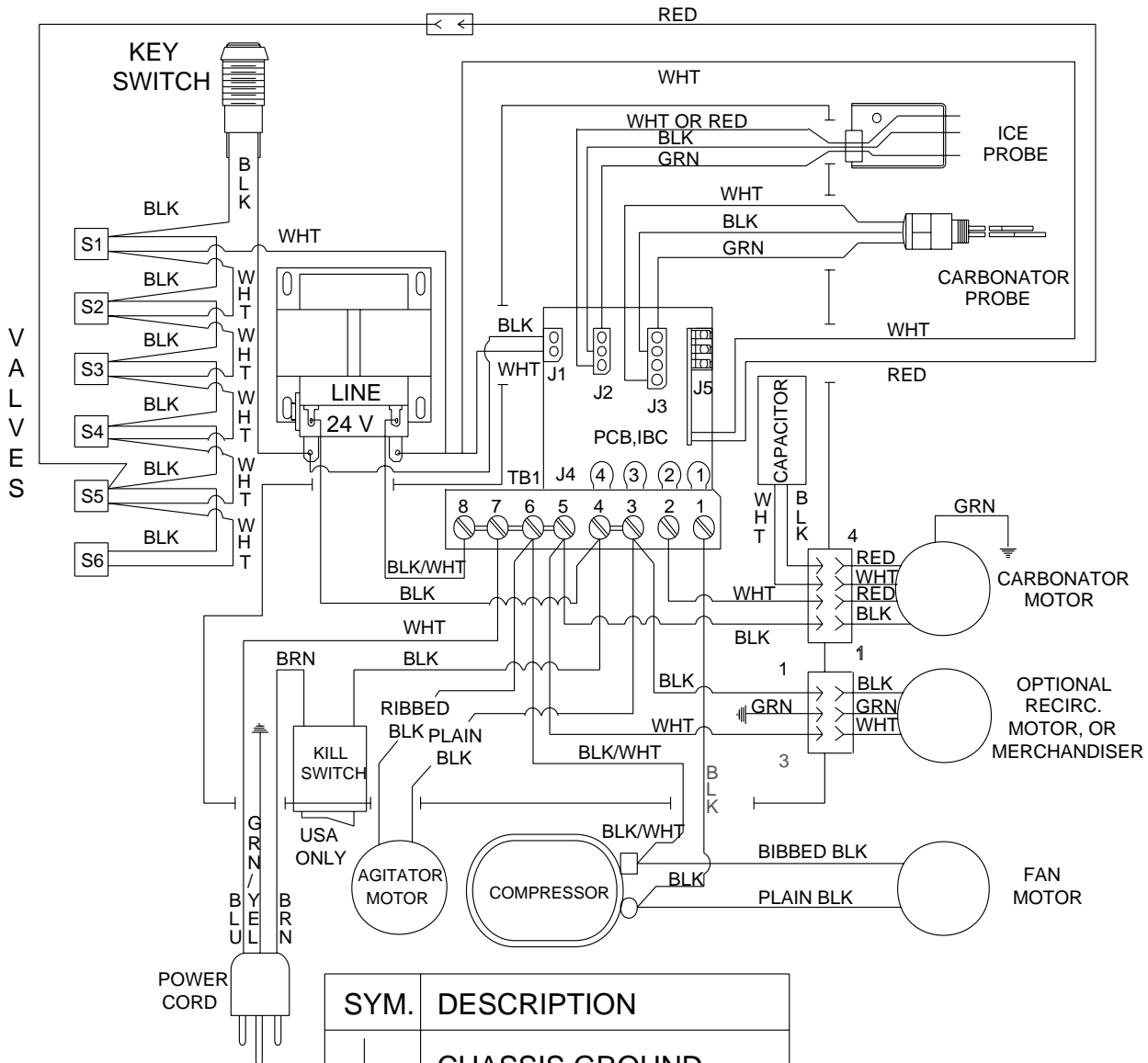
## 7.7 MERCHANDISER ASSEMBLY



ITEM	PART NO.	DESCRIPTION
-	82-0778	Kit, Front Merchandiser, International
1	51-0715	Plate Assy, Front Merchandiser
2	10-0229	Stand Off
3	04-0069	Screw, 10 - 24 x 0.500, PH, Machine

**NOTE**

1. WHEN STARTING UNIT, OR IF CURRENT IS INTERRUPTED, THERE IS A 5 MINUTE DELAY BEFORE THE COMPRESSOR/FAN STARTS.
2. THERE IS A 3 MINUTE PROTECTION TIMER ON THE CARBONATOR PUMP MOTOR. IF THE MOTOR HAS TIMED OUT, CHECK WATER SUPPLY AND RESET, BY MOMENTARILY DISCONNECTING POWER.



DELTA II

SYM.	DESCRIPTION
	CHASSIS GROUND
	CONTROL BOX
	CHAMFER PIN 1
	OPTIONAL WATER BOOST PCB, IBC J5

*LANCER* LABEL,  
WIRING DIAGRAM  
06-0576/03