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INSTALLATION AND SERVICE MANUAL

FOR

DELTA III DISPENSER

LANCER SERIES 9000

(JUICE DISPENSER)

SPECIFICATIONS

DIMENSION

Width	16 7/8 inches	(429 mm)
Depth	24 3/4 inches	(629 mm)
Height (without legs)	25 1/2 inches	(648 mm)

WEIGHT

Shipping	160 pounds	(72.5 kg)
Empty	146 pounds	(66.2 kg)
Operating	220 pounds	(99.8 kg)

WATER REQUIREMENTS

CAUTION

IF WATER SOURCE EXCEEDS 110 PSIG (7.58 BAR), A RECOMMENDED WATER REGULATOR ASSEMBLY (PN 18-0253/02) MUST BE USED TO LIMIT WATER PRESSURE TO 110 PSIG (7.58 BAR). FAILURE TO USE REGULATOR WILL RESULT IN IMPROPER PERFORMANCE OF DISPENSER.

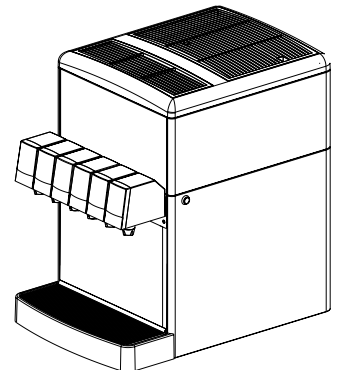
Minimum flowing pressure of 40 PSIG (2.76 BAR)
Maximum static pressure of 110 PSIG (7.58 BAR)

ICE BANK WEIGHT

27 to 30 pounds (12.2 to 13.6 kg)

DRINK CAPACITY

215 – 12 ounce drinks under 40°F (4.4°C) at four (4) drinks per minute with 75°F (23.9°C) ambient, inlet water, and inlet syrup using 1/3 HP, 115V/60Hz refrigeration system.



This manual supersedes 28-0431, dated 08/27/99



6655 LANCER BLVD. • SAN ANTONIO, TEXAS 78219 USA • (210) 310-7000

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DISPENSER INSTALLATION HIGHLIGHTS

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

1. Fill water bath until water overflows from tank overflow tube.
2. If this dispenser is installed in an area that is susceptible to $\pm 10\%$ variation of the nominal line voltage, consider installing a surge protector or similar protection device.
3. There is a **five (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 **five (5) minute delay** before the compressor starts.
4. Supply Water Pressure: Minimum - 40 PSIG (2.76 BAR); Maximum - 110 PSIG (7.58 BAR). If pressure is over 110 PSIG (7.58 BAR), a water pressure regulator must be used.
5. On units with the built in water regulator, the regulator must be removed if inlet water pressure is less than 40 PSIG (2.76 BAR).
6. CO₂ Pressure for syrup pumps: Recommend nominal pressure 70 PSIG (4.83 BAR). Pressure may be reduced to a minimum of 60 PSIG (4.13 BAR) if remote syrup pumps are being used. It may be increased to a maximum of 80 PSIG (5.52 BAR) for highly viscous syrups.
7. 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 the 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 of damage. If damage exists, have carrier note the same on the bill of lading and file a claim with the carrier.

1.2 UNPACKING

- A. Cut steel 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. 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 the unit secured to the plywood 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 COUNTER LOCATION

- A. Select a location close to a properly grounded electrical outlet and water supply that meet the requirements as shown in the SPECIFICATIONS (see page iii).

CAUTION

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

- B. Condenser air is drawn in from the front half of the top of the unit, and discharged out the rear half of the top of the unit. A minimum of eight (8) inches (203 mm) clearance must be maintained over the top of the unit to provide for proper air flow and air circulation.

1.5 MOUNTING THE DISPENSER

- A. The dispenser is designed to be permanently mounted and sealed to the counter or installed on four (4) inch legs.
- B. When the dispenser is to be permanently bolted to the counter top, seal dispenser base to counter top with a bead of clear silicone caulk or sealant which provides a smooth and easily cleanable bond 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 four (4) inch legs installed.

1.6 CONNECTING THE DRAIN

- A. Remove cup rest. Lift splash plate up and pull out and down on the bottom to remove.
- B. Remove the drip tray from the unit and connect the drain tube to the drain fitting located on the back.
- C. Route the drain tube to a suitable drain and replace the unit's drip tray.

1.7 FILLING UNIT WITH WATER

- A. Remove the bonnet from the unit.
- B. Remove the plastic plug (located in the front of the unit's compressor 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 plastic plug.

1.8 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.

DO NOT USE EXTENSION CORDS WITH THIS UNIT. DO NOT "GANG" TOGETHER WITH OTHER ELECTRICAL DEVICES ON THE SAME OUTLET.

- A. Check the dispenser serial number plate for correct electrical requirements of unit. *Do not plug into wall electrical outlet unless the current shown on the serial number plate agrees with local current available.*
- B. 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 five (5) minute delay has elapsed.

1.9 CONNECTING TO WATER SUPPLY

CAUTION

IF THE WATER SOURCE EXCEEDS 110 PSIG (7.58 BAR) A WATER REGULATOR KIT MUST BE USED TO LIMIT WATER PRESSURE TO 110 PSIG (7.58 BAR). FAILURE TO USE A WATER REGULATOR WILL RESULT IN IMPROPER PERFORMANCE OF DISPENSER.

- A. Using tubing and fittings from the installation kit, connect tubing assembly to water source. **DO NOT CONNECT TO DISPENSER AT THIS TIME.**
- B. Flush water supply line thoroughly.

NOTE

If the water source is above 110 PSIG (7.58 BAR), cut tubing assembly and install Water Regulator Kit (PN 18-0253/02) as shown in kit instruction sheet.

A dispenser connected to a water supply system under pressure shall have one or more of the following: an air gap, a vacuum breaker that conforms to ASSE standards, a backflow prevention device that conforms to ASSE standards, or another approved method to comply with NSF standards. Such devices must comply with Federal, State, and local codes. *It is the responsibility of the installer to ensure compliance.*

- C. Route through hole in counter and through opening behind splash plate and connect to the water inlet tube with a 21/32 inch Oetiker clamp (PN 07-0438).
- D. Leave one (1) foot (305 mm) of extra tubing length below the counter for servicing and moving the dispenser.
- E. Turn on water supply and check for leaks.
- F. Using test gauge assembly (PN 22-0138), set regulator at a maximum of 110 PSIG (7.58 BAR).

1.10 CONNECTING TO REMOTE BAG-IN-BOX (BIB) SYRUP PUMPS

- A. Connect high pressure CO₂ regulator assembly to CO₂ cylinder. Use a new CO₂ tank washer if regulator does not have built-in o-ring seal.
- B. Place CO₂ cylinder in service location (for example, under counter) and secure CO₂ cylinder 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. Locate the remote BIB, syrup supply and pumps in a convenient location.
- E. Attach the syrup supply tubes to the dispenser's syrup inlet fittings (located behind the splash plate) using a 21/32 inch (17.0 mm) Oetiker clamp for each syrup flavor.
- F. Route the syrup supply tubes to the remote syrup pumps.
- G. Complete installation of the remote syrup pump system following the manufacturer's instructions.

1.11 CONNECTING TO REMOTE PRESSURIZED SYRUP SUPPLY (FIGAL)

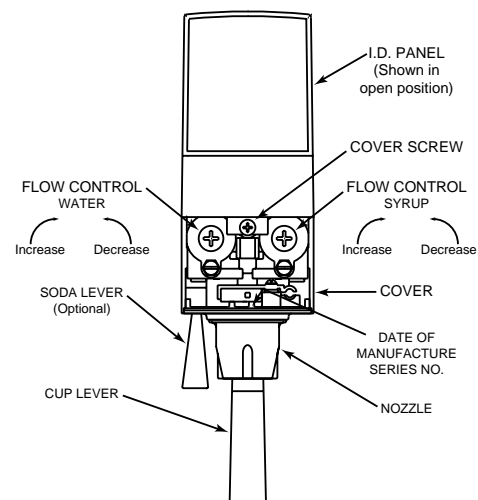
- A. Connect high pressure CO₂ regulator assembly to CO₂ cylinder. Use a new CO₂ tank washer if regulator does not have built-in o-ring seal.
- B. Place CO₂ cylinder in service location (for example, under counter) and secure CO₂ cylinder with a safety chain.
- C. Using tubing and fittings from installation 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. Locate the five gallon (figal) syrup containers and the CO₂ cylinder and regulator set in a convenient location.
- E. Attach the syrup supply tube assembly to the dispenser's syrup inlet fittings (located behind the splash plate) using a 21/32 inch (17.0 mm) Oetiker clamp for each syrup flavor.
- F. Route the syrup supply tubes to the figal syrup containers and attach them to the appropriate syrup flavor.
- G. Attach a CO₂ supply line from each of the figal syrup containers to the low pressure regulator and pressurize the containers.

1.12 PURGING THE WATER AND SYRUP SYSTEMS

- A. Open a dispensing valve until water and syrup are flowing steadily from the valve.
- B. Repeat procedure "A" for each valve.
- C. Check all of the unit's syrup and water connections for leaks and repair if necessary.
- D. Replace the unit's bonnet, splash plate and cup rest.

1.13 ADJUSTING WATER FLOW (LEV®)

- A. The water flow can be adjusted between 1.25 oz/sec (37 ml/sec) and 2.50 oz/sec (74 ml/sec) on all dispensing valves using the following procedure.
- B. The refrigeration unit should have been running for at least one (1) hour before you attempt to brix the valves. The drink temperature should be no higher than 40°F (4.4°C) when the brix is set. This is best done after the unit has made an ice bank.
- C. Slide up ID panel until flow controls are exposed (see Figure 1).
- D. Remove nozzle by twisting counter clockwise and pulling down.
- E. Remove diffuser by pulling down.
- F. Install Lancer (yellow) syrup separator (PN 54-0031) in place of nozzle.
- G. Activate dispensing valve to fill separator syrup tube.



Typical Valve Adjustment, LEV®
Figure 1

- H. Hold a Lancer brix cup under the syrup separator and dispense water and syrup into cup for four (4) seconds. Divide number of ounces (ml) of water in cup by four (4) to determine water flow rate per second.
- I. To obtain the proper flow, use a screwdriver to adjust water flow control (see Figure 1).
- J. Repeat process for each valve.

1.14 ADJUSTING WATER TO SYRUP (RATIO) BRUX (LEV®)

- A. Hold the Lancer brix cup under the syrup separator and activate valve. Check brix.
- B. To obtain the proper brix, use screwdriver to adjust syrup flow control (see Figure 1).
- C. Once proper ratio is obtained repeat to verify.
- D. Remove syrup separator (PN 54-0031 installed in Section 1.13.F above).
- E. Install diffuser and nozzle.
- F. Slide down ID panel.
- G. Repeat process for each valve.

1.15 VOLUMETRIC VALVE ADJUSTMENT (SEE FIGURE 2)

NOTE

The Volumetric Valve is an optional valve with the Delta III Dispenser.

A. Valve Specifications

- 1. Finished Drink Flow Rates
 - 3.0 ounces per second (88.7 ml/sec), as shipped
 - 2.25 ounces per second (66.6 ml/sec)
 - 1.5 ounces per second (44.4 ml/sec)
- 2. Flowing Pressure Requirements

	<u>MINIMUM</u>		<u>MAXIMUM</u>	
Water	40 psig	(2.76 BAR)	110 psig	(7.58 BAR)
Syrup	20 psig	(1.38 BAR)	70 psig	(4.83 BAR)

- 3. Electrical Requirement
 - 24 VAC, 50/60Hz

B. Programmer Operating Procedures

- 1. Connecting
 - a. Remove the ID panel from the front of the valve.
 - b. Insert the programmer's 10-pin connector into the ID Panel plug on the front of the circuit board.
 - c. When properly connected, the programmer will run a self diagnostic test. The display will show all "8"s with the decimal points lighted. After three (3) seconds, the display indicates the setting of the dip switches.
 - d. If the programmer does not run its diagnostic test properly, disconnect it and try plugging it in again. If the programmer still fails, replace the programmer.



**Handheld Programmer,
Volumetric Valve
Figure 2**

2. Functions

Read Memory:



Press this button to read and display the current settings programmed into the valve memory (i.e., S/W revision, ratio, and carb/non carb settings).

Read Dip Switches:



Press this button to read the dip switch settings (applies only to valves manufactured before July 1997).

NOTE

Dip switches were used on some field test valves (refer to 28-0301, 12/20/95).

Write Memory:



Press this button to write the programmer's displayed ratio and carbonation settings into the valve's memory.

Timed 5 Second Water:



Press this button to pour water for five (5) seconds. The programmer will display the ratio, the counts from the flowmeter, the flow rate in oz/sec, and the flow rate in ml/sec.

Timed 5 Second Pour:



Press this button to dispense a five (5) second pour of water and syrup for ratio testing. When complete, the programmer displays the ratio, carbonation settings, and total Flowmeter counts.

Syrup Purge:



Press and release to dispense a six (6) second syrup purge. Continue holding to purge syrup from system.

Ratio + (Plus):



Pressing this button will increase the ratio number on the display.

Ratio - (Minus):



Pressing this button will decrease the ratio number on the display.

Carb Toggle:



Pressing this button will toggle the carbonation setting from carbonated "C" to plain water "n" (non-carbonated).

Pour/Stop:



Press this button to manually pour a mixed drink. This button will also stop a timed pour.

Setting the Ratio/Carbonation

1. Connect the programmer to the Valve.
2. Press the "Read Mem" button.
3. Press the "Ratio +" or the "Ratio -" key until the desired ratio is displayed.
4. Verify the drink type. Press "Carb Toggle" to select "C" for carbonated or "n" for non-carbonated.
5. Press the "Enter" button to program the valve with the setting on the display.
6. Verify Ratio by pressing "Read Mem".
7. Disconnect the programmer.

2. SCHEDULED MAINTENANCE

2.1 AS NEEDED

- a. Keep dispenser's exterior surfaces (to include drip tray/cup rest) cleaned with damp, clean cloth.

2.2 DAILY

- A. Remove the nozzle and diffuser from each valve and wash them in warm water.
- B. Remove the cup rest and wash in warm soapy water.
- C. Pour warm soapy water into the drip tray and wipe with a clean cloth.
- D. With a clean cloth and warm soapy water, wipe off all of the unit's exterior surfaces.
- E. Replace the cup rest, valve diffusers and valve nozzles.

2.3 WEEKLY

- A. Check the flow and brix of each **LEV®** valve following the brixing instructions given in Sections 1.13 and 1.14.
- B. Remove the unit's bonnet and check the level of water in the water bath. Replenish as required, and replace the bonnet.

2.4 MONTHLY

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

2.5 EVERY SIX (6) MONTHS

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

2.6 YEARLY

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

3. DISPENSER CLEANING AND SANITIZING

3.1 GENERAL INFORMATION

- A. Lancer equipment (new or reconditioned) is shipped from the factory cleaned and sanitized in accordance with NSF guidelines. The operator of the equipment must provide continuous maintenance as required by this manual and/or state and local health department guidelines to ensure proper operation and sanitation requirements are maintained.

NOTE

The cleaning and sanitizing procedures provided herein pertain to the Lancer equipment identified by this manual. If other equipment is being cleaned, follow the guidelines established by the manufacturer for that equipment.

IMPORTANT

Water lines are not to be disconnected during the cleaning and sanitizing of syrup lines to avoid contamination.

- B. Cleaning and sanitizing should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning and sanitizing operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.
- C. Recommended Preparation of Cleaning Solutions.
 1. Cleaning solutions (for example, Ivory Liquid, Calgon, etc.) mixed with clean, potable water at a temperature of 90° to 110° Fahrenheit should be used to clean equipment. The mixture ratio, using Ivory Liquid, is one (1) ounce of cleanser to two (2) gallons of water. A minimum of four (4) gallons of cleaning mixture should be prepared.

NOTE

Extended lengths of product lines may require that an additional volume of solution be prepared.

2. Any equivalent cleanser may be used as long as it provides a caustic based, non-perfumed, easily rinsed mixture containing at least two (2) percent sodium hydroxide (NaOH).

D. Recommended Preparation of Sanitizing Solutions.

1. Sanitizing solutions should be prepared in accordance with the manufacturer's written recommendations and safety guidelines. Follow manufacturer's requirements so that the solution provides 200 parts per million (PPM) available chlorine at a temperature of 90°F to 120°F. A minimum of four (4) gallons of sanitizing solution should be prepared.

NOTE

Extended lengths of product lines may require that an additional volume of solution be prepared.

2. Any sanitizing solution may be used as long as it is prepared in accordance with the manufacturer's written recommendations and safety guidelines, and provides 200 parts per million (PPM) available chlorine.

3.2 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 and remove product from tubing by purging with carbon dioxide.
- C. Rinse the lines and fittings with clean 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 manufacturers recommendations, but should be at least 2 percent (2%) 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) 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.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

- I. Taste the beverage to verify that there is no off taste.

3.3 ALTERNATE CLEANING AND SANITIZING AGENTS

The above approach to cleaning and sanitizing is strongly recommended. However, the Division Quality Assurance Manager may approve the following cleaning and sanitizing agents.

- A. Chlorinated alkaline detergents. These compounds may be used as the cleaning agent, but may not be used as combined cleaner/sanitizer.
- B. Iodophors may be substituted for chlorine as the sanitizing agent.

CAUTION

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. 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.

3.4 VALVES

- A. **LEV®** Valves may be cleaned and sanitized (see preparation in Sections 3.1 or 3.2) in the same manner.

NOTE

See Lancer Installation and Service Manual 28-0027/03 for complete information on the **LEV®**.

WARNING

FLUSH SANITIZING SOLUTION FROM SYRUP SYSTEMS AS INSTRUCTED. RESIDUAL SANITIZING SOLUTION LEFT IN SYSTEM COULD CREATE HEALTH HAZARD.

1. Remove cover and disconnect power so the valve will not be activated during the cleaning procedure. Remove nozzle and diffuser. Wash these parts in cleaning solution; then immerse them in a bath of sanitizing solution for 15 minutes.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

2. Visually inspect around nozzle area for syrup residue. This area may be cleaned with warm water and cloth or with the nozzle brush supplied. Wipe off dispensing lever (if valve is so equipped).
3. Wearing sanitary gloves, remove, drain and air dry the nozzle and diffuser.
4. Wearing sanitary gloves, replace diffuser, twist nozzle in place.
5. Connect power and replace cover. Valve is ready for operation.

- B. Volumetric Valve Cleaning and Sanitizing Procedures

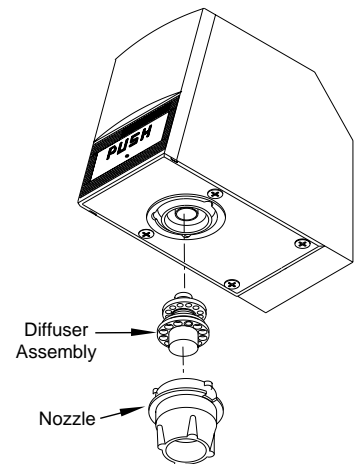
NOTE

The **Volumetric Valve** is an optional valve with the Delta III Dispenser. See Lancer Maintenance Manual 28-0301/02 for complete information on the **Volumetric Valve**.

1. Daily Nozzle/Diffuser Cleaning (See Figure 3)

Use the following procedures to clean the nozzle, and the diffuser assembly, each day:

- a. Remove nozzle by twisting it counter-clockwise and pulling it down.
- b. Pull the diffuser assembly down to remove it from the valve.
- c. Wash the nozzle and diffuser with warm water.
- d. If needed, apply 111 lubricant to the o-ring on the diffuser assembly. Then, carefully press it into the diffuser mounting area on the underside of the valve.
- e. Make certain the nozzle o-ring, is in place around the nozzle mounting area. If necessary, slide a new nozzle o-ring onto the nozzle mounting area.
- f. Install the nozzle by inserting it into the bottom plate and twisting it clockwise to lock it in place.



**Nozzle/Diffuser
Figure 3**

2. Monthly Nozzle/Diffuser Sanitizing

Use the following procedures to clean and sanitize the nozzle and the diffuser assembly once a month.

- a. Cleaning Solution

- (1) Prepare a caustic-based (low sudsing, non-perfumed, and easily rinsed) detergent solution and clean, potable water at a temperature of 90° to 110°F. The

cleaning solution should be 2% sodium hydroxide.

b. Sanitizing Solution

- (1) Prepare a chlorine solution (less than pH 7.0) containing 50 PPM available chlorine with clean, potable water at a temperature of 90° to 110°F. Any sanitizing solution may be used as long as it is prepared in accordance with the manufacturer's written recommendations and safety guidelines, and provides 50 PPM available chlorine.

c. Cleaning Procedure

CAUTION

BE CAREFUL NOT TO GET SANITIZING SOLUTION ON THE CIRCUIT BOARD.

- (1) Disconnect power, so the valve will not be inadvertently activated while cleaning.
- (2) Remove nozzle by twisting it counter-clockwise and pulling it down.
- (3) Pull the diffuser assembly down to remove it from the valve.
- (4) Wash the nozzle and diffuser with the cleaning solution.
- (5) Immerse the nozzle and diffuser in a bath of the sanitizing solution for 15 minutes.
- (6) While the parts are in the sanitizing solution, visually inspect around the nozzle mounting area on the valve for syrup residue. Using a cloth or nozzle brush and warm water, clean this area.
- (7) Wipe off the dispensing lever (if so equipped) and any other areas that may have been splashed by syrup.
- (8) Wearing sanitary gloves, remove, drain, and air dry the nozzle and diffuser.
- (9) Wearing sanitary gloves, carefully press the diffuser into the mounting area on the underside of the valve.
- (10) Make certain the nozzle o-ring, is in place around the nozzle mounting area on the valve. If necessary, slide a new nozzle o-ring onto the nozzle mounting area. (Wear sanitary gloves while handling the o-ring.)
- (11) Wearing sanitary gloves, install the nozzle by inserting it into the bottom plate and twisting it clockwise to lock it in place.
- (12) Connect power and replace cover. Valve is ready for operation.
- (13) Draw drinks to flush residual sanitizing solution. Taste the beverage to verify that there is no off taste. If an off taste is found, additional flushing may be required.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

3. Valve and System Sanitizing

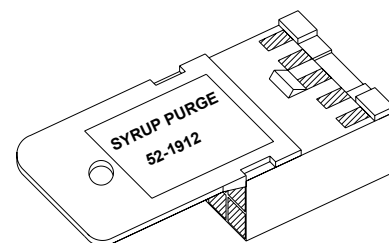
- a. The complete valve and dispenser system must be sanitized during initial installation. Follow the manufacturer's instructions when scheduling and conducting dispenser sanitizing. The valve must be sanitized once every two weeks. The valve may remain on the dispensing tower during the sanitizing process.
- b. For syrup side line priming, and cleaning and sanitization procedures, refer to the Syrup Purge Plug (Lancer PN 52-1912) in Section 3.4.C which follows.

C. Syrup Purge Plug (See Figure 4)

1. The Syrup Purge Plug (PN 52-1912), places the valve in continuous syrup side operation. The targeted uses for the purge plug consist of priming the syrup line on an initial Volumetric Valve install, and for cleaning and sanitization of the syrup side of the dispensing unit.
2. Operation of the syrup purge plug is as follows:

NOTE

With a standard 75 VA transformer, up to six (6) Volumetric Valves can be operated in the syrup purge mode simultaneously.



**Syrup Purge Plug, Volumetric Valve
Figure 4**

- a. Turn off electrical power to all valves.
- b. Install syrup purge plugs into the valve or valves to be primed or sanitized. The syrup purge plug installs in the ten-pin connector of the Volumetric Valve circuit board.
- c. Turn on electrical power to the valves. At this time, the syrup side of the valves will begin continuous operation.
- d. When through with the priming or sanitization operation, syrup purge operation can be stopped in either of two ways:

Method 1: Turn off electrical power to all valves, remove syrup purge plugs from the valves. Turn on electrical power to all valves. Tap valve lever or push button to ensure proper operation of all valves.

Method 2: Remove syrup purge plug from the valves while they are in purge operation. In this case, the valve may continue in the purge mode for up to six (6) seconds after removal of the plug (this is normal). Tap valve lever or push button to ensure proper operation of all valves.

3.5 CLEANING AND SANITIZING BAG-IN-BOX (BIB) SYSTEMS

- A. Disconnect syrup quick disconnect coupling from syrup packages and connect coupling to a bag valve removed from an empty Bag-in-Box package.
- B. Place end of syrup inlet line, with bag valve attached, in a clean container filled with clean, potable, room temperature water.
- C. Place waste container under applicable dispensing valve. Activate valve until water is dispensed. Flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of residual product.

NOTE

Extended lengths of product lines may require additional time for flushing and rinsing lines.

- D. Prepare cleaning solution as described in Section 3.1.C above. Place end of syrup inlet line in container filled with cleaning solution.
- E. Place waste container under applicable dispensing valve. Activate valve and draw cleaning solution through lines for a minimum of 60 seconds. This will ensure line is flushed and filled with cleaning solution. Allow line to stand for at least 30 minutes.
- F. Place end of syrup inlet line in a clean container filled with clean, potable, water at a temperature of 90° to 110°F.
- G. Place waste container under applicable dispensing valve. Activate valve to flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of cleaning solution. Continue rinsing until testing with phenolphthalein shows that the rinse water is free of residual detergent.
- H. Prepare sanitizing solution as described in Section 3.1.D above. Place end of syrup inlet line in container filled with sanitizing solution which has been prepared.
- I. Activate valve and draw sanitizing solution through line for a minimum of 60 seconds. This will ensure line is flushed and filled with sanitizing solution. Allow line to stand for at least 30 minutes.
- J. Remove bag valve from quick disconnect coupling and reconnect syrup inlet line to syrup package. Ready unit for operation.

WARNING

FLUSH SANITIZING SOLUTION FROM SYRUP SYSTEMS AS INSTRUCTED. RESIDUAL SANITIZING SOLUTION LEFT IN SYSTEM COULD CREATE HEALTH HAZARD.

- K. Draw drinks and refill lines with end product to flush sanitizing solution from the dispenser.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

- L. Test dispenser in normal manner for proper operation. Taste dispensed product to ensure there is no off-taste. If off-taste is found, additional flushing of syrup system may be required.
- M. Repeat cleaning, rinsing, and sanitizing procedures for each valve circuit.

3.6 CLEANING AND SANITIZING FIGAL SYSTEMS

- A. Remove quick disconnect from syrup tank.

CAUTION

DO NOT USE A WIRE BRUSH TO CLEAN VALVES.

- B. Using a clean plastic bristle brush and a detergent soap solution prepared in accordance with the instructions in Section 3.1.C, scrub both valves of the disconnect. Rinse with clean, potable water.
- C. Using a mechanical spray bottle and a sanitizing solution prepared in accordance with the instructions in Section 3.1.D, spray both halves of the quick disconnects. Allow to air dry.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

- D. Connect syrup line to a syrup tank filled with clean, potable, room temperature water. Connect CO₂ supply hose to tank and pressurize.
- E. Place waste container under applicable dispensing valve. Activate valve until water is dispensed. Flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of residual product.

NOTE

Extended lengths of product lines may require additional time for flushing and rinsing lines.

WARNING

TO AVOID POSSIBLE PERSONAL INJURY OR PROPERTY DAMAGE, DO NOT ATTEMPT TO REMOVE SYRUP TANK COVER UNTIL CO₂ PRESSURE HAS BEEN RELEASED FROM TANK.

- F. Disconnect CO₂ supply hose from the water filled syrup tank.
- G. Prepare cleaning solution as described in Section 3.1.C above. Fill a tank with cleaning solution. Connect syrup line to the tank. Connect CO₂ supply hose to tank and pressurize.
- H. Place waste container under applicable dispensing valve. Activate valve and draw cleaning solution through lines for a minimum of 60 seconds. This will ensure line is flushed and filled with cleaning solution. Allow line to stand for at least 30 minutes.

NOTE

Extended lengths of product lines may require additional time for flushing and filling lines.

- I. Disconnect CO₂ supply hose from the tank.
- J. Connect syrup line to a tank filled with clean, potable, water at a temperature of 90° to 110°F. Connect CO₂ supply hose to tank and pressurize.
- K. Place waste container under applicable dispensing valve. Activate valve to flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of cleaning solution. Continue rinsing until testing with phenolphthalein shows that the rinse water is free of residual detergent.
- L. Disconnect CO₂ supply hose from the tank.
- M. Fill a tank with sanitizing solution prepared as described in Section 3.1.D above. Connect syrup line to the tank. Connect CO₂ supply hose to tank and pressurize.
- N. Remove dispensing valve nozzle (twist and pull down) and pull out center mixing baffle. Using a plastic bristle brush and detergent soap solution, scrub the nozzle, mixing baffle, bottom of dispensing valve, and cup lever. Rinse with clean water.
- O. Reassemble mixing baffle and nozzle.

WARNING

FLUSH SANITIZING SOLUTION FROM SYRUP SYSTEMS AS INSTRUCTED. RESIDUAL SANITIZING SOLUTION LEFT IN SYSTEM COULD CREATE HEALTH HAZARD.

- P. Place waste container under applicable dispensing valve. Activate valve and draw sanitizing solution through line for a minimum of 60 seconds. This will ensure line is flushed and filled with sanitizing solution. Allow line to stand for at least 30 minutes.

- Q. Disconnect CO₂ supply hose from the tank.
- R. Reconnect syrup lines to syrup containers (for example, quick disconnects, figal containers, etc.) and ready unit for operation.
- S. Draw drinks and refill lines with end product to flush sanitizing solution from the dispenser.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

- T. Test dispenser in normal manner for proper operation. Taste dispensed product to ensure there is no off-taste. If off-taste is found, additional flushing of syrup system may be required.
- U. Repeat cleaning, rinsing, and sanitizing procedures for each valve/syrup circuit.
- V. Clean exterior of unit as instructed in Section 2.1.
- W. Using a spray bottle of sanitizing solution, spray the underside of all dispenser valves, valve spouts and cup levers. Allow to air dry.

NOTE

Thoroughly rinse inside and outside of syrup tank that was used for sanitizing solution with plain water to remove all solution residue.

4. TROUBLESHOOTING

NOTE

See Lancer Installation and Service Manual 28-0027/03 for complete troubleshooting information for **LEV®** valves and/or Lancer Maintenance Manual 28-0301/02 for complete troubleshooting information for the **Volumetric Valve**.

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>
4.1 Water leakage around nozzle.	A. Damaged or improperly installed o-ring above diffuser.	A. If damaged, replace. If improperly installed, adjust.
4.2 Leakage between upper and lower valve bodies.	A. Gap between upper and lower valve bodies. B. Worn or damaged paddle arm assemblies.	A. Tighten all six (6) retaining screws. B. Replace paddle arm assemblies.
4.3 Miscellaneous leakage.	A. Gap between parts. B. Damaged or improperly installed o-rings.	A. Tighten appropriate retaining screws. B. Replace or adjust appropriate o-rings.
4.4 Insufficient water flow.	A. Insufficient incoming supply water pressure. B. Shutoff on mounting block not fully open. C. Foreign debris in water flow control.	A. Verify incoming supply water pressure is a minimum of 40 PSI. B. Open shutoff fully. C. Remove water flow control from upper body and clean out any foreign material to ensure smooth free spool movement.
4.5 Insufficient syrup flow.	A. Insufficient CO ₂ pressure to BIB pumps. B. Shutoff on mounting block not fully open. C. Foreign debris in syrup flow control (LEV® valves only).	A. Adjust CO ₂ pressure to 80 PSI (minimum 70 PSI) for BIB pumps. B. Open shutoff fully. C. Remove syrup flow control from upper body and clean out any foreign material to ensure smooth free spool movement.

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>
4.6 Erratic ratio.	<ul style="list-style-type: none"> A. Incoming water and/or syrup supply not at minimum flowing pressure. B. Foreign debris in water and/or syrup flow controls (<i>LEV</i>® valves only). 	<ul style="list-style-type: none"> A. Check pressure and adjust. B. Remove flow controls from upper body clean out any foreign material to ensure smooth free spool movement.
4.7 No product dispensed.	<ul style="list-style-type: none"> A. Water and syrup shutoffs on mounting block not fully open. B. The key switch on an electric valve is in the OFF position. C. Cup lever arm or ID panel actuator on electric valve is not actuating the switch. D. Electric current not reaching electric valve. E. Improper or inadequate water or syrup supply. F. Transformer failure. 	<ul style="list-style-type: none"> A. Open shutoffs fully. B. Turn key switch to ON position. C. Repair. D. Check electric current supplied to valve. If current is adequate, check solenoid coil and switch, and replace if necessary. E. 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. F. Reset transformer circuit breaker. If breaker pops again refer to Section 4.21.
4.8 Water only dispensed, no syrup; or syrup only dispensed, no water.	<ul style="list-style-type: none"> A. Water or syrup shutoff on mounting block not fully open. B. Improper or inadequate water or syrup supply. C. BIB supply too far from dispenser. D. CO₂ pressure too low to syrup pumps. E. Stalled or inoperative BIB pump. F. Kinked line. 	<ul style="list-style-type: none"> A. Open shutoff fully. 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. Ensure BIB connection is engaged. C. Check that BIB supply is within six (6) feet of the dispenser. D. Check the CO₂ pressure to the pump manifold to ensure it is between 60 and 80 PSI. E. Check CO₂ pressure and/or replace pump. F. Remove kink or replace line.
4.9 No water, just syrup.	<ul style="list-style-type: none"> A. Low level. B. Unit not level. C. Syrup in water bath. D. Water cage is out of position. E. PCB relay sticking. F. Refrigerant leak. G. PCB malfunctioning. 	<ul style="list-style-type: none"> A. Add water until it flows from over flow tube. B. Level unit and add water. C. Melt ice bank and remove all water. Refill. Locate possible syrup leak area and repair. D. Reposition water cage. E. Check continuity of compressor relay. Compressor should time-out in five (5) minutes. F. Find leak and recharge unit (if unit is not frozen). G. Replace PCB.

TROUBLE	CAUSE	REMEDY
4.10 Valve will not shut off.	A. Cup lever may be sticking or binding. B. Switch not actuating freely. C. Solenoid armature not returning to bottom position.	A. Correct or replace lever. B. Check switch for free actuation. C. Replace defective armature or spring.
4.11 Water continually overflows from water bath into drip tray.	A. Loose water connection(s). B. Flare seal washer leaks. C. Faulty water coil.	A. Tighten water connections. B. Replace flare seal washer. C. Replace water coil.
4.12 Compressor starts and continues to run until freeze up and will not cut off.	A. PCB malfunctioning or faulty ice bank probe. B. Ice bank probe positioned improperly. C. Ice bank probe shorted to ground.	A. Disconnect ice bank probe from PCB. 1. If compressor continues to run, replace PCB. 2. If compressor stops, replace ice bank probe. B. Check positioning of ice bank probe, and replace if needed. C. Replace ice bank probe.
4.13 Warm drinks.	A. Restricted airflow. B. Dispenser connected to hot water supply. C. Refrigeration system not running. D. Refrigerant leak. E. Condenser fan motor not working. F. Dirty condenser. G. Dispenser capacity exceeded.	A. Check clearances around sides, top, and inlet of unit. Remove objects blocking airflow through grill. B. Switch to cold water supply. C. Refer to 4.14 - 4.18. D. Repair and recharge. E. Replace condenser fan motor. F. Clean condenser. G. Add pre-cooler or replace with larger dispenser.
4.14 Compressor does not start (no hum), condenser fan motor does not run and no ice bank.	A. There is a five (5) minute compressor and condenser fan delay. B. Ice bank probe not completely submerged. C. Circuit breaker or fuse tripped. D. Inadequate voltage. E. PCB malfunctioning. F. Incorrect wiring. G. Faulty ice bank probe. H. Transformer failure. I. Ice bank probe not connected properly to PCB.	A. Allow for five (5) minute delay to lapse. B. Fill water reservoir until water flows from overflow tube. C. Reset breaker or replace fuse. If problem persists: 1. Determine reason and correct. 2. Electrical circuit overloaded; switch to another circuit. D. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. E. Replace PCB assembly. F. Refer to wiring diagram and correct. G. Replace ice bank probe. H. Reset transformer circuit breaker. If breaker trips again, refer to 4.23. I. Connect ice bank probe to PCB.

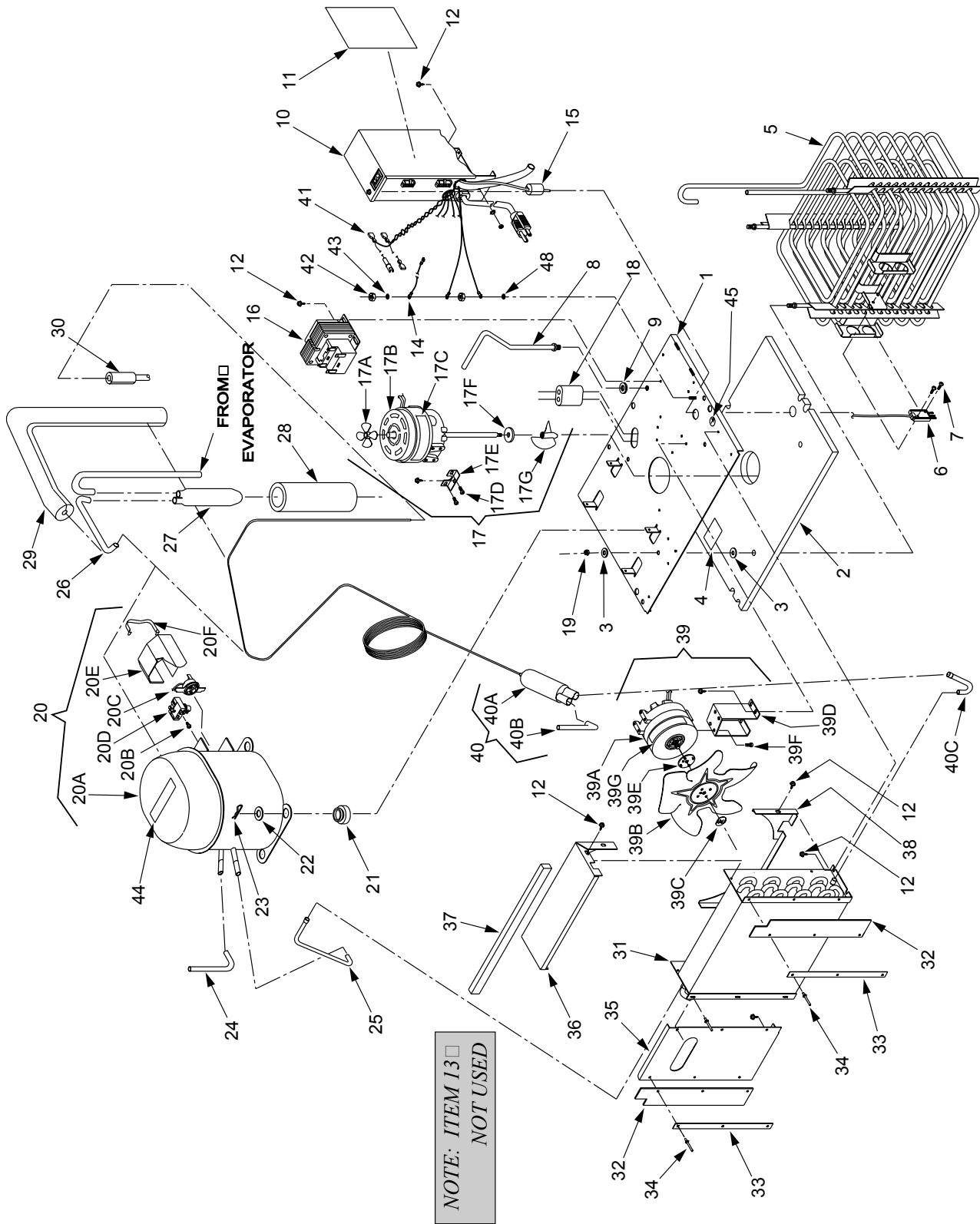
TROUBLE	CAUSE	REMEDY
4.15 Compressor does not start (no hum), but condenser fan motor runs.	A. Compressor relay or overload malfunctioning. B. Inadequate voltage. C. Incorrect wiring. D. Compressor malfunctioning.	A. Replace compressor relay or overload. B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. C. Refer to wiring diagram and correct. D. Replace compressor.
4.16 Compressor does not start but hums.	A. Inadequate voltage. B. Incorrect wiring. C. Starting relay malfunctioning. D. Compressor malfunctioning.	A. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. 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. D. Replace compressor or deck.
4.17 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.
4.18 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 eight (8) inches (203 mm) 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.
4.19 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.
4.20 Compressor cycles on and off frequently during the initial pulldown and/or normal operations.	A. PCB malfunctioning. B. Defective probe.	A. Replace PCB assembly. B. Replace probe.

TROUBLE	CAUSE	REMEDY
4.21 Circuit breaker tripping.	<p>A. Valve wire harness shorted to itself or to faucet plate.</p> <p>B. PCB is bad.</p> <p>C. Secondary wire harness is bad.</p> <p>D. Transformer failure.</p>	<p>A. Detect short by disconnecting input fast-on (female spade) to keylock and single pin connector. Restore power. If breaker doesn't trip, then valve wire harness is shorted. If OK, re-connect.</p> <p>B. Detect short by disconnecting J1 connector (24 VAC input) from PCB. Restore power, if breaker doesn't trip. Then replace PCB. If breaker does trip, then PCB is OK. Reconnect J1 connector.</p> <p>C. If it does not trip, locate short in secondary harness between transformer, PCB and valve wire harness.</p> <p>D. Detect short by disconnecting both transformer fastons and restore power. If breaker does trip, replace transformer.</p>
4.22 BIB pump does not operate when dispensing valve is opened.	<p>A. Out of CO₂, CO₂ not turned on, or low CO₂ pressure to syrup pumps.</p> <p>B. Out of syrup.</p> <p>C. BIB connector not tight.</p> <p>D. Kinks in syrup or gas lines.</p>	<p>A. Replace CO₂ supply, turn on CO₂ supply, or adjust CO₂ pressure to 70-80 PSI.</p> <p>B. Replace syrup supply.</p> <p>C. Fasten connector tightly.</p> <p>D. Straighten or replace lines.</p>
4.23 BIB pump operated but no flow.	<p>A. Leak in syrup inlet or outlet line.</p> <p>B. Defective BIB pump check valve.</p>	<p>A. Replace line.</p> <p>B. Replace BIB pump.</p>
4.24 BIB pump continues to operate when bag is empty.	<p>A. Leak in suction line.</p> <p>B. Leaking o-ring on pump inlet fitting.</p>	<p>A. Replace line.</p> <p>B. Replace o-ring.</p>
4.25 BIB pump fails to restart after bag replacement.	<p>A. BIB connector not on tight.</p> <p>B. BIB connector is stopped up.</p> <p>C. Kinks in syrup line.</p>	<p>A. Tighten BIB connector.</p> <p>B. Clean out or replace BIB connector.</p> <p>C. Straighten or replace line.</p>
4.26 BIB pump fails to stop when dispensing valve is closed.	<p>A. Leak in discharge line or fittings.</p> <p>B. Empty BIB.</p> <p>C. Air leak on inlet line or bag connector.</p>	<p>A. Repair or replace discharge line.</p> <p>B. Replace BIB.</p> <p>C. Repair or replace.</p>
4.27 No product out light.	<p>A. Burned-out lamp.</p> <p>B. Faulty wiring or pressure switch in product line.</p>	<p>A. Replace lamp.</p> <p>B. Repair or replace.</p>

NOTES:

5. ILLUSTRATIONS, PARTS LISTINGS, WIRING DIAGRAMS, AND PLUMBING DIAGRAMS

5.1 REFRIGERATION DECK ASSEMBLY

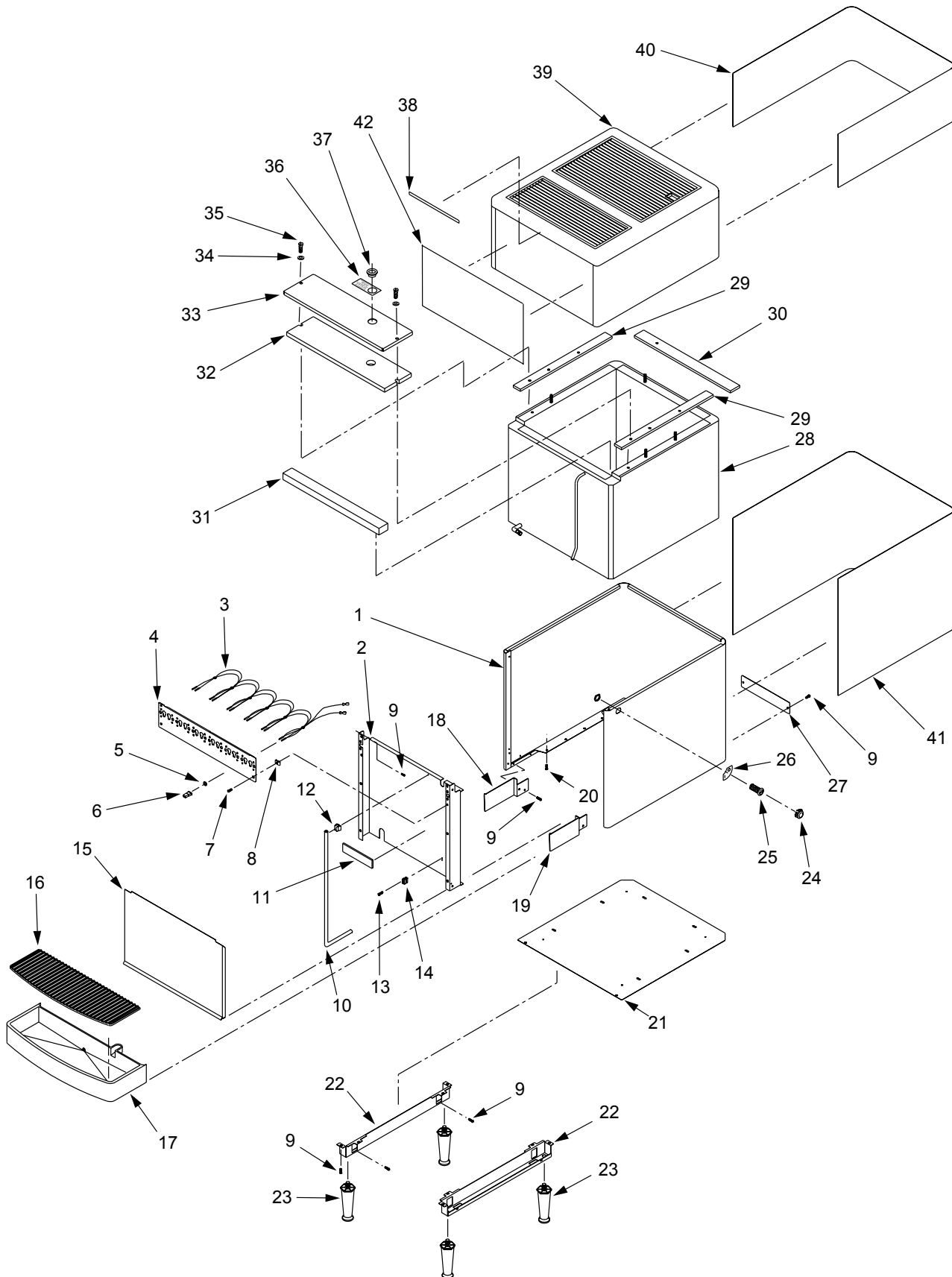


5.1 REFRIGERATION DECK ASSEMBLY (CONTINUED)

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
-	82-2768	Deck Assy, Refrigeration, 115V/60Hz	R 39	52-2140	Fan Motor Assy, 115V/60Hz
1	51-5107/01	Deck Plate, Sub-Assy	R 39a	91-0007	Fan Motor, 115V/60Hz
2	50-0200/01	Insulation, Deck Plate	39b	07-0354	Fan Blade
3	04-0063	Washer, Flat, 1/4"	39c	04-0060	Nut, Flat
4	89-0014	Hole Cover	39d	30-5864	Bracket, Fan Motor
5	82-2494	Evaporator Assy	39e	02-0033	Silencer, Fan Blade
6	52-1773	Probe Assy	39f	04-0059	Screw, 8 - 36 X 0.375"
7	04-0394	Screw, 6 - 32 X .500"	39g	06-0433/01	Label, 115V/60Hz, 9W
8	51-0068	Handle	40	23-0765	Dryer Cap Assy
9	04-0574	Washer, Lock, 5/16"	40a	23-0982	Dryer Cap
10	52-0900/02	Control Housing Assy	40b	47-0344	Tube, Process
11	06-2221	Label, Wiring Diagram	40c	47-0698	Tube, Condenser, Out
12	04-0504	Screw, 8 - 18 X .375"	41	52-2008	Harness Assembly, Transformer
R 13	Not Used		42	04-0110	Nut, 8-32
14	52-1209	Lead Assy, Ground	43	04-0576	Washer, Lock, Internal Tooth
15	02-0041	Seal	44	06-0430	Label, 115 V/60 Hz, 1/3 HP
16	25-0047	Transformer, 75VA, 24V, 115V/60Hz	45	06-0877	Label, Ground
17	82-2558	Agitator Assy, 115V/60Hz	-	11-0018	Wire Tie
17a	05-0424/01	Propeller, 2.625" Diameter	-	15-0012	Duct Tape
17b	91-0119	Motor, Agitator, 115V/60Hz	-	15-0011	Adhesive, Insulation
17c	06-0634	Label, 115V/60Hz, 25W	R -	95-0177	Refrigerant, R-134a, 6.50 Ounces
17d	04-0059	Screw, 8 - 36 X .375"	-	96-0004	Solder, 60/40
17e	30-5113/01	Bracket, Agitator Motor	-	96-0003	Brazing Alloy
17f	02-0032	Washer, Rubber	R --	52-2027	Harness Assy, Ground, PCB
17g	05-1437	Propeller, Water			
18	02-0040	Seal, Extrusion			
19	04-0032	Nut, Lock, 1/4" - 20			
20	83-0033	Compressor Assy, 1/3 hp, 115V/60Hz (includes items listed below)			
20a	83-0033-01	Compressor, 1/3 hp, 115V/60Hz			
20b	04-1010	Screw, Brass, 6 - 32 X 0.250"			
R 20c	12-0339	Overload			
20d	12-0005	Relay			
20e	13-0066	Cover, Terminal			
20f	03-0040	Bale Strap			
21	02-0114	Grommet, Compressor			
22	04-0537	Washer, Compressor			
23	03-0150	Clip, Retainer, Compressor			
24	47-0344	Tube, Process			
25	47-0718	Tube, Compressor Discharge			
26	47-0724	Tube, Return Line			
27	51-0061	Accumulator			
28	50-0211	Boot			
29	50-0205	Insulation			
30	50-0159	Insulation			
31	23-0985	Condenser			
32	50-0201	Baffle, Rubber			
33	30-5112	Retainer Strip			
34	04-0518	Rivet, 0.125" X 0.328"			
35	30-5867	Handle/Air Shield			
36	30-5865	Fan Shroud, Upper			
37	50-0249	Insulation, Strip			
38	30-5866	Fan Shroud, Lower			

R in the margin indicates change or revision

5.2 CABINET ASSEMBLY

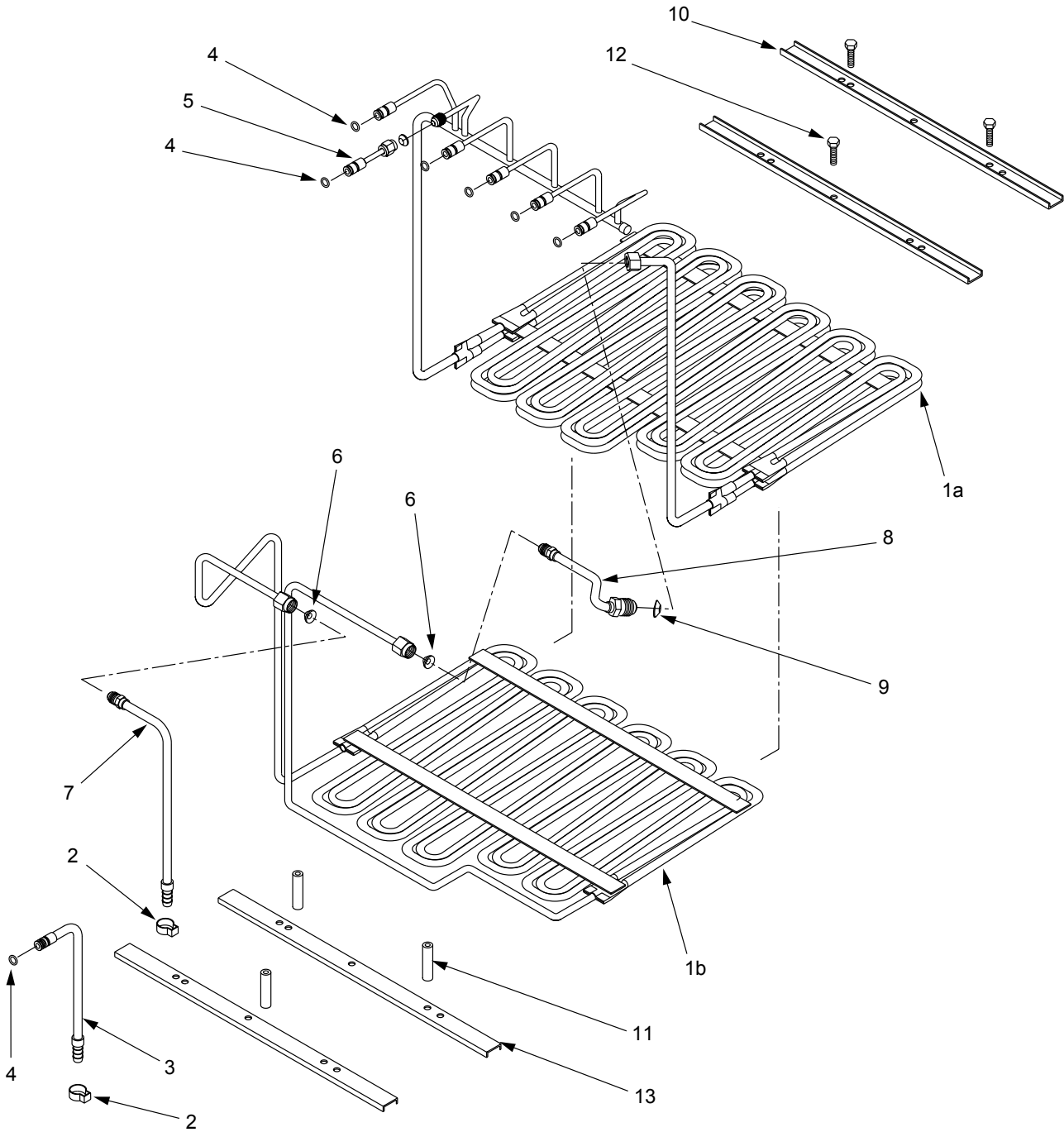


5.2 CABINET ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
-	82-2551	Cabinet Assy
R 1	51-5629/02	Wrapper Assy
R 2	30-7353/02	Front Support, SS
R 3	52-1214	Harness Assy, 6 Valve, (Requires 6 each; Items 5 & 6)
R 4	30-5125	Faucet Plate, 6 Valve
5	13-0005	Bushing
6	11-0015	Connector, Housing, 2-Pin
7	04-0443	Screw, 10 - 24 x 0.375", Countersink
8	04-0074	Nut, Clip, 10 - 24
9	04-0504	Screw, 8 - 18 x 0.375", with Washer
10	08-0004	Tubing, Tygon, 5/16" ID
11	06-0851	Label, Overflow
12	03-0302	Clip, Drain Hose
13	04-0077	Screw, 4 - 20 x 0.250"
14	03-0062	Clip, Overflow Tube
15	30-0319	Splash Plate
16	05-1585	Cup Rest, Plastic
17	05-1657	Drip Tray
R 18	30-7533/02	Bracket, Drip Tray, Right
R 19	30-7534/02	Bracket, Drip Tray, Left
20	04-0545	Screw, 8 - 16 x 0.750"
21	30-7358	Plate, Tank, Bottom
R 22	30-5221/02	Bracket, Leg
23	81-0112	Leg, Plastic
R 24	07-0405	Plug, Key Switch (Optional)
25	12-0097	Key Switch (Includes Nut)
26	06-0881	Label, Key Switch
27	07-0347	Plate, Cover
28	REF	Tank Assy
R -	42-0057/01	Tank Assy
29	50-0151	Insulation, Tank, Side
30	50-0150	Insulation, Tank, Back
31	50-0248	Insulation, Tank, Front
R 32	50-0254/01	Insulation, Cover Plate, Blank
R 33	30-5891/01	Plate, Cover, Blank
34	04-0033	Washer, 1/4" x 0.063"
R 35	04-0431	Screw, 1/4" - 20 x 1.250"
36	06-0856/01	Label, Fill Hole
37	04-0711	Cap, Fill Hole
38	06-0632	Label, "WARNING"
R 39	REF	Bonnet Assy
R -	82-2764	Bonnet Assy, (Contact Customer Service for Graphic Options)
40	06-2177	Label, Graphic, Bonnet (Contact Customer Service for Graphic Options)
41	06-2178	Label, Graphic, Tank Wrapper (Contact Customer Service for Graphic Options)
R 42	06-2227	Label, Graphic, Front Panel, (Contact Customer Service for Graphic Options)

R in the margin indicates change or revision

5.3 CAGE ASSEMBLY

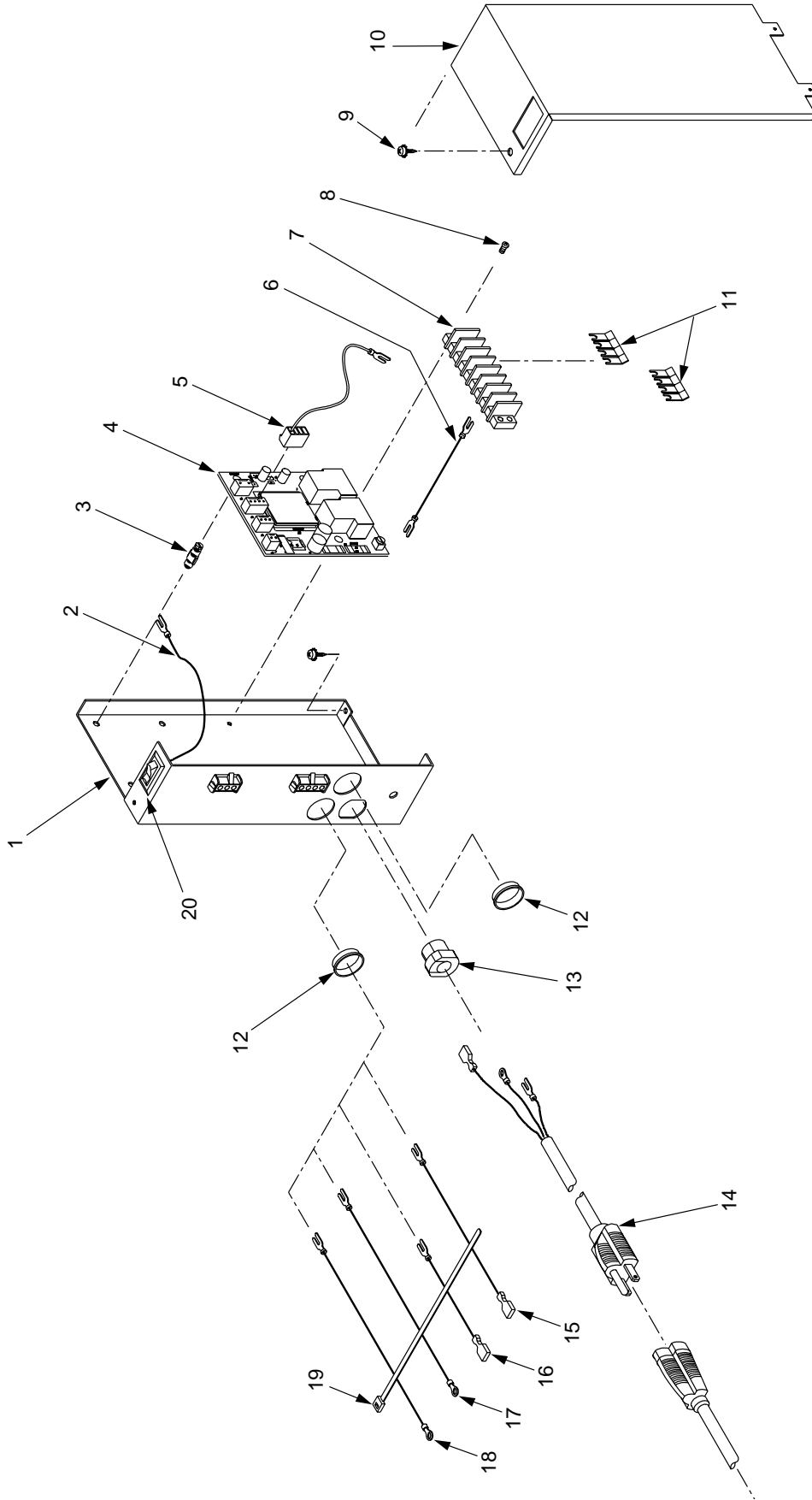


5.3 CAGE ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
R 1	23-1252	Cage Assy, Non-Carbonated, 6 Valve
R 1a	48-1357/01	Water Coil Assy
R 1b	48-1355/01	Pre-chill Coil Assy
R REF	30-6806	Spacer, Water Cage
R 2	07-0438	Clamp, Oetiker, 21/32" [17.0 mm]
R 3	48-0712	J-Tube, 3/8" Barb
R 4	02-0005	O-Ring
R 5	48-0492/01	Adapter, Water Out
R 6	05-0011	Seal, Flare, 1/4"
R 7	48-1663	Tube, Water Inlet
R 8	48-1661	Adapter, Water Cage
R 9	05-0017	Seal, Flare, 3/8"
R 10	30-6767	Brace, Water Coils
R 11	01-1831	Spacer, Threaded, 10 - 24
R 12	04-1116	Screw, 10 - 24 x 0.625
R 13	30-6807	Spacer, Lower

R in the margin indicates change or revision

5.4 CONTROL HOUSING



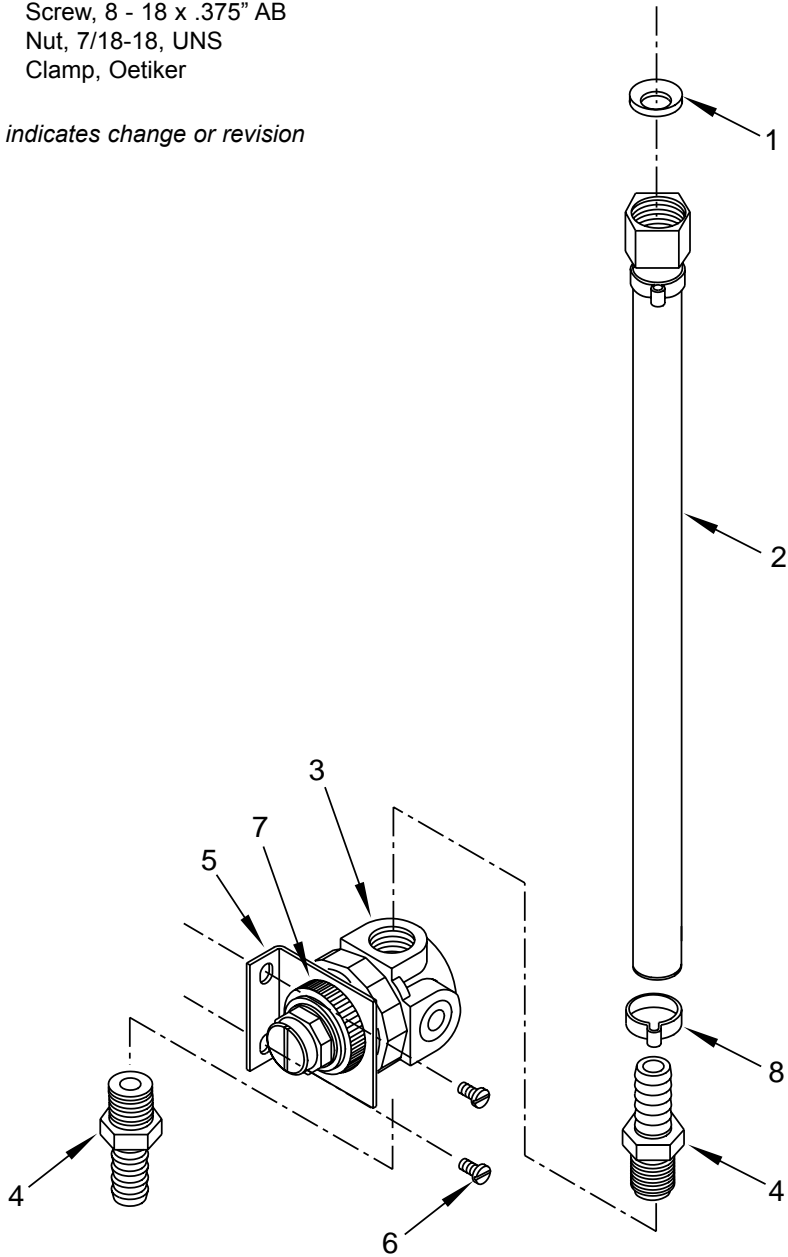
5.4 CONTROL HOUSING (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
-	52-0900/02	Control Housing, With ON/OFF Switch
1	30-5109/02	Control Housing
2	52-0868/01	Lead Assy, ON/OFF Switch
3	13-0047	Stand-off
4	52-1423/01	PCB Assy
5	52-2027	Lead Assy, Probe Ground
6	52-2061	Lead Assy, EIBC
7	12-0190	Terminal Block
8	04-0477	Screw, 8 - 32 X 0.375"
9	04-0504	Screw, 8 - 16 X 0.375"
10	30-5108/01	Cover, Control Box
11	11-0186	Jumper, 4-Position
12	13-0059	Bushing
13	13-0028	Strain Relief
14	52-1219	Power Cord (Pigtail)
15	52-0904	Harness Assy, Trans #1
16	52-0905	Harness Assy, Trans #2
17	52-0906	Harness Assy, Comp #1
18	52-0907	Harness Assy, Comp #2
19	11-0008	Tie Wrap
20	12-0089	Switch

5.5 WATER REGULATOR ASSEMBLY

ITEM	PART NO.	DESCRIPTION
R -	18-0253/02	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	Bracket, Regulator
6	04-0504	Screw, 8 - 18 x .375" AB
7	01-1429	Nut, 7/18-18, UNS
8	07-0438	Clamp, Oetiker

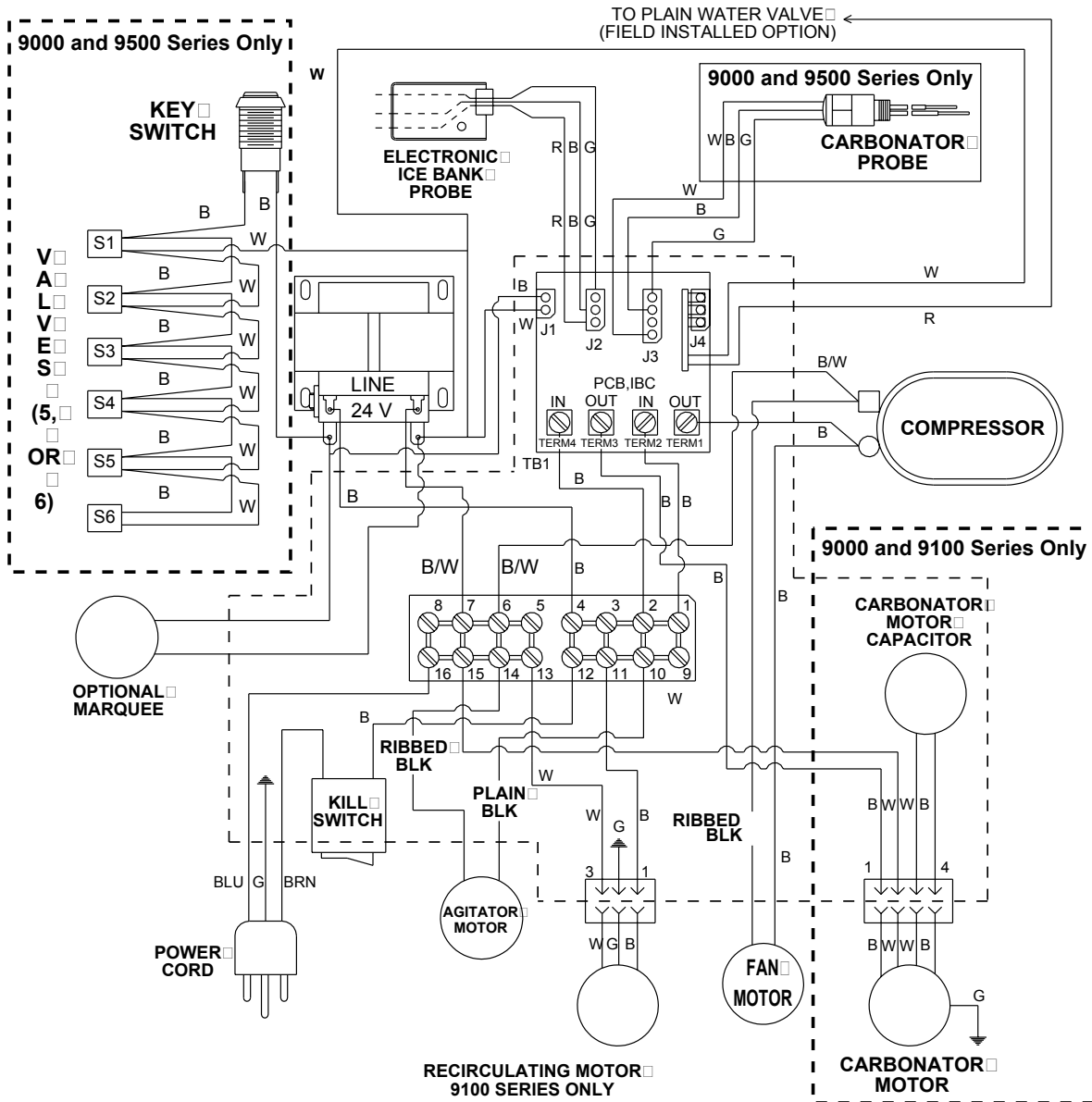
R in the margin indicates change or revision



5.6 WIRING DIAGRAM

IMPORTANT

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



RECIRCULATING MOTOR
9100 SERIES ONLY

SYM.	DESCRIPTION
	CHASSIS GROUND
	CHAMFER PIN
	OPTIONAL WATER BOOST PCB, IBC J4
----	CONTROL BOX

DELTA

LANCER

LABEL, WIRING DIAGRAM
06-2221

NOTES

*(Continued from previous page)***EcuLancer S.A. - Ecuador**

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