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INSTALLATION AND SERVICE MANUAL

LANCER SERIES 600, LFCV

COLD CARBONATED DISPENSER

SPECIFICATIONS

DIMENSION

Width	13 inches	(330 mm)
Depth	26 inches	(660 mm)
Height (without legs)	20 3/4 inches	(520 mm)

WEIGHT

Shipping	140 pounds	(63.6 kg)
Empty	125 pounds	(56.8 kg)
Operating	163 pounds	(74.1 kg)

WATER REQUIREMENTS

CAUTION

IF WATER SOURCE EXCEEDS 50 PSIG (3.52 KG/CM²), A WATER REGULATOR ASSEMBLY MUST BE USED TO LIMIT WATER PRESSURE TO 50 PSIG (3.52 KG/CM²). FAILURE TO USE A WATER REGULATOR WILL RESULT IN IMPROPER PERFORMANCE OF DISPENSER.

Minimum flowing pressure of zero (0) PSIG (0 kg/cm², 0 BAR)
Maximum static pressure of 50 PSIG (3.52 kg/cm², 3.45 BAR)

CARBON DIOXIDE (CO₂) REQUIREMENTS

Minimum pressure of 70 PSIG (4.92 kg/cm², 4.83 BAR)
Maximum pressure of 80 PSIG (5.62 kg/cm², 5.52 BAR)

ICE BANK WEIGHT

11 to 13 pounds (5.0 to 5.9 kg)



This manual is an initial issue



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DISPENSER INSTALLATION HIGHLIGHTS

Listed below are eight (8) 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 (refer to 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 $\pm 10\%$ variation of the nominal line voltage, consider installing a surge protector or similar protection device.
4. 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.
5. The unit is equipped with a protective timer for the carbonator pump motor, set for three (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. Once power is restored, the five (5) minute compressor delay would be in effect.
6. Supply Water Pressure: Minimum – Zero (0) Flowing PSIG (0 kg/cm²) [25 PSIG (1.76 kg/cm²) Flowing in quiet mode]; Maximum static– 50 PSIG (3.5 kg/cm²). If pressure is over 50 PSIG, a water pressure regulator must be used.
7. CO₂ Pressure: Recommend nominal pressure 75 PSIG (5.27 kg/cm², 5.17 BAR). Pressure may be reduced to a minimum of 70 PSIG (4.92 kg/cm², 4.83 BAR) if double acting syrup pumps are being used. It may be increased to a maximum of 80 PSIG (5.62 kg/cm², 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 70 PSIG. CO₂ pressure over 80 PSIG may result in damage or leakage from the syrup pump system or may cause excessive foam in the drink.
8. Valve Adjustment: Make sure drink temperature is below 40°F (4.4°C) before checking or adjusting brix.

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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 same on bill of lading and file a claim with the carrier.

1.2 UNPACKING

- A. Cut banding and remove.
- B. Remove top portion of carton by lifting up.
- C. Remove accessory kit and loose parts from top packaging.
- D. Remove side inserts.
- E. Lift unit up by plywood shipping base and remove lower portion of carton.
- F. Inspect unit for concealed damage 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 the unit secured to the plywood base.

- H. If unit is to be installed with optional feet, assemble feet 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 scheduled on the specification page.

CAUTION

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

- B. Condenser air is drawn in the top of the unit and discharged out the top of the unit. A minimum of eight (8) inches (203 mm) clearance must be maintained over the top of the unit.

1.5 MOUNTING THE DISPENSER

- A. The dispenser is designed to be permanently mounted and sealed to the counter.

NOTE

NSF listed units must be sealed to the counter using FDA approved Silicone or be elevated above the counter in accordance with NSF directives.

- B. When the dispenser is to be permanently bolted to the counter top, seal dispenser base to counter top with a bead of clear, FDA approved, silicone caulk or sealant which provides a smooth and easily cleaned bond to the counter.

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.
- D. Reinstall the drip tray, splash plate, and cup rest.

1.7 FILLING UNIT WITH WATER

- A. Remove the top cover from the unit.

- B. Locate the fill tube. It is located next to the carbonator relief valve.
- 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 WILL NOT OPERATE.

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.

CAUTION

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

- A. Disconnect the power supply to the carbonator motor by disconnecting the three pin connector located near the top left corner of the control board located under the valve shroud.
- B. Check the dispenser serial number plate for unit's correct electrical requirements. Do not plug into wall electrical outlet unless serial number plate voltage 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.

NOTE

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 WATER SOURCE EXCEEDS 50 PSIG (3.52 KG/CM²), A WATER REGULATOR KIT MUST BE USED TO LIMIT WATER PRESSURE TO 50 PSIG (3.52 KG/CM²). FAILURE TO USE REGULATOR WILL RESULT IN IMPROPER PERFORMANCE OF DISPENSER.

- A. Using appropriate tubing and fittings, 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 50 PSIG (3.52 kg/cm²), cut tubing assembly and install a Water Regulator.

This unit meets NSF requirements for backflow prevention for internally carbonated beverage dispensers. *It is the responsibility of the installer to ensure compliance with any additional Federal, state or local codes.*

- C. Route tubing through hole in counter or through opening in rear of dispenser and through area behind splash plate to carbonator area. Connect to water inlet fitting.
- D. Leave 12 inches (304.8 mm) of extra tubing length below the counter for servicing and moving the dispenser.
- E. Turn on water supply. Check for leaks.
- F. Set to 50 PSIG (3.52 kg/cm²) static pressure.

1.10 CONNECTING THE CO₂ SUPPLY

- 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 under counter, etc., and secure it with a safety chain.
- C. Using appropriate tubing and fittings, 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 or through opening in the rear of the dispenser into area behind splash plate.
- E. Leave 12 inches (304.8 mm) of extra tubing length below the counter for servicing and moving the dispenser.
- F. Remove the protective cap from the elbow on the back of the CO₂ manifold (located on top of mini pumps on left side of unit) and connect the CO₂ supply line for units with internal syrup pumps.

WARNING

DO NOT TURN ON THE CO₂ SUPPLY AT THIS TIME.

- G. If dispenser does not have built in syrup pumps, remove cap from CO₂ barb on carbonator relief valve and connect to tubing.

1.11 CONNECTING TO BAG-IN-BOX (BIB) SYRUP SUPPLY (Units with built-in Syrup Pumps)

CAUTION

THE SYRUP INLET TUBING SHIPPED WITH THE INSTALLATION KIT SHOULD BE CUT INTO PIECES EIGHT (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 EIGHT (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.

- 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 an FDA approved lubricant or water. Be careful not to cut o-rings when installing in pump.
- 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, or through opening in rear of dispenser, to the BIB syrup supply.
- D. Dip hose connectors in a cup of warm water.
- E. Attach the BIB hose connectors to the appropriate syrup flavor.

1.12 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" 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.

1.13 REMOTE PRESSURIZED SYRUP SUPPLY

- 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.

1.14 PURGING THE CARBONATION SYSTEM

- A. The relief valve for the built-in carbonator is located under the top cover behind the faucet plate on the right side of the dispenser. 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. *If supply pressure is low, it may be necessary to reconnect power to the pump and unplug the carbonator probe from the board until water flows from the relief valve.*
- B. Reconnect the power supply to the carbonator pump.
- C. Back off on the CO₂ regulator pressure adjusting screw all the way. Open the CO₂ cylinder handle slowly. Turn the CO₂ pressure regulator up slowly to 75 PSIG (5.1 BAR).
- D. Open a dispensing valve until water and syrup are flowing steadily from the valve.
- E. Repeat Step "D" for each flavor.
- F. Check all of the unit's syrup, water and CO₂ connections for leaks and repair if necessary.

NOTE

To check for CO₂ leaks, close the valve on the CO₂ 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 top cover, splash plate and cup rest.

2. SCHEDULED MAINTENANCE

2.1 DAILY

- A. Remove the cup rest and wash in warm soapy water.
- B. Pour warm soapy water into the drip tray and wipe with a clean cloth.
- C. Using a clean cloth and warm soapy water, wipe off all exterior surfaces of the unit and nozzles.
- D. Replace the cup rest.

2.2 WEEKLY

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

2.3 MONTHLY

- A. Unplug the dispenser from power source.
- B. Remove the top cover, and clean the dirt from the unit's condenser using a soft brush.
- C. Replace the top cover and plug the unit into the power source.

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.
- D. Check water pump screen for debris and/or clogging.

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 as recommended and the sanitizer should be low pH

- (7.0) chlorine solution.
- B. Disconnect syrup containers and remove product from tubing.
 - C. Rinse the lines and fittings with clean, room temperature water to remove all traces of residual product.
 - D. Fill lines with a low-sudsing, non-perfumed, and easily rinsed detergent solution. The solution should be prepared in accordance with the manufacturer's recommendations. Make sure the lines are completely filled and allow to stand for at least ten (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 100 PPM (100 mg/L) available chlorine. Flow sanitizing solution through dispenser until output tests to full 100 PPM concentration. Allow to stand for 15 minutes.
 - G. Nozzle/Diffuser Sanitizing

Use the following procedure to sanitize the nozzle housing during the dispenser sanitization procedure.

1. **Cleaning Solution** - Prepare a low sudsing, non-perfumed, and easily rinsed detergent solution and clean, potable water at a temperature of 90° to 110°F.
2. **Sanitizing Solution** - Prepare a chlorine solution (less than pH 7.0) containing 100 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 100 PPM available chlorine.
3. **Cleaning Procedure**

CAUTION

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

- a. Disconnect power, so the valve will not be inadvertently activated while cleaning.
 - b. Remove nozzle housing by twisting it counter-clockwise and pulling it down.
 - c. Wash the nozzle housing with the cleaning solution.
 - d. Immerse the nozzle housing in a bath of the sanitizing solution for 15 minutes.
 - e. While the parts are in the sanitizing solution, visually inspect around the nozzle mounting area for syrup residue. Using a cloth or nozzle brush and sanitizing solution, clean this area and the bottom of the nozzle body.
 - f. Wipe off the valve shroud assembly and any other areas that may have been splashed by syrup.
 - g. Wearing sanitary gloves, remove, drain, and air dry the nozzle housing.
 - h. 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 (PN 02-0228) onto the nozzle mounting area. (Wear sanitary gloves while handling the o-ring.) If needed, apply 111 lubricant (or another FDA approved lubricant) to the o-ring.
 - i. Wearing sanitary gloves, install the nozzle housing by inserting it into the nozzle body and twisting it clockwise to lock it in place.
 - j. Connect power and replace cover.
- H. Reconnect syrup containers and ready Unit for operation.

WARNING

REMOVE SANITIZING SOLUTION FROM DISPENSER AS INSTRUCTED. RESIDUAL SANITIZING SOLUTION LEFT IN SYSTEM COULD CREATE HEALTH HAZARD.

- I. 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.*

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

4. CONNECTION FOR PLAIN WATER PRODUCT

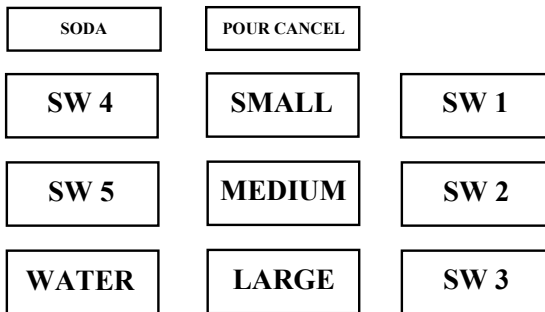
4.1 PROCEDURE

If a plain water product is desired, make sure the center water module is connected to the center plug (marked "WATER") on the PCB. Then follow the procedure in Section 5.2 which follows.

5. SETTING MEMBRANE SWITCH AND PLUMBING CONFIGURATIONS

5.1 GENERAL

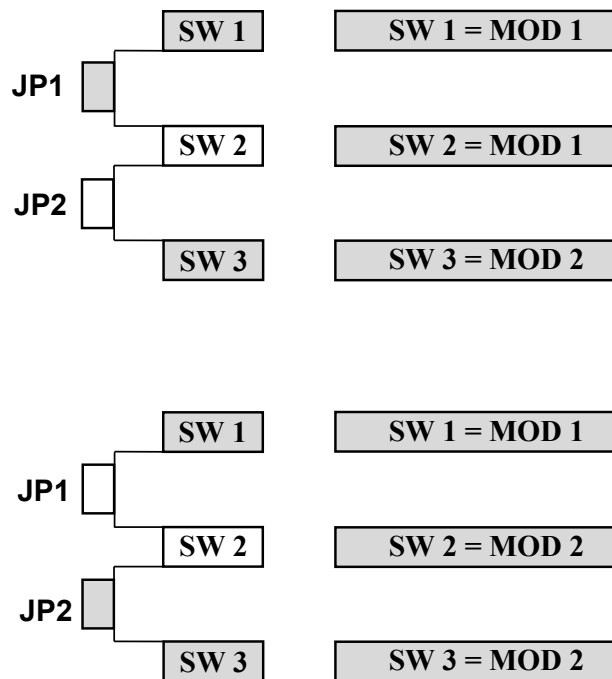
Depending on the number of finished products available (4 or 5), unused switches on the right side of the membrane switch panel can be configured to operate a common syrup module (see Figure 1). The center column of switches is used for Portion Control, which is standard on all units (see Section 5.3). There are no unused switches on the left side in any configuration. The small button on the top left will always dispense soda, and the large button on the bottom left will always dispense plain water.



Membrane Switch Panel Configuration

Figure 1

To configure a common module to two switches, place the jumper on the PCB at the location indicated and plug the syrup module into the respective connector as shown by the shaded squares in Figure 2. For a unit where three modules are plumbed to a single nozzle, no jumper is used. The module connectors on the PCB correspond to the switches on the membrane panel as shown above when no jumpers are used.



Membrane / PCB Jumper Configurations

Figure 2

5.2 CARB/PLAIN WATER CONFIGURATION

The following plumbing configurations are possible. *Plain water is dispensed from the left nozzle only.* To select whether a flavor is carbonated or not, plug the respective syrup module into the connector marked "Carb" or "PW" for that switch (SW4 or SW5, see Figure 1 and Section 9.7).

A. Four Flavor

- 4-0:** All flavors are carbonated; plain water available from water button only; unused switch on right side may be jumpered per Section 5.1;
- 3-1:** Two (2) flavors on right nozzle carbonated; one (1) flavor on left nozzle carbonated; one (1) flavor on left nozzle plain water; unused switch on right side may be jumpered per Section 5.1;
- 2-2:** Two (2) flavors on right nozzle carbonated; two (2) flavors on left nozzle plain water; unused switch on right side may be jumpered per Section 5.1.

B. Five Flavor

- 5-0:** All flavors are carbonated; plain water available from water button only; no jumper used;
- 4-1:** Three (3) flavors on right nozzle carbonated; one (1) flavor on left nozzle carbonated; one (1) flavor on left nozzle plain water; no jumper used;
- 3-2:** Three (3) flavors on right nozzle carbonated; two (2) flavors on left nozzle plain water; no jumper used.

5.3 PORTION CONTROL FEATURE

The middle column of switches selects portion control sizing when programmed (see Figure 1). The pour size is selected by pressing and releasing the desired size first, and then the desired flavor switch is pressed and released to start the dispense. The LED will light up until the flavor button is pressed. Size preference is given to the last switch pressed. Pressing pour cancel at any time deselects the size and stops the dispense. The individual flavor switches will operate manually if no size selection is made.

A. PROGRAMMING PROCEDURE

1. To turn the Portion Control feature on, enter the programming mode by simultaneously pressing and holding the lower two switches (Medium and Large, see Figure 1) until the LED starts blinking, then release the switches. The LED will continue blinking while in programming mode.
2. Put desired amount of ice in cup. Place cup under nozzle, press and release selected size switch (Small, Medium, or Large), press and hold a flavor switch until the cup fills to the desired level, then release the switch.
3. Wait for the foam to settle, then actuate the flavor switch again to set Top-Off.
4. Repeat Steps 2 and 3 for the other two drink sizes.
5. Repeat Steps 2, 3 and 4 for all other flavors.
6. After programming all drink sizes, press and release the Pour Cancel switch to return to the operational mode. The LED will stop blinking.
7. To turn the Portion Control feature off, enter the programming mode (Step 5.3.A.1), and then press and hold the Small and Medium switches until the LED stops blinking.
8. If Top-Off is not desired or required, the following steps must be followed:
 - a. Follow steps 5.3.A.1 and 5.3.A.2 above.
 - b. Repeat Step 5.3.A.2 for remaining drink sizes.
 - c. After actuating the last selected size switch, momentarily actuate one of the other size switches. This will signal the microprocessor that all selected sizes are complete.
 - d. Repeat Step 5.3.A.6 above.
9. To change a dispense size, use the above procedure for the selected size; it is not necessary to reprogram every size.

6. LANCER FLOW CONTROL VALVE MODULE (LFCV) ADJUSTMENT AND MAINTENANCE

6.1 GENERAL

The water flow for the Model 600 with Flow Control Modules may be adjusted from 1.20 oz/sec (36 ml/sec) to 2.00 oz/sec (59 ml/sec) and the syrup flow may be adjusted from .25 oz/sec

(7.4 ml/sec) to .40 oz/sec (11.8 ml/sec) to obtain a finished drink flow rate from 1.45 oz/sec (41 ml/sec) to 2.40 oz/sec (71 ml/sec). *Adjusting the flow control **clockwise will increase the flow, while turning it counter-clockwise will decrease the flow.*** The water flow control modules are gray in color and are plumbed to the center fitting on the nozzle. The syrup flow control modules are black and are plumbed to the three outer fittings on the nozzle. The unit should have been running for at least one hour before attempting to set ratio. The drink temperature should be no higher than 40° F (4.4° C) when the ratio is set.

6.2 ADJUSTING WATER FLOW

- A. Remove screws under Valve Shroud and open the Valve Shroud to expose the valve modules.
- B. Disconnect the syrup modules from the PCB to disable syrup flow.
- C. Hold a Lancer brix cup under the nozzle and dispense water into the cup for four seconds. Divide number of ounces (ml) of water in cup by four to determine water flow rate per second.
- D. To obtain desired flow, use a screwdriver to adjust the water flow control. Recheck as necessary.
- E. Repeat process for other nozzle and water flow controls.

6.3 ADJUSTING SYRUP FLOW

- A. Reconnect syrup modules to PCB.
- B. Remove nozzle by twisting counter-clockwise and pulling down.
- C. Install the Model 600 syrup separator (54-0282) by engaging tangs on nozzle body and turning clockwise. Lubrication of the separator seal is recommended (use 111 lubricant or another FDA approved lubricant). Activate valves momentarily to fill the separator tube.
- D. Hold the brix cup under the separator and dispense syrup and water into the cup.
- E. Use a screwdriver to obtain the proper brix by adjusting the syrup flow control. Recheck as necessary.
- F. Repeat process for other syrup modules plumbed to the nozzle.
- G. Remove separator, replace nozzle, and repeat for other nozzle.
- H. After all modules are brixed, close Valve Shroud and replace screws.

6.4 CLEANING AND SANITIZING PROCEDURES

A. VALVE AND SYSTEM SANITIZING

1. 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 may remain on the dispenser during the sanitizing process.
2. To purge syrup, shut off water at backblock and hold keypad switch down for five (5) seconds. Syrup will purge for as long as the keypad switch is held down.

6.5 DAILY NOZZLE/DIFFUSER CLEANING (SEE FIGURE 3)

- A. The Multiflavor Nozzles (MFN) supplied on your Lancer 600 dispenser require low maintenance. They are "mix in air" nozzles which means that the syrup/soda water interaction begins after each of the two fluids leave the confines of the nozzle. Therefore, bacterial growth should not occur within the syrup portion of the nozzle. *The Lancer MFN is a "wipe clean" design.*
- B. Use the following procedure to clean the nozzle assembly each day:
 1. Remove nozzle housing by twisting it counter-clockwise and pulling it down.
 2. Wash the nozzle with warm water.
 3. Wet a clean cloth in warm, soapy water.
 4. While the nozzle housing is removed, wipe down the perimeter and end of the nozzle body.
 5. Rinse nozzle body with clean warm water and towel dry.

CAUTION

USE CARE TO INSURE O-RING IS NOT TORN OR OTHERWISE DAMAGED. IF DAMAGED, REPLACE O-RING.

6. 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 (PN 02-0228) onto the nozzle mounting area.
7. If needed, apply 111 lubricant (or another FDA approved lubricant) to the o-ring on the

nozzle body.

8. Install the nozzle by inserting it into the bottom plate and twisting it clockwise to lock it in place.

6.6 MONTHLY NOZZLE/DIFFUSER SANITIZING

Use the following procedure to sanitize the nozzle housing once a month (*see also Section 3*).

A. Cleaning Solution

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

Prepare a chlorine solution (less than pH 7.0) containing 100 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 100 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 housing by twisting it counter-clockwise and pulling it down.
3. Wash the nozzle housing with the cleaning solution.
4. Immerse the nozzle housing in a bath of the sanitizing solution for 15 minutes.
5. 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.
6. Wipe off the valve shroud assembly and any other areas that may have been splashed by syrup.
7. Wearing sanitary gloves, remove, drain, and air dry the nozzle housing.
8. 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 (PN 02-0228) onto the nozzle mounting area. (Wear sanitary gloves while handling the o-ring.) If needed, apply 111 lubricant (or another FDA approved lubricant) to the o-ring.
9. Wearing sanitary gloves, install the nozzle housing by inserting it into the nozzle body and twisting it clockwise to lock it in place.
10. Connect power and replace cover.
11. 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.

6.7 VALVE (SYRUP MODULE OR SODA MODULE)

A. Removal from Back Block

1. Raise valve shroud and lock in place.
2. Turn back block shut-off to the closed position (counter clockwise rotation).
3. Lower shroud and activate the valve pushbutton to relieve pressure.
4. Again, raise valve shroud and lock in place.
5. Unplug valve harness from PCB.
6. Raise valve retainer.

NOTE

The retainer cannot be pulled up until the back block shut-off is properly closed.

7. Pull the valve off of the back block.

B. Mounting on Back Block

CAUTION

USE CARE TO INSURE O-RING IS NOT TORN OR OTHERWISE DAMAGED. IF DAMAGED, REPLACE O-RING.

1. Check o-ring on back block. Replace o-ring, if necessary.
2. Apply 111 Lubricant (or another FDA approved lubricant) to o-ring, if necessary.
3. Press valve into the back block.
4. Lower the valve retainer to lock the valve in place.
5. Turn the back block shut-off to the open position (clockwise rotation).
6. Connect the valve harness to the proper position on the PCB.
7. Lower valve shroud.

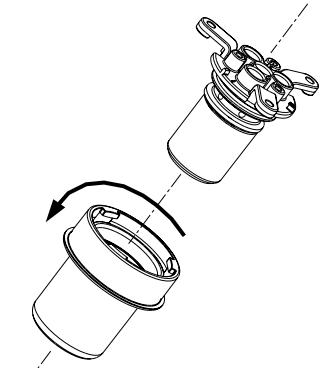
6.8 NOZZLE HOUSING (SEE FIGURE 3)

A. Removal

1. Remove nozzle housing, by twisting it counter-clockwise and pulling it in a downward direction.
2. Remove nozzle o-ring, if needed.

B. Assembly

1. Slide nozzle o-ring over the nozzle mount on the underside of the valve.
2. Slide o-ring into the groove on the end of the nozzle body assembly, if necessary.
3. Apply 111 Lubricant to o-ring, as required.
4. Install nozzle housing by inserting it onto the nozzle body and twisting it in a clockwise direction to lock it into place.



Multiflavor Nozzle (MFN)
Figure 3

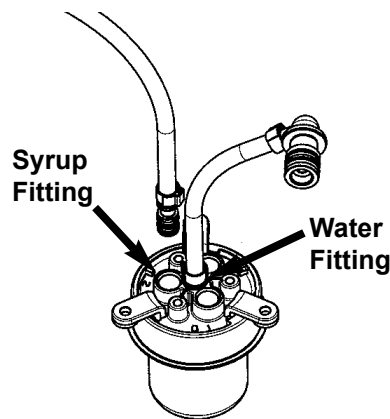
6.9 NOZZLE BODY AND FITTINGS (SEE FIGURES 4 AND 5)

- A. To access the top of the nozzle body, remove screws under valve plate, raise valve shroud and lock into place.
- B. Each nozzle accepts four (4) fittings. The center nozzle port must always have the water fitting installed. The outer ports (numbered 1 through 3) are for syrup fittings.

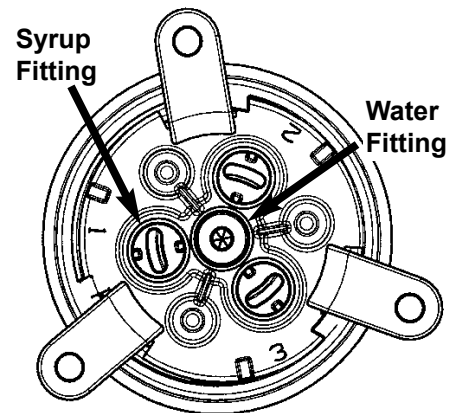
NOTE

When using thicker viscosity syrups, do **NOT** install syrup in Port #1. To achieve the proper ratio, it may be necessary to use a fitting with an orifice larger than the standard fitting.

- C. Use a plug (PN 01-2004) in all unused syrup ports to keep debris from entering the unused ports.



Water and Syrup Fittings
Figure 4



View Looking Down at Nozzle Ports
Figure 5

7. WATER PUMP

- 7.1 The water pump contains a screen to prevent debris from entering the dispenser. Periodically, according to the local water quality, the screen should be removed and cleaned.
- A. To clean the screen, remove the water pump.
 - B. Remove screen from the outlet port.
 - C. Clean screen and reinstall screen in the outlet port.
 - D. Reinstall water pump in dispenser.
-

NOTES

8. TROUBLESHOOTING

TROUBLE	CAUSE	REMEDY
8.1 Miscellaneous leakage.	A. Gap between parts. B. Damaged or improperly installed o-rings or seals.	A. Tighten appropriate retaining screws. B. Replace or adjust appropriate o-rings and/or seals.
8.2 Insufficient water flow.	A. Insufficient incoming supply water and/or pressure. B. Reduced Flow	A. Verify incoming supply water pressure is at zero (0) PSI flowing. B. Remove water pump. Remove screen from outlet port and check for debris/clogging. Clean screen, as necessary, and reinstall screen in outlet port. Reinstall water pump.
8.3 Insufficient syrup flow.	A. Insufficient CO ₂ pressure to syrup pumps or figals.	A. Adjust CO ₂ pressure to 80 PSI for internal BIB pumps. For remote pumps, check manufacturer's recommendations or guidelines for highest allowable CO ₂ pressure.
8.4 No product dispensed.	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. Dispenser supply sufficient but no flow at back block. D. Power to circuit board interrupted. E. Valves not receiving power. F. Keypad inoperative.	A. Open shutoffs fully. B. Turn key switch to ON position. C. Check dispenser for freeze-up or other problems. D. Reset circuit breaker on top of control box. If breaker trips again, refer to Section 8.22. Also, check connection J10 on circuit board and check Fuse F2 on PCB. E. Check connectors J2 and J6 on circuit board. Check connections at valve. F. Check connection J13 on circuit board. Configure valve to different switch. If product dispenses at the new switch but not the old switch, replace keypad.
8.5 Water only dispensed; no syrup; or syrup only dispensed; no water.	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. CO ₂ pressure too low. E. Stalled or inoperative BIB pump. F. Kinked line.	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 eight (8) feet (2.4 m) of the dispenser. D. Check the CO ₂ pressure to the pump manifold to ensure it is between 70-80 PSI. E. Check CO ₂ pressure and/or replace pump. F. Remove kink or replace line.
8.6 Valve will not shut off.	A. Keypad may be sticking.	A. Correct or replace keypad. Check for entrapped air behind keypad. Gently raise key pad and roll down to remove trapped air.

TROUBLE	CAUSE	REMEDY
8.7 Syrup only dispensed. No water, but CO ₂ gas dispensed with syrup.	<ul style="list-style-type: none"> A. Improper water flow to dispenser. B. Carbonator pump motor has timed out. C. Blown fuse on circuit board. D. Liquid level probe not connected properly to PCB. E. Faulty PCB assembly. F. Faulty liquid level probe. G. Water bath frozen. H. Water line frozen. 	<ul style="list-style-type: none"> A. Check for water flow to dispenser (see Section 8.2). 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. C. Check Fuse F1 on circuit board. D. Check connections of liquid level probe to PCB assembly. E. Replace PCB assembly. F. Replace liquid level probe. G. Thaw water bath and repair faulty component. (See refrigeration related symptoms.) H. See Section 8.11.
8.8 Dispenser does not dispense proper syrup and/or water from proper nozzle.	<ul style="list-style-type: none"> A. Membrane switch configuration is wrong. B. Tubing is improperly routed from module to nozzles. 	<ul style="list-style-type: none"> A. Reconfigure membrane switch following steps in Section 5. B. Move water and syrup fittings to proper nozzle.
8.9 Excessive foaming.	<ul style="list-style-type: none"> A. Incoming water or syrup temperature too high. B. CO₂ pressure too high. C. Air in BIB lines. D. Poor quality ice. E. High beverage temperature. 	<ul style="list-style-type: none"> A. Correct prior to dispenser. Consider larger dispenser or pre-cooler. B. Adjust CO₂ pressure downward, but not less than 70 PSI. C. Bleed air from BIB lines. D. Check quality of ice used in drink. E. Check refrigeration system.
8.10 Water continually overflows from water bath into drip tray.	<ul style="list-style-type: none"> A. Loose water connection(s). B. Flare seal washer leaks. C. Faulty water coil. 	<ul style="list-style-type: none"> A. Tighten water connection(s). B. Replace flare seal washer. C. Replace water coil.
8.11 Compressor starts and continues to run until freeze up and will not cut off.	<ul style="list-style-type: none"> A. PCB malfunctioning or faulty ice bank probe. B. Ice bank probe positioned improperly. C. Ice bank probe shorted to ground. 	<ul style="list-style-type: none"> A. Disconnect ice bank probe from PCB. <ul style="list-style-type: none"> 1. If compressor continues to run, check relay in control box on refrigeration deck. If stuck closed, replace relay. If not stuck, replace circuit board. 2. If compressor stops, replace ice bank probe. B. Check positioning of ice bank probe, and replace if needed. C. Replace ice bank probe.
NOTE: First check to ensure that the three (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.		
8.12 Warm drinks.	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> A. Check clearance around sides, top, and inlet of unit. Remove objects blocking airflow through grill. B. Switch to cold water supply. C. See Sections 8.13 - 8.17. D. Repair and recharge. E. Replace condenser fan motor. F. Clean condenser. G. Add pre-cooler or replace with larger dispenser.

TROUBLE	CAUSE	REMEDY
8.13 Compressor does not start (no hum), condenser fan motor does not run and no ice bank.	<p>A. There is a five (5) minute compressor and condenser fan delay.</p> <p>B. Faulty refrigeration relay PCB.</p> <p>C. Ice bank probe not completely submerged.</p> <p>D. Circuit breaker tripped.</p> <p>E. Inadequate voltage.</p> <p>F. PCB malfunctioning.</p> <p>G. Incorrect wiring.</p> <p>H. Faulty ice bank probe.</p> <p>I. Transformer failure.</p> <p>J. Ice bank probe not connected properly to PCB.</p>	<p>A. Allow for five (5) minute delay to lapse.</p> <p>B. Replace refrigeration relay PCB in control box.</p> <p>C. Fill water reservoir until water flows from overflow tube.</p> <p>D. Reset breaker. If problem persists: 1. Determine reason and correct. 2. Electrical circuit overloaded; switch to another circuit.</p> <p>E. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</p> <p>F. Replace PCB assembly.</p> <p>G. Refer to wiring diagram and correct.</p> <p>H. Replace ice bank probe.</p> <p>I. Reset circuit breaker on top of control box. If breaker trips again, see Section 8.22.</p> <p>J. Connect ice bank probe to PCB.</p>
8.14 Compressor does not start (no hum), but condenser fan motor runs.	<p>A. Compressor relay or overload malfunctioning.</p> <p>B. Inadequate voltage.</p> <p>C. Incorrect wiring.</p> <p>D. Compressor malfunctioning.</p>	<p>A. Replace compressor relay or overload.</p> <p>B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</p> <p>C. Refer to wiring diagram and correct.</p> <p>D. Replace compressor.</p>
8.15 Compressor does not start but hums.	<p>A. Inadequate voltage.</p> <p>B. Incorrect wiring.</p> <p>C. Compressor relay malfunctioning.</p> <p>D. Compressor malfunctioning.</p>	<p>A. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</p> <p>B. Refer to wiring diagram and correct.</p> <p>C. Replace compressor relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure.</p> <p>D. Replace compressor or deck.</p>
8.16 Compressor starts but does not switch off start winding (will run for only a few seconds before internal overload switches compressor off).	<p>A. Inadequate voltage.</p> <p>B. Incorrect wiring.</p> <p>C. Compressor relay malfunctioning.</p>	<p>A. Measure voltage across common and run terminal on compressor.</p> <p>B. Refer to wiring diagram and correct.</p> <p>C. Replace compressor relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure.</p>
8.17 Compressor starts and runs a short time but shuts off on overload.	<p>A. Dirty condenser.</p> <p>B. Insufficient or blocked air flow.</p> <p>C. Inadequate voltage.</p> <p>D. Incorrect wiring.</p> <p>E. Defective condenser fan motor.</p>	<p>A. Clean the condenser.</p> <p>B. Remove all obstructions and allow for minimum clearances of eight (8) inches (20.3 cm) over top.</p> <p>C. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</p> <p>D. Refer to wiring diagram and correct.</p> <p>E. Replace condenser fan motor.</p>

Section 8.17 continued next page.

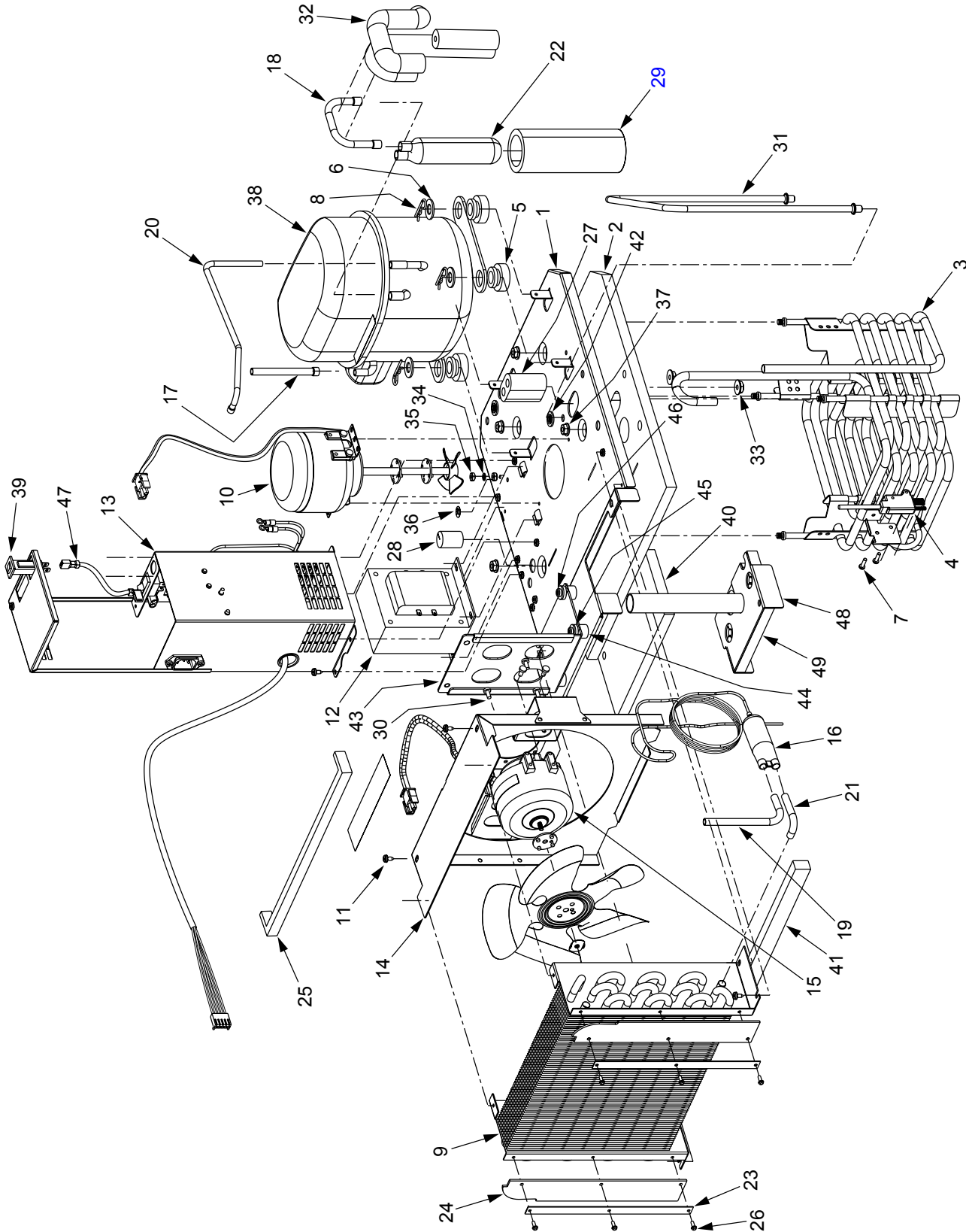
TROUBLE	CAUSE	REMEDY
<i>Section 8.17 continued from previous page.</i>		
	F. Refrigerant leak. G. Compressor malfunctioning.	F. Repair and recharge. G. Replace compressor.
8.18 Compressor runs normally, but water line is frozen.	A. Low water level in water bath. B. Syrup in water bath. C. Water cage 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.
8.19 Compressor cycles on and off frequently during the initial pulldown and/or normal operations.	A. PCB malfunctioning B. Defective probe. C. Air flow blocked.	A. Replace PCB assembly. B. Replace probe. C. Check to ensure proper air clearance is provided (see Section 1.4).
8.20 Plain water flow is insufficient.	A. Insufficient incoming supply water and/or pressure.	A. Verify incoming supply water pressure is a minimum of zero (0) PSI flowing.
8.21 Suspect faulty PCB.	A. PCB not receiving proper input voltage. B. Green light not flashing (off or continuously on). C. Yellow lights off and green light is on when key switch is on.	A. Check power from transformer on pins 4 and 5 of J10. B. Replace PCB. C. Check fuses F1 and F2, and also connection at J10.
8.22 Circuit breaker tripping.	A. Pump is shorted. B. Refrigeration relay is bad. C. Secondary wire harness is bad. D. Transformer failure.	A. Disconnect pump and restore power. If breaker does trip, then pump is OK. If breaker does not trip, replace pump. B. Detect short by disconnecting J10 connector (24VAC input) from PCB. Restore power. If breaker doesn't trip, then replace refrigeration relay. If breaker does trip, then refrigeration relay is OK. Reconnect J10 connector. C. Detect short by disconnecting both secondary transformer fastons and restore power. If it does not trip, locate short in secondary harness between transformer and PCB. D. Detect short by disconnecting both primary transformer fastons and restore power. If breaker doesn't trip, replace transformer.
8.23 BIB pump does not operate when dispensing valve is opened.	A. Out of CO ₂ , CO ₂ not turned on, or low CO ₂ pressure. B. Out of syrup. C. BIB connector not tight. D. Kinks in syrup or gas lines.	A. Replace CO ₂ supply, turn on CO ₂ supply, or adjust CO ₂ pressure to 70-80 PSI. B. Replace syrup supply. C. Fasten connector tightly. D. Straighten or replace lines.
8.24 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.
8.25 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.

TROUBLE	CAUSE	REMEDY
8.26 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.
8.27 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.
8.28 Low or no carbonation.	A. Low or no CO ₂ . B. Excessive water pressure. C. Low water pressure. D. Worn or defective carbonator pump.	A. Check CO ₂ supply. Adjust CO ₂ pressure to 70 PSI. B. Water regulator should be set at 50 PSI. C. Must be 25 PSIG flowing with carbonator pump running. D. Replace carbonator pump.
8.29 Carbonator pump not running.	A. Timed out. B. Fuse blown on PCB. C. Faulty carbonator probe. D. Air in carbonator. E. Faulty PCB.	A. Check water supply; turn machine off and on. B. Replace fuse F1 on PCB. C. Disconnect J14 connector from PCB. If pump runs with probe disconnected but will not run with carbonator empty and probe connected, replace probe. D. Purge carbonator (see Section 1.14). E. Replace PCB.

NOTES

9. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS

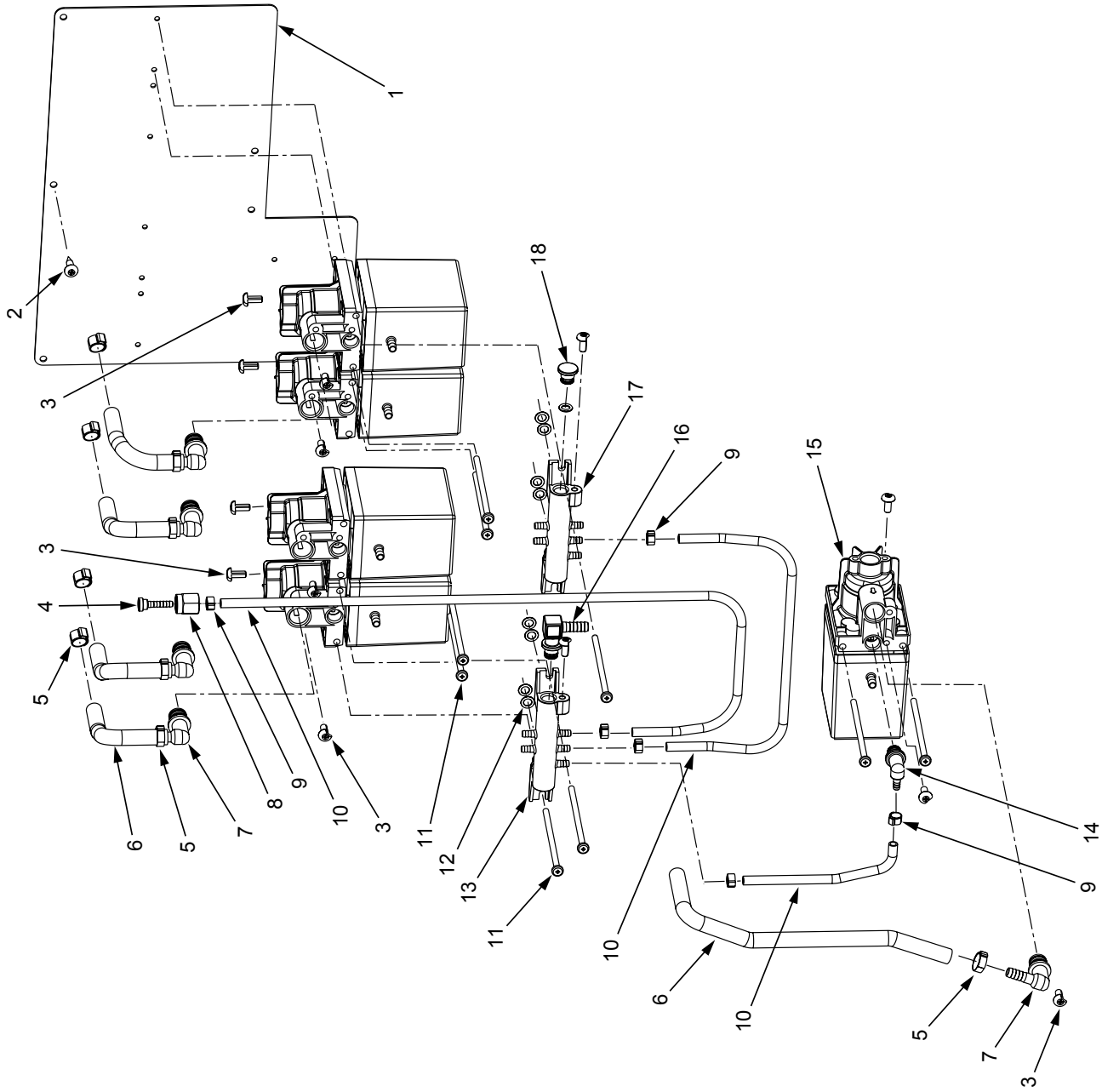
9.1 COMPRESSOR DECK ASSEMBLY



9.1 COMPRESSOR DECK ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
-	82-2738	Deck Assy, Refrigeration, 115V/60Hz	26	04-0518	Rivet, 0.125 DIA x 0.328 LG, DH
-	82-2739	Deck Assy, Refrigeration, 220V/60Hz	27	02-0040	Seal, Extrusion
-	82-1961	Deck Assy, Refrigeration, 230V/50Hz	28	02-0041	Seal
-	82-2737	Deck Assy, Refrigeration, 100V/50-60Hz	29	50-0211	Boot, 6", Delta II
1	23-1194	Plate Assy, Compressor Deck, 600	30	04-0059	Screw, 8 - 36 x 0.375, Phillips
2	50-0288	Insulation, Compressor Deck, 600	31	51-5423	Handle, Deck, Compressor, 600
3	82-1950	Coil Assy, Evaporator, 600 CCD	32	88-0013	Insulation, Tubular, 0.375 ID x 0.250 Wall
4	52-1773	EIBC Probe Assy with Springs	33	04-0754	Nut, Torq-Patch, 5/16 - 18 with Washer
5	02-0114	Grommet, Compressor	34	04-0576	Washer, Lock, Internal Tooth, No. 8, Type A, Steel
6	04-0537	Washer, 0.467 ID x 0.923 OD x 0.060 THK	35	04-0110	Nut, 8 - 32
7	04-0394	Screw, 6 - 32 x 0.500, Phillips	36	06-0877	Label, GROUND
8	03-0150	Retainer, Clip, Convertible	37	04-0753	Nut, Torq-Patch, 1/4 - 20 with Washer
9	23-1112	Condenser, CCD, 600	38	83-0047	Compressor Assy, 1/4HP, 240 - 220V/50Hz
10	82-2731	Agitator Assy, 230V/50-60Hz	REF	12-0250	Overload
-	82-2730	Agitator Assy, 115V/60Hz	REF	12-0060	Relay
-	82-2729	Agitator Assy, 100V/50-60Hz	-	83-0045	Compressor Assy, 1/4HP, 115V/60Hz
11	04-0504	8 - 18 x 0.375, Phillips	REF	12-0250	Overload
12	25-0073	Transformer, 275VA, 220-240V/50-60Hz	REF	12-0026	Relay
-	25-0072	Transformer, 275VA, 115V/60Hz	-	83-0046	Compressor Assy, 1/4HP, 208 - 230V/60Hz
-	25-0074	Transformer, 275VA, 100V/50-60Hz	REF	12-0251	Overload
13	52-2593	Control Box Assy, 600 CCD	REF	12-0252	Relay
14	51-5380	Shroud Assy, Fan, 600	REF	12-0261	Start Capacitor
15	82-2735	Fan Assy, 230V/50-60Hz, 600	-	83-0043	Compressor Assy, 1/4HP, 100V/50-60Hz
-	82-2734	Fan Assy, 115V/60Hz	REF	12-0248	Overload
-	82-2733	Fan Assy, 100V/50-60Hz	REF	12-0249	Relay
REF	07-0532	Fan Blade, 7.75", CW, UB, 30 Degree	39	12-0330	Circuit Breaker, PNL MNT, 3 Amp (230V)
REF	02-0413	Silencer, 9W, Fan Motor	-	12-0345	Circuit Breaker, PNL MNT, 5 Amp (115V, 100V)
REF	04-0060	Nut, Flat	40	50-0287	Insulation, Carbonator Deck
16	23-1144	Dryer/Cap Assy, 72"	41	50-0347	Baffle, Condensor, Bottom
17	47-2238	Tube, Process, Compressor, 600	42	04-0574	Washer, Lock, 5/16
18	47-2237	Tube, Suction, 600 CCD	43	30-6864	Bracket, Pump
19	47-0344	Process Tube, Dryer, 600	44	02-0438	Grommet, Pump Bracket
20	47-1655	Tube, High Side, 600	45	04-0605	Washer, #8, Flat
21	47-1656	Tube, Condenser, Out, 600	46	04-0339	Screw, 10 - 32 x 0.750
22	51-0061	Accumulator, 0.375 Holes	47	52-2206	Lead Assy, Primary to Circuit Breaker
23	30-6844	Retainer, Baffle, Condenser, 600	-	50-0348	Insulation, Fill Hole
24	50-0322	Baffle, Condenser, Side, 600	48	30-8228/01	Plate, Fill, 600CCD
25	50-0325	Baffle, Condenser, Top, 600	49	50-0362	Insulation Plate, Fill, 600CCD

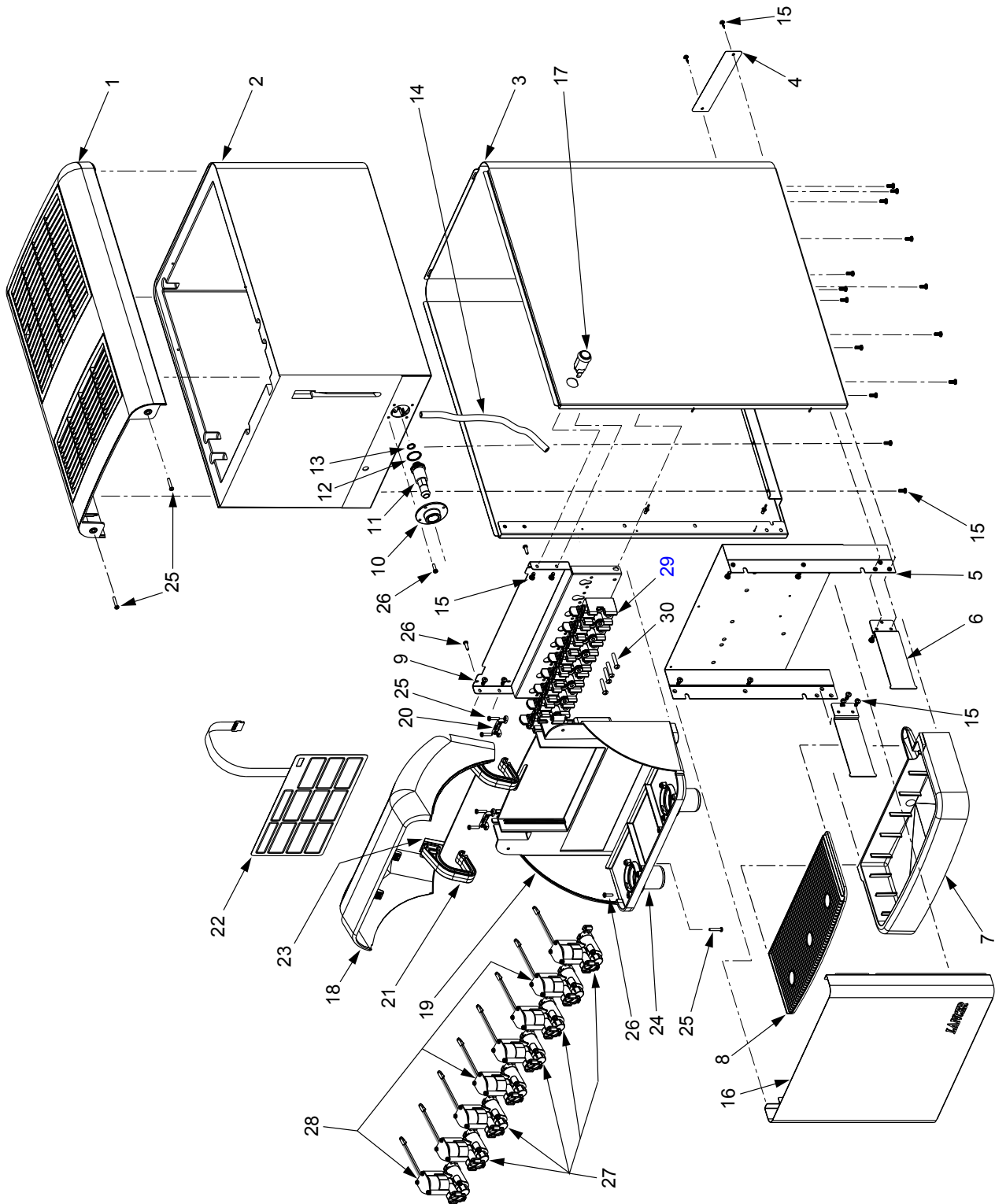
9.2 MINIPUMP ASSEMBLY (FIVE FLAVOR, PN 82-3095; FOUR FLAVOR, 82-3095-04)



**9.2 MINIPUMP ASSEMBLY (FIVE FLAVOR, PN 82-3095; FOUR FLAVOR, 82-3095-04)
(CONTINUED)**

ITEM	PART NO.	DESCRIPTION
1	30-7857	Plate, Minipump Base
2	04-0504	Screw, 8 - 18 x 0.375
3	04-0275	Screw, 8 - 16 x 0.427
4	01-0215	Stem, 5/32, Hose
5	07-0409	Clamp, Oetiker, 31/64
6	08-0029	Tubing, Inner Braided, 0.250 ID x 0.437 OD
7	01-1483	Elbow Assy, Syrup, 1/4 Barb
8	01-0222	Nut, Swivel, 7/16 - 20
9	07-0441	Clamp, Oetiker, 9/32
10	08-0036	Tube, CO ₂
11	04-0359	Screw, 8 - 32 x 3.100
12	02-0005	O-Ring, 2-010
13	54-0091	Manifold SubAssy, 5 Flavor, Black
--	54-0093	Manifold SubAssy, 4 Flavor, Natural
14	01-1325/01	Fitting Assy, CO ₂ , Check
15	82-0251	Pump Assy, Mini
16	01-1072	Adaptor Assy, Elbow
17	54-0092	Manifold SubAssy, Gray
18	05-0604	Plug, CO ₂ Manifold

9.3 SERIES 600 LFCV CABINET ASSEMBLY

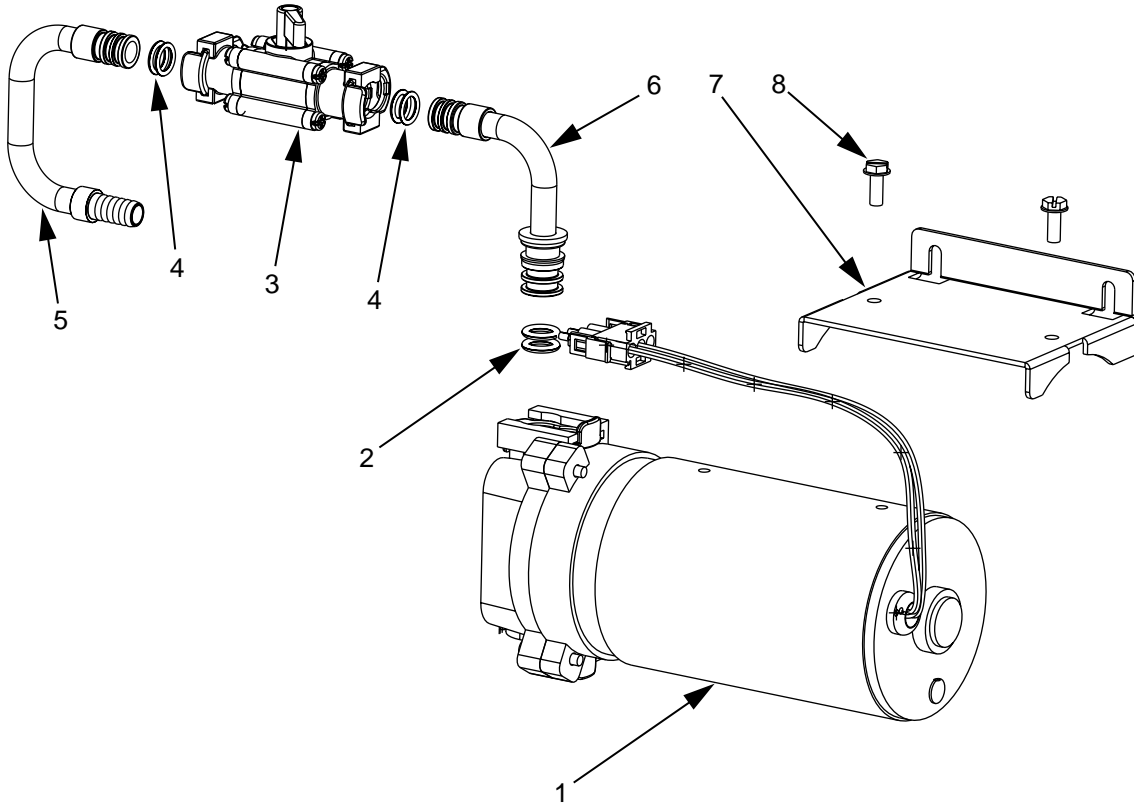


9.3 SERIES 600 LFCV CABINET ASSEMBLY (CONTINUED)

ITEM PART NO. DESCRIPTION

1	82-2728	Top Cover Assy
2	42-0082	Foamed Tank Assy
3	51-5412/01	Cabinet Wrapper Assy
4	30-6783/01	Tubing Cover Plate
5	30-6790	Front Support Plate
6	30-6479	Drip Tray Bracket
7	05-1341	Drip Tray
8	05-1573	Cup Rest
9	30-8152	Faucet Plate
10	05-0679	Drain Retainer
11	05-0677	Drain Plug
12	02-0221	O-Ring
13	02-0089	O-Ring
14	08-0100	Overflow Tube
15	04-1071	Screw, Taptite, 8 - 32 x 0.375
16	30-6481	Splash Plate
17	12-0097	Key Switch (Optional)
--	05-1502	Plug, Key Hole
18	54-0271	Shroud Assy
19	05-1360	Plate, Valves
20	05-1464	Pin, Hinge, Shroud Assy
21	05-1465	Arm, Hinge, Shroud Assy
22	12-0281/01	Membrane Switch
23	04-0571	Screw, 4 - 20 x 0.375, PHD, PH
24	54-0260	Nozzle Assy, Multi-Flavor
25	04-0780	Screw, 6 - 32 x 0.750, PH, MS, SS, PL
26	04-0470	Screw, 6 - 19 x 0.500
27	19-0266	Valve Assy, Syrup
28	19-0267	Valve Assy, Water
29	82-2317/01	Block, Mounting Assy
30	04-1089	Screw, 10 - 32 x 1.000
-	52-2255	Harness Assy, Key Switch (Optional)
-	50-0362	Insulation, Fill Hole
-	01-2004	Plug Assy, Nozzle
-	30-8228/01	Fill Plate
-	52-2591	PCB Assy

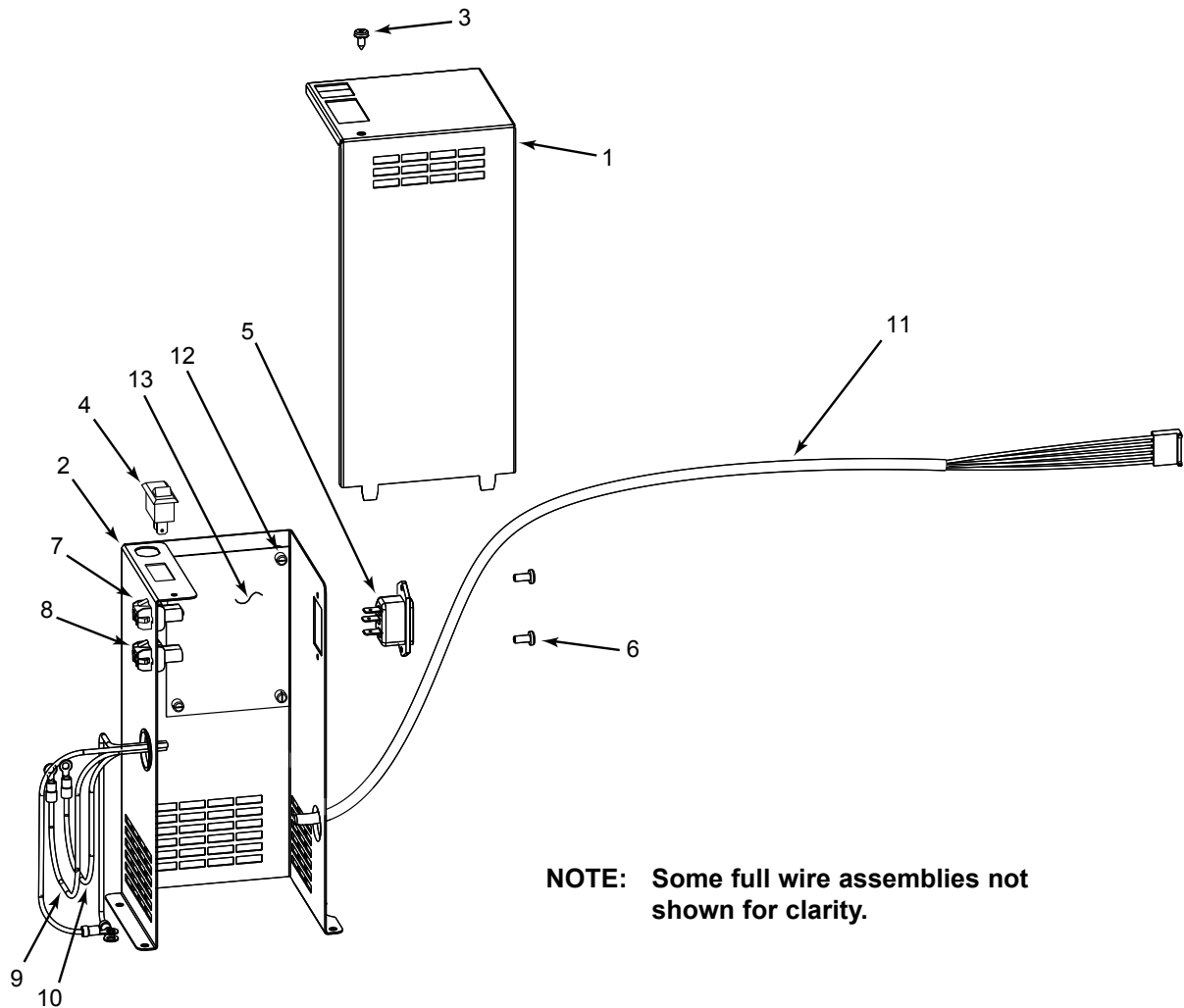
9.4 CARBONATOR PUMP BRACKET ASSEMBLY



ITEM PART NO. DESCRIPTION

1	52-2212	Pump Assy Carbonator
2	02-0047	O-Ring
3	17-0512	Valve Assy, Ball, Water Inlet
4	02-0089	O-Ring
5	48-1795	Tube Assy, Inlet, Ball Valve
6	48-1674	Tube Assy, Inlet, Pump Inlet
7	30-6865	Mount, Carbonator Motor
8	04-0865	Screw, 10 - 24 x 0.375, HHD, SL
--	48-2001	Tube Assy, Inlet, Pump, without Ball Valve

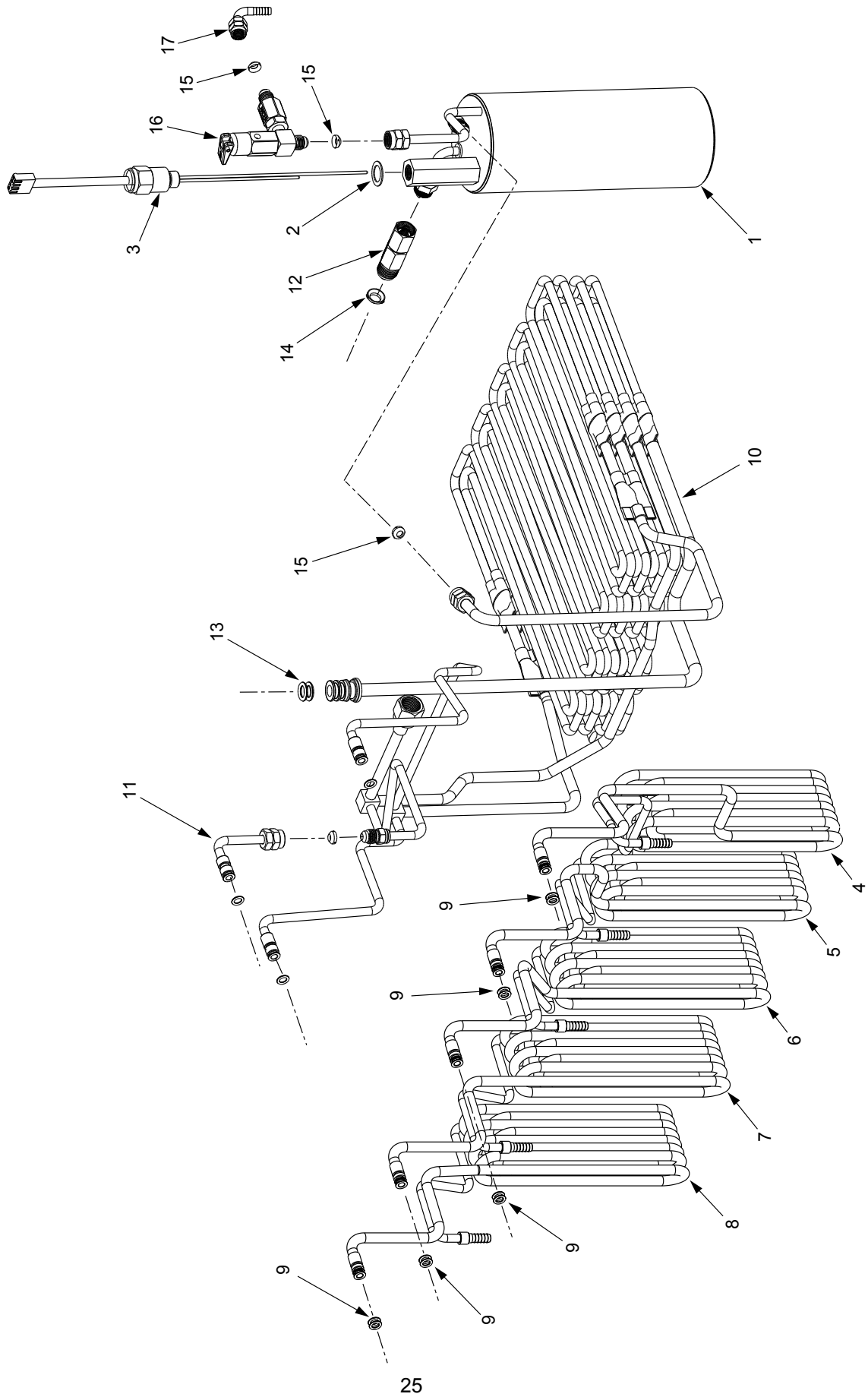
9.5 CONTROL HOUSING (PN 52-2593)



NOTE: Some full wire assemblies not shown for clarity.

ITEM	PART NO.	DESCRIPTION
1	30-6810	Cover, Control Box
2	30-6809/02	Control Box
3	04-0504	Screw, 8 - 18 x 0.375
4	12-0089	Switch, Kill, SPDT
5	12-0418	Power Inlet
6	04-0477	Screw, 8 - 32 x 0.375
7	52-2594	Lead Assy, Fan Motor
8	52-2595	Lead Assy, Agitator Motor
9	52-2597	Lead Assy, Comp #2
10	52-2208	Lead Assy, Comp #1
11	52-2596	Lead Assy, 5 Pin, Control
-	52-2365	Lead Assy, Switch/Relay/Breaker
-	52-2366	Lead Assy, Terminal Block, Power Inlet
-	52-2207	Lead Assy, Terminal Block/Primary
-	52-2367	Lead Assy, Terminal Block/Ground
-	12-0330	Circuit Breaker, 3A (230V)
-	12-0345	Circuit Breaker, 5A (115V)
12	13-0047	Standoff, Circuit Board
13	52-2592	PCB Assy, Relay

9.6 SERIES 600 LFCV CARBONATOR, WATER/SYRUP LINE ASSEMBLIES



9.6 SERIES 600 LFCV CARBONATOR, WATER/SYRUP LINE ASSEMBLIES (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	82-1962/01	Carbonator Assy
2	02-0096	Washer, Flat Plastic Probe
3	52-2224	Carbonator Probe Assy
4	48-1807	Tube Assy, Syrup #1, with Pumps
--	48-1848	Tube Assy, Syrup #1, without Pumps
5	48-1808	Tube Assy, Syrup #2, with Pumps
--	48-1849	Tube Assy, Syrup #2, without Pumps
6	48-1809	Tube Assy, Syrup #3, with Pumps
--	48-1850	Tube Assy, Syrup #3, without Pumps
7	48-1810	Tube Assy, Syrup #4, with Pumps
--	48-1851	Tube Assy, Syrup #4, without Pumps
8	48-1811	Tube Assy, Syrup #5, with Pumps
--	48-1852	Tube Assy, Syrup #5, without Pumps
9	02-0005	O-Ring
10	23-1259	Cage Assy
11	48-1405	Tube Assy, Water Option
12	17-0341	Check Valve Assy
-	01-0669	Body, Check Valve
-	01-0689	Sleeve
-	02-0003	O-Ring
-	03-0021	Spring
-	01-1466	Fitting, Check Valve
13	02-0047	O-Ring
14	05-0017	Flare Seal, 3/8
15	05-0011	Flare Seal, 7/16
16	17-0469	Relief Valve Assy, Carbonator
17	01-0424	Elbow, SS, 1/4 Barb x 1/4 S Nut (No Pump Version Only)
-	88-0013	Insulation, Tube, 6.750 (Not Shown)

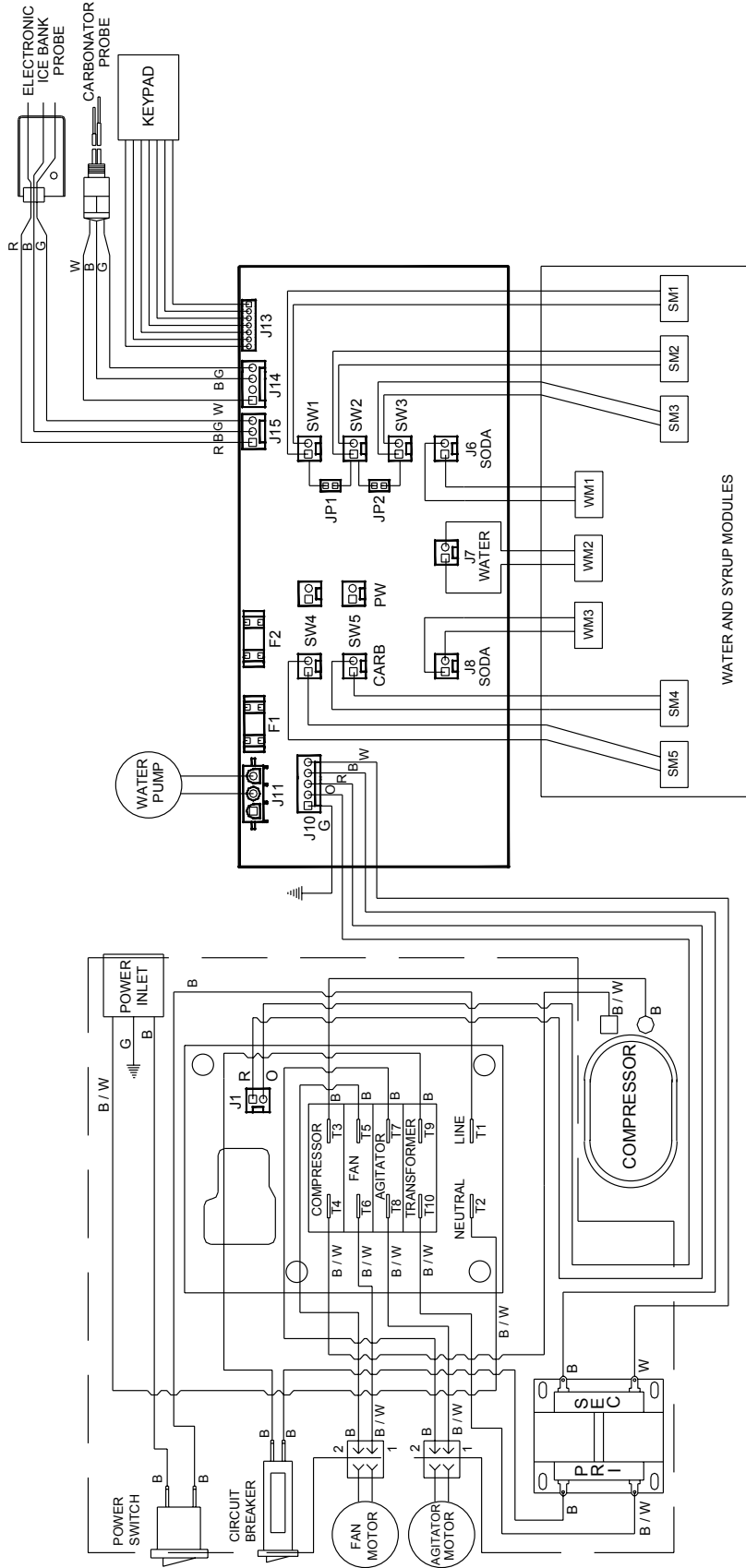
• 600 LFCV

LANCER.

LABEL, WIRING DIAGRAM
06-2514

IMPORTANT

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 CARBONATION PUMP MOTOR. IF THE MOTOR HAS TIMED OUT, CHECK WATER SUPPLY AND RESET BY MOMENTARILY DISCONNECTING POWER.



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

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