

LANCER

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INSTALLATION AND SERVICE MANUAL

FOR

CENTURION II JUICE DISPENSER

Part Number 85-0055, 115 Volts, 60 Hz
Part Number 85-0056, 230 Volts, 50 Hz



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SPECIFICATIONS

DIMENSIONS:

Width	14 1/16 inches	(35.72 cm)
Depth	23 1/8 inches	(58.74 cm)
Height (with legs)	25 1/2 inches	(64.77 cm)

WEIGHT:

Shipping	145 pounds	(65.77 kg)
Empty	130 pounds	(58.97 kg)
Operating (without concentrate)	158 pounds	(71.67 kg)

ELECTRICAL REQUIREMENTS (Running):

PN 85-0055	115V/60Hz	7 Amps
PN 85-0056	230V/50Hz	4 Amps

WATER REQUIREMENTS:

Minimum flowing pressure of 28 PSI (1.76 kg/cm²) at a flow rate of three (3) ounces (88.7 ml) per second.

Connection 5/8 inch - 18 male flare (3/8 inch flare).

COMPRESSOR: 1/4 HP

CONCENTRATE CONTAINER CAPACITY:

Small container	128 ounces	(3.78 L)
Large container	256 ounces	(7.57 L)
Concentrate container		
constant temperature	35°F (1.7°C)	
Ice bath water capacity	320 ounces; 2.5 gallon	(9.07 kg; 9.46 L.)
Ice bank	8 pounds	(3.63 kg)

DRINK CAPACITY:

Four (4) five (5) ounce (148 cc) drinks per minute under 45°F (7.2°C) at 75°F (23.9°C) ambient inlet water.

1. INSTALLATION (CENTURION II)

1.1 RECEIVING

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

1.2 UNPACKING

- A. Cut shipping band and remove.
- B. Open top of carton and remove top inner carton pad from inside of packing box.
- C. Open top inner carton pad and remove drip tray containing four (4) legs (PN [81-0112](#)) and accessory kit of loose parts (contents listed below).

<u>QUANTITY</u>	<u>PART DESCRIPTION</u>	<u>PART NO.</u>
1	Brush	22-0017
2	Flare Seal Washer	05-0017
2	Dispensing Nozzle	54-0038
1	Product Plate - Orange	05-0190
1	Product Plate - Grapefruit	05-0192
1	Product Plate - Apple	05-0194
1	Product Plate - Lemonade	05-0193
1	Product Plate - Limeade	05-0196
1	Product Plate - Pineapple	05-0197
1	Product Plate - Five Alive	05-0384
1	Product Plate - Fruit Punch	05-0385
2	Product Plate - Grape	05-0191
2	Product Plate - Cranberry	05-0195
2	Keys (for Key Switch)	81-0126
1	Inlet Water Shut Off	49-0226
2	Pushbutton Assembly	82-0482
1	Pushbutton Template	06-0341
1	Switch	12-0087

- D. Remove outer carton and bag by lifting up.
- E. Lift unit by plywood shipping base and remove lower portion of carton.
- F. Remove plywood shipping base from unit by removing screws from bottom. This is best done by moving unit so that one side extends past edge of counter top or table allowing access to screws on bottom of plywood shipping base.
- G. Assemble legs (PN [81-0112](#)) to unit by tilting unit. *DO NOT LAY UNIT ON ITS SIDE OR BACK.*
- H. Inspect unit for concealed damage and if evident notify delivering carrier and file a claim against same.

NOTE

If unit is to be transported, it is advisable to leave unit secured to plywood shipping base.

1.3 SELECTING COUNTER LOCATION

- A. Select a location close to a properly grounded electrical outlet and water supply that meet the requirement as listed in the Specifications (page iii).

- B. Condenser air is drawn in on the bottom of the unit and discharged out the rear of the unit. A minimum of two (2) inches (5.08 cm) must be maintained between the back of the unit and the wall. *Failure to maintain the proper clearance space will cause the compressor to overheat and result in premature compressor failure.*

1.4 CONNECTING TO WATER SUPPLY

- A. Flush water supply line thoroughly.
- B. Remove drip tray by pulling up slightly and away from unit. Remove dispensing paddles by squeezing together at top and pull down.
- C. Remove splash plate by pulling bottom up slightly and then out from unit.
- D. Connect the inlet water shut off to water inlet fitting on bottom of unit using a flare seal washer. Use a backup wrench to prevent damage to strainer.
- E. Connect other end of the water tube assembly to water supply line using a flare seal washer. Open valve on water supply and check for leaks.
- F. Replace splash plate, drip tray and dispensing paddles.

1.5 FILLING UNIT WITH WATER

- A. Remove both lids on top of unit.
- B. Disconnect check valves (feed line) from top of concentrate containers and remove concentrate container from unit.
- C. Remove yellow plug from agitator deck.
- D. Using a funnel or tube, fill with water until water flows out of overflow hole into concentrate container compartment. Facing the front of the unit, the overflow hole is in the rear wall of the concentrate container compartment. The overflow water will drain into the drip tray.
- E. Replace yellow plug.

1.6 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.

Plug unit power cord into electrical outlet. Compressor and condenser fan motor will run until unit builds a complete ice bank. Agitator motor will run continuously.

1.7 PURGING UNIT OF AIR

- A. Raise front cover and turn key switch ON.
- B. Using a cup, actuate each dispensing paddle until a steady flow of water is obtained.
- C. Turn key switch OFF.

1.8 FILLING CONCENTRATE CONTAINER

- A. Thoroughly clean concentrate containers in warm soapy water. Rinse well.
- B. Fill each concentrate container with concentrate. Refer to Specifications (page iii) for capacity of concentrate containers.
- C. Replace concentrate containers in unit. Be sure they are properly located and seated all the way down. Facing unit, each concentrate container **MUST** have filler tube and product sensors to the front.
- D. Replace check valves (yellow elbow) in concentrate containers using a rotating movement while pushing down.
- E. Replace both lids on top of unit.

1.9 PRIMING CONCENTRATE PUMPS

- A. Turn key switch ON.
- B. Press and hold the mode switch to the FLUSH position.
- C. Hold cup under spout and depress the dispensing paddle until a solid flow of water is obtained through the concentrate pump.

- D. Release the mode switch.
- E. Hold cup under spout and depress the dispensing paddle. An initial eight (8) to ten (10) ounces (236.6 ml to 295.7 ml) of water will be dispensed before the concentrate/water mixture reaches the nozzle.

1.10 ADJUST WATER TO CONCENTRATE RATIO (°BRIX)

- A. Install dispensing nozzles.
- B. Inlet water is distributed through a common water system with the regulator pressure preset at 25 PSIG (1.76 kg/cm²). With a proper water source each spout will dispense approximately 1.2 ounces (35.5 ml) of water per second. When mixed with concentrate (4 to 1 ratio), the finished drink will be dispensed at 1.5 ounce (43 ml) per second.
- C. The unit is factory preset (electronically) for the following products and ratios.

LEFT		RIGHT	
PRODUCT	RATIO	PRODUCT	RATIO
Grapefruit	4:1	Orange	4:1

NOTES: Because the ratios are factory preset electronically, they are not exact and may require a slight adjustment at the time of installation. This can be accomplished by using a refractometer as follows:

1. Dispense a 5 or 6 ounce (147.9 or 177.4 ml) cup of product and discard.
2. Dispense a 5 or 6 ounce (147.9 or 177.4 ml) cup of product and stir thoroughly.
3. Using a refractometer, read the ratio (°Brix). Adjust as necessary (as explained in Section 1.10.D below) and re-Brix.

- D. To adjust the °Brix, loosen two (2) screws on face of control panel until control panel can be pulled partially out of control housing. Screws are captive and can be used to pull control panel from control housing. On the main control printed circuit board (PCB) are two adjusting knobs which control the °Brix of the left and right sides. The control on the left side (facing the control panel) controls the left motor and the right control is for the right motor (refer to Figure 1).

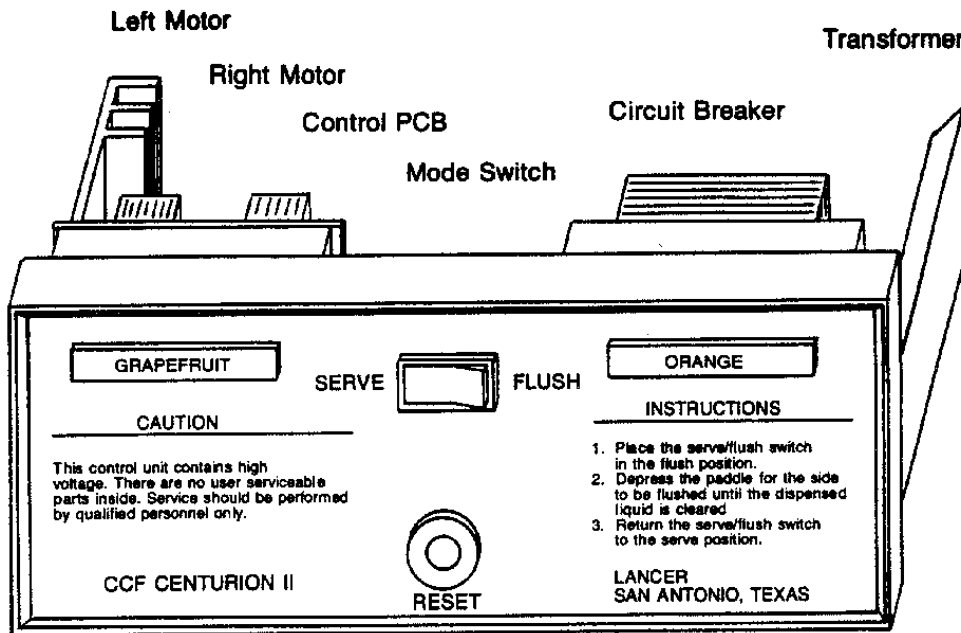


Figure 1 - Motor Speed Controls and Flush Switch.

To adjust the °Brix turn the adjusting control as follows:

Decrease °Brix (less concentrate)..... Counter Clockwise
 Increase °Brix (more concentrate)..... Clockwise

- E. To set unit that has not been factory preset for a product, adjust °Brix and change product plate on control panel.
- F. In some locations, the water supply pressure may be so low or may fluctuate so much that a 25 PSIG (1.76 kg/cm²) flowing water pressure cannot be maintained. As a result, the unit will not dispense a product at the proper °Brix. In this event, the regulated water pressure should be reduced below the local inlet water supply pressure so that a proper °Brix can be maintained. Reducing the regulated water pressure will reduce the finished product flow rate. Normally, the minimum recommended setting is 15 PSIG (1.06 kg/cm²) flowing. To reset regulator, refer to Section 6.13.K-Q.
- G. Readjust °Brix as necessary.
- H. Slide control panel into control housing and tighten screws finger tight. Be sure control panel is properly seated in control housing.

1.11 CONCENTRATE LOW LEVEL INDICATOR

- A. The unit is equipped with a concentrate low level indicator system.
- B. Beeper (dispensing only). At low level, the beeper will emit sound only while a drink is being dispensed.

1.12 PRODUCT PLATES

Install the proper product plates in the holes on the front panel to indicate the product being served.

2. OPERATING UNIT

2.1 REFILLING CONCENTRATE CONTAINERS

- A. Remove top cover.
- B. Place opened can of *COMPLETELY THAWED* concentrate into concentrate container.
- C. When the concentrate low level indicator is sounding, the concentrate container can be refilled with the following quantity.

Concentrate Container	Number of 42 Ounce Cans	Number of 96 Ounce Cans
Small	2	1
Large	4	2

2.2 CHANGING PRODUCT

- A. Flush unit until only water is dispensed from spout (refer to Section 1.9.B-C).
- B. Remove lid on top of unit.
- C. Remove the concentrate container and nozzle from the unit and clean with warm soapy water, rinsing thoroughly. Fill with completely thawed concentrate and replace in unit.
- D. Replace lid and nozzle.
- E. Depress dispensing paddle with cup until a steady flow of pre-mixed product is obtained. Unit is now ready to dispense. Install nozzles and check °Brix.
- F. Change product plate on front cover to indicate new product.

NOTE

If the new product requires a different mixing ratio, refer to Section 1.10, Brixing.

2.3 CLEANING AND SANITIZING INSTRUCTIONS

- A. Daily
 - 1. Press and hold the FLUSH switch and *simultaneously* activate each dispensing paddle until clear water dispenses from each nozzle.
 - 2. Remove and wash drip tray and cup rest.
 - 3. Wipe dispenser with clean damp cloth.
- B. Weekly
 - 1. Turn off water supply to the dispenser.
 - 2. Press the flush position on each dispensing station to drain water from dispenser.
 - 3. Remove lid and wash thoroughly.
 - 4. Remove check valve (yellow elbow) from concentrate container by lifting up.

5. Remove concentrate containers from dispenser.
6. Pour concentrate into clean container and place in refrigerator.
7. Clean concentrate containers in warm soapy water, rinse thoroughly.
8. Remove dispensing nozzles and dispensing paddles and wash thoroughly in warm soapy water. Rinse well.
9. Replace nozzles and dispensing paddles.
10. Fill each concentrate container with approximately one half gallon (1.9 liters) of **COOL** chlorinated sanitizing solution (minimum 50 PPM, but not to exceed 100 PPM, residual chlorine solution) and replace containers in the dispenser. Allow sanitizing solution to stand in containers for 10 minutes.
11. Replace check valves in concentrate containers.
12. Depress each dispensing paddle until the sanitizing solution is emptied from the concentrate containers.
13. Remove check valves from concentrate containers and then remove containers from the dispenser and pour out excess sanitizing solution.
14. Wipe the dispenser with clean damp cloth taking care to clean all those areas on which product has been splashed while filling glasses.
15. Turn on the water supply to the unit.
16. Fill concentrate containers with concentrate and replace in unit.
17. Follow priming instructions (see Section 1.9) to begin to dispense product.
18. Draw drinks 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.*

WARNING

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

19. 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 dispensing system may be required.

3. PRINCIPLES OF OPERATION

3.1 WATER SYSTEM

Inlet water is distributed through the strainer to the regulator which reduces the inlet water pressure to 25 PSIG (1.76 kg/cm²). Water is fed from the regulator through a stainless steel tube (embedded in the insulation of the tank assembly) and into the copper water coil where it is chilled to below 40°F. Water is then fed past a vacuum breaker through a stainless steel tube (embedded in the insulation of the tank assembly) to the front of the tank assembly and into the water solenoids. When a dispensing paddle is depressed, the corresponding water solenoid opens allowing water to pass into the spout and mix with concentrate.

3.2 CONCENTRATE SYSTEM

When the dispensing paddle is depressed, concentrate is drawn from the bottom of the concentrate container up the integral dip tube and through the check valve and concentrate tube to the inlet of the concentrate pump. It is metered by volume and pumped into the spout where it mixes with the water. The temperature of the concentrate does not effect the °Brix as long as it is above 32°F. The volume output of the concentrate pump is controlled electronically and can be adjusted to change the °Brix.

3.3 CONCENTRATE LOW LEVEL INDICATOR SYSTEM

The concentrate containers have two integral stainless steel spring loaded ball sensors (on bottom and side) of containers. When the concentrate container is in the unit, the sensors contact the corresponding contacts in the side and bottom of the concentrate compartment. When the concentrate level in the concentrate container is above the sensor on the side of the concentrate container, a very small AC current is conducted by the concentrate between the sensors. When the

concentrate level falls below the sensor on the side of the concentrate container the current flow is interrupted. The electronic control PCB senses the current flow decrease and turns the low level beeper on when the Dispense paddle is operated in the **SERVE** mode. The low level beeper will not sound in the **FLUSH** mode.

3.4 ELECTRONIC CONTROL SYSTEM

The electric cord supplies 115 VAC to the compressor, condenser fan motor and agitator motor. Each component has circuit protection with an automatic reset feature. The only manual reset is a 0.5 amp circuit breaker on the primary side of the control transformer accessible on the front of the control panel. The control transformer primary is switched by the key switch and supplies power to the pump motors, solenoids and paddle sensors via the control PCB.

All the logic functions and voltages required to operate the entire dispensing/flushing system are provided by the control PCB. There is only one (1) motor speed control circuit, but this circuit has two (2) available speed settings. This allows one dispensing station to operate at a time, and enables each station to dispense at a different °Brix. The **FLUSH** cycle (flush and paddle depressed simultaneously) forces the motor to run at the maximum speed to facilitate thorough flushing. There are three (3) light emitting diodes (LEDs) visible on the control PCB (for access, see Section 1.10.D). These LEDs assist with Troubleshooting and Servicing (see Section 8).

3.5 DISPENSING PADDLE SYSTEM

The dispensing paddle has an integrally sealed permanent magnet which activates the sensor behind the splash plate when the paddle is depressed. This causes the electronic system to activate the water solenoid and concentrate pump allowing the unit to dispense product. The dispensing paddles are removable (without tools) for cleaning. Paddles can be removed by squeezing together the top edges of each paddle.

3.6 FLUSH SYSTEM

When the mode switch is **held** in **FLUSH** position and a paddle is depressed, the electronic system opens the flush solenoid and allows water to flow to the check valve on the concentrate container and simultaneously to operate the concentrate pump. Water flows through the check valve, the concentrate pump, and the spout. The check valve positioned at the concentrate container prevents flush water from entering the concentrate container.

3.7 REFRIGERATION SYSTEM

An ice bank is formed and maintained on the copper tube evaporator located in the water bath compartment of the tank assembly. Water is continually circulated by the agitator motor across the ice bank and around the copper water coil. Water temperature is maintained at 32°F (0°C). Because the water compartment and concentrate compartment are an integral aluminum die casting, the concentrate compartment is maintained at a constant 35°F (1.7°C) temperature. When product is dispensed, water is drawn through the copper water coils and chilled. As the ice bank is depleted, the ice bank control senses that the ice is melting and causes the compressor and condenser fan motor to start. When the ice bank is rebuilt the control shuts off the compressor and condenser fan motor. The compressor and condenser fan motor will operate periodically even though no drinks are being dispensed in order to maintain the ice bank. If the unit is unplugged or power disrupted while operating, the compressor will not restart for a period of time during which the refrigerant pressures equalize (approximately 5 minutes). This feature protects the compressor from premature failure.

4. RELOCATING OR SHIPPING UNIT

4.1 REMOVING AN OPERATING UNIT

- A. Perform **FLUSH** operation on each side of unit until a clean stream of water is being dispensed.
- B. Remove concentrate containers, clean thoroughly and replace.
- C. Shut off inlet water supply. Disconnect inlet water tube from bottom of unit. About 6 ounces (177.4 ml) of water will drain out of unit as the vacuum breaker opens allowing air into system.
- D. Depress each dispensing paddle. This allows additional air into system and will cause a few more ounces (ml) of water to drain from unit.

WARNING

IF UNIT IS TO BE TRANSPORTED OR STORED WHEN AMBIENT TEMPERATURE IS 32°F (0°C) OR LOWER, STEPS C AND D MUST BE PERFORMED TO PREVENT THE WATER SYSTEM FROM FREEZING AND DAMAGING UNIT. DO NOT USE CO₂ GAS TO PURGE WATER FROM UNIT AS IT WILL CAUSE A HEALTH HAZARD.

- E. Turn key switch OFF.
- F. Unplug unit power cord from electrical outlet.
- G. Remove agitator deck and using plastic tubing, siphon water out of ice bath compartment. It will be necessary to pour about 6 ounces (177.4 ml) of warm water (*do **NOT** use extremely hot water*) into the retainer that holds the ice bank control sensing bulb. This defrosts the ice around the retainer allowing the agitator deck to be removed. Replace agitator deck and secure with nuts.
- H. Remove drip tray and cup rest. Clean and replace. Wipe unit exterior surfaces with a clean damp cloth.

4.2 TRANSPORTING UNIT

The best method of handling and transporting a unit is to remove legs and secure unit to a plywood shipping base. If it is to be handled and transported with the legs assembled to the unit, special care should be taken not to damage unit. **DO NOT LAY UNIT ON SIDE OR BACK.**

4.3 SHIPPING UNIT

If a unit is to be shipped by a common carrier, it must be secured to the plywood shipping base and repacked in the original carton with the inner packaging material. For this reason, it is wise to retain the original packing material.

5. PERIODIC MAINTENANCE

5.1 LUBRICATION

All motors are lubricated for life and require no maintenance lubrication.

5.2 CLEANING WATER STRAINER

- A. Remove splash plate.
- B. Close inlet water shut off valve.
- C. Remove plug from strainer on regulator assembly and remove strainer screen.
- D. Clean strainer screen with water. Inspect for holes or other deterioration.
- E. Replace cleaned or new strainer screen. Do **NOT** over tighten strainer plug.
- F. Open inlet water shut off valve.
- G. Replace splash plate.

5.3 CLEANING INLET AIR FILTER

- A. Remove splash plate.
- B. Remove inlet air filter by removing spring retainers.
- C. Clean air filter with water.
- D. Replace air filter and spring retainer.
- E. Replace splash plate.

5.4 CLEANING CONDENSER

- A. Unplug unit power cord from electrical outlet.
- B. Remove splash plate.
- C. Remove fan guards (lower and upper).
- D. Remove condenser fan motor.
- E. Clean condenser with a small brush.
- F. Replace condenser fan motor, fan guards and splash plate.
- G. Plug unit power cord into electrical outlet.

5.5 CLEANING CONCENTRATE CONTAINER COMPARTMENT

Use only warm water and damp cloth. **DO NOT USE ANY POWDER OR ABRASIVE CLEANING COMPOUNDS THAT WILL DAMAGE FINISH.**

6. REPAIR AND REPLACEMENT

6.1 COMPLETE FRONT PANEL REPLACEMENT

- A. Turn key switch OFF.
- B. Loosen the two (2) captive screws on control panel and partially pull control panel out of the control housing.
- C. Disconnect the transformer power cord connector inside the control housing.
- D. Disconnect wiring harness by grasping the ends of the 16 pin connector on the PCB. Do **NOT** remove by pulling on the wires.
- E. Remove control panel from control housing.
- F. Replace with new control panel (refer to Section 6.3).

6.2 MAIN CONTROL PCB REPLACEMENT

- A. Remove the control panel (refer to Section 6.1).
- B. Disconnect the 4-pin mode switch connector and 2-pin transformer connector by grasping the housing. Do **NOT** try to remove by pulling the wires.
- C. Use a straight slot screwdriver to turn the 4 plastic latches 1/4 turn counter clockwise.

CAUTION

PLACE THE BAD PCB IN THE ANTISTATIC SHIPPING BAG. THE CONTROL PCB IS **NOT** FIELD REPAIRABLE AND MUST BE RETURNED TO LANCER FOR REPAIR. ANY ATTEMPT TO FIELD REPAIR WILL VOID ANY WARRANTY.

PCBs MUST BE PACKAGED IN PROTECTIVE PLASTIC SHIPPING BAG WHEN HANDLED, STORED, TRANSPORTED OR SHIPPED. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE PCB.

- D. Lift the control PCB off the stand-offs.
- E. Remove the new control PCB from the antistatic plastic bag and install on the four (4) plastic stand-offs with the alarm positioned between the mode switch and circuit breaker.
- F. Turn the plastic latches 1/4 turn clockwise to secure the control board to the control panel.
- G. Connect the transformer and mode switch connectors to the control board.
- H. Install the control panel (refer to Section 6.3).

6.3 CONTROL PANEL INSTALLATION

- A. Partially slide control panel in control housing.
- B. Reconnect 16 pin connector to control PCB.
- C. Reconnect the transformer power cord connector.
- D. Turn key switch **ON**.
- E. Adjust °Brix as required (refer to Section 1.10).
- F. Slide control panel into control housing and tighten both captive screws finger tight.

6.4 TRANSFORMER REPLACEMENT

- A. Remove control panel (refer to Section 6.1). Ensure that the unit is unplugged.
- B. Disconnect the two (2) 0.250 inch FAST-ONS from the transformer primary (black and white wires).
- C. Disconnect the 2-pin transformer secondary connector (yellow wires) from the control PCB.
- D. Remove the two (2) nuts holding the transformer to the bottom plate.
- E. Remove the transformer by lifting it off the mounting studs.
- F. Install the new transformer in the reverse order.
- G. Install the control panel (refer to Section 6.3).

6.5 MODE SWITCH REPLACEMENT

- A. Remove the control panel (refer to Section 6.1).
- B. Remove the control PCB (refer to Section 6.2).
- C. Remove the eight (8) screws securing the transformer and control PCB mounting plate to the front panel.
- D. Record the wire color and terminal position of the mode switch harness to ensure installation will be correct.

- E. Remove the two (2) 0.110 inch FAST-ON connectors from the back of the mode switch.
- F. Remove the securing nut from the back of the switch and push the switch through the front of the control panel.

NOTE

This switch must be positioned so the spring return (momentary) position corresponds to the FLUSH position.

- G. Install the new switch in the reverse order.
- H. Install the control panel (refer to Section 6.3).

6.6 CIRCUIT BREAKER REPLACEMENT

- A. Remove the control panel (refer to Section 6.1).
- B. Remove the control panel (refer to Section 6.2).
- C. Remove the eight (8) screws securing the transformer and control PCB plate to the control panel.
- D. Disconnect the two (2) 0.250 inch FAST-ON connectors from the back of the circuit breaker.
- E. Remove the retaining clip from the back of the circuit breaker.
- F. Push the circuit breaker out of the front of the control panel.
- H. Install in the reverse order.
- I. Install the control panel (refer to Section 6.3).
- J. Turn key switch **ON**.

6.7 PADDLE SENSOR

- A. Turn key switch **OFF**.
- B. Remove dispensing paddles and drip tray.
- C. Remove splash plate.
- D. Unplug sensor from harness.
- E. Loosen nut on back of sensor.
- F. Remove sensor from bracket.
- G. Replace with new sensor and adjust so that sensor face is about 1/8 inch (about 3.175 mm) from the splash plate.
- H. Replace splash plate.
- I. Replace dispensing paddles and drip tray.
- J. Turn key switch **ON**.

NOTE

Sensors are sealed units and **cannot** be repaired. If the sensor is shorted (burned out), the PCB will shut off automatically. When the sensor is replaced, the PCB will automatically reset.

6.8 CONCENTRATE PUMP

CAUTION

THE MOTOR IS A FACTORY SEALED UNIT AND IS NOT FIELD REPAIRABLE. ANY ATTEMPT TO FIELD REPAIR WILL VOID WARRANTY.

- A. Replacement
 1. If concentrate pump *will* operate, depress FLUSH mode until a clear stream of water is dispensed.
 2. If concentrate pump *will not* operate, proceed to Step 3.
 3. Turn key switch **OFF**.
 4. Remove check valve from concentrate container by pulling up.
 5. Remove spout by loosening nut (turn counter clockwise) and pulling spout down. Do **NOT** lose o-ring between spout and threaded adaptor.
 6. Remove inlet elbow by pulling up.
 7. Remove concentrate pump by pulling out of pump support.
 8. Replace new concentrate pump by reversing above procedure.
 9. Turn key switch **ON**.
 10. Readjust °Brix (refer to Section 1.10.)

CAUTION

THE MOTOR IS A FACTORY SEALED UNIT AND IS NOT FIELD REPAIRABLE. ANY ATTEMPT TO FIELD REPAIR WILL VOID WARRANTY.

B. Repair.

1. Remove the four (4) knurled screws on top of pump face plate.
2. Remove face plate and clean with water. If any inner surface exposed to the impeller is grooved or severely worn, replace the damaged parts.
3. Remove the impeller and clean with plain water. DO **NOT** use pliers or sharp instrument to remove the impeller. Be careful not to scratch or deface inner concentrate pump body. If the impeller is cut, nicked or severely worn, replace.
4. Remove four (4) Phillips screws and separate concentrate pump body and the motor to expose the shaft seal (black). The shaft seal must be replaced if the inner cylindrical (seal/shaft) surface and/or the outer cylindrical (seal/pump body) surface are grooved, scratched or excessively worn. If the seal has failed prematurely, it is advisable to replace both the seal and pump body. Clean only with plain water.

CAUTION

USE ONLY LANCER LUBE. USE OF OTHER GREASE, LUBRICANT OR COMPOUNDS MAY CAUSE OFF TASTE, ODOR AND/OR DAMAGE TO UNIT AND WILL VOID WARRANTY.

- a. To replace seal, carefully press seal out of body.
- b. Lubricate inside and outside of seal with Lancer Lube (PN 15-0046). Press seal into body until completely seated.
5. Coat motor shaft and boss at base of shaft with Lancer Lube. Carefully assemble pump body to motor using a rotating motion so as not to damage shaft seal. There is only one (1) four-hole, motor pump body combination. There is a small nipple on the pump body that corresponds with a small dimple in the motor casing; these must match up for correct installation. Replace screws and tighten evenly 1/4 turn after finger tight. DO **NOT** TIGHTEN EXCESSIVELY.
6. Install impeller being careful to flex all impeller arms in a clockwise fashion (motor shaft will rotate counter clockwise). Align the flats on the shaft and impeller and gently push impeller onto the shaft until seated against back pump body surface.

CAUTION

IF CONCENTRATE PUMP IS NOT PROPERLY ASSEMBLED, IT CAN CAUSE A PUMP MOTOR OVERLOAD CONDITION AND WILL CAUSE THE CONTROL PCB TO GO INTO OVER CURRENT LIMITING (YELLOW LED ON, WHILE TRYING TO DISPENSE).

7. Replace o-ring, face plate and four (4) knurled screws. The sequence in which the screws are tightened should be rotational (in order of 3, 6, 9 and 12 o'clock positions). DO **NOT** TIGHTEN EXCESSIVELY.

6.9 PUMP SUPPORT

- A. Depress FLUSH mode and the dispensing paddles until a clear stream of water is dispensed.
- B. Remove check valve from concentrate container.

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- C. Remove control panel (refer to Section 6.1).
- D. Remove drip tray, dispensing paddles and splash plate.
- E. Remove spout and concentrate pumps.
- F. Remove four (4) screws attaching pump support to frame.
- G. Release key switch connector from inside control housing.
- H. Remove pump support by pulling forward. Disconnect electrical connectors from pump support.
- I. To reassemble, reverse above procedure.

6.10 CONTROL PANEL HOUSING

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Remove control panel (refer to Section 6.1).
- B. Release key switch connector from inside control housing.
- C. Remove four (4) screws attaching control housing to frame (second and third on each flange of control housing).
- D. Pull control housing forward and feed 16-pin connector and harness through housing.
- E. To reassemble, reverse above procedure.

6.11 FLUSH SOLENOID VALVE

- A. Turn key switch **OFF**.
- B. Close inlet water shut off valve.
- C. If coil is defective, remove wiring harness by pulling off quick connect terminals. Replace coil and reassemble.
- D. If solenoid valve is defective, remove plastic tubes (inlet and outlet) by loosening tube fitting nuts.
- E. Remove two (2) screws attaching solenoid valve bracket to tank assembly.
- F. Remove two (2) screws attaching solenoid valve to bracket.
- G. Replace solenoid valve and reverse above procedure.

NOTE

If the coil is shorted (burned out or a short exists for any other reason in the +12 VDC solenoid wiring, the control PCB will shut off automatically (Green LED OFF). When the short is removed (repaired) the control PCB will automatically reset.

6.12 WATER SOLENOID VALVE

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Turn key switch **OFF**.
- B. Close inlet water shut off valve.
- C. Remove pump support (refer to Section 6.9).
- D. If solenoid is leaking, remove nut on end of coil and remove coil. Unscrew armature housing and remove spring and armature. Check for foreign matter or wear. If foreign material is present, open water supply and flush. Reassemble.
- E. If coil is defective, remove wiring harness by pulling off quick connect terminals. Replace coil and reassemble.

CAUTION

SOLENOID ASSEMBLY IS NOT NORMALLY FIELD REPAIRABLE. INLET AND OUTLET ADAPTORS MUST BE FACTORY ASSEMBLED TO SOLENOID TO OBTAIN PROPER POSITIONING AND OVERALL LENGTH.

- F. If solenoid valve is defective, replace as follows.
 - 1. Remove adaptor from solenoid by pulling out.
 - 2. Loosen swivel nut on inlet side of solenoid assembly. Use a backup wrench. Remove solenoid assembly and old flare seal washer from inside of swivel nut.
 - 3. Reassemble new solenoid assembly using flare seal washer (PN 05-0011). Tighten swivel nut 1/4 turn after finger tight. USE A BACKUP WRENCH.
 - 4. Connect wiring harness to solenoid assembly.
- G. Assemble adaptor assembly to pump support. Make sure hex portion of adaptor assembly is properly seated in back of pump support. Lubricate o-rings on adaptor.
- H. Assemble in reverse order.
- I. Replace pump support on unit with four (4) screws.
- J. Replace concentrate pump, spout and inlet elbow fitting.
- K. Turn key switch ON.

- L. Check °Brix as required (refer to Section 1.10).
- M. Slide control panel into control housing and tighten both captive screws finger tight.

6.13 REGULATOR ASSEMBLY

- A. Unplug unit power cord from electrical outlet.
- B. Remove drip tray, dispensing paddles and splash plate.
- C. Close inlet water shut off valve.
- D. Remove tube assembly from inlet of regulator assembly. **USE A BACKUP WRENCH TO PREVENT DAMAGE TO STRAINER.**
- E. Loosen nuts on outlet fitting.
- F. Remove nut on mounting bracket.
- G. Remove regulator assembly.
- H. Repair or replace defective parts. Use approved thread sealant.
- I. Replace regulator assembly and connect inlet water shut off being careful to include flare seal washer.
- J. Tighten nuts on copper outlet tube 1/4 turn after finger tight. Open inlet water shut off valve and check for leaks.
- K. Remove cap on test connection on bottom of repaired or new regulator and connect test gauge.
- L. Replace dispensing paddle.
- M. Turn key switch **ON**.
- N. Dispense one (1) six (6) ounce (177.4 ml) drink and discard. Set regulator at 25 PSIG (1.76 kg/cm²) flowing while activating the dispensing paddle.
- O. Remove test gauge and replace test connection cap.
- P. Reassemble unit.
- Q. Check °Brix and adjust as necessary (refer to Section 1.10).

6.14 VACUUM BREAKER

- A. Close inlet water shut off valve.
- B. Remove lid over agitator deck.
- C. Remove vacuum breaker by loosening adaptor nut on top side of tank assembly.
- D. Remove cap from end of vacuum breaker.

CAUTION

USE ONLY LANCER LUBE. USE OF OTHER GREASE, LUBRICANT OR COMPOUNDS MAY CAUSE OFF TASTE, ODOR AND/OR DAMAGE TO UNIT AND WILL VOID WARRANTY.

- E. Inspect umbrella check valve and o-rings. Replace as necessary and reassemble. Lubricate o-rings only with Lancer Lube.
- F. Open inlet water shut off valve and check for leaks.
- G. Dispense several drinks while observing vacuum breaker. ***NO WATER SHOULD COME OUT OF HOLE ON END OF VACUUM BREAKER CAP.***

6.15 ICE BANK CONTROL

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Remove lid over agitator deck.
- B. Unplug wiring harness from agitator deck.
- C. Remove black rubber seal from retainer (around the ice bank control capillary tube).
- D. Pour about 12 ounces (354.8 ml) warm (**NOT HOT**) water into retainer to melt ice around control bulb.
- E. Pull control bulb out of retainer.
- F. Disconnect control from wiring harness.
- G. Remove one (1) screw and loosen one (1) screw holding control bracket to agitator deck. Remove defective control. ***Control is NOT repairable.***
- H. Install new control. ***MAKE SURE CONTROL BULB IS ALL THE WAY DOWN INTO RETAINER.***
- I. Replace black rubber seal.
- J. Remove four (4) screws holding agitator motor bracket to agitator deck.
- K. Pull agitator motor up so that propeller can be inspected. If any blades are broken due to ice bank freeze up, replace propeller.

- L. Remount agitator motor to agitator deck.
- M. Connect wiring harness to agitator deck. If control failed and caused unit to freeze up and the unit is still frozen at time of repair, the compressor may start and operate for a short period of time, while ice is built around control bulb, causing control to shut off compressor. At time of repair, if unit is frozen up to the extent that the water coils are frozen and product cannot be dispensed, it will be necessary to partially defrost ice bank. If defrost is necessary, pour warm water into water bath.

NOTE

Instead of defrosting ice bank, the unit power cord can be left unplugged from electrical outlet for about six (6) to eight (8) hours and then plugged back into electrical outlet by operator.

- N. Replace lid.

6.16 AGITATOR MOTOR

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Remove lid over agitator deck.
- B. Unplug wiring harness from agitator deck.
- C. Remove four (4) screws holding agitator motor bracket to agitator deck.
- D. Disconnect agitator motor from wiring harness and remove.
- E. Remove propeller from shaft if damaged. Inspect propeller to be sure no blades are broken.
- F. Replace agitator motor and propeller by reversing above procedure.

6.17 AGITATOR DECK

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Remove lid over agitator deck.
- B. Unplug wiring harness from agitator deck.
- C. Remove two (2) nuts holding agitator deck to tank assembly.
- D. If unit has an ice bank, remove seal and pour about 12 ounces (354.8 ml) of warm water into retainer to defrost and detach from ice bank.
- E. Lift agitator deck out of unit.
- F. To reassemble, reverse above procedure.

NOTE

The retainer is attached to the agitator deck with a sleeve which is pressed onto the retainer. The sleeve must be tight against bottom of agitator deck so that the retainer is held firmly to the agitator deck. If the retainer is loose, the ice bank size will vary and may cause a freeze-up of the unit.

6.18 WATER COIL CAGE ASSEMBLY

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Close inlet water shut off valve.
- B. Remove agitator deck (refer to Section 6.17).
- C. Remove water from ice bank compartment.
- D. Loosen tubing nuts on water coil.
- E. Remove four (4) nuts holding cage assembly to bottom of tank.
- F. Remove cage assembly from tank.
- G. Remove defective water coil from cage assembly.
- H. Reassemble cage assembly in tank by reversing procedure. Tighten water coil tubing nuts 1/4 turn after finger tight.
- I. Open inlet water shut off valve and check for leaks.
- J. Refill ice bank compartment to overflow port.
- K. Replace agitator deck and lid.

6.19 FRONT COVER

CAUTION

CARE SHOULD BE USED WHEN HANDLING FRONT COVER NOT TO SCRATCH OR MAR SURFACE. WHEN CLEANING USE ONLY DAMP CLEAN CLOTH.

- A. Lift front cover up so that it rests on top cover.
- B. Loosen two (2) wing nuts (**DO NOT REMOVE**) holding retainer to front edge of top cover.
- C. Slide retainer down.
- D. Pull front cover forward and remove.
- E. To reassemble, reverse above procedure.

6.20 TOP COVER

- A. Flush both sides of unit.
- B. Turn key switch **OFF**.
- C. Remove both lids.
- D. Remove front cover.
- E. Remove check valves from concentrate tubes.
- F. Remove concentrate containers.
- G. Loosen three (3) screws (**DO NOT REMOVE**) holding top cover to frame *at front* of unit.
- H. Loosen three (3) screws (**DO NOT REMOVE**) holding top cover to frame *at rear* of unit.
- I. Lift top cover up and off unit.
- J. To reassemble, reverse above procedure.

6.21 WRAPPER

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Remove front cover (refer to Section 6.19) and top cover (refer to Section 6.20).
- B. Remove drip tray, dispensing paddles and splash plate.
- C. Remove eight (8) screws on front of unit [four (4) on each side]. Locations are as follows.
 1. Top and bottom in flange of control housing.
 2. Two (2) in wrapper below pump support.

NOTE

It is not necessary to remove control housing and pump support when removing wrapper.

- D. Spread wrapper at front of unit slightly on each side in order to clear frame. Push wrapper toward back of unit until wrapper is free of frame.

CAUTION

CLEAN WRAPPER ONLY WITH DAMP CLEAN CLOTH, OR APPROVED NON-ABRASIVE SPRAY OR LIQUID STAINLESS STEEL CLEANER.

- E. To reassemble, reverse above procedure being sure that cutout for power cord in rear of wrapper seats properly.

6.22 CONDENSER FAN MOTOR

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

- A. Disconnect fan motor electrical cord from junction box.
- B. Remove four (4) screws holding fan guards.
- C. Remove four (4) nuts holding fan motor bracket to base of unit and remove from unit.
- D. Clean condenser with a brush.
- E. Remove fan motor from bracket.
- F. Remove fan blade from fan motor. **Do NOT bend fan blade.**
- G. To reassemble, reverse above procedure.

6.23 SEALED REFRIGERATION SYSTEM

A. Compressor replacement.

WARNING

DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.

1. Remove wrapper (refer to Section 6.21).
2. Disconnect all wiring from compressor.
3. Tap into high side pigtail tube on dryer capillary assembly and slowly vent refrigerant.
4. Unsolder suction tube at compressor.
5. Unsolder high side tube at compressor.
6. Remove compressor from unit.
7. Remove low side pigtail tube from defective compressor.
8. Solder low side pigtail tube to new compressor. **USE ONLY 95-5 SILFOS SOLDER AND SILFOS FLUX.**
9. Smooth end of suction tube and high side tube with refrigeration sandpaper.
10. Install new compressor in unit. Replace four (4) hold down clips.
11. Coat outside end of high side tube with **Silfos Flux**. Insert in compressor. **SOLDER WITH 95-5 SILFOS SOLDER.**
12. Coat outside end of tube on compressor with **Silfos Flux**. Attach suction tube and **SOLDER WITH 95-5 SILFOS SOLDER.**
13. Connect vacuum pump to high side pigtail on compressor and low side pigtail tube on dryer capillary assembly. If connecting to only one side use high side.
14. Vacuum unit for as long as necessary to ensure a 200 micron vacuum. Normally overnight is more than adequate.
15. Charge with 6 ounces (177.4 ml) of R-12 refrigerant using a properly calibrated charging cylinder. Care must be taken to ensure a charge with $\pm 1/8$ ounce (3.5 g).
16. Carefully leak check all solder joints.
17. To reassemble, reverse above procedure.

7. TROUBLESHOOTING (Causes are listed in order of probability)

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>
7.1 No water or concentrate on either side.	A. Key switch OFF. B. Unit not connected to electrical outlet. C. Electrical circuit breaker on control box assembly tripped. D. Power supply electrical breaker tripped or fuse blown.	A. Turn key switch ON. B. Connect unit power cord to electrical outlet. C. Reset circuit breaker by depressing button on control box. D. Reset breaker or replace fuse. If problem persists: 1. Check unit for electrical short-wiring, compressor, fan motor, etc. 2. Electrical circuit overload. Switch to another circuit.
7.2 No water or concentrate on one side only.	A. Control PCB defective. B. Sensor not adjusted properly in relation to paddle. C. Sensor not connected to wiring harness. D. Defective sensor. E. Water solenoid valve defective and concentrate pump not properly installed in pump support or defective. F. Defective paddle.	A. Replace PCB. B. Adjust sensor to move it closer to paddle. C. Connect sensor to wiring harness. D. Replace sensor. E. Repair or replace water solenoid valve and properly install concentrate pump in pump support or replace same. F. Replace paddle.
7.3 Water only - no concentrate.	A. Out of concentrate.	A. Refill concentrate container.

(7.3 continued next page)

TROUBLE	CAUSE	REMEDY
<i>(7.3 continued)</i>	<ul style="list-style-type: none"> B. Check valve not properly installed in concentrate container. C. Concentrate pump not properly installed in pump support. D. Concentrate pump defective. E. Check valve clogged. F. Large lumps in concentrate. G. Air leak in concentrate inlet tube. H. Control PCB defective. I. Concentrate tube kinked. 	<ul style="list-style-type: none"> B. Push check valve all the way into concentrate tank. C. Properly install (push in) concentrate pump in pump support. D. Repair or replace concentrate pump. E. Remove and clean check valve. F. Defrost concentrate. G. 1. Replace both o-rings on check valve. 2. Replace concentrate tube. H. Replace control PCB. I. Remove kink in tube.
7.4 Concentrate only - no water either side.	<ul style="list-style-type: none"> A. Inlet water shut off valve turned OFF. B. Inlet water strainer dirty/clogged. C. Water coils frozen. D. Water regulator not properly set and not passing water. E. Water solenoid valve not connected to wiring. F. Control PCB defective. 	<ul style="list-style-type: none"> A. Turn inlet water shut off valve ON. B. Remove strainer and clean. C. Replace ice bank control. Check umbrella check valve in vacuum breaker and replace if necessary. D. Connect test gauge to each water regulator and reset to proper pressure. E. Connect wiring harness to water solenoid valves. F. Replace control PCB.
7.5 Concentrate only - no water on one side only.	<ul style="list-style-type: none"> A. Defective control PCB. B. Water solenoid valve not connected to wiring harness. C. Defective coil on water solenoid. D. Defective water solenoid valve. 	<ul style="list-style-type: none"> A. Replace control PCB. B. Connect wiring harness to water solenoid valve. C. Replace coil. D. Repair or replace water solenoid valve.
7.6 No flush water either side, system dispenses normally.	<ul style="list-style-type: none"> A. Flush solenoid valve not connected to wiring harness. B. Control PCB defective. C. Flush water line from water regulator pinched. 	<ul style="list-style-type: none"> A. Connect wiring harness to water flush solenoid valve. B. Replace PCB. C. Unpinch.
7.7 No flush water - one side only, normal dispense both sides.	<ul style="list-style-type: none"> A. Pinched flush water tube of effected side. B. Defective flush solenoid. C. Control PCB defective. 	<ul style="list-style-type: none"> A. Replace flush water tube. B. Replace flush solenoid. C. Replace control PCB.
7.8 Water drips from spout when drink is NOT being dispensed.	<ul style="list-style-type: none"> A. Defective water solenoid valve. 	<ul style="list-style-type: none"> A. Repair or replace water solenoid valve.
7.9 Water leaking into concentrate container and/or concentrate tube.	<ul style="list-style-type: none"> A. Flush solenoid valve leaking. B. Check valve defective. 	<ul style="list-style-type: none"> A. Repair or replace flush solenoid valve. B. Repair or replace check valve.
7.10 Water leaking into concentrate container during flush cycle.	<ul style="list-style-type: none"> A. Check valve leaking. 	<ul style="list-style-type: none"> A. Repair or replace check valve.
7.11 Air leaking into concentrate tube and/or concentrate pump.	<ul style="list-style-type: none"> A. Air leaking into check valve from flush and/or concentrate tube. 	<ul style="list-style-type: none"> A. Push tube onto check valve. Replace tube if necessary.

(7.11 continued next page)

TROUBLE	CAUSE	REMEDY
(7.11 continued)	<ul style="list-style-type: none"> B. Air leaking into pickup tube of concentrate container. C. Air leaking into elbow. D. Air leaking into concentrate pump at elbow. E. Air leaking into concentrate pump. 	<ul style="list-style-type: none"> B. Replace two o-rings on exterior of check valve. C. Push concentrate tube onto elbow. Replace tube if necessary. D. Replace two o-rings on elbow. E. <ol style="list-style-type: none"> 1. Replace face plate o-ring. 2. Replace seal in concentrate pump body.
7.12 Ratio cannot be adjusted low enough (or °Brix high enough).	<ul style="list-style-type: none"> A. Regulated water pressure too high. B. Concentrate pump defective. C. Control PCB defective. D. Air leaking into concentrate tube. E. Water leaking into concentrate container. F. Defective regulator. 	<ul style="list-style-type: none"> A. Use test gauge and adjust water pressure to 25 PSIG (1.76 kg/cm²). B. Repair or replace concentrate pump. C. Replace control PCB. D. Refer to Section 7.11. E. Refer to Sections 7.9 and 7.10. F. Repair or replace regulator.
7.13 Ratio cannot be adjusted high enough (or °Brix low enough).	<ul style="list-style-type: none"> A. Regulated water pressure too low. B. Water strainer clogged. C. Defective regulator. D. Defective or clogged water solenoid valve. 	<ul style="list-style-type: none"> A. Use test gauge and adjust water pressure to 25 PSI (1.76 kg/cm²). B. Clean strainer. C. Repair or replace regulator. D. Repair or replace water solenoid valve.
7.14 °Brix varies from drink to drink.	<ul style="list-style-type: none"> A. Inlet water supply pressure and/or flow too low. B. Use of other equipment on same water supply causes water supply pressure and flow to vary. C. Defective control PCB. D. Defective concentrate pump. E. Frozen lumps of concentrate in concentrate container. F. Check valve clogged. G. Air leaking into concentrate tube. H. Water leaking into concentrate container. I. Defective water regulator. 	<ul style="list-style-type: none"> A. Correct water supply must be made available. B. Remove other equipment from water supply or provide alternate water supply. C. Replace control PCB. D. Repair or replace concentrate pump. E. Defrost concentrate. F. Clean check valve. G. Refer to Section 7.11. H. Refer to Sections 7.9 and 7.10. I. Repair or replace regulator.
7.15 Concentrate low level indicator ON but concentrate container is full.	<ul style="list-style-type: none"> A. Concentrate container not properly seated in compartment. B. Defective control PCB. C. Sensor in compartment of tank or on concentrate container dirty and not making contact. D. Sensor wiring harness not connected. 	<ul style="list-style-type: none"> A. Properly seat concentrate container all the way down into compartment. B. Replace control PCB. C. Clean sensors. D. Connect.
7.16 Water continually overflows from ice bank compartment into the concentrate compartment and into drip tray.	<ul style="list-style-type: none"> A. Loose water coil. B. Split or defective water coil. 	<ul style="list-style-type: none"> A. Tighten connections. B. Replace water coil.

TROUBLE	CAUSE	REMEDY
7.17 Compressor starts and continues to run until freeze up and will NOT cut off.	A. Faulty ice bank control.	A. Replace ice bank control.
7.18 Warm drinks.	A. Hot incoming water supply (from HOT water supply or heater). B. No ice bank, defective ice bank control. C. Low refrigerant supply. D. No ice bank; defective condenser fan motor. E. No ice bank; compressor does not run or runs for a few minutes and stops.	A. Switch to cold water supply. B. Replace ice bank control. C. Repair leak and recharge. D. Replace condenser fan motor. E. Refer to Sections 7.19, 7.20, 7.21, 7.22 and 7.23.
7.19 Compressor does NOT start (no hum), condenser fan motor does not run and no ice bank.	A. Power supply electrical breaker tripped or fuse blown. B. Defective ice bank control. C. Improper or loose wiring. D. Low voltage.	A. Reset breaker or replace fuse. If problem persists: 1. Determine reason and correct. 2. Electrical circuit overloaded; switch to another circuit. B. Replace ice bank control. C. Correct wiring. Refer to wiring diagram. D. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.
7.20 Compressor does NOT start (no hum), no ice bank, but condenser fan motor runs.	A. Defective compressor relay or overload. B. Defective compressor. C. Improper or loose wiring. D. Low voltage.	A. Replace compressor relay or overload. B. Replace compressor. C. Correct wiring. Refer to wiring diagram. D. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.
7.21 Compressor does NOT start, but hums.	A. Improper or loose wiring. B. Low voltage. C. Starting relay defective. D. Defective compressor.	A. Correct wiring. Refer to wiring diagram. B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. C. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure. D. Replace compressor.
7.22 Compressor starts and does switch off of start winding (will only run for a few seconds) before internal overload switches compressor	A. Low voltage. B. Excessively high refrigerant, high side pressure.	A. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. B. This is normal if unit is unplugged from electrical outlet then immediately plugged back into electrical outlet before refrigerant pressure has time to equalize. After about 5 minutes, compressor will start automatically and run.

(7.22 continued next page)

TROUBLE	CAUSE	REMEDY
<i>(7.22 continued)</i>	C. Improper or loose wiring. D. Starting relay defective. E. Defective compressor.	C. Correct wiring. Refer to wiring diagram. D. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure. E. Replace compressor.
7.23 Compressor starts and runs a short time, but shuts off on overload.	A. Improper or loose wiring. B. Low voltage. C. Excessively high refrigerant high side pressure and suction return gas hot. D. Compressor running too hot. E. Defective compressor.	A. Correct wiring. Refer to wiring diagram. B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. C. <ol style="list-style-type: none"> 1. Defective condenser fan motor. Replace. 2. Dirty condenser. Clean. 3. Dirty intake air filter. Clean. 4. Back of unit too close to wall. Move unit away from wall at least two (2) inches (5.08 cm). D. Refrigerant leak. Repair and recharge. E. Replace compressor.

8. TROUBLESHOOTING USING PCB 12 VOLT (GREEN), MOTOR OVER CURRENT (YELLOW), AND MOTOR (RED) DIAGNOSTIC LIGHTS

The red LED indicates that the transformer, circuit breaker and the basic DC power supply system is operative. This unregulated DC voltage of 18V-22V is used for the pump motor voltage and the input to the +12VDC regulator on the main control PCB.

The green LED indicates the output of the 12 VDC regulator is normal. This voltage is used for all solenoids and the PCB circuits. The 12V regulator can **SHUT DOWN** from excess current or excess temperature but will automatically start operating again when the problem is removed. An example would be a shorted left dispense solenoid coil. The green LED would be on until the left paddle was depressed, which would cause the green LED to go **OUT** until the paddle was released. Left flush, right flush, and right dispense would be normal and the green LED would be **ON** before and during dispense.

The yellow LED indicates a motor over current condition when lighted. This could be caused by a faulty motor, pump or a grounded motor lead. Normally, the yellow LED will flash **ON** the instant a paddle is pushed, then go **OUT** immediately. This is caused by a high in-rush current to get the motor initially started.

The following are some typical diagnostic light conditions and the possible problems associated with these conditions. All conditions are with the key switch in the **ON** position and the power cord plugged in.

<u>LIGHTS</u>			<u>STATUS</u>	<u>PROBLEM</u>
<u>GREEN</u>	<u>YELLOW</u>	<u>RED</u>		
ON	OFF	ON	Key switch ON.	Normal operations.
OFF	OFF	ON	Key switch ON. Not trying to dispense product.	1. Wiring short of +12 Volts to ground. 2. Defective control PCB.
ON	OFF	OFF	Key switch ON. Not trying to dispense product.	Defective control PCB.
OFF	OFF	OFF	Key switch ON. Not trying to dispense product.	1. Defective transformer or control box. 2. Breaker tripped on front panel. 3. Transformer wiring harness not connected to control PCB.
OFF	OFF	ON	Key switch ON, trying to dispense product or flush. Green ON when not trying to dispense.	Shorted (defective) solenoid.
ON	OFF	OFF	Key switch ON, trying to dispense product.	Defective PCB.
ON	OFF	ON	Key switch ON, trying to dispense product but concentrate pump does not operate. Water does dispense.	1. Wiring harness not connected to pump support. 2. Defective PCB.
ON	ON	ON	Key switch ON, trying to dispense product but concentrate pump does not operate. Water does dispense.	1. Defective or overloaded pump or motor. 2. Shorted motor connector. 3. Short in wiring harness.

9. INSTALLATION OF PUSHBUTTON KITS FOR CENTURION II

(Pushbutton Kit Part No. 82-0676)

To assure proper installation in converting a Centurion II from paddle dispense to pushbutton dispense, complete the following instructions carefully. A Centurion unit has a Serve/Flush switch, so *note additional instructions in Section 10*. It will be necessary to drill four (4) holes to convert unit. Needed will be an 1/8" and a 9/16" bit. Included in this kit is a four (4) part template. The template assures proper location of holes.

- A. Place each part of template in proper location as shown in Figure 2, each template section is marked for correct location. *This must be done precisely to ensure proper alignment.*
- B. Holes to be drilled as shown by the four (4) dotted circles. *It will be necessary to remove front cover to drill holes.*
- C. On the front cover, first drill a pilot hole using an 1/8" bit (on the front side); then from the back, using a 9/16" bit complete the hole.
- D. After drilling all holes, remove template and remove all plastic burrs.

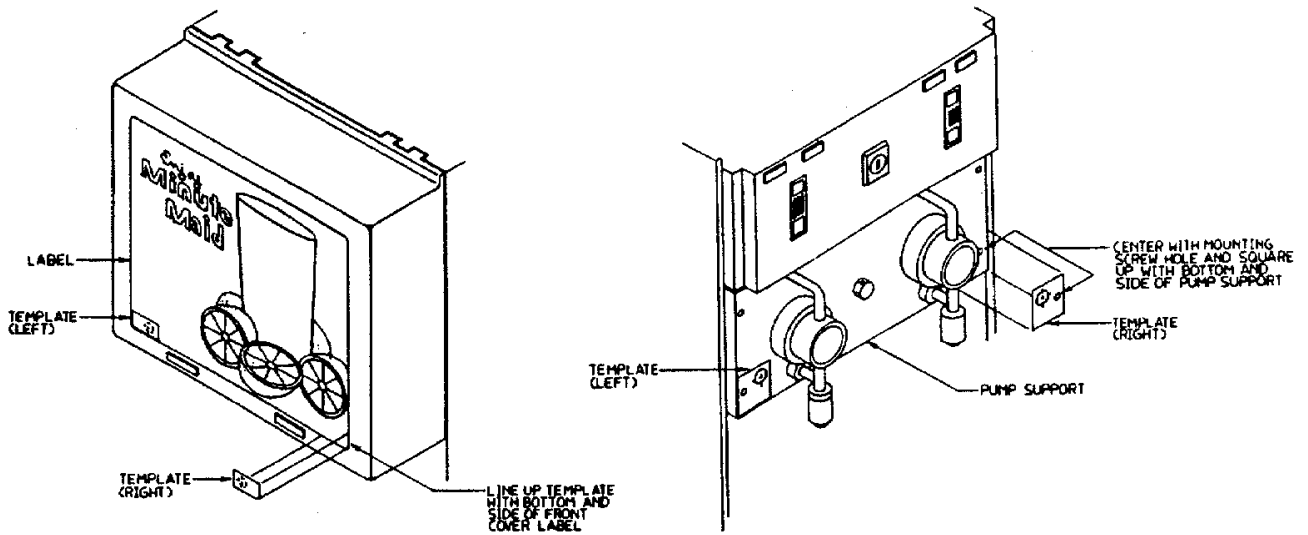


Figure 2

- E. Remove both paddles and splash plate from unit.
- F. Remove sensors from mounting bracket and install in pump support. Allow approximately 3/8 inch (9.525 mm) for sensor to extend from pump support (see Figure 3).
- G. Replace splash plate.
- H. Assemble the pushbutton assembly (see Figure 4) to front cover. Be sure to place dispense label (Item No. 4) on unit before installing pushbutton components. *You must tighten jam nut (Item No. 7) on rear of front cover to prevent damage to dispense label.*
- I. Reinstall front cover.
- J. Push each button to test for dispense. If unit does not dispense, sensor may need to be extended more from unit (see Figure 3).

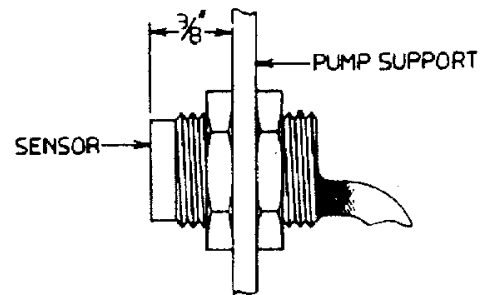


Figure 3

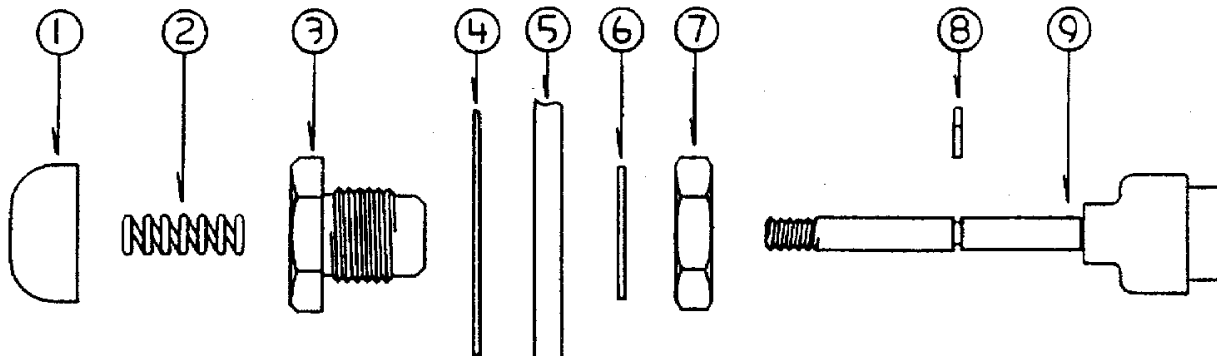


Figure 4 - Pushbutton Assembly - Part Number 82-0482

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	10-0195	Knob	6	04-0420	Washer
2	03-0135	Spring	7	10-0198	Nut
3	10-0196	Adaptor	8	03-0086	Retainer
4	06-0345	Label	9	82-1014	Shaft Assembly
5	REF	Front Cover			

10. CENTURION II PUSHBUTTON SERVE/FLUSH SWITCH INSTALLATION

10.1 INSTALLATION

- A. Turn key switch **OFF**.
- B. Loosen the two (2) captive screws on control panel and partially pull control panel out of the control housing.
- C. Disconnect the transformer power cord connector inside the control housing.
- D. Disconnect wiring harness by grasping the ends of the 16-pin connector on the PCB. *Do NOT remove by pulling on the wires.*
- E. Remove control panel from control housing.
- F. Disconnect the 4 pin mode switch connector and 2-pin transformer connector by grasping the housing. *Do NOT try to remove by pulling the wires.*
- G. Use a straight slot screwdriver to turn the four (4) plastic latches 1/4 turn counter clockwise and lift the control PCB off the stand-offs.
- H. Remove the eight (8) screws securing the transformer and control PCB mounting plate to the front panel.
- I. Record the wire color and terminal position of the mode switch harness to ensure installation will be correct.
- J. Remove the two (2) 0.110 inch FAST-ON connectors from the back of the mode switch.
- K. Remove the securing nut from the back of the switch and push the switch through the front of the control panel.
- L. Install new switch (PN 12-0087) provided with the kit.
- M. To reassemble, reverse above procedure.

10.2 FLUSHING CENTURION

NOTE

New switch does not have a spring return action.

- A. Lift front cover and push switch to FLUSH position.
- B. Close front cover and press DISPENSE pushbutton for desired station to be flushed.
- C. After completing flush, lift front cover and return switch to SERVE position.

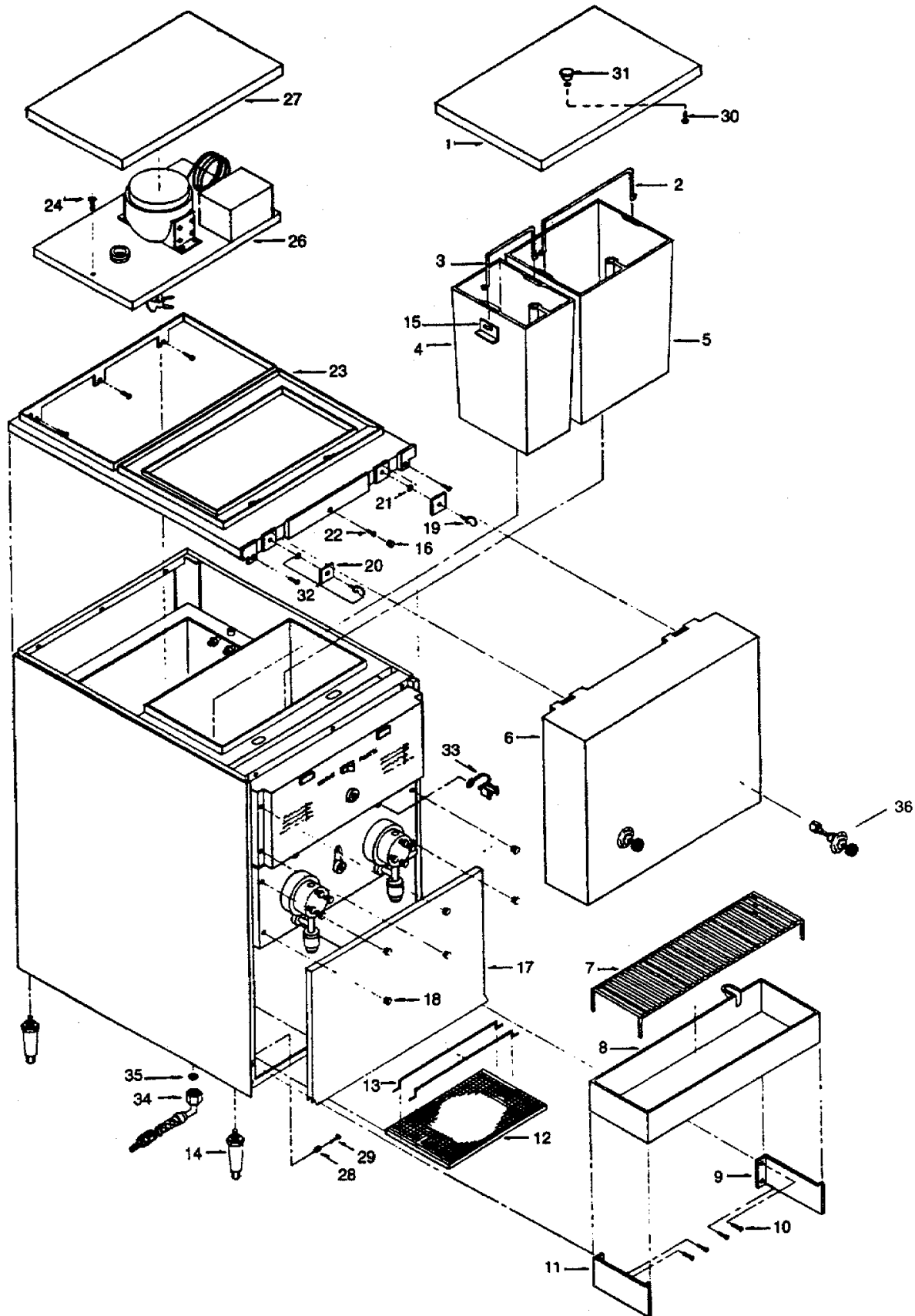
IMPORTANT

AFTER FLUSHING, RETURN SWITCH TO SERVE POSITION

NOTES

11. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS

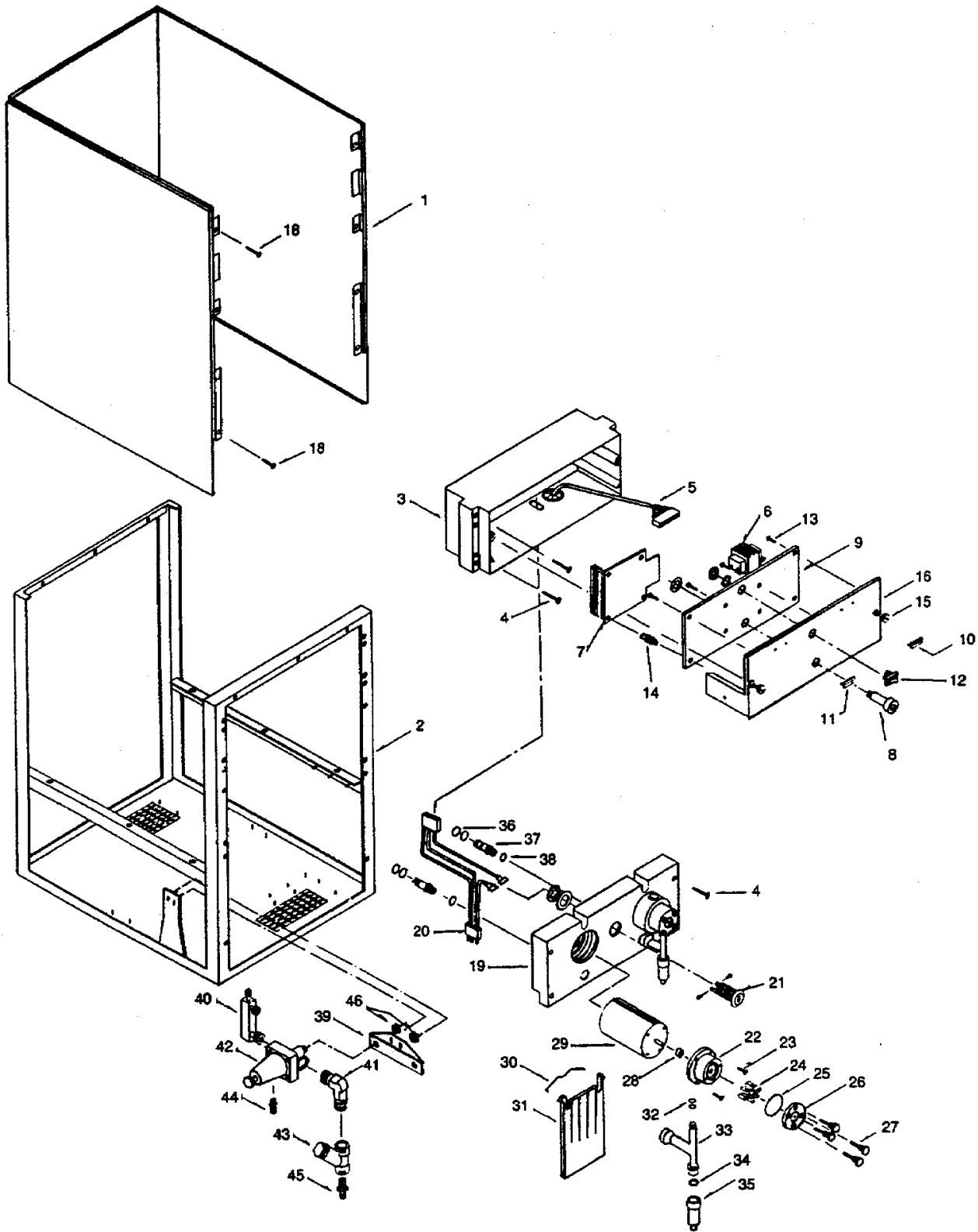
11.1 CENTURION II - FINAL ASSEMBLY



11.1 CENTURION II - FINAL ASSEMBLY (CONTINUED)

ITEM	PART NO.	DESCRIPTION
-	82-0393	Lid, Large (includes Items 1, 30, 31)
1	05-0146	Lid, Large
2	07-0283	Handle, Large
3	07-0284	Handle, Small
4	82-0148	Concentrate Container Sub-Assy, Small
5	82-0146	Concentrate Container Sub-Assy, Large
6	82-0152	Front Cover Assy
7	23-0151	Cup Rest
8	05-0148	Drip Tray
9	51-0295	Bracket, Right
10	04-0480	Screw
11	51-0294	Bracket, Left
12	50-0095	Filter
13	03-0074	Retainer
14	81-0112	Leg, 4 inch
-	82-0156	Leg Accessory Kit
15	07-0287	Handle Bracket, L.H.
-	07-0286	Handle Bracket, R.H.
16	05-0209	Hole Plug
17	51-0293	Splash Plate
18	05-0188	Hole Plug
19	04-0240	Thumb Screw
20	05-0186	Retainer
21	04-0179	Washer
22	04-0477	Screw
23	82-0150	Top Cover Assy (includes 2 Item 32)
24	04-0222	Screw
26	82-0153	Agitator Deck Assy, 120 VAC
-	82-0171	Agitator Deck Assy, 220 VAC
27	05-0145	Lid - Small
28	04-0187	Spacer
29	04-0429	Rivet
30	04-0190	Screw
31	82-0258	Knob Assy
32	82-0151	Retainer Assy (includes Item 19-21)
33	05-0457	Retainer, Elbow
34	49-0226	Inlet Water Shut Off
35	05-0017	Flare Seal Washer
36	82-0482	Pushbutton Assy

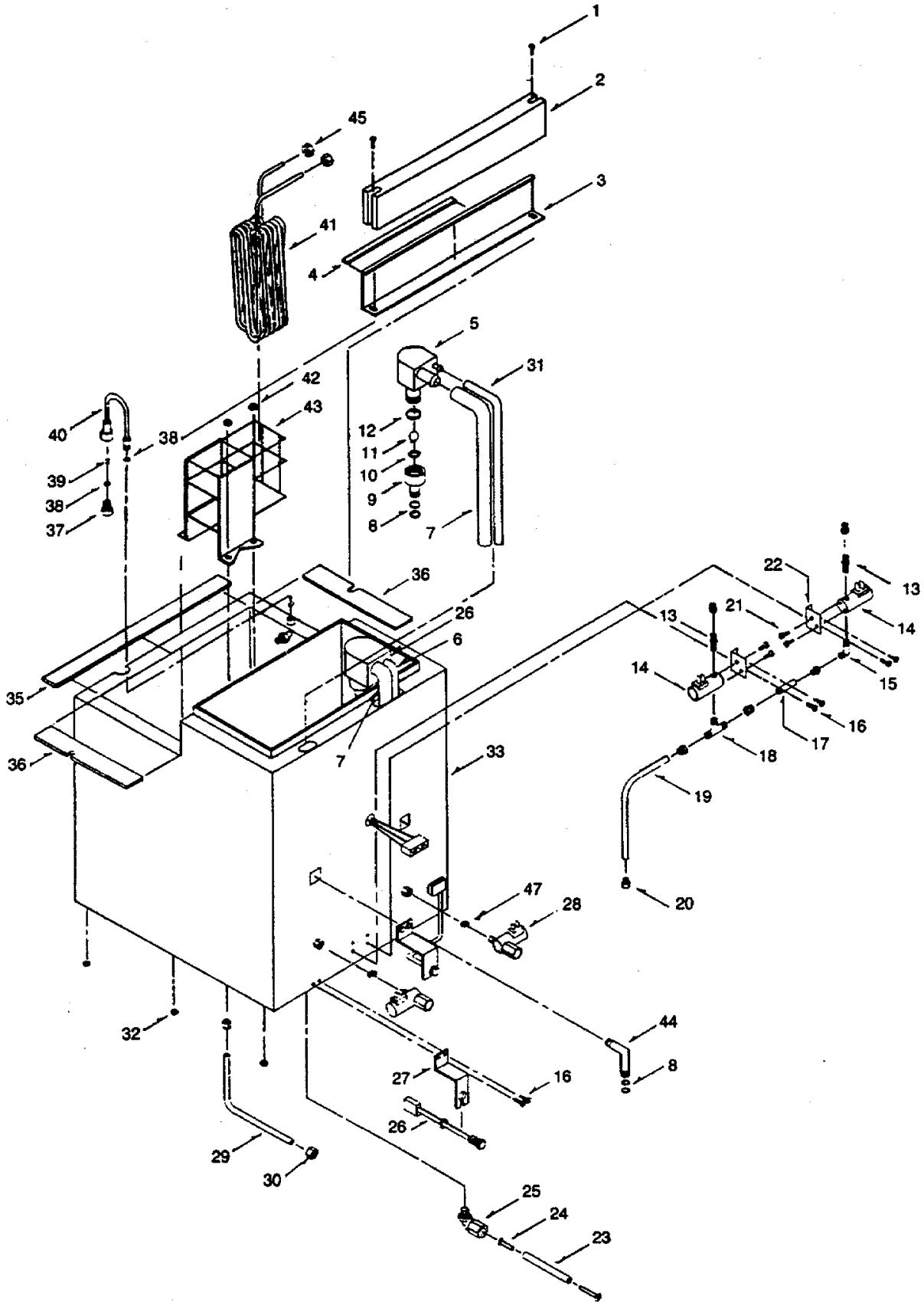
11.2 CENTURION II - PUMP REGULATOR ASSEMBLY



11.2 CENTURION II - PUMP REGULATOR ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>			
			44	17-0405	Valve
			45	01-0111	Adaptor
1	07-0192	Wrapper	46	04-0297	Keps Nut (2)
2	23-0143	Frame Weld Assy	-	82-0333	Control Panel Assy
3	82-0331	Housing Assy			(includes Items 6-16)
4	04-0481	Screw	-	18-0207	Regulator Repair Kit
5	52-0488	Harness Assy	-	22-0028	Water Pressure Test Gauge Assy
6	25-0019	Transformer Assy, 120 VAC			
-	25-0020	Transformer Assy, 220 VAC			
7	52-0479	PCB Assy			
8	11-0066	Circuit Breaker			
9	23-0300	Transformer Mounting Plate			
10	05-0190	Product Plate, Orange			
11	05-0192	Product Plate, Grapefruit			
-	05-0193	Product Plate, Lemonade			
-	05-0194	Product Plate, Apple			
-	05-0191	Product Plate, Grape			
-	05-0195	Product Plate, Cranberry			
12	12-0054	Mode Switch			
13	04-0158	Screw			
14	13-0047	PCB Stand Off			
15	04-0182	Screw Assy			
16	82-0332	Control Panel Sub-Assy (includes Item 15)			
18	04-0477	Screw			
19	82-0328	Pump Support Assy (includes Items 20, 21)			
20	52-0565	Harness			
21	12-0097	Key Lock Switch			
-	86-0004	Pump Assy (includes Items 22-29)			
-	82-0139	Pump Body Assy (includes Items 22-28)			
22	82-0179	Pump Body Sub-Assy			
23	04-0169	Screw			
24	05-0132	Impeller			
25	02-0090	O-Ring			
26	05-0134	End Cap			
27	04-0207	Thumb Screw			
28	04-0166	Seal			
29	91-0013	Motor Assy			
30	03-0061	Spring			
31	54-0019	Paddle Assy (includes Item 30)			
32	02-0089	O-Ring			
33	54-0020	Spout Assy			
34	02-0109	O-Ring			
35	54-0038	Nozzle Assy			
-	17-0352	Check Valve Assy (includes Items 36-38)			
36	02-0099	O-Ring			
37	05-0150	Check Valve Body			
38	02-0005	O-Ring			
-	18-0206	Regulator Assy (includes Items 39-45)			
39	07-0294	Bracket			
40	01-1105	Elbow			
41	01-1146	Elbow			
42	18-0201	Regulator, L. H.			
43a	17-0351	Strainer, Plastic (includes 81-0047)			
43b	17-0486	Strainer, Brass			
-	81-00047	Screen			

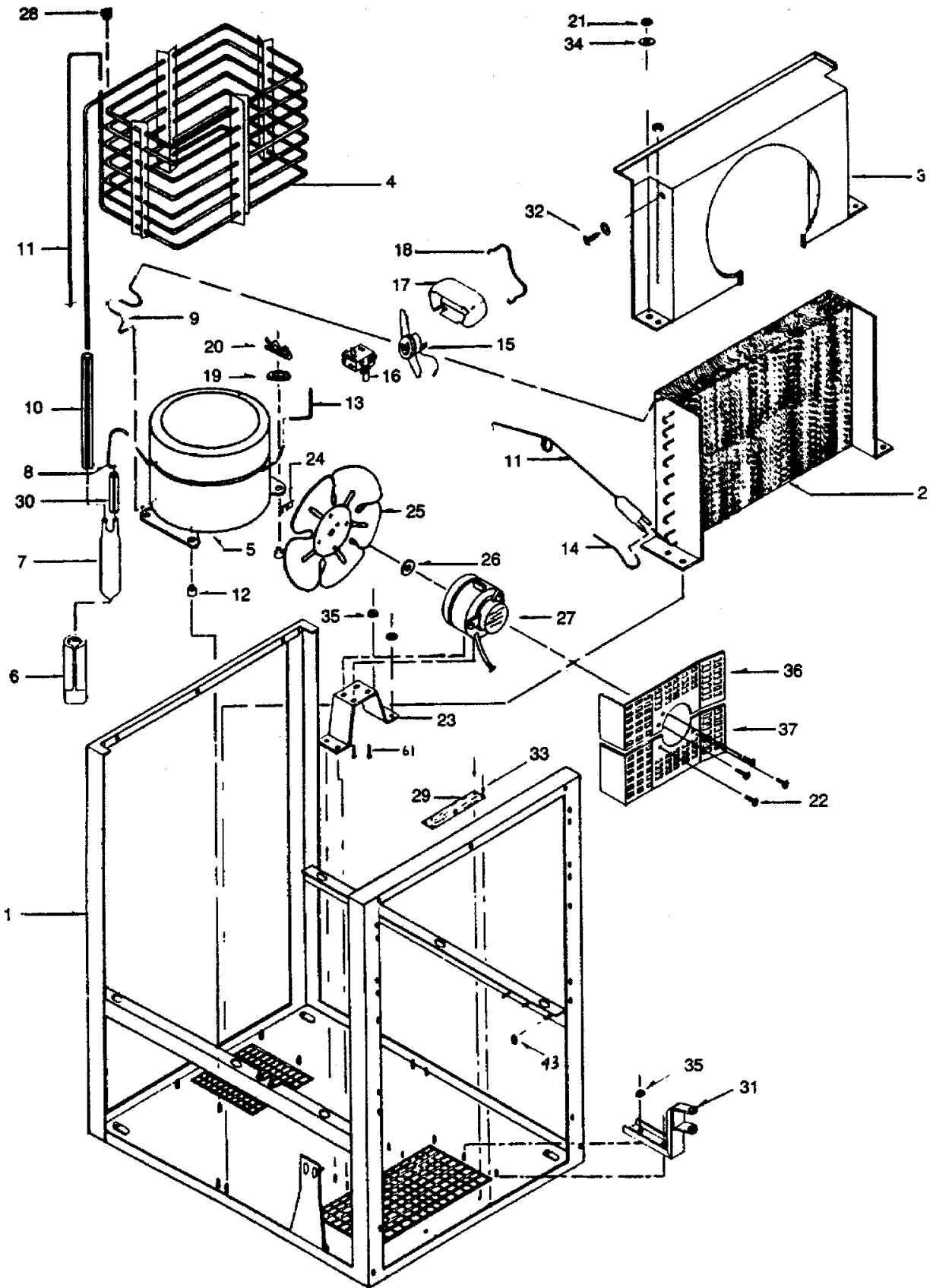
11.3 CENTURION II - WATER/CONCENTRATE COMPONENT ASSEMBLY



11.3 CENTURION II - WATER/CONCENTRATE COMPONENT ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	04-0480	Screw
2	50-0079	Insulation
3	23-0147	Bracket Assy
4	50-0087	Insulation Front
5	05-0158	Cap
6	08-0048	Tube, Flush Right
7	08-0050	Tube, Concentrate
8	02-0089	O-Ring
9	05-0168	Body Fitting
10	02-0115	O-Ring
11	14-0004	Ball
12	02-0103	O-Ring
13	01-1010	Adaptor (includes 1 Item 20)
14	17-0077	Solenoid
15	01-0821	Elbow (includes 1 Item 20)
16	04-0477	Screw
17	08-0046	Tube
18	01-0818	Tee (includes 2 Items 20)
19	08-0045	Tube
20	01-0798	Nut
21	04-0237	Screw
22	51-0290	Bracket
-	82-0883	Drain Assy
23	08-0006	Tube
24	01-0450	Tube Support
25	01-0492	Fitting
26	52-0145	Sensor Sub-Assy
27	07-0212	Bracket
28	17-0076	Solenoid Assy, Dispense
29	47-0279	Tube
30	01-0797	Nut
31	08-0047	Tube Flush Left
32	04-0220	Nut
33	82-0326	Tank Assy
34	50-0086	Insulation Left
35	50-0084	Insulation Back
36	50-0085	Insulation Right
37	01-0789	Cap
38	02-0005	O-Ring
39	02-0110	Umbrella Check Valve
40	17-0408	Vacuum Breaker Assy (includes Items 37-39)
-	23-0307	Cage Assy (includes Items 41, 43)
41	47-0125	Water Coil Right
42	04-0082	Nut
43	23-0303	Cage Sub-Assy
44	01-0802	Elbow Adaptor
45	01-1012	Nut
46	17-0411	Check Valve Assy (includes Items 5, 8-12)
47	05-0011	Flare Seal
-	82-0189	Solenoid Kit 100 M.O.P.D.
-	12-0055	Solenoid Coil
-	05-0379	Plastic Ferrule
-	17-0413	Solenoid Assy, Flush LH
-	17-0412	Solenoid Assy, Flush RH

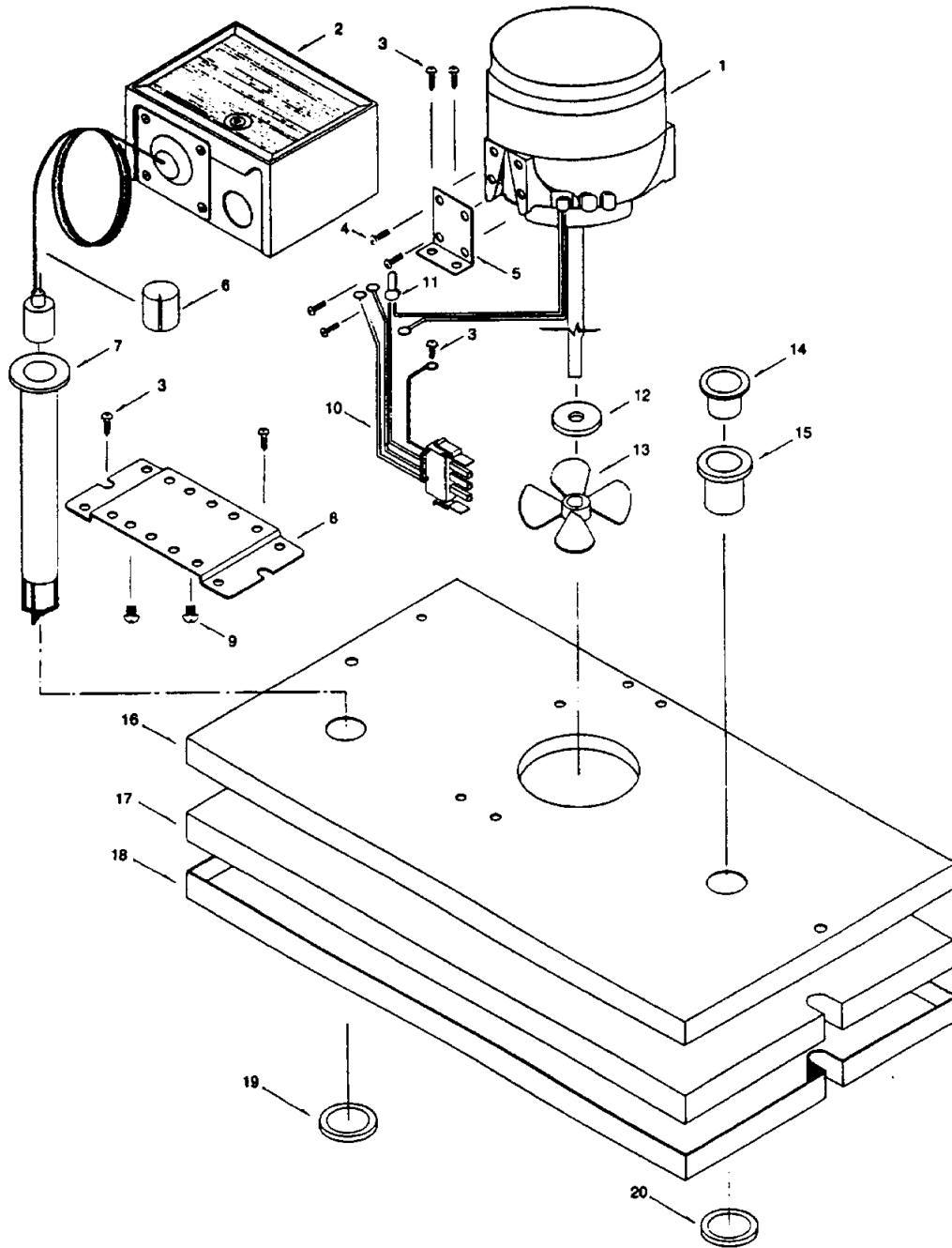
11.4 CENTURION II - REFRIGERATION ASSEMBLY



11.4 CENTURION II - REFRIGERATION ASSEMBLY (CONTINUED)

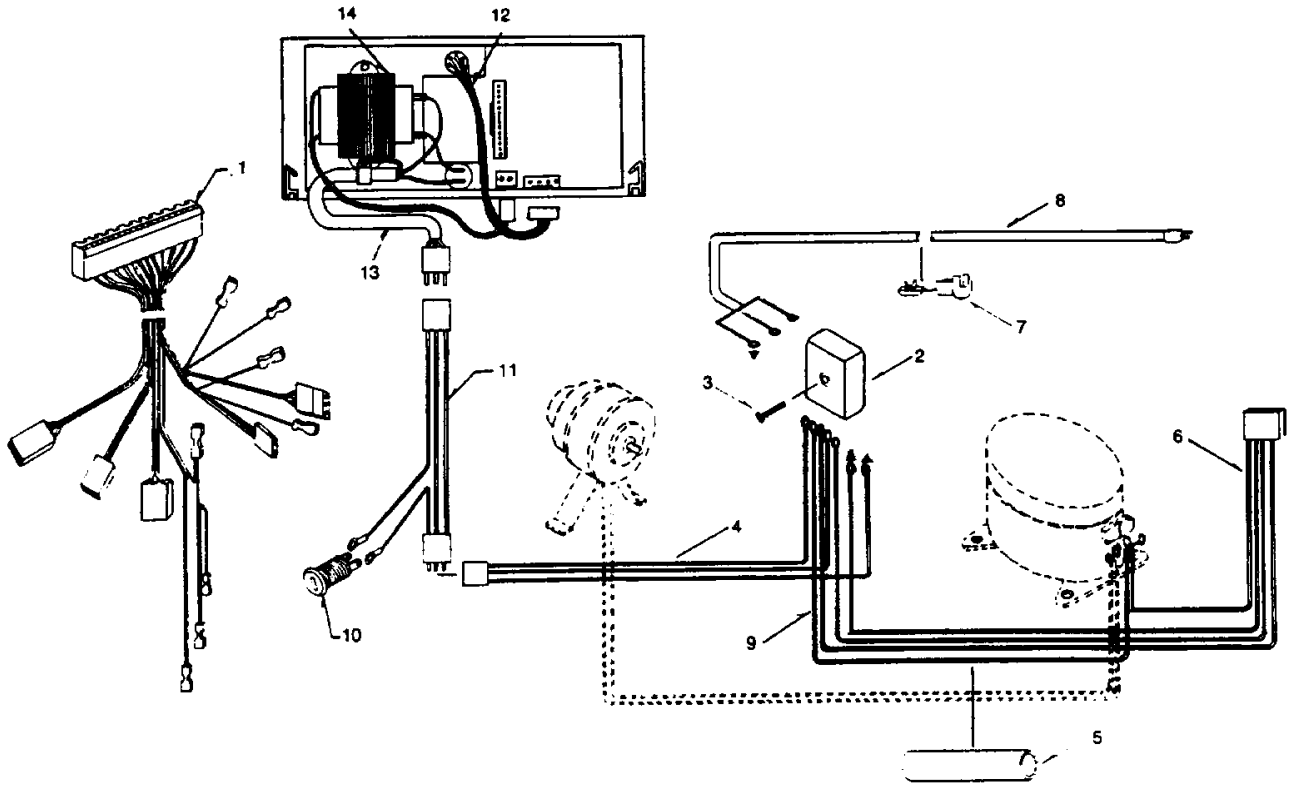
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	23-0143	Frame Weld Assy
2	82-0140	Condenser Assy
3	05-0204	Shroud, Fan
4	23-0145	Evaporator Assy
5	83-0009	Compressor (complete), 120 VAC
-	83-0012	Compressor (complete), 220 VAC
6	50-0028	Boot
7	51-0061	Accumulator
8	47-0130	Tube
9	47-0119	Tube
10	50-0082	Insulation
11	23-0026	Dryer, Capillary Assy
12	02-0114	Grommet
13	47-0129	Tube
14	47-0030	Tube
15	12-0027	Overload, 120 VAC
-	12-0059	Overload, 220 VAC
16	12-0026	Relay, 120 VAC
-	12-0060	Relay, 220 VAC
17	13-0006	Terminal Cover
18	03-0040	Bale Strap
19	04-0537	Washer
20	03-0150	Clip
21	04-0231	Nut
22	04-0059	Screw
23	51-0161	Bracket
24	04-0060	Nut
25	07-0231	Fan Blade
26	02-0034	Silencer
27	91-0032	Fan Motor, 120 VAC
-	91-0035	Fan Motor, 220 VAC
28	02-0094	Grommet
29	06-0085	Name Plate
30	50-0083	Insulation
31	23-0308	Bracket, Overflow
32	04-0061	Screw
33	04-0072	Pop Rivet
34	04-0147	Washer
35	04-0297	Keps Nut
36	30-0237	Fan Guard, Upper
37	30-0238	Fan Guard, Lower

11.5 CENTURION II - AGITATOR DECK ASSEMBLY



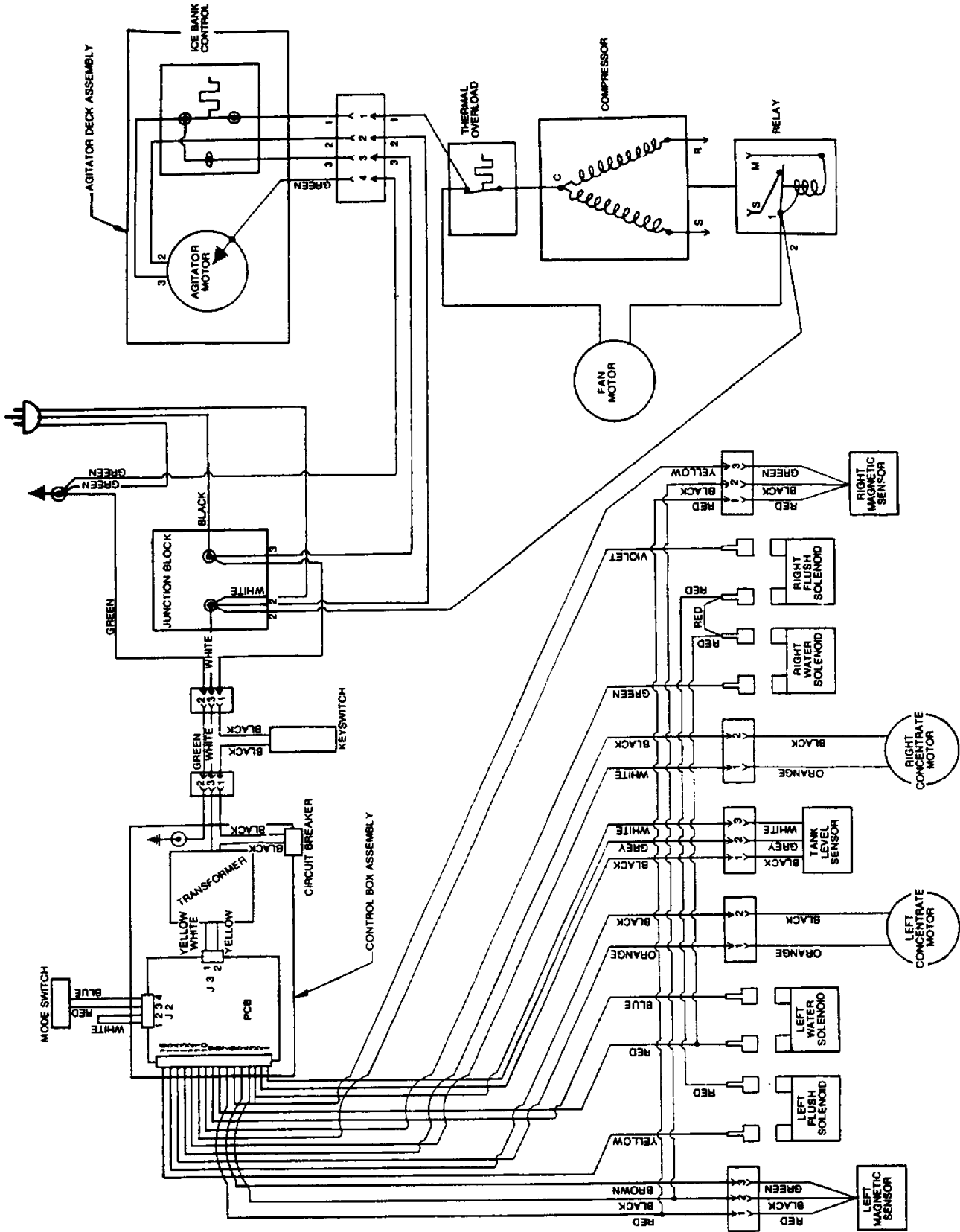
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	91-0014	Motor 120 VAC	12	02-0032	Washer
-	91-0015	Motor 220 VAC	13	05-0031	Propeller
2	24-0001	Control, Ice Bank	14	04-0062	Protector Closure
3	04-0061	Screw	15	05-0032	Sleeve
4	04-0059	Screw	16	51-0288	Deck Plate
5	07-0098	Bracket	17	50-0080	Insulation
6	02-0041	Seal	18	05-0202	Cover, Insulation
7	05-0142	Sleeve	19	05-0140	Retainer
8	07-0111	Bracket	20	05-0141	Retainer
9	04-0066	Screw			
10	52-0155	Harness Assy			
11	11-0051	Nut, Wire			

11.6 CENTURION II - WIRING CONNECTIONS



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	52-0488	Main Wiring Harness
2	54-0062	Electrical Box Sub-Assy
3	04-0070	Screw
4	52-0486	Harness Assy
5	88-0025	Sleeve
6	52-0152	Harness Assy
7	13-0025	Strain Relief
8	52-0005	Power Cord Assy
9	52-0149	Lead Assy
10	12-0097	Key Switch
11	52-0565	Key Switch Harness
12	52-0487	Mode Switch Harness
13	52-0481	Transformer Cord Assy
14	25-0019	Transformer Assy, 120 VAC
-	25-0020	Transformer Assy, 220 VAC

11.7 CENTURION II - WIRING DIAGRAM



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

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 Phone: 852-2408-2595
 FAX: 852-2408-2605
 e-mail: freserhk@netvigator.com

P.T. Ciptapratama Sentosamakmur - Indonesia

Jl. Anggrek Nelly Murni, Blok A - 39, Slipi
 Jakarta 11480, Indonesia
 Phone: 62-21-532-3737
 FAX: 62-21-532-3666
 e-mail: ciptasm@indosat.net.id

Hayakawa Sanki - Japan

Hayakawa Sanki, Inc.
 1-13-13, Kayaba-cho
 Nihonbashi, Chuo-ku
 Tokyo, 103-0025
 Japan
 Phone: 03-5651-1481
 FAX: 03-5651-1445
 e-mail: SANKI10217@aol.com

Tahoe Corporation - Korea

Tahoe Corporation
 2FL, 835-66 Yocksam-dong
 Kangnam-Ku
 Seoul, Korea
 Phone: 82-2-557-5612, -5614
 FAX: 82-2-557-5615
 e-mail: tahoe@netgo.com

Freser (MALAYSIA) SDN. BHD. - Malaysia

No. 31, Jalan TPP 5/13, Taman
 Perindustrian Puchong, Seksyen 5,
 47100 Puchong, Selangor, Malaysia
 Phone: 60-3-8061-6666
 FAX: 60-3-8062-1007
 e-mail: freser@tm.net.my

R.B.P. Industrial Sales Inc - Philippines

Unit 20, Facilities Centre Bldg.
 548 Shaw Blvd
 Mandaluyong City, Philippines
 Phone: 632-531-1215/1221/1289
 FAX: 632-531-1271
 e-mail: rbpsales@info.com.ph

Freser (S) Pte Ltd - Singapore

Blk 998 Toa Payoh North
 #04-12/14
 Singapore 318993
 Phone: 65-6352-0943
 FAX: 65-6352-8594
 e-mail: fresersin@pacific.net.sg

Freser International Corporation - Taiwan

No. 76, Gui-Sui Street
 Taipei 103, Taiwan R.O.C.
 Phone: 886-2-2553-1555
 FAX: 886-2-2553-2742
 e-mail: allen@intl.freser.com.tw

Freser (Thailand) Co Ltd - Thailand

3/15 Moo 3, Soi Ruammitr
 Tivanont Road, Banmai
 Pakkred, Nonthaburi, 11120
 Thailand
 Phone: 662-961-9543
 FAX: 662-961-9550
 e-mail: prachat@asianet.co.th

Lancer - Indian Sub-Continent**India**

Shabbir Shafiqi - Area Manager
 India and Sub-Continent
 B-7, Pannalal Silk Mill Compounds
 78, LBS Marg, Bhandup (W)
 Mumbai 400-078, India
 Phone: 91-22-2561-6665
 Cel No.: 91-98-2029-5252
 FAX: 91-22-5637-4018
 e-mail: shafiqis@vsnl.com

Lancer Authorized Distributors**Western Refrigeration Ltd - India**

B-7, Pannalal Silk Mill Compounds
 78 L.B.S. Marg, Bhandup (W)
 Mumbai 400-078, India
 Phone: 91-22-2561-6665
 FAX: 91-22-2562-2257
 e-mail: western@bom5.vsnl.net.in

Bengal Marketing Company - Bangladesh

Skylark Point (6th Floor)
 Room #G-2
 24/A Bijoy Nagar,
 Dhaka-1000, Bangladesh
 Phone: 880-2-934-2987
 FAX: 880-2-935-0127
 e-mail: bmc@dhaka.agni.com

Dynamic Equipment - Pakistan

Dynamic Equipment and Controls (Pvt.) Ltd.
 F-1/23, Canal Cottages, Block-D.
 New Muslim Town.
 Lahore. Pakistan.
 Phone: 0092-42-583-6737
 0092-42-583-6787
 FAX: 0092-42-586-7924
 e-mail: info@dynamic-eqpt.com.pk



**Directory of USA - Canada Offices,
International Offices, and Authorized Distributors**

Corporate Office

6655 Lancer Blvd. • San Antonio, Texas 78219 • 210-310-7000 • 1-800-729-1500 • FAX 210-310-7250

Lancer USA

Manufacturing Locations

Foster Road Facilities

6655 Lancer Blvd
San Antonio, TX 78219
Phone: (210) 310-7000
MFG FAX: (210) 310-7088
ENG FAX: (210) 310-7096
ACCT FAX: (210) 310-7091
PURCH FAX: (210) 310-7094

Lancer FBD

5620 Business Park
San Antonio, TX 78218
Phone: (210) 666-0544
FAX: (210) 666-2044

Lancer Ice Link

6655 Lancer Blvd
San Antonio, TX 78219
Phone: (210) 310-7174
FAX: (210) 310-7245

Remanufacturing

6655 Lancer Blvd
San Antonio, TX 78219
Phone: (210) 310-7356
FAX: (210) 310-7261
1-800-729-1550

Lancer North America

USA - Canada Sales

6655 Lancer Blvd.
San Antonio, TX 78219
Phone: (210) 310-7000
SALES FAX: (210) 310-7245
CUSTOMER SERVICE FAX: (210) 310-7250
1-800-729-1500

Georgia Office

1125 Northmeadow Parkway, Suite 116
Roswell, GA 30076
Phone: (770) 343-8828
FAX: (770) 475-8646
1-800-729-1750

Lancer Authorized Distributors

Advanced Beverage Solutions (ABS)

100 N. Gary Avenue, Suite C
Roselle, IL 60172
Phone: (847) 524-1707
(877) 814-2271
FAX: (847) 524-1710
www.absone.com

Bevco

6900 Camille Avenue
Oklahoma City, OK 73149
Phone: (405) 672-7770
FAX: (405) 672-7443
e-mail: info@bevcoinc.com

Joe Kirwan Company

119 White Oak Lane
Old Bridge, NJ 08857
Phone: (732) 679-1900
FAX: (732) 679-9236
e-mail: sales@jkirwan.com

L & M Beverage Equipment Co. Inc.

12510 Santa Fe Trail Drive
Lenexa, KS 66215
Phone: (913) 888-8988
FAX: (913) 888-9137
e-mail: L7mco@aol.com

(Update #44 - as of May 01, 2003)

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Salt Lake City, UT 84104
Phone: (801) 359-3744
FAX: (801) 531-9615
e-mail: febell@efmco.com, or
clay@efmco.com

Mark Powers & Company, Inc.

P.O. Box 72
1821 Henry Street
Guntersville, AL 35976
Phone: (256) 582-6620
FAX: (256) 582-8533
e-mail: sales@markpowers-and-company.com

Maurer Supply, Inc.

843 Rainier Avenue South
Seattle, WA 98144
Phone: (206) 323-8640
FAX: (206) 323-9286
e-mail: maurersupply@qwest.net

Simgo Ltd.

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Mississauga, Ontario L4W 2S5
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FAX: 905-602-5804
e-mail: simgo@simgo.com

Simgo (B.C.) Ltd.

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Surrey, B.C. V3W 7X4
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FAX: 604-590-1601

Lancer Europe

Belgium - European Central Office

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17 Bembridge Gardens
Ruislip, Middlesex
HA4 7ER, England
Phone: 44-1895672667
FAX: 44-1895637537
e-mail: court4lancer@msn.com

Hungary

H-2100 Gödöllő
Isaszegi út 67
Hungary
Phone: 36-28-417-179
FAX: 36-28416-881
e-mail: bodolai@compuserve.com

Lancer Authorized Distributors

Complete Beverage Services, Ltd.

Republic of Ireland and Northern Ireland

Gortrush Industrial Estate
Omagh County Tyrone
Northern Ireland
Office: 44-1662 250 008
FAX: 44-1662-252-991

Intercom - Spain

Intercom
Avda. Concha Espina 8
28036 Madrid Spain
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Lancer Russia

Lancer Sales Company

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FAX: 7-095-745-7109
Mobile Phone: 7-095-991-7778
7-095-139-0335

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Lancer Middle East / Africa

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Lancer Authorized Distributor

DispenseTech - South Africa

P.O. Box 17495
Sunward Park, 1470
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Phone: 27-11-397-7455
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e-mail: david@dispensetech.co.za

Lancer Latin America

Latin America Sales

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San Antonio, TX 78219
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1-800-729-1500
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Lancer de México, Branch Office, Cd.

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