

# LANCER®

## IBD Series 4500 22"/30"



IBD 22



IBD 30

## Operation Manual

Lancer Corporation  
6655 Lancer Blvd.  
San Antonio, Texas 78219  
800-729-1500



Technical Support/Warranty: 800-729-1550

email: [custserv@lancercorp.com](mailto:custserv@lancercorp.com)

web: [lancercorp.com](http://lancercorp.com)

Lancer PN: 28-0255/14

Revision: September 2018

"Lancer" is the registered trademark of Lancer © 2018 by Lancer, all rights reserved.

# TABLE OF CONTENTS

## ABOUT THIS MANUAL

This booklet is an integral and essential part of the product and should be handed over to the operator after the installation and preserved for any further consultation that may be necessary. Please read carefully the guidelines and warnings contained herein as they are intended to provide the user with essential information for the continued safe use and maintenance of the product. In addition, it provides **GUIDANCE ONLY** to the user on the correct services and site location of the unit.

***The installation and relocation, if necessary, of this product must be carried out by qualified personnel with up-to-date safety and hygiene knowledge and practical experience, in accordance with current regulations.***

## IMPORTANT SAFETY INSTRUCTIONS.....3-4

Intended Use.....	3
Power Warning.....	3
CO <sub>2</sub> Warning.....	3
Water Notice.....	3
Automatic Agitation.....	4

## SPECIFICATIONS AND FEATURES.....4-6

IBD 4500 Series 22”.....	4
IBD 4500 Series 30”.....	5
General Systems Overview-Remote Syrup Pumps.....	6
General Systems Overview-Figal Syrup Tanks.....	6

## PRE-INSTALLATION CHECKLIST.....7

## INSTALLATION.....7-15

Unpacking the Dispenser.....	7
Selecting/Preparing a Counter Location.....	8
Installing an Icemaker.....	9
Dispenser Installation.....	10
Installing Remote Syrup Pumps-Bag in Box.....	11
Connecting to Syrup Supply-Figal Syrup Tank.....	12
Installing CO <sub>2</sub> Supply.....	13
Dispenser Setup.....	14
Adjust the Ice Flow Regulator (230 V only).....	14
Adjust Water Flow Rate & Syrup/Water Ratio.....	15

## BEFORE GETTING STARTED

Each unit is tested under operating conditions and is thoroughly inspected before shipment. At the time of shipment, the carrier accepts responsibility for the unit. Upon receiving the unit, carefully inspect the carton for visible damage. If damage exists, have the carrier note the damage on the freight bill and file a claim with carrier. Responsibility for damage to the dispenser lies with the carrier.

## CLEANING AND SANITIZING.....16-18

General Information.....	16
Cleaning and Sanitizing Solutions.....	16
Daily Cleaning.....	16
Ice Bin Cleaning - Start-Up and Monthly.....	17
Cleaning and Sanitizing Syrup Lines-Bag in Box.....	17
Cleaning and Sanitizing Syrup Lines-Figal Tank.....	17-18
Cleaning and Sanitizing Nozzles.....	18
Ice Chute Cleaning.....	18

## TROUBLESHOOTING.....19-23

LED Warnings.....	22-23
Automatic Agitation and Low Ice Alarm Control.....	23

## ILLUSTRATIONS AND PART LISTINGS.....24-39

Final Assembly, Post-Mix, IBD.....	24-25
Faucet Plate/Ice Chute Sub-Assy, Post-Mix.....	26-27
Electrical Box and Gear Sub-Assy, Post-Mix.....	28-29
Decals and Labels.....	30
Final Assembly, Pre-Mix, IBD-22.....	31
Faucet Plate/Ice Chute Sub-Assy, Pre-Mix.....	32-33
Electrical Box and Gear Sub-Assy, Pre-Mix.....	34-35
Pellet Ice Dispenser Sub-Assy Conversion Kit.....	36
Wiring Diagram - 115 Volt.....	37
Wiring Diagram - 230 Volt.....	38
Ice Agitation Controls.....	39
Plumbing Diagrams - 6 Valve, 8 Valve.....	39

## READ ALL SAFETY INSTRUCTIONS BEFORE USING THIS UNIT.

This manual contains important safety information and all applicable safety precautions must be observed. To reduce the risk of fire, electric shock, damage to the equipment or personal injury when using this unit all instructions/warnings on the product being used must be followed:

### ⚠ WARNING

Text following the Warning signal indicates a hazardous situation, which if not avoided, will result in death or serious injury. Be sure to read all Warning statements before proceeding with the installation.

### ⚠ CAUTION

Text following the Caution signal indicates a hazardous situation, which if not avoided, could result in death or serious injury. Be sure to read the Caution statements before proceeding with the installation

### ⚠ ATTENTION

Text following the Attention signal addresses a situation that if not followed could potentially damage the equipment. Be sure to read the Attention statements before proceeding

### NOTE

Text following the Note signal provides you with information that may help you more effectively perform the installation procedures within this manual. Disregarding information will not cause damage or injury, however it may limit the performance of the dispenser.

# IMPORTANT SAFETY INSTRUCTIONS

## Intended Use

- The dispenser is for indoor use only
- This appliance is intended to be used in commercial applications such as restaurants or similar.
- This appliance should not be used by children or infirm persons without supervision.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Cleaning and user maintenance shall not be performed by children without supervision.
- This unit is not a toy and children should be advised not to play with the appliance.
- The min/max ambient operating temperature for the dispenser is 40°F to 105°F (4°C to 41°C).
- Do not operate unit below minimum ambient operation conditions.
- Should freezing occur, cease operation of the unit and contact authorized service technician.
- The maximum tilt for safe operation is 5°.
- This appliance must be installed and serviced by a professional.

## Carbon Dioxide (CO<sub>2</sub>)

- **WARNING:** Carbon Dioxide (CO<sub>2</sub>) is a colorless, noncombustible gas with a light pungent odor. High percentages of CO<sub>2</sub> may displace oxygen in the blood.
- **WARNING:** Prolonged exposure to CO<sub>2</sub> can be harmful. Personnel exposed to high concentrations of CO<sub>2</sub> gas will experience tremors which are followed by a loss of consciousness and suffocation.
- **WARNING:** If a CO<sub>2</sub> gas leak is suspected, immediately ventilate the contaminated area before attempting to repair the leak.
- **WARNING:** Strict attention must be observed in the prevention of CO<sub>2</sub> gas leaks in the entire CO<sub>2</sub> and soft drink system.

## Power

- Follow all local electrical codes when making connections.
- Check the dispenser name plate label, located behind the splash plate, for the correct electrical requirements of unit. **DO NOT** plug into a wall electrical outlet unless the current shown on the serial number plate agrees with local current available.
- Each dispenser must have a separate electrical circuit.
- **DO NOT** use extension cords with this unit.
- **DO NOT** 'gang' together with other electrical devices on the same outlet.
- **WARNING:** Always disconnect electrical power to the unit to prevent personal injury before attempting any internal maintenance.
- The resettable breaker switch should not be used as a substitute for unplugging the dispenser from the power source to service the unit.
- Only qualified personnel should service internal components of electrical control housing.
- **WARNING:** Make sure that all water lines are tight and units are dry before making any electrical connections
- If this dispenser is installed in an area that is susceptible to ±10% variation of the nominal line voltage, consider installing a surge protector or similar protection device.

## Water Notice

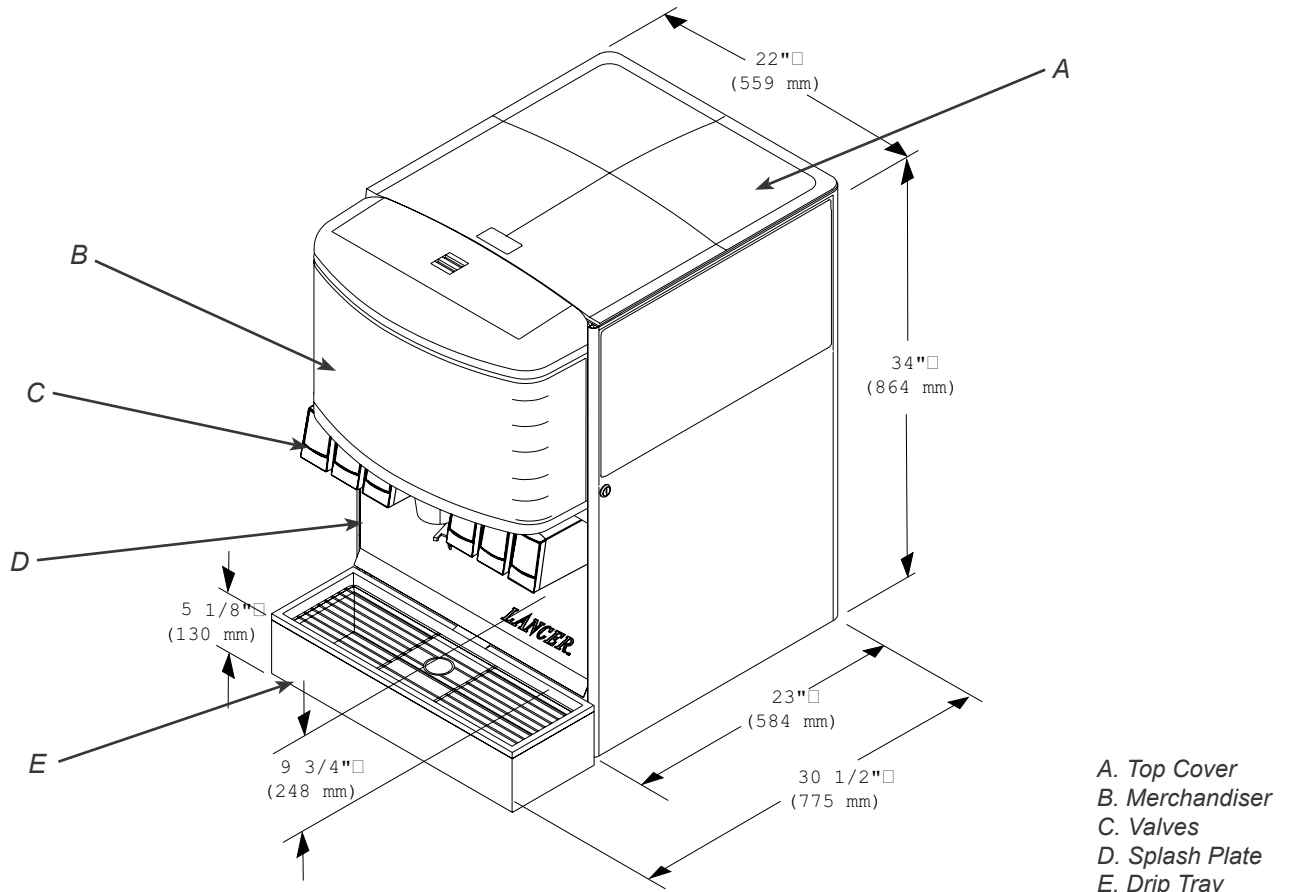
- Provide an adequate, potable water supply. Water pipe connections and fixtures directly connected to a potable water supply must be sized, installed, and maintained according to federal, state, and local codes.
- The water supply line must be at least a 3/8 inches (9.525 mm) pipe with a minimum of 25 PSI (0.172 MPA) line pressure, but not exceeding a maximum of 50 PSI (0.345 MPA). Water pressure exceeding 50 PSI (0.345 MPA) must be reduced to 50 PSI (0.345 MPA).
- Use a filter in the water line to avoid equipment damage and beverage off-taste. Check the water filter periodically, as required by local conditions.
- **CAUTION:** The water supply must be protected by means of an air gap, a backflow prevention device (located upstream of the CO<sub>2</sub> injection system) or another approved method to comply with NSF standards. A leaking inlet water check valve will allow carbonated water to flow back through the pump when it is shut off and contaminate the water supply.
- **CAUTION:** Ensure the backflow prevention device complies with ASSE and local standards. It is the responsibility of the installer to ensure compliance.

## Automatic Agitation

- Units are equipped with an automatic agitation system and will activate unexpectedly.
- **CAUTION:** Do not place hands or foreign objects in the ice bin tank. Unplug the dispenser during servicing, cleaning, and sanitizing.
- **CAUTION:** To avoid personal injury, do not attempt to lift the dispenser without assistance. For heavier dispensers, use a mechanical lift.

# SPECIFICATIONS AND FEATURES

## IBD Series 4500 22"



### DIMENSIONS

Width: 22.0 inches (559 mm)  
Depth: 30.5 inches (775 mm)  
Height: 34 inches (864 mm)

### WEIGHT

Shipping: 255 lbs (116 kg)  
Empty (without Ice): 225 lbs (102 kg)  
Ice Capacity: 180 lbs (82 kg)

### ELECTRICAL

115 VAC / 60 Hz / 3.0 Amps  
230 VAC / 50-60 Hz / 1.5 Amps

### PLAIN WATER SUPPLY

Min Flowing Pressure: 25 PSIG (0.172 MPA)  
Max Flowing Pressure: 50 PSIG (0.345 MPA)

### CARBONATED WATER SUPPLY

Min Flowing Pressure: 25 PSI (0.172 MPA)  
Max Static Pressure: 50 PSI (0.345 MPA)

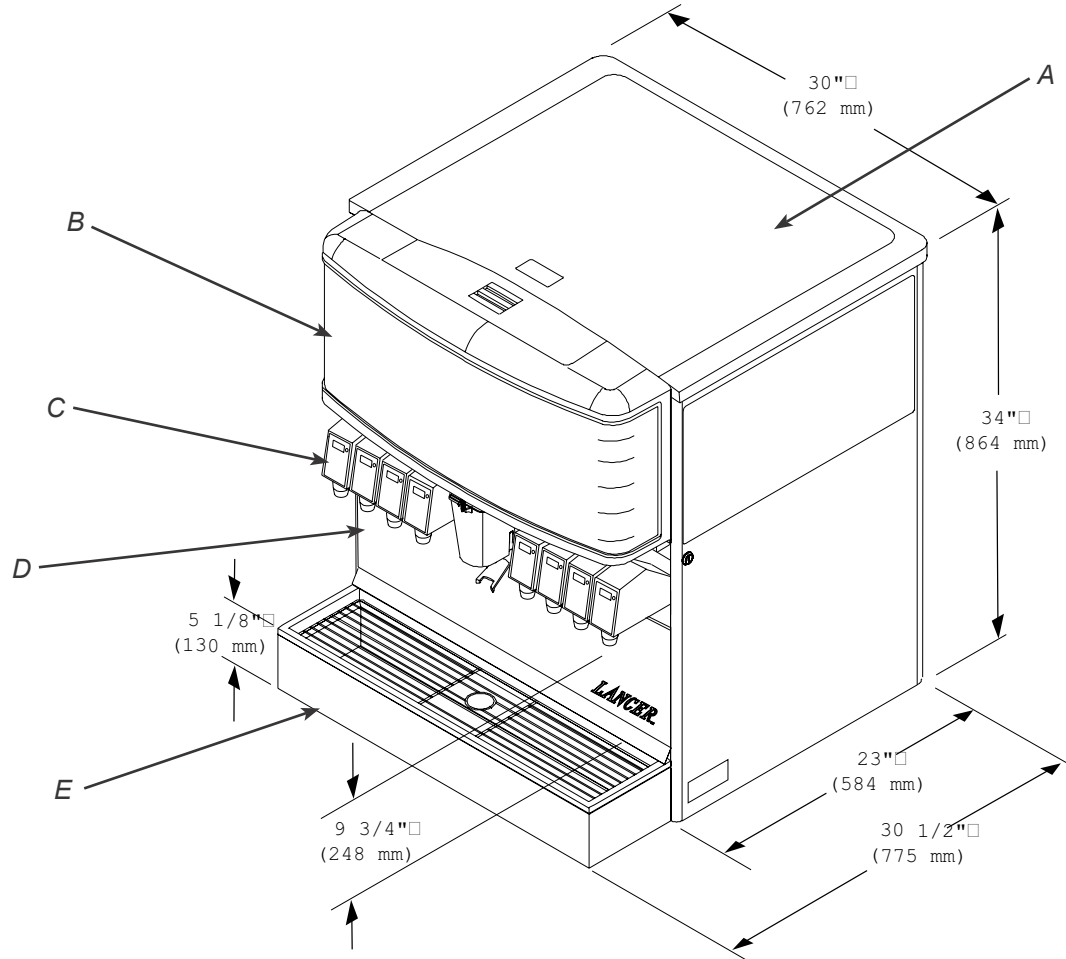
### CARBON DIOXIDE (CO<sub>2</sub>) SUPPLY

Min Pressure: 70 PSIG (0.483 MPA)  
Max Pressure: 80 PSIG (0.552 MPA)

### FITTINGS

Plain/Carb Water Inlet: 3/8 inch barb  
Brand Syrup Inlets: 3/8 inch barb

# IBD Series 4500 30"



- A. Top Cover
- B. Merchandiser
- C. Valves
- D. Splash Plate
- E. Drip Tray

## DIMENSIONS

Width: 30.0 inches (762 mm)  
Depth: 30.5 inches (775 mm)  
Height: 34.0 inches (864 mm)

## WEIGHT

Shipping: 305 lbs (139 kg)  
Empty (without Ice): 275 lbs (125 kg)  
Ice Capacity: 250 lbs (114 kg)

## ELECTRICAL

115 VAC / 60 Hz / 3.6 Amps  
230 VAC / 50-60 Hz / 1.8 Amps

## PLAIN WATER SUPPLY

Min Flowing Pressure: 25 PSIG (0.172 MPA)  
Max Flowing Pressure: 50 PSIG (0.345 MPA)

## CARBONATED WATER SUPPLY

Min Flowing Pressure: 25 PSI (0.172 MPA)  
Max Static Pressure: 50 PSI (0.345 MPA)

## CARBON DIOXIDE (CO<sub>2</sub>) SUPPLY

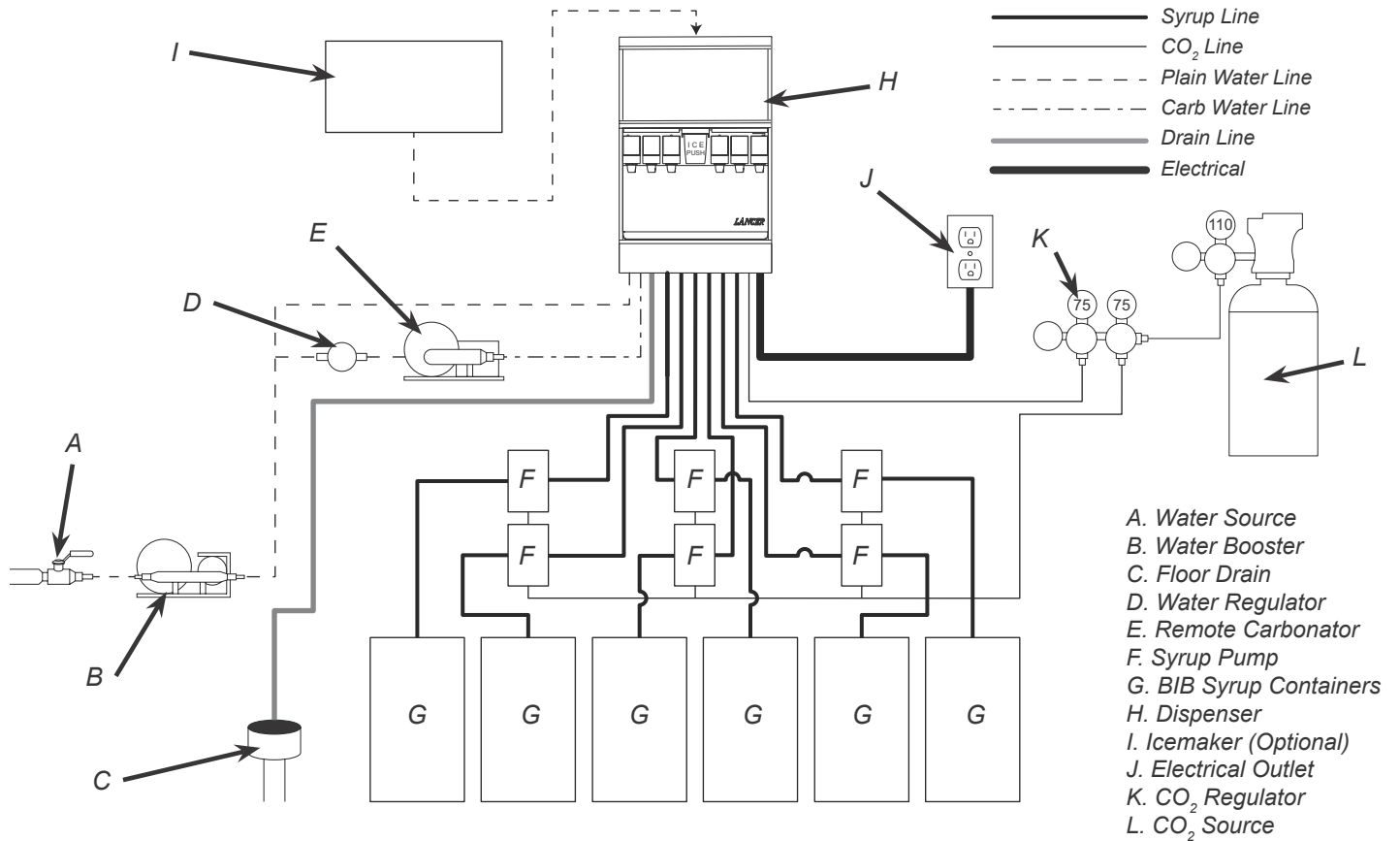
Min Pressure: 70 PSIG (0.483 MPA)  
Max Pressure: 80 PSIG (0.552 MPA)

## FITTINGS

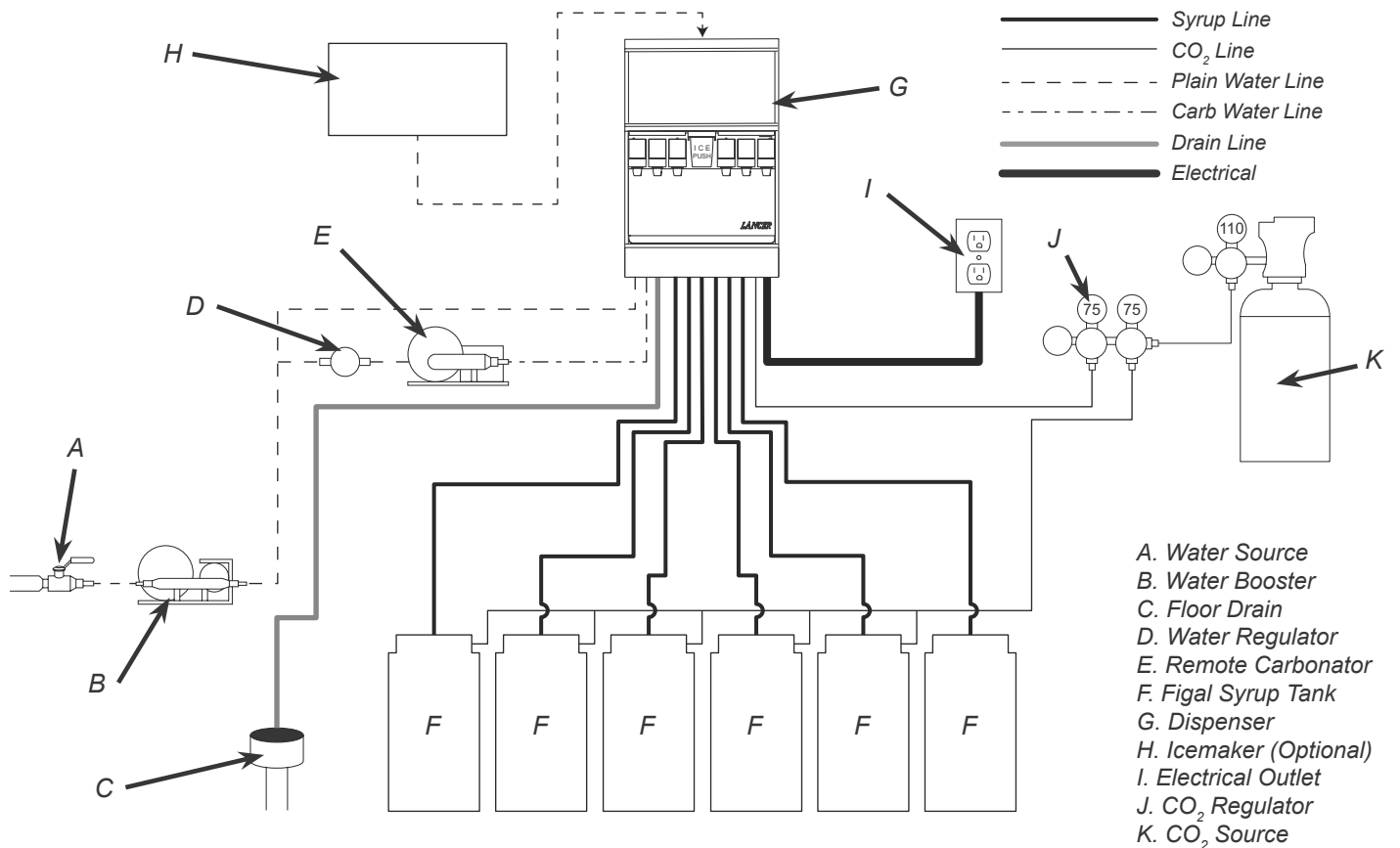
Plain Water Inlet: 3/8 inch barb  
Brand Syrup Inlets: 3/8 inch barb

**This unit emits a sound pressure level below 70 dB**

## General System Overview - Remote Syrup Pumps



## General System Overview - Figal Syrup Tanks



# PRE-INSTALLATION CHECKLIST

## TOOLS REQUIRED:

- Oetiker Pliers
- Tubing Cutters
- Wrench
- Slotted Screwdriver
- Phillips Screwdriver
- Drill

## BIB SYSTEM:

- BIB Rack
- BIB Syrup Boxes
- BIB Regulator Set
- BIB Connectors

## POST MIX ACCESSORIES:

- High Pressure CO<sub>2</sub> Regulator
- Low Pressure CO<sub>2</sub> Regulator Manifold
- CO<sub>2</sub> Supply
- Chain for CO<sub>2</sub> Tank
- Beverage Dispenser
- Beverage Tubing
- Oetiker Clamp Fittings
- Water Booster (Lancer PN: 82-3401 or MC-163172)
- Water Regulator (supplied with unit)

## CONSIDER THE FOLLOWING BEFORE INSTALLATION:

- Location of Water Supply Lines
- Location of Drain
- Location of Electrical Outlet
- Location of Heating and Air Conditioning Ducts
- Do you have enough space to install the dispenser?
- Is countertop level?
- Can the countertop support the weight of the dispenser? (Include the weight of an ice machine plus weight of ice, if necessary)
- Is dispenser located away from direct sunlight or overhead lighting?

## Read This Manual

This manual was developed by Lancer Corporation as a reference guide for the owner/operator and installer of this dispenser. Please read this manual before installation and operation of this dispenser. Please see pages 20-23 for troubleshooting or service assistance. If the service cannot be corrected please call your Service Agent or Lancer Customer Service. Always have your model and serial number available when you call.

# INSTALLATION

## Unpacking the Dispenser

1. Set shipping carton upright on the floor then cut package banding straps and remove.
2. Open top of carton and remove interior packaging.
3. Lift carton up and off of the unit.
4. 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 shipping base.

5. Remove accessory kit and loose parts from ice compartment.

### NOTE

Inspect unit for concealed damage. If evident, notify delivering carrier and file a claim against the same.

6. If leg kit has been provided, assemble legs by tilting unit.

### ⚠ ATTENTION

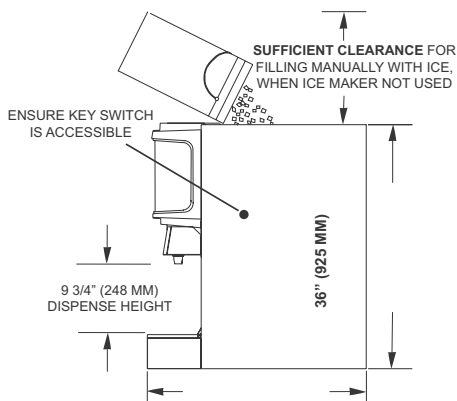
DO NOT LAY UNIT ON ITS SIDE OR BACK

# Selecting/Preparing a Counter Location

## NOTE

The dispenser should only be installed in a location where it can be overseen by trained personnel

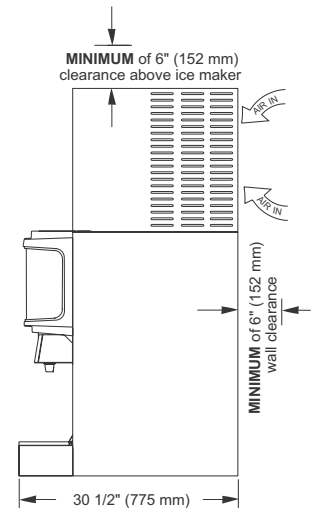
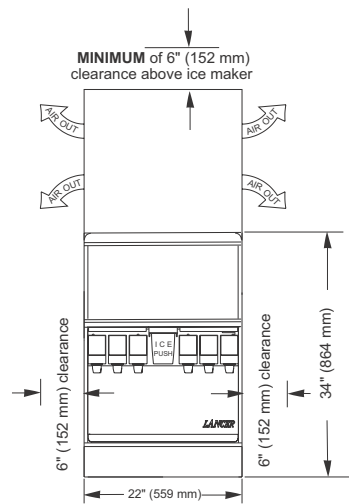
1. Select a level, well ventilated location that is in close proximity to a properly grounded electrical outlet, within five (5) feet (1.5 m) of a drain, a water supply that meets the requirements shown in the Specifications section found on pages 4-6, away from direct sunlight or overhead lighting, and has sufficient clearance for air circulation.
2. Sufficient clearance must be provided, if an ice maker is not installed, to allow filling ice compartment from a five gallon bucket (a minimum of 16 inches is recommended).
3. The selected location should be able to support the weight of the dispenser, ice and possibly an icemaker being installed after counter cut out is made. Total weight (with icemaker) for this unit could exceed 800 pounds (363.6kg).



## NOTE

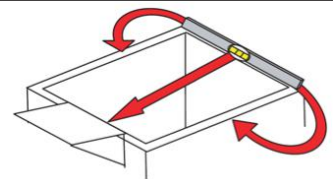
Lancer does **NOT** recommend the use of shaved or flake ice in the dispenser.

4. Unit may be installed directly on countertop or on legs. If installed directly on the counter, unit must be sealed to the countertop with an FDA approved sealant. If an icemaker is to be mounted on top of dispenser, do not install dispenser on legs.
5. Select a location for the remote pump deck, syrup pumps, CO<sub>2</sub> tank, syrup containers, and water filter (recommended). Please see General System Overview on page 5 for reference.
6. Using Counter Cutout Template provided, cut out required opening for the water, syrup, and CO<sub>2</sub> lines in the designated dispenser location.



## Leveling the Dispenser:

In order to facilitate proper dispenser drainage, ensure that the dispenser is level, front to back and side to side. Place a level on the top of the rear edge of the dispenser. The bubble must settle between the level lines. Repeat this procedure for the remaining three sides. Level unit if necessary. For optimum performance place the unit at a 0° tilt. The maximum tilt is 5°.





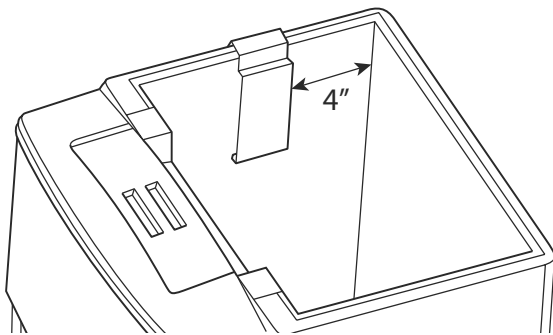
# Installing an Icemaker (if necessary)

## ⚠ ATTENTION

When installing an icemaker on the dispenser, use a bin thermostat to control the ice level (see below). This will prevent damage to the dispensing mechanism. The bracket for mounting a thermostat is located in the ice bin. During the automatic agitation cycle and while dispensing ice, ensure there is adequate space between the top of the ice level and the bottom of the icemaker so the ice can move without obstruction. Contact your icemaker manufacturer for information on a suitable bin thermostat.

1. Install the icemaker per manufacturer specifications. Points of consideration include drainage, ventilation, and drop zones.
2. An adapter plate is required when installing an icemaker. Contact your Sales Representative or Lancer Customer Service for more information.

*Attach Bin Stat Bracket As Shown*



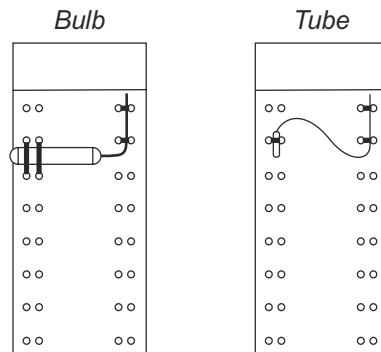
3. A bin thermostat is required in order to control the level of ice in the dispenser (Refer to ATTENTION). Contact your icemaker manufacturer to obtain the correct bin thermostat.
4. Bin thermostat should be a minimum of 2" below the top edge of the dispenser. The preferred location of the bin thermostat is on the left side wall.

## ⚠ ATTENTION

Failure to use an ice bin thermostat will not only void your IBD's warranty but will result in the inability to control the level of ice in the ice bin which can cause damage to your dispenser.

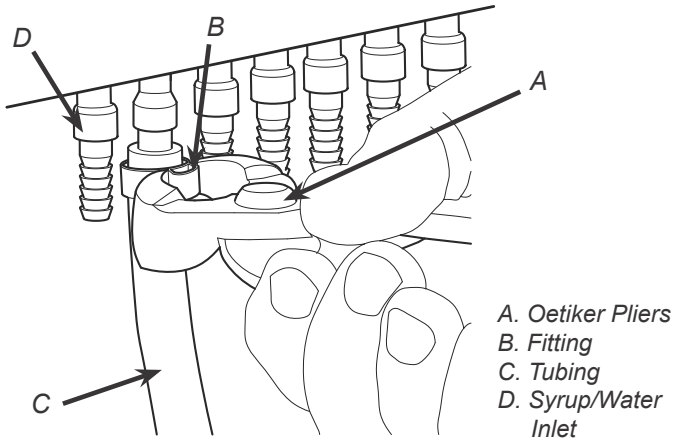
5. Ensure the icemaker is installed properly to allow for removal of the Merchandiser.
6. Ensure manual fill is accessible.
7. Clean and maintain icemaker per manufacturer's instructions.

*Recommended Bin Stat Attachment*



# Dispenser Installation

1. Remove the cup rest, drip tray, splash plate, merchandiser, and top cover from the unit.
2. Route appropriate tubing from the water source to the plain water inlet at the front of the unit and connect tubing to inlet using the oetiker pliers and fittings, (see Plumbing Diagrams on the front of the unit or on pages 26-27 for reference).



3. Connect tubing to water source then flush water lines to check for leaks.
4. Route appropriate tubing from the remote carbonator location to the carbonated water inlet at the unit and connect tubing to inlet.
5. Route appropriate tubing from the syrup pump location to the syrup inlets and connect tubing to all syrup inlets.
6. Route appropriate tubing from the CO<sub>2</sub> source location to the CO<sub>2</sub> inlet at the remote carbonator location.
7. Install remote carbonator per manufacturer's instructions.
8. Route the power supply cord to a grounded electrical outlet of the proper voltage and amperage rating.

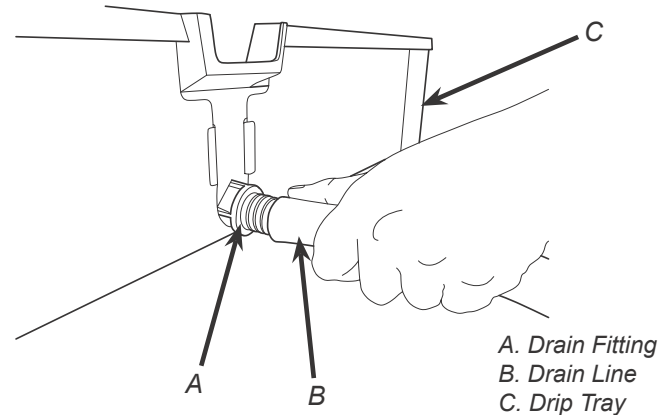
## ⚠ WARNING

**DO NOT PLUG UNIT INTO GROUNDED ELECTRICAL OUTLET AT THIS TIME. Make sure that all water lines are tight and unit is dry before making any electrical connections**

9. Route drain hose from designated open type drain to fitting on Drip Tray and connect hose to fitting.

## ⚠ CAUTION

**Drain line must be insulated with a closed cell insulation. Insulation must cover the entire length of the drain hose, including fittings. The drain should be installed in such a manner that water does not collect in sags or other low points, as condensation will form.**



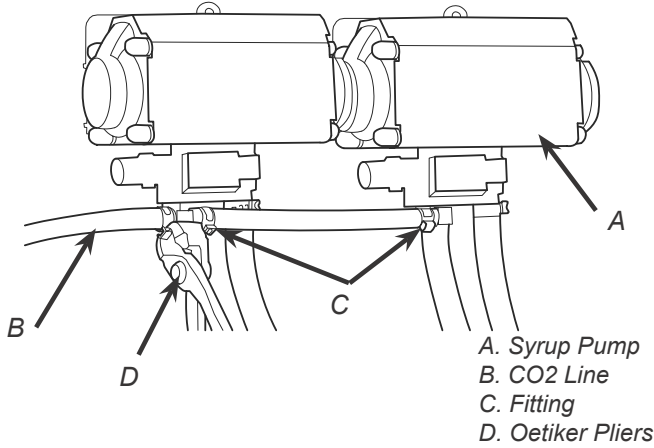
## ⚠ ATTENTION

**Pouring hot water into drain may cause the Drain Tube to collapse. Allow only luke warm or cold water to enter Drain Tube. Pouring coffee tea and similar substances into drain may cause the Drain Tube to become clogged with coffee or tea grounds, or other solid particles.**

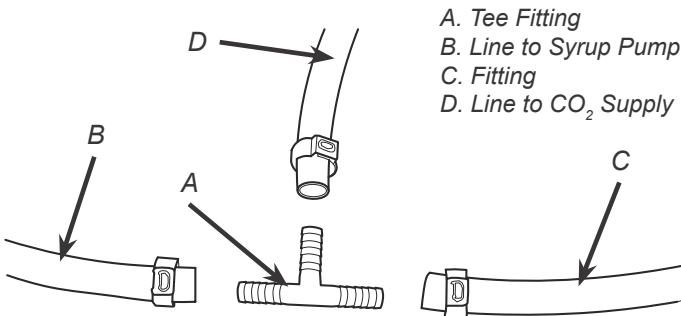
10. Reattach Drip Tray/Cup Rest to unit.

# Installing Remote Syrup Pumps - Bag In Box

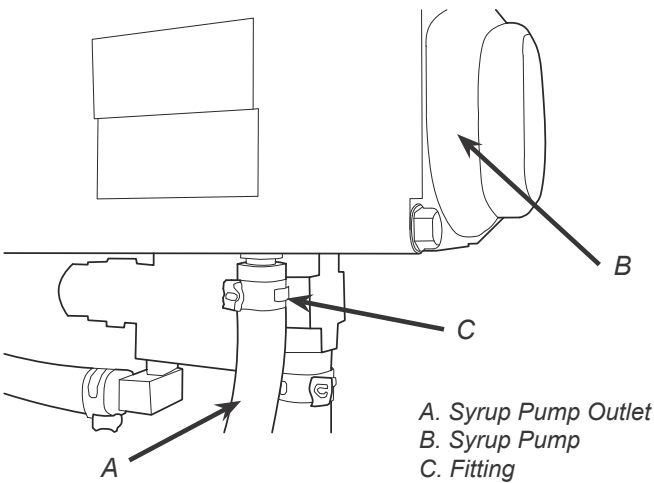
1. Install BIB rack and remote pumps according to manufacturers' instructions.
2. Once pumps and BIB rack are installed, measure and cut tubing to length between the pump CO<sub>2</sub> inlets, then connect tubing to all pumps.



3. Using tubing cutters, cut any pump CO<sub>2</sub> supply line and install tee fitting, then route appropriate tubing from the CO<sub>2</sub> supply to the tee fitting at syrup pumps.

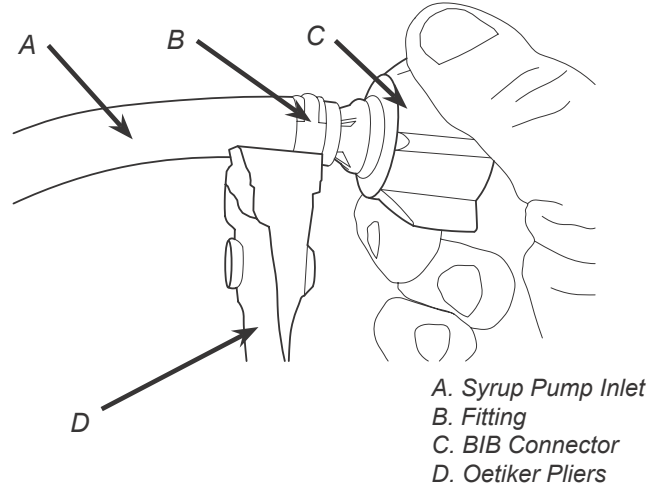


4. Connect tubing from dispenser syrup inlet to the syrup pump outlet fitting. Repeat for each syrup line/pump. Repeat Steps 1-5 for all flavor injector lines.

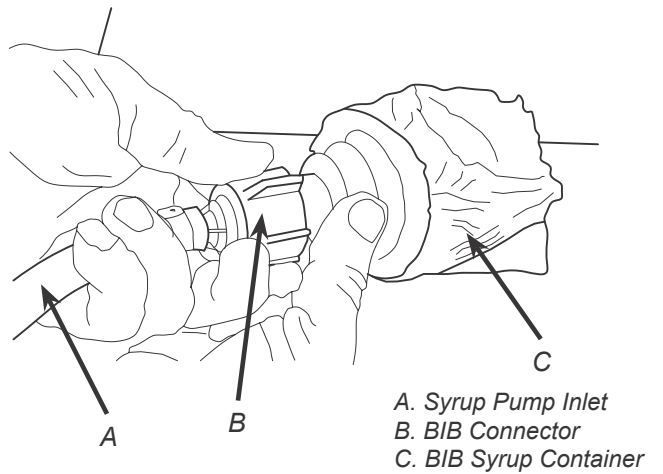


5. Install BIB (bag in box) connectors onto the syrup pump inlet tubing.

**⚠ ATTENTION**  
Use proper connector for syrup manufacturer

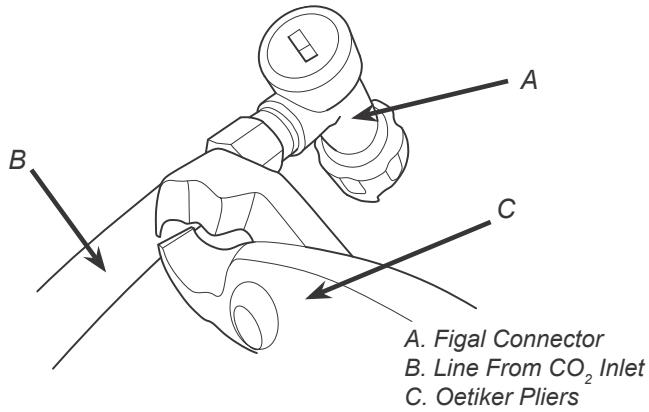


6. Connect syrup BIBs to connectors. Repeat for each syrup line/pump and each flavor injector line/pump.

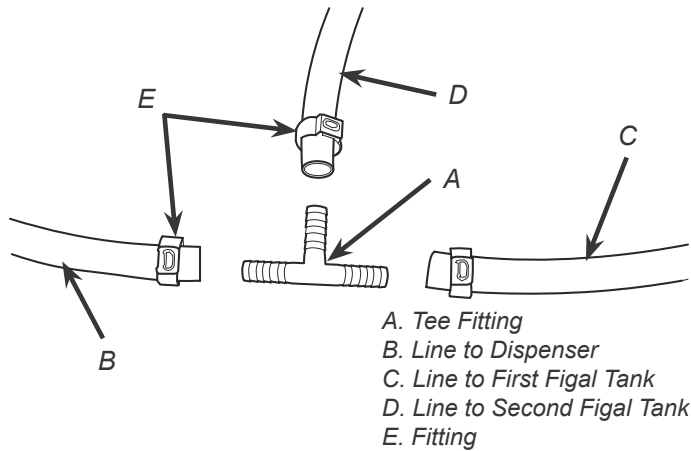


# Connecting to Syrup Supply - Figal Syrup Tank

1. Connect tubing routed from CO<sub>2</sub> inlet in dispenser to figal syrup tank CO<sub>2</sub> inlet.

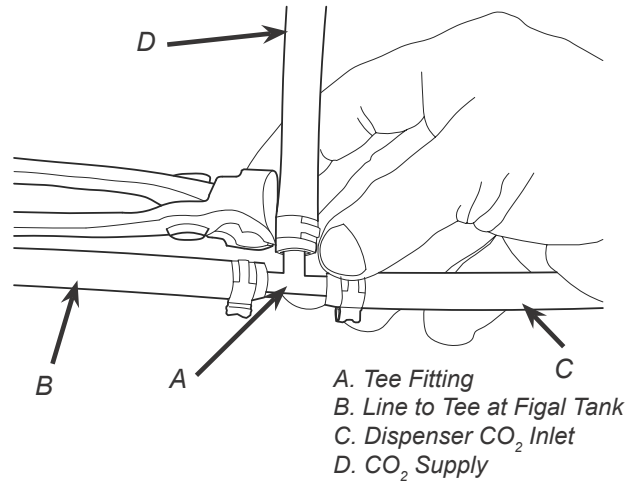


2. Using tubing cutters, cut line from CO<sub>2</sub> inlet to figal syrup tank and install tee fitting, then route appropriate tubing from second figal syrup CO<sub>2</sub> inlet to tee fitting.

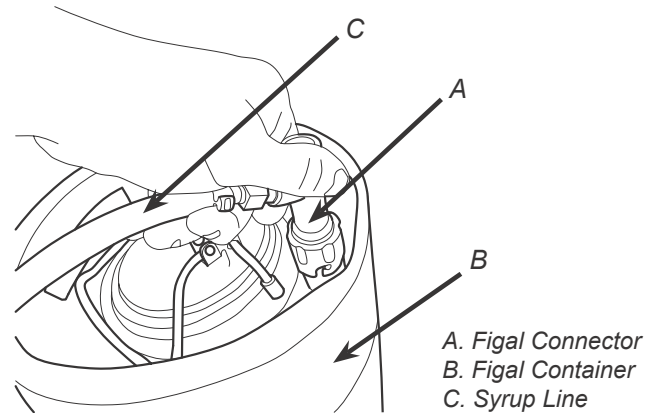


3. Repeat step 2 for remaining figal syrup tanks.
4. Cut tubing from dispenser CO<sub>2</sub> inlet to tee fitting at figal syrup tanks and install another tee fitting.

5. Route appropriate tubing from CO<sub>2</sub> supply to tee fitting between dispenser CO<sub>2</sub> inlet and figal syrup tanks and connect tubing to tee fitting.



6. Connect tubing from dispenser syrup inlet to the figal syrup outlet fitting. Repeat for each syrup line/tank.

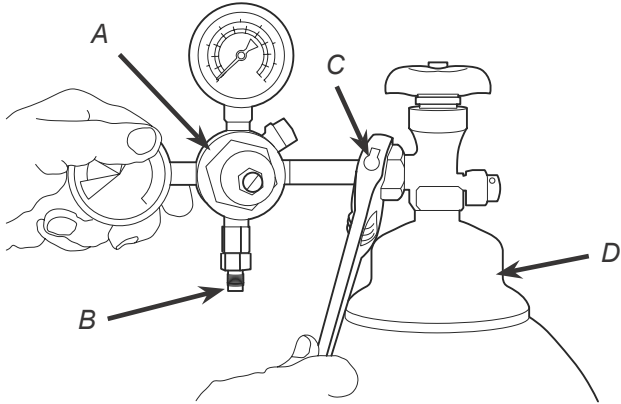


# Installing CO<sub>2</sub> Supply

1. Connect high pressure CO<sub>2</sub> regulator assembly to CO<sub>2</sub> cylinder or bulk system.

**⚠ ATTENTION**

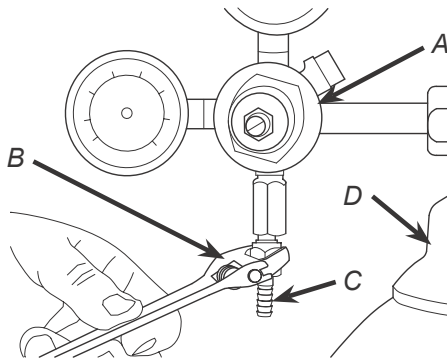
Before installing regulator, assure that a seal (washer or o-ring) is present in regulator attachment nut.



- A. CO<sub>2</sub> Regulator
- B. Outlet
- C. Wrench
- D. CO<sub>2</sub> Supply

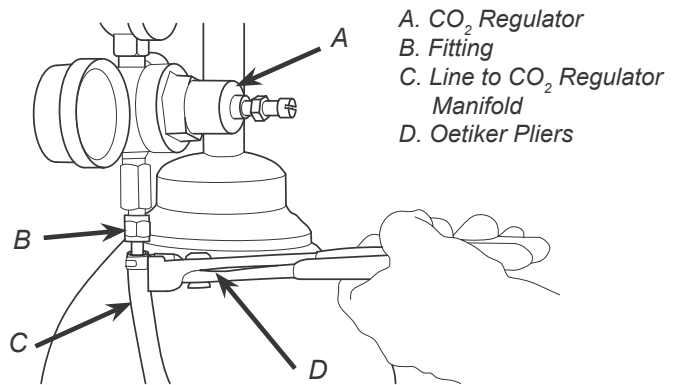
- Thread regulator nut on to tank, then tighten nut with wrench

2. Connect a 1/4" nut, stem and seal to CO<sub>2</sub> regulator outlet.



- A. CO<sub>2</sub> Regulator
- B. Wrench
- C. 1/4" nut, Stem
- D. CO<sub>2</sub> Supply

3. Connect tubing routed from the tee at syrup pumps/figal tanks to the 1/4" nut, stem on the high pressure CO<sub>2</sub> regulator attached to source and connect tubing.

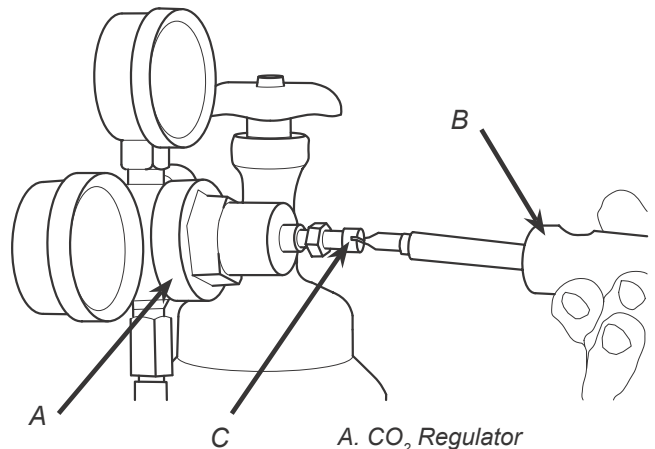


- A. CO<sub>2</sub> Regulator
- B. Fitting
- C. Line to CO<sub>2</sub> Regulator Manifold
- D. Oetiker Pliers

4. Using a wrench, loosen lock nut on the regulator adjustment screw of the high pressure CO<sub>2</sub> regulator connected to the source, then using a screwdriver back out lock nut screw all the way.

**⚠ WARNING**

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



- A. CO<sub>2</sub> Regulator
- B. Screwdriver
- C. Regulator Adjustment Screw

# Dispenser Setup

1. Turn on water source.
2. Open the pressure relief valve located on the remote carbonator, by flipping up on the valve cap lever. Hold open until water flows from the relief valve then close (flip down) the relief valve.
3. Verify all Bag-In-Box contains syrup and check all connections for leaks.
4. Place enough ice in the ice bin to fill approximately 1/2 of the bin before plugging in the unit.
5. Connect unit power cord to grounded electrical outlet.

## ⚠ WARNING

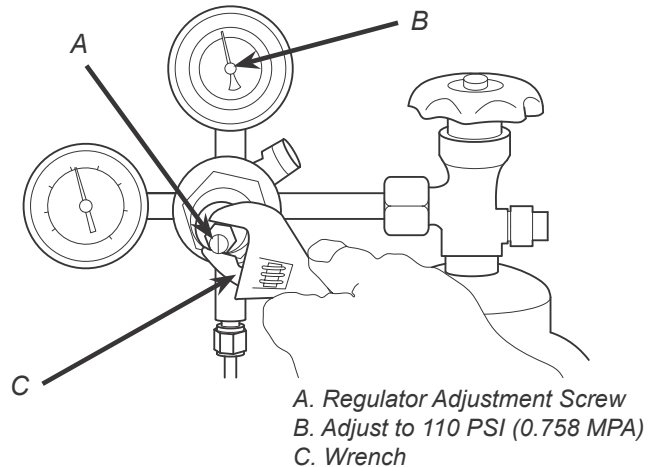
The dispenser must be properly electrically grounded to avoid serious injury or fatal electrical shock. The power cord has a three-prong grounded plug. If a three-hole grounded electrical outlet is not available, use an approved method to ground the unit. Follow all local electrical codes when making connections. Each dispenser must have a separate electrical circuit. Do not use extension cords. Do not connect multiple electrical devices on the same outlet.

6. Test the motor operation by pushing the ice chute lever until agitator motor begins to turn.
7. Activate each valve to ensure a good flow of water is achieved.
8. Ensure pump deck is turned OFF before turning on CO<sub>2</sub>.

## ⚠ ATTENTION

Failure to disconnect the motor power supply will damage the carbonator motor, the pump and void the warranty

9. Turn on CO<sub>2</sub> at the source then, using a screwdriver, adjust the high pressure regulator at the source to 75 PSI (0.517 MPA) then tighten locknut with wrench.



10. Activate each valve until gas-out.
11. Plug in the remote carbonator pump deck, if not already done so, and turn the switch to the ON position.
12. Activate each valve until the carbonator pump comes on. Release the button, allow carbonator to fill and stop. Repeat this process until a steady flow of carbonated water is achieved.

## NOTE

The pump deck has a 3 minute timeout feature. If the timeout occurs, turn the deck OFF then ON by flipping the switch on the control box.

## NOTE

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

13. Activate each valve to purge air from the syrup lines.

## Adjusting The Ice Flow Regulator (230 Volt Units Only)

### NOTE

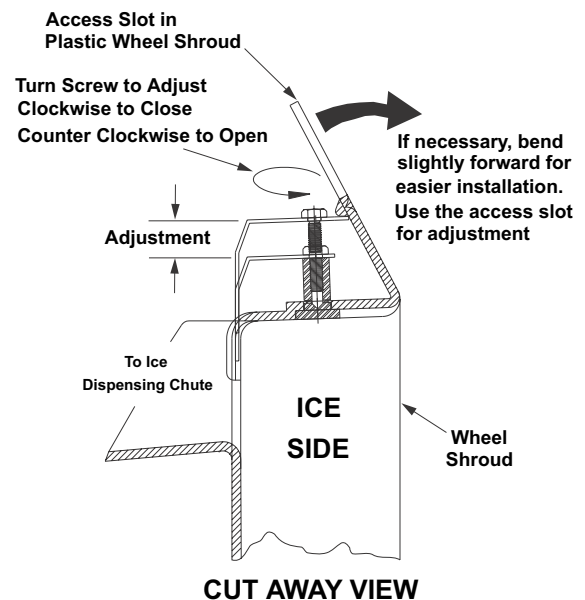
The Regulator Door Assembly (PN 82-2904) can regulate the dispensed ice flow. Installation of an Ice Flow Regulator is NOT necessary for the dispensing of ice. This IBD unit will dispense ice unrestricted.

1. Remove Bin Lids.
2. Adjust Ice Regulator to desired position by turning the nut screw clockwise to close, or counter clockwise to open, with the use of a nut driver or a socket wrench.

### NOTE

The total adjustment is 1/2 inch.

3. Reinstall bin lids.

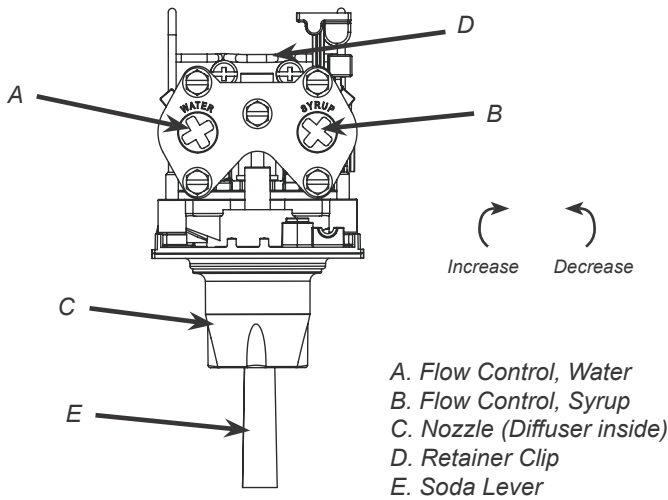


# Adjust Water Flow Rate & Syrup/Water Ratio

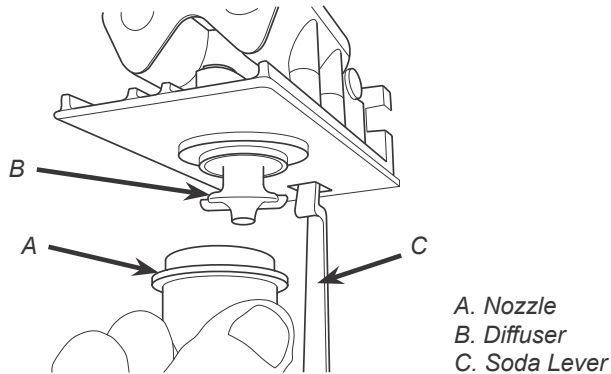
## NOTE

Ensure there is ice on the cold plate and the lines are cold before attempting to set the flow rates on the valves. The drink temperature should be no higher than 40°F (4.4°C) when flow rates are set.

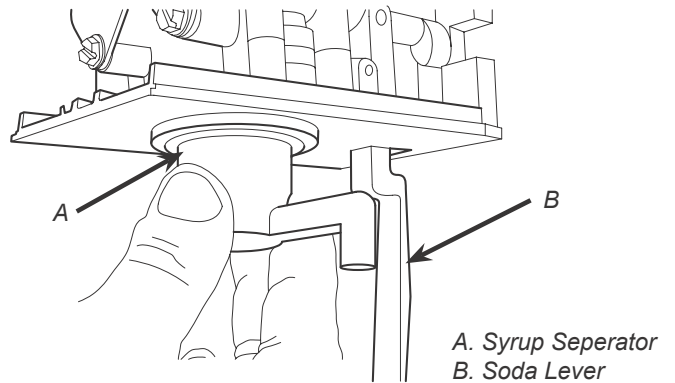
1. Remove valve cover from first valve.
2. Close syrup shut-off at mounting block for first valve, (see page 5 for reference).
3. Using a Lancer ratio cup verify water flow rate (5 oz. in 4 sec.). Use a screwdriver to adjust if needed.



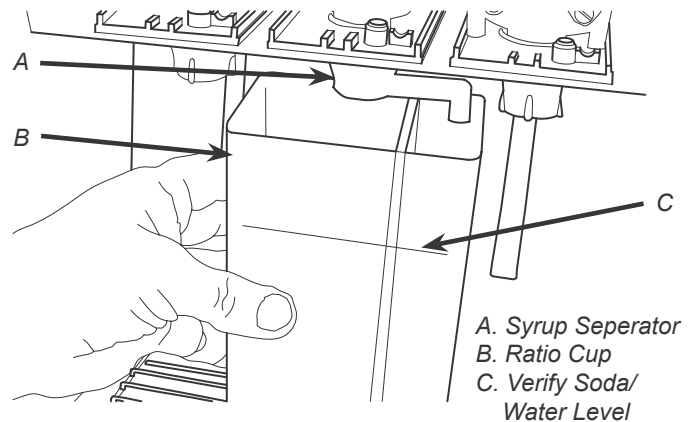
4. Remove nozzle by twisting counter clockwise and pulling down, then remove diffuser by pulling down.



5. Install Lancer (yellow) syrup separator (PN 54-0031) in place of nozzle.



6. Re-open syrup shut-off at mounting block.
7. Activate valve to purge syrup until steady flow is achieved.
8. Using a Lancer brix cup, activate the valve and capture a sample. Verify that the syrup level is even with the water level. Use a screwdriver to adjust if needed.



9. Remove syrup separator and reinstall nozzle. Replace valve cover.
10. Repeat steps 1-8 for each valve.
11. Re-install merchandiser, splash plate, and top cover.

---

# CLEANING AND SANITIZING

## General Information

---

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

### NOTE

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

- Cleaning should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

### ⚠ ATTENTION

- Use sanitary gloves when cleaning the unit and observe all applicable safety precautions.
- **DO NOT** use a water jet to clean or sanitize the unit.
- **DO NOT** disconnect water lines when cleaning and sanitizing syrup lines, to avoid contamination.
- **DO NOT** use strong bleaches or detergents; These can discolor and corrode various materials.
- **DO NOT** use metal scrapers, sharp objects, steel wool, scouring pads, abrasives, or solvents on the dispenser.
- **DO NOT** use hot water above 140° F (60° C). This can damage the dispenser.
- **DO NOT** spill sanitizing solution on any circuit boards. Insure all sanitizing solution is removed from the system.

## Cleaning and Sanitizing Solutions

---

### Cleaning Solution

Mix a mild, non-abrasive detergent (e.g. Sodium Laureth Sulfate, dish soap) with clean, potable water at a temperature of 90°F to 110°F (32°C to 43°C). The mixture ratio is one ounce of cleaner to two gallons of water. Prepare a minimum of five gallons of cleaning solution. Do not use abrasive cleaners or solvents because they can cause permanent damage to the unit. Ensure rinsing is thorough, using clean, potable water at a temperature of 90°F to 110°F. Extended lengths of product lines may require additional cleaning solution.

### Other Supplies Needed:

1. Clean cloth towels
2. Bucket
3. Extra nozzle
4. Sanitary gloves
5. Small brush (PN 22-0017)

### Daily Cleaning

---

1. Using the cleaning solution, clean top cover and all exterior stainless steel surfaces.
2. Clean exterior of dispensing valves and ice chute.
3. Remove cup rest then clean the drip tray and cup rest. Replace cup rest and drip tray when finished.
4. Wipe clean all splash areas using a damp cloth soaked in cleaning solution.
5. Clean beverage valves as specified by the section "Cleaning and Sanitizing Nozzles" on page 18.



## Ice Bin Cleaning - Start-Up and Monthly

### NOTE

Refer to the Automatic Agitation Warning on page 4.

1. Disconnect power to the dispenser
2. Remove Top Cover.
3. Melt out any remaining ice from the bin.
4. Remove Agitator Pin from Agitator Shaft. Slide Agitator Shaft rearward out Hub and pull out of rear Bearing to remove.
5. Remove Ice Shroud by lifting and rotating out from beneath the auger.
6. Use the Cleaning Solution, and a clean cloth or soft brush, to clean all removable parts, sides of the Ice Bin, Auger, and surface of the aluminum casting.
7. Using the Cleaning Solution and the sponge brush provided, clean all interior surfaces of the ice chute and the ice chute feed through.
8. Repeat Step 6 for all exterior surfaces of the dispenser.
9. Using hot water, thoroughly rinse away the cleaning solution.
10. Wearing sanitary gloves, soak and clean cloth towel in Sanitizing Solution and wash all surfaces of removable parts, sides of the Ice Bin, Auger, and surface of the aluminum casting.
11. Using the Sanitizing Solution and the sponge brush provided, clean all interior surfaces of the ice chute and the ice chute feed through.
12. Repeat Step 10 for all exterior surfaces of the dispenser.
13. Wearing sanitary gloves, reassemble all removable parts. Ensure agitator clip is locked.
14. Fill Unit with ice and replace Top Cover.
15. Reconnect Dispenser to power source.

## Cleaning and Sanitizing Syrup Lines - Bag in Box

1. Disconnect syrup lines from BIB's
2. Place syrup lines, with BIB connectors, in a bucket of warm water.
3. Activate each valve to fill the lines with warm water and flush out syrup remaining in the lines.
4. Prepare Cleaning Solution described above.
5. Place syrup lines, with BIB connectors, into cleaning solution.
6. Activate each valve until lines are filled with cleaning solution then let stand for ten (10) minutes.
7. Flush out cleaning solution from the syrup lines using clean, warm water.
8. Prepare Sanitizing Solution described above.
9. Place syrup lines into sanitizing solution and activate each valve to fill lines with sanitizer. Let sit for ten (10) minutes.
10. Reconnect syrup lines to BIB's and draw drinks to flush solution from the dispenser.
11. Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

### ⚠ CAUTION

**Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.**

## Cleaning and Sanitizing Syrup Lines - Figal Tank

1. Disconnect syrup inlet from the figal syrup tank.
2. Prepare cleaning solution and using a plastic bristle brush, scrub both disconnect valves on figal tank with cleaning solution and rinse with clean, potable water.
3. Prepare sanitizing solution and using a spray bottle or clean cloth, sanitize both disconnect valves on figal tank and allow to air dry.
4. Turn off CO<sub>2</sub> supply.
5. Connect syrup line to syrup tank filled with clean, potable water.
6. Connect CO<sub>2</sub> line to tank filled with water and pressurize.
7. Activate appropriate valve to fill the line with water and flush out syrup remaining in the line.
8. Disconnect CO<sub>2</sub> line and syrup line from tank filled with water.
9. Fill a separate tank with cleaning solution and connect syrup line and CO<sub>2</sub> line to tank and pressurize.
10. Activate appropriate valve to fill the line with cleaning solution then let stand for ten (10) minutes.
11. Disconnect CO<sub>2</sub> line and syrup line from tank filled with cleaning solution then reattach lines to tank filled with water and pressurize.
12. Activate valve to flush cleaning solution from the line.
13. Disconnect CO<sub>2</sub> line and syrup line from tank filled with water then fill a separate tank with sanitizing solution.
14. Connect both CO<sub>2</sub> and syrup lines to tank filled with sanitizing solution and pressurize.
15. Activate valve to fill line with sanitizing solution then let stand for ten (10) minutes.
16. Disconnect lines from the sanitizer tank and reattach to syrup tank and pressurize.

- Draw drinks and refill line with end use product to flush sanitizing solution from the line.
- Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

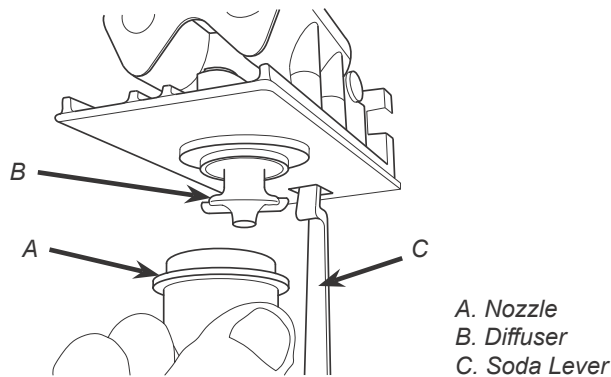
- Repeat procedure for each valve/syrup tank.

### ⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.

## Cleaning and Sanitizing Nozzles

- Disconnect power, so as to not activate valve while cleaning.
- Remove nozzle by twisting counter clockwise and pulling down.
- Remove diffuser by pulling down.



- Rinse nozzle and diffuser with warm water.
- Wash nozzle and diffuser with cleaning solution then immerse in sanitizing solution and let sit for fifteen (15) minutes.
- Set nozzle and diffuser aside and let air dry. **DO NOT** rinse with water after sanitizing.
- Reconnect diffuser and nozzle.
- Connect power.
- Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

### ⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.

## Ice Chute Cleaning

### NOTE

It is recommended to perform this procedure monthly, or more often if desired. Use the cleaning solution described above. An alternate solution of one part water to one part vinegar may be used to remove water spots and calcium deposits.

- Turn off power to the dispenser.
- Remove Merchandiser.
- Remove Ice Chute Lever, then remove Splash Plate Assembly by lifting it up and out from the dispenser face.

### NOTE

Always remove the ice chute lever before removing the splash plate.

- Remove the Ice Chute Assembly base by removing the four (4) screws that attach it to the unit.
- Prepare the Cleaning Solution.
- Soak the Ice Chute Assembly in the solution.
- Rinse and dry the Ice Chute Assembly thoroughly.
- Reinstall the Ice Chute Assembly.
- Reinstall Merchandiser and Splash Plate.
- Reconnect power to the dispenser.

# TROUBLESHOOTING

TROUBLE	CAUSE	REMEDY
No product when switch is activated. (switch panel not lit)	<ol style="list-style-type: none"> <li>1. Malfunctioning switch assembly.</li> <li>2. No power to dispenser.</li> <li>3. Malfunctioning power supply.</li> <li>4. Malfunctioning PCB board.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace switch assembly.</li> <li>2. Check internal breaker and incoming power.</li> <li>3. Check voltage to power supply. Check fuses.</li> <li>4. Replace PCB board.</li> </ol>
No product when switch is activated. (switch panel lit)	<ol style="list-style-type: none"> <li>1. Keyswitch is off or keyswitch harness is disconnected.</li> <li>2. Malfunctioning switch assembly.</li> <li>3. Malfunctioning VersaPour valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn keyswitch on and/or reconnect keyswitch harness.</li> <li>2. Replace switch assembly.</li> <li>3. Replace module.</li> </ol>
Push chute; no response.	<ol style="list-style-type: none"> <li>1. Dispenser not connected to power source.</li> <li>2. Wiring harness not plugged in.</li> <li>3. PC board defective.</li> <li>4. Malfunctioning power supply.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect dispenser to power source.</li> <li>2. Plug in wiring harness.</li> <li>3. Replace PC board.</li> <li>4. Check voltage to power supply. Check fuses.</li> </ol>
Push chute, ice door opens but motor does not run.	<ol style="list-style-type: none"> <li>1. Wiring harness not plugged in.</li> <li>2. PC board defective.</li> <li>3. Motor defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug in wiring harness.</li> <li>2. Replace PC board.</li> <li>3. Replace motor.</li> </ol>
Push chute, motor runs but ice door does not open.	<ol style="list-style-type: none"> <li>1. Solenoid not connected to PC board.</li> <li>2. Solenoid defective.</li> <li>3. PC board defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect solenoid to PC board.</li> <li>2. Replace solenoid.</li> <li>3. Replace PC board.</li> </ol>
Push chute, ice door opens, motor runs, but ice does not dispense, or ice is of poor quality.	<ol style="list-style-type: none"> <li>1. Dispenser is out of ice.</li> <li>2. Agitator pin is missing or damaged.</li> <li>3. Poor ice quality.</li> <li>4. Key not installed on agitation shaft.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill dispenser with ice.</li> <li>2. Replace agitator pin.</li> <li>3. Service ice machine.</li> <li>4. Install key on agitation shaft.</li> </ol>
Water in ice bin.	<ol style="list-style-type: none"> <li>1. Coldplate drain is obstructed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove splash plate and drip tray to obtain access to drain tubes and clear accordingly.</li> </ol>
Water leakage around nozzle.	<ol style="list-style-type: none"> <li>1. Damaged or improperly installed o-ring on nozzle.</li> </ol>	<ol style="list-style-type: none"> <li>1. If damaged, replace. If improperly installed, adjust.</li> </ol>
Miscellaneous leakage.	<ol style="list-style-type: none"> <li>1. Gap between parts.</li> <li>2. Damaged or improperly installed o-rings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten appropriate retaining screws.</li> <li>2. Replace or adjust appropriate o-rings.</li> </ol>
Noisy/cavitating carbonator pump.	<ol style="list-style-type: none"> <li>1. Insufficient incoming water supply pressure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify incoming supply water pressure to carbonator pump is min. of 25 PSI (0.172 MPA), max. of 50 PSI (0.345 MPA).</li> </ol>

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
Insufficient soda flow (carbonated drinks).	<ol style="list-style-type: none"> <li>1. Insufficient CO<sub>2</sub> supply pressure.</li> <li>2. Shutoff on mounting block is not fully open.</li> <li>3. Foreign debris in soda flow control.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify incoming CO<sub>2</sub> pressure is between 70 PSIG (0.483 MPA) and 80 PSIG (0.552 MPA)</li> <li>2. Open shutoff fully.</li> <li>3. Remove soda flow control from valve and clean out any foreign material to ensure smooth spool movement.</li> </ol>
Insufficient water flow (plain water drinks).	<ol style="list-style-type: none"> <li>1. Insufficient incoming supply pressure.</li> <li>2. Shutoff on mounting block not fully open.</li> <li>3. Foreign debris in water flow control.</li> <li>4. Water filtration problem.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify incoming supply water pressure to plain water inlet is a minimum of 50 PSI (0.345 MPA) and a maximum of 100 PSI (0.689 MPA).</li> <li>2. Open shutoff fully.</li> <li>3. Remove water flow control from valve and clean out any foreign material to ensure smooth spool movement.</li> <li>4. Service water system as required.</li> </ol>
Erratic ratio.	<ol style="list-style-type: none"> <li>1. Incoming water and/or syrup supply not at minimum flowing pressure.</li> <li>2. Foreign debris in water and/or syrup flow control.</li> <li>3. CO<sub>2</sub> regulator malfunction.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check pressure and adjust.</li> <li>2. Remove flow control from suspected valve and clean out any foreign material to ensure smooth spool movement.</li> <li>3. Repair or replace CO<sub>2</sub> regulator.</li> </ol>
Insufficient syrup flow.	<ol style="list-style-type: none"> <li>1. Insufficient CO<sub>2</sub> pressure to BIB pumps.</li> <li>2. Shutoff on mounting block not fully open.</li> <li>3. Foreign debris in syrup flow control.</li> <li>4. Defective BIB pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust CO<sub>2</sub> pressure to BIB pumps to 80 PSI (0.552 MPA) (min. 70 PSI (0.483 MPA)). Do not exceed manufacturer's recommendations.</li> <li>2. Open shutoff fully.</li> <li>3. Remove syrup flow control from valve and clean out any foreign material to ensure smooth spool movement.</li> <li>4. Replace pump.</li> </ol>
Valve will not shut off.	<ol style="list-style-type: none"> <li>1. Debris in paddle arms.</li> <li>2. Solenoid plunger sticking.</li> </ol>	<ol style="list-style-type: none"> <li>1. Activate valve a few times to free debris. Clean out any foreign material.</li> <li>2. Replace solenoid coil.</li> </ol>
Water continually leaking at connections.	<ol style="list-style-type: none"> <li>1. Loose water connections.</li> <li>2. Flare seal washer leaks.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten water connections.</li> <li>2. Replace flare seal washer.</li> </ol>

TROUBLE	CAUSE	REMEDY
Water only dispensed, no syrup. Or syrup only dispensed, no water.	<ol style="list-style-type: none"> <li>1. Syrup BIB empty.</li> <li>2. Water or syrup shutoff on mounting block not fully open.</li> <li>3. Improper or inadequate water or syrup supply.</li> <li>4. CO<sub>2</sub> pressure to syrup pump too low.</li> <li>5. Stalled or inoperative BIB pump.</li> <li>6. Kinked line.</li> <li>7. CO<sub>2</sub> regulator malfunction.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace syrup BIB as required.</li> <li>2. Open shutoff completely.</li> <li>3. Remove valve from mounting block &amp; open shutoffs slightly. Check water &amp; syrup supply. If no supply, check unit for other problems. Ensure BIB connection is engaged.</li> <li>4. Check the CO<sub>2</sub> pressure to the pump to ensure it is between 70-80 PSI (0.483-0.552 MPA).</li> <li>5. Check CO<sub>2</sub> pressure and/or replace pump.</li> <li>6. Remove kink or replace line.</li> <li>7. Repair or replace CO<sub>2</sub> regulator as required.</li> </ol>
Syrup only dispensed. No water, but CO <sub>2</sub> gas dispensed with syrup.	<ol style="list-style-type: none"> <li>1. Improper water flow to dispenser.</li> <li>2. Carbonator pump motor has timed out.</li> <li>3. Liquid level probe not connected properly to PCB.</li> <li>4. Defective PCB assembly.</li> <li>5. Defective liquid level probe.</li> <li>6. Weak or defective carbonator pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for water flow to dispenser.</li> <li>2. Reset by turning the unit OFF, then ON by using the circuit breaker on the power supply or momentarily unplugging unit.</li> <li>3. Check connections of liquid level probe to PCB assembly.</li> <li>4. Replace PCB assembly.</li> <li>5. Replace liquid level probe.</li> <li>6. Replace pump.</li> </ol>
Excessive foaming.	<ol style="list-style-type: none"> <li>1. No ice in bin.</li> <li>2. Incoming water or syrup temperature too high.</li> <li>3. CO<sub>2</sub> pressure too high.</li> <li>4. Water flow rate too high.</li> <li>5. Nozzle and diffuser not clean.</li> <li>6. Air in BIB lines.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill bin with ice and allow coldplate to re-stabilize.</li> <li>2. Correct prior to dispenser.</li> <li>3. Adjust CO<sub>2</sub> pressure downward, but not less than 70 PSI (0.483 MPA).</li> <li>4. Re-adjust and reset ratio.</li> <li>5. Remove and clean.</li> <li>6. Bleed air from BIB lines.</li> </ol>
Circuit breaker tripping.	<ol style="list-style-type: none"> <li>1. Valve wire harness shorted to itself or faucet plate</li> <li>2. Controller PCB is bad.</li> <li>3. Secondary wire harness has a short.</li> <li>4. Power supply is bad.</li> </ol>	<ol style="list-style-type: none"> <li>1. Detect short by disconnecting valve harnesses from switch panel (4 25-pin harnesses and 4 9-pin harnesses). Restore power. If breaker does not trip, find and replace shorted harness. If breaker trips, re-install the 8 harnesses, and proceed to next step.</li> <li>2. Detect by disconnecting the white 5-pin harness from the controller PCB. Restore power. If breaker does not trip, replace controller PCB. If breaker trips, re-install the white 5-pin harness and proceed to next step.</li> <li>3. Locate short from a motor or solenoid harness and replace.</li> <li>4. Detect short by disconnecting all harnesses connected to power supply. Restore power. If breaker still trips, replace power supply.</li> </ol>

TROUBLE	CAUSE	REMEDY
BIB pump does not operate when dispensing valve is opened.	<ol style="list-style-type: none"> <li>1. Out of CO<sub>2</sub>, CO<sub>2</sub> not turned on, or low CO<sub>2</sub> pressure.</li> <li>2. Out of syrup.</li> <li>3. BIB connector not tight.</li> <li>4. Kinks in syrup or gas lines.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace CO<sub>2</sub> supply, turn on CO<sub>2</sub> supply, or adjust CO<sub>2</sub> pressure to 70-80 PSI (0.483-0.552 MPA).</li> <li>2. Replace syrup supply.</li> <li>3. Fasten connector tightly.</li> <li>4. Straighten or replace lines.</li> </ol>
BIB pump operating, but no flow.	<ol style="list-style-type: none"> <li>1. Leak in syrup inlet or outlet line.</li> <li>2. Defective BIB pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace line.</li> <li>2. Replace BIB pump.</li> </ol>
BIB pump continues to operate when bag is empty.	<ol style="list-style-type: none"> <li>1. Leak in suction line.</li> <li>2. Leaking o-ring on pump inlet fitting.</li> <li>3. Defective syrup BIB pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check BIB connector, if still leaking then replace line.</li> <li>2. Replace o-ring</li> <li>3. Replace defective pump.</li> </ol>
BIB pump fails to restart after bag replacement.	<ol style="list-style-type: none"> <li>1. BIB connector not on tightly.</li> <li>2. BIB connector is stopped up.</li> <li>3. Kinks in syrup line.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten BIB connector.</li> <li>2. Clean out or replace BIB connector.</li> <li>3. Straighten or replace line.</li> </ol>
BIB pump fails to stop when dispensing valve is closed.	<ol style="list-style-type: none"> <li>1. Leak in discharge line or fittings.</li> <li>2. Empty BIB.</li> <li>3. Air leak on inlet line or bag connector.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace discharge line.</li> <li>2. Replace BIB.</li> <li>3. Repair or replace.</li> </ol>
Low or no carbonation.	<ol style="list-style-type: none"> <li>1. Low or no CO<sub>2</sub>.</li> <li>2. Low water pressure.</li> <li>3. Worn or defective carbonator pump.</li> <li>4. Backflow preventer not allowing water to flow.</li> <li>5. Probe malfunctioning.</li> <li>6. PCB malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check CO<sub>2</sub> supply. Adjust CO<sub>2</sub> pressure to 70 PSI (0.483 MPA).</li> <li>2. Need water booster kit.</li> <li>3. Replace carbonator pump.</li> <li>4. Replace backflow preventer, noting the flow direction arrow from pump to coldplate.</li> <li>5. Replace probe.</li> <li>6. Replace PCB.</li> </ol>

## LED Warnings

LED	DESCRIPTION
D3	This light is on when the ice dispense switch is activated. If the chute is depressed and the light does not turn on, check to see if the wire harness is connected or if the dispense switch is defective.
D4	This light is used on units with lid interlock switches. On the 4500 series ice-beverage dispenser, this light should always be lit. If it is not, check the Lid Interlock Jumper (black wire with 4 pin white connector).
D5	This light is on when +5VDC is present at the circuit board. It should be lit whenever the unit is connected to a power source. If the light is off, check to see if the internal circuit breaker on the transformer has tripped. If it has tripped, it can be reset by depressing the switch on the top of the transformer.
D6	This light is on when +32VDC is present at the circuit board. It should be lit whenever the unit is connected to a power source. If the light is off, check to see if the internal circuit breaker on the transformer has tripped. If it has tripped, it can be reset by depressing the switch on the top of the transformer.

LED	DESCRIPTION
D7	This light flashes when there is no ice between the sensors in the ice bin. If the bin is empty and the light is not flashing, check all wiring harnesses.
D8	This light is on when the solenoid is activated. When the chute is depressed, this light should turn on. If it does not, check to see if the solenoid leads are connected to the PC board or damaged, check continuity of solenoid. Replace if defective.
D9	This light is on when the motor is activated. When the chute is depressed, this light should turn on. If it does not, check to see if the motor harness is connected to the PC board or damaged, check continuity of motor harness and motor. Replace if defective.

## Automatic Agitation and Low Ice Alarm Control

### NOTE

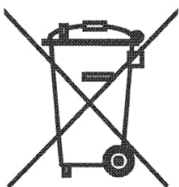
Refer to Automatic Agitation Warning on page 4.

### NOTE

Each Series 4500 ice beverage dispenser is equipped with automatic agitation for the ice bin. The unit is shipped with timing set at two (2) seconds ON every 60 minutes. Referring to the tables on the wiring diagram included in this manual (also affixed to the electrical box cover), the automatic agitation timing can be changed as follows. A set of DIP switches is provided to control the timing and low ice control. Dispensers using pellet ice must have the automatic agitation settings adjusted to four (4) seconds ON every 150 minutes. See Section 6.11.

DIP#	DESCRIPTION
DIP#1	This switch controls the low ice indicator light. With the switch in the ON position, the light operates when a low ice condition exists. In the OFF position, the light is turned off. The unit is shipped with the light switch in the ON position.
DIP#2	This switch controls the low ice audible alarm. With the switch in the ON position, the alarm operates when a low ice condition exists. In the OFF position, the alarm is turned off. The unit is shipped with the alarm switch in the OFF position.
DIP#3 and DIP#4	These switches control the ON time for automatic agitation. By referring to the table and setting the switches as shown, ON times from one (1) second to four (4) seconds [in one (1) second increments] can be obtained. <b>EXAMPLE:</b> For three (3) seconds ON time, switch 3 should be in the ON position, and switch 4 should be in the OFF position. The unit is shipped with two (2) seconds ON time.
DIP#5 - #8	<ol style="list-style-type: none"> <li>These switches control the OFF time for automatic agitation. By referring to the table and setting the switches as shown, OFF times from 10 minutes to 150 minutes (in 10 minute increments) can be obtained. <b>EXAMPLE:</b> For 40 minute OFF time, switch 5 should be in the OFF position, switch 6 should be in the ON position, switch 7 should be in the OFF position, and switch 8 should be in the OFF position. The unit is shipped with 60 minute OFF time.</li> <li>To turn the agitation completely off, set switches 5 through 8 all OFF.</li> </ol>

## Dispenser Disposal



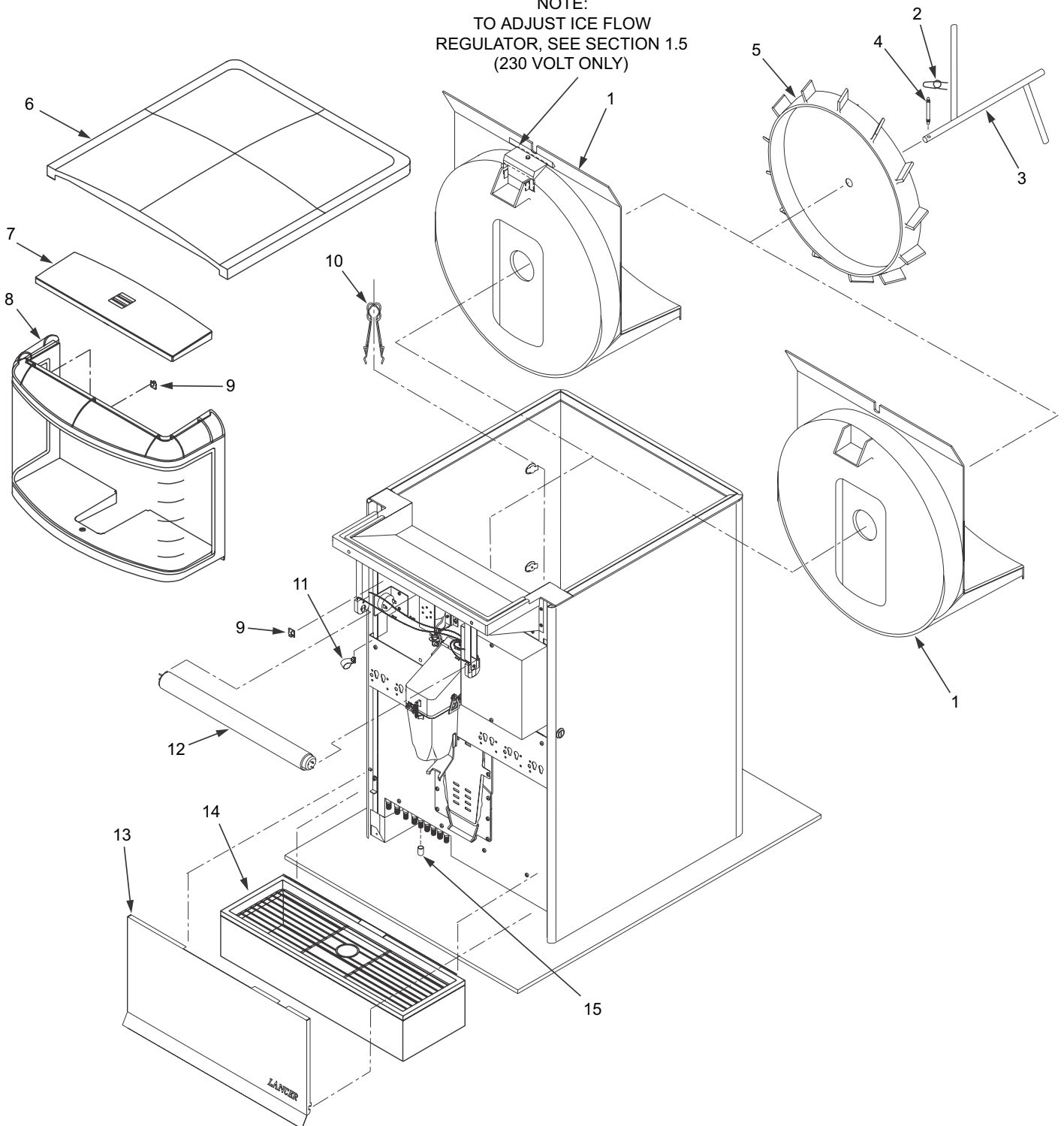
To prevent possible harm to the environment from improper disposal, recycle the unit by locating an authorized recycler or contact the retailer where the product was purchased. Comply with local regulations regarding disposal of the refrigerant and insulation.

# ILLUSTRATIONS AND PART LISTINGS

## Final Assembly, Post-Mix, IBD

<u>Part No.</u>	<u>Description</u>
85-4526H	IBD22H, Series 4500, 115V/60Hz,6 Valve
85-4548H	IBD30H, Series 4500, 115V/60Hz,8 Valve
85-4536H	IBD22H, Series 4500, 230V/50-60Hz,6 Valve
85-4558H	IBD30H, Series 4500, 230V/50-60Hz,8 Valve

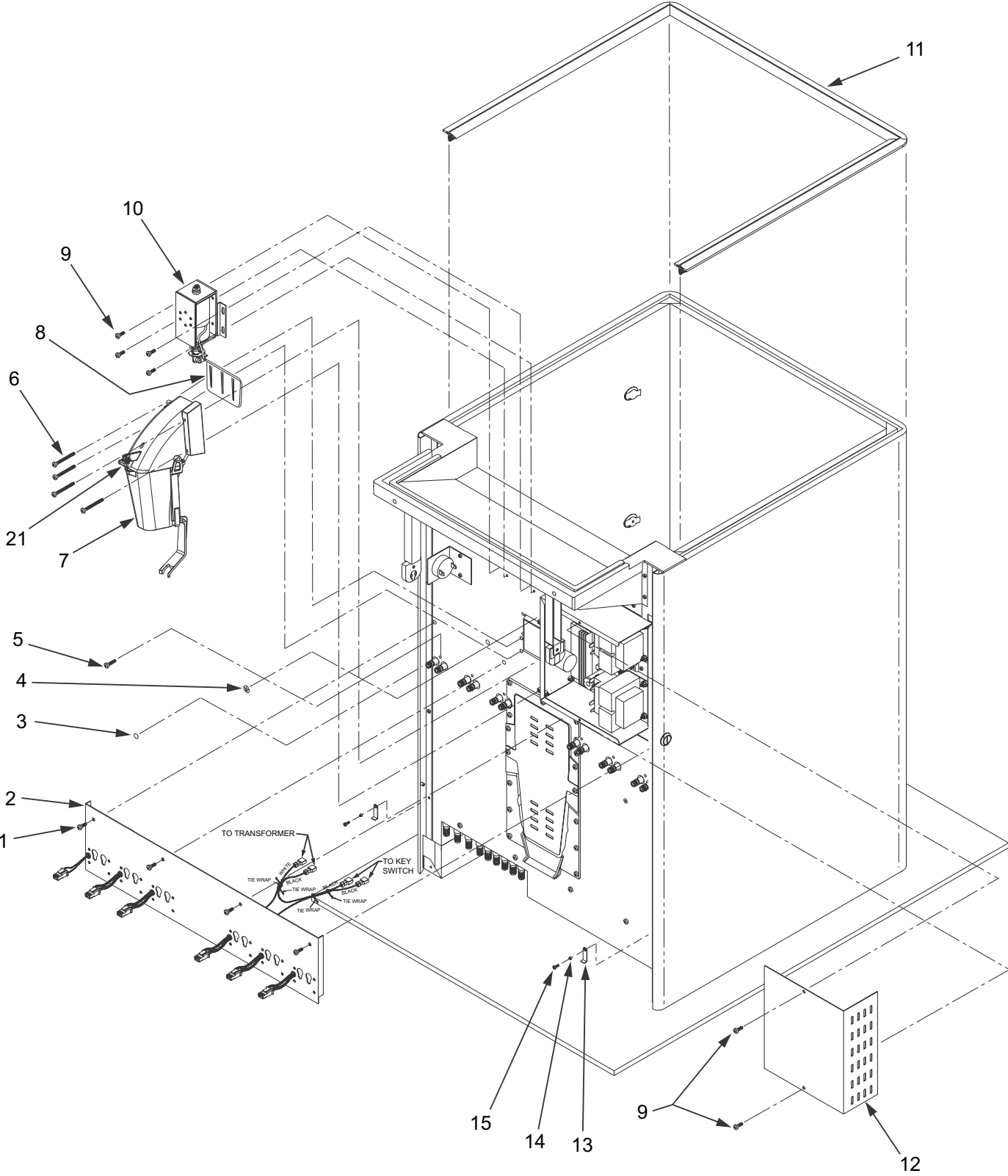
NOTE:  
TO ADJUST ICE FLOW  
REGULATOR, SEE SECTION 1.5  
(230 VOLT ONLY)





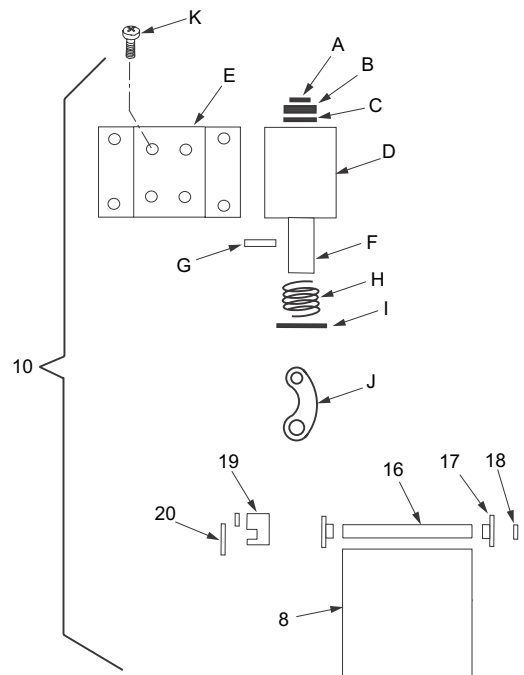
<b><u>Item</u></b>	<b><u>Part No.</u></b>	<b><u>Description</u></b>
1	05-1309/02	Wheel Shroud, IBD22
-	82-1892/01	Wheel Shroud Assy, IBD22, Mod (230V ONLY)
-	05-1310/02	Wheel Shroud, IBD30
-	82-1893	Wheel Shroud Assy, IBD30, Mod (230V ONLY)
2	03-0368	Retainer, RUE-14-S
3	23-1373	Agitator Assy, HEX, IBD (115V)
-	23-1355	Agitator Assy, IBD (230V Only)
4	10-0762	Pin, Agitator, IBD, Single Retainer
5	82-3556	Dispensing Wheel Assy, HEX, IBD (115V)
-	82-3413	Dispensing Wheel Assy, IBD (230V Only)
6	05-1467	Lid, Back, IBD22, Round
-	05-1606	Lid, Back, IBD30, Round
7	05-1476	Lid, Front, IBD, Round
8	82-2630	Merchandiser Assy, IBD, 22 Inch, Round
-	82-2641	Merchandiser Assy, IBD, 30 Inch, Round
9	03-0300	Wire Clip, Adhesive
10	23-1038/01	Drain, Spider, IBD
11	03-0049	Clip, Cord
12	12-0146/01	Lamp, 18 Inch, 15W, T8
13	30-8466	Plate, Splash, IBD, 22 Inch Wide
-	30-8564	Plate, Splash, IBD, 30 Inch Wide
14	82-3175-SP	Drip Tray Assy, IBD, 22 Inch Wide
-	82-4183/01	Drip Tray Assy, IBD, 30 Inch Univ
15	04-0559	Cap, Protective, Vinyl, VC-375-8

# Faucet Plate and Ice Chute Sub-Assembly, Post-Mix, IBD

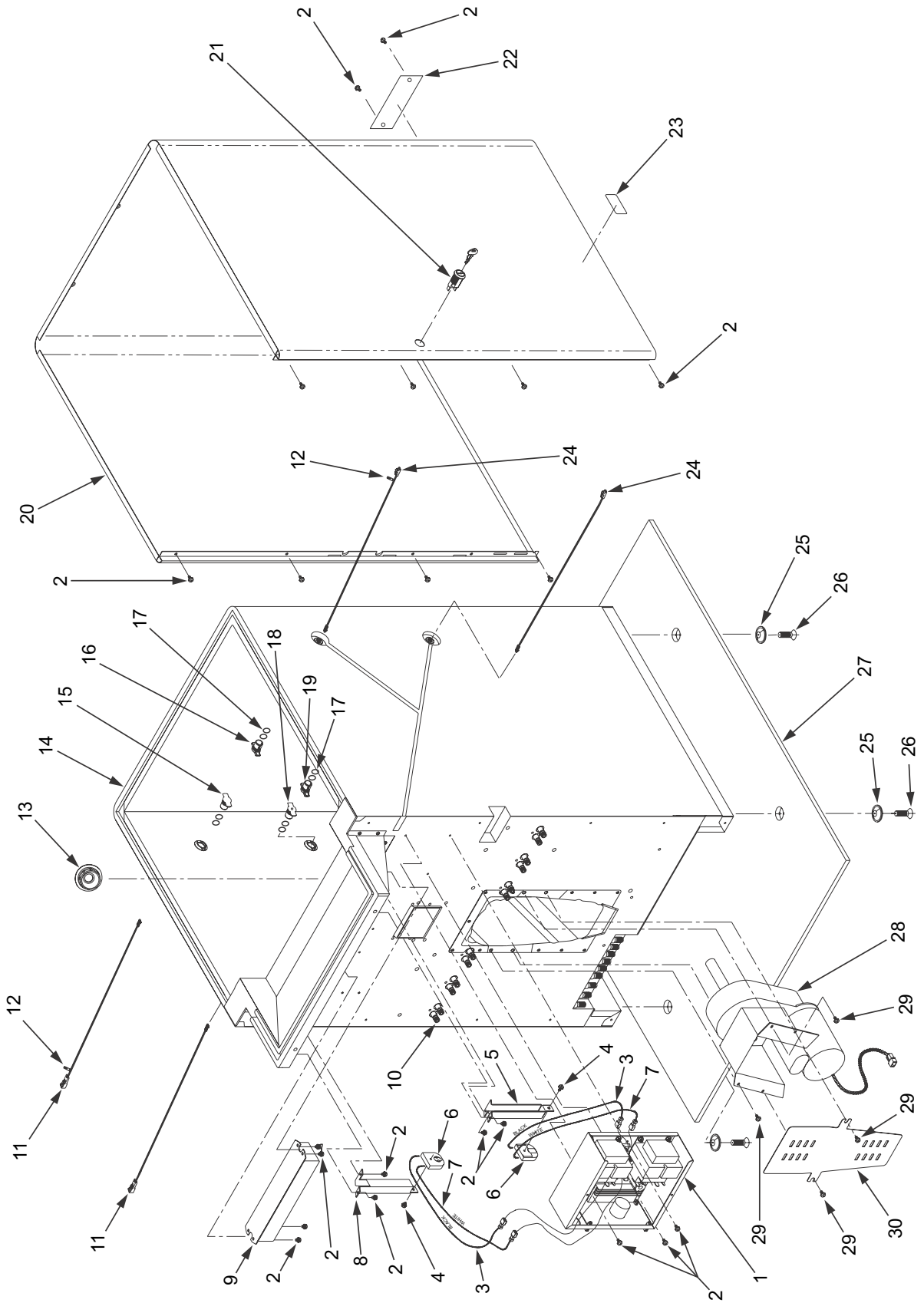


<b>Item</b>	<b>Part No.</b>	<b>Description</b>
1	04-0308	Screw, 10 - 32 X 0.438
2	82-1559	Faucet Plate Assy, IBD22
-	82-1631	Faucet Plate Assy, IBD30
-	82-1938	Faucet Plate Assy, 10 Valve, IBD30
3	02-0005	O-Ring, 2-010
4	06-0877	Label, Ground
5	04-1089	Screw, 10 - 32 X 1.000, RH, PH/SL
6	04-0553	Screw, 10 - 24 X 1.75, LG.
7	82-3538	Chute Assy, Printed, Small Dispenser, IBD
8	05-0928/02	Trap Door, IBD
9	04-0504	Screw, 8 - 18 X 0.375, PHD
10	82-1566/01	Solenoid Assy, IBD
11	82-1551/01	Trim Assy, IBD22, Round
-	82-1618/01	Trim Assy, IBD30, Round
12	30-5876/01	Cover, Electrical Box, IBD
13	30-6145	Lock, Drip Tray, IBD
14	10-0364	Spacer, Drip Tray Lock, IBD
15	04-0529	Screw, 8 - 32 x 0.750, PH
16	10-0732	Shaft, ice Chute Door
17	05-0359	Bushing, Shaft
18	03-0113	Ring, Retaining (5144-12)
19	05-0546	Lever, Door,
20	03-0205	Ring, Retaining (5304-25)
21	12-0244	Ice Door Switch

<b>Item</b>	<b>Part No.</b>	<b>Description</b>
A	03-0086	Ring, Retaining (5304-18)
B	04-0328	Washer, Rubber
C	04-0327	Washer, Flat
D	12-0195	Solenoid, D-90
E	30-5165/01	Bracket, Solenoid
F	23-1029	Plunger Assy
G	10-0496	Pin, Solenoid Assy
H	03-0110	Spring, Solenoid
I	03-0111	Ring, Retaining (5133-62)
J	10-0353	Linkage, Door, IBD
K	04-0320	Screw, 8 - 32 X 0.187, PHD

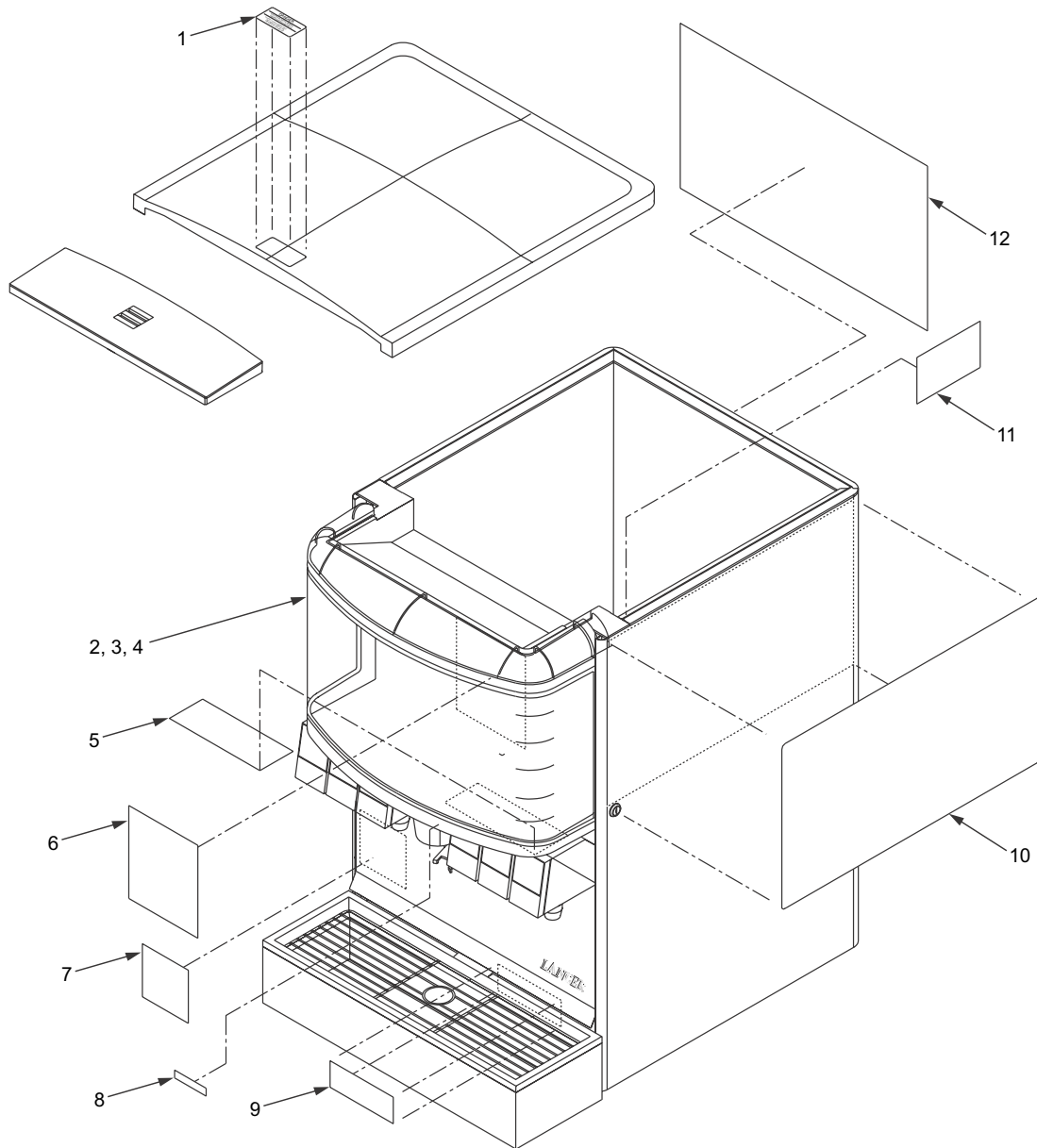


# Electrical Box and Gear Sub-Assembly, Post-Mix, IBD



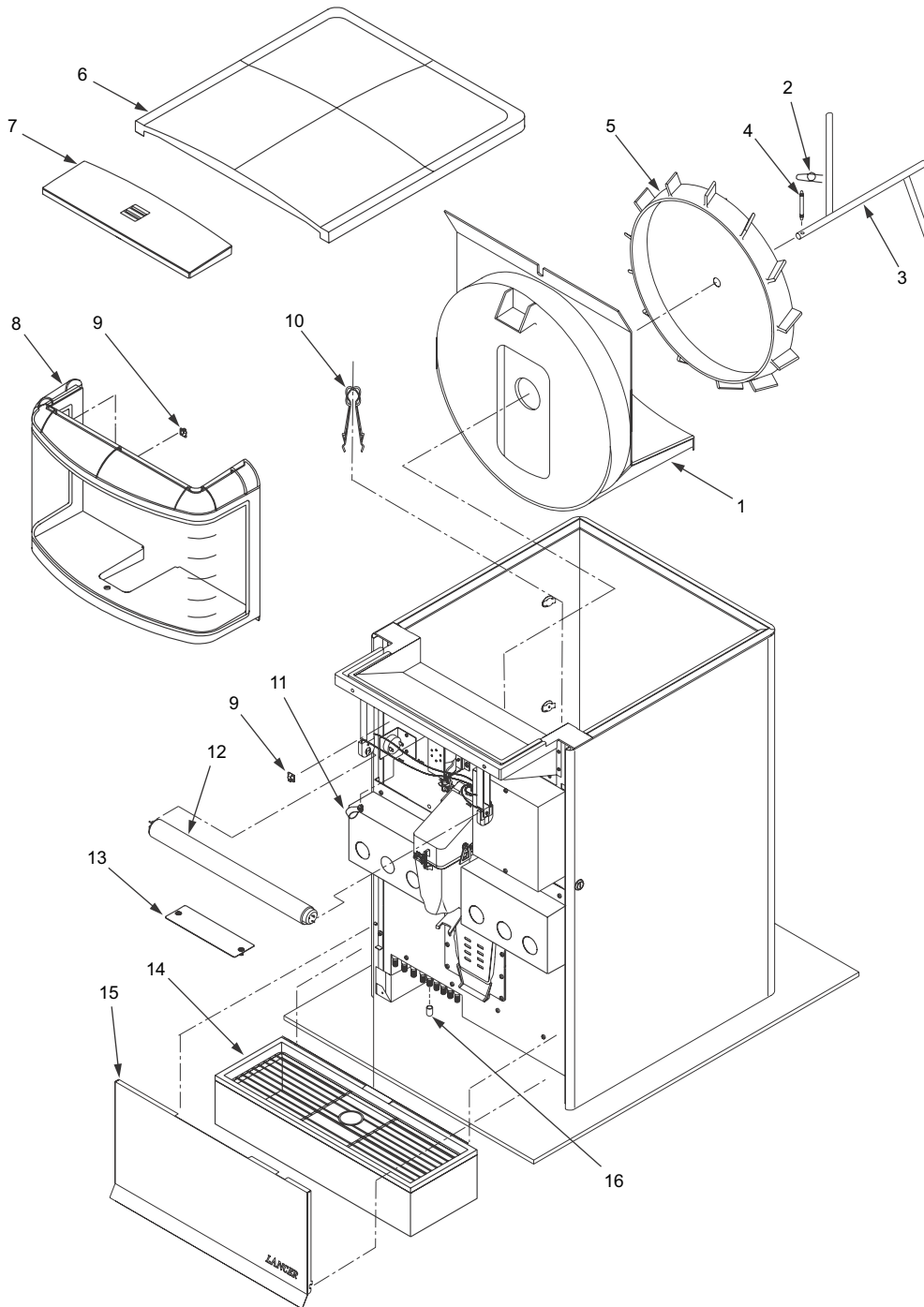
<u>Item</u>	<u>Part No.</u>	<u>Description</u>			
1*	82-1529/02	Electrical Box Assy, IBD, 115V*	20	30-8468	Wrapper Assy, IBD22, Round
-	82-2017/02	Electrical Box Assy, IBD, 230V	-	30-8566	Wrapper Assy, IBD30, Round
-	52-1527	Power Cord Assy, 115V	21**	12-0097	Switch, Key Lock**
-	52-2006	Power Cord Assy, 230V	22	30-6149	Cover, Cut Out, Wrapper, IBD
-	21-0769	Power Cord, Europe	23	06-1580	Label, Patent
-	52-1436/05	PCB Assy, IBD	24	52-2449	Harness Assy, Emitter, IBD
2	04-0504	Screw, 8 - 18 X 0.375, PHD	25	07-0211	Washer, Shipping Base
3	52-1584	Harness Assy, Light, Black	26	04-0203	Screw, 3/8 - 16 X 1.00, FHD
4	04-0237	Screw, 8 - 32 x 0.250, PH, MS, SS	27	90-0756	Shipping Board, IBD, 22 Inch Wide
5	30-6152	Bracket, Right, Light, IBD	-	90-0760	Shipping Board, IBD, 30 Inch Wide
6	11-0295	Socket, 660W/600V MAX	28	82-3688	Drive Assy, Motor, HEX, IBD, 115V
7	52-1583	Harness Assy, Light, White	-	82-2018	Drive Assy, Motor, IBD, 230V
8	30-6153	Bracket, Left, Light, IBD	29	04-0069	Screw, 10 - 16 X 0.500
9	52-2122	Ballast Assy, Long Lead, 230V, IBD	30	30-6147	Cover, Motor, IBD
-	52-1902/01	Ballast Assy, 115V	--	05-1555	Rear Bearing (Not Shown)
10	02-0005	O-Ring, 2-010	<b>REF</b>	<b>Ballast Assy Components (Not Shown)</b>	
11	52-2450	Harness Assy, Detector	--	12-0104	Starter, 115VAC, 14-20 WA
12	06-2488	Label, Ice Link Tag, IBD	--	12-0194	Starter, Base
13	02-0406	Seal, Shaft, Motor, IBD	<b>REF</b>	<b>Electrical Box Assy Components (Not Shown)</b>	
14	82-1324H	Tank Assy, Foamed, IBD22	*--	52-1436/05	PCB Assy, (Available as Spare Part)
-	82-1606H	Tank Assy, Foamed, IBD30	*--	25-0039	120V-24V Transformer, (Available as Spare Part)
-	82-2225H	Tank Assy, Foamed, IBD30, 10 Valve	*--	25-0047	75VA-24V Transformer, (Available as Spare Part)
15	05-1859	Body, Detector, Sensor, Plug	*--	25-0040	220V-24V Transformer, (Available as Spare Part)
16	05-1858	Body, Emitter, Sensor, Plug	**--	81-0125	Key, (Available as Spare Part)
17	02-0155	O-Ring, 2-015			
18	52-2353	Body Assy, Detector, Sensor			
19	52-2352	Body Assy, Emitter, Sensor			

## Decals and Labels, IBD



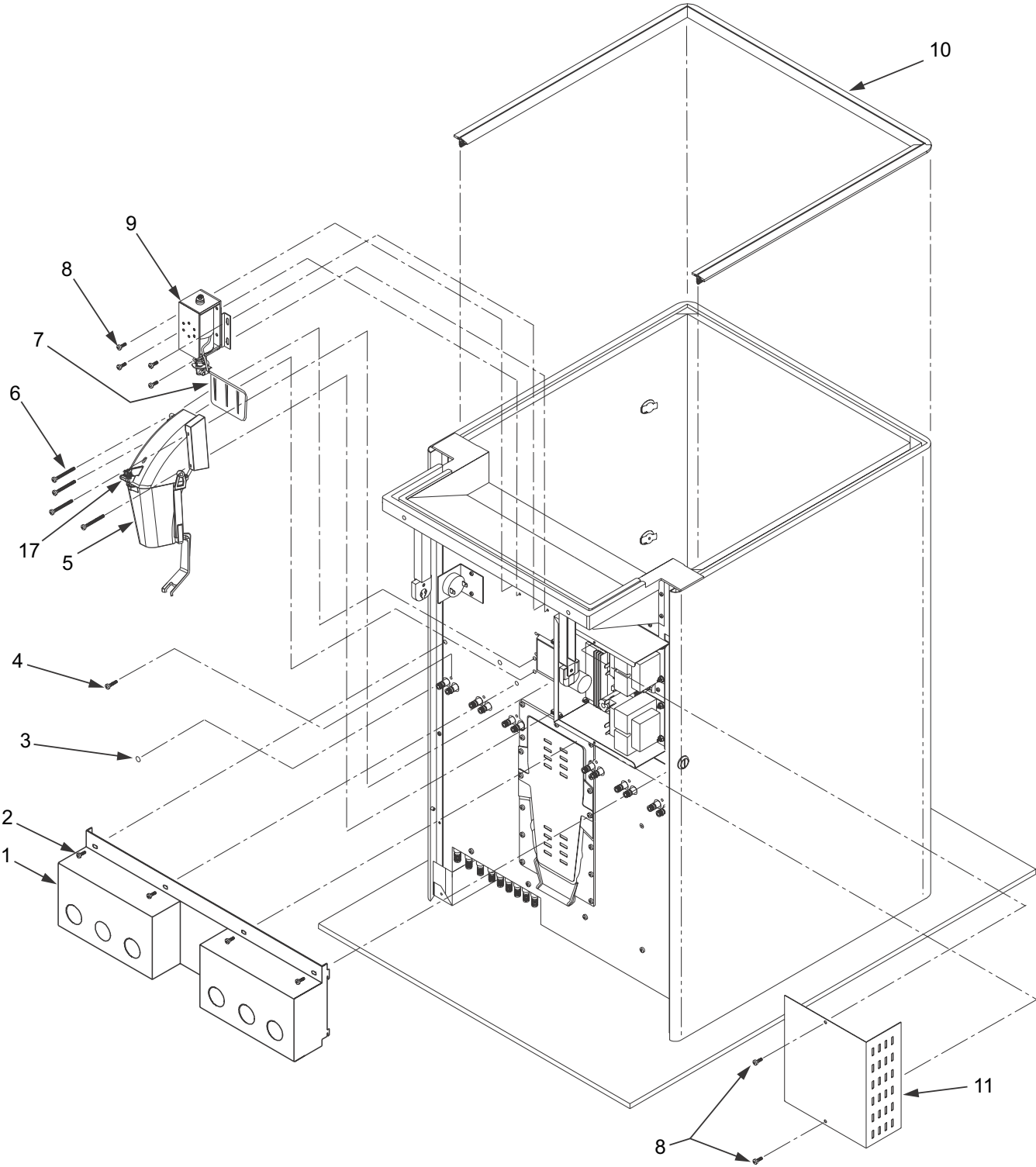
<b>Item</b>	<b>Part No.</b>	<b>Description</b>
1	06-1139	Label, Warning, Lid, IBD
2	06-2057/01	Panel, Graphic, IBD22, Round
-	06-2072/01	Panel, Graphic, IBD30, Round
3	27-0069	Diffuser Lens, IBD22
-	27-0070	Diffuser Lens, IBD30
4	27-0063	Clear Lens, IBD22
-	27-0064	Clear Lens, IBD30
5	06-1184/01	Label, Cleaning, Merchandiser
6	06-1182/04	Label, Wiring Diagram, 115V, IBD (See Section 6.9)
-	06-1521/02	Label, Wiring Diagram, 230V, IBD (See Section 6.10)
7	06-1181/02	Label, Plumbing Diagram, IBD22 (See Section 6.12)
-	06-2226	Label, Plumbing Diagram, IBD30 (See Section 6.13)
8	06-1522	Label, Low Ice, IBD
9	06-1207	Label, Cold Plate Cleaning, IBD
10	06-2058/01	Decal, Wrapper, Side, IBD, Round
11	06-1183	Decal, Cleaning, Hopper, IBD
12	06-2059/01	Decal, Wrapper, Back, IBD22, Round
-	06-2073/01	Decal, Wrapper, Back, IBD30, Round
-	12-0193	Ice Out Indicator

# Final Assembly, Pre-Mix, IBD-22



<b>Item</b>	<b>Part No.</b>	<b>Description</b>
-	85-4566H	IBD22H, Series 4500, 115V, 6 Premix Valve
1	05-1309/02	Wheel Shroud Assy, IBD22
2	03-0368	Retainer, RUE-14-S
3	23-1373	Agitator Assy, HEX, IBD
4	10-0762	Pin, Agitator, HEX, IBD, Single Retainer
5	82-3556	Dispensing Wheel Assy, HEX, IBD
6	05-1467	Lid, Back, IBD22, Round
7	05-1476	Lid, Front, IBD, Round
8	82-2630	Merchandiser Assy, IBD22, Round
9	03-0300	Wire Clip, Adhesive
10	23-1038/01	Drain Spider, IBD
11	03-0049	Clip, Cord
12	12-0146/01	Lamp, 18 Inch, 15W, T8
13	82-1929	Cover Assy, Faucet Plate, IBD, 22 Inch, Pre-Mix
14	82-3175-SP	Drip Tray Assy, IBD
15	30-8586	Plate, Splash, PreMix, IBD22
16	04-0559	Cap, Protective, Vinyl, VC-375-8

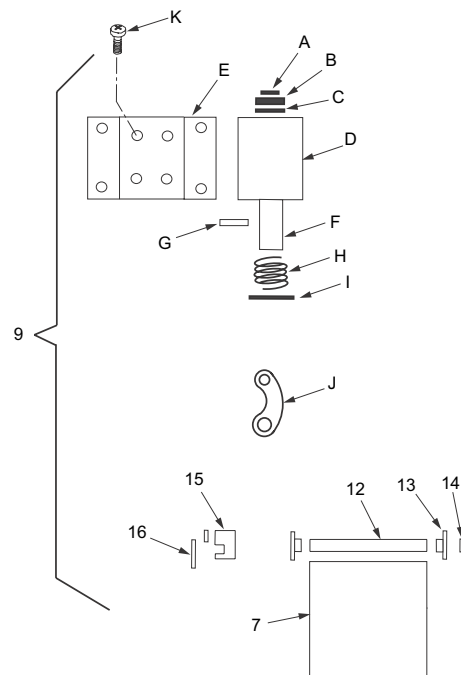
# Faucet Plate and Ice Chute Sub-Assembly, Pre-Mix, IBD



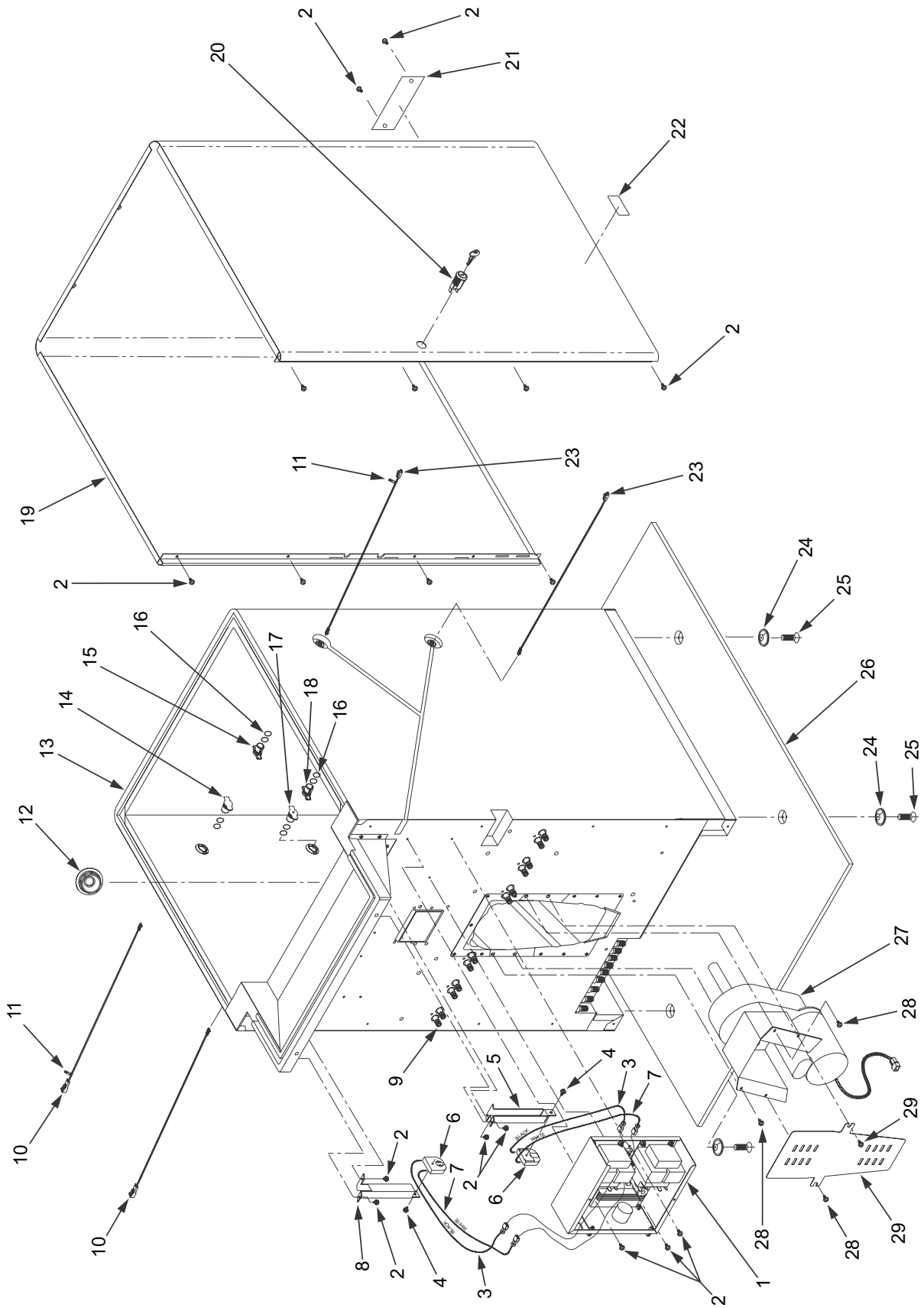


<u>Item</u>	<u>Part No.</u>	<u>Description</u>
-	85-4566H	IBD22H, Series 4500, 115V, 6 Premix Valve
1	82-1875	Faucet Plate Assy, Premix, IBD22
2	04-0308	Screw, 10 - 32 X 0.438
3	02-0005	O-Ring, 2-010
4	04-1089	Screw, 10 - 32 x 1.000, RH, PH/SL
5	82-3538	Chute Assy, IBD
6	04-0553	Screw, 10 - 24 X 1.75, LG
7	05-0928/01	Trap Door, IBD
8	04-0504	Screw, 8 - 18 X 0.375, PHD
9	82-1566/01	Solenoid Assy
10	82-1551/01	Trim Assy, IBD
11	30-5876/01	Cover, Electrical Box, IBD
12	10-0732	Shaft, ice Chute Door
13	05-0359	Bushing, Shaft
14	03-0113	Ring, Retaining (5144-12)
15	05-0546	Lever, Door,
16	03-0205	Ring, Retaining (5304-25)
17	12-0244	Ice Door Switch

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
A	03-0086	Ring, Retaining (5304-18)
B	04-0328	Washer, Rubber
C	04-0327	Washer, Flat
D	12-0195	Solenoid, D-90
E	30-5165/01	Bracket, Solenoid
F	23-1029	Plunger Assy
G	10-0496	Pin, Solenoid Assy
H	03-0110	Spring, Solenoid
I	03-0111	Ring, Retaining (5133-62)
J	10-0353	Linkage, Door, IBD
K	04-0320	Screw, 8 - 32 x 0.187



# Electrical Box and Gear Sub-Assembly, Pre-Mix, IBD



<u>Item</u>	<u>Part No.</u>	<u>Description</u>			
1*	82-1879/01	Electrical Box Assy, Pre-Mix, IBD22*	21	30-6149	Cover, Cut Out, Wrapper, IBD
-	52-1902/01	Ballast Assy, 115V	22	06-1580	Label, Patent
2	04-0504	Screw, 8 - 18 X 0.375, PHD	23	52-2449	Harness Assy, Emitter, IBD
3	52-1584	Harness Assy, Light, Black	24	07-0211	Washer, Shipping Base
4	04-0237	Screw, 8 - 32 x 0.250, PH, MS, SS	25	04-0203	Screw, 3/8 - 16 X 1.00, FHD
5	30-6152	Bracket, Right, Light, IBD	26	90-0756	Shipping Board, IBD, 22 Inch Wide
6	11-0295	Socket, 660W/600V MAX	27	82-1556	Drive Assy, Motor, IBD, 115V
7	52-1583	Harness Assy, Light, White	28	04-0069	Screw, 10 - 16 X 0.500
8	30-6153	Bracket, Left, Light, IBD	29	30-6147	Cover, Motor, IBD
9	02-0005	O-Ring, 2-010	--	05-1555	Rear Bearing (Not Shown)
10	52-2450	Harness Assy, Detector	<b>REF</b>	<b>Ballast Assy Components (Not Shown)</b>	
11	06-2488	Label, Ice Link Tag, IBD	--	12-0104	Starter, 115VAC, 14-20 WA
12	02-0406	Seal, Shaft, Motor, IBD	--	12-0194	Starter, Base
13	82-1874H	Tank Assy, Foamed, Pre-Mix, IBD22	<b>REF</b>	<b>Electrical Box Assy Components (Not Shown)</b>	
14	05-1859	Body, Detector, Sensor, Plug	*--	52-1436/05	PCB Assy, (Available as Spare Part)
15	05-1858	Body, Emitter, Sensor, Plug	*--	25-0039	120V-24V Transformer, (Available as Spare Part)
16	02-0155	O-Ring, 2-015	*--	25-0047	75VA-24V Transformer, (Available as Spare Part)
17	52-2353	Body Assy, Detector, Sensor	*--	25-0040	220V-24V Transformer, (Available as Spare Part)
18	52-2352	Body Assy, Emitter, Sensor	*--	25-0040	220V-24V Transformer, (Available as Spare Part)
19	30-8468	Wrapper Assy, IBD22, Round	*--	25-0040	220V-24V Transformer, (Available as Spare Part)
20**	12-0097	Switch, Key Lock**	**--	81-0125	Key, (Available as Spare Part)

# Pellet Ice Dispenser Sub-Assembly Conversion Kit, IBD30, PN: 82-3633/01

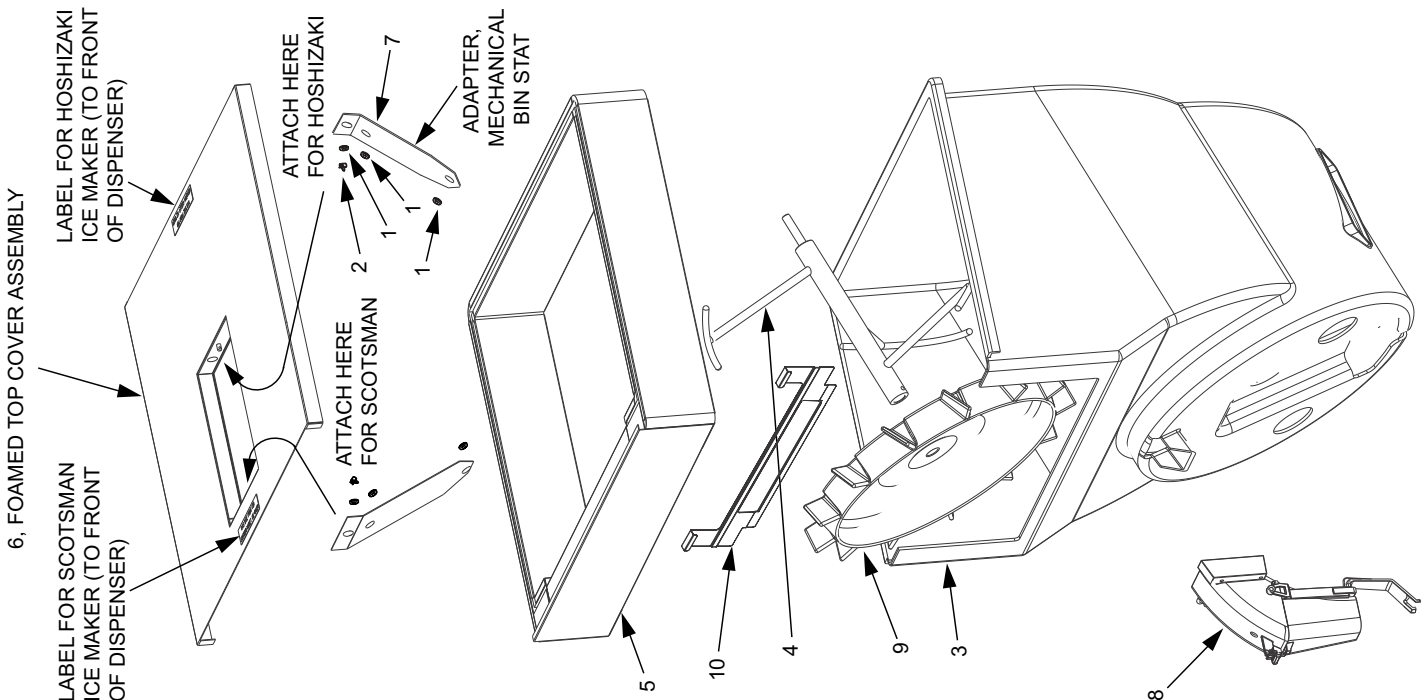
## NOTE

This Conversion Kit is compatible for IBDs with Serial Numbers 854545H0418M03 and above. Retrofits for the 30" IBD must include PN 23-1363 (Item 5 below)

## ⚠ ATTENTION

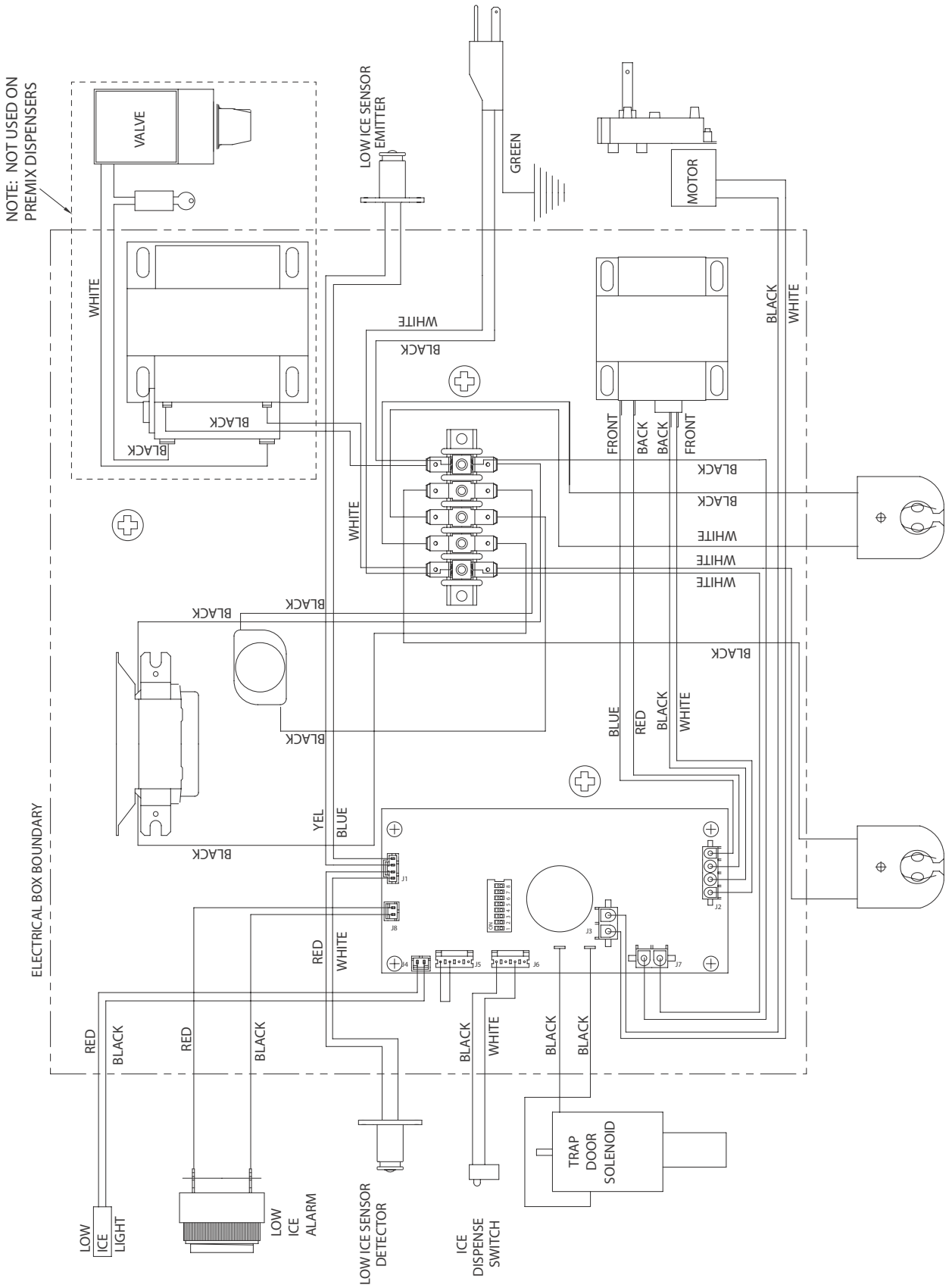
The Pellet Ice Components listed below are to be used *ONLY* in conjunction with Nugget, Cubelet, or Chewblet ice. LANCER makes no warranty of any kind with regard to these components being used with any other kind of ice.

IBD30	FS30	Item	Part No.	Description
✓	✓	1	02-0577	Grommet, Rubber, G3002
✓	✓	2	03-0368	Retainer, Pin, Agitator, IBD
✓	✓	3	05-2293/01	Ice Shroud, IC
✓	✓	4	23-1401	Agitator Assy, Helical, IC, HEX
✓	✗	5	23-1363	Extension Assy, 4 1/2", IBD30
✓	✓	6	42-0109	Foamed Cover, Scots/Hoshi, Pellet Ice
✓	✓	7	30-9446	Adapter, Mech Bin-Stat, Scots
✓	✓	8	82-3538	Ice Chute Assy, IBD30, Pellet Ice
✓	✓	9	82-3651	Dispensing Wheel Assy, Pellet Ice, HEX
✓	✓	10	30-9880	Shield, Nugget Ice, One Piece with Tab
✗	✓	11	30-8832/01	Bracket, Valve Plate, FS30



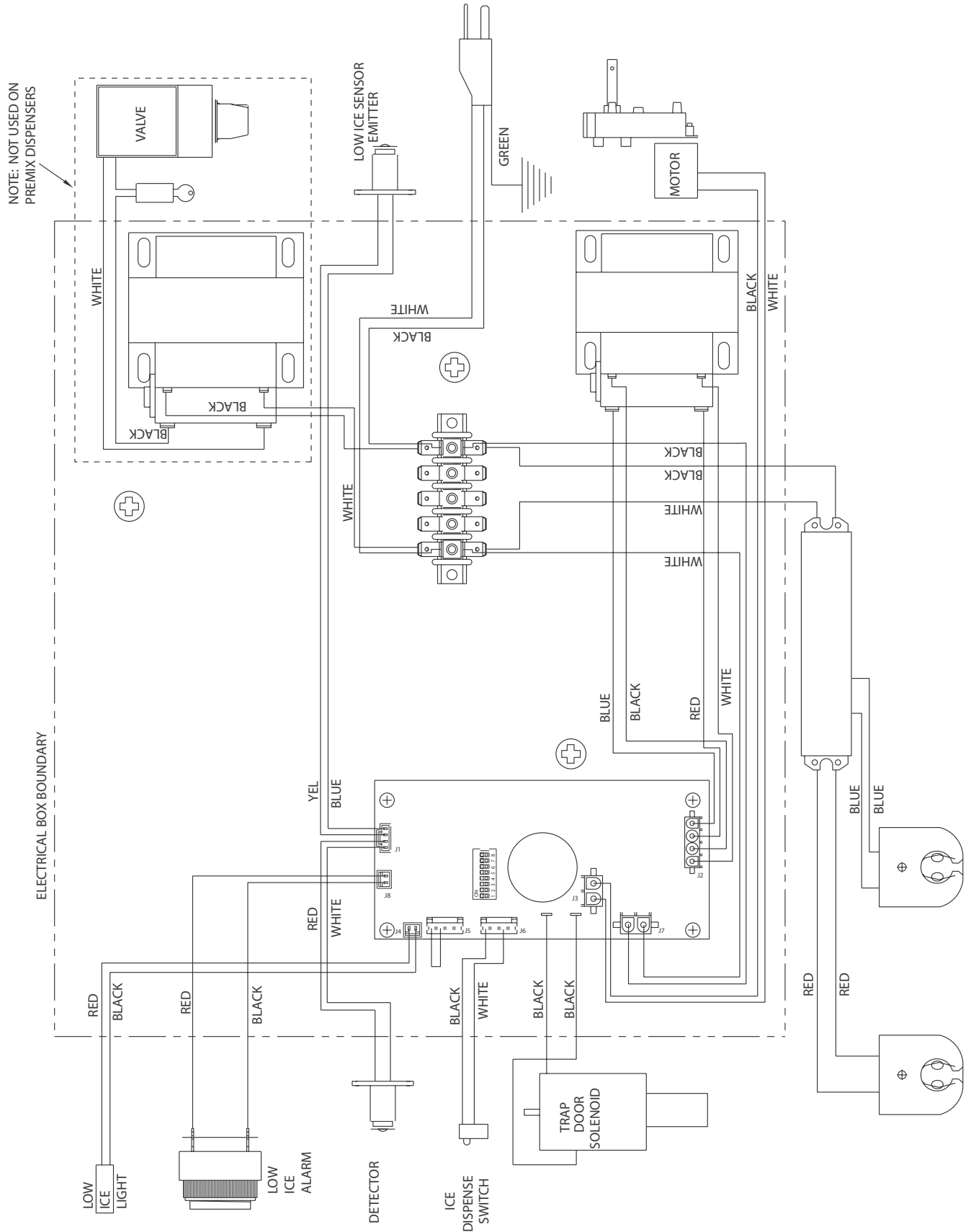
# Wiring Diagram - 115 Volt / 60 Hz

WIRING DIAGRAM FOR LANCER ICE DISPENSER WITH LOW ICE SENSING (TYP.)



# Wiring Diagram - 230 Volt / 50-60 Hz

## WIRING DIAGRAM FOR LANCER ICE DISPENSER WITH LOW ICE SENSING (TYP.)



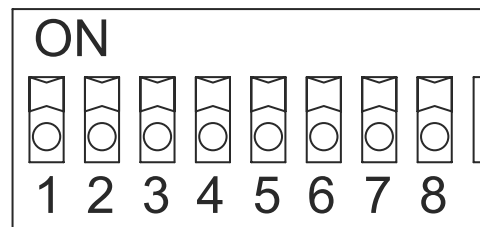
# Ice Agitation Controls

Switch Number				Agitation Off Time
5	6	7	8	
0	0	0	0	No Agitation
0	0	0	X	10 Minutes
0	0	X	0	20 Minutes
0	0	X	X	30 Minutes
0	X	0	0	40 Minutes
0	X	0	X	50 Minutes
0	X	X	0	60 Minutes
0	X	X	X	70 Minutes
X	0	0	0	80 Minutes
X	0	0	X	90 Minutes
X	0	X	0	100 Minutes
X	0	X	X	110 Minutes
X	X	0	0	120 Minutes
X	X	0	X	130 Minutes
X	X	X	0	140 Minutes
X	X	X	X	150 Minutes

Switch #		Agitation On Time
3	4	
0	0	1 Second
0	X	2 Seconds
X	0	3 Seconds
X	X	4 Seconds

Key
X = On
0 = Off

**Switch 1:** "Low Ice" LED Indicator  
**Switch 2:** "Low Ice" Alarm  
**Switch 3-4:** Agitation On Time  
**Switch 5-8:** Agitation Off Time



**Up = On**  
**Down = Off**

## Cube Ice Setting:

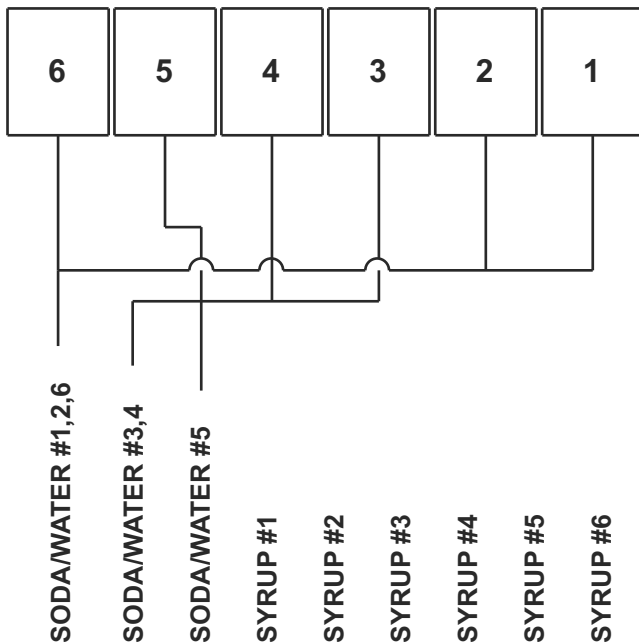
Agitation On Time: 2 Seconds  
 Agitation Off Time: 60 Minutes

## Pellet Ice Setting:

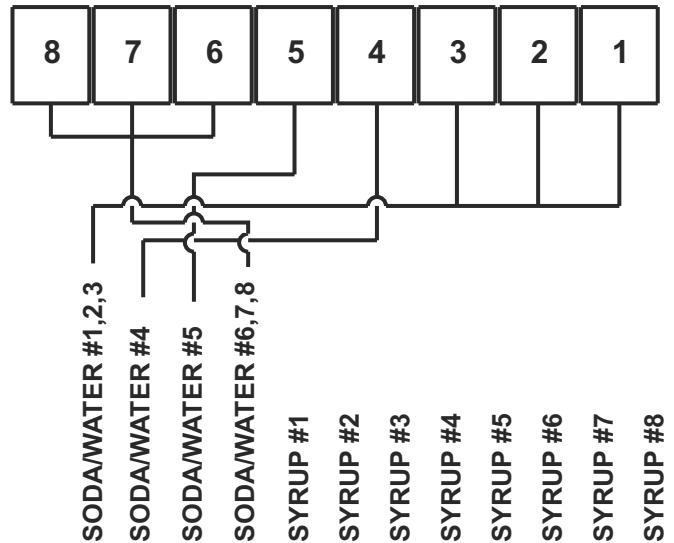
Agitation On Time: 4 Seconds  
 Agitation Off Time: 150 Minutes

**\*\*See page 22-23 for LED Descriptions\*\***

# Plumbing Diagrams - 6 Valve, 8 Valve



**SYRUP LINES NOT SHOWN**  
**3-2-1 CONFIGURATION**  
**FOR ASSISTANCE CALL 1-800-729-1500**  
**06-1181/02**



**SYRUP LINES NOT SHOWN**  
**3-1-1-3 CONFIGURATION**  
**FOR ASSISTANCE CALL 1-800-729-1500**  
**06-2226**

---

***LANCER***<sup>®</sup>

Lancer Corp.  
800-729-1500  
Technical Support/Warranty: 800-729-1550  
custserv@lancercorp.com  
lancercorp.com