

# **Lipton Brewed Iced Tea Double Valve Dispenser**

## **Training, Installation, & Service Manual**



### **Safety & Specifications**

### **Installation**

### **Service**

### **Training**





## Lipton Iced Tea Brewer

# Training, Installation, & Service Manual

The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are neither intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation, or maintenance of this equipment. This manual supposes that the person(s) working on the equipment are trained and skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. In addition to the information this manual provides, Cornelius expects proper installation that includes taking appropriate safety precautions as well as adhering and meeting all local safety and construction requirements.

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# SAFETY

## SAFETY INSTRUCTIONS

### Read and follow all safety instructions

Read and follow all safety instructions in this manual and on the machine (decals, labels, and laminated cards).

Before operating the machine, read and understand all applicable OSHA (Occupation Safety and Health Administration) safety regulations available from the safety coordinator or supervisor.

### Recognize safety alerts



This is the safety alert symbol used in this manual or on the machine. The safety alert symbol is used to alert personnel to the potential of personal injury, or damage to the machine.

### Different types of alerts

There are three types of safety alerts:



**DANGER:** Indicates an immediate hazardous situation which if not avoided **WILL** result in serious injury, death, or equipment damage.



**WARNING:** Indicates a potentially hazardous situation which, if not avoided, **COULD** result in serious injury, death, or equipment damage.



**CAUTION:** Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury or equipment damage.

## SAFETY TIPS

- Carefully read all safety messages in this manual and safety signs on the machine.
- Keep safety signs in good condition and replace missing or damaged safety signs.
- Learn how to operate the machine and how to use the controls properly.
- Do not let anyone operate the machine without proper training.
- Keep the machine in proper working condition.
- Do not allow unauthorized modifications to the machine.
- The brewer can dispense hot water. During the rinse operation water temperature can exceed 205°F. Certain flow tubes in the brewer carry hot water. Use Caution.
- The heater tank contains no replaceable parts. The entire heater tank must be replaced if service is required.
- Be certain that the dispenser nozzle is snugly threaded onto the spigot assembly.

## AUTHORIZED SERVICE PERSONNEL



**CAUTION: Only trained and certified electrical, plumbing, and refrigeration technicians should service this unit. ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES.**

## HOT WATER WARNING



**WARNING: This unit dispenses HOT water (160° F (71°C) - 205° F (96°C) during the rinse cycle.**

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



**WARNING: CO<sub>2</sub> Displaces Oxygen. Strict Attention must be observed in the prevention of CO<sub>2</sub> gas leaks in the entire CO<sub>2</sub> and system. If a CO<sub>2</sub> gas leak is suspected, particularly in a small area, immediately ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentration of CO<sub>2</sub> gas will experience tremors which are followed rapidly by loss of consciousness and death.**



**CAUTION: PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Firmly secure cylinders upright to keep from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 52°C (125°F). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.**



**CAUTION: PRECAUTIONS TO BE TAKEN IN HANDLING:** Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop cylinders. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. Never apply flame or localized heat directly to any part of the cylinder. High temperatures may damage the cylinder and could cause the pressure relief device to fail prematurely and venting the cylinder contents. Never strike an arc on a compressed gas cylinder or make a cylinder part of an electrical circuit. For additional information on storage and handling, refer to Compressed Gas Association (CGA) pamphlet P-1, *“Safe Handling of Compressed Gases in Containers,”* available from the CGA.

## Shipping And Storage



**CAUTION:** Before shipping, storing, or relocating the unit, product extract systems must be sanitized; completion requires purging all sanitizing solution from the systems. In addition, all liquids, after sanitizing, must be purged from the unit. A freezing ambient environment causes residual sanitizing solution or water remaining inside the unit to freeze resulting in damage to the internal components.

## KEY THINGS TO KNOW

- Always unplug/disconnect the power to the dispenser before servicing.
- Verify adequate water line pressures and volumes.
- Verify water quality, optimum dispense taste may require water treatment.
- Rinse water is very hot (160°- 205° F (71°- 82°C)).

- Do not activate the heater until the water tank is full.
- Rinse must be performed at least once every 24 hours or the brewer will lock out and will not dispense product.
- The heater tank contains no replaceable parts. The entire heater tank must be replaced if service is required.
- **Warning Battery Life:** Disconnecting the power supply or turning the power switch off for longer than 48 hours will result in a service call to reprogram the dispenser. The battery will recharge itself when the power is restored to the board.

## CLEANING AND SANITATION PRACTICES

It is imperative that the daily cleaning procedures, hot water flush, and monthly sanitizing procedures be followed as outlined in chapter 4.



**WARNING: Failure to follow the scheduled cleaning and sanitizing procedures shown in chapter 4 may result in the growth of potentially harmful bacteria in the dispensed tea product.**





## SYSTEM OVERVIEW

The Lipton Iced Tea Brewer (LBIT) looks and operates like a leaf tea brewer. The LBIT instantaneously mixes and dispenses tea extract, hot water, cold water, and liquid sweetener to provide a finished tea product. Unlike leaf tea brewers, the LBIT does not have high maintenance and operational costs, and it is not as susceptible to the bacterial growth inherent to leaf tea brewers.

The following descriptions provide basic information of:

- Theory of Operation
- Function Keys
- Menus and Modes of Operation
- Capacities.

### THEORY OF OPERATION

The fresh brewed process involves the mixing of concentrated (100:1) tea extract with hot water in order to brew the tea. A residence time of about 0.50 seconds ensures that the tea mixture is adequately dispersed and increases clarity.

A metered quantity of cold water is added to the brewed tea mixture to produce finished tea. The cold water reduces the temperature of the final product to approximately 90° F (32° C). This temperature is similar to iced tea product dispensed from leaf tea brewers.

### FUNCTION KEYS

The LBIT controller is a specific purpose circuit board residing within the brewer. The controller monitors inputs, controls outputs, and provides service and display functions.

Keys providing the basic operations within the controller are labeled Language (-), Menu (+), Stop (#), Rinse (<), and Run (>). The base operations of the keys are as follows.

#### Language key

Pressing this key will toggle the display between English and Spanish.

#### Menu key

Pressing this key will advance the display to the beginning of the next menu item. There are five menu functions that may be selected: Data View, Set - Time, Strength, Service, and Set-up.

#### Stop key

Pressing this key will put the brewer in stop mode. In this mode all normal functions occur except that tea will not be dispensed when the spigot handle is pulled.



## Rinse key



**WARNING: This unit dispenses HOT water (160° F. - 205° F. (71°C - 96°C) during the rinse cycle.**

Pressing this key will place the brewer in the rinse cycle mode. In this mode the brewer will require user intervention to initiate each flush of hot water through the system. This is done by opening the spigot when prompted to do so on the display. After the rinse is completed, the brewer automatically returns to run mode.

## Run key

Pressing this key will return the brewer to run mode. This is the only mode where a normal dispense is available.

**NOTE: While in run mode, if an alarm occurs (over temp, sold out, etc.) the brewer will display the current errors being detected. Pressing the LANGUAGE key will step through the current errors being detected.**

## MENUS AND MODES OF OPERATION

Pressing the MENU key will scroll through five basic modes in a round robin fashion. The menus and their order are: DATA VIEW, SET TIME, STRENGTH, SERVICE, and SET-UP.

To enter a selected mode, the STOP (#) key may be pressed. Once a particular mode is entered, the keypad keys are referenced as (-), (+), (#), (<), and (>). Display screen prompts will tell the operator what to do. In general the keys will have the following function: Scroll forward or backward press (>) or (<), change a value press (+) or (-), to exit or enter a mode or sub-mode (#).

### DATA VIEW mode

Scroll to the Data View Mode using the menu key. Press the (#) key to enter. Press the (>) to advance. The Data View sub modes include: Time of Day, Water Temperature, Gallons of tea poured in the last 30 days, Total Gallons of tea poured over the life of the brewer, Number of tea sold outs recorded (bags used), Number of sweetener sold outs recorded (bags used), and the Number of days the brewer has been in operation.





## **SET TIME mode**

### **SETTING THE TIME AND DATE**

1. Press MENU until ENTER SET TIME? is displayed.
2. Press (#) key to enter SET TIME and press (>) to advance.
3. Press the (#) key to enter SET CLOCK?. Read the flash screens. Press (>) or (<) key to move the cursor. Press (+) or (-) keys to change settings. Press (#) key twice to save new settings.

### **Setting the RINSE TIME**

Contact the manager or the “decision maker” of the restaurant. Request a time of the day when the brewer will be cleaned. Recommend a time when they open the restaurant in the morning. This time should be when they normally clean their dispensing equipment, or when there are no customers at the restaurant, or a slow time of the day.

1. Press the (#) key to enter SET RINSE TIME?. Read the flash screens. Press (>) or (<) key to move the cursor. Press (+) or (-) keys to change settings. Press (#) key twice to save new settings.
2. Press (#) twice to save the rinse time.
3. Press the (#) key to exit SET TIME.

## **ADJUST STRENGTH mode**

1. Press MENU until ENTER STRENGTH? is displayed.
2. Press (#) to enter and (>) to advance.
3. Read the flash screens. Press (+) or (-) key to change strength settings. Press (+) or (-) keys to change settings. The allowed adjustment range in this screen is +/-5% of the installed strength. Each press of the (+) or (-) keys will change the tea strength by 1% until the 5% maximum change is reached.
4. Press (>) to advance and (#) to exit.

## **SERVICE mode**

1. Press MENU until ENTER SERVICE? is displayed.
2. To enter Press and hold the STOP key and then press the RUN key.
3. Press (>) to advance to the following sub-modes.



4. Press (#) to enter or exit the sub-modes and follow the display instructions.

## DISPLAY ERRORS

Displays most recent error first Press (>) to advance through all errors.

## TEA PUMP STATE

This screen displays the current state of the Tea pump (ON/OFF). Pull the dispense lever to start the flow of tea. Release the dispense lever to stop the flow of tea.

## SWEETENER VALVE STATE

This screen displays the current state of the Sweetener valve drive (ON/OFF or DISABLED). Pull the dispense lever to start the flow of sweetener. Release the dispense lever to stop the flow of sweetener.

**NOTE: If the brewer is installed as unsweetened, the valve is overridden and locked out, and the controller skips over this function in Service mode.**

## HOT BREW WATER VALVE STATE

This screen displays the current state of the Hot water valve drive (ON/OFF). Pull the dispense lever to start the flow of hot water. Release the dispense lever to stop the flow of hot water.

**Note: The Hot water valve drive operates both the input and output Hot water valves at the same time.**

## RINSE WATER VALVE STATE

This screen displays the current state of the Rinse water valve drive (ON/OFF). Pull the dispense lever to start the flow of hot water. Release the dispense lever to stop the flow of hot water.

## COLD WATER VALVE STATE

This screen displays the current state of the Cold water valve drive (ON/OFF). Pull the dispense lever to start the flow of cold water. Release the dispense lever to stop the flow of cold water.



## TEA BAG SOLD OUT STATE

This screen displays the current state of the Tea Extract Bag (Sold Out or OK).

## SWEETENER SOLD OUT STATE

This screen displays the current state of the Sweetener (Sold Out or OK). This screen is skipped if unit is installed as unsweetened.

## HOT WATER TEMPERATURE

This screen displays the current hot water heater tank temperature. Pressing the (+) or (-) key will toggle the display between degrees Fahrenheit and degrees Celsius.

## HEATER RELAY STATE

This screen displays the current state of the hot water heater safety relay (ON/OFF). Pressing the LANGUAGE key will toggle the state between ON and OFF. When leaving this screen the safety relay will toggle to ON, unless an overriding error is present.

## MOTOR VOLTS

This screen displays the DC voltage available to drive the tea pump.

**NOTE: 30 to 40 Volts DC range. Usually, approximately 37 Volts will be displayed.**

## NORMAL POUR

Pull the dispense lever to dispense finished product.

## SET-UP mode

1. Press menu until Enter SET-UP is displayed.
2. Press and hold the STOP key and then press the RINSE key
3. Press (>) to advance to the following sub-modes.



4. Press (#) to enter or exit the sub-modes and follow the displayed instructions.



**CAUTION: Ensure there is water in the heater before the heater relay is turned ON. Otherwise the heater will fail and it will have to be replaced.**

## TANK STATUS

The heater tank may be filled with water in this sub-mode. Once water flows from the spigot nozzle then change the tank status to FULL.

## SYSTEM TYPE

The system configuration is displays a double or single spigot.

## SET-UP TEA SYRUP

Follow the display instructions to prime the tea extract lines, adjust strength and dispense a 10 second calibration pour. This is used to calibrate the amount of tea to be dispensed during a normal pour sequence (approximately 1 gram per second).

**NOTE: Tea extract may accumulate in the mix chamber. Several dispenses may be required for tea extract to start flowing from the nozzle.**

The allowed strength accustomed range is +/- 20%. Each press of the (+) or (-) keys will change the tea strength by 1% until the 20% maximum change is reached.

## SET-UP SWEETENER

Pressing the (+) or (-) keys will toggle the sweetener valve from OFF (disabled)) and ON. If OFF is selected, the next step is skipped.

Follow the display instruction to prime the sweetener line and to dispense a 10 second calibration pour. This is used to calibrate the amount of sweetener to be dispensed during a normal pour sequence.

## SET-UP COLD WATER

Holding the spigot open during this step will cause the brewer to do a 10 second cold water only pour. This is used to calibrate the amount of cold water to be dispensed during a normal pour sequence.



**WARNING: This unit dispenses HOT water (160° F. - 205° F.(71°C - 96°C)) during the rinse cycle.**

## SET-UP HOT BREW WATER

Holding the spigot open during this step will cause the brewer to do a 10 second hot water only pour. This is used to calibrate the amount of hot water to be dispensed during a normal pour sequence.

## TIMED POUR

Holding the spigot open during this step will cause the brewer to do a 10 second finished product pour. This is used to calibrate the total amount of product dispensed during a normal pour sequence.



### PUSH KEY Quick Reference

<b>Push Key</b>	<b>Push Key Function</b>
LANGUAGE	Toggles between English and Spanish
MENU	Scrolls to main menu functions of DATA, SET TIME, ADJUST STRENGTH, AND SERVICE
RINSE	Initiates RINSE function
STOP	Will stop and prevent further dispensing action (heater stays on)
RUN	Initiates normal dispense and operational functions.

### MENU Quick Reference

<b>MENU Option</b>	<b>MENU Option Function</b>
DATA	Selected operational data may be viewed.
SET TIME	Clock and Rinse times may be set.
ADJUST STRENGTH	Tea strength may be adjusted to a range of +/- 5 percent of as-installed strength.
SERVICE	Various service screens (as noted below) may be viewed. Service Mode is entered by pressing and <b>HOLDING</b> Stop Key and then pressing Run Key.
SET-UP	Various set-up screens (as noted below) may be viewed. Set-Up Mode is entered by pressing and <b>HOLDING</b> Stop Key and then pressing Rinse Key.

### SERVICE Quick Reference

<b>SERVICE Screens</b>	<b>SERVICE Screen Function</b>
Display Errors	Error displays may be scrolled by pressing (>) or (<) Keys.
Tea Pump State	Tea extract flow may be initiated by pulling spigot handle.
Sweetener Valve State	Sweetener flow may be initiated by pulling spigot handle.
Hot Brew Valve(s) State	Hot brew water flow may be initiated by pulling spigot handle.
Rinse Valve State	Rinse water flow may be initiated by pulling spigot handle.
Cold Water Valve State	Cold water flow may be initiated by pulling spigot handle.
Tea Bag Status	OK or Soldout
Sweetener Status	OK or Soldout
Hot Water Temp	In degrees C or F, press (+) or (-) Key To Flip.
Heater Relay Status	On or Off press (+) or (-) Key To Flip.
Motor Volts	Volts DC
Normal Pour	Dispensed drink flow may be initiated by pulling spigot handle

### SET-UP Quick Reference

<b>SET-UP Screens</b>	<b>INSTALL Screen Function</b>
Tank Status	Operator is able to fill the tank and set the tank status of empty or full.
System Type	Single or double spigot configuration is displayed.
Set-Up Tea Extract	Operator may prime the tea extract lines and run a 10 seconds calibration pour. Tea strength may be adjusted to a range of +/- 20 percent of factory set pump speed.
Set-Up Sweetener	Operator may set sweetened or unsweetened operation, prime the sweetener lines, and run a 10 second calibration pour.



Set-Up Cold Water	Operator may run a 10 second calibration pour.
Set-Up Hot Brew	Operator may run a 10 second calibration pour.
Set-Up Timed Pour	Operator may run a 10 second calibration pour.

### **Error Light Functions**

No Light	No errors present/dispense ready
Red/Blinking Light	Error is present/may not dispense Possible errors - out of tea extract, out of sweetener, rinse required, high water temperature and low water temperature.

### **Control Board Inputs:**

- Tea Extract Sold Out Sensor
  - Based on electrical continuity to detect the presence of tea extract.
  - An electrode assembly is inserted into the sold out chamber located between the pump and the tea bag.
- Sweetener Sold Out Sensor
  - This is a pressure based sensor. A sold out condition exists when there is a loss of BIB pump pressure.
- Water Temperature Sensor
  - A temperature sensor is affixed to the water tank to sense hot water temperature. A HIGH temperature errors will occur when water temperature is above 215° F. A low temperature error will occur when the sensed temperature is under 40°F.
- Dispense Switch
  - A microswitch is closed when the dispense lever is pulled forward
  - This action initiates the dispense function through the control board.
- Main Power Switch
  - A manual power switch at rear of unit activates power to the dispenser.

### **Control Board Outputs:**

- Tea Pump
  - A peristaltic pump is activated to pump tea extract.
- Heater Relay
  - The heater relay for the hot water heater operates the heater to maintain tank temperature between 178°F and 183°F.
  - The relay opens to stop heating when there is a high water temperature error.

- The bimetallic thermostat mounted on the heater tank acts as a redundant shut-off control in the event of a malfunction of the heater relay.
- Water Valves
  - Inlet and outlet water valves to the hot water tank are activated simultaneously to initiate flow of hot water.
- Sweetener Valve
  - The sweetener valve is activated to initiate flow of sweetener (unless deactivated during installation).
- Error Light
  - Flashing red LED is activated in the event of an error.

## CAPACITIES

### Environmental Specifications

This brewer is intended for indoor installation only

Operating Temperature Range 60° F. to 110° F. (10°C - 38°C)

Storage Temperature Range 40° F. to 130° F (4°C - 54°C)

Electrical Requirement 15 amp

Water Inlet Size 3/8-inch (0.95 cm)

Water Flow Rate 2.5-ounce/second (74 ml/sec) one spigot open  
5.0-ounce/second (148 ml/sec) two spigots open

Water Pressure Flowing 35psi (2.41 bar) (minimum) - 80 psi (5.52 bar) (maximum)

**Note: If water filter is installed, the 35psi flowing pressure must be maintained on the outlet side of the filter.**

**TABLE 1.**

Dimensions and Weight	Double Spigot
Counter must be level and capable of supporting brewer weights	
Height above counter	27.75 inches (70.5 cm)
Width	16.25 inches (41.3 cm)
Depth	15.00 inches (38 cm)
Shipping weight (approx)	64 lbs.



## INSTALLATION



**CAUTION: Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES.**

### INSTALLATION REQUIREMENTS

#### Electrical Requirements

Before connecting electrical power to the brewer refer to nameplate to determine the power requirements.



**WARNING: To avoid possible electrical shock make sure the brewer is properly grounded by connecting the earth ground cable in the power cord to any connection in the machine marked with a ground symbol.**



**CAUTION: The wiring must be properly grounded and connected through a 15-amp disconnect switch (slow-blow fuse or equivalent HVAC/R circuit breaker). ALL WIRING MUST CONFORM TO NATIONAL AND LOCAL CODES.**



**CAUTION: Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES.**



## Environmental Requirements



**CAUTION:** This unit is designed for indoor installation only, in a non-harsh environment, and out of direct sunlight.



**CAUTION:** If the unit is exposed to freezing temperature water in the unit will freeze and may damage the unit.

## INITIAL INSTALLATION PROCEDURE

### Delivery Inspection and Unpacking

#### INSPECTION

Upon delivery inspect the brewer for damage or irregularities and immediately report problems to the delivering carrier and file a claim with that carrier.

1. Open loose parts packages and inspect parts.
2. Make sure all items are present.

LOOSE PARTS:	LBIT Double	
Name	Part Number	Quantity
Urn Filling Tube	560005292	1
3/4" X 1/2" Barb Fitting	560005289	1
Install Instructions - English	630460160	1
Install Instructions - Spanish	630460161	1
Quick Reference Guide - English	630406152	1
Quick Reference Guide - Spanish	630460153	1
Sanitizing Instructions - English	630460165	1
Sanitizing Instructions - Spanish	630460175	1
Drip Tray	560005866	1
Cup Rest	560005867	2
1/2" Union Fitting	560005721	1
Rinse Pitcher	560005277	2

### 3. Drip Tray Plumbing Procedure:

- **Permanent Drain Connection:** It is highly recommended that the drip tray be connected to a permanent drain tube. The drain hole in the rear of the drip tray must first be drilled out with a 5/16" (0.79 cm) drill bit. A plastic drain tube .50" (1.27 cm) outside diameter (not provided) should then be pushed into the open end of the coupling. The drain tube must be routed through the lower, rear opening of the housing. The exterior drain plumbing must comply with local codes. A coupling is provided to connect the permanent drain tube. The coupling should be pushed over the 1/2" port on the drip tray.
- **No Drain Connection:** Optionally, the drip tray may be installed without connecting to a permanent drain tube. In such case the drip tray will need to be emptied manually, and the water heater over flow tube must not be emptied into the drip tray. The overflow tube must first be disconnected from the vertical nozzle hidden behind the center support of the lower housing (must remove lower door to expose). Then the overflow tube must be lengthened with a barbed splicer and a tube extension not supplied with the dispenser. The lengthened overflow tube must then be routed through the lower, rear opening of the housing. The exterior drain plumbing must comply with local codes.



**WARNING:** Failure to route the overflow tube away from the drip tray could result in overflow of hot water from the drip tray and cause personal injury.



**WARNING: Battery Life**  
Disconnecting the power supply or turning the power switch off for longer than 48 hours will result in a service call to reprogram the dispenser. The battery will recharge itself when the power is restored to the board.

## INSTALLATION PROCEDURE

### LBIT Installation and set up sequence

**NOTE:** Read all of these directions before starting installation.

**NOTE:** The LBIT must be installed with adequate backflow protection to comply with applicable federal, state, and local codes.



**FIGURE 1 Installation Procedure**

The following sections include the brewer's installation and set up procedures.

### **FILLING THE WATER TANK**

1. Install the Water Filter supplied between the incoming water line and the brewer.
2. A Water Booster Kit should be added if the water pressure to the unit is below 40-psi static pressure or 35-psi flowing pressure. A Water Pressure Regulator should be added if the static pressure is above 70-psi.
3. Connect the 3/8-inch water filter outlet to the water inlet fitting on the back of the brewer. Connect sweetener BIB to the 1/4-inch sweetener inlet tube.
4. Connect the Power Cord to a dedicated 115-volt, 15-amp circuit. Turn the ON/OFF power switch located on the back of the unit to the ON position.
5. Slide open the top front access door and press the (-) key for 5 seconds to unlock the key pad.
6. Press Menu key until Enter SET-UP? is displayed.
7. Press and hold the STOP key and then press the RINSE key to enter SET-UP.
8. Press (>) and then the (#) key to enter TANK STATUS and then read the flash screen. The Hot Water Tank screen will be displayed. It will read Is Set To EMPTY.



9. Press (>) key to advance to the FILL WATER TANK screen.
10. Place one of the pitchers that were supplied under the right nozzle.
11. Pull the Right Lever to fill the Hot Water Tank. Release Lever when water begins to pour from the Nozzles. It should take approximately 2 minutes to fill the tank.
12. Press (>) key twice until the Hot Water Tank screen is displayed.
13. Press (+) key to change the Hot Water Tank status to Is Set To FULL. This will start the tank heater. The heater relay will be turned ON. It will take approximately 15 to 20 minutes for the temperature of the water in the tank to reach the desired brewing temperature 160°F minimum to 180°F maximum.
14. Press (<) key and then the (#) key to exit the TANK STATUS.

### **SET-UP TEA EXTRACT**

1. Press (>) key twice and then the (#) key to enter SETUP TEA SYRUP?.
2. Remove tea extract bag from cardboard box. Handle with care. Unplug Cap from bag. Hook the blue/white connector in the brewer to the bag. Ensure that the connector is snapped twice and tight. Hang the bag with the two holes in the end of the bag to the two red pegs in the brewer, with the connector facing inside of the unit.
3. Place both pitchers that were supplied - one under each nozzle.
4. Pull both levers to prime the Tea Pumps. Release levers when Tea Syrup runs from both Nozzles.
5. Press (<) key and then the (#) key to exit SETUP TEA SYRUP?.



## SET-UP SWEETENER

1. Press the (#) key to enter SETUP SWEETENER. Read the flash screen.
2. Verify that the Unit is set for Sweet, if not press (+) key to set the unit for sweet.
3. Press (>) key to advance to the PRIME SWEET LINE screen.
4. Pull the Right Lever to fill the sweetener lines. Release lever when sweetener pours from the Right Nozzle.
5. Press (>) key to advance to the TEST SWEETENER screen.
6. Pull the Right Lever to dispense sweetener. The unit will dispense sweetener for 10 seconds. A normal setting is 115 ml in a 10-second pour (approx. 10 brix). Turn far right sweetener flow control all the way counter-clockwise as a starting point (approx. 5 brix). Turn the knob clockwise to increase sweetness. Do not turn knob more than 2 full turns clockwise to at which point maximum sweetness (approx. 15 brix) is reached.
7. Press (>) and then the (#) key to exit SETUP SWEETENER?.

## SET-UP COLD WATER

1. Press the (#) key to enter SETUP COLD WATER.
2. Pull a Lever to dispense cold water. The unit will dispense for 10 seconds. Measure volume of cold water dispensed in the measuring pitcher. It should be 587 ml of cold water for the unsweetened tea spigot, and 472 ml cold water for the sweetened tea spigot. Turn the valve adjusting screws clockwise to increase flow, and counter-clockwise to decrease flow.
3. Press (>) key and then (#) key to exit SETUP COLD WATER.

## SET-UP HOT BREW WATER

1. Press (#) key to enter SETUP HOT BREW.
2. Pull a Lever to dispense brew water. The unit will dispense for 10 seconds. Measure volume of brew water dispensed in the measuring pitcher. It should be 147 ml of water for each spigot. Turn the valve adjusting screws clockwise to increase flow, and counter-clockwise to decrease flow.
3. Press (>) and then the (#) key to exit SETUP HOT BREW.



4. Press (>) and then the (#) key to exit SETUP.

**NOTE: It is necessary to have the power connected and the ON/OFF switch in the ON position for at least 20 minutes before setting the Clock and Rinse Times.**

**This is necessary to insure the battery has sufficient power to retain the settings.**

## **SET-UP THE CLOCK AND RINSE TIMES**

1. Press MENU until ENTER SET TIME? is displayed.
2. Press (#) key to enter SET TIME.
3. Press (>) and then the (#) key to enter SET CLOCK?. Read the flash screens. Press (>) or (<) key to move the cursor. Press (+) or (-) key to change settings. Press (#) key twice to save new setting.
4. Contact manager or the “Decision Maker” of the restaurant. Request a Time of the day when the brewer will be cleaned. Recommend a time when they open the restaurant in the morning. This time should be when they normally clean their dispensing equipment, or when there are no customers at the restaurant, or a slow time of the day.
5. Press (#) key to enter SET RINSE TIME?. Read the flash screens. Set the rinse time according to the procedure in step 37.
6. Press (#) key twice to save the rinse time.
7. Press (#) key to exit SET TIME.

## **INITIAL RINSE CYCLE/FINAL ADJUSTMENTS**

1. Press MENU until ENTER DATA VIEW? is displayed.
2. Press (#) key and then the (>) key 2 times until Hot Water (F) Temperature is displayed. Read the flash screen.
3. Wait for the display to indicate a steady temperature of at least 170°F.
4. Press (<) key 2 times and then the (#) key to exit DATA VIEW.
5. Press RINSE key and then the (+) key 3 times to start a RINSE CYCLE. Follow instructions displayed on the screen and perform the RINSE operation. The 5th flush will prime the system and will display Run Ready to serve.



6. Pour glass of tea over ice and serve the Restaurant Manager to taste.
7. If strength of tea requires an adjustment, press MENU key until ENTER SETUP? is displayed. Press and hold the STOP key and then press the RINSE key to enter the SETUP screens.
8. Press (>) key 3 times until SETUP TEA SYRUP is displayed, and then press (#) key to enter SETUP TEA SYRUP. Press (>) key twice to advance to STRENGTH - Right Spigot. Press (+) or (-) keys to adjust tea strength as desired. The total sample of adjustment for the installer is from -20% to +20%.
9. Press (>) twice and repeat above strength adjustment procedure for left spigot.

**Note: The operator can make additional Tea Strength adjustments by using the menu key to scroll to the ADJUST STRENGTH mode and following the instructions on the display. Range +/-5%. Explain this procedure to the store manager.**

10. Press (>) key and then (#) key to exit SETUP TEA SYRUP.
11. Press (>) 4 times, and then press (#) key to exit SETUP.
12. Press the RUN key to advance to normal operation.
13. If Sweetener adjustment is required, turn the knob IN (Clockwise) for a higher sweetener flow rate. Turn the knob OUT (counter clockwise) for a lower sweetener flow rate. Reference step 22.

## RINSE CYCLE PROCEDURE (GENERAL)



**WARNING: This unit dispenses HOT water (160° F. - 205° F. (71°C. - 96°C.)) during the rinse cycle.**

1. If the display says “Rinse Required Go to Rinse Mode” a rinse must be performed before the unit will operate.
2. Place the 1000 ml capacity pitcher provided with the dispenser under the spout. During the rinse procedure, **hot water will be dispensed: Caution must be taken.**

**CAUTION: Use the pitcher provided with the dispenser to avoid possibility of overfilling and tipping. Otherwise, use a pitcher with the following specifications:**



- **Minimum Fill Capacity: 34 oz (1.0 liter)**
- **Diameter: 4.0 to 5.0 in. (10 cm. to 12.7 cm.)**
- **Maximum Height: 8.0 in. (20 cm.)**
- **Temperature Rating: 210°F (99°C.)**

**Note: If the rinse procedure is not completed within 1 hour after starting, it will be canceled and the entire Rinse Cycle will need to be run again.**

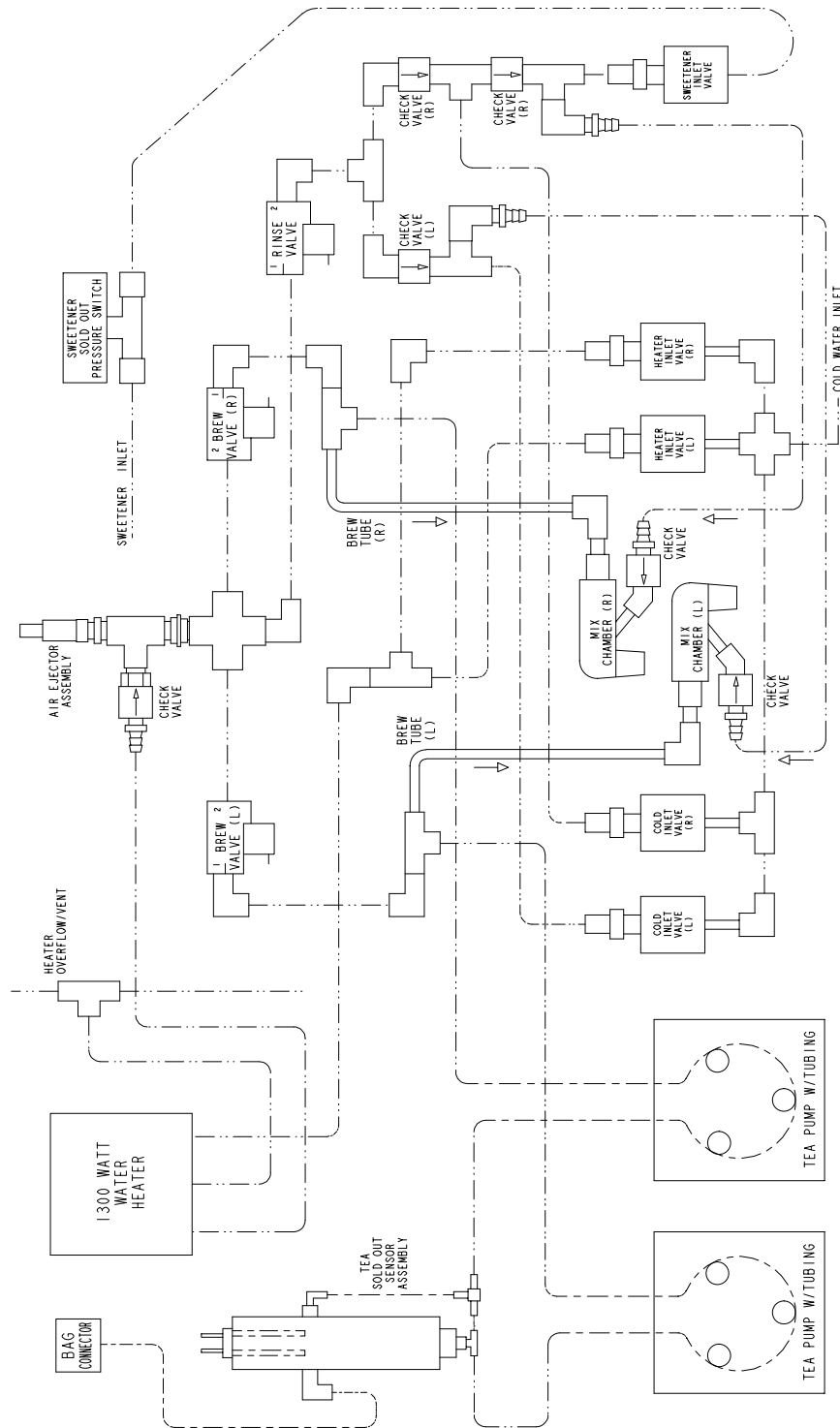
3. Press the RINSE key and follow the instructions on the display
4. Place the pitcher provided with the brewer under the spout or follow pitcher specifications provided above to select a pitcher to collect the **HOT** rinse water
5. Pull the handle down to start the flow of **HOT** water. 1 of 5 will be displayed.
6. When water stops flowing, return the handle to the up position.
7. The rinse cycle consists of 5 separate **HOT** water pours plus 1 normal product pour for a total dispense of 18 ounces (532 ml.). The operator will be prompted by the display screen to dispense a pour every 80 seconds and the pours will be displayed 1 of 5, 2 of 5 etc. until the rinse procedure is complete. The complete rinse cycle will take about 7 minutes.
8. At the end of the 5 **HOT** water pours and 1 product pour pull up the lever and press the RUN key to return to normal operation.

**Note: A rinse cannot be performed if the water temperature is less than 160°F.**



**CAUTION: The heater tank contains no replaceable parts. The entire heater tank must be replaced if service is required.**

## DIAGRAMS



**FIGURE 2 Plumbing Diagram**

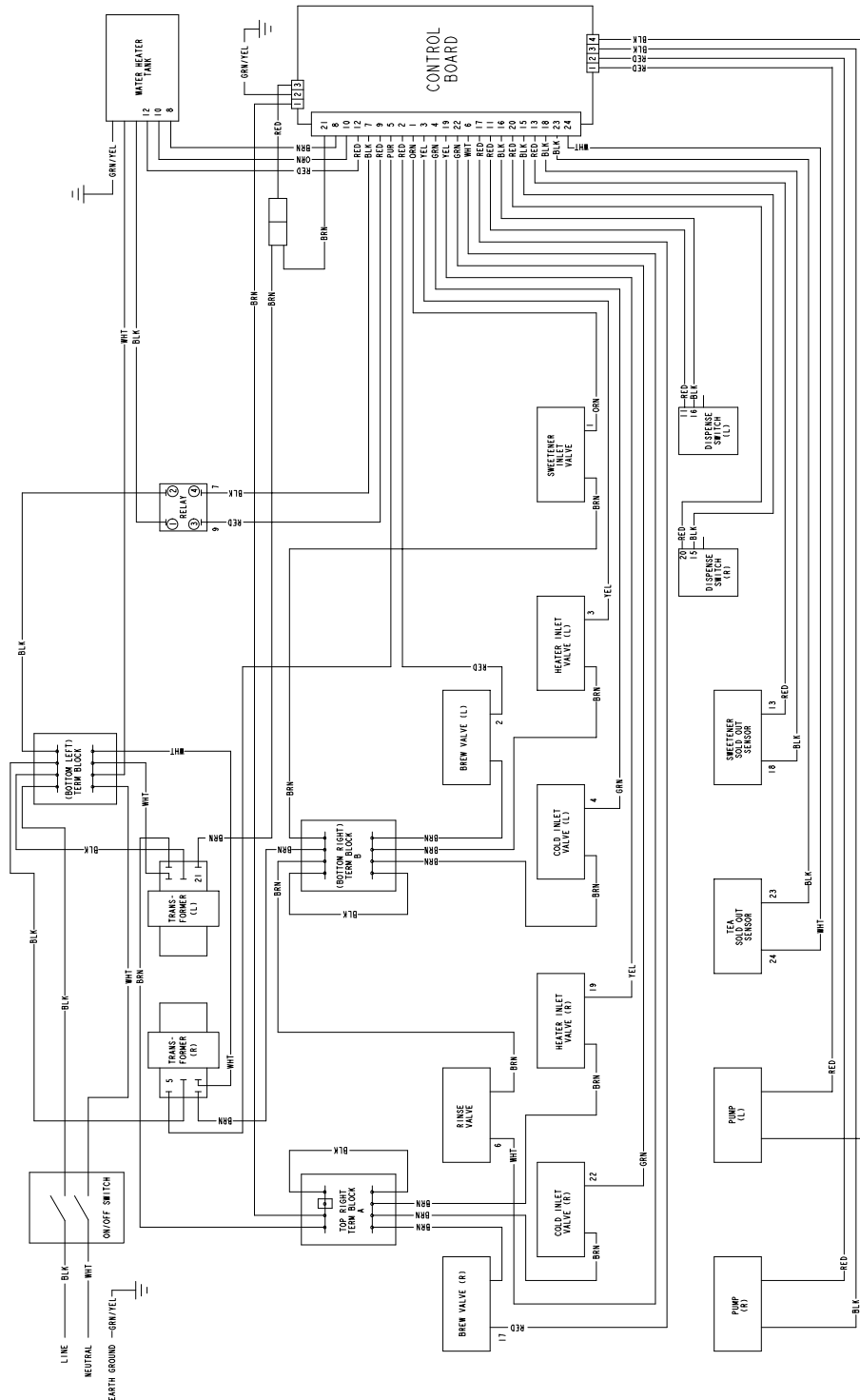


FIGURE 3 Wiring Diagram



## SWEETENER BIB Installation (General)



**WARNING: To avoid personal injury and/or property damage, always secure CO2 cylinder in upright position with a safety chain to prevent it from falling over. Should valve become accidentally damaged or broken off, CO2 cylinder can cause serious personal injury.**

1. Adjust sweetener pump CO2 regulator with 100-psi gage to between 45 and 65-psi (80-psi maximum).
2. Connect Bag-in-Box into the Sweetener system.
3. In the electronic display, scroll to “SET-UP MODE” by using the MENU key. Open the service menu by pressing and holding the STOP key while pressing the RINSE key at the same time.
4. Scroll to “SET-UP SWEETENER” then press (#) to enter.
5. Scroll to “UNIT IS SET FOR” screen by pressing (>) key. Toggle the sweetener valve from OFF (disabled) to ON by pressing the (+) key.
6. Press the (>) key twice to “TEST SWEETENER” screen. Hold the spigot open do a 10 second sweetener pour. This is used to calibrate the amount of sweetener to be dispensed during a normal pour sequence.
7. Press the Run key to return to normal operation.

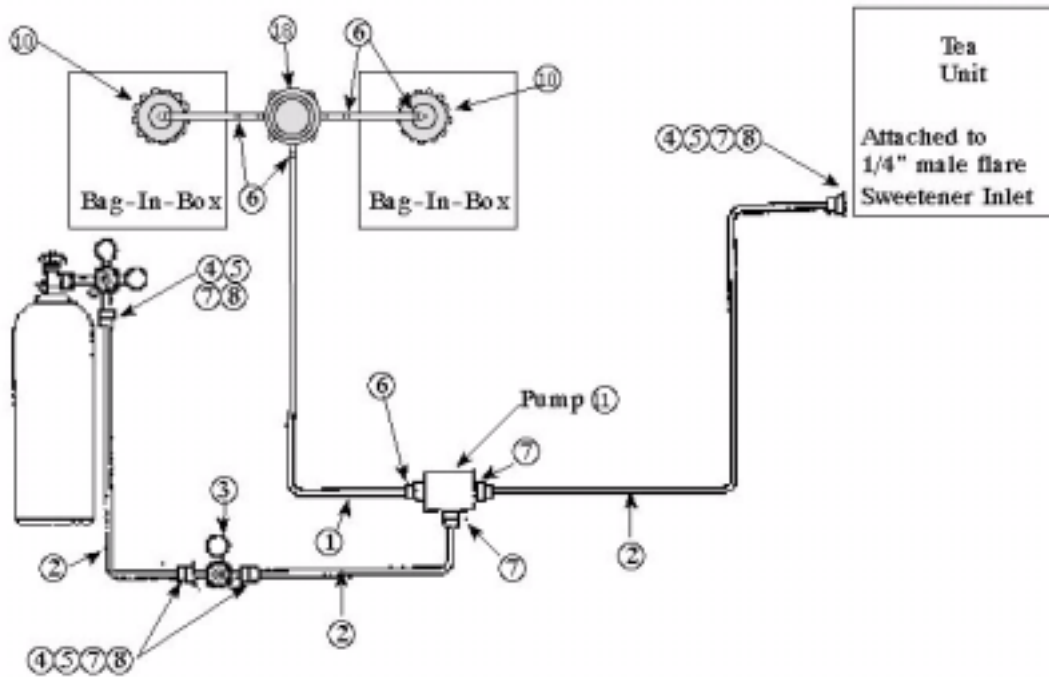
## Maintenance



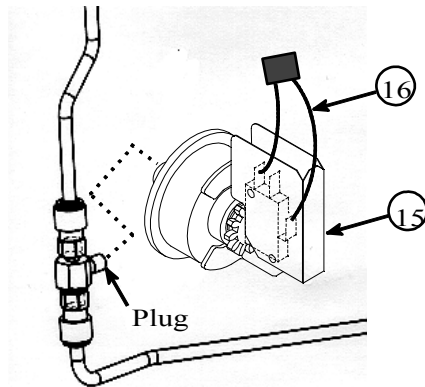
**WARNING: CO2 displaces oxygen. Strict attention must be observed in the prevention of CO2 (carbon dioxide) gas leaks in the entire CO2 and soft drink system. If a CO2 gas leak is suspected, particularly in a small area, immediately ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentration of CO2 gas will experience tremors which are followed rapidly by loss of consciousness and suffocation.**

1. Make sure CO2 and syrup supplies are maintained at all times.
2. Remove syrup accumulation form the Bag-in-Box connectors by immersing and washing them in warm water.

- To replenish the sweetener supply, disconnect sweetener line connector from the empty Bag-in-Box, then connect sweetener line connector to a full box.



**FIGURE 4 Bag-In-Box Sweetener System Diagram**



**FIGURE 5 Sweetener Line & Soldout Switch Inside the Unit**

Required Tubing Size:

Standard System Distance - tanks to dispenser	Tubing Size (i.d.)
1 - 50 ft	1/4 inch
51 - 250 ft	3/8 inch
250 ft	1/2 inch





## SERVICE

Service consists of:

- Scheduled Maintenance
- Preventative Maintenance
- Troubleshooting

### SCHEDULED MAINTENANCE

Scheduled maintenance consists of:

- Daily cleaning
- Daily system flush (hot water rinse) procedure
- Monthly sanitizing procedure

### Daily Cleaning

1. Prepare the following in four clean buckets.
  - Rinse bucket – fill with clean tap water.
  - Detergent bucket: mix a solution of mild detergent and warm water.
  - Hot rinse pitcher: fill with clean hot water from either the dispenser or from the tap.
  - Empty catch pitcher: empty pitcher to catch the hot water.
2. Remove cup rest and drip tray, submerge them in the detergent bucket and clean them with a brush or cloth.
3. Remove each part and submerge them into the rinse bucket to remove the detergent.
4. Place the empty catch pitcher under the nozzle(s). Press the STOP key. Pull the lever and leave in the down position. Slowly pour the hot water from the pitcher over the area where the lever attaches to the spigot. Return the lever to the upright position. Press the RUN key.
5. Remove nozzle from valve, clean in detergent, rinse in clean water.
6. Place each part on a clean counter to air dry or dry with clean dishtowel.
7. With a clean soft damp cloth wipe off the entire exterior of the brewer. Clean any product or stains from the area surrounding the brewer.

**Note: Hot water rinse must be performed once daily as programmed. Failure to comply will result in electronic lock-out and the brewer will not dispense product.**

**Note: If the urn filler tube is being used it will need to be cleaned per these instructions.**

## Daily System Flush (Hot Water Rinse) Procedure



**WARNING: This unit dispenses HOT water (160° F. - 205° F. (71°C. - 96°C.)) during the rinse cycle.**

Press the RINSE key to place the brewer in the rinse cycle mode. In this mode the brewer will require user intervention to initiate each flush of hot water through the system. This is done by opening the spigot when prompted to do so on the display. After the rinse is completed, the brewer automatically returns to run mode.







## Monthly Sanitizing Procedure

1. Prepare the following in six clean buckets:
  - Two wash buckets – mix a solution (one Tablespoon/gallon) of mild, low-sudsing, detergent with warm water (refill as necessary).
  - Two rinse buckets– fill with warm tap water (refill as necessary).
  - Two sanitizing buckets – mix a solution of one Tablespoon unscented household bleach (5.25% Cl Na O concentration) with two gallons of tap water. The mixture should provide 100 PPM of available chlorine (Refill as necessary).
2. Unscrew the nozzle from the dispensing valve. Wearing sanitary gloves, gently clean the nozzle with a soft brush, removing any product from around the screw threads and place nozzle into the sanitizing bucket. Dip the brush into the sanitizing bucket and insert it into the bottom of the dispensing valve. Gently rotate brush in the threaded area, removing any product. Remove nozzle from the sanitizer and screw back onto the valve.
3. Place a clean, container (one quart or larger) beneath the nozzle. (Empty as required)
4. Disconnect the Bag-in-Box connectors from the tea and sweetener containers.
5. Remove the end caps located opposite the tubing connections on the bag-in-box connectors.
6. Disconnect the Tea Sold-Out Chamber from the clip on the back wall of the tea extract compartment. Disconnect the electrical probe wire harness at the top of the chamber. Stretch out the tea line assembly so that it is sloped downward towards an empty container. Remove the tea sold out probe, this will allow the sold out chamber to drain all old tea extract out. Discard old tea extract. Replace probe and wire harness, keeping the Tea sold out chamber lying on its side during the Sanitizing procedure. Replace chamber in clip as positioned prior to removal once sanitizing is complete.
7. Place the connectors and end caps into a detergent bucket. With a soft cloth or brush, clean the connectors, and then swirl them in the detergent until clean. Clean the end caps.
8. Place the tea extract connector into one of the detergent buckets and the sweetener connector into the other detergent bucket prepared in step 1.
9. Open the dispensing valve lever to prime the tea pump. When priming the tea pump position the Tea sold out chamber such that the tubing is in the up position and the fitting is down. When the pump is primed, press **RUN** to pull detergent through both the tea and sweetener systems.



10. After all of the detergent solution has been run through the system. Repeat step 6 above to completely empty the Tea Sold-Out Chamber of detergent.
11. Place the connectors and end caps into the two rinse buckets that were prepared above. Repeat steps 8 and 9 to run the rinse solution through the system.
12. After all of the rinse solution has been run through the system. Repeat step 6 above to completely empty the Tea Sold-Out Chamber of rinse solution.
13. Place the connectors and end caps into the two Sanitizing buckets that were prepared above. Repeat steps 8 and 9 to run the sanitizing solution through the system.
14. After all of the Sanitizing solution has been run through the system, replace the end caps removed in step 5 and reconnect the Bag in Box Connectors onto their respective bags.
15. Using the Tea extract and Sweetener, dispense 3 to 4 quarts (2.84 L to 3.79 L) of finished product to insure that the Sanitizer is purged from the system.
16. Perform manual hot water rinse and push **RUN** to return to normal operation.

**Note: If the urn filler tube is being used it should be cleaned and sanitized per these instructions.**

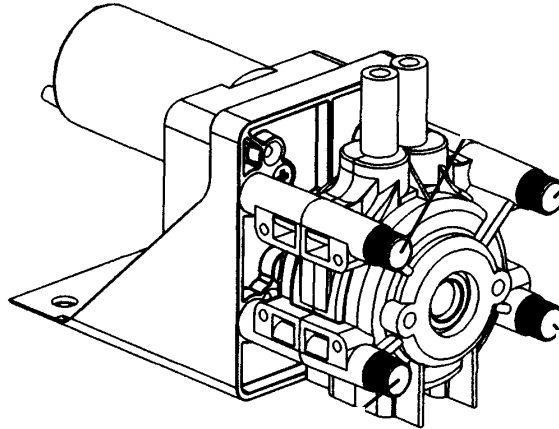
## **PREVENTATIVE MAINTENANCE**

Preventative maintenance consists of:

- Pump tubing replacement

## Annual Pump Tubing Replacement Procedure

The pump tubing must be replaced annually. A replacement pump tubing kit, part # 631500149, is available. The kit consists of one pre-cut length of pump tubing, two hose clamps, and instructions.

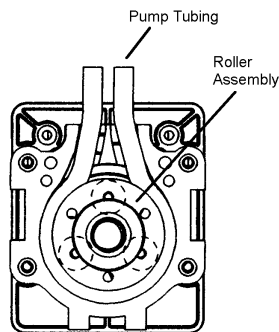


**FIGURE 6 TEA EXTRACT PUMP**

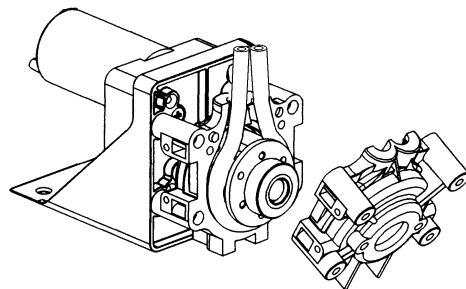
### REPLACING PUMP TUBING

Replace pump tubing as follows:

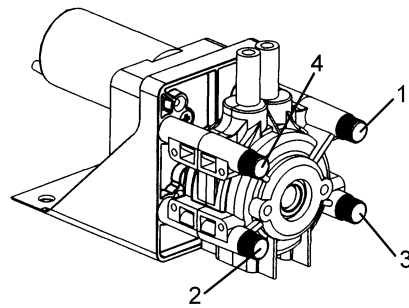
1. Remove pump/motor assembly from the metal pump mounting bracket.
2. Remove the hose clamps from the pump tube connections. Remove the extract delivery tubes from the hose ends.
3. Loosen and remove the four thumb screws from the pump body.
4. Remove the bottom pump body half **only** to reveal the pump tube and rollers.

**FIGURE 7**

5. Remove the old pump tube from the pump body. If the roller assembly comes out with the tubing, place it back into the pump housing being sure to align the roller assembly shaft keyway to the motor shaft so that the two interlock.
6. Firmly press the new hose into the pump body around the roller assembly, being sure to keep the protruding ends even with each other.

**FIGURE 8**

7. Once the tubing is in place, hold the tubing with one hand, capture the lower part of the tubing with the outer housing, then proceed to capture the shaft of the roller assembly and push the rear pump housing into place. Make sure to capture the tubing within the body and not pinch it between the halves. Do not use any tool other than your finger tips to manipulate the tubing into the housing or you may damage the tube.
8. While holding the pump halves together with your hand, reinsert the four thumb screws and tighten using a criss-cross pattern as shown. The thumb screws should be tightened about  $\frac{1}{4}$  turn beyond snug.



**FIGURE 9**

9. Insert the extract delivery tube into the pump tubing ends and secure them using the new hose clamps supplied in the kit. Be sure to use pliers to squeeze and tighten the hose clamps.
10. Re-install the pump/motor assembly on the pump mounting bracket.

## TROUBLESHOOTING



**IMPORTANT:** Only qualified Personnel should service internal components or electrical wiring.



**WARNING:** If repairs are to be made to a syrup system, disconnect extract supply from the applicable syrup system, then relieve the system pressure before proceeding. If repairs are to be made to the CO<sub>2</sub> system, stop dispensing, shut off the CO<sub>2</sub> supply, then relieve the system pressure before proceeding. If repairs are to be made to the unit electrical system, *make sure* electrical power is disconnected from the unit before proceeding.

Should the brewer fail to operate properly, check that there is power to the brewer. If the brewer does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

**Diagnostic Tools Needed:** Thermometer (suggested range 150°F to 210°F), Multimeter & Amp Probe

**NOTE:** Contact NGB Service for additional information and help troubleshooting the beverage system. **FRESH BREWED SERVICE:** 1-(866)-LiptonT (547-8668) [liptonT@ngbservice.com](mailto:liptonT@ngbservice.com)



Trouble	Probable Cause	Troubleshooting & Repair Procedures
NO HOT WATER	<ul style="list-style-type: none"><li>• No power to heater.</li><li>• Heater open or shorted.</li></ul>	<ul style="list-style-type: none"><li>• Check power supply or loose wires.</li><li>• Check heater.</li><li>• All new production has a manual reset on the thermostat.</li><li>• Tank: When heating will draw approximately 10 amps draw, measured at the black wire on the harness to the tank. The tank will heat water at about 12°F per minute.</li><li>• Low Power Mode: Unit will go into a low power mode when tank temperature reaches 170°. In low power mode, the tank will only heat for 20 seconds out of every minute. (40 seconds off/20 seconds on).</li><li>• Full power to the tank will resume if the water tank temperature drops below 165°F.</li><li>• Unit will shut off heater relay if water temperature exceeds 215°F. A high temperature message will appear on the data mode screen. To turn the heater relay back on, the tank temperature must drop below 215°F.</li><li>• Unit will lock out the RINSE on low temperature if the tank temperature is below 160°F., the display will say, "Heating, please wait". In RUN mode, it will still dispense if the water temp is below 160°F.</li><li>• The thermostat on the tank acts as a redundant temperature control. The circuit board monitors tank temperature controls power supplied to the heater.</li></ul>





Trouble	Probable Cause	Troubleshooting & Repair Procedures
<p>NO HOT WATER (CONT.)</p>	<ul style="list-style-type: none"> <li>• Heater open or shorted (cont.).</li>   <li>• Defective solid state relay.</li>   <li>• Low Temperature Lockout Error.</li> </ul>	<ul style="list-style-type: none"> <li>• Thermostat adjustments should be in small increments. We are only using the bottom part of the total adjustment range of the thermostat. Usually the tank is adjusted to one tick mark above medium.</li> <li>• Replace tank.</li>   <li>• Relay is solid state. Cannot check its function off of unit since, it requires a load on the output side to be able to check it correctly.</li> <li>• If it fails, it would tend to fail in the forward (on) position. If it failed, the tank would be cycling on the tank thermostat only, no low power mode or high temp. lock out would be available.</li> <li>• On initial startup, the relay would be on 100% of the time, until 170° F is reached. Once 170° F has been reached the relay would begin to cycle on low power mode. Signal voltage from the control module would supply 3.3 VDC to the low side, terminals #3 (red) and #4 (black) of the relay. The high side of the relay would handle the AC line voltage to the tank thermostat.</li> <li>• Remember, when checking the relay for function, that under the low power mode it will only get a signal voltage from the control module for 20 seconds out of every minute. To check accurately for signal voltage, a meter must be monitored on the low side for at least a minute.</li> <li>• Check the high side for voltage, terminals #1 and #2. There should be line voltage all the time between terminal #2 on the relay and neutral, but there should only be line voltage between terminal #1 and neutral when there is signal voltage to #3 and #4.</li>   <li>• Low Temp Lockout errors prevent against an open circuit to the temperature sensor. A Low Temp Lockout error locks the heater relay off.</li> <li>• Check that the connection to the temperature sensor is good. Clear the error by entering the TANK STATUS mode enter the Set-up menu.</li> </ul>



Trouble	Probable Cause	Troubleshooting & Repair Procedures
<p>NO HOT WATER (CONT.)</p>	<ul style="list-style-type: none"> <li>• No water entering tank.</li>   <li>• No power to control board.</li>   <li>• Defective Hot water valve.</li> </ul>	<ul style="list-style-type: none"> <li>• Check water supply.</li> <li>• Plugged water filter.</li> <li>• See “defective hot water valve”</li> <li>• Same coil used for Hot, Cold, and Sweetener Valve.</li> <li>• Utilizes standard piston and sleeve flow control.</li> <li>• The Ohm resistance for the coil is approximately 6 Ohms.</li>   <li>• Check power supply and 24V transformer.</li> <li>• Uses two standard (80 VA) beverage transformers.</li> <li>• Voltage output should be approximately 27 VAC. with no load. Under load the output should be between 22 and 25 VAC. No lower than 22 VAC.</li> <li>• As viewed from the rear. The left transformer supplies power to the KIP valves and flow control valves (power is only switched through the control module).</li> <li>• The right transformer supplies power to the board and for the pump motor.</li>   <li>• Check adjustment.</li> <li>• Check coil resistance.</li> <li>• Same coil used for Hot, Cold, and Sweetener Valve.</li> <li>• Utilizes standard piston and sleeve flow control.</li> <li>• The Ohm resistance for the coil is approximately 6 Ohms.</li> <li>• Check for restrictions.</li> <li>• Check for power to coil.</li> <li>• As viewed from the rear. The left transformer supplies power to the KIP valves and flow control valves (power is only switched through the control module).</li> </ul>





Trouble	Probable Cause	Troubleshooting & Repair Procedures
BAD TASTE	<ul style="list-style-type: none"> <li>• No extract.</li> <li>• No sweetener.</li> <li>• Poor water quality.</li> <li>• Ratio setting wrong.</li> <li>• Extract has exceeded shelf life.</li> <li>• Not sanitized properly.</li> <li>• Defective extract pump.</li> <li>• Pump tubing past P.M. date.</li> </ul>	<ul style="list-style-type: none"> <li>• Check extract supply.</li> <li>• Check supply lines.</li> <li>• Check pump motor and tubing.</li> <li>• Check BIB connector.</li> <li>• Check BIB connector.</li> <li>• Check sweetener supply.</li> <li>• Check valve assembly.</li> <li>• Check for restrictions.</li> <li>• Check BIB pump and gas supply.</li> <li>• Add or replace filter.</li> <li>• Calibrate.</li> <li>• Check for kinked extract tubing.</li> <li>• Replace extract.</li> <li>• Sanitize per procedure.</li> <li>• Repair or replace pump.</li> <li>• Replace tubing.</li> </ul>
WON'T DISPENSE	<ul style="list-style-type: none"> <li>• Defective valve micro-switch.</li> <li>• No power to valve micro-switch.</li> <li>• Control board failure.</li> <li>• Not in the run mode.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace.</li> <li>• With the wires disconnected, check function of switch with Ohm meter, check between the common and normally open terminals while activating switch.</li> <li>• Replace switch.</li> <li>• Check the signal voltage from the circuit board. There should be approximately 2.4 VDC signal voltage from the board.</li> <li>• Check supply 115V and 24V.</li> <li>• Check board functions.</li> <li>• Verify ready to run message.</li> </ul>
WON'T GO INTO RINSE.	<ul style="list-style-type: none"> <li>• Low water temperature.</li> </ul>	<ul style="list-style-type: none"> <li>• Heater not working.</li> <li>• Unit will lock out the RINSE procedure on low temperature if the tank temperature is below 160°F., the display will say, "Heating, please wait". In RUN mode, it will still dispense if the water temp is below 160°F.</li> <li>• Defective sensor.</li> <li>• Overdrawn heater capacity.</li> </ul>



Trouble	Probable Cause	Troubleshooting & Repair Procedures
EXCESSIVE BURPING (CONSTANT DISCHARGE FROM BURP TUBE)	<ul style="list-style-type: none"> <li>• Temperature too high.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-adjust thermostat (see no Hot water).</li> </ul>
WATER IN BOTTOM OF BREWER	<ul style="list-style-type: none"> <li>• Examine for leaks.</li> <li>• Air ejector leaking.</li> </ul>	<ul style="list-style-type: none"> <li>• Repair or replace leaking component.</li> <li>• Repair or replace.</li> <li>• Check to see that the ball in the air ejector is not stuck. If the ball is stuck, homogeneity problems will result. One symptom of the ball being stuck can be air pockets going out through the dispense nozzle.</li> <li>• The fitting should be finger tight only.</li> </ul>
WATER UNDER BREWER	<ul style="list-style-type: none"> <li>• Water temperature too high.</li> </ul>	<ul style="list-style-type: none"> <li>• Measure and adjust as necessary.</li> <li>• Unit will shut off heater relay if water temperature exceeds 192°F. A high temperature message will appear on the data mode screen. To turn the heater relay back on (two things are required), first the tank temperature must drop below 192°F and then the operator needs to press Run to put the unit back into operation (See advisory).</li> </ul>
CLOUDY TEA	<ul style="list-style-type: none"> <li>• Air injector not venting.</li> <li>• Low brewing temperature.</li> <li>• Exceeding capacity of unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Repair or replace.</li> <li>• Check to see that the ball in the air ejector is not stuck. If the ball is stuck, homogeneity problems will result. One symptom of the ball being stuck can be air pockets going out through the dispense nozzle.</li> <li>• The fitting should be finger tight only.</li> <li>• See No Hot Water.</li> </ul>



## **SERVICE ADVISORY**

**PRODUCT: LIPTON BREWED ICED TEA DISPENSER (LBIT)**

**SUBJECT: "HEATING, PLEASE WAIT" MESSAGE**

**ADVISORY RELEASE DATE: MARCH 23, 2001**

### **Diagnostic Overview**

A "Heating, Please Wait" message may appear during a programmed rinse. This message indicates that the hot water temperature is less than the minimum temperature of 160 degrees Fahrenheit needed to initiate and complete the programmed rinse cycle.

There are several possible causes if the message does not go out within 10 minutes-- 1) the thermostat needs adjustment, 2) the solid state relay has failed, 3) the re-settable thermal fuse on the heater tank has opened, 4) the heating element is bad, or 5) the displayed temperature is not accurate. If the dispenser has operated normally for more than several days, then the most likely cause is that the thermostat needs adjustment. This advisory provides a procedure to adjust the thermostat if the thermostat is determined to be the cause of the "heating, please wait" message.

Before proceeding to adjust the thermostat, the service agent must first verify that the relay, re-settable thermal fuse and heating element are operating normally. Please consult the Cornelius troubleshooting guidelines to obtain specific diagnostic procedures for these components. If any of these components are found to be bad, then replace the bad components and verify unit operation before proceeding to adjust the thermostat. Note--if the thermal fuse or heating element are bad, then the entire water heater assembly must be replaced.

It is also a good idea to verify that the displayed temperature (as shown while in DATA mode) is within 5 degrees of the hot water temperature as measured during a 15 second dispense from the spigot. If not then there could be a bad temperature sensor wire connection.

### **Thermostat Adjustment**

Enter the SERVICE mode and check error messages. If the error display reads "Heater Lockout -- Call Service" then the thermostat is adjusted too high, and must be adjusted lower. Otherwise, the heater thermostat is adjusted too low and must be adjusted higher.

Switch power OFF using the power switch at the rear of the unit and unplug the power cord from the electrical outlet. Remove the rear plastic housing and remove the cover on the back of the hot water tank to access the heater thermostat. The thermostat has a dial that can be adjusted with a screwdriver to a higher or lower setting as appropriate. It is recommended that the adjustment be made in no greater than 1/2 of the numbered increments on the scale. Adjusting the thermostat dial clockwise to a higher numbered increment causes an increase in hot water temperature. Once the appropriate adjustment has been made, replace the thermostat cover and the rear housing, plug the unit back in and switch the power to ON.

### **Verify Hot Water Temperature**

Enter the SERVICE mode and dispense hot water for 3 minutes continuously. This will reduce the tank temperature to less than 100 degrees Fahrenheit. To clear the error message "Heater Lockout -- Call Service" and to re-start the water heater -- exit the SERVICE mode and press the RUN key. Next, enter the DATA mode to monitor the displayed tank temperature during the heat-up period. After approximately 20 minutes the tank should be heated to its maximum temperature. Verify that the displayed temperature is between 172 and 185 degrees Fahrenheit. If not, then re-adjust the thermostat up or down as needed by repeating this procedure.



## WARRANTY

IMI Cornelius Inc. warrants that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your Cornelius product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number and the date of purchase.

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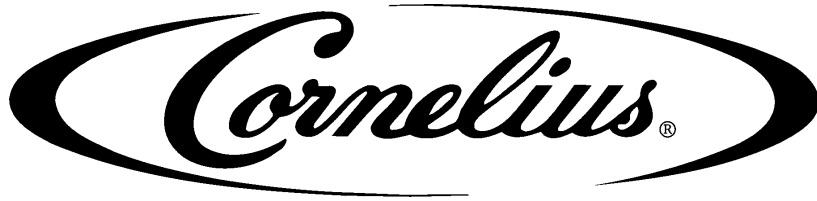
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**Total Systems Commitment**

