

# CAPPUCCINO DISPENSERS



## GB models:

- LOW PROFILE [LP]
- BUDGET [K]
- SPACE SAVER
- SKI
- SUPER SKI

## OPERATION MANUAL

<b>Specifications.....</b>	<b>2</b>
<b>Installation and Operating Instructions.....</b>	<b>3</b>
<b>Adjustments.....</b>	<b>6</b>
<b>Trouble Shooting Guide.....</b>	<b>10</b>
<b>Care and Maintenance.....</b>	<b>11</b>
<b>Parts Identification.....</b>	<b>16</b>
<b>Wiring Diagrams.....</b>	<b>22</b>

**Cecilware sells value... Worldwide**

**Cecilware Corporation**

43-05 20th Avenue, Long Island City, NY 11105

Tel: 718-932-1414  
1-800-935-2211

Fax: 718-932-7860  
E-Mail: [customer.service@cecilware.com](mailto:customer.service@cecilware.com)



OPERATION MANUAL  
NA33A-F JAN-2009

Mechanical Specifications										
MODEL:		Width In	Depth In	Height In	Hoppers Qty	Hoppers Lb.	Tank US Gal.	Burst Capacity	Lit Display Area (W X H) Sq. In.	Shipping Weight Lb.
GB1M-LD	<u>SPACE SAVER</u>	8 ½	22	31 ½	1	8 SQ	2	58	(7 x 13) 91	65
GB2M-5.5-LD	<u>SPACE SAVER</u>	8 ½	22	34	2	5 ½	2	58	(7 x 13) 91	86
GB3M-5.5-LD		11	22	34	3	4	2.75	85	(9½ x 13) 123	100
GB3M-10-LD		11 ½	22	34	2 1	5½ 10 P	2.75	112	(12¾ x 13) 164	110
GB4M-5.5-LD		14 1/8	22	34	4	5½	2.75	112	(12¾ x 13) 164	120
GB5M-5.5-LD		17	22	34	5	5 ½	6	140	(12¾ x 13) 164	140
GB5M-10-LD		17	22	34	4 1	5½ 10 P	6	140	(12¾ x 13) 164	140
2K-GB-LD	<u>BUDGET</u>	8 ½	20	31 ½	2	4	2	58	(6½ x 13½) 88	70
3K-GB-LD		10	20	31 ½	3	4	2.75	58	(8½x13½) 110	81
4K-GB-LD		15 5/8	20	31 ½	4	4	3.75	58	(12½x12) 150	120
5K-GB-LD		15 5/8	20	31 ½	5	4	3.75	58	(12½x12) 150	125
5K-10-GB-LD		18	20	34	1 4	10 5 ½	6	98	(12½x12) 150	130
GB2-LP-LD	<u>LOW PROFILE</u>	8 ½	20	27 ½	2	4	2	58	(6½ x 13½) 88	70
GB3-LP-LD		11	20	27 ½	3	4	2.75	58	(6½ x 13½) 88	75
GB4-LP-LD		14 1/8	20	27 ½	4	4	2.75	58	(9¾ x 12) 117	100
GB1SKI -LD	<u>SKI</u>	8 ½	23 1/4	38	1	14 SQ	2.75	93	(7 x 13) 91	85
GB2-SKI -LD	<u>SKI</u>	14 1/8	23 1/4	38	2	14 SQ	8.5	131	(12¾ x 13) 164	140
GB2 Super SKI	<u>SUPER SKI</u>	14 1/8	24 1/4	40 ½	2	14 SQ	8.5	150	(12¾ x 13) 164	155
GB2 Super SKI-BL-LD	<u>SUPER SKI</u>	14 1/8	24 1/4	40 ½	2	14 SQ	8.5	150	(12¾ x 13) 164	155

All models are with or without -LD (Lit Display).

**Height:** Add an additional 1" when installing with 1" feet or 4" when installing with 4"legs.

**Plumbing:** ¼" water line required.

\*\* Clearance: Add 2" for line cord and valve fitting in the back of unit

\* Burst Capacity: Max. # of drinks dispensable with available hot water - based on 6 oz. cups.

Electrical Specifications								
Model No.	Volts	Phase	Hz	Watts	Number of Heaters	Amps	Receptacle Nema No.	Circuit Breaker
ALL MODELS	120V	1	60	1.8KW	1	15	5-15R	15A
ALL MODELS	120/240V	1	60	3.0KW	1	15	L14-20R**	20A
ALL EXPORT MODELS	220V	1	60	3.0KW	1	15	††	20A
GB3\4\5\SKI\Super SKI	120/240V	1	60	6.0KW	2	25	L14-30R**	30A
GB Super SKI	230V	1	60	9.0KW	3	39	HARDWIRE	50A
		1		18.0KW		78		100A
		3		18.0KW		45		60A

120V, 1.8 KW, 15A, Nema 5-15R standard on all models; 3.0 KW and 6.0 KW, 120/240V units available.

\*\* 120/240V, 3 pole, 4 wire grounding type Twist-Plug Receptacle.

For 240V units, use L6-20R or L6-30R, 2 pole, 3 wire Twist-Plug Receptacle.

†† 220V Export Receptacle to be specified where order is placed.

For Wiring, refer to Wiring Diagrams in back of manual. See Electrical Data Label attached to the back of the unit for proper voltages, breaker sizes and electrical outlet requirements for each model number listed.

## **INSTALLATION INSTRUCTIONS**

### ***Water Inlet Connection:***

This equipment is to be installed to comply with the applicable Federal, State, or local plumbing codes having jurisdiction. In addition:

1. A quick disconnect water connection or enough extra coiled tubing (at least 2x the depth of the unit) so that the machine can be moved for cleaning underneath.
2. An approved back flow prevention device, such as a double check valve to be installed between the machine and the water supply.

The GB beverage dispenser is equipped with a ¼" Flare Water Inlet Fitting which is located on the left side in the back of the base (when looking at the machine from the front).

### ***HIGHLY RECOMMENDED:***

A WATER SHUT-OFF VALVE and A WATER FILTER, preferably a combination Charcoal/Phosphate Filter, to remove odors and inhibit lime and scale build up in the machine.

Note: In areas with extremely hard water, a water softener must be installed in order to prevent a malfunctioning of the equipment and in order not to void the warranty.

After the machine has been unpacked and placed on a counter, pull out the stainless steel drip tray. It should contain the following:  
A Set of 4 Adjustable Leveling Legs & Water Inlet Fitting.

### ***START-UP PROCEDURE***

**Caution:** Make sure that the Heater Switch, located behind right hopper with door opened, is in the OFF position.

1. Connect the ¼" dia. copper waterline to the ¼" flare water inlet fitting of the valve.
2. Plug the power cord into a proper receptacle.
3. Activate the **Power Switch** (Toggle Up). The door display panel, the red power indicator light and the green dispense buttons will light up and the tank will start filling. Allow approximately 4-5 minutes for the tank to fill.
4. Activate the **Heater Switch**. Allow approximately 10-30 minutes for the water to reach a temperature of 195°F. The heat up time will depend on the water inlet temperature, the input voltage and the wattage of the elements in the machine.
5. Place a **6 oz.** or larger cup under the left dispense nozzle, press and hold the left dispense switch for 6 seconds. The machine will dispense water at the rate of 1 oz. per second. Repeat it several times to check for consistent output. Repeat same for the other dispense switches. This procedure checks that the dispense valves are not air-locked.
6. While the tank is heating up, remove the hoppers, load them with products and reposition them back in the machine. When the green ready light comes on, the tank has reached its brew temperature and the machine is ready to dispense the first cup of Cappuccino.

***To Dispense a Cup of Cappuccino or Coffee or Soup:*** Place a 8 oz. or larger cup under selected drink dispense nozzle.

For Manual units: Push and hold brew button until cup is 2/3 full, then release button.

For Automatic units: Press and Release button. Cup will fill up automatically to it's preset amount.

See **Drink Strength Adjustments** if different levels of drink strength are desired or **Programming Dispense Volume** if different cup sizes are used.

## UNPACKING INSTRUCTIONS

Carefully unpack the GB Machine and inspect immediately for shipping damage. Your GB Machine was shipped in a carton designed to give it maximum protection in normal handling. It was thoroughly inspected before leaving the factory. In case of damage, contact the shipper, not Cecilware.

### *DESCRIPTION AND LOCATION OF COMPONENTS*

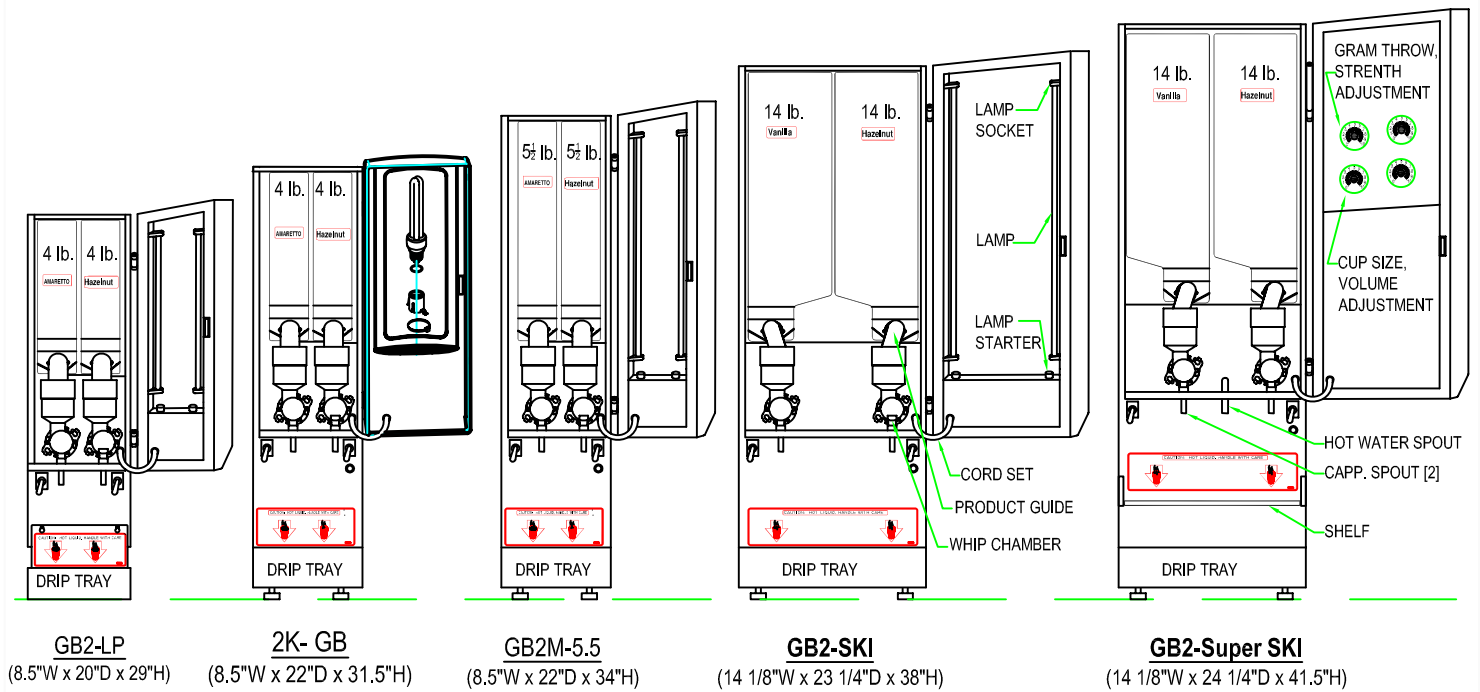
*Note: Refer to Illustration A for description and location of COMPONENTS and CONTROLS.*

1. **HOPPERS.** Depress the door latch on the left side of the door and pull door open to access the hoppers. The hoppers hold up to **14 lbs.** of Cappuccino product and up to **1.5 lbs.** of freeze dried coffee product , depending on model number (see spec. sheet).  
To remove the hoppers simply swing the top compartment door open and lift out the hoppers.  
To reposition the hoppers in the compartment, slide the hopper base back between the rails until the ¼" pin at the bottom of the hopper base falls into the ¼" positioning hole of the compartment base cover.
2. **RINSE SWITCH.** With the door open, the rinse switch is located on the left side the first Whipper chamber. In the **RINSE** position it **disengages the hopper motors and allows only water to be dispensed.**  
It is used for flushing out the Whipper Chambers and to adjust the water dispense valves for proper flow rates.
3. **HEATER SWITCH.** This switch is **located inside the cabinet behind the right hopper, open door and remove right hopper to access it.** Its primary function is to shut off the heating element during the initial priming, start up operation of the machine, or whenever the tank is being drained for service.  
**Note: On 120V, 1.8 KW and 120/240V, 3 KW machines, the Power Switch and Heater Switch must be ON in order for the elements to operate.**
4. **POWER SWITCH.** This switch is located on the left side of the splash panel below the door. On 120V, 1.8 KW and 120/240 or 240V, 3 KW single element machines the power switch controls all power to the machine including the heater elements.  
**Note: On 120/240V, 6 KW machines , the Power and Heater Switches are independent of each other. Both switches must be OFF in order for the machine to be completely shut down.**
5. **WATER LEVEL CONTROLS:**  
Under normal conditions and operation, the water level in the tank should not drop more than ½" from the probe. If it does, the tank is not refilling fast enough. Check the water line and water filter, they may need cleaning or replacing.

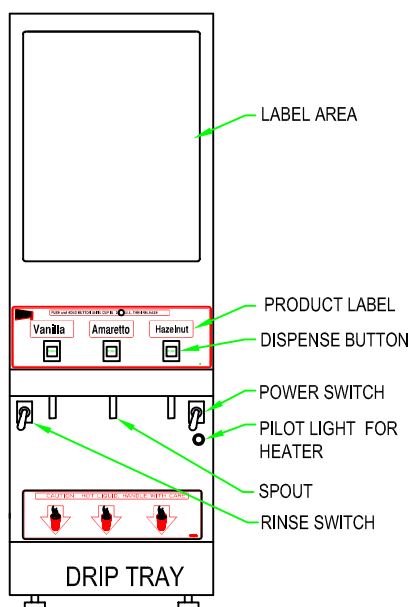
1. Solid state water level control board	Part# L690A
2. Water inlet valve	Part# L462A
3. Dual Water level probe	Part# K695Q

# DESCRIPTION AND LOCATION OF COMPONENTS

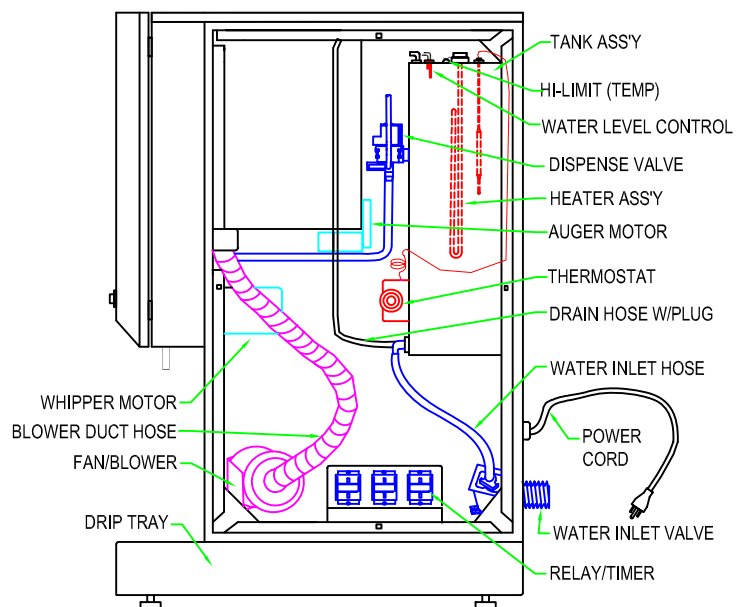
## FRONT VIEW WITH OPEN DOOR



## FRONT VIEW GB3 SHOWN



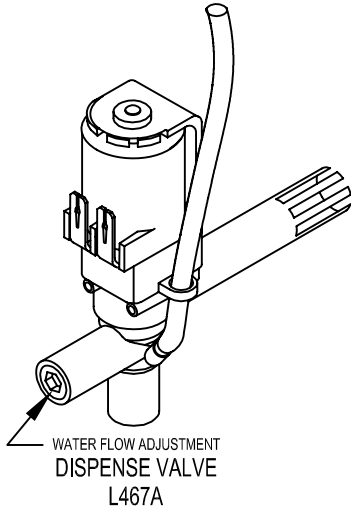
## RIGHT SIDE VIEW



ILL. A

# ADJUSTMENTS

## WATER FLOW RATE



The Dispense Valves are factory adjusted for a maximum Flow Rate of **1 to 1.3 oz./sec.**  
Approximate settings:

**0.85 to 1 oz./sec for SOUP; 1.3 oz./sec. for COFFEE and CAPPUCCINO]**

Exceeding this Flow Rate will cause the Mixing Chamber to overflow.

Note: To access the Water Dispense Valves, open door and remove Hoppers.

To reduce Flow Rate turn CW with screwdriver 1/4 turn at a time.

CD130 NYLON AUGER [22.5mmØ X 17mmPT]  
W/O-RING CD139

CD101 WIRE AUGER [22.5mmØ X 17mmPT]  
CAPPUCCINO/FAST FLOW & SOUP

CD149 WIRE AUGER [22.5mmØ X 24.8mmPT]  
HOT CHOCOLATE & THICK SOUP

CD74A WIRE AUGER [17mmØ X 12mmPT]  
DRY COFFEE/FAST FLOW

CD153 WIRE AUGER [17mmØ X 9.15mmPT]  
DRY COFFEE & INSTANT ESPRESSO

AUGER GEAR Rectangular Hoppers:

CD117 [w/NYLON AUGER CD130]  
CD117 [w/WIRE AUGER CD101 & CD149]  
CD97A [w/WIRE AUGER CD74A & CD153]  
CD320 [w/WIRE AUGER CD74A f/Coffee]

FRONT BUSHING

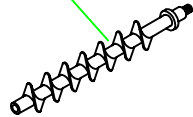
Rectangle Hoppers:  
CD277 [22.5mmØ]  
CD306 [17mmØ]

Square Hoppers:

CD102 [22.5mmØ W/ O-RING CD103]  
CD131 [17mmØ W/ O-RING]

AUGERS:

or



CD70A  
PRODUCT GUIDE

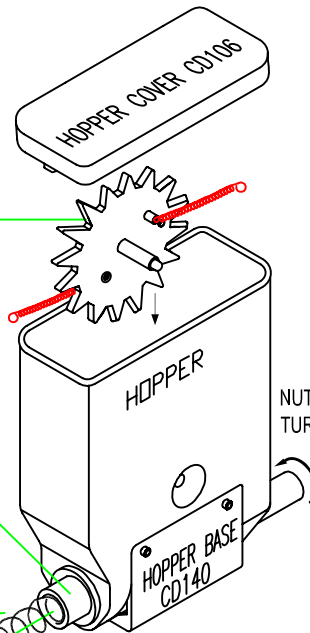
CD391

CD90A

CD373

CD374

NUT CD136  
TURN TO UNSCREW



DISPENSE CAP  
CD61A white; CD272 black

MIXING CHAMBER FAST FLOW  
CD137 white; CD275 black

TRIANGULAR RIB

CORRECT WATER  
LEVEL FOR MAX  
FLOW RATE  
WHEN USING  
WIRE AUGER.

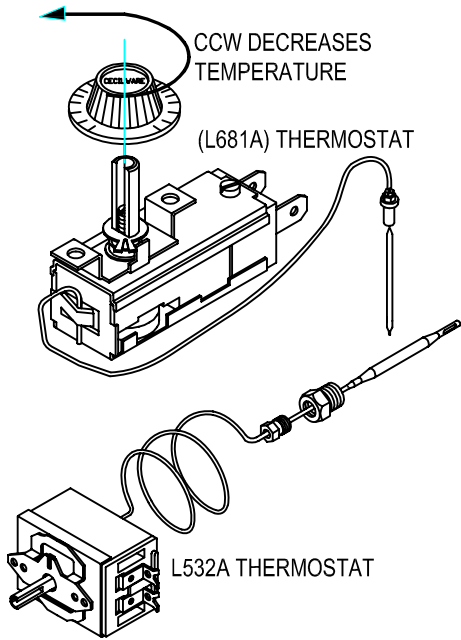
CORRECT WATER  
LEVEL FOR MAX  
FLOW RATE WHEN  
USING NYLON  
AUGER.

A. When using WIRE AUGERS:  
Adjust Water Flow Rate so that the  
water level reaches half way up in  
the Mixing Chamber, as shown.

B. When using NYLON AUGERS:  
Adjust Water Flow Rate so that the  
water level reaches almost  
at the top in the Mixing Chamber, as  
shown.

ILL. B

## THERMOSTAT ADJUSTMENTS



ILL. C

**Locate Thermostat:** Remove the right side panel. Thermostat is mounted on side of tank.

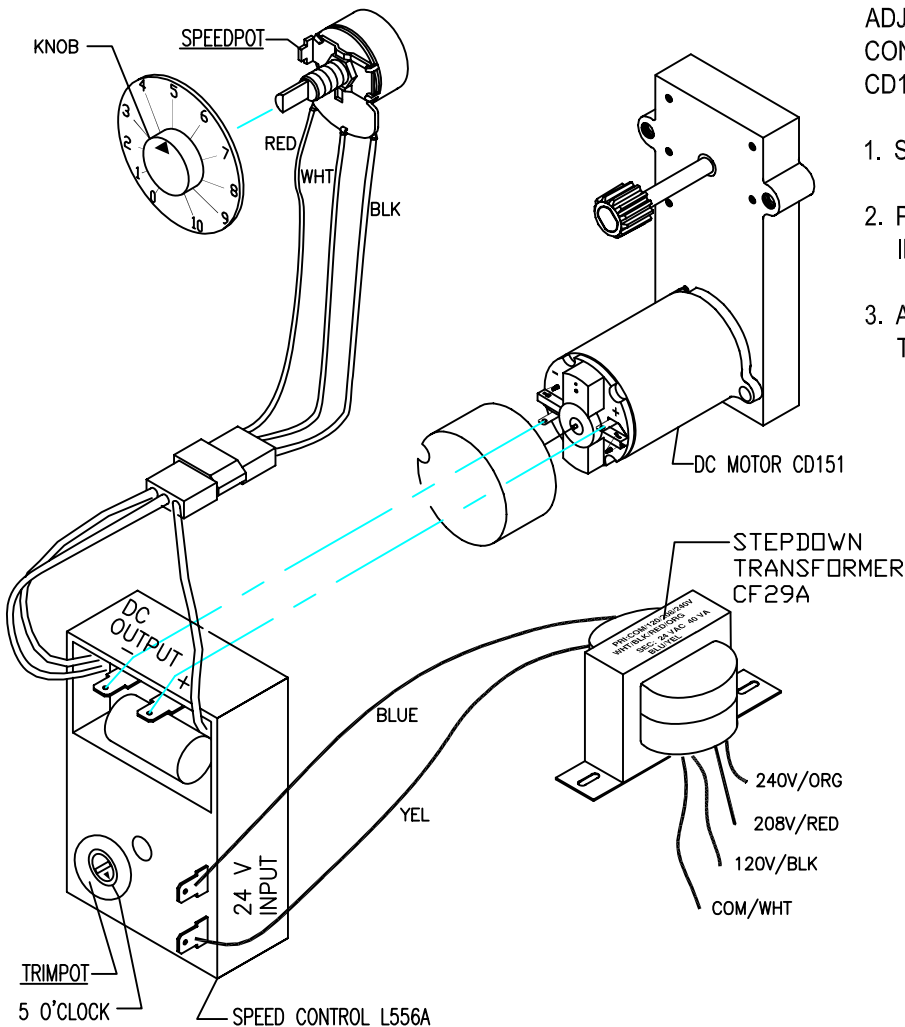
The GB beverage dispensers are factory set to deliver hot brewing water at **195°F** with the thermostat knob turned to full ON position. If adjustments should be necessary to increase or decrease the water TEMPERATURE, proceed as follows:

**Note: Set the Rinse Switch to ON. This will disengage the Hopper Motors when dispensing water for Temperature measurements.**

1. To **INCREASE** the water temperature - With the **Thermostat Knob to its maximum clockwise position**, remove the knob and locate the slotted adjustment screw inside the hollow thermostat shaft. Using a narrow-bladed screwdriver, engage slotted adjustment screw and turn it  $\frac{1}{4}$  turn slowly counter-clockwise. Allow a few minutes for the temperature to reach set level. The Heater Light will go ON, indicating the heating element is activated, wait for it to go OFF, indicating that the water has reached new set temperature. Take a temperature reading and repeat if necessary.

2. To **DECREASE** the water temperature - simply turn the Thermostat Knob one notch counter-clockwise to the next lower dial setting.

## INSTRUCTIONS FOR ADJUSTING SPEED CONTROL L556A WITH DC MOTOR CD151



ADJUSTMENT INSTRUCTIONS FOR SPEED CONTROL L556A WHEN USED WITH DC MOTOR CD151:

1. SET **SPEEDPOT** KNOB AT # 5
2. PRESET **TRIMPOT** AS SHOWN IN THE ILLUSTRATION, POINTING TO 5 O'CLOCK
3. APPLY POWER AND ROTATE **TRIMPOT** UNTIL THE MOTOR TURNS 55 RPM (15V DC)

ILL. D

# GB SKI SUPER - VOLUME AND PRODUCT STRENGTH ADJUSTMENTS

## EDDRINK STRENGTH ADJUSTMENTS - by adjusting the Auger Speed.

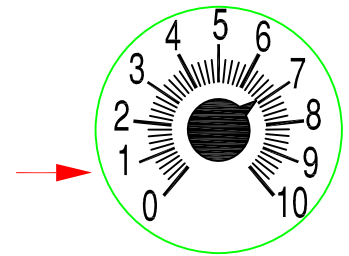
### I. UNITS WITH FIXED SPEED AUGER MOTORS-AC [CD150] - Fixed Auger Speed [95 RPM] and dispenses powder at a constant fixed rate.

Drink Strength adjustments can be made by **adjusting the water flow rate on the Water Dispense Valves**. [See ILL. C]

1. Remove Hoppers to access the Dispense Valve, located behind the hoppers.
2. Locate Flow Adjustment Screw on Dispense Valve. ( See illustration C)
3. Rotate adjustment screw Counterclockwise to INCREASE Flow Rate, Clockwise to DECREASE Flow Rate.

(Note: the water flow rate should not exceed 1 to 1.3 oz./sec.)

Do not turn Adjustment Key more than 1/4 turn at a time without checking drink strength (ratio of water to powder).



GRAM THROW  
PRODUCT STRENGTH  
ADJUSTMENT

### II. UNITS WITH VARIABLE SPEED AUGER MOTORS-DC [CD151] - Variable Auger Speed [10 to 130 RPM]

Drink or Product Strength adjustments can be made by **adjusting the Auger Motor RPM [knob on inside door panel], which controls the amount of product being dispensed [gram throw]**. The gram throw is factory preset at 7.

**Because the consistency of each product varies, the customer can set the desired gram throw for each hopper.**

**The water flow rate on the Dispense Valves should remain fixed.**

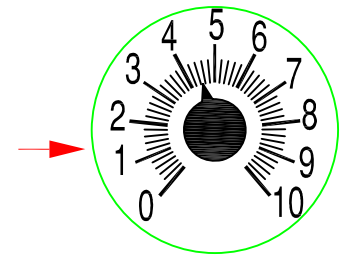
Note: the water flow rate should not exceed 1-1.3 oz./sec to avoid spillage from dispense chamber. [See ILL. C]

## DRINK SIZE ADJUSTMENTS

**a. Manual Machines :** Hold down the Dispense Button until desired amount is dispensed.

**b. Automatic Machines with Timer L493A on Inside Door Panel NOT Programmable] & speed control board L556A:** To increase the volume, turn the dial to the next increment. [0-1 is equivalent to 2 sec.]

**c. Automatic Machines with Programmable "Teach me"Timers [L576A or L582A]:** These units do not have a cup size adjustment knob inside the door, since the timer is programmable from the dispense button.



CUP SIZE  
VOLUME ADJUSTMENT

## PROGRAMMING FOR AUTOMATIC DISPENSE WITH BUZZER

1. Turn Power Switch ON (toggle switch inside door).
2. PRESS and HOLD [red] STOP Button with one hand.
3. PRESS and HOLD [green] DISPENSE Button with other hand.
4. RELEASE [red] STOP Button ONLY.
5. Continue to HOLD [green] DISPENSE Button until buzzer sounds for (4 SEC. DELAY), then RELEASE.
6. PRESS and RELEASE [green] DISPENSE Button. Product begins dispensing. When it reaches the "DESIRED VOLUME",
7. PRESS and RELEASE [green] DISPENSE Button to SET "DESIRED VOLUME". DISPENSE Button can be "jogged" to top off.
8. PRESS and RELEASE [red] STOP button to LOCK IN "DESIRED VOLUME". Repeat steps 1 to 8 for each Dispense Button.

## PROGRAMMING INSTRUCTIONS FOR MANUAL DISPENSE WITH BUZZER

1. PRESS AND HOLD STOP [red] BUTTON WITH ONE HAND.
2. PRESS AND HOLD DISPENSE [green] BUTTON WITH OTHER HAND.
3. RELEASE STOP [red] BUTTON.
4. CONTINUE TO HOLD [green] BUTTON AFTER BUZZER SOUNDS (4 SEC. DELAY).
5. RELEASE DISPENSE [green] BUTTON.
6. PRESS AND RELEASE STOP [red] BUTTON.
7. YOU ARE READY FOR MANUAL DISPENSE.

The Total Time The Water Is Running Is Accumulated And Saved Into Memory. For Normal Operation, Press and Release Dispense Button.

The Timers Have Been Factory Preset for 6 oz. Cups for Coffee; For 8 oz. Cups for Soup and Cappuccino.

To Change To Larger Or Smaller Cup Sizes [Volumes] Repeat Steps 1 To 8 Above.

## TO CHECK VOLUME AND GRAM THROW DISPENSED (ratio):

1. Remove the product guide from the hopper and position a receptacle under the hopper nozzle to catch the gram throw of product. Also place a measuring cup under extension tube to catch the water dispensed.
2. Push the dispense button and check the amount of product dispensed, amount of water dispensed, and time [use stop watch] to dispense that water.
3. The amount of water dispensed in the measuring cup divided by the amount of time to dispense that water is the Water Flow Rate from Dispense Valve.

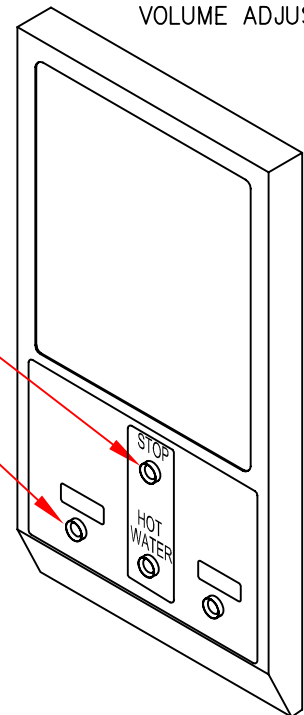
**FOR CAPPUCCINO:** The machine is factory adjusted to dispense 4-4.5 gr./sec. per OZ. Cup. [32 grams Product per 8 oz. cup]

The recommended throw is 28-32 grams per 8 oz. cup for Cappuccino, with 80% fill.

**FOR COFFEE:** The machine is factory adjusted to dispense 0.3 gr./sec per OZ. Cup. [1.5 grams of coffee product per 5 oz. of liquid (in a 6 oz. cup).

The recommended throw is 1.5 to 1.8 grams per 6 oz. cup of Coffee, with 80% fill.

**For customer specified/special settings see inserts I, II, III, etc.**





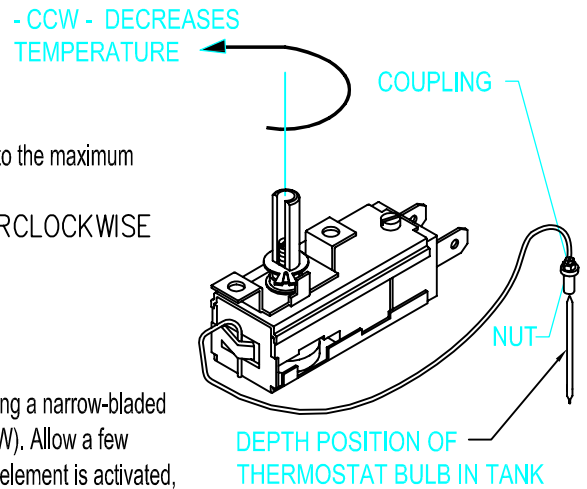
# COMPONENT TESTS

## A) Thermostat Adjustments:

The Thermostat is factory set for proper dispense temperature of 190° F with the control shaft set to the maximum clockwise position. If field adjustments are needed proceed as follows:  
To DECREASE temperature, turn the control shaft slightly in the COUNTERCLOCKWISE direction.

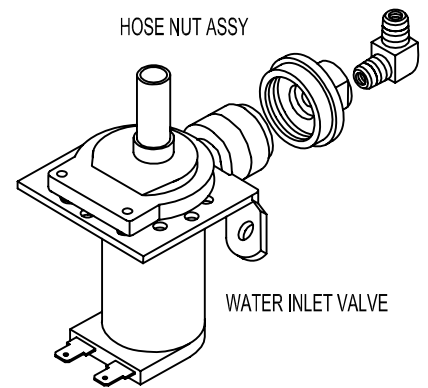
### For qualified technicians ONLY:

Remove the knob and locate the Slotted Adjustment Screw inside the hollow thermostat shaft. Using a narrow-bladed screwdriver, engage slotted adjustment screw and turn it ¼ turn very slowly counterclockwise (CCW). Allow a few minutes for the temperature to reach set level. The Heater Light will go ON, indicating the heating element is activated, wait for it to go OFF, indicating that the water has reached NEW set temperature. Take a temperature reading and repeat if necessary.



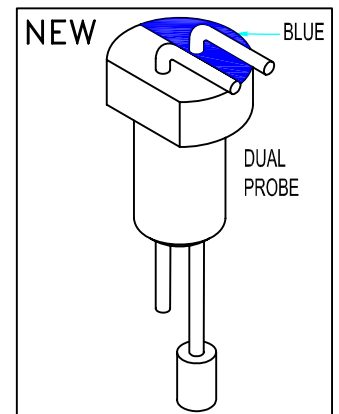
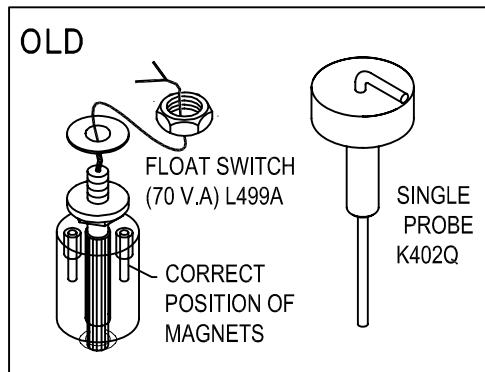
## B) Water Inlet Valve Test

Turn power OFF. If the water level rises inside a partially filled tank, the Water Inlet Valve is leaking. Disconnect wires from the Water Inlet Valve coil and connect a 2 wire line cord to the terminals. Plug it into a 115V outlet. If water flows in and stops when you pull it out, the Valve is working fine. Repeat this test a few times. The problem may be in the Probe or Water Level Control Board. If the water does not flow in when the cord is plugged into an electrical outlet, the Solenoid coil may be damaged, opened or the valve may have an obstruction preventing the water from flowing in. Clean or replace it.



## C) Dual Probe Test

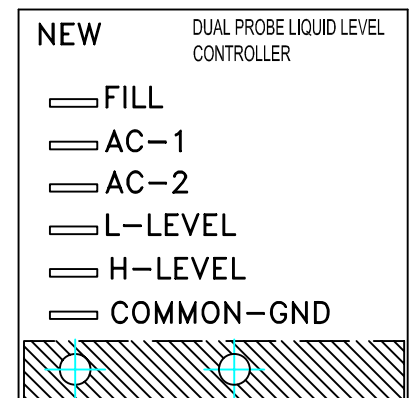
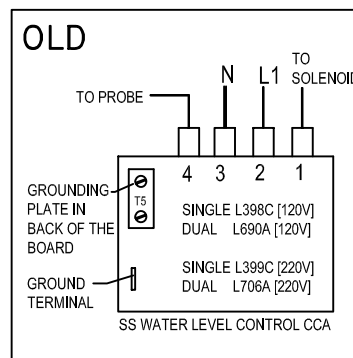
If lack of water persists, check the probe as follows:  
Turn on the power and water supply. Check inside the tank to make sure the water is below the Probe. Pull the BLUE wire and terminal OFF the Probe rod. If water still does not flow after the wire is disconnected from the Probe, the problem may be in the Solid State Dual Level Control Board. If water starts flowing into the tank, the Probe may be grounded, due to excessive liming. Check with Ohm meter. Clean or replace probe.



## D) Dual Probe Liquid Level Controller Test

Check the Controller as follows:

1. Make sure there is power input to the Controller at the terminals AC1 & AC2  
Your voltmeter should read 115 Volts. It should read the same at terminals AC1 & FILL when the water level is low. This is the output power to actuate the coil of the Solenoid Valve to open it. The lack of voltage at terminals AC1 & L-LEVEL or H-LEVEL indicates that the Controller is not working properly.
2. Make sure all wire connections are tight, including ground.
3. If after this, the Controller is still failing to open the Water Inlet Valve, replace it.



## **Model L690A (Rev. B) Dual Probe Liquid Level Controller**

**Overview** - The L690A is a Dual Probe Liquid Level Controller designed to maintain a specific level of water in the tank. This device utilizes two level probes for increased reliability. Independent maximum fill timers are incorporated in the controller for overflow protection.

**Operation** - When a fill problem occurs, the Dual Probe Liquid Level Controller turns OFF power to the fill valves and remains OFF until the power input is reset (i.e. turn power switch off then back on).

**Low Level Probe** - When the Low Level Probe detects the absence of water for two seconds, the Controller immediately opens the Fill Valve. When the Low Level Probe detects the presence of water the Controller immediately closes the Fill Valve.

**High Level Probe** - When the High Level Probe detects the absence of water the Controller immediately turns ON and the Low Level Probe is allowed to control the Fill Valve. When the High Level Probe detects the presence of water for 1.5 seconds the Controller turns OFF power, which closes the Fill Valve.

**Maximum Fill Timers** – On the first fill, the unit will only allow 15 minutes of continuous filling if neither of the Level Probes has detected the presence of water since power has been applied (i.e. first fill). Once the presence of water has been detected the unit will only allow 10 minutes of continuous filling to prevent flooding. If the duration of continuous filling exceeds the allotted time then a Fatal Error is generated, which closes the inlet valve.

**Status LED** – Located on the Controller, this indicator is turned ON for one second after power is applied to indicate a functioning unit. The indicator will blink when the High Level Probe detects water to signify a warning. During a Fatal Error the indicator will be ON continuously.

**TROUBLESHOOTING GUIDE**

**WARNING:** To reduce the risk of electrical shock unplug the dispenser power cord before repairing or replacing any internal components of the unit.. Before any attempt to replace a component be sure to check all electrical connections for proper contact.

PROBLEM		PROBABLE CAUSE	REMEDY
1 Light Display not lit. No power.	A	Dispensing unit unplugged	Reconnect dispensing unit
	B	No power from Terminal Block	Check the Terminal Block for loose wire
	C	Defective Bulb	Replace Bulb.
	D	Defective Ballast.	Replace Ballast
	E	Loose Bulb in socket.	Make sure bulb is seated properly in socket.
2 No water when Rinse Switch is ON.	A	Water supply OFF.	Turn water ON.
	B	Clogged inlet screen (Water Inlet Valve).	Disconnect water line and clean inlet screen.
	C	Inoperative Water Inlet Valve.	Check connection, if needed replace Valve.
	D	Loose electrical connection.	Check all electrical connections.
3 No product when Dispense Button is pressed	A	No product in Hopper.	Add product.
	B	Auger not working.	Engage Hopper/Nut to Motor Gear (See ill. B).
	C	Damaged, loose, or missing Agitator Gear.	Replace Agitator Gear (See ill. B).
	D	Inoperative Auger Motor or Relay.	Check connections of Motor, Relay and/or Switch, if needed replace components.
	E	Hopper outlet clogged	Clean Hopper and check Cartridge Heater.
	F	Faulty Coupling.	Replace damaged Coupling components.
4 Water does not shut off. Water keeps dispensing.	A	Leaking Water Inlet Valve.	Clean/check fittings of Water Inlet Valve. Replace Water Inlet Valve if needed. See "Water Inlet Valve Test"
	B	Inoperative Dispense Switch	Check Switch connections. Replace Dispense Switch if needed.
	C	Inoperative Rinse Switch	Check Rinse Switch connections. Replace Rinse Switch if inoperative.
	D	Clogged/stuck Water Dispense Valve	Clean or unclog Water Dispense Valve. Replace Dispense Valve if inoperative.
5 No water is going into tank at all.	A	Water Inlet Valve malfunction.	Check Solenoid. Replace if necessary. See "Water Inlet Valve Test".
	B	Water Level Sensor/ Probe malfunction.	Check Probe. Replace if necessary. See "Probe Test"
	C	Solid State Water Level Control Board	Check Water Level Controls. Replace if necessary. See "Water Level Control Test".
6 Water will not stop flowing into water tank.	A	Water Level Probe malfunction.	Check Probe. Replace if necessary. See "Probe Test".
	B	Solenoid (Water Inlet Valve) malfunction.	Check Solenoid. Replace if necessary. See "Water Inlet Valve Test".
	C	Solid State Water Level Control malfunction	Check The Water Level Controls. Replace if necessary. See "Solid State Water Level Control Test".
7 Water is not heating up in the water tank.	A	Heater Switch is OFF.	Turn Heater Switch ON.
	B	Thermostat is OFF.	Turn Thermostat ON. (See ill. C) Turn Knob <b>Clockwise</b> .
	C	Loose connection on Thermostat.	Make sure all wires and terminals on Thermostat are tight.
	D	Hi-Limit Temperature Switch is defective	Replace the Hi-limit.
	E	Heater is burned out or defective.	Replace the Heater.

## **SANITIZING:**

All sanitizing agents in the food zone must comply with 21 CFR 178.1010.

All food dispensing units should be sanitized periodically. All parts to be sanitized must be cleaned first.

### **To prepare a sanitizing solution:**

**ADD 2 TSP. OF LIQUID CLOROX BLEACH (5.25% CONCENTRATION) TO 1 GALLON OF WATER AT ROOM TEMPERATURE (70° - 90°F).**

**Note: Always start with a unopened bottle of Clorox Bleach since the solution from an opened bottle has a short life span.**

- Soak all parts for a minimum of 3 min. in the sanitizing solution.
- Let all sanitized parts drain and dry naturally. **DO NOT WIPE THEM DRY.**
- Before using the sanitized unit (or parts) with food stuffs, rinse all parts thoroughly with water.

Water pipe connecting and fixtures directly connected to a potable water supply shall be sized, installed, and maintained in accordance with Federal, State, and Local codes (section 7).

### **Cleaning**

1. Turn the power switch to OFF.
2. Remove the drip tray with grill and empty the contents.
3. Wash and let dry the tray and grill (use a mild dishwasher detergent).
4. Wash and let dry the dispense area.
5. Turn the power switch to ON.

### **Cleaning the Hoppers (See Hopper Illustration)**

1. Open the cabinet door and raise the top cabinet lid.
2. Take the hopper out of the cabinet.
3. Pull off the elbow chute and remove the hopper cover.
4. Unscrew the auger gear CW while holding steady the auger inside the hopper. Take out the auger, agitator wheel, and spring.
5. Rinse each item thoroughly. Wash & scrub Hopper and Agitator Wheel recesses with Bristle Brush.
6. Let dry all items and reassemble.

### **Filling the Hoppers**

1. Open the cabinet door, raise the top cabinet lid.
2. Fill each hopper with the correct product. **Note: Hoppers can also be removed for filling.**
3. Reposition hoppers in the hopper compartment, making sure the hoppers are properly seated.

### **Flushing the Whipper Chamber**

1. Open the cabinet door and turn the RINSE switch to ON.
2. Place a container under each dispense nozzle and push the dispense switches.  
**Note: On manual dispense machines, push and hold the dispense buttons for 10 seconds.**
3. Open the cabinet door and turn the Rinse switch back to OFF.
4. Wash and let dry the splash panel.
5. Remove the drip tray, wash and let dry thoroughly.

### **Removing and Cleaning the Cappuccino Whipper Chambers (See Hopper Illustration)**

1. Remove the dispense cap by pulling it forward and at the same time twisting it clockwise.
2. Grab and pull the mixing bowl out of the mixing bowl socket.
3. Grab and twist the whipping chamber clockwise and pull it off the mounting plate.
4. Pull the Whipper Blade off the motor shaft. Notice the flat keyway on the shaft and the matching keyway inside the Whipper blade shaft.  
It is important that these two keyways are lined up when re-assembling the components.
5. Twist the mounting plate clockwise and pull it off the motor shaft.
6. Slip off the o-ring from the Whipper Chamber mounting plate and clean o-ring and o-ring seat.

### **Removing and Cleaning the Coffee/Tea Mixing Chambers (See Hopper Illustration)**

1. Remove the dispense cap.
2. Pull the mixing bowl out of the mixing bowl socket.
3. Take out the extension tubes.
4. Rinse them thoroughly

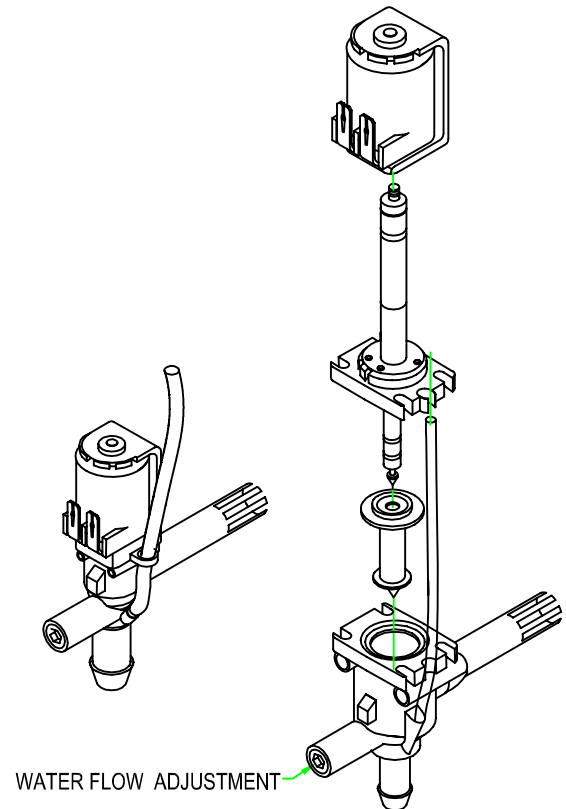
## RECOMMENDED PREVENTIVE MAINTENANCE ILL. F

### 1) CHECK ALL DISPENSE VALVES FOR LIME BUILD-UP.

Drain The Water Tank To Just Below The Level Of The Dispense Valves.  
Remove The Valves And Clean. ( You Can Take These Valves Apart  
By Hand As Shown).

Replace The Assembly As Needed (L467A).

Replace The Valve Into The Tank And Refill tank.



### 2) CHECK ALL CHAMBER MOUNTS FOR SIGNS OF WEAR

A. Product Running Down The Front Of The Unit.

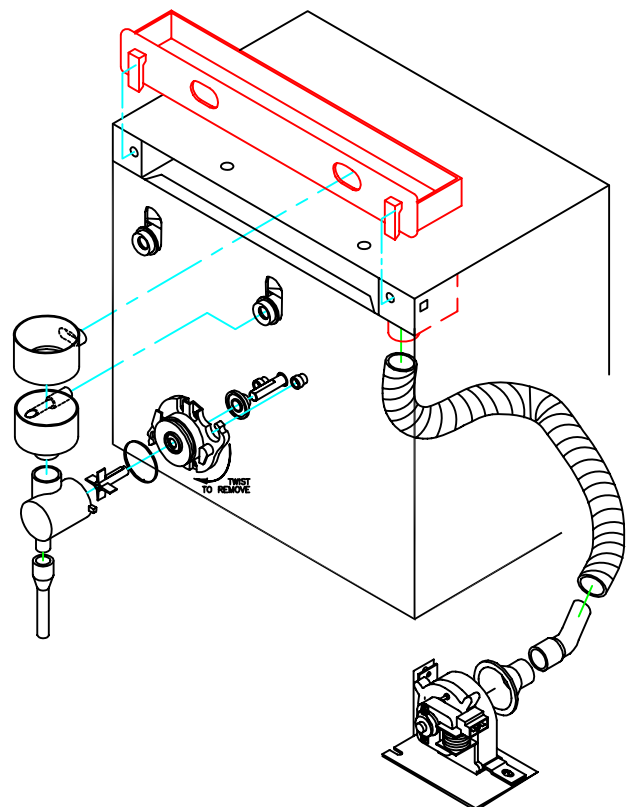
B. Product Built Up On The Back Of Chamber Mount.

Remove Chamber Mount.

Clean And Re-Lubricate Motor Shaft

Using Food Grade Lubricant Only

Replace With New Chamber Mount.



### 3) CLEAN OUT VENT MOTOR, TROUGH AND TUBING.

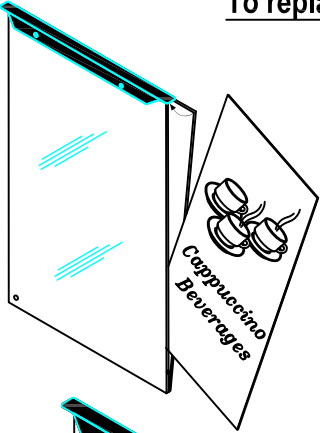
Lift up black tabs, remove Trough Drawer,  
Clean, and replace Trough Drawer.

Remove Hose Assembly From The Motor.

Clean Out And Replace.

## LIT DISPLAY AND STARTER REPLACEMENT ILL. E

### To replace the picture inside metal door:



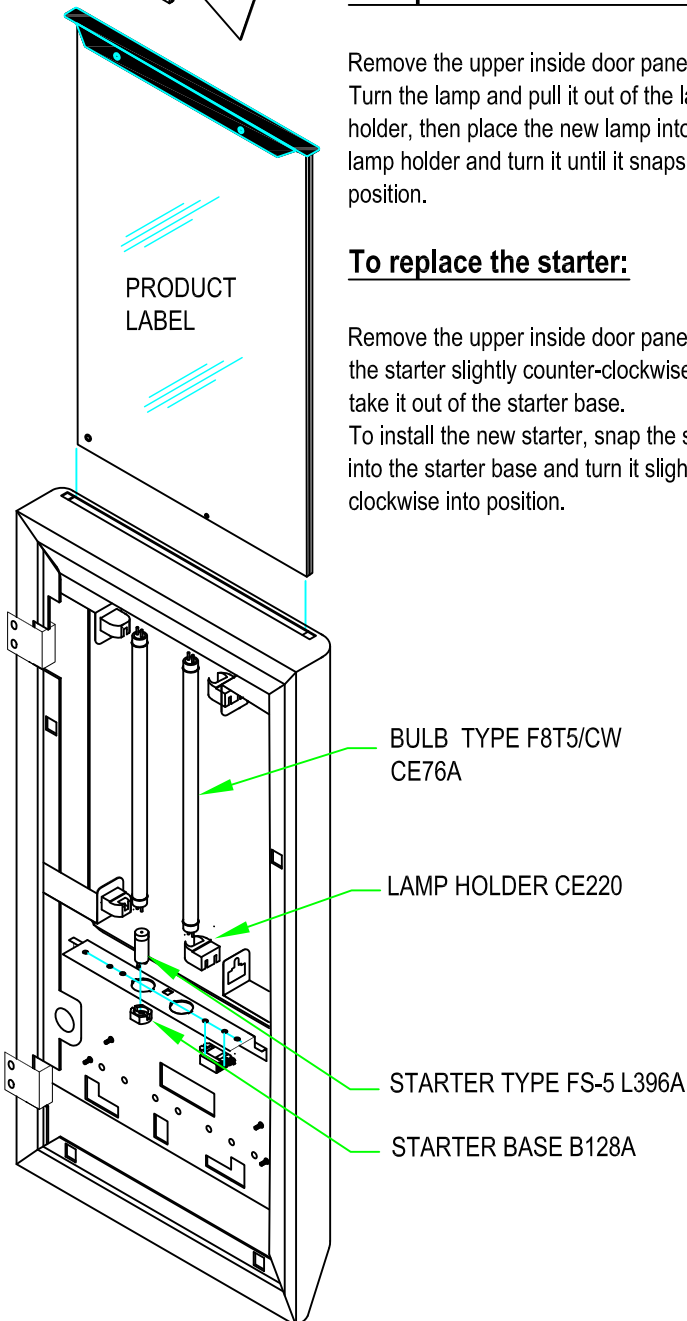
Lift up the two end tabs on top of door with a pointed object or flat head screwdriver. Pull the entire picture frame out. Open up the two clear panels and replace picture. Tuck clear plastic panel inside bracket at top. Be sure to tuck clear panel under bracket before sliding frame ass'y inside door. the longer metal tab side goes in the front.

### To replace the fluorescent bulb:

Remove the upper inside door panel. Turn the lamp and pull it out of the lamp holder, then place the new lamp into the lamp holder and turn it until it snaps into position.

### To replace the starter:

Remove the upper inside door panel, turn the starter slightly counter-clockwise and take it out of the starter base. To install the new starter, snap the starter into the starter base and turn it slightly clockwise into position.



**GB WITH METAL DOORS**

### To replace the picture inside molded door:

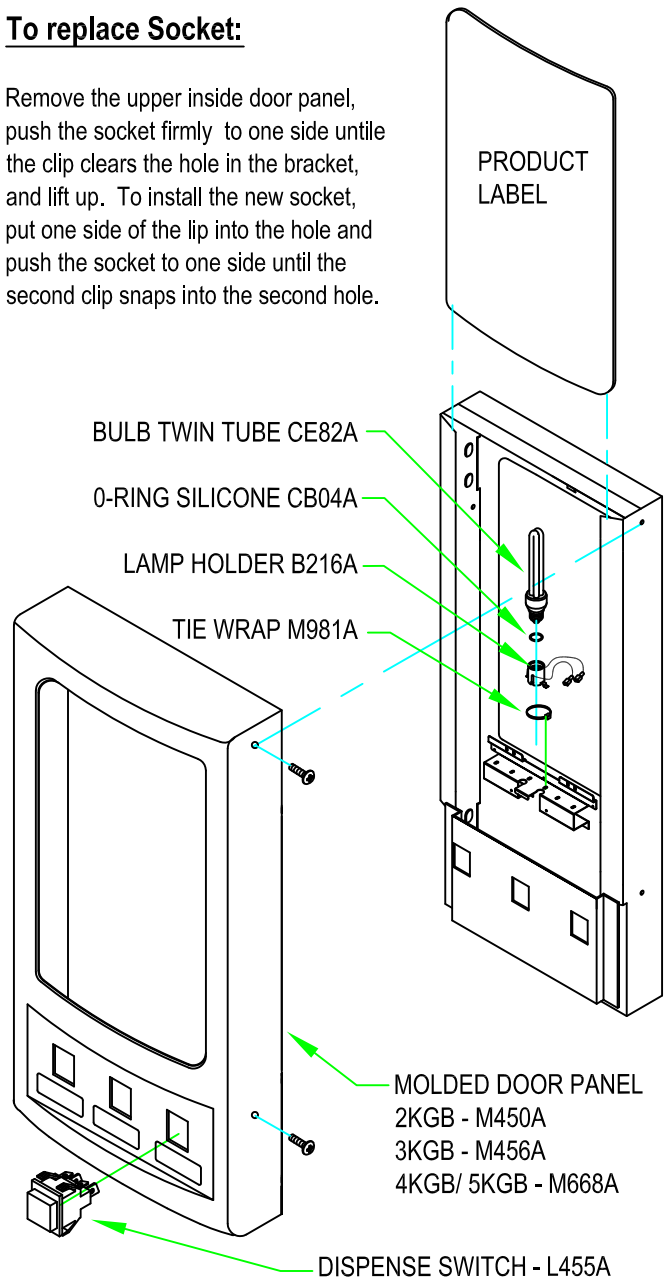
Remove molded door front by removing side screws. slide out clear plastic panel with picture. Replace picture and slide the plastic panel into the door frame. then put front molded door back on with screws on the sides.

### To replace the fluorescent bulb:

Remove the upper inside door panel. Unscrew the lamp and pull it out of the lamp holder, then place the new lamp into the lamp holder and screw it into position.

### To replace Socket:

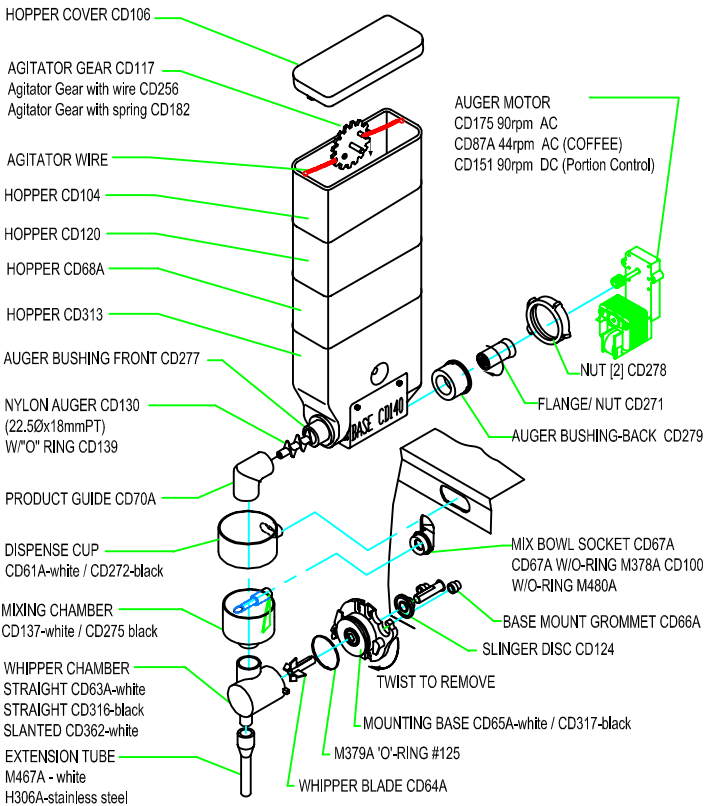
Remove the upper inside door panel, push the socket firmly to one side until the clip clears the hole in the bracket, and lift up. To install the new socket, put one side of the lip into the hole and push the socket to one side until the second clip snaps into the second hole.



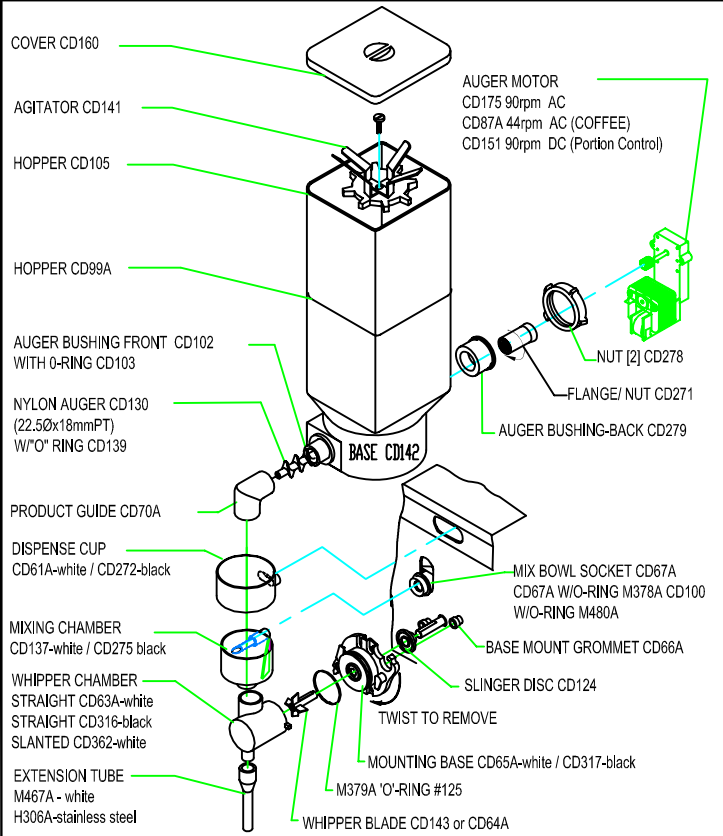
**GB K WITH MOLDED DOORS**

# HOPPER and DISPENSING CHAMBER ASS'Y WITH NYLON AUGERS

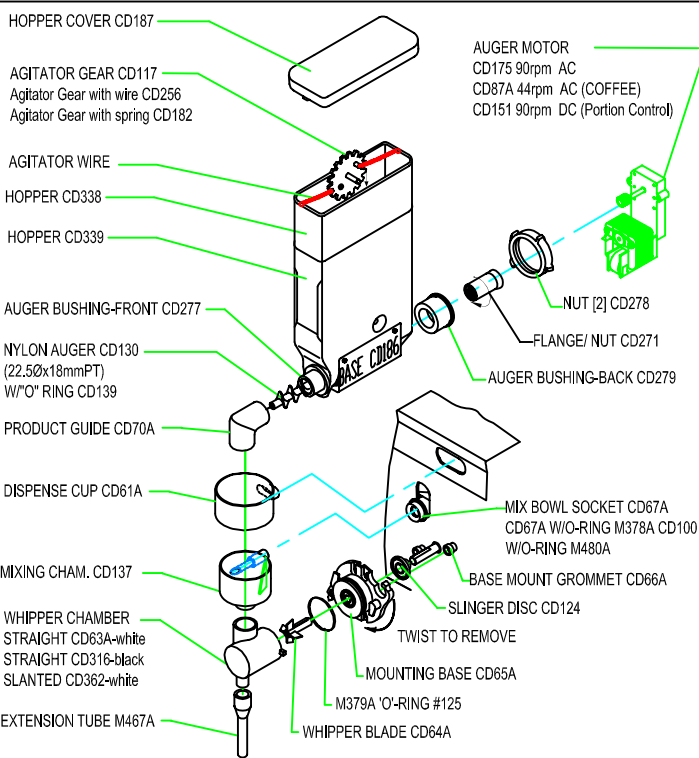
HOPPER ASS'Y CD104, 7 LB, 18"HIGHT x 3"W, W/NYLON AUGER  
 HOPPER ASS'Y CD120, 5.5 LB, 14"HIGHT x 3"W, W/NYLON AUGER  
 HOPPER ASS'Y CD68A, 4 LB, 11.5"HIGHT x 3"W, W/NYLON AUGER  
 HOPPER ASS'Y CD313, 1 LB COFFEE, 7.875" HIGHT x 3"W, W/NYLON AUGER



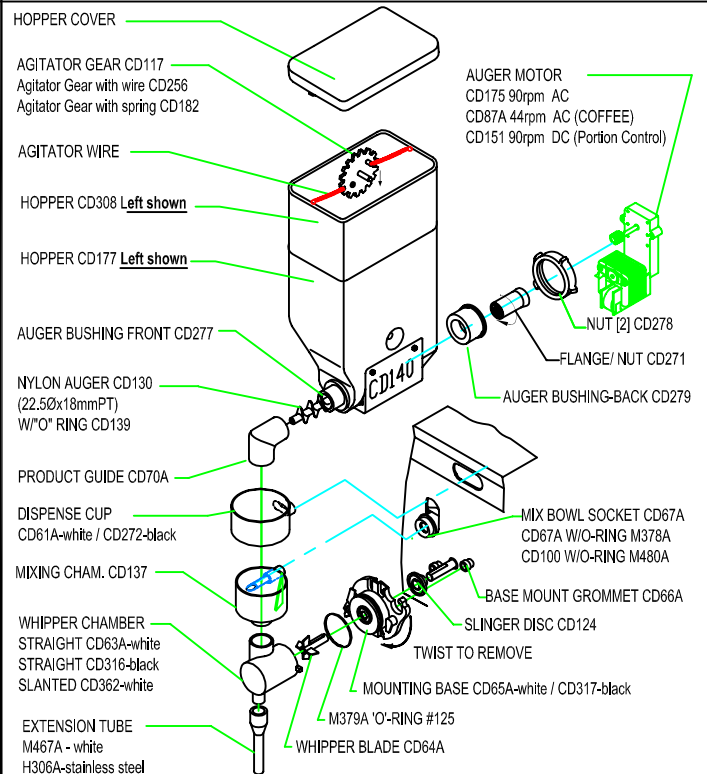
HOPPER ASS'Y CD105 (14 lb; 18" HIGHT X 6.25"SQ) W/NYLON AUGER  
 HOPPER ASS'Y CD99A (8 lb; 11.5" HIGHT X 6.25"SQ) W/NYLON AUGER



HOPPER ASS'Y CD338, 5 LB, 14"HIGHT x 2.5"W, W/NYLON AUGER  
 HOPPER ASS'Y CD339, 4 LB, 12.5"HIGHT x 2.5"W, W/NYLON AUGER



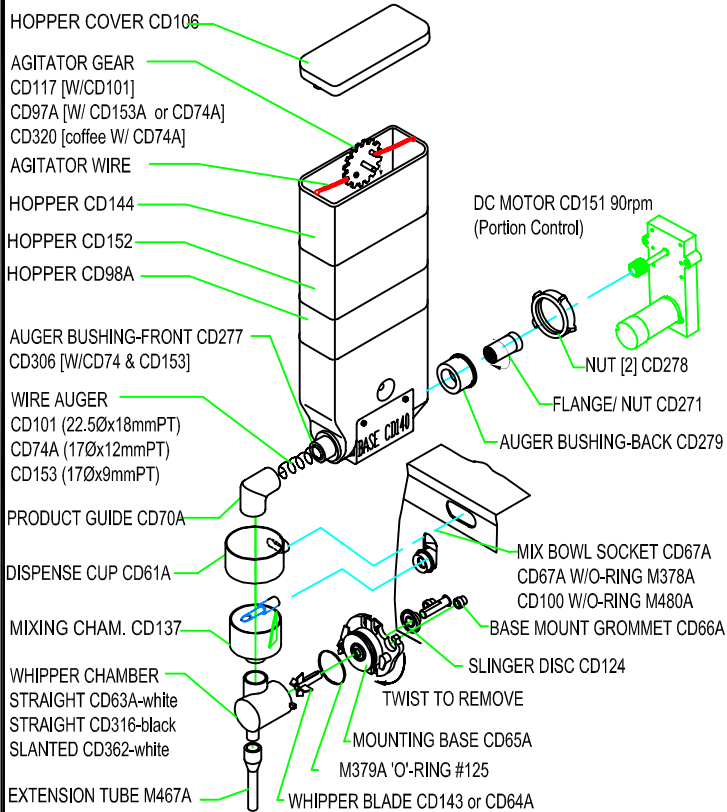
P - HOPPER ASS'Y CD308 LT & CD309 RT 10 LB, 14"H, W/NYLON AUGER  
 P - HOPPER ASS'Y CD177 LT & CD178 RT 8 LB, 11.5"H, W/NYLON AUGER



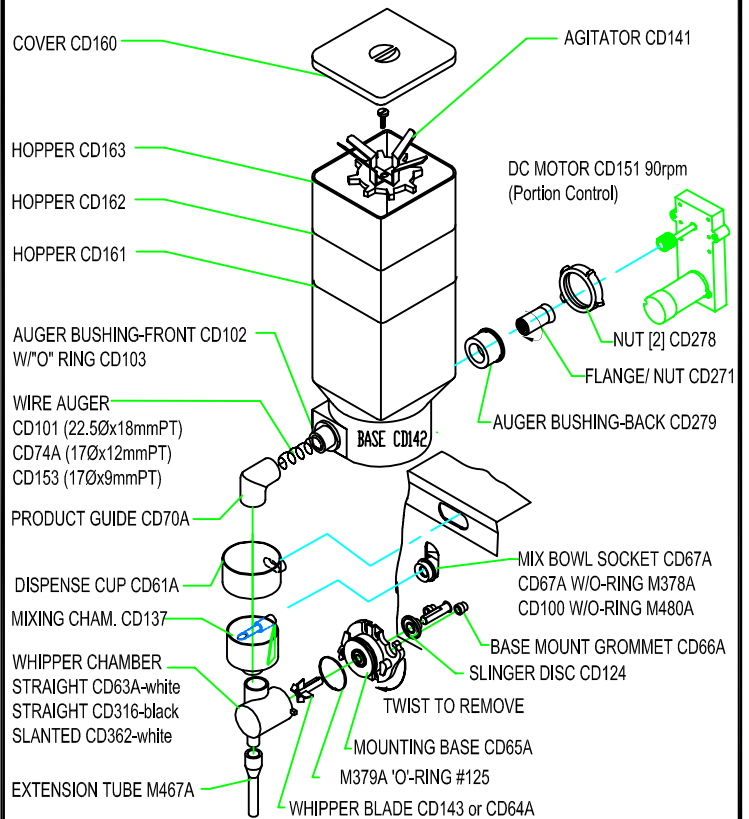
ILL. G

# HOPPER and DISPENSING CHAMBER ASS'Y WITH WIRE AUGERS

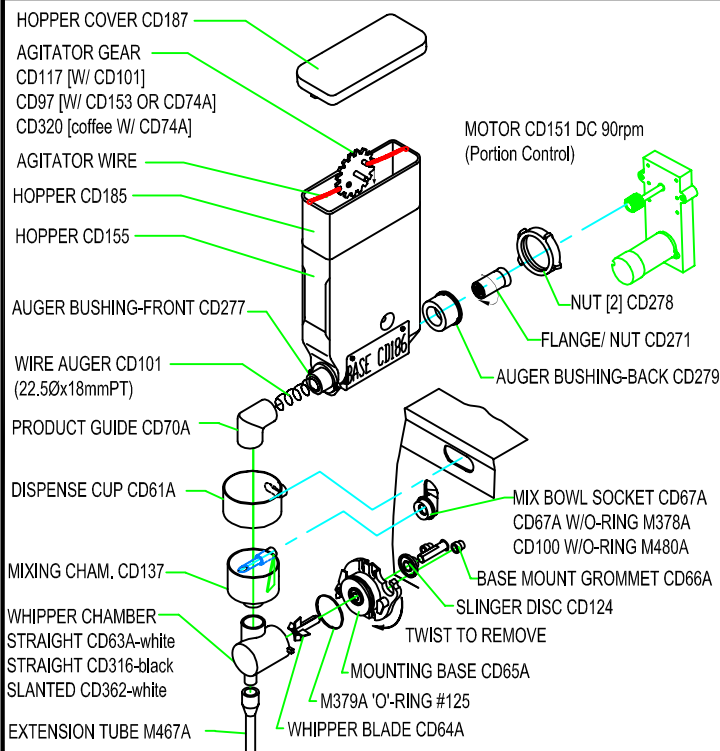
HOPPER ASS'Y CD144, 5.5 LB, 14"Hx 3"W, W/WIRE AUGER CD101  
 HOPPER ASS'Y CD152, 4 LB, 11.5"H x 3"W, W/WIRE AUGER CD101  
 HOPPER ASS'Y CD98A, 4 LB, 11.5"H x 3"W, W/WIRE AUGER CD74A or CD153



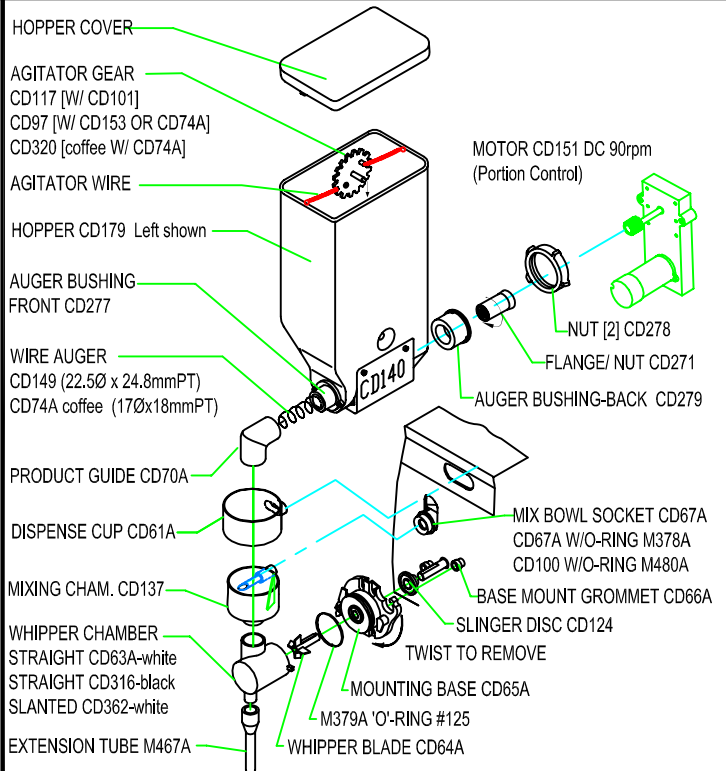
HOPPER ASS'Y CD163 (14 lb; 18" HIGHT X 6.25" SQ) W/WIRE AUGER  
 HOPPER ASS'Y CD162 (11 lb; 14" HIGHT X 6.25" SQ) W/WIRE AUGER  
 HOPPER ASS'Y CD161 (8 lb; 11.5" HIGHT X 6.25" SQ) W/WIRE AUGER



HOPPER ASS'Y CD185, 4.5 LB, 14"HIGHT x 2.5"W, W/WIRE AUGER  
 HOPPER ASS'Y CD155, 4 LB, 12.5"HIGHT x 2.5"W, W/WIRE AUGER



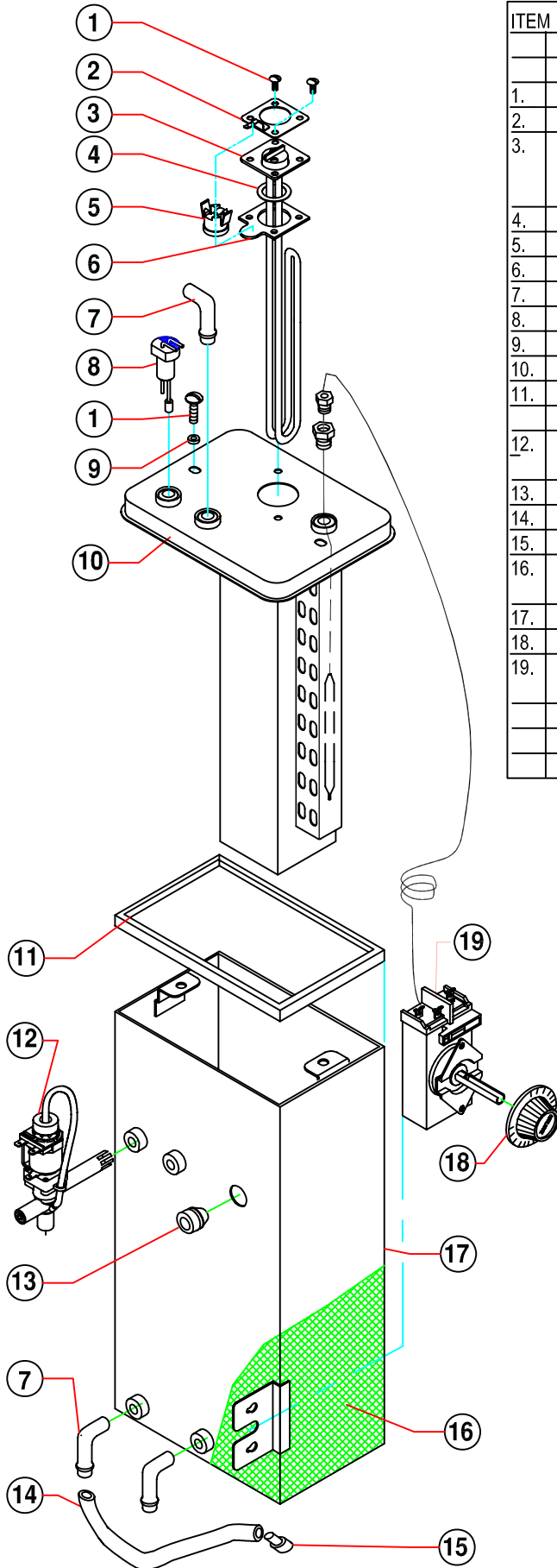
P - HOPPER ASS'Y CD179 (LEFT) CD180 (RIGHT) 10 LB,  
 14"HIGHT, W/WIRE AUGER



ILL. H



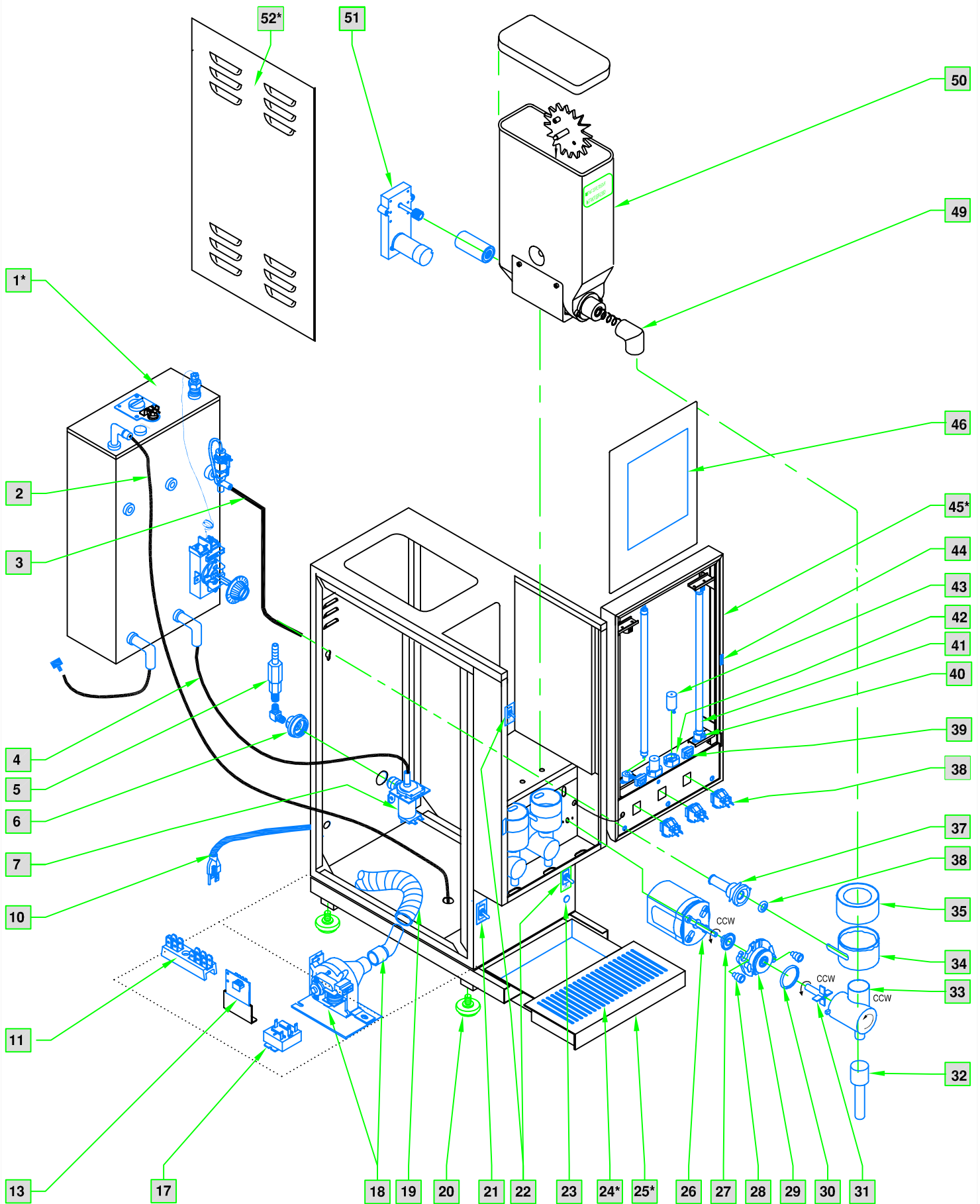
# TANK ASSEMBLY CONFIGURATION



ITEM	P/N	QTY		DESCRIPTION
		GB M	GB Ski	
			Super	
1.	P465A	3	3	SCREW, S.S., 1/4 - 20 x 5/8
2.	K667Q	1	1	SHIM ASSEMBLY, HEAT SINK W/HI-LIMIT BRACKET
3.	G267A	1	-	HEATER, 120V 1700W
	G266A	1	-	HEATER, 240 V, 3000W
	G281A	-	3	HEATER, 230 V, 6000W
4.	M773A	1	1	O-RING, HEATER GASKET
5.	L656A	1	1	HI-LIMIT, #500, 200°F CUTOUT
6.	K661A	1	1	HEATSINK, 1/8" ALU. F/ HI-LIMIT
7.	K525A	3	3	ELBOW TUBE
8.	K695Q	1	1	DUAL LEVEL CONTROL SENSOR
9.	M533A	2	2	RUBBER GASKET, FOR SCREW (ITEM 1 P446A)
10.	-----	1	1	TANK TOP (SEE METAL PARTS IDENT. LIST)
11.	M498A	1	1	SILICONE BUTT SPLICED GASKET
	M607A	--	1	
12.	L467A	3	1	DISPENSE VALVE (DUMP)
	L561A	--	2	
13.	M461A	6	6	DIRECT MOUNTING SEAL (.466 ID)
14.	M483A	1	1	DRAIN HOSE, SILICONE
15.	M391A	1	1	DRAIN PLUG
16.	M183A	1	-	TANK INSULATION MATERIAL
	M630A	--	1	
17.	-----	1	1	TANK WELDMENT ASS'Y (SEE METAL PARTS IDENT. LIST)
18.	M008A	1	1	THERMOSTAT KNOB
19.	L532A	1	-	THERMOSTAT
	L002A	-	1	
	M626A	1	1	BREATHER HOSE [not shown]
	*			Quantity shown is for GB3, varies for each unit

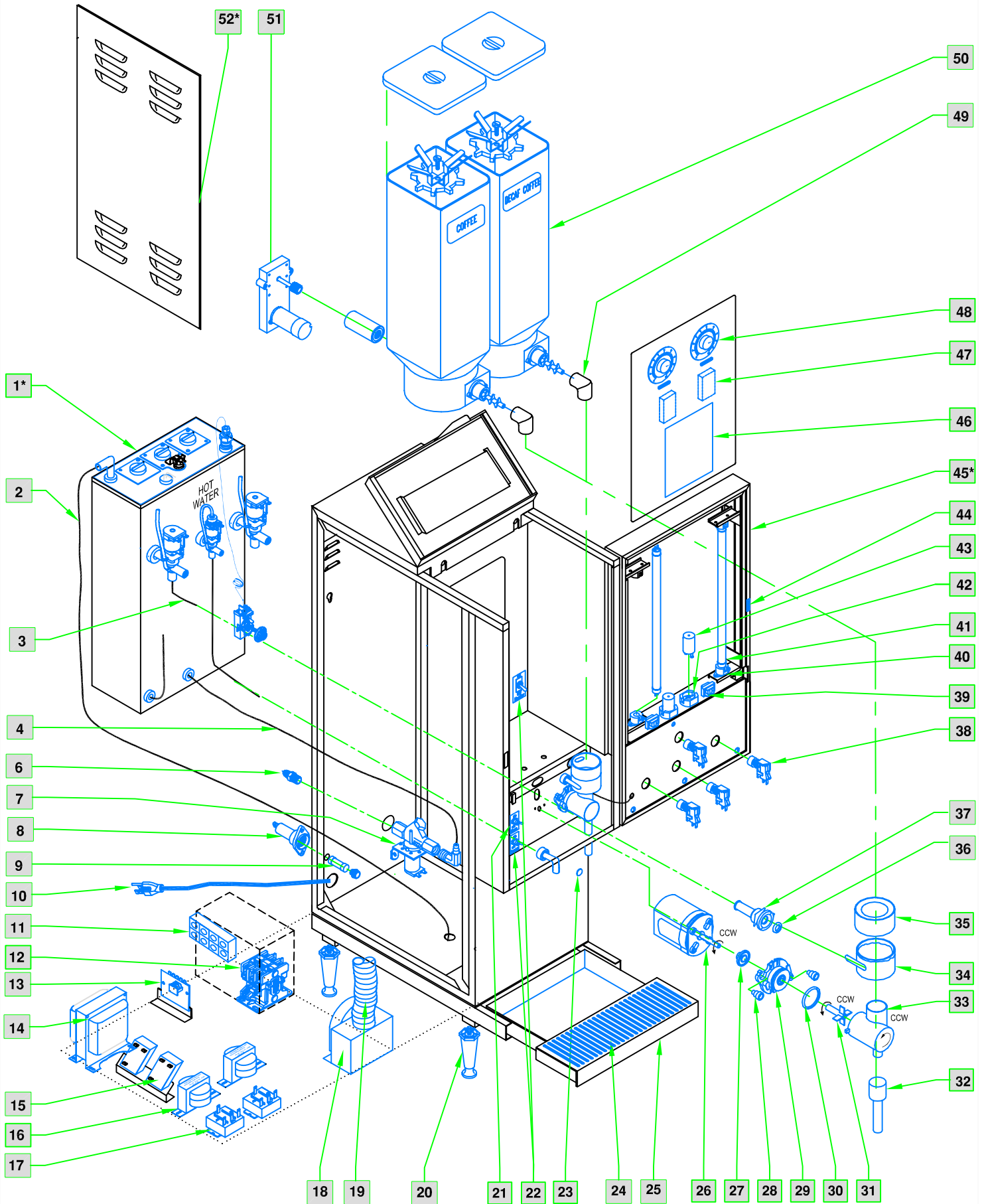
ILL. I

# DESCRIPTION AND LOCATION OF COMPONENTS [GB3M shown]



ILL. J

# DESCRIPTION AND LOCATION OF COMPONENTS [GB2 SKI-SUPER shown]



ILL. K

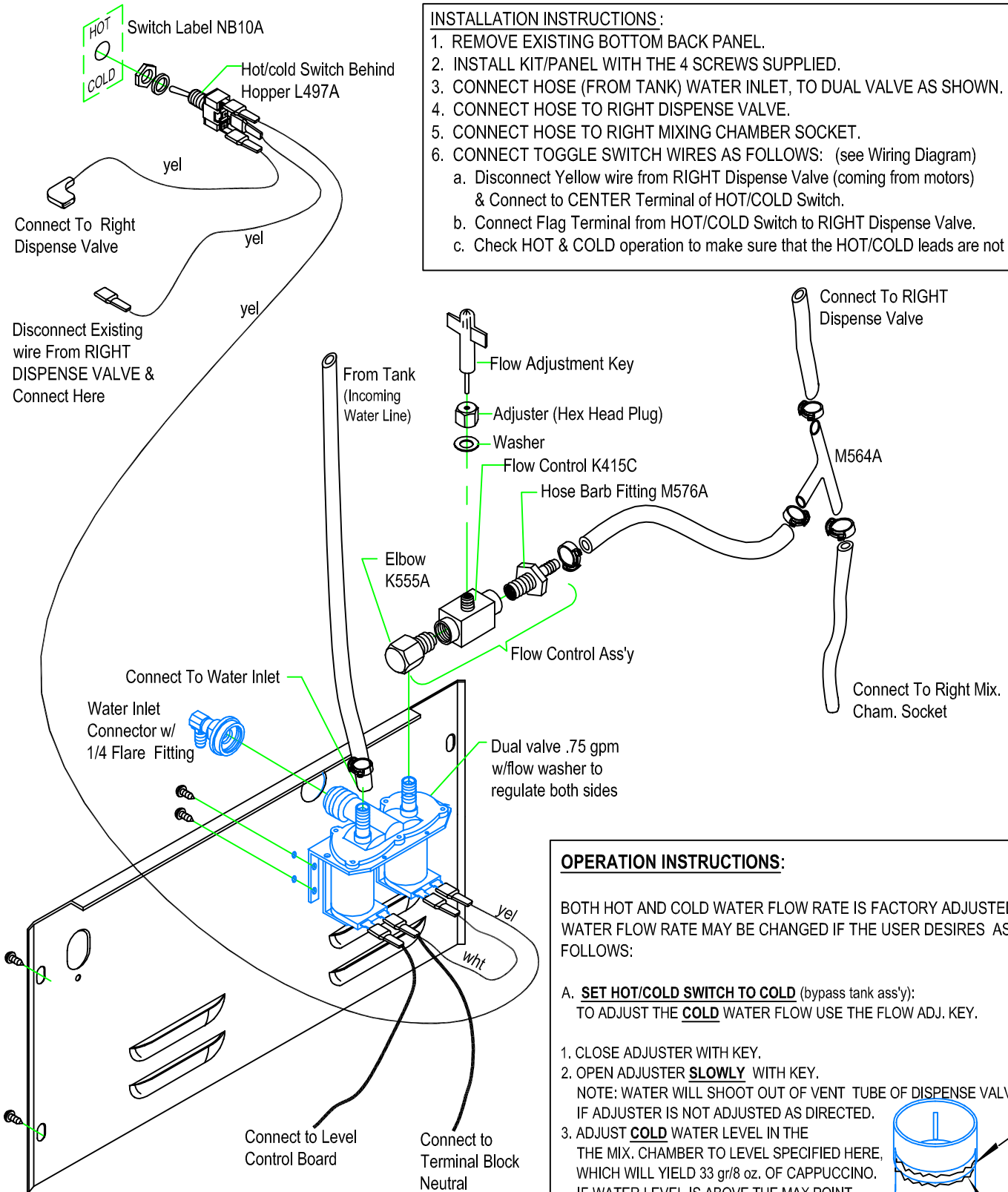
ITEM	DESCRIPTION	GB-LP	GBK	GBM-5.5	GB-SKI	GB-Super-SKI w/ Teach-Me Timers
1	TANK ASS'Y/TANK TOP ASS'Y -SEE METAL PARTS LIST – NEXT PAGE	←	←	←	←	←
2	SILICONE HOSE [BREATHER FITTING] [.375 I.D x 32"] M326A	M326A	M326A	M326A	M326A	M326A
3	SILICONE HOSE [DISPENSE VALVE] [.313 I.D x 14.5"] M324A	M324A	M324A	M324A	M324A	M324A
4	SILICONE HOSE [WATER INLET] [.375 I.D. x 13"] M326A	M326A	M326A	M326A	M326A	M326A
5	CHECK VALVE [PREVENTS BACKFLOW] [suggested – not supplied]	L463A	L463A	L463A	L463A	-----
6	HOSE NUT ASS'Y OR FITTING	K178A	K178A	K178A	K178A	A4256
7	WATER INLET VALVE 120 [120/240]	CD257	CD257	CD257	CD257	L022A
8	FUSE HOLDER (120/240V only)	----	----	----	----	C396A
9	BUSSMAN SC15 FUSE (GBs 120/240V only)	----	----	----	----	CE181
10	POWER CORD (C032S 120V, 15AMP; CG99A 240V, 30 AMP)	C032S	C032S	C032S	C032S	CG99A
11	TERMINAL BLOCK FOR 120V [WAS B117A] [FOR 240V USE B116A]	60105	60105	60105	60105	B157A
12	CONTACTOR GB5M & GB2-SKI SUPER	----	-----	L533A	----	CG12A
13	WATER LEVEL CONTROL BOARD, DUAL (L706A 220V) [was Single L398A120V & L399A 220V]	L690A	L690A	L690A	L690A	L690A
14	STEPDOWN TRANSFORMER (240/120V only)	----	----	----	----	CE187
15	SPEED CONTROL BOARD [Controls Auger Speed GRAM THROW]	---	---	---	---	L556A
16	TRANSFORMER [use w/DC motor & Speed Control CCA]	---	---	---	---	CF29A
17	RELAY, OMRON	B129A	B129A	B129A	B129A	B129A
18	FAN CD56A & ELBOW INSERT CD108 [USE FOR GB1, 2, 3 ONLY] FAN CD224 w/ RW31Q Fan Housing Ass'y [GB4,5, SKI]	CD56A CD224	CD56A CD224	CD56A CD224	CD56A CD224	--- CD224
19	DUCT HOSE [for Exhaust Fan]	CD214	CD214	CD214	CD214	CG14A
20	1" FEET or 4" LEGS M172A (SET OF 4)	M042A	M172A	M042A	M042A	M042A
21	RINSE SWITCH [GB1 & GB5 - L069A; GB2 -L299A; GB3-L446A; GB4 L470A]	←	←	←	←	←
22	POWER SWITCH & HEATER SWITCH (120V) OR [FOR 120/240V USE L299A]	L069A	L069A	L069A	L069A	L069A
23	HEATER INDICATOR LIGHT (amber C002A, red C165A)	C002A	C002A	C002A	C002A	C165A
24	GRILL -SEE METAL PARTS LIST– see next page	←	←	←	←	←
25	DRIP TRAY-SEE METAL PARTS LIST – see next page	←	←	←	←	←
26	WHIPPER MOTOR-short shaft	CD75A	CD75A	CD75A	CD75A	CD75A
27	SLINGER DISC	CD124	CD124	CD124	CD124	CD124
28	GROMMET CHAMBER MOUNTING	CD66A	CD66A	CD66A	CD66A	CD66A
29	CHAMBER MOUNT	CD65A	CD65A	CD65A	CD65A	CD65A
30	"O" RING # 125 (used w/ grommet CD66A)	M379A	M379A	M379A	M379A	M379A
31	WHIP BLADE	CD64A	CD64A	CD64A	CD64A	CD64A
32	EXTENSION TUBE PLASTIC	M467A	M467A	M467A	M467A	M467A
33	WHIP CHAMBER (Straight – CD63A) OR (Slanted – CD362)	CD63A	CD63A	CD63A	CD63A	CD362
34	MIXING CHAMBER [ALTERNATE CD62A W/ RECTANGULAR WING]	CD137	CD137	CD137	CD137	CD137
35	DISPENSE CAP OR SPLASH GUARD	CD61A	CD61A	CD61A	CD61A	CD61A
36	"O" RING (#110) (used w/socket CD67A)	M378A	M378A	M378A	M378A	M378A
37	MIXING BOWL SOCKET	CD67A	CD67A	CD67A	CD67A	CD67A
38	DISPENSE BUTTON (GB L455A) / (GB Ski Super L584A) STOP SWITCH	L455A	L455A	L455A	L455A	L584A
39	BALLAST [ for inside door parts see ill. E]	CE221	----	CE221	CE221	CE221
40	LAMP HOLDER [ for inside door parts see ill. E]	CE220	<b>B216A</b>	CE220	CE220	CE220
41	BULB [ for inside door parts see ill. E] O-RING [use with bulb CE82A only]	CE76A ----	<b>CE82A CB04A</b> ----	CE76A ----	CE76A ----	CE76A ----
42	STARTER BASE [ for inside door parts see ill. E]	B128A	----	B128A	B128A	B128A
43	STARTER, TYPE FS- 5, 5-6-8 WATT [ for inside door parts see ill. E]	L396A	----	L396A	L396A	L396A
44	DOOR LATCH	M367A	M367A	M367A	M367A	M367A
45	DOOR ASS'Y -SEE METAL PARTS LIST – see next page	←	←	←	←	←
46	CLEANING INSTRUCTIONS PROGRAMMING INSTRUCTIONS	N978A	N978A ----	N978A ----	N978A ----	N978A NF58A
47	TIMER "TEACH ME" [PROGRAM. dispense Time/Cup Size]-Single [Triple L582A] or TIMER [NOT PROGRAM.] [use w/pot. L577A & dial/cup size labels: NF32A/33A/34A]	----	----	----	----	L576A ----
48	POTENTIOMETER - USED W/SPEED CONTROL BD [GRAM THROW DIAL] LABEL, GRAM THROW DIAL- [GB2 NF30A; GB3 ND81A; GB4 NF31A]	----	----	----	----	L557A NF30A
49	PRODUCT GUIDE	CD70A	CD70A	CD70A	CD70A	CD90A
50	CANISTER ASS'Y WITH COVER [w/NYLON auger] OR CANISTER ASS'Y WITH COVER [w/WIRE auger]	CD68A CD98A	CD155	CD120 CD152	CD105	CD105
51	AC AUGER MOTOR (90 RPM CD73A, (44 RPM CD87A) [CD175 same as CD150] DC AUGER MOTOR 90 RPM CD151 [W/Screw P443A] Portion Control - Optional	CD175 ----	CD175 ----	CD175 ----	CD175 ---	----- CD151
52	SIDE PANELS - SEE METAL PARTS LIST – see next page	←	←	←	←	←

METAL PARTS LIST							
MODELS		ITEM 1	ITEM 23	ITEM 23	ITEM 24	ITEM 45	ITEM 53
		TANK ASS'Y	TANK TOP ASS'Y	GRILL	DRIP TRAY	DOOR ASS'Y	SIDE PANELS
GB1M	SPACE SAVER	SC35C	SC32C	RI23A	RI11A	RD03Q	RH91A
GB2M-5.5		SC35C	SC32C	RI18A	RI11A	RH47Q	RG48A
GB3M-5.5		SC36C	RI39C	RI19A	RI12A	RH48Q	RG48A
GB4M-5.5		RL72C	RL69C	RI20A	RH05A	RH49Q	RG48A
GB5M-5.5 [17" W]		SJ61C	SJ60C	SD76A	RT66A	RM02Q	RG48A
GB5M-10 [18" W]		SJ61C	SJ60C	RR34A	RR33A	SD82Q	RG48A
2K-GB [32" H]	BUDGET W/ MOLDED DOOR	SC35C	SC32C	RK44A	RM21A	RF73Q	RD46A
3K-GB [32" H]		SC35C	SC32C	RK47A	RM23A	RF79Q	RD46A
4K-GB [32" H]		RL72C	RL69C	RZ79A	RZ80A	RZ07Q	RD46A
5K-GB [32" H]		RL72C	RL69C	RZ79A	RZ80A	RZ07Q	RD46A
GB2 -LP	LOW PROFILE	SC35C	SC32C	SC25A	SC26A	SC01Q	SC33A
GB3 - LP		SC36C	RI39C	SC30A	SC31A	SB30Q	SC33A
GB4 - LP		SC36C	RI39C	SC57A	SC58A	SC62Q	SC33A
GB1-SKI-LD	SKI	RL54C	RL52C	RI23A	RI11A	RF37Q	RL51A
GB2-SKI-LD	SKI	RN21C	RN16C	RL61A	RH05A	RF23Q	RL51A
GB2-Super-SKI	Super SKI	RN21C	RN16C	RQ78A	RQ16A	RN61Q	RN33A
GB2-Super-SKI-BL-LD		RN21C	RN16C	RQ78A	RQ16A	RN61Q	RN33A

# HOT/COLD WATER VALVE CONVERSION KIT

## INSTALLATION INSTRUCTIONS:

1. REMOVE EXISTING BOTTOM BACK PANEL.
2. INSTALL KIT/PANEL WITH THE 4 SCREWS SUPPLIED.
3. CONNECT HOSE (FROM TANK) WATER INLET, TO DUAL VALVE AS SHOWN.
4. CONNECT HOSE TO RIGHT DISPENSE VALVE.
5. CONNECT HOSE TO RIGHT MIXING CHAMBER SOCKET.
6. CONNECT TOGGLE SWITCH WIRES AS FOLLOWS: (see Wiring Diagram)
  - a. Disconnect Yellow wire from RIGHT Dispense Valve (coming from motors) & Connect to CENTER Terminal of HOT/COLD Switch.
  - b. Connect Flag Terminal from HOT/COLD Switch to RIGHT Dispense Valve.
  - c. Check HOT & COLD operation to make sure that the HOT/COLD leads are not reversed.



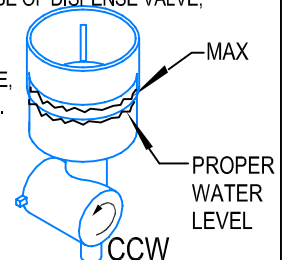
## OPERATION INSTRUCTIONS:

BOTH HOT AND COLD WATER FLOW RATE IS FACTORY ADJUSTED, THE WATER FLOW RATE MAY BE CHANGED IF THE USER DESIRES AS FOLLOWS:

- A. **SET HOT/COLD SWITCH TO COLD** (bypass tank ass'y):  
TO ADJUST THE **COLD** WATER FLOW USE THE FLOW ADJ. KEY.

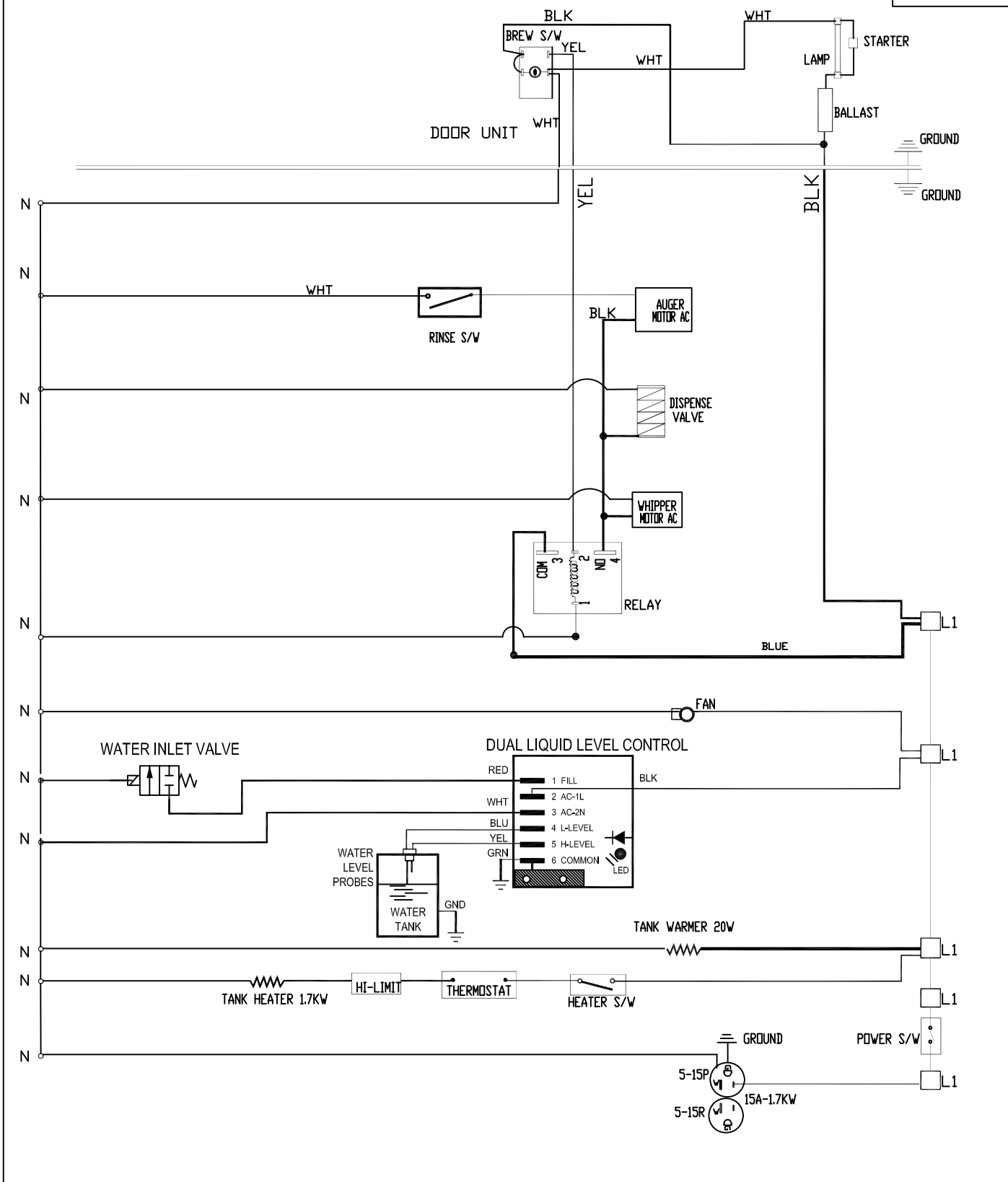
1. CLOSE ADJUSTER WITH KEY.
2. OPEN ADJUSTER **SLOWLY** WITH KEY.  
NOTE: WATER WILL SHOOT OUT OF VENT TUBE OF DISPENSE VALVE, IF ADJUSTER IS NOT ADJUSTED AS DIRECTED.
3. ADJUST **COLD** WATER LEVEL IN THE THE MIX. CHAMBER TO LEVEL SPECIFIED HERE, WHICH WILL YIELD 33 gr/8 oz. OF CAPPUCCINO. IF WATER LEVEL IS ABOVE THE MAX POINT, IT WILL LEAK OUT.

- B. **SET HOT/COLD SWITCH TO HOT:**  
TO ADJUST THE **HOT** WATER FLOW USE DISPENSE VALVE. SEE ILL. C.



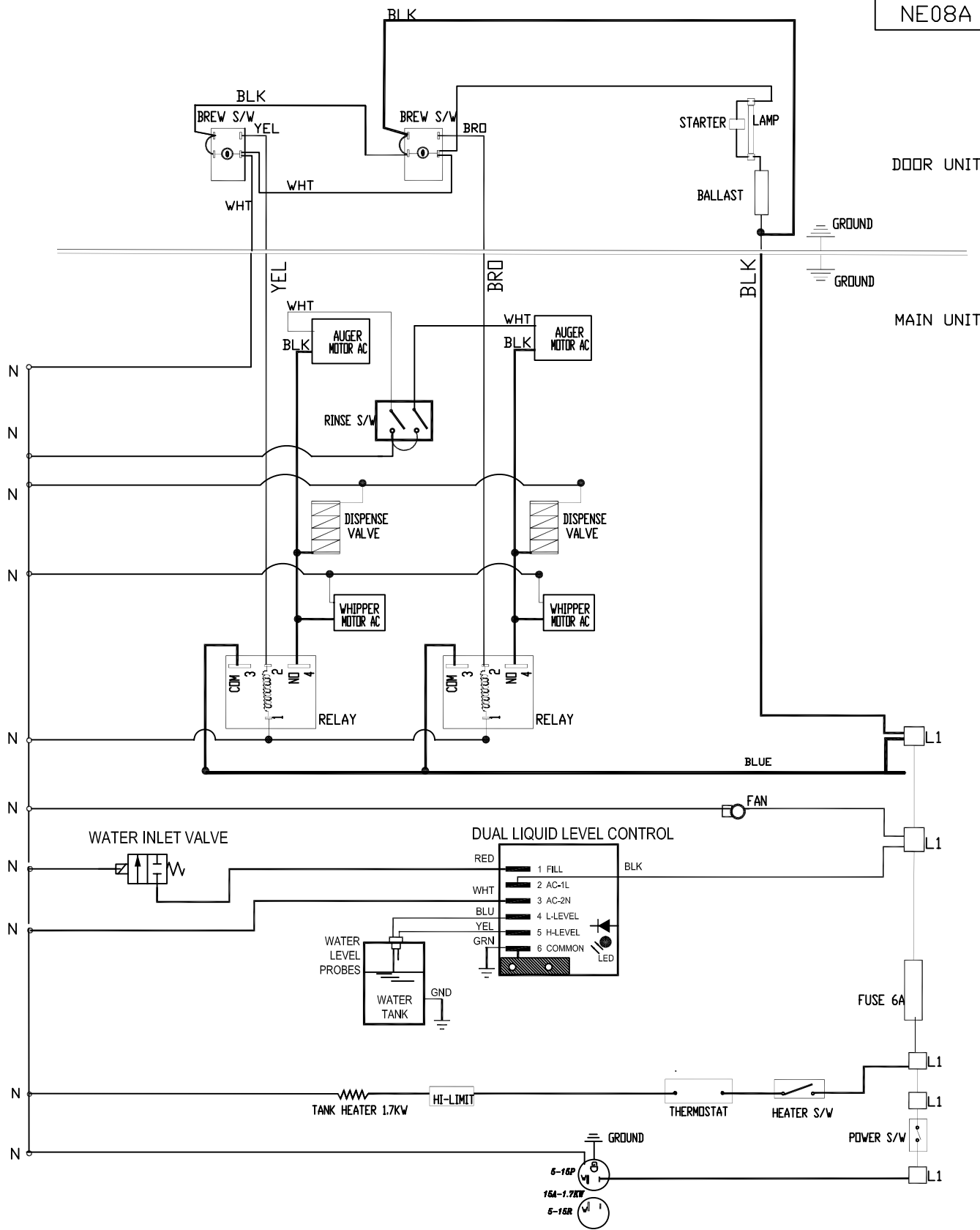
ILL. K

NE01A



A	CG	2/4/07	REPLACED FLOAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD				
REV	BY	DATE	DESCRIPTION	APPROVED BY	DATE	PART NO.	NE01A
MATERIAL:	N/A			DRAWN BY	C.G.	DATE	6/12/97
CECILWARE CORPORATION				43-05 20 AVE. L.I.C. NY 11105			
TITLE: ELECTRICAL DIAGRAM GB1, 1M, 1MD [120V, 1.7KW, 1 PH, 2 WIRES + GROUND] W/RELAY							REV. A

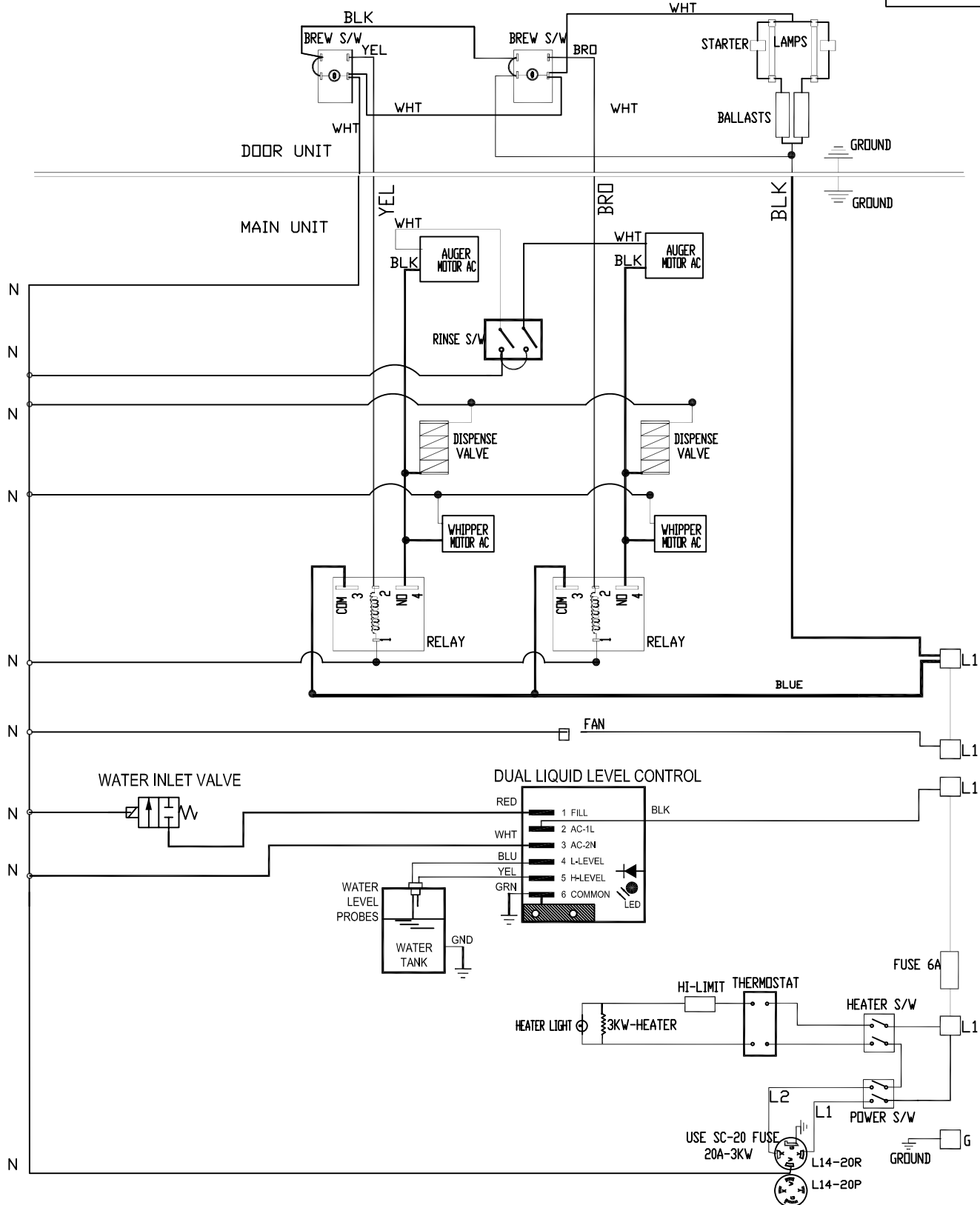
NE08A



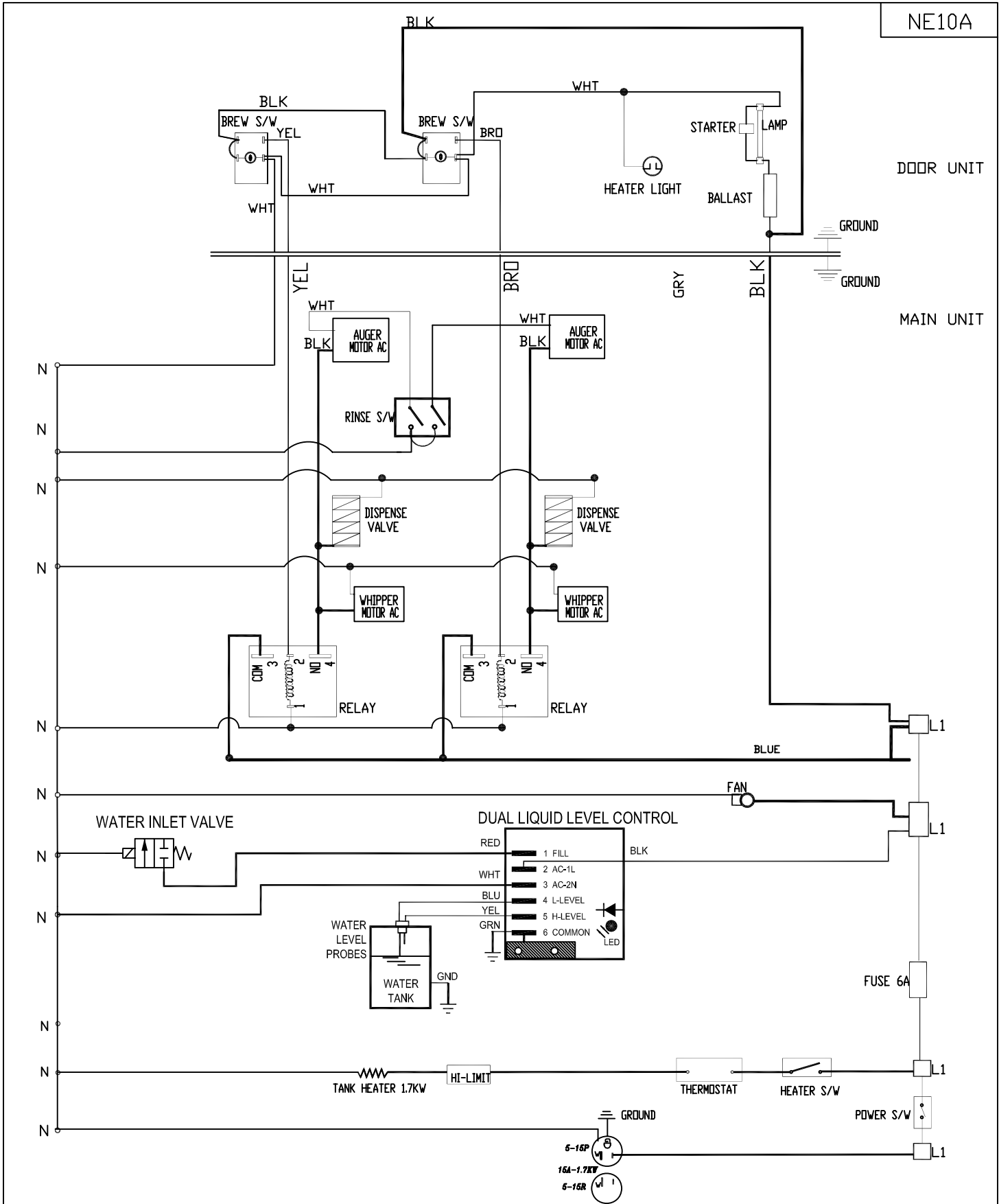
A	CG	2/4/07	REPLACED FLDAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD; REMOVED TANK WARMERS - NOT USED				
REV	BY	DATE	DESCRIPTION	APPROVED BY	DATE	PART NO. NE08A	
MATERIAL:	N/A			DRAWN BY	C.G.	DATE	6/12/97
CECILWARE CORPORATION					43-05 20 AVE. L.I.C. NY 11105		
TITLE: ELECTRICAL DIAGRAM GB2, M, MD, K [120V, 1.7KW, 1PH, 2WIRES + GND] W/RELAYS							REV. A



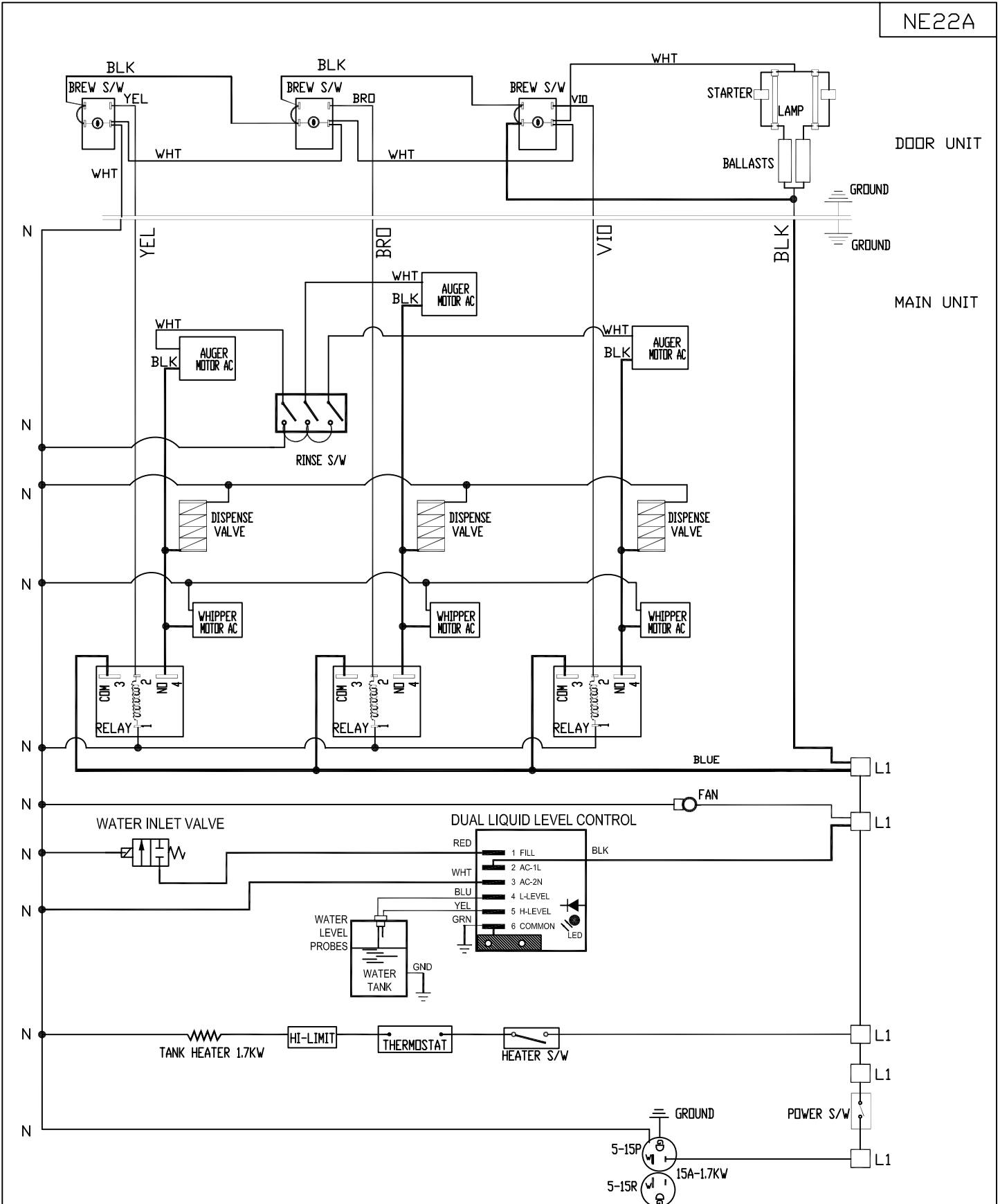
NE09A



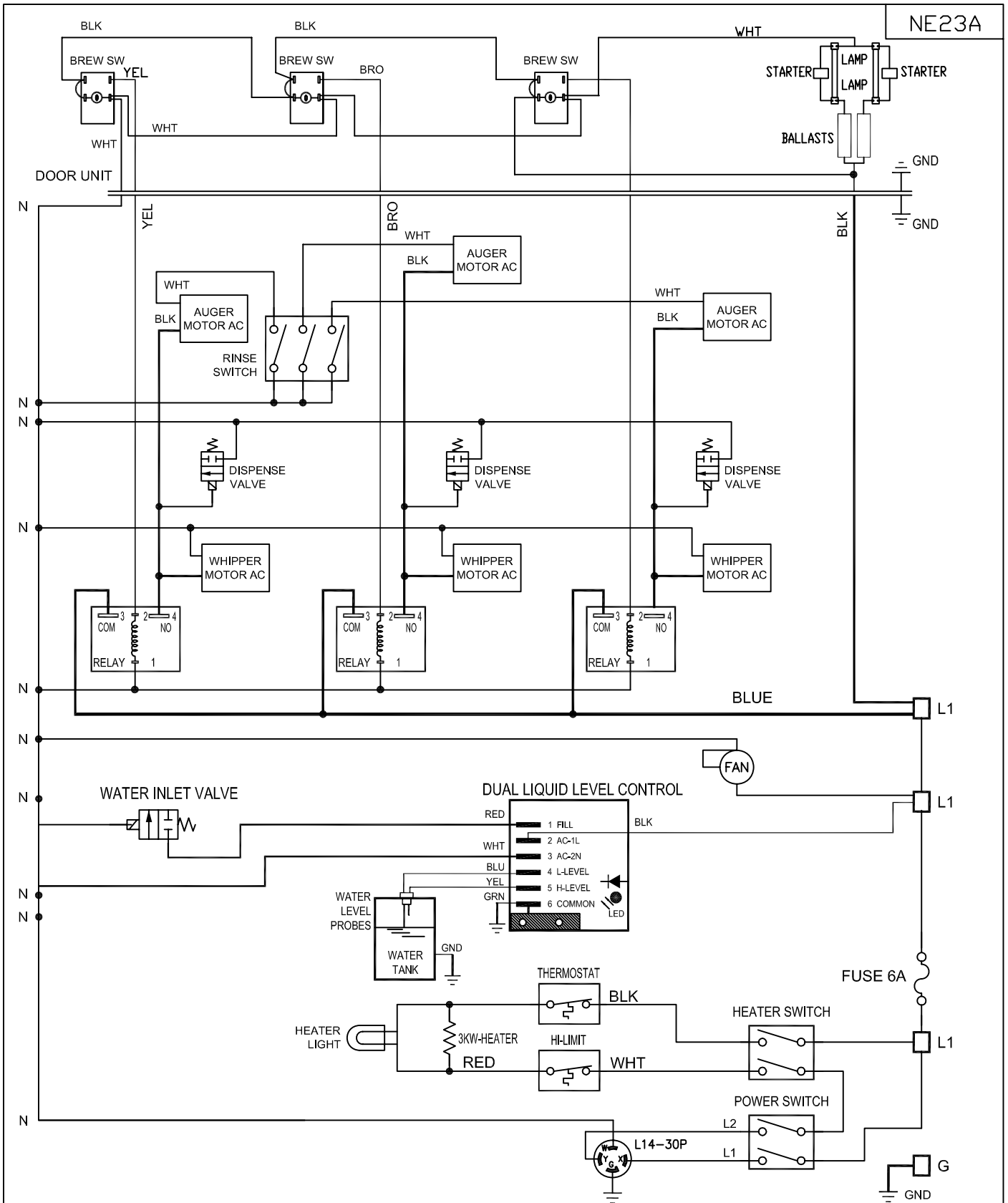
A	CG	2/4/07	REPLACED FLOAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD; REMOVED TANK WARMERS- NOT USED				
REV	BY	DATE	DESCRIPTION	APPROVED BY	DATE	PART NO. NE09A	
MATERIAL:	N/A			DRAWN BY	C.G.	DATE	6/12/97
CECILWARE CORPORATION				43-05 20 AVE. L.I.C. NY 11105			
TITLE: ELECTRICAL DIAGRAM GB2, 2M,2MD, 2K, I120/240V, 3KW, 1PH, L1,L2,NTL,GND, W/RELAYS							REV. A



B	CG	2/4/07	REPLACED FLOAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD; REMOVED TANK WARMERS	APPROVED BY	DATE	PART NO. NE10
REV	BY	DATE	DESCRIPTION	DRAWN BY	C.G.	DATE 6/12/97
MATERIAL:	N/A			SCALE	N T S	
CECILWARE CORPORATION			43-05 20 AVE. L.I.C. NY 11105			
TITLE: ELECTRICAL DIAGRAM GB2 SKI [120V, 1.7KW, 1PH, 2WIRES + GND] W/RELAYS						REV. B

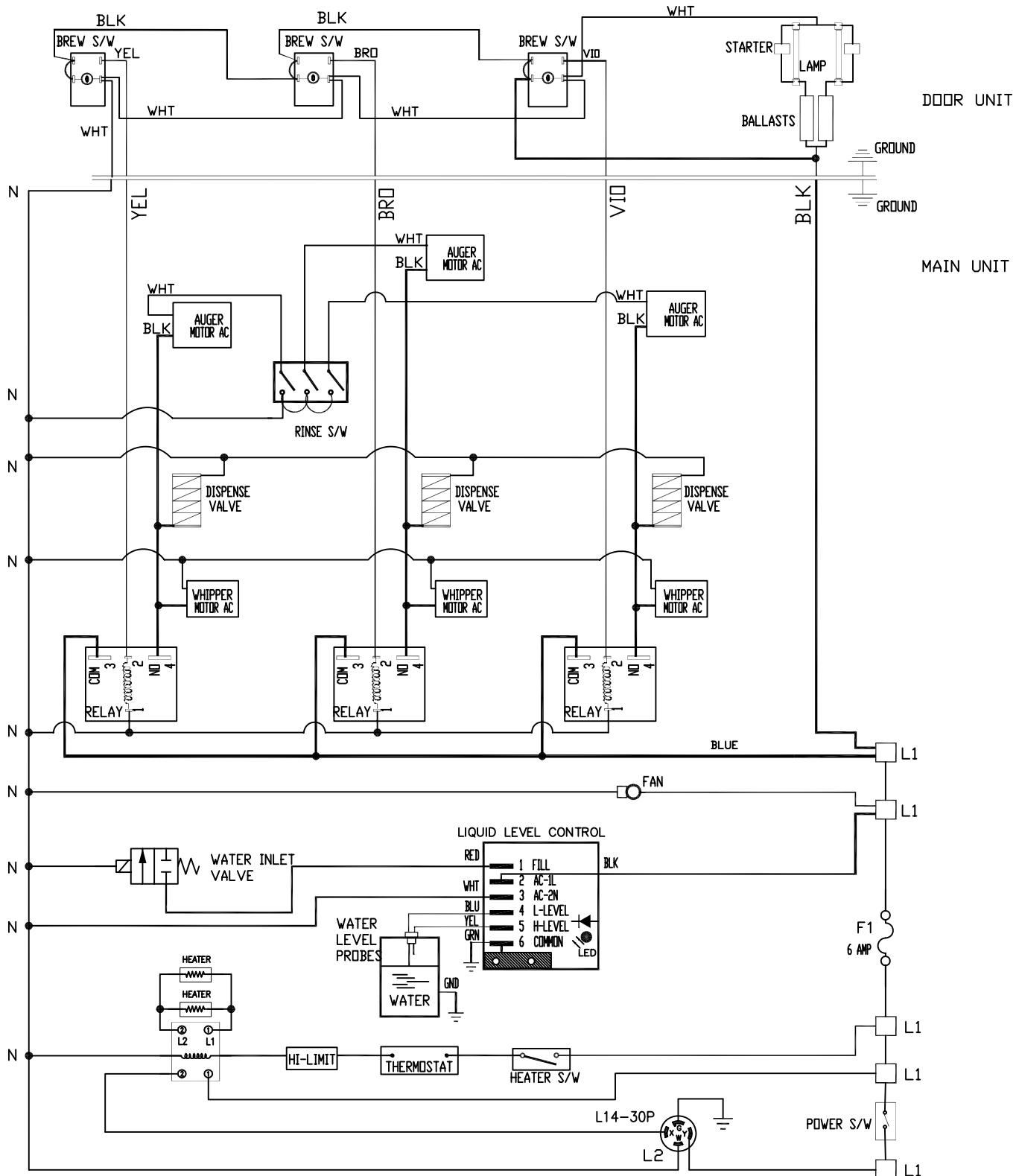


A	M.M.	3/18/03	CHANGED TO DUAL LIQUID LEVEL CONTROL.	APPROVED BY	DATE	PART NO. NE22A
REV	BY	DATE	DESCRIPTION	DRAWN BY	DATE	SCALE
				C.G.	6/12/97	N T S
MATERIAL: N/A			CECILWARE CORPORATION			
TITLE: ELECTRICAL DIAGRAM GB3, 3M, 3MD, 3K [120V, 1.7KW, 1 PH, 2 WIRES + GROUND] W/ RELAYS			43-05 20 AVE. L.I.C. NY 11105			REV. A



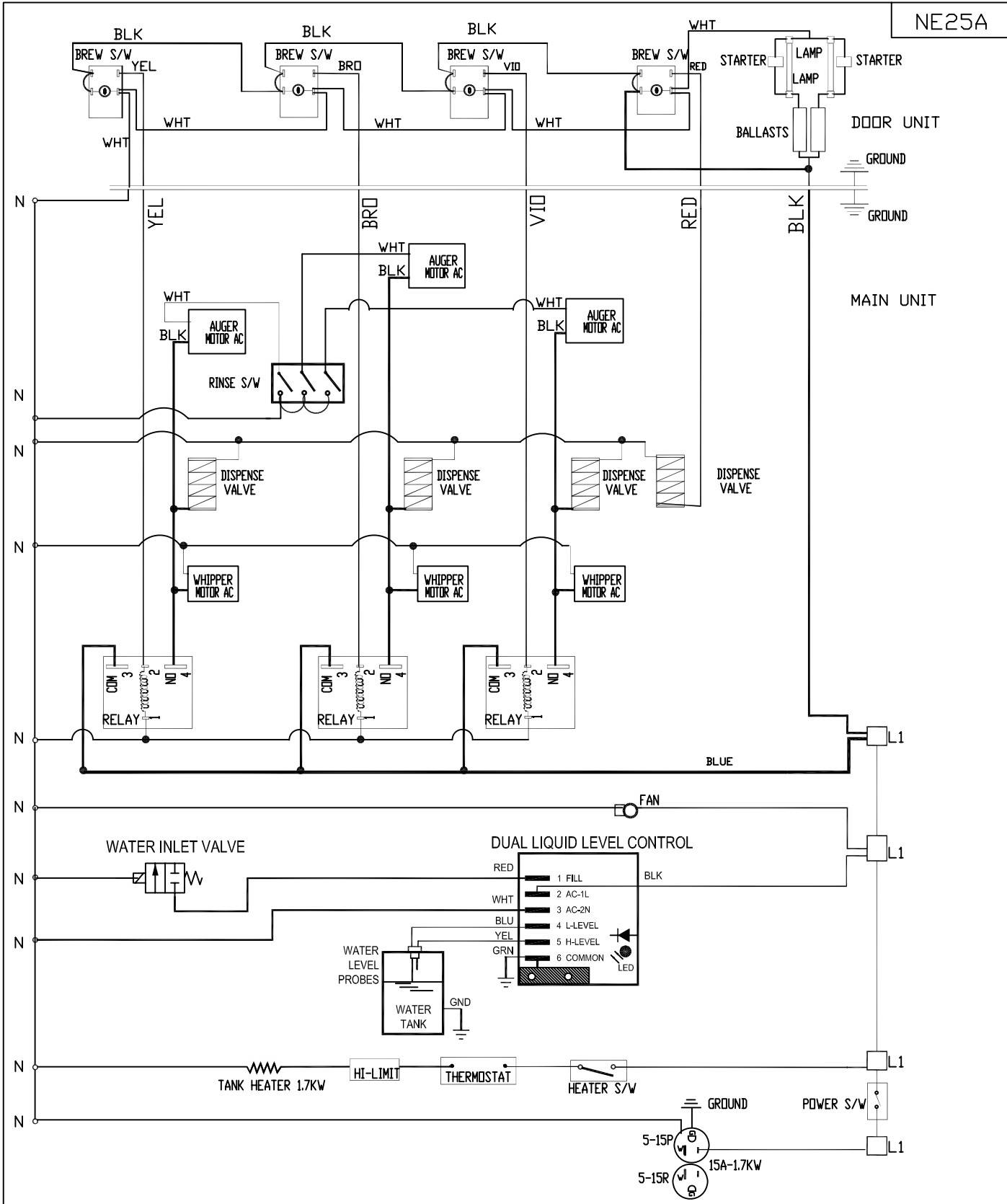
B	CG	2/4/07	REPLACED FLOAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD; REMOVED TANK WARMERS- NOT USED	APPROVED BY	DATE	PART NO. NE23A
REV	BY	DATE	DESCRIPTION	DRAWN BY	M.M.	DATE 10/21/05
MATERIAL:				SCALE		N T S
CECILWARE CORPORATION				43-05 20 AVE. L.I.C. NY 11105		
TITLE: ELECTRICAL DIAGRAM GB3M, 3K [120V/240, 3KW, 1 PH, L1, L2 +NTL + GND] W/ RELAYS						REV. B

NE24A

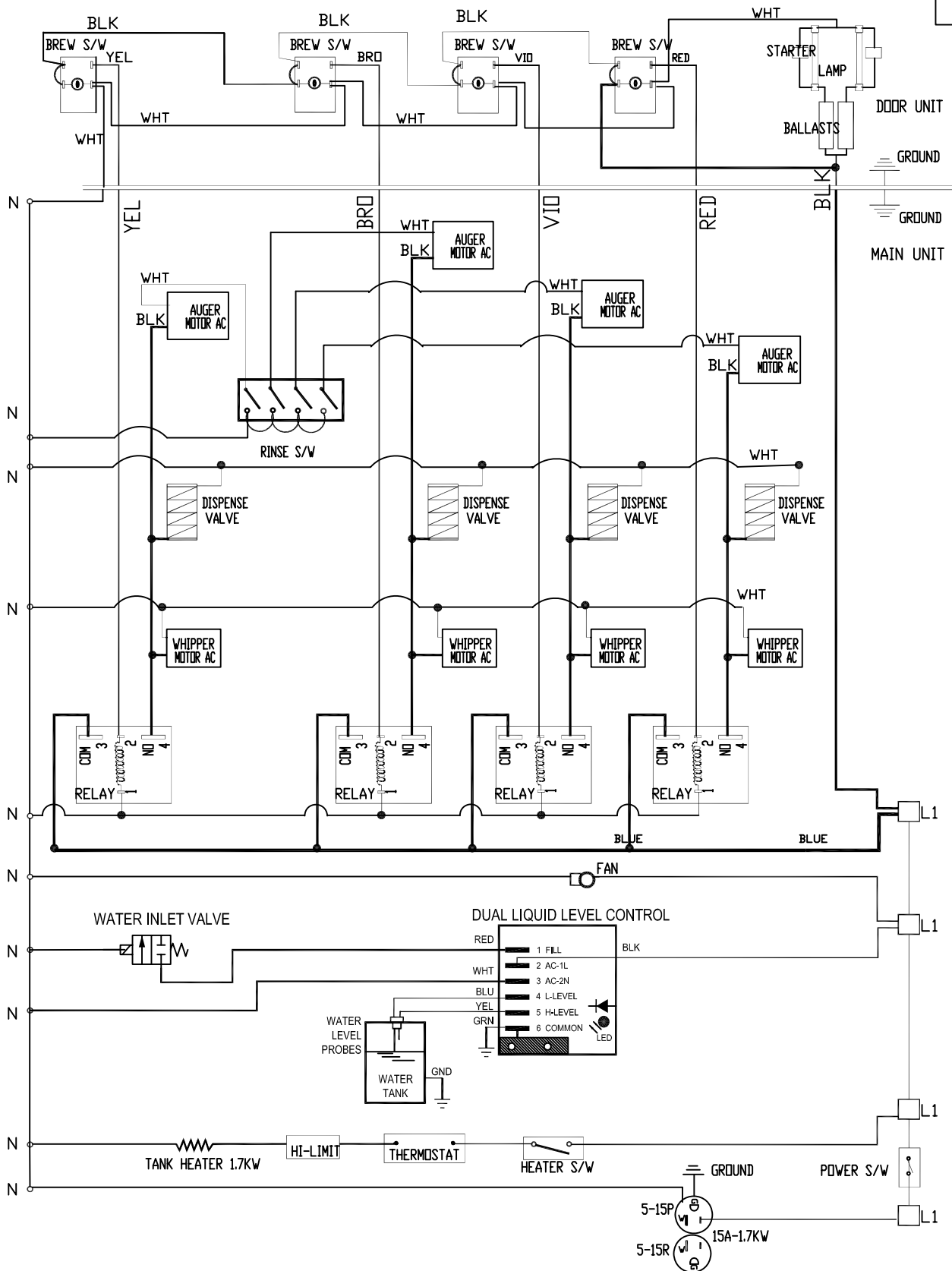


A	M.M.	3/18/03	CHANGED TO DUAL LIQUID LEVEL CONTROL.				
REV	BY	DATE	DESCRIPTION	APPROVED BY	DATE	PART NO.	NE24A
MATERIAL:	N/A			DRAWN BY	C.G.	DATE	6/12/97
<p style="text-align: center;"><b>CECILWARE CORPORATION</b></p>				<p style="text-align: center;">43-05 20 AVE. L.I.C. NY 11105</p>			
<p>TITLE: ELECTRICAL DIAGRAM GB3M , 3K [120/240V, 6KW, 1 PH, L1, L2 +NTL + GND] W/RELAYS</p>							REV. A

NE25A

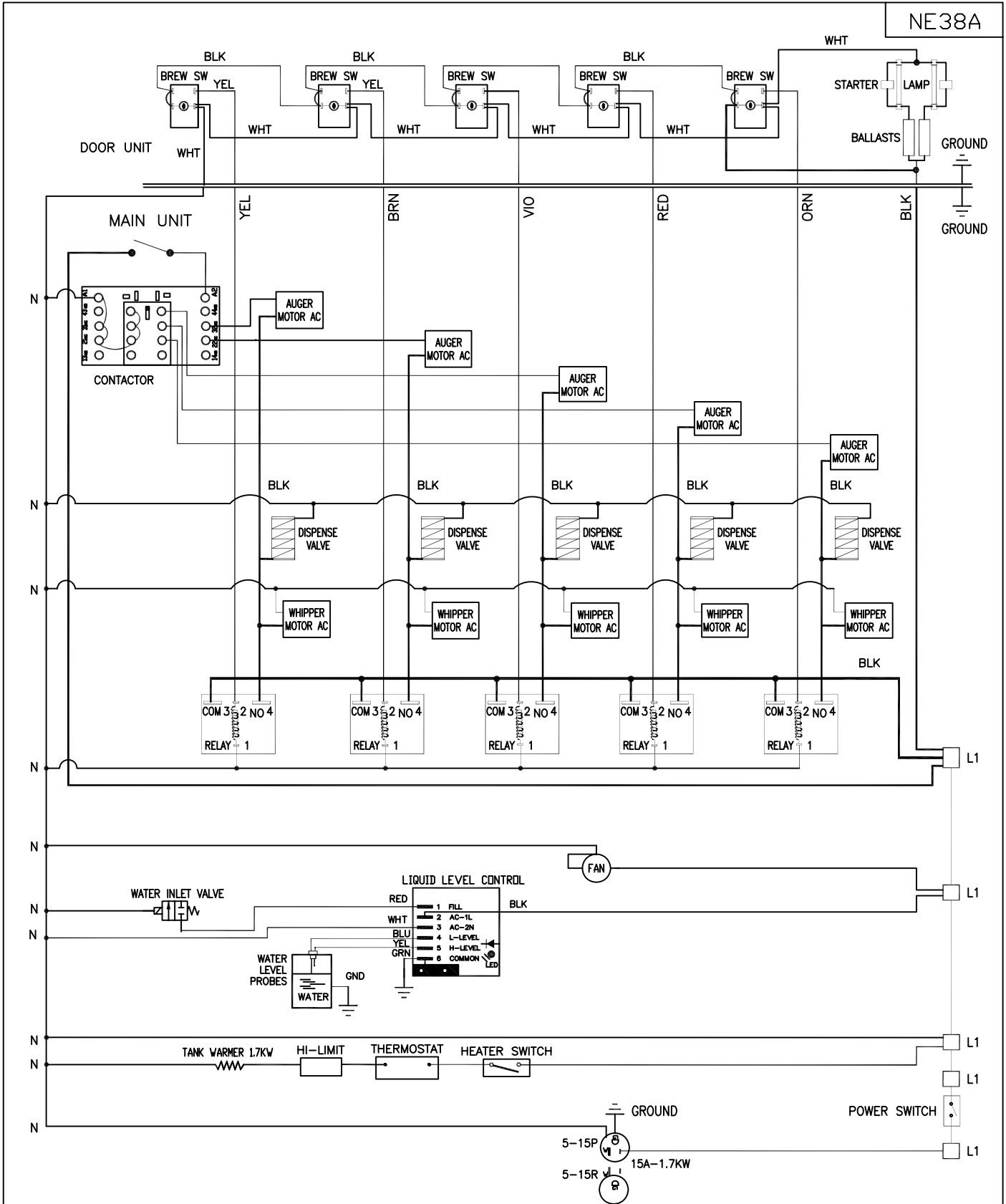


A	CG	2/4/07	REPLACED FLOAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD				
REV	BY	DATE	DESCRIPTION	APPROVED BY	DATE	PART NO. NE25A	
MATERIAL:	N/A			DRAWN BY	C.G.	DATE	6/18/97
CECILWARE CORPORATION					43-05 20 AVE. L.I.C. NY 11105		
TITLE: ELECTRICAL DIAGRAM GB3M-W [120V, 1.7KW, 1 PH, 2 WIRES + GROUND] W/ RELAYS							REV. A



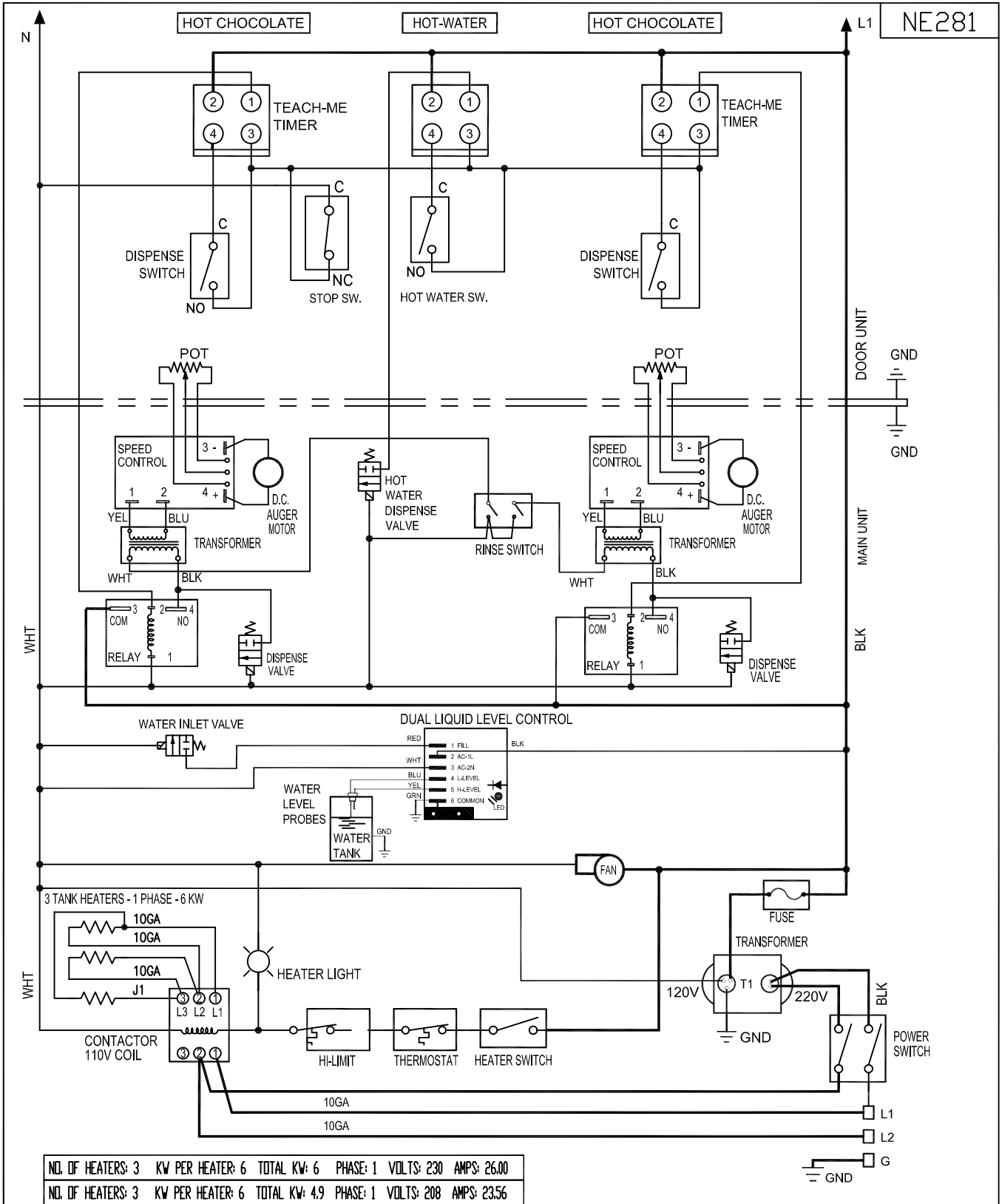
A	CG	2/4/07	REPLACED FLOAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD; REMOVED TANK WARMERS- NOT USED	APPROVED BY	DATE	PART NO. NE37A
REV	BY	DATE	DESCRIPTION	DRAWN BY	DATE	SCALE
MATERIAL:	N/A			C.G.	6/12/97	N T S
<b>CECILWARE CORPORATION</b>				43-05 20 AVE. L.I.C. NY 11105		
TITLE: ELECTRICAL DIAGRAM GB4, 4M, 4M-8, 4MD [120V, 1.7KW, 1 PH, 2 WIRES + GROUND] W/ RELAYS						REV. A

NE38A



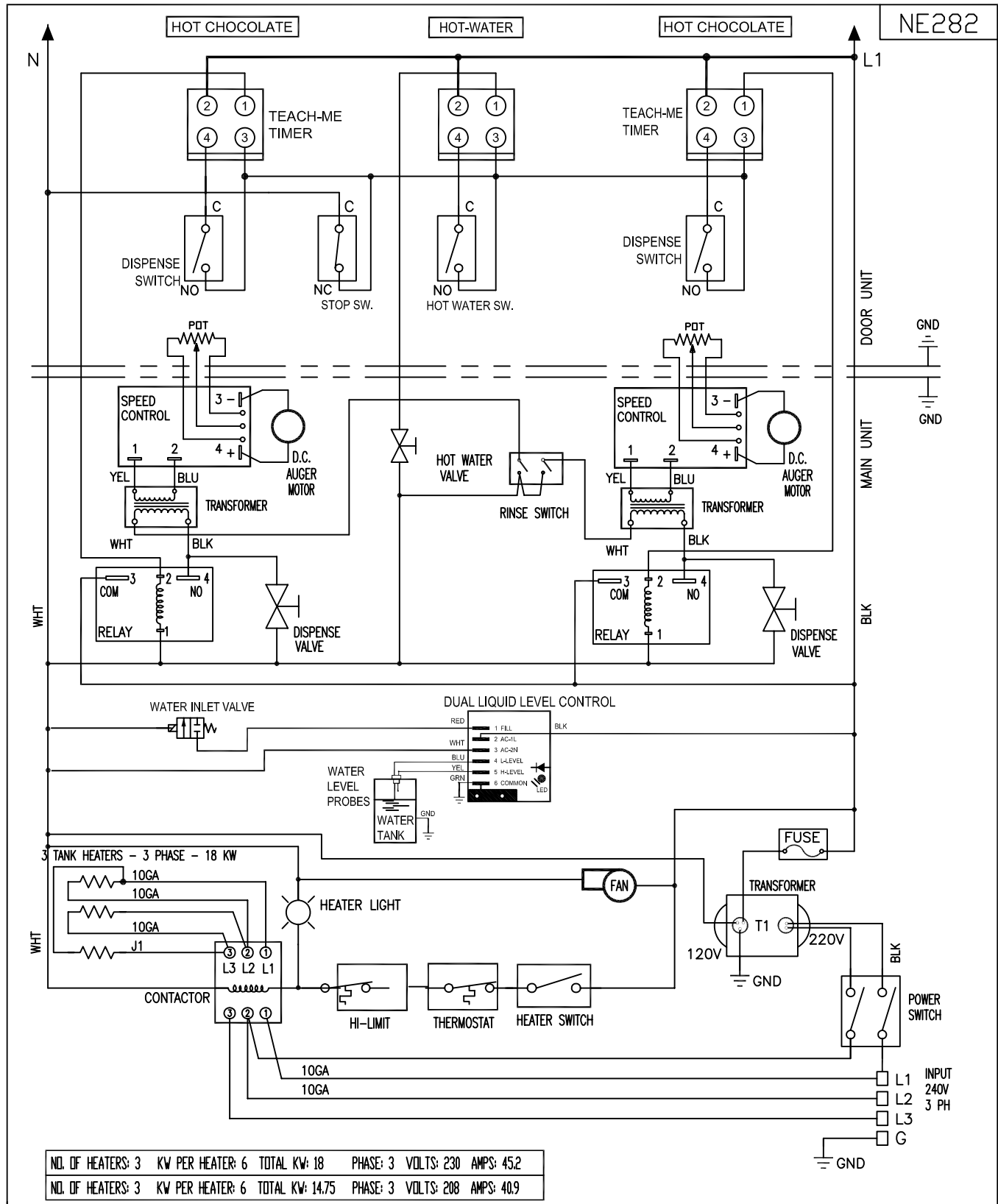
B	M.M.	7/13/2004	REDESIGNED				
REV	BY	DATE	DESCRIPTION	APPROVED BY	DATE	PART NO.	NE38A
MATERIAL:	N/A			DRAWN BY	C.G.	DATE	6/12/97
CECILWARE CORPORATION				43-05 20 AVE. L.I.C. NY 11105			
TITLE: ELECTRICAL DIAGRAM GB5M [1.7KW, 120V, 2WIRES,+GND] W/RELAYS, CONTACTOR							REV. B





NO. OF HEATERS: 3 KW PER HEATER: 6 TOTAL KW: 6 PHASE: 1 VOLTS: 230 AMPS: 26.00  
 NO. OF HEATERS: 3 KW PER HEATER: 6 TOTAL KW: 4.9 PHASE: 1 VOLTS: 208 AMPS: 23.56

H	CG	2/4/07	REPLACED FLDAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD	APP'D BY	DATE	PART NO NE281	NE281	
REV	BY	DATE	DESCRIPTION	DRAWN BY C.G.	DATE 11/2/06	SCALE 1 : 1		
<b>CECILWARE CORPORATION</b>				43-05 20 AVE. L.I.C. NY 11105				NE281
TITLE: ELECTRICAL DIAGRAM, (GB2SKI-SUPER) [SINGLE PHASE W/TEACH ME TIMERS] 240 V.AC 6 KW							REV. -	



ND. OF HEATERS: 3 KW PER HEATER: 6 TOTAL KW: 18 PHASE: 3 VOLTS: 230 AMPS: 45.2  
 ND. OF HEATERS: 3 KW PER HEATER: 6 TOTAL KW: 14.75 PHASE: 3 VOLTS: 208 AMPS: 40.9

A	CG	2/4/07	REPLACED FLDAT SW WITH DUAL LIQUID LEVEL CONTROL BOARD	APP'D BY	DATE	PART NO NE282	NE282
REV	BY	DATE	DESCRIPTION	DRAWN BY C.G.	DATE 11/2/06	SCALE 1 : 1	
<b>CECILWARE CORPORATION</b> 43-05 20 AVE. L.I.C. NY 11105							NE282
TITLE: ELECTRICAL DIAGRAM, (GB2SKI-SUPER) 3 PHASE, W/TEACH ME TIMERS 240 V.A.C. 18 KW							