



**CAUTION:** Read the instructions before using the machine.

#### LIMITED WARRANTY

This product is warranted to be free from defects in material and/or workmanship for a period of 3 years (repair parts) and 2 years (service labor) from date of original installation, not to exceed 30 months from the date of manufacture. Any component which proves to be faulty in material and/or workmanship will be replaced or repaired (at the option of Prince Castle LLC) without cost to the customer for parts and labor. This warranty covers on location service (i.e. trip charges and or mileage). Travel mileage is limited to 100 miles (200 Kilometers) round trip (one trip warranty) from an authorized service agency or its sub-service agency. This warranty is subject to the following exceptions/conditions:

- Use of any non-genuine Prince Castle parts voids this warranty.
- All labor to be performed during regular work hours. Overtime premium (the incremental amount) will be charged to the customer.
- Damage caused by carelessness, neglect and/or abuse
   (e.g., dropping, tampering or altering parts, equipment damaged in shipment,
   by fire, flood or an act of nature) is not covered under this warranty.
- All problems due to operation at voltages other than that specified on equipment nameplates are not covered by this warranty. Conversion to correct voltage is the customer's responsibility.
- This equipment must be serviced by Prince Castle Authorized Service Agency or a Prince Castle Service Technician during the warranty period.

Note: When connected to the Kitchen Minder or Sicom CHEF, the programming functions are disabled on the button bar.

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355 EAST KEHOE BLVD. ~ CAROL STREAM, IL, 60188, USA PHONE: 630-462-8800 ~ TOLL FREE: 1-800-PCASTLE FAX 630-462-1460 ~ WWW.PRINCECASTLE.COM



#### **Model Identification**



Extended Holding Bin

> Number of Shelves

'CE' is present if bin

Number of can be used outside

Trays per of the US

Shelf 'A' is present if
there are auxiliary

there are auxiliary timer bars (bars on the back of the unit)

Model Suffix	Plug
<none>, -CA</none>	6-20P
-AU	Type I, 15P
-BR	BR3-20P
-CL	Type L, 16P
CE, -EAC	IEC 309

Country designation

e.g. "CA" is Canada

#### **Serial Number Matrix**

The manufacture date is encoded in the unit's serial number. The service bench installation date (used to determine warranty coverage) is considered to be the end of the following month. For example:

Serial Number: JL0173804

Manufacture Date: September 2016

Service Bench Installation Date: October 31, 2016

			SERIAL NUMBER MATRIX							
		2016	2017	2018	2019	2020	2021	2022	2023	
		L	М	Ν	Р	R	S	Т	U	
January	Α	AL	AM	AN	AP	AR	AS	AT	AU	
February	В	BL	BM	BN	BP	BR	BS	ВТ	BU	
March	С	CL	CM	CN	СР	CR	CS	СТ	CU	
April	D	DL	DM	DN	DP	DR	DS	DT	DU	
May	Ε	EL	EM	EN	EP	ER	ES	ET	EU	
June	F	FL	FM	FN	FP	FR	FS	FT	FU	
July	G	GL	GM	GN	GP	GR	GS	GT	GU	
August	Н	HL	НМ	HN	HP	HR	HS	HT	HU	
September	J	JL	JM	JN	JP	JR	JS	JT	JU	
October	K	KL	KM	KN	KP	KR	KS	KT	KU	
November	L	LL	LM	LN	LP	LR	LS	LT	LU	
December	М	ML	MM	MN	MP	MR	MS	MT	MU	



#### **Model Specifications**

STYLE	WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)	WEIGHT (kgs)	VOLTAGE	WATTS	<u>PLUG</u>
		•	•			•	
3H X 4W	33.2" (843)	16.2" (413)	14.1" (358)	83 lbs (38)	208-240V	2820-3760W	See pg. 2

#### NOTE:

Weight (kgs) is product weight.

#### **Safety Information**



#### **WARNING**

Indicates information important to the proper operation of the unit. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.



#### **CAUTION**

Indicates information important to the operation of the unit. Failure to observe may result in damage to the equipment.

#### **Important**

Prince Castle reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, improvements, additions or replacements for previously purchased equipment.

Children shall not play with appliance.

Cleaning and user maintenance shall not be made by children without supervision

#### Installation



WARNING: This application is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



Remove the unit from the carton and inspect for signs of damage. If there is damage to the unit:

- · notify the carrier within 24 hours of delivery
- save carton and packaging materials for inspection purposes
- contact your local dealer, or if purchased directly, the Prince Castle Sales Department at 800-722-7853 or 1-630-462-8800 to arrange for a replacement unit.

NOTE: Plug the power cord into the proper electrical receptacle. All electrical connections must be in accordance with local electrical codes and any other applicable codes.



Place Holding Bin on flat surface. Clearances: 6" sides, 24 " front and back. Remove blue and/or white protective covering.

NOTE: When installing this unit, the ambient temperature at the mounting site should not exceed 100°F (38°C)



Plug unit into a grounded receptacle with a matching plug configuration.



WARNING:

All electrical connections must be in accordance with local electrical codes and any other applicable codes. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.

To prevent an electric shock hazard this device must be bonded to equipment in close proximity with an equipotential bonding conductor.

This device is equipped with a grounding lug (identified with the symbol at right) for this purpose.



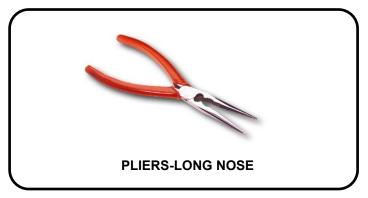
### **EHB34-2 Series**



## **Tools Required**









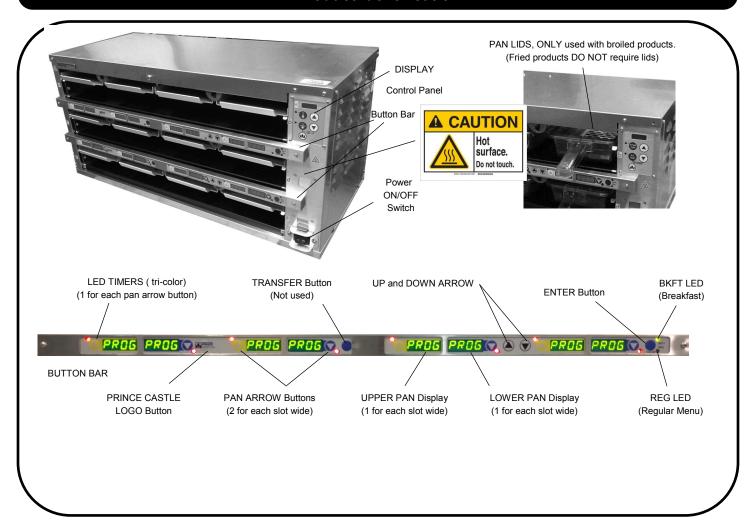




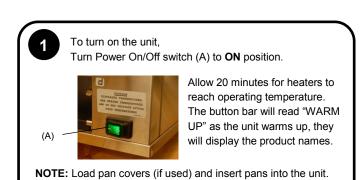


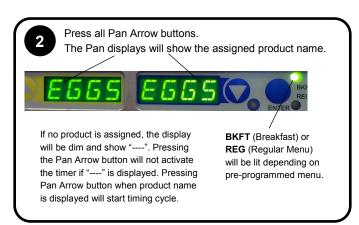


#### **Product Identification**



### Operation







#### Operation

**LED Timing Status** 



#### LED TIMERS

**BLANK** (steady) = Ready for product **RED** (flashing) = Discard product **GREEN** (steady) = Oldest product, use first **GREEN** (flashing) = Cook more product

YELLOW (steady) = Newer product, use green first

YELLOW (flashing) = Cook more product

When **LED** is **BLANK**, load product and press the Pan Arrow button.



If only one pan is active for a product, the **LED** will turn from **BLANK** to GREEN.

If more than one pan is active for a product, the **LED** for the first pan loaded will turn from **BLANK** to GREEN.

The **LED** for the 2nd pan loaded with the same product will turn from **BLANK** to YELLOW.

The **LED** timer can be stopped (cancelled) at any time by pressing and releasing the corresponding PAN Arrow button.

When any of the timer **LED** flash, cook more product or remove and discard product as indicated.

**GREEN** (flashing) = Cook more product **YELLOW** (flashing) = Cook more product **RED** (flashing) = Discard product



WARNING: HOT SURFACES

#### **Setting the Temperature**

The unit has multiple shelves, each with both an upper and lower heater for each zone.

The heaters follow the default setpoints of the preset products for each pan

Each heater has a programmable range of 150° – 275°F (66° – 135°C).

Use the instructions below and the following steps to set the setpoint temperatures for each heater.

NOTE: Only applicable in stand-alone mode when not connected to Product Management system, setpoint cannot be changed when connected to a kitchen manager.

#### **UPPER SHELF LED**

This LED will be lit to indicate upper shelf is selected.

This LED will be lit to indicate unit is in Program Mode.

#### LOWER SHELF LED

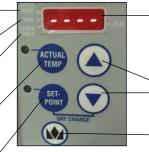
This LED will be lit to indicate lower shelf is selected.

#### **ACTUAL TEMP BUTTON and LED**

Press to display actual temperature for the selected heater. LED will be lit when actual temperature is displayed.

#### **SETPOINT BUTTON and LED**

Press to display setpoint temperature of a selected heater. LED will be lit when setpoint temperature is displayed.



**TEMPERATURE DISPLAY** 

A, B, C, D (E, F) = ZONES**Upper and Lower Heater** 

**UP/DOWN ARROW BUTTONS** 

Used with other Buttons to scroll through heater and temperature selections.

#### **CROWN BUTTON**

Press to enter temperature selections.

DISPLAYED TEMPERATURES ARE HEATER TEMPERATURES AND DO NOT INDICATE ACTUAL FOOD TEMPERATURES.

**CAUTION:** 

NOTE: To reset all calibrations to the factory settings, turn the unit off, then press and hold the UP and DOWN Arrow buttons simultaneously while turning the unit back on. A "P" will appear in the display and all calibrations will be reset to original factory settings.

The **SET PRODUCT TEMP** menu is used to change the Hold and Cook-More times.

Press and hold the PRINCE CASTLE LOGO button on the button bar, then immediately press and hold the MENU/ENTER button on the button bar until the display shows one of six programming menus.....(hold for about 5 seconds)

Use the **UP** or **DOWN** Arrow button to scroll to the **SET TEMP** ↑ ↓ **ENTR** (Set Product Temperature) menu.



Press and release the MENU/ENTER button to enter the programming menu, the display should then read SEL TEMP XXXX ↑↓ (the XXXX is where the product abbreviation is displayed). Use the UP and DOWN arrows to navigate to the desired product.



Press the MENU/ENTER button to select that product profile to update, the display will read SET UPR XXXX ###s↑↓ the XXXX is where the product abbreviation is displayed, and ### is the temperature. Use the UP and DOWN arrows to set the temperature of the upper heater of that zone. Confirm setpoint by pressing MENU/ENTER



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### EHB34-2 Series



### **Setting the Temperature (Continued)**

The display will now show **SET LWR XXXX ###s** ↑ ↓. Use the **UP** and **DOWN** arrows to set the temperature of the Lower heater of that zone. Press **MENU/ENTER** to confirm setpoint temperature.



NOTE: Changing the profile on one bar in a linked system of bin (s) is enough, it does not need to be changed on all bars in the system.

Press PRINCE CASTLE LOGO BUTTON to save the setpoints. Repeat steps 2-5 for all necessary profile upgrades.



NOTE: Setpoints are displayed on the front display board, and should be updated according to the product at this point.

#### **Calibrating Heaters**

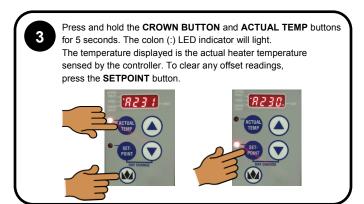
Use the following steps to calibrate the individual heaters

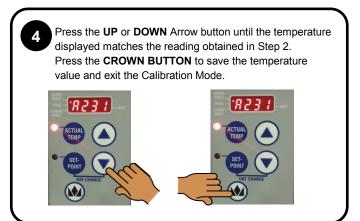
Press the UP or DOWN Arrow button until the desired shelf LED and upper or lower heater is selected.

NOTE: Allow sufficient amount of time for temperatures to stabilize before starting calibration. (approx. 30 mins.)



Take a temperature reading within the shelf near the center of each heater surface. WARNING: HOT SURFACES Use caution when taking temperature readings within the shelf. **NOTE:** Use an independent Temperature meter (not supplied).







### **Changing the Hold and Cook-More Times**

The **SET PRODUCT TIME** menu is used to change the Hold and Cook-More times. Press and hold the **PRINCE CASTLE LOGO** button on the button bar,

then immediately press and hold the **MENU/ENTER** button until the display shows one of six programming menus. Use the black **UP** or **DOWN** arrows to scroll to **PROD TIME** ↑↓ **ENTR**.

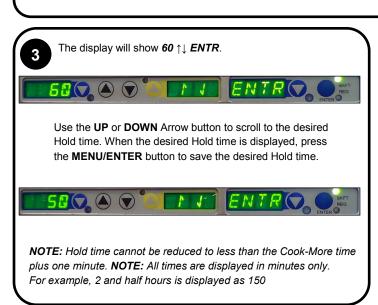


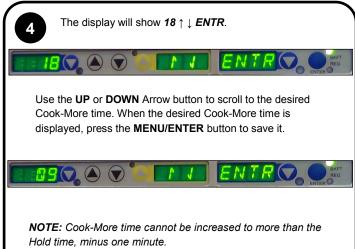
Press and release the **MENU/ENTER** button to enter the Set Product Time menu. The display will show **BISC TIME**  $\uparrow\downarrow$  **ENTR**. Use the **UP** or **DOWN** Arrow button to scroll through the list of products.

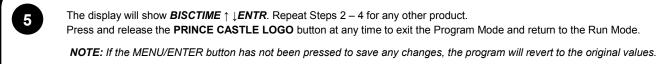
When the desired product is displayed, press the  $\ensuremath{\text{MENU/ENTER}}$  button to select it.



NOTE: Holding the UP or DOWN Arrow button for longer than 2 seconds will cause the product list to automatically scroll up or down.



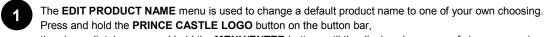








#### **Changing Product Names**



then immediately press and hold the **MENU/ENTER** button until the display shows one of six programming menus.

Use the black **UP** or **DOWN** Arrow button to scroll to the **PROD NAME** ↑↓ **ENTR** (Edit Product Name) menu.



NOTE: Only applicable in stand-alone mode when not connected to Product Management system.

NOTE: The default menu items and names are listed on page 16.

Press and release the **MENU/ENTER** button to enter the Edit Product Name menu. Use the **UP** or **DOWN** Arrow button to scroll through the list of products. When the desired product is displayed, press the **MENU/ENTER** button to select it. The first letter (in this case, the *B*) will start blinking.



To change the blinking **B**, use the **UP** or **DOWN** Arrow button to scroll to the desired letter/number/symbol. When the desired selection is displayed, press the **PAN Blue** Arrow button to move to the next digit (the previous digit can be accessed by pressing the **PAN Yellow** Arrow). Repeat for all digits.



NOTE: Holding the UP or DOWN Arrow button for longer than 2 seconds will cause the display to automatically scroll up or down.

When all four digits have been changed, press the **MENU/ENTER** button to select the new name.



The display will show **PROD NAME** ↑↓ **ENTR**. Repeat Steps 2 – 4 for any other product.

Press and release the **PRINCE CASTLE LOGO** button at any time to exit the Program Mode and return to the Run Mode.



NOTE: If the MENU/ENTER button has not been pressed to save any changes, the program will revert to the original names.



#### **Changing Temperature Scale**

The SET F/C menu is used to change the temperature scale.

Press and hold the PRINCE CASTLE LOGO button on the button bar,
then immediately press and hold the MENU/ENTER button until the display shows one of six programming menus.

Use black the UP or DOWN Arrow button to scroll to the SET F/C ↑ ↓ ENTR (Set Temperature Scale) menu.



Press the MENU/ENTER button to enter the menu.

Bar will display SET DEGR F/C ↑ ↓ ENTR and either the F or C will be blinking.



Use the **UP** and **DOWN** arrows to select the desired temperature mode (the selected mode will blink)

Press the **MENU/ENTER** button to confirm the selection. Press the **PRINCE CASTLE LOGO** button to save the setting.

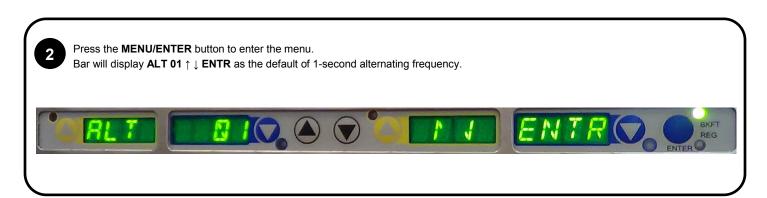


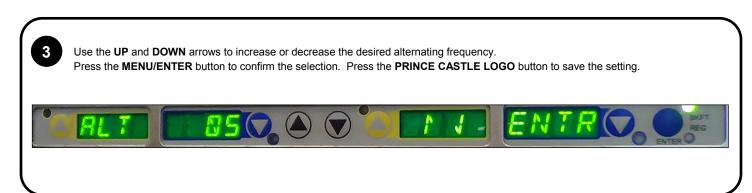
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## **Changing Product/Timer Alternating Time**

The **SET ALTERNATING TIME** menu is used to change the frequency of flashing between Product and Time Left on timer. Press and hold the **PRINCE CASTLE LOGO** button on the button bar, then immediately press and hold the **MENU/ENTER** button until the display shows one of six programming menus. Use the black **UP** or **DOWN** Arrow button to scroll to the **ALT TIME** ↑ ↓ **ENTR** (Set Alternating Time) menu.







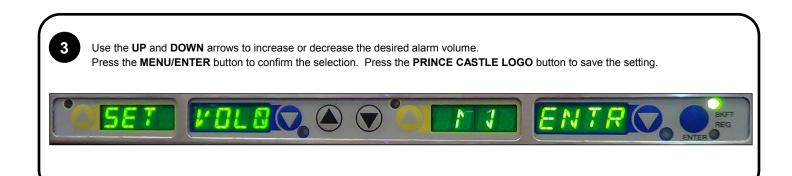
### **Changing Alarm Volume**

The **SET ALARM VOLUME** menu is used to change the volume of the alarm that sounds when a product has expired. Press and hold the **PRINCE CASTLE LOGO** button on the button bar, then immediately press and hold the **MENU/ENTER** button until the display shows one of six programming menus. Use the black **UP** or **DOWN** Arrow button to scroll to the **SET VOL X** ↑ ↓ **ENTR** (Set Alarm Volume) menu.



Press the MENU/ENTER button to enter the menu.

Bar will display SET VOL3 ↑ ↓ ENTR and the number will be blinking.





### **Loading Factory Presets**



Loading factory presets undoes any changes made in Recipe Modification Mode (*PROD TIME, PROD NAME, ALT TIME, SET VOL,* or *SET F/C*).

Turn power off to the unit. Flip the power button on "—" and immediately press and hold the black *UP* and *DOWN* arrows on the button bar







The button bar will read PRESET LOADED.



If bin has more than one shelf, repeat the procedure for remaining button bar on the main (front) side only. Presets are automatically loaded onto the auxiliary (back) bars when done from the main side.



### **Selecting the Daypart**



Press and hold the SETPOINT button and the DOWN Arrow button for 3 seconds, the current day part will begin flashing on the screen.

Use the **up/down** arrows to select day part 1 through 6 and the Prince Castle Crown button to confirm your selection.

NOTE: Whenever a bin is powered ON it defaults to DAY PART 1 no matter what time of day it is.



To shut down the unit, turn the Power On/Off switch (A) to OFF position.



## Cleaning



## WARNING:

Before performing any maintenance, turn the power switch to the OFF position and unplug the power cord from the electrical receptacle.



#### **CAUTION:**

This unit is not watertight. Do not clean with a water jet/jet spray. Do not immerse the unit in water.

- 1. Turn the unit off and unplug the power cord from electrical receptacle.
- 2. Remove the pans and covers. Wipe all parts and unit with a damp cloth. DO NOT use a green Scotch Bright pad cleaner, ice or water.

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### **Default Menu Items\***

		BREAKFAS	T PRODUCTS		
		HOLD TIME	COOK MORE TIME		
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F
EGGS	SCRAMBLED EGGS	90	4	230	200
FREG	FRIED EGG	90	2	230	200
PCAK	PANCAKES	30	2	180	170
BISC	BISCUITS	60	16	180	180
FTST	FRENCH TOAST	60	2	245	230
SAUS	SAUSAGE PATTY	120	2	235	215
HAMC	COUNTRY HAM	90	5	215	200
			PRODUCTS		
		HOLD TIME	COOK MORE TIME		
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F
WHOP	WHOPPER	40	3	240	180
JR18	WHOPPER JR. (2018)	90	3	240	210
	2 (20.0)		PRODUCTS		
		HOLD TIME	COOK MORE TIME		
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F
DOM	DDEALEACT OLUQUEN		,	050	200
BCKN CFRY	BREAKFAST CHICKEN CHICKEN FRIES	60 60	4 2	250 260	220 235
PFRY		60	2	260	235
OCS	PRETZEL CHICKEN FRIES ORIGINAL CHICKEN	90	4	210	190
OCS CKJR		90 60	3		220
	CRISPY CHICKEN JR.		-	240	
CRIS	CRISPY CHICKEN	30	7	210	190
SPCH	SPICY CHICKEN	30	7	210	190
GCHK	GRILLED CHICKEN	90	3	220	190
CNUG	CHICKEN NUGGET	60	3	260	235
		OTHER F	PRODUCTS		•
		HOLD TIME	COOK MORE TIME		
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F
CZST	CHEESE STICKS	60	2	200	200
СТОТ	CHEESY TOTS	120	4	200	200
TACO	TACOS	40	2	215	200
	FLAMING HOT MAC &				
FMAC	CHEETOS	60	3	200	200
FISH	FISH	60	4	240	200
SPAM	SPAM	120	2	235	215
PSAU	PORTUGUESE SAUSAGE	120	20	235	215

<sup>\*</sup>Refer to the Appendix for default menus of any models that are not EHB34-2 or EHB34A-2.

#### **Zones**

All bin configurations are set up with zones, which correspond to a set of heaters that work together to hold the product. A single product can be programmed into each zone.

The timer bars are equipped with this knowledge. If the product in one slot of a zone is changed, the other slot will automatically change to that product as well **unless they share the same setpoint tempera-**





#### **Troubleshooting**



<u>WARNING:</u> To avoid personal injury and possible damage to the unit, troubleshooting and repair of electrical equipment should be performed by qualified service personnel. This unit should be unplugged when servicing. Except when electrical tests are required. Use extreme caution during electrical circuit tests as live circuits may be exposed.

Problem	Probable Cause	Solution			
No Power	Power switch is turned off,  Power cord is not plugged in	Turn power switch to ON position, Ensure power cord is connected to proper receptacle			
	1 22	Check all wiring connections			
Unit will not heat up	Wrong power cord, loose connection on power switch and/or heater	Check voltage and amperage of outlet (need 208-240 VAC, 20 A)			
		Replace power cord			
Unit heats up but timer	Timer bar wiring disconnected,	Check timer bar wiring connection,			
bars do not work	timer bar is defective	Replace timer bars			
Unit under/over heats	Check temperature settings	Adjust temperature set point setting,			
		See management system			
Display flashes <b>OPN</b> and	Open relay, circuit or heater inoperable	Test heater resistance, isolate malfunctioning heater(s) (see p. 22 & 23)			
REL	Open relay, circuit of fleater inoperable	Replace heater(s); otherwise, replace PCB			
Display flashes SHR and	Shorted relay, circuit inoperable,	Test heater resistance, isolate malfunctioning heater(s) (see p. 22 & 23)			
REL	open heater, unplugged ribbon cable	Replace heater(s), replace ribbon cable; otherwise replace PCB			
Display shows <b>HHH</b> for extended period and heat-		Diagnostic circuit in-operable,			
er surface temperature is hot	Abnormal operation	Replace PCB			
Display shows <b>HOLD</b>	Only displayed on a 3X4 Bin display board, when the operator changes the bin address or during calibration	HOLD message means the 2 PC boards in the bin are communicating, wait until the message disappears			
Display shows WAIT	When in stand alone mode and the operator makes change to the product profile	Wait until the message disappears			
Display shows INIT	When switching from Kitchen Minder to stand alone mode	Bin is learning Kitchen Minder menus, wait for message to disappear			
Timer bar displays COMM DOWN	Bin is not communicating with Kitchen Minder	Refer to Kitchen Minder setup manual			

For all technical support in North America, please contact **PRINCE CASTLE LLC 1-800-722-7853**For technical support worldwide, contact your local service representative / installer.



### **Error Code Matrix**

**WARNING:** This list contains all Error Codes that might be found during unit operation, display on Timer Bars or Display panel.

ABRV.	STATUS MESSAGE	ABRV.	STATUS MESSAGE
BL	Bootloader running	P	Loading presets
BLU	Bootloader USB detected	F	Fahrenheit selected
BLCL	Loading firmware	C	Celsius selected
BLCF	Flashing firmware		Booting application
BLC	Firmware loaded on main board	ТОО	Тоо
BLCS	Loading settings file	LO	Low
BLSF	Flashing settings file	HI	High
BLBL	Loading timer bar firmware	PASS	Test passed
BLBF	Flashing timer bar firmware	FAIL	Test failed
BLB	Timer bars loaded	AAAA	Initializing
BLBS	Loading timer bar settings file	ENSP	Ethernet setup
BLS	Timer bar settings loaded	BLSS	Successfully changed Ethernet settings
BLEC	Loading Ethernet configuration file	BL17	No DHBFWBIN.TXT file
BLEF	Flashing Ethernet configuration	BLF2	Error flashing firmware on main board
BLE1	Error loading DHBFWBIN.TXT	BLE3	Error finding main board firmware file
BL00	Bootloading timer bars second control board	BLE4	Error loading DHBEEBIN.TXT
BL01	Bootloading one more timer bar	BLF5	Error flashing settings file
BL02	Bootloading both main and aux timer bars	BLE6	Error finding image menu file
BSnn	Bootloading timer bar settings nn more node	BLE7	Error loading DHBFWBAR.TXT
Bnxx	Finished bootloading xx timer bars	BLF8	Error flashing main timer bar file
DAYx	Daypart x	BLF9	Error flashing main timer bar header
LLL	Heater temperature low	BE10	Error finding main timer bar file
OFF	Heater off	BE11	Error loading aux timer bar file
ННН	Heater temperature high	BE12	Error flashing aux timer bar header
REL	Relay	BE13	Error finding aux aux timer bar file
SHR	Shorted	BE14	Error verifying firmware version flash hdr
OPN	Open	BE15	Error loading DHBEEBAR.TXT
HOLD	Wait for operation to complete	BE16	Error verifying firmware version flash hdr
CAL	Calibrate	BE17	Error loading timer bar settings file
CHEC	Check results of calibration	BE18	Error finding timer bar settings file
DONE	Done	BE20	Error loading Ethernet configuration file
ERR	Calibration error	BLNU	No USB flash stick detected
PRB	Probe	NOBL	No valid application program
PUSH	Push	BLFB	Failed to bootload timer bars
BTN	Button	ENER	Failed to set Ethernet settings
REUP	Main PCB and bar programs do not match	nCAL	PCB was not factory-calibrated
### (3 digits)	PCB firmware version (e.g. "529" is v5.29)		



#### **Diagnostics**

#### **DIAGNOSTICS**

For all diagnostic messages on the holding bin, the message will appear on the timer bar located at the pan that is triggering the message.

The message is a two-word message that will cycle through on the timer bar in addition to the product name at that pan location.

- 1. WARM | UP | XXXX When turning on holding bin the warm up message will appear until heaters reach within 15°F set point.
  - a. Cleared when within 15°F of the set point.
- 2. HTR | OFF | XXXX Heater off message appears when both the upper and lower heaters are off.
  - a. Cleared when heater is turned on.
- 3. HTR | LOW | XXXX Heater low appears if the temperature falls 15°F below the set point.
  - a. Cleared when temperature is back in range. If not cleared, would require a service technician to repair.
- 4. HTR | HIGH | XXXX Heater high appears if the heater is above 285°F for 20 minutes.
  - a. Cleared when temperature is back in range. If not cleared, would require a service technician to repair.
- 5. RLY | SHRT | XXXX Relay short error occurs when there is a thermocouple or heater problem.
  - a. Bin requires service to further troubleshoot and repair.
- 6. RLY | OPEN | XXXX Relay open error occurs when there is a thermocouple or heater problem.
  - a. Bin requires service to further troubleshoot and repair.
- 7. COMM | DOWN | XXXX Communication down error occurs when the temperature data is not being properly communicated.
  - a. Check that unit is in bin1/BAR2/BAR3. Otherwise, requires service technician to troubleshoot.

#### **USB Update Procedure**

- 1. First, un-plug any communication cables from the holding bin. These devices will interfere with the timer bar boot loading process.
- 2. Place the update files on the USB flash drive in the main directory (Do not put them in a folder on the flash drive). There are five\* files that you will need to put on the drive. Two for the controller board, **mainbin.hex** and **DHBFWBIN.TXT**. Three for the timer bars, **mainbar.hex**, **auxbar.hex** and **DHBFWBAR.TXT**.
  - 3. Once all files are on USB drive, turn power off to bin and place the USB drive with the files into USB port on the front of the bin.
  - 4. While holding down crown button on front right side of the bin, above the power switch, turn the power to the bin on.
- 5. Keeping the crown button pressed, wait for the "BL" (boot load) message to appear on the screen. Release the button approx. 5 seconds after the "BL" message appears or once the USB stick light begins to flash.
  - 6. Wait for the display to show:
    - a. (blank while upgrading main bin firmware)
    - b. BL00 (searching for timer bars to upgrade)
    - c. BL04 (4 timer bars left to upgrade)
    - d. BL03 (3 timer bar left to upgrade)

- e. BL02 (2 timer bars left to upgrade)
- f. BL01 (1 timer bar left to upgrade)
- g. BL00 (0 timer bars left to upgrade)
- h. BN04 (4 timer bars detected and done with programming)
- 7. You can check the version number on the timer bars by pressing the Prince Castle logo button and the down button on timer bar.

\*EHB34-2 requires seven files. The two additional to those listed are mainbar2.hex and auxbar2.hex.



#### How to change Timer Bar

#### TIMER BAR INSTALLATION INSTRUCTIONS



CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION.

# PRINCECASTLE 355 EAST KEHOE BLVD. CAROL STREAM, IL. 60186. USA PHONE 630-460-8500 . TOLL FREE: 1-800-PCASTLE FAX 630-462-1460 . WWW.PRINCECASTLE COM

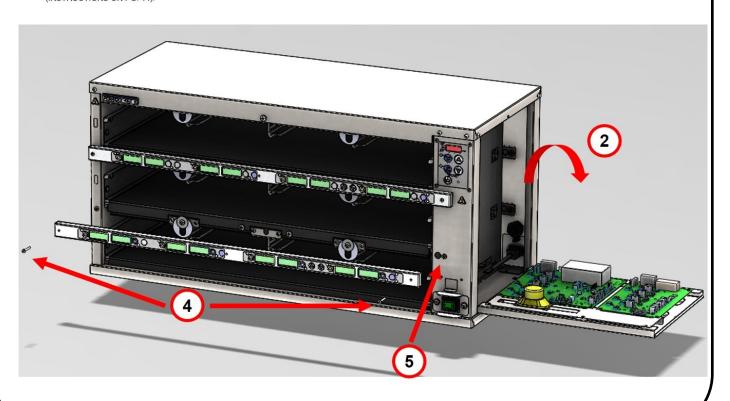
#### **TOOLS REQUIRED**





#### STEPS:

- 1) SET ASIDE ALL LIDS, PANS, AND TRIVETS.
- 2) REMOVE (QTY-1) SCREW THAT HOLDS THE RIGHT HAND PC SIDE PANEL ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE AS SHOWN (DO NOT DISCARD HARDWARE).
- 3) DISCONNECT TIMER BAR WIRING FROM PC BOARD, AND NOTE LOCATION OF CONNECTION.
  - \*\*MAIN BARS USE MAIN1, M1 AND MAIN2, M2 PINS\*\*
  - \*\*AUX BARS USE AUX1, A1 AND AUX2, A2 PINS\*\*
- 4) REMOVE (QTY-2) SCREWS THAT HOLD TIMER BARS ONTO UNIT (DO NOT DISCARD HARDWARE).
- 5) PULL THE TIMER BAR CORD THROUGH THE HOLE IN THE UPRIGHT TO REMOVE TIMER BAR FROM HOLDING BIN.
  - \*\*IF CONVERTING A SINGLE-SIDED UNIT TO DOUBLE-SIDED, USE A FLAT HEAD
  - SCREWDRIVER TO REMOVE THE HOLE PLUG, THEN FEED THE TIMER BAR CORD THROUGH.
- 6) INSTALL NEW TIMER BAR WITH THE HARDWARE THAT WAS REMOVED, AND ATTACH THE WIRING TO THE PC BOARD IN THE LOCATION THAT THE OLD TIMER BAR WAS REMOVED FROM.
- 7) REMOUNT PC SIDE PANEL BACK ONTO UNIT WITH HARDWARE REMOVED IN STEP (2).
- 8) POWER ON THE UNIT TO ENSURE TIMER BAR FUNCTIONALITY. IF NEEDED, LOAD PRESETS ONTO BARS (INSTRUCTIONS ON PG. 14).





#### **How to change Heater Panel**

#### **HEATER PANEL INSTALLATION INSTRUCTIONS**



CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION.

#### STEPS:

- 1) SET ASIDE ALL LIDS, PANS, AND TRIVETS.
- 2) REMOVE (QTY-2) SCREWS THAT HOLD BOTH SIDE PANELS ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE AS SHOWN (DO NOT DISCARD HARDWARE).
- REMOVE (QTY-8) SCREWS AND WASHERS THAT HOLD BOTH SHELF BRACKETS ON THE UNIT (DO NOT DISCARD HARDWARE).
- 4) DISCONNECT HEATER WIRING FROM PC BOARD, NOTE THE LOCATIONS OF THE CONNECTIONS ON THE PC BOARD.
- 5) REMOVE (QTY-1) NUT THAT IS HOLDING THE GROUND WIRE TO THE UPRIGHT (DO NOT DISCARD HARDWARE).
- 6) REMOVE (QTY-8) SOCKET HEAD SCREWS USING 9/64" SIZE HEX KEY THAT HOLD HEATER PANEL IN PLACE (DO NOT DISCARD HARDWARE).
- 7) REMOVE HEATER INSULATION AND SET ASIDE TO REUSE WITH NEW HEATER ASSEMBLY.
  - \*\*IF REMOVING BOTTOM SHELF PANEL\*\* REMOVE TIMER BAR(S), AND DISASSEMBLE LATCHES AND DIVIDER ON BOTH SIDES OF UNIT.

\*\*IF REMOVING TOP SHELF PANEL\*\* SKIP TO STEP (8).

- 8) PULL THE HEATER WIRES THROUGH THE RECTANGULAR OPENING IN THE UPRIGHT.
- 9) INSTALL THE NEW HEATER ASSEMBLY BY GOING THROUGH STEPS (10)-(2) IN REVERSE.

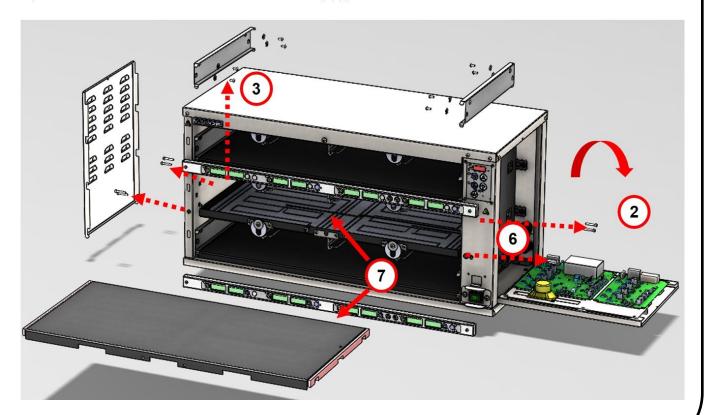
# PRINCECASTLE M. MINISTER SCORES STORES 355 EAST KEHOE BLVD. CAROL STREAM, IL 60108, USA PHONE 630-463-5000 ~ TOLL FREE FAX 630-463-1600 ~ WWW.PRINCECASTLE COM













### **How to change PC Board**

#### PC BOARD INSTALLATION INSTRUCTIONS



CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION.

## PRINCECASTLE

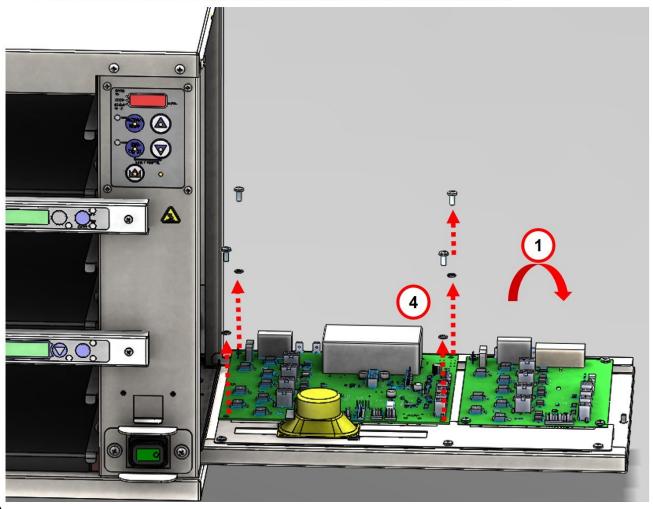
355 EAST KEHOE BLVD.
CAROL STREAM, IL, 60188, USA
PHONE 630-462-8800 ~ TOLL FREE
1-800-PCASTLE
FAX 630-462-1460 ~

## TOOLS REQUIRED



#### STEPS:

- REMOVE (QTY-1) SCREW THAT HOLDS THE RIGHT-HAND SIDE PANEL ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE AS SHOWN (DO NOT DISCARD HARDWARE).
- DISCONNECT ALL WIRING CONNECTIONS TO THE PC BOARD, AND NOTE THE ORIENTATION OF THE BOARD AND LOCATION OF EACH CONNECTION FOR USE WHEN INSTALLING THE NEW PC BOARD (REFER TO PG. 27).
- 3) REMOVE (QTY-5) SCREWS THAT SECURE PC BOARD TO PANEL (DO NOT DISCARD HARDWARE).
- 4) INSTALL NEW PC BOARD WITH (QTY-5) SCREWS AND WASHERS, AND REATTACH ALL WIRING AS PREVIOUSLY NOTED.
- 5) CLOSE SIDE PANEL WITHOUT PINCHING ANY WIRES, AND SECURE USING SCREW (QTY-1) REMOVED IN STEP (1).
- 6) POWER ON THE UNIT TO ENSURE FUNCTIONALITY. IF NEEDED, LOAD PRESETS ONTO BARS (INSTRUCTIONS ON PG. 14).



### **How to change USB Cord**

#### **USB CORD INSTALLATION INSTRUCTIONS**



CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION.

#### CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION

#### STEPS:

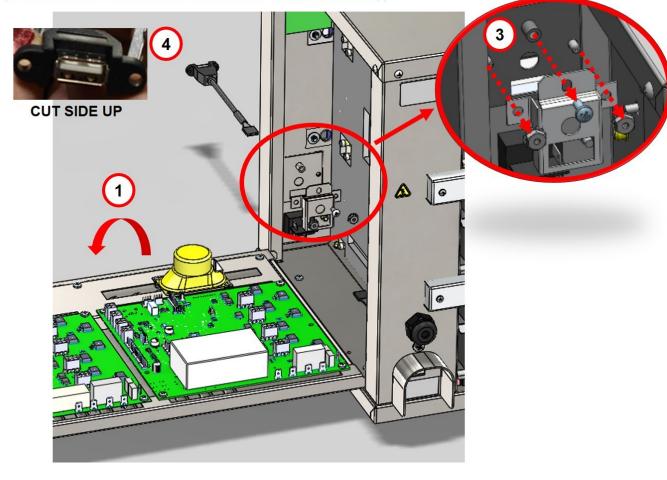
- REMOVE (QTY-1) SCREW THAT HOLDS THE RIGHT-HAND SIDE PANEL ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE AS SHOWN (DO NOT DISCARD HARDWARE).
- 2) DISCONNECT THE USB CORD FROM THE PC BOARD, AND NOTE THE CORRECT CONNECTION ORIENTATION: THE RED-COLORED PORT ON THE CABLE MUST CONNECT TO THE "USB" PC BOARD PIN WITH THE ARROW.
- REMOVE (QTY-2) NUTS, (QTY-1) SCREW, AND BRACKET THAT HOLD USB CORD TO THE UPRIGHT (DO NOT DISCARD HARDWARE).
- 4) INSTALL NEW USB CORD USING HARDWARE REMOVED IN STEP (3), AND RECONNECT TO THE PC BOARD.

  NOTE: THE CUT SIDE OF THE USB PORT MUST BE FACING UP (SEE INSERT BELOW)
- REMOUNT THE PCB SIDE PANEL BACK ONTO THE UNIT WITH THE SCREW REMOVED IN STEP (1).



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#### How to change Ethernet cable

#### ETHERNET CABLE INSTALLATION INSTRUCTIONS



CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION.

## PRINCECASTLE MININGER SCHOOL 355 EAST KEHOE BLVD. CAROL STREAM IL 60158, USA DHAME STUAL STREAM.

355 EAST KEHOE BLVD.
CAROL STREAM, IL. 60168, USA
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FAX 630-462-1460 ~
WWW.PRINCECASTLE.COM

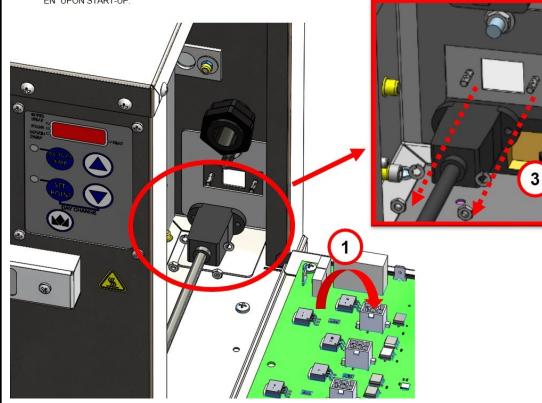
#### **TOOLS REQUIRED**





#### STEPS:

- REMOVE (QTY-1) SCREW THAT HOLDS THE RIGHT-HAND SIDE PANEL ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE AS SHOWN (DO NOT DISCARD HARDWARE).
- 2) DISCONNECT THE ETHERNET CABLE FROM THE PC BOARD.
- 3) REMOVE (QTY-2) NUTS, (QTY-2) WASHERS, AND (QTY-2) SCREWS THAT HOLD ETHERNET CABLE TO THE UPRIGHT (DO NOT DISCARD HARDWARE).
- 4) INSTALL NEW ETHERNET CABLE USING HARDWARE REMOVED IN STEP (3), AND RECONNECT TO THE PC BOARD.
- 5) REMOUNT THE PCB SIDE PANEL BACK ONTO THE UNIT WITH THE SCREW REMOVED IN STEP (1).
- 6) POWER THE UNIT ON AND ENSURE ETHERNET CONNECTIVITY: THE DISPLAY SHOULD GO FROM READING "ENSP" TO "EN" UPON START-UP.



#### **How to change Display Assembly**

#### **DISPLAY ASSEMBLY INSTALLATION INSTRUCTIONS**



CAUTION: TURN OFF AND UNPLUGUNIT BEFORE INSTALLATION.

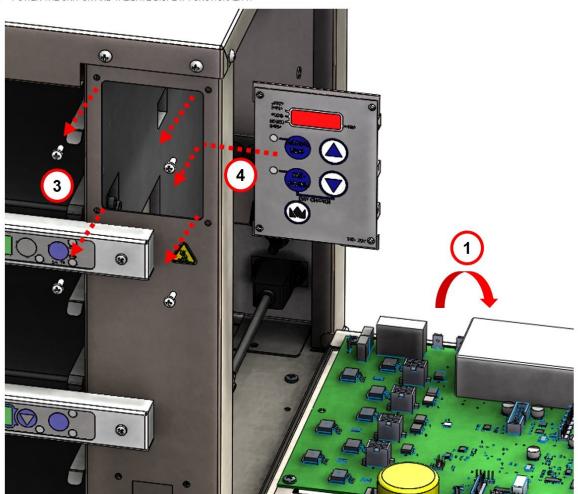
# 355 EAST KEHOE BLVD. CAROL STREAM, IL, 60188, USA HONE: 630-462-4800 ~ TOLL FREE: 1-800-PCASTLE FAX: 630-462-1460 ~ WWW.PRINCECASTLE.COM

#### **TOOLS REQUIRED**



#### STEPS:

- REMOVE (QTY-1) SCREW THAT HOLDS THE RIGHT-HAND SIDE PANEL ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE AS SHOWN (DO NOT DISCARD HARDWARE).
- DISCONNECT THE DISPLAY RIBBON CABLE FROM THE PC BOARD.
- REMOVE (QTY-4) SCREWS THAT HOLD THE DISPLAY ASSEMBLY TO THE UPRIGHT (DO NOT DISCARD HARDWARE).
- INSTALL THE NEW DISPLAY ASSEMBLY USING HARDWARE REMOVED IN STEP (3), AND RECONNECT RIBBON CABLE TO THE PC BOARD.
- REMOUNT THE PCB SIDE PANEL BACK ONTO THE UNIT WITH THE SCREW REMOVED IN STEP (1).
- POWER THE UNIT ON AND VALIDATE DISPLAY FUNCTIONALITY.





#### **How to diagnose RELY SHRT or RELY OPEN**

#### "RELY SHORT/OPEN" HEATER DIAGNOSTIC PROCEDURE



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#### STEDS.

- REMOVE (QTY-1) SCREW THAT HOLDS THE RIGHT HAND PC SIDE PANEL ONTO THE UNIT AND CAREFULLY SET PCB PANEL DOWN AT 90° ANGLE (DO NOT DISCARD HARDWARE).
- 2) UNPLUG HEATER ZONE THAT IS DISPLAYING ERROR BY MATCHING THE ZONE WITH A PLATE #.
- 3) PLUG WORKING HEATER/THERMOCOUPLE PAIR INTO THE SUSPECTED FAULTY PCB PORT.
- 4) POWER UNIT ON.
- 5) WAIT FOR UNIT TO WARM UP. IF "RELY SHRT/OPEN" APPEARS WHILE THE HEATER WARMS UP, THAT HEATER PANEL MUST BE REPLACED; OTHERWISE, THE PCB MUST BE REPLACED.
- 6) REPLACE MALFUNCTIONAL HEATER PANEL ASSEMBLY OR PCB. (SEE BOM FOR HEATER SHELF LOCATION TO MATCH THE CORRESPONDING SERVICE KIT PART NO.)



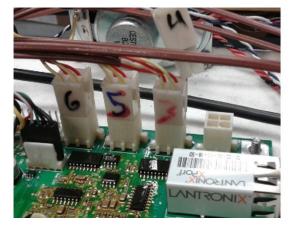
SCREWDRIVER- #2 PHILLIPS

Example: Heater #4 gives error.

Plug working heater #3 into #4's port on circuit board. Observe if error disappears.

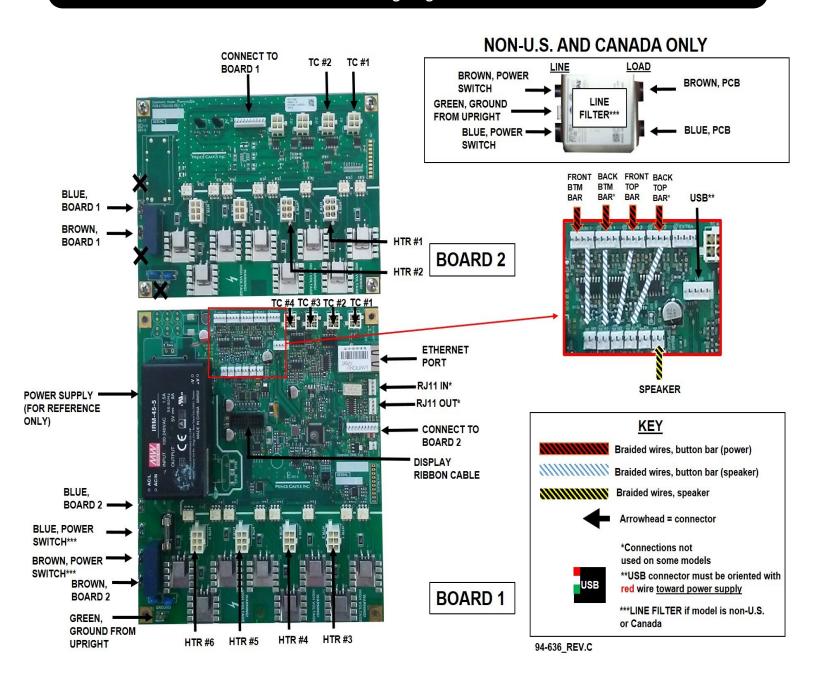


Repeat for thermocouple #3 into #4's port on other side.



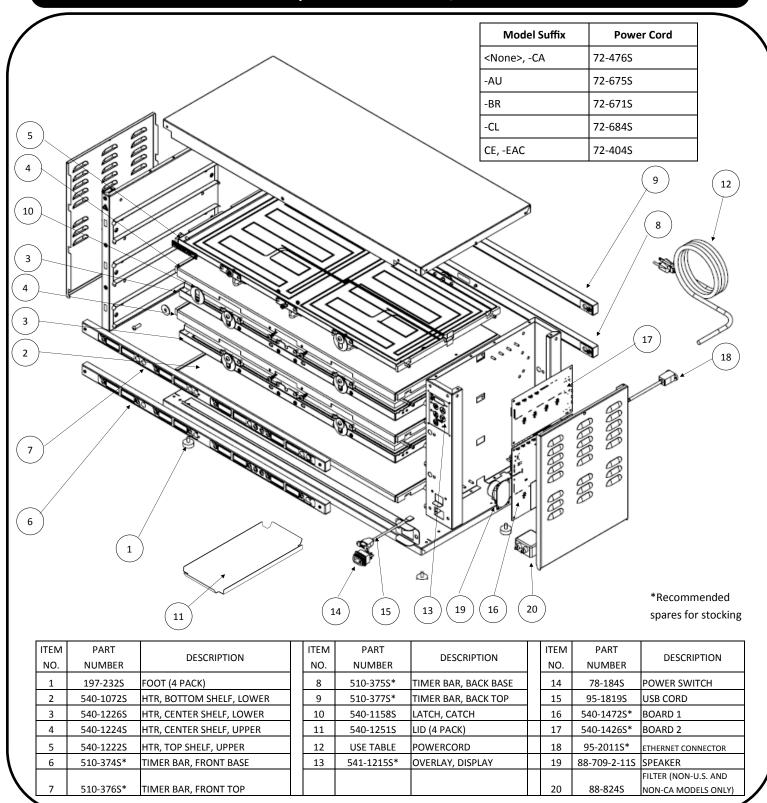


#### **Wiring Diagram**



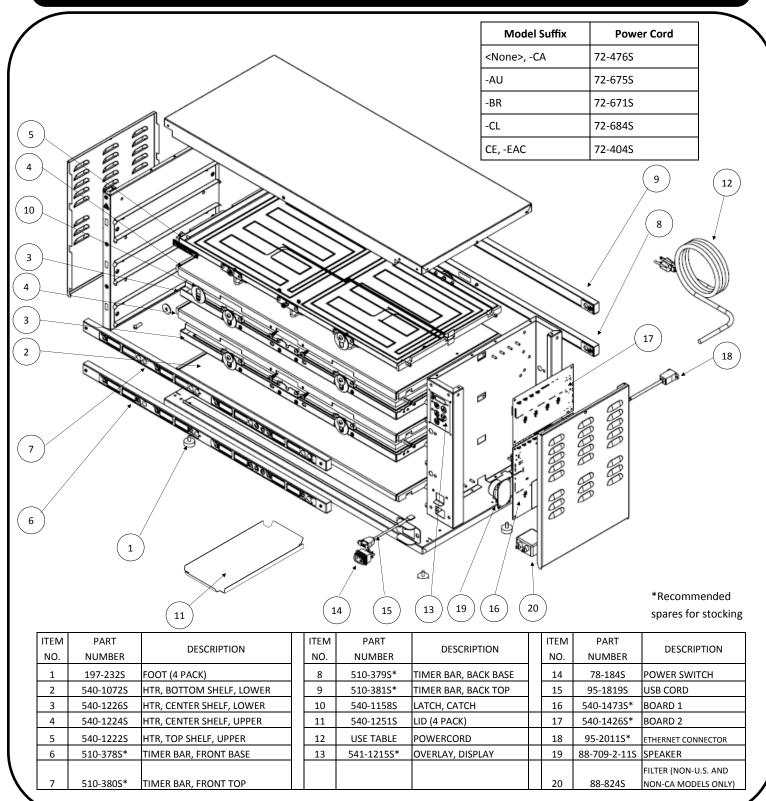


#### Exploded View - EHB34-2, 34A-2



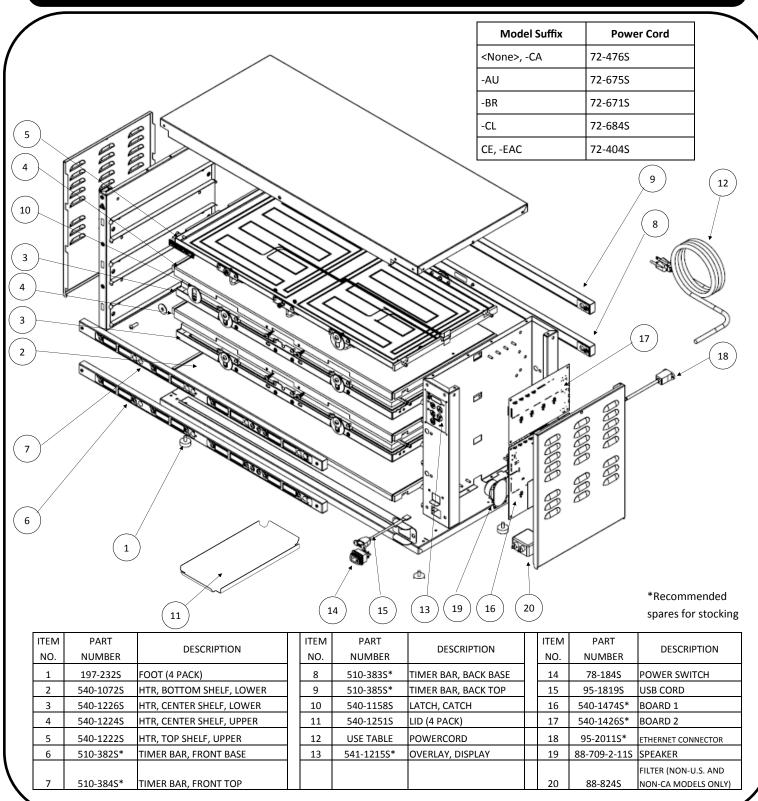


#### **Exploded View - EHB34-CE-2 Series**



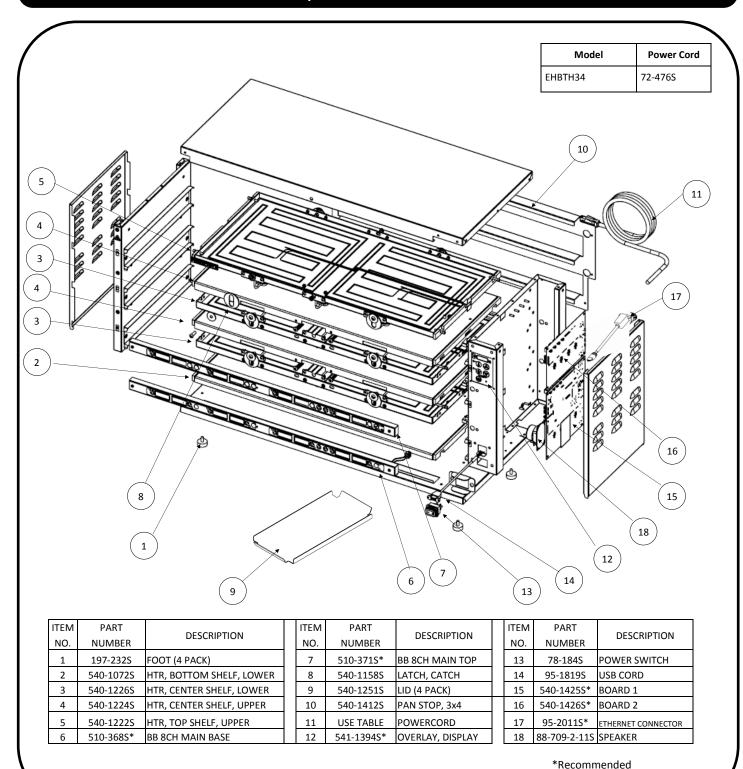


#### **Exploded View - EHB34-CA-2 Series**





#### **Exploded View - EHBTH34**



spares for stocking



## Appendix - Default Menu Items

	Burger Products								
	Product Name	Kitchen Minder Name	Hold Time	Cook-More Time	Upper Temp (C)	Lower Temp (C)			
1.7 E	Burg	HAMB	60	3	90	80			
Who	opper	WHOP	60	3	90	80			
Chicken Products									
	Product Name	Kitchen Minder Name	Hold Time	Cook-More Time	Upper Temp (C)	Lower Temp (C)			
Tend	der Grill	TG	30	3	90	80			
	inal Chicken	LONG	90	3	125	105			
_	ken Tenders	TEND	90	6	125	105			
	cy Chicken	SPCY	90	3	125	105			
Wing	•	WING	40	3	125	105			
Nug		NUGG	40	3	125	105			
	•	<u>.                                      </u>	Other P	roducts		•			
١.,	Product Name	Kitchen Minder Name	Hold Time	Cook-More Time	Upper Temp (C)	Lower Temp (C)			
	on Rings	ONIN	20	3	125	105			
Fish		FISH	30	3	125	105			
		BRL1	60	3	90	80			
		BRL2	60	3	90	80			
		BRL3	60	3	90	80			
		BRL4	60	3	90	80			
		BRL5	60	3	90	80			
		BRL6	60	3	90	80			
		FRD1	90	3	125	105			
		FRD2	90	3	125	105			
		FRD3	90	3	125	105			
		FRD4	90	3	125	105			
		FRD5	90	3	125	105			
		FRD6	90	3	125	105			

CA Series

	BREAKFAST PRODUCTS								
		HOLD TIME	COOK MORE TIME						
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F)				
EGGS	SANDWICH EGGS	90	5	230	200				
SAUS	SAUSAGE PATTY	120	2	235	215				
	BURGER PRODUCTS								
		HOLD TIME	COOK MORE TIME						
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F)				
BURG	BURGER	90	3	240	220				
WHOP	WHOPPER	90	3	240	220				
		CHICKEN	PRODUCTS		•				
	HOLD TIME COOK MORE TIME								
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F)				
CFRY	CHICKEN FRIES	60	3	180	160				
ocs	ORIGINAL CHICKEN	90	4	250	220				
CKJR	CRISPY CHICKEN JR.	60	3	260	235				
TCRI	TENDERCRISP	60	6	190	172				
TGRI	GRILLED CHICKEN	90	3	240	215				
CNUG	CHICKEN NUGGET	60	4	260	235				
		OTHER P	RODUCTS						
		HOLD TIME	COOK MORE TIME						
DISPLAY NAME	PRODUCT NAME	(MINUTES)	(MINUTES)	TOP TEMP (°F)	BOTTOM TEMP (°F)				
MOZZ	MOZZ STICKS	60	3	200	200				
FISH	FISH	60	4	260	235				
VEGG	VEGGIE	45	3	180	160				

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## **Appendix - Default Menu Items**

EHBTH34

Product Names		Display	Name	Hold Time	Cook-More	Upper Temp		Lower Temp	
English	French	English	French	(Minutes)	(Minutes)	F	С	F	С
		Gro	oup 1						
Eggs	Oeufs	EGGS	OEUF	240	30	200	93	180	82
Bacon	Bacon	BACN	BAC	180	15	200	93	180	82
Veggies	Legumes	VEG	LEG	240	15	200	93	180	82
Sausage	Saucisses	SAUS	SAU	240	30	200	93	180	82
Turkey Sausage	Saucisse a la dinde	TURK	SAUD	240	30	200	93	180	82
Steak	Steak	STK	STK	240	30	200	93	180	82
Pasta	Pates	PSTA	PATE	240	60	200	93	180	82
Pork	Porc	PORK	PORC	360	60	200	93	180	82
Ham	Jambon	НАМ	JAMB	120	15	200	93	180	82
Chicken Strip	Lanieres de poulet	CHKS	POUL	240	30	200	93	180	82
		Gro	oup 2						
Crispy Chicken	Poulet Croustillant	ССНК	PCRO	120	30	265	129	275	135
Hash Brown	Galette de Pommes de Terre	HSBR	GLPT	120	30	265	129	275	135
Potato Wedge	Pomme de Terre le morceau	PWGE	PAQT	90	30	265	129	275	135