

SOLID STATE DIGITAL TOASTER  
PRINCE CASTLE MODEL NO. 213-NDB AND 213-NPDB SERIES



This equipment chapter is to be placed in the  
toasters section of your *Equipment Manual*

**MANUFACTURED FOR  
MCDONALD'S®  
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### LIMITED WARRANTY

This product is warranted to be free from defects in material and/or workmanship for a period of (1) year from date of original installation not to exceed 18 months from date of shipment from our factory. Any part or component which proves to be faulty in material and/or workmanship within the warranty period will be replaced or repaired without cost to the customer for parts or labor. (At the option of Prince Castle, Inc.)

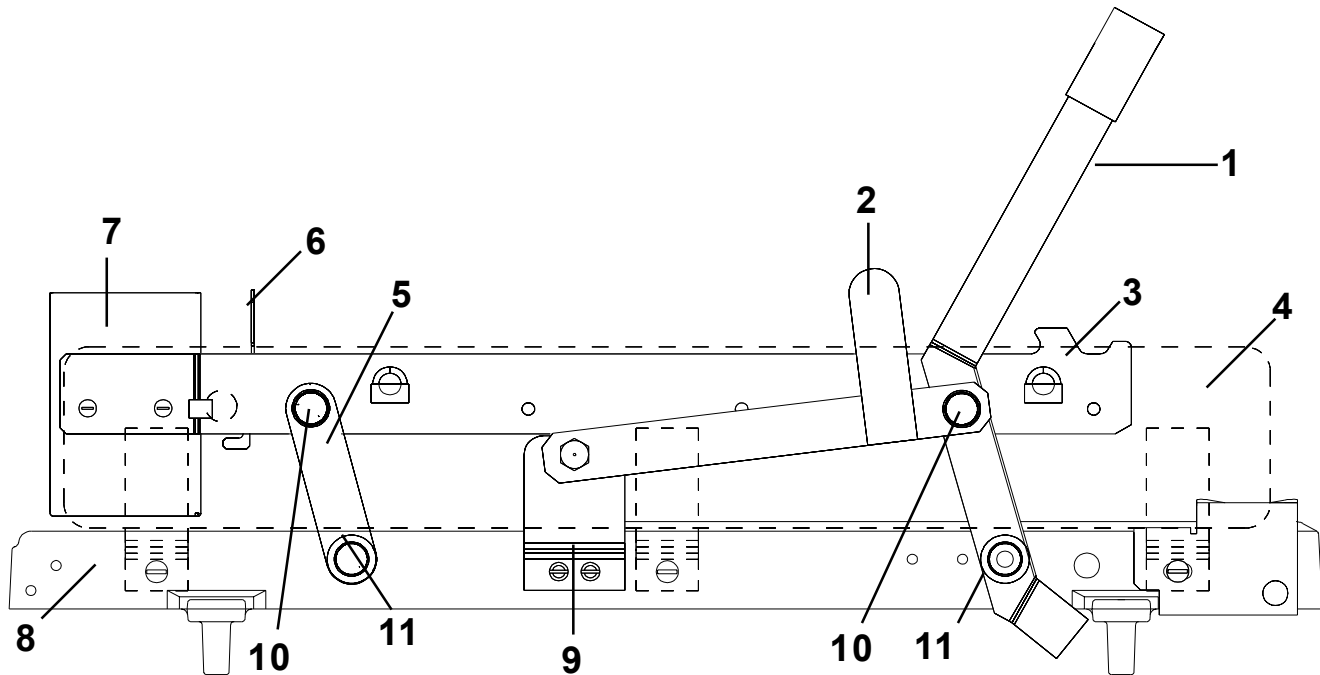
This warranty is subject to the following exceptions/conditions:

- Any use of Non-genuine Prince Castle spare parts voids this warranty.
- All labor should be performed during regular working hours. Overtime premium will not be covered.
- The equipment is portable. Charges for on location service (e.g. trip charges, mileage) are not included in the provisions of this warranty.
- Damage caused by carelessness, neglect, and/or abuse (e.g., using wrong current, dropping, tampering with or altering electrical components, or improper cleaning) is not covered.
- Equipment damaged in shipment, by fire, flood or an act of God.

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## SIDE VIEW

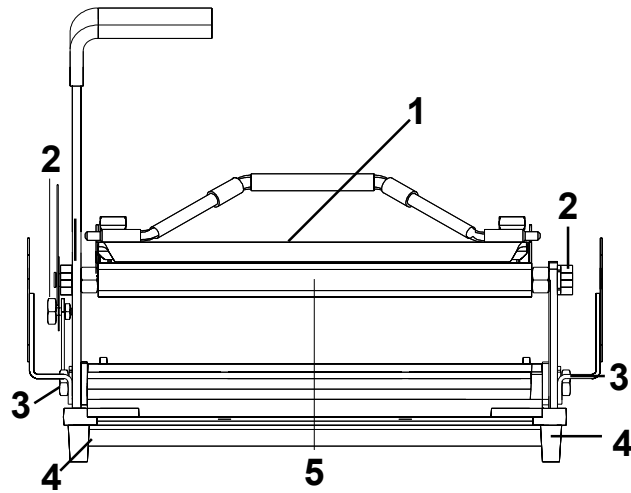


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## PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	213-124	Handle and Lever Assembly (With Bearings)
2	213-303	Safety Latch
3	213-616	Left Handed Bun Fence
	213-615	Right Handed Bun Fence (Not Shown)
4	213-610	Side Panel (Both Sides)
5	212-303	Rear Lever Assembly (With Bearings)
6	416-763	Rear Bun Fence
7	213-704	Chassis
8	213-413S	Base With Feet
9	213-305	Safety Latch Bracket
10	62-005	Upper Flange Bearing (Included With Lever Assy)
11	62-021	Lower Flange Bearing (Included With Lever Assy)

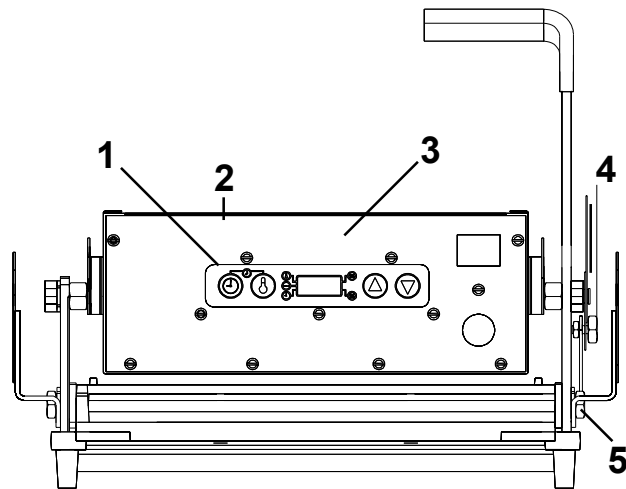
## FRONT VIEW



## PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	213-492	"9/16" "Bun Board"
2	212-285	Platen Stud
3	212-284	Base Stud
4	89-959S	Black Rubber Foot (Pkg of 4)
5	213-83	Platen

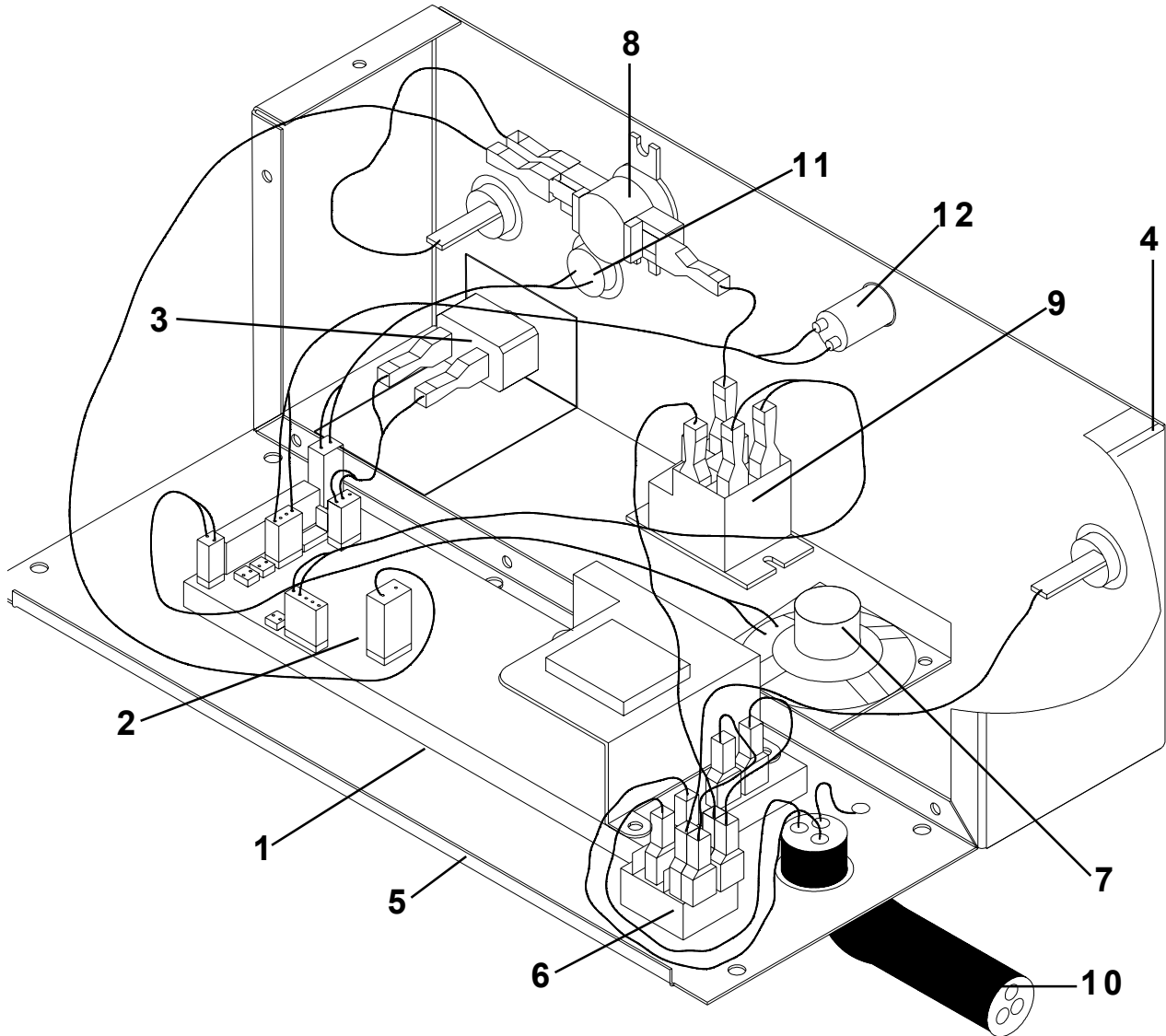
## REAR VIEW



## PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	411-707	Overlay
2	213-704	Chassis
3	213-703	Face Plate
4	213-301	Pivot Bolt
5	213-306	L.H. Stop Block
	213-307	R.H. Stop Block (Not Shown)

# INTERNAL VIEW



## PART LIST

ITEM	PART NUMBER	DESCRIPTION
1 & 2	411-426S	Power Module (Includes Power Board and Display Board)
3	78-146S	Timer Activating Switch
4	213-704	Chassis
5	213-703	Faceplate
6	78-166S	Rocker Switch
7	88-430	Speaker Assy.
8	213-698	High Limit Thermostat
9	65-039S	Relay
10	72-210S	Power Cord Plug
	72-212S	Power Cord Plug (Overhead)
11	213-700S	Temperature Probe
12	213-257S	Bun Done Light

## SYMBOLS & TERMS

**F - - A** Toaster is set on Fahrenheit.

**C - - A** Toaster is set on Celsius.

**A L -** Alarm Level setting 1-4.



Sound Button, used in conjunction with timer button and temperature button to set alarm level.



Timer Button, used to view time when in the run mode and used to set time in the program mode.



Temperature Button, used to view set point temperature when in the run mode and used to set the set point temperature in the program mode.



Up Arrow, used when setting time, sound and temperature when in the program mode.

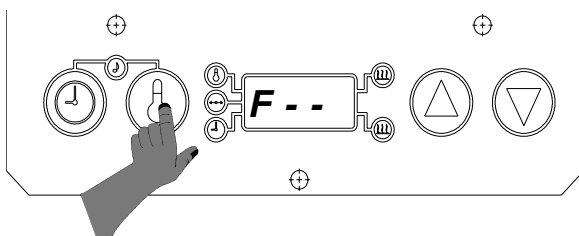


Down Arrow, used when setting time, sound, and temperature when in the program mode.

## SET-UP

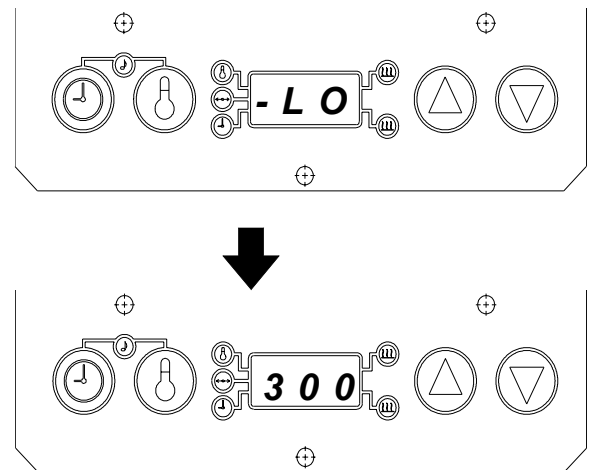
1. Plug the toaster into a 110-120 volt grounded receptacle. Turn on power switch and allow 30 minutes for warm-up.
2. During the initial power-up of the toaster the display will read either **F - - A** for Fahrenheit or **C - - A** for Celsius. Immediately the (A) will start to count down from 9 to 0. During this nine second period, holding the temperature button for six seconds will change the display from **F** to **C** or **C** to **F** as desired. See figure 1.

figure 1



3. After nine seconds, if no buttons are touched the display will read **- L O -** until the platen temperature reaches 300° F (149° C). Then the display show the actual platen temperature between 300° and 500° F (149° & 260° C). See figure 2.

figure 2



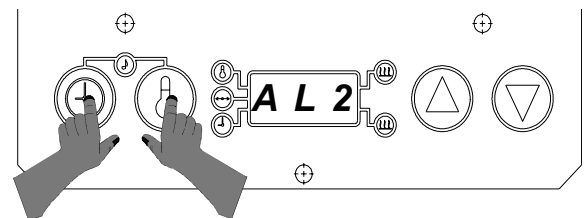
## Sound Level Adjustment



The audio alarm has four sound levels. The symbol for sound is the musical note.

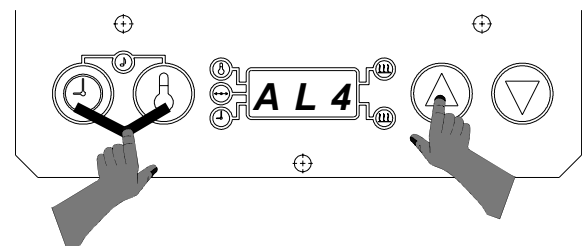
1. Press and hold the time button while holding the temperature button. The display will show the current sound level. For example, **A L 2** for Alarm Level 2. See figure 3.

figure 3



2. While holding the time and temperature buttons, press the up or down arrow buttons to adjust the sound level. A continuous tone will sound. Release all buttons when the desired sound level has been reached. The display will show the current temperature. See figure 4.

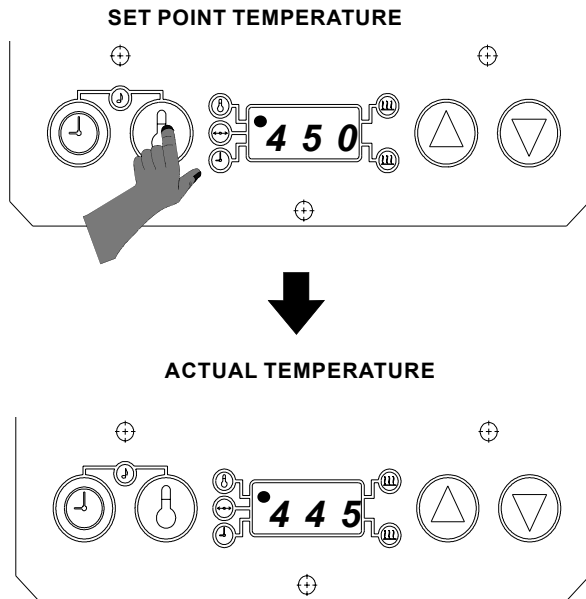
figure 4



## VIEW SET POINT TEMPERATURE

1. Press and release the temperature button. The press must be less than 6 seconds. A beep will sound, the temperature indicator will turn on and the display will show the set point temperature for 3 seconds. The display will then change to show the actual temperature. See figure 5.

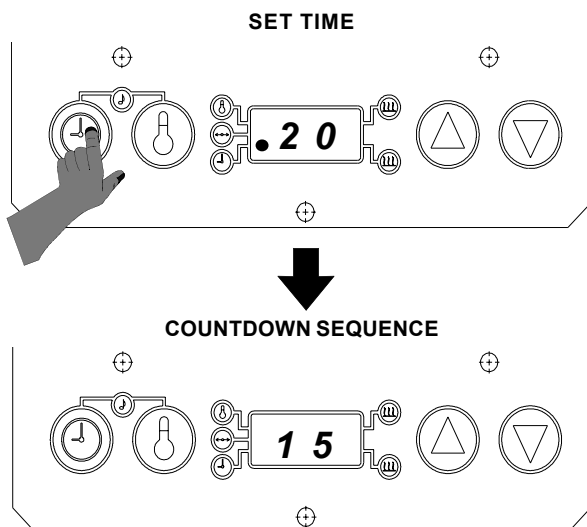
figure 5



## VIEW TIMER SETTING

1. Press and release the time button, but do not hold for longer than 6 seconds. If the toaster is not in a countdown sequence the set time will be displayed for 3 seconds. If the toaster is in a countdown sequence the time remaining will be displayed, and will countdown to zero. After 3 seconds have passed it will return to showing the temperature. See figure 6.

figure 6



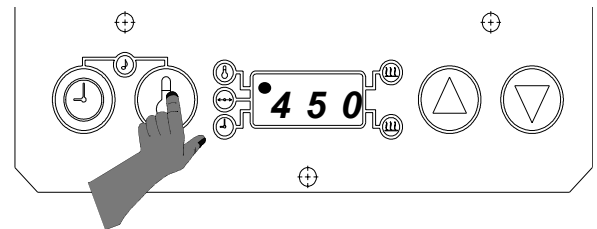
## PROGRAMMING

The programming modes are used for setting an individual set point temperature, calibrating the toaster, and setting toast times.

### Programming the Set Point Temperature

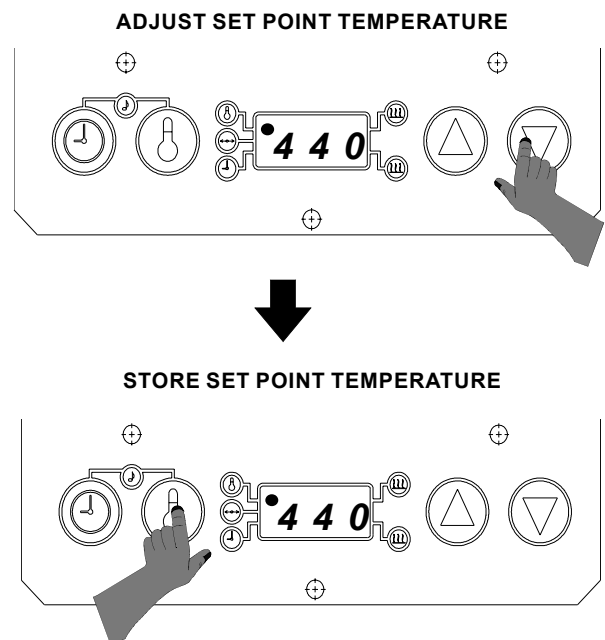
1. Press and hold the temperature button for six seconds. A beep will sound, the indicator next to the temperature symbol will blink, and the display will show the current set point temperature. See figure 7.

figure 7



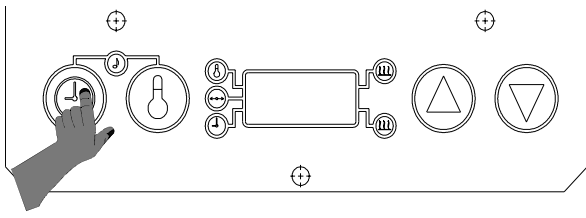
2. To change the set point temperature use the up or down arrows. Once the desired temperature is showing in the display, press the temperature button to store the new setting. See figure 8.

figure 8



3. To cancel out of the set point programming at any time press and release the time button. The display will change to show the actual temperature. See figure 9.

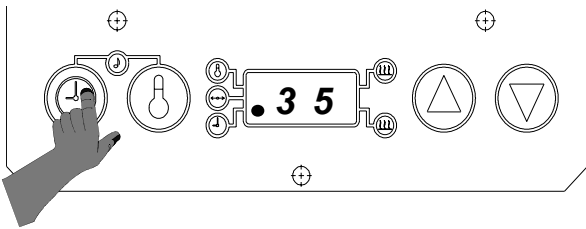
figure 9



### Programming The Toast Times

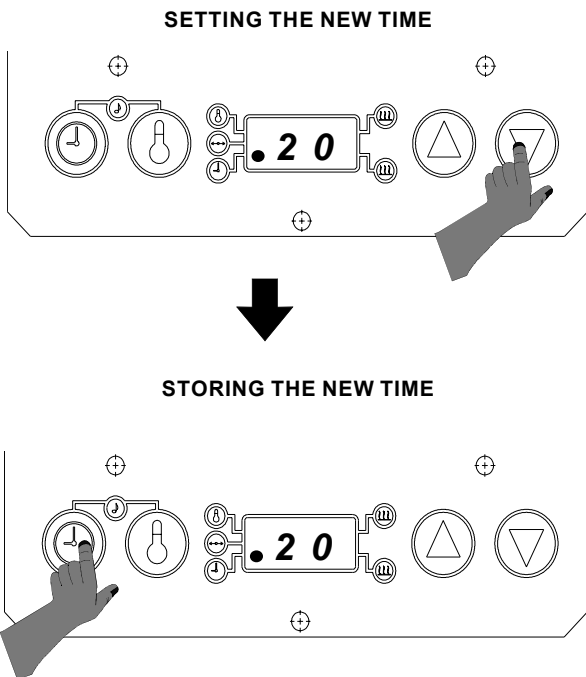
1. Press and hold the time button for 6 seconds. A beep will sound, and the indicator next to the time symbol will blink. Release the time button and the display will show the current toast time. See figure 10.

figure 10



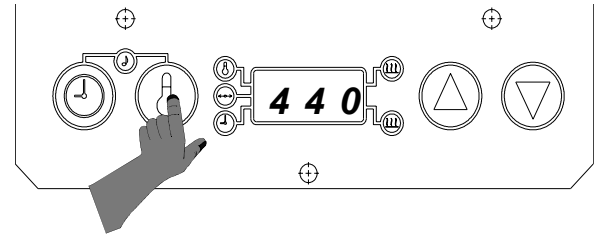
2. Use the up or down arrow buttons to set your selected toast time. The range is from 20 seconds to 1 minute, 30 seconds. Once desired time is reached press and release the time button to store the new time. See figure 11.

figure 11



3. To exit the time set function at any time press and release the temperature button. The time indicator will turn off and the display will change to show the current temperature. See figure 12.

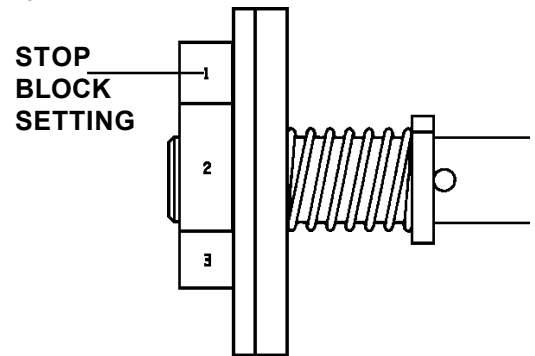
figure 12



### SETTING STOP BLOCKS

The 213-NDB toaster leaves the factory with the stop blocks set on number 3. The stop blocks are located in the front of the toaster on the base on the right and left side of the base. Stop blocks allow for proper crush when toasting buns. To increase the crush, set the stop blocks to number two setting. To decrease the crush, set the stop block to the number four setting. See figure 13.

figure 13



**IMPORTANT:** The correct setting is when the lever is touches the top of the number. The example above shows a stop block setting of 1.

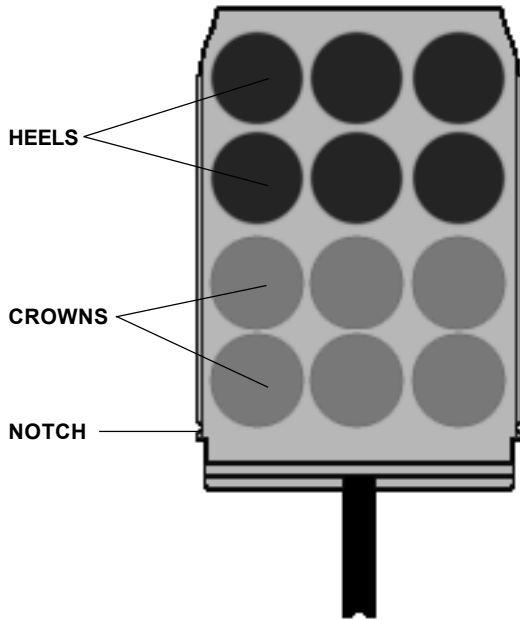
1. To change the setting on the stop block, disengage locking pin by depressing the right stop block. Turn in either direction to correct setting.

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## OPERATION

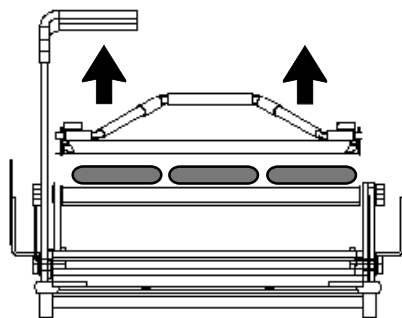
1. Once desired time and temperature are set, unit is ready for toasting.
2. Place a total of six buns (Quarter or Regulars) on the spatula. Make sure crowns are facing up and positioned in front of the notched markings on the spatula. Position heels face down at farthest end of spatula. See figure 14.

figure 14



3. Lift the bun board using the insulated handle. Insert spatula between bun board and platen so only heels are covered by the bun board. See figure 15.

figure 15



4. Lower the bun board onto the spatula. Make sure the front lip of the bun board falls in between rows which separate heels and crowns.
5. While holding onto the handle of the bun board, slide spatula out of toaster. The bun board will grab onto the heels and properly positions them on the platen.
6. With the crowns still remaining on spatula, place spatula on lower platform, making sure the spatula is pushed all the way in.
7. Pull toaster handle forward to begin the toasting cycle.
8. When timer sounds the toasting cycle is complete. Lift toaster handle all the way and remove spatula with toasted crowns. While removing spatula, lift bun board and pull it forward, sweeping heels onto spatula.
9. Stack the second row of heels on top of the first row to retain heat.
10. Depending upon operational procedures, either dress buns immediately, or stage them in a heated cabinet.

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## CLEANING

1. Place the power switch in off position.
2. Unplug toaster.
3. Allow toaster platen to cool down.
4. Wipe entire platen clean with clean, damp grill cloth. Full toaster cleaning must be done in the morning when the toaster is cold. See your *Planned Maintenance Card* for proper cleaning procedures.

**IMPORTANT:** Do not drape cord over hot toaster bun board or platen. This will cause cord to burn.



# DIAGNOSTIC TROUBLESHOOTING

If the toaster malfunctions, the display will flash an error code (**E 0**) and a number between 1-9, or a letter between A-F. Below are different error codes and there solutions.

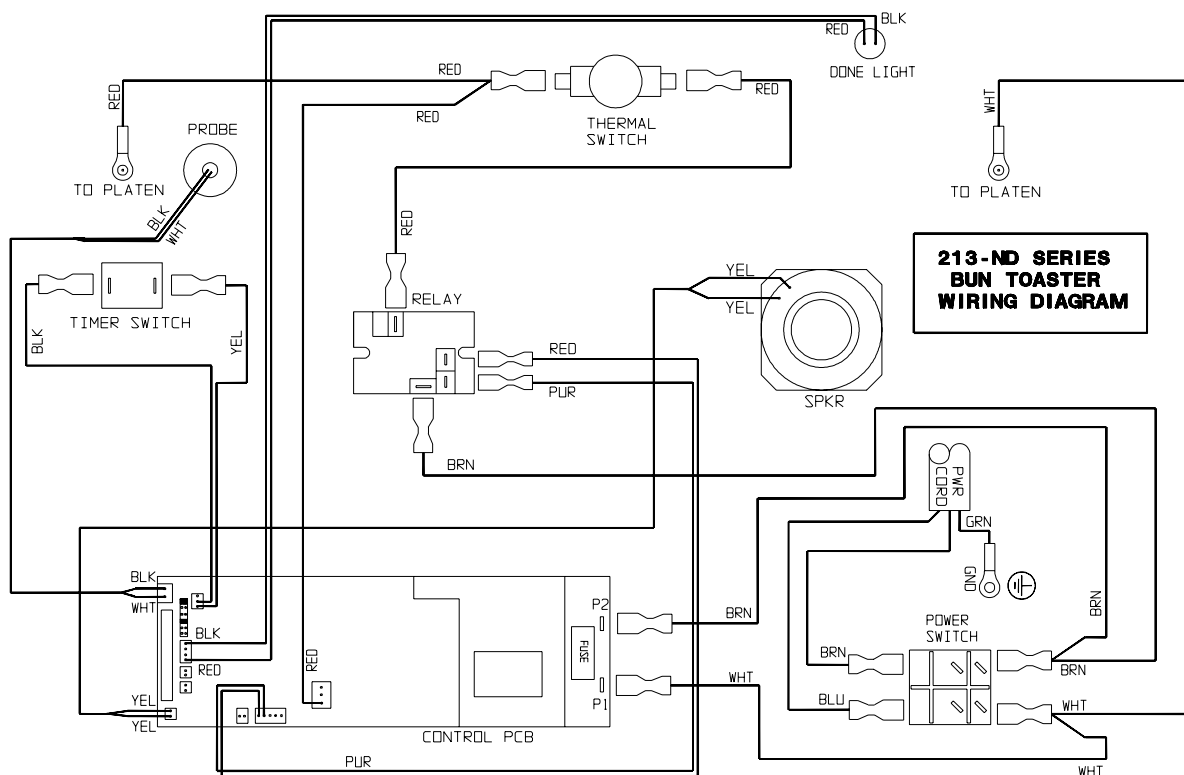
	<p>1. Relay contacts are shorted: Platen over heating</p>	<p>Check if relay is Shorted. Check relay circuit on power board.</p>
	<p>2. Probe open or shorted:</p>	<p>Replace probe. Check probe connection.</p>
	<p>3. Failures 1 and 2 combined.</p>	
	<p>4. Platen not heating:</p>	<p>Check for open relay. Replace power/display board.</p>
	<p>5. Failures 1 and 4 combined.</p>	
	<p>6. Failures 2 and 4 combined.</p>	
	<p>7. Failures 1, 2, and 4 combined.</p>	
	<p>8. Probe amplifier circuit failure:</p>	<p>Replace power/display.</p>

	<p>Failures 1 and 8 combined.</p>
	<p>Failures 2 and 8 combined.</p>
	<p>Failures 1, 2, and 8 combined.</p>
	<p>Failures 4 and 8 combined.</p>
	<p>Failures 1, 4, and 8 combined.</p>
	<p>Failures 2, 4, and 8 combined.</p>

# TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Platen loose.	Platen bolts loose.	Tighten platen bolts.
Speaker sounds, but no bun done light comes on.	Done light burned out.	Replace done light.
No speaker sounds and bun done light does not come on.	Defective timer switch. Timer connection shorted on power board. Timer switch not activating.	Replace timer switch. Replace power board.  Check actuating bracket to make sure it pushes timer switch all the way in.
Buns being crushed.	Stop blocks not adjusted properly. Warped bun trays.  Buns cut improperly.	Adjust stop blocks.  Straighten or replace bun trays. Contact bakery.
Platen does not heat.	No power. Power switch defective. Shorted power board. Platen burned out or shorted.	Check power source. Replace power switch. Replace power board. Check platen with ohmmeter for 11 ohms, if reading is less than 7 ohms or more than 14 ohms, replace platen.

# WIRING DIAGRAM





# Toasters

## Planned Maintenance System Maintenance Requirement Card (MRC)

**Equipment:** Bun Toasters: Solid State Digital

**Precaution:** During some checks, live electrical circuits will be exposed, and hot toasting surfaces will be uncovered.

**Hazard Communication Standard (HCS) - The procedures on this card include the use of chemical products. These chemical products will be highlighted with bold face letters followed by the abbreviation (HCS) in the tools portion of the procedure. See the Hazard Communication Standard (HCS) Manual for the appropriate Material Safety Data Sheet(s) (MSDS).**

### Weekly

**Tools:**

### Applying Bun Toaster Release Agent

● **McD Bun Toaster Release Agent (HCS)**, customer paper napkins or paper towels protective gloves, 257 cleaning tool.  
**IMPORTANT:** Use only McD Toaster Release Agent on bun toasters. Other products may damage bun toasters.

1. Dust all loose crumbs from toaster surfaces.
2. Toaster platens must be well rinsed and dry. McD Bun Toaster Release Agent may be applied to hot toaster platens. Before applying to hot platens, put on protective gloves.
3. To coat top platen surface, thoroughly wet a clean, folded customer napkin or paper towel, with Release Agent.
4. Rub a generous amount of Release Agent over entire surface of platen until wellcoated, using protective gloves and No. 257 cleaning tool
5. Repeat steps 2 and 3 for other platens, including undersides.

**IMPORTANT:** Platen undersides and difficult to reach areas can be coated by placing a folded customer napkin or paper towel with Release Agent on No. 257 cleaning tool to apply Release Agent to platen surface.

**IMPORTANT:** Do not wipe toaster with a damp cloth after Release Agent is applied. This removes Release Agent and causes sticking.

6. If sticking occurs between weekly applications, reapply Release Agent using steps 1-4.

**IMPORTANT:** Apply Release Agent as directed above.

**IMPORTANT:** Toaster does NOT need to be recleaned or cooled down before applying Release Agent.

**IMPORTANT:** Reapply Release Agent weekly, while toaster is cold, between monthly cleaning, to all platen surfaces.

### Monthly

**Tools:**

### Check Calibration of Temperature

● Digital thermometer with surface probe.

**IMPORTANT:** Do not calibrate until the toaster has been on for at least 45 minutes and has stabilized.

1. Monitor the temperature of the platen being calibrated with a surface probe.
2. Enter the calibration mode by holding the **TEMPERATURE, UP** and **DOWN** buttons for 6 seconds. A beep will sound and the indicator light next to the **CALIBRATION** symbol ←●→ will turn on. Release all buttons.

**IMPORTANT:** On two platen units (416 and 411) press and release the **UP** button to calibrate the upper platen or use the **DOWN** button for the lower platen.

3. Allow the display 10 seconds to settle, and it will show the measured platen temperature value with no offset. Use the **UP** and **DOWN** to adjust the display to match the temperature reading on the digital thermometer surface probe.
4. Press the **TEMPERATURE** button to store the new calibrated temperature and to exit the calibration mode. The indicator next to the calibration symbol ←●→ will turn off, after 10 seconds the new calibrated temperature will be displayed.

## Monthly

## Clean Nickel Platen

### Tools:

- **McD Hi-Temp Grill Cleaner (HCS), McD Bun Toaster Release Agent (HCS),** McD No-Scratch Pad™, base of Big Breakfast container, No. 257 cleaning tool, clean grill cloths (qty. 6-8), customer paper napkins or paper towels, protective gloves.

### PREPARING BUN TOASTER

1. If toaster is cool, heat to operating temperature.

**IMPORTANT:** Bun toaster must be at operating temperature for cleaning.

2. Turn toaster power switch to OFF position and unplug power cord.



**CAUTION: Failure to unplug power cord before cleaning may cause electrical shock.**

3. Remove all buns, bun trays, and bun tray liners from the bun toaster stand.
4. Turn on the grill exhaust fan.
5. Move toaster stand in front of grill.

### HOW TO CLEAN

1. Firmly attach McD No-Scratch Pad to cleaning tool. Use only nonabrasive blue No-Scratch pad used for grill cleaning. Do not use a green pad. It will damage platen surface.
2. Pour one packet of McD Hi-Temp Grill Cleaner into a breakfast container base.
3. Put on protective gloves.
4. Turn bun board upside down and lay on upper platen or plate.
5. Dip No-Scratch Pad into Hi-Temp Grill Cleaner.
6. Spread cleaner over bun board and lightly scrub until clean. Apply additional cleaner as needed. Place bun board in the back sink area for cooling and rinsing.
7. Repeat Step 6 for both sides of aluminum plate if toaster is equipped with one.
8. Dip No-Scratch Pad into cleaner and lightly spread a coating of cleaner onto top surface of platen.
9. Repeat Step 8 for all platen surfaces, including undersides.
10. After applying cleaner, lightly scrub all platen surfaces (including undersides) with No-Scratch Pad until all soil liquefies. Apply additional cleaner to cleaning pad as needed.
11. Remove No-Scratch Pad from cleaning tool. Fold a clean, damp grill cloth lengthwise and lay over end of cleaning tool. Thoroughly rinse platens, including undersides, by wiping with a damp grill cloth. Each time before wiping platens, rinse grill cloth in clear water and wring out until no soil is seen.

**IMPORTANT:** Thorough rinsing of platen is required to ensure proper release agent performance. Rinse platens with clean grill cloths until no soil is seen on the cloth.



**CAUTION: Do not pour water on platens or use dripping wet grill cloths.**

12. Repeat the rinsing procedure in Step 11 with a fresh, clean, damp grill cloth to ensure all cleaner and soil are removed from platens.
13. Wipe remaining parts of toaster with a clean damp cloth.
14. Take bun tray platform, bun board, and aluminum plate to back sink. Scrub with a pot brush or No-Scratch Pad in a solution of McD All Purpose Concentrate. Do not use abrasive pads. Rinse parts under running water and let air dry.

## Monthly

### **Tighten Platen and Leg Bolts**

#### **Tools:**

- Adjustable wrench, flatblade screwdriver

#### **TIGHTEN PLATEN BOLTS**

1. Turn the power switch to the OFF Position.
2. Unplug the power cord.
3. Allow the toaster to cool before proceeding.
4. Using an adjustable wrench, tighten the platen bolts which hold handle in upright position.

#### **TIGHTEN LEG BOLTS**

5. Carefully turn the toaster upside down for access to the legs.
6. Adjust and tighten leg bolts to obtain a level setting for toasting.
7. Set toaster right side up and check for a level setting.
8. Adjust leg bolts as necessary until toaster sits level.
9. Plug the power cord into the appropriate electrical receptacle.
10. If the toaster is about to be used, turn the power switch to the ON position.

## Monthly

### **Check Bun Tray Platforms, Bun Board, Bun Trays and Spatulas**

#### **Tools:**

- Pliers, hammer, file

**IMPORTANT:** This check procedure should be conducted while the platforms, trays and spatulas are cold. It should be done for all spatulas, trays and platforms.

#### **BUN SPATULA**

1. Lay the spatula on a flat work table top.
2. Make sure the entire surface is flat, including the front edge. The front end of the bun spatula must be free from necks and burrs.
3. Sharpen front edge of spatula so all nicks and burrs are removed.

**IMPORTANT:** Straightening can be accomplished with a pliers or a hammer.

#### **BUN TRAY**

4. Lay the tray on a flat work tabletop and inspect for flatness.
5. Inspect the tray for uniform height.
6. Straighten curled corners with pliers and hammer middle part of tray flat.

#### **BUN TRAY PLATFORM**

7. Remove the platform from the lower part of the toaster.
8. Lay the platform on a flat work tabletop and inspect the entire surface to make sure it is flat.
9. Using pliers or a hammer, straighten as needed.
10. Reinstall the platform into toaster.

#### **BUN BOARD**

11. Remove the bun board from toaster.
12. Lay the bun board on a flat work tabletop and inspect for flatness.
13. Measure the distance between the tabletop and the bottom side of the bun board in the front, center, and rear. It should be approximately  $\frac{1}{2}$ " (13 mm) for all toasters except Big Mac 412 and 416 series, and approximately  $\frac{3}{4}$ " (19 cm) for Big Mac Toasters.
14. Bend as needed to maintain flatness.



## Toasters

### Planned Maintenance System Maintenance Requirement Card (MRC)

**Equipment:** *Bun Toasters: All*

**Precaution:** *Ensure electrical plug is removed before working inside the unit.*

PICTURES AND ADDITIONAL INFORMATION: Corresponding chapter of *Equipment Manual*

**Quarterly  
Tools:**

#### **Clean Electrical Box and Check for Tightness of Connections**

- Flatblade screwdriver
1. Turn the power switch to the OFF position and unplug the power cord. Allow toaster to cool.
  2. Loosen and remove the screws along the rear panel and on the cover of the electrical box.
  3. Gently pull the rear panel away from the toaster (until restrained by the wires) and lift cover off electrical box.
  4. Remove all loose crumbs and debris from the electrical box and visually inspect for frayed wires or loose connections.  
**IMPORTANT:** The terminals and connectors will appear burned or darkened due to arcing if they are loose.
  5. Connect and tighten all wires. Put electrical panel and cover back in place and tighten screws.
  6. Plug toaster in and turn power switch ON.