

**BIG MAC 6-BUN TOASTER
PRINCE CASTLE MODEL NO. 416-LFMCE**



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

**MANUFACTURED FOR
MCDONALD'S®
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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 (At the option of Prince Castle, Inc.) without cost to the customer for parts or labor.

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 **only** included in the provisions of this warranty for a failure which occurs within **30 days** of installation.
- 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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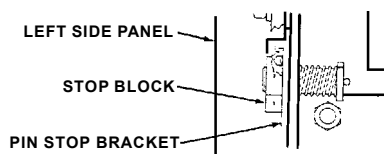
Part No. 416-590revA

INSTALLATION

1. After you have removed the toaster from the carton, inspect the unit for signs of damage. If there is damage to the unit:
 - Notify carrier within 24 hours after delivery.
 - Save carton and packing materials for inspection purposes.
 - Contact your local Prince Castle Supplier
2. Verify that all parts have been received.
3. Insert the power cord into a grounded 230 volt outlet.
4. Ensure that the platens are in the up position while the toaster warms up. This will make sure the timer is not activated.
5. Ensure the stop blocks are set on the correct setting for the size bun you are toasting. Improper stop block setting results in lighter or darker toasted buns or crushed buns. See figure 1.

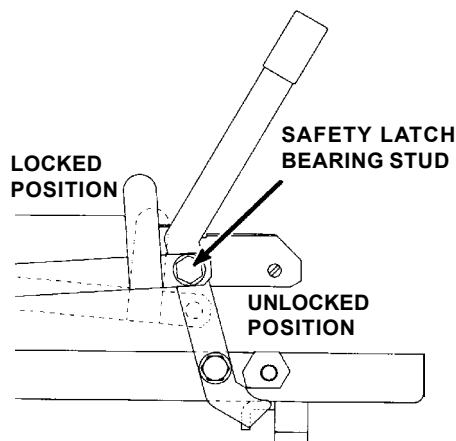
IMPORTANT: To change stop block setting, depress the right stop block to disengage locking pin and turn in either direction.

figure 1



6. Unlock handle by moving safety latch from the locknut to the safety latch park nut. See figure 2.

figure 2



IMPORTANT: To convert a 35 second toaster to a 55 second toaster, turn 35-55 second time select switch, located underneath lower electrical box, to 55 second position. Recalibrate temperature on both platens from (216° +/- 3°C) to (204° +/- 3°C).

OPERATION

1. Place (6) crowns face down on bun spatula.
2. Place (6) heels face up on bun tray.
3. Place (6) clubs on bun spatula.
4. Lift upper bun board and insert spatula with crowns
5. Lower bun board down on top of spatula. Slide spatula out.
6. Insert spatula with clubs into center compartment. Slide spatula out.
7. Insert the tray with heels into the lower compartment of toaster.
8. Pull handle/lever assembly forward and down on top of heels. This will activate the timer assembly.
9. When the buzzer sounds, immediately push handle up and back to release heels from heating platen. Remove tray with heels from toaster.
10. Lift upper bun board and slide spatula in under the crowns. Remove spatula with crowns from toaster.
11. Slide spatula into center compartment. Remove spatula with clubs from toaster.

CLEANING

1. Unplug toaster and allow it to cool down.
2. Shake a small amount of cleanser on platen.
3. Dampen toaster platen cleaning pad and wipe off top and bottom of platen.

IMPORTANT: Using a cleaning pad other than the one provided may be too abrasive and take off the nickel plating, causing buns to stick. Replacement pads should be purchased from your local Prince Castle Service Center. Order part #167-2.



CAUTION: Do not pour water on the platen. This may cause an electrical hazard and damage switches, linkage, etc., voiding the warranty.

4. Starting from the center, proceed to clean platen by wiping in a front to back motion with grain of platen.
5. Using a moist cloth, wipe off platen to remove all cleaning materials.
6. After cleaning season toaster platen with a light coat of shortening.

MAINTENANCE

Under normal conditions with proper use and cleaning, very little nonscheduled maintenance will be required for this toaster. However, this section provides procedures to check or replace various parts within the toaster. Before replacement of any parts refer to the troubleshooting section for assistance in determining the cause of malfunction.

GENERAL INSTRUCTIONS

When disconnecting electrical wires, mark them in some way that will indicate which terminal they came from. Do not disconnect too many electrical connections at one time. Refer to the individual wiring diagram for particular controls that need repair.

There are 3 basic methods of affixing wires to their terminals.

1. Closed eye
2. Spade
3. Knife and blade

IMPORTANT: Do not wrap a bare wire under a terminal head screw.

Before attempting to repair a toaster:

1. Disconnect electrical supply.
2. Permit the unit to cool completely.

IMPORTANT: Make good use of the parts pictures in this chapter for further aid in understanding the physical make-up of your toaster and the reassembling of its components.

ELECTRICAL REPAIRS



CAUTION: Before any electrical repairs, place power switch in OFF position and unplug toaster.

When replacing any electrical controls mounted in control boxes, disassemble the following.

1. Remove (2) screws from upper or lower cover.
2. Remove cover(s).
3. Remove (5) screws from upper or lower faceplate.

REPLACE PLATENS



CAUTION: This procedure should be down by a qualified service person.

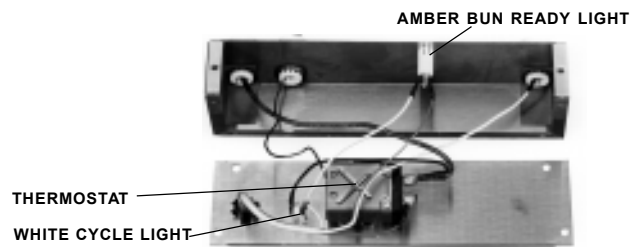
REPLACE THERMOSTAT (See figure 3.)

Tools Required • Flatblade screwdriver

1. Remove knob.
2. Remove (2) screws that hold thermostat to rear cover.
3. Remove (2) wires from thermostat terminals.

4. Remove thermostat bulb retainer from electrical box.
5. Remove thermostat and sensing bulb.

figure 3



IMPORTANT: Replace with new thermostat by reversing procedure. Make sure to coat new thermostat bulb with thermo-coat provided.

HOW TO CALIBRATE TEMPERATURES

Tools Required

- Flatblade screwdriver
- Digital thermometer with surface probe
- Stopwatch

1. Plug toaster in and turn the power switch to ON. Allow 45 minutes for the platen temperature to stabilize.
2. Place the surface probe of the digital thermometer in the center of the top platen.
3. Repeat step 2 by placing the surface probe in the lower platen.



CAUTION: Toaster must be hot to check temperature calibration. Special care must be taken to prevent being burned.

If the temperature is not within the range:

4. Turn the outer temperature shaft in the rear of the toaster. (Turn shaft clockwise to increase and counterclockwise to decrease platen temperature.)

IMPORTANT: A 1/4 turn will change the temperature approximately 47° C.

5. Allow 20 minutes for the platen temperature to stabilize before readjusting.
6. Adjust the thermostat dial plate so the correct temperature is in line with the pointer on the thermostat knob.

HOW TO REPLACE LIGHTS

1. Locate inoperable light.
2. Disconnect (2) wires from the light.
3. Remove the light by pressing the bezel clips in and pulling the light away from the control panel.
4. Reverse procedure to install new light.

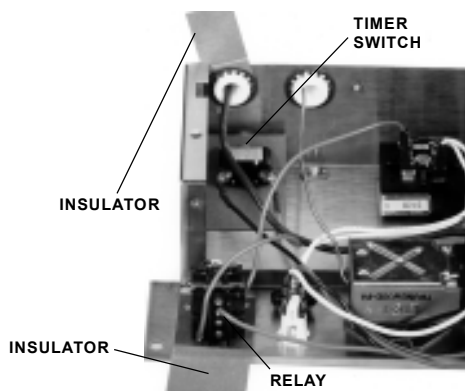
REPLACE RELAY (See figure 4.)

Tools Required • Flatblade screwdriver

CAUTION: This procedure should be performed by a qualified service person.

1. Remove screw holding relay to back cover.
2. Remove red wire from timer.
3. Remove red wire from buzzer.

figure 4



4. Remove red wire from time switch.
5. Replace relay by reverse procedure.

CAUTION: Be sure insulator is between the relay and rear cover.

REPLACE TIMER SWITCH

Tools Required • Adjustable wrench

1. Remove 2 wires from timer switch.
2. Unscrew retaining nut on front of electrical box.
3. Remove switch.
4. Reverse procedure to install new timer switch.

CAUTION: Be sure insulator is between switch and chassis.

LOWER ELECTRICAL BOX

ADJUST TIMER SWITCH

Tools Required • Adjustable wrench

1. Position retaining ring on new switch 1/4" (6 mm) from end of bushing.

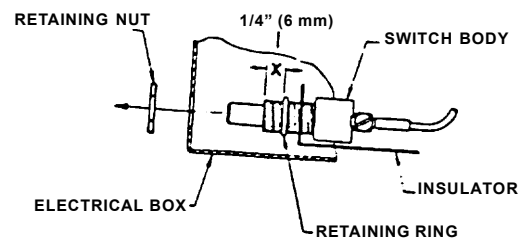
IMPORTANT: Insulator should be placed between switch body and retaining ring. See figure 5.

2. Set stop blocks at lowest position.
3. Slowly lower platen and watch movement of new switch against actuator bracket.

IMPORTANT: When platen is all the way down, there should be no more than 1/32" (1 mm) clearance between threaded switch bushing and actuator bracket.

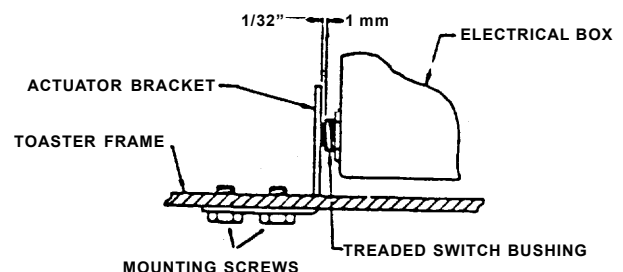
IMPORTANT: The threaded switch bushing must not press against the actuator bracket.

figure 5



To adjust actuator bracket, loosen mounting screws and move bracket until 1/32" (1 mm) clearance is attained as shown in drawing below. Retighten actuator bracket mounting screws when bracket is positioned. See figure 6.

figure 6



REPLACE TIMER ASSEMBLY

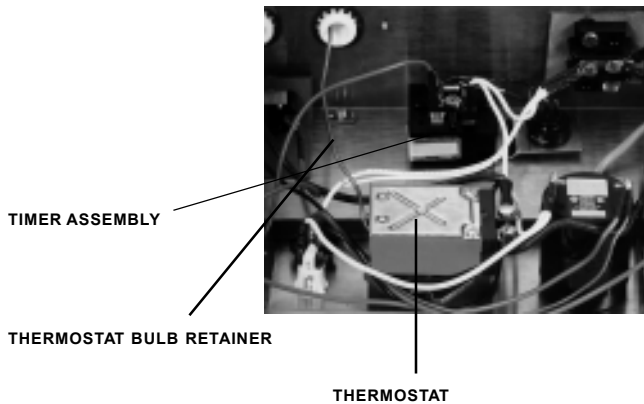
Tools Required • Adjustable wrench
• Flatblade screwdriver

CAUTION: This procedure should be performed by a qualified service person.

1. Remove (2) wires from timer assembly.
2. Remove screw and nut holding timer assembly to lower electrical box.

3. Replace with new timer assembly by reversing procedure. See figure 7.

figure 7



LOWER ELECTRICAL BOX REPLACE POWER SWITCH

Tools Required • Adjustable wrench

1. Remove the nut that holds switch and switch plate to cover.
2. Remove wires from switch.
3. Remove switch.
4. Replace by reversing steps 1-3 with new switch.

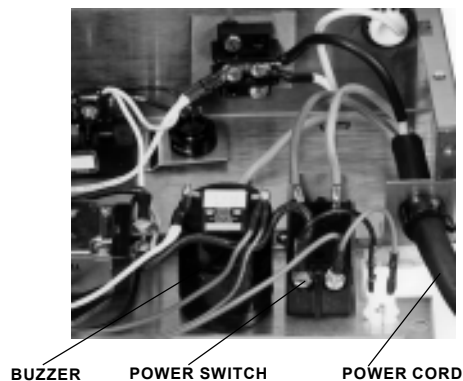
REPLACE POWER CORD

Tools Required • Flatblade screwdriver

CAUTION: This procedure should be done by a qualified service person.

1. The power switch will have to be removed to get at the (2) heavy power cord wires connected to the bottom terminals. See figure 8.

figure 8



2. Disconnect green/yellow ground wire from the power switch.
3. Remove power cord from lower chassis by removing strain relief.
4. Reverse procedure to reinstall power cord.

REPLACE BUZZER

CAUTION: This procedure should be done by a qualified service person.

1. Remove buzzer by holding ring and unscrewing.
2. Remove (2) wires from buzzer terminals.
3. Replace by reversing procedure.

CLOSING

CAUTION: Before unplugging, make sure toaster is turned OFF.

1. Place the power switch in the OFF position.
2. Unplug toaster.
3. Allow toaster to cool.
4. Follow cleaning instruction on MRC 16.

CAUTION: This appliance is not water-tight. Do not immerse in water or clean with a water jet/jet spray.

ORDERING/SERVICE INFORMATION

1. WHERE AND HOW TO ORDER REPLACEMENT PARTS

To order replacement parts, look on the back of your Prince Castle Price List for the name and phone number of your local Prince Castle Service Center. You may also call Prince Castle at 1-800-323-2930 (or fax us at 630-462-1460) for the name of your local Service Center.

2. PARTS RETURNS

To return parts to your Service Center for credit, you must obtain authorization from your Service Center.

IMPORTANT: All warranty situations should be handled by your center.

3. PRICES:

A. All prices are F.O.B. Prince Castle Service Center or F.O.B. factory, Carol Stream, Illinois.

B. All prices are subject to change without notice. These prices are exclusive of all sales taxes or any special taxes which may be levied by federal, state, or city governments.

OUTSIDE THE U.S.

Contact your kitchen equipment supplier or designated repair facility for parts and service.

TROUBLESHOOTING GUIDE



CAUTION: Inspection, testing and repair of electrical equipment should be performed only by qualified service personnel.



CAUTION: The unit should be unplugged when servicing, except when electrical tests are required. Use care when running tests.

| PROBLEM | PROBABLE CAUSE | CORRECTIVE ACTION |
|---|--|--|
| Platen sways. | Platen attachment bolts loose. | Tighten bolts. |
| Buzzer works, but no amber bun ready light. | Light burned out. | Replace bun ready light. See Maintenance. |
| No buzzer or amber bun ready light. | Defective timer switch. | Replace timer switch. See Maintenance. |
| | Defective timer assembly. | Replace timer assembly. See Maintenance. |
| | Timer switch out of adjustment. | Adjust timer switch stroke. See Maintenance. |
| | Defective relay. | Replace relay. See Maintenance. |
| Amber bun ready light goes ON but buzzer does not work. | Buzzer burned out. | Replace relay. See Maintenance. |
| Buns being over crushed. | Stop blocks not adjusted properly. | Adjust stop blocks. |
| | Warped bun trays. | Straighten bun trays. |
| | Buns cut improperly. | Contact bakery. |
| | Bun platform warped. | Straighten bun platform. |
| Platen does not heat. | No power. | Check power source. |
| | Power switch defective. | Replace power switch. See maintenance. |
| | Loose wiring. | Correct as necessary. See MRC 17. |
| | Defective thermostat. | Replace thermostat. See maintenance. |
| | Platen burned out or shorted. | Replace platen. Call Service Agency. |
| Buns sticking to platen. | Excessive heat. | Recalibrate thermostat. |
| | Build-up of caramelized sugar on platen. | Clean platen. |
| One platen does not heat and one platen does. | No power. | Check circuit breaker since one half of 220 volt service may be out. |
| | Power switch defective. | Replace power switch. See maintenance. |
| | Loose wiring. | Correct as necessary. |
| | Defective thermostat. | Replace thermostat. See maintenance. |
| | Platen burned out or shorted. | Replace platen. Call Service Agency. |
| Timer Assembly sounds at seconds. | Timer Assembly set incorrectly. | Check position of time select switch. Set it at 55 seconds. |
| | | Recheck time. |

EXPLODED VIEW

PARTS IDENTIFICATION/FUNCTION

| ITEM | PART NO. | DESCRIPTION | QTY. | FUNCTION |
|------|-------------------|--|------|---|
| 1 | 416-576 | Upper Faceplate | 1 | Part of electrical box operating panel for upper platen |
| 2 | 411-353 | Brkt. Cord Grip-Unthreaded | 2 | Secures flex wire to upper and lower enclosure. |
| 3 | 89-093 | Screw | 4 | Secures flex wire to upper and lower enclosure. |
| 4 | 222-122A | Thermostat | 2 | Temperature control for upper and lower platen. |
| 5 | 222-102S | Knob | 2 | Used to adjust thermostats. |
| 6 | 222-91 | Dial Plate | 2 | Plate with temperature readings used to calibrate temperature. |
| 7 | 71-134-2 | White Cycle Light | 2 | Goes ON when electrical power is being supplied to heater. |
| 8 | 416-574 | Upper Chassis | 1 | Part of upper electrical box enclosure needed for operating controls. |
| 9 | 213-364 | Platen Tube | 3 | Insulators that protect heating element connectors and thermostat capillary tube. |
| 10 | 89-135 | Retainer | 3 | Holds thermo-break tubes in place. |
| 11 | 416-157 | Platen Terminal Insulator | 4 | Protects the heating element connectors from shorting against metal. |
| 12 | 416-135 | Thermostat Bulb Retainer | 2 | Holds thermostat capillary bulb in platen. |
| 13 | 71-134-1 | Amber Bun Ready Light | 1 | Lights when toasting cycle has completed |
| 14 | 416-121 | Upper Cover | 1 | Allows access to upper electrical box. (removable) |
| 15 | 416-689 | Lower Faceplate | 1 | Part of lower electrical box that holds power switch, son-alert, thermostat, heating light, power light and relay assy. |
| 16 | 78-166S | Power Switch | 1 | Provides electrical power to toaster when switch is in the ON position. |
| 19 | 72-196S 88-566 | Power Cord w/Plug Plug Only (Europe Only) | 1 | Provides electrical power to the toaster from the store's power outlet. |
| 20 | 66-045 | Strain Relief | 1 | Secures power cord to toaster face plate. |
| 21 | 416-128 | Lower Electrical Box Cover | 1 | Allows access to lower electrical box. (removable) |
| 22 | 222-140 | Muffler Cap | 1 | Reduces sound level of the audioalarm. |
| 23 | 88-150 | Buzzer | 1 | Indicates when buns are done. (International) |
| 24 | 71-134-3 | Green Power Light | 1 | Indicates power to the toaster. |
| 25 | 416-653 | Rear Upper Stud | 2 | Holds upper platen to rear levers. |
| 26 | 416-167S | Relay Assembly | 1 | Activates buzzer. |
| 27 | 416-150 | Relay Insulator | 1 | Protects the relay and relay wires from touching metal. |

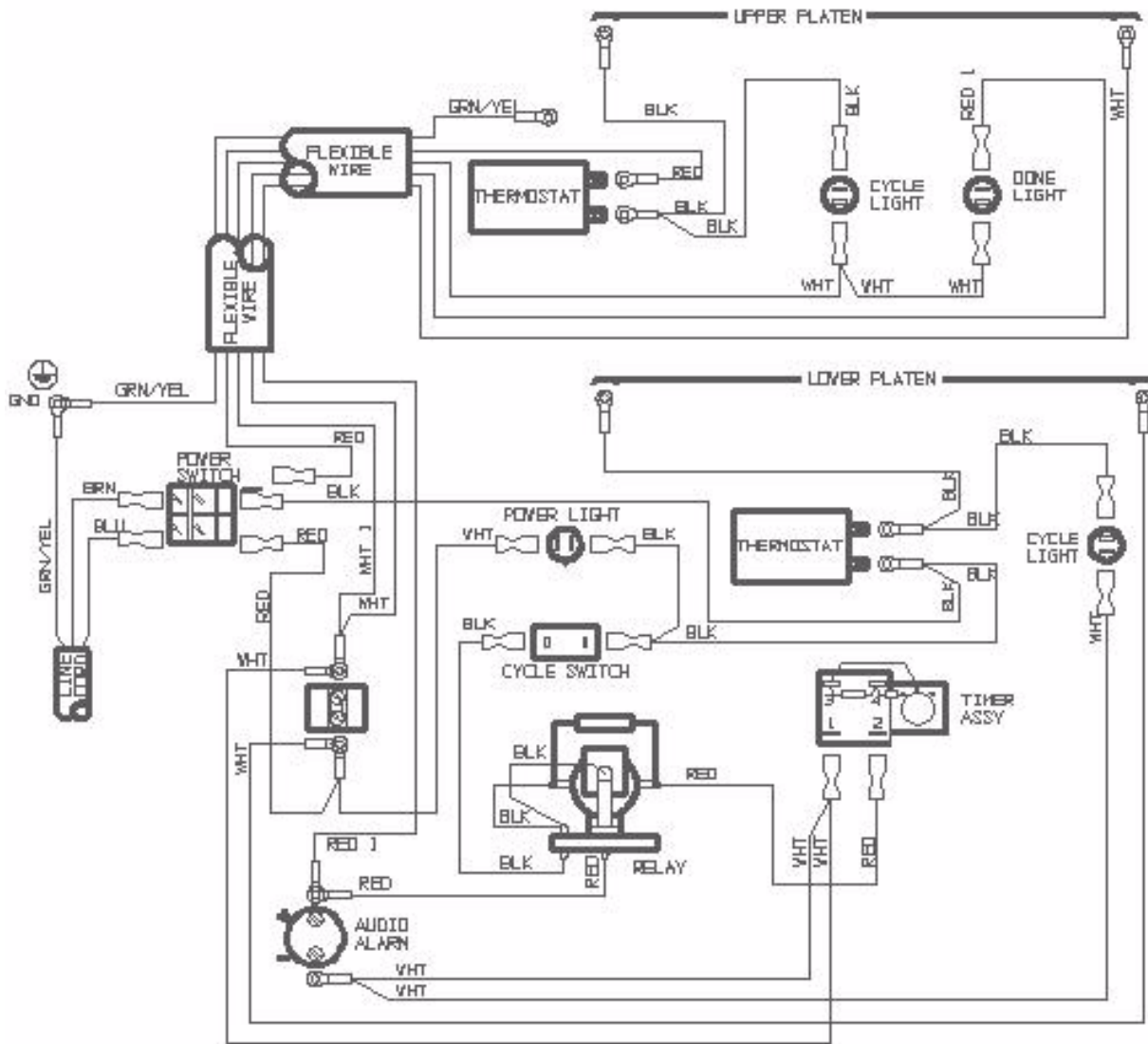
| ITEM | PART NO. | DESCRIPTION | QTY. | FUNCTION |
|------|----------|----------------------------------|------|--|
| 28 | 416-692S | Flexible Wire Assembly | 1 | Provides electrical power to upper electrical box. |
| 29 | 416-691 | Lower Chassis | 1 | Part of lower electrical box which holds the power cord, barrier strip and timer assembly. |
| 30 | 78-146S | Timer Switch Kit | 1 | Starts the timer for the toasting cycle. |
| 31 | 416-43 | Timer Switch Insulator | 1 | Protects the switch from touching metal. |
| 32 | 416-259S | Timer Assembly 35/55 seconds. | 1 | Controls toasting itme (adjustable for either 35 or 55 seconds. |
| 33 | 77-039 | Barrier Strip | 1 | One connector barrier strip where electrical ground wires interconnect. |
| 34 | 416-136 | Insulator, Barrier Strip | 1 | Protects barrier strip and wires from touching metal. |
| 35 | 416-802 | Lower Left Bun Fence | 1 | Attached to the platen to prevent buns from falling off the sides. |
| 36 | 416-801 | Lower Right Bun Fence | 1 | |
| 37 | 416-482 | Bun Board | 1 | Used as a weight to compress the crowns to the proper toasting height. |
| 38 | 212-285 | Support Stud | 3 | Holds upper and lower platens to front and rear levers. |
| 39 | 416-629S | Upper Platen Kit | 1 | Electrically heated toasting surface. |
| 40 | 416-847 | Upper rear bun fence | 1 | Attaches to platen to prevent buns from falling back. |
| 41 | 416-829 | L.H. Upper Bun Fence | 1 | Attached to platen to prevent buns from falling off sides. |
| 42 | 416-830 | R.H. Upper Bun Fence | 1 | Attached to platen to prevent buns from falling off sides. |
| 43 | 416-625S | Lower Platen | 1 | Electriclly heated toasting surface. |
| 44 | 416-762 | Lower Rear Bun Fence | 1 | Attaches to platen. Prevents buns from falling off the rear. |
| 45 | 416-661 | Upper Bun Catcher | 1 | Prevents buns from falling under toaster. |
| 46 | 212-283 | Spacer | 6 | Maintains alignment of levers with platen. |
| 47 | 416-652 | Rear Upper Spacer | 2 | Maintains alignment of levers with platen. |
| 48 | 416-856S | Rear Lower Lever Assy. | 2 | Holds the rear platen in the toaster and allows for opening and closing of the toaster. |
| 50 | 416-680S | Base w/feet | 1 | Support for the toaster. |
| 52 | 416-654 | Rear Lower Stud | 2 | Holds lower platen to rear levers. |
| 53 | 213-304 | Safety Latch Stud | 1 | Safety latch engaged attachment location. |
| 54 | 416-413 | Front Lever Assy. | 2 | Holds the platens in the toaster and allows for opening and closing of the toaster. |
| 55 | 416-858S | Rear Upper Lever Assy. | 2 | Holds the rear of platens in toaster and allows for opening and closing of toaster. |
| 56 | 416-581 | Side Panel Assembly | 2 | Mounts to the frame to protect hands from getting inbetween the platens. |
| 57 | 416-651 | Shim | 1 | Maintains alignment of latch. |
| 58 | 416-488 | Safety Latch | 1 | Holds platen in the open (up) position. |

| ITEM | PART NO. | DESCRIPTION | QTY. | FUNCTION |
|------|----------|--------------------------------------|------|---|
| 59 | 81-013 | Spring | 2 | Helper springs to reduce lifting force. |
| 60 | 416-29 | Stop Block Rod | 1 | Holds the stop blocks to the toaster frame. |
| 61 | 416-489 | R.H. Stop Block | 1 | Adjusts the height of the platens. 6 stop positions. |
| 62 | 81-009 | Stop Block Compression Spring | 1 | Holds stop blocks in position. |
| 63 | 79-105 | Spacer | 2 | Locates position of stop blocks to front levers and holds the compression spring in position. |
| 64 | 213-414 | Actuator Bracket | 1 | Activates the toasting timer when platens are closed. |
| 65 | 68-001 | Roll Pin | 1 | Locks compression spring in place. |
| 66 | 212-284 | Bearing Stud | 4 | Holds the front and rear links to the toaster frame. |
| 67 | 89-959S | Rubber Foot | 4 | Keeps toaster from moving while operating. |
| 69 | 62-024 | Bearing | 2 | Aligns bearing studs in handle lever assemblies. |
| 70 | 416-648 | Safety Latch Pin | 1 | Attachment point for safety latch. |
| 71 | 213-302 | Safety Latch Label | 1 | Instructs operator to engage the safety latch when cleaning the toaster. |
| 72 | 416-490 | L.H. Stop Block | 1 | Adjusts heights of platen's 6 stop positions $35/64$ " (14 mm) to $1^{11}/64$ " (29 mm). |
| 73 | 416-683 | Detent Pin | 1 | Holds the stop block at the chosen position. |
| 74 | 416-657 | Safety Latch Stop Bracket | 1 | Attaches bearing studs in handle and lever assemblies. |
| 75 | 62-021 | Bearing | 2 | Aligns bearing studs in handle and lever assemblies. |
| 76 | 62-005 | Bearing | 10 | Aligns bearing studs in handle and lever assemblies. |
| 77 | 66-037 | Bushing, Strain Relief (200V & 220V) | 1 | Secures power cord to toaster frame. |

HARDWARE USED FOR MOUNTING PARTS

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------------------------|---|-------------|
| A | 76-300 | Screw, Pan Head 8-32 X 1/4" (6 mm) | 4 |
| B | 76-300 79-031 | Screw, Pan Head 8-32 X 1/4" (6 mm) Lock Washer | 2 2 |
| C | 76-051 79-033 | Screw, Binder Head 6-32 X 3/8" (10 mm) Washer #6 | 1 2 |
| D | 76-040 | Screw, Binder Head 10-32 X 3/8" (10 mm) | 25 |
| E | 76-079 | Screw, Binder Head 10-32 X 5/8" (15 mm) | 2 |
| F | 76-043 79-031 73-021 | Screw, Binder Head 8-32 X 1/4" (6 mm) Lockwasher #8 Nut, Hex 8032 | 1 1 1 |
| H | 76-179 | Screw, Binder Head 10-32 X 3/8" (10 mm) NSF-Dry Lube | 16 |
| K | 76-327 73-013 | Screw, Pan Head, 8-32 X 1-1/4" (32 mm) Nut, Hex Self-Locking 4-40 | 1 1 |
| L | 73-039 | Nut, Hex 3/8-24 | 1 |
| M | 76-343 | Set Screw, 10-32 X 3/4" (18 mm) | 2 |
| N | 73-016 | Nut, Hex 3/8-24 | 4 |
| P | 76-382 | Screw, Hex Head 1/4 X 9/16" (14 mm) | 4 |
| R | 76-619 | Screw, Hex Head 1/4-20 X 3/8" (10 mm) | 2 |
| S | 76-095 | Screw, Binder Head 6-32 X 1/4" (6 mm) | 4 |
| T | 88-416 | Cable Tie | 1 |
| V | 76-619 79-028 79-032 | Screw, Hex Head 1/4-20 X 3/8" (10 mm) Lockwasher - 1/4" (6 mm) Washer, Flat 1/4" (6 mm) | 2 2 2 |
| W | 79-144 | Washer, O.D. 1.093 | 1 |

WIRING INFORMATION



IMPORTANT ELECTRICAL INFORMATION

This unit's power cord has International colored wires, which are different from Domestic.

- Blue = Neutral
- Brown = Hot
- Green/Yellow = Ground
- Black = Hot