AUTOMATIC
FOODSERVICE
EQUIPMENT

FLEXI-CHEF SYSTEM®
AUTOMATIC ELECTRIC BROILER
MODEL 815E

OWNER'S MANUAL

IMPORTANT: RETAIN THIS MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE.

Broiler area must be kept free of combustible materials, and the flow of combustion and ventilation air must not be obstructed. Operating personnel must not perform any maintenance or repair functions. Contact your Nieco Authorized Dealer.

FOR YOUR SAFETY:
Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

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A. GENERAL INFORMATION
MODEL 815E

DESCRIPTION

The Nieco Model 815E is an electrically heated conveyorized radiant broiler. Elements on the top and bottom of the conveyor belts cook a wide variety of products quickly and consistently. The 815E can be equipped with up to three independently controlled cooking belts.

Backed by the Nieco worldwide distributor network, your 815E and all other Nieco equipment comes with a full service system that provides on-time delivery, start-up, and training assistance, as well as 24 hour help, should you ever need it.

FOOD PREPARATION

In order to cook properly on the 815E, the operator must prepare the food in a consistent and appropriate manner. The portions need to be uniform, the product temperature going into the broiler must be consistent, and if pans or plates are used to cook on, they must be the same.

In automating the kitchen, individual portions of each dish are prepared for cooking in advance of demand. Items to be broiled are cut into appropriate portions, and held in a refrigerator until needed. Some products, such as hamburgers can be frozen and do not have to be thawed before broiling.

B. INSTALLATION

PRE-INSTALLATION
Uncrate the broiler, and inspect for shipping damage. Contact the factory if there is obvious damage. Remove the tape securing the machine parts, and install the parts in their proper location. Refer to the Parts and Location section of this manual. If you find concealed damage to any part of this unit, contact your freight carrier immediately. The factory warranty does not cover freight damage.

MOUNTING
If the broiler was shipped with a tubular stand, refer to separate tubular stand assembly instructions.

> **Note:** The four legs of the broiler stand are equipped with casters. Always set the brakes on the casters to prevent the broiler from shifting during operation or cleaning.

HOOD REQUIREMENTS
This appliance must be installed under a ventilation hood of adequate size and capacity (approximately 600 CFM). The hood should be at least 6" larger in all dimensions than the appliance top, and be 12" to 18" above the top. Do not obstruct the flow of combustion and ventilation air. An adequate air supply must be available for safe and proper operation.

> **Note:** See the National Fire Prevention Association booklet on ventilation of cooking equipment. Write to: NFPA, 470 Atlantic Ave., Boston, MA 02210. Local codes on venting must also be complied with.

CLEARANCE
For proper installation, the minimum clearance from combustible and non-combustible construction is 6" from the back and 6" from the front of the machine. Keep appliance area free from combustibles.

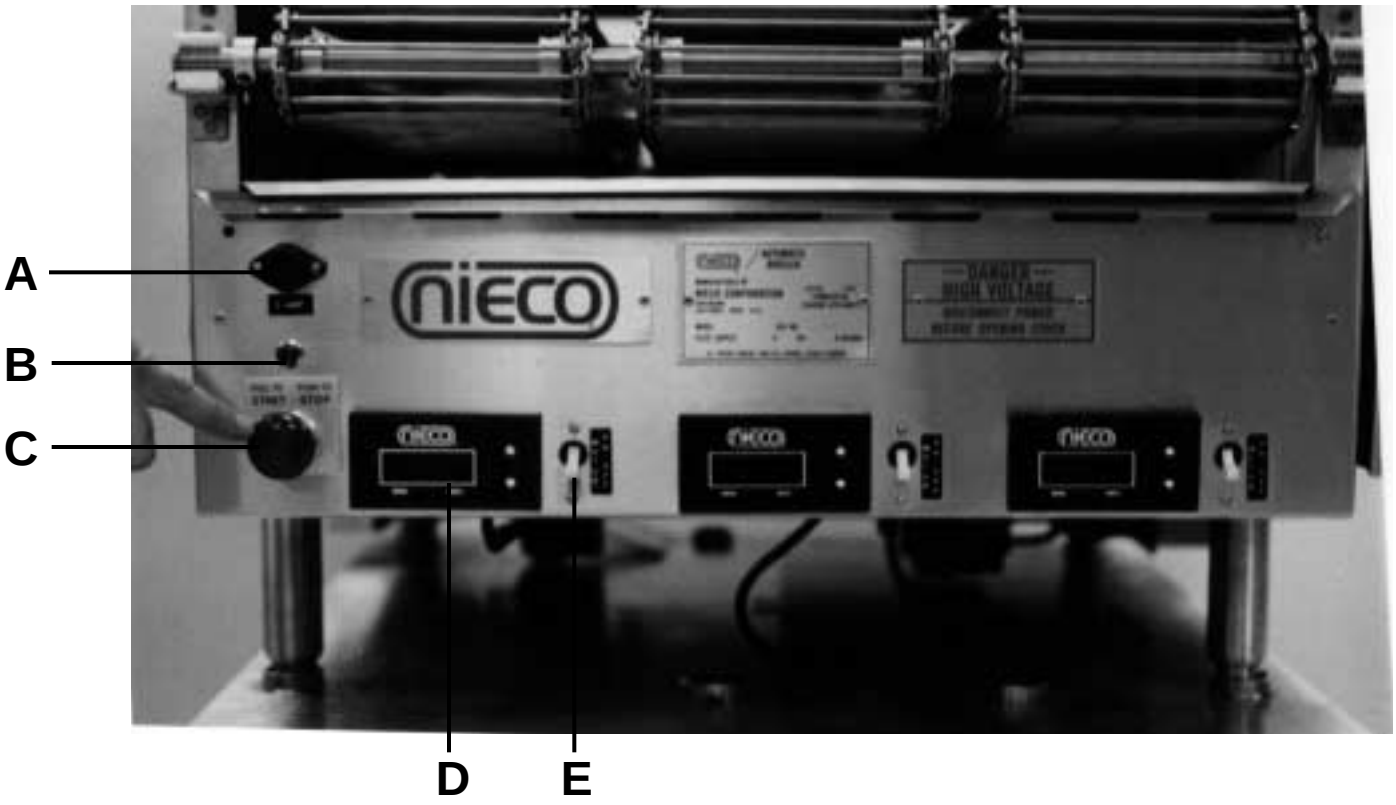
To facilitate disassembly and service of the unit a minimum of 24" should be allowed on each end of the broiler to allow the drip trays and reflectors to be removed.

ELECTRICAL CONNECTION
Power requirements are stated on the unit nameplate and must be connected accordingly. Before starting broiler, tighten all electrical connections in control box.

> **Note:** This appliance must be electrically grounded in accordance with local codes or in the absence of local codes, the National Electrical Code, ANSI/NFPA No. 70-1990. In Canada, in accordance with the Canadian Electrical Code CSA 22.1 part 1, or local codes.
>
> **WARNING: This appliance should be connected with a five-wire (3 phase, neutral, ground) plug for your protection against shock hazard. Be sure to plug directly into a properly grounded five-prong receptacle. Do not cut or remove grounding prong from plug.**
>
> **Note:** This appliance cannot be safely operated in the event of a power failure. No attempt should be made to operate during a power failure. Disconnect power supply before servicing.

PRE-OPERATION CHECK
Be sure that all parts are installed in the proper location. Refer to **OPERATION** section for starting procedure. Start broiler and test for proper operation.

C. OPERATION
CONTROLS AND INDICATORS



A. 5 Amp fuse

B. Power On Indicator Light (Red)

C. Main Power On/Off Switch (Red)

D. Digital Speed Controller (3)

E. Motor On/Off Switches (White) (3)

STARTING PROCEDURE

Before starting broiler, ensure that all parts are installed in the proper location, the plug is properly inserted in the socket, and the ventilation hood is turned on.

1. Turn on the power to the broiler by pulling out the red On/Off switch (C).

2. Turn on the motor switches (E) and set the cook times on the digital speed controller (D).

SHUTDOWN PROCEDURE

For **EMERGENCY** Shutdown, turn the Main Power Switch off. (PUSH Red Switch in.)

For planned shutdowns, perform the following procedure:

1. Clear machine of all food products.
2. Turn Main Power Switch off.
3. Turn Motor Switches off.

CAUTION: Always turn machine completely off before unplugging power cord.
CAUTION: Allow machine to cool before removing any parts.

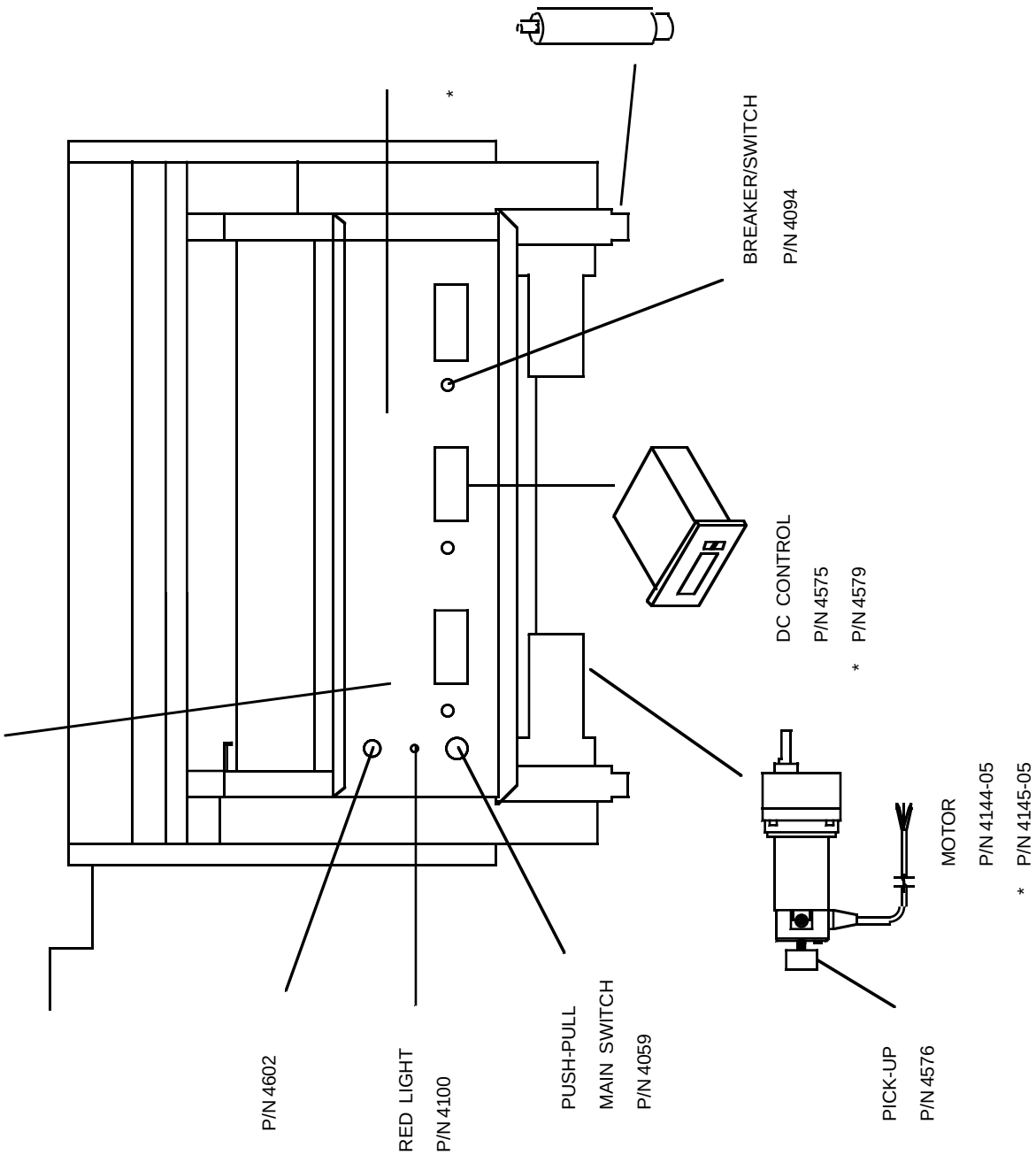
D. REPLACEMENT PARTS LIST

MODEL 815E

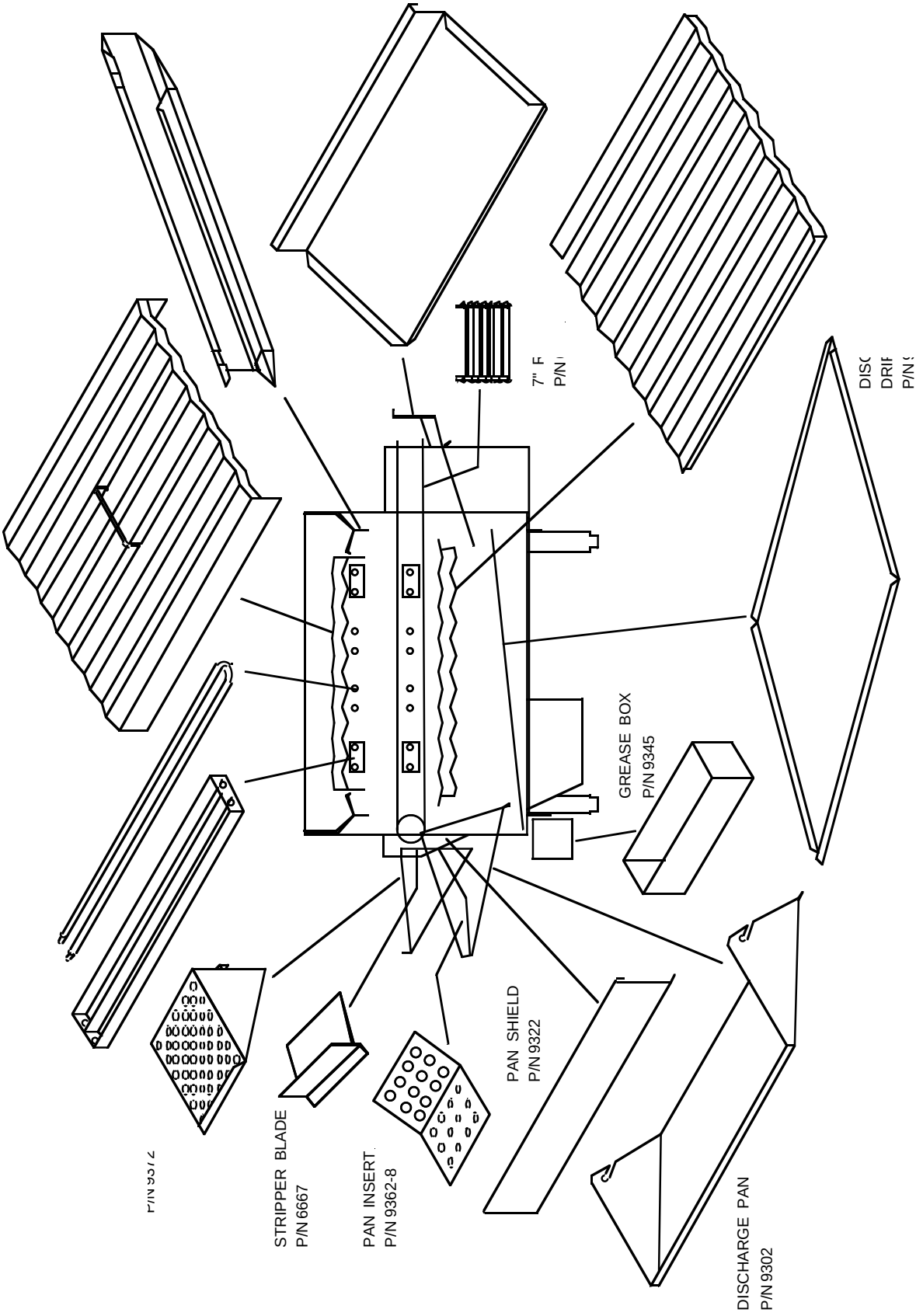
PART NO.	DESCRIPTION
0005	6” Adjustable Legs
4022	208V Heating Element
4031	230V Heating Element
4056	50A Circuit Breaker
4067	Contactor
4075	250V Heating Element
4076	265V Heating Element
4081	240V Heating Element
4094	Motor Switch - green
4100	Red Indicator Light
4144-02	Carbon Brushes for 4144-05 Motor
4144-05	Drive Motor - 120V
4145-05	Drive Motor - 240V
4145-06	Carbon Brushes for 4145-05 Motor
4149	200V Heating Element
4220	Switch, Main on/off, 1Ø
4390	Element Reflector
4575	Digital Speed Controller - 120V
4576	Blue Motor Pick Up for 4575 & 4579 Speed Controllers
4579	Digital Speed Controller - 240V
4601	Fuse Holder
4602	Fuse, SC-5
6006	10T Sprocket, Motor Drive
6027	#35 Drive Chain
6038	30T Sprocket, Patty Belt
6048	Master Link, Drive Chain
6053	Offset Link, Drive Chain
6066	5/8” Teflon Bearing
6024	24” Rod Belt
6124	7” Rod Belt
6667	7” Stripper Blade
6673	24” Stripper Blade
9063	Upper Heat Reflector
9128	Shaft Cleaning Tool
9301	Side Panel
9302	Discharge Pan
9322	Discharge Pan Shield
9326-E	Awning, Discharge End
9327-E	Awning, Feed End
9331	Front Drip Pan
9332	Drip Tray
9345	Grease Collection Box
9362	Insert, Discharge Pan
9372	Discharge Shelf
9395	Feed End Hanging Shield
9408	Lower Heat Reflector

E. PARTS AND LOCATION

FEED END VIEW



LEFT SIDE VIEW



F. ASSEMBLY/DISASSEMBLY & CLEANING

In the following section, a brief step-by-step sequence of the procedures for disassembly and cleaning is given. For additional information or repair, contact your local Nieco distributor.

1. Follow the shutdown procedure outlined on page 6. Allow broiler to cool before handling parts. Wipe the control box with a dry towel. Do not get the control box wet.

2. Remove SIDE PANELS by lifting up and out. Clean daily with soap and water.

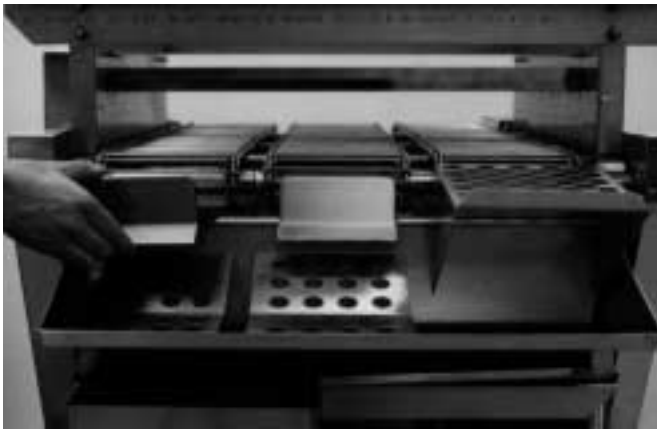
3. Remove the FRONT and REAR AWNINGS, and clean daily using soap and water.

4. Remove the UPPER HEAT REFLECTOR and clean daily using soap and water.

5. Scrape the conveyor shafts with the special tool provided.

6. Remove the FRONT DRIP PAN from the feed end of the broiler and clean daily with soap and water.

6. Remove the STRIPPER BLADES from the back of the broiler. Scrape the built up residue from the blade and clean daily using soap and water. Sanitize.



7. Remove the SHELF (if equipped) and/or INSERTS. Clean daily using soap and water.

8. Remove the DISCHARGE PAN and clean daily using soap and water.

9. Remove the DISCHARGE PAN HANGING SHIELD and clean daily using soap and water.

10. Remove the LOWER HEAT REFLECTOR. Clean using soap and water or a carbonized grease remover.

11. Remove the large DRIP TRAY from the discharge end of the broiler. Clean daily using soap and water.

12. Remove the GREASE COLLECTION BOX and clean daily using soap and water.

13. Clean the frame and other parts of the broiler once a week or as necessary.

CONDENSED CLEANING INSTRUCTIONS

DAILY CLEANING

Clear broiler of all food product before shutting down to clean. Allow broiler to cool before handling parts.

1. SHEET METAL PARTS. Remove all trays, drip pans, stripper blades, reflectors, and side panels. Wash with water and an approved multi-use detergent.

2. SHAFTS. Clean the drive shafts with the special tool provided.

WEEKLY CLEANING

1. Clean the frame of the broiler as necessary to remove grease build up.

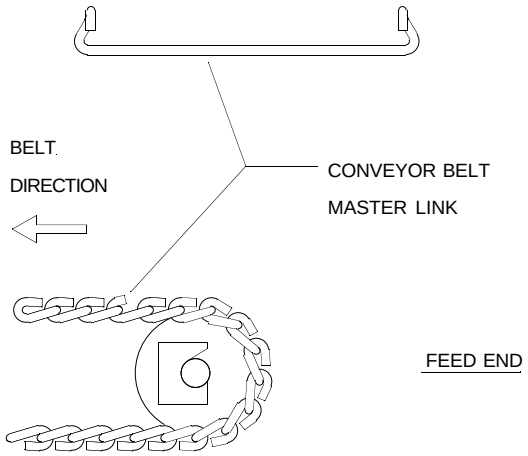
MAINTENANCE

The 815E has very few regular maintenance items. With proper care the broiler will provide many years of reliable service.

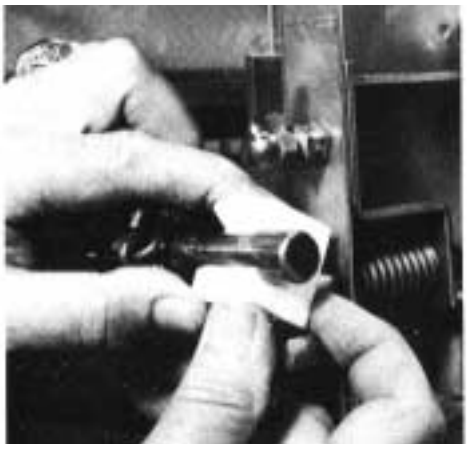
- Handle sheet metal parts carefully to avoid dents and breakage.
- Salts and marinades can corrode the belts and reflectors. If possible, salt food after removing it from the broiler.
- If you have to replace any of the elements, make sure you order elements that are rated the same as the element you are replacing. The element rating is stamped on the element.
- The motors contain carbon brushes which will eventually need to be replaced. If you notice that your motor is running loud, occasionally tripping the breaker switch, or causing the conveyor to move erratically, replace the motor brushes. Contact your Nieco Authorized Distributor, or Nieco for replacement instructions.

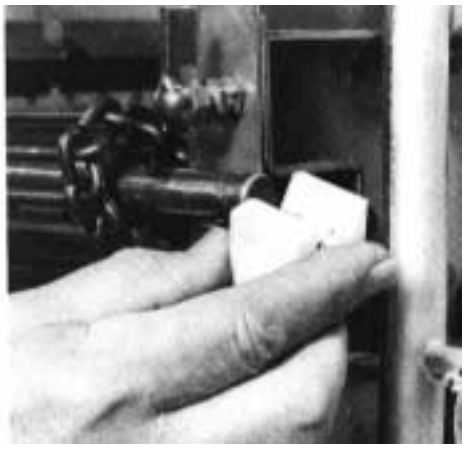
G. CONVEYOR BELT REMOVAL

1. Run the conveyor belt until the master link is located near the drive shaft. (The master link has a shorter knuckle, to allow it to be uncoupled easily.)

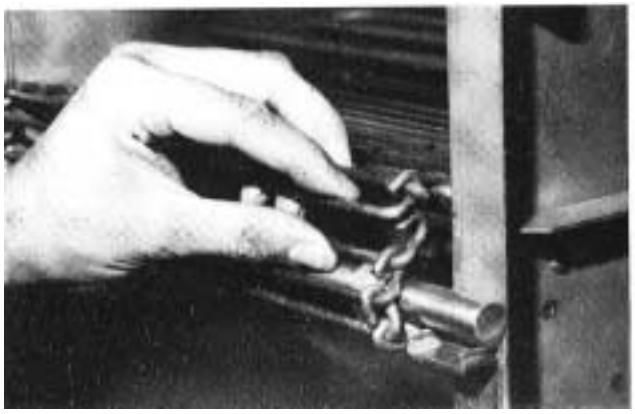


2. Lift the shaft up and slide the teflon bearing block out.





3. Unhook the belt at the master link.

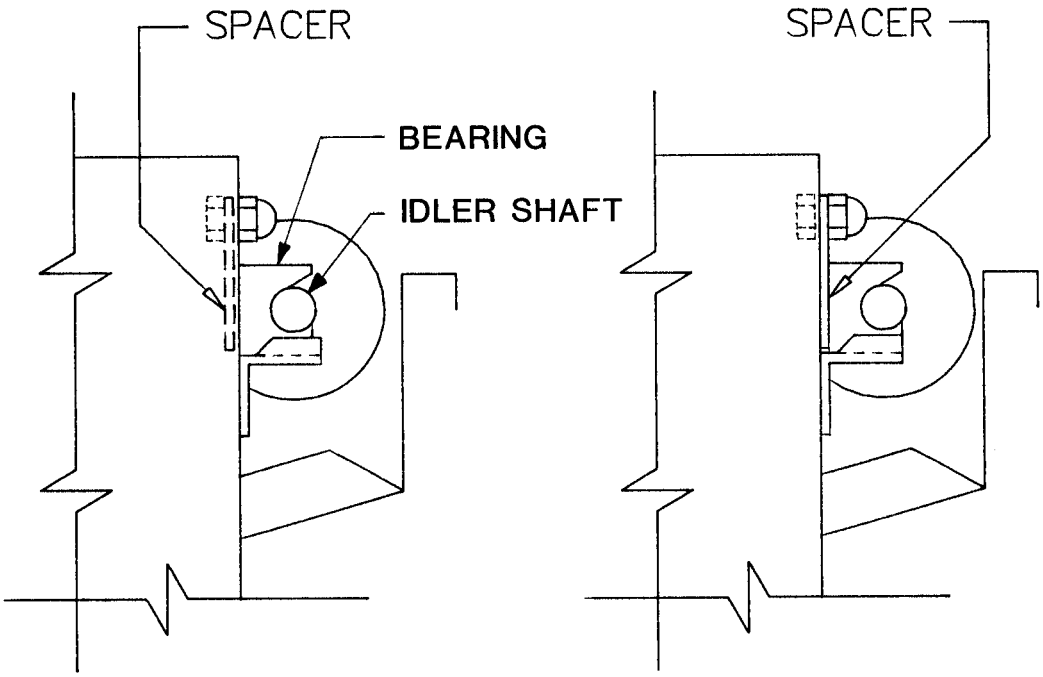


H. CONVEYOR BELT TENSION

Maintain proper tension on the conveyor belts to prevent jamming. Bearing spacers (pictured below) are supplied with the broiler to make minor tension adjustments. Major tension adjustments are made by removing a link or links from the belt.

Belt tension should be checked monthly. To do this allow the broiler to cool then grip the shaft at each end and pull out on it. If the shaft and bearings pull out more than 3/16” than the spacers should be placed behind the bearings to tighten the belts. If the spacers are already behind the bearings, return them to the stored position and remove a link from each belt.

The drawing on the left shows the spacer in the stored position, and the drawing on the right shows the spacers in use. **Always put both spacers on, or remove links equally from all the belts.**



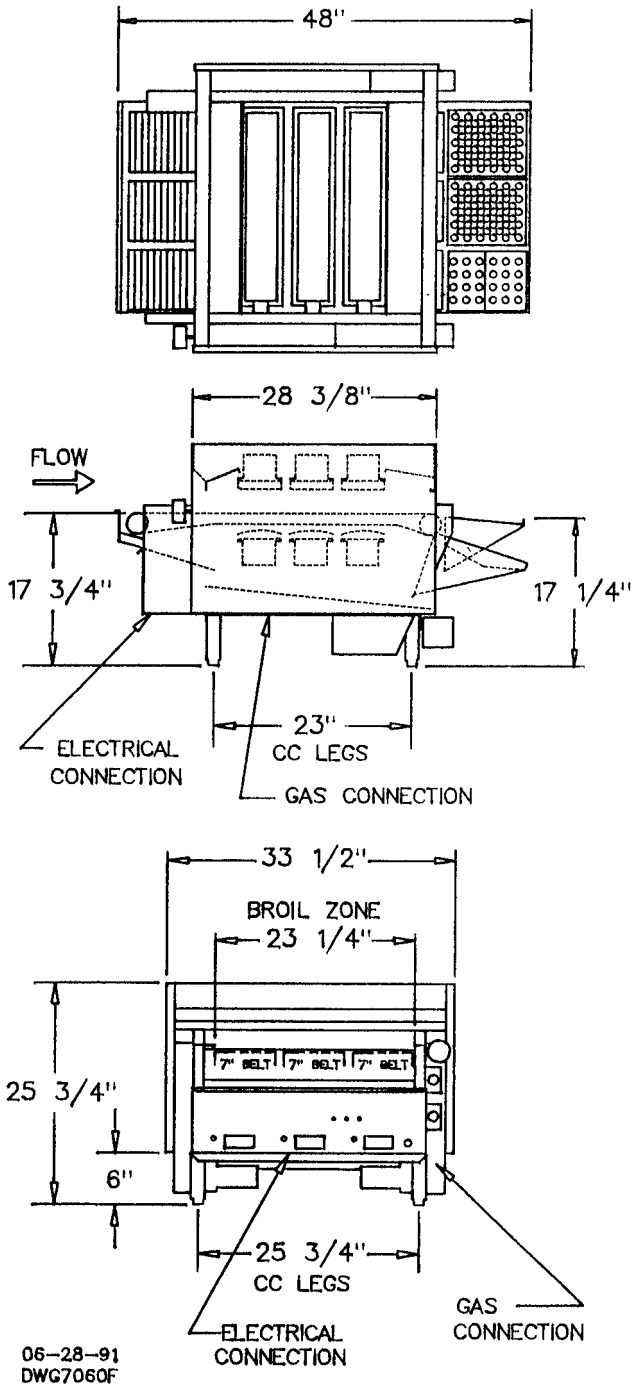
I. TROUBLE SHOOTING GUIDE

Identify the problem in the left column, and look for probable causes and solutions in the right hand columns. Probable causes are listed in “most likely to happen” order. This sequence should be used to isolate the problem. Once the cause is found, refer to OPERATION and PARTS AND LOCATION sections for explanation of function or repair part needed. Wiring diagram is located inside electrical control box cover.

PROBLEM	PROBABLE CAUSE	SOLUTION
1. All elements go out or fail to heat up.	1. Unit not plugged in properly. 2. Breaker switch on wall panel tripped. 3. Broiler circuit breaker tripped. 4. Broiler on/off switch defective. 5. Main contactor not closing. 6. Main contactor not staying closed. 7. Fuse Blown.	1. Plug in properly. 2. Reset circuit breaker. 3. Reset circuit breaker. 4. Replace. 5. Replace contactor coil. 6. Replace on/off switch and check for loose wires. 7. Replace.
2. Some elements are on, but others refuse to heat.	1. Defective element. 2. Circuit breaker tripped. 3. Loose or broken wire.	1. Replace. 2. Reset. 3. Check all wires. Tighten or replace.
3. Elements appear hotter or colder than usual.	1. Supply voltage is different than the element ratings.	1. Correct supply voltage or install elements that are rated for the supply voltage.
4. Conveyor belts won’t advance.	1. Conveyor belt jammed. 2. Machine not plugged in properly. 3. Wall circuit breaker tripped. 4. Motor control switch off. 5. Motor speed dial turned to zero. 6. SCR unplugged or defective. 7. Drive chain broken. 8. Drive sprocket loose. 9. Gear motor defective. 10. Speed pot defective. 11. Loose or broken wire. 12. Motor unplugged. 13. Fuse Blown.	1. Remove jam. Reset motor switch. 2. Plug in properly. 3. Reset circuit breaker. 4. Turn on. 5. Increase setting. 6. Plug in or replace. 7. Repair or replace. 8 Tighten set screw on the sprocket. 9. Replace. 10. Replace. 11. Check all wires. Tighten or replace. 12. Plug in. Check for grease or dirt in the socket. 13. Replace.
5. Motor control switch trips.	1. Conveyor chains jammed. 2. SCR defective. 3. Motor brushes worn out. 4. Drive chain binding. 5. Shorted wire to motor. 6. Motor defective. 7. Switch defective.	1. Remove jam. Reset motor switch. 2. Replace. 3. Replace. 4. Adjust chain tension. Lubricate. 5. Repair wire. 6. Replace. 7. Replace.
6. Conveyor speeds are erratic.	1. Digital Speed Controller defective. 2. Drive chain binding. 3. Gear motor defective. 4. Loose drive sprockets.	1. Replace. 2. Adjust chain tension. Lubricate. 3. Replace. 4. Tighten set screws on sprocket.
7. Broiled product over or under cooked.	1. Wrong conveyor belt speed. 2. Incorrect elements installed.	1. Adjust motor speed. 2. Match the voltage rating of the elements to the supply voltage.

PROBLEM	PROBABLE CAUSE	SOLUTION
8. Broiled product sticks to conveyor belt.	1. Stripper blades not adjusted or installed properly. 2. Product under broiled. 3. Elements too cool. 4. Heat reflectors not installed or installed improperly.	1. Adjust or install properly. 2. Decrease motor speed. 3. Check elements. 4. Refer to Parts & Location section for proper placement of reflectors.
9. Inconsistent broil.	1. Conveyor speed erratic. 2. Incoming product temperature erratic. 3. Air condition vent blowing on broiler. 4. Erratic voltage supply. 5. Supply voltage incorrect.	1. See #7 above. 2. Check freezers for proper operation. 3. Redirect air away from broiler. 4. Check supply. Contact electric company if there are problems. 5. Match the supply voltage with the element ratings.
10. Broiler frame or parts warping.	1. Elements too hot.	1. Match supply voltage to element rating plate on the broiler.

J. SPECIFICATIONS



REQUIREMENTS

ENERGY - ELECTRIC MODELS

Electrical Connection

208/120V 3Ø 50/60 Hz 56A
240/120V 3Ø 50/60 Hz 49A

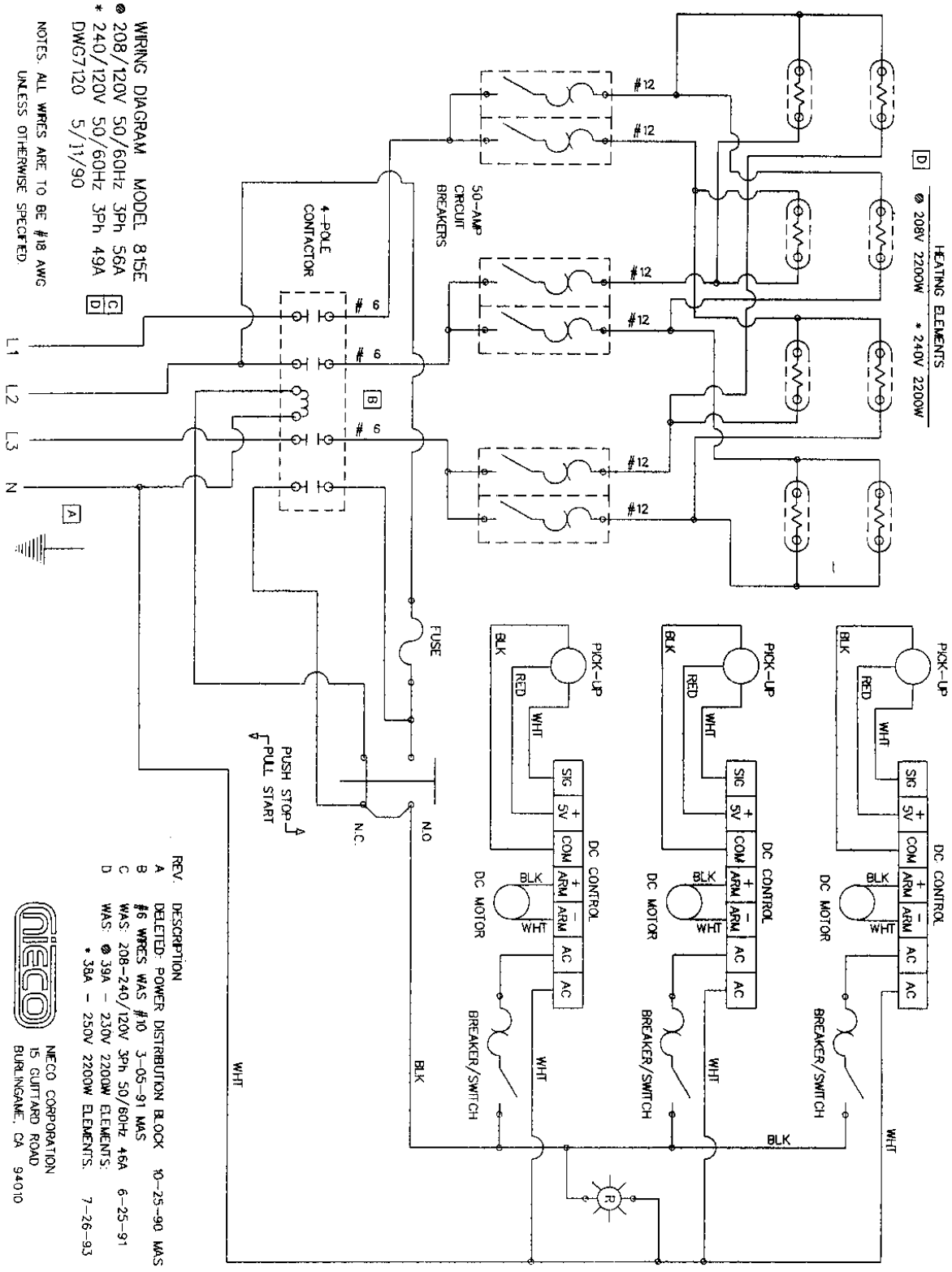
Avg. KW/Hr Consumption 11.7

WEIGHT	**LB.**	**KG.**
Approximate	365	166

EXHAUST	**CFM**	**CMH**
Typical	600	1020

DIMENSIONS	**INCHES**	**MM**
Height	25 3/4”	654
Width	33 1/2”	850
Length	48”	1219

K. WIRING DIAGRAM



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