

○ BLUE SEAL

**○ BLUE SEAL**

**E51 E50 E56 ELECTRIC RANGE  
AND COOK TOP**

○ BLUE SEAL

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# BLUE SEAL ELECTRIC HOBS & RANGES

- E51 ELECTRIC BOILING TABLES
- E50 ELECTRIC RANGES
- E56 ELECTRIC CONVECTION RANGES

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Date Purchased..... Serial No.....

Dealer.....

Service Agent.....



# SPECIFICATION

## RANGES INCLUDED IN THIS SPECIFICATION:

<b>E51-4D</b>	4 radiant elements, Boiling table
<b>E51-4C</b>	2 radiant elements plus 300mm griddle, Boiling Table
<b>E51-4B</b>	600mm griddle, Boiling Table'
<b>E51-6D</b>	6 radiant elements, Boiling table
<b>E51-6C</b>	4 radiant elements plus 300mm griddle, Boiling Table
<b>E51-6B</b>	2 radiant elements plus 600mm griddle, Boiling Table
<b>E51-6A</b>	900mm griddle, Boiling table
<b>E50-D</b>	6 radiant elements plus static oven
<b>E50-C</b>	4 radiant elements plus 300mm griddle plus static oven
<b>E50-B</b>	2 radiant elements plus 600mm griddle plus static oven
<b>E50-A</b>	900mm griddle plus static oven
<b>E56-D</b>	6 radiant elements plus convection oven
<b>E56-C</b>	4 radiant elements plus 300mm griddle plus convection oven
<b>E56-B</b>	2 radiant elements plus 600mm griddle plus convection oven
<b>E56-A</b>	900mm griddle plus convection oven

## OVERALL DIMENSIONS

	<b>E51-4</b>	<b>E51-6</b>	<b>E50-56</b>
Height to Hob	915mm	915mm	915mm
Height to Splashback	1065mm	1065mm	1065mm
Width	600mm	900mm	900mm
Depth	812mm	812mm	812mm

## OVEN INTERNAL DIMENSIONS

	<b>E50/56</b>
Height	430mm
Width	665mm
Depth	660mm

<b>ELEMENT</b>	<b>KW</b>
Hob Radiant Elements	2.4
Hob Solid Elements	2.0
Hob Griddle Elements	3.6
Oven Top Element E50	3.0
Oven Top Element E56	1.75
Oven Bottom Element	4.5

# INSTALLATION

It is most important that the unit is installed correctly and that the operation is correct before use. Installation must comply with national electrical installation codes and local Health and Safety regulations.

**IMPORTANT - FIXED WIRING INSTALLATIONS MUST INCORPORATE AN ALL-POLE DISCONNECTION SWITCH.**

## A. BEFORE CONNECTION TO POWER SUPPLY

Unpack and check unit for damage and report any damage to the carrier and supplier. Report any deficiencies to your supplier.

Check that the available Power Supply is suitable. A rating plate adjacent to the control panel shows the electrical requirements.

## B. LEG ASSEMBLY

Lift the unit and fit the roller-legs to the rear of the unit, and the non roller legs to the front of the unit. Secure loosely with one bolt (supplied) each.

**E51 models only:** Fit the leg tray. Align the holes in the corners of the tray with the threaded holes in the legs (approximately 150mm from floor) and secure with four ¼" screws (supplied).

Tighten all bolts securing the legs.

Use a spirit level to ensure the unit is level from side to side and front to back.

## C. CABLE REQUIRED

When connecting a BLUE SEAL electric appliance to the main supply, ensure the following:

- \* An isolating switch is nearby and accessible
- \* Supply wires are the correct size for the current drawn.
- \* The fuse(s) on the wall are the correct current rating.
- \* A grommet is fitted around the wiring entry holes into the appliance.
- \* Wiring connection must be tight.

Below is a table indicating the size of cable that is to be supplied to an appliance for the current drawn on that line.

Wire Area (mm <sup>2</sup> )	Single Phase Two Cables Current (Amps, I)	3 Phase Four Cables Current (Amps, I)
1.0	14	12
1.5	17	14
2.5	24	21
4.0	32	29
6.0	41	37
10.0	55	51
16.0	74	-

# INSTALLATION

Using the V P I triangle, total the loads on the one circuit (P) and divide by the supply voltage (V) to determine the current (I) drawn. Look up the current drawn and install the corresponding wire.

Example:

One Line:  $3300W + (2 \times 40W) + 180W + 5W = 3645 \text{ Watts}$   
                  Elements 2 lights    Motor    Buzzer

$\frac{3645}{240V} = 15.19 \text{ Amps}$

240V

Therefore sizing up, use 1.5mm<sup>2</sup> wire.

## D. CONNECTION

Connection to power supply must be carried out by a Registered Electrician.

Undo the screw(s) at the top of the control panel and lower the panel downward.

**E51 Models** - Bring the power supply cable through the channel under the base panel.

**All other Models** - Undo the screw at the right hand side of the control panel cover and swing the cover to the left. Bring the power supply cable through the entry hold in the base of the range and connect the conductors to the terminal block. (Leave sufficient length of cable to enable the range to be moved for service, cleaning etc).

Check wiring and refit control panel (Wiring Schematics Pages 12-17).

### **WARNING - THIS APPLIANCE MUST BE EARTHED**

**If supply cord is damaged, it must be replaced by a suitably qualified person in order to avoid a hazard.**

## E. INSTALLATION

Clean the equipment and switch the range on to check operation of all controls, lights, elements and hot plates. If any fault is found, contact your supplier.

This appliance must be installed with a minimum clearance of 25mm at rear and 50mm at sides from combustible surfaces.

Where this appliance is to be positioned in close proximity to a wall, partitions, kitchen furniture, decorative finishes etc, it is recommended that they be made of non-combustible material. If not, they shall be clad with a suitable non-combustible heat-insulating material, and that the closest attention be paid to fire prevention regulations.

## F. BEFORE USE

Operate the oven for about one hour to remove any fumes or odours which may be present.

**Note:** This unit is to be installed on legs with adequate ventilation underneath.

# OPERATING INSTRUCTIONS

## A. RADIANT HOTPLATES

The controls for the radiant hotplates may be set at any position between high and low to provide the desired level of heating. An individual pilot light for each element will glow when the element cycles on and extinguish when the element cycles off.

Start cooking at the highest setting, and change to a lower setting when the desired temperature is reached.

For maximum speed and economy, it is most important that cooking utensils should cover the hotplate completely, and have perfectly flat bases. Any part of the hotplate which glows bright red is not making effective contact with the base of the utensil, and this decreases the life and efficiency of the hotplate.

Utensils which are significantly larger than the hot plate may also reduce hotplate life and efficiency.

## B. GRIDDLE PLATE

Turn the thermostat control to the desired temperature. When the pilot light goes out, the desired temperature has been reached and the griddle is ready for use.

Turning the control to a higher setting than required **will not** shorten the heat up time.

## C. STATIC OVEN (E50 SERIES)

The oven is fitted with top and bottom elements. The thermostat maintains the oven temperature by controlling both elements. The top element is further controlled by an energy regulator.

Place oven racks in desired position.

1. **PREHEAT** the oven by selecting the desired temperature, and turning the top element control to maximum of 2. When the desired temperature is reached, the pilot lights will go out.
2. **COOKING** - When the desired temperature has been reached, turn the top element control OFF.
3. **TOP HEAT** - To obtain more top heat during cooking, turn the top element control on. (The higher the setting, the more top heat).
4. **FOR BROWNING** - Turn the top element control to maximum, and the oven temperature to a low setting (about 120°C) or just above the "light on" position if previously working at higher temperatures.

# OPERATING INSTRUCTIONS

## D. CONVECTION OVEN (E56 SERIES)

The oven is fitted with a fan, top and bottom elements. The thermostat maintains the oven temperature by controlling both element.

Place oven racks in the desired position.

1. **PREHEAT** the oven by selecting the desired temperature. When the desired temperature is reached, the pilot light will go out.
2. **COOKING** - When the desired temperature has been reached, proceed cooking.

# CLEANING

**CAUTION: ALWAYS TURN THE POWER SUPPLY OFF AT THE WALL SWITCH BEFORE CLEANING**

**THIS UNIT IS NOT WATER PROOF.**

**DO NOT USE WATER JET SPRAY TO CLEAN INTERIOR OR EXTERIOR OF THIS UNIT.**

## **A. RADIANT HOTPLATES**

Wipe the surface while still warm to remove spill-overs, grease etc. before they harden. As soon as hotplates have cooled, wipe all over with a damp cloth. Raise the side of the hotplate module and withdraw, clean and dry the spill-over dish.

## **B. GRIDDLE PLATE**

Use warm water and cleaning abrasive regularly. Wash thoroughly to remove all traces of cleaning agents. A fine grit griddle brick may be preferred. Occasionally the griddle plate may be bleached with vinegar (when cold).

The large drip tray under the hob should be removed and cleaned regularly to prevent the build up of spill-overs.

## **C. EXTERIOR**

Clean with detergent. Baked on deposits or discolouration may require a good quality stainless steel cleaner or stainless steel wool. Always apply cleaner when the range is cool and rub in the direction of the "grain".

## **D. OVEN INTERIOR**

Do not use wire brushed, steel wool or other abrasive materials. Clean the oven regularly with a good quality domestic oven cleaner. Once a week, remove and clean built up grease, etc from the oven racks and bottom spill-over cover.

## **E. MAINTENANCE**

To achieve the best results, cleaning must be regular and thorough and all control, wiring and mechanical parts checked and adjusted periodically by a competent serviceman. If any small faults occur, have them attended to promptly. Do not wait until they cause complete breakdown.

**REMEMBER:** The power supply must be OFF during cleaning or maintenance.

# SERVICING INSTRUCTIONS

## **ENSURE POWER SUPPLY IS SWITCHED OFF BEFORE SERVICING.**

All servicing should be carried out by a competent electrical appliance serviceman with experience of commercial cooking equipment.

### **A. CONTROL PANEL**

Undo the screw(s) at the top of the control panel and swing the panel down.

FUSES are now accessible.

#### **E50, E56 Series**

Undo the screw at the right hand side of the control panel cover and swing the cover to the left. When refitting, ensure that the right hand side of the control panel fits over the outside of the stainless steel side panel of the range.

### **B. OVEN THERMOSTAT**

The purpose of the thermostat is to switch the fan and oven elements on and off, to maintain the selected temperature. There are several factors which can cause uneven or incorrect oven temperatures, and these should be checked before calibrating a thermostat:

- \* The oven door must be shut and sealed correctly.
- \* The oven must be level (side to side and front to back).
- \* The oven vent must not be restricted.
- \* The oven elements must be working correctly and drawing the correct current (see next page).
- \* The thermostat capillary should have no sharp bends and the bulb must be straight and correctly positioned in its locating brackets.

### **C. TO CHECK CALIBRATION**

Place an accurate thermometer or thermocouple in the centre of the oven.

Select a medium temperature, e.g 180°C. (For E50 models, leave the top element OFF). Allow time for the temperature to stabilise and note the maximum and minimum temperatures during a cycle. The average of these two readings should be 180°C (a variation of plus or minus 15°C is acceptable). If beyond this, replace the thermostat.

### **D. OVEN ELEMENTS**

- \* Remove all the screws holding the elements to the oven liner.
- \* Withdraw the element until the terminals are accessible.
- \* Disconnect wiring from the terminals and withdraw the element.

E50 Top Element - 3kW at 240V = 12.5A 19 ohms

E56 Top Element - 1.75kW at 240V = 7.3A 33 ohms

Bottom Elements - 4.5kW at 240V = 18.8A 2 x 25.6 ohms

# SERVICING INSTRUCTIONS

## **E. RADIANT AND SOLID ELEMENTS**

Tilt element sideways and remove spillage tray.

Lift front of element, pull forward approximately 30mm and turn on edge.

Remove terminal cover plate and disconnect wiring.

Radiant Element 2.4kW at 240V = 10A 24 ohms

Solid Elements 2.0kW at 240V = 8.3A 29 ohms

## **F. ENERGY REGULATORS**

These should be checked for positive OFF and MAXIMUM positions and for correct cycling throughout the control range.

## **G. GRIDDLE**

Access to element and thermostat capillary

- \* Lift up front edge of griddle plate.
- \* Undo the four nuts and remove the cover panel underneath.
- \* Remove the clamp plates and insulation.
- \* Bend back the tabs to withdraw the capillary bulb or disconnect wires to remove element.
- \* Griddle Plate Element 3.6kW at 240V = 15A 16 ohms

To remove thermostat after capillary withdrawn.

- \* Disconnect wiring.
- \* Remove from control panel.

# PROBLEM SOLVING

## A. FAILURE OF INDIVIDUAL ITEMS, e.g one element

**Note: Switch off power supply or remove wall fuses for these tests.**

Check individual fuses located behind control panel.

Check for an electrical short by checking there is NO continuity between any "phase in" line and the metal appliance body itself.

Check for the item failing (element, control etc) by using a multimeter as shown on following pages.

Ensure correct size supply wire as described on Page 2.

## B. COMPLETE POWER FAILURE TO THE APPLIANCE

- \* Check fuse **connection** at the wall.
- \* Ensure fuse **size** is correct to carry the load.
- \* Check for an electrical short to the appliance.
- \* Ensure correct size supply wire as described on Page 2.

## C. FAN FAILS TO OPERATE WHEN DOOR SHUT (E56)

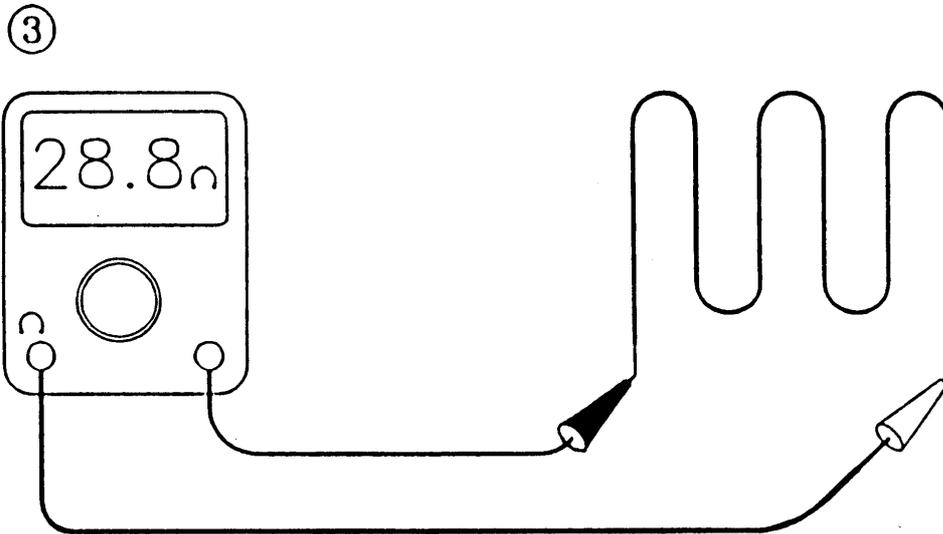
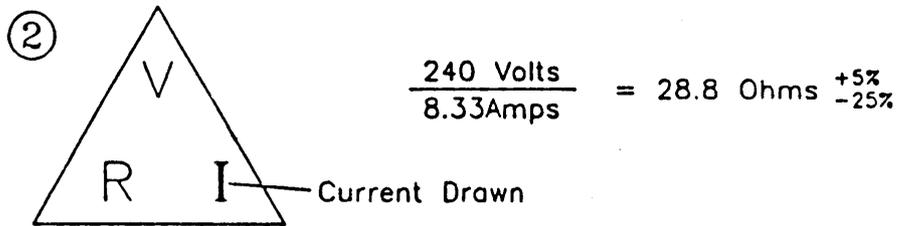
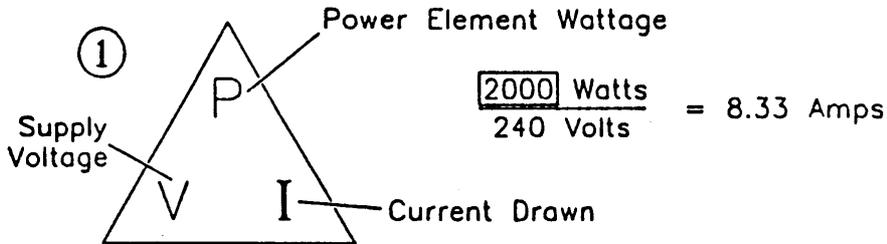
Door microswitch requires adjustment.

Check continuity by pushing the lever in/out on the microswitch to ensure power is going to the motor.

Motor failed and will therefore require replacing.

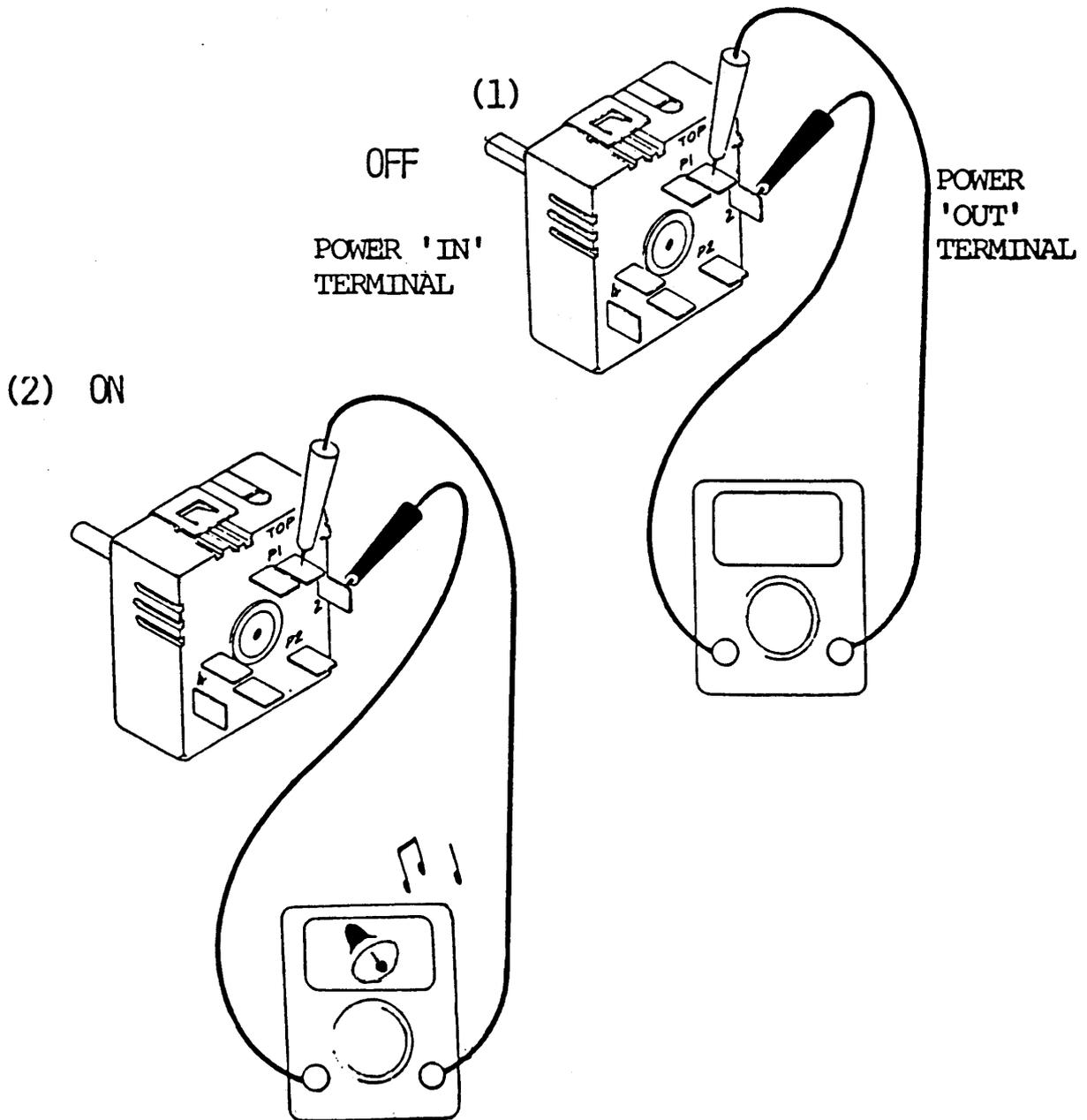
# RESISTANCE TEST

To check if an element is still functioning correctly, disconnect appliance from the mains supply, disconnect wires from the element and check the resistance (ohms) across the element when cold. Follow Steps 1, 2, 3 below to calculate the correct resistance (OHMS LAW).

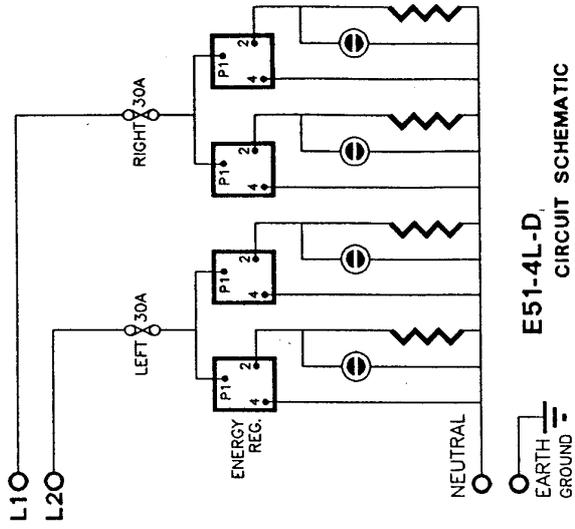


# CONTINUITY TEST

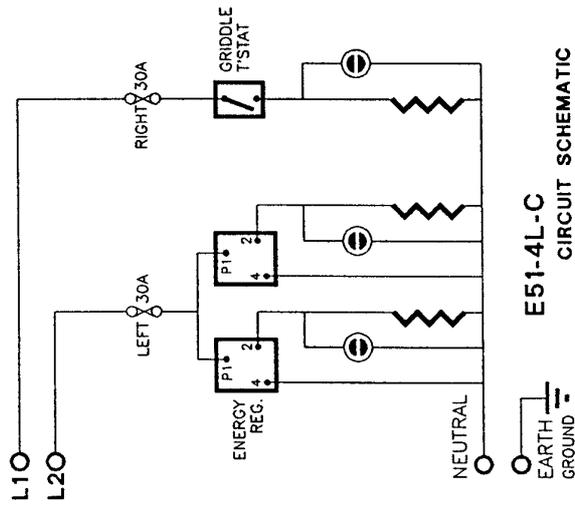
To check if an Energy Regulator, Thermostat or Switch is functioning correctly, disconnect appliance from the mains supply, disconnect wires from the control and check for continuity.



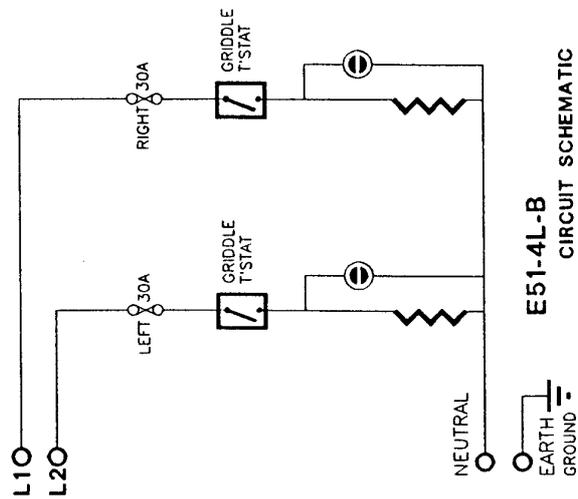
# CIRCUIT SCHEMATICS



**E51-4L-D**  
CIRCUIT SCHEMATIC

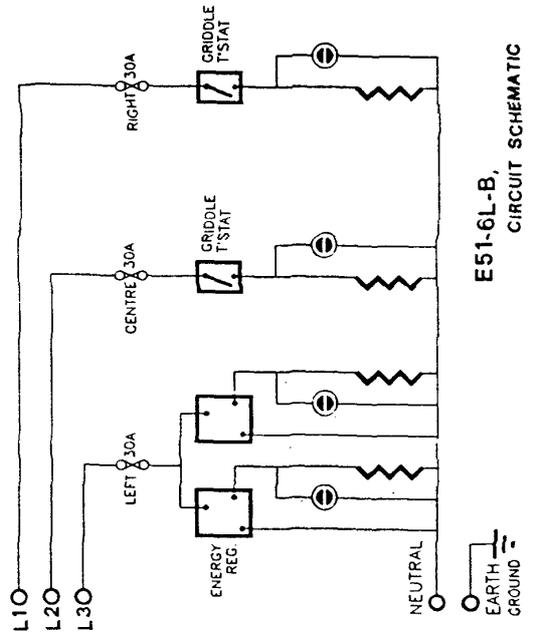
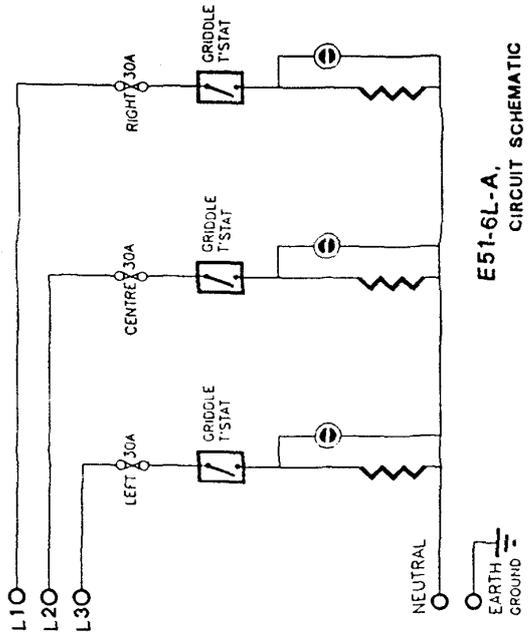
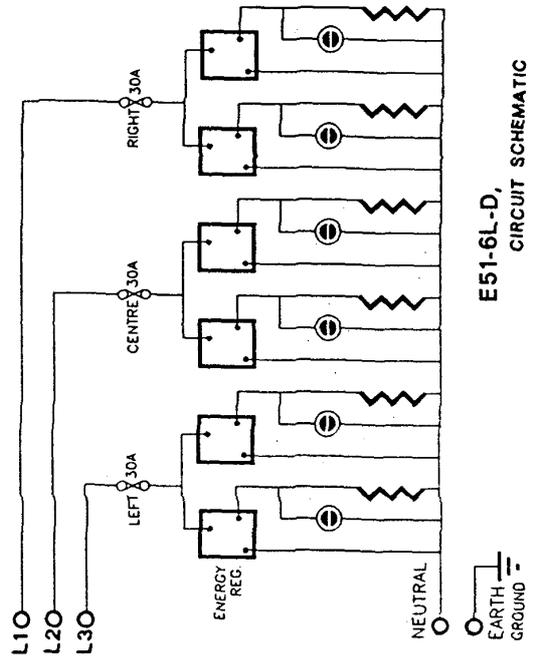
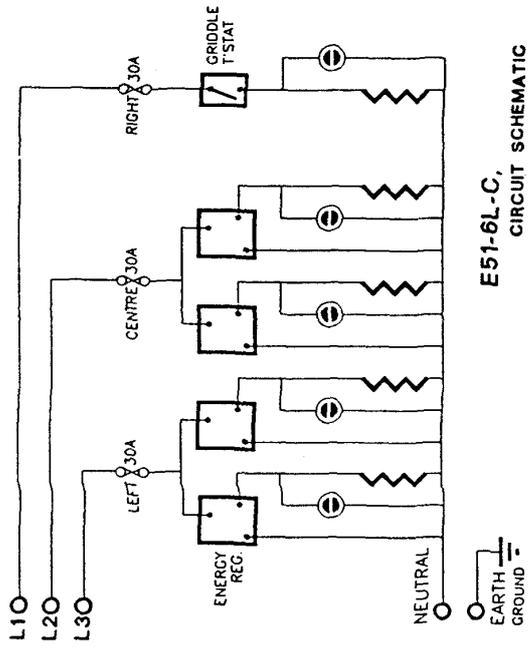


**E51-4L-C**  
CIRCUIT SCHEMATIC

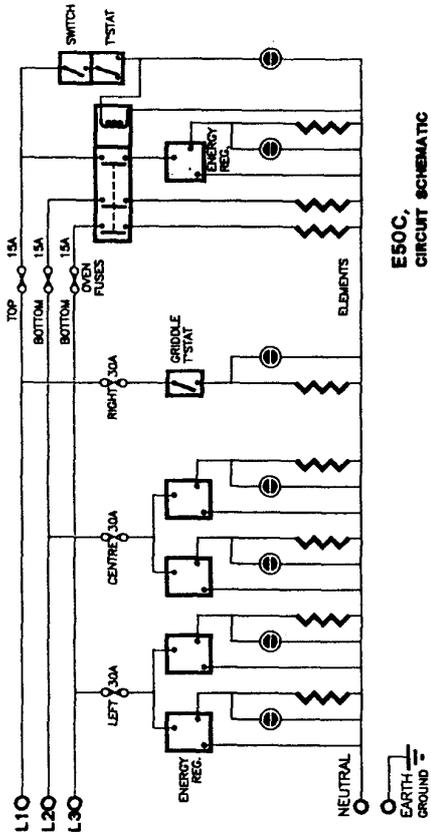


**E51-4L-B**  
CIRCUIT SCHEMATIC

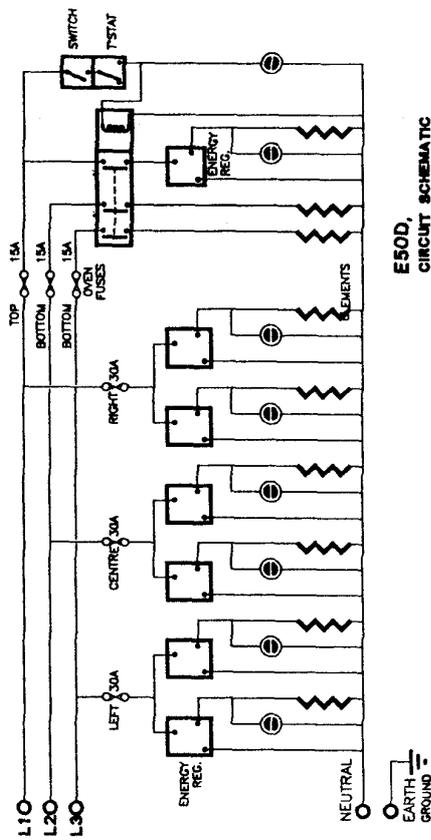
# CIRCUIT SCHEMATICS



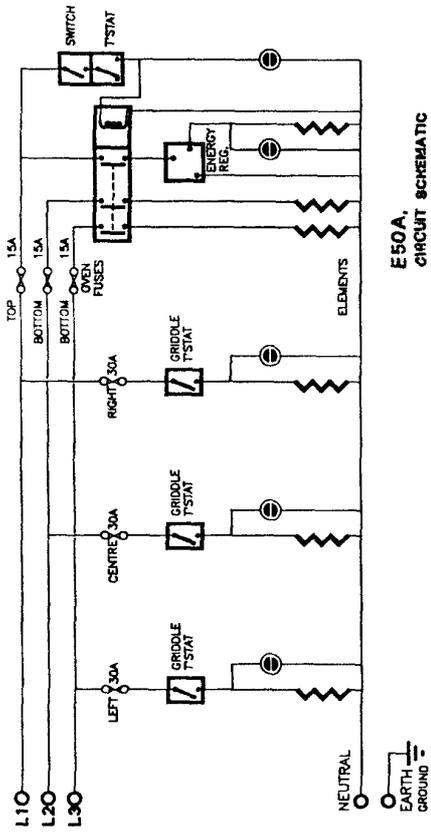
# CIRCUIT SCHEMATICS



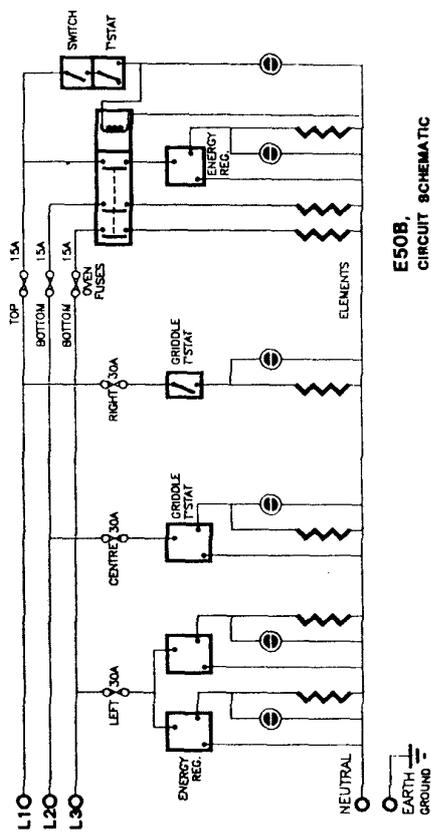
**E50C,  
CIRCUIT SCHEMATIC**



**E50D,  
CIRCUIT SCHEMATIC**

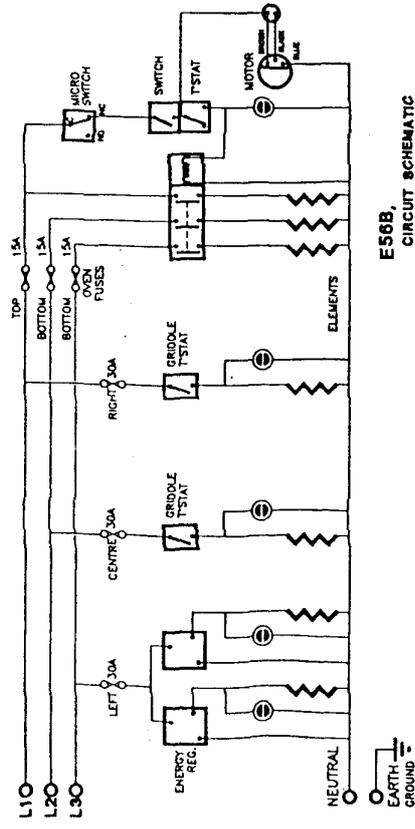
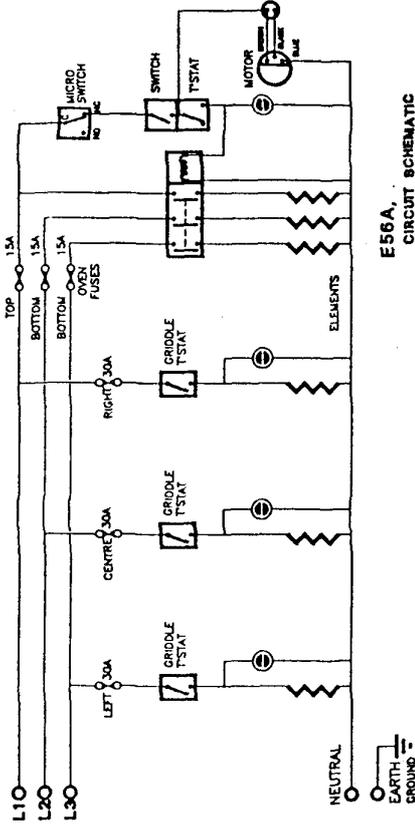
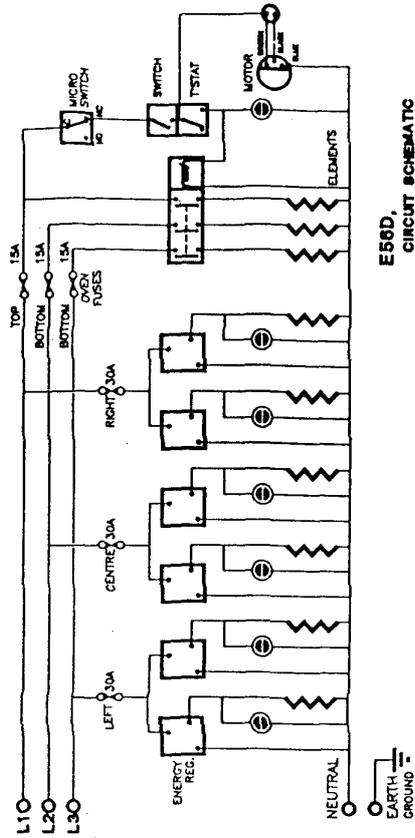
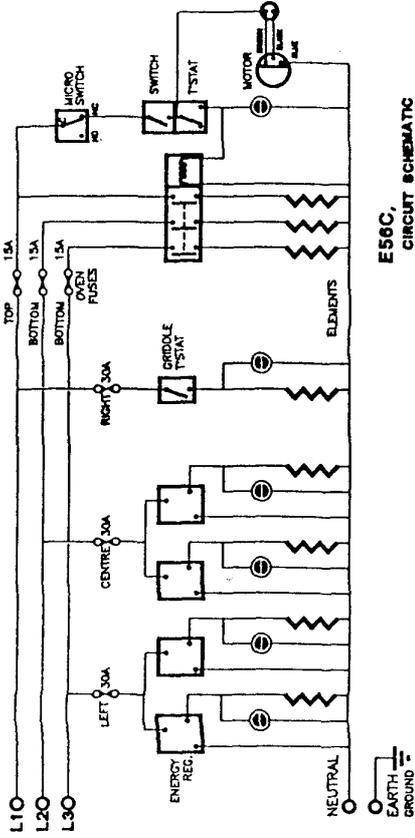


**E50A,  
CIRCUIT SCHEMATIC**



**E50B,  
CIRCUIT SCHEMATIC**

# CIRCUIT SCHEMATICS



# SPARE PARTS

## BLUE SEAL E50/51/56 SERIES

<b>Part No</b>	<b>Description</b>
011654	Oven Top Element 1.75kW (E56)
010419	Oven Top Element 3kW (E50)
015710	Oven Bottom Element 4.5kW
010137	Radiant Surface Element 2.4kW
013600	Cast Surface Element 2.0kW
010422	Griddle Element 3.6kW
015533K	Griddle Thermostat Kit
011987	Thermostat (Static and Convection Ovens)
015966	Contactora
015500	Energy Regulator
013528	Neon Pilot Light
010909	Capacitor
019479	Motor
010866	Cooling Disc
010856	Fan
004094	Fan Extractor
017928	Microswitch



