

This information refers to the following products

Rayburn 460KB

Rayburn 480KB

Rayburn 499KB

Mk 2 models

(1996 - 1997)

Please note that some original pages may not appear in original numerical order, but have been rearranged for clarity or deleted if not appropriate.

WARNING

This information is a copy of an original archive, therefore Aga cannot be held responsible for its continued accuracy or relevance.

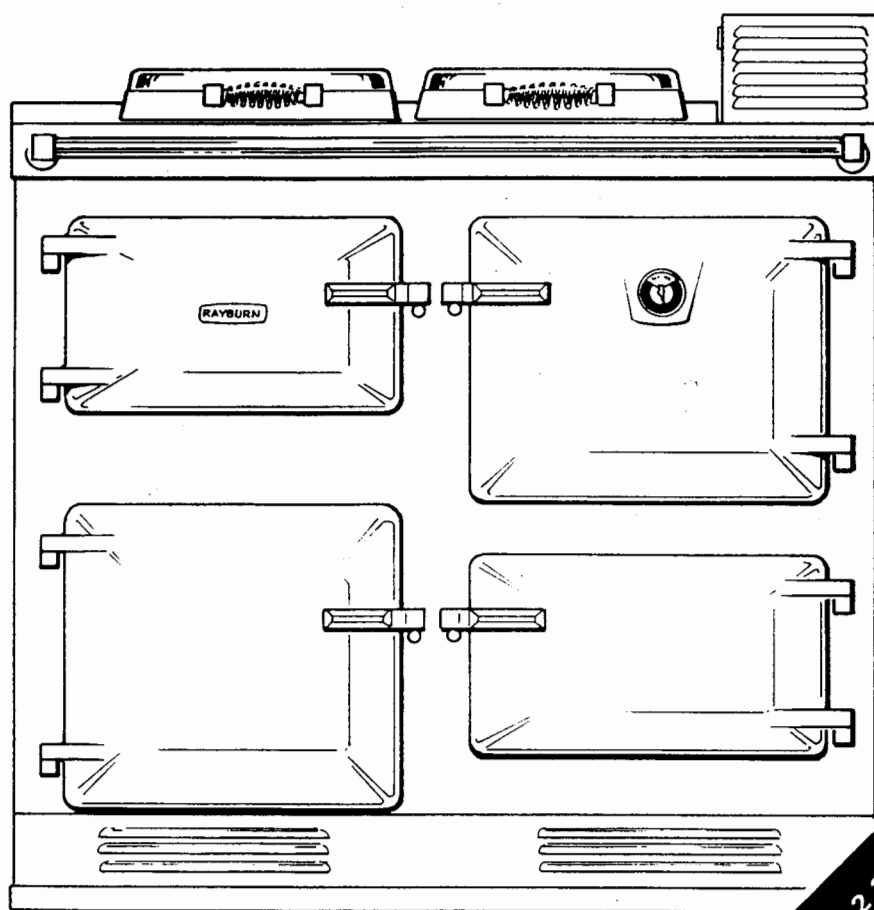


Home on the Range.

460/480/499KB

Servicing Instructions

For use in GB and IE



DESN 511262

**PAT. APP 2 280 747
AND OTHER GB & IE
PATENTS PENDING**

PLEASE READ THESE INSTRUCTIONS BEFORE SERVICING THIS APPLIANCE

Consumer Protection

As manufacturers and suppliers of cooking and heating products. We take every care to ensure, as far as is reasonably practical, that these products are so designed and constructed as to meet the general safety requirement when properly used and installed. To this end, our products are thoroughly tested and examined before despatch.

IMPORTANT NOTICE: Any alteration that is not approved by Aga-Rayburn could invalidate the approval of the appliance, operation of the warranty and could affect your statutory rights.

Health & Safety

This appliance may contain some of the materials that are indicated. It is the Users/Installers responsibility to ensure that the necessary personal protective clothing is worn when handling where applicable, the pertinent parts that contain any of the listed materials that could be interpreted as being injurious to health and safety, see below for information.

Firebricks, Fuel beds, Artificial Fuels

When handling use disposable gloves.

Fire cement

When handling use disposable gloves.

Glues and Sealants

Exercise caution - if these are still in liquid form use face mask and disposable gloves.

Glass Yarn, Mineral Wool, Insulation Pads, Ceramic Fibre

May be harmful if inhaled. May be irritating to skin, eyes, nose and throat. When handling avoid contact with skin or eyes. Use disposable gloves, face-masks and eye protection. After handling wash hands and other exposed parts. When disposing of the product, reduce dust with water spray, ensure that parts are securely wrapped.

Kerosene & Gas Oil fuels (mineral oils)

1. The effect of mineral oils on the skin vary according to the duration of exposure.
2. The lighter fractions also remove the protective grease normally present on the surface of the skin. This renders the skin dry, liable to crack and more prone to damage caused by cuts and abrasions.
3. 'Oil acne' is recognised by the presence of skin rashes. The arms are most often affected, but may occur where there is contact with oil or oily clothing.
 - Seek medical attention for any rash.
 - Avoid skin contact with mineral oil or clothing contaminated with mineral oil.
4. Inhalation of mineral oil vapours must be avoided. Never fire the burner in the open as unburnt oil vapours are likely to occur.
5. Use a suitable barrier cream which will give protection against mineral oil, lanolin based hand creams are usually very effective.
6. Never syphon mineral oils by use of the mouth. If accidentally swallowed, call a doctor, do not induce vomiting.

INTRODUCTION

To ensure the best performance from your Rayburn it should be serviced once a year; preferably at the start of the heating season.

This appliance must be commissioned by a competent engineer, such as OFTEC approved or a commissioning engineer as shown on the Rayburn list.

Failure to install and maintain appliances correctly could lead to prosecution.

An additional flueway and combustion chamber clean halfway through the heating season may be necessary in some cases.

The Rayburn cannot be serviced whilst hot, so both oven and boiler thermostats should be turned off on the evening before the service visit.

SERVICE SCHEDULE

Annual Service

BURNER REMOVAL - for cleaning and inspection.

CLEANING - Boiler heat exchanger flueways, oven and hotplate flueways together with ceramic fibre burner chambers.

BURNER SERVICING.

OIL PUMP SERVICING - Cleaning of fuel line strainer.

RE-COMMISSIONING.

REPLACEMENT PARTS.

Additional Flueway Clean

It may be necessary in some installations to give the boiler flueways a clean out at the end of the heating season.

PREPARATION

WARNING: BEFORE REMOVING SERVICE ACCESS COVERS OR THE OIL BURNERS ENSURE THAT ALL ELECTRICAL SUPPLIES TO THE APPLIANCE HAVE BEEN ISOLATED

The burners can be removed without disconnecting the oil supply pipe. However if the filters are being cleaned or a pressure gauge fitted to the pump then the oil supply should be turned **OFF** and arrangements made to catch any oil which will leak from the oil pump.

BURNER ACCESS

SEE FIG. 1

1. Open up the bottom burner access door. Remove door and put in a safe place.
2. Remove the 4 inner panel securing screws and remove panel.
3. Remove the 3 plinth securing screws and remove plinth.

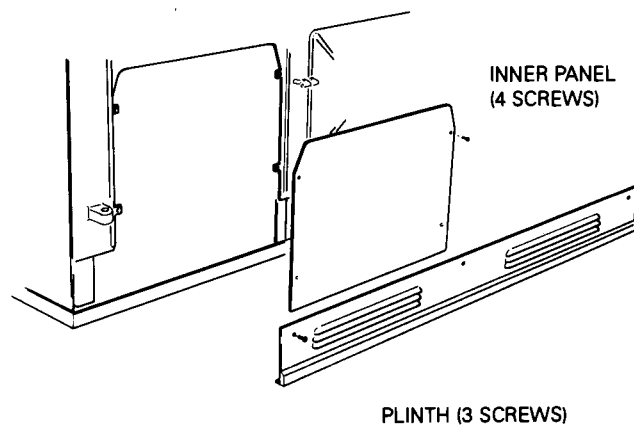


FIG. 1

DESN 510855

BURNER REMOVAL

IMPORTANT: DURING BURNER REMOVAL CARE MUST BE TAKEN NOT TO DAMAGE THE CERAMIC FIBRE INSULATION.

SEE FIG. 2

1. Place a sheet on the floor in front of the cooker to act as a working area
2. Disconnect the 5-pin plug underneath the burner.

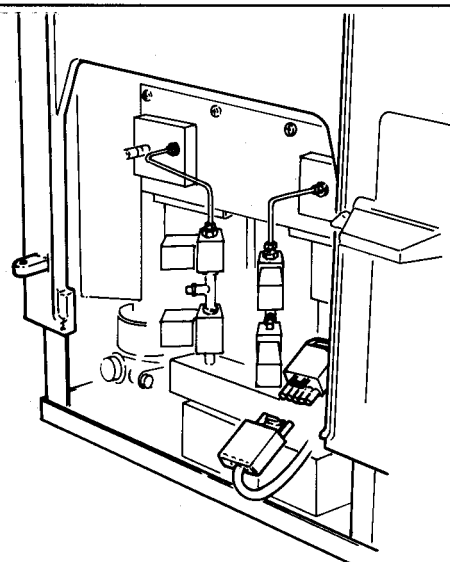


FIG. 2

DISCONNECT
5-PIN PLUG

DESN 511238

SEE FIG. 3

3. Undo the burner central locking nut.
4. Remove 2 fan mounting plate nuts.

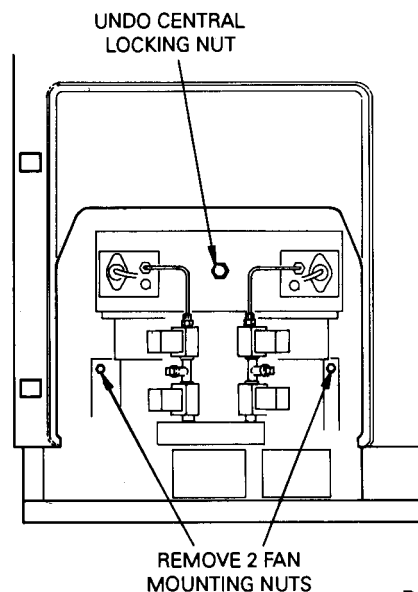


FIG. 3

DESN 511239

SEE FIG. 4

5. Withdraw the burner unit.

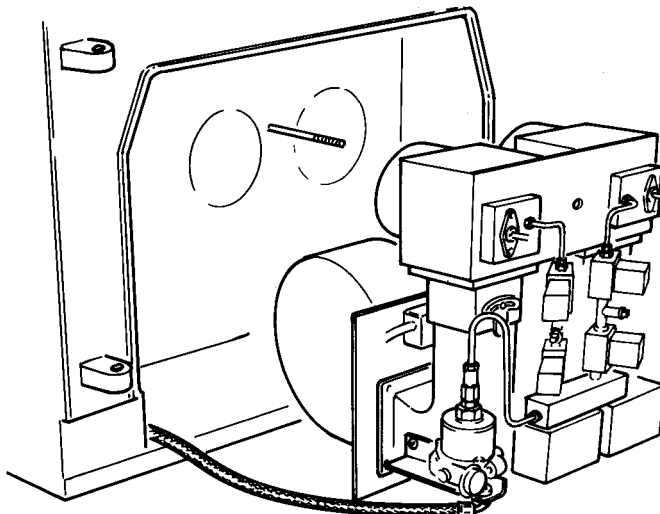


FIG. 4

WITHDRAW BURNER UNIT

DESN 511240

HEAT EXCHANGER CLEANING

IMPORTANT: DURING CLEANING CARE MUST BE TAKEN NOT TO DAMAGE THE CERAMIC FIBRE INSULATION.

SEE FIG. 5

1. Lift insulation covers and remove hotplate using lifting hooks provided.

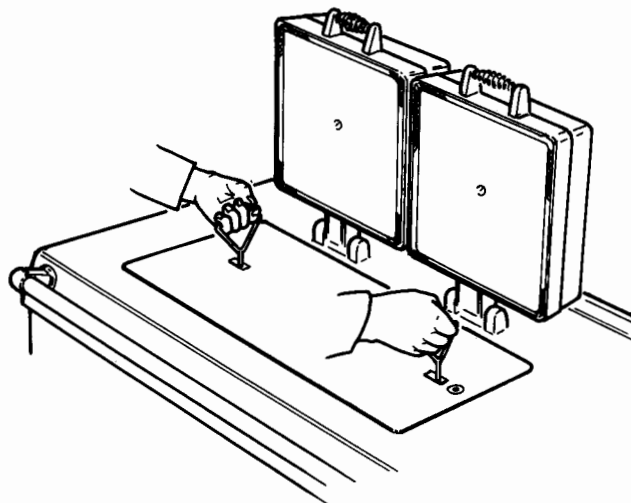


FIG. 5

DESN 510523

SEE FIG. 6

2. Remove the 4 flue cleaning access door securing bolts and remove door.
3. Using the rods provided remove the boiler flueway baffles from between the boiler cross waterways. Lift the front ones first and then pull the rear ones forward and then lift them out.

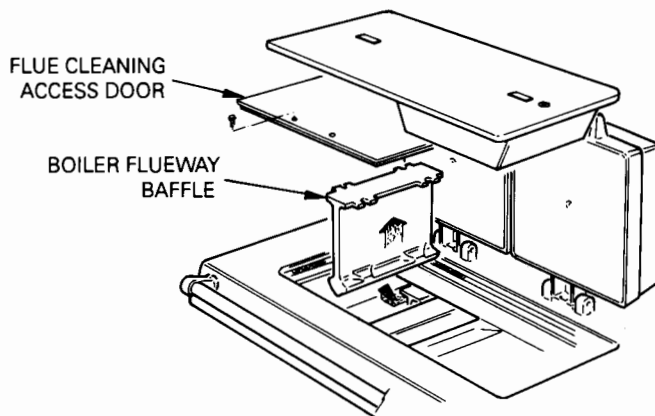


FIG. 6

DESN 511232 'A'

SEE FIG. 7

4. Lift top plate enamelled cover panel (behind the L.H. insulating cover) remove insulation pad A and sealing plate.
5. Clean the boiler outlet flueway by inserting the flexible brush through top plate aperture, directing it towards the flue outlet. Scrape the deposits towards the heat exchanger.
6. Thoroughly clean boiler heat exchanger flueway.
7. Carefully vacuum any debris that has fallen down into the burner chamber.
8. Clean and replace boiler flueway baffles in reverse order. Locate boiler flue access door, secure and replace insulation pad B.
9. Replace sealing plate, insulation pad A and cover panel.

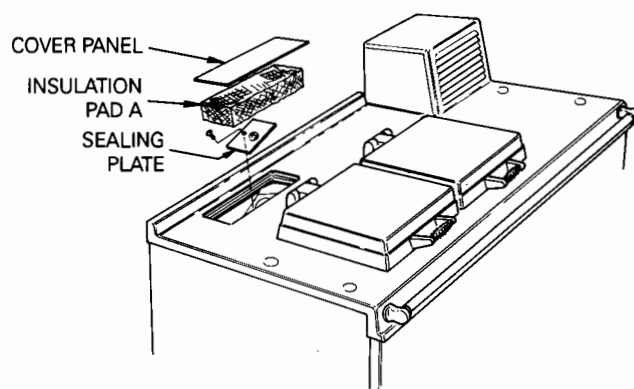


FIG. 7

DESN 511258

OVEN & HOTPLATE FLUEWAY CLEANING

SEE FIG. 8

1. Remove the top oven door and place in a safe position.
2. Remove side and base access doors using hex. driver.
3. Thoroughly clean top, side and base flueways through access apertures with brush.
4. Remove all debris with vacuum cleaner.
5. Replace side and base access doors. Secure in position using hex. driver.

NOTE: Further access to base flueway is available if diverter baffle is removed (replace baffle if removed).

6. Brush and clean in between hotplate ribs on underside.
7. Examine soft rope seal located around hotplate aperture in top plate. Replace if frayed or damaged.
8. Replace hotplate ensuring the underside ribs lie over the oven, and that it seals to the top plate.

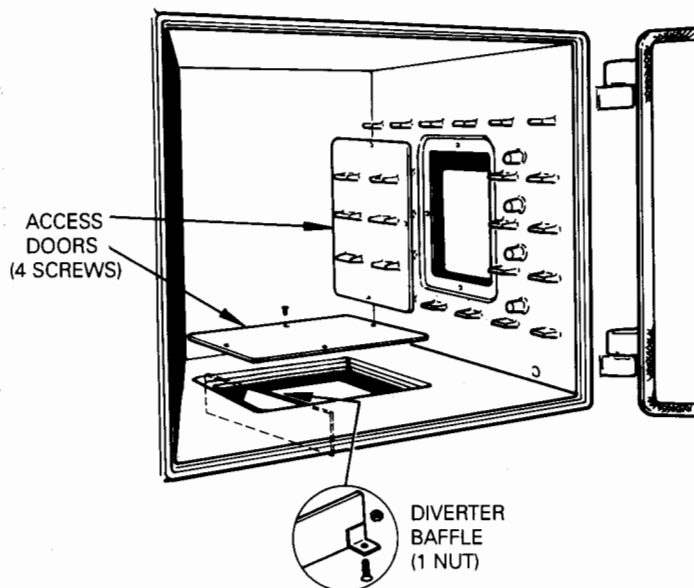


FIG. 8

DESN 510535

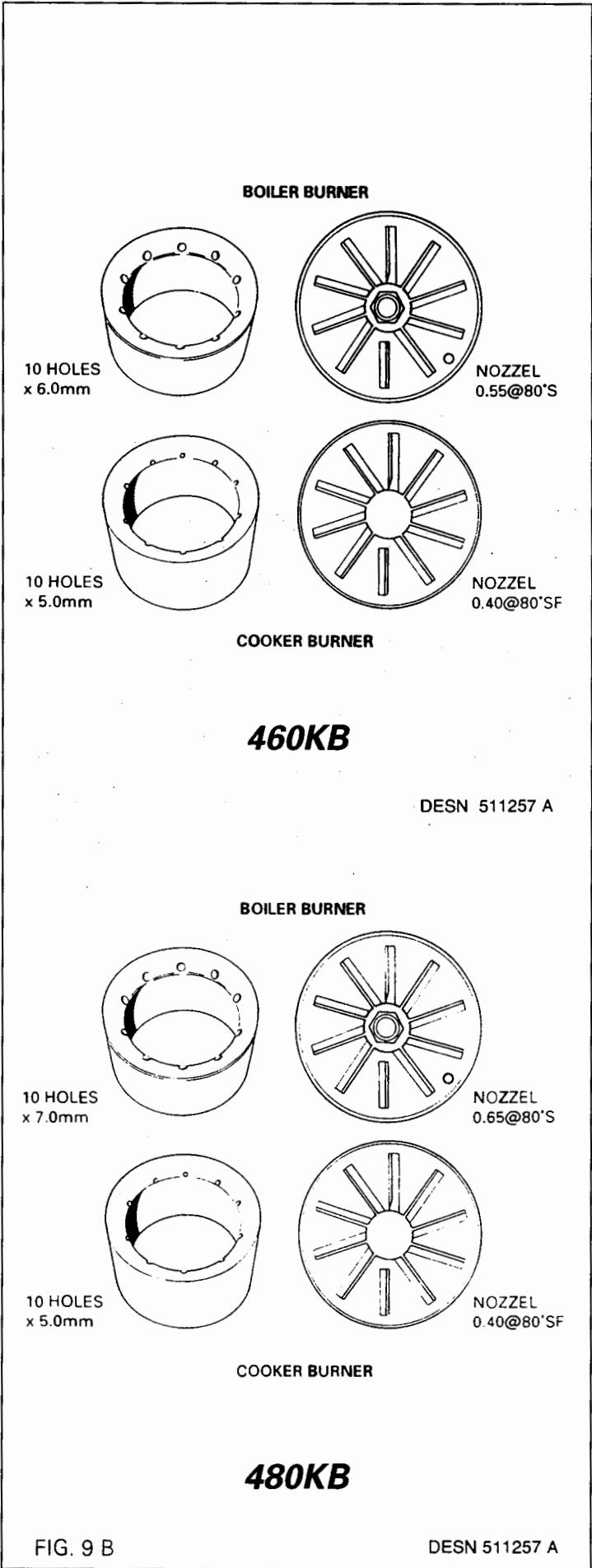
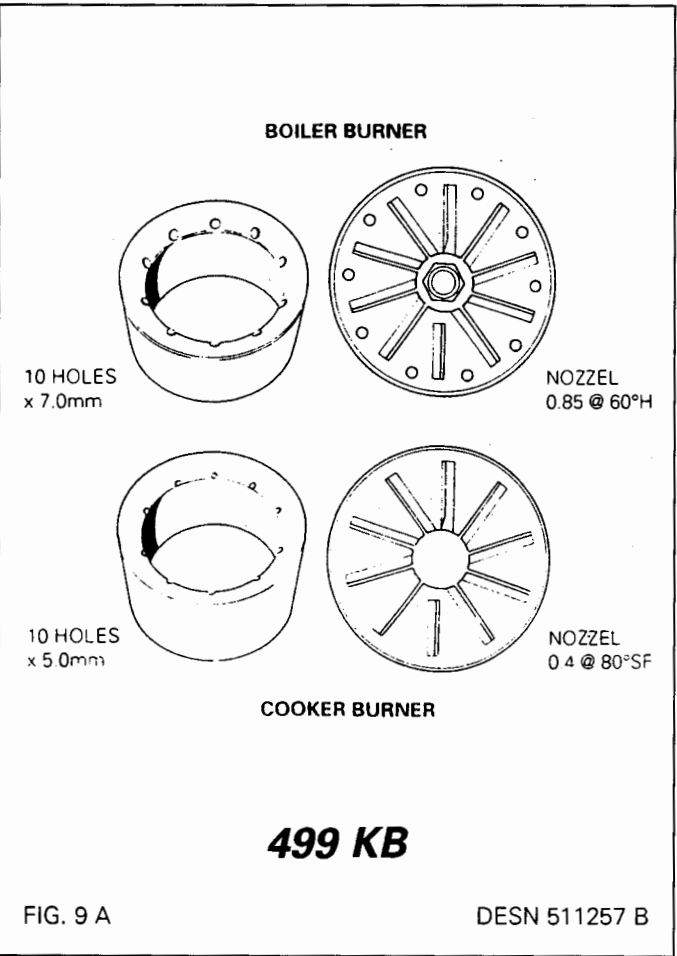
INTRODUCTION

SEE FIG. 9A & 9B

It is recommended that each burner is serviced individually so as not to get the components from the two burners mixed up.

The correct combination of burner blast tubes and diffusers are shown.

When removing the diffusers it is important to note the orientation of the diffuser in relation to the ignitor assembly (see Fig.10), to ensure correct alignment during re-assembly. This prevents the possibility of contact between the diffusers and the electrodes in the event of diffuser distortion and will also ensure that the PEC sensing hole aligns with the PEC in the burner head of the boiler burner.



BURNER NOZZLE REMOVAL

SEE FIG. 10

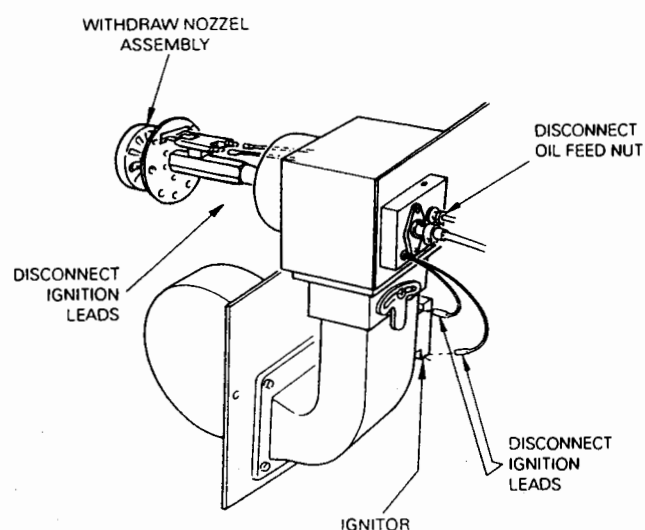
1. Disconnect oil feed nut.
2. Slacken the grub screw.
3. Disconnect the two ignition leads from ignitor and gently tap the centre oil inlet boss.
4. The complete nozzle assembly should now move through the Burner sleeve.
It would be advisable to disconnect the ignitor leads to enable the assembly to be completely withdrawn.
5. Remove nozzle and fit new replacement.
Nozzles should be handled with great care, using clean tools and clean hands.
6. Clean the diffuser and ignition electrodes taking care not to wipe the nozzle tip itself.
7. Check electrode gap and reset if necessary

1. Remove diffuser by slackening bolt, **note orientation of diffuser in relation to the ignitor assembly ensuring that the short vane is aligned vertically between the electrodes during re-assembly. This will also ensure that the PEC sensing hole aligns with the PEC in the boiler burner.**
2. Remove ignitor assembly by removing nut and 2 washers.
3. Unscrew nozzle from its holder with a correctly fitting tubular spanner to avoid damage to hexagon.
4. Replace nozzle by a new one of the same size, spray angle and spray pattern.

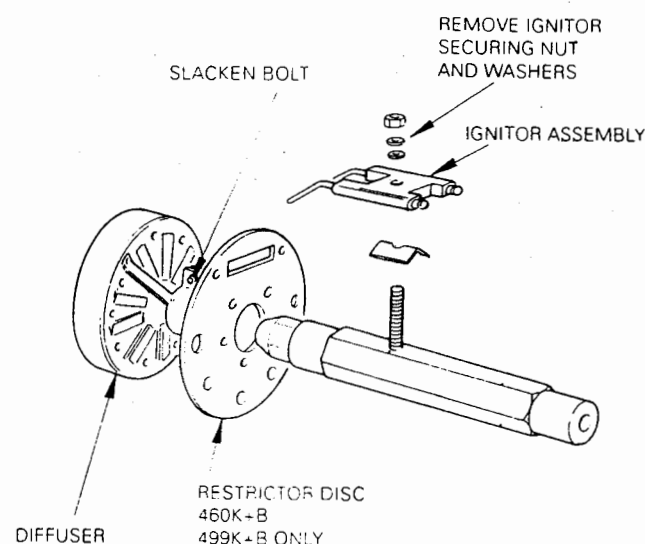
NOZZLE FILTER CLEANING

SEE FIG. 10

1. Remove nozzle as above.
2. Unscrew filter assembly from the rear of the nozzle.
3. Wash filter assembly in clean petrol or paraffin.
4. Refit filter assembly to nozzle in reverse order of removal.
5. Refit nozzle taking care not to over tighten.



DESN 511241



460K+B/499K+B Only

DESN 511242 A

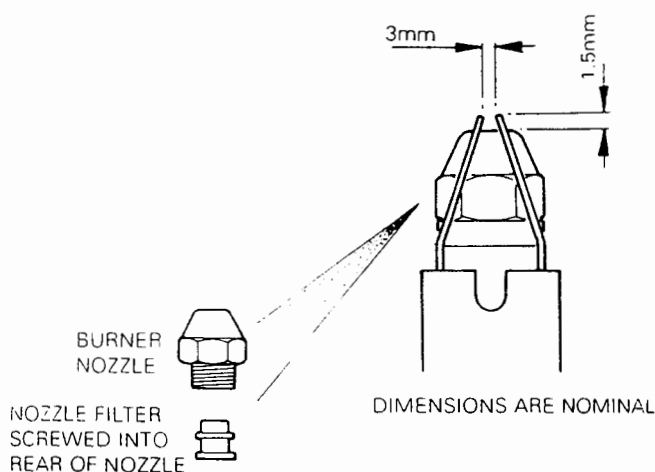


FIG. 10

DESN 510538

INTRODUCTION

Turn OFF the oil line isolating valve near to the appliance.

OIL LINE FILTER CLEANING

1. Turn OFF the line isolating valve fitted prior to the oil line filter.
2. Follow manufacturer's instructions to remove filter element from the housing, taking care to collect Kerosene residue from the filter housing.
3. Wash filter thoroughly in clean petrol or paraffin.
4. Re-assemble filter in reverse order of removal.

Re-commissioning

BLEED AIR FROM OIL SUPPLY

SEE FIG. 13

Disconnect the flexible oil pipe at the pump inlet, open the stop valve slowly and run off some of the oil into a receptacle to establish an air free supply to the pump. Remake the connection oil tight and leave valve open.

FIT PRESSURE GAUGE

SEE FIG. 13

Remove the bleed screw from the oil pump and fit an oil pressure gauge with R1/8 connection to check the pump output pressure.

SWITCH ON ELECTRICITY

Set the boiler burner time clock switch to continuous and turn the boiler thermostat to maximum. The boiler burner should run on pre-purge for 7 to 15 seconds, with the ignition spark energised. The oil solenoid valve should open allowing the burner to fire.

Until all the air from the oil pump is flushed out there may be some flame instability resulting in the burner locking out. This will be shown by the burner stopping and the illumination of the signal light in the reset button of the control box (see Fig. 14). **IN THIS EVENT, WAIT AT LEAST ONE MINUTE**, then press the re-set button to restart.

VENT OIL PUMP

SEE FIG. 13

Whilst the burner is running, vent air from the pump by slackening the pressure gauge port sufficient to allow air to bleed out. When bubble free oil seeps out re-tighten.

ADJUST OIL PRESSURE

SEE FIG. 13

With the burner running check the oil pressure on the pressure gauge.

If the pressure gauge is not indicating the correct reading then adjust the pressure by turning the pressure regulator clockwise to increase or anti-clockwise to decrease the pressure until the pressure gauge reads 9.0 bar (130 lb/in²).

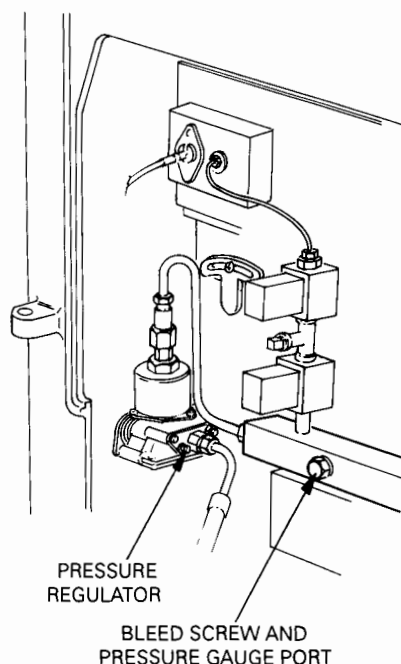


FIG. 13

DESN 511235

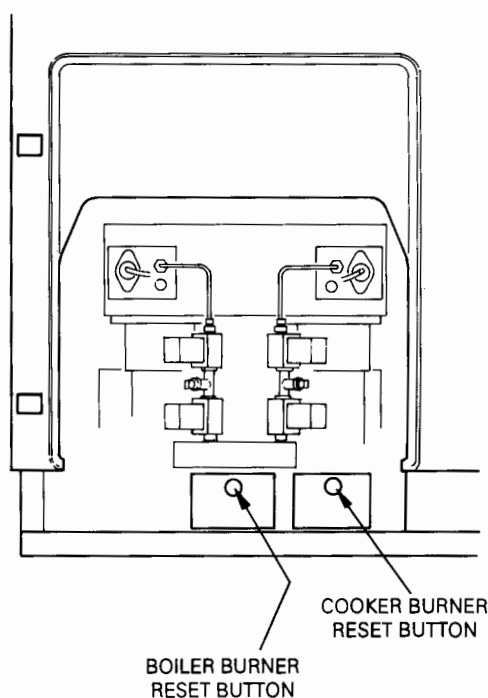


FIG. 14

DESN 511236

SET COMBUSTION AIR

SEE FIG. 15

After 15 minutes of the boiler burner running.

Remove the enamelled top cover panel and the insulation pad.

Remove the plugging screw and insert the sensing end of a portable indicator to check the CO₂ (Carbon Dioxide) level. Adjust the boiler burner air intake until a reading of 11/11.5% CO₂ is recorded on the indicator.

CHECK SMOKE

SEE FIG. 15

Remove the CO₂ sampling tube and using the same hole for flue sampling insert the sensing end of a Baccarach Smoke Pump and check that the smoke in the boiler flue ways does not exceed No.2 on the scale.

Replace the plugging screw, insulation pad and cover panel.

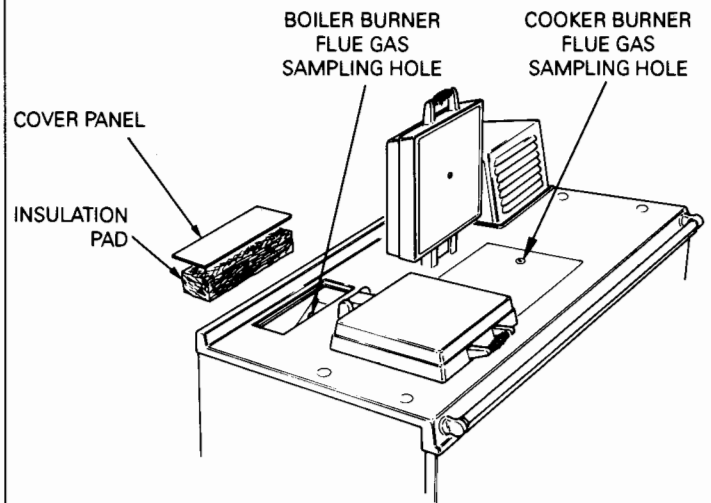
Switch off the boiler burner.

COOKER BURNER - SEE FIG. 15

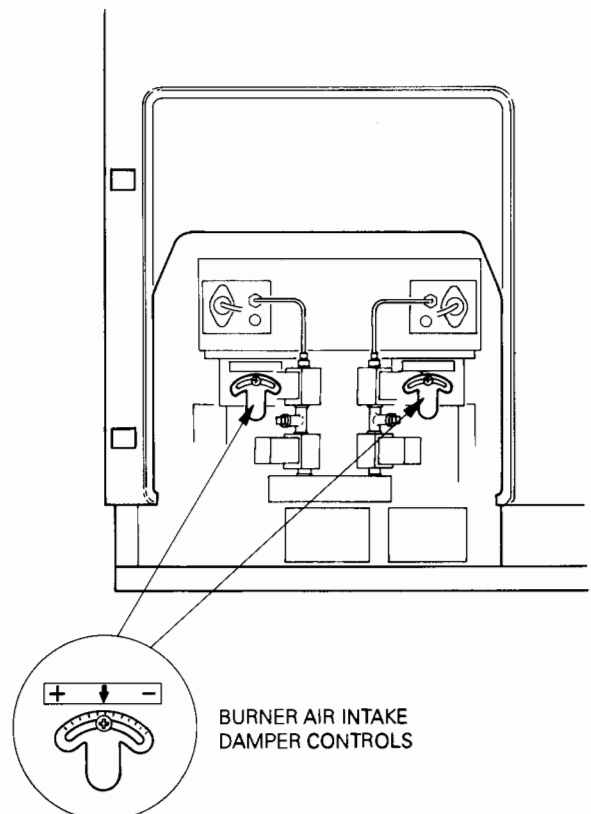
Switch on cooker burner

After 15 minutes of the cooker burner running.

Repeat the above procedures for the cooker burner. To sample the flue gases from the cooker burner lift up the R.H. insulating cover and remove the countersunk headed screw in the hotplate. The cooker burner should be set to 11.0/11.5% CO₂ with a maximum Smoke No. of 2. Replace the countersunk headed screw on completion ensuring that it will not interfere with any pots and pans placed on the hotplate.



DESN 511259



IMPORTANT: ALWAYS LOCK IN POSITION AFTER SETTING

FIG. 15

DESN 511237

ELECTRICAL COMPONENT ACCESS

BEFORE REMOVING SERVICE ACCESS COVERS ENSURE THAT ALL ELECTRICAL SUPPLIES TO THE APPLIANCE HAVE BEEN TURNED OFF (SWITCH OFF AND REMOVE PLUG).

SEE FIG. 16

1. Remove the controls door and place in a safe position.
2. Remove both thermostat control knobs.
3. Remove the 2 cover panel fixing screws.
4. Remove cover panel. It will be necessary to disconnect the push on tags from the selector switch.

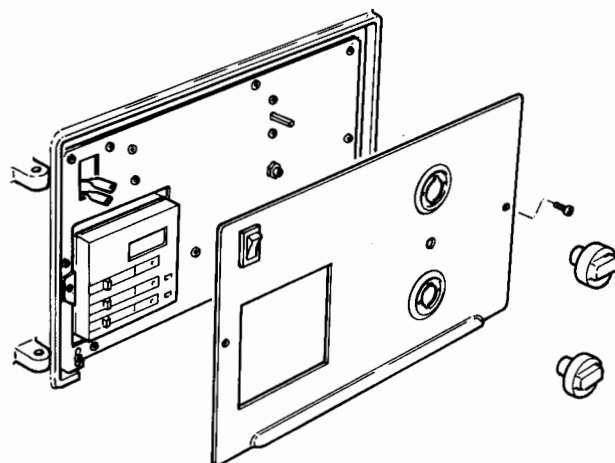


FIG. 16

DESN 510543 B

SEE FIG. 17

5. Remove the four control panel fixing screws.
6. Tilt the chassis forwards from the top and lift out. To fully access the rear of the control chassis, the thermostat capillaries should be removed from their pockets.

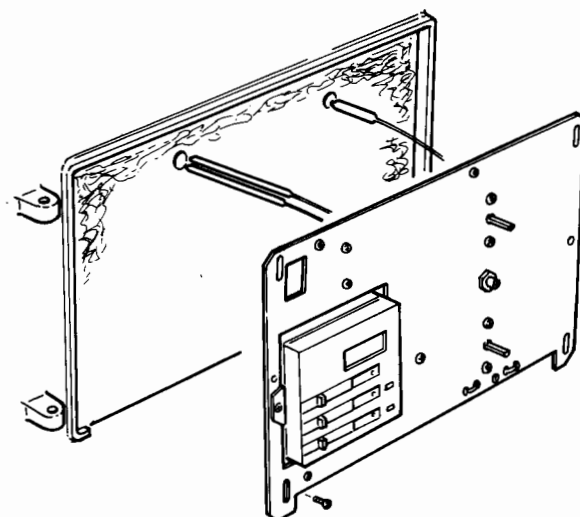


FIG. 17

DESN 510544 'A'

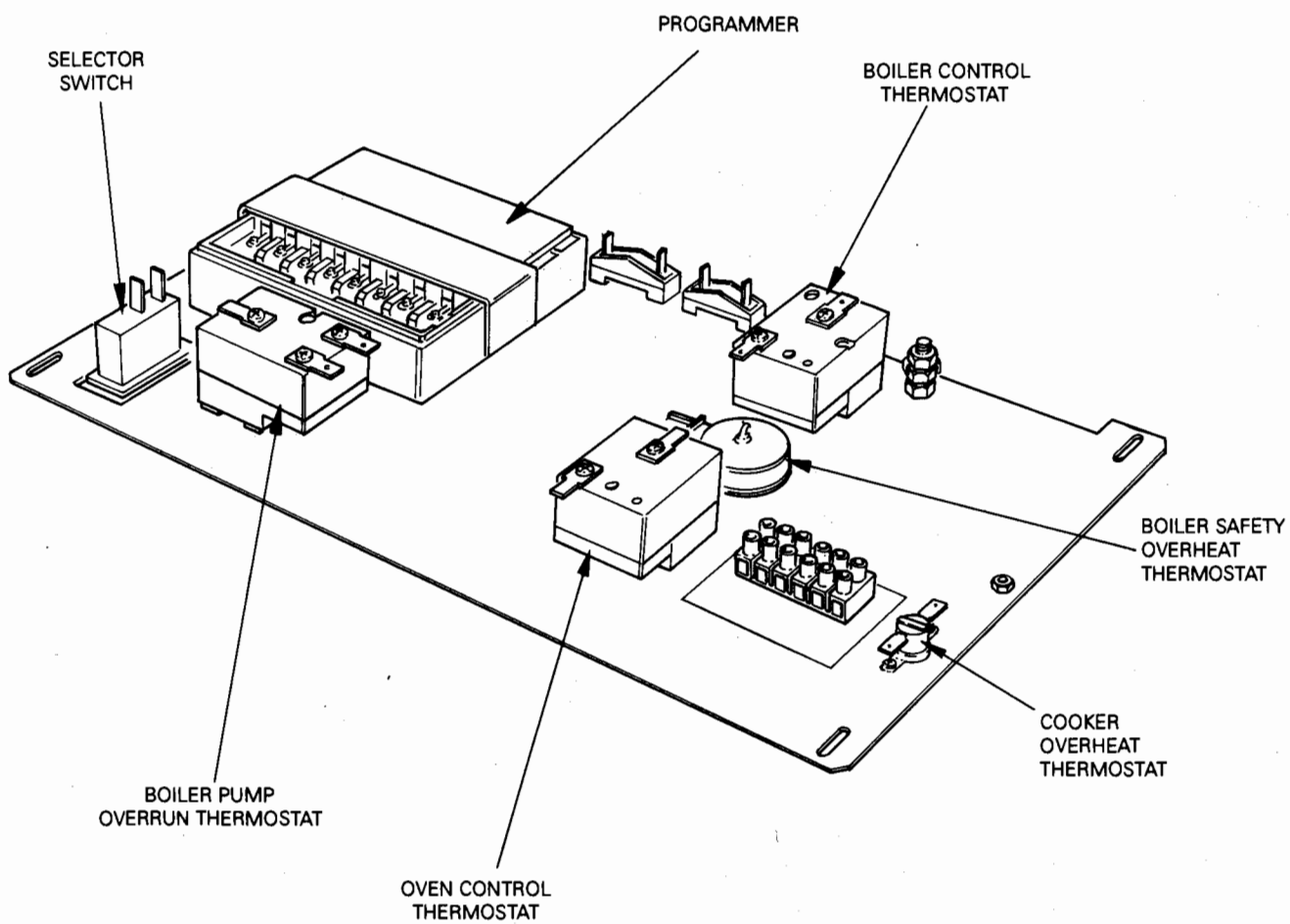


FIG. 18

DESN 511140

Replacement of parts (Electrical controls)

TO FIT NEW BOILER CONTROL THERMOSTAT

SEE FIG. 19

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 6.

1. Undo the two screws on the front of the chassis which hold the thermostat in place.
2. Remove the two push on connectors from back of thermostat.
3. Replace thermostat. Take care to push thermostat phial correctly into the pocket provided. The thermostat should be mounted with tag P at the bottom.
4. Re-connect push on connector wires. The RED wire to P and BLACK wire to 2.

To complete follow instructions in section RE-ASSEMBLE, Steps 1 to 6.

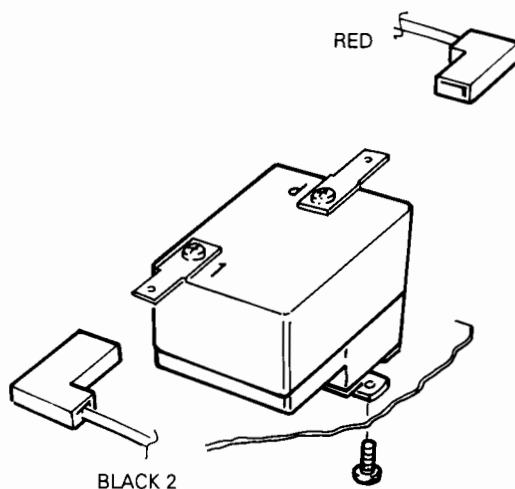


FIG. 19

DESN 510546 A

TO FIT NEW BOILER PUMP OVERRUN THERMOSTAT

SEE FIG. 20

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 6.

1. Undo the two screws on the front of the chassis which hold the thermostat in place.
2. Remove the three push on connectors from back of thermostat.
3. Replace thermostat. The thermostat should be mounted with tag P at the right hand side (looking from back). Take care to push thermostat phial correctly into the pocket provided.
4. Re-connect push on connector wires. The WHITE wire from the pump PL to P, the other WHITE wire to 2 and the RED to 1.

To complete follow instructions in section RE-ASSEMBLE, Steps 1 to 6.

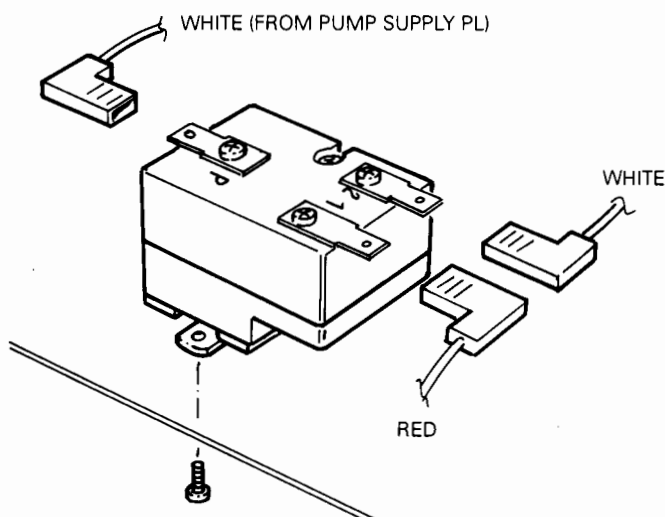


FIG. 20

DESN 510547 A

TO FIT NEW COOKER SAFETY OVERHEAT THERMOSTAT

SEE FIG. 21

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 6.

1. Remove the two push on connectors from the thermostat.
2. Undo the two screws and nuts which hold the thermostat in place.
3. Replace thermostat.
4. Re-connect push on connector wires.

To complete follow instructions in section RE-ASSEMBLE, Steps 1 to 6.

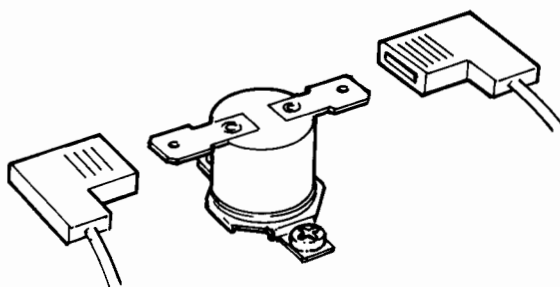


FIG. 21

DESN 511244

TO FIT NEW BOILER SAFETY OVERHEAT THERMOSTAT

SEE FIG. 22

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 6.

1. Undo the central hexagon nut on the front of the chassis which holds the thermostat in place.
2. Remove the two push on connectors from back of thermostat (noting tags for re-connection).
3. Replace thermostat. Take care to push thermostat phial correctly into the pocket provided.
4. Re-connect push on connector wires.

To complete follow instructions in section RE-ASSEMBLE, Steps 1 to 6.

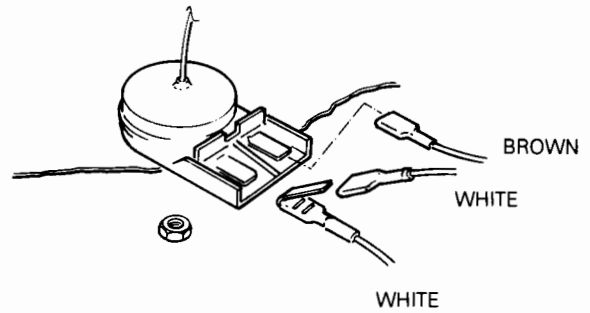


FIG. 22

DESN 511141

TO FIT NEW OVEN CONTROL THERMOSTAT

SEE FIG. 23

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 6.

1. Undo the two screws on the front of the chassis which hold the thermostat in place.
2. Remove the two push on connectors from back of thermostat.
3. Open Roasting Oven door to access the thermostat phial and capillary which pass into the oven at the top, left hand front corner. The thermostat phial is located in a slot at the top front of the oven.
4. Slacken the single screw where the phial passes through the roasting oven side and rotate the cover plate to open up the access hole.
5. Slack the two screws in the top of the roasting oven at the front and rotate the two retaining clips.
6. Allow the thermostat phial to drop down and withdraw the thermostat capillary out of the oven.
7. Replace thermostat. The thermostat should be mounted with tag P at the bottom. Reposition the phial in same position as removed. Ensure that the insulation, spacer tubes are correctly fitted.
8. Re-connect push on connector. The ORANGE wire to P and BLACK (3) wire to 1.

To complete follow instructions in section RE-ASSEMBLE, Steps 1 to 6.

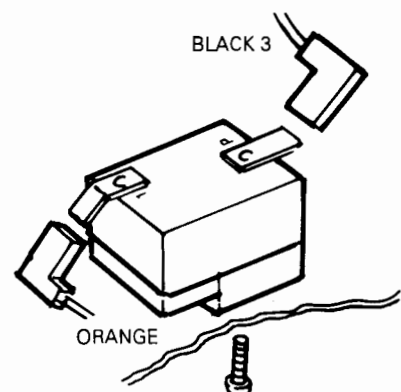
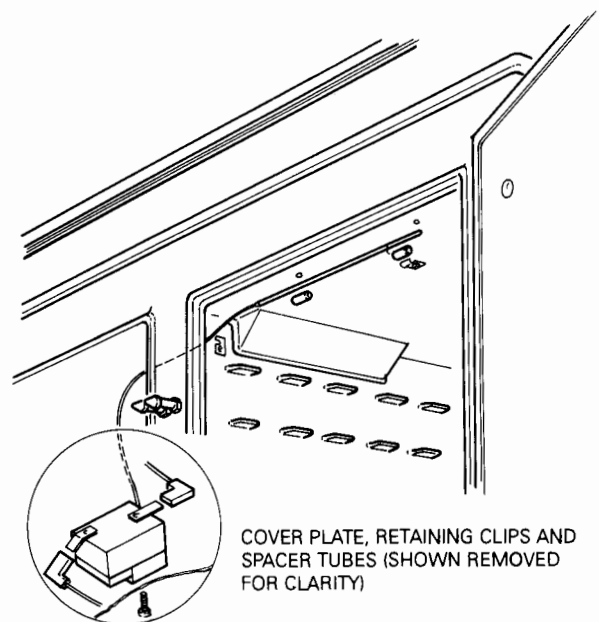


FIG. 23

DESN 510868

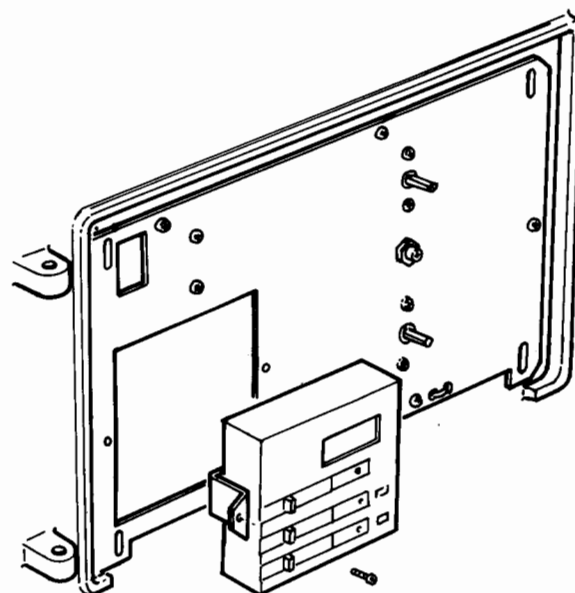
TO FIT NEW PROGRAMMER

SEE FIG. 24

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 4.

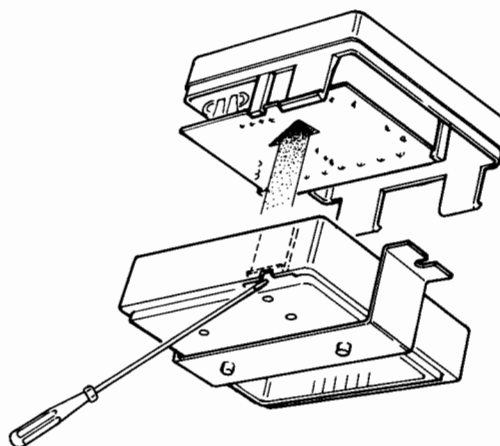
1. Remove the two screws holding the mounting bracket to the control chassis.
2. Pull the programmer forward to access the rear casing.
3. Insert a small screwdriver into cut-out and push against the retaining clip.
4. The programmer can now be pulled away from its base at the bottom. The top retaining clips can now be pulled out freeing the programmer.
5. Replace with the new programmer inserting the top clips first and then locking the programmer inserting the top base with the bottom clip.
6. Refix the mounting brackets to the control chassis.

To complete follow instructions in section RE-ASSEMBLE, Steps 3 to 6.



REMOVE PROGRAMMER/MOUNTING
BRACKET (2 SCREWS)

DESN 510552'A'



TO REMOVE PROGRAMMER FROM ITS BASE
INSERT A SMALL SCREWDRIVER INTO
CUT-OUT AND PUSH AGAINST RETAINING CLIP.

FIG. 24

DESN 510559

TO FIT NEW SELECTOR SWITCH

SEE FIG. 25

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 4.

1. To remove switch of the cover panel press the two toggles, at top and bottom of switch, push switch through panel.
2. Push replacement switch into aperture and click into place. The switch should be fitted with terminal 1 at the top.

To complete follow instructions in section RE-ASSEMBLE, Steps 3 to 6.

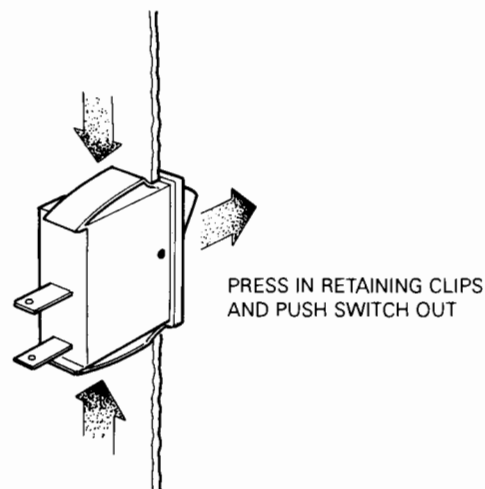


FIG. 25

DESN 510553 A

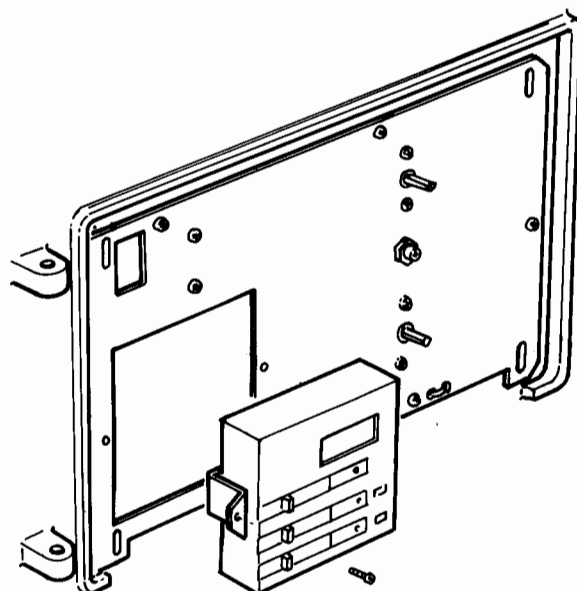
TO FIT NEW PROGRAMMER

SEE FIG. 24

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 4.

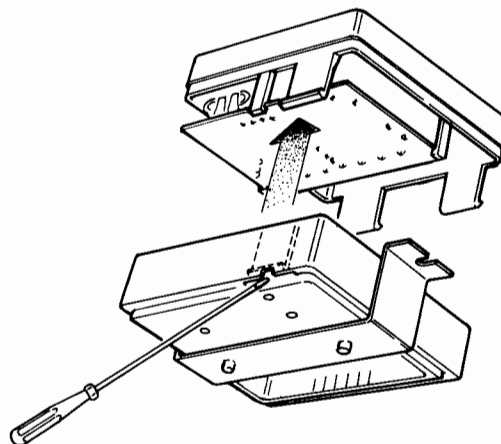
1. Remove the two screws holding the mounting bracket to the control chassis.
2. Pull the programmer forward to access the rear casing.
3. Insert a small screwdriver into cut-out and push against the retaining clip.
4. The programmer can now be pulled away from its base at the bottom. The top retaining clips can now be pulled out freeing the programmer.
5. Replace with the new programmer inserting the top clips first and then locking the programmer inserting the top base with the bottom clip.
6. Refix the mounting brackets to the control chassis.

To complete follow instructions in section RE-ASSEMBLE, Steps 3 to 6.



REMOVE PROGRAMMER/MOUNTING
BRACKET (2 SCREWS)

DESN 510552'A'



TO REMOVE PROGRAMMER FROM ITS BASE
INSERT A SMALL SCREWDRIVER INTO
CUT-OUT AND PUSH AGAINST RETAINING CLIP.

FIG. 24

DESN 510559

TO FIT NEW SELECTOR SWITCH

SEE FIG. 25

Follow instructions in section ELECTRICAL COMPONENT ACCESS, Steps 1 to 4.

1. To remove switch of the cover panel press the two toggles, at top and bottom of switch, push switch through panel.
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To complete follow instructions in section RE-ASSEMBLE, Steps 3 to 6.

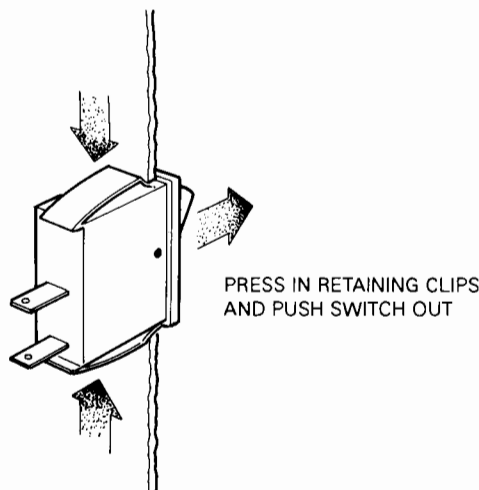


FIG. 25

DESN 510553 A

PHOTO ELECTRIC CELL (PEC) CLEANING

SEE FIG. 11

Withdraw Photo electric Cell from the burner head. Clean PEC sensing end with a soft cloth taking care not to scratch the light sensitive body. Re-insert PEC taking care to insert the correct way round.

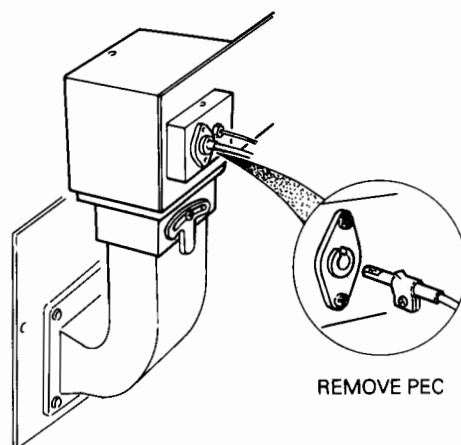


FIG. 11

DESN 511243

FAN CLEANING

1. Clean between the blades of the fan impeller with a small brush and tip upside down to remove any residue.
2. Spin the motor to make sure that it turns easily.

RE-ASSEMBLE BURNER

Re-assemble the burner in reverse order making sure that the fixing screws for the nozzle assembly are correctly lined up with the respective holes in the body.

Replacement of parts (Burner)

FAN MOTOR

SEE FIG. 26A & 26B

Follow instructions in sections BURNER ACCESS, Steps 1 to 3 and BURNER REMOVAL, Steps 1 to 5.

COOKER FAN

1. Carefully remove 2 push on connectors (noting terminals) and earth connections.
2. Remove 4 securing screws.
3. Re-assemble in reverse order.

BOILER FAN

1. Unplug ribbon strip in boiler fan motor.
2. Remove 4 securing screws.
3. Re-assemble in reverse order.

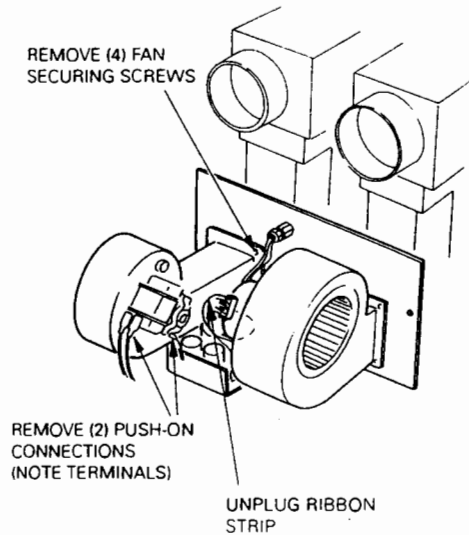


FIG. 26 A

DESN 511128 'A'

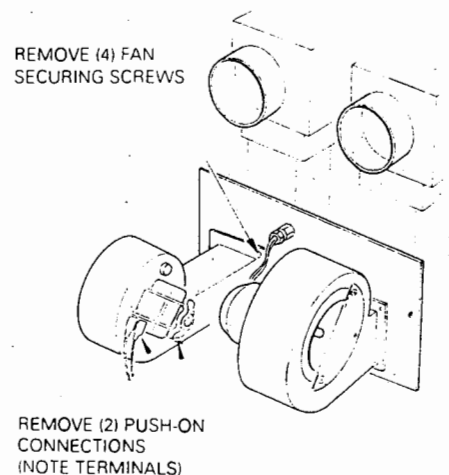


FIG. 26 B

DESN 511518

IGNITION ELECTRODES

SEE FIG. 27

Follow instructions in sections BURNER ACCESS, Steps 1 to 3, BURNER REMOVAL, Steps 1 to 5 and BURNER NOZZLE REMOVAL, Steps 1 to 4.

1. Remove diffuser by slackening bolt, **note orientation of diffuser in relation to the ignitor assembly ensuring that the short vane is aligned vertically between the electrodes during re-assembly. This will also ensure that the PEC sensing hole aligns with the PEC in the boiler burner.**
2. Remove ignition electrode assembly by removing nut.
3. Fit new ignition electrode assembly, re-assemble in reverse order.
4. Check electrode gap and reset if necessary.

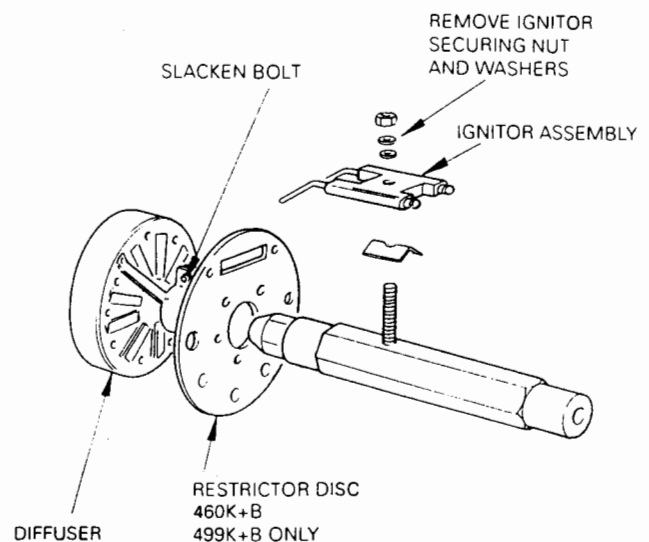


FIG. 27

DESN 511242 A

DISMANTLE BURNERS

SEE FIG. 28

Follow instructions in sections BURNER ACCESS, steps 1 to 3 and BURNER REMOVAL, Steps 1 to 5.

1. Remove 8 burner head securing screws.
2. Disconnect plug in fan mounting plate.
3. Remove 3 pump mounting plate screws.

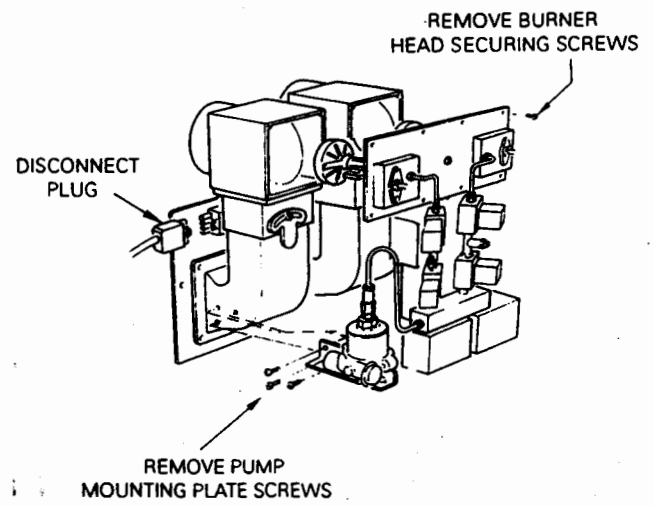


FIG. 28

DESN 511245

IGNITOR

SEE FIG. 29

Follow instructions in sections BURNER ACCESS, Steps 1 to 3, BURNER REMOVAL, Steps 1 to 5 and DISMANTLE BURNERS Steps 1 to 3.

1. Remove both HT leads from ignitor.
2. Remove mains plug from ignitor.
3. Remove 2 ignitor securing nuts and bolts.
4. Remove ignitor.
5. Fit new ignitor, re-assemble in reverse order.

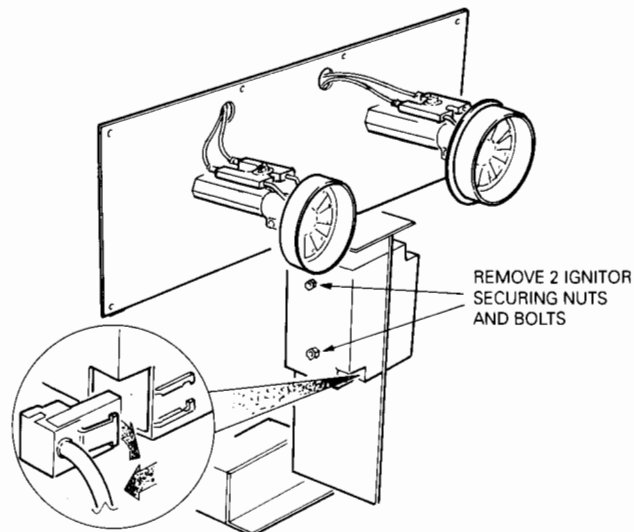


FIG. 29

DESN 511246 'A'

RELAY

SEE FIG. 30

Follow instructions in sections BURNER ACCESS, Steps 1 to 3, BURNER REMOVAL, Steps 1 to 5 and DISMANTLE BURNERS Steps 1 to 3.

1. Remove push on connections (noting position of each connection).
2. Slacken inner securing screw, remove outer securing screw.
3. Remove relay.
4. Fit new relay, re-assemble in reverse order.

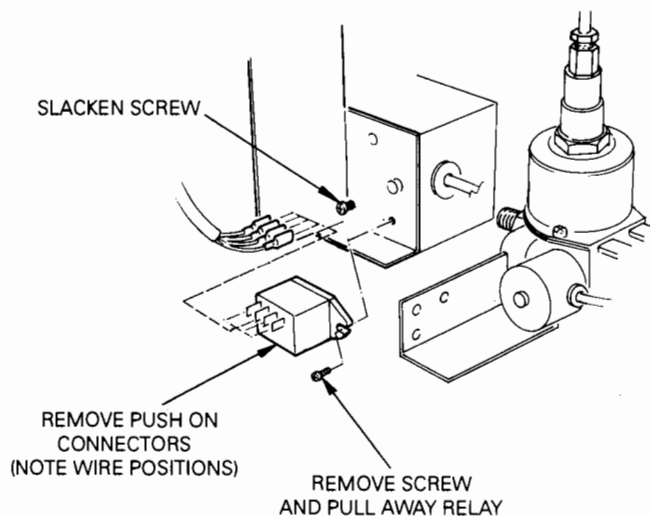


FIG. 30

DESN 511247

SOLENOID COIL

SEE FIG. 31

Follow instructions in sections BURNER ACCESS, Steps 1 to 3, BURNER REMOVAL, Steps 1 to 5 and DISMANTLE BURNERS Steps 1 to 3.

1. Slacken solenoid plug securing screw.
2. Remove plug.
3. Remove solenoid securing nut and washer.
4. Remove solenoid coil.
5. Fit new solenoid coil, re-assemble in reverse order.

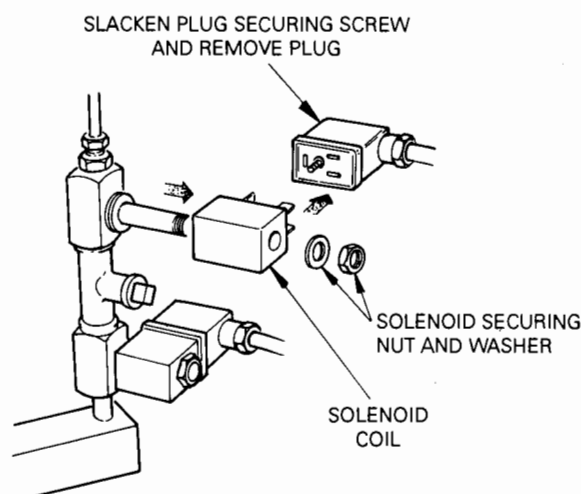


FIG. 31

DESN 511248

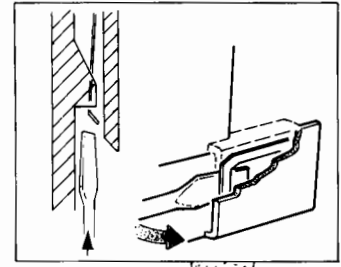
CONTROL BOX

SEE FIG. 32

Follow instructions in sections BURNER ACCESS, Steps 1 to 3, BURNER REMOVAL, Steps 1 to 5 and DISMANTLE BURNERS Steps 1 to 3.

1. Insert flat bladed screwdriver in LH side of c.box, as diagram.
2. Repeat as above for RH side.
3. Gently pull c.box away from mounting plate.
4. Fit new c.box, re-assemble in reverse order.

INSERT FLAT BLADED
SCREWDRIVER INTO
SIDES OF C.BOX AND



GENTLY REMOVE
C.BOX FROM
MOUNTING PLATE

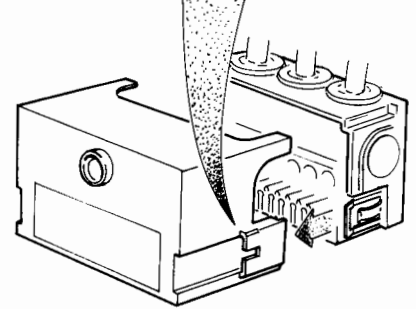


FIG. 32

DESN 511249

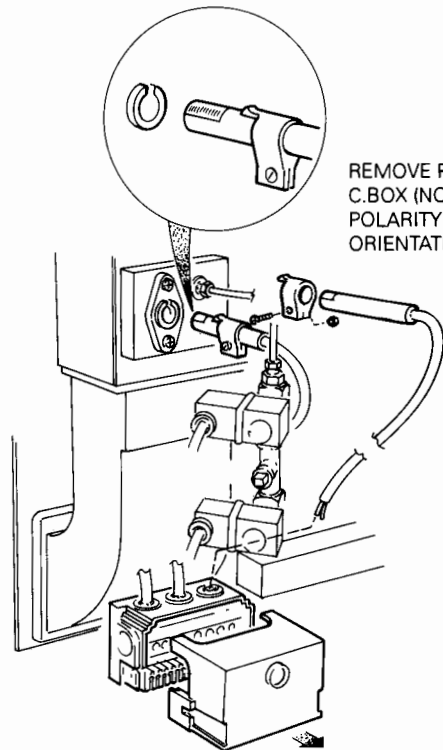
PEC

SEE FIG. 33

Follow instructions in sections BURNER ACCESS, Steps 1 to 3, BURNER REMOVAL, Steps 1 to 5 and DISMANTLE BURNERS Steps 1 to 3.

1. Remove control box as detailed above.
2. Unplug PEC.
3. Undo wire connections 11 & 12 (noting colour polarity)
4. Withdraw PEC cable.
5. Slacken and remove PEC clip (note orientation of clip).
6. Transfer and secure clip to new PEC.
7. Fit new PEC, re-assemble in reverse order.

REMOVE PEC FROM
C.BOX (NOTE WIRE
POLARITY AND PEC CLIP
ORIENTATION)



REMOVE CONTROL BOX

FIG. 33

DESN 511250

PUMP ACCESS

SEE FIG. 34

Follow instructions in section BURNER ACCESS, steps 1 to 3 and BURNER REMOVAL, steps 1 to 5.

1. Isolate fuel supply
2. Disconnect flexible hose.
3. Disconnect pump supply tube from burner assembly.
4. Remove pump from base, 2 screws and washers.

PUMP FILTER REPLACEMENT

SEE FIG. 34

1. Remove 2 pump plate securing screws and remove plate.
2. Remove filter.
3. Fit new filter.
4. Re-assemble in reverse order.

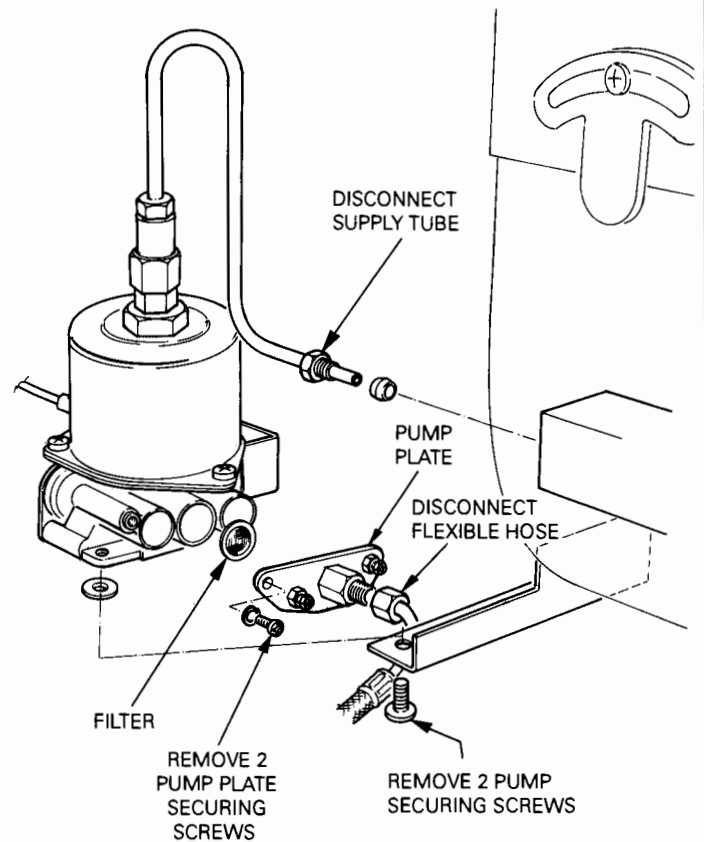


FIG. 34

DESN 511251

VENT FAN

BEFORE REMOVING SERVICE ACCESS COVERS ENSURE THAT ALL ELECTRICAL SUPPLIES TO THE APPLIANCE HAVE BEEN TURNED OFF (SWITCH OFF AND REMOVE PLUG).

SEE FIG. 35

1. Remove (2) fan cover securing screws, remove cover.
2. Disconnect green/yellow lead from earth post.
3. Disconnect blue and brown leads from terminal block.
4. Break fan duct connection, remove fan assembly.
5. Remove (2) venturi securing screws.
6. Remove fan venturi assembly and gasket from fan.
7. Fit new fan, re-assemble in reverse order.

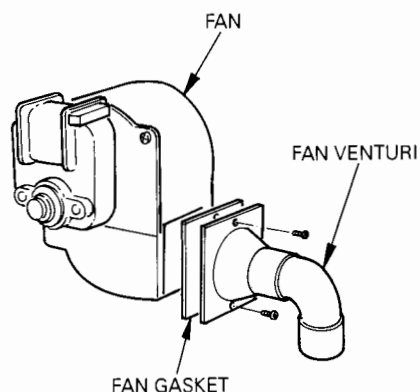
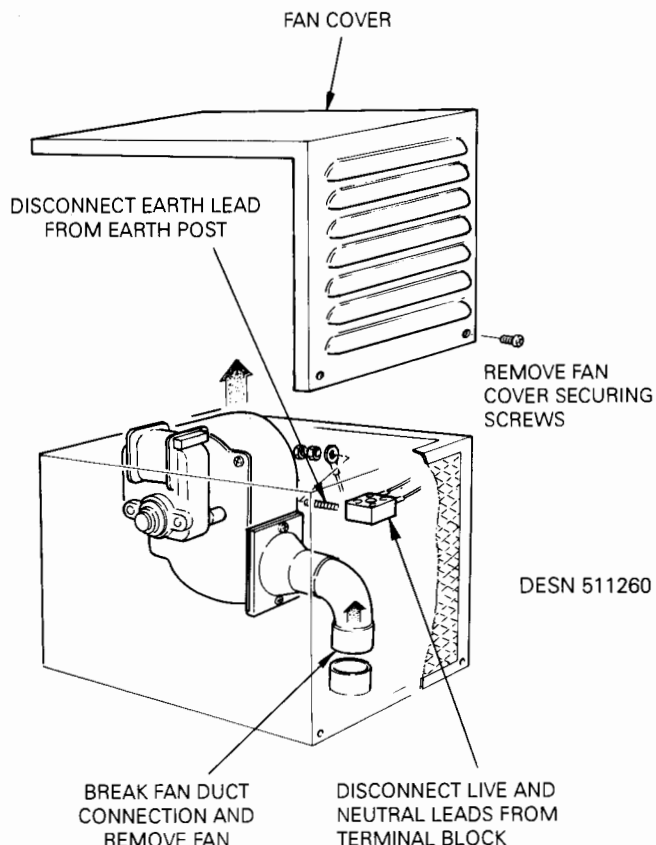


FIG. 35

DESN 511261

VENT FAN SWITCH

SEE FIG. 36

1. Remove (2) fan cover securing screws, remove cover.
2. Disconnect push on leads.
3. To remove switch of the cover panel press the two toggles, at top and bottom of switch, push switch, through panel.
4. Push replacement switch into aperture and click into place. The switch should be fitted with terminal 1 at the top.
5. Re-assemble in reverse order.

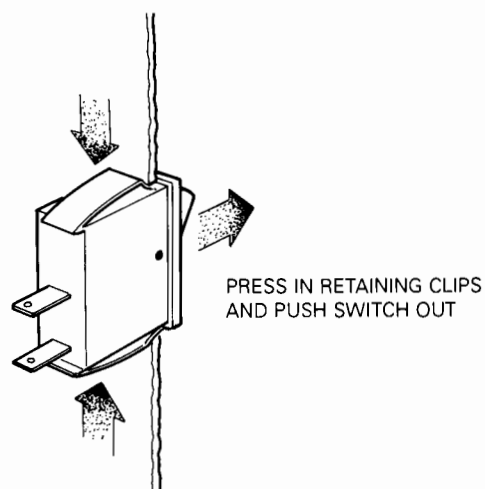


FIG. 36

DESN 510553 A

PUMP OVERRUN FACILITY

When the programmer switches off the BOILER channel then the water circulating pump will be switched off. If during the period shortly after this the residual heat in the appliance causes the water temperature in the boiler to rise above 65°C then the pump overrun thermostat will change-over. This will switch on the circulating pump.

If during a normal programmer COOKER 'ON' period the boiler flow temperature rises above 65°C then the pump overrun thermostat operates and switches on the pump until the overrun thermostat switches back.

OVERHEAT SAFETY THERMOSTATS

BOILER

This thermostat is a safety cut-out device which is intended to operate if the other controls fail. This control will "lock-out" and switches everything off except for the programmer clock and the "Pump Overrun" facility.

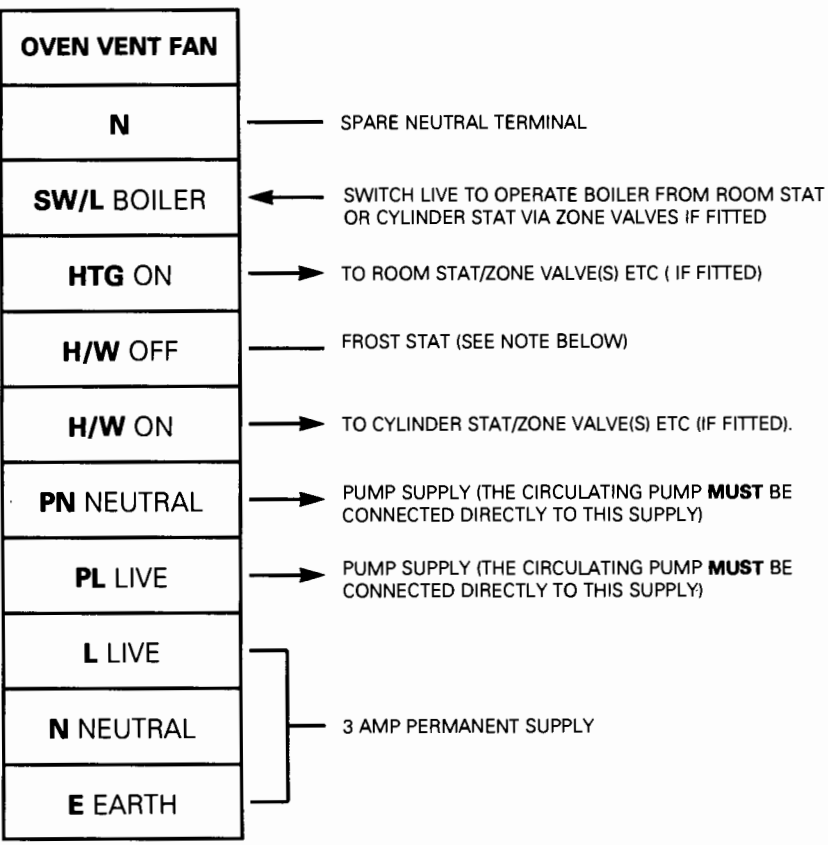
This thermostat has to be manually reset once the temperature has cooled down.

COOKER

This thermostat is a safety cut-out device which operates if the control thermostat fails. This device automatically resets.

CONTROL CIRCUIT-EXTERNAL

TERMINAL STRIP CONNECTIONS



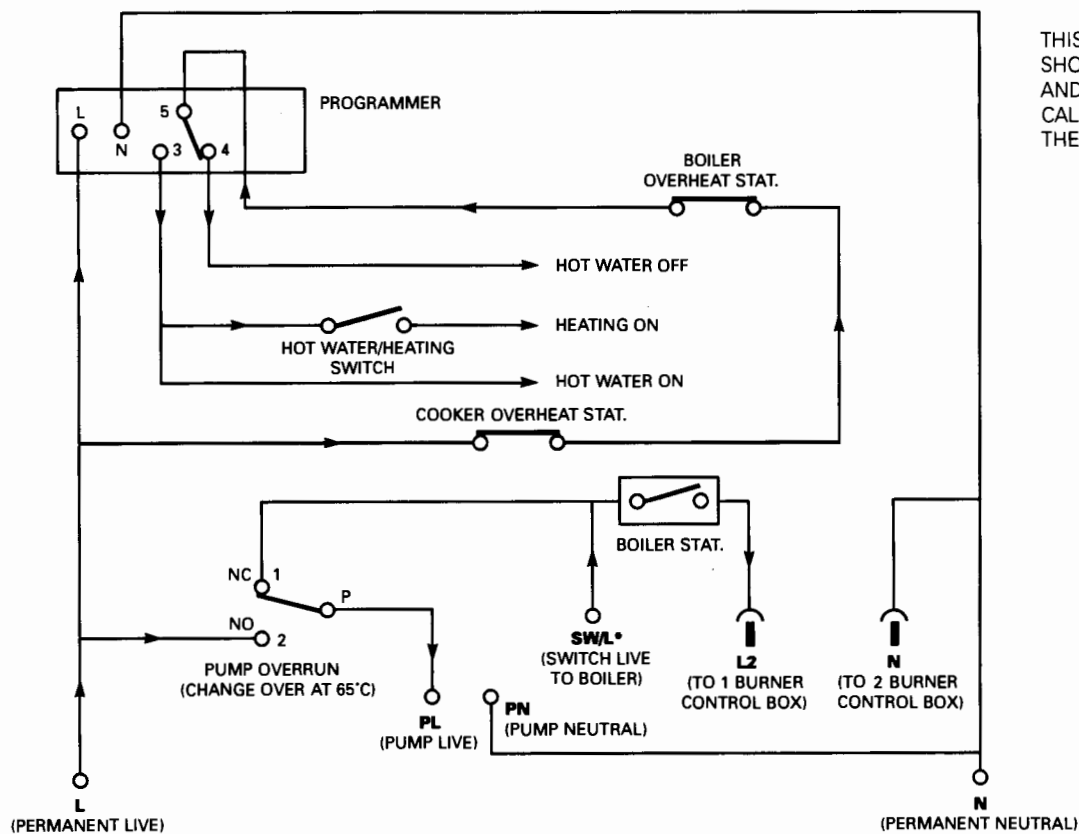
NOTE:

If no Hot Water System Controls are used a link **MUST** be fitted between **H/W ON** and **SW/L BOILER**.

If no Central Heating System Controls are used a link **MUST** be fitted between **HTG ON** and **SW/L BOILER**.

If a Frost Thermostat is fitted it **MUST** be connected to **SW/L BOILER** and **H/W OFF**.

CONTROL CIRCUIT-BOILER



BOILER CONTROL CIRCUIT (Landis & Gyr)

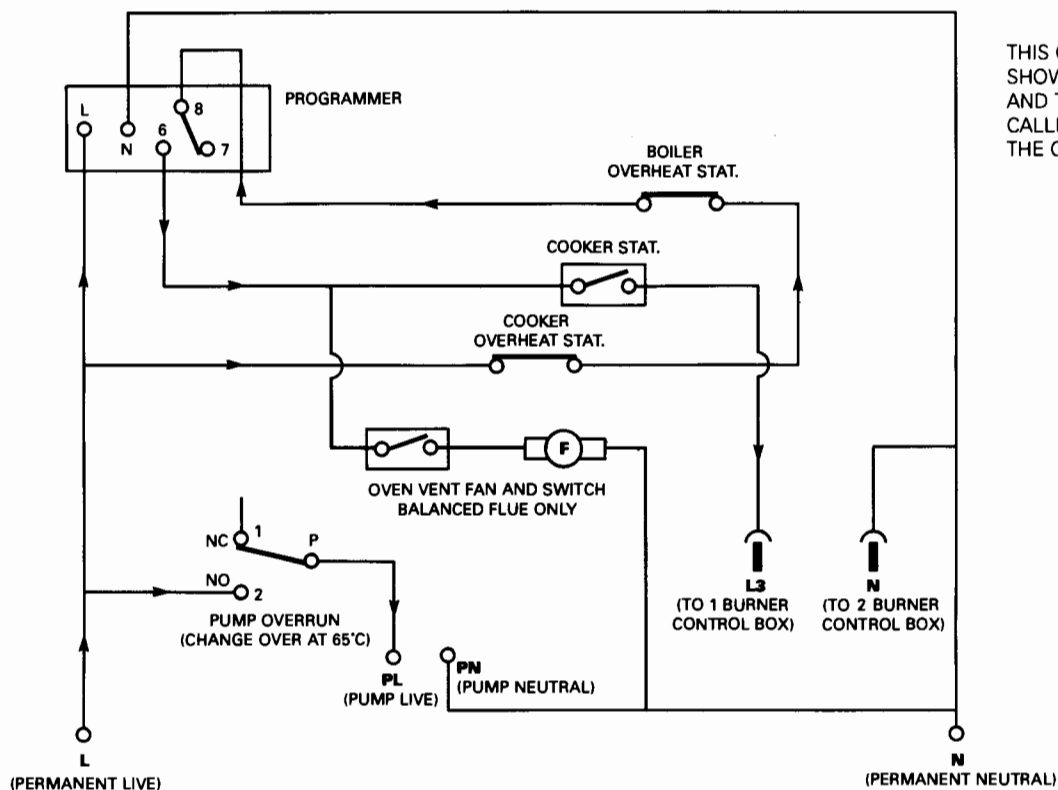
***NOTE:** SW/L TO OPERATE BOILER FROM ROOM STAT. OR CYLINDER STAT. VIA ZONE VALVES (IF FITTED).

IF NO HOT WATER SYSTEM CONTROLS ARE USED, A LINK MUST BE FITTED BETWEEN H/W AND SW/L BOILER.

IF NO CENTRAL HEATING CONTROLS ARE USED, A LINK MUST BE FITTED BETWEEN HTG ON AND SW/L BOILER.

FIG. 37

CONTROL CIRCUIT-COOKER



COOKER CONTROL CIRCUIT (Landis & Gyr)

NOTE: IF WHEN THE COOKER ONLY IS OPERATING AND THE TEMPERATURE OF THE WATER IN THE BOILER REACHES 65°C ABOVE, THE PUMP OVERRUN WILL CUT IN AND SWITCH ON THE PUMP.

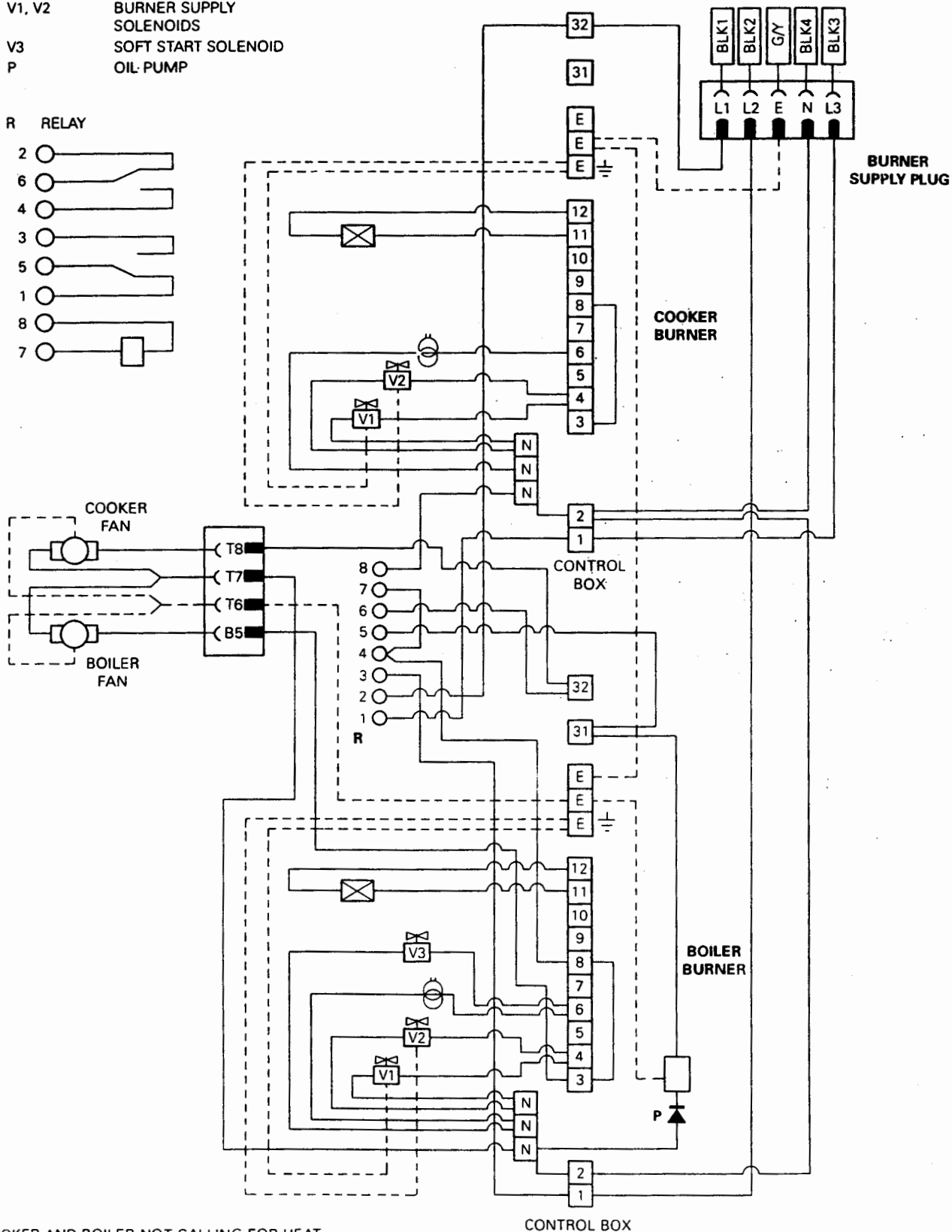
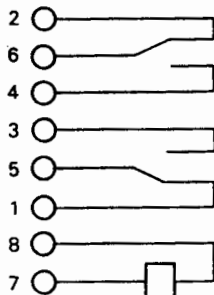
FIG. 38

WIRING DIAGRAM - BURNER ONLY - 460/480 KB

KEY OIL BURNER

V1, V2 BURNER SUPPLY SOLENOIDS
V3 SOFT START SOLENOID
P OIL PUMP

R RELAY



COOKER AND BOILER NOT CALLING FOR HEAT
IE. RELAY IN THE NC POSITION
BOILER AND COOKER COLD

NOTE: THIS DIAGRAM SHOWS THE CORRECT WIRE ROUTINGS
BUT TERMINAL NUMBERS HAVE BEEN REARRANGED
FOR THE SAKE OF CLARITY.

FIG. 39

WIRING DIAGRAM - APPLIANCE 460/480 KB

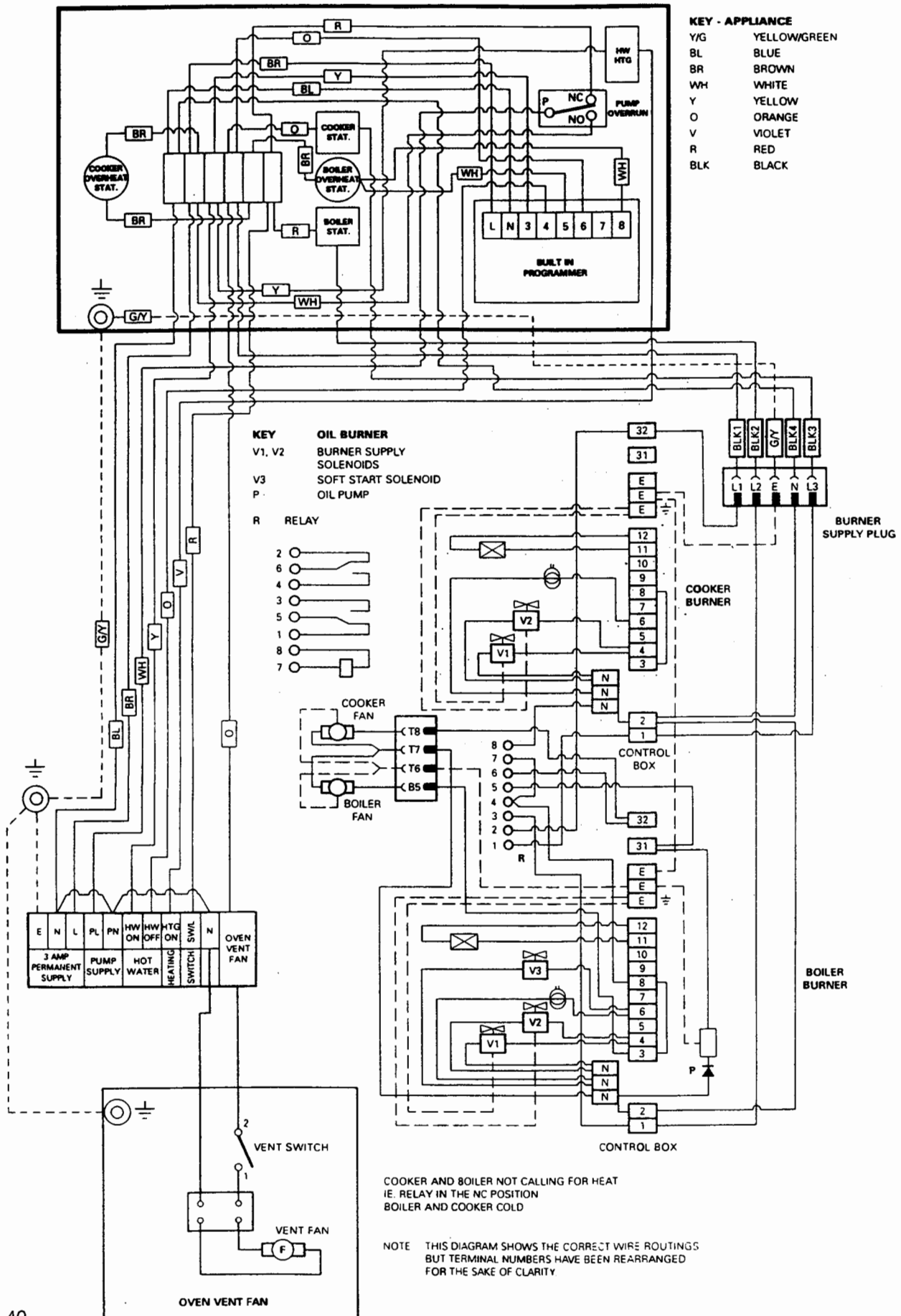
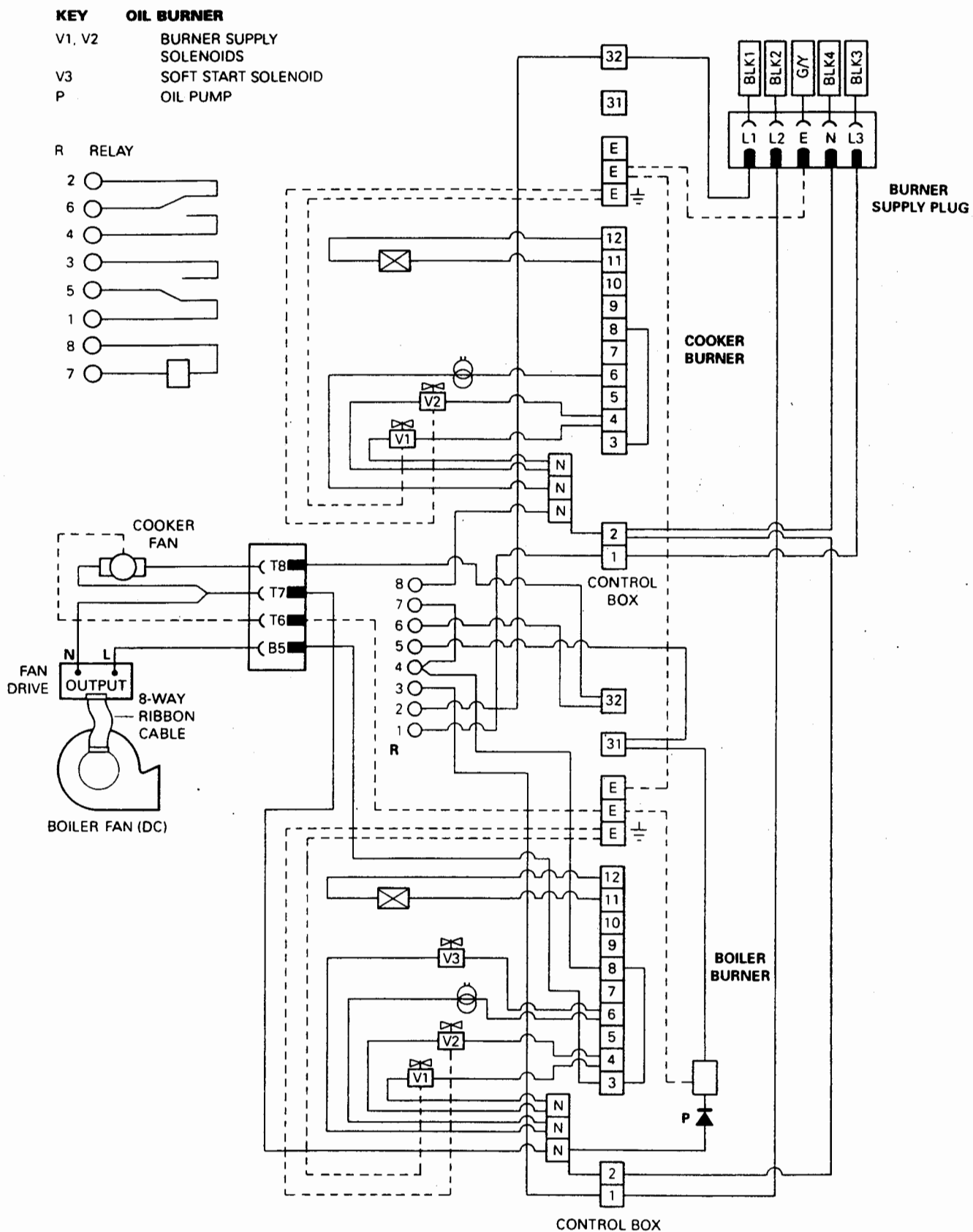


FIG. 40

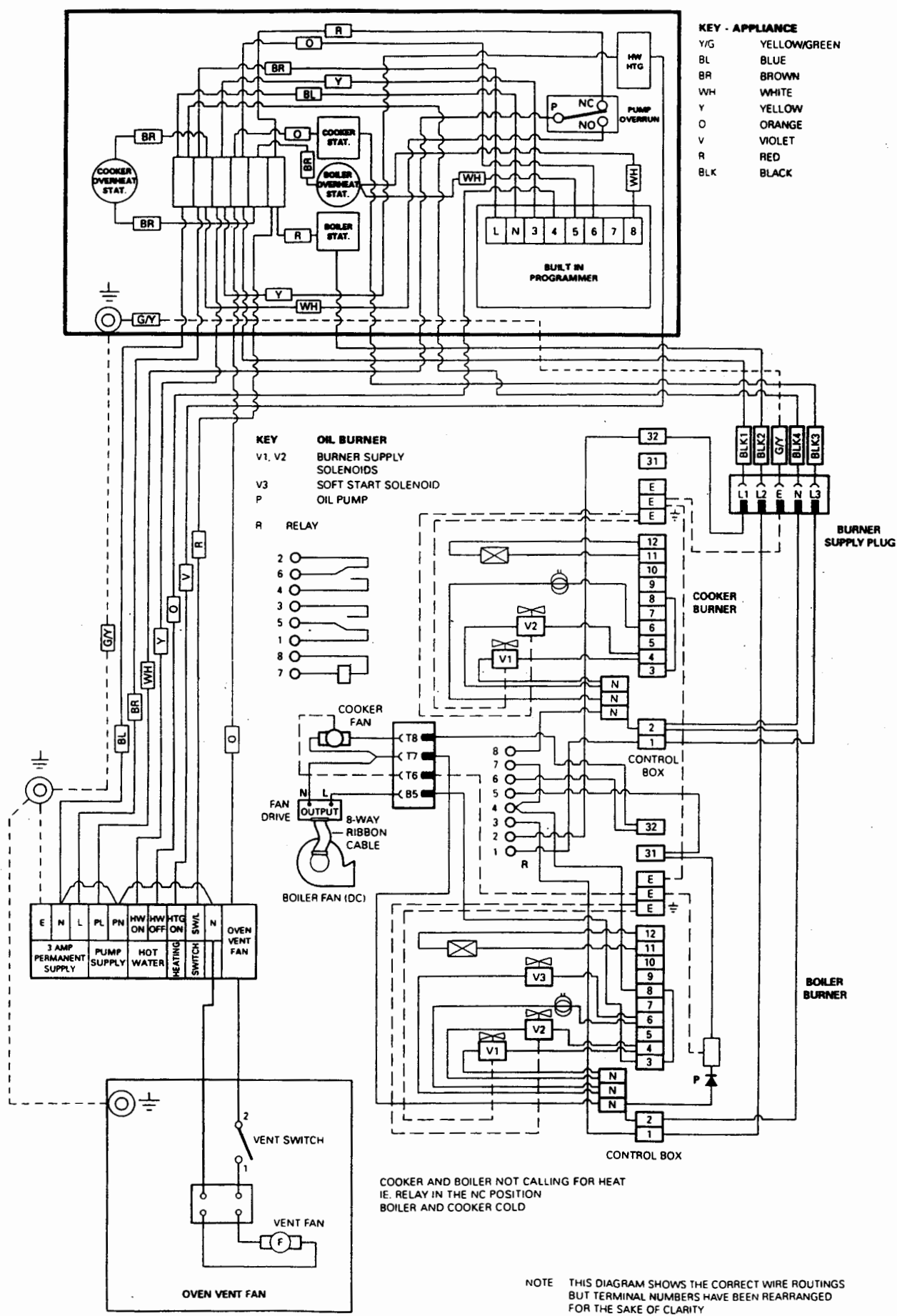
WIRING DIAGRAM - BURNER ONLY - 499KB



COOKER AND BOILER NOT CALLING FOR HEAT
IE. RELAY IN THE NC POSITION
BOILER AND COOKER COLD

NOTE: THIS DIAGRAM SHOWS THE CORRECT WIRE ROUTINGS
BUT TERMINAL NUMBERS HAVE BEEN REARRANGED
FOR THE SAKE OF CLARITY.

WIRING DIAGRAM - APPLIANCE 499KB



BURNER DOES NOT START

Burners

Check that the burners have not gone to lock-out.

Causes of lockout can be-

- ☐ No ignition, ignition electrode incorrectly positioned or insulation cracked, spark generator faulty, check for 230v at spark generator.
- ☐ No oil supply.
- ☐ Poor combustion
- ☐ Photo electric cell incorrectly positioned, cracked or needs cleaning.
- ☐ Live and Neutral connections reversed.
- ☐ Oil valves not properly closed in shutdown position.
- ☐ Faulty control box.
- ☐ Faulty fire valve.

REFER TO FLOW DIAGRAM FOR ELIMINATION PROCEDURES

General

You can carry out some checks on the controls before you need to access the controls compartment behind the controls door.

If only one of the burners is not running then the fault must be after the safety overheat thermostats.

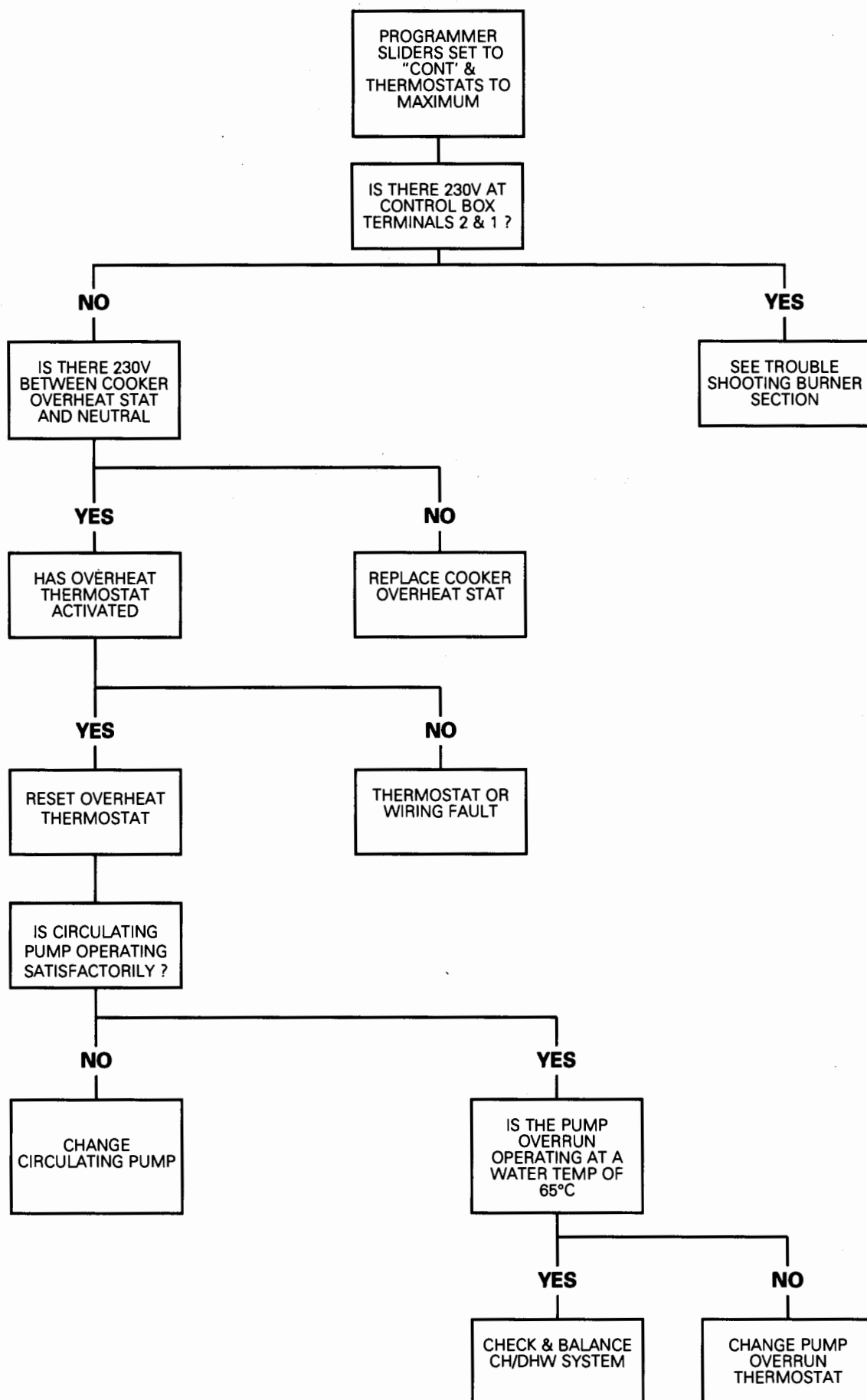
Conversely if both burners are affected then the fault usually lies before the programmer connections.

For access to individual controls refer to section on Replacement Parts and for wiring continuity checks refer to Figs. 37, 38, 39 and 40 for detailed and schematic wiring layouts.

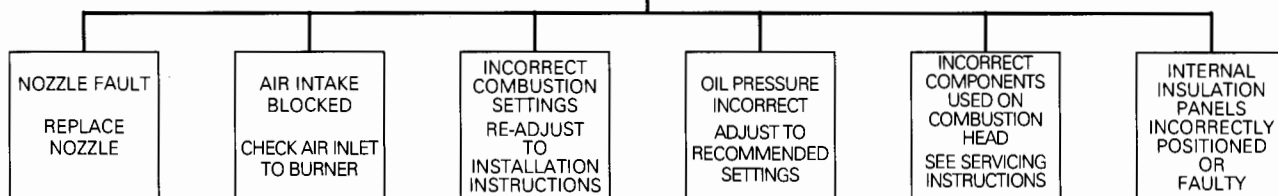
To check out the electrical wiring at the burners you will first have to have access to the burner chamber. Use the following procedure:-

1. Isolate the electrical power supply.
2. Open up the bottom burner access door. Remove door and put in a safe place.
3. Unscrew the 4 screws holding the inner panel in place and remove panel.
4. Unscrew the 3 screws holding the louvered plinth in place and remove plinth.

The external mains connections are made to a terminal block situated in the front left-hand corner of the burner chamber. Re-connect the electrical supply and check that there is a 230V power supply available across the mains input connections L & N on the terminal block. If not then check connecting leads, fuse and whether power is available at mains plug. If power is available across L & N then check to see whether the overheat cut-out switch has cut-out, if it has then reset by pushing in the centre with a small, round tool i.e. a pencil. Check for continuity across cooker overheat thermostat.



HIGH SMOKE NUMBERS



OIL SMELLS

