



# *Central Heating Cooker*

## Oil

### **Instructions for Use, Installation and Servicing**

**For use in GB, IE (Great Britain and Eire)**

This appliance has been certified for use in countries other than those stated. To install this appliance in these countries, it is essential to obtain the translated instructions and in some cases the appliance will require modification. Contact Redfyre for further information.

#### **IMPORTANT**

**The front and top of this cooker will become hot whilst in operation. It is therefore recommended that a suitable guard should be used for the protection of young children, the elderly or infirm.**

**Please read these instructions carefully before installation or use.**

**Keep them in a safe place for future reference and when servicing the cooker.**

**The commissioning sheet found at the end of the User Sections of these instructions should be completed by the installer.**

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|               |                 |           |           |
|---------------|-----------------|-----------|-----------|
| <b>COLOUR</b> | 00=Cream        | 02=Blue   | 03=Black  |
|               | 13=Forest Green | 10=Pewter | 12=Claret |

|   |   |   |  |  |   |   |   |   |  |  |   |
|---|---|---|--|--|---|---|---|---|--|--|---|
| C | R | E |  |  | 0 | 0 | 0 | 3 |  |  | 0 |
|---|---|---|--|--|---|---|---|---|--|--|---|

|                     |              |              |
|---------------------|--------------|--------------|
| <b>BOILER SIZE:</b> | 6 = 60K Btu  | 7 = 80K Btu  |
|                     | 8 = 100K Btu | 9 = 120K Btu |

|                  |      |       |
|------------------|------|-------|
| <b>FUEL TYPE</b> | 1=NG | 5=Oil |
|------------------|------|-------|

|                                   |           |                               |    |
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# APPLIANCE COMMISSIONING CHECKLIST

## IMPORTANT NOTICE

Explain the operation of the appliance to the end user, hand the completed instructions to them for safe keeping. The following information will be required when making any guaranteed claims.

| FLUE CHECK                                  | PASS | FAIL |
|---------------------------------------------|------|------|
| 1. Flue is correct for appliance            |      |      |
| 2. Flue flow test                           |      |      |
| 3. Spillage test                            |      |      |
| 4. Chimney flue draught reading             | mm   | wg   |
|                                             |      |      |
| OIL CHECK                                   |      |      |
| 1. Are all joints and connections airtight? |      |      |
| 2. Check KBB operation                      |      |      |
| 3. Check burner operation                   |      |      |
| 4. CD10 and CD11 completed and returned     |      |      |

## DEALER AND INSTALLER INFORMATION

Dealer .....

Gas Type.....

.....

Installation Company .....

.....

Contact No.....

.....

Date of Purchase.....

Engineer .....

Model No.....

Contact No.....

Serial No.....

OFTEC Reg No.....

Date of Installation .....

This product is guaranteed for 2 years from the date of installation, as set out in the terms and conditions of sale between Redfyre and your local Redfyre dealer. This guarantee will be invalid, to the extent permitted by law, if the above Appliance Commissioning Checklist is not fully completed by the installer and available for inspection by a Redfyre engineer. The guarantee will only be valid during the second year, to the extent permitted by law, if the annual service recommended in the Instructions for Use has been completed by an OFTEC registered engineer, and a copy of the service visit report is available for inspection by a Redfyre engineer.

# USER INSTRUCTIONS

## 1. DESCRIPTION

- 1.1 Congratulations, you are now the proud owner of the new Redfyre central heating cooker capable of providing full central heating and domestic hot water. As manufacturers we are proud of the features and quality of construction of all our cookers.

## 2. GENERAL

- 2.1 As manufacturers and suppliers of cookers and heating products we take care to ensure these products are designed and constructed to meet all safety requirements when properly used and installed. To this end, our products are thoroughly examined and tested before delivery.
- 2.2 These Instructions explain the features of your new cooker and how you can achieve the best results. They describe cleaning, maintenance, installation and servicing. Please read these instructions with care so you can enjoy cooking and can maintain your cooker to give many years of service.
- 2.3 A qualified installer must install, commission, service or carry out any remedial work, i.e. electrical fault finding.
- 2.4 The cooker must not be altered in any way. A cooker that is incorrectly installed, altered in any way or not serviced can invalidate approval of the appliance, its warranty and may affect your statutory rights
- 2.5 The cooker must be operated by adults; children should not play with or near the cooker and a suitable guard used for protection of young children and the infirm.
- 2.6 Parts of the cooker become very hot when in use (e.g. hotplates and ovens) and remain hot for a long period after use. Take great care when using the cooker and use oven gloves whenever appropriate.
- 2.7 This Redfyre cooker is designed for cooking, domestic hot water and central heating and must not be used for other purposes.
- 2.8 Make sure you use stable saucepans and always position handles away from the edge of the hotplate.
- 2.9 Do not place combustible materials onto the hotplate surfaces even when the cooker is off.
- 2.10 Do not spray aerosols in the vicinity of this appliance while it is operating.
- 2.11 Do not cover the outlet on the top rear splash back cover.
- 2.12 Do not allow clothes, furnishings or any combustible material to come into contact with any flue pipe.

## 3. RUNNING-IN

- 3.1 The new surface coating on your Redfyre cooker "burns off" to create a harmless odour during its first hours of use. This smell disappears after a short period but if it persists ask your installer for advice. You should open windows or doors to keep the room well ventilated until the odour disappears.

## 4. VENTILATION

- 4.1 Heat and moisture are produced by oil range cookers. Ensure the kitchen is well ventilated.
- 4.2 You may need to open a window or increase mechanical ventilation during prolonged use of the cooker.
- 4.3 Air for combustion is taken in through the cooker's burner door. DO NOT shut off or block this door or any additional air vents fitted by your installer in any compartment or to the outside.
- 4.4 Any purpose-provided ventilation must be periodically checked to ensure it is free from obstruction.

## 5. SERVICING & SPARE PARTS

- 5.1 The cooker must be serviced every 12 months by a qualified gas engineer. In all correspondence, always quote the Model and Serial Number found on the data badge inside the bottom left door.
- 5.2 You must turn off your cooker 12 hours before servicing. Your cooker cannot be serviced while it is hot.
- 5.3 All Redfyre products must be serviced annually by a competent person using approved spare parts available from Redfyre.

## 6. FROST PROTECTION

- 6.1 During severe cold weather, if the DHW boiler is out of use for a lengthy period, we recommend you drain down the whole system to avoid the risk of freezing, but frequent draining is not recommended, especially in hard water areas where this may lead to a build up of scale inside the boiler.
- 6.2 For short periods of absence, leave the cooker operating at a low thermostat setting.

# USER INSTRUCTIONS

## COOKER FEATURES AND CONTROLS

The cooker has two ovens to be used as and when you want: the programmable main oven and the baking oven beneath. The main oven works like a conventional oven being controlled by its own thermostat. This thermostat also controls the rest of the appliance. This oven reaches a roasting temperature in approximately 20-25 minutes from cold, or in less time if it has already been in use. The baking oven works by heat conduction.

Two pressure jet burners give you complete control of the appliance; one for central heating and one for cooking.

### 1. MAIN OVEN

- 1.1 The main oven operates in similar fashion to a conventional oven, reaching high temperatures in approximately 20-25 minutes from cold. It has its own programmer and a thermostatic control that also serves the rest of the appliance.

Position shelves on runners as follows:

- 1.2 Top Shelf - used to grill meats, vegetables and so on, or brown dishes such as *gratins* under heat radiating from the roof.
- 1.3 Second Shelf down - used for roasting potatoes, cooking scones and so on. Covered dishes and hot puddings can be quickly reheated here.
- 1.4 Middle Shelf - used for roasting meats, jacket potatoes, pastry, bread rolls, loaves and pizzas.
- 1.5 Grid Shelf on oven floor - used for large loaves of bread and slower roasts (e.g. pork, poultry).
- 1.6 Direct onto oven floor - for pastry, tarts and pies or crisping up the bottom of bread loaves. The frying pan can be heated on the floor before transferring to the hotplates and then transferred back to the oven floor to finish off. This helps to keep the area around the hotplate clean and free.
- 1.7 Spillages inside this oven are automatically burnt off and can be easily removed with a brush.

### 2. BAKING OVEN

- 2.1 This oven operates at approximately 100°C lower than the main oven. If the main oven is set to 200°C, then the lower oven is simply used as a warming oven.
- 2.2 Use the moderate heat of this oven for baking cakes and biscuits and cooking fish. Slow, long-cooking dishes are often started on one of the hotplates, then transferred to this oven.

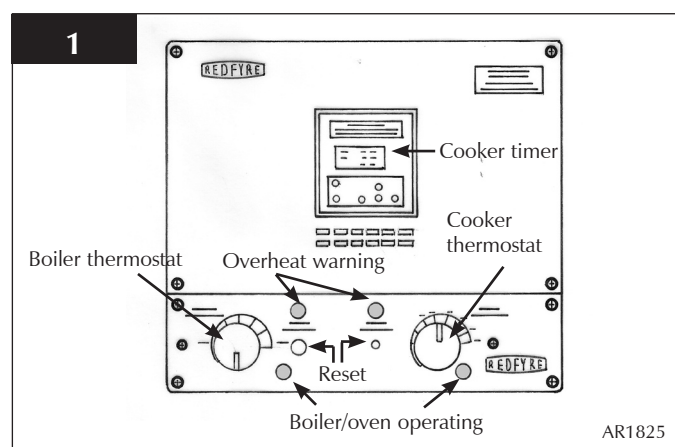
### 3. HOTPLATE

- 3.1 The dog bone hotplate is large enough to support seven various sized saucepans. The heat distribution is graduated across the hotplate, the left side becoming hottest first. The higher the oven temperature setting, the hotter the hotplates.

- 3.2 Two insulated lids conserve heat and should be closed when the hotplate is not in use.
- 3.3 When hot, wear gloves to remove the decorative centre cover.

## 4. CONTROL PANEL

- 4.1 One control panel is behind the top left door of the cooker.



It has:

- a **Cooker Timer** you must program
- two **Thermostats**:
  - Boiler Thermostat (controlling the temperature of the Central Heating water)
  - Cooker Thermostat (controlling the temperature of the oven and other cooking surfaces)
- two **Overheat Thermostats** you might need to reset.

Both the oven and boiler have orange neon indicators that are lit until the oven or boiler have reached their set temperature.

For safety, there are two manual overheat thermostats for the oven and boiler inside the top left door. Each overheat thermostat has a red neon indicator. If these are lit you must reset each thermostat. The reset buttons spring out if overheating occurs.

For the oven:

- Press in the red reset button beneath the red indicator

For the boiler:

- Press in the brown cross-shaped button beneath the red indicator

**If frequent resetting is required, contact your distributor; the appliance may need servicing.**

- 4.2 A further control panel is behind the lower left door. It has:
- Two **Reset buttons**: one for the Cooker and one for the Boiler Burner

# USER INSTRUCTIONS

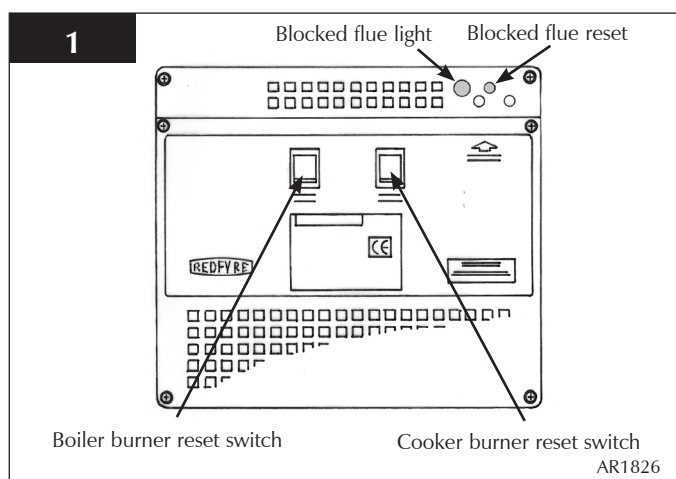
## COOKER FEATURES AND CONTROLS

These buttons are lit if either the cooker or boiler burners are extinguished by some kind of blockage or restriction.

For either the cooker or boiler:

- Press the lit button to re-fire the burner, ensuring the appropriate thermostat is demanding heat

**You must contact your distributor if either of these burners continually needs resetting.**



### b) a Blocked Flue Reset Button and red indicator at top right corner of panel

This light is lit if there is a problem with the flue system. It can be reset:

- Press the reset button beside the light

If this happens more than twice, call a service engineer to check the flue for blockages, refer to *Section 9*.

## 5. LIGHTING THE BURNERS

### Oven Burner

#### 5.1 Lighting the oven burner is a fully automatic process:

- Ensure the programmer is in ON mode and the programmer's neon is lit
- Turn the oven thermostat to the desired temperature.

The oven's orange indicator lights up and remains lit until the correct temperature is reached.

### Boiler Burner

#### 5.2 Lighting the boiler is a fully automatic process:

- Make sure any external controls are ON and demanding heat
- Turn the boiler thermostat to the desired temperature

## 6. SWITCHING OFF

#### 6.1 If you want to switch off the appliance for short periods:

- For the boiler:
  - Turn all the external controls to OFF and turn the boiler thermostat to OFF
- For the cooker:
  - Turn the cooker thermostat and programmer to OFF

#### 6.2 To switch off the appliance for longer periods:

- Turn all external and internal controls to off and switch off the electricity supply to the appliance.

See the previous section for information on Frost Protection

## 7. COOKER PROGRAM

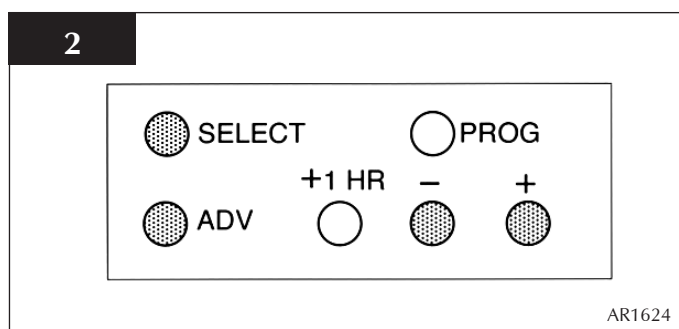
You have a choice of either a manual or automatic setting to turn your boiler ON and OFF.

**Make sure the cooker thermostat is demanding heat if you want the cooker to fire up after setting the program.**

### Setting the Cooker Timer

#### 7.1 When the appliance is first powered-up you need to remove the cover protecting the Timer buttons. To start the Timer:

- Press and hold down the four buttons shown in grey in the following diagram, 2.



### Re-setting the Time of Day

#### 7.2 Remove the cover protecting the programming buttons

- Press PROG for Programming Mode

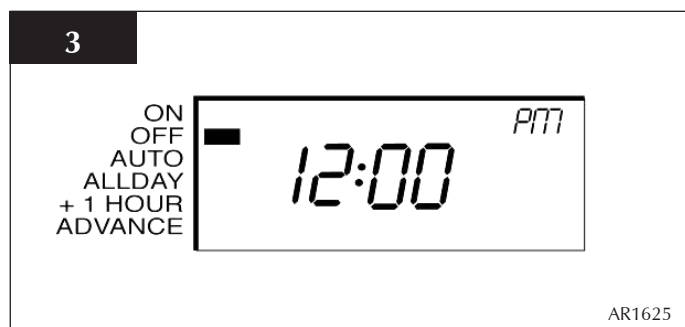
You see a time displayed. The colon dividing hours and minutes does not flash.

- Press and release the Plus (+) or Minus (-) button once to change the time in one minute increments.

If you hold down the + or - button the time changes in ten minute increments.

# USER INSTRUCTIONS

## COOKER FEATURES AND CONTROLS



- Press and release the Plus (+) or Minus (-) button once to change the time in one minute increments
- Press and **hold** the + or - button the time changes in ten minute increments

### Factory Settings

7.2 The appliance has 3 pre-settings for each day to automatically switch the cooker ON and OFF which you can alter to suit your lifestyle. A morning afternoon and evening Event is set:

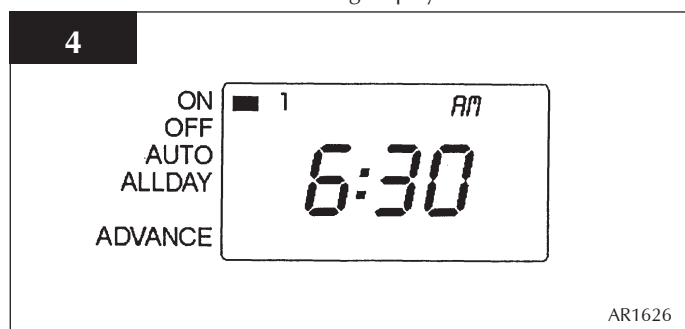
|         |               |                |
|---------|---------------|----------------|
| Event 1 | ON = 06:30 am | OFF = 08:30 am |
| Event 2 | ON = 12:00 pm | OFF = 02:00 pm |
| Event 2 | ON = 05:00 pm | OFF = 10:30 pm |

### Adjusting Factory Settings

7.3 To change the factory settings:

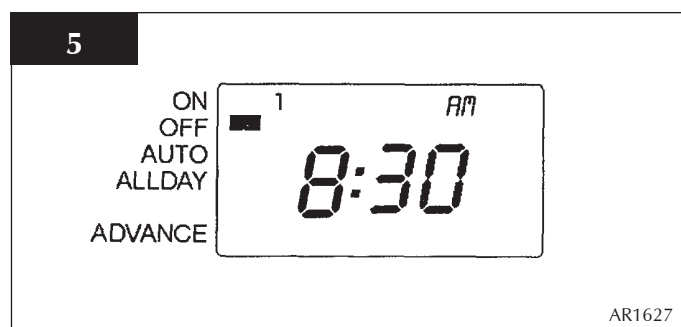
- Press PROG

You will see the following display:



The Event Number is displayed at the top left.

- Press and release the Plus (+) or Minus (-) button once to change the time in one minute increments
- Press and **hold** the + or - button the time changes in ten minute increments
- Press PROG again to select the time at which the boiler switches OFF for this event
- Press and release the Plus (+) or Minus (-) button once to change the time in one minute increments.



- Press and release the Plus (+) or Minus (-) button once to change the time in one minute increments.
- Press and **hold** the + or - button the time changes in ten minute increments

The Event number automatically changes after setting each Event.

7.4 To change the factory settings for Events 2 and 3, repeat the procedure at 7.3.

- Press PROG again to return to the RUN mode
- Select AUTO if you now want to run the program
- Replace the cover protecting the Timer buttons

### Choosing Manual or Automatic Settings

7.5 • Use the SELECT button to choose between:

|         |                                                                                    |
|---------|------------------------------------------------------------------------------------|
| ON      | Run continuously                                                                   |
| OFF     | Off continuously                                                                   |
| AUTO    | Follows programme                                                                  |
| ALL DAY | Turns first programmed event ON and turns OFF at the end of last programmed event. |

### System Overrides

7.6 • Use the ADV or +1HR button to choose an override:

|     |                                             |
|-----|---------------------------------------------|
| ADV | Advances appliance to the next event        |
| 1HR | Adds 1 further hour onto the current event. |

7.7 Any Timer settings are retained for 14 days following a power failure, after which the appliance goes to sleep mode. If this happens, you must reset the Timer when power is restored, see 7.1 above.

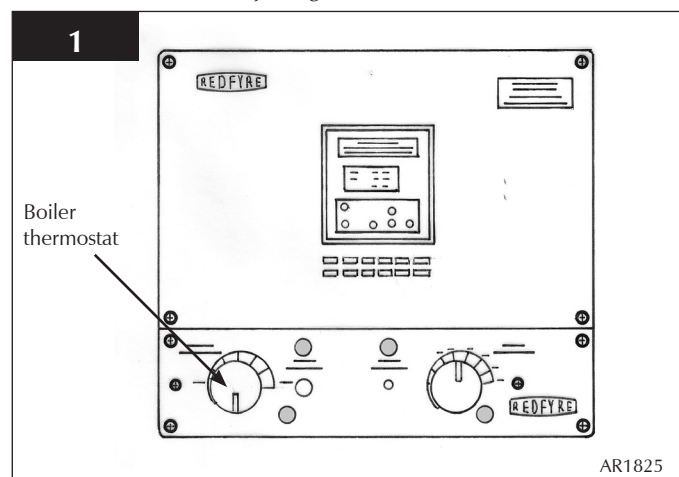
# USER INSTRUCTIONS

## COOKER FEATURES AND CONTROLS

### 8. CENTRAL HEATING

8.1 The heating or hot water are regulated simply by turning the Boiler thermostat to the temperature you want.

- Make sure your external Programmer is ON and asking for heat before adjusting the thermostat



### 9. BLOCKED FLUE

- 9.1 This is a blocked flue sensing device. This is an important safety device to prevent the products of combustion entering the room due to a flue problem. Under no circumstances must this device be put out of operation whilst the cooker is in use.
- 9.2 When this device operates it will turn both burners off and the red neon illuminates. It is not possible to relight the appliance for approximately 30 minutes after which time the reset button must be pressed.
- 9.3 In the event of repeated activation of the blocked flue device the chimney / flue problem must be investigated and corrective action taken immediately.
- 9.4 Access to the reset button is achieved by opening the control lower left-hand door and pressing the red reset button.

# USER INSTRUCTIONS

## OVEN COOKING GUIDE

Heat storage cookers have a reputation for producing very fine cooking but if you are new to cooking on this type of stove you need to understand the difference between this cooker and a conventional cooker. Once the cooker has reached a desired temperature, there is no quick way of reducing the heat; you cannot simply turn a knob to lower the temperature. To keep dishes from boiling over or over-cooking, you must move your dish from one position on a hotplate (or in an oven) to another. If you have not used this type of cooker before you may need to think about your approach to cooking. This section gives you some typical examples and guidelines to help you adjust.

From cold, your top right oven should reach a Roasting Temperature in approximately half an hour.

### 1. MEAT

- 1.1 Roast meat cooked inside this type of heat storage cooker retains its size and shape and rarely needs extra cooking fat. There are two methods:

- Quick Roast at 200°C for superior cuts
- Slow Roast at 170°C for coarser cuts

We recommend searing or sealing an inferior cut at high temperature for 20/30 minutes before reducing the heat. You can rest the meat for a few minutes at the end of cooking by putting it in the lower oven to settle the juices and allow for easy carving.

- 1.2 To calculate cooking times, always consider the shape of a joint as well as its weight. A narrow joint cooks faster than a solid, even-shaped joint.
- 1.3 The oven settings and cooking times below are given as a guide only. Individual tastes may require you to adjust the settings or reposition the dish being cooked. (If temperatures seem to vary hugely to those listed, then the oven thermostat may be faulty and may need replacing.

**Note: The tables below are for guidance only. Each cooker installation varies slightly.**

|                |         | Setting | Shelf | Approx Time                   |
|----------------|---------|---------|-------|-------------------------------|
| Beef with bone | - slow  | 170°C   | 3     | 20-25 min per 500g+ 20-25 min |
|                | - quick | 200°C   | 3     | 15-20 min per 500g+15-20 min  |
| Beef boneless  | - slow  | 170°C   | 3     | 30-35 min per 500g+30-35 min  |
|                | - quick | 200°C   | 3     | 20-25 min per 500g+20-25 min  |
| Lamb           | - slow  | 170°C   | 3     | 30-35 min per 500g+30-35 min  |
|                | - quick | 200°C   | 3     | 25-30 min per 500g+25-30 min  |
| Pork or Veal   | - slow  | 170°C   | 3     | 35-40 min per 500g+35-40 min  |
|                | - quick | 200°C   | 3     | 25-30 min per 500g+25-30 min  |

### 2. POULTRY

- 2.1 Cook Poultry or Game on a trivet in a roasting tin to prevent the meat stewing in its own juice. Add on time where there is stuffing.

|                      |         | Setting | Shelf | Approx Time                   |
|----------------------|---------|---------|-------|-------------------------------|
| Chicken              | -       | 170°C   | 3     | 20-25 min per 500g+ 20-25 min |
| Turkey (under 4.5kg) | - slow  | 170°C   | 3     | 20-25 min per 500g+20-25 min  |
|                      | - quick | 200°C   | 3     | 15-20 min per 500g+15-20 min  |
| Turkey (over 4.5kg)  | - slow  | 170°C   | 3     | 30-35 min per 500g+30-35 min  |
|                      | - quick | 200°C   | 3     | 25-30 min per 500g+25-30 min  |
| Pork or Veal         | - slow  | 170°C   | 3     | 35-40 min per 500g+35-40 min  |
|                      | - quick | 200°C   | 3     | 25-30 min per 500g+25-30 min  |

### 3. CASSEROLES

- 3.1 Sear or seal meat over a high heat before adding to a casserole and bring liquid to boil if required for the casserole.

|                 | Setting   | Shelf | Approx Time                                   |
|-----------------|-----------|-------|-----------------------------------------------|
| Top Oven        | 140-150°C | 3     | Hours according to recipe                     |
| Oven-baked Fish | 180°C     | 3     | According to size cut, preparation and recipe |

### 4. CAKES

|                        | Setting   | Shelf | Approx Time                                             |
|------------------------|-----------|-------|---------------------------------------------------------|
| Rich Fruit Cake        | 140-150°C | 4     | Approximately 45 min per 500g of mixture (7-8") 2-3 hrs |
| Victoria Sandwich      | 180°C     | 3     |                                                         |
| Queens cakes (2 trays) | 180-190°C | 2     | 15-25 min                                               |
| Scones                 | 200°C     | 2     | 10-15 min                                               |

### 5. PASTRIES

|             | Setting | Shelf | Approx Time         |
|-------------|---------|-------|---------------------|
| Shortcrust  | 200°C   | 4     | According to recipe |
| Flaky       | 220°C   | 2     | According to recipe |
| Rough puff  | 220°C   | 2     | According to recipe |
| Puff pastry | 220°C   | 2     | According to recipe |

# USER INSTRUCTIONS

## CARE OF THE COOKER

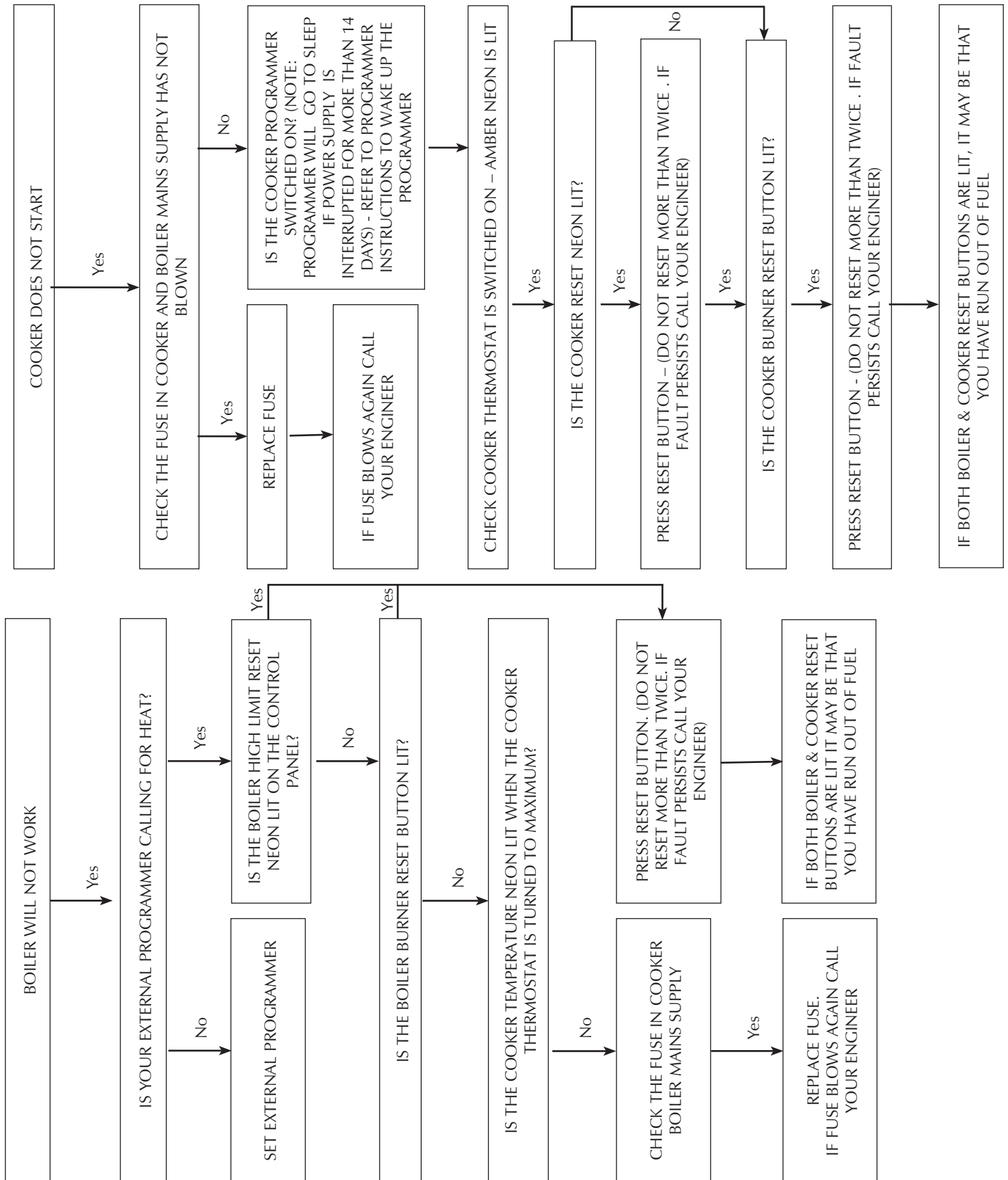
### IMPORTANT:

- Never use caustic, citric or abrasive cleaners as these will scratch or damage the surface.
- Always try to wipe up any spillages as they happen.
- A more satisfactory result is achieved if the cooker is cool when cleaning.
- Use hot soapy water and a cloth for the enamel, drying off with a soft cloth to avoid streaking.
- To clean inside ovens, wire brush carbon stains and vacuum up deposits. The wire brush scratches the internal oven surface but this does not damage its natural surface. Ensure the natural surface is dry after cleaning to prevent oxidation.

|                       | Hot Water & Soap | Wire Brush | Cream Cleaner VE Approved | Nylon Brush |  |
|-----------------------|------------------|------------|---------------------------|-------------|--|
| Top Plate             | »                |            | »                         |             |  |
| Hot Plate Dome Chrome | »                |            |                           |             |  |
| Hot Plates            |                  | »          |                           | »           |  |
| Oven                  |                  | »          |                           |             |  |
| Chrome Shelves        | »                | »          | »                         |             |  |
| Oven Door             | »                |            |                           |             |  |
| Door Liner            | »                |            | »                         |             |  |
| Seal                  | »                |            |                           |             |  |
| Colour Parts          | »                |            |                           |             |  |
| Front                 | »                |            |                           |             |  |
| Sides                 | »                |            |                           |             |  |
| Doors                 | »                |            |                           |             |  |
| Chrome Handles        | »                |            |                           |             |  |
| Tower Rail            | »                |            |                           |             |  |

# USER INSTRUCTIONS

## COOKER FAULT FINDING



# USER INSTRUCTIONS

## AFTER SALES SERVICE INFORMATION

### 1. GUIDE TO REPORTING A FAULT

- 1.1 A qualified Field Service Engineer is available to attend breakdown or manufacturing faults whilst this appliance is under guarantee.
- 1.2 A charge is made where:
- Our Field Service Engineer finds no fault with the appliance
  - The cause of a breakdown is outside the appliance, being part of the plumbing or heating system, including oil line or oil deficiency or other equipment not supplied by Redfyre
  - Where the appliance falls outside the guarantee period, (see Terms and Conditions)
  - The appliance has not been correctly installed, commissioned or serviced as recommended (see Commissioning, Installation and Servicing Instructions)
  - The breakdown occurs immediately after an annual service visit. In this instance, your appointed Service Agent must check all his work before requesting Redfyre to attend
- 1.3 Over 50% of all service calls are found to have no appliance fault.
- 1.4 In the event of an appliance fault or breakdown:
- Step 1: Always contact your installer or commissioning engineer in the first instance. He must thoroughly check his work before requesting a service visit from Redfyre.
- Step 2: If your appliance has developed an in-guarantee fault, your installer should contact Redfyre Service Centre for assistance.
- What happens if my installer/engineer is not available?
- Step 3: Contact Redfyre Direct. We provide you with the name and telephone number of our Service Agent. However, a charge can apply if the fault is not covered by the appliance guarantee (payment is requested on site by our independent Service Agent).

**Note: Unauthorised invoices for attendance and repair work to this appliance by any third party are not accepted by Redfyre.**

### 2. THE COOKER ENAMEL

- 2.1 Every enamelled part of your cooker is unique and has its own individual characteristics. Coloured parts may differ slightly in shading. This does not impair performance in any way and is quite normal.

#### IMPORTANT CUSTOMER NOTICE

Cosmetic damage, stains and scratches produced by cooking and cleaning are NOT covered by the statutory guarantee. The user MUST be aware of this before the cooker is installed and commissioned.

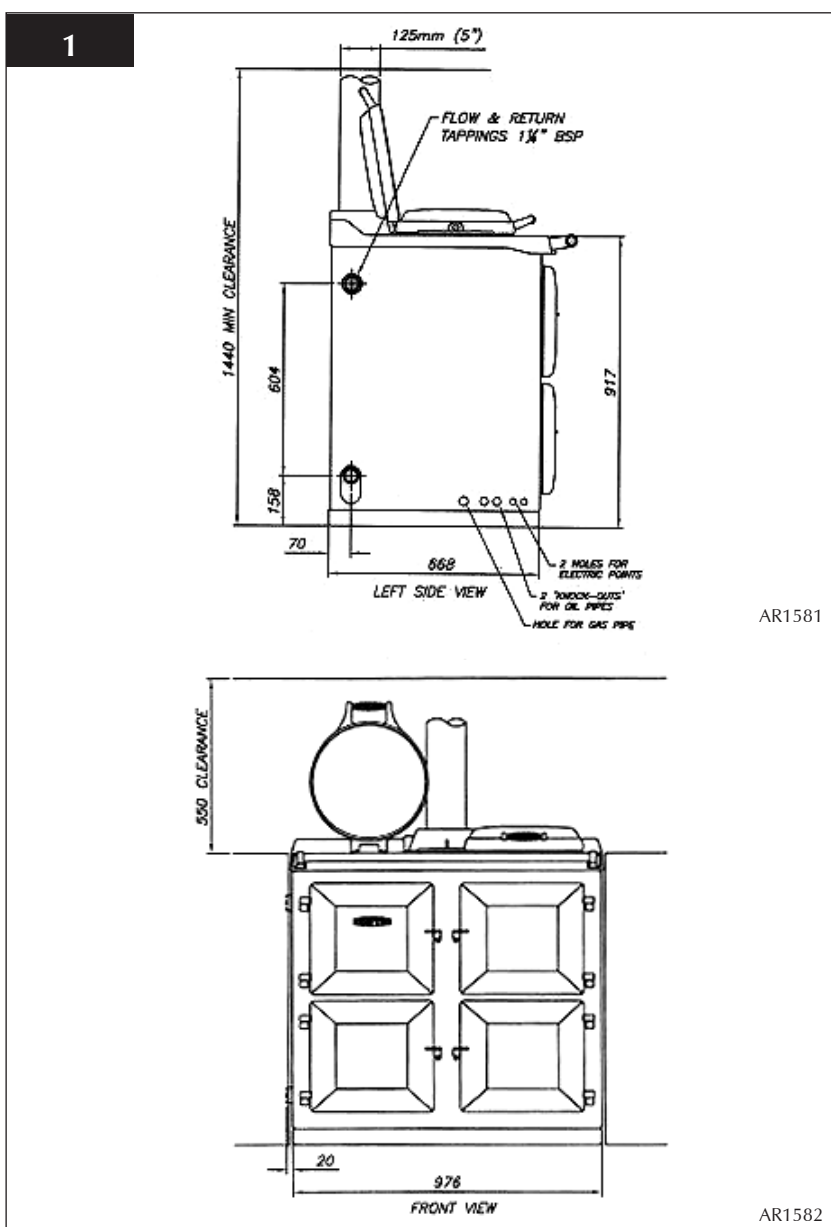
Refer to the *Appliance Commissioning Checklist* on page 1 of these Instructions for the product guarantee.

# INSTALLATION INSTRUCTIONS

## TECHNICAL SPECIFICATION

| Model                   | Cooker    | 60        | 80        | 100       | 120       |
|-------------------------|-----------|-----------|-----------|-----------|-----------|
| Rated input kW          | 17        | 18.9      | 23.8      | 32.2      | 39.1      |
| Rated output kW         |           | 17.6      | 21.9      | 29.3      | 35.2      |
| Case Emission kW        |           | 0.5       | 0.8       | 1.0       | 1.0       |
| Efficiency (NETT)       |           | 93%       | 92%       | 91%       | 90%       |
| SAP Rating              |           | 88.4%     | 87.6%     | 86.2%     | 85.2%     |
| Efficiency Band         |           | B         | B         | B         | C         |
| Burner                  | Minor 1   | Minor 1   | Minor 1   | Minor 4   | Minor 8   |
| Oil pump pressure (PSI) | 6.8 (100) | 6.8 (100) | 7.5 (110) | 9.5 (140) | 7.8 (115) |
| CO <sub>2</sub> %       | 11        | 11        | 11.5      | 12        | 12        |
| Max fuel per hour – kg  | 1.42      | 1.58      | 2.13      | 2.66      | 3.2       |

|                              |                              |
|------------------------------|------------------------------|
| Fuel                         | 28 sec kerosene (BS 28695)   |
| Weight – dry kg              | 500                          |
| Water content – litre        | 38                           |
| Flow and return tappings     | 2 x 1 1/4" BSP               |
| Test pressure                | 4.5 bar                      |
| Operating pressure           | 3 bar max                    |
| Water side resistance – mbar |                              |
| 10°C diff                    | 26                           |
| 12°C diff                    | 8.3                          |
| Flue sockets – Dia.145mm     | inside Flue dia. 5" (125 mm) |
| Starting current – Amp       | 3.5                          |
| Running current – Amp        | 1.2                          |

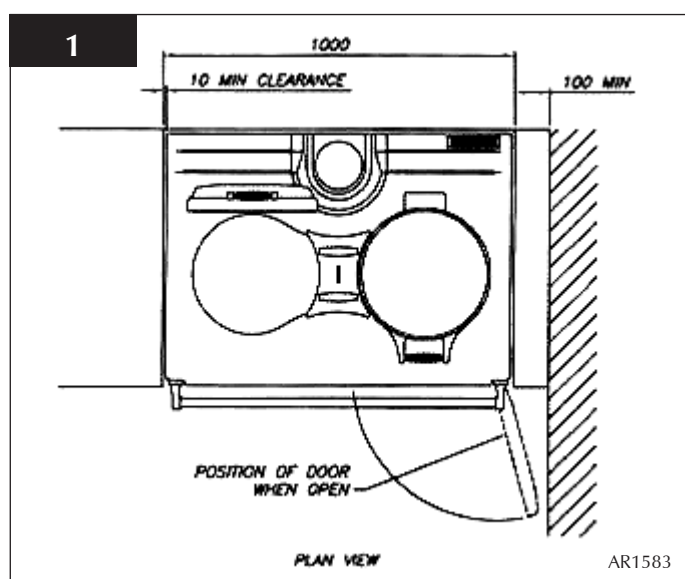


# INSTALLATION INSTRUCTIONS

## SITE REQUIREMENTS

### 1. COOKER CLEARANCE

- 1.1 The cooker fits in a 1000mm space with 10mm clearance each side.
- 1.2 If the right-hand side of the cooker is to be positioned next to a wall, an extra 100mm is required at the right-hand side to remove oven shelves.
- 1.3 A clearance of 550mm is required above the cooker to raise the dome lids.
- 1.4 If a cooker hood is to be fitted, it should be installed to the manufacturer's instruction.
- 1.5 We recommend you allocate 1000mm in front of the cooker for adequate room to cook and service.
- 1.6 Where the cooker stands in a recess or against a tiled wall, under no circumstances must the tiles overlap the black enamel top plate.



### 2. SOUND LEVELS

- 2.2 While sound levels for this appliance are low, consider the following before installation:
  - (a) The flue pipe from the appliance can be cast iron to reduce noise
  - (b) Ask the householder if anyone is particularly sensitive to low noise levels.
  - (c) Small rooms can amplify noise particularly where the walls are hollow or tiled.
  - (d) A chimney passing through a bedroom can sometimes transmit noise.

### 3. HEARTH

- 3.1 The appliance must be fitted on a non-combustible base.
- 3.2 The floor must be level and capable of supporting the installed weight of the appliance and its water content.

### 4. CONVENTIONAL CHIMNEY

- 4.1 The chimney should rise as vertically as possible and terminate at a point not subject to down draughts or wind eddies. See Flue Systems, Section 5. It should rise 600mm off the top of the cooker before any bend and have a 3m effective flue height.
- 4.2 Brick and masonry chimneys must be lined with a moisture and acid resistant liner of the same diameter as the boiler flue outlet.
- 4.3 A factory made insulated chimney complying with BS 4543 Part 3 may be considered as an alternative to a structural chimney both for new and existing buildings.
- 4.4 The use of a flexible stainless steel liner is a convenient method of lining an existing chimney and this should be back filled with 'vermiculite' or similar insulating material to retain heat. A flexible liner should also be used in chimneys fitted with large diameter clay liners to reduce the flue bore and improve the thermal insulation.
- 4.5 The use of a draught-stabiliser should not be necessary nor is it desirable since it allows flue noises to be emitted into the room. See Flue Systems, Diagram 1.

#### Notes:

- (a) In view of the appliance's high thermal efficiency it is important that a liner is fitted, otherwise condensation problems could result.
- (b) Before fitting a liner, the chimney must be thoroughly cleaned free from all traces of soot and scale.

# INSTALLATION INSTRUCTIONS

## SITE REQUIREMENTS

### 5. OIL SUPPLY

- 5.1 The burners are factory set to burn 28 sec. Kerosene.

#### Oil Storage Tanks

- 5.2 The tank should be large enough to allow for economic deliveries and be located in the most unobtrusive position, having regard to the need for safety, filling, maintenance (if steel tank) and the head of oil required.
- 5.3 It is highly unlikely that a fire could start from a domestic oil tank, but the tanks needs to be protected from any fire originating in a nearby building. The tank should not be located closer than 1.8 metres from a building, nor closer than 760mm from a site boundary. Where a tank has to be less than 1.8 metres, the building wall must not have any openings other than small ventilation openings. The wall shall have a half hour resistance to an internal fire and extend 1.8 metres from any part of the tank.
- 5.4 Alternatively, a non-combustible radiation barrier must be provided which meets the requirements of BS 5410 Part 1, 1997. This standard applies to tanks up to a capacity of 3,400 litres which is deemed the maximum size for a single family dwelling.

#### Steels Tanks

- 5.5 Steel tanks should comply with the requirements BS799 Part 5: 1987 and mounted on brick or block piers with a waterproof membrane between the piers and the tank.
- 5.6 The tank should be fitted with fill and vent connections (weather protected), a drain-off cock, shut-off valve and an oil level indicator.

#### Plastic Tanks

- 5.7 Polyethylene tanks are now widely used because of their advantages over traditional steel tanks:
- a) They do not need pier supports and can be mounted directly on any flat surface giving uniform support for the tank base.
  - b) They do not corrode and therefore never need painting.
  - c) They are easier to handle because of their lower weight.
  - d) They have a 10 year manufacturer's guarantee.
- 5.8 Plastic tanks should be fitted with similar components to those used with steel tanks.

### 6. MAINS ELECTRIC SUPPLY

**Note: THIS APPLIANCE MUST BE EARTHED.**

- 6.1 All electrical wiring must be carried out by a qualified electrician in accordance with current I.E.E. Regulations and any Local Regulations that may apply. The 230v - 50Hz electrical supply to the unit and auxiliary controls must be fused by a double pole switch with a contact separation of at least 3mm in both poles and shuttered socket (both complying with the requirements of BS 1363) adjacent to the boiler.

### 7. WATER SYSTEMS

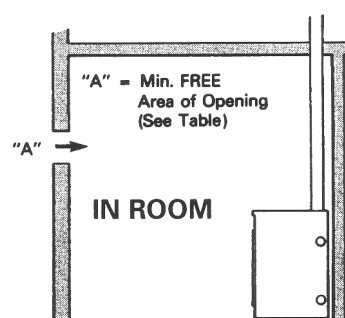
- 7.1 The appliance is suitable for fully pumped open vent & sealed systems only and the installation must comply with the requirements of BS 6798 and BS 5449. Fit a drain off cock in the lowest part of the system. Where the boiler is also to be used for providing domestic hot water, a double feed indirect cylinder to BS 1566 Part must be used. Flush out the system to remove any swarf or residues before fitting the circulating pump

**Note: Where the boiler is installed on a gravity type system ensure its high efficiency is considered alongside the gravitational flow. Failure may result in a temperature build-up within the boiler causing noisy operation.**

### 8. COMBUSTION AIR

- 8.1 Adequate supply of combustion air is essential for the efficient and safe operation of the appliance.
- 8.2 The air opening should be positioned where it causes the least draught to the house occupants and is not liable to be accidentally blocked.
- 8.3 British Standard Code of Practice for Oil Firing BS5410: Part1 requires a permanent air inlet opening of 550 mm<sup>2</sup> per kW of boiler rated output.

2



AR1650

# INSTALLATION INSTRUCTIONS

## SITE REQUIREMENTS

| Model | Minimum FREE Area opening "A"               |
|-------|---------------------------------------------|
| 60    | 166 cm <sup>2</sup> (15 in <sup>2</sup> )   |
| 80    | 198 cm <sup>2</sup> (19.5 in <sup>2</sup> ) |
| 100   | 230 cm <sup>2</sup> (24.5 in <sup>2</sup> ) |
| 120   | 262 cm <sup>2</sup> (30 in <sup>2</sup> )   |

### 10. EXTRACTOR FAN

- 10.1 The combustion performance of the appliance must not be affected when the kitchen's extractor fan is running and all doors and windows are closed. A flue gas check on the CO<sub>2</sub> % and smoke number should be carried out.

# INSTALLATION INSTRUCTIONS

## 1. GENERAL

- 1.1 This appliance has been designed to conform to European Directive/Standards BED 92/42 EEC LVD EN 60335-1 EMC 89/336/EEC
- 1.2 The Redfyre is supplied suitably equipped for connection to a conventional chimney.
- 1.3 The matched pressure jet burners are exceptionally quiet in operation and ensure clean and efficient combustion with low NOx emissions.
- 1.4 The central heating boiler has been designed for use on open vent or sealed systems. If it is to be used on a sealed water system up to a maximum working pressure of 3bar, additional safety devices are required.
- 1.5 A flow and return socket is provided to facilitate connection to the heating/hot water system.
- 1.6 Because of the high efficiency of this range of boilers, it is recommended they are fitted on a fully pumped system.
- 1.7 All servicing can be carried out from the front and top of the appliance. This allows the cooker to be fitted between kitchen units. The front mounted flue-cover permits easy access for the removal of the flue baffles and cleaning of heating surfaces.
- 1.8 The boiler is fully automatic in operation and incorporates all the necessary safety controls to ensure safe and reliable operation.
- 1.9 The appliance is supplied with the burners set for Kerosene 28 sec. Class C fuel only.

**The person(s) who installs this appliance, commissions, services or carries out any remedial work, i.e. electrical fault finding, must have suitable engineering qualifications.**

## 2. REGULATIONS

- 2.1 Installation of the appliance must comply with the following British Standards and Regulations:
  - BS 5410L Part 1 – Code of Practice for Oil Firing
  - BS 5449 – Force Circulation Hot Water Central Heating Systems
  - The Building Regulations
    - Part 'J' (England and Wales)
    - Part 'F' Section 111 (Scotland)
    - Part 'L' (Northern Ireland)
  - The Control of Pollution (Oil) Regulations
  - Current I.E.E. Regulations
  - Local Water Undertakings By-laws
  - OFTEC Installation Requirements for Oil Fired Boilers and Oil Storage Tanks

## 3. HEALTH & SAFETY AT WORK ACT

- 3.1 The installer should be aware of his responsibilities under the Act and provide, where necessary, appropriate protection for persons carrying out the installation.
- 3.2 In the interest of safety, the cooker should be installed and commissioned by a competent engineer, preferably OFTEC trained and registered.
- 3.3 A useful guide to Safe Working Practices for Oil Firing Technicians is published by OFTEC.

### Health & Safety

#### INFORMATION FOR THE INSTALLER AND SERVICE ENGINEERS

- 3.4 Under the Consumer Protection Act 1987 and the Health & Safety at Work Act 1974, it is a requirement to provide information on substances hazardous to health (COSHH Regulations 1988).
- 3.5 The Company takes every reasonable care to ensure these products are designed and constructed to meet these general safety requirements, when properly used and installed.
- 3.6 To fulfil this requirement, products are comprehensively tested and examined before despatch.
- 3.7 When working on the appliance, it is the Users/Engineers responsibility to ensure that any necessary personal protective clothing or equipment is worn appropriate to parts that could be considered as being hazardous to health and safety.
- 3.8 This appliance may contain some of the items below.

#### INSULATION AND SEALS

- 3.9 Glass Rope, Mineral Wool, Insulation Pads, Ceramic Fibre, Glass Insulation:
  - May be harmful if inhaled.
  - May be irritating to the skin, eyes, nose or throat.
  - When handling, avoid inhalation and contact with eyes. Use (disposable) gloves, face masks and eye protection.
  - After handling, wash hands and other exposed parts.
  - When disposing, reduce dust with water spray and ensure parts are securely wrapped.
  - Full Material Safety Data Sheets are available from Gazco if required.

#### GLUES, SEALANTS & PAINT

- 3.10 Glues, Sealants and Paints are used in the product and present no known hazards when used in the manner for which they are intended.

# INSTALLATION INSTRUCTIONS

## GENERAL

### KEROSENE & GAS OIL FUELS (MINERAL OILS)

- 3.11.1 The effect of mineral oils on the skin vary according to the duration of exposure.
- 3.11.2 The lighter fractions also remove the protective grease normally present on the surface of the skin rendering the skin dry, liable to crack and more prone to damage caused by cuts and abrasions.
  - Avoid, as far as possible, any skin contact with mineral oil or with clothing contaminated with mineral oil.
  - Do not fire the burner outside the cooker and do not breath in mineral oil vapour.
- 3.11.3 Barrier cream containing lanolin such as Rosalex Antisolv, is highly recommended together with a strict routine of personal cleaning.
- 3.11.4 Under no circumstances should mineral oils be taken internally.

# INSTALLATION INSTRUCTIONS

## OIL SYSTEMS

### 1. OIL SUPPLY LINES

- 1.1 Flexible oil hoses are supplied with the appliance; filters and shut-off valves are a requirement. These should be fitted as illustrated in diagrams 1, 2 and 3.
- 1.2 The oil shut-off valves should be fitted as close to the burner as practicable so burners can be disconnected without undue loss of oil. The filter must be connected in the oil supply pipe and positioned as close to the oil tank as possible.

#### Fire Valve

- 1.3 A fire valve must be fitted in the oil lines outside the building with its sensing phial positioned within the cooker casing below the control panel. A clip is provided for retaining the phial.
- 1.4 All oil line joints must be completely sealed and the total pipe run thoroughly flushed out before connecting to the burner. No soldered joints are permitted in the oil line.

#### Single Pipe Oil Line Supply

- 1.5 When the bottom of the oil supply tank is above the burner, a single gravity system can be used. The oil supply pipe must be connected to the suction port on the burner pump via the flexible hose. See Diagram 1.

#### Two-Pipe Oil Supply

- 1.6 Where the bottom of the oil storage tank is below the burners, a two-pipe system can be fitted.
- 1.7 When using a two-pipe, it is important that the small Horse Shoe washer is removed from the BFP 11R3, pumps fitted to boiler burner, and the by-pass plug is fitted to the cooker burner. (Refer to oil supply diagram 2).
- 1.8 An additional Flexible oil line is also required:

#### Notes:

- (1) The pump suction should not exceed -0.4 bar, otherwise dissolved gas is released from the oil to affect combustion.
- (2) The return pipe must end at the same level as the suction outlet to prevent loss of prime.
- (3) The outlet from the tank should be approximately 75mm above the bottom to prevent sediment and water being drawn into the supply pipe

#### Oil De-aerator – Single Pipe Supply

- 1.9 Where a two-pipe suction lift system is required, but the return pipe is too long or impractical to run, an oil de-aerator can be used. Check with the manufacturer's specification that the de-aerator being used is suitable for external use and for two pressure jet burners. The burner is piped as for a two-pipe system up to the oil de-aerator but only a single pipe is required to be run back to the oil storage tank. A non-return valve is not required with this system, but the by-pass plug must be fitted in the pump as for a two-pipe system.
- 2.10 The oil de-aerator should be fitted externally, close to the cooker and is available from most builders merchants and some oil tank manufacturers. See Diagram 3.

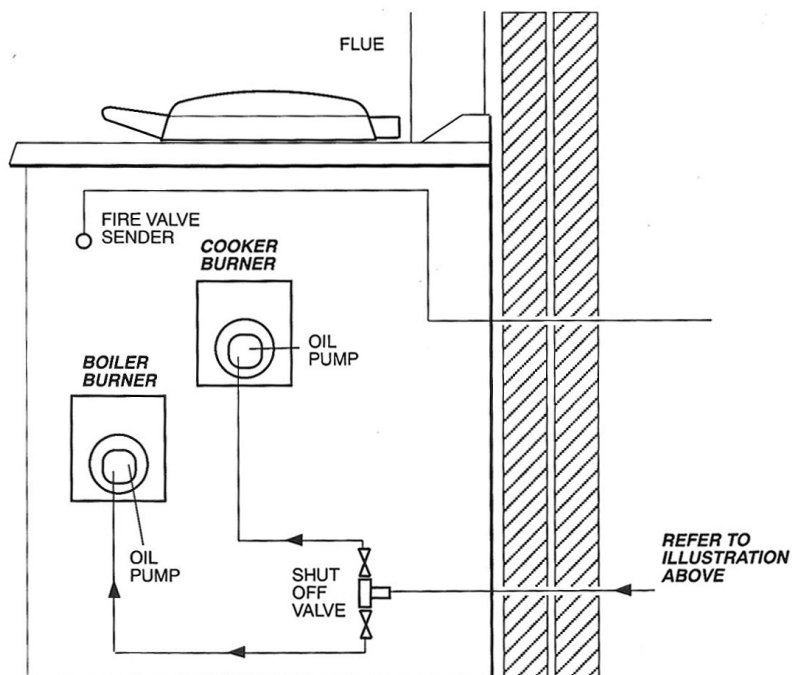
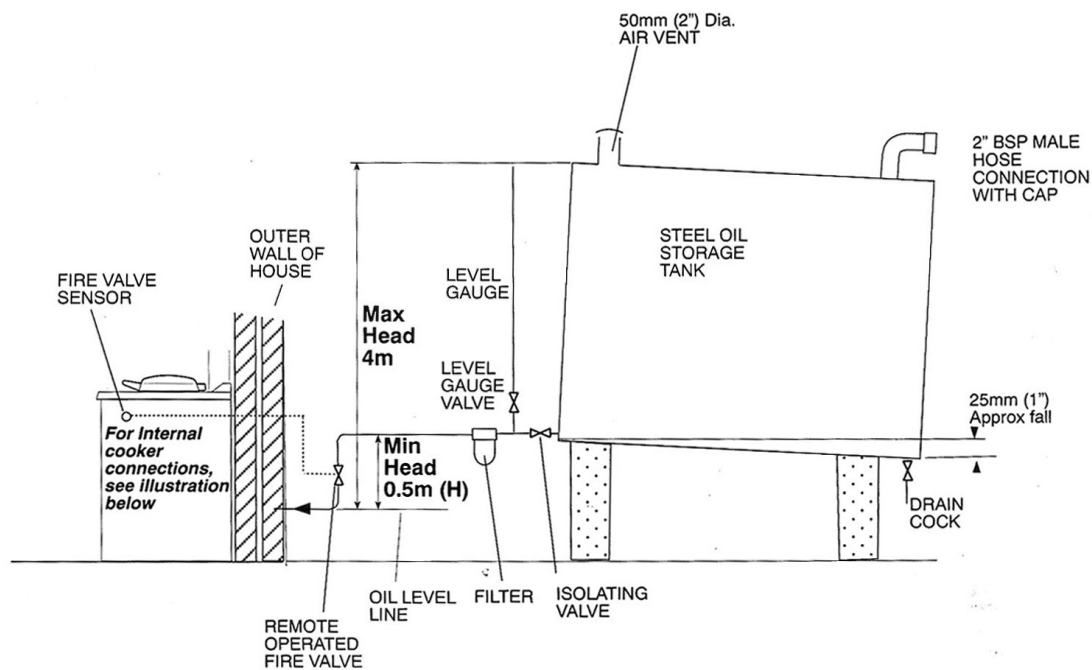
# INSTALLATION INSTRUCTIONS

## OIL SYSTEMS

1

MAXIMUM OIL SUPPLY LENGTH 'L'

| Head 'H' Metres |                         | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
|-----------------|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Pipe 6mm ID     | Maximum Length (Metres) | 10  | 21  | 31  | 41  | 52  | 62  | 73  | 83  |
| Pipe 8mm ID     |                         | 33  | 66  | 98  | 100 | 100 | 100 | 100 | 100 |



SINGLE PIPE OIL SUPPLY INSTALLATION

AR1649

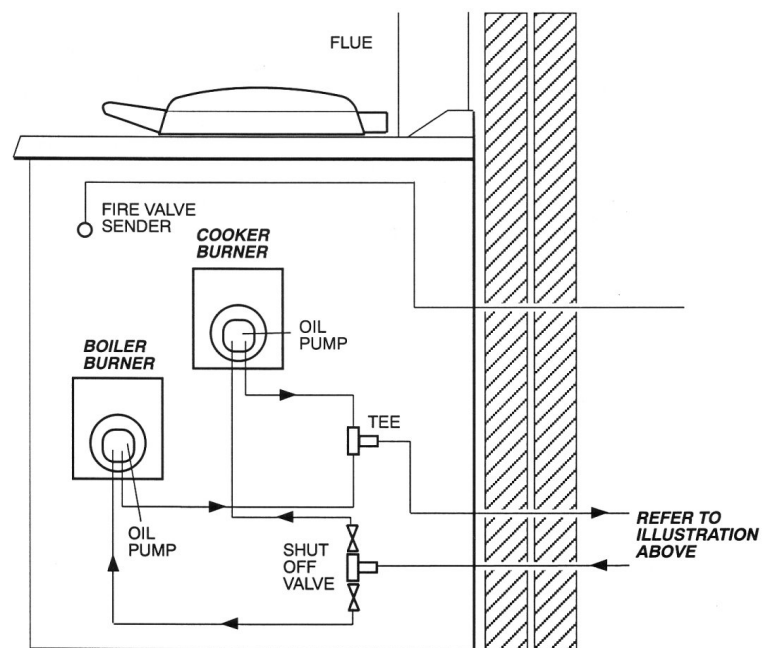
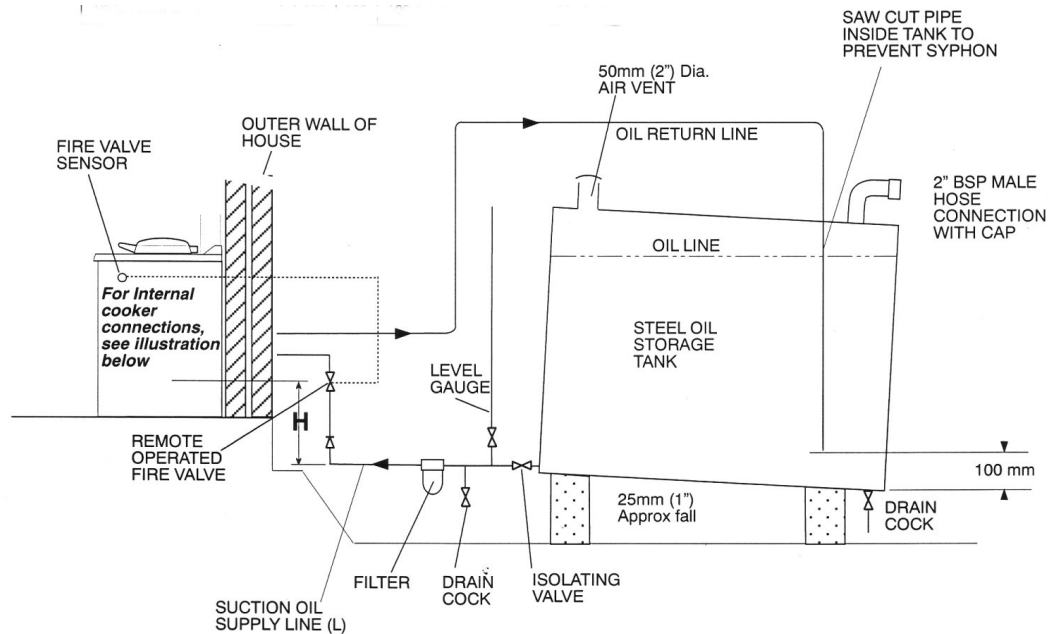
# INSTALLATION INSTRUCTIONS

## OIL SYSTEMS

2

MAXIMUM OIL SUPPLY LENGTH 'L'

| Head 'H' Metres |                         | 0.5 | 1.0 | 1.5 | 2.0  | 2.5 | 3.0 | 3.5 | 4.0 |
|-----------------|-------------------------|-----|-----|-----|------|-----|-----|-----|-----|
| Pipe 6mm ID     | Maximum Length (Metres) | 10  | 21  | 31  | 41   | 52  | 62  | 73  | 83  |
| Pipe 8mm ID     |                         | 33  | 66  | 98  | 100  | 100 | 100 | 100 | 100 |
| Pipe 10mm ID    |                         | 100 | 100 | 100 | 1100 | 100 | 100 | 88  | 40  |



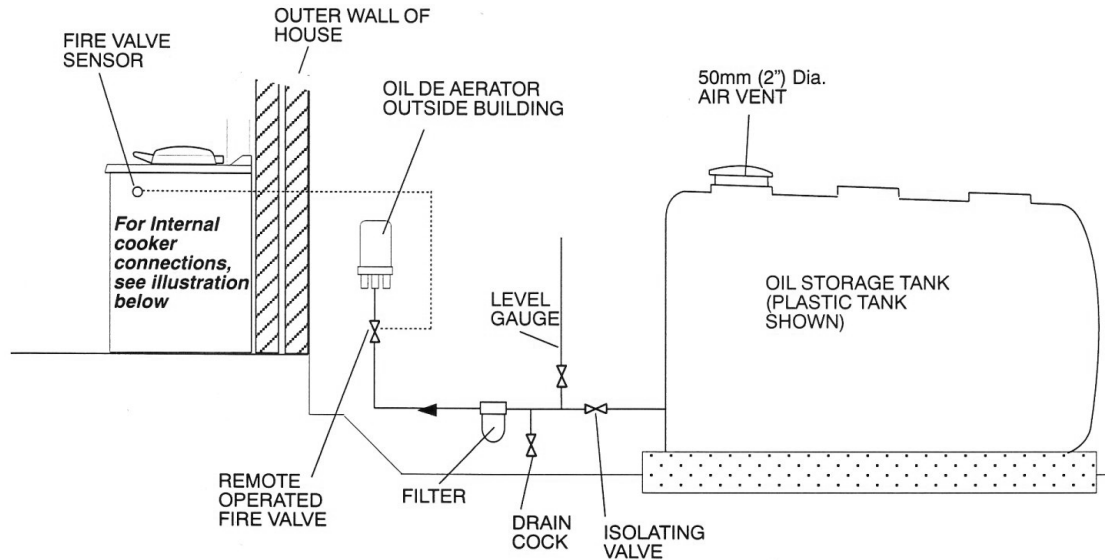
TWO PIPE OIL SUPPLY INSTALLATION

AR1647

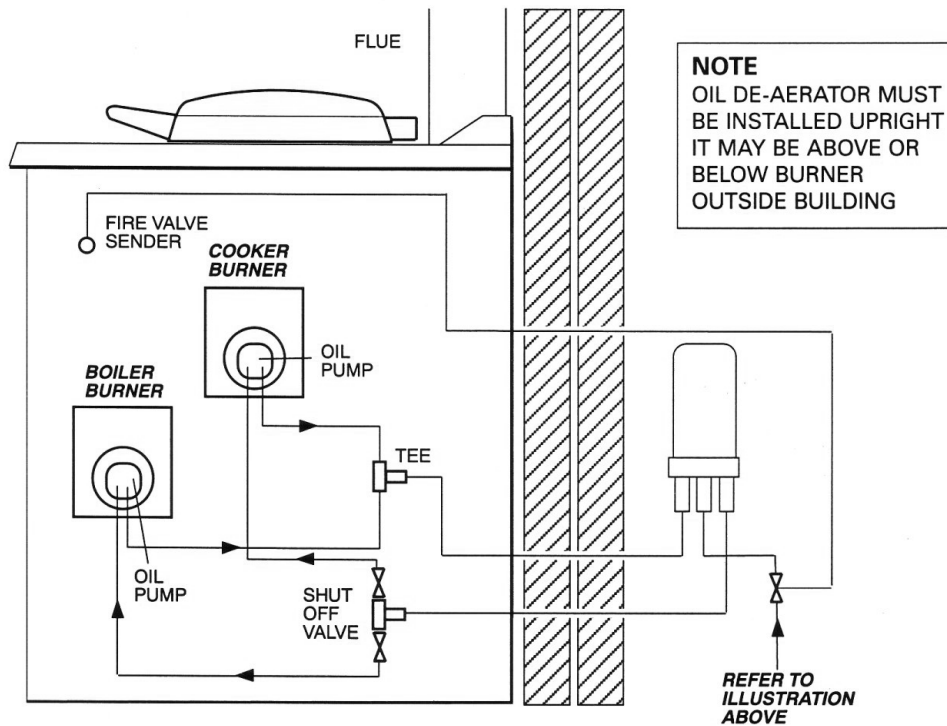
# INSTALLATION INSTRUCTIONS

## OIL SYSTEMS

3



REFER TO MANUFACTURERS  
INSTRUCTIONS FOR 'OIL DE-AERATOR'  
INSTALLATION DETAILS



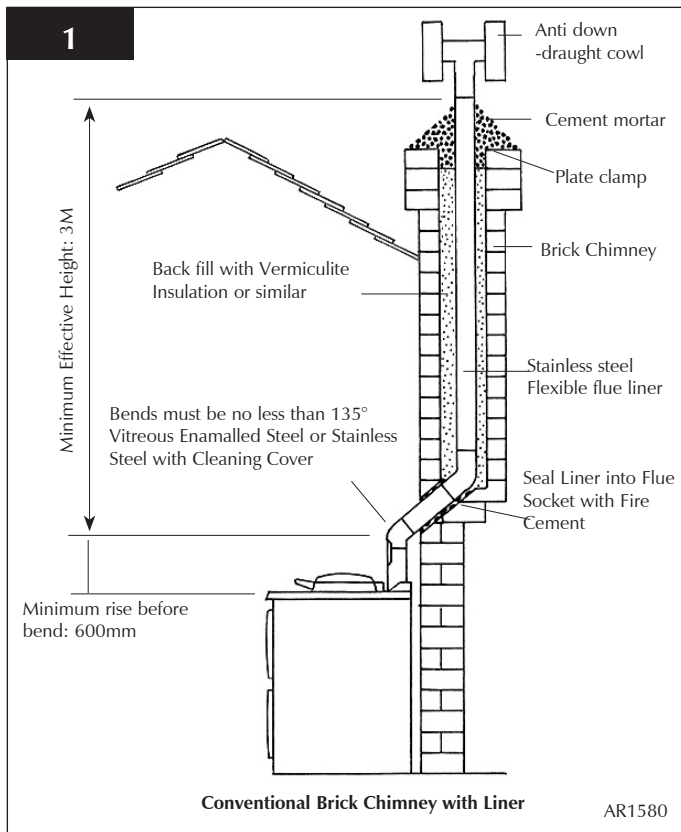
DE-AERATED OIL SUPPLY

AR1648

# INSTALLATION INSTRUCTIONS

## FLUE SYSTEMS

To evacuate the products of combustion safely and thoroughly, the cooker must have an efficient flue system. Reference should also be made to BS 5410 Part 1 if further information is required on conventional chimneys.



### 2. FLUE PIPES

- 2.1 These should only be used to connect the cooker to a suitable chimney. Any flue type must be kept clear of any combustible materials including any materials likely to be located near the installation by the householder. The minimum air gap clearance that must be maintained is 25mm (1").

Flue pipes may be constructed from the following materials: Sheet metal as described in BS 715 stainless steel flue pipe, cast iron flue pipe as described in BS 41, any flue pipe material described in the Building Regulations relating to flue pipes suitable for solid fuel and oil burning appliances. All flue pipes should be constructed such that any condensation is retained by the flue pipe system. Systems with spigot and socket joints must be fitted with the sockets uppermost.

### 3. LINING OF EXISTING CHIMNEYS

- 3.1 Before using any existing chimney, it is vital to check that the chimney is safe. Oversized, leaking or rough chimneys can be inefficient and dangerous.
- 3.2 It is vital the chimney is swept and thoroughly cleaned before installing a liner and all previous combustion deposits removed to avoid potential to damage the liner.
- 3.3 There are two basic existing types of chimney re-lining product suitable for use with gas appliances:
1. Flexible Stainless Steel
- 3.4 Recommended where any existing chimney is to be used. Flexible stainless steel liners must be certified to BS 715. When replacing an existing appliance connected to a chimney lined with a metallic liner, the liner should be replaced.
2. Rigid Stainless Steel Flue Pipe
- 3.5 Type 316 or 304 stainless steel, not less than 0.55mm thick.

### 4. TERMINATION

- 4.1 It is very important to fit a terminal which is free flowing. Experience has shown that GC1 and similar construction terminals can prove too restrictive and cause operational problems such as cutting out in use.
- 4.1 We would recommend the use of a suitably approved anti-down draught cowl.

### 5. WIND EFFECTS ON BUILDINGS

- 5.1 The drawings in diagram 2 show the general high and low pressure areas on building types. Flues should not be terminated in a high pressure area.



# INSTALLATION INSTRUCTIONS

## WATER SYSTEMS

### 1. GENERAL

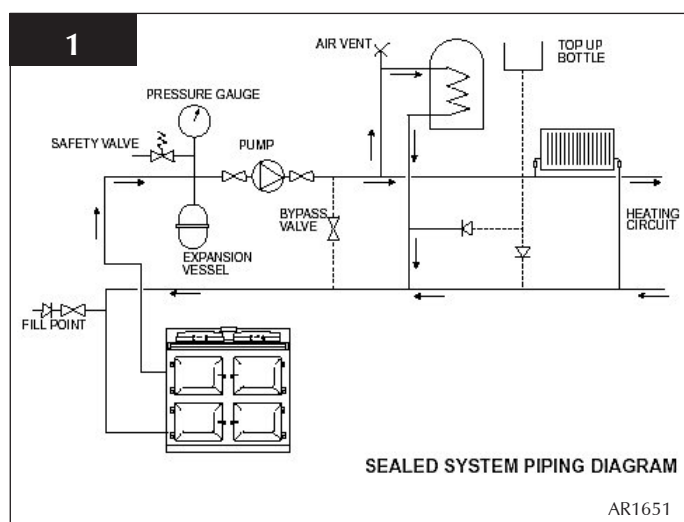
- 1.1 The appliance is suitable for fully pumped open vent & sealed systems only and the installation must comply with the requirements of BS 6798 and BS 5449. Fit a drain off cock in the lowest part of the system. Where the boiler is also to be used for providing domestic hot water, a double feed indirect cylinder to BS 1566 Part must be used.
- 1.2 An adjustable bypass valve must be fitted between the flow and return and it must be adjusted so that the return temperature to the boiler is always above 60°C. After setting this, the bypass should then be fixed. This increases the life of the heat exchanger and failure to fit a correctly adjusted bypass can invalidate the warranty.
- 1.3 Flush out the system to remove any swarf or residues before fitting the circulating pump.

### 2. SYSTEM CONTROLS

- 2.1 Operation of the system under control of the boiler thermostat alone does not produce the optimum efficiency. The heating system should include a control system. This should have at least a single channel programmer or thermostatic radiator valves (TRV). In the case of the boiler being used for central heating and domestic hot water, a 2-channel programmer should be used.

### 3. SEALED SYSTEMS

- 3.1 The appliance is suitable for connection to a sealed system and the installer needs to fit an expansion vessel of the correct size, pressure relief valve, pressure gauge, pump and automatic air vents and provide for filling. See diagram 1 for schematic piping diagram.



### 4. EXPANSION VESSEL REQUIREMENTS

|                                                                                                                                 | Bar | 0.5  | 1    | 1.5  |
|---------------------------------------------------------------------------------------------------------------------------------|-----|------|------|------|
| Vessel Charge & Initial System Pressure                                                                                         | psi | 7.31 | 4.5  | 21.8 |
| To calculate the expansion vessel required, multiply the total system volume (including 38L for boiler) by the following factor |     | 0.08 | 0.11 | 0.16 |

**Note: If the system pressure gauge indicates 2.6 bar or higher with the appliance at maximum temperature and all radiators in circulation, an additional vessel is required.**

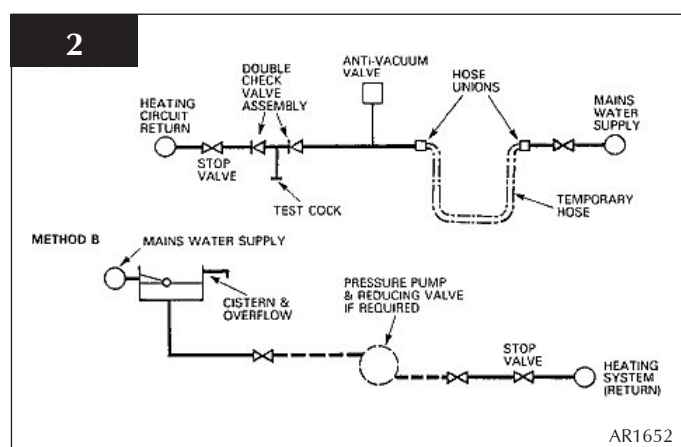
Total water content of boiler is 38 litres.

### 5. SYSTEM FILLING

- 5.1 A sealed system must only be filled by a competent person using one of the approved methods shown in diagram 2. The system should incorporate the connections appropriate to one of these methods. It is recommended that a suitable inhibitor is added to the system after the final hot flushing.

**Method of Makeup:**

- 5.2 Water loss from the system should be replaced from a makeup vessel connected to the system through a non return valve on the return side of the heating circuit. This vessel should be higher than the top of the system.

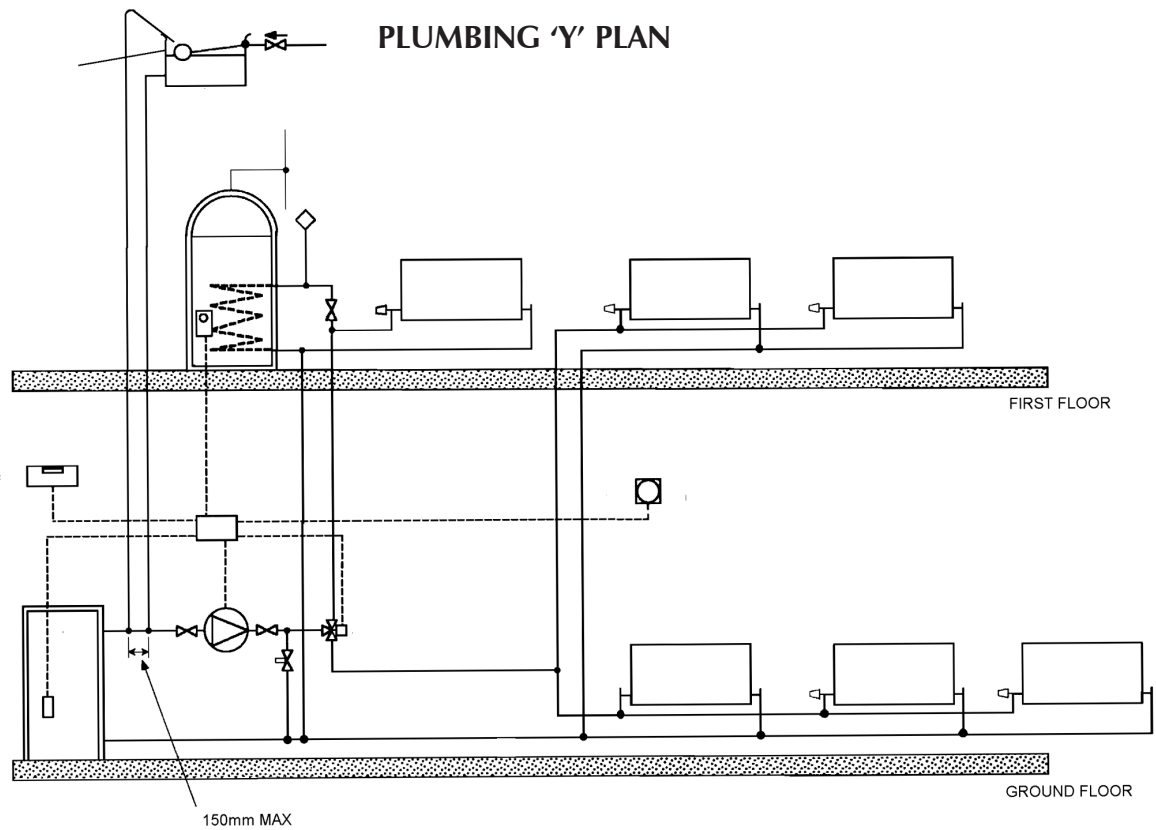


- 5.3 Alternatively provision can be made by pre-pressurisation of the system via a temporary hose connection and through a double check valve (non-return) and stop valve.

# INSTALLATION INSTRUCTIONS

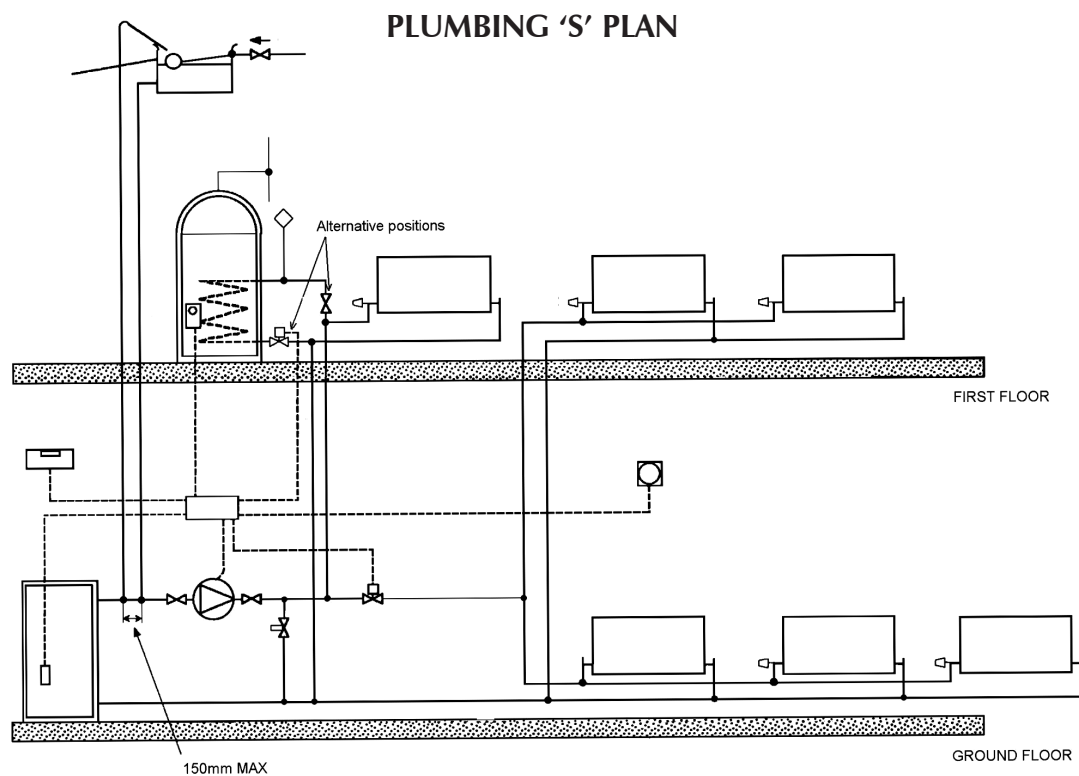
## OPEN SYSTEMS

3



AR1629

4



AR1630

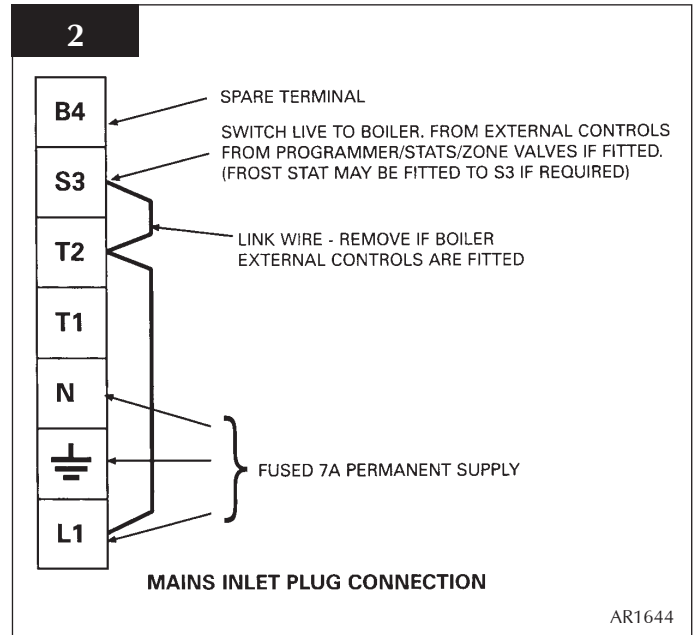
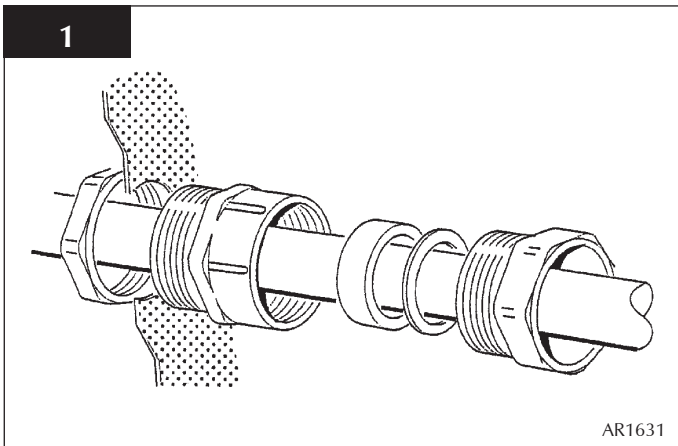
# INSTALLATION INSTRUCTIONS

## ELECTRICAL SYSTEMS

### 1. ELECTRICITY SUPPLY

**Note: THIS APPLIANCE MUST BE EARTHED**

- 1.1 All electrical wiring must be carried out by a qualified electrician in accordance with current I.E.E. Regulations and any Local Regulations that may apply. The 230v - 50Hz electrical supply to the unit and auxiliary controls must be fused by a double pole switch with a contact separation of at least 3mm in both poles and shuttered socket (both complying with the requirements of BS 1363) adjacent to the boiler. Fuse supply at 3 amp. The minimum requirement for the power supply cable should be a PVC sheathed flexible cord, at least 0.75mm<sup>2</sup> (24x0.2mm) (code designation H05 VV-F or H05 VVH2-F) as specified in table 16 of BS 6500. The appliance **MUST** be earthed and the electrical supply earth cable must be of a greater length than the current carrying conductor cables (i.e. live and neutral supply cables). All external cables entering the appliance must be secured in position by strain relief bushes supplied (see diagram on how to secure cable below). Terminal connections are also provided in the control panel for ancillary controls. See wiring diagram 2.



## 3

**KEY**  
R - RED  
G/Y - GREEN/YELLOW  
BL - BLUE  
BK - BLACK  
BR - BROWN  
P - PURPLE  
OR - ORANGE

**PROGRAMMER C602209**  
N L S L C

**C610029 - PROGRAMMER CONTROL PANEL**

**C610032 - CONTROL PANEL LOWER**

**BOILER RUNNING LIGHT (ORANGE)**

**BOILER LIMIT LIGHT (RED)**

**COOKER TEMPERATURE LIGHT (ORANGE)**

**COOKER LIMIT LIGHT (RED)**

**C602585 BOILER THERMOSTAT**

**C602586 BOILER LIMIT**

**C602587 COOKER THERMOSTAT**

**C602905 COOKER LIMIT**

**C602929 - BURNER WIRING LOOM (PART OF C610031)**

**LINK WIRE 'A'**

**REMOVE LINK WIRE 'A' IF CENTRAL HEATING PROGRAMMER FITTED.**

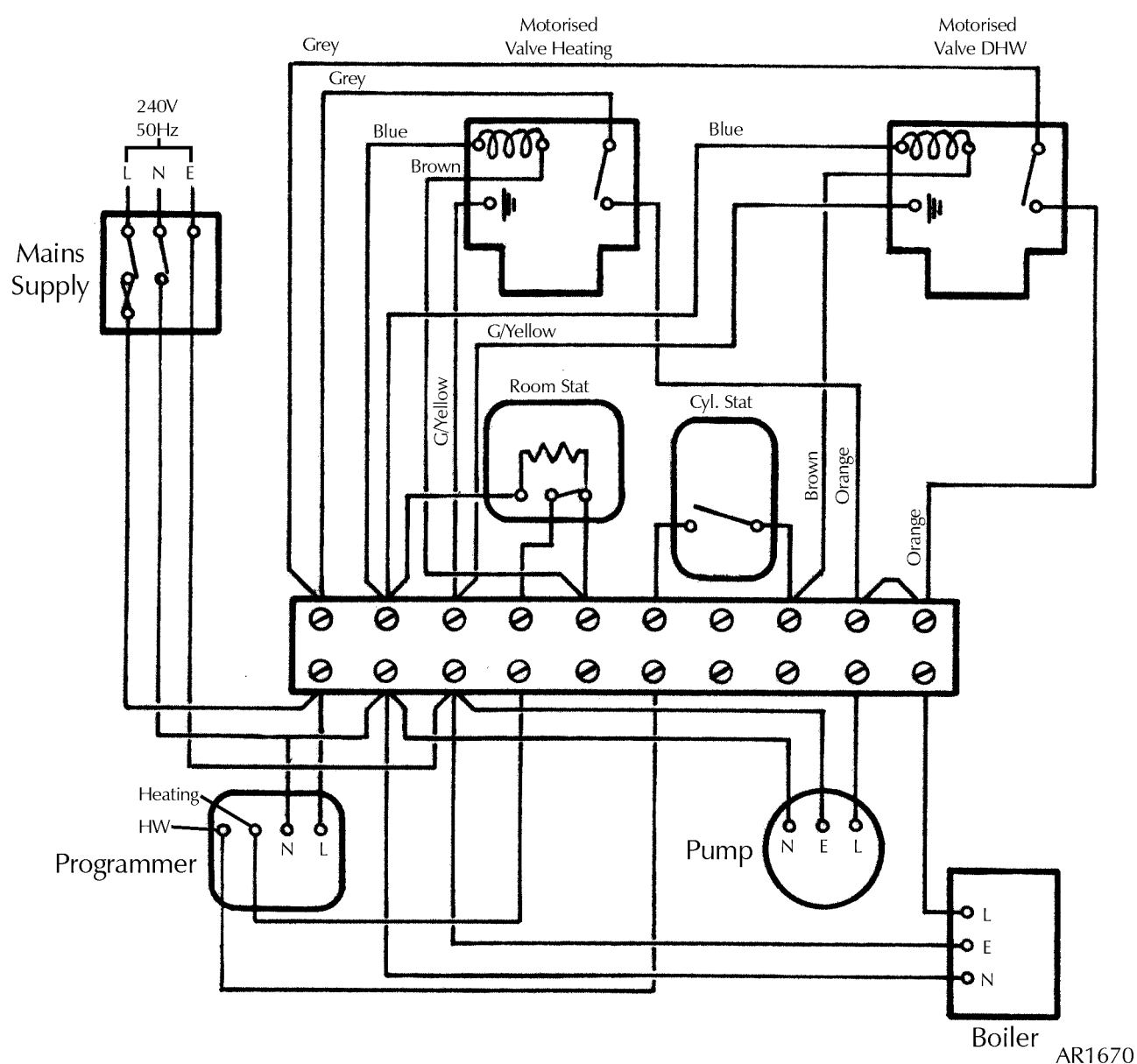
**610031 - BURNER COVER PANEL**

# INSTALLATION INSTRUCTIONS

## WIRING 'S' PLAN

- 1.1 Independent control or space and water heating circulation in a fully pumped system with two motorised valves (see System Diagrams below).
- 1.2 This scheme provides the optimum degree of control over a fully pumped installation. Separate two-port motorised valves are fitted in the space heating and water heating circuits controlled by room and cylinder thermostats respectively.
- 1.3 It operates when the room or the cylinder thermostats call for heat, and open the motorised valve controlling their circuit. The auxiliary switch in the valve switches on both pump and boiler. When either thermostat is satisfied, its motors shut and the auxiliary ceases to provide power for the pump and boiler. When thermostats are satisfied, both valves are closed and the pump and boiler cannot run because their auxiliary switches have opened.

4



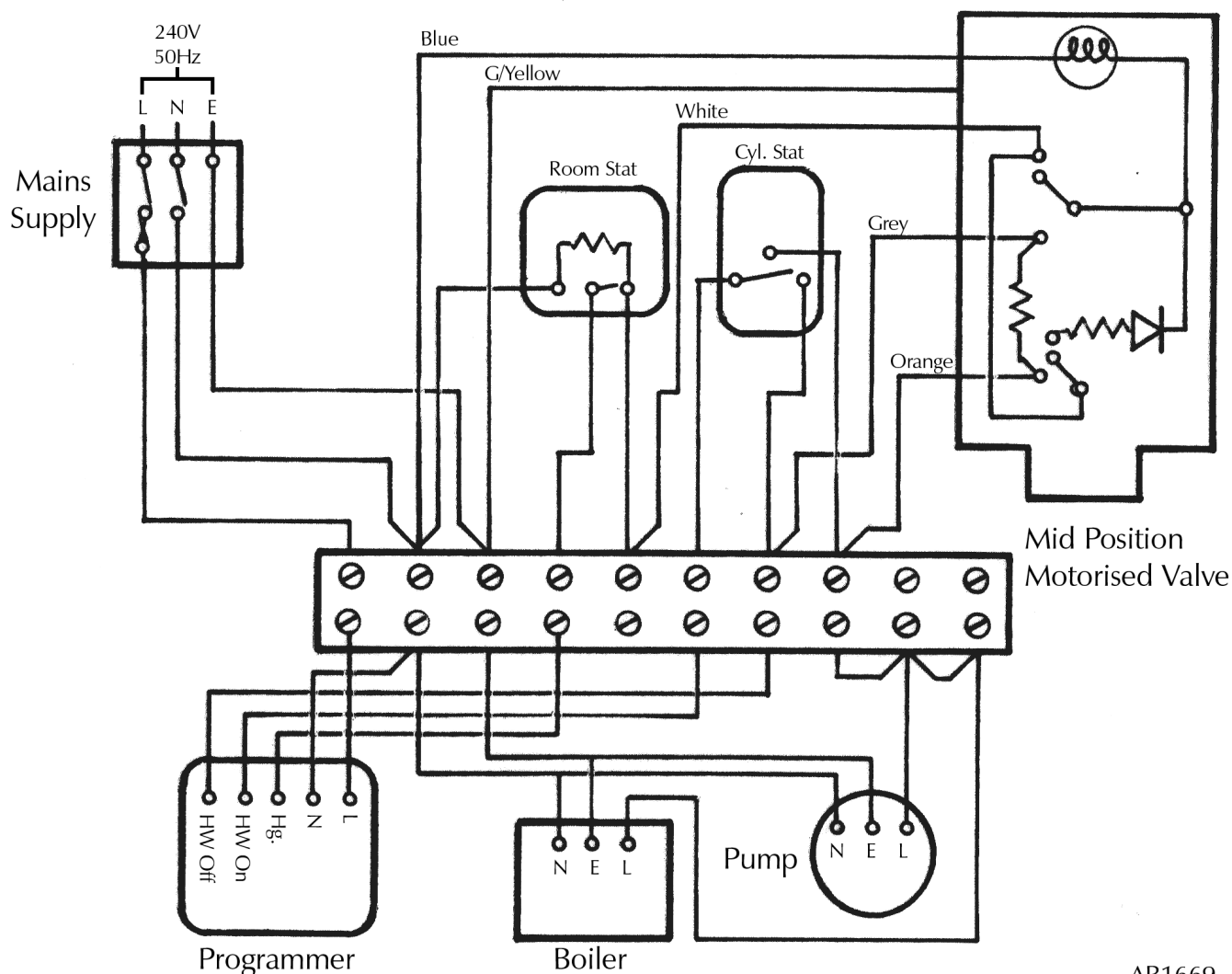
# INSTALLATION INSTRUCTIONS

## WIRING 'Y' PLAN

- 1.1 Independent control of space and water heating circulation in a fully pumped system with one motorised diverting valve (See System Diagram below).
- 1.2 This scheme provides control over a fully pumped installation by means of a single motorised diverting valve. This provides flow to the space heating circuit or to the water heating circuit. The valve also has a mid position to enable circulating water to flow to both circuits simultaneously. Control is via room and cylinder thermostats.

- 1.3 The method of operation is that when the room thermostat calls for heat, the valve motors over so that the port serving the space heating circuit is opened and the pump and boiler are both switched on. If the cylinder thermostat calls for heat, the valve motors over to open its domestic hot water port only, and again to switch on the pump and boiler. If both thermostats are calling for heat, the valve motors to open both of its ports and to switch on both pump and boiler. When both thermostats are satisfied, the valve motors to the closed position and the pump and boiler are switched off.

5



AR1669

# CD10 FORM

IT IS A REQUIREMENT UNDER OFTEC REGULATIONS  
THAT THE INSTALLATION IS RECORDED ON A  
CD10 FORM (A COPY CAN BE FOUND WITH THIS  
BOOK). ONCE COMPLETED:

- ONE COPY MUST BE GIVEN TO THE END USER
- ONE COPY MUST BE SENT TO GAZCO LTD.

FAILURE TO DO SO MAY INVALIDATE THE  
GUARANTEE

COMPLETE THIS FORM NOW

# SERVICING

To maintain the appliances high thermal efficiency and reliable operation, it must be serviced annually which is also a requirement of the appliances guarantee. If the boiler is used to provide central heating and hot water, we recommend that the appliances annual service is carried out just before the start of the heating season.

**NOTE: THE PERSON(S) WHO SERVICES OR CARRIES OUT ANY REMEDIAL WORK, i.e. ELECTRICAL FAULT FINDING, MUST BE OFTEC APPROVED.**

**IMPORTANT: ISOLATE ELECTRICAL SUPPLY TO THE APPLIANCE BEFORE CARRYING OUT ANY WORK**

## 1. OIL TANK

- Open tank and drain off any accumulated water and sludge

## 2. LINE FILTERS

- Turn off oil supply at the tank
- Remove any filter bowl
- Wash filter element clean with kerosene
- Renew if necessary
- Turn on oil supply

**Important - Oil spillages cause smells**

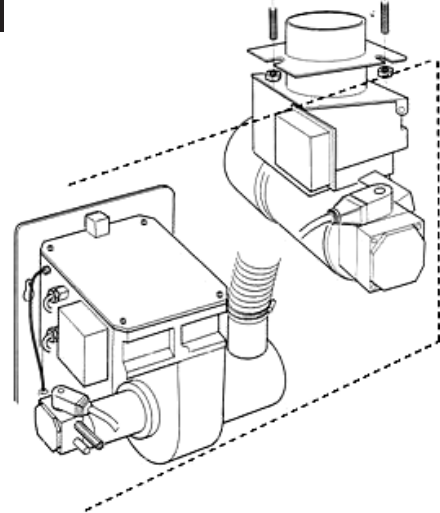
## 3. BURNER REMOVAL

- Ensure oil supply is turned 'off'
  - Disconnect the mains power plug.
- Both burners are fitted behind the burner access panel
- Remove by removing the 4 securing screws
  - Disconnect both the cooker and boiler plugs

- 3.1 The burners can now be removed but it is not necessary to remove the oil lines.
- 3.2 The boiler burner **MUST** be removed first by removing the 2 securing nuts.
- 3.3 The cooker burner is removed by unscrewing the 2 burner securing nuts.
- 3.4 To access:
  - Remove the four screws and flat lid on the top of the burner
  - Loosen the allen key grub screw holding the blast tube in place
  - Rotate the blast tube and remove
  - Remove the nozzle and replace with a new one of the correct specification (see technical data details) - **DO NOT ATTEMPT TO CLEAN THE OLD NOZZLE**
  - Clean ignition electrodes,

- Check setting (see technical details)
- Examine porcelain insulators for signs of cracks or glazing
- Replace, if necessary
- Carefully pull out the photocell and clean glass face
- Clean any deposits from impeller and check that it is securely fixed to the motor shaft
- Remove end cap from oil pump secured by 4 allen key screws
- Take out filter and clean by washing in kerosene
- Check flexible oil lines for wear or oil leaks and replace if necessary
- Reassemble in reverse order - **DO NOT REFIT BURNER UNTIL THE BOILER FLUE WAYS HAVE BEEN CLEANED.**

1

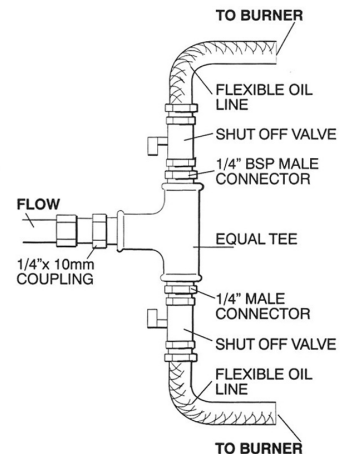


**BURNER REMOVAL**

AR1642

2

## OIL LINE ASSEMBLY



AR1643

# SERVICING

## 4. COOKER BURNER

### 4.1 To remove blast tube:

- Unscrew 4 fixing screws and disconnect oil pipe from pump
- Follow the same procedure for servicing as boiler burner
- Reassemble in reverse order - **DO NOT REFIT THE BURNER UNTIL THE COOKER FLUE WAYS HAVE BEEN CLEANED.**

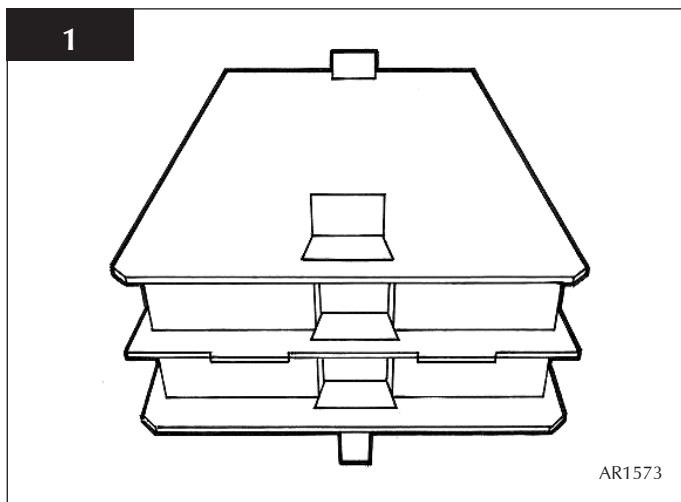
## 5. BOILER FLUE WAYS

### 5.1 The boiler access door is behind the programmer mounting panel.

- Carefully remove the programmer mounting panel secured with fixing screws and disconnect the electrical plug
- Remove the boiler access door by unscrewing the 4 nuts
- Check seal and renew if necessary
- Remove the baffles in order - noting the orientation as shown in Baffle Arrangements under the next section: **Boiler Heat Exchanger**
- Brush and remove all deposits from the inner surface of the heat exchanger and clean baffles if necessary
- Remove flue deposits from the chamber using a vacuum cleaner
- Replace baffles in the correct order

## BOILER HEAT EXCHANGER

The following Diagram shows how the baffles look once inside the cooker:

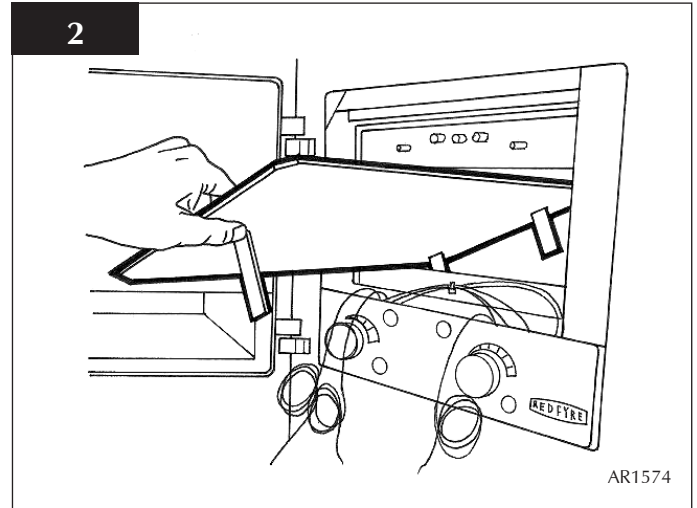


### 5.2 First Metal Baffle

Diagram 2 shows the first metal baffle being inserted at the correct angle to start the build.

**NOTE:** You must tilt the baffle to insert it, keeping the metal legs towards the floor of the cooker.

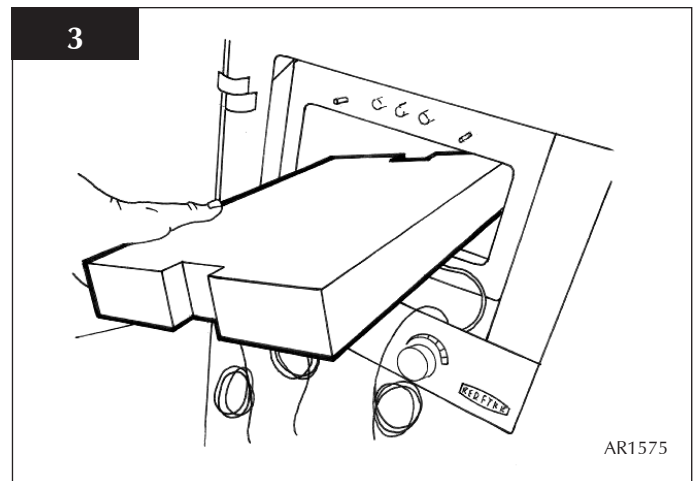
The end of the baffle with two legs is inserted into the cooker first.



### 5.3 First Ceramic Baffle

The ceramic baffle is inserted on top of the first metal baffle.

**NOTE:** The ceramic block must fit onto the lugs of the first metal baffle and sit flat.

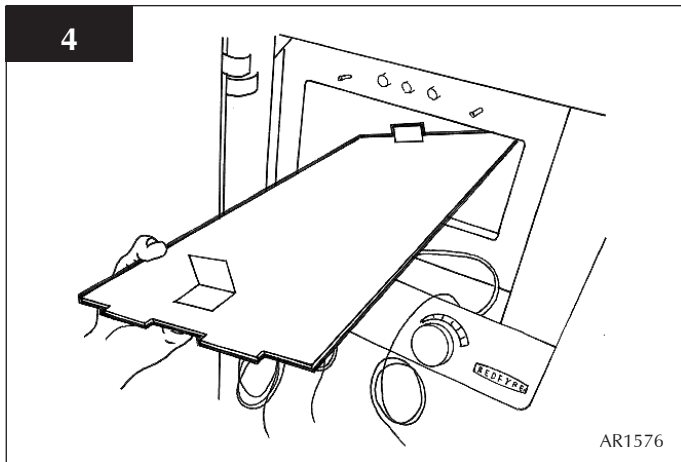


### 5.4 Second Metal Baffle

Insert the second metal baffle on top of the ceramic baffle with lugs uppermost.

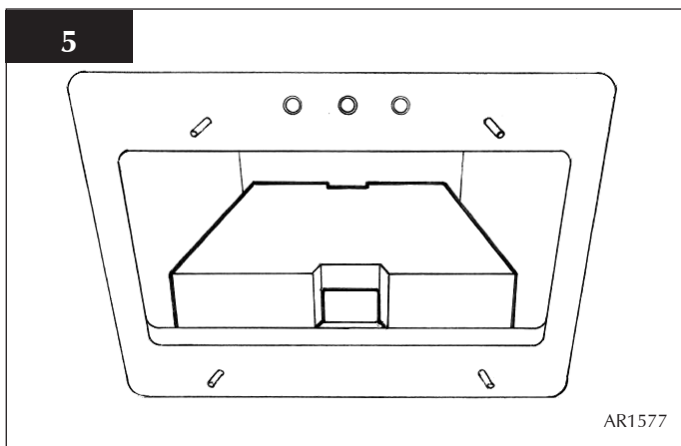
**NOTE:** Ensure the uneven edge of the metal baffle is towards the front. See photo.

# SERVICING



## 5.5 Second Ceramic Baffle

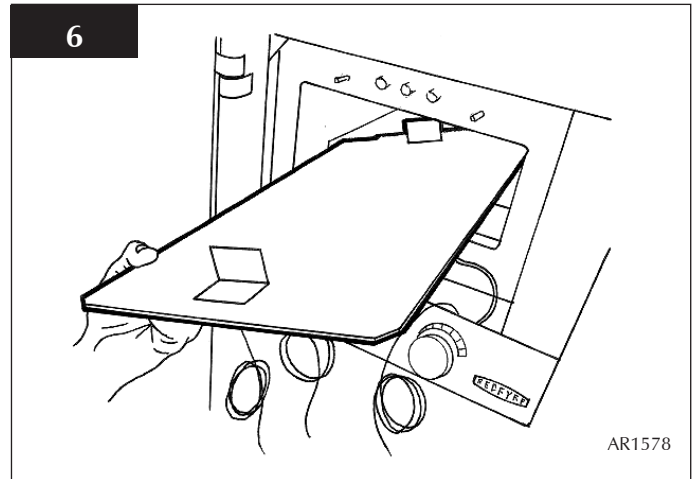
- Insert the second ceramic baffle on top of the metal baffle



**NOTE:** The ceramic block engages onto the front and rear lugs of the baffle below. See Diagram.

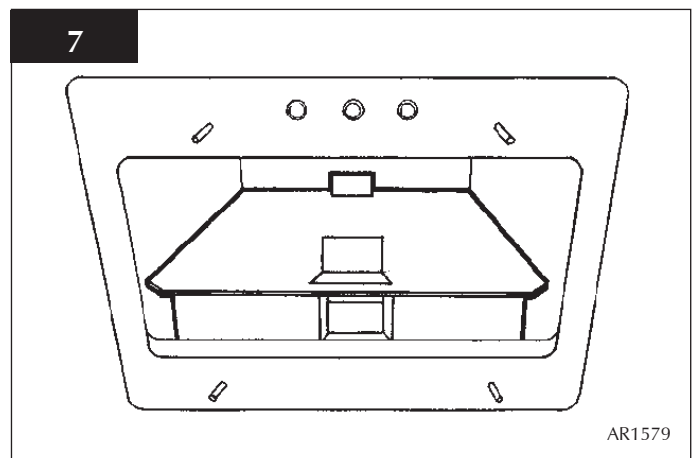
## 5.6 Final Metal Baffle

- Insert the last metal baffle on top of the second ceramic baffle to complete the assembly



**NOTE:** The uneven edge of this metal baffle is now positioned towards the rear of the cooker. See Diagram.

5.7 The following shows the completed baffle assembly:



- Complete the re-assembly by referring to the original instructions
- Replace boiler access door ensuring that the seal makes a gas tight seal.

**DO NOT FIT THE BOILER BURNER UNTIL THE COOKER BURNER HAS BEEN FITTED**

# SERVICING

## 6. COOKER FLUE WAYS

### Removal and Replacement of Top for Servicing

To service the combustion chamber or reach the access panel to the flue ways, you need to carefully:

- Remove the cast iron hot plate
- Remove the enamel top plate



### Hotplate

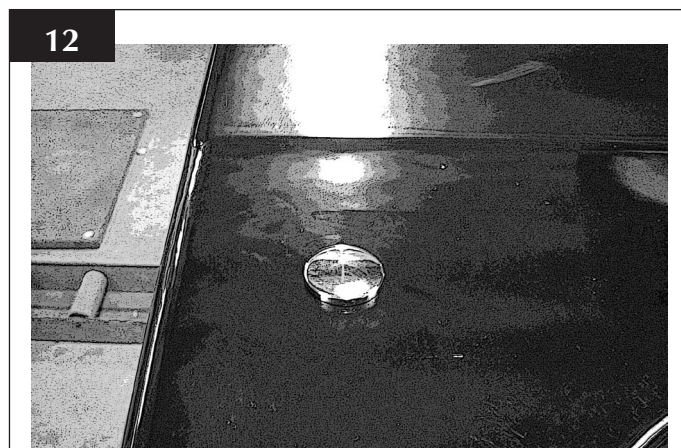
- Use an Allen key to unscrew the 4 countersunk screws
- Remove the two dummy screws that fix handles at each end of the hotplate
- Fit carrying handles to the hotplate and lift the plate clear of the cooker:



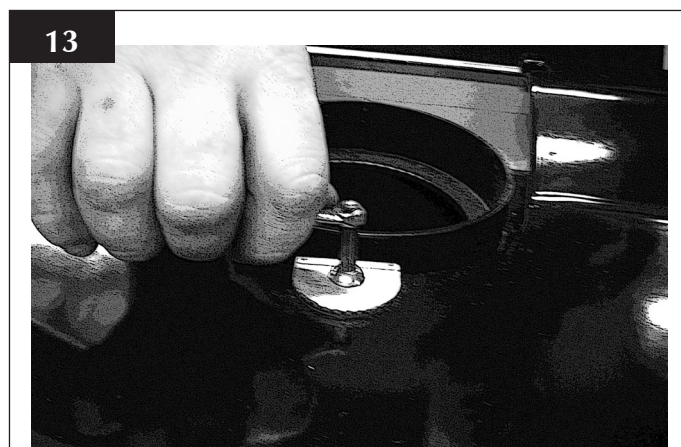
**WARNING: THE HOTPLATE IS VERY HEAVY AND IT MAY TAKE TWO PEOPLE TO LIFT OUT – CARE MUST BE TAKEN NOT TO DAMAGE THE BLACK VITREOUS ENAMEL SURROUND.**

### Top Plate

- Loosen the M8 nuts under the front left and right edge of the cooker
- Remove the chrome caps from the left and right rear fixings:



- Unscrew these two rear fixings
- Remove the top plate washer at centre back of cooker:



- Lift the top plate clear of the cooker

Without the hotplate and top plate the flue way and combustion chambers can be accessed for inspection and cleaning.

# SERVICING

## Inspection of Flue Ways

14

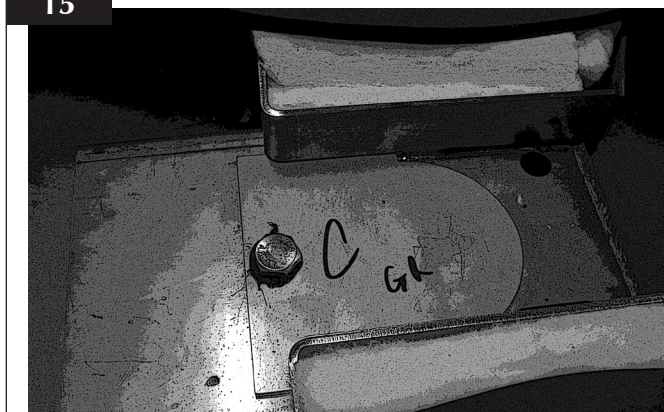


At the back left and right of the cooker there are two service hatches

- Unscrew the M5 nuts on the access panel
- Carefully remove each washer
- Replace gasket if necessary
- Inspect and clean the interior chamber

## Inspection of Combustion Chamber

15



- Remove bolt by lifting it out
- Slide cover
- Inspect and clean the interior chamber

## Re-assembling the Top Plate after Servicing

**IT IS IMPORTANT TO PUT A SPACER BETWEEN THE COOKER TOP PLATE AND THE FOLDED CENTRE WASHER AT THE CENTRE REAR OF THE COOKER TOP WHEN SERVICING OR REPLACING PARTS.**

- Refit the access panel covers over both flue way service hatches ensuring the washers are used

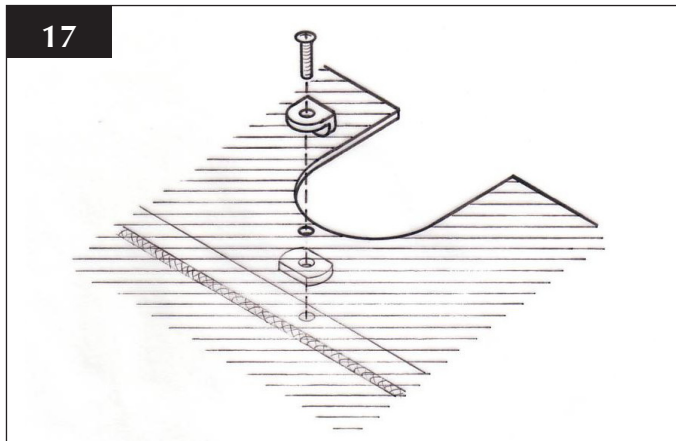
- Refit the cover over the combustion chamber
- Restore the insulation on the right and left side of the rear manifold

16



- Rest the spacer over the fixing hole for the centre washer. [It can be difficult to do this once the top plate is in place]

17



- Lift the top plate back onto the cooker
- Catch the threads on the right and left rear fixings
- Fit the centre washer with gasket

**MAKE SURE THE FIBRE WASHER SITS UNDER THE FOLDED CENTRE WASHER AT THIS POINT.**

- Catch the thread on the torx bolt fixing
- Tighten the M8 nuts and grub screws on the front of the top plate ensuring washers are correctly seated
- Tighten the right and left rear fixings down and replace the chrome caps
- Nip up torx style fixings

## Refitting the Hot Plate

WARNING: THE HOTPLATE IS VERY HEAVY AND IT MAY TAKE TWO PEOPLE TO LIFT OUT – CARE MUST BE TAKEN NOT TO DAMAGE THE BLACK VITREOUS ENAMEL SURROUND.

- Use the carrying handles to move the hotplate back into position
- Refit the four fixings into the cast iron hotplate and through the lugs of the top plate beneath
- Use Silver Goop to lubricate these four fixings
- Refit the dummy screws where handles fix

The hotplate should be slightly proud of the top plate:

- Rest a two-pence piece on the enamel surface. The hotplate surface should be level with the surface of the two-pence piece.
- Ensure that a gas tight seal is achieved around the hotplate. Tighten as necessary.

## 7. RE-ASSEMBLY

When the appliance is thoroughly cleaned and free from any obstruction -

**IT IS VERY IMPORTANT THAT ALL SEALS/GASKETS ARE IN GOOD CONDITION, IF NOT REPLACE**

Refit all parts in reverse order, again ensuring all access panels are sealed correctly, including the flue way top plates, hotplate and oven access plate.

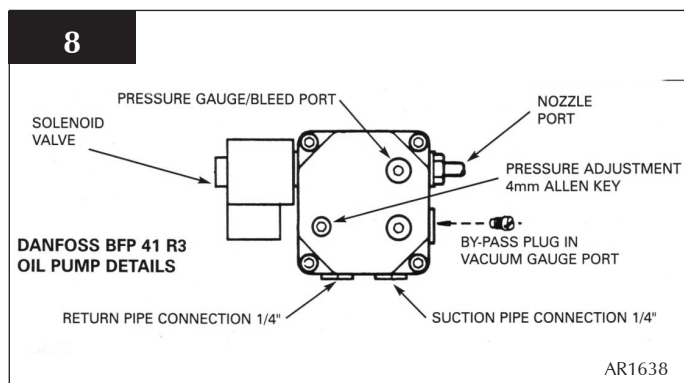
**FAILURE TO DO SO WILL ENABLE FLUE GASES TO ENTER THE ROOM**

- Remember when fitting the top plate and hot plate that they are **VERY HEAVY AND IT MAY TAKE TWO PEOPLE TO LIFT. CARE MUST BE TAKEN AS DAMAGE TO THE BLACK VITREOUS ENAMEL COULD OCCUR.**
- Refit both burners (cooker burner first, including air hose ensuring blast tubes are free from deposits.
- Turn on oil and electricity supplies.
- Check the combustion of both burners and adjust if necessary, referring to burner data.

# SERVICING

## PRIMING AND ADJUSTING OF THE PUMP

### 1. COOKER



**NOTE:** To prime the pump first of all remove the pressure gauge bleed port plug until oil is seen to be present. Replace the pressure gauge/bleed port plug. If the burner goes to lock out after the pre purging time due to lack of pressure in the oil pump, restart the burner

ONE-PIPE SYSTEMS - BFP 21 R3 pumps are supplied for one pipe systems.

TWO-PIPE SYSTEMS - When fitting a two pipe system, the by-pass plug must be fitted, see diagram.

### One Pipe Systems

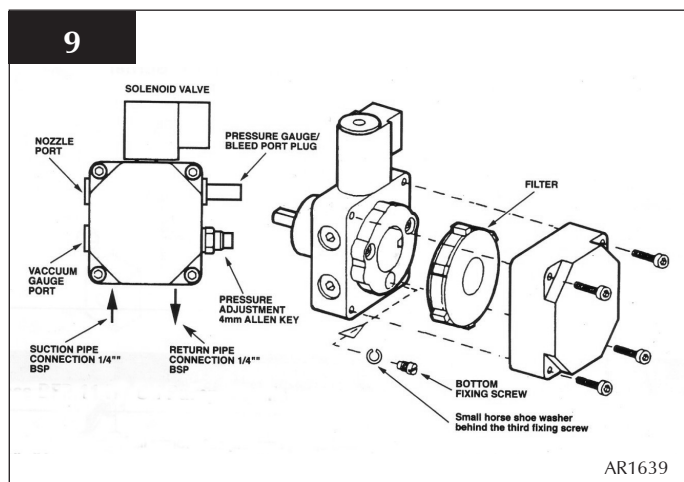
BFP 11 R3 Pumps are fitted with a small 'horse shoe' washer behind the third fixing screw. This allows oil to circulate around the pump on one pipe installations.

### Two Pipe Systems

When fitting a two pipe system, the small horse shoe washer must be removed.

1. REMOVE THIRD FIXING SCREW
2. REMOVE SMALL HORSE SHOE WASHER
3. REPLACE THIRD FIXING SCREW AND TIGHTEN DOWN.

### 2. BOILER



**NOTE:** To prime the pump, first of all remove the pressure gauge bleed port plug until oil is seen to be present. Replace the pressure gauge/bleed port plug. If the burner goes to lock out after the pre-purging time due to lack of pressure in the oil pump, restart the burner.

# SERVICING TECHNICAL DATA

| MODELS                        | MINOR 1<br>60/80 | MINOR 1<br>80 | MINOR 4<br>100 | MINOR 8<br>120 | MINOR1<br>COOKER |
|-------------------------------|------------------|---------------|----------------|----------------|------------------|
| Voltage single phase 50Hz (V) | 230              | 230           | 230            | 230            | 230              |
| Motor (W)                     | 70               | 70            | 90             | 90             | 70               |
| Rpm (No)                      | 2800             | 2800          | 2800           | 2800           | 2800             |
| Capacitor (uF)                | 3                | 3             | 3              | 3              | 3.5              |
| Ignition transformer (kV/mA)  | 8.20             | 8/20          | 8/20           | 8/20           | 8/20             |
| Control Box (SATRONIC)        | TF830.3          | TF830.3       | TF830.3        | TF.803.3       | TF803.3          |

Fuel: Kerosene (M.kg)

## NOZZLE OUTPUT

| MODELS         | Nozzle<br>Usgal/h | Spray<br>Angle | Spray<br>Pattern | Pump<br>Pressure     | CO2(%) |
|----------------|-------------------|----------------|------------------|----------------------|--------|
| Minor 1 Cooker | 0.55 (C.E.N.)     | 60°            | Danfoss EH       | 6.8 bar (100 p.s.i.) | 11     |
| Minor 1 60     | 0.60 (C.E.N.)     | 80°            | Danfoss EH       | 6.8 bar (100 p.s.i.) | 11     |
| Minor 4 80     | 0.75 (C.E.N.)     | 80°            | Danfoss EH       | 7.5 bar (110 p.s.i.) | 11.5   |
| Minor 4 100    | 0.85 (C.E.N.)     | 80°            | Danfoss EH       | 9.5 bar (140 p.s.i.) | 12     |
| Minor 8 120    | 1.1 (C.E.N.)      | 80°            | Danfoss EH       | 7.8 bar (115 p.s.i.) | 12     |

## TEST POINT LOCATIONS ON CENTRAL HEATING COOKERS

### Boiler

- Remove the control panel housing the electronic programmer
- Remove test point which is on the right-hand side of the panel

### Cooker

On right-hand side of the main hotplate:

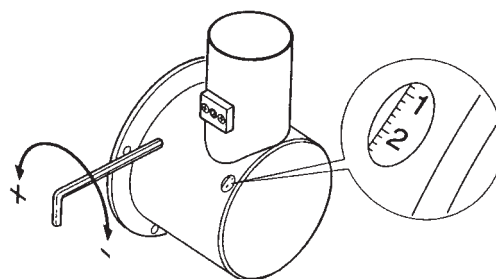
- Remove the centre stud (normally the fixture for the lifting handles)  
DO NOT REMOVE THE 4 STUDS THAT SECURE THE MAIN HOT PLATE OR STUD AT THE LEFT CENTRE OF THE PLATE

### Boiler 60, 80, 100 & 120

The air regulator may have to be adjusted to obtain the correct combustion figures.

10

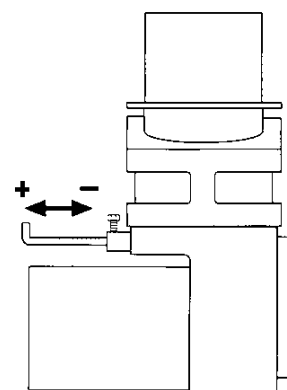
### AIR REGULATION - BOILER



AR1640

11

### AIR REGULATION - COOKER



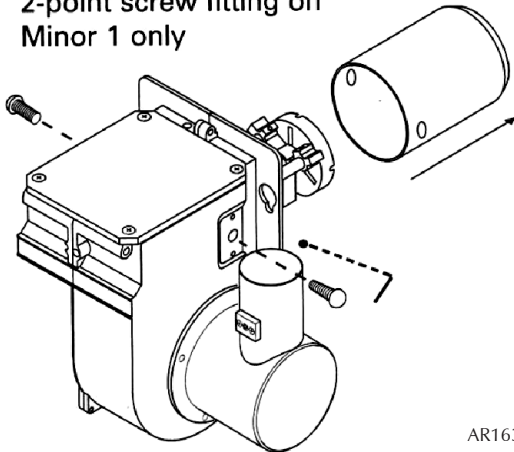
AR1641

# SERVICING

## 1. BLAST TUBE ASSEMBLY

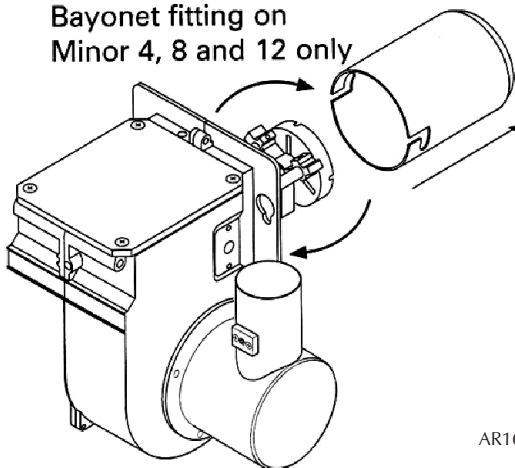
12

2-point screw fitting on  
Minor 1 only



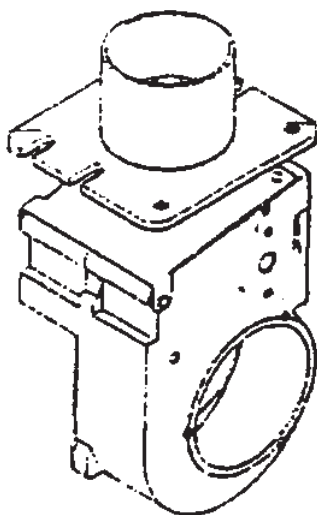
AR1635a

Bayonet fitting on  
Minor 4, 8 and 12 only



AR1635b

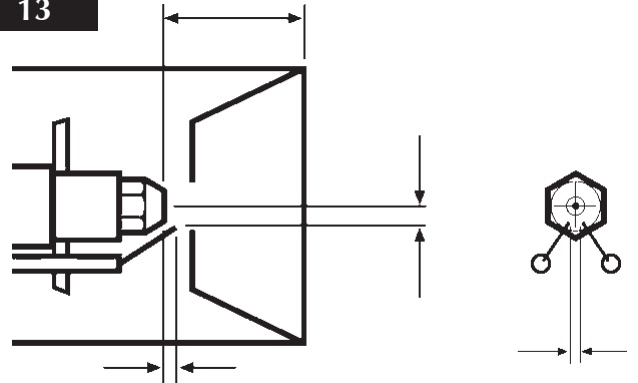
Cooker



AR1635c

## 2. COMBUSTION HEAD SETTINGS

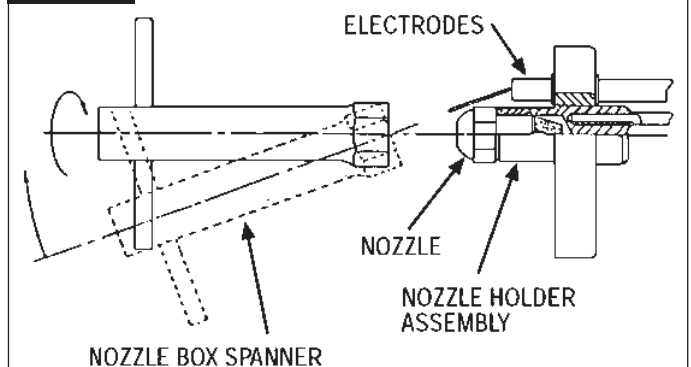
13



AR1636

## 3. NOZZLE REPLACEMENT

14

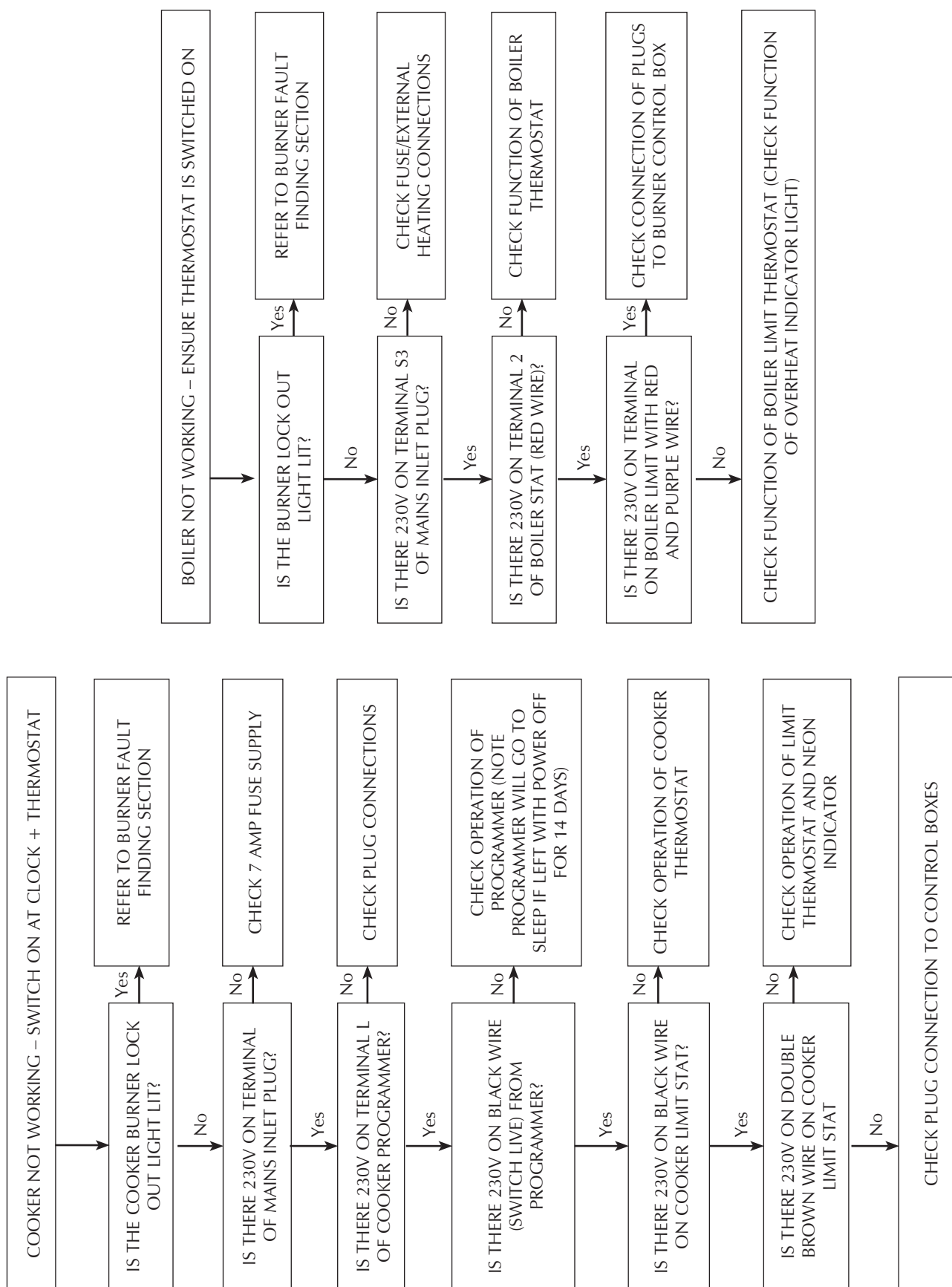


AR1637

- Switch off electrical supply to boiler and turn off oil
- Remove burner plug from control box  
The burner can now be removed from the boiler
- Remove the blast tube from the burner exposing nozzle holder assembly  
The nozzle can now be carefully removed taking care not to damage the electrodes.
- Fit a new nozzle of the same specification
- Check the position of the electrodes after replacing the nozzle to ensure they have not moved.
- Refit the blast tube to the burner

# SERVICING

## GUIDE TO FAULT FINDING



# FAULT FINDING

Electricity safety – Before making any electrical check, switch off mains supply to boiler.

| FAULT                                                           | POSSIBLE CAUSE                         | ACTION                                                                                                          |
|-----------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>BURNER WILL NOT START</b>                                    | Control box locked out – Light on      | Press reset button on front of burner<br>N.B. ONLY TRY TWICE                                                    |
|                                                                 | Boiler thermostat or other system      | Ensure all controls are calling for heat                                                                        |
|                                                                 | Controls satisfied                     |                                                                                                                 |
|                                                                 | Fuse blown                             | Fit new 5 amp fuse. If it blows again, check for short circuit in wiring.                                       |
|                                                                 | Check for live supply continuity up    | If live supply confirmed, change control box to burner                                                          |
|                                                                 | Motor or pump seized                   | Check for rotation and replace as necessary.                                                                    |
| <b>BURNER STARTS BUT FLAME IS NOT ESTABLISHED</b>               | No oil supply                          | Check oil level in tank and feed to burner                                                                      |
|                                                                 | Photo-cell not seeing flame            | Clean photo-cell and ensure it is fully plugged in.                                                             |
|                                                                 | Air trapped in pump                    | Bleed off air through pressure gauge tapping                                                                    |
|                                                                 | Solenoid valve faulty                  | Check coil for continuity and replace if faulty                                                                 |
|                                                                 | Nozzle blocked                         | Replace nozzle with one of same specification                                                                   |
|                                                                 | Electrodes incorrectly set             | Reset gap and position electrodes as shown in burner diagram                                                    |
|                                                                 | Electrode insulator cracked            | Check and replace if insulator cracked or crazed                                                                |
|                                                                 | Ignition transformer and H.T. Contacts | Check for spark and condition of HT contacts. Replace as necessary.                                             |
|                                                                 | Low oil pressure                       | Check pump pressure and adjust to correct setting.                                                              |
| <b>FLAME ESTABLISHED BUT BURNER LOCKS OUT AFTER FEW SECONDS</b> | Oil contaminated with water            | Run off oil at burner until free of water and drain condensation from tank                                      |
|                                                                 | Oil filter partially blocked           | Wash filter clean with kerosene                                                                                 |
|                                                                 | Photo-cell fault                       | Clean photo-cell and ensure it is fully plugged in. Replace if faulty.                                          |
|                                                                 | Oil pressure low                       | Check pump pressure and adjust to correct setting.                                                              |
|                                                                 | Low voltage                            | Check with local Electricity Board.                                                                             |
|                                                                 | Combustion readings incorrect          | Check combustion under normal running conditions and compare readings with those given under 'Burner Settings'. |
|                                                                 | Oil level in tank falling below burner | Raise tank or fit a 2-pipe system.                                                                              |
| <b>DELAYED IGNITION – BURNER PULSATES ON START UP</b>           | Nozzle partially blocked               | Replace nozzle                                                                                                  |
|                                                                 |                                        |                                                                                                                 |
|                                                                 | Oil pressure too low                   | Check and decommission                                                                                          |
|                                                                 | Flue blocked or damaged                | Check and rectify                                                                                               |
| <b>BURNER STARTS VIOLENTLY</b>                                  | Fan slipping on shaft                  | Check and retighten                                                                                             |
|                                                                 | Pump coupling loose or worn            | Check and replace                                                                                               |
|                                                                 | Delayed ignition                       | Check electrode setting and adjust to correct gap                                                               |
|                                                                 |                                        | Check electrodes for damage<br>Check H.T. leads for damage and positive connection                              |

# SPARE PARTS

## OIL COOKER BURNER SPARES

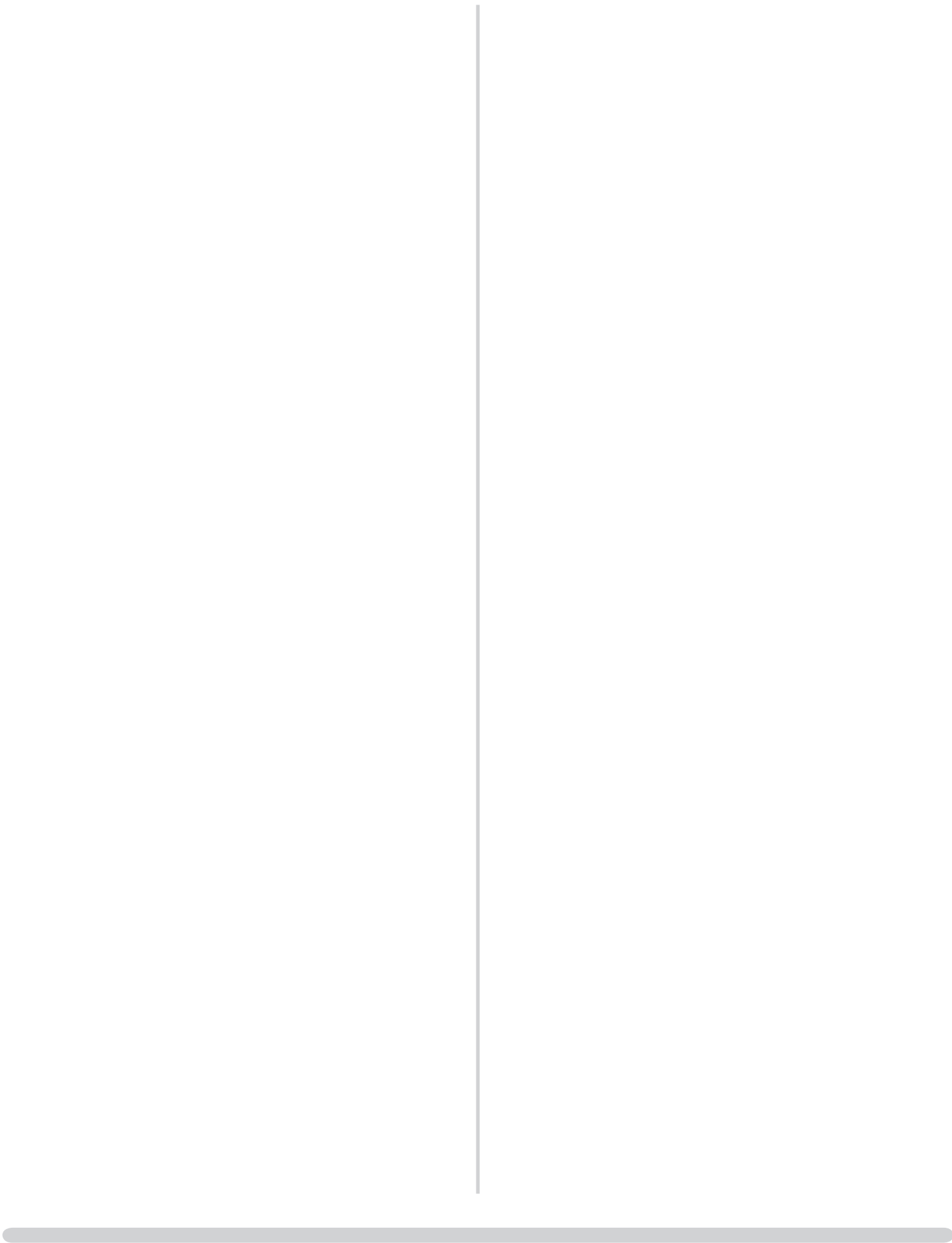
| Part No. | Description                  | Burner Type   | Diagram No. |
|----------|------------------------------|---------------|-------------|
| C602921  | Cooker Burner                | Cooker only   |             |
| C602922  | 60,000 Burner                | 60,000 only   |             |
| C602923  | 80,000 Burner                | 80,000 only   |             |
| C602924  | 100,000 Burner               | 100,000 only  |             |
| C602925  | 120,000 Burner               | 120,000 only  |             |
| C610426  | Oil Pump BFP21RS             | Cooker only   | 1           |
| C610427  | Oil Pump BFP11R3             | All boilers   | 1           |
| C610461  | Coil Danfoss                 | All burners   | 2           |
| C207109  | Hoses                        | All burners   | 6           |
| C610429  | Motor 70W                    | Cooker 60 80  | 8           |
| C610428  | Motor 90W                    | 100 120       | 8           |
| C610462  | Ignition Transformer Danfoss | Coker         | 12          |
| C610463  | Ignition Transformer Danfoss | 60 80 100 120 | 12          |
| C610346  | Control Box Satronic TF830.3 | All burners   | 20          |
| C610446  | Photoresistor Satronic       | All burners   | 21          |
| C602927  | Gasket                       | Cooker only   |             |
| C602979  | Gasket                       | Boiler only   |             |
| C610464  | Blast tube and flange        | Cooker only   | 28          |
| C610465  | Blast tube                   | 60 80         | 28          |
| C610425  | Blast tube                   | 100 120       | 28          |
| C610416  | Electrodes                   | All burners   | 29          |
| C610447  | Nozzle 0.53 X 60 EH          | Cooker only   | 34          |
| C610387  | Nozzle 0.60 X 80 EH          | 60            | 34          |
| C610388  | Nozzle 0.75 X 80 EH          | 80            | 34          |
| C610389  | Nozzle 0.85 X 80 EH          | 100           | 34          |
| C610390  | Nozzle 1.10 X 80 EH          | 120           | 34          |

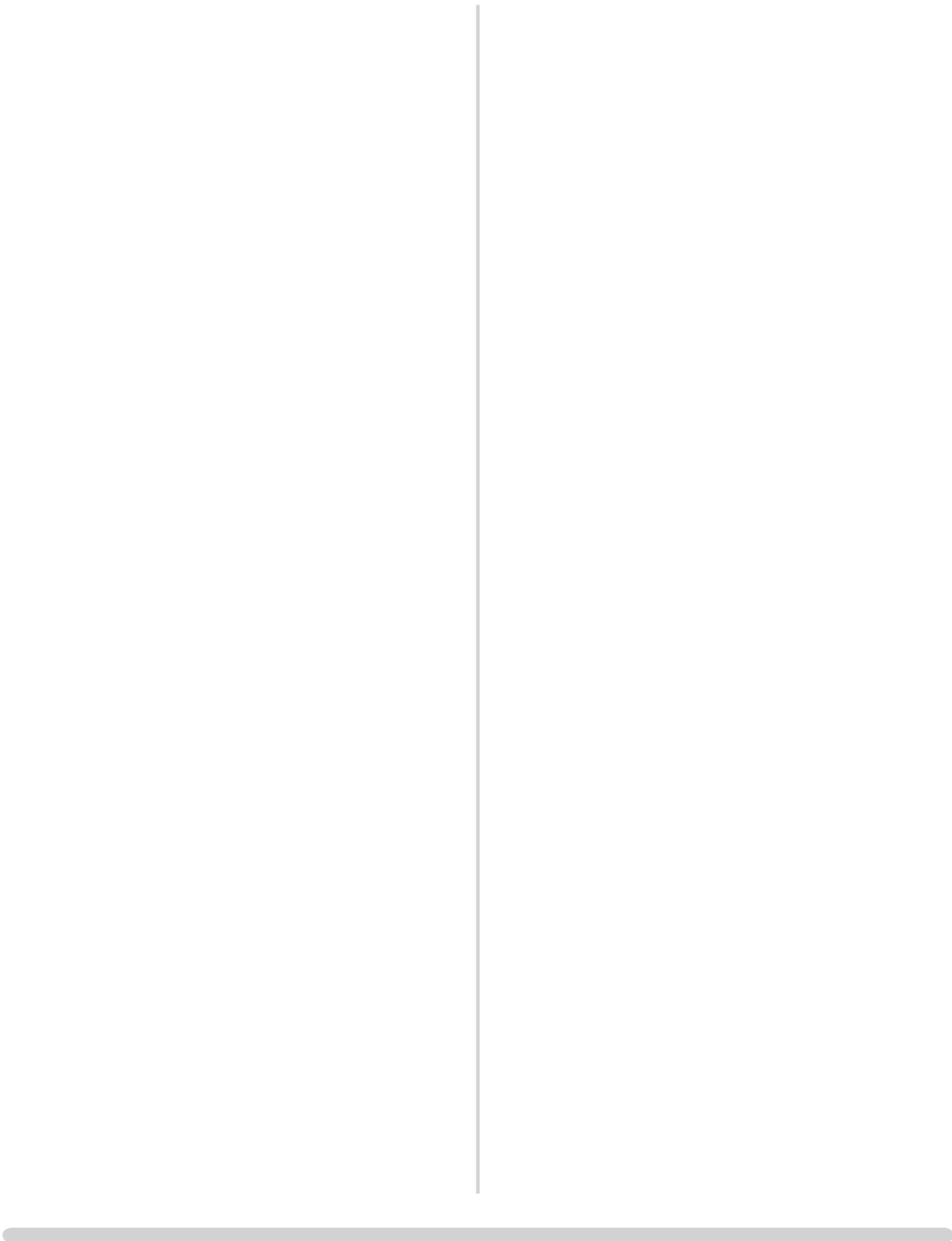
**PLEASE NOTE: NOT ALL COMPONENTS SHOWN IN THE DIAGRAMS ARE LISTED HERE. IF YOU NEED A SPECIFIC PART, PLEASE CONTACT REDFYRE FOR AVAILABILITY.**

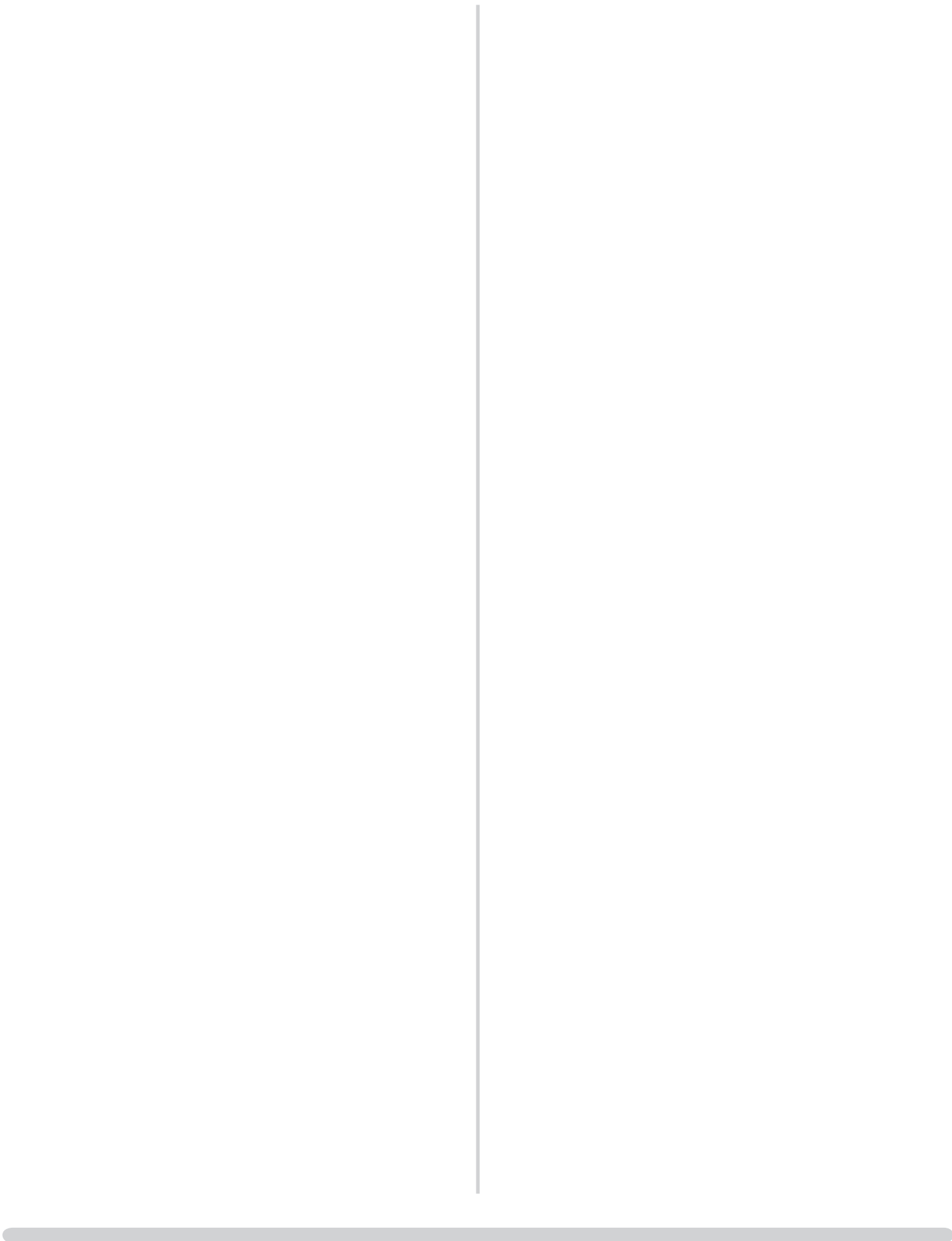
# SPARE PARTS

## COOKER SPARES - (OIL)

| Item    | Description                             |
|---------|-----------------------------------------|
| C602209 | Programmer                              |
| C602685 | Boiler thermostat                       |
| C602686 | Boiler limit thermostat                 |
| C602687 | Over-run thermostat                     |
| C610467 | Combustion chamber r/h side brick       |
| C610467 | Combustion chamber l/h side brick       |
| C610467 | Combustion chamber front and rear brick |
| C602844 | Flue cover sealing strip (boiler)       |
| C602845 | Flue cover insulation (boiler)          |
| C602905 | Cooker limit thermostat                 |
| C602906 | Cooker thermostat                       |
| C602935 | Flue box gasket (flue manifold)         |
| C602938 | Flue service box cover (flue manifold)  |
| C602992 | Air hose (fits to burner air intake)    |
| C610254 | Top plate spacer (rear centre burner)   |
| C610398 | Lower baffle - oil                      |
| C610400 | Top baffle - oil                        |
| C610403 | Baffle insulation                       |







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