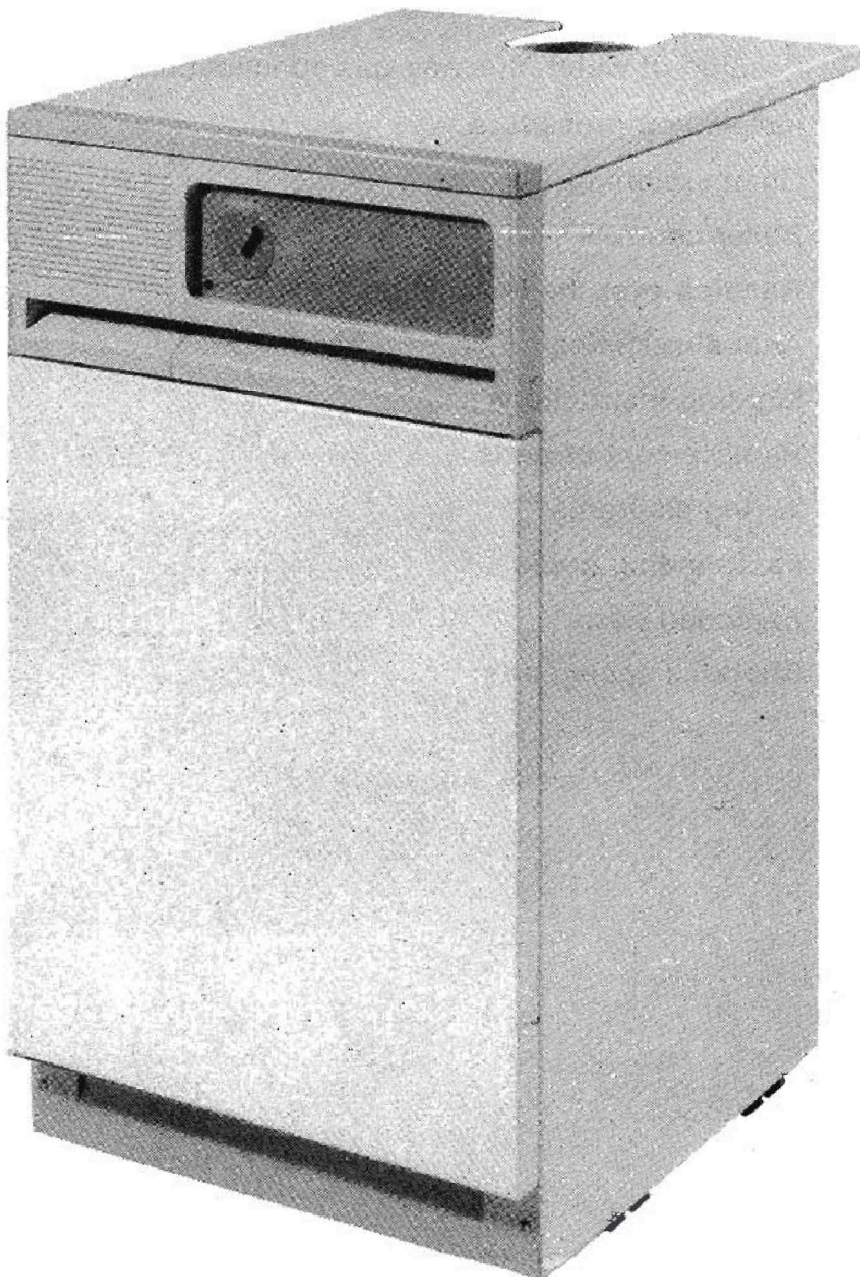


# Myson Heating

## Installation and Servicing Instructions

### Marathon 800C and 1000C Floor standing gas boilers

G.C. Appliance No's: Marathon 800C 41 494 18, Marathon 1000C 41 494 19



Read these instructions thoroughly before working on the boiler

For use with Natural Gas only. (Leave these instructions adjacent to the gas meter).

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If you have any reason to complain of any shortage of components listed in frames 1 or 3, supply a list of the item(s) concerned, boiler model, your name, address and any information which may help us to avoid further error.

Address for return:  
Spares Administration Manager  
Curzon Components Ltd.  
Earlsway  
Team Valley Trading Estate  
Gateshead, Tyne and Wear  
NE11 0SA

## 1. INTRODUCTION

These open flue floor standing boilers are for use on natural gas only.

The Marathon 800C is range rated from an output of 20.5 to 23.5 kW (70 000 to 80 000 Btu/h).

The Marathon 1000C is range rated from an output of 23.5 to 27.8 kW (80 000 to 95 000 Btu/h).

The Marathon 800C and 1000C are factory set to the maximum output.

The boilers are designed for use with an open central heating system and an indirect domestic hot water cylinder.

HEY MUST NOT BE CONNECTED TO A DIRECT CYLINDER.

## 2. TECHNICAL DATA

For boiler model and serial no. see data plate above gas valve.

| Boiler                                           |       | Marathon 800C                                                    | Marathon 1000C   |
|--------------------------------------------------|-------|------------------------------------------------------------------|------------------|
| Burner                                           |       | Two Bray AB20030 LR or Furigas 175-500-021                       |                  |
| Burner injector                                  |       | Bray 75/1150                                                     | Bray 75/1300     |
| Pilot burner spring                              |       | Bray IB3063                                                      |                  |
| Pilot burner head                                |       | Bray IB3235                                                      |                  |
| Pilot injector                                   |       | Bray 968/10                                                      |                  |
| Pilot flame                                      |       | Approximately 20 mm long                                         |                  |
| Spark gap                                        |       | 4.0 to 5.0 mm                                                    |                  |
| Ignition                                         |       | Piezo push button                                                |                  |
| Dry weight with case                             |       | 109 kg (240 lb)                                                  |                  |
| Water content                                    |       | 9.55 litre (2.1 gal)                                             |                  |
| *Head loss                                       |       | 0.38 m (15.0 in)                                                 | 0.64 m (25.0 in) |
| Maximum static head                              |       | 30.5 m (100 ft)                                                  |                  |
| Minimum static head                              |       | 1.0 m (39 in) above top of white case                            |                  |
| Height                                           |       | 850 mm (33½ in)                                                  |                  |
| Width                                            |       | 450 mm (18 in)                                                   |                  |
| Depth                                            |       | 600 mm (24 in)                                                   |                  |
| Clearance required for servicing and ventilation | Top   | 300 mm (12 in)                                                   |                  |
|                                                  | Front | 450 mm (18 in)                                                   |                  |
|                                                  | Sides | 25 mm (1 in)                                                     | 50 mm (2 in)     |
| Flue size                                        |       | 127 mm (5 in) dia.                                               |                  |
| Water connections                                |       | Two Rc1 flow, one Rc1 gravity return and one Rc ¾ heating return |                  |
| Gas connection                                   |       | Rc½                                                              |                  |

\*Head loss is given between the heating flow and return tappings, for a temperature rise across the boiler of 11°C (20°F).

## NOMINAL BOILER RATINGS

| Boiler         | Output |        | Input |         | Burner setting pressure |       |
|----------------|--------|--------|-------|---------|-------------------------|-------|
|                | kW     | Btu/h  | kW    | Btu/h   | mbar                    | in wg |
| Marathon 800C  | 20.5   | 70 000 | 27.3  | 93 300  | 12.0                    | 4.8   |
|                | 23.5   | 80 000 | 31.3  | 106 700 | 17.2                    | 6.9   |
| Marathon 1000C | 23.5   | 80 000 | 31.3  | 106 700 | 11.6                    | 4.7   |
|                | 27.8   | 95 000 | 37.1  | 126 700 | 16.4                    | 6.6   |

## 3. GENERAL REQUIREMENTS

The boiler must be installed in accordance with: The Gas Safety (Installation and Use) Regulations 1984, and the current issue of the Building Regulations, Building Standards (Scotland) Regulations, Local Building Regulations, Model and local Water Undertaking Byelaws and IEE Wiring Regulations. Detailed recommendations are stated in the following British Standard Codes of Practice: CP331:3:1974, BS6798:1987, BS5546:1979, BS5440:1:1978, BS5440:2:1976 and BS5449:1:1977.

**Note:** Gas Safety Regulations: It is the law that all gas appliances are installed by competent persons in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution. It is in your own interest, and that of safety to ensure that the law is complied with.

#### 4. DELIVERY

The boiler is delivered in two packages (1) the uncased boiler and (2) the case parts.

A plug in programmer kit and a pump kit are available to fit within the boiler case. The programmer simplifies wiring and is suitable for use with all external control systems shown in the system wiring diagrams supplied with the boiler.

#### 5. GAS SUPPLY

The Marathon 800C requires 2.9 m<sup>3</sup>/h (104 ft<sup>3</sup>/h) of natural gas and the Marathon 1000C requires 3.5 m<sup>3</sup>/h (124 ft<sup>3</sup>/h). The meter and supply pipes must be capable of delivering this quantity of gas in addition to the demand from any other appliances in the house.

The complete installation must be tested for gas soundness and purged in accordance with CP331:3.

#### 6. ELECTRICITY SUPPLY

240 V ~ 50 Hz via a fused double pole switch with a contact separation of at least 3 mm in both poles or preferably a fused 3 pin plug and shuttered socket outlet (both complying with the requirements of BS1363) adjacent to the boiler.

Fuse the supply at 3A. The minimum requirement for the power supply cable is that it should be a PVC sheathed flexible cord at least 0.75 mm<sup>2</sup> (24 x 0.2 mm) (code designation HO5 VV-F or HO5 VVH2-F) as specified in table 16 of BS6500:1984. All wiring external to the boiler shall comply with the latest IEE Wiring Regulations, and any local regulations which apply.

**The appliance must be earthed.**

In the event of an electrical fault after installation of the appliance, preliminary electrical systems checks must be carried out as described in the British Gas multimeter instruction book.

#### 7. AIR SUPPLY

These open flue boilers must have a clearance at each side for air movement. The 800C requires 25 mm (1 in) each side and the 1000C requires 50 mm (2 in) each side.

The boiler must not be boxed in tightly with kitchen units.

Air supply for combustion and ventilation must be provided in accordance with BS5440:2.

1. If the boiler is installed in a room, the room must have a permanent air vent either direct to the outside air or to an adjacent room which itself has a permanent air vent to the outside air. The minimum effective area of the air vent(s) required is:

|                |                                           |
|----------------|-------------------------------------------|
| Marathon 800C  | 110 cm <sup>2</sup> (17 in <sup>2</sup> ) |
| Marathon 1000C | 136 cm <sup>2</sup> (21 in <sup>2</sup> ) |

2. If the boiler is installed in a cupboard or compartment, permanent air vents are required in the cupboard or compartment, one at high level and one at low level, either direct to the outside air or to a room. Both high and low level air vents must communicate with the same room or must be on the same wall to outside air. The minimum effective areas required are given in the following table:

| Boiler               |            | Marathon 800C       |                       | Marathon 1000C      |                        |
|----------------------|------------|---------------------|-----------------------|---------------------|------------------------|
| Vents to outside air | High level | 141 cm <sup>2</sup> | (22 in <sup>2</sup> ) | 167 cm <sup>2</sup> | (26 in <sup>2</sup> )  |
|                      | Low level  | 282 cm <sup>2</sup> | (44 in <sup>2</sup> ) | 334 cm <sup>2</sup> | (52 in <sup>2</sup> )  |
| Vents into a room    | High level | 282 cm <sup>2</sup> | (44 in <sup>2</sup> ) | 334 cm <sup>2</sup> | (52 in <sup>2</sup> )  |
|                      | Low level  | 564 cm <sup>2</sup> | (88 in <sup>2</sup> ) | 668 cm <sup>2</sup> | (104 in <sup>2</sup> ) |

Where the cupboard or compartment is ventilated to a room, the room itself must have an air vent direct to outside air of minimum effective area as given in paragraph 1.

Ensure that there is at least 100 mm (3 in) clearance in front of the boiler for air movement.

**Note:** Air vents in internal walls should not communicate with a bedroom, toilet, bathroom or kitchen.

3. **IMPORTANT:** The above areas are for natural circulation. If there is any type of extract fan fitted in the premises, there is a possibility that if adequate air inlet areas from outside are not provided, spillage of products from the boiler flue could occur when the fan is in operation. Where such installations occur, a spillage test with the fan running must be carried out as described in BS5440:1, Appendix B. The air inlet areas given above may have to be increased to prevent spillage.

#### 8. FLUE SYSTEM

The boiler must be connected to a suitable flue which will provide a consistent updraught without undue cooling of the flue gases. The requirements of BS5440:1 should be followed. Horizontal flue runs should be avoided and the flue should terminate above roof edge level in accordance with the relevant recommendations given in BS5440:1. The flue must be fitted with a terminal, preferably one which has been tested and found satisfactory by British Gas.

Existing chimneys may be suitable but must be swept first and require an approved liner to be fitted. If in doubt regarding the suitability of a flue, consult the local Gas Region for advice.

If the flue is required to be taken through the wall behind the boiler, there should be a minimum of 600 mm (2 ft) of vertical flue directly above the draught diverter prior to any bend.

A minimum clearance of 25 mm should be maintained between the flue pipe and any adjacent combustible material.

**Note:** When the flue is taken through the ceiling and into the roofspace, or the room above, it must be provided with a sleeve of non-combustible material sufficient to allow an air space between the sleeve and flue of 25 mm (1 in) minimum.

A suitable non-combustible plate must be fitted to centre the flue and maintain the 25 mm air gap.

If a twin wall insulated flue is used it may be necessary to use an appliance connector, available from the flue manufacturer.

Nominal flue size: 127 mm (5 in).

## 9. BOILER LOCATION

The boiler is not suitable for external installation.

The boiler must stand firm and level. No special floor protection is needed, but finishes which soften when warm, e.g. linoleum and plastic floor tiles, should be removed, or may be protected by an insulating sheet at least 10 mm thick. The boiler should not be installed in a bedroom and must not be installed in a room containing a bath or shower or in a garage.

Where the installation of the boiler will be in an unusual position, special procedures may be necessary and BS6798 and BS5546 give detailed guidance on this aspect.

A cupboard or compartment used to enclose the boiler must be designed and constructed specifically for this purpose. Details of essential features of cupboard/compartment design including airing cupboard installations are given in BS6798 and BS5546 and should be complied with.

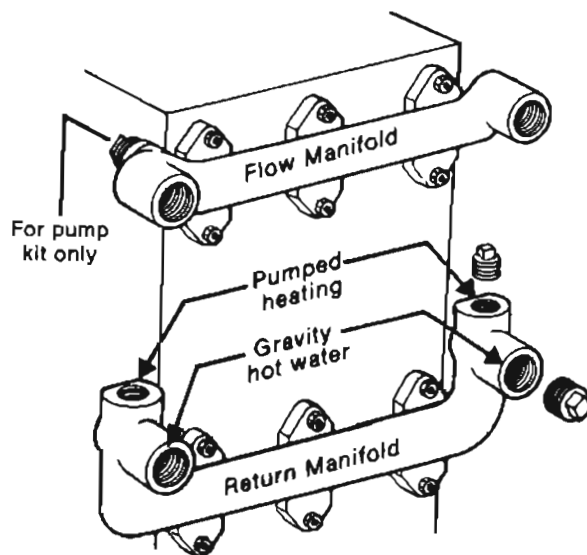
If the boiler is to be fitted in a run of kitchen units it is recommended that the boiler is fitted first or the adjacent units removed.

## 10. WATER CONNECTIONS

The water connections are via manifolds on the back of the boiler as shown opposite. See section 11 for their position. All unused tappings must be plugged. Two plugs are supplied fitted loose in the manifold tappings, they must be removed and refitted with jointing compound if they are used.

**Important:** On gravity systems, both pumped and gravity returns **MUST** be connected to the same end of the return manifold.

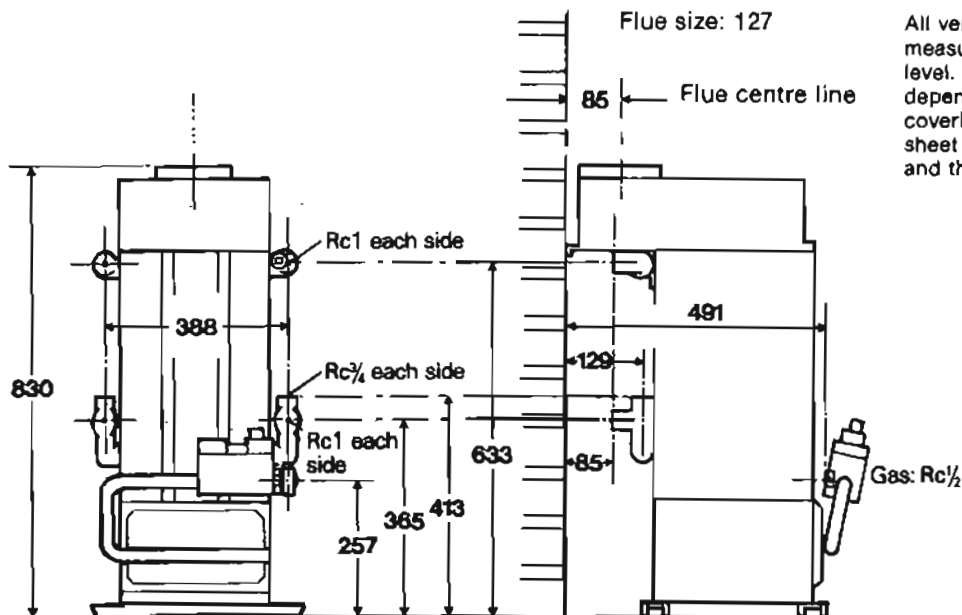
Fit one or more draining taps (BS2879) to enable the water system to be fully drained.



Back view of boiler

## 11. POSITION OF WATER, FLUE AND GAS CONNECTIONS

All dimensions in mm

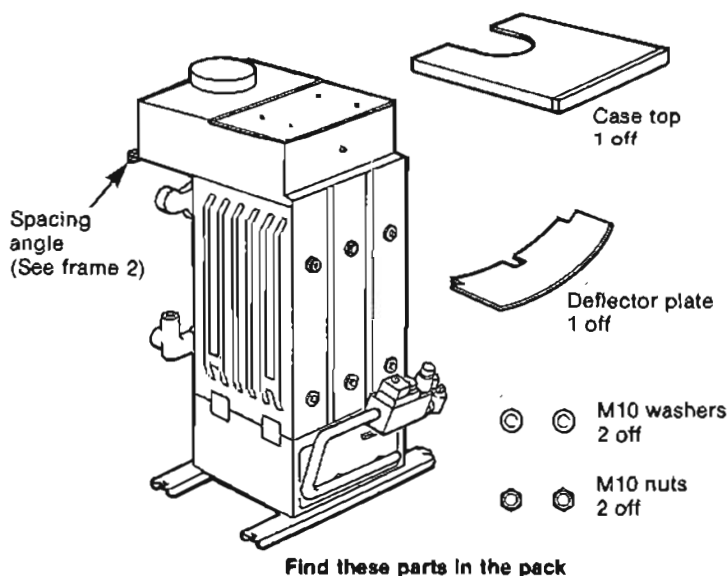


All vertical dimensions are measured from the existing floor level. These dimensions may vary depending on whether any floor covering, and/or an insulating sheet is placed between the boiler and the floor.

## 12. INSTALLATION PROCEDURE

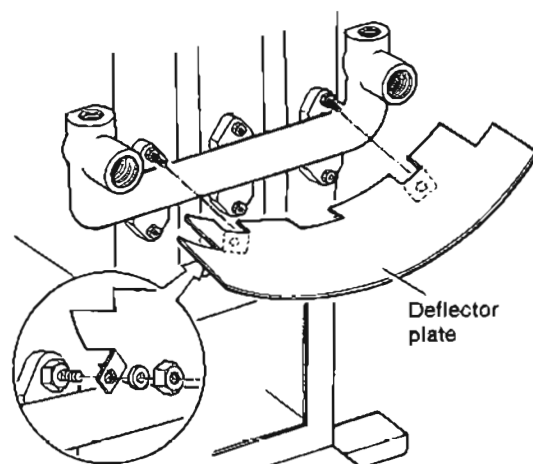
### 1 UNPACK THE BOILER

1. Carefully unpack the boiler. Do not discard the packing until all the items are found.
2. Remove the wooden transit packing from the base of the boiler.
3. Place the case top safely aside to avoid possible damage.



### 2 PREPARE AND INSTALL THE BOILER

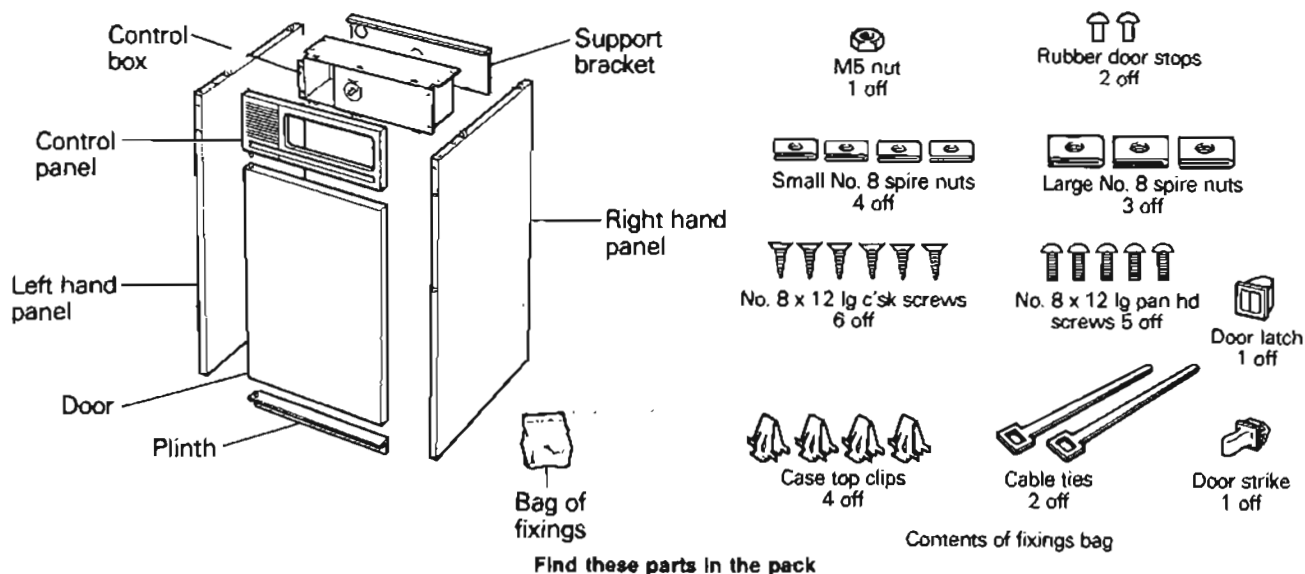
1. Fit the water fittings to the flow and return manifolds using jointing compound (see section 10, page 5).
2. Fit the deflector plate to the boiler. The two lugs fit over the extended studs. Secure with two M10 nuts and washers supplied.
3. Stand the boiler on the floor, on an insulating sheet if required (see section 9, page 5), with the spacing angle (see diagram above) on the back of the draught diverter touching the wall. Check that the boiler is standing firm and level.
4. Connect the first length of flue to the socket on top of the boiler. Pack the joint with a suitable caulking string and seal with a suitable fire cement.
5. Connect the water system pipework to the fittings previously fitted.
6. If a Marathon pump kit is being installed assemble the pump and pipework to the boiler. (See fitting instructions packed with the pump kit).
7. Connect the gas supply to the boiler service cock on the gas valve inlet.  
**DO NOT TURN ON THE GAS SUPPLY AT THIS STAGE.**
8. Thoroughly flush the whole system with cold water without the pump in position (temporarily replace the pump with a suitable piece of pipe). Ensure all valves are open. With the pump fitted, fill, vent and check for water soundness, rectifying where necessary.



Back view of boiler

### 3 UNPACK THE CASE

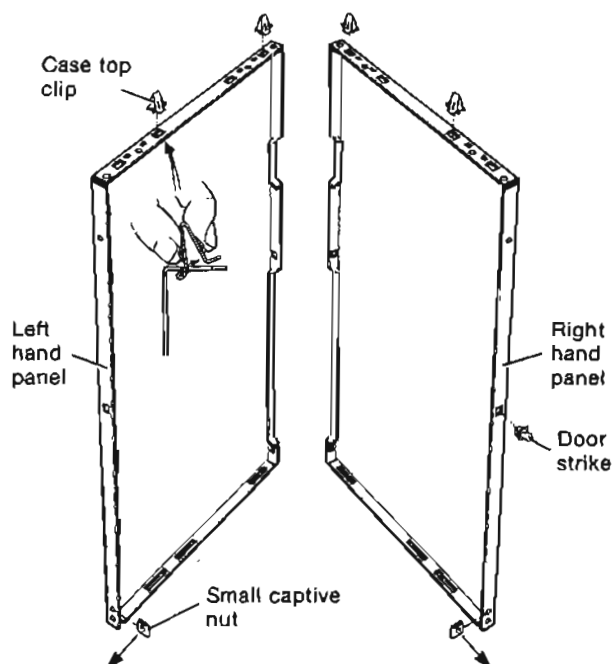
Carefully unpack the case. Do not discard the packing until all the items are found.



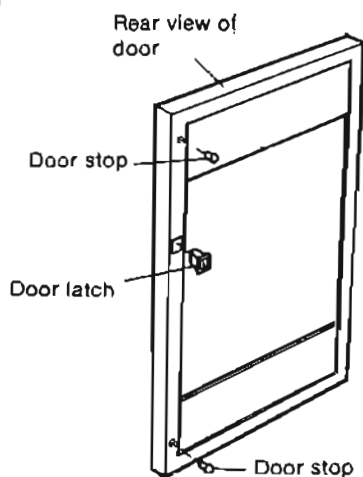
## 4 ASSEMBLE THE CASE PARTS

1. Fit the four case top clips, supplied with the case, to the case side panels in the holes shown.
2. Fit the door strike, supplied with the case, to the right hand side panel as shown.
3. Fit two of the small captive nuts, supplied with the case, to the bottom of the side panels in the holes shown.

**Note:** when fitting the captive nuts, ensure that the flat side faces outwards (in the direction of the arrow).

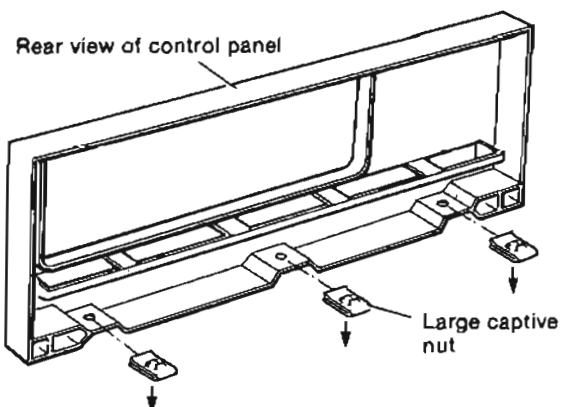


## 5 Assemble the case parts — continued



4. Fit the door latch and two rubber door stops, supplied with the case, to the rear of the door as shown.

## 6 Assemble the case parts — continued

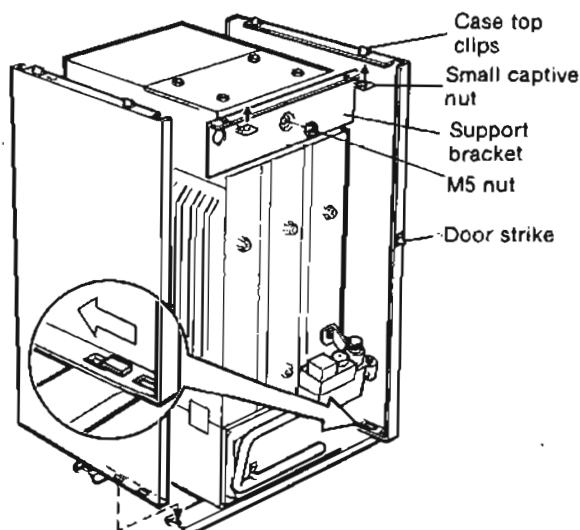


5. Fit the three large captive nuts, supplied with the case, to the bottom of the control panel as shown.

**Note:** when fitting the captive nuts, ensure that the flat side faces outwards (in the direction of the arrow).

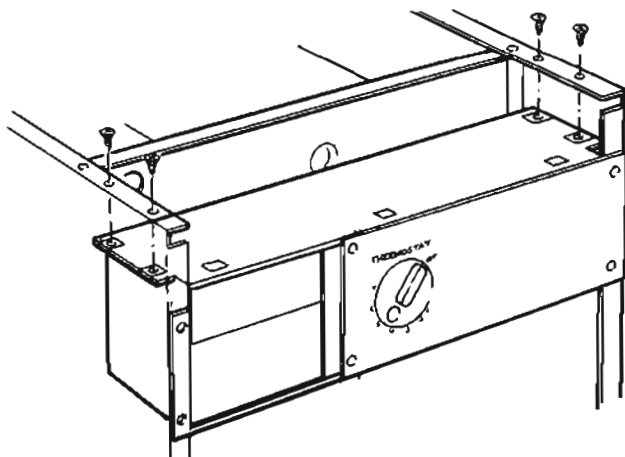
## 7 FIT THE CASE SIDES

1. Fit two small captive nuts, supplied with the case, to the ends of the support bracket.  
**Note:** when fitting the captive nuts, ensure that the flat side faces outwards (in the direction of the arrow).
2. Locate the support bracket on the stud on the front of the flue box, as shown. Loosely secure in position using an M5 nut, supplied with the case, nut to be finger tight only.
3. Fit the right hand side panel with the bottom slots over the raised lugs on the base channels and push the panel backwards to locate it under the raised lugs.
4. Bring the side panel up vertical over the top of the support bracket and secure using one of the No. 8 x 12 lg c'sk screws supplied with the case.
5. Repeat operations 3 and 4 for the left hand side panel.
6. Tighten the M5 nut securing the support bracket.



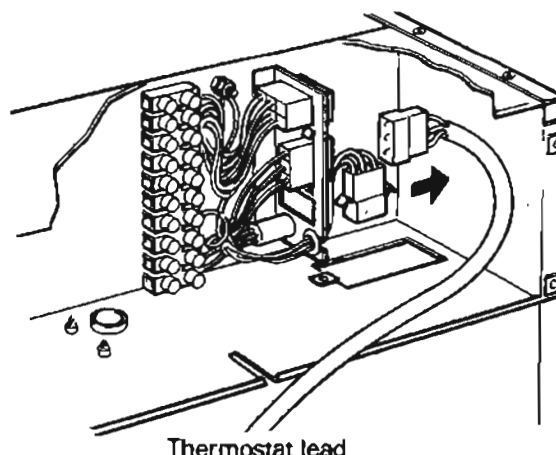
## 8 FIT THE CONTROL BOX

1. Position the control box between the case sides as shown.
2. Secure in position with four No. 8 x 12 lg c'sk screws, supplied with the case.



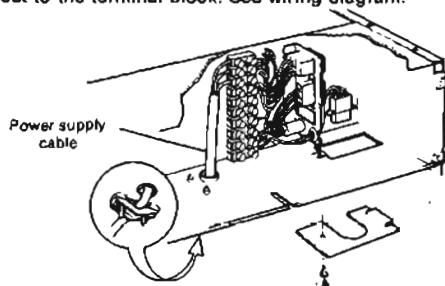
## 9 Fit the Control Box — continued

3. Remove the four screws securing the facia panel.
4. Disconnect the 3-way plug and socket and remove the facia panel.



## 10 CONNECT THE POWER SUPPLY CABLE AND GAS VALVE LEAD

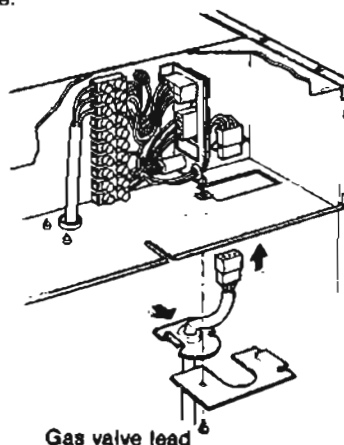
1. Slacken the two screws in the cable clamp underneath the control box. Feed the power supply cable through the hole in the case support bracket, under the cable clamp and through the bush. Connect the wires. Brown to L, Blue to N and Green and Yellow to  $\perp$  on the terminal block.
- Note:** When connecting the power supply cable to the terminal block, ensure that the length of the earth wire is such, that if the supply cable slips out of the cable clamp the live and neutral wires become taut before the earth wire.
2. Tighten the cable clamp screws to secure the power supply cable.
3. Pass any external wiring through the hole in the case support bracket, through the bush in the back of the control box and connect to the terminal block. See wiring diagram.



4. Remove the gas valve lead clamping bracket from underneath the control box.
- DO NOT SWITCH ON THE ELECTRICITY SUPPLY AT THIS STAGE

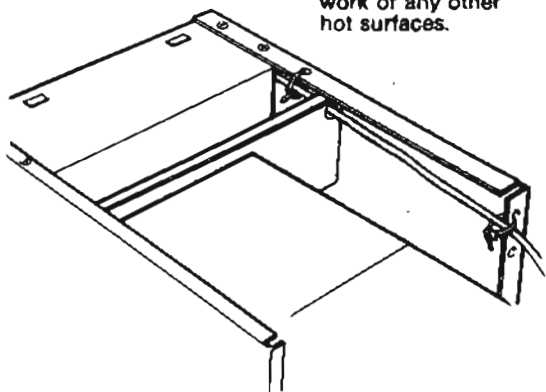
## 11 Connect the power supply cable and gas valve lead — continued

5. Push the cable bush support (fitted to the gas valve lead) into the U slot in the clamping bracket.
6. Pass the gas valve lead plug through the base of the control box and connect it to the 3-way socket.
7. Secure the clamping bracket in position on the control box base.



## 12 SECURE THE WIRING

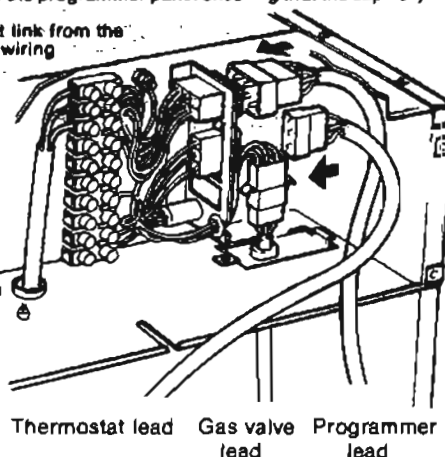
1. Bind together all cables leading to the control box and secure to the case side with the cable ties, supplied with the case.
2. Clip the cables to the wall behind the boiler.
3. Make sure the cables do not come into contact with the flue box, heat exchanger, pipe-work or any other hot surfaces.



## 13 FIT THE PROGRAMMER KIT (if used)

If the Marathon programmer kit is used, the boiler thermostat must be removed from the facia panel and fitted to the programmer as follows:

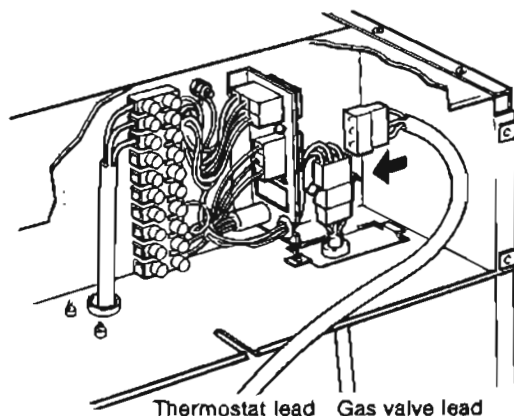
1. Remove the thermostat knob by carefully pushing with a screwdriver through the cutouts in the back of the facia panel.
2. From the front of the panel remove the two screws securing the thermostat.
3. Fit the thermostat to the programmer panel ensuring that the capillary is uppermost.
4. Remove the relevant link from the terminal block. See wiring diagram.
5. Connect the 3-way and 6-way plug and sockets.
6. Secure the programmer panel in position with four screws removed in frame 9. Ensure that the thermostat capillary passes through the cut-out in the control box base.
7. Proceed to frame 15.



## 14 FIT THE FACIA PANEL

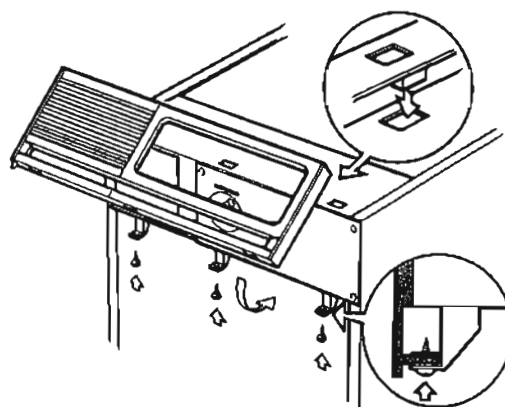
If the Marathon programmer kit is not used, replace the facia panel as follows:

1. Connect the 3-way plug and socket as shown.
  2. Secure the panel in position with the four screws removed in frame 9.
- Ensure that the thermostat capillary passes through the cut-out in the control box base.

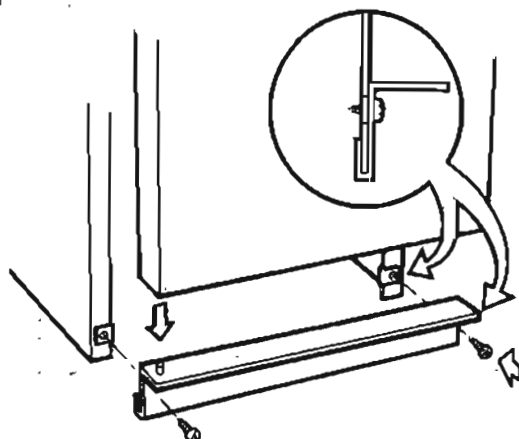


## 15 FIT THE CONTROL PANEL AND THERMOSTAT PHIAL

1. Locate the three spigots on the top of the control panel into the cut outs on the top of the control box and swing the panel down into position.
2. Secure the bottom of the panel to the control box using three No. 8 x 12 lg pan hd screws, supplied with the case.
3. Remove the thermostat phial fixing (screw or split pin) from the thermostat pocket on the front of the heat exchanger and insert the phial into the pocket. Secure in position with the fixing previously removed.



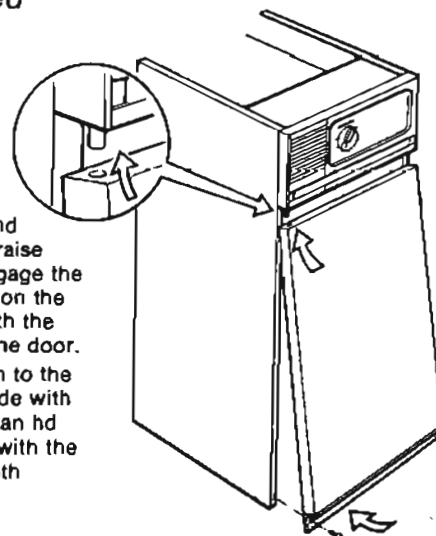
## 16 FIT THE PLINTH AND DOOR



1. Loosely secure the plinth to the right hand case side with one No. 8 x 12 lg pan hd screw, supplied with the case.
2. Engage the lower hinge pin on the left hand end of the plinth with the bush in the bottom of the floor.
3. Continue the fitting of the door, see frame 17.

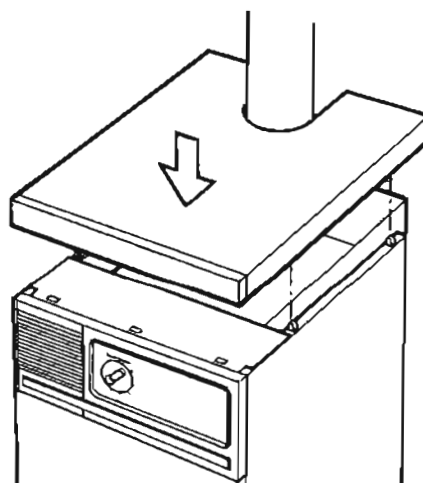
## 17 Fit the Plinth and Door — continued

4. Hold the door and plinth together, raise the door and engage the upper hinge pin on the control panel with the bush on top of the door.
5. Secure the plinth to the left hand case side with a No. 8 x 12 lg pan hd screw, supplied with the case. Tighten both plinth screws.



## 18 FIT THE CASE TOP

Engage the case top onto the spring clips on the top of the case sides and press down to secure.



### 13. COMMISSIONING

See page 11 for boiler controls

#### 1. Test for soundness and purge the gas supply

a. With the boiler service cock closed (the slot in the operating head indicates the direction of flow through the cock), pressure test the gas supply and inlet pipework connection to the boiler service cock for soundness in accordance with CP331:3.

b. Loosen the gas inlet pressure test point screw one turn. Ensure the gas supply is on and open the boiler service cock to purge in accordance with CP331:3.

c. Retighten the test point screw. Test around the test point screw and service cock to gas valve joint for gas soundness using a suitable leak detecting fluid.

#### 2. Light the pilot

With the gas supply on, electricity supply off and the boiler thermostat turned to OFF:

a. Fully depress the gas valve operating button and keep it pressed in. At the same time operate the igniter button to light the pilot. If the pilot does not light, operate the igniter button repeatedly until it does.

b. When the pilot lights continue to hold the gas valve operating button in for a further 10 to 20 seconds, then release it slowly.

**Caution:** If the pilot does not stay alight, release the gas valve operating button and turn it in the direction of the arrow. Wait for 3 minutes and repeat operation 2a until the pilot is lit. Continue to hold the gas valve operating button in for 20 seconds, then release it slowly.

#### 3. Test the pilot supply for gas soundness

Test the pilot connections at the gas valve and burner door for gas soundness using a suitable leak detecting fluid.

#### 4. Check the pilot flame

The pilot throttle is factory set fully open. Check that the pilot flame (approximately 20 mm lg) envelops the thermocouple tip. Adjust if necessary.

#### 5. Light the main burner

With the pilot alight:

a. Switch on the electricity supply, set the programme selector switch to Continuous, if a programmer is fitted and check that all system controls are calling for heat.

b. Turn the boiler thermostat to position 7 and check that the main burner lights smoothly from the pilot flame.

(After servicing or replacement of parts only) — Test the main burner supply to gas valve connection for gas soundness using a suitable leak detecting fluid.

#### 6. Check the main burner setting pressure

After the main burner has been alight for at least 10 minutes.

a. Turn the boiler thermostat to OFF. Loosen the burner setting pressure test point screw one turn and connect a pressure gauge.

b. Turn the boiler thermostat to position 7 and if necessary adjust the burner setting pressure to give the heat input required. Turn the governor adjusting screw anti-clockwise to decrease the setting pressure.

**Note:** The boiler is factory set to the maximum input. See Technical Data, page 3, for the boiler ratings and setting pressures.

c. Turn the boiler thermostat to OFF, disconnect the pressure gauge and retighten the pressure test point screw. Turn the boiler thermostat to position 7 to light the main burner and test for gas soundness around the pressure test point screw using a suitable leak detecting fluid.

d. Check that the arrow on the data plate (positioned above the gas valve) is against the correct boiler rating.

#### 7. Check the flue

Check the flue for correct operation as described in BS5440:1.

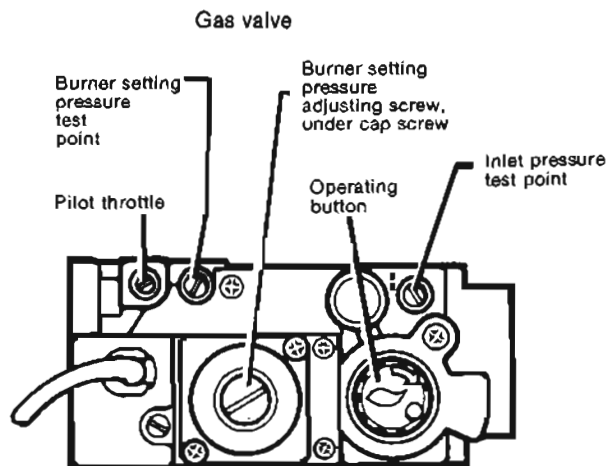
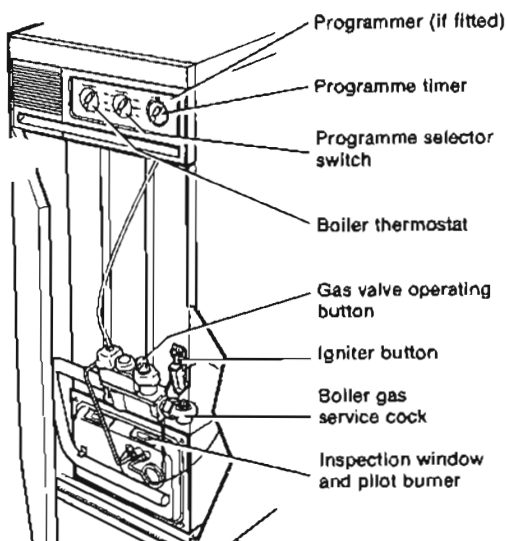
#### 8. Set the clock and programme (if a programmer is fitted)

Set the clock to the correct time (do not rotate the dial anticlockwise) and the programme and selector switches to the required settings. See User instructions.

#### 9. Final water system check

When the system has been tested, drain the water while it is still hot in order to complete the flushing process. Refill, vent and make a final check for water soundness.

## 14. BOILER CONTROLS



## 15. HANDING OVER THE INSTALLATION

Hand over the User instructions to the User and instruct in the safe operation of the boiler and controls.

Advise the User of the precautions necessary to prevent damage to the system and to the building in the event of the system remaining inoperative during frost conditions.

Advise the User that for continued efficient and safe operation of the boiler it is important that adequate servicing is carried out at least once a year by a qualified service engineer or the local Gas Region.

Leave a permanent card attached to the boiler giving:

1. Name and address of installer.
2. Date of installation.
3. A wiring diagram of the circuit.

## 16. ANNUAL SERVICING

The following aspects of the boiler and installation should be examined, and rectified as necessary.

1. Run the boiler and check the operation of its controls, observe the flame picture and ensure that the boiler responds to any switches and programmer.
2. Check the condition of the flue and ensure it is not obstructed.
3. Remove the flue box cover and check if the heat exchanger requires cleaning.
4. Examine the main injectors to ensure they are clear and undamaged.
5. Remove any build up of carbon deposits from the thermocouple tip.
6. If a sufficiently large pilot flame cannot be achieved examine the pilot injector orifice to ensure it is clear and undamaged.

On completion of the service run the boiler and ensure that it operates satisfactorily.

The boiler data plate is positioned above the gas valve.

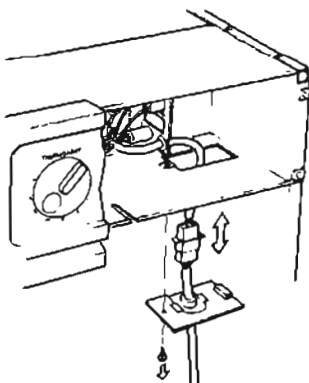
The procedure for Annual Servicing is given in frames 19 to 29.

**Warning:** Before commencing work turn the gas valve operating button in the direction of the arrow to turn off the boiler. Turn off the electricity supply and isolate the gas supply at the boiler service cock. Allow the boiler to cool.

**Important:** Always test for gas soundness after completing any servicing and carry out functional checks of controls.

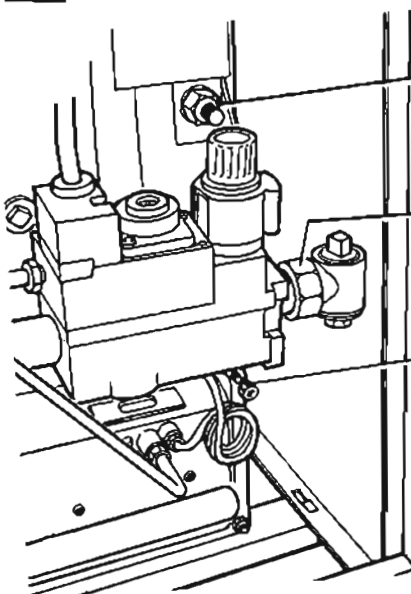
## 19 DISMANTLING

1. Remove the case top by carefully pulling it upwards.
2. If the case door will not open beyond 90° remove the two plinth screws and remove the door and plinth.



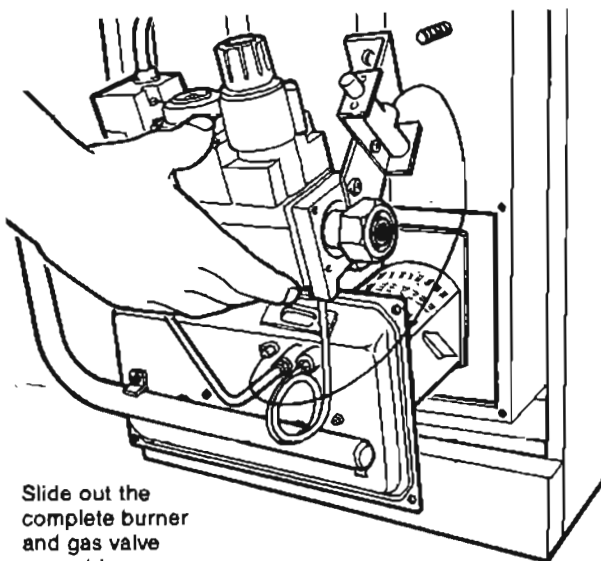
3. Remove the screw securing the gas valve lead clamping bracket to the base of the control box.
4. Carefully withdraw the lead and disconnect the 3-way plug and socket.

## 20 Dismantling — continued



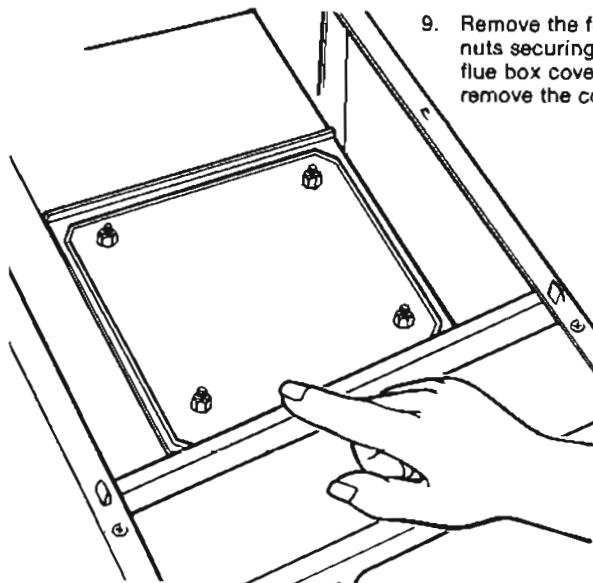
5. Remove the nut and washer securing the gas valve bracket.
6. Disconnect the union at the boiler gas service cock.
7. Remove four nuts fixing the burner door (one at each corner).

## 21 Dismantling — continued



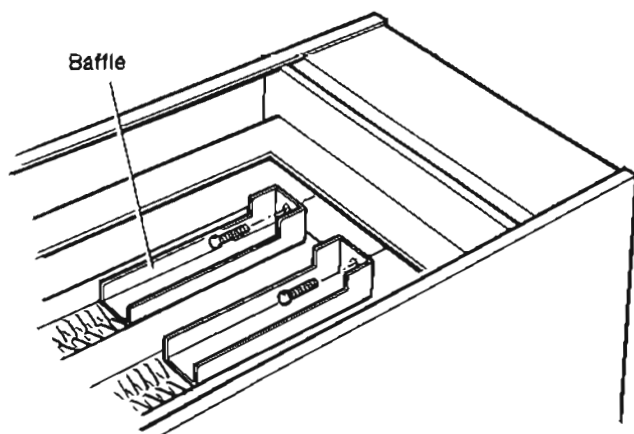
8. Slide out the complete burner and gas valve assembly.

## 22 Dismantling — continued



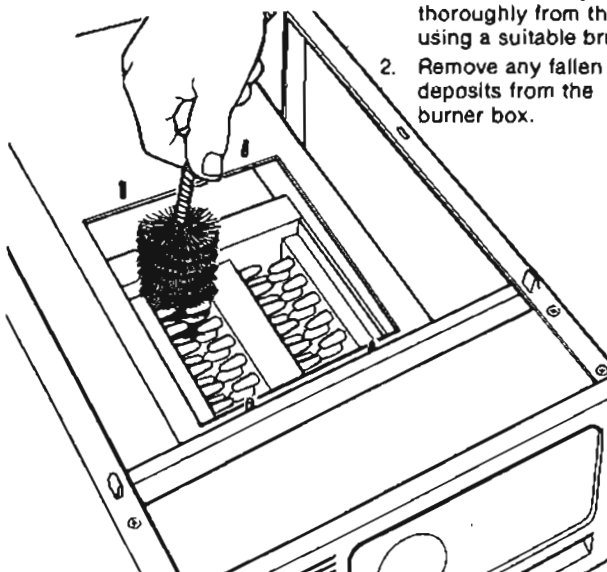
9. Remove the four nuts securing the flue box cover and remove the cover.

## 23 Dismantling — continued



10. From inside the flue box remove the screws securing the baffles to the front of the flue box and lift out the baffles.

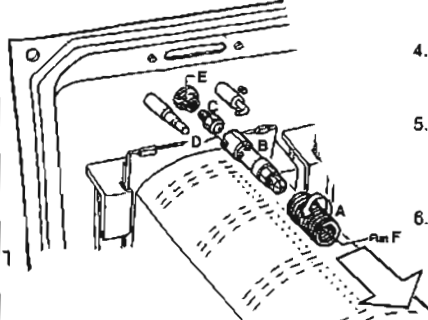
## 24 CLEANING THE HEAT EXCHANGER



1. Brush all flueways thoroughly from the top using a suitable brush.
2. Remove any fallen deposits from the burner box.

## 25 CLEANING THE PILOT AND THERMOCOUPLE

1. Twist and pull off the pilot spring A.
2. Pull off the pilot burner head B. Check that the slots and ports are clear. Clean with a fine wire brush if necessary.
3. Unscrew the pilot injector C. Clean the injector by blowing through or washing. Do NOT clear the injector with a pin or wire.
4. Clean the thermocouple tip with a fine wire brush.
5. Replace the pilot injector and pilot burner head. Make sure the key D lines up with the key way E.
6. Replace the pilot spring. Push on and twist, with the flat F at the end nearest the pilot flame.
7. Check that the spark gap is 4 to 5 mm.



To replace the pilot filter in the gas valve refer to frame 45.

## 26 CLEANING THE BURNERS

On each burner:

1. Remove the two screws or nuts and sealing washers fixing the burner end plate. Remove the end plate and gasket.
2. Carefully slide out the lint filter. Clean the filter by brushing carefully with a soft brush, aided by blowing through the mesh.
3. Brush the burner top and check that the flame ports are clear. Any blockage may be removed using a fine wire brush. Remove any deposits inside the burner by tapping the open end down.
4. Replace the lint filter. Slide the filter in carefully against the top of the burner and on top of the side flanges. Push fully home.
5. Replace the end plate and gasket and secure in position. Ensure that the sealing washers are used.

## 27 CLEANING THE MAIN INJECTORS

1. Disconnect the pilot supply and thermocouple from the burner door.
2. Disconnect the electrode lead from the piezo unit.
3. Undo the two nuts securing the manifold tube to the burner door and remove the gas valve and manifold assembly from the burner door.
4. Unscrew the injectors from the manifold tube. Clean by blowing through or washing. Do NOT clear the injectors with a pin or wire. Replace the injectors with new sealing washers if necessary.
5. Refit the manifold tube to the burner door and secure with two nuts.
6. Replace the thermocouple and pilot supply tube and secure in position.
7. Re-connect the electrode lead to the piezo unit.

## 28 REASSEMBLY

1. Replace the baffles into the top of the heat exchanger and secure in position with the screws previously removed.
2. Replace the flue box cover, ensuring the gasket is intact and secure with the nuts previously removed.
3. Replace the burner and gas valve assembly and secure the burner door in position with the nuts previously removed.
4. Reconnect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
5. Turn on the gas supply and test the boiler service cock connection for gas soundness using a suitable leak detecting fluid.
6. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
7. Replace the case door if it was removed — frame 19.
8. Replace the case top.

## 29 Reassembly — continued

9. Light the pilot, test the pilot supply for gas soundness, check the pilot flame, light the main burner, test the main burner supply for gas soundness, check the main burner setting pressure and set the clock and programmer (if fitted) as described in the commissioning instructions, page 10.
10. Before leaving the site, the service engineer should check that:
  - a) no flammable material is left in contact with the boiler shell, eg. paper or textiles which have fallen behind the boiler.
  - b) ventilation requirements remain at the required standard, by venting the room.
  - c) the gaps between the case sides and the wall or kitchen units are not obstructed. This is the means of entry for combustion air.

## 17. LIGHTING INSTRUCTIONS

### See page 11 for boiler controls

With the gas supply on, electricity supply off and the boiler thermostat turned to OFF:

1. Fully depress the gas valve operating button and keep it pressed in. At the same time operate the igniter button to light the pilot. If the pilot does not light, operate the igniter button repeatedly until it does.
2. When the pilot lights, continue to hold the gas valve operating button in for a further 10 to 20 seconds, then release it slowly.

**Caution:** If the pilot does not stay alight, release the gas valve operating button and turn it in the direction of the arrow. Wait for 3 minutes and repeat operation 1 until the pilot is lit. Continue to hold the gas valve operating button in for 20 seconds, then release it slowly.

### When the pilot remains alight:

3. Switch on the electricity supply, set the programmer selector switch to Continuous, if a programmer is fitted and check that all system controls are calling for heat.
4. Turn the boiler thermostat to position 7 and the main burner will light.
5. If a programmer is fitted, ensure that the clock is set to the correct time (do not rotate the dial anticlockwise) and the programme and selector switches are set to their previous settings.

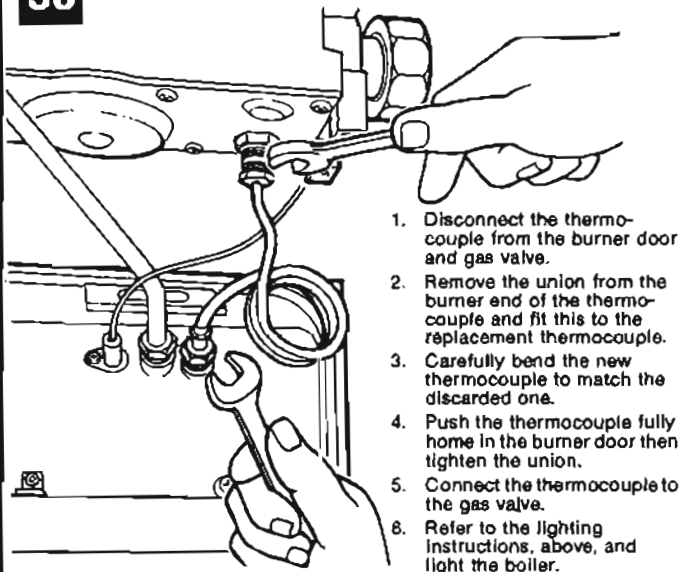
## 18. REPLACEMENT OF PARTS

The procedure for the replacement of parts is given in frames 30 to 46.

**Warning:** Before commencing work turn the gas valve operating button in the direction of the arrow to turn off the boiler. Turn off the electricity supply and isolate the gas supply at the boiler service cock. Allow the boiler to cool.

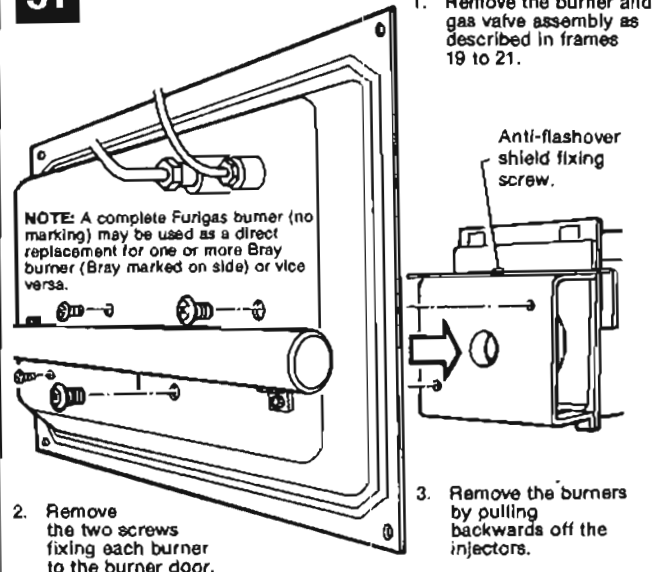
**Important:** Always test for gas soundness after completing any exchange of gas carrying components and carry out functional checks of controls.

### 30 TO REPLACE THE THERMOCOUPLE



1. Disconnect the thermocouple from the burner door and gas valve.
2. Remove the union from the burner end of the thermocouple and fit this to the replacement thermocouple.
3. Carefully bend the new thermocouple to match the discarded one.
4. Push the thermocouple fully home in the burner door then tighten the union.
5. Connect the thermocouple to the gas valve.
6. Refer to the lighting instructions, above, and light the boiler.

### 31 TO REPLACE THE BURNERS



1. Remove the burner and gas valve assembly as described in frames 19 to 21.

2. Remove the two screws fixing each burner to the burner door.

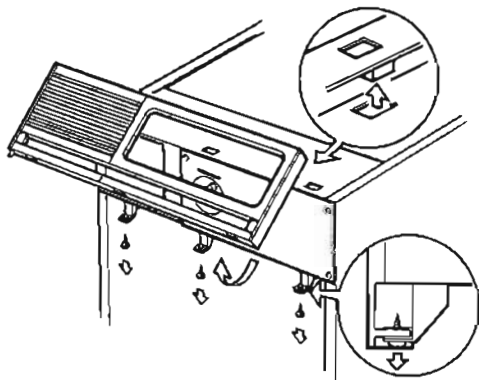
3. Remove the burners by pulling backwards off the injectors.

## 32 Burners — *continued*

4. Remove the anti-flashover shields from the front of the burners and fit them to the new burners.
5. Fit the new burners and retain with two screws per burner.
6. Replace the burner and gas valve assembly and secure the burner door in position with the nuts previously removed.
7. Connect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
8. Turn on the gas supply and test the boiler service cock connection for gas soundness using a suitable leak detecting fluid.
9. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
10. Replace the case door if it has been removed — frame 19.
11. Refer to the lighting instructions, page 14 and light the boiler.

## 34 TO REPLACE THE BOILER THERMOSTAT

1. Remove the case top by carefully pulling it upwards.
2. Remove the two plinth screws and remove the door and plinth.
3. Remove the thermostat phial fixing (screw or split pin) from the thermostat pocket on the front of the heat exchanger. Withdraw the phial from the pocket.
4. Remove the three screws securing the bottom of the control panel to the control box.
5. Swing the panel up and disengage the three spigots from the top of the control box.



## 36 Boiler Thermostat — *continued*

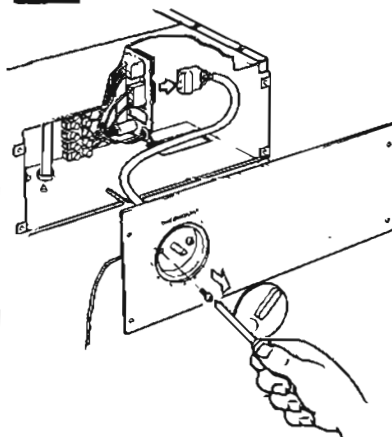
10. Disconnect the leads from the old thermostat, noting their position, and connect to the new one. See wiring diagram.
11. Carefully bend the capillary to match the discarded one.
12. Secure the new thermostat to the facia panel with two screws. Ensure that the capillary is uppermost.
13. Re-connect the 3-way plug and socket, (and 6-way plug and socket if a programmer is fitted).
14. Replace the facia panel ensuring that the capillary passes through the cut out in the control box base. Secure the panel with four screws and replace the control knob.
15. Insert the thermostat phial into the pocket on the front of the heat exchanger and secure in position with the fixing previously removed.
16. Replace the control panel, case door, plinth and case top.
17. Refer to the lighting instructions, page 14 and light the boiler. Allow the boiler to heat up and check that the thermostat will switch the boiler off when turned to a low setting.

## 33 TO REPLACE THE LINT FILTERS

**Note:** the burners may be either Bray or Furigas. When replacing components they are NOT interchangeable.

1. Remove the burner and gas valve assembly as described in frames 19 to 21.
2. Remove the lint filters from the burners as described in frame 26.
3. Fit the new lint filters and reassemble the burners as described in frame 26.
4. Replace the burner and gas valve assembly and secure the burner door in position with the nuts previously removed.
5. Reconnect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
6. Turn on the gas supply and test the boiler service cock connection for gas soundness using a suitable leak detecting fluid.
7. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
8. Replace the case door if it has been removed — frame 19.
9. Refer to the lighting instructions, page 14 and light the boiler.

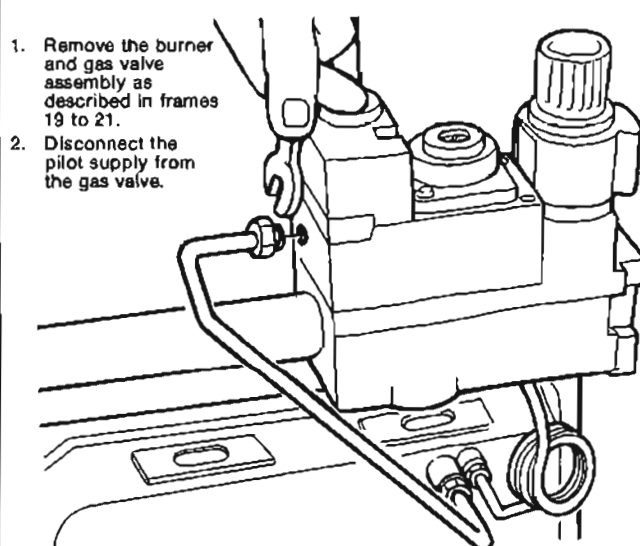
## 35 Boiler Thermostat — *continued*



6. Remove the four screws securing the facia panel.
7. Disconnect the 3-way thermostat plug and socket (also disconnect the 6-way plug and socket if a programmer is fitted).
8. Remove the thermostat knob by carefully pushing with a screwdriver through the cut outs in the back of the facia panel.
9. From the front of the panel remove the two fixing screws and remove the thermostat.

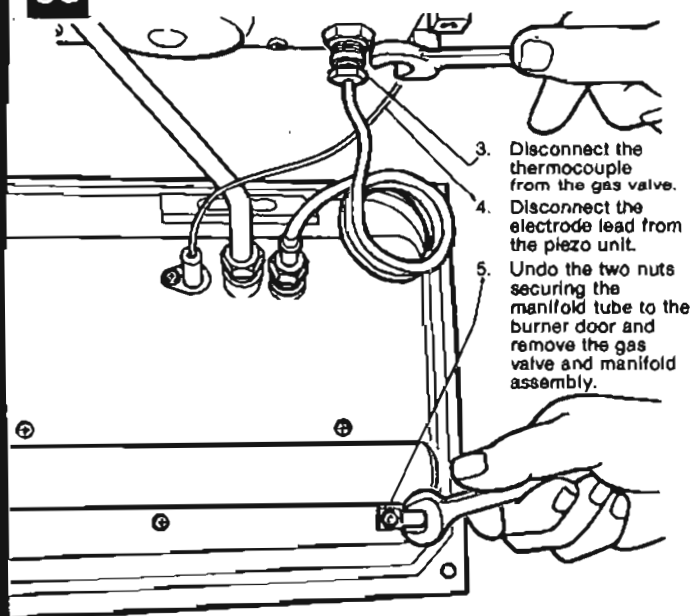
## 37 TO REPLACE THE GAS VALVE

**ENSURE THAT THE GAS SUPPLY IS OFF.**



1. Remove the burner and gas valve assembly as described in frames 19 to 21.
2. Disconnect the pilot supply from the gas valve.

## 38 Gas Valve — continued

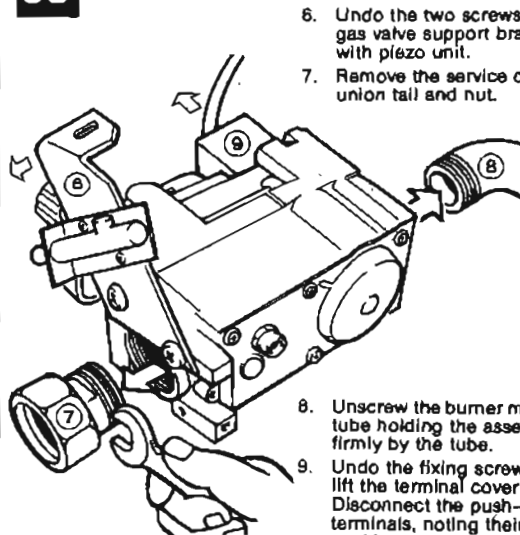


3. Disconnect the thermocouple from the gas valve.
4. Disconnect the electrode lead from the piezo unit.
5. Undo the two nuts securing the manifold tube to the burner door and remove the gas valve and manifold assembly.

## 40 Gas Valve — continued

10. Refit the parts removed from the gas valve to the replacement valve. Use jointing compound on the threads of the service cock union and the manifold tube.
11. Reassemble the gas valve and manifold tube to the burner door and reconnect the thermocouple pilot supply and the electrode lead.
12. Replace the burner and gas valve assembly and secure the burner door in position with the nuts previously removed.
13. Reconnect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
14. Turn on the gas supply and test the boiler service cock connection for gas soundness using a suitable detecting fluid.
15. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
16. Light the pilot, test the pilot supply for gas soundness, check the pilot flame, light the main burner and test the burner supply to gas valve connection for gas soundness and check the main burner setting pressure as described in the commissioning instructions, page 10.
17. Replace the case door if it has been removed — frame 19.

## 39 Gas Valve — continued



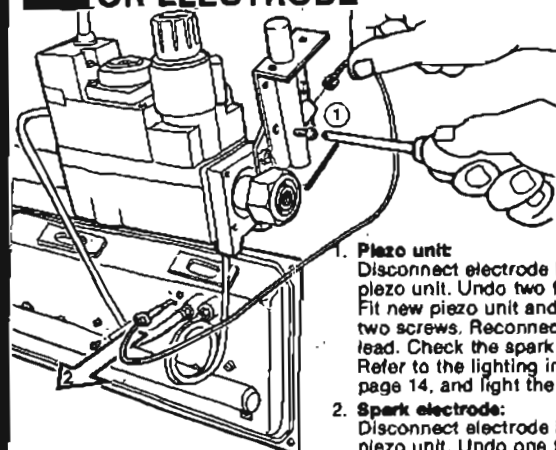
6. Undo the two screws and remove the gas valve support bracket, complete with piezo unit.
7. Remove the service cock union tail and nut.
8. Unscrew the burner manifold tube holding the assembly firmly by the tube.
9. Undo the fixing screw and lift the terminal cover up. Disconnect the push-on terminals, noting their positions, unscrew the earth terminal and remove the cable and cover.

## 41 TO REPLACE THE PILOT COMPONENTS

Refer to the diagram in frame 25

1. Remove the burner and gas valve assembly as described in frames 19 to 21.
2. Twist and pull off the pilot spring A.
3. Pull off the pilot burner head B.
4. Unscrew the injector C and fit a new one.
5. Replace the pilot burner head. Make sure that the key D lines up with the keyway E.
6. Replace the pilot spring. Push on and twist, with the flat F at the end nearest the pilot flame.
7. Replace the burner and gas valve assembly and secure the burner door in position with the nuts previously removed.
8. Reconnect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
9. Turn on the gas supply and test the boiler service cock connection for gas soundness using a suitable leak detecting fluid.
10. Light the pilot and check the pilot flame as described in the commissioning instructions, page 10.
11. Replace the case door if it has been removed — frame 19.

## 42 TO REPLACE THE PIEZO UNIT OR ELECTRODE



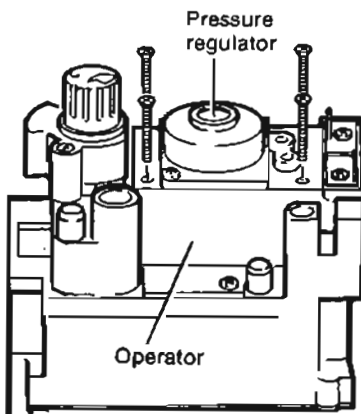
1. **Piezo unit:** Disconnect electrode lead from the piezo unit. Undo two fixing screws. Fit new piezo unit and secure with two screws. Reconnect the electrode lead. Check the spark at the pilot. Refer to the lighting instructions, page 14, and light the boiler.
2. **Spark electrode:** Disconnect electrode lead from the piezo unit. Undo one fixing screw. Withdraw the electrode complete with lead. Insert a new electrode and lead, and secure with the fixing screw. Reconnect the electrode lead. Check the spark at the pilot. Refer to the lighting instructions, page 14, and light the boiler.

## 43 TO REPLACE THE BURNER INJECTORS

1. Remove the burner and gas valve assembly as described in frames 19 to 21.
2. Remove the injectors as described in frame 27 and replace with new injectors and sealing washers.
3. Reassemble the burner and gas valve assembly as described in frame 27.
4. Replace the burner and gas valve assembly and secure the burner door in position with the nuts previously removed.
5. Reconnect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
6. Turn on the gas supply and test the boiler service cock connection for gas soundness using a suitable leak detecting fluid.
7. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
8. Light the pilot and test the pilot supply connection at the burner door for gas soundness as described in commissioning instructions, page 10.
9. Replace the case door if it has been removed — frame 19.

## 44 TO REPLACE THE GAS VALVE OPERATOR

ENSURE THAT THE GAS SUPPLY IS OFF

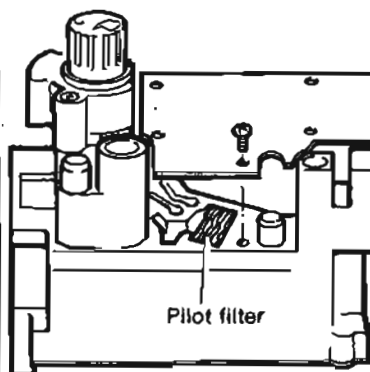


1. Undo the fixing screw and lift the terminal cover up. Disconnect the push-on terminals, noting their positions, unscrew the earth terminal and remove the cable and cover.
2. Remove the four screws securing the operator to the gas valve and lift-off the operator.
3. Remove the two screws securing the pressure regulator to the operator and carefully fit it to the new operator.

4. Fit the new operator using a new gasket and rubber sealing washer.
5. Connect the leads and replace the terminal cover.
6. Refer to the lighting Instructions, page 14 and light the boiler.
7. Test for gas soundness around the operator using a suitable leak detecting fluid.
8. Check the burner setting pressure as described in the commissioning instructions, page 10.

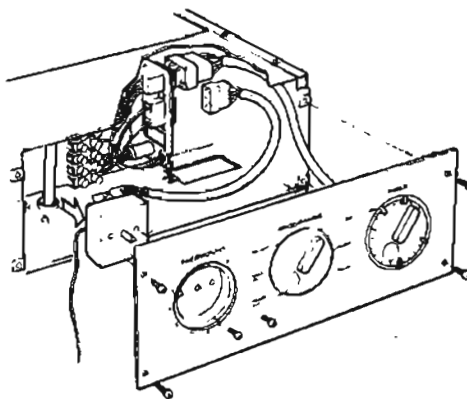
## 45 TO REPLACE THE PILOT FILTER

**NOTE:** It is extremely unlikely that the pilot filter will become blocked. If the pilot injector and pilot supply are clear and the filter is still suspect proceed as follows:  
**ENSURE THE GAS SUPPLY IS OFF.**



1. Remove the gas valve operator, see frame 44.
2. Remove the one remaining screw securing the plate under the operator and carefully remove plate and gasket.
3. Remove the pilot filter and replace with a new one.
4. Reassemble in reverse order taking care not to damage the gaskets.
5. Refer to the lighting instructions, page 14 and light the boiler.
6. Test for gas soundness around the operator using a suitable leak detecting fluid.

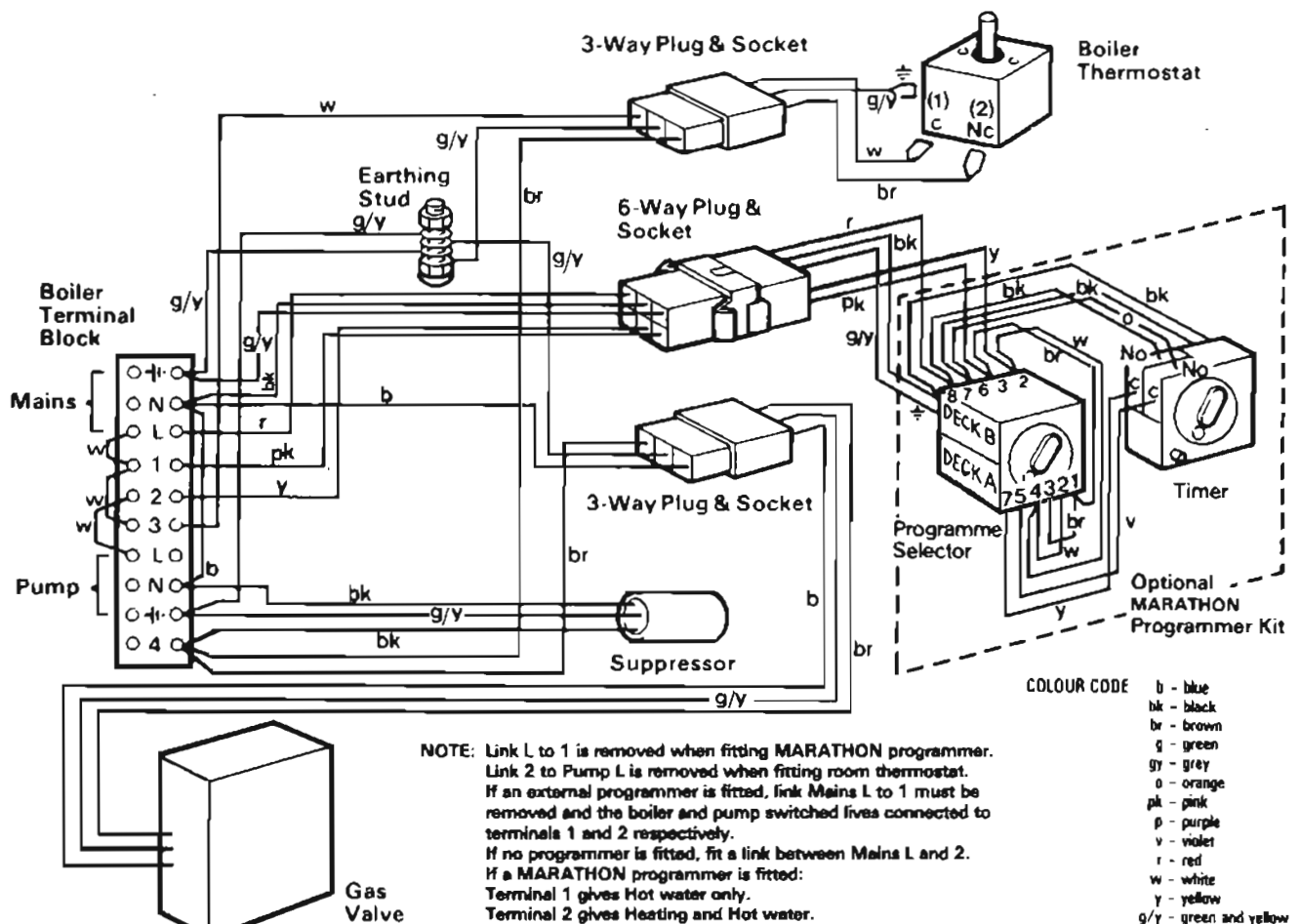
## 46 TO REPLACE THE PROGRAMMER (If fitted)



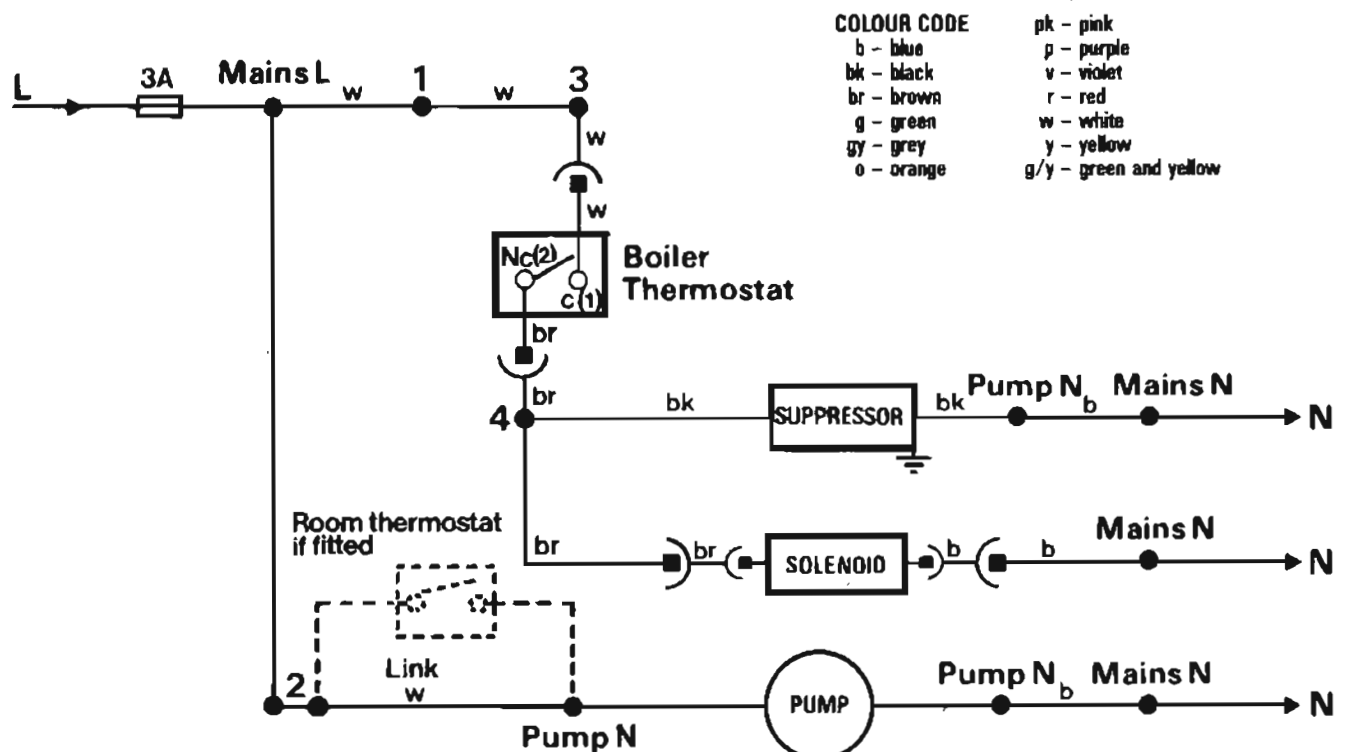
1. Remove the case top, control panel, fascia panel and boiler thermostat as described in frames 34 and 35.
2. Fit the boiler thermostat to the new programmer assembly, ensuring the capillary is uppermost and reassemble in reverse order.
3. Refer to the lighting Instructions, page 14 and light the boiler.

## 19. WIRING DIAGRAMS

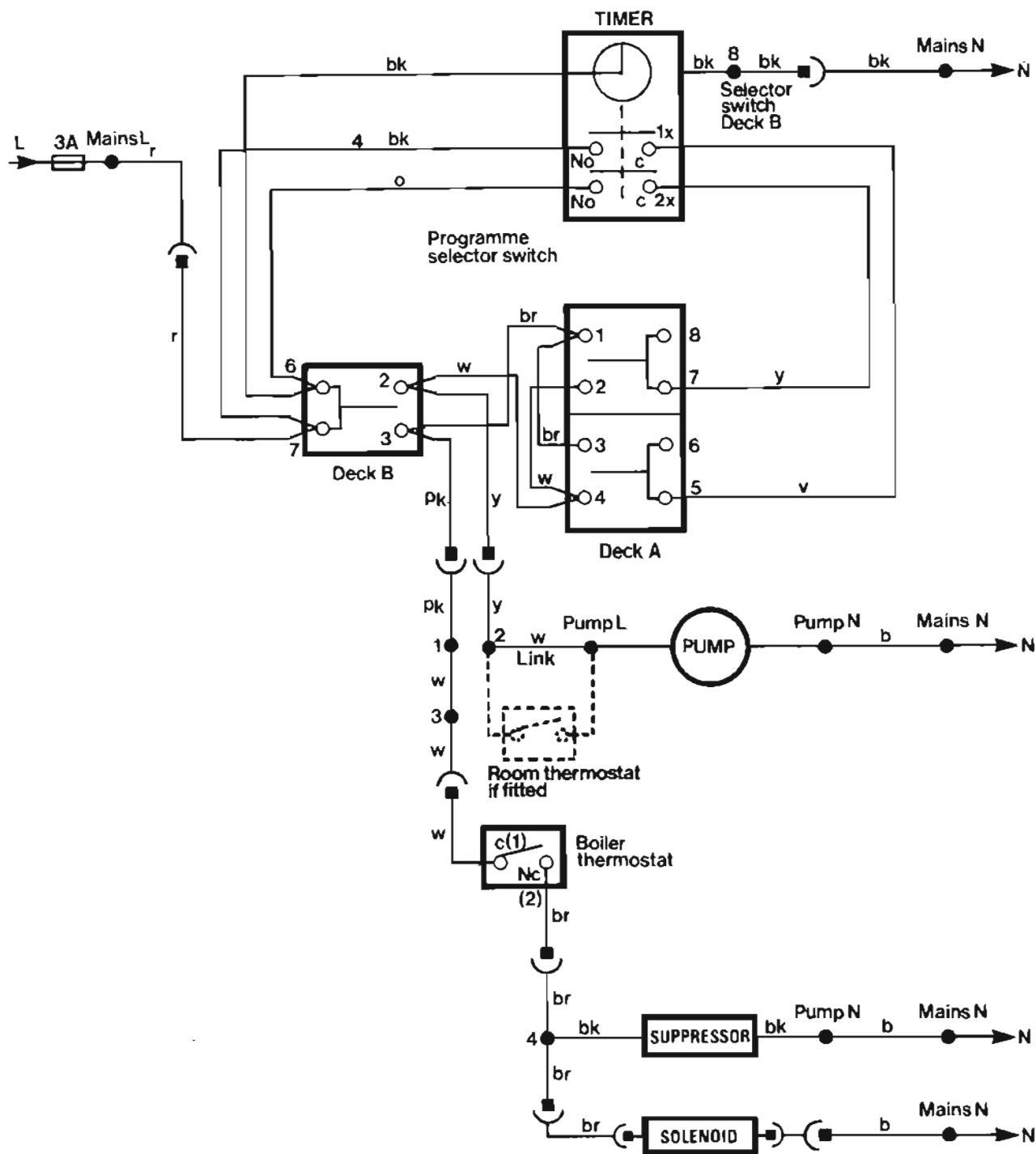
### a. Illustrated wiring diagram



### b. Functional flow wiring diagram without programmer



c. Functional flow wiring diagram with Marathon programmer



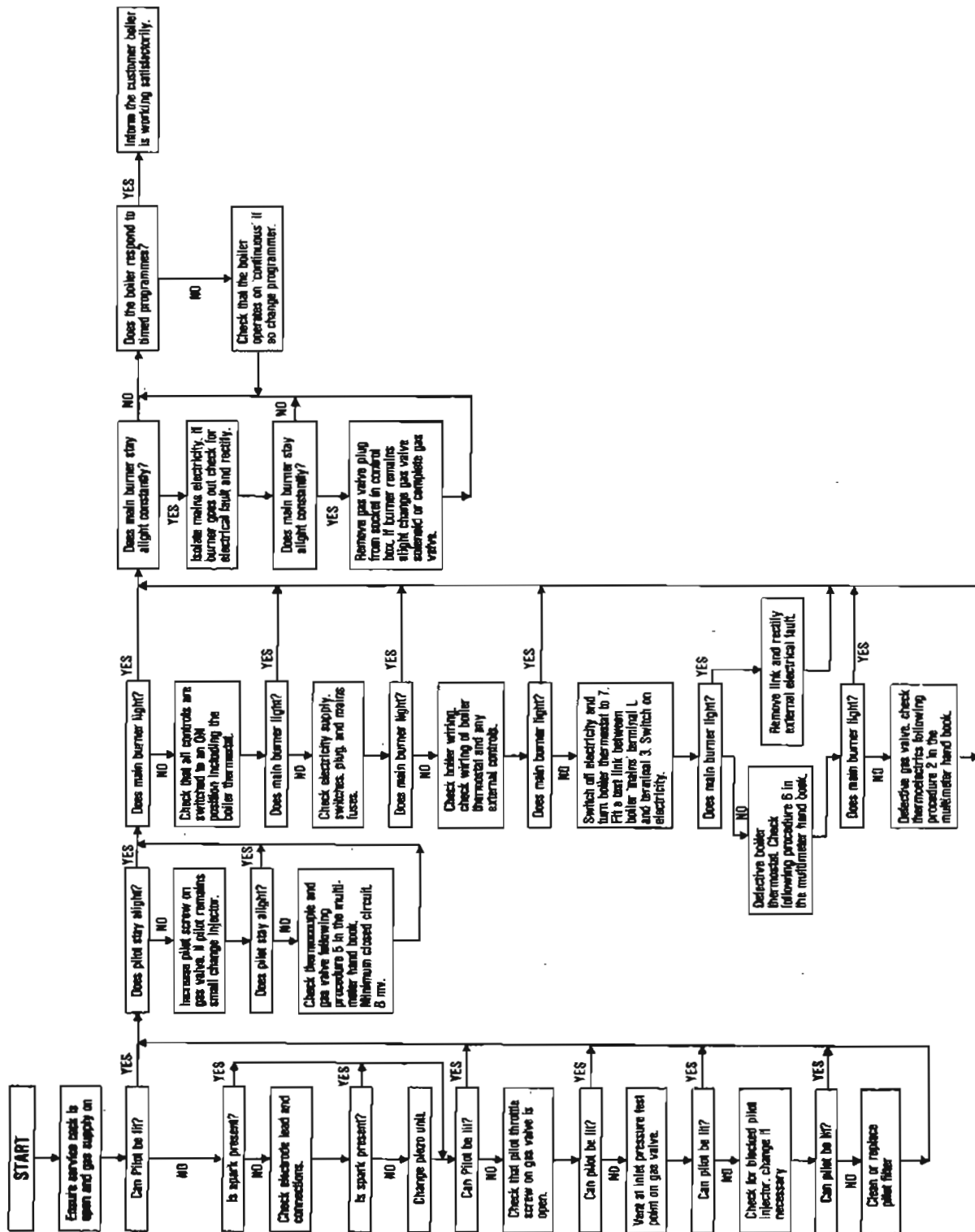
COLOUR CODE

|            |                        |
|------------|------------------------|
| b - blue   | p - purple             |
| bk - black | v - violet             |
| br - brown | r - red                |
| g - green  | w - white              |
| gy - grey  | y - yellow             |
| o - orange | g/y - green and yellow |
| pk - pink  |                        |

| SELECTOR SWITCH CLOSED |    |    |    |    |    |    |
|------------------------|----|----|----|----|----|----|
| SERVICE                | A1 | A2 | A3 | A4 | B2 | B3 |
| OFF                    |    |    |    |    |    |    |
| CH OFF HW 2X           |    |    |    |    |    |    |
| CH OFF HW 1X           |    |    |    |    |    |    |
| CH + HW 2X             |    |    |    |    |    |    |
| CH + HW 1X             |    |    |    |    |    |    |
| CONTINUOUS             |    |    |    |    |    |    |

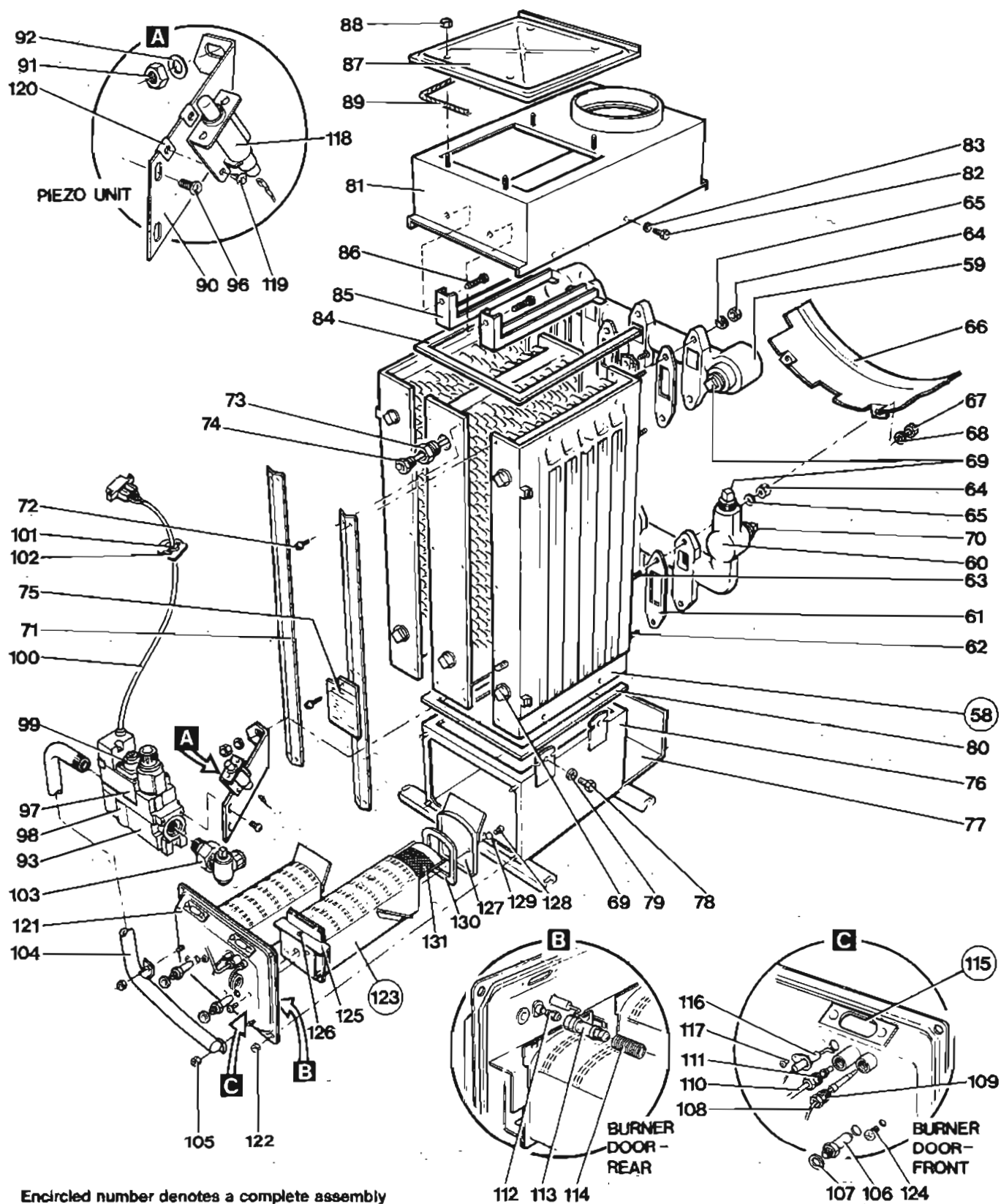
## 20. FAULT FINDING GUIDE

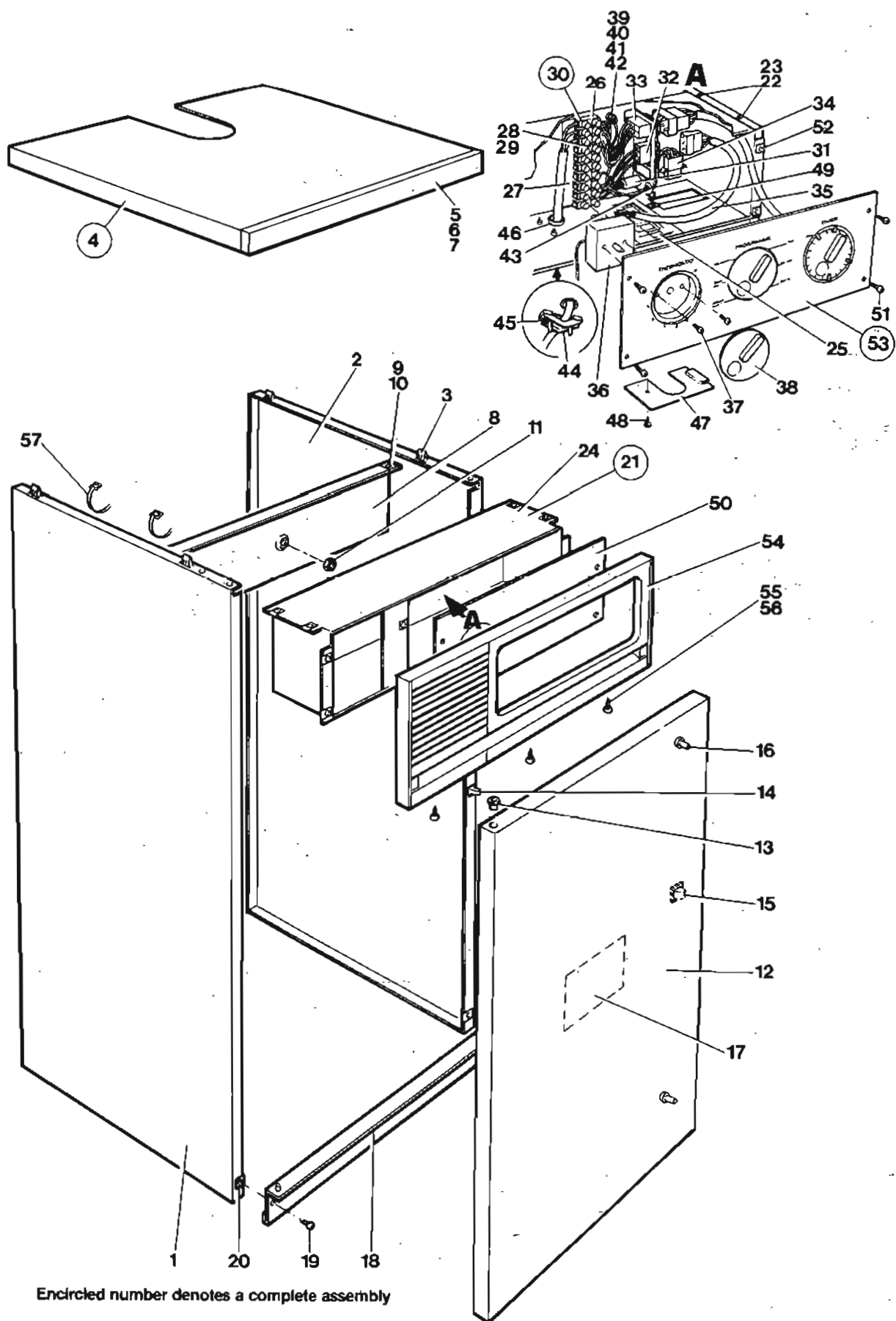
Preliminary electrical system checks as contained in the BGC multimeter instructions book are the first electrical checks to be carried out during a fault finding procedure. On completion of the service/fault finding task which has required the breaking and remaking of electrical connections, then the checks — A. Earth Continuity, C. Polarity and D. Resistance to Earth — must be repeated.



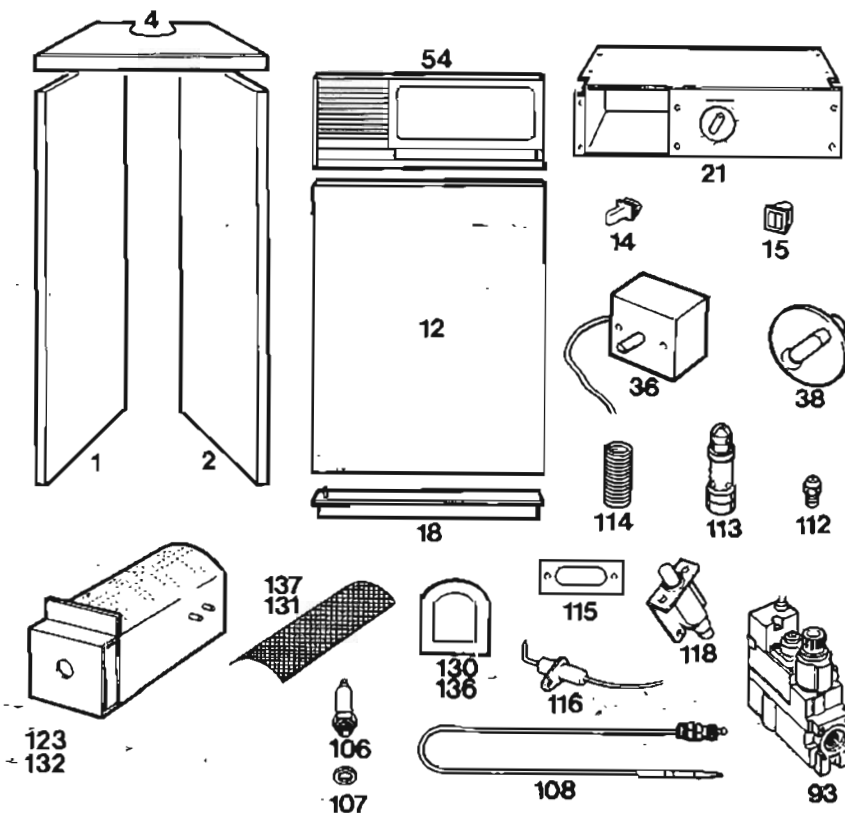
## 21. EXPLODED VIEWS

### a. Marathon 800C and 1000C boiler





## 22. SHORT LIST SPARE PARTS



| Key No. | GC No.  | Description                      | Qty. | Part No.      |
|---------|---------|----------------------------------|------|---------------|
| 1       |         | Case side panel assembly. LH     | 1    | 305C1427      |
| 2       |         | Case side panel assembly. RH     | 1    | 305C1426      |
| 4       |         | Case top and trim assembly       | 1    | 305A1419      |
| 12      |         | Case door                        | 1    | 305A1407      |
| 14      | 323 117 | Door catch strike                | 1    | 576-0001-5-00 |
| 15      | 323 118 | Door catch                       | 1    | 576-0004-9-32 |
| 18      |         | PIInth                           | 1    | 305A1405      |
| 21      |         | Control box assembly             | 1    | 305A1401      |
| 36      | 381 677 | Thermostat                       | 1    | CL6P0143      |
| 38      | 332 666 | Thermostat knob with clip        | 1    | 309S371       |
| 93      | 393 180 | Gas valve                        | 1    | V4600C1029    |
| 106     | 398 198 | Burner injector (800)            | 2    | 305S1164      |
| 106A    | 398 392 | Burner injector (1000)           | 2    | 305S528       |
| 107     | 323 322 | Burner injector washer           | 2    | 301C247       |
| 108     | 391 578 | Thermocouple                     | 1    | 305S435       |
| 112     | 398 624 | Pilot injector                   | 1    | 305S242       |
| 113     | 393 371 | Pilot burner head                | 1    | 305S241       |
| 114     | 393 372 | Pilot spring                     | 1    | 305S243       |
| 115     | 377 000 | Inspection window assembly       | 2    | 402A2476      |
| 116     | 393 581 | Spark electrode and lead         | 1    | 305S283       |
| 118     | 393 563 | Piezo unit                       | 1    | 305S284       |
| 123     | 399 021 | Burner. Bray                     | 2    | 305S1354      |
| 130     | 393 369 | Burner end plate gasket. Bray    | 2    | 305S432       |
| 131     | 393 370 | Lint filter. Bray                | 2    | 305S434       |
| 132     |         | Burner. Furigas                  | 2    | 305S1384      |
| 136     | 384 713 | Burner end plate gasket. Furigas | 4    | 305S778       |
| 137     | 384 714 | Lint filter. Furigas             | 2    | 305S776       |

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**MYSON**

*The Housewarmers*



BS 5256  
BS 6332

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