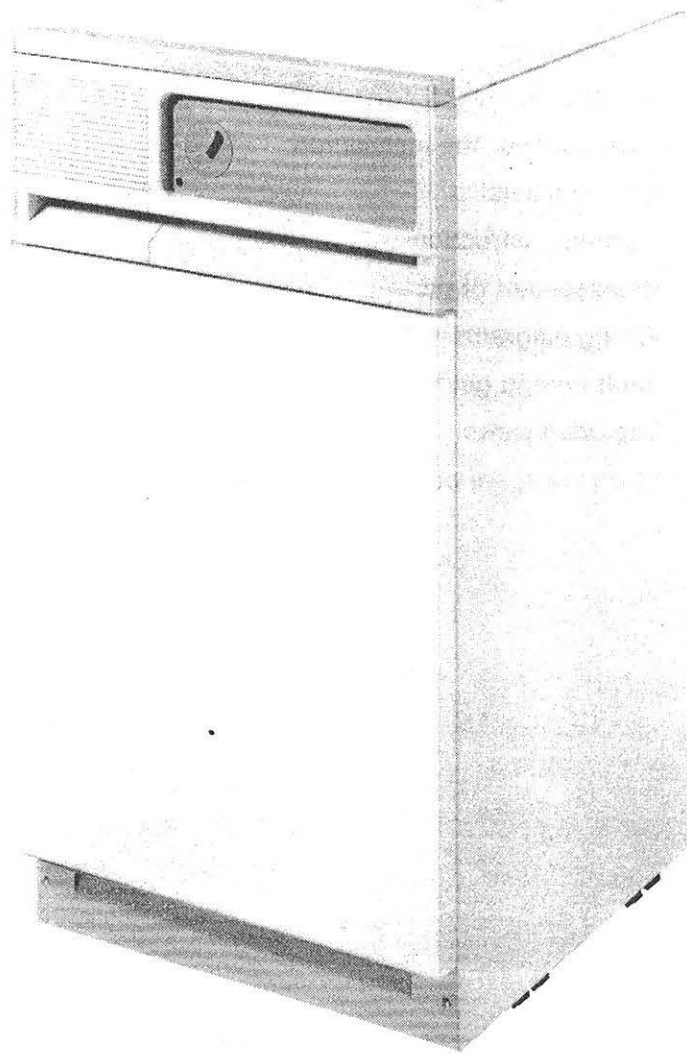




Installation and Servicing Instructions

Marathon 600B and 700B Floor standing gas boilers

G.C. Appliance No's: Marathon 600B 41 494 10, Marathon 700B 41 494 11



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, 3 or 7 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 room sealed floor standing boilers are for use on natural gas only.

The Marathon 600B is range rated from an output of 14.7 to 17.6 kW (50 000 to 60 000 Btu/h).

The Marathon 700B is range rated from an output of 17.6 to 20.5 kW (60 000 to 70 000 Btu/h).

The Marathon 600B and 700B 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. THEY 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 600B	Marathon 700B
Burner		Two Bray AB20031 LR or Furigas 175-500-020	
Burner injector		7 x 1.09	7 x 1.13
Pilot burner		Honeywell Q359A1009	
Pilot injector		Honeywell 4500-4108-001 marked 38/36A	
Pilot flame		Approximately 20 mm long	
Spark gap		4.0 to 5.0 mm	
Ignition		Piezo push button	
Dry weight with case		100 kg (220 lb)	
Water content		8.2 litre (1.8 gal)	
*Head loss		0.24 m (9 in)	0.32 m (13.0 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) or 10 mm (½ in) if the boiler is under a removable worktop	
	Front	450 mm (18 in)	
	Sides	5 mm (¼ in)	
Flue terminal size		300 mm (12 in) wide x 300 mm (12 in) high x 115 mm (4½) deep	
Water connections		Two Rc1 flow, one Rc1 gravity return and one Rc ¾ heating return	
Gas connection		Rp½	

*Head loss is given between the heating flow and return tapings, 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 600B	14.7	50 000	19.6	66 700	11.5	4.6
	17.6	60 000	23.5	80 000	16.5	6.6
Marathon 700B	17.6	60 000	23.5	80 000	12.3	4.9
	20.5	70 000	27.3	93 300	16.3	6.5

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: BS6891:1988, 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 three packages (1) the uncased boiler (2) the case parts and (3) the balanced flue terminal type A, B, C or D as required.

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 600B requires 2.2 m³/h (78 ft³/h) of natural gas and the Marathon 700B requires 2.6 m³/h (91 ft³/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 BS6891.

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 mm² (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

The room in which the boiler is installed does not require a purpose provided air vent. 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. Both the high level and low level must each have a free area as stated in the following table. The free area of each vent may be halved if the ventilation is provided directly from outside.

Marathon 600B	212 cm ² (32 in ²)
Marathon 700B	246 cm ² (38 in ²)

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

8. FLUE SYSTEM

Four telescopic flue terminals are available to fit the following wall thicknesses.

Size A: 100-150 mm

Size B: 150-230 mm

Size C: 230-380 mm

Size D: 380-610 mm

Unless otherwise specified the C size terminal will be supplied with the boiler.

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.

If the boiler is to be installed in a timber framed building it should be fitted in accordance with the British Gas publication — "Guide for Gas Installations in Timber Framed Housing" reference DM2. If in doubt advice must be sought from the local region of British Gas or from Myson Heating.

The appliance may be installed in any room, although particular attention is drawn to the requirements of the current IEE wiring regulations and, in Scotland, the electrical provisions of the Building Standards applicable in Scotland with respect to the installation of the appliance in a room containing a bath or shower.

Where a room sealed appliance is installed in a room containing a bath or shower, any electrical switch or appliance control utilising mains electricity should be so situated that it cannot be touched by a person using the bath or shower.

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

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

If the boiler is fitted under a worksurface it may be located next to, or between, kitchen cabinets or fittings. Providing that the front door of the boiler case itself is visible and access to it is unobstructed, the special requirements for an enclosed cupboard or compartment will not apply. If however the boiler is boxed in at both sides and a cupboard door is fitted in front of the boiler, then this compartment must be constructed and ventilated specifically to house the boiler, in accordance with the relevant sections of BS5546 and BS6798.

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.

If the boiler is to be fitted under a worksurface, the worksurface must be removed to install the boiler. **THE WORKSURFACE ABOVE THE BOILER MUST BE REMOVABLE TO ALLOW THE BOILER TO BE SERVICED.**

The boiler must be installed so that the flue terminal is exposed to the external air. It is important that the position of the terminal allows the free passage of air across it at all times.

The minimum acceptable spacings from the terminal to obstructions, corners and ventilation openings are specified in the following table.

Terminal position	Minimum spacing
Directly below an openable window, or air vent or any other ventilation opening	300 mm (12 in)
Below gutters, soil pipes or drain pipes	300 mm (12 in)*
Below eaves	300 mm (12 in)*
Below balconies	600 mm (24 in)
Above adjacent ground or balcony level	300 mm (12 in)†
From vertical soil pipes or drain pipes	75 mm (3 in)
From an internal corner or external corner	600 mm (24 in)
From a surface facing the terminal	600 mm (24 in)
From a terminal facing the terminal	600 mm (24 in)
Vertically from a terminal on the same wall	1500 mm (60 in)
Horizontally from a terminal on the same wall	300 mm (12 in)
Adjacent to an opening window	150 mm (6 in)
From an opening in a car port i.e. door or window into the house	1200 mm (48 in)

*If the terminal is fitted within 850 mm (34 in) of a plastic or painted gutter/pipe or 450 mm (18 in) of painted eaves, an aluminium shield of at least 750 mm (30 in) in length should be fitted to the underside of the gutter/pipe or painted surface.

†If the terminal is fitted less than 2 m (6.6 ft) above a balcony, above ground or above a flat roof to which people have access then a suitable terminal guard must be provided and fitted.

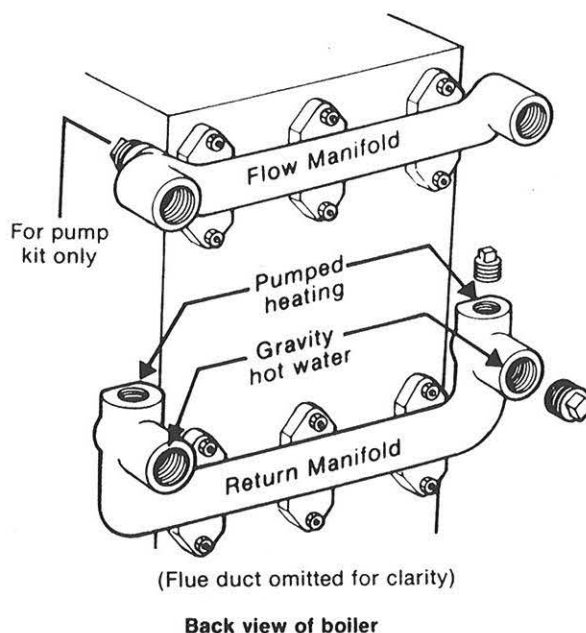
A type A protective guard is available from Tower Flue Components Ltd. at: Vale Rise, Tonbridge, Kent TW9 1TB. Tel: 0732 351555.

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.

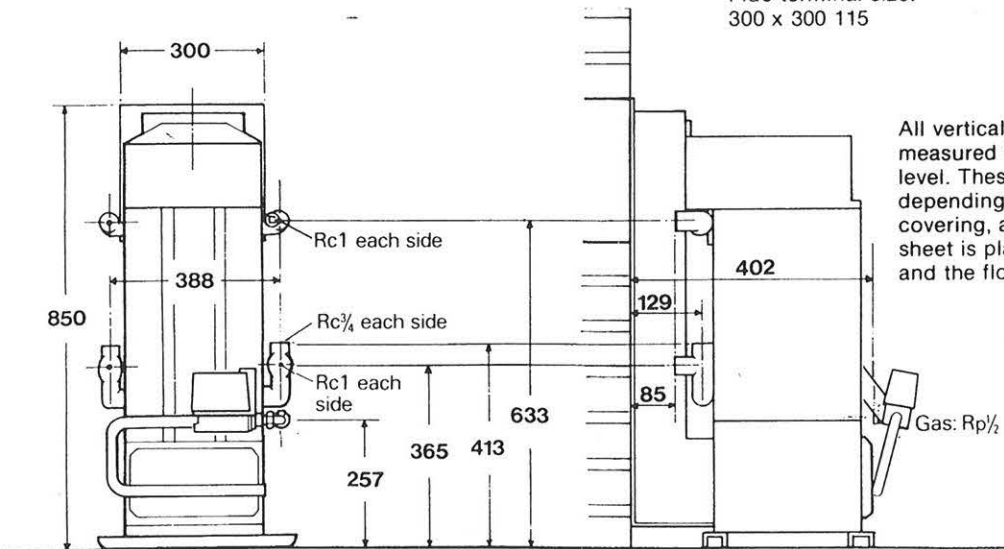
Fit one or more draining taps (BS2879) to enable the water system to be fully drained.



11. POSITION OF WATER, FLUE AND GAS CONNECTIONS

All dimensions in mm

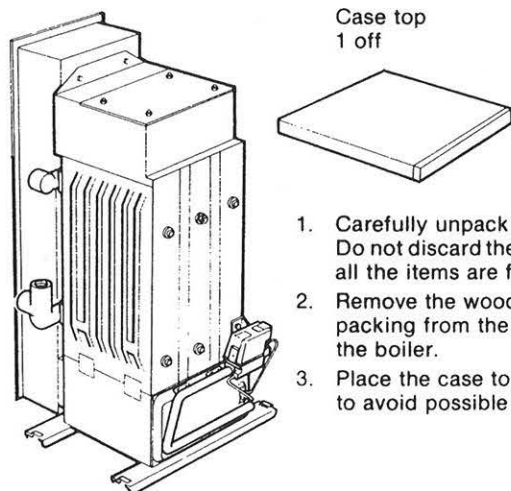
Flue terminal size:
300 x 300 115



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

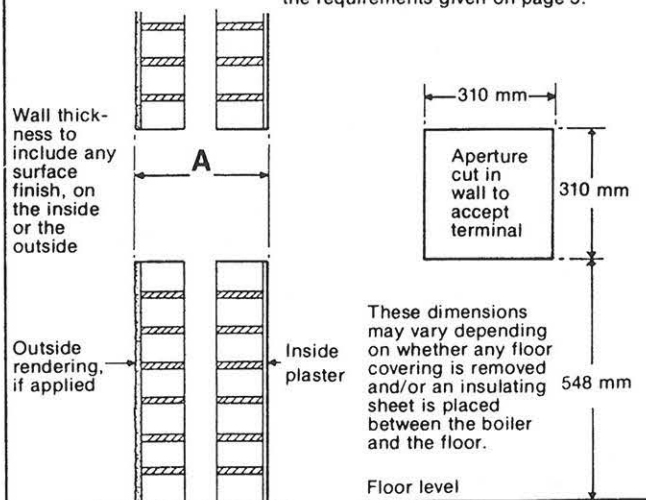


1. Carefully unpack the boiler. Do not discard the packing until all the items are found.
2. Remove the wooden transit packing from the base of the boiler.
3. Place the case top safely aside to avoid possible damage.

Find these parts in the pack

2 PREPARE THE WALL

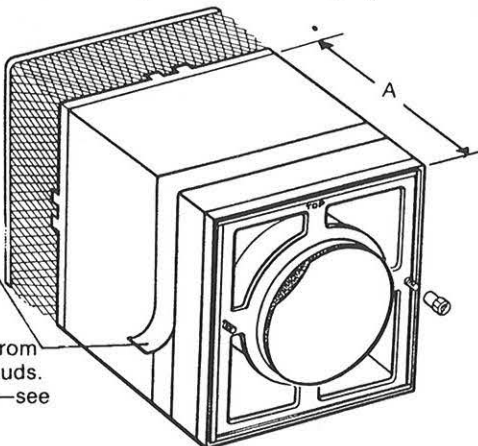
Check that the terminal position meets the requirements given on page 5.



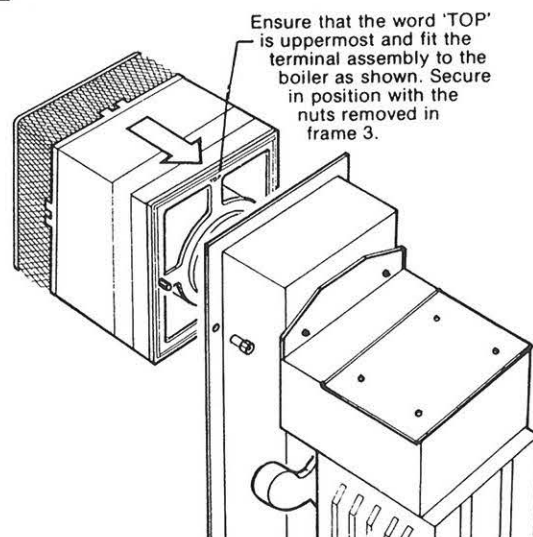
These dimensions may vary depending on whether any floor covering is removed and/or an insulating sheet is placed between the boiler and the floor.

3 UNPACK AND ADJUST THE FLUE TERMINAL

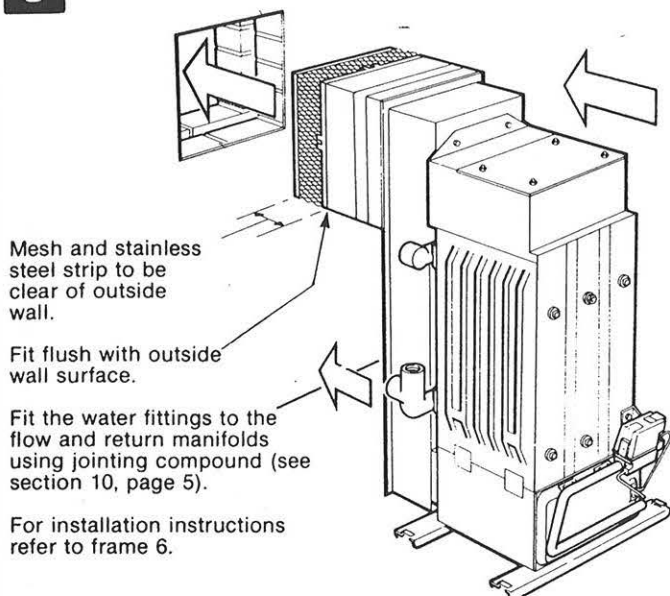
1. Remove the terminal assembly and roll of sealing tape from the carton.
2. Adjust the terminal to suit the finished wall thickness A, see frame 2.
3. Seal the telescopic joint with the tape provided.
4. Remove two extended nuts from the mounting studs. Retain the nuts—see frame 4.



4 FIT TERMINAL TO BOILER



5 INSTALL THE BOILER

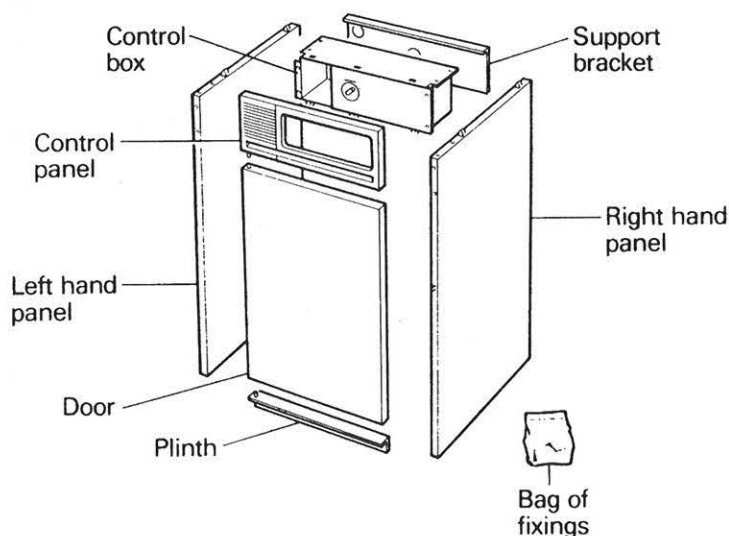


6 Install the Boiler—continued

1. Stand the boiler on the floor, on an insulating sheet if required (see section 9, page 4), with the terminal into the wall aperture.
2. The flue duct must touch the inside wall face. Cut away section of skirting board, if necessary. Check that the outer mesh section of the terminal is wholly unobstructed, with the stainless steel strip, between the mesh and the solid section, clear of the outside wall surface.
3. Check that the boiler is standing firm and level.
4. Connect the water system pipework to the fittings previously fitted.
5. If a Marathon pump kit is being installed, assemble the pump and pipework on the boiler (see fitting instructions packed with the pump kit).
6. Connect the gas supply to the boiler service cock on the gas valve inlet.
DO NOT TURN ON THE GAS SUPPLY AT THIS STAGE.
7. Thoroughly flush the whole of the water 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.
8. Make good the gap between the wall and the balanced flue terminal, inside and out.
(The gap below the terminal on the inside is sealed by a sealing strip factory fitted to the flue duct.)

7 UNPACK THE CASE

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



M5 nut
1 off

Rubber door stops
2 off

Small No. 8 spire nuts
4 off

Large No. 8 spire nuts
3 off

No. 8 x 12 lg c'sk screws
6 off

No. 8 x 12 lg pan hd screws
5 off

Door latch
1 off

Case top clips
4 off

Cable ties
2 off

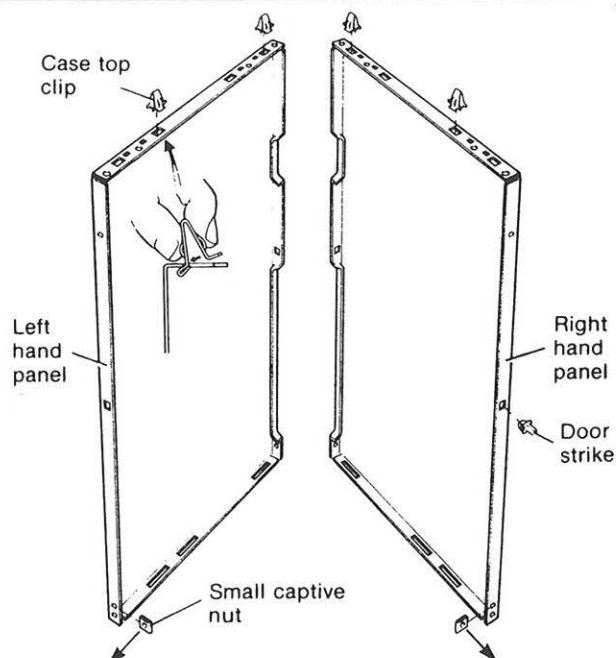
Door strike
1 off

Contents of fixings bag

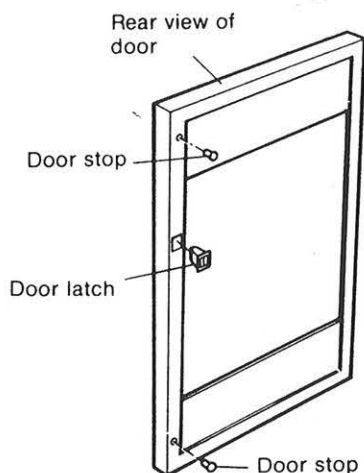
Find these parts in the pack

8 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 panels, 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).

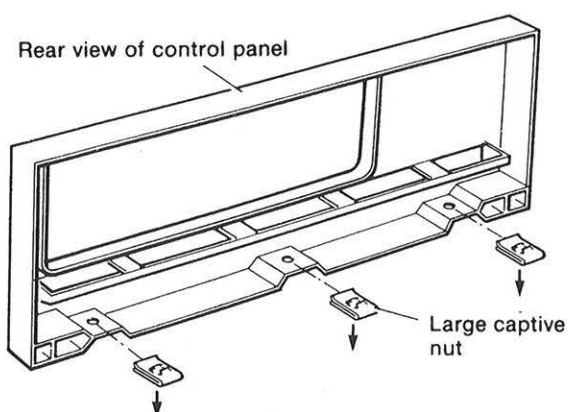


9 Assemble the case parts — *continued*



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

10 Assemble the case parts — *continued*

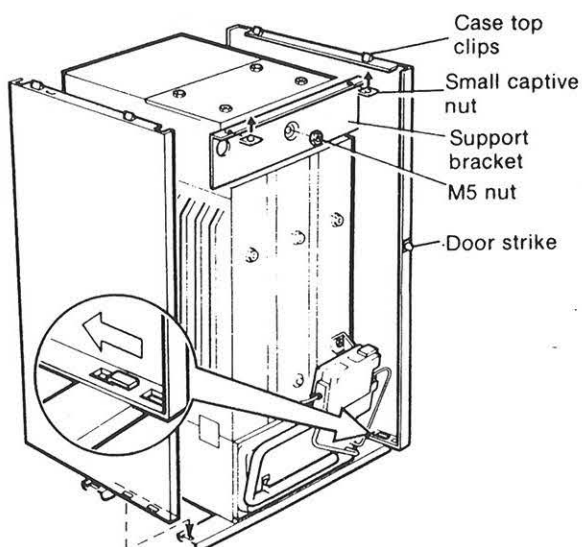


5. Fit the three large captive nuts, supplied with the case, to the bottom of the control panel as shown.

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

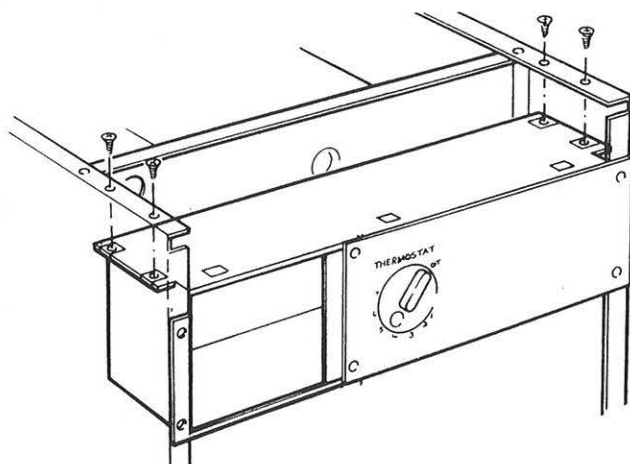
11 FIT THE CASE SIDES

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.



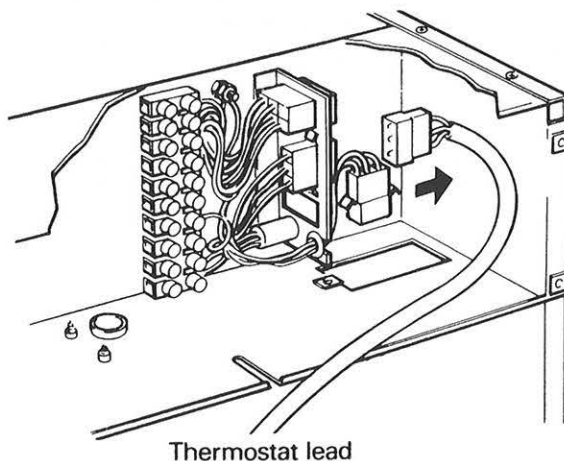
12 FIT THE CONTROL BOX

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.



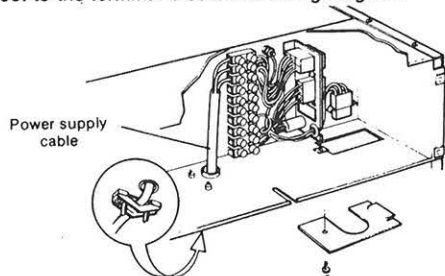
13 Fit the Control Box — *continued*

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



14 CONNECT THE POWER SUPPLY CABLE AND GAS VALVE LEAD

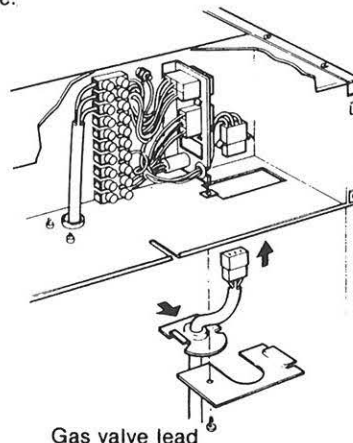
- Slacken the two screws in the cable clamp underneath the control box. Feed the power supply cable through the hole in the case support bracket, under the cable clamp and through the bush. Connect the wires, Brown to L, Blue to N and Green and Yellow to $\perp$ on the terminal block.
- Note:** When 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.
- Tighten the cable clamp screws to secure the power supply cable.
- 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.



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

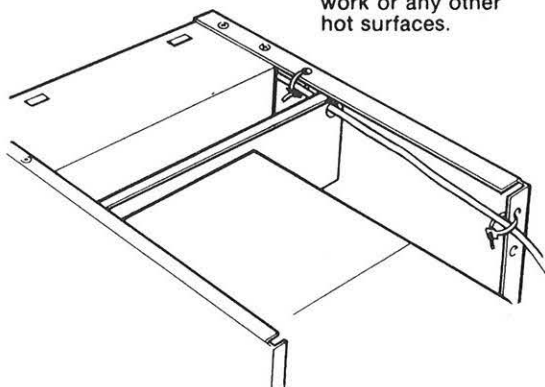
15 Connect the power supply cable and gas valve lead — continued

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



16 SECURE THE WIRING

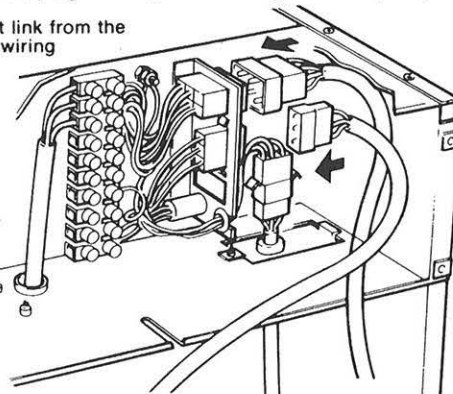
- Bind together all cables leading to the control box and secure to the case side with the cable ties, supplied with the case.
- Clip the cables to the wall behind the boiler.
- Make sure the cables do not come into contact with the flue box, heat exchanger, pipe-work or any other hot surfaces.



17 FIT THE PROGRAMMER KIT (if used)

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

- Remove the thermostat knob by carefully pushing with a screwdriver through the cutouts in the back of the fascia panel.
- From the front of the panel remove the two screws securing the thermostat.
- Fit the thermostat to the programmer panel ensuring that the capillary is uppermost.
- Remove the relevant link from the terminal block. See wiring diagram.
- Connect the 3-way and 6-way plug and sockets.
- 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.
- Proceed to frame 19.

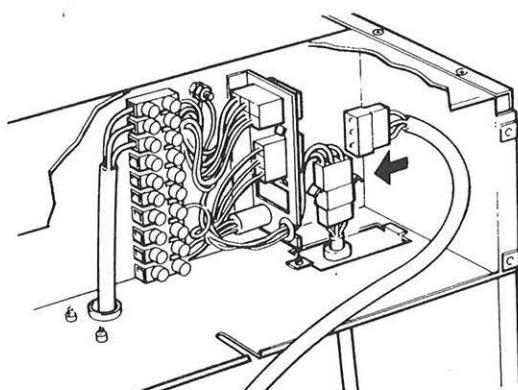


Thermostat lead Gas valve lead Programmer lead

18 FIT THE FACIA PANEL

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

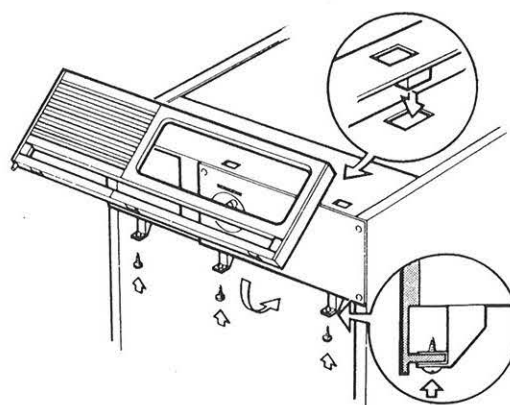
- Connect the 3-way plug and socket as shown.
- Secure the panel in position with the four screws removed in frame 13. Ensure that the thermostat capillary passes through the cut-out in the control box base.



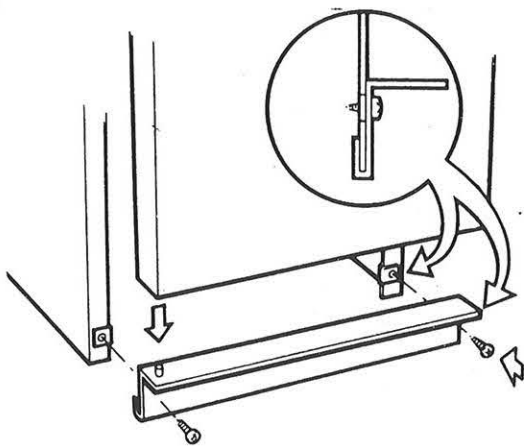
Thermostat lead Gas valve lead

19 FIT THE CONTROL PANEL AND THERMOSTAT PHIAL

- 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.
- Secure the bottom of the panel to the control box using three No. 8 x 12 lg pan hd screws supplied with the case.
- 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.

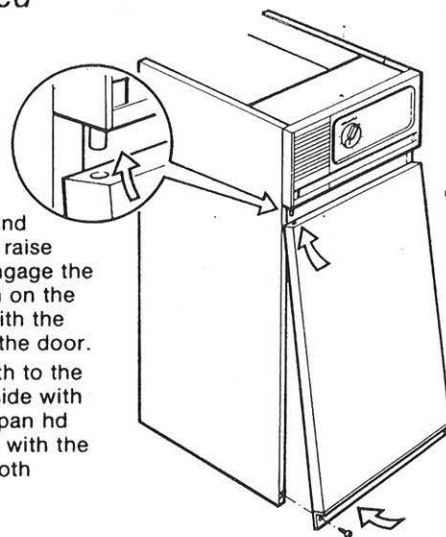


20 FIT THE PLINTH AND DOOR



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 21.

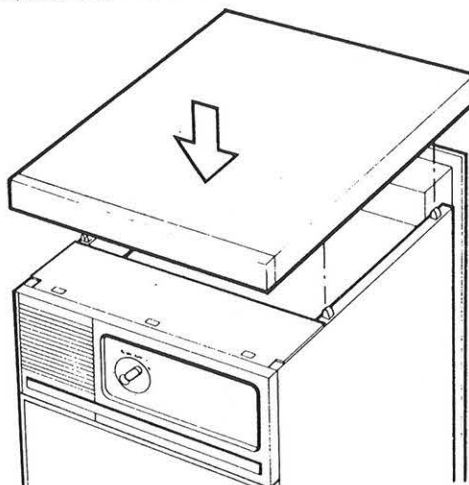
21 Fit the Plinth and Door — *continued*



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.

22 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 12 for boiler controls

1. Test for soundness and purge the gas supply

- 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 BS6891.
- Remove the screw securing the gas valve cover and lift off the cover.
- 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 BS6891.
- 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. Test the pilot burner connection for gas soundness (after servicing or replacement of parts only)

With the burner and gas valve assembly removed:

- Stand the burner assembly on end in front of the boiler and reconnect the boiler service cock.
- Open the boiler service cock, fully depress the gas valve operating button and keep it pressed in. At the same time test the pilot supply connection at the pilot burner for gas soundness using a suitable leak detecting fluid.
- Close the boiler service cock and disconnect the burner and gas valve assembly. Check that the burner door seal is intact and refit the burner and gas valve assembly, secure the burner door in position with four nuts previously removed.
- Reconnect the boiler service cock union and replace the nut and washer securing the gas valve bracket.
- Open the boiler service cock and test the service cock to gas valve joint for gas soundness using a suitable leak detecting fluid.

3. Light the pilot

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

- 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.
- 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 slide it in the direction of the arrow. Wait for 3 minutes and repeat operation 3a until the pilot is lit. Continue to hold the gas valve operating button in for 20 seconds, then release it slowly.

4. Test the pilot supply for gas soundness (after servicing or replacement of parts only)

Test the pilot supply connection at the gas valve for gas soundness using a suitable leak detecting fluid.

5. 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.

6. Light the main burner

With the pilot alight:

- 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.
- 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.

7. Check the main burner setting pressure

With the gas valve cover removed and after the main burner has been alight for at least 10 minutes:

- Turn the boiler thermostat to OFF. Loosen the burner setting pressure test point screw one turn and connect a pressure gauge.
- Turn the boiler thermostat to position 7 and if necessary adjust the burner setting pressure to give the heat input required. Turn the adjusting screw 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.
- 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.
- Remove the self-adhesive arrow from the inspection ticket tied to the burner supply pipe and stick it to the Data Plate (positioned above gas valve) to indicate the appropriate burner setting pressure.

8. Replace the gas valve cover

Replace the gas valve cover, ensuring that the cable clamp is located correctly in the cover, and secure with its screw.

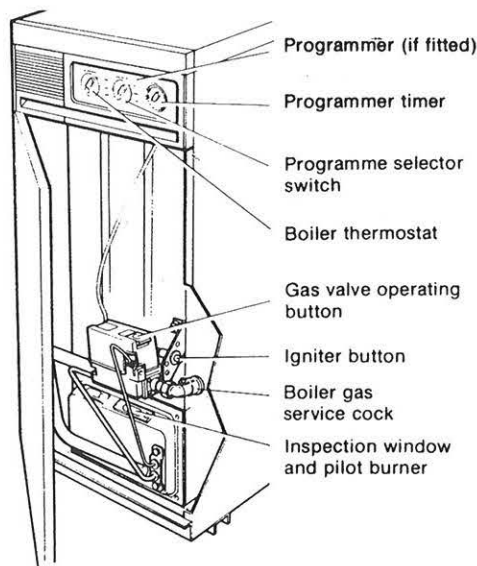
9. Set the clock and programme (if a programmer is fitted)

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.

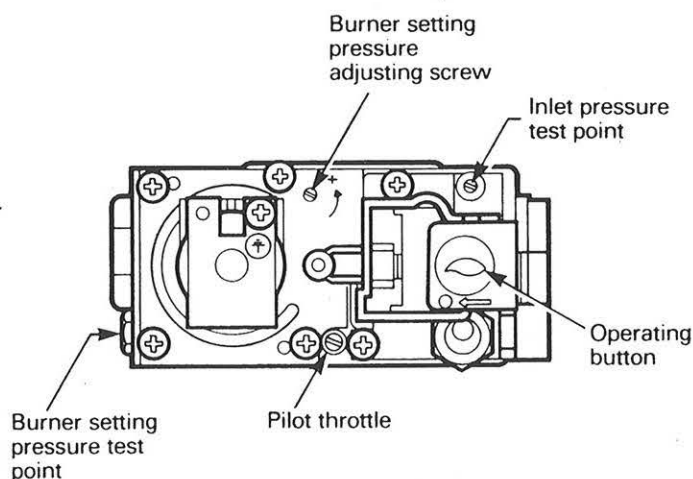
10. Final water system check

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



Gas valve with cover removed



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 installation of the flue terminal and ensure it is not obstructed.
3. Remove the flue box cover and check if the heat exchanger requires cleaning.
4. Examine the main injector to ensure it is 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.

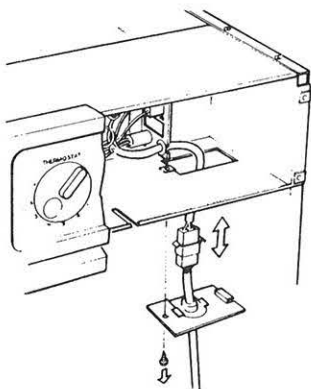
The procedure for Annual Servicing is given in frames 23 to 32.

Warning: Before commencing work slide 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.

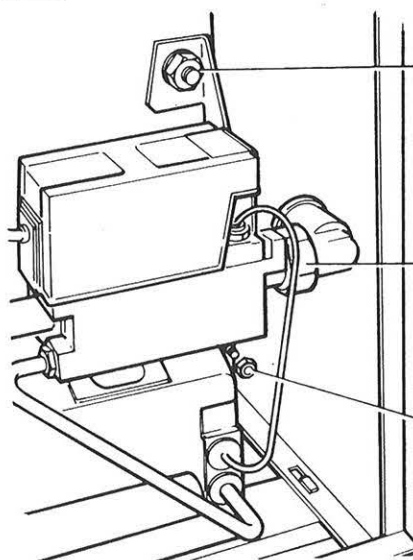
23 DISMANTLING

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.



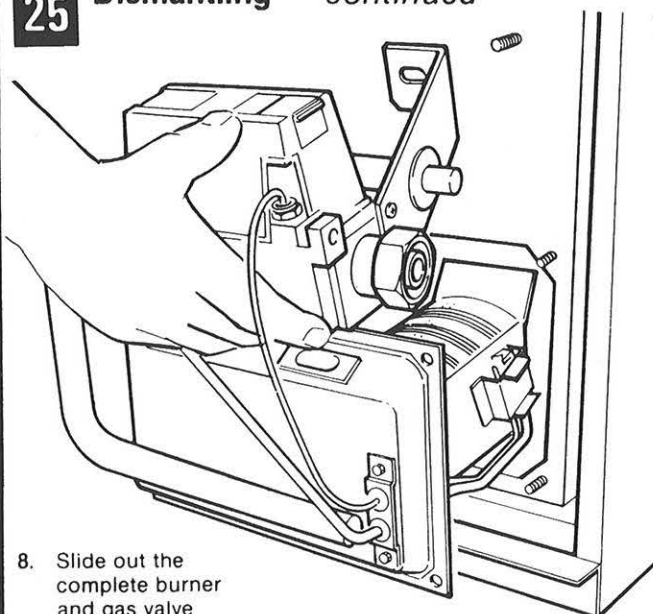
3. Remove the screw securing the gas valve lead clamping bracket to the base of the control box.
4. Carefully withdraw the lead and disconnect the 3-way plug and socket.

24 Dismantling — continued



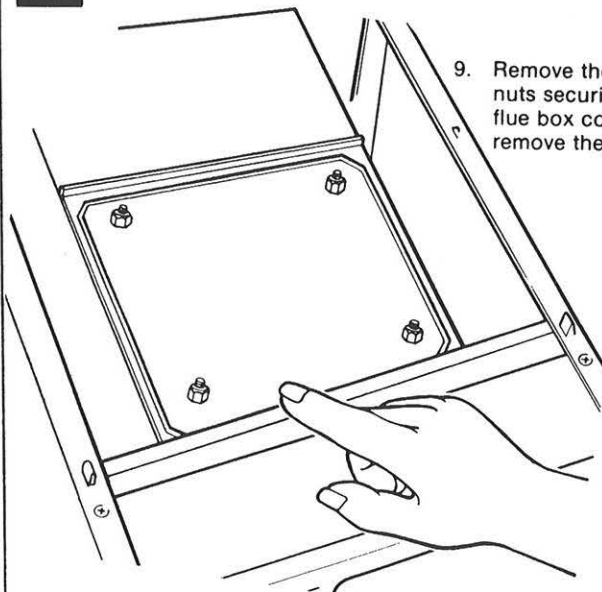
5. Remove the nut and washer securing the gas valve bracket.
6. Disconnect the union at the boiler gas service cock.
7. Remove four nuts fixing the burner door (one at each corner).

25 Dismantling — continued



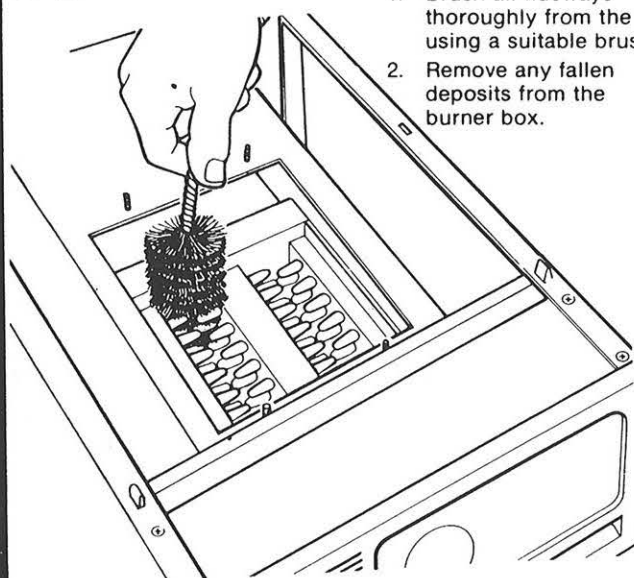
8. Slide out the complete burner and gas valve assembly.

26 Dismantling — continued



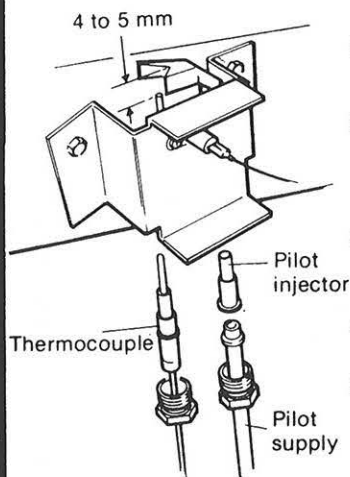
9. Remove the four nuts securing the flue box cover and remove the cover.

27 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.

28 CLEANING THE PILOT AND THERMOCOUPLE



1. Loosen and disconnect the pilot supply and thermocouple from the pilot assembly.
2. Remove the pilot injector and clean by blowing through the orifice or washing. Do **NOT** clear the injector with a pin or wire.
3. Examine the thermocouple for damage. Excessive build up of carbon on the tip should be removed with a fine wire brush.
4. Check that the spark gap is 4 to 5 mm.
5. Replace the pilot injector and re-engage the pilot supply and thermocouple to the pilot assembly and secure with union nuts.

To replace the pilot filter in the gas valve refer to frame 49.

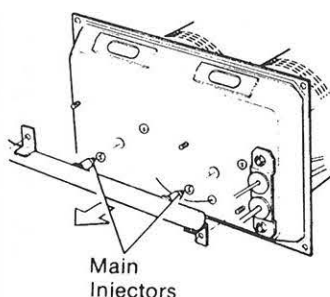
29 CLEANING THE BURNERS

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.

30 CLEANING THE MAIN INJECTORS

1. Remove the screw securing the gas valve plastic cover and lift off cover.
2. Disconnect the thermocouple and pilot supply from the gas valve.



3. Disconnect the electrode lead from the piezo unit.
4. Remove the two nuts securing the burner manifold to the burner door and separate the manifold from door.
5. Unscrew the injectors from the manifold. Clean by blowing through or washing. Do **NOT** clear the injector with a pin or wire. Replace the injectors using new sealing washers if necessary.

6. Secure the manifold to the burner door with two nuts previously removed.
7. Re-connect the electrode lead to the piezo unit and re-connect the pilot supply and thermocouple to the gas valve.

31 REASSEMBLY

1. Replace the flue box cover, ensuring the gasket is intact and secure with the nuts previously removed.
2. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and test the boiler service cock connection for gas soundness as described in the commissioning instructions, page 11.
3. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
4. Replace the case door if it has been removed — frame 23.
5. Replace the case top.

32 Reassembly — continued

6. 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, replace the gas valve cover and set the clock and programmer (if fitted) as described in the commissioning instructions, page 11.
7. 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 freedom from obstruction of the flue terminal.

17. LIGHTING INSTRUCTIONS

See page 12 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 slide 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.

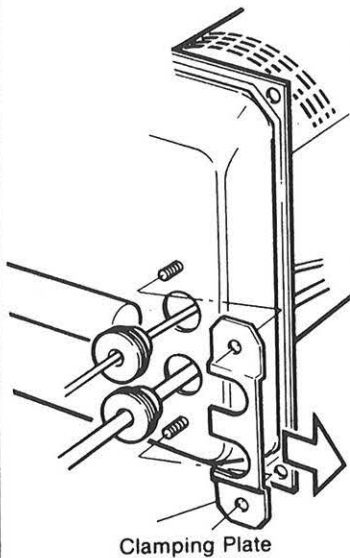
18. REPLACEMENT OF PARTS

The procedure for the replacement of parts is given in frames 33 to 50.

Warning: Before commencing work slide 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.

33 TO REPLACE THE THERMOCOUPLE



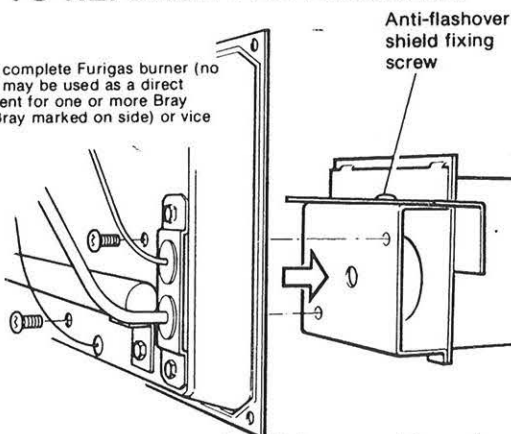
1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the screw securing the gas valve plastic cover and lift off cover.
3. Remove the two nuts securing the grommet clamping plate to the burner door. Pull the plate forwards to clear the studs and remove by pulling the plate sideways off the grommets.
4. Remove the split grommet from the thermocouple. Retain this grommet for reassembly.
5. Disconnect the thermocouple from the pilot assembly and gas valve.

34 Thermocouple — continued

6. Carefully bend the replacement thermocouple to match the discarded one.
7. Pass the thermocouple through the burner door and connect to the gas valve and pilot assembly.
8. Place the split grommet over the thermocouple and slide the clamping plate over the two grommets. Ensure that the grommets are correctly located.
9. Secure the clamping plate to the burner door with the two nuts previously removed.
10. Replace the gas valve plastic cover and secure with its screw. Ensure that the cable clamp is located correctly on the left hand side.
11. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and test the boiler service cock connection for gas soundness as described in the commissioning instructions, page 11.
12. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
13. Replace the case door if it has been removed — frame 23.
14. Refer to the lighting instructions, above, and light the boiler.

35 TO REPLACE THE BURNERS

NOTE: A complete Furigas burner (no marking) may be used as a direct replacement for one or more Bray burner (Bray marked on side) or vice versa.



1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the two nuts securing the pilot assembly to the burner.
3. Remove the two screws fixing each burner to the burner door.
4. Remove the burners by pulling backwards off the injectors.

36 Burners — continued

5. Remove the anti-flashover shields from the front of the burners and fit them to the new burners.
6. Fit the new burners and retain with two screws per burner.
7. Fit the pilot assembly to the new burner and secure with two nuts.
8. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and test the boiler service cock connection for gas soundness as described in the commissioning instructions, page 10.
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 23.
11. Refer to the lighting instructions, page 15 and light the boiler.

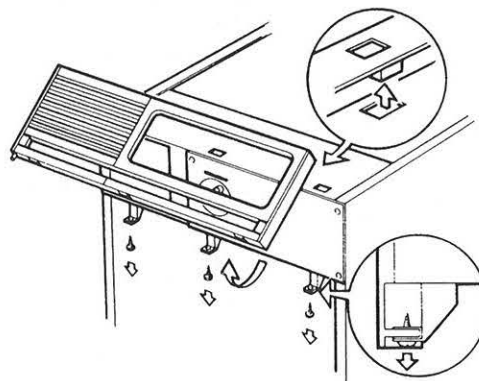
37 TO REPLACE THE LINT FILTERS

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

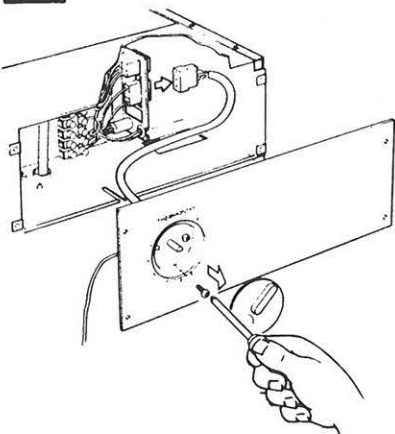
1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the lint filters from the burners as described in frame 29.
3. Fit the new lint filters and reassemble the burners as described in frame 29.
4. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and test the boiler service cock connection for gas soundness as described in the commissioning instructions, page 11.
5. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the control box.
6. Replace the case door if it has been removed — frame 23.
7. Refer to the lighting instructions, page 15 and light the boiler.

38 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.



39 Boiler Thermostat — continued



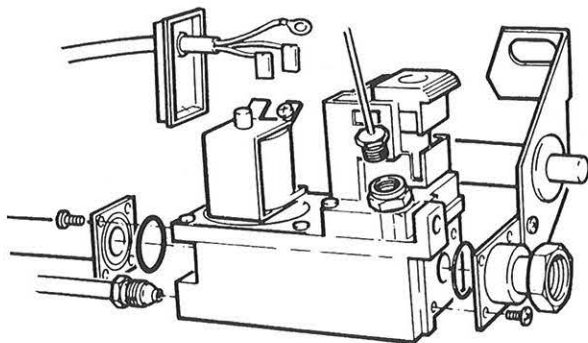
6. Remove the four screws securing the facia panel.
7. Disconnect the 3-way thermostat plug and socket (also disconnect the 6-way plug and socket if a programmer is fitted).
8. Remove the thermostat knob by carefully pushing with a screwdriver through the cut outs in the back of the facia panel.
9. From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

40 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 15 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.

41 TO REPLACE THE GAS VALVE

Ensure that the gas supply is OFF.



1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the screw securing the gas valve plastic cover and lift off cover.
3. Disconnect the pilot supply and thermocouple from the gas valve.
4. Disconnect the push-on terminals (the polarity of these wires is not important) and unscrew the earth terminal from the gas valve. Leave the cable clamp in position on the lead.

42 Gas Valve — continued

5. Undo the four screws and remove the inlet flange complete with mounting bracket and piezo unit. Discard the 'O' ring in the inlet flange.
6. Undo the four screws and remove the gas valve from the burner manifold. Discard the 'O' ring in the manifold flange.
7. Fit new 'O' rings in the inlet flange and burner manifold flange and secure to the new valve.
8. Connect the electric leads, thermocouple and pilot supply to the new valve.
9. Test the pilot burner connection for gas soundness and replace the burner and gas valve assembly as described in the commissioning instructions, page 11.
10. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
11. 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, check the burner setting pressure and replace the gas valve cover as described in the commissioning instructions, page 11.
12. Replace the case door if it was removed — frame 23.

43 TO REPLACE THE PILOT INJECTOR

Refer to the diagram in frame 28

1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the tubing nut at the pilot assembly and carefully disconnect the pilot supply.
3. Remove the pilot injector.
4. Fit a new injector and reconnect the pilot supply.
5. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and check the pilot flame as described in the commissioning instructions, page 11.
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 has been removed — frame 23.

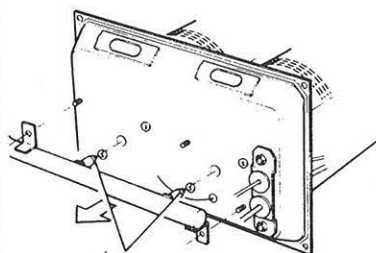
44 TO REPLACE THE ELECTRODE

Refer to the diagram in frame 28

1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Disconnect the electrode lead from the piezo unit.
3. Remove the two screws securing the electrode to the pilot assembly. Remove the electrode complete with lead and grommet.
4. Fit the new electrode and secure with two screws. Pass the electrode lead through the burner door and locate the grommet in the door.
5. Connect the electrode lead to the piezo unit.
6. Check that the spark gap is 4 to 5 mm.
7. Test the pilot burner connection for gas soundness and replace the burner and gas valve assembly as described in the commissioning instructions, page 11.
8. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
9. Replace the case door if it has been removed — frame 23.
10. Refer to the lighting instructions, page 15 and light the boiler.

45 TO REPLACE THE BURNER INJECTORS

1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the screw securing the gas valve plastic cover and lift off cover.



Main injectors

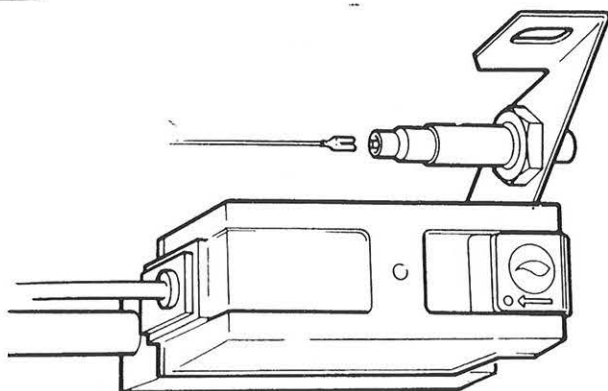
3. Disconnect the thermocouple and pilot supply from the gas valve.
4. Disconnect the electrode lead from the piezo unit.
5. Remove the two nuts securing the burner manifold to the burner door and separate the manifold from door.

6. Unscrew the injector from the burner manifold tube.
7. Screw in a replacement injector using a new sealing washer.

46 Burner injectors — continued

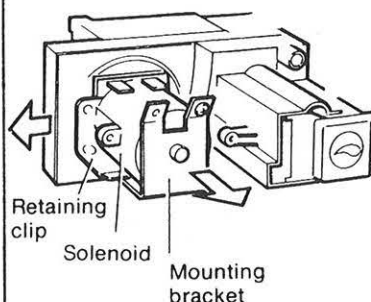
8. Refit the manifold tube and gas valve to the burner door. Secure with two nuts.
9. Reconnect the thermocouple and pilot supply to the gas valve.
10. Reconnect the electrode lead to the piezo unit.
11. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and test the pilot supply for gas soundness as described in the commissioning instructions, page 11.
12. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
13. Replace the case door if it has been removed — frame 23.
14. Refer to the lighting instructions, page 15 and light the boiler.

47 TO REPLACE THE PIEZO UNIT



1. Disconnect the electrode lead from the piezo unit.
2. Undo the nut securing the piezo unit to the gas valve support bracket and remove unit.
3. Fit a new unit and reconnect the electrode lead.
4. Refer to the lighting instructions, page 15 and light the boiler.

48 TO REPLACE THE GAS VALVE OPERATING SOLENOID



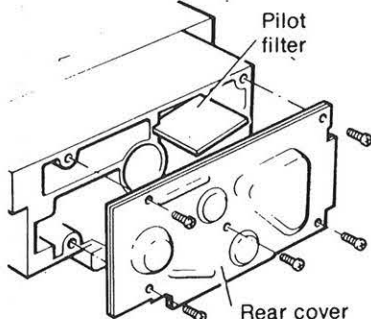
1. Remove the screw securing the gas valve plastic cover and lift off cover.
2. Disconnect the push-on terminals from the solenoid (the polarity of these wires is not important), unscrew the earth terminal.
3. Carefully prise out the retaining clip from behind the solenoid and lift off the solenoid and its mounting bracket.

4. Position the new solenoid into the mounting bracket and reassemble in reverse order.
5. Refer to the lighting instructions, page 15 and light the boiler.

49 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:

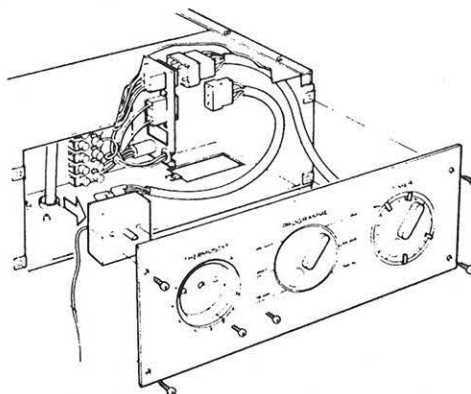
Ensure the gas supply is OFF.



1. Remove the burner and gas valve assembly as described in frames 23 to 25.
2. Remove the five screws securing the rear cover plate and carefully remove it. Discard the gasket.
3. Carefully remove the pilot filter and replace with a new one.
4. Replace the rear cover using a new gasket and secure by evenly tightening the five screws.

5. Test the pilot burner connection for gas soundness, replace the burner and gas valve assembly and check the pilot flame as described in the commissioning instructions, page 11.
6. Reconnect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
7. Apply a suitable leak detecting fluid around the gas valve rear cover. Refer to the lighting instructions, page 15 and light the main burner. Test the gas valve rear cover for gas soundness.
8. Replace the case door if it has been removed — frame 23.

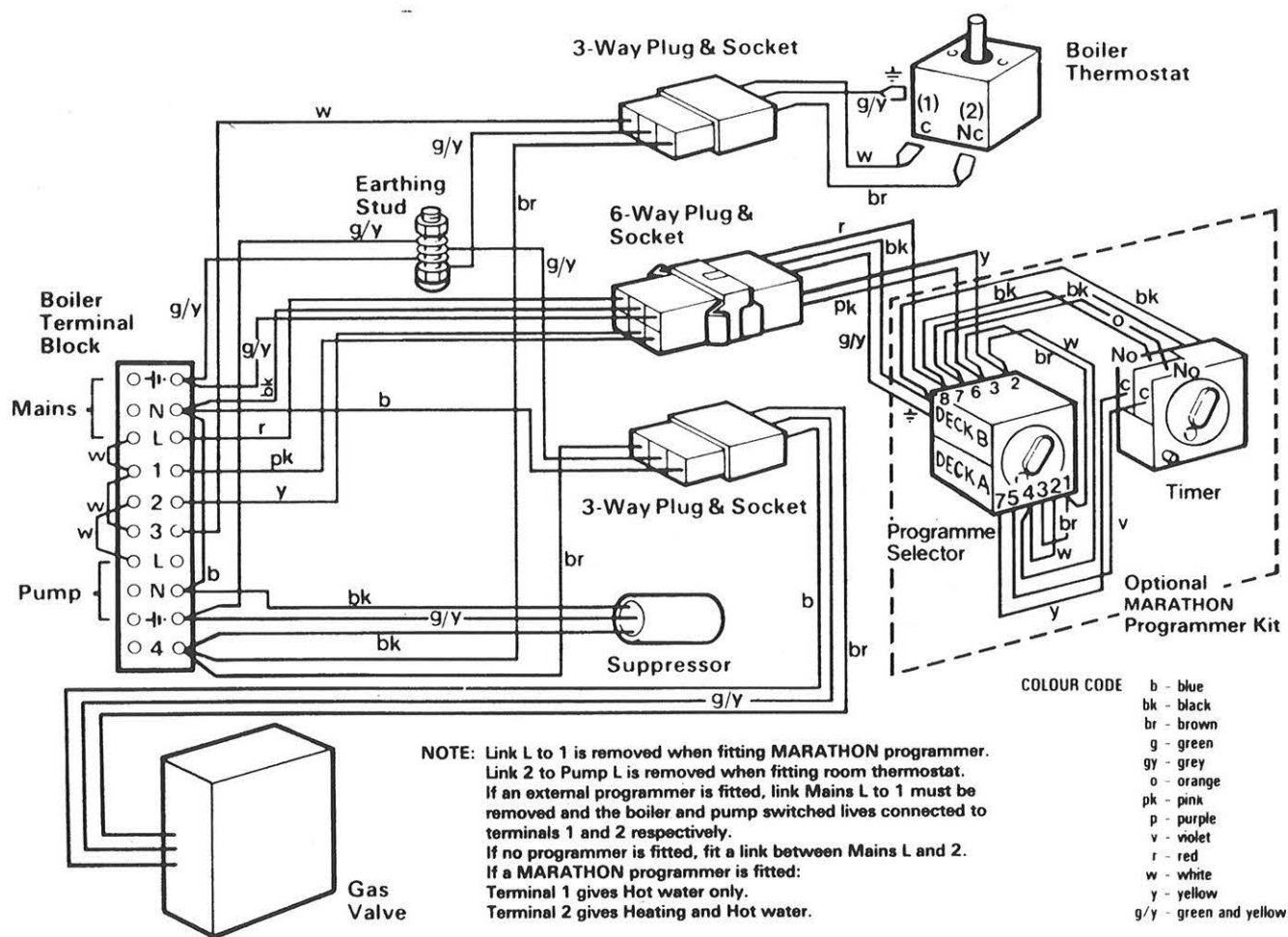
50 TO REPLACE THE PROGRAMMER (if fitted)



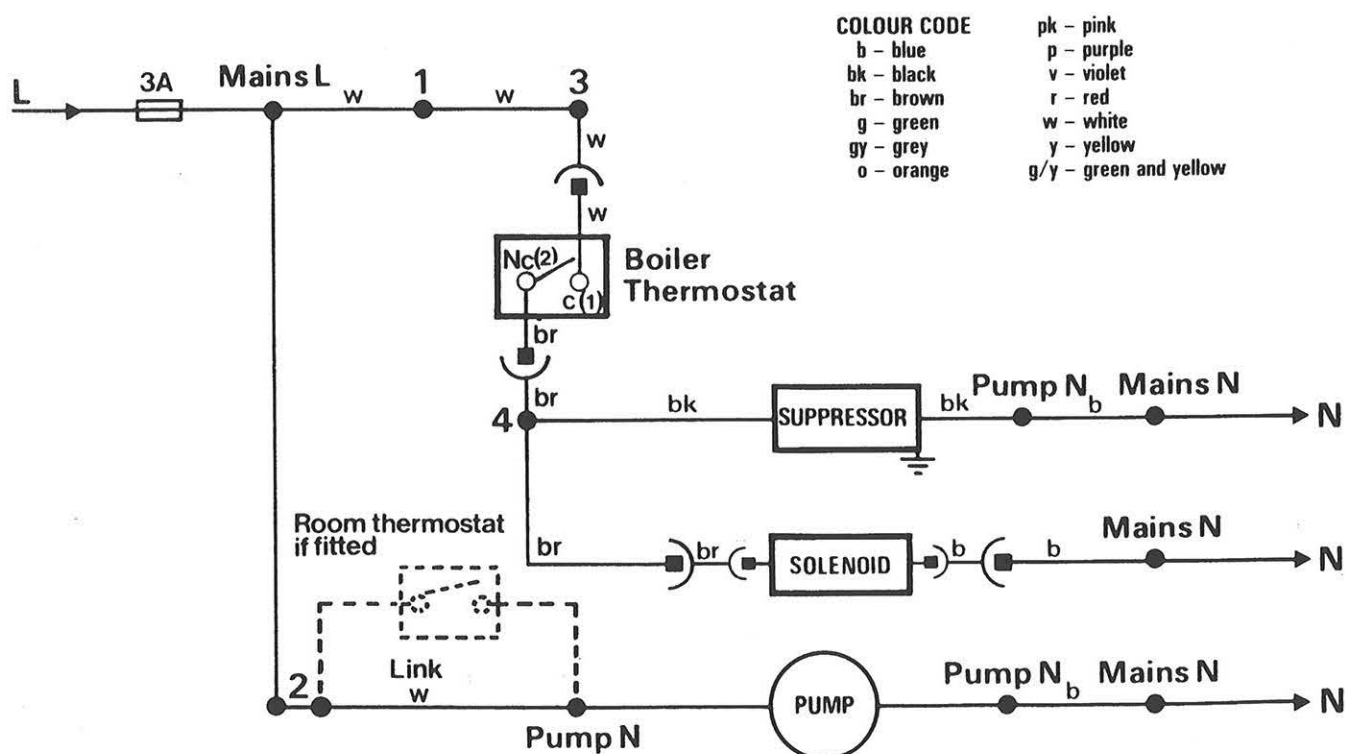
1. Remove the case top, door, control panel, facia panel and boiler thermostat as described in frames 38 and 39.
2. Fit the boiler thermostat to the new programmer assembly, ensuring the capillary is uppermost and reassemble in reverse order.
3. Refer to the lighting instructions, page 15 and light the boiler.

19. WIRING DIAGRAMS

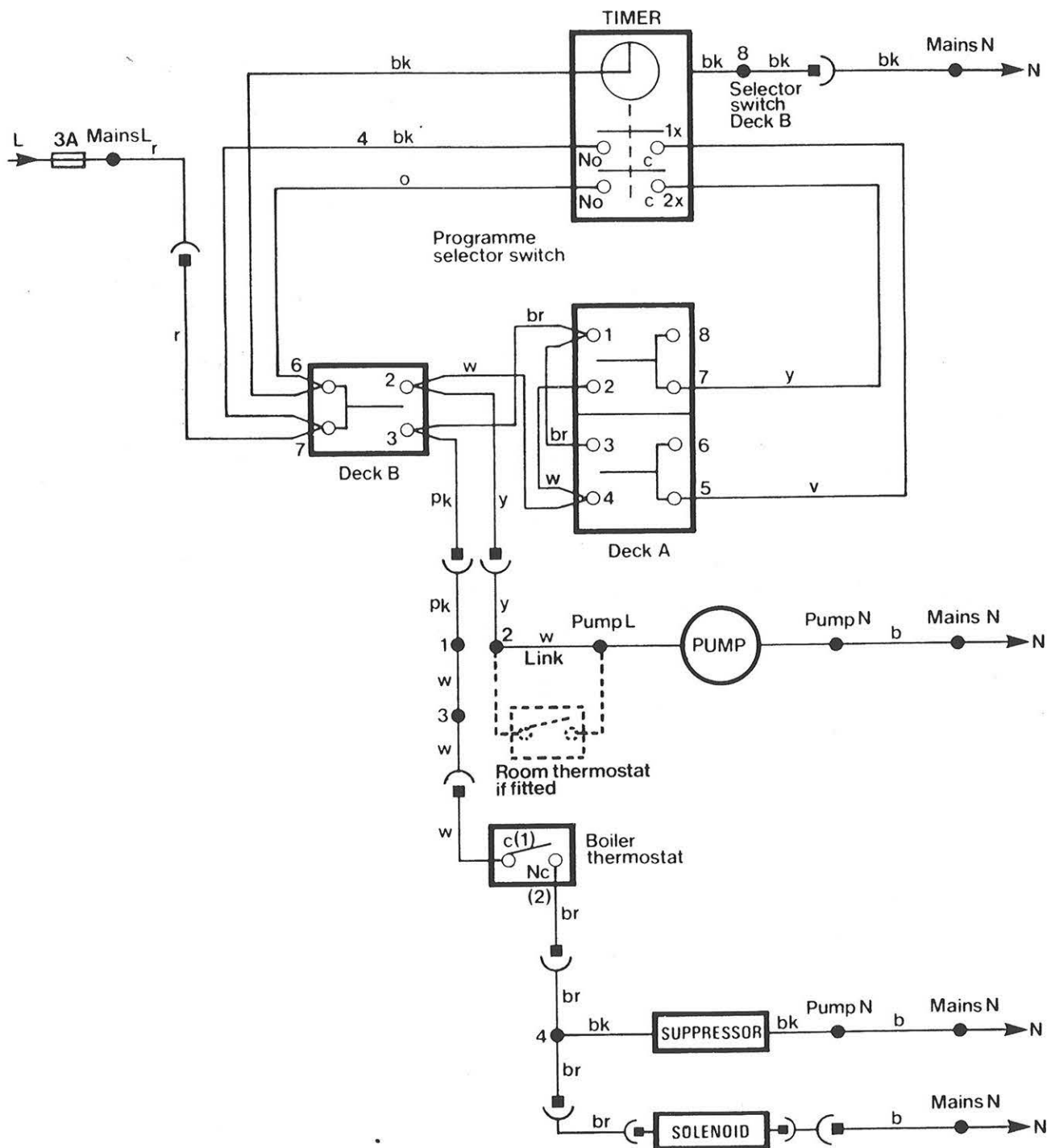
a. Illustrated wiring diagram



b. Functional flow wiring diagram without programmer



c. Functional flow wiring diagram with Marathon programmer



COLOUR CODE

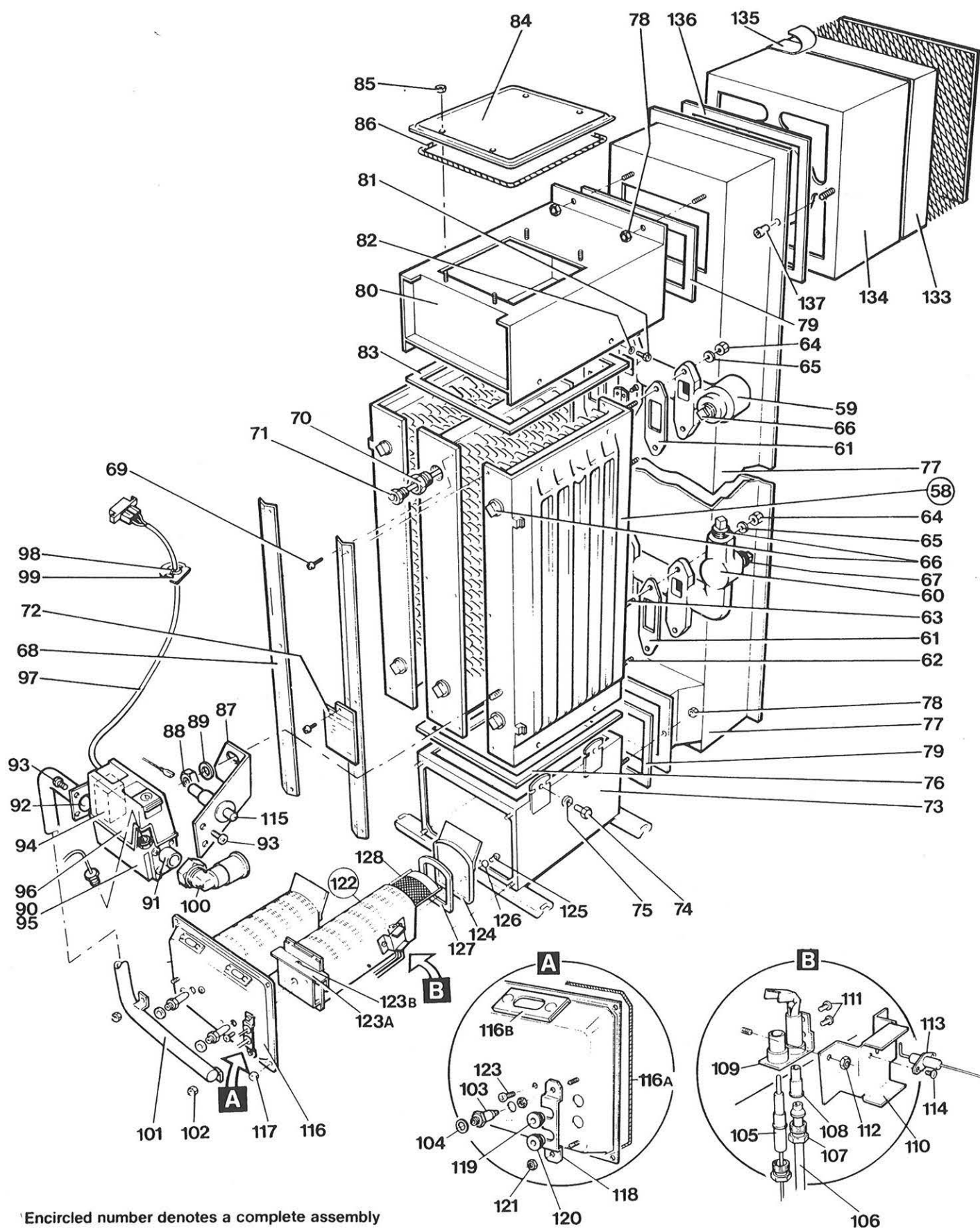
b - blue	p - purple
bk - black	v - violet
br - brown	r - red
g - green	w - white
gy - grey	y - yellow
o - orange	g/y - green and yellow
pk - pink	

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						

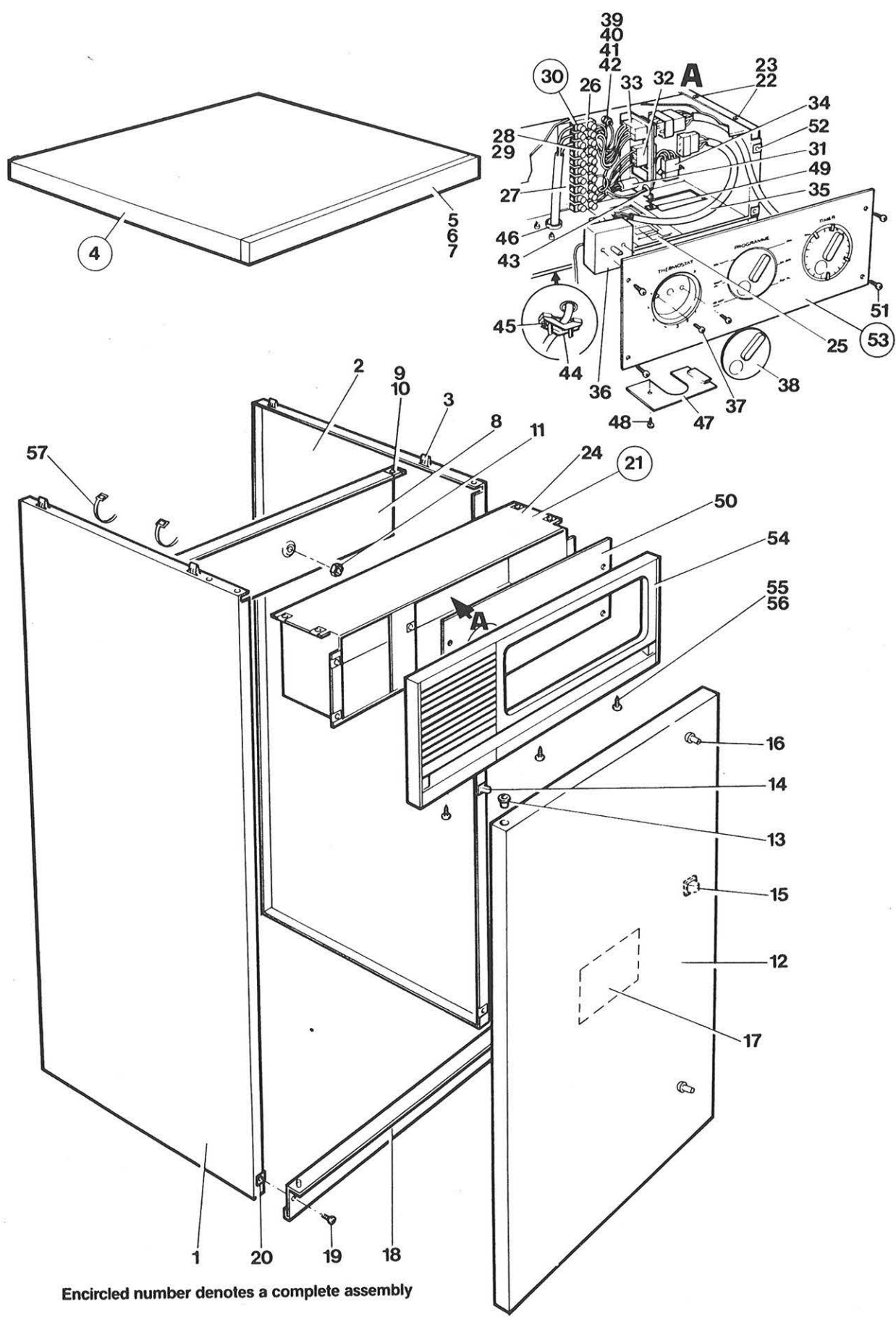
Preliminary electrical system checks as contained in the BGC multimeter instructions book are the first electrical checks to be carried out during a fault finding procedure. On completion of the service/fault finding task which has required the breaking and remaking of electrical connections, then the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



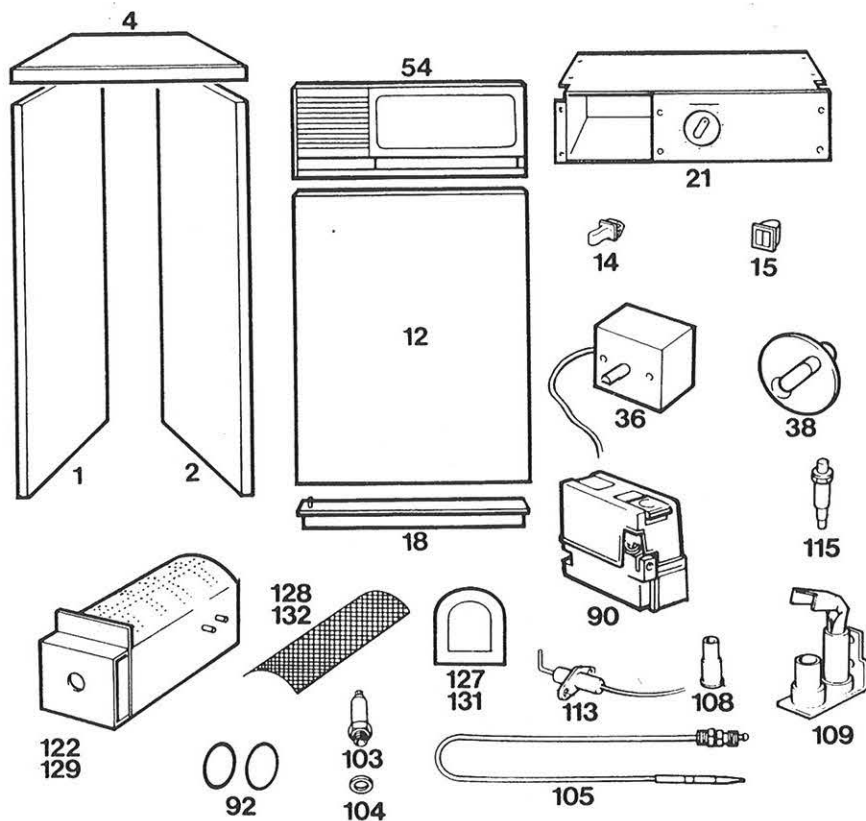
21. EXPLODED VIEWS
a. Marathon 600B and 700B boiler



b. Marathon 600B and 700B case



22. SHORT LIST SPARE PARTS



Key No.	G.C. No.	Description	Qty.	Part Nos.
1		Case side panel assembly LH	1	305C1427
2		Case side panel assembly RH	1	305C1426
4		Case top and trim assembly	1	305A1418
12		Case door	1	305A1407
14	323 117	Door catch strike	1	576-0001-5-00
15	323 118	Door latch	1	576-0004-9-32
18		Plinth	1	305A1405
21		Complete control box assembly	1	305A1401
36	381 677	Thermostat	1	CL6P0143
38	332 666	Thermostat knob and clip	1	309S371
54		Control panel	1	305A1424
90	395 685	Gas valve	1	600/V4700E1007
92	359 211	Gas valve 'o' ring	2	400-0016-7-32
103	338 524	Burner injector (600)	2	231951
103A	338 525	Burner injector (700)	2	231952
104	323 322	Burner injector washer	2	301C247
105	382 499	Thermocouple	1	305S1356
108	381 656	Pilot injector	1	600/4500-3508-001
109	391 667	Pilot burner	1	600Q359A1017
113	381 657	Spark electrode and lead	1	402S571
115	393 889	Piezo unit	1	402S083
122	399 022	Burner. Bray	2	305S1353
127	393 369	Burner end plate gasket. Bray	2	305S432
128	393 373	Lint filter. Bray	2	305S433
129		Burner. Furigas	2	305S1383
131	384 713	Burner end plate gasket. Furigas	4	305S778
132	384 738	Lint filter. Furigas	2	305S775

Myson Heating

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MYSON
The Housewarmers



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