



Myson Heating Limited

Installation and Maintenance Manual

Marathon 60B, 70B, 80B and 100B Floor standing gas boilers

G.C. Appliance No's. Marathon 60B 41 789 82, Marathon 70B 41 789 83
Marathon 80B 41 789 84, Marathon 100B 41 789 85

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INSTALLATION

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Marathon 80B 41 789 84, Marathon 100B 41 789 85

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

General

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

The Marathon 60B is range rated from:
14.7 to 17.6 kW (50 000 to 60 000 Btu/h).
The Marathon 70B is range rated from:
17.6 to 20.5 kW (60 000 to 70 000 Btu/h).
The Marathon 80B is range rated from:
20.5 to 23.5 kW (70 000 to 80 000 Btu/h).
The Marathon 100B is range rated from:
23.5 to 27.8 kW (80 000 to 95 000 Btu/h).

The boiler must be installed in accordance with:
The Gas Safety (Installation and Use) Regulations 1984.
Local Building Regulations.
By-Laws of the local Water Undertaking.
IEE Wiring Regulations.

Detailed recommendations are stated in the following British Standard Codes of Practice: CP331:3:1974, BS5376:2:1976, 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.

Delivery

The boiler is supplied fitted with a balanced flue duct. The balanced flue terminal is packed and supplied in a separate carton. The case parts are packed separately for assembly to the boiler during installation.

A circulating pump and a programmer are available in kit form.

Gas supply

The boiler requires the following amount of natural gas.

Marathon 60	2.2 m ³ /h (78 ft ³ /h).
Marathon 70	2.6 m ³ /h (91 ft ³ /h).
Marathon 80	2.9 m ³ /h (104 ft ³ /h).
Marathon 100	3.5 m ³ /h (124 ft ³ /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.

Electricity supply

240V 50Hz 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 outlet socket, adjacent to the boiler.

Fuse the supply at 3 amp.

Mains cable: 0.75 mm² (24 x 0.20 mm).

The external wiring between the appliance and the electrical supply 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 can be carried out as described in the British Gas multimeter instruction book.

Air supply

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

Boiler	Vents into a room
60B	212 cm ² (32 in ²)
70B	246 cm ² (37 in ²)
80B	282 cm ² (43 in ²)
100B	334 cm ² (51 in ²)

Flue system

Four sizes of terminal are available and are adjustable to suit the following wall thicknesses.

Size A 100-150 mm (Not available for 100B)

Size B 150-230 mm

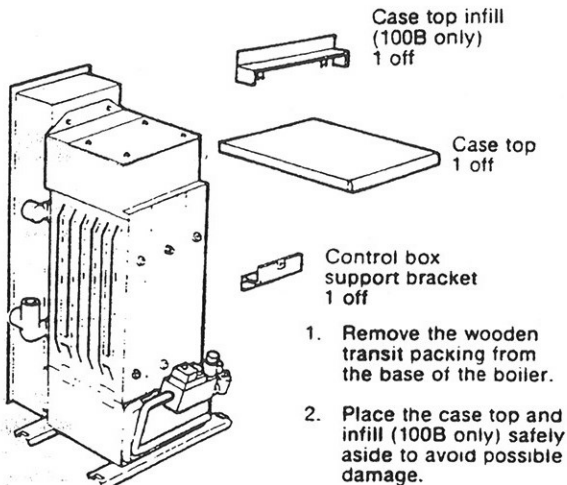
Size C 230-380 mm

Size D 380-610 mm

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

The boiler must be installed so that the 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:

1 UNPACK THE BOILER

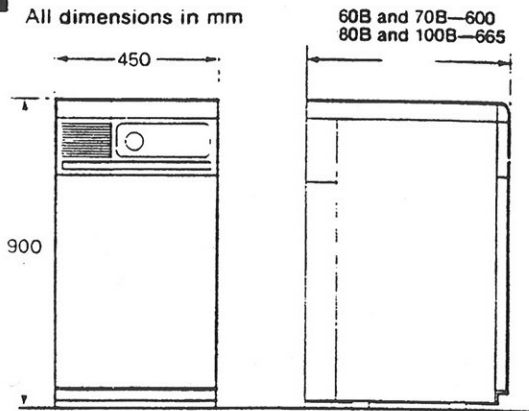


1. Remove the wooden transit packing from the base of the boiler.
2. Place the case top and infill (100B only) safely aside to avoid possible damage.

Find these parts in the pack

2 CASED BOILER DIMENSIONS

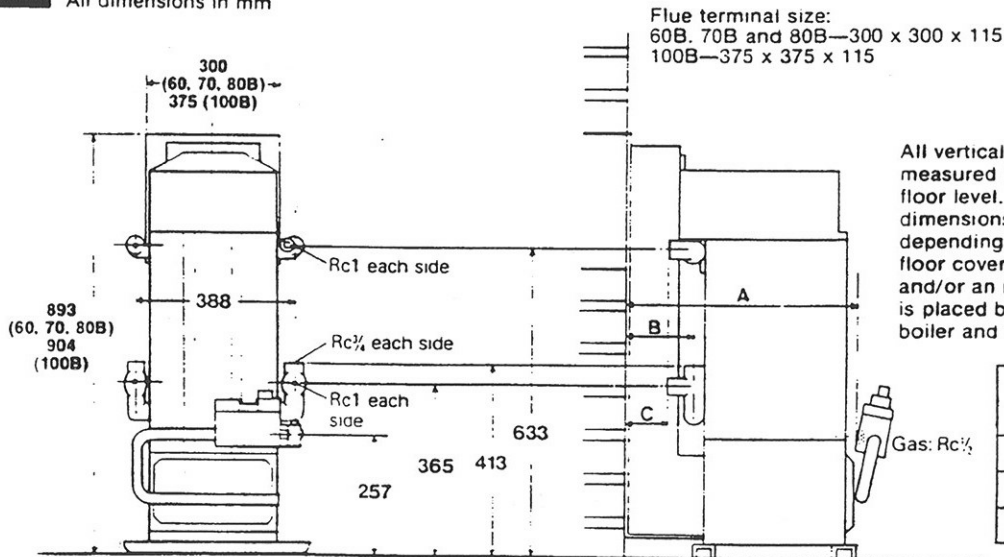
All dimensions in mm



The boiler height is measured from the existing floor level. This dimension may vary depending on whether any floor covering is removed and/or an insulating sheet is placed between the boiler and the floor.

3 BOILER CONNECTIONS

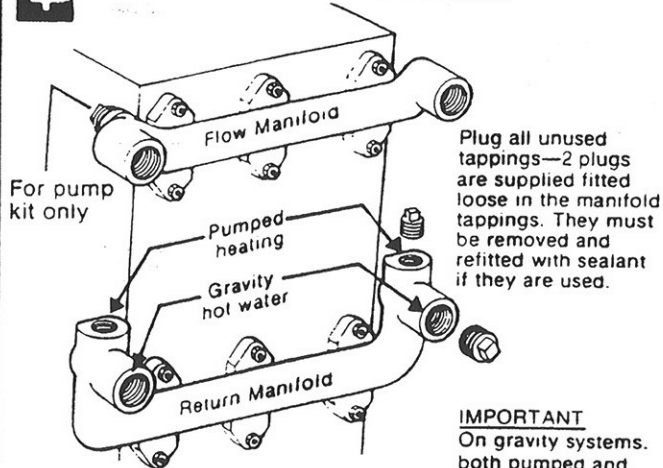
All dimensions in mm



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

Boiler	Dimension		
	A	B	C
60B, 70B	415	129	85
80B	486	129	85
100B	556	194	150

4 WATER CONNECTIONS

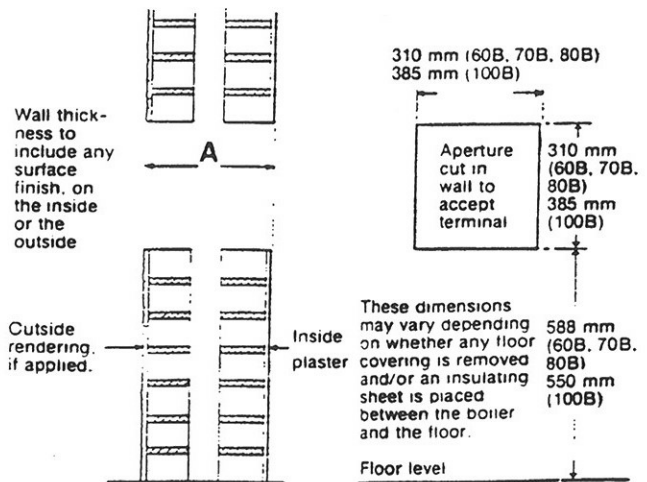


IMPORTANT
On gravity systems, both pumped and gravity returns **MUST** be connected to the same end of the return manifold.

BACK VIEW OF BOILER

5 PREPARE THE WALL

Check that the terminal position meets the requirements given under 'Flue System' on page 1.



TERMINAL POSITION	MARATHON SPACING
Directly below an openable window, 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 internal or external corners	600 mm (12 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)

*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.

Suitable guards, Type A (60B, 70B and 80B) and Type F (100B), are available from Tower Flue Components Ltd., (Tel. 0732 351555).

Installation

The boiler is designed for use with an open central heating system and /or an indirect domestic hot water system. IT MUST NOT BE CONNECTED TO A DIRECT CYLINDER. 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 Gas Region of British Gas or from MYSON Heating Ltd.

Data

Boiler	Marathon 60B	Marathon 70B	Marathon 80B	Marathon 100B
Main burner	Two box burners			
Burner injector	Size 850	Size 1000	Size 1150	Size 1300
Pilot injector	Size 10			
Pilot flame	Approximately 20 mm long			
Ignition	Piezo push button			
Spark gap	4.0/5.0 mm			
Weight empty (with case)	100 kg (220 lb)		118 kg (260 lb)	
Water content	8.20 litre (1.8 gal)		9.55 litre (2.1 gal)	
Head loss*	0.24 m (9.0 in)	0.32 m (13.0 in)	0.38 m (15.0 in)	0.64 m (25.0 in)
Max. static head	30.5 m (100 ft)			
Min. static head	1.0 m (39 in) from top of white case			

*Head loss is given between the heating flow and return tapplings, for a temperature rise across the boiler of 11°C (20°F). In the event of any fault occurring during the commissioning of the boiler a fault finding guide is available in the servicing instructions.

particular attention is drawn to the requirements of the latest IEE Wiring Regulations and, in Scotland, the electrical provisions of the building regulations applicable in Scotland, with respect to the installation of the boiler in a room containing a bath or shower.

Where the installation of the boiler will be in an unusual position, special procedures may be necessary and BS5376:2 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. 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 BS5376:2 and BS5546.

When siting the boiler, check that the terminal position meets the requirements given under the heading 'Flue system'.

Minimum clearances for servicing are required as follows:

- (a) above the boiler case—300 mm.
- (b) in front of the boiler case—450 mm.
- (c) no side clearance is required.

Note: 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.

Fit one or more drain cocks to enable the water system to be fully drained.

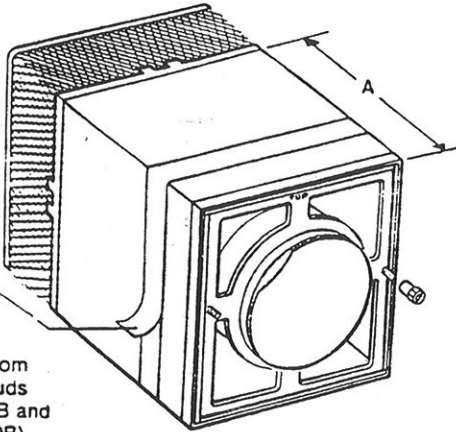
The boiler must stand firm and level. No special floor protection is needed but finishes which soften when warm, e.g. linoleum and plastic floor tiles, should be removed, or may be protected by an insulating sheet at least 10 mm thick. See notes on frames 2 and 3.

Note: This appliance is not suitable for outdoor installation.

The case door has the facility to accept your own decor panel, to match kitchen units, if required. See frame 23.

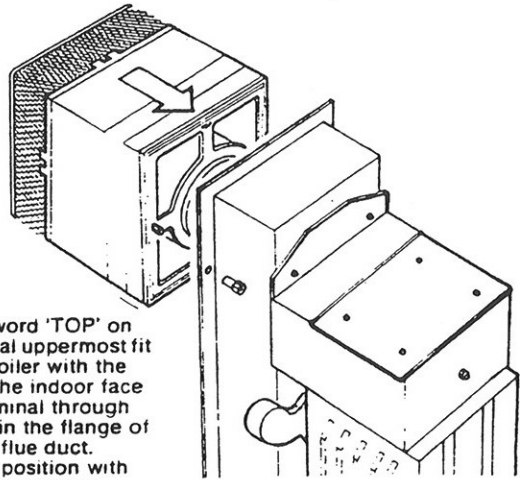
6 UNPACK AND ADJUST THE FLUE TERMINAL

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 5.
3. Seal the telescopic joint with the tape provided.
4. Remove the extended nuts from the mounting studs (two for 60B, 70B and 80B, four for 100B). Retain the nuts—see frame 7.



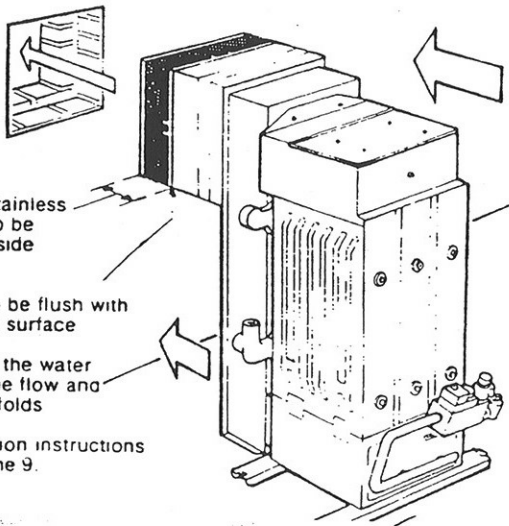
7 FIT TERMINAL TO BOILER

With the word 'TOP' on the terminal uppermost fit it to the boiler with the studs on the indoor face of the terminal through the holes in the flange of the boiler flue duct. Secure in position with the nuts removed in frame 6.



8 INSTALL THE BOILER

- Mesh and stainless steel strip to be clear of outside wall.
- This joint to be flush with outside wall surface
- Fit and seal the water fittings to the flow and return manifolds
- For installation instructions refer to frame 9.

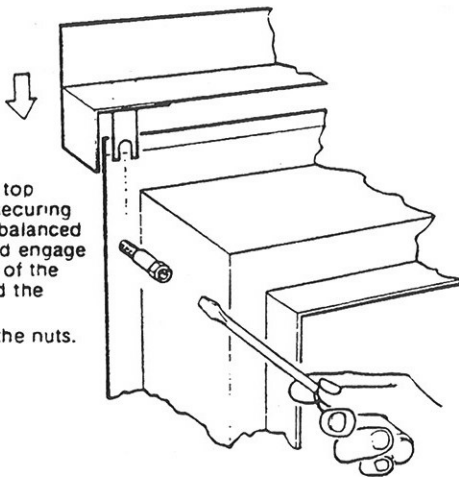


9 Install the Boiler—continued

1. Stand the boiler on the floor, on an insulating sheet if required (see page 2), 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 pipes at the back of the boiler—see frames 3 & 4.
5. If a MYSON 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 pipe to the service cock on the gas valve inlet.
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).

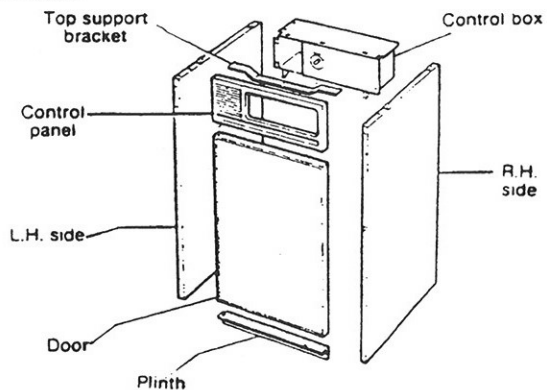
10 FIT THE REAR INFILL 100B ONLY

Loosen the two top extended nuts securing the duct to the balanced flue terminal and engage the slotted lugs of the rear infill behind the nuts. Do not tighten the nuts.



11 UNPACK THE CASE

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

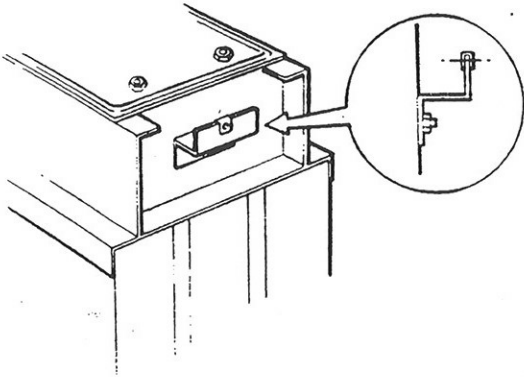


No. 8 x 12 lg c'sk screws 4 off No. 8 x 12 lg pan hd. screws 6 off M5 nuts 2 off

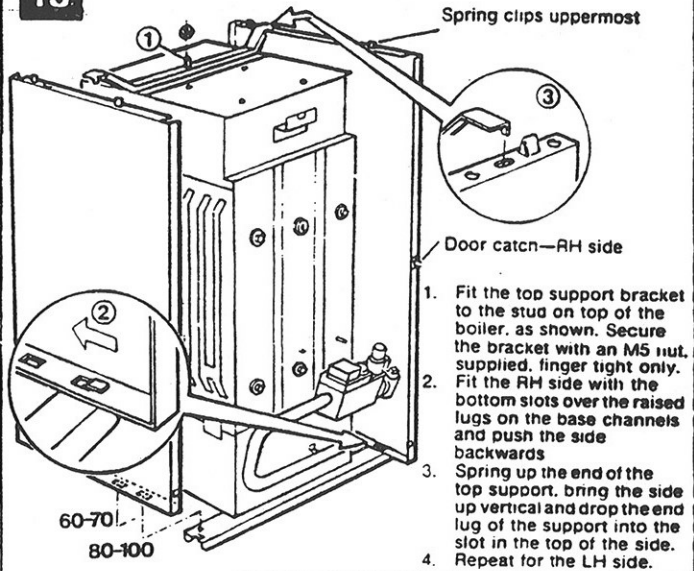
Find these parts in the pack.

12 FIT THE CONTROL BOX SUPPORT BRACKET

1. Locate the support bracket over the stud on the front of the flue box. Loosely secure in position using an M5 nut, supplied with the case, nut to be finger tight only.



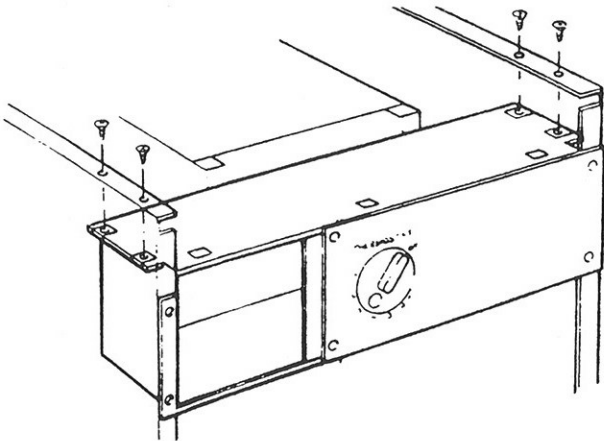
13 FIT THE CASE SIDES



1. Fit the top support bracket to the stud on top of the boiler, as shown. Secure the bracket with an M5 nut, supplied, finger tight only.
2. Fit the RH side with the bottom slots over the raised lugs on the base channels and push the side backwards.
3. Spring up the end of the top support, bring the side up vertical and drop the end lug of the support into the slot in the top of the side.
4. Repeat for the LH side.

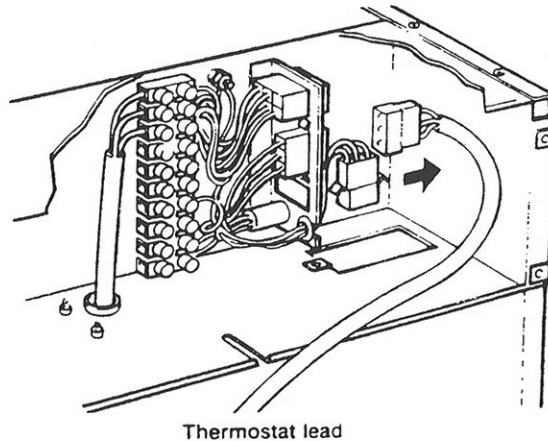
14 FIT THE CONTROL BOX

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



15 Fit the Control Box—continued

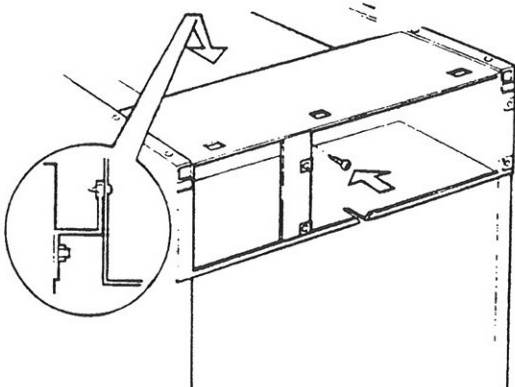
3. Remove the four screws securing the fascia panel.
4. Disconnect the 3-way plug and socket and remove the fascia panel.



Thermostat lead

16 Fit the Control Box—continued

5. Secure the control box to the support bracket using a No. 8 x 12 lg screw, supplied with the case.

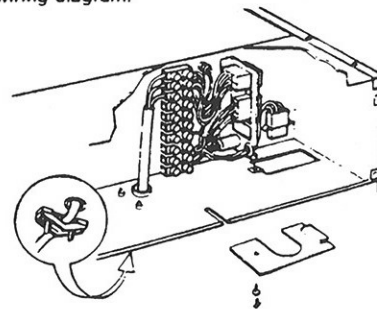


17 ELECTRIC WIRING

1. Slacken two screws in the cable clamp underneath the control box. Feed the mains lead under the 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 mains lead to the terminal block, ensure that the length of the earth wire is such, that if the mains lead slips out of the cable clamp the live and neutral wires become taut before the earth wire.

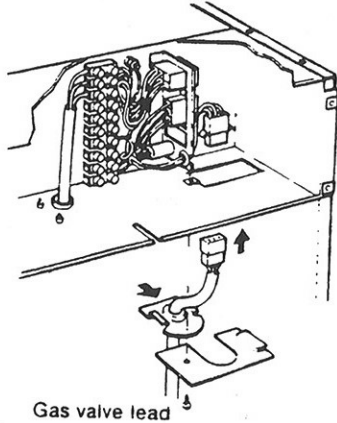
2. Tighten the cable clamp screws to secure the mains lead.
3. Pass any external wiring through the bush and connect to the terminal block. See wiring diagram.



4. Remove the gas valve lead clamping bracket from underneath the control box.

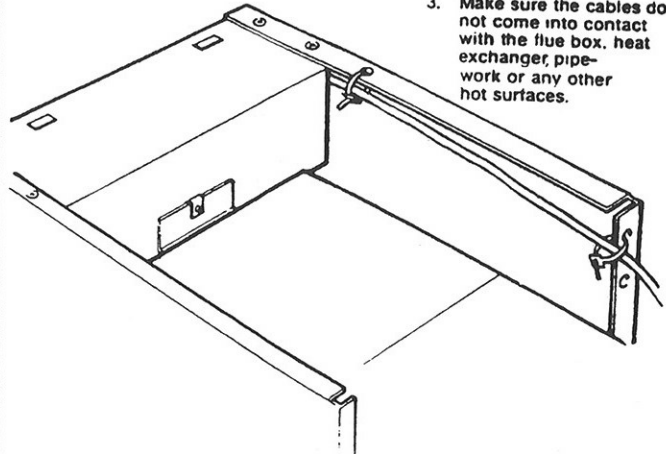
18 Electric Wiring—continued

- 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.



19 SECURE THE WIRING

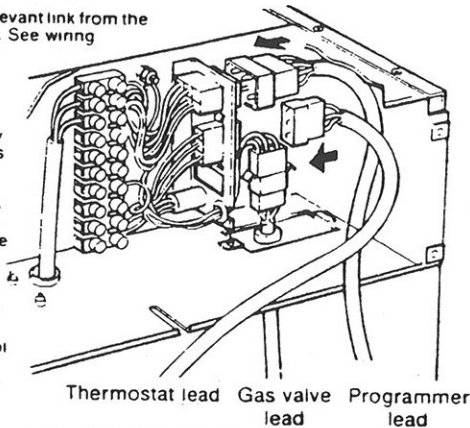
- Bind together all cables leading to the control box and secure with cable ties, provided, to the case side.
- Clip the cables to the wall behind the boiler.
- Make sure the cables do not come into contact with the flue box, heat exchanger, pipe-work or any other hot surfaces.



20 FIT THE PROGRAMMER KIT

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

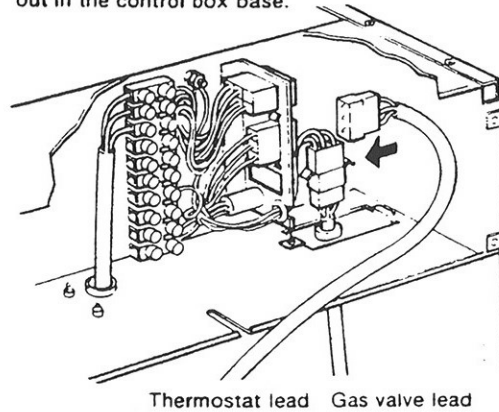
- Remove the thermostat knob by carefully pushing with a screwdriver through the cutouts in the back of the facia panel.
- From the front of the panel remove the two screws securing the thermostat.
- Fit the thermostat to the programmer panel ensuring that the capillary is uppermost.
- Remove the relevant 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 15. Ensure that the thermostat capillary passes through the cut-out in the control box base.
- Proceed to frame 22.



21 FIT THE FACIA PANEL

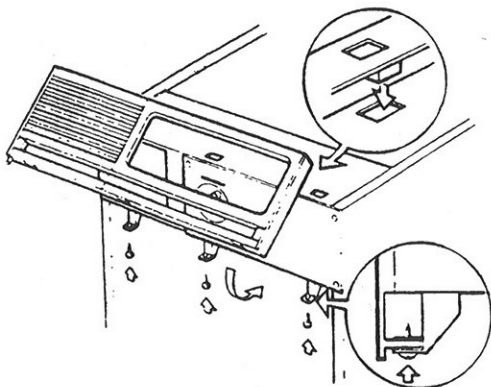
If the Marathon programmer kit is not used, replace the facia panel as follows:

- Connect the 3-way plug and socket as shown.
- Secure the panel in position with the four screws removed in frame 15. Ensure that the thermostat capillary passes through the cut out in the control box base.



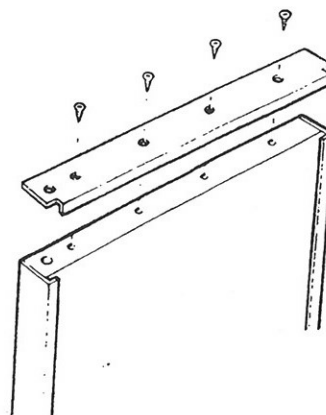
22 FIT THE CONTROL PANEL

- 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 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.



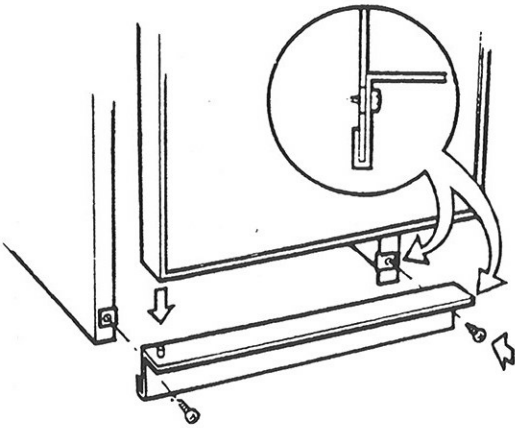
23 FIT YOUR DECOR PANEL (if required)

If a decor panel is to be fitted to the door the material should be 1 mm thick and cut to the following dimensions: 600 mm deep x 444 mm wide.



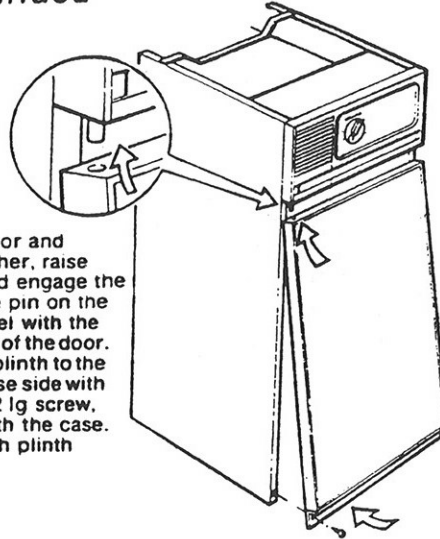
Remove the fixing screws securing the plastic trim on top of the case door. Remove the trim and carefully slide in your decor panel. Replace the trim.

24 FIT THE PLINTH AND DOOR



1. Loosely secure the plinth to the right hand case side with one No. 8 x 12 lg 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 door.
3. Continue the fitting of the door, see frame 25.

25 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 screw, supplied with the case. Tighten both plinth screws.

26 SQUARE UP THE CASE

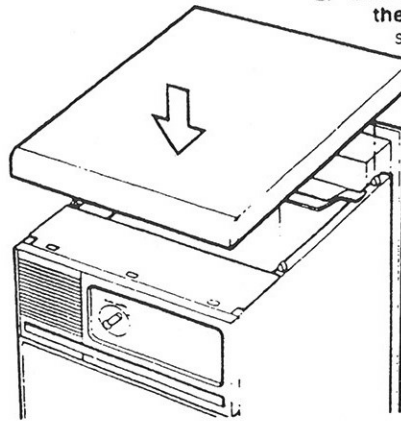
1. Square up the case, to bring the top of the door parallel to the control panel.
2. Tighten the nut securing the top support bracket—frame 13.
3. Tighten the nut securing the control box support bracket—frame 12.
4. Check squareness of the case. If necessary, slacken the fastenings to make final adjustments, then retighten.

27 FIT THE CASE TOP

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

100B only

2. Line up the rear filler with the case top and secure by tightening the two extended nuts from inside the case.



28 COMMISSION THE BOILER (A)

Refer to frames 30 and 31 for boiler controls.

1. Ensure that the electricity supply is OFF.
2. Turn the boiler thermostat to OFF.
3. Loosen the gas valve inlet pressure test point screw one turn.
4. Turn on the gas supply and open the boiler service cock (the slots on the operating head indicate the direction of flow through the cock) to purge in accordance with CP331:3.
5. Retighten the gas valve inlet pressure test point screw. Test for gas soundness around the screw.
6. Fully depress the gas valve operating button and keep it pressed in. At the same time operate the igniter button, to light the pilot, which can be seen through the inspection window. If the pilot does not light, operate the igniter 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 twist it in the direction of the arrow. Wait for 3 minutes and repeat operation 6 until the pilot is lit. Continue to hold the gas valve button in for 20 seconds, then release it slowly.
7. Check that the pilot throttle is fully open and that the pilot flame (approximately 20 mm long) envelops the thermocouple tip.
8. Check the burner setting pressure as follows:
 - a) Loosen the burner setting pressure test point screw one turn and connect a pressure gauge.
 - b) Turn on the electricity supply and check that all system controls are turned on.
 - c) Turn the boiler thermostat to position 7, and check that the main burner lights smoothly from the pilot flame. Allow the burner to run for 10 minutes.

29 COMMISSION THE BOILER (B)

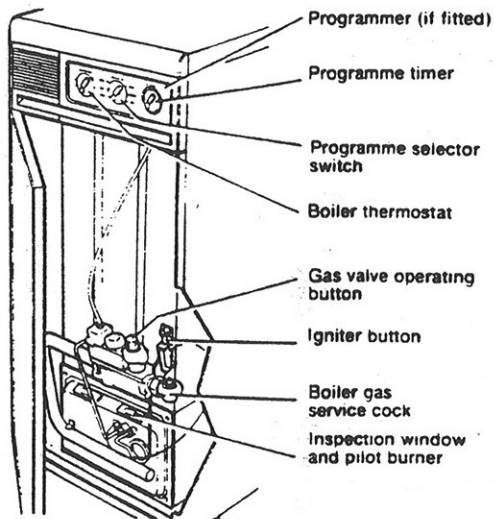
- d) If it is necessary to adjust the burner setting pressure turn the governor adjuster anti-clockwise to decrease the pressure.
Note: the boiler is factory set to the maximum input.

NOMINAL BOILER RATINGS

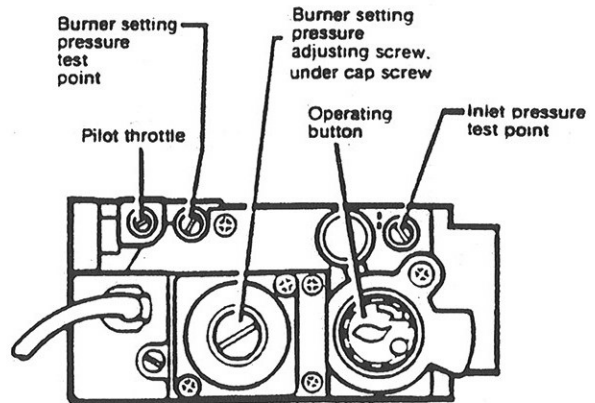
BOILER	OUTPUT		INPUT		BURNER SETTING PRESSURE	
	kW	Btu/h	kW	Btu/h	mbar	in w.g.
60B	14.7	50 000	19.6	66 700	11.2	4.5
	17.6	60 000	23.5	80 000	16.2	6.5
70B	17.6	60 000	23.5	80 000	11.8	4.7
	20.5	70 000	27.3	93 300	15.4	6.2
80B	20.5	70 000	27.3	93 300	12.5	5.0
	23.5	80 000	31.3	106 700	16.3	6.5
100B	23.5	80 000	31.3	106 700	11.6	4.7
	27.8	95 000	37.1	126 700	16.4	6.6

9. Turn the boiler thermostat to OFF, disconnect the pressure gauge and retighten the test point screw. Test for gas soundness around the screw.
10. Ensure the arrow on the data plate is against the correct boiler rating.
11. 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.
Note: If the electricity is cut off for any reason check that the pilot is a light when it is restored.

30 BOILER CONTROLS



31 GAS CONTROL VALVE



32 HAND OVER THE USER INSTRUCTIONS

Hand the USER INSTRUCTIONS to the User and instruct in the safe operation of the boiler and controls.

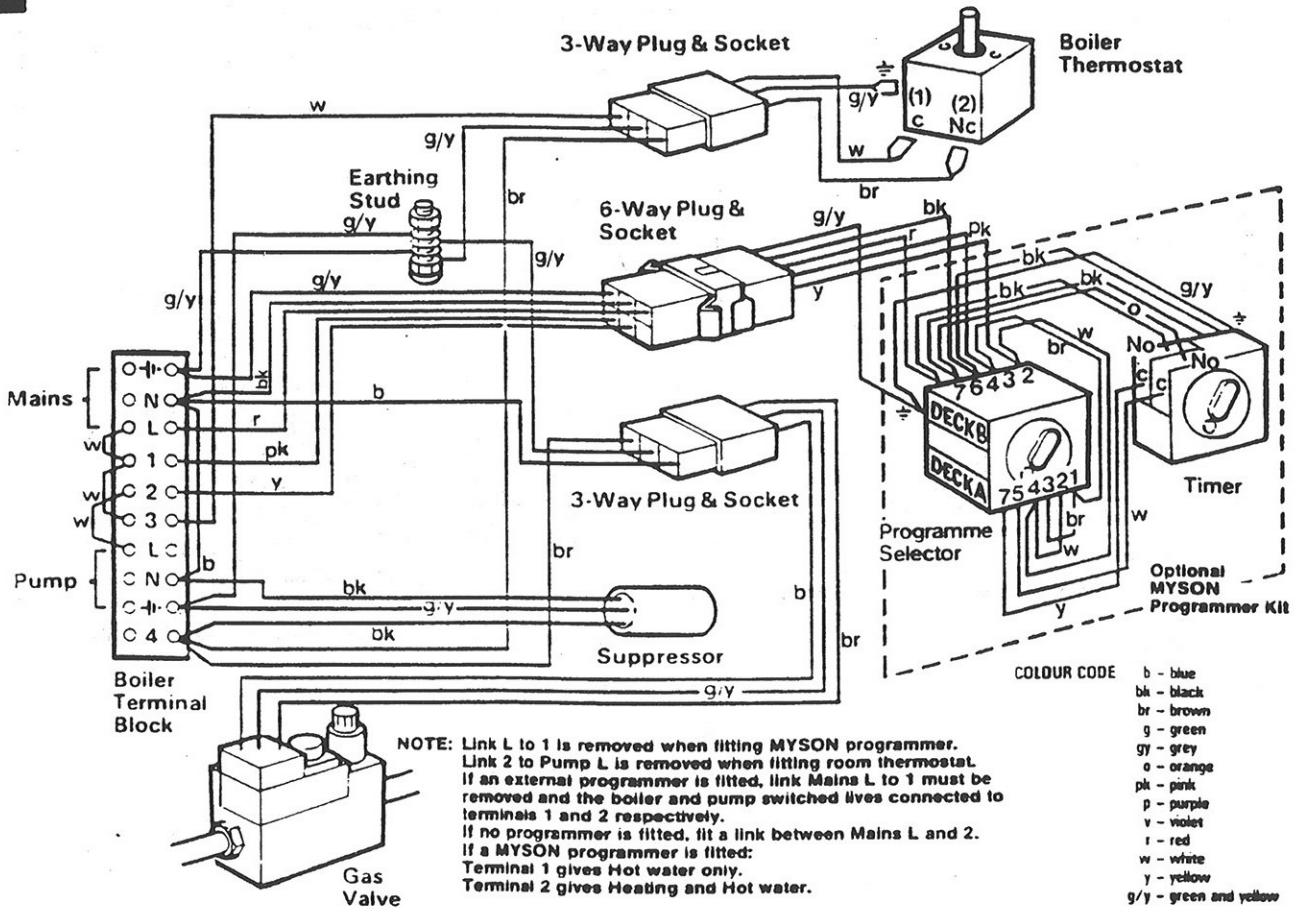
Advise the user of the precautions necessary to prevent damage to the system and to the building in the event of the system remaining inoperative during frost conditions.

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.

BOILER WIRING DIAGRAM



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

Myson Heating Limited

SERVICING

Marathon 60, 70, 80 and 100 Floor standing gas boilers

Balanced (B) and Open (C) flue

G.C. Appliance No's. Marathon 60B 41 789 82, Marathon 60C 41 789 88
Marathon 70B 41 789 83, Marathon 70C 41 789 89
Marathon 80B 41 789 84, Marathon 80C 41 789 90
Marathon 100B 41 789 85, Marathon 100C 41 789 91

(Leave these instructions adjacent to the gas meter).

General

This booklet provides instruction on the replacement of faulty parts, describes the annual servicing procedure and provides information on fault finding and spare part identification. Before commencing work twist the button of the gas valve in the direction of the arrow to turn off the pilot. Allow the boiler to cool. Turn off the electricity supply and isolate the gas at the boiler service cock, see frame 14.

IMPORTANT: ALWAYS test for gas soundness after completing any servicing or exchange of gas carrying components.

NOMINAL BOILER RATINGS

BOILER	OUTPUT		INPUT		BURNER SETTING PRESSURE	
	kW	Btu/h	kW	Btu/h	mbar	in wg
60B	14.7	50 000	19.6	66 700	11.2	4.5
	17.6	60 000	23.5	80 000	16.2	6.5
60C	14.7	50 000	19.6	66 700	11.5	4.6
	17.6	60 000	23.5	80 000	16.5	6.6
70B	17.6	60 000	23.5	80 000	11.8	4.7
	20.5	70 000	27.3	93 300	15.4	6.2
70C	17.6	60 000	23.5	80 000	12.3	4.9
	20.5	70 000	27.3	93 300	16.3	6.5
80B	20.5	70 000	27.3	93 300	12.5	5.0
	23.5	80 000	31.3	106 700	16.3	6.5
80C	20.5	70 000	27.3	93 300	12.0	4.8
	23.5	80 000	31.3	106 700	17.2	6.9
100B and C	23.5	80 000	31.3	106 700	11.6	4.7
	27.8	95 000	37.1	126 700	16.4	6.6

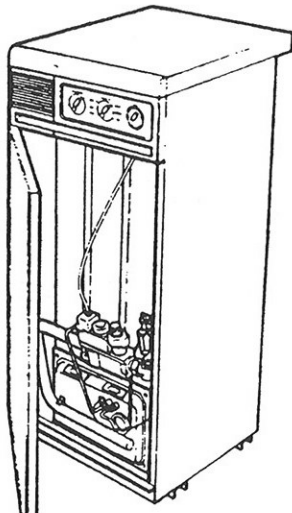
SERVICING PROCEDURE

1 DISMANTLING

Before proceeding with dismantling of the boiler carry out a general inspection of the boiler and case for signs of damage or breakages.

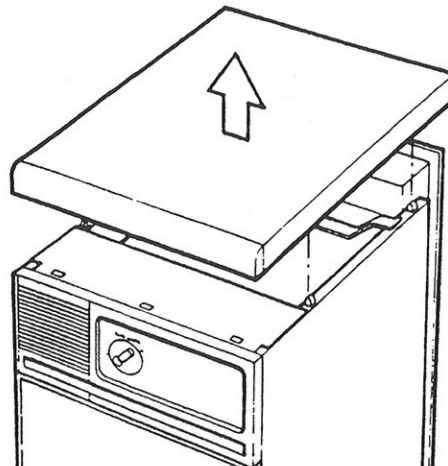
Check for loose fittings or connections and any evidence of leaks.

Note any work which will require rectification during the routine servicing.



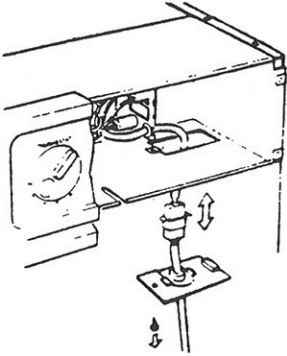
2

Remove the case top by carefully pulling it upwards.



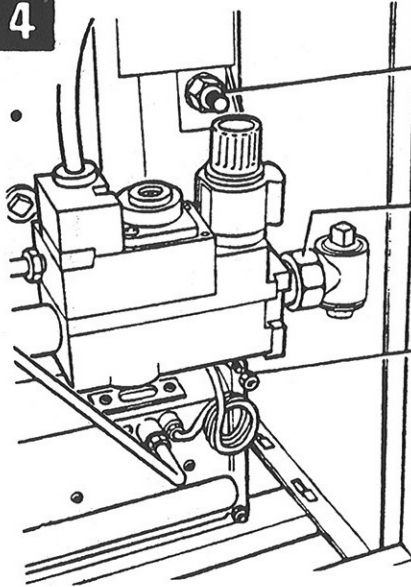
3

If the case door will not open beyond 90° remove the two plinth screws and remove the door and plinth.



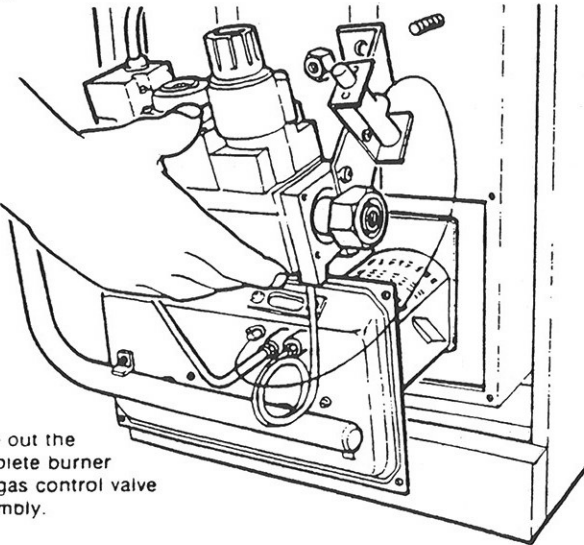
1. Remove the screw securing the gas valve lead clamping bracket to the base of the control box.
2. Carefully withdraw the lead and disconnect the 3-way plug and socket.

4



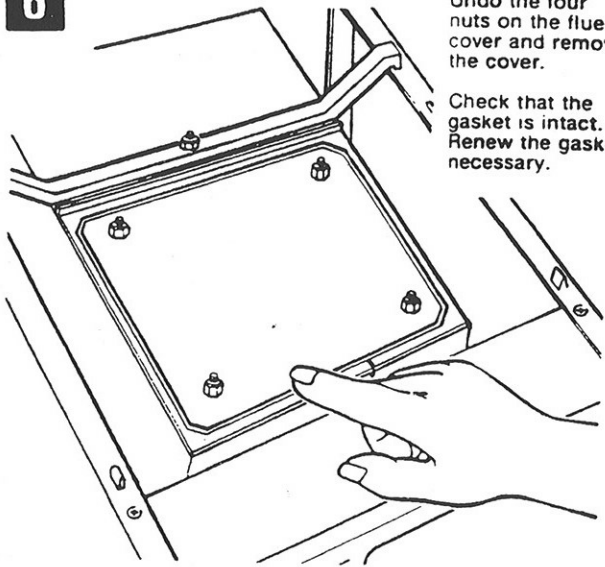
1. Undo the nut securing the gas valve bracket.
2. Disconnect the union at the boiler gas service cock.
3. Remove four nuts fixing the burner door.

5



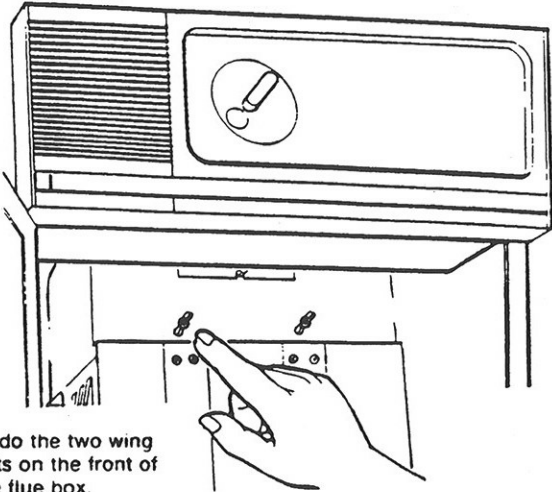
Slide out the complete burner and gas control valve assembly.

6



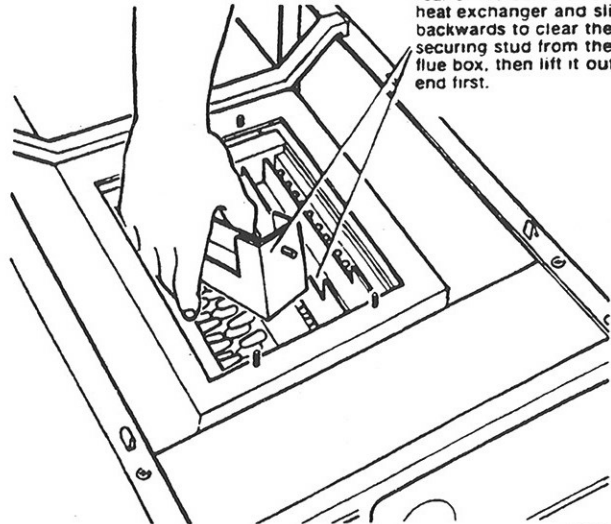
Undo the four nuts on the flue box cover and remove the cover.
Check that the gasket is intact. Renew the gasket if necessary.

7 Open flue models only



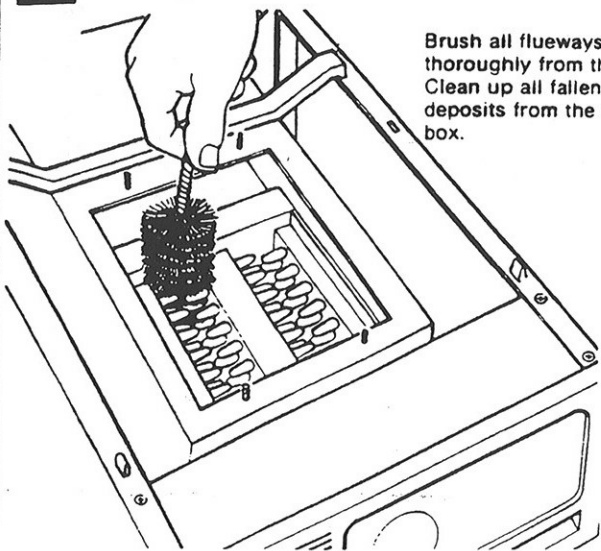
Undo the two wing nuts on the front of the flue box.

8 Open flue models only



Remove the baffles. Lift the rear of the baffle clear of the heat exchanger and slide it backwards to clear the securing stud from the flue box, then lift it out front end first.

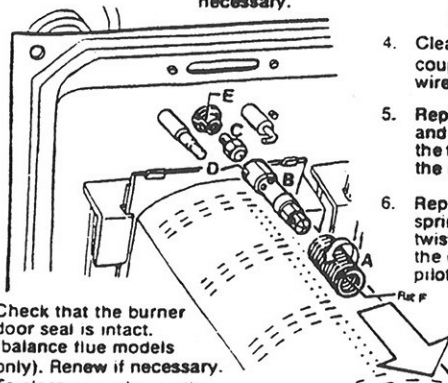
9 CLEANING THE HEAT EXCHANGER



Brush all flueways thoroughly from the top. Clean up all fallen deposits from the burner box.

10 CLEANING THE PILOT BURNER AND THERMOCOUPLE

1. Twist and pull off the pilot spring A.
2. Pull off the pilot 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 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 electrode gap is 4.0/5.0 mm (balanced flue only).
8. Check that the burner door seal is intact. (balance flue models only). Renew if necessary.
9. To clean or exchange the pilot filter in the gas valve refer to frame 26.



11 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.

12 CLEANING THE BURNER INJECTORS

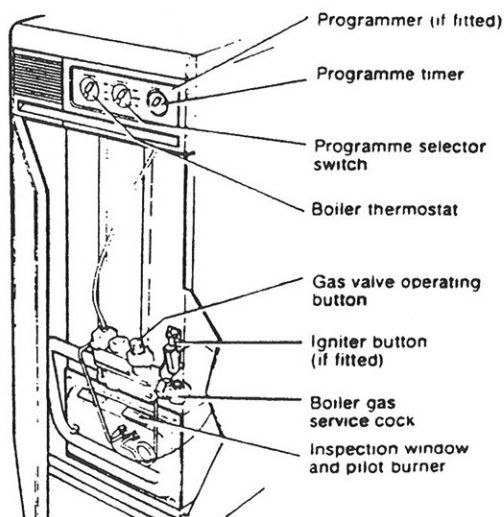
1. Disconnect the pilot supply tube and thermocouple from the burner door.
2. Disconnect the electrode lead from the piezo unit, (if fitted).
3. Undo the two nuts securing the manifold tube to the burner door and remove the gas valve and manifold assembly from the burner door.
4. Unscrew the injectors from the manifold tube. Clean by blowing through or washing. Do NOT clear the injectors with a pin or wire. Replace the injector 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 (if fitted).

13 REASSEMBLY

Re-assemble the boiler in the reverse order to the dismantling procedure.

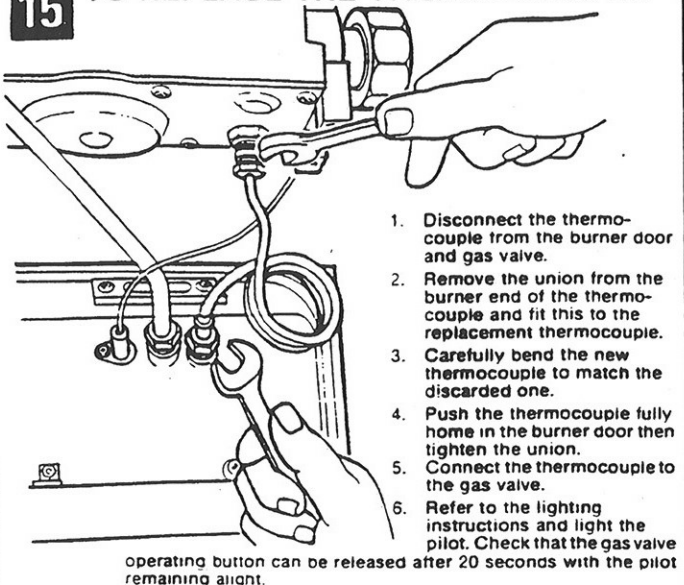
1. Refit the baffles—see frames 7 and 8 (open flue models only).
 2. Refit the flue box cover—frame 6.
 3. Replace the burner and gas control assembly and reconnect the boiler gas service cock—frames 4 and 5.
 4. Re-connect the gas valve lead plug and socket and secure the clamping bracket to the base of the control box.
 5. Refit the case door if it has been removed—frame 3.
 6. Replace the case top.
- Test boiler and installation:—
1. Open the boiler gas service cock.
 2. Refer to frame 32 to check the burner setting pressure.
 3. Test for gas soundness.
 4. Check the operation and settings of the boiler and controls.
 5. Before leaving the site, the service engineer should check that:
 - (a) no flammable material is left in contact with the boiler shell, e.g. paper or textiles which have fallen behind the boiler.
 - (b) Ventilation requirements remain at the required standard, whether by venting of the room (open flue models) or by freedom from obstruction of the flue terminal (balanced flue models).
 - (c) The gaps between the case sides of open flue boilers and the wall or kitchen units, are not obstructed. This is the means of entry for combustion air to the boiler.

14 BOILER CONTROLS



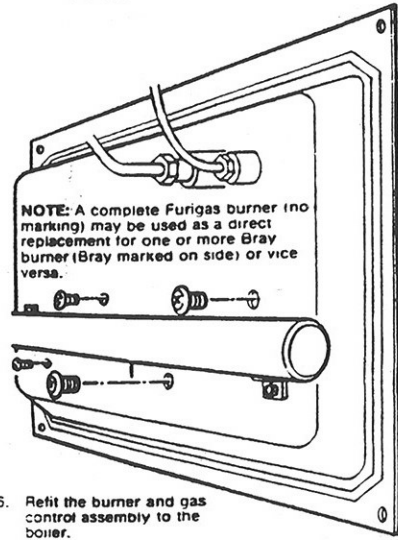
REPLACEMENT OF PARTS

15 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 and light the pilot. Check that the gas valve operating button can be released after 20 seconds with the pilot remaining aight.

16 TO REPLACE THE BURNERS



1. Remove the burner and gas control assembly, see frames 3 to 5.
2. Remove two screws fixing each burner.
3. Remove the burners by pulling backwards.
4. Remove the anti-flash over shields from the front of the burners and fit them to the new burners.
5. Fit the new burners. Retain with two screws per burner.
6. Refit the burner and gas control assembly to the boiler.
7. Refer to the lighting instructions. Light the boiler and test for gas soundness.
8. Check the operation of the controls.

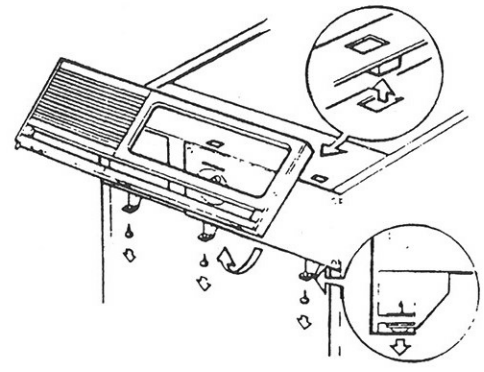
17 TO REPLACE THE LINT FILTERS

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

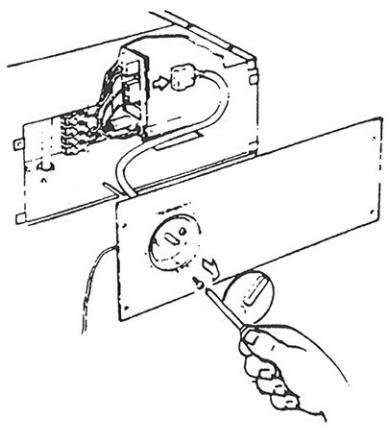
1. Remove the burner and gas control assembly—see frames 3 to 5.
2. Remove the lint filters from the burners—see frame 11.
3. Fit the new lint filters and re-assemble the burners—see frame 11.
4. Refit the burner and gas control to the boiler.
5. Refer to the lighting instructions and light the boiler.
6. Test for gas soundness.
7. Check the operation of the controls.

18 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.



19 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.

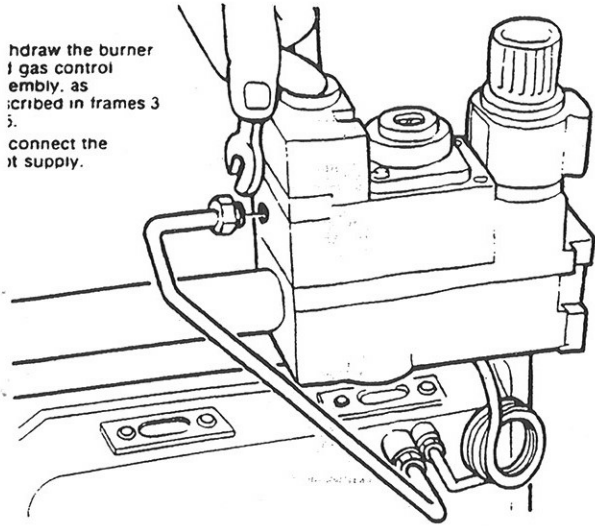
20 Boiler Thermostat—continued

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.
16. Replace the control panel, case door, plinth and case top.
17. Refer to the lighting instructions 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.

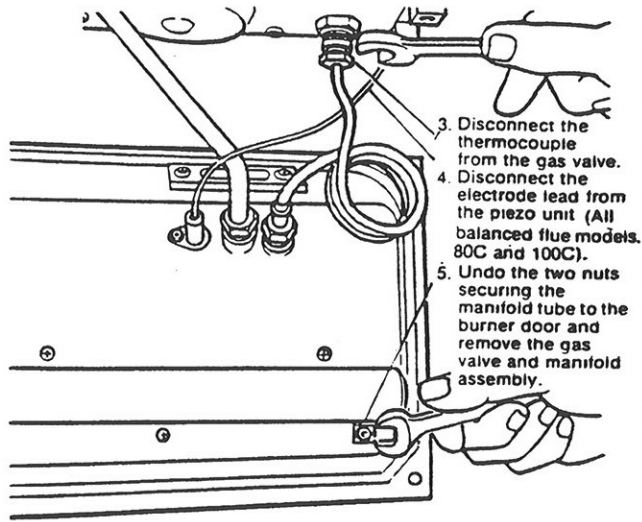
TO REPLACE THE GAS VALVE

ENSURE THAT THE GAS SUPPLY IS OFF.

Withdraw the burner and gas control assembly, as described in frames 3 and 5. Connect the gas supply.



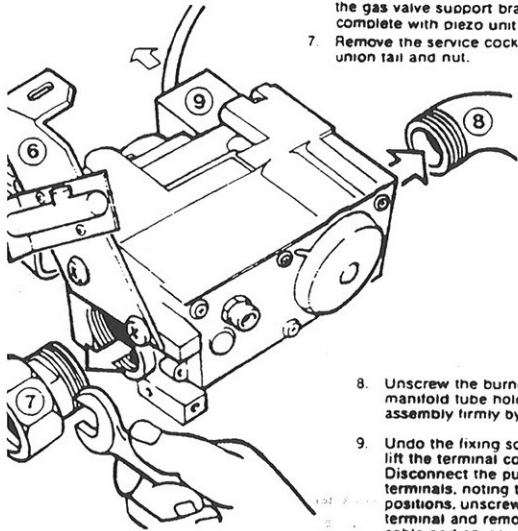
22 Gas Valve—continued



3. Disconnect the thermocouple from the gas valve.
4. Disconnect the electrode lead from the piezo unit (All balanced flue models, 80C and 100C).
5. Undo the two nuts securing the manifold tube to the burner door and remove the gas valve and manifold assembly.

Gas Valve—continued

6. Undo the two screws and remove the gas valve support bracket, complete with piezo unit (if fitted).
7. Remove the service cock union tail and nut.



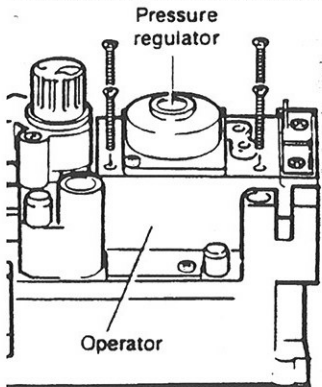
8. Unscrew the burner manifold tube holding the assembly firmly by the tube.
9. Undo the fixing screw and lift the terminal cover up. Disconnect the push-on terminals, noting their positions, unscrew the earth terminal and remove the cable and cover.

24 Gas Valve—continued

10. Refit the parts removed from the gas valve to the replacement valve. Use sealing 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 (if fitted).
12. Refit the burner and gas control assembly to the boiler.
13. Turn on the gas and purge the supply of air at the inlet test point on the gas valve (frame 31).
14. Refer to the lighting instructions and light the pilot.
15. Test the service cock union and pilot supply connections for gas soundness.
16. Adjust the pilot throttle on the gas valve. Pilot flame to envelop the thermocouple tip. (pilot flame approximately 20 mm long).
17. Light the boiler and test for gas soundness at the gas valve outlet.
18. Refer to frame 32 para 4 to adjust the burner setting pressure.

TO REPLACE THE GAS VALVE OPERATOR

ENSURE THAT THE GAS SUPPLY IS OFF.

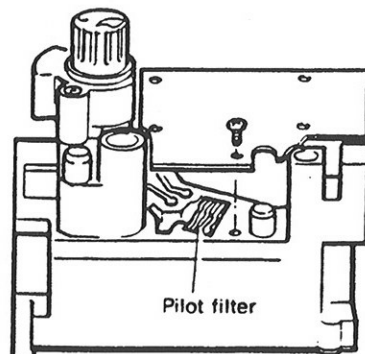


1. Undo the fixing screw and lift the terminal cover up. Disconnect the push-on terminals, noting their positions, unscrew the earth terminal and remove the cable and cover.
2. Remove the four screws securing the operator to the gas valve and lift-off the operator.
3. Remove the two screws securing the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

Fit the new operator using a new gasket and rubber sealing washer. Connect the leads and replace the terminal cover. Refer to the lighting instructions and light the boiler. Test for gas soundness around the operator. Refer to frame 32 para 4 to check the burner setting pressure.

26 TO REPLACE THE PILOT FILTER

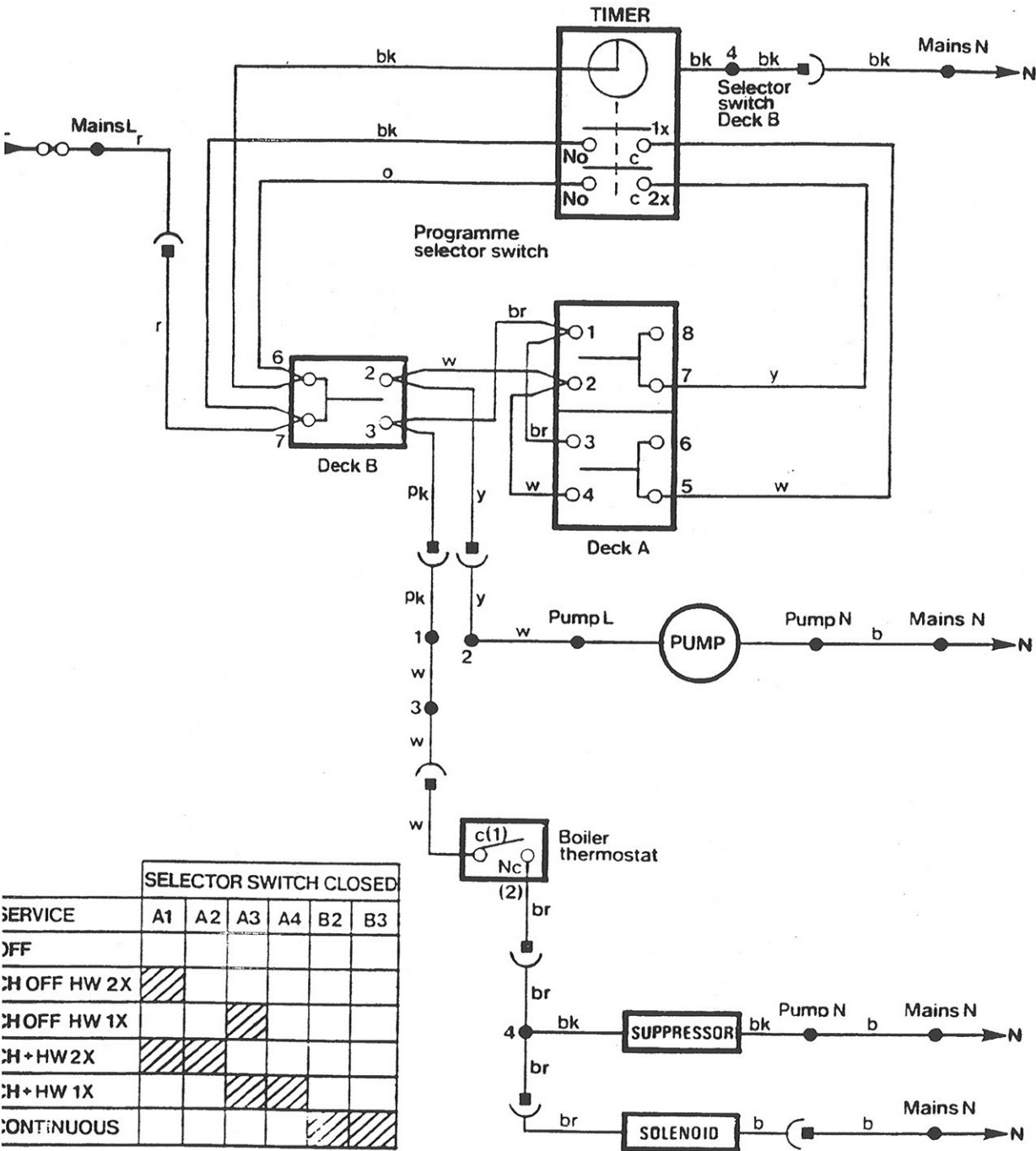
NOTE: It is extremely unlikely that the pilot filter will become blocked. If the pilot injector and pilot supply are clear and the filter is still suspect proceed as follows:
ENSURE THE GAS SUPPLY IS OFF.



1. Remove the gas valve operator, see frame 25.
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. Re-assemble in reverse order taking care not to damage the gaskets. Refer to the lighting instructions and light the boiler.
5. Test for gas soundness around the operator.

FUNCTIONAL FLOW WIRING DIAGRAM (B)

WITH MYSON PROGRAMMER

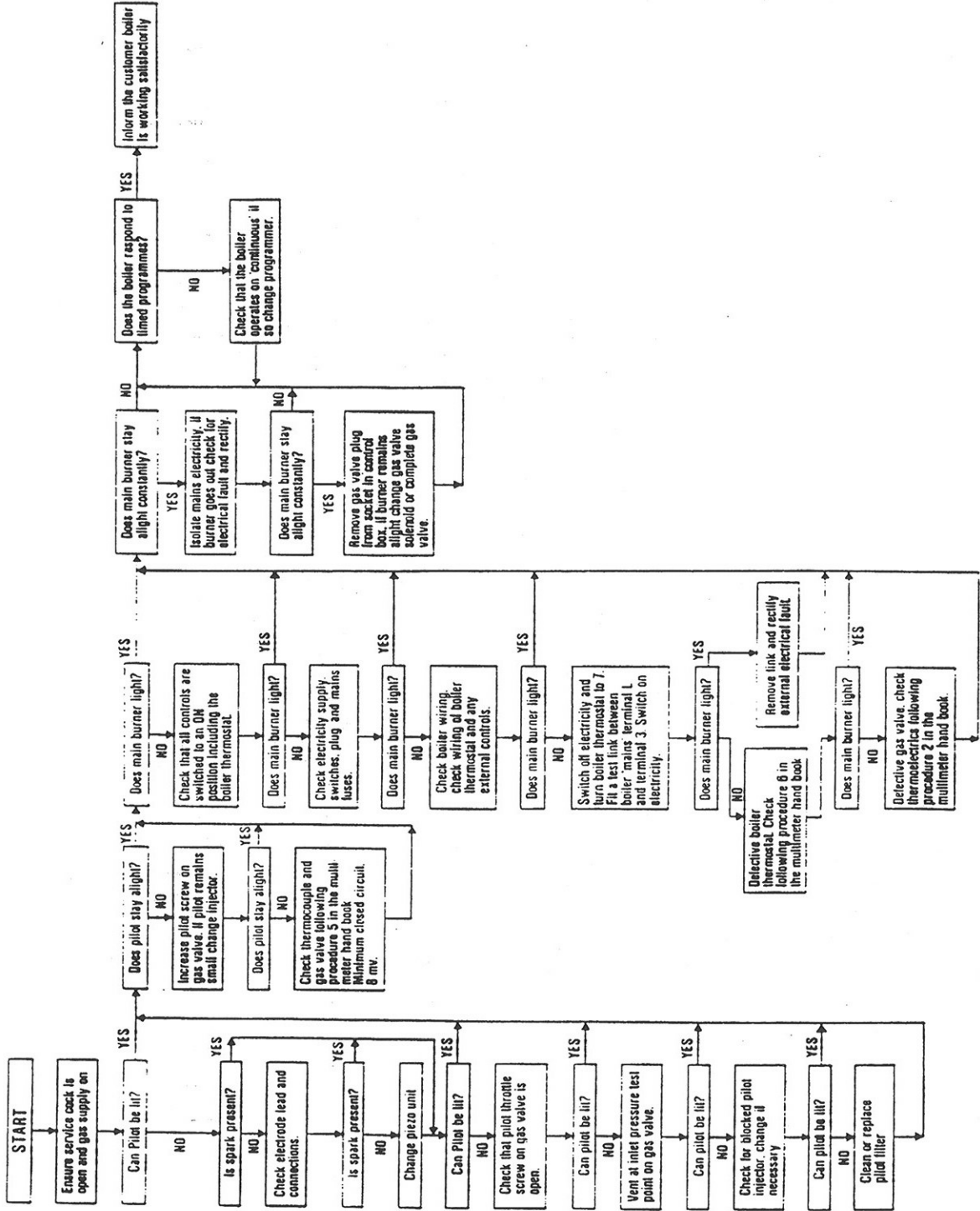


SELECTOR SWITCH CLOSED

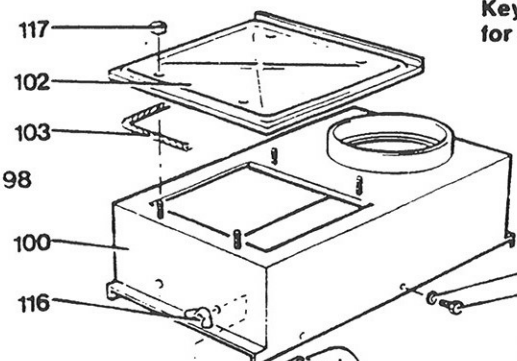
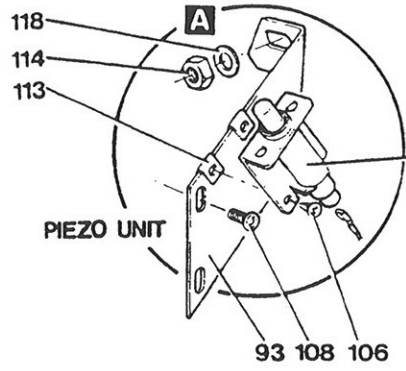
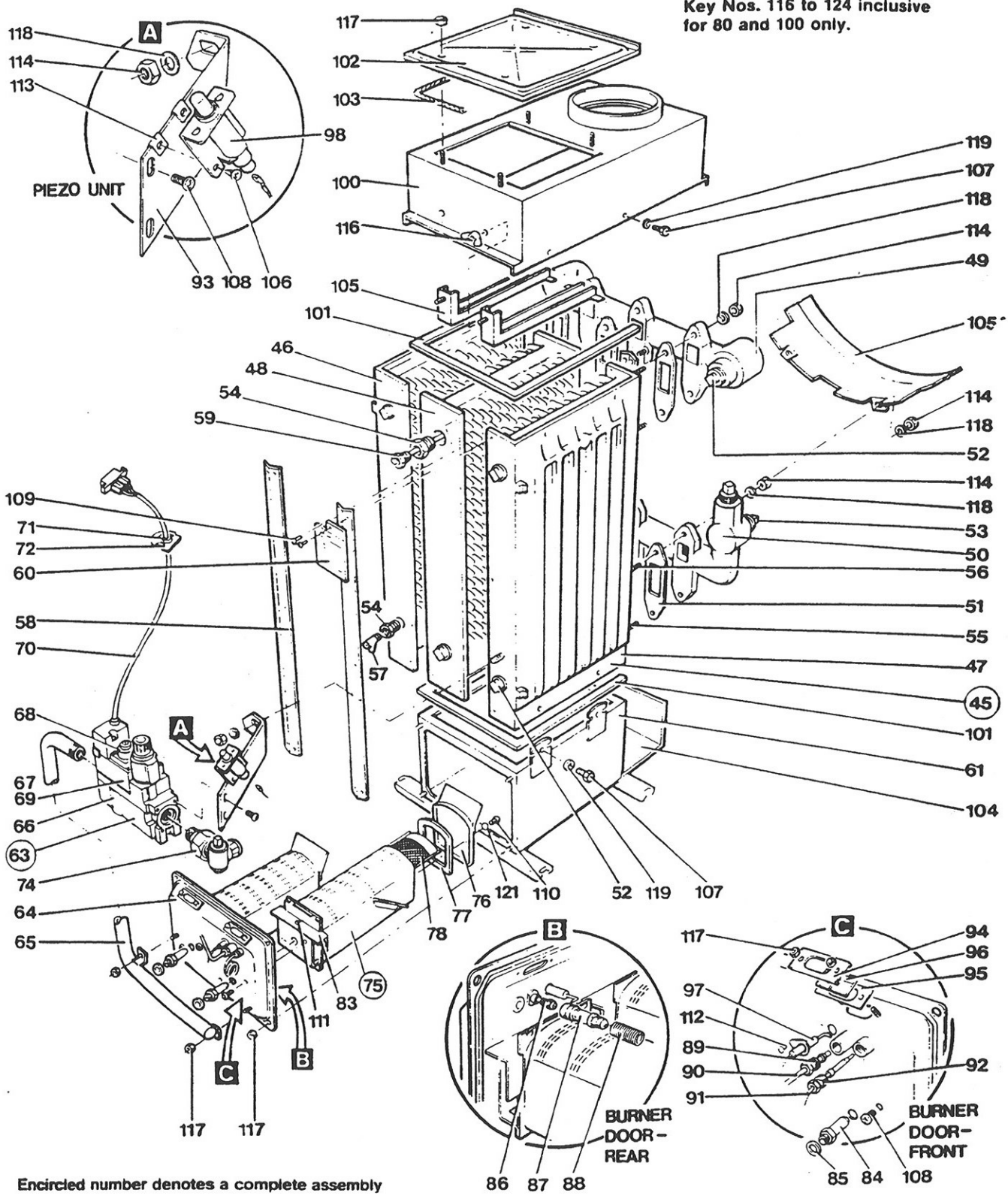
SERVICE	A1	A2	A3	A4	B2	B3
OFF						
OFF HW 2X						
OFF HW 1X						
HW 2X						
HW 1X						
CONTINUOUS						

FAULT FINDING GUIDE

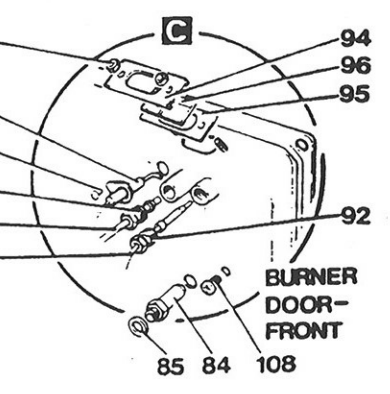
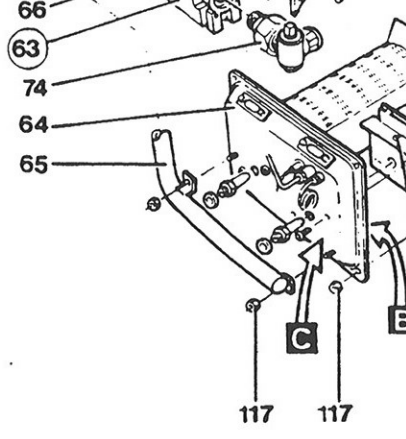
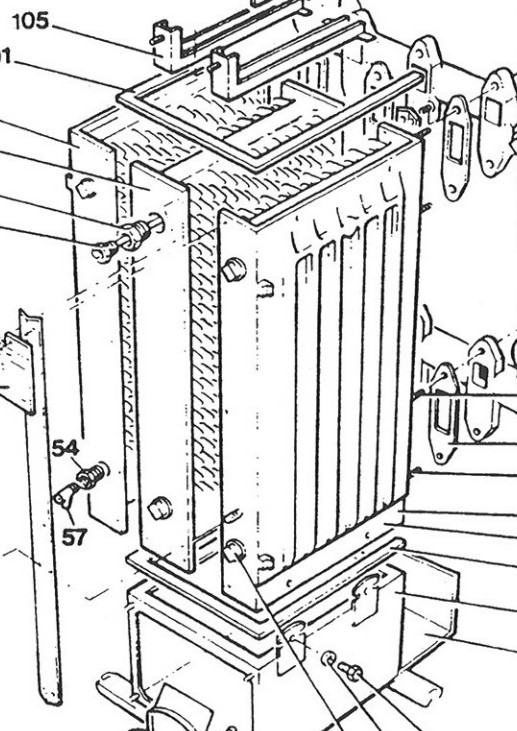
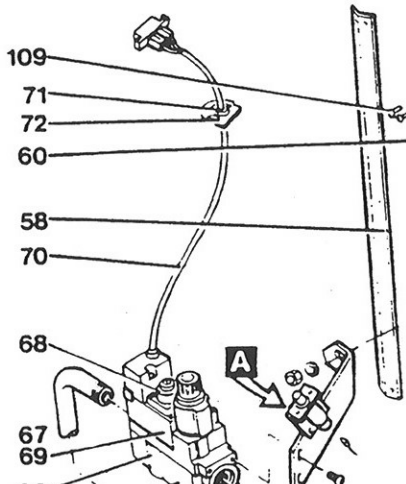
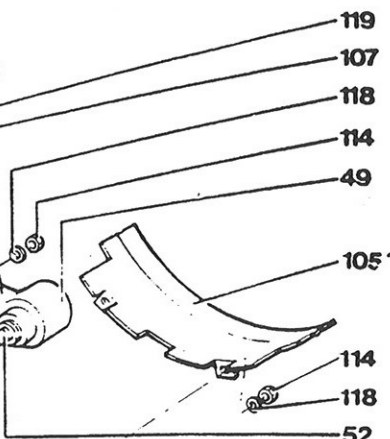
Preliminary electrical system checks as contained in the BGC multimeter instructions book are the first electrical checks to be carried out during a fault finding procedure. On completion of the service/fault finding task which has required the breaking and remaking of electrical connections, then the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



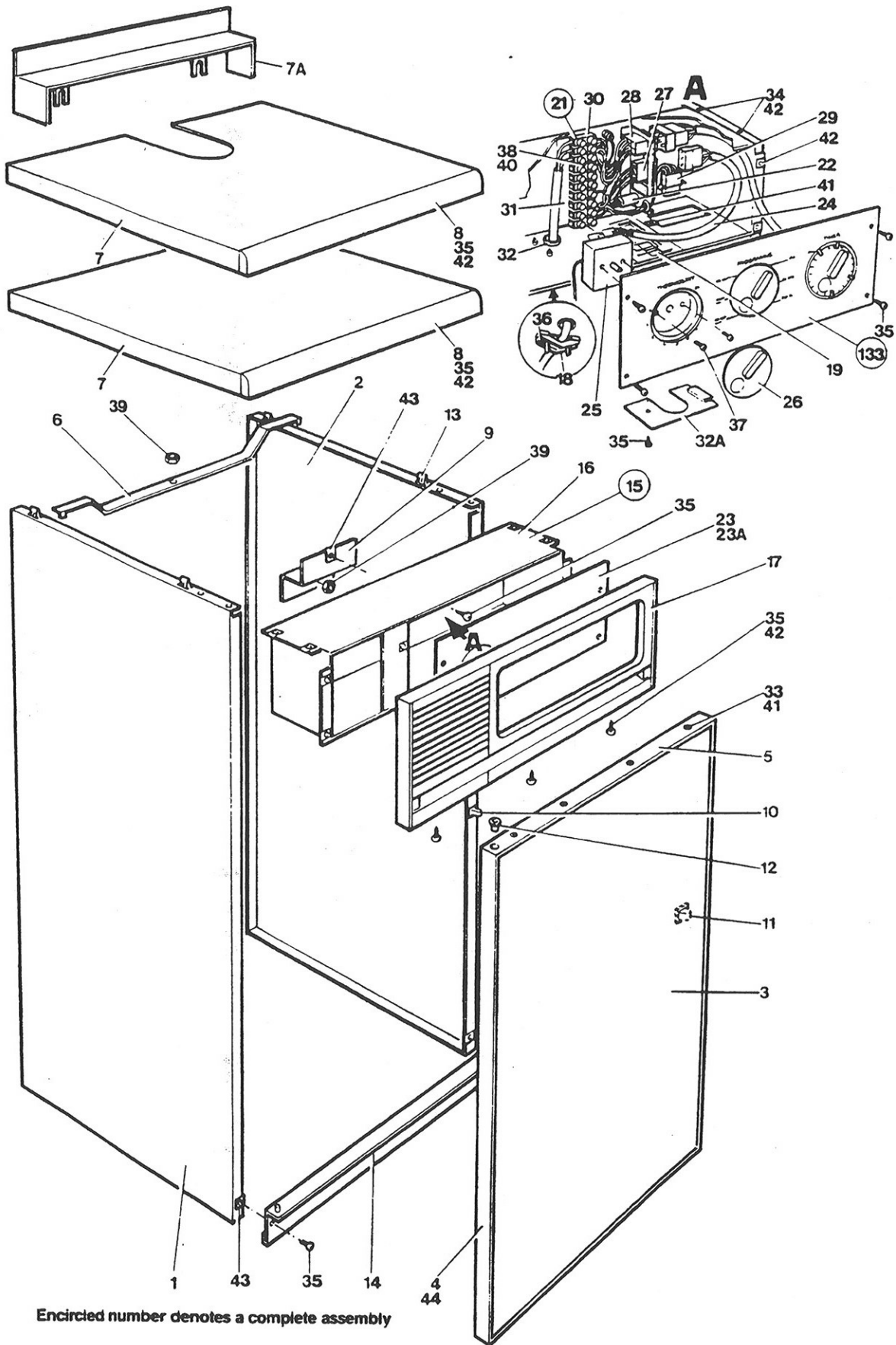
MARATHON 60C, 70C, 80C, 100C—BOILER EXPLODED VIEW



Key Nos. 116 to 124 inclusive for 80 and 100 only.

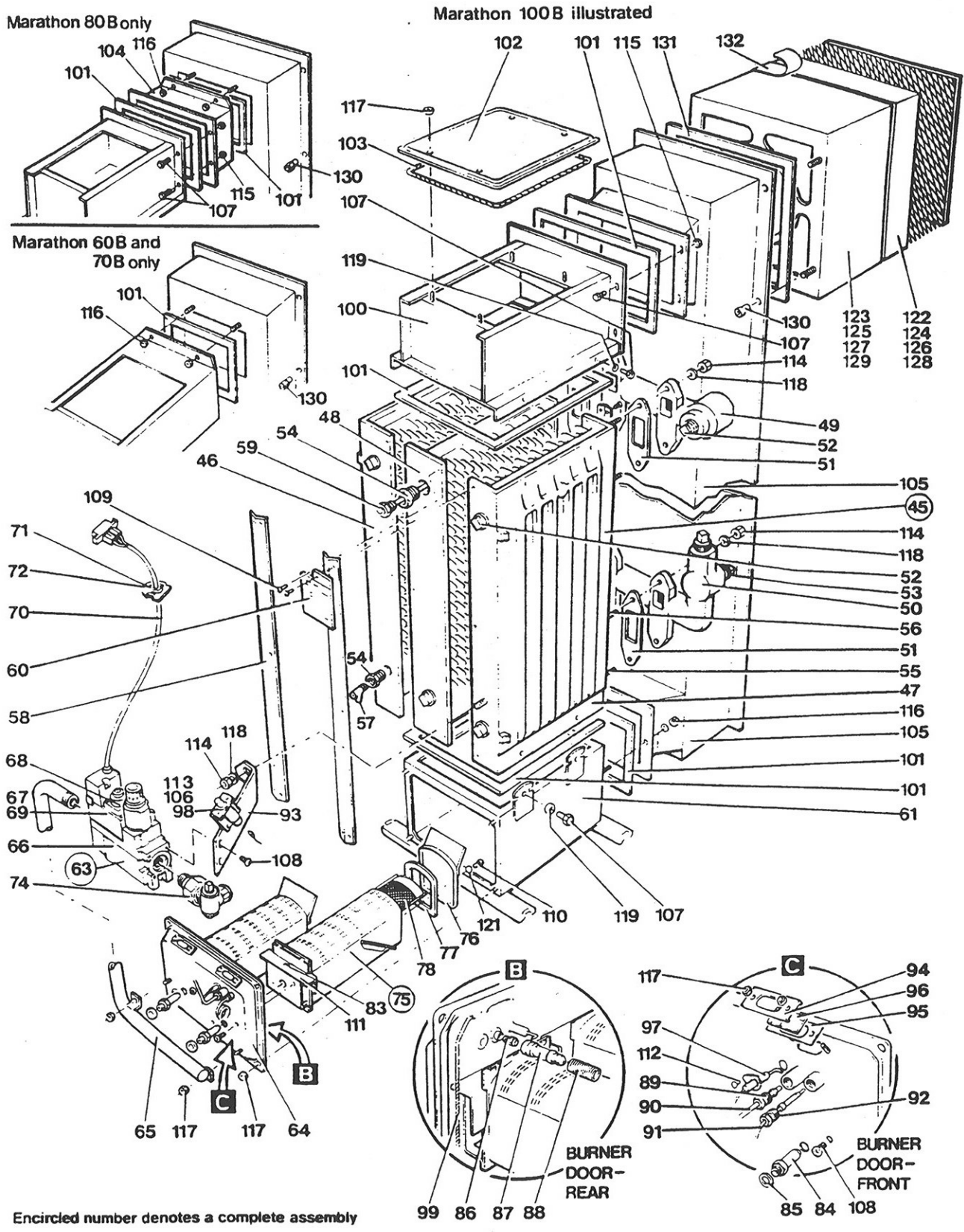


MARATHON 60, 70, 80, 100—CASE EXPLODED VIEW



Encircled number denotes a complete assembly

MARATHON 60B, 70B, 80B, 100B—BOILER EXPLODED VIEW



Encircled number denotes a complete assembly

SHORT LIST SPARE PARTS

Key No.	GC No.	Description	Qty.	Part No.
1	332 597	Case side panel assembly. LH	1	305A1077
2	332 598	Case side panel assembly. RH	1	305A1076
3	332 599	Door and trim assembly	1	305A1081
7	332 602	Case top and trim assembly (balanced flue)	1	305A1093
7		Case top and trim assembly (open flue)	1	305A1094
10	323 117	Door catch strike	1	576-0001-5-00
11	323 118	Door catch	1	576-0004-9-32
14	332 605	Plinth	1	305A1079
15	332 606	Control box assembly	1	305A1073
17	332 608	Control panel	1	305A1085
25		Thermostat	1	CL6P0143
26	332 616	Thermostat knob with clip	1	305A1088
66	393 180	Gas valve	1	V4600C1029
75	399083	Burner—Bray (60 and 70)	2	305S237
75	399082	Burner—Bray (80 and 100)	2	305S238
77	393 369	End plate gasket. Bray	2	305S432
78	393 370	Lint filter. Bray	2	305S434
79	384 737	Burner—Furigas (60 and 70)	2	305S773
79	384 711	Burner—Furigas (80 and 100)	2	305S774
81	384 713	End plate gasket. Furigas	4	305S778
82	384 714	Lint filter. Furigas	2	305S776
84	398 398	Burner injector (60)	2	208S079
84	398 396	Burner injector (70)	2	305S246
84	398 198	Burner injector (80)	2	305S1164
84	398 392	Burner injector (100)	2	305S528
85	323 322	Burner injector washer	2	301C247
86	398 624	Pilot injector	1	305S242
87	393 371	Pilot head	1	305S241
88	393 372	Pilot spring	1	305S243
91	391 578	Thermocouple	1	305S435
96	322 934	Window glass (All except 60C and 70C)	2	305C282
97	393 581	Spark electrode (All except 60C and 70C)	1	305S283
98	393 563	Piezo unit (All except 60C and 70C)	1	305S284

**POTTERTON MYSON**
PART OF BLUE CIRCLE

Registered Office:
Myson House, Railway Terrace
Rugby, Warwickshire CV21 3JH
Registered No. 412935

This leaflet is accurate at the date of printing but will be superseded and should be disregarded if specifications and/or appearances are changed in the interests of continued improvement.

All goods sold are subject to our Official Conditions of Sale, copy of which may be obtained on application.