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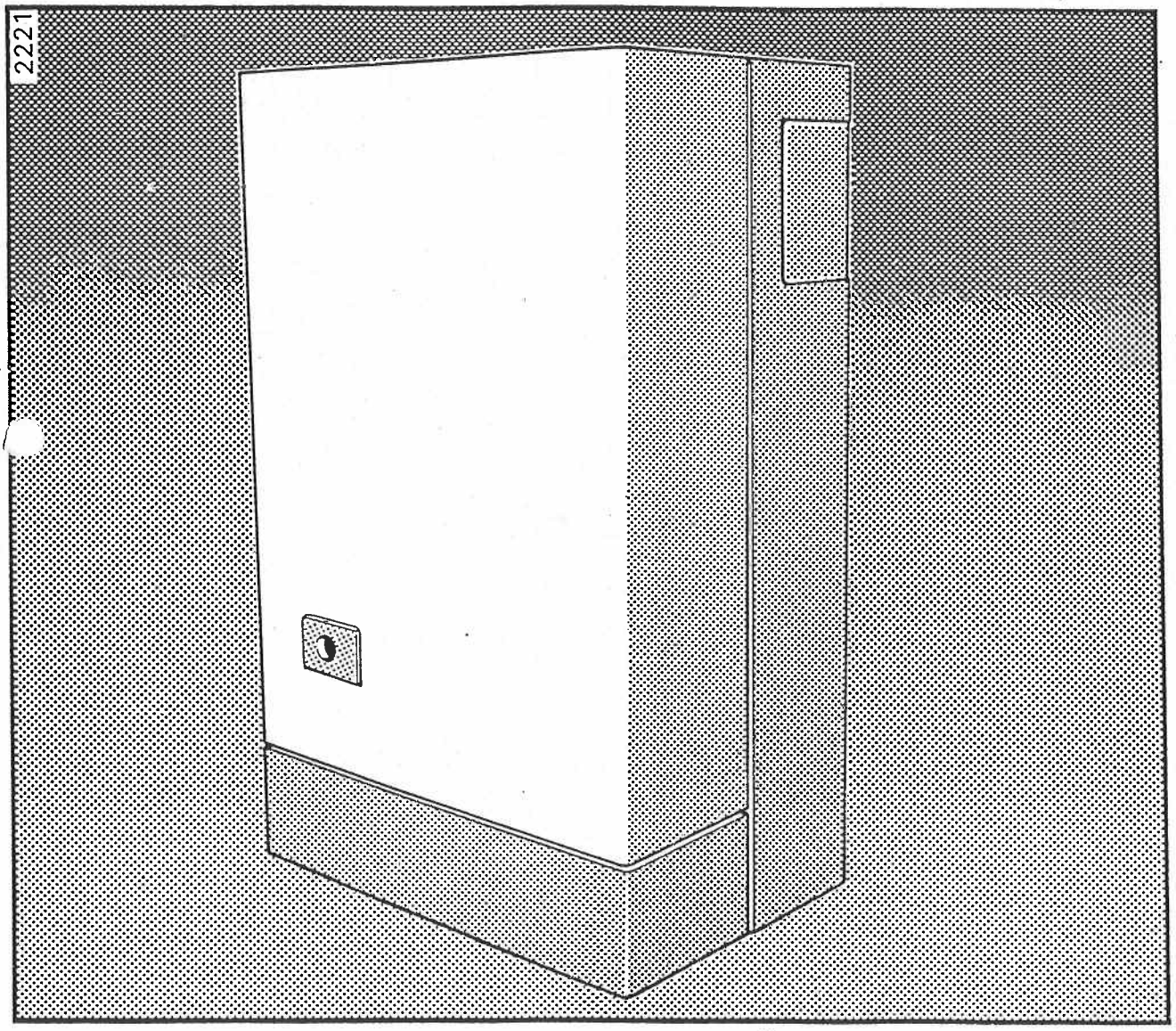
Glow-worm

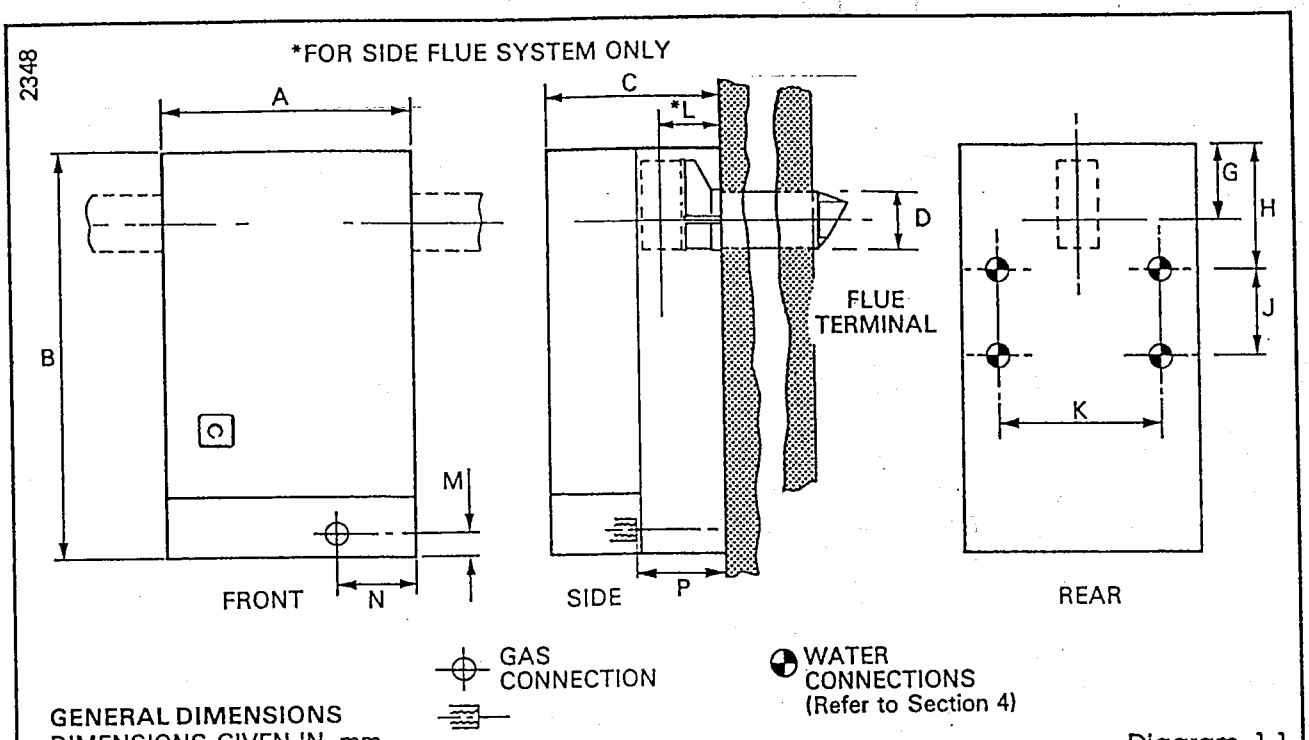
Installation and Servicing Instructions

To be left with the user

SPACE SAVER 20-30 RF	G.C. No. 41 313 86
SPACE SAVER 30-40 RF	G.C. No. 41 313 87
SPACE SAVER 40-50 RF	G.C. No. 41 313 88
SPACE SAVER 50-60 RF	G.C. No. 41 313 89

Fanned Flue Boilers
Open Vented Water Systems Only





GENERAL DIMENSIONS
DIMENSIONS GIVEN IN mm

Diagram 1.1

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P
SS20-30RF	480	788	343	101	-	-	110	244	168	265	119	36	248	184
SS30-40RF														
SS40-50RF										328			217	
SS50-60RF														

It is essential that the boiler is installed strictly in accordance with the instructions in this booklet.

IMPORTANT NOTICE

The boiler is for use on natural gas only and cannot be used on any other gas.

SHEET METAL PARTS

When installing or servicing the boiler care should be taken when handling sheetmetal parts, to avoid any possibility of personal injury.

1.1 STATUTORY REQUIREMENTS

THE INSTALLATION OF THE BOILER MUST BE CARRIED OUT BY A COMPETENT PERSON IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS OF THE CURRENT ISSUE OF; THE GAS SAFETY (Installation and Use) REGULATIONS, THE BUILDING REGULATIONS,I.E.E. WIRING REGULATIONS, LOCAL WATER UNDERTAKING BYLAWS, THE BUILDING STANDARDS (Scotland) REGULATIONS (applicable in Scotland).

Detailed recommendations are contained in the current issue of the following British Standard codes of practice:

BS6798,BS5400 Parts 1 and 2, BS5546 Part 1, BS5449 Part 1, BS6891.

1.2 DATA

MODEL	SS20-30RF SS30-40RF	SS40-50RF SS50-60RF
WEIGHT	56.3 kg (124 lb)	67.2 kg (148 lb)
WATER CONTENT	5.6 litres (1.2 gal)	6.4 litres (1.4 gal)
GAS CONNECTION	Rc 1/2 in. (1/2 in. BSPT)	
WATER CONNECTION	4 x Rc1, (1 in. BSPT)	
ELECTRICITY SUPPLY	240~, 50 Hz, fused 3A max.	
POWER RATING	55W	
DATA BADGE	On top of the electrical drawer cover at the lower left of the boiler	

1.3 RANGE RATING

The boiler is range rated and is factory preset to maximum, but may be adjusted to suit the individual system requirements. Table 1 gives the rating and settings.

1.4 B.S.I. CERTIFICATION

The boiler is certificated to British Standard 6332 Part 1, 1983, invoking BS5258 Part 1, 1986 for performance and safety. It is, therefore, important that no alteration is made to the boiler without permission, in writing, from Glow-worm Ltd.

Any alteration that is not approved by Glow-worm Ltd., could invalidate the B.S.I. Certification of the boiler, the boiler warranty and could also infringe the current issue of the Statutory Requirements, Section 1.1.

1.5 GAS SUPPLY

The gas installation shall be in accordance with the current issue of BS6891.

On completion, test the gas installation for soundness and purge, in accordance with the above code of practice.

1.6 ELECTRICAL SUPPLY

WARNING: This boiler must be earthed.

All system components shall be of an approved type and shall be connected in accordance with the current issue of the I.E.E. Wiring Regulations and any applicable local regulations.

Connection of the boiler and system controls to the mains supply must be through a common isolator and must be fused at 3A, maximum. The method of connection should be, preferably, an unswitched shuttered socket and 3 pin (BS1363) plug.

Alternatively, a double pole isolating switch may be used, provided it has a minimum contact separation of 3mm in both poles. The isolator should be clearly marked, showing its purpose, preferably positioned close to the boiler, see also Section 1.11.

Wiring to the boiler must be to BS6500 Table 9 not less than 0.75mm²(24/0.20mm).

TABLE(S) 1

SPACE SAVER 20-30RF RANGE RATING				
RANGE RATING		Min.	Med.	Max.
NOMINAL HEAT INPUT	kW	8.26	10.08	11.90
	Btu/h	28200	34400	40600
NOMINAL HEAT OUTPUT	kW	5.86	7.33	8.79
	Btu/h	20000	25000	30000
BURNER SETTING PRESSURE	m bar	3.4	5.6	8.3
	in. w.g.	1.4	2.2	3.3
APPROX. GAS RATE	m^3/h	0.8	1.0	1.2
	ft^3/h	29	35	41
INJECTOR MARKING		BURNER:- FF2029 PILOT:- 4212		

SPACE SAVER 40-50RF RANGE RATING				
RANGE RATING		Min.	Med.	Max.
NOMINAL HEAT INPUT	kW	16.30	18.05	19.82
	Btu/h	55600	61600	67600
NOMINAL HEAT OUTPUT	kW	11.72	13.19	14.65
	Btu/h	40000	45000	50000
BURNER SETTING PRESSURE	m bar	8.9	11.3	13.5
	in. w.g.	3.6	4.5	5.4
APPROX. GAS RATE	m^3/h	1.6	1.75	1.9
	ft^3/h	56	62	68
INJECTOR MARKING		BURNER:- 203051 PILOT:- 4212		

SPACE SAVER 30-40RF RANGE RATING				
RANGE RATING		Min.	Med.	Max.
NOMINAL HEAT INPUT	kW	11.9	13.34	15.32
	Btu/h	40600	45500	52300
NOMINAL HEAT OUTPUT	kW	8.79	10.26	11.72
	Btu/h	30000	35000	40000
BURNER SETTING PRESSURE	m bar	8.3	10.4	13.7
	in. w.g.	3.3	4.2	5.5
APPROX. GAS RATE	m^3/h	1.2	1.3	1.5
	ft^3/h	41	46	53
INJECTOR MARKING		BURNER:- FF2029 PILOT:- 4212		

SPACE SAVER 50-60RF RANGE RATING				
RANGE RATING		Min.	Med.	Max.
NOMINAL HEAT INPUT	kW	19.82	21.48	23.15
	Btu/h	67600	73300	79000
NOMINAL HEAT OUTPUT	kW	14.65	16.12	17.59
	Btu/h	50000	55000	60000
BURNER SETTING PRESSURE	m bar	9.9	11.6	13.5
	in. w.g.	4.0	4.7	5.4
APPROX. GAS RATE	m^3/h	1.9	2.05	2.2
	ft^3/h	68	73.5	79
INJECTOR MARKING		BURNER:- 203051 PILOT:- 4212		

1.7 CONTENTS OF PACKAGING

The boiler is delivered in one pack which contains:

Boiler with outer case and wall frame

Burner.

Combustion chamber shield,

Side panels,

Wall Sleeve,

Air Duct Assembly,

Flue Duct

Wall templates,

Flue Fitting,

Instructions for use,

Loose items pack - with check list.

1.8 WATER SYSTEM

The boiler shall only be used on an unrestricted open vented system with the water supply taken from a feed and expansion tank, having a head between 1m (3ft3in) minimum and 27m(90ft)maximum.

1.9 DRAINING TAPS

A draining tap must be provided at the lowest point of the system which will allow the entire system, the boiler and hot water cylinder to be drained.

Draining taps shall be to BS2879 type 1.

1.10 SAFETY VALVE

Where a safety valve is fitted it must be on the flow pipe, as near to the boiler as possible, there must not be any intervening valve or cock.

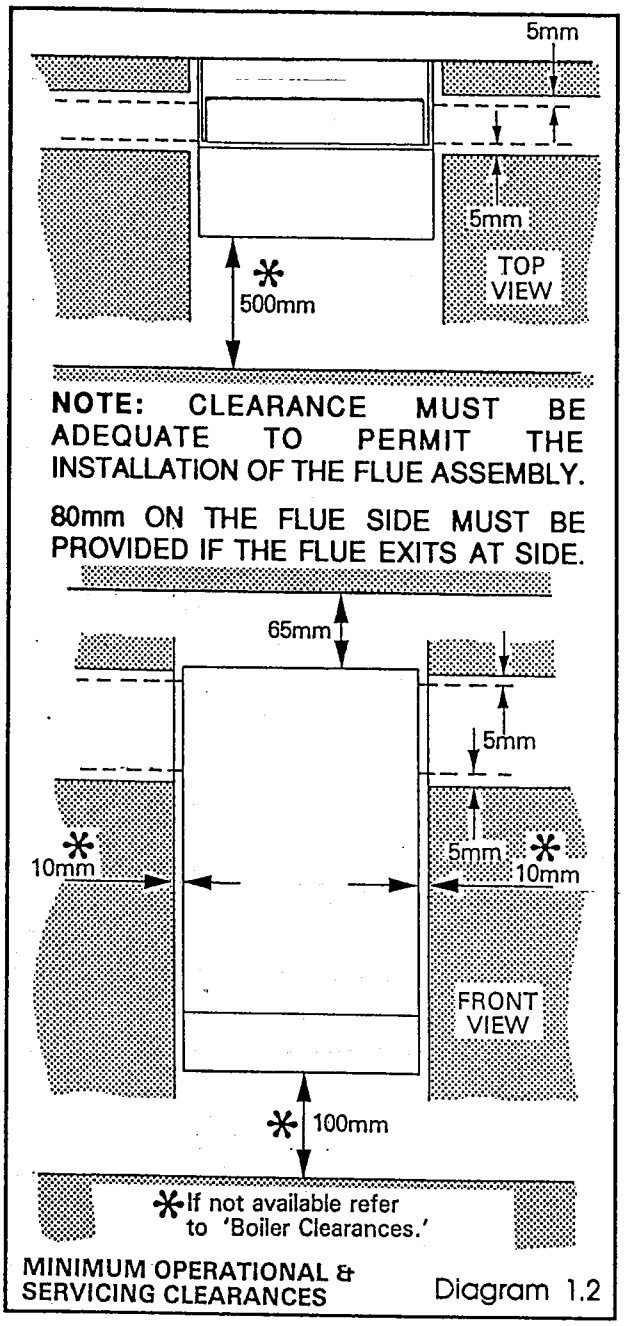
Safety valves shall be to BS6759 Part 1.

1.11 LOCATION

The boiler is not suitable for outdoor installation.

The boiler may be installed in any room, although particular attention is drawn to the requirements of the current issue of the I.E.E. Wiring Regulations with respect to the installation of a boiler in a room containing a bath or shower. Any electrical switch or boiler control utilizing mains electricity should be so situated that it cannot be touched by a person using the bath or shower. The electrical provisions of the Building Standards (Scotland) are applicable to such installations in Scotland.

The boiler must be mounted on a flat wall which is sufficiently robust to take its weight.



MINIMUM OPERATIONAL & SERVICING CLEARANCES — Diagram 1.2

1.12 BOILER CLEARANCES

The boiler must be positioned so that at least the minimum operational and servicing clearances are provided.

Additional clearances may be required for installation.

80mm on the flue side must be provided if the flue exits at the side.

If fixtures are positioned next to the boiler they should be made removable for access to pipework.

Sufficient clearance must be left in front of the boiler for servicing.

At least 100mm clearance is required beneath the boiler to make the gas connection. Connection can however be made with less clearance, 15mm to 100mm ($^5/_8$inch to 4inches), by using the gas supply kit, available to special order from Glow-Worm Ltd., Kit Part No. 419027.

2.1 FLUE

The flue must be installed in accordance with the current issue of BS5440 Part 1.

2.2 FLUE POSITION AND LENGTH

The air and flue ducting connect at the side or rear of the boiler using the flue fitting (transition piece) provided.

The standard flue supplied with the boiler is able to provide the duct length range shown in diagram 2.2 for the rear flue and diagram 2.3 for side flue.

If a longer flue duct is required DO NOT extend the ducting, A special long flue system and terminal must be used, Glow-worm Part No: 419909.

This provides flue lengths as diagram 2.4.

2.3 TERMINAL POSITION

The minimum acceptable spacings from the terminal to obstructions and ventilation openings are shown in diagram 2.1.

Where the terminal is fitted within 600mm (24in) below plastic guttering an aluminium shield 1500mm (5ft) long should be fitted to the underside and immediately beneath the guttering or eaves.

Where the terminal is fitted within 450mm (18in) below painted eaves or painted guttering an aluminium shield 750mm (2ft 6in) long should be fitted to the underside and immediately beneath the guttering/eaves.

2.4 TERMINAL PROTECTION

A terminal guard is required if persons could come into contact with the terminal or the terminal could be subject to damage.

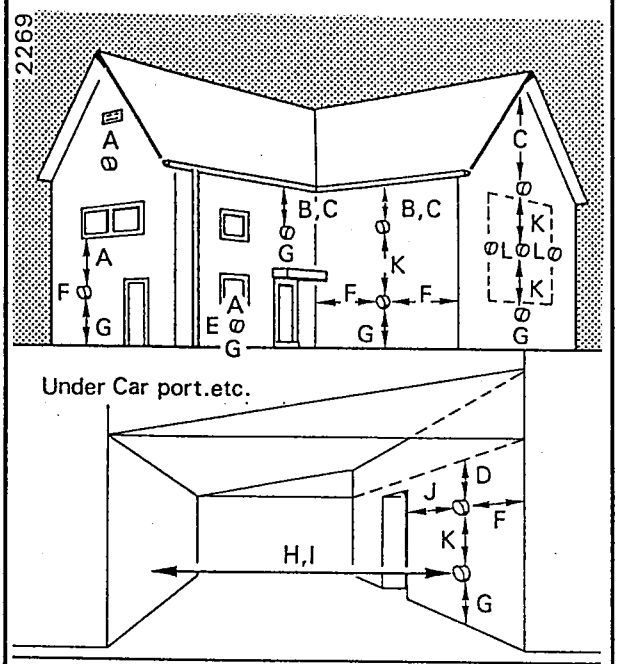
If a terminal guard is required, it must be positioned to provide a minimum of 50mm clearance from any part of the terminal and be central over the terminal.

A suitable terminal guard can be obtained from Tower Flue Components Ltd., Morley Road, Tonbridge, Kent, TN9 1RA (0732) 351555, their reference K3.

2.5 WALL THICKNESS

Refer to diagrams 2.2 to 2.4.

If the wall thickness is less than 360mm then, by using the wall sleeve provided, the boiler can be fully installed from inside. For wall thickness of over 360mm, the cut hole will need to be made good from outside, although the wall sleeve can still be used at the inside wall face.



MINIMUM SITING DIMENSIONS FOR FANNED FLUE TERMINALS POSITION		MINIMUM SPACING
		mm
A	DIRECTLY BELOW AN OPENABLE WINDOW, AIR VENT, OR ANY OTHER VENTILATION OPENING	300
B	BELOW GUTTER, DRAIN/SOIL PIPE	75
C	BELOW EAVES	200
D	BELOW A BALCONY OR CAR PORT	200
E	FROM VERTICAL DRAIN PIPES AND SOIL PIPES	75
F	FROM INTERNAL OR EXTERNAL CORNERS	300
G	ABOVE ADJACENT GROUND OR BALCONY LEVEL	300
H	FROM A SURFACE FACING THE TERMINAL	600
I	FACING TERMINALS	1200
J	FROM OPENING (DOOR/WINDOW) IN CAR PORT INTO DWELLING	1200
K	VERTICAL FROM A TERMINAL	1500
L	HORIZONTALLY FROM A TERMINAL	300

Diagram 2.1

2.6 CUPBOARD/COMPARTMENT VENTILATION

Where the boiler is fitted in a cupboard or compartment, permanent high and low level ventilation must be provided. The ventilation areas required are given in Table 2.

Where the installation of the boiler will be in an unusual location, special procedures are necessary. Refer to the current issue of BS6798 for guidance.

A compartment used to enclose the boiler must be designed and constructed specifically for this purpose. An existing cupboard or compartment modified for the purpose may be used. Refer to the current issue of BS6798 for guidance.

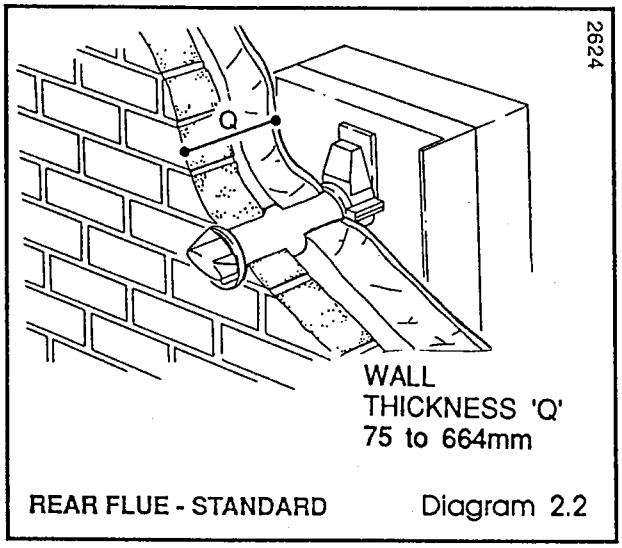
The doorway opening should be of sufficient size to allow for easy removal of the boiler.

SPACE SAVER RF TABLE 2
COMPARTMENT AIR VENTS

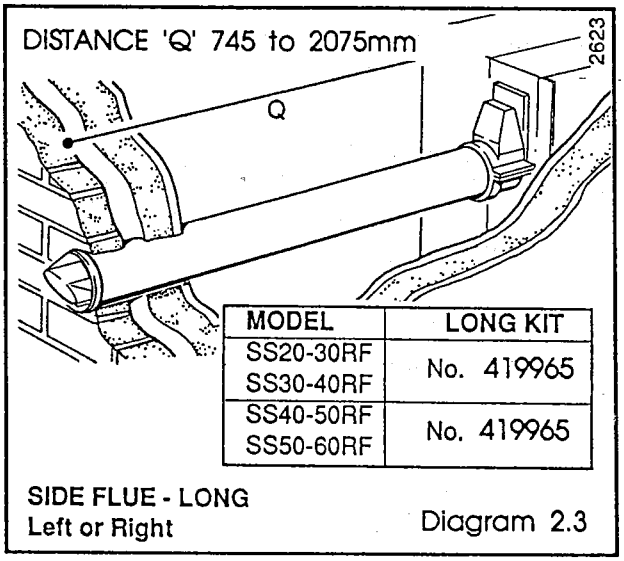
VENTILATION REQUIREMENTS	HIGH LEVEL VENT AREA		LOW LEVEL VENT AREA	
SPACE SAVER 20-30RF				
FROM ROOM OR SPACE	107 cm^2	(16.5 in^2)	107 cm^2	(16.5 in^2)
FROM OUTSIDE	54 cm^2	(8.25 in^2)	54 cm^2	(8.25 in^2)
SPACE SAVER 30-40RF				
VENTILATION REQUIREMENTS	HIGH LEVEL VENT AREA		LOW LEVEL VENT AREA	
FROM ROOM OR SPACE	138 cm^2	(22in^2)	138 cm^2	(22in^2)
FROM OUTSIDE	69cm^2	(11in^2)	69cm^2	(11in^2)
SPACE SAVER 40-50RF				
VENTILATION REQUIREMENTS	HIGH LEVEL VENT AREA		LOW LEVEL VENT AREA	
FROM ROOM OR SPACE	180 cm^2	(28in^2)	180 cm^2	(28in^2)
FROM OUTSIDE	90cm^2	(14in^2)	90cm^2	(14in^2)
SPACE SAVER 50-60RF				
VENTILATION REQUIREMENTS	HIGH LEVEL VENT AREA		LOW LEVEL VENT AREA	
FROM ROOM OR SPACE	210 cm^2	(32in^2)	210 cm^2	(32in^2)
FROM OUTSIDE	105 cm^2	(16in^2)	105 cm^2	(16in^2)

2.7 TIMBER FRAME BUILDINGS

If the boiler is to be installed in a timber frame building, it should be fitted in accordance with the British Gas publication "Guide for Gas Installation in Timber Framed Housing" reference DM2. If in doubt, seek advice from the local gas region or Glow-worm Ltd.

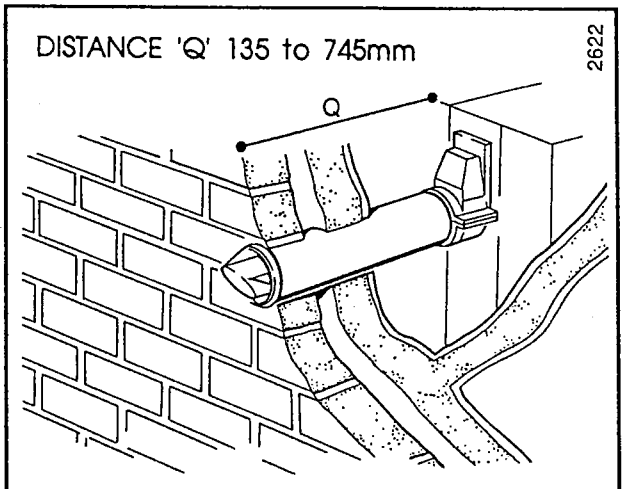


REAR FLUE - STANDARD Diagram 2.2



MODEL	LONG KIT
SS20-30RF SS30-40RF	No. 419965
SS40-50RF SS50-60RF	No. 419965

SIDE FLUE - LONG
Left or Right Diagram 2.3



SIDE FLUE - STANDARD
Left or Right Diagram 2.4

3.1 CYLINDERS

For all systems supplying domestic hot water the cylinder must be indirect. It is recommended that the cylinder be fitted with some form of temperature control.

3.2 GRAVITY DOMESTIC HOT WATER WITH PUMPED HEATING

It is important that the arrangements shown in diagram 3.1 are adopted when gravity domestic hot water connections are being prepared. The domestic flow and return must both be on the same side. The heating flow and return are taken from the other side.

3.3 PUMPED HEATING AND HOT WATER

It is important that all connections are made as shown in diagram 3.2. The connections may be fitted on the opposite side to that shown, but always in the same relative positions.

3.4 PUMP

This should be fitted on the flow pipe and have isolating valves fitted each side, integral if possible.

The pump should be set to give a temperature difference of 11°C (20°F) between flow and return, with the boiler thermostat set at "MAX" which is about 82°C (180°F). The resistance through the boiler can be found from Table 3.

3.5 CORROSION INHIBITOR

When an inhibitor is to be used in the system, contact the inhibitor manufacturer so that they can recommend their most suitable product.

When installing the boiler into an existing system, special care should be taken to drain the entire system, including the radiators, then thoroughly flushing before installing the boiler and adding the inhibitor.

3.6 FROST PROTECTION

If the position of the boiler is such that it may be vulnerable to freezing, it should be protected as specified in BS5422. It is recommended that a frost protection thermostat be installed.

SPACE SAVER RF TABLE 3
WATER FLOW RATE
At 11°C, (20°F), differential

SPACE SAVER 20-30RF

UNIT	HEAT SETTING		
	Min	Medium	Max.
litre/min.	7.6	9.5	11.4
gal./min.	1.7	2.1	2.5

SPACE SAVER 30-40RF

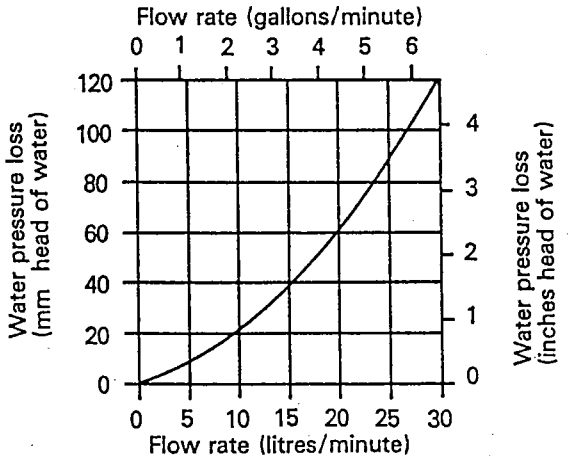
UNIT	HEAT SETTING		
	Min	Medium	Max.
litre/min.	11.4	13.3	15.2
gal./min.	2.5	2.9	3.3

SPACE SAVER 40-50RF

UNIT	HEAT SETTING		
	Min	Medium	Max.
litre/min.	15.2	17.1	18.9
gal./min.	3.3	3.8	4.2

SPACE SAVER 50-60RF

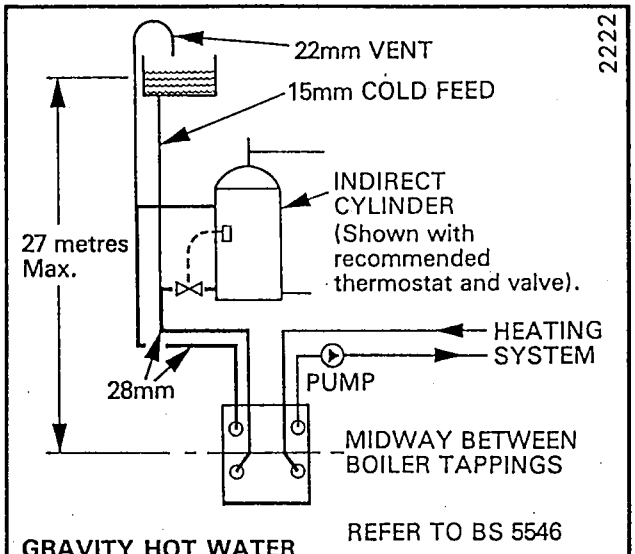
UNIT	HEAT SETTING		
	Min	Medium	Max.
litre/min.	18.9	20.8	22.7
gal./min.	4.2	4.6	5



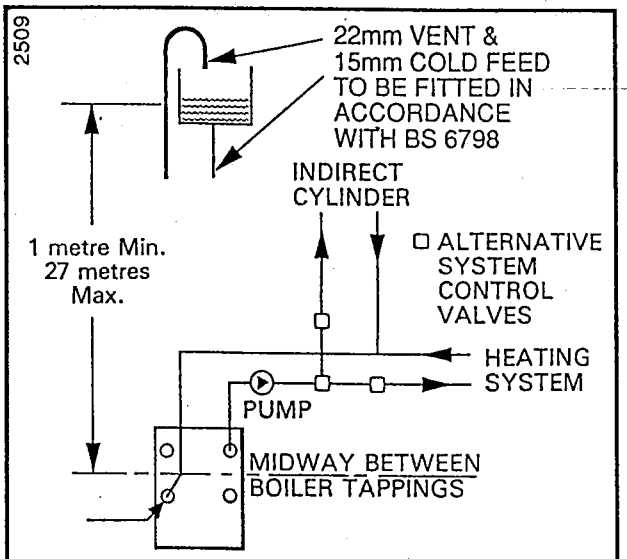
HEAT SETTING (kW) To give a water flow rate differential of 11°C (20°F)

PRESSURE LOSS OF BOILER

3 WATER SYSTEM



GRAVITY HOT WATER SYSTEM (DIAGRAMMATIC) REAR FLUE APPLICATION SHOWN Diagram 3.1



FULLY PUMPED CIRCULATION SYSTEM (DIAGRAMMATIC). Diagram 3.2

4 UNPACKING, PREPARATION & FLUE FIXING

4.1 UNPACKING

Remove the carton wrap, foam protection sheet and end cardboard pad. Leave the polystyrene packaging in position, see diagram 4.1.

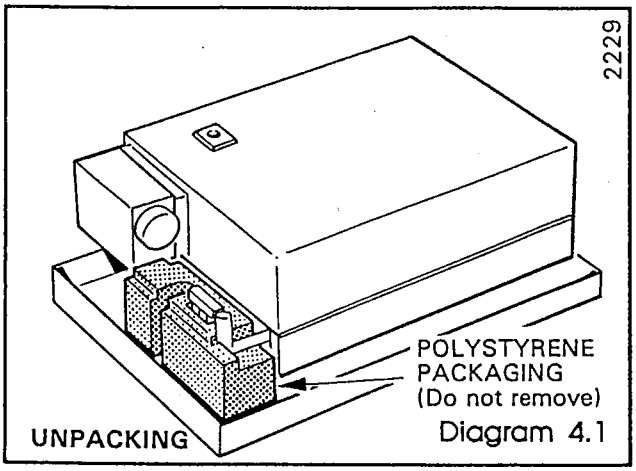
Packed separately in the base of the carton are the combustion chamber shield, side panels, wall sleeve, air duct assembly, flue duct flue fitting and bag of loose items.

4.2 BOILER PREPARATION

Slide the controls cover forward from the runners on the case, see diagram 4.2. Put the cover in a safe place.

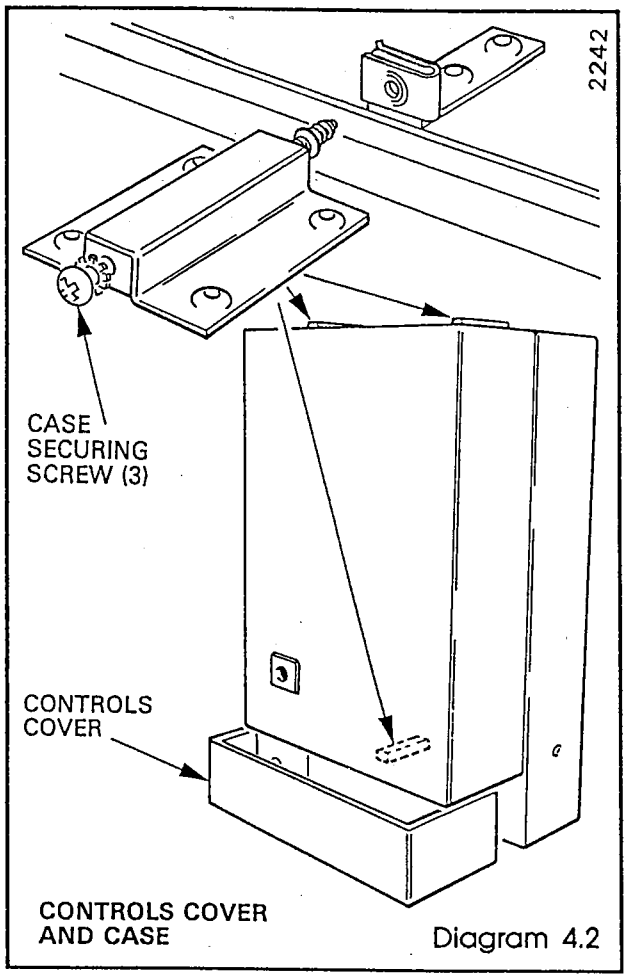
Remove the case, secured by one lower and two upper screws. Put the case in a safe place.

Disconnect the electrical connectors at the fan, see diagram 4.3, and remove the flue and fan assembly, secured by a screw and washer at each side. Take care not to damage the seal between the fan and the flue cover plate. Remove the flue cover plate, taking care not to damage the seal, do not discard the screws.



UNPACKING Diagram 4.1

Remove the main burner by loosening the locking screw at the left-hand side. Lift the left hand end of the burner to disengage the locating pin. Slide the burner off the injector by moving it to the left, taking care not to damage the pilot burner and electrode assembly. Bring the right-hand end of the burner through the opening first, see diagram 10.2.



CONTROLS COVER AND CASE Diagram 4.2

Remove the two screws that secure the wall frame to the boiler, do not discard, see diagram 4.4.

Remove the boiler from the base carton, leaving the wall frame behind.

Turn the boiler onto its front, supporting at the casing and combustion chamber. This is necessary to prevent damage to the electrical drawer.

4.3 PIPEWORK PREPARATION

The flow and return pipework will need to be routed to suit the requirements of the particular installation.

Fit suitable fittings with Rc 1in BSPT threads into the appropriate boiler tappings, refer to Section 3 "Water Systems". Tighten to final position to suit the pipework route for the particular installation.

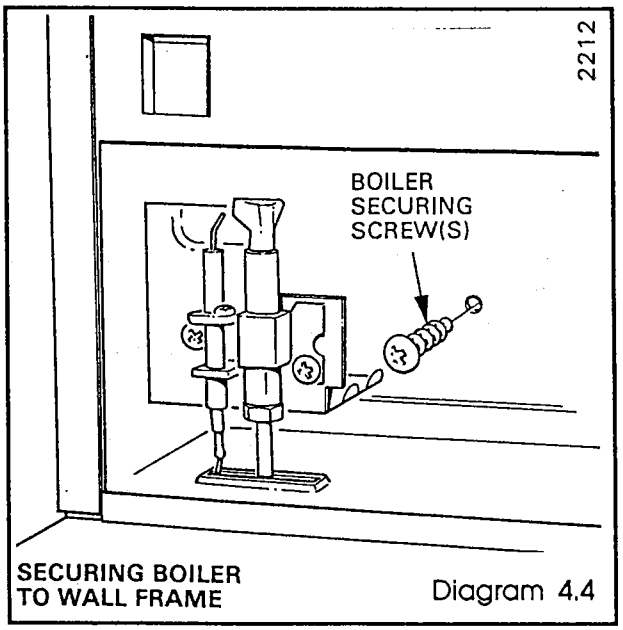
Fit suitable short lengths of tube into the fittings which will terminate in an accessible position when the boiler fixed.

Remove the wall frame from the carton and offer it up to the wall to ensure that the fittings and pipework will not foul the frame when boiler is wall mounted, see diagram 4.5

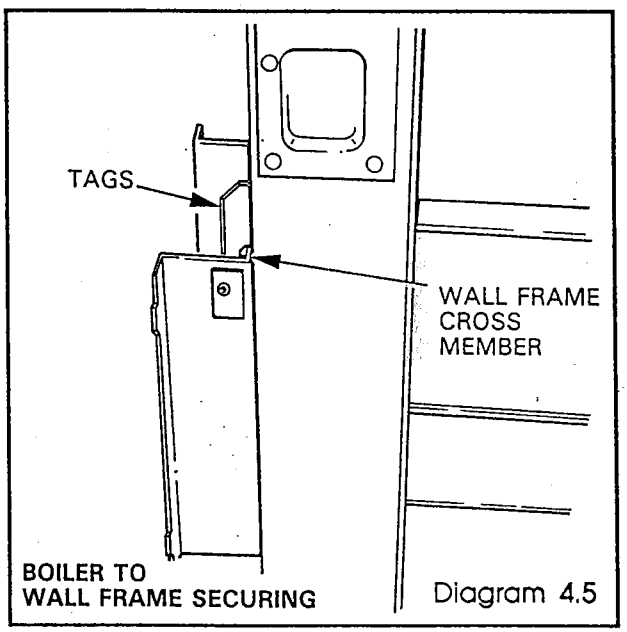
NOTE. It is important to ensure that all these joints are watertight at this stage as they will not be in an accessible position when the boiler is fixed.

If all the pipework runs are downwards, an air vent must be fitted to reduce the risk of airlocks when the boiler and system are filled. Ensure that the gas supply connection is not obstructed.

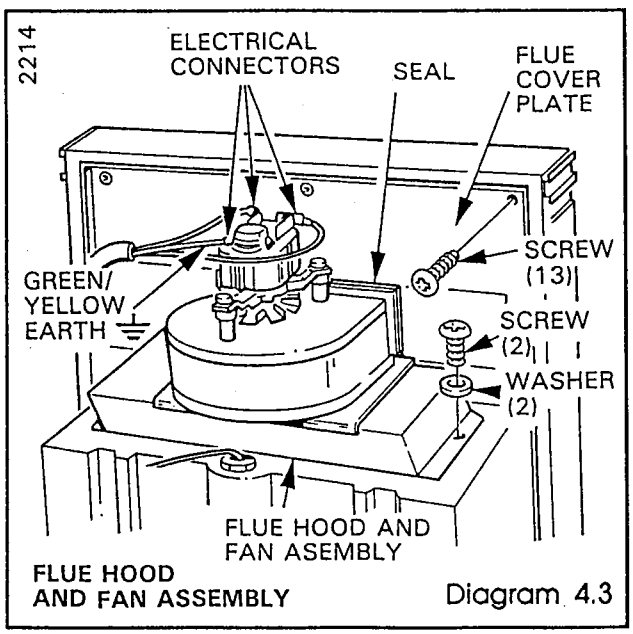
If all the pipework runs are upward, a draining tap must be fitted in an accessible position to enable the boiler to be drained.



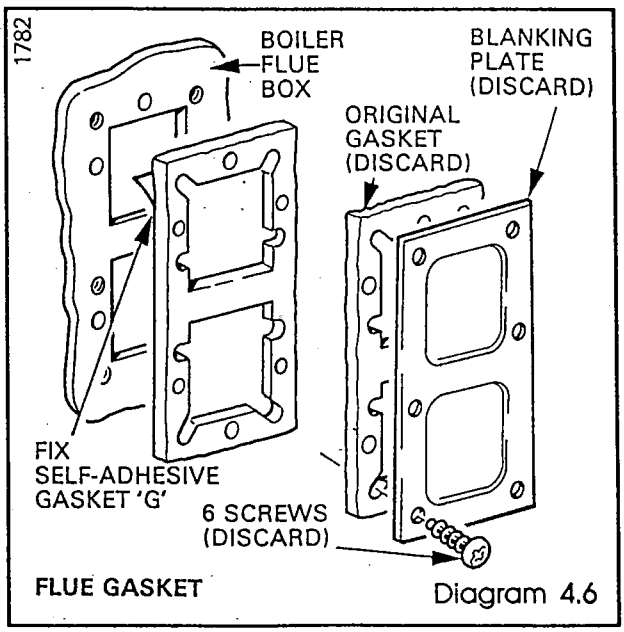
SECURING BOILER TO WALL FRAME Diagram 4.4



BOILER TO WALL FRAME SECURING Diagram 4.5



FLUE HOOD AND FAN ASSEMBLY Diagram 4.3



FLUE GASKET Diagram 4.6

4.4 FLUE PREPARATION

If a rear flue system is to be connected, remove and discard the rear flue blanking plate and gasket from the flue box, see diagram 4.6.

If a side flue system is to be connected, remove and discard the flue blanking plate and gasket from the appropriate side of the flue box.

Fit the self adhesive gasket "G" provided in the loose items pack, to the boiler where the flue blanking plate has been removed Remove the backing paper and fix, take care that the screw holes are in line.

4.5 REAR FLUE APPLICATION

Having selected the boiler location, with due regard to the terminal position, refer to Section 2 "Flue and Ventilation". Place template No.1 on the wall, ensure it is level, then mark the boiler fixing points "B" and the flue hole position. Dimensions are also given in diagram 4.7. The tabs on the side of the template, when against the wall or fixture, will give the minimum operational clearance. (Template No.2 can be discarded).

Cut the hole in the wall, preferably using a 115mm core drill, with sufficient clearance to accept the wall sleeve.

If the wall thickness is less than 360mm, use the wall sleeve cut to the wall thickness and install as shown in diagram 4.10. Make good around the wall sleeve at both inside and outside wall faces.

If the wall thickness is greater than 360mm, the wall sleeve must still be used, fitted such that it is flush with the INSIDE wall face. Do not cut the sleeve. Make good at the internal wall face, leave the external face until later.

Drill the four holes "B" to suit the No.12 wall plugs provided in the loose items pack and insert the plugs.

4.6 SIDE FLUE APPLICATION

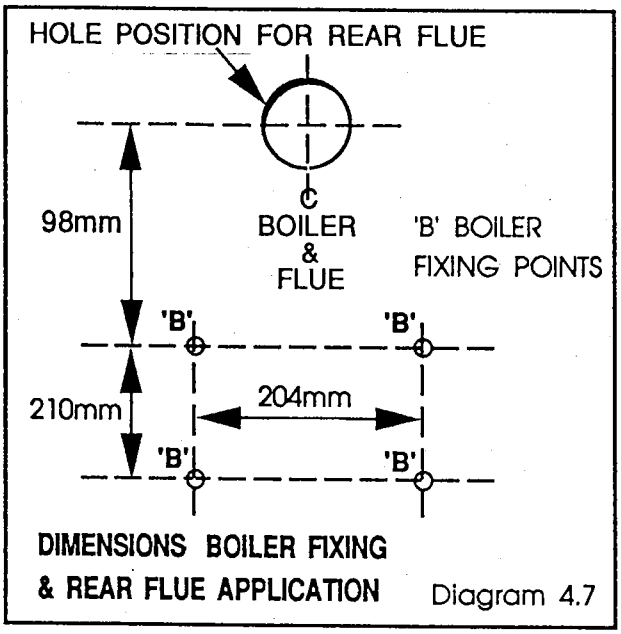
Having selected the boiler location, with due regard to the terminal position, refer to Section 2 "Flue and Ventilation". Place template No. 1 on the wall, ensure that it is level, then mark the boiler fixing points "B" and the flue horizontal centre line, see diagram 4.8. The tabs on the side of the template, when against the wall or fixture, will give the minimum installation clearance.

Extend the flue centre line horizontally left or right to the internal corner where the flue is required to exit to the outside.

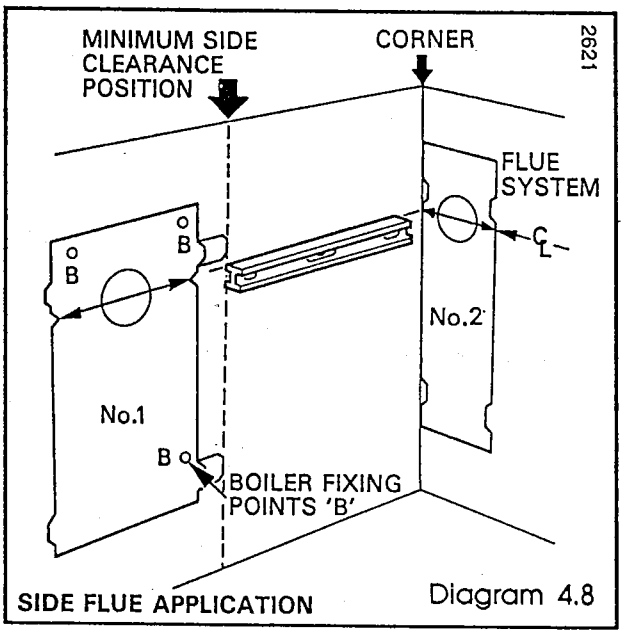
Using Template No.2, positioned in the corner on the flue exit wall, in line with the marked flue centre line, mark the position of the flue hole, see diagram 4.8.

Dimensions are also given in diagram 4.9.

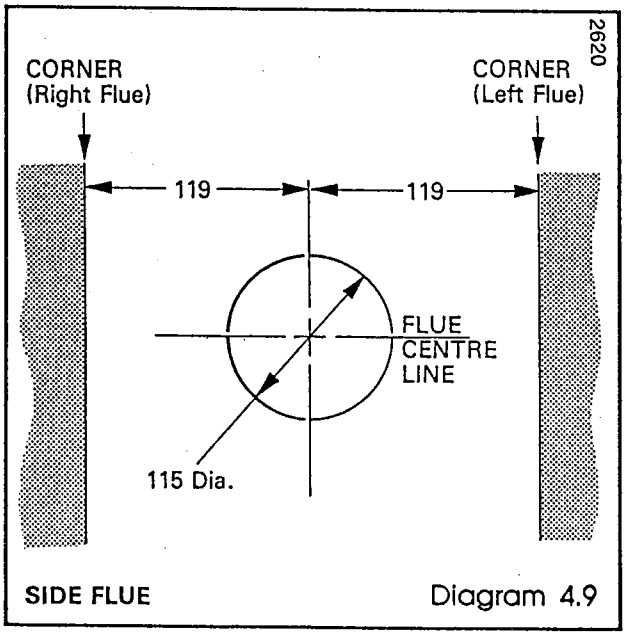
Cut the hole in the wall, preferably using a 115mm core



DIMENSIONS BOILER FIXING & REAR FLUE APPLICATION Diagram 4.7



SIDE FLUE APPLICATION Diagram 4.8



SIDE FLUE Diagram 4.9

drill, to accept the wall sleeve.

If the wall thickness is less than 360mm, use the wall sleeve cut to the wall thickness and install as shown in diagram 4.10. Make good around the wall sleeve at both inside and outside wall faces.

If the wall thickness is greater then 360mm, discard the wall sleeve, ensuring that the inner and outer wall faces are made good upon completion. Alternatively, use the wall sleeve and refer to Section 4.5.

Drill the four holes "B" in the wall to suit the No.12 wall plugs provided in the loose items pack and insert the plugs, see diagram 4.7.

4.7 FLUE LENGTH

For a rear flue, measure the distance from the outside face to the boiler mounting wall face. Check that the flue length will be suitable, see diagram 2.2. , for standard flue systems.

Fo side flue, measure the distance from the outside wall to the side of the boiler, as indicated by the template. Check that the flue length will be suitable, see diagram 2.3 for a standard flue system or diagram 2.4 for a long flue system.

All long flue systems are installed in a similar manner to the standard flue.

4.8 REAR FLUE - STANDARD

Mark the air duct assembly and the flue duct at the lengths shown in diagram 4.11 then cut to length, cutting square and removing any burrs.

4.9 SIDE FLUE - STANDARD OR LONG

Mark the air duct assembly and the flue duct at the lengths shown in diagram 4.12 then cut to length, cutting square and removing any burrs.

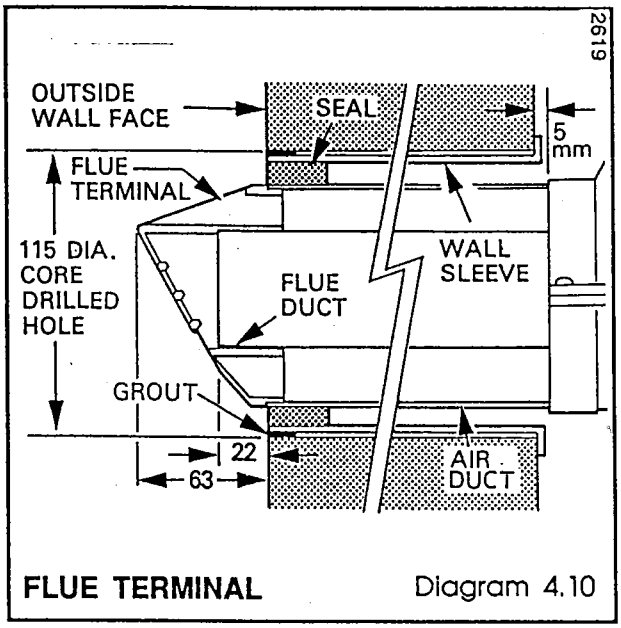
4.10 AIR DUCT

Locate the flue duct and air duct in the flue fitting making sure that the flue duct is located in the flue terminal and the flue fitting but it is free to move, to allow for expansion.

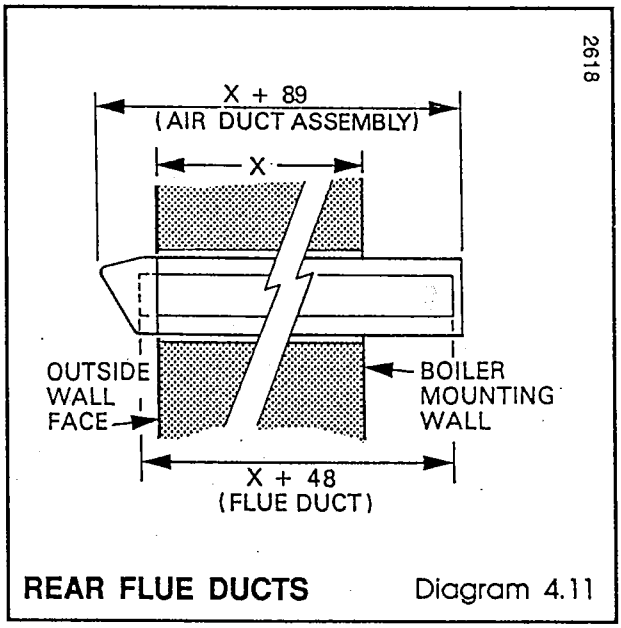
Check that the flue terminal will be in the correct position and protruding the correct distance from the outside wall face, see diagram 4.10.

Through the holes in the flue fitting mark the location of two fixing screw holes in the air duct. Separate the two ducts and drill two holes, diagram 4.13. Reassemble and secure the air duct to the flue fitting, two screws are supplied.

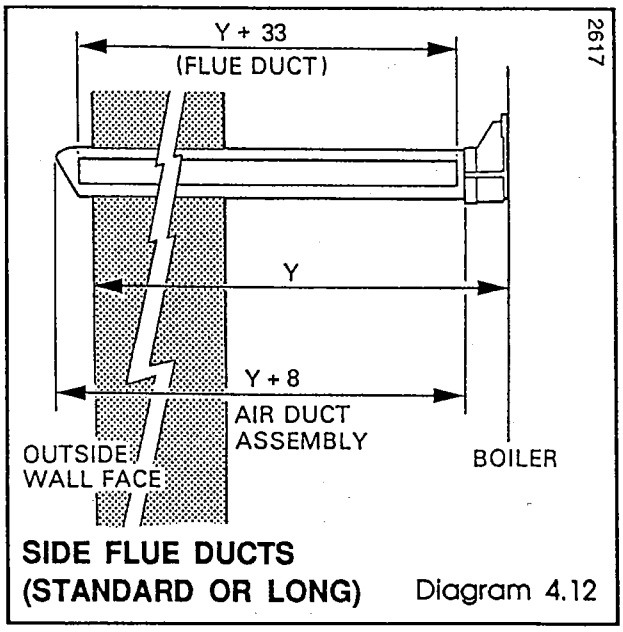
IMPORTANT. Before marking the holes positions, ensure that "TOP" on the flue fitting is in line with "TOP" on the terminal.



FLUE TERMINAL Diagram 4.10



REAR FLUE DUCTS Diagram 4.11



SIDE FLUE DUCTS (STANDARD OR LONG) Diagram 4.12

Note. If installing a side flue where there is insufficient clearance on the inside to insert the flue system, insert the two ducts from the outside prior to connecting the flue fitting.

Seal around the joint between the air duct and the flue fitting using the tape provided in the loose items pack. Seal in two sections.

The self adhesive foam seal MUST BE USED whenever the wall sleeve has been used.

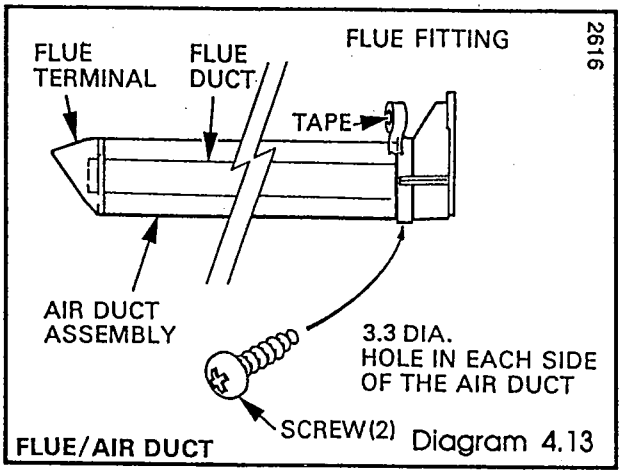
For wall thicknesses up to 360mm, fix the seal around the air duct in position shown in diagram 4.10

For wall thicknesses greater than 360mm, fix the seal around the air duct such that, when installed, the seal will be within the wall sleeve, see diagram 4.14.

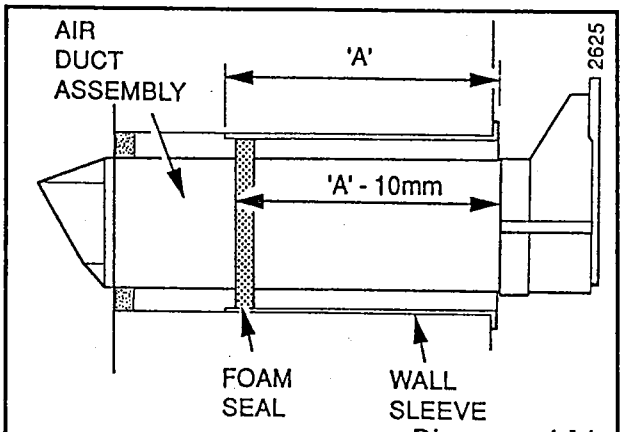
If, for a side exit flue, the wall sleeve has not been used, discard the foam seal.

Push the flue assembly through the wall sleeve, or hole. Note that the foam seal is a tight fit into the wall sleeve, so either the sleeve will need to be rigidly fixed in the wall, that is the cement has fully set, or it can be held from the other side whilst inserting the flue assembly.

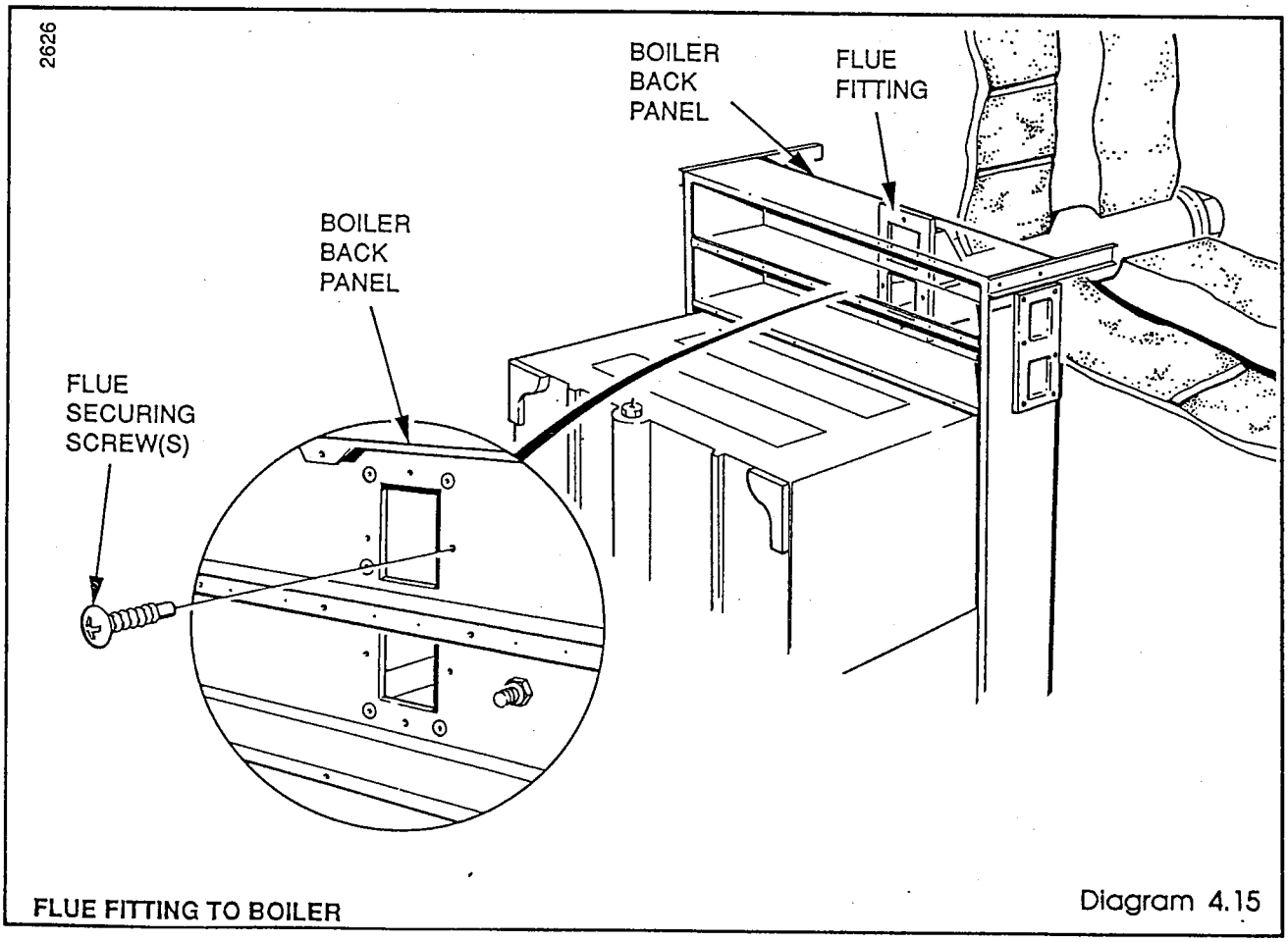
If the boiler is not to be fitted for sometime, cover the hole in the wall.



FLUE/AIR DUCT Diagram 4.13



FOAM SEAL FIXING Diagram 4.14



FLUE FITTING TO BOILER Diagram 4.15

Fit the wall frame to the wall with the No12 screws provided in the loose items pack.

Remove the boiler side panels from the base carton and fit if required, to each side of the boiler. Remove the flue panel from the appropriate side panel if necessary. Hook the top of the side panel over the upper bracket on the main panel and secure at the bottom with the No 6 screws provided in the loose items pack. NOTE. If side access is available, the side panel can be fitted after the boiler is mounted to the wall frame.

Raise the boiler into the vertical position, resting on the polystyrene packing piece to prevent damage to the boiler controls.

Lift the boiler and position onto the wall frame so that the tags on the boiler body locate on the cross member of the wall frame, see diagram 4.5.

Fasten the boiler to the wall frame, using the screws previously removed. Take care not to damage the pilot and electrode assembly.

Check that the water connections to the system are accessible, then remove the polystyrene packaging piece, by breaking up if necessary.

Attach the flue system to the boiler using the six M6 dogpoint screws provided in the loose items pack, see diagram 4.15.

Replace all items in reverse order to removal, refer to Section 4.2.

Make good around the air duct at either or both wall faces where the wall sleeve has not been used for greater wall thicknesses.

6.1 SYSTEM CONTROLS

The electrical installation must comply with the current issue of the I.E.E. Wiring Regulations and any local regulations which apply.

All controls and connections must be of the approved type.

6.2 CABLE CONNECTION

Release the electrical drawer by removing the two securing screws at the top and slide the drawer forward to the stops.

Slacken the cable clamp, pass the cable through the grommet and connect to the terminals as shown in diagram 6.1. Use heat resistant flexible cable with a rat as stated in Section 1.6 "Electrical Supply". Make the earth conductor longer so that it would be the last to be disconnected if the cable is strained.

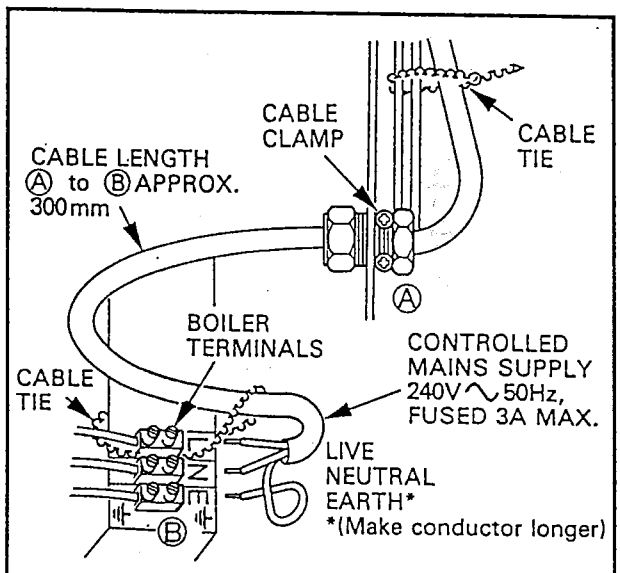
The boiler MUST BE EARTHED.

It is essential that the polarity is correct.

Secure the cable with the cable clamp, making sure that there is sufficient cable to allow the electrical drawer to slide forward to the stops and be released.

Secure the cable with the two cable ties, one fitted inside the electrical drawer and one fitted outside it, at the right.

Slide the electrical drawer back and secure with the screws previously removed.



ELECTRICAL CONNECTIONS Diagram 6.1

6.3 TESTING

Checks to ensure electrical safety should be carried out by a service engineer.

In the event of an electrical fault after the installation of the system preliminary electrical system checks,as contained in the British Gas Multimeter instruction book or equal publication are the first checks to be carried out.

7 COMPLETION AND COMMISSIONING

7.1 BOILER ASSEMBLY

Replace the main burner, making sure that the locating pin fits into the hole in the pilot bracket and the burner rests on the tabs, see diagram 10.2, secure the burner by re-tightening the locking screw.

Hook the combustion chamber shield which is supplied in the boiler carton, on to the front of the combustion chamber, making sure that it is flush with the combustion chamber front and horizontal, see diagram 7.1.

Fit the flue cover plate to the flue box of the boiler and secure with the thirteen screws previously removed, see diagram 4.3. Ensure that the screws pass through the gasket and that the gasket is not misplaced. Tighten evenly to make a good seal.

Fit the flue hood and fan assembly, making sure that the rear seal is fitted. Loosely fit the two screws and washers then push the assembly back as the screws are tightened to make a good seal at the rear. Do not trap the thermostat capillary.

Fit the electrical connectors to the fan, the green and yellow earth to the connector marked with the earth symbol. The polarity of the other connectors is not important.

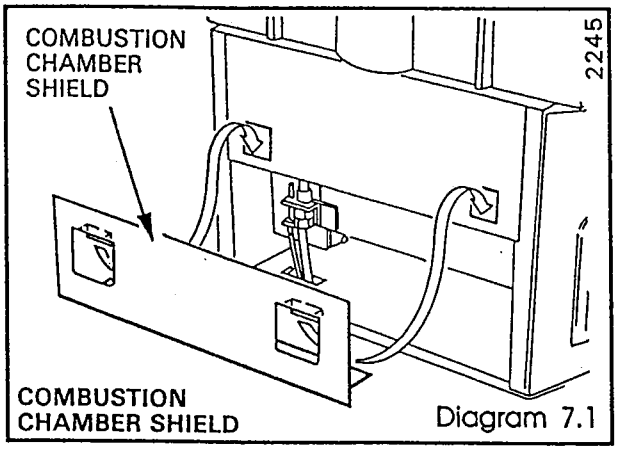


Diagram 7.1

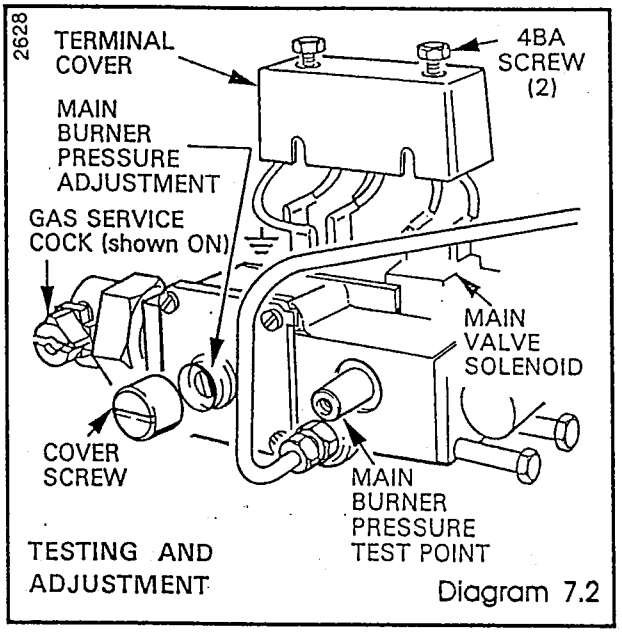


Diagram 7.2

7.2 SYSTEM COMMISSIONING

Carry out the flushing, venting and filling of the system as recommended in the current issue of BS6798.

Visually check for any water leaks at all joints after flushing, venting and filling.

7.3 INITIAL LIGHTING, TESTING AND ADJUSTMENT

Check that the boiler is isolated from the electrical supply.

Make sure that the boiler thermostat is turned to "O", the "OFF" position.

Turn the gas service cock "ON", the indicator slot to be horizontal.

Test the pilot supply tube and its connections for gas soundness as follows: Remove the terminal cover from the gas valve, see diagram 7.2. Temporarily disconnect the black lead from the main solenoid. Refit the terminal cover temporarily.

Temporarily attach rubber tubing over the open end of the tube at the lower left corner of the boiler.

Switch ON/CONNECT the electrical supply to the boiler and heating system. Make sure that any time control, room or cylinder thermostats are calling for heat.

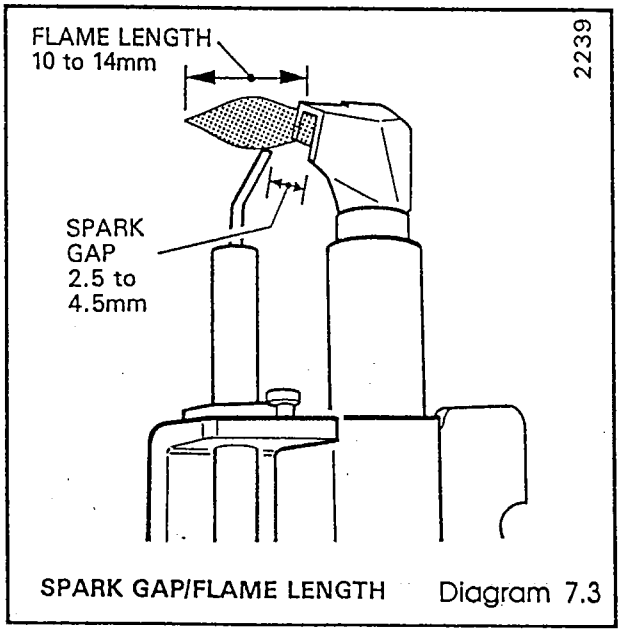


Diagram 7.3

WARNING: THE GAS VALVE AND FAN OPERATE ON MAINS—VOLTAGE, TERMINALS WILL BECOME "LIVE". Turn the boiler thermostat knob fully clockwise and the fan will operate. Gently suck on the rubber tubing to operate the air flow switch, a click will indicate its operation, then pinch and seal the tube to maintain the switch position. Sparks will be generated and the pilot flame will ignite.

To complete this test it is necessary to operate the boiler without its case, BUT UNDER ALL OTHER CIRCUMSTANCES the case should be correctly fitted and sealed.

The pilot gas rate is preset and no adjustment is provided, see diagram 7.3 for correct pilot flame length.

Turn the thermostat knob to "O" and ISOLATE the boiler from the electrical supply.

Remove the terminal cover, reconnect the black lead, ensuring that the insulating boot is fitted to the main solenoid, see diagram 7.2, then refit the terminal cover to the valve.

For future reference attach the self-adhesive arrow indicator, from the fittings pack, to the data badge, against the rating that the boiler is going to be adjusted to.

Fit the case and secure with the three screws, ensuring that a good seal is made with the sealing strip on the boiler.

Loosen the main burner pressure test point screw and connect a suitable pressure gauge, see diagram 7.2.

Make sure that any time control, room or cylinder thermostat are calling for heat.

Switch ON/CONNECT the electrical supply to the boiler and heating system.

Turn the boiler thermostat knob fully clockwise to the maximum setting. After a period of time the main burner will light.

The lighting sequence is automatic, as follows:

The fan operates,

The spark ignition operates,

The pilot solenoid opens,

The pilot burner lights,

The ignition spark stops,

The main solenoid opens,

The main burner lights.

The main burner will remain alight until switched off, either by the boiler thermostat or a remote system control.

Test for gas soundness around the boiler gas components using a suitable leak detection fluid.

Check the main burner pressure at least 10 minutes after the boiler has lit, refer to Table 1.

If the gas pressure requires adjustment, remove the cap for access to the main burner pressure adjustment screw, see diagram 7.2. Adjust the gas pressure to obtain the required setting, (turning clockwise to decrease the pressure).

Should any doubt exist about the gas rate, check the rate using the gas meter test dial and a stop watch, at least 1o minutes after the boiler has lit. The gas rates quoted in Table 1 "Range Rating" are only for guidance.

Turn the boiler thermostat knob to "O". Disconnect the pressure gauge from the test point and refit the screw and ensure a gas tight seal is made.

When the boiler switches OFF, both the pilot and main burner are extinguished. The automatic lighting sequence will operate again when heat is required.

When the boiler thermostat knob is turned to "O", the "OFF" position, wait at least 30 seconds before turning ON again.

There may be an initial smell given off from the boiler when new, this is quite normal and will disappear after a period of time.

Refit the control cover by sliding it onto the runners on the case.

7.4 SYSTEM ADJUSTMENT

Make adjustments to the pump and heat emitter to obtain the design temperature difference of 11°C (20°F) across the system.

Set any system controls and the boiler thermostat to the desired settings.

Operate the system, checking that any system controls operate correctly.

7.5 USER INFORMATION

Hand the Instructions for Use to the user for their retention.

Instruct and demonstrate the efficient and safe operation of the boiler, the heating system and, if installed, the hot water system.

Advise the user of the precautions necessary to prevent damage to the system and building in the event of the heating system being out of use during frost and freezing conditions.

Advise the user that, for continued safe and efficient operation of the boiler, servicing should be carried out at least once a year, preferably at the end of the heating season.

Leave these instructions with the user for use during future service calls.

8.1 IMPORTANT

THIS BOILER MUST ONLY BE SERVICED BY A SERVICE ENGINEER.

AFTER COMPLETING ANY SERVICING OR REPLACEMENT OF GAS CARRYING COMPONENTS, ALWAYS TEST FOR GAS SOUNDNESS AND CARRYOUT FUNCTIONAL CHECKS OF CONTROLS.

8.2 ISOLATE SERVICES

BEFORE COMMENCING ANY SERVICING, ISOLATE THE BOILER FROM THE ELECTRICAL SUPPLY AND TURN THE GAS SUPPLY OFF AT THE GAS SERVICE COCK. Indicator slot vertical.

8.3 ACCESS

Gain access to the boiler by sliding the controls cover forward from the runners on the case. Remove the case by one lower and two upper screws, see diagram 4.2.

Remove the combustion chamber shield by unhooking it, see diagram 7.1

Remove the main burner by loosening the locking screw at the left hand side. Lift the left-hand end of the burner to disengage the locating pin. Slide the burner off the injector by moving it to the left, taking care not to damage the pilot burner and electrode assembly. Bring the right-hand end of the burner through the opening first, see diagram 10.2.

Disconnect the electrical connectors at the fan and remove the flue hood and fan assembly secured by a screw and washer at each side. Take care not to damage the seal between the fan and the flue cover plate, see diagram 10.9.

8.4 CLEANING HEAT EXCHANGER

Cover the injector and pilot burner assembly before cleaning the flueways. Brush through the individual flueways in the heat exchanger to remove any deposits. Clean any debris from the combustion chamber base and remove the covering.

8.5 CLEANING MAIN BURNER

Use a vacuum cleaner or suitable soft brush to clean the burner thoroughly, ensure that all of the flame ports are clean and unobstructed.

8.6 CLEANING PILOT INJECTOR

Disconnect the pilot supply tube by unscrewing the pilot tubing nut, holding the pilot injector hexagon with a spanner, see diagram 10.3. Ease the supply tube from the injector.

Remove the pilot injector by unscrewing from the pilot burner assembly.

Inspect and clean or renew as necessary. Clean by blowing through, do not use a wire or sharp instrument.

8.7 SERVICE CHECKS

Inspect the pilot burner and spark electrode, clean or renew as necessary. If replacement is necessary, refer to Section 10.6.

Check that the spark gap between the pilot burner and spark electrode is correct, see diagram 7.3.

Remove and inspect the main burner injector, clean or renew as necessary. Clean by blowing through, do not use a wire or sharp instrument.

Check the condition of all seals and gaskets before re-tightening any component, renew if necessary.

8.8 RE-ASSEMBLY

Re-assemble components in the reverse order to removal.

Make sure that the main burner locating pin fits into the holes in the pilot bracket and the burner rests on the tabs. Secure the burner by re-tightening the locking screw, see diagram 10.2.

Make sure that the combustion chamber shield is fitted correctly, i.e. hooked to the combustion chamber, positioned flush and horizontal, see diagram 7.1.

Fit the flue hood and fan assembly, ensuring that the rear seal is fitted, see diagram 10.9. Loosely fit the two screws and washers previously removed, then push the assembly back as the screws are tightened to make a good seal at the rear. Take care not to trap the thermostat capillary.

Fit the electrical connectors to the fan, the green and yellow earth to the connector marked with the earth symbol. The polarity of the other connectors is not important.

Test all gas joints for gas soundness with a suitable leak detection fluid.

8.9 OPERATIONAL CHECKS

Operate the boiler to carry out the operational checks and any necessary adjustments, as described in Section 7.3 "Initial Lighting, Testing and Adjustment"

The arrow on the data badge indicates the rating requirements of the system.

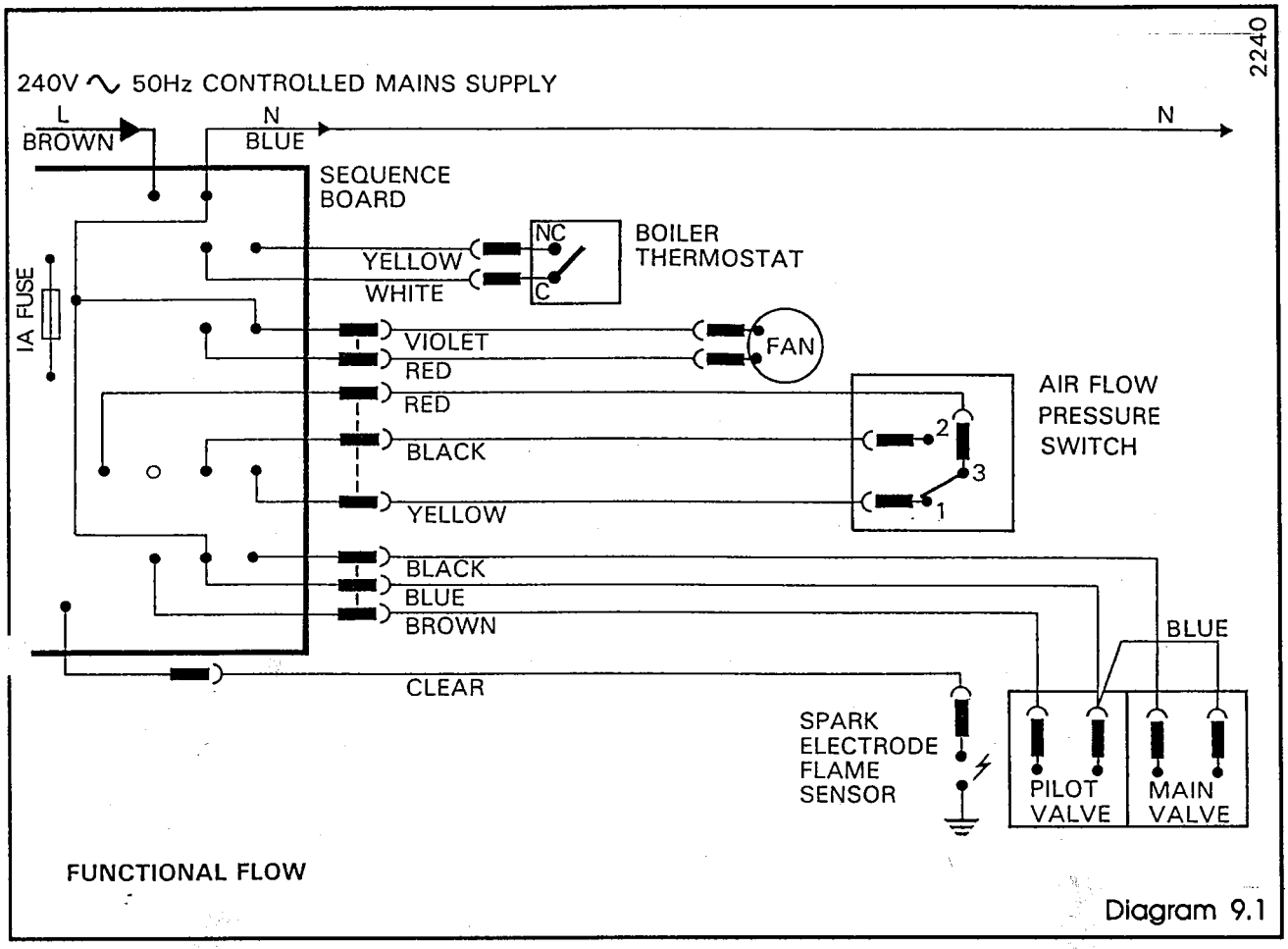


Diagram 9.1

9.1 INITIAL CHECKS

If the boiler fails to operate, first check the following:

Is the electrical supply to the boiler and heating system on and available at the boiler?

Are the electricity supply fuses in order?

Are all remote heating and domestic hot water controls, fitted, calling for heat?

Is the gas supply on and available at the boiler?

If the answer is yes to all the above, proceed as this section.

9.2 ELECTRICAL

The preliminary electrical system checks, as contained in the British Gas Multimeter Instruction book or equal publication, are the first checks to be carried out during a fault finding procedure.

On completion of the fault finding task which has required the disconnection and making of electrical connections, the checks, Earth continuity, Polarity and Resistance to earth must be carried out.

Isolate the boiler and heating system from the electrical supply.

Gain access to the electrical controls by sliding the controls cover forward from the runners on the case then release the control drawer by removing the two screws at the top and slide the drawer forward to the stops.

Physically check all cables and connectors.

Check the sequence board fuse. A spare fuse is provided in the front of the controls drawer. The fuse is F1AMP 250V to BS4265.

Follow the functional flow diagram and the fault finding procedure in diagram 9.1 and 9.2. The sequence of operation of the boiler components is shown from left to right.

9.4 GAS

Follow the fault finding procedure shown in diagram 9.3.

ELECTRICAL FAULT FINDING

2225

START

Determine that gas and electricity supplies are available and that the system is full of water. If any of the above are not in order, contact the relevant authority or rectify before proceeding. Check that the gas service cock is in the ON position. Isolate the boiler from the electricity supply. Remove the screws securing the electrical drawer, then withdraw it forward. Check all connections and cables. Rectify any that are faulty.

Restore electricity supply (240V ∿ 50 Hz). Check that polarity is correct and the boiler is earthed.

Is there 216 to 240V ∿ between boiler terminals L and N?

NO → Check that all remote controls are calling for duty. Check supply fuses and connections. Renew fuse or rectify faulty connection.

YES

Is there 216 to 240V ∿ between white cable connection C on thermostat and boiler terminal N?

NO → Isolate and test continuity of fuse on sequence board. Is fuse in order?

NO → Renew fuse.

YES → Faulty sequence board, renew.

YES

Turn thermostat to max. setting (5). Is there 216 to 240V ∿ between yellow cable connection NC on thermostat and boiler terminal N, with boiler cold?

NO → Faulty thermostat. Isolate and renew.

YES

Turn thermostat to '0' (off). Is the voltage now zero between yellow cable connection NC on thermostat and boiler terminal N?

NO → Faulty thermostat. Isolate and renew.

YES

Turn thermostat to max. setting. Does fan run?

NO → Isolate and remove cover from the air pressure switch. Test continuity between terminals 1 and 3 on air pressure switch. Is there continuity?

YES → Isolate and remove case. Restore supply; is there 216 to 240V ∿ between red and violet (N) cables at the fan connections?

YES → Faulty fan. Isolate and renew. Refit case.

NO → Faulty cable harness or connections. Isolate and rectify fault.

NO → Faulty air pressure switch, renew.

YES

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From following page.

Diagram 9.2

ELECTRICAL FAULT FINDING (CONT.)

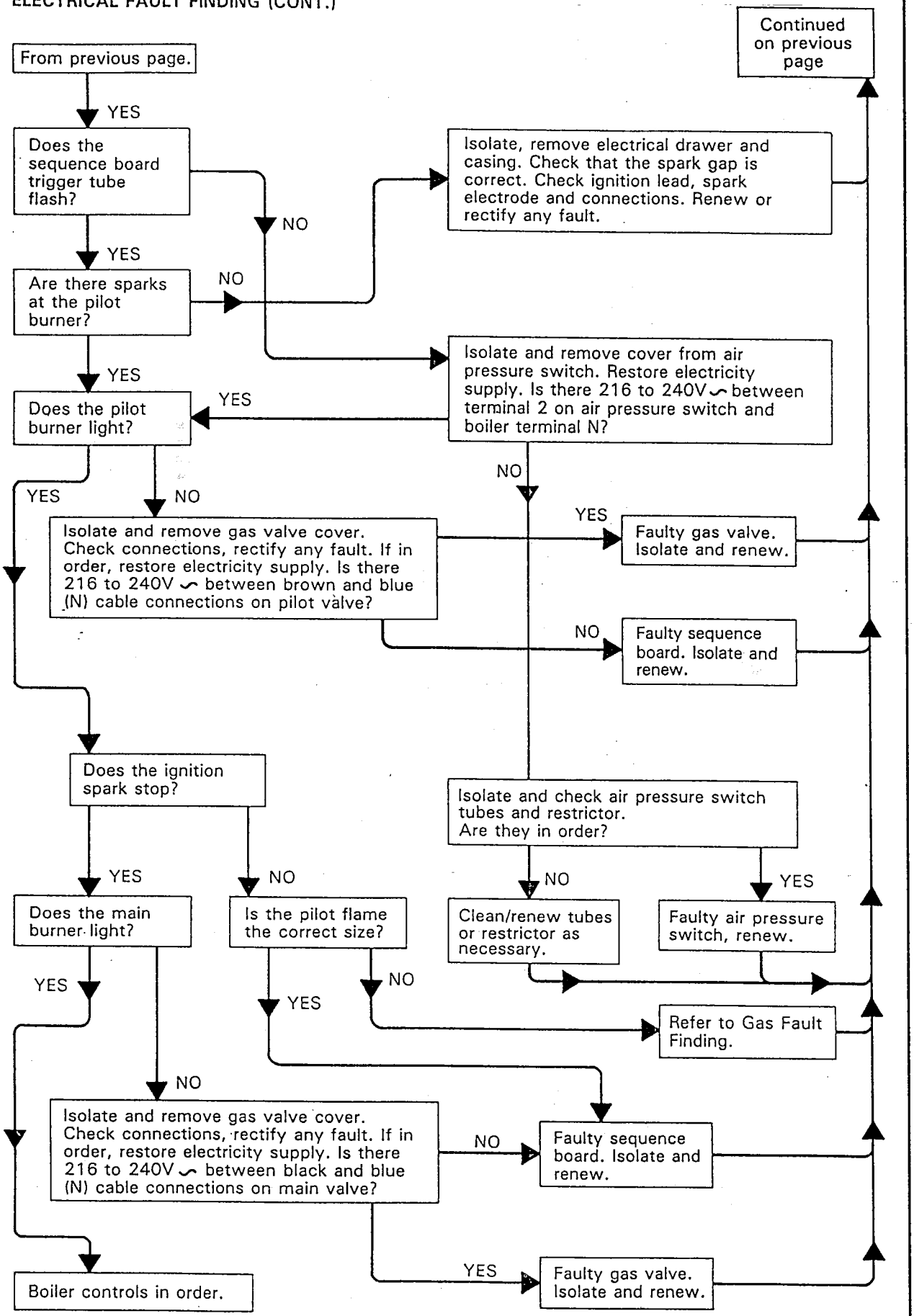


Diagram 9.2 cont.

9 FAULT FINDING

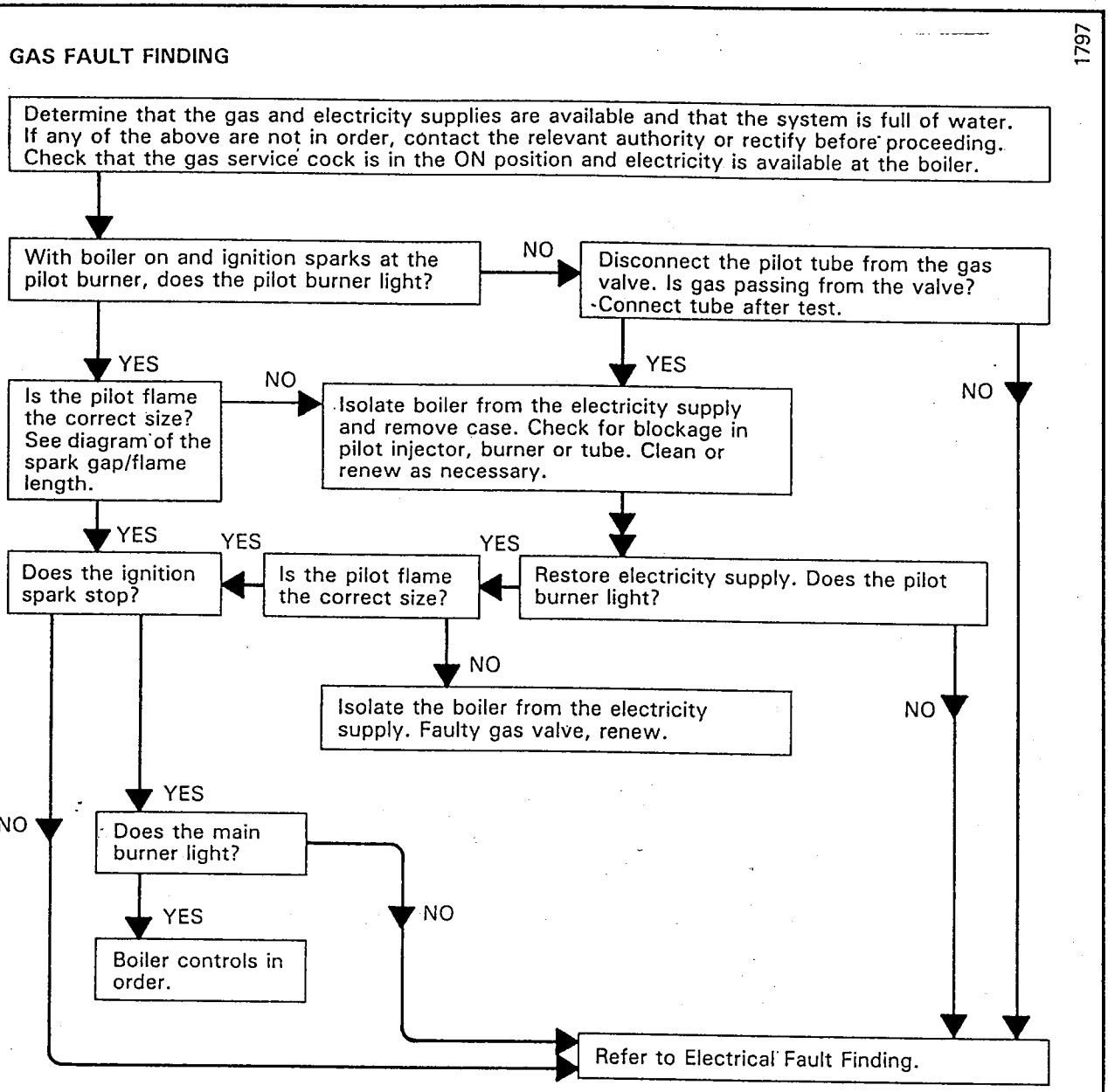


Diagram 9.3

10 REMOVAL AND REPLACEMENT OF PARTS

REMOVAL AND REPLACEMENT OF PARTS MUST BE CARRIED OUT BY A SERVICE ENGINEER.

BEFORE REMOVING ANY COMPONENTS, ISOLATE THE BOILER FROM THE ELECTRICAL SUPPLY AND ALSO TURN OFF THE GAS SUPPLY AT THE GAS SERVICE COCK (Indicator slot vertical).

FIT COMPONENTS IN THE REVERSE ORDER TO THAT OF REMOVAL, UNLESS STATED OTHERWISE.

AFTER COMPLETING THE REPLACEMENT OF ANY COMPONENTS, ALWAYS TEST FOR GAS SOUNDNESS.

CARRYOUT FUNCTIONAL CHECKS OF CONTROLS. Refer to section 7.

10.1 CONTROLS COVER

Slide the controls cover forward from the runners on the case, see diagram 4.2.

10.2 CASE

Remove the case, secured by one lower and two upper screws, see diagram 4.2

10.3 ELECTRICAL DRAWER

Release the electrical drawer by removing the two screws at the top, then slide the drawer forward to the stops. Release the cables from the cable tie inside the drawer.

Disconnect the three multi-pole plugs from the sequence board, see diagram 10.8. To release the drawer raise the front to enable the drawer to clear the drawer stops. Take care not to strain any of the cables supporting the drawer, either resting it on a suitable surface or turning it anti-clockwise and inverting it to hook on the drawer runners, see diagram 10.1.

10.4 MAIN BURNER

Gain access to the main burner by removing the controls cover and case, refer to sections 10.1 and 10.2.

Remove the combustion chamber shield by unhooking it, see diagram 7.1

Remove the main burner by loosening the locking screw at the left hand side. Lift the left hand end of the burner to disengage the locating pin. Slide the burner off the injector by moving it to the left, taking care not to damage the pilot burner and electrode assembly. Bring the right-hand end of the burner through the opening first, see diagram 10.2.

-assembly note.

Make sure that the main burner locating pin fits into the hole in the pilot bracket and the burner rests on the tabs, see diagram 10.2. Secure burner by re-tightening the locking screw.

Make sure that the combustion chamber shield is fitted correctly, that is, hooked to the front of the combustion chamber, positioned flush and horizontal, see diagram 7.1.

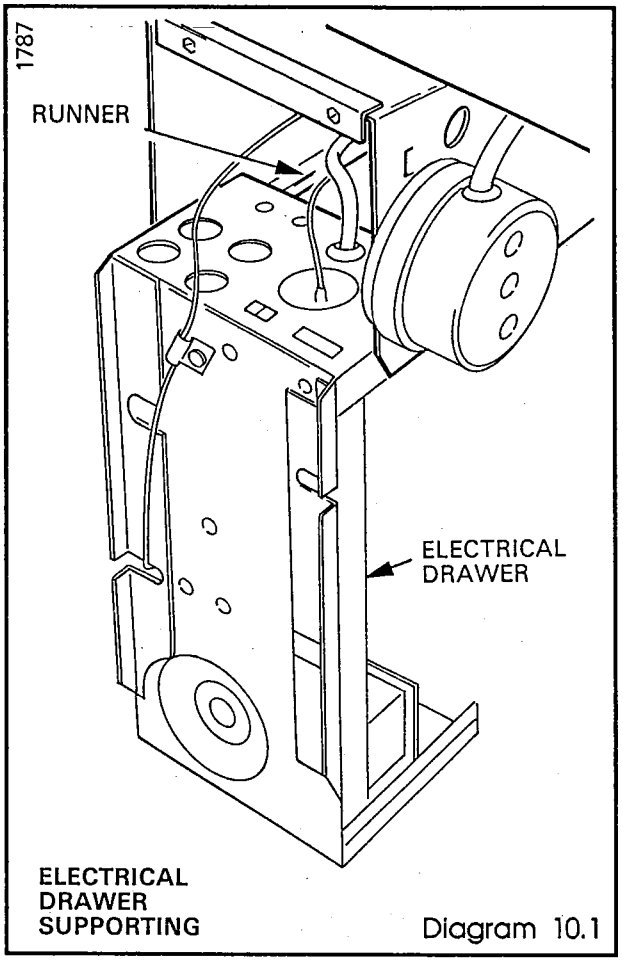
10.5 MAIN BURNER INJECTOR

Gain access to the burner injector by removing the controls cover, case, combustion chamber shield and main burner, refer to sections 10.1 and 10.4.

Unscrew the injector from the manifold.

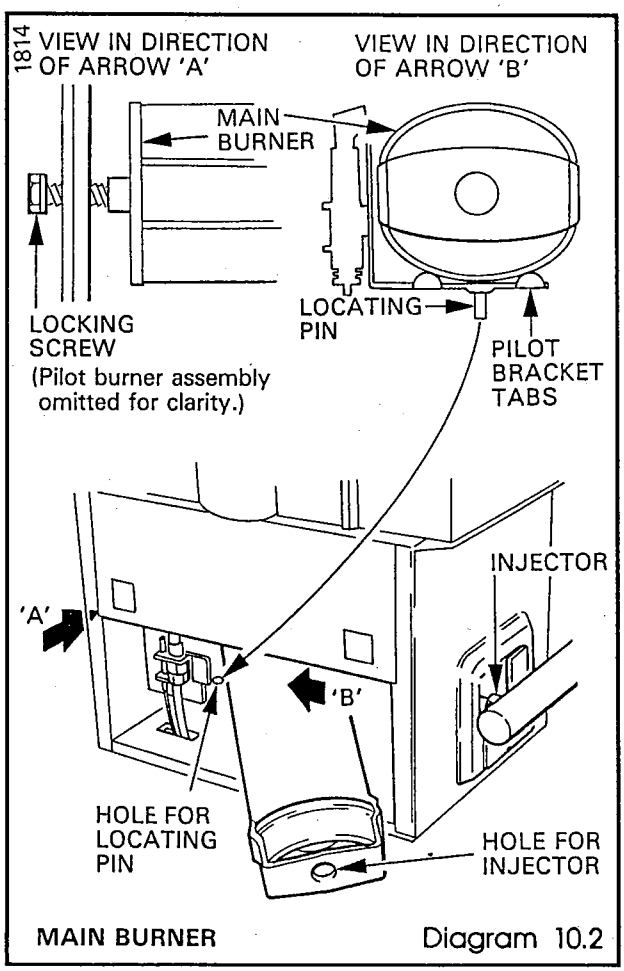
Re-assembly notes:

When refitting the injector, use a little thread sealant on the external thread only, to ensure gas soundness.



ELECTRICAL DRAWER SUPPORTING

Diagram 10.1



MAIN BURNER

Diagram 10.2

Make sure that the main burner locating pin fits into the hole in the pilot bracket and the burner rests on the tabs, see diagram 10.2. Secure the burner by tightening the locking screw.

Make sure that the combustion chamber shield is fitted correctly, that is, hooked to the front of the combustion chamber, positioned flush and horizontal, see diagram 7.1.

After assembly, test for gas soundness as described in section 7.3 "Initial Lighting, Testing and Adjustment".

10.6 PILOT BURNER AND ELECTRODE ASSEMBLY

Gain access to the pilot burner and electrode by removing the controls cover, case, combustion chamber shield and main burner, refer to sections 10.1, 10.2 and 10.4.

Disconnect the spark ignition lead from the spark electrode, see diagram 10.3

Remove the pilot burner and electrode assembly by slackening the left-hand screw and nut and removing the right-hand screw and nut.

Re-assembly notes;

Check that the spark gap between the pilot burner and the electrode is correct before refitting assembly, see diagram 10.4.

Make sure that the main burner locating pin fits into the hole in the pilot bracket and the burner rests on the tabs, see diagram 10.2. Secure burner by re-tightening the locking screw.

Make sure that the combustion chamber shield is fitted correctly, that is, hooked to the front of the combustion chamber, positioned flush and horizontal, see diagram 7.1.

After assembly, test for gas soundness as described in section 7.3 "Initial Lighting. Testing and Adjustment.

Check that the pilot flame length is as shown in diagram 10.4.

10.7 PILOT BURNER INJECTOR

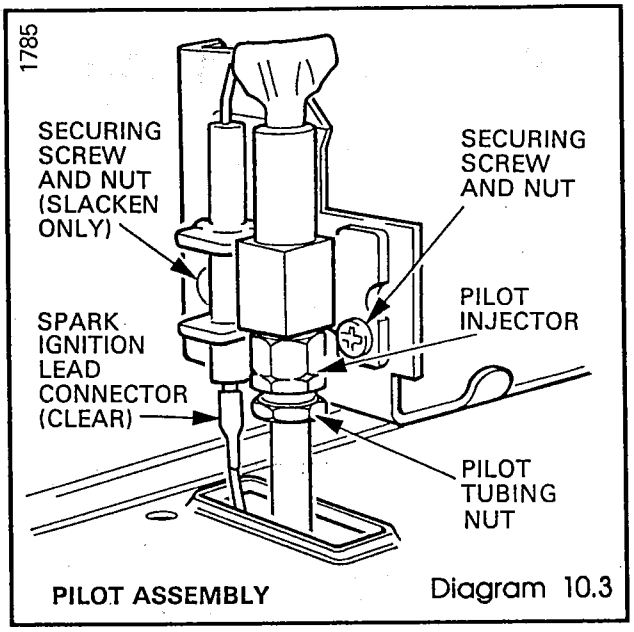
Gain access to the pilot burner injector by removing the controls cover, case, combustion chamber shield and main burner, refer to sections 10.1,10.2 and 10.4.

Disconnect the pilot supply by unscrewing the pilot tubing nut, holding the pilot injector hexagon with a spanner. Ease the supply tube from the pilot injector, see diagram 10.3.

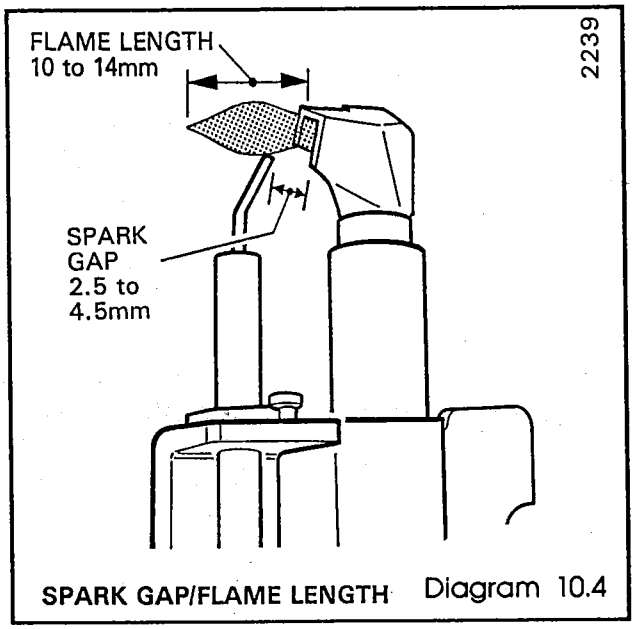
Remove the pilot injector from the pilot assembly by unscrewing it.

Re-assembly note;

Refer to Section 10.6.



PILOT ASSEMBLY Diagram 10.3



SPARK GAP/FLAME LENGTH Diagram 10.4

10.8 SPARK IGNITION LEAD

Gain access to both ends of the spark ignition lead by removing the controls cover, case, combustion chamber shield and main burner, refer to sections 10.1, 10.2 and 10.4.

Release the electrical drawer by removing the two screws at the top, then slide the drawer forward to the stops. Remove the electrical drawer from its housing by raising the front and withdrawing to clear the drawer stops. Take care not to strain the cables.

Where the electrical drawer cannot be rested on the floor or worktop, it should be supported by turning it anti-clockwise and rest on the runners as shown in diagram 10.1.

Disconnect the spark ignition lead at the rear of the sequence board and at the spark electrode, see diagrams 10.8 and 10.3.

Remove one of the sealing plates in the lower left-hand corner of the boiler and withdraw the ignition lead.

Re-assembly notes:

When refitting the spark ignition lead, ensure that the clear end is fitted to the spark electrode.

Ensure all multi-pole plugs are correctly located on the sequence board.

Make sure that the combustion chamber shield is fitted correctly, that is, hooked to the front of the combustion chamber, positioned flush and horizontal, see diagram 7.1.

10.9 GAS VALVE

Gain access to the gas valve by removing the controls cover and case, refer to sections 10.1 and 10.2.

Disconnect the pilot supply by unscrewing the tubing nut at the gas valve, holding the pilot supply adaptor with another spanner. Ease the supply tube from the pilot supply adaptor, see diagram 10.5.

Remove the terminal cover from the gas valve, secured by two 4BA screws. Disconnect the electrical connectors.

Support the gas valve, disconnect the union on the gas service cock then remove the four screws from the flanged connection at the right-hand side. Ease the flange and union apart to remove the valve.

Transfer the half union of the gas service cock to the inlet of the replacement gas valve. Also transfer the pressure test point and pilot supply adaptor. Use a little thread sealant on the external threads to ensure gas soundness.

Remove and discard the original "O" ring from the flanged connection and fit the new one supplied into the recess, before fitting the replacement gas valve.

assembly notes:

To reconnect the electrical leads to the valve, see diagram 10.6. Make sure that the insulation boot is fitted to the BLACK lead.

After assembly, test for gas soundness and adjust the gas valve to the rating required, as described in section 7.3

10.10 PILOT FILTER

The pilot filter is an integral part of the gas valve. The filter is of large capacity, designed to last under normal working conditions the life of the gas valve.

If the pilot filter becomes completely blocked, under normal operating conditions, the valve should be renewed and the old valve returned to Glow-worm, marked "Pilot filter blocked". Provided that this is the only fault and the cause substantiated, the replacement will be supplied free of charge.

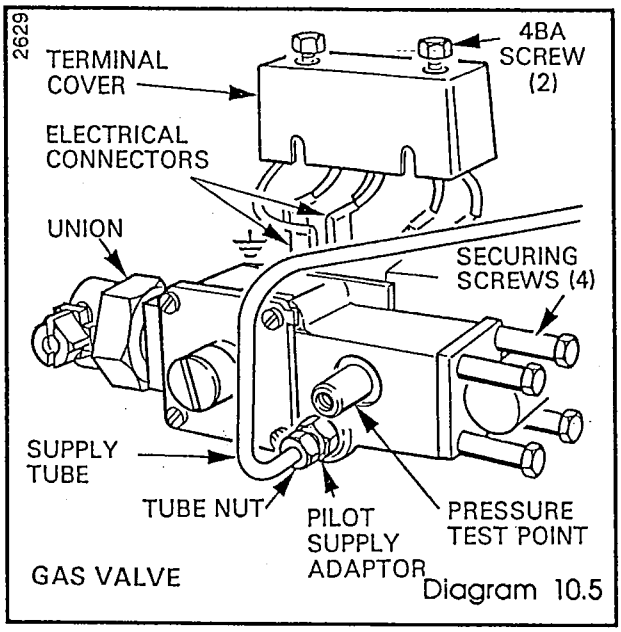


Diagram 10.5

10.11 THERMOSTAT

Gain access to the thermostat by removing the controls cover and case, refer to sections 10.1 and 10.2.

Pull the thermostat knob off the spindle and remove the two securing screws.

Release the electrical drawer by removing the two screws at the top, then slide the drawer forward to the stops. Remove the electrical drawer from its housing by raising the front and withdrawing to clear the drawer stops. Take care not to strain any of the cables.

Where the electrical drawer cannot be rested on the floor or worktop, it should be supported by turning anti-clockwise and rest on the runners as shown in diagram 10.1.

Release the thermostat capillary from its securing clip on the drawer and disconnect the electrical leads at the thermostat.

Release the capillary from the clips at the left-hand side of the boiler.

Remove the two sealing plates in the lower left-hand corner where the capillary passes through the back panel.

Remove the retaining split pin from the phial pocket and remove the phial. Feed the capillary and phial through the hole in the back panel. Note the capillary route before removing.

Re-assembly notes:

Ensure the thermostat is refitted the correct way up in the electrical drawer, capillary at the bottom.

Ensure that the thermostat phial is fully inserted into the phial pocket and is secured with the location washer behind the retaining split pin, see diagram 10.7.

Ensure that thermostat capillary is located in the clips at the left-hand side of the boiler, and also ensure

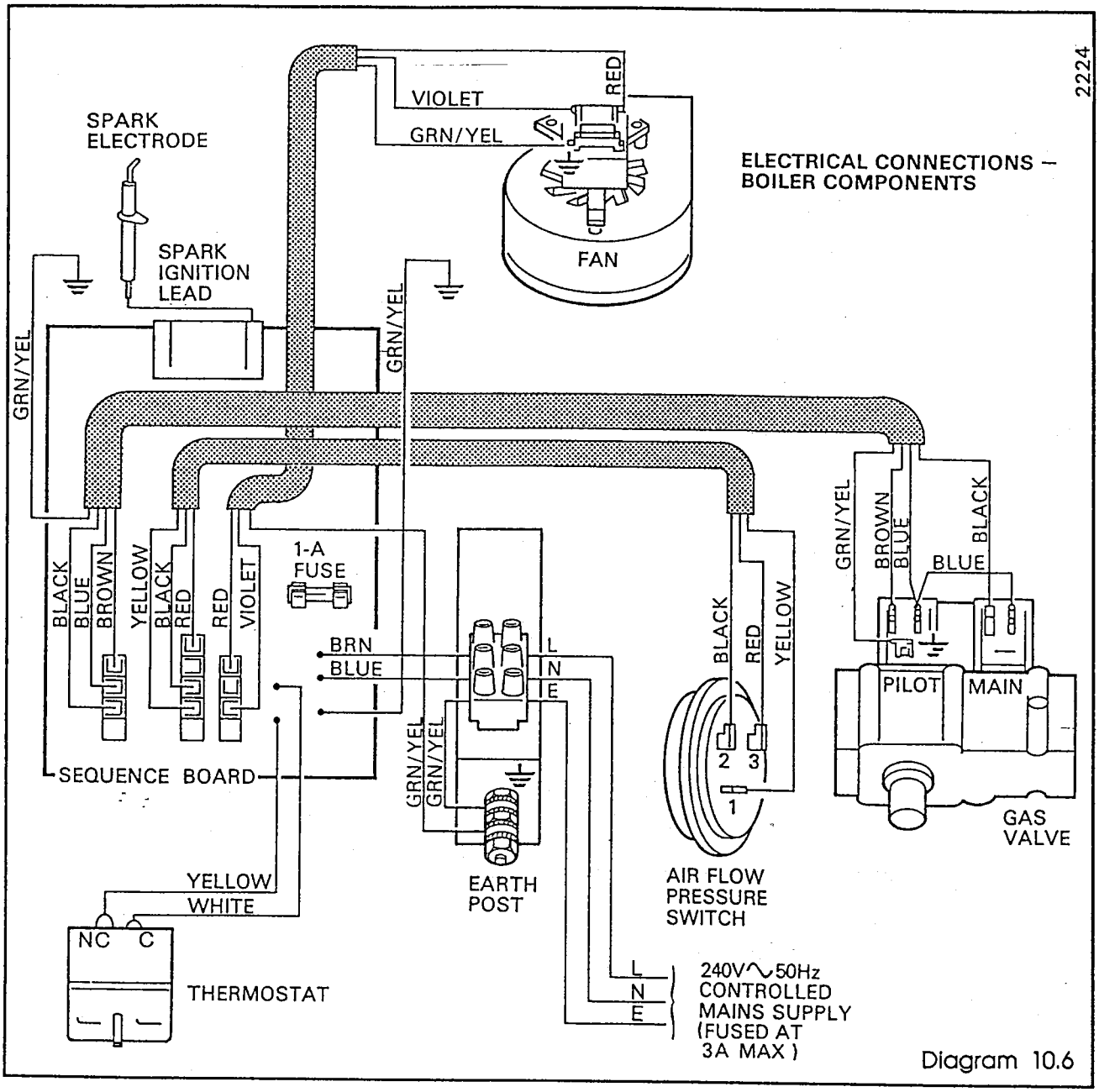


Diagram 10.6

correct refitting of the sealing plates, do not tighten until both are fitted.

To reconnect the electrical leads to the thermostat, see diagram 10.6.

Ensure all multi-pole plugs are correctly located on the sequence board.

When re-assembled, ensure that sufficient length of capillary is available to withdraw the electrical drawer.

10.12 SEQUENCE BOARD

Slide the control cover forward from the runners on the case, see diagram 4.2.

Release the electrical drawer by removing the two screws at the top, then slide drawer forward to stops.

Remove the cable tie securing the electrical leads and disconnect the three multi-pole plugs at the front, see diagram 10.8.

Disconnect the electrical leads at the thermostat and also the sequence board live and neutral leads at the terminal, (Brown and Blue).

Disconnect the sequence board earth lead at the rear of the electrical drawer, (Green and Yellow)

To remove the sequence board, ease the front of the board off the fixing studs and withdraw forward from the location tags and support posts and then disconnect the spark ignition lead.

Re-assembly notes:

Reconnect spark ignition lead prior to locating sequence board. Ensure that the board is located in the tags at the rear of the drawer and pushed onto the fixing studs at the front.

Reconnect all electrical leads, see diagram 10.6, ensuring that they are resecured with the cable tie previously removed.

10.13 FAN ASSEMBLY

Gain access to the fan by removing the controls cover and case, refer to sections 10.1 and 10.2.

Disconnect the electrical connectors at the fan, see diagram 10.9.

Remove the flue hood and fan assembly, secured by a screw and washer at each side. Take care not to damage the seal between the fan and the flue cover plate.

Remove the fan from the flue hood, secured by four screws.

Re-assembly notes:

When refitting the flue hood and fan assembly ensure that the rear seal is fitted. Loosely fit the two screws and washers then push the assembly back as the screws are tightened, to make a good seal at the rear. Do not trap the thermostat capillary.

en fitting the electrical connectors to the fan, connect the green and yellow earth lead to the connector marked with the earth symbol. The polarity of the other connectors is not important.

10.14 AIR FLOW PRESSURE SWITCH

Gain access to the air flow pressure switch by sliding the controls cover forward from the runners on the case, see diagram 4.2.

Release the electrical drawer by removing the two screws at the top, then slide the drawer forward to the stops. Remove the electrical drawer from its housing by raising the front and withdrawing to clear the drawer stops. Take care not to strain any of the cables.

Where the electrical drawer cannot be rested on the floor or worktop, it should be supported by turning anti-clockwise and rested on the runners as shown in gram 10.1.

Remove the air flow pressure switch cover secured by two screws, see diagram 10.10.

Disconnect the electrical leads at the air flow pressure switch and remove the two screws which secure it to the electrical drawer housing.

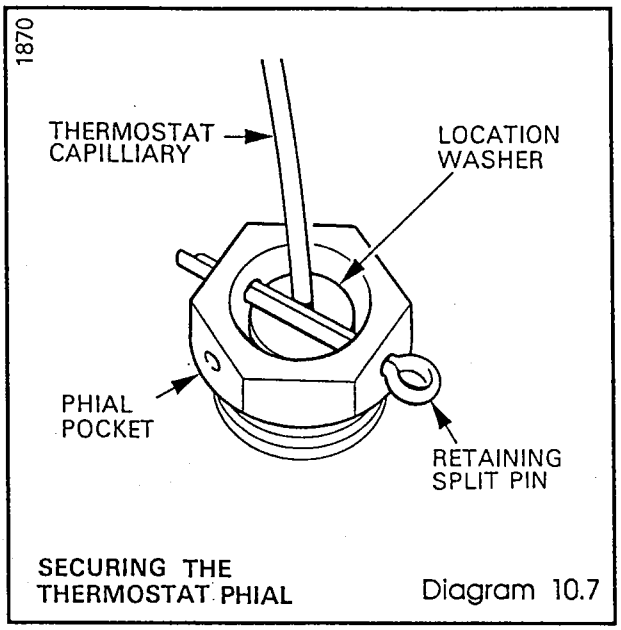
Disconnect the air flow pressure switch from the flexible tubes at the rear. Take care not to lose the air flow restrictor in the connection on the right.

Transfer the air flow restrictor to the replacement air flow pressure switch connection on the right, nearest to the electrical connectors.

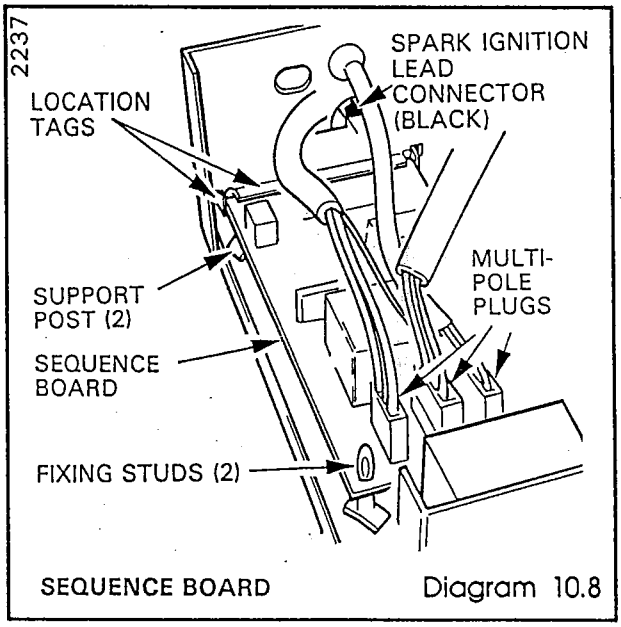
Re-assembly notes:

Make sure that the flexible tubes are not crossed or kinked, when fitting the air flow pressure switch.

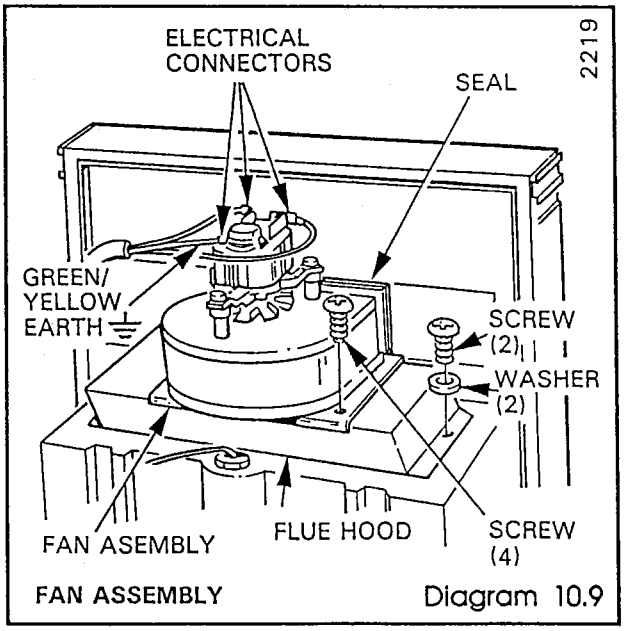
To reconnect the electrical leads to the air flow pressure switch, see diagram 10.6.



SECURING THE THERMOSTAT PHIAL — Diagram 10.7



SEQUENCE BOARD — Diagram 10.8



FAN ASSEMBLY — Diagram 10.9

10.15 AIR FLOW RESTRICTOR

Gain access to the air flow pressure switch by sliding the controls cover forward from the runners on the case, see diagram 4.2.

Disconnect the flexible tube from the air flow pressure switch connection on the right, nearest the electrical connectors, see diagram 10.10.

Remove the air flow restrictor from the rear of the air pressure switch.

Re-assembly note:

Make sure that the flexible tube is not kinked when refitting.

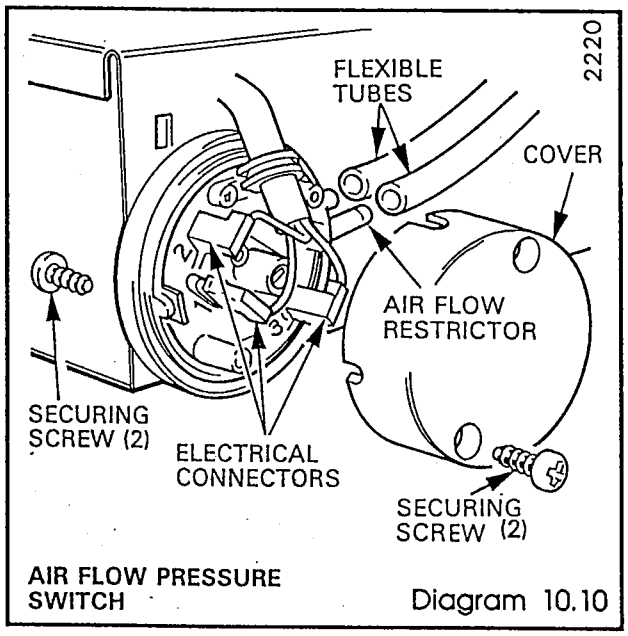


Diagram 10.10

10.16 COMBUSTION CHAMBER INSULATION

Gain access to the insulation by removing the controls cover, case, combustion chamber shield and main burner, refer to sections 10.1,10.2 and 10.4.

Remove the appropriate section of the combustion chamber insulation. Front section is secured by two screws and nuts. Rear section is secured by two screws only.

Re-assembly notes:

Make sure that the main burner locating pin fits into the hole in the pilot bracket and the burner rests on the tabs, see diagram 10.2. Secure burner by re-tightening the locking screw.

Make sure that the combustion chamber shield is fitted correctly, that is, hooked to the front of the combustion chamber positioned flush and horizontal, see diagram 7.1.

11 SPARE PARTS

11.1 PART IDENTIFICATION

The key numbers in diagram 11.1 and the list will help identify the part.

11.2 ORDERING

When ordering any spare part please quote the part number and description from the list together with the model name and serial number.

If order from the local region of British Gas also quote the GC number of the appliance and part.

Remove the controls cover and the case for access to the data badge, see sections 10.1 and 10.2.

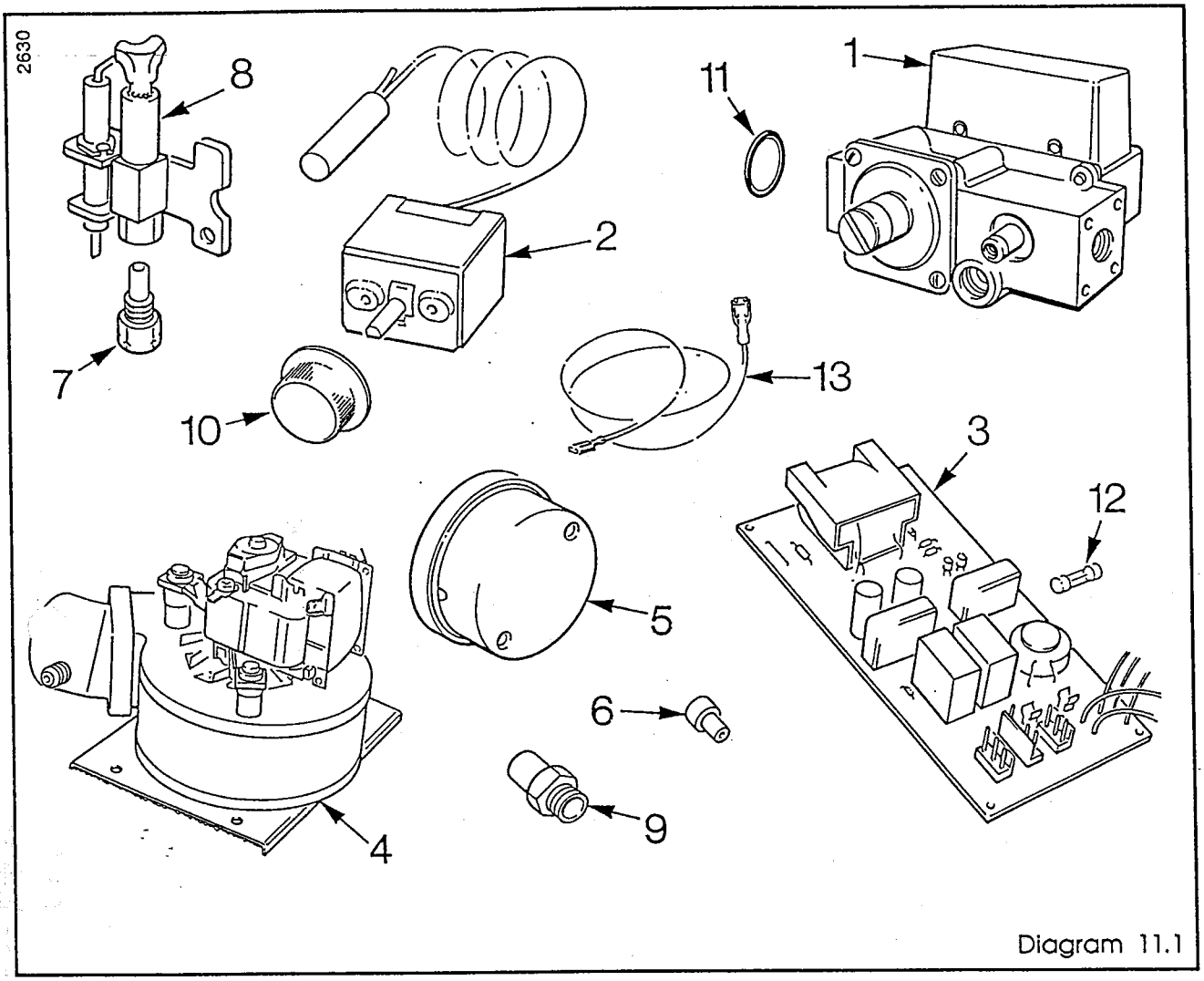


Diagram 11.1

Key No	GW Part No.	Description	GC Part No.
1	419069	Gas valve assembly. Inc key 11.	
	202519	Thermostat	381 798
3	202006	Sequence board. Inc key 12	334 623
4	419070	Fan assembly	
5		Air pressure switch	
6	204803	Air restrictor - marked "B"	
7	203509	Injector - pilot burner	394 163
8	203420	Pilot assembly. Inc key 7	
9	FF2029	Injector 20-30 RF, 30-40 RF	355 274
9	203051	Injector 40-50 RF, 50-60 RF	312 756
10	416144	Control knob- thermostat	355 401
11	208040	"O" ring - gas valve	334 592
12	202015	Fuse - 1A 5x20mm Type F BS4265	
13	WW4606	Ignition lead	334 750

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