

IDEAL

MEXICO SUPER 2 B.E.D.

CF 40, CF 50 & CF 60.

Open Flue Gas Boilers.

Installation & Servicing.

No BUNDY



CAUTION: To avoid the possibility of injury during the installation, servicing or cleaning of this appliance, care should be taken when handling edges of sheet steel components.

Note. The appliances covered by this book are fitted with HONEYWELL gas controls.

Ideal Mexico Super 2

CF 40

CF 50

CF 60

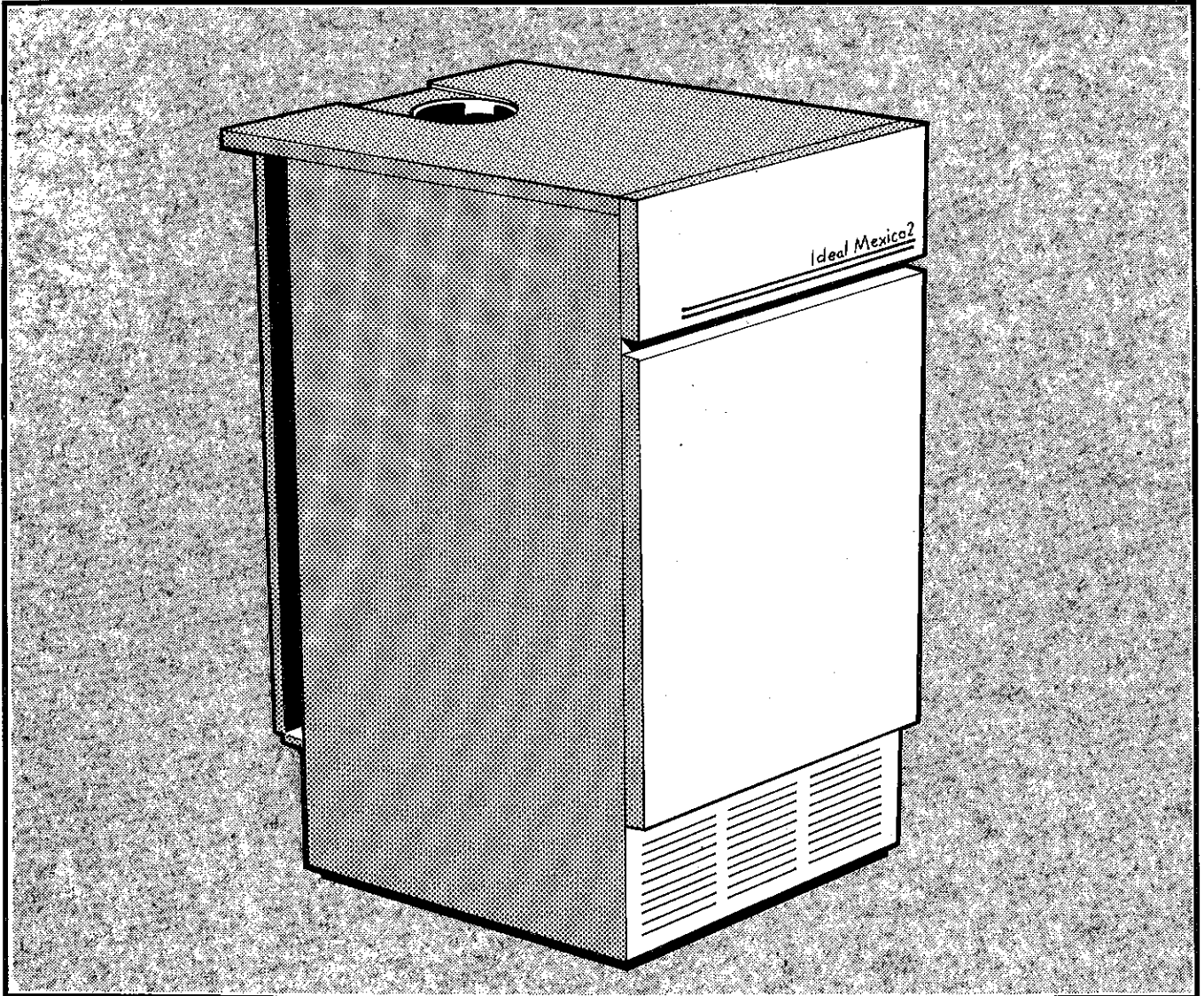
G.C. Appliance No.

41 349 41

41 349 42

41 349 43

IMPORTANT: The appliances are for use with NATURAL GAS ONLY. Appliance Type B₁₁Bs



NOTE TO THE INSTALLER: LEAVE THESE INSTRUCTIONS ADJACENT TO THE GAS METER

BOILERS
ideal

Table 1 - GENERAL DATA

Boiler Size		CF 40	CF 50	CF 60
Main Burner	AEROMATIC	AC 19 / 123 268	AC 19 / 123 269	AC 19 / 123 270
Gas Control Valve		1/2 in. BSP. HONEYWELL V 4600 E 1016,		
Burner Injector		BRAY 10 1200	BRAY 10 1400	BRAY 10 1700
Pilot Injector		HONEYWELL 38 / 36 A		
Gas Supply Connection	in. BSP/t	Rc 1/2 (1/2)		
Gas Supply Pressure		20 mb		
Gas Type		Natural 2 H		
Flue Connection	mm (in.)	100 (4)		
Number of Boiler Sections		2	3	
Flow and Return Connections		Rc 1 (1 in. BSP.)		
MAXIMUM Static Water Head	m (ft.)	30.5 (100) (3 bar)		
MINIMUM Static Water Head	m (ft.)	1.0 (3.3)		
Electrical Supply		230 V ~50 Hz		
External Fuse Rating	(Power Consumption)	3 A		(5 W)
Water Content	litre (gal.)	5.0 (1.1)	7.4 (1.6)	
Dry Weight	kg. (lb.)	67 (148)	89 (196)	
Boiler Size	Height	mm (in.)	850 (33.5)	
	Width	mm (in.)	440. (17.4)	
	Depth	mm (in.)	533 (21.0)	

Table 2 - PERFORMANCE DATA

Boiler Size		CF 40	CF 50	CF 60	
Boiler Input	MIN	kW (Btu/h)	11.3 (38 600)	15.0 (51 300)	18.9 (64 400)
	Gas consumption calculated using HCV of 38.7 MJ/cu.m.	Gas Consumption	l/s (ft. ³ /h)	.29 (37.1)	.39 (49.3)
Gas consumption calculated using HCV of 38.7 MJ/cu.m.	MID	kW (Btu/h)	13.1 (44 600)	16.8 (57 300)	20.5 (70 000)
	Gas Consumption	l/s (ft. ³ /h)	.34 (43.0)	.43 (55.2)	.53 (67.3)
	MAX (as shipped)	kW (Btu/h)	14.9 (50 800)	18.5 (63 200)	22.3 (75 900)
	Gas Consumption	l/s (ft. ³ /h)	.39 (48.9)	.48 (60.8)	.58 (73.2)
Boiler Output to Water	MIN	kW (Btu/h)	8.8 (30 000)	11.7 (40 000)	14.7 (50 000)
	MID	kW (Btu/h)	10.3 (35 000)	13.2 (45 000)	16.1 (55 000)
	MAX	kW (Btu/h)	11.7 (40 000)	14.7 (50 000)	17.6 (60 000)
Burner Setting Pressure (hot)	MIN	mbar (in w.g.)	6.3 (2.5)	8.6 (3.4)	10.1 (4.0)
	MID	mbar (in w.g.)	8.8 (3.5)	10.7 (4.3)	11.9 (4.8)
	MAX	mbar (in w.g.)	11.3 (4.5)	12.7 (5.1)	13.7 (5.5)
Flue gas flow rate (max)	g/s	7.0	8.7	10.5	
Flue gas temperature	°C	95	109	126	

INTRODUCTION

The **Ideal Mexico Super 2 CF40, 50 and 60** are floor standing, natural draught, open flued gas boilers. They are range rated to provide central heating outputs of 8.8 kW (30,000 Btu/h) to 17.6 kW (60,000 Btu/h).

The boiler has a cast iron heat exchanger and comes fully assembled complete with a white enamelled mild steel casing. Programmer and Pump kits, which fit within the casing, are available as optional extras and separate fitting instructions are included with the kits.

A door at the top of the casing front panel hinges down-revealing the boiler thermostat controls (& programmer if fitted).

The boilers are suitable, as standard, for connection to open vented systems ONLY. An Overheat Thermostat Kit is available to allow the boiler to be used on sealed water systems.

The systems may be pumped or gravity circulating indirect DHW only, pumped central heating only, or pumped central heating combined with either a pumped or gravity circulating indirect DHW circuit.

Regulations, 1994 Gas Safety (Installation and Use) & Amendments, 1996

It is the law that all gas appliances are installed by CORGI registered installers (identified by Ⓢ) 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.

The installation of the boiler MUST also be in accordance with the current I.E.E. Wiring Regulations, The Building Regulations (1985), Building Standards (Scotland), the Bye laws of the Local Water Undertaking and any relevant requirements of the Local Authority. Detailed recommendations are contained in the following British Standards Codes of Practice.

Codes of Practice.

- BS.6891:1988 Low pressure installation pipes.
- BS.6798 Installation of gas fired hot water boilers of rated input not exceeding 60 kW.
- BS.5449:1 Forced circulation hot water systems (small bore and microbore domestic central heating systems).
- BS.5546 Installation of gas hot water supplies for domestic purposes (2nd Family Gases).
- BS.5440:1 Flues (for gas appliances of rated input not exceeding 60 kW).
- BS.5440:2 Air supply (for gas appliances of rated input not exceeding 60 kW).

IMPORTANT. This appliance range is certificated by the British Standards Institution for safety and performance. It is, therefore, important that no external control devices, e.g. flue dampers, economisers etc., are directly connected to these appliances - unless covered by these 'Installation and Servicing' instructions or otherwise recommended by Caradon Ideal Ltd. in writing. If in doubt please enquire.

Any direct reconnection of a control device not approved by Caradon Ideal Ltd. could invalidate the B.S.I. certification and the normal appliance warranty. It could also infringe the Gas Safety Regulations and the above regulations or other statutory requirements. Manufacturers notes must NOT be taken, in any way, as over-riding statutory obligations.

LOCATION OF BOILER

The floor MUST be flat and level, and of a suitable load bearing capacity.

The boiler may be fitted on a combustible floor, and installation, other than that required by the Local Authority and Building Regulations, is NOT necessary.

THE BOILER IS NOT SUITABLE FOR EXTERNAL INSTALLATION.

The boiler MUST NOT be installed in a bedroom, or in a room containing a bath or shower.

A compartment used to enclose the boiler MUST be designed and constructed specially for this purpose.

An existing cupboard or compartment, may be used provided it is modified for the purpose.

Details of essential features of cupboard/compartment design, including airing cupboard installations are given in BS.6798.

In siting the boiler, the following limitations MUST be observed:

1. The position selected for installations MUST allow adequate space for servicing in front of the boiler and for air circulation around the boiler. The back of the boiler may be fitted up to the wall.
2. This position MUST also permit the provision of a satisfactory flue and an adequate air supply. Installation in airing cupboards is NOT recommended.

GAS SUPPLY

The Local Gas Region should be consulted, at the installation planning stage, in order to establish the availability of an adequate supply of gas.

A gas meter can only be connected by the Local Gas Region, or by a Local Gas Region Contractor. An existing meter can only be connected by the Local Gas Region, or by a Local Gas Region Contractor.

Installation pipes should be fitted in accordance with BS.6891:1988.

Do NOT use pipes of a smaller size than the boiler inlet gas connection.

The complete installation MUST be tested for gas soundness and purged as described in the above Code.

FLUEING

The flue MUST be installed in accordance with the recommendations of BS.5440:1.

The following notes are intended for general guidance:

1. The cross-sectional area of the flue, serving the boiler, MUST be NOT less than the area of the flue outlet of the boiler. If flue pipe is to be used, it MUST be NOT less than 100mm (4 in.) I.D.
2. Flue pipes and fittings, should be constructed from one of the following materials:
 - a) Aluminium or Stainless Steel.
 - b) Cast Iron - coated on inside with acid-resistant vitreous enamel.
 - c) Other approved material.
3. If twin walled flue pipe is used, it should be of a type acceptable to British Gas.
4. If a chimney is to be used, it should preferably be one that is composed of, or lined with, a non-porous acid resistant material.

Note. Chimneys lined with salt glazed, earthenware pipes, are acceptable if the pipes comply with BS.65 and BS.5440:1. A flue pipe, constructed from one of the materials in 2(a), 2(b), or 2(c) above, should form the initial connection to the lined chimneys. Where a chimney is to be used that is not composed of or lined with, a non-porous, acid resistant material it

CF Boilers only: This boiler is fitted with a draught sensing thermostat. If significant draught occurs, the thermostat will switch off the boiler for safety reasons, for a period between 10 and 25 minutes. If this should happen repeatedly, contact a CORGI registered engineer.

GENERAL GUIDANCE

- should be lined with a stainless steel flexible flue liner which complies with BS.715:1986. The internal diameter of the liner MUST NOT be less than 100mm (4 in.), and the number of joints MUST be kept to a minimum.
- Before connecting the boiler to, or inserting a liner into a flue that has been previously used — then the flue MUST be thoroughly swept of any soot or loose material. If a registrar plate, restrictor plate or damper, etc. is fitted in the flue then it MUST be removed before connecting the boiler to or inserting a liner into the flue.
 - The flue should terminate in accordance with the relevant recommendations given in BS.5440:1.
 - The flue MUST be fitted with a terminal or ridge tile. The terminal shall be of a type which has been tested, and found satisfactory, by British Gas, this terminal must NOT be installed within 600mm (24 in.) of an operable window, air vent or any other ventilation opening.
 - The chimney/flue lining MUST be sealed at both top and bottom.

IMPORTANT. It is absolutely ESSENTIAL to ensure, in practice that the flue discharge is in a downdraught free zone and products of combustion, discharging from the terminal cannot re-enter the building, or any other adjacent building through ventilators, windows, doors, other sources of natural air infiltration or forced ventilation/air conditioning systems.

Note. This appliance is fitted with a TTB downdraught thermostat for added safety and protection. If this thermostat should operate and switch off the appliance, it is because the flue is subject to downdraught, probably as a result of adverse wind conditions.

The TTB is an automatic reset thermostat which will reset once the wind conditions have returned to normal, subject to a built-in reset delay in excess of 10 minutes

The TTB is an **important safety device and must not** be put out of action or interfered with in any way.

In cases of repeated or continuous shutdown a competent person should be called to investigate and rectify the condition causing this. Only the manufacturers original parts should be used for replacement.

AIR SUPPLY

Detailed recommendations for air supply are given in BS.5440:2.

The following notes are intended for general guidance:

- The room, or internal space, in which the boiler is installed MUST have, or be provided with, a permanent air vent. This vent MUST be either direct to outside air, or to an adjacent room, or internal space, which MUST itself have, or be provided with, a permanent air vent at least the same size, direct to outside air.
The minimum effective area of the permanent air vent(s) are specified below, and are related to maximum rated heat input of the boiler.

Table 3

Boiler size	CF.40	CF.50	CF.60
Effective area cm ²	40	56	72
Area in ²	7	9	12

AIR SUPPLY - VENTILATION

- The air vent(s) must NOT have provision for closing or adjustment, and should be sited to avoid risk of accidental damage or blockage.
- If other methods of ventilation are envisaged, the Local Region of British Gas plc should be requested to advise before proceeding.
- If the boiler is to be installed in a cupboard, or compartment, permanent air vents are required, (for combustion, flue dilution and cooling purposes) in the cupboard, or compartment, at both high and low levels, to ensure safe and efficient combustion and ventilation.
The air vents may either communicate with a room/internal space, appropriately ventilated, or be direct to outside air.
The minimum effective areas of the permanent air vents, required in the cupboard/compartment, are specified below, and are related to the maximum rated heat input of the boiler.

Table 4:-CF40

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in ²)	142 (22)	71 (11)
LOW LEVEL cm ² (in ²)	284 (44)	142 (22)

Table 5:-CF50

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in ²)	174 (27)	87 (14)
LOW LEVEL cm ² (in ²)	348 (54)	174 (27)

Table 6:-CF60

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in ²)	206 (32)	103 (16)
LOW LEVEL cm ² (in ²)	412 (64)	206 (32)

- Notes**
- Both air vents MUST communicate with the same room or internal space, or MUST be on the same wall to outside air.
 - In siting the air vents care must be taken to avoid freezing of pipework.
 - Where cupboard/compartment air vents are open to a room or internal space, the room or internal space MUST itself be provided with a permanent air vent as previously specified.
 - The cupboard/compartment air vents MUST NOT communicate with a bedroom, bed sitting room, or a room containing a bath or shower.

EFFECT OF AN EXTRACTOR FAN

If there is any type of extract fan fitted in the premises, there is a possibility that, if adequate air inlet area from outside is not provided, spillage of the products from the boiler flue could occur when the fan is in operation.

Where such installations occur, a spillage test, as detailed in BS.5440:1 MUST be carried out and any necessary action taken.

VENTILATORS IN SERIES

In installations requiring two ventilators to be fitted in series e.g. across a cavity wall, EACH should be sized in accordance with the above data.

Where there are more than two ventilators in series, EACH

GENERAL GUIDANCE

should have an area of 50% in excess of the value quoted above.

WATER CIRCULATION SYSTEM

The boiler must NOT be used for direct hot water supply or for sealed system.

The boiler is suitable for connection to pumped, open vent central heating systems, pumped central heating combined with pumped or gravity indirect domestic hot water supply systems, and gravity, or pumped, indirect domestic hot water supply systems.

Note. The boiler is NOT suitable for gravity heating systems. The hydraulic resistances of the boilers, at MAXIMUM OUTPUT with 11°C (20°F) temperature differential, are shown in Fig. 1.

The central heating system should be in accordance with the relevant recommendations given in BS.6798 and, in addition, for small bore and microbore systems — BS.5549:1.

The domestic hot water system, if applicable, should be in accordance with the relevant recommendations of BS.5546.

Copper tubing, to BS.2871:1, is recommended for water carrying pipework.

The hot water storage cylinder MUST be of the indirect type and should be preferably manufactured of copper. Single feed indirect cylinders are not preferred.

The hot water cylinder, and ancillary pipework, not forming part of the useful heating surface, should be lagged to prevent heat loss and any possible freezing, particularly where pipes run through roof spaces and ventilated under floor spaces, in accordance with the water bye laws.

The boiler MUST be vented.

If venting cannot be done via a flow connection, a separate vent MUST be fitted by the Installer.

Draining taps MUST be located in accessible positions which permit the draining of the whole system, including the boiler and hot water storage vessel.

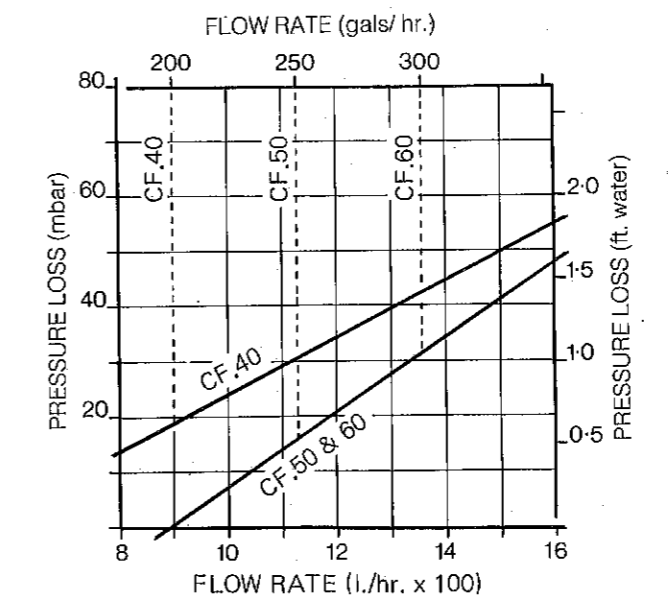


FIG. 1 HYDRAULIC RESISTANCE GRAPH

Draining taps should be at least 1/2 in. nominal size and be in accordance with BS.2879.

If required a drain tap (not supplied) may be fitted to an unused bottom 1" BSP tapping on the front of the boiler.

WATER CIRCULATION - ELECTRICAL SUPPLY

ELECTRICAL SUPPLY

Wiring external to the appliance MUST be in accordance with the current I.E.E. Wiring Regulations and any local regulations which apply.

The boiler is supplied for 230 V ~ 50 Hz single phase.

Fuse rating is 3A.

This appliance MUST be connected to the supply via a fused, double pole switch, having a 3mm (1/8") contact separation in both poles, serving only the boiler and system controls.

The point of connection to the mains should be readily accessible.

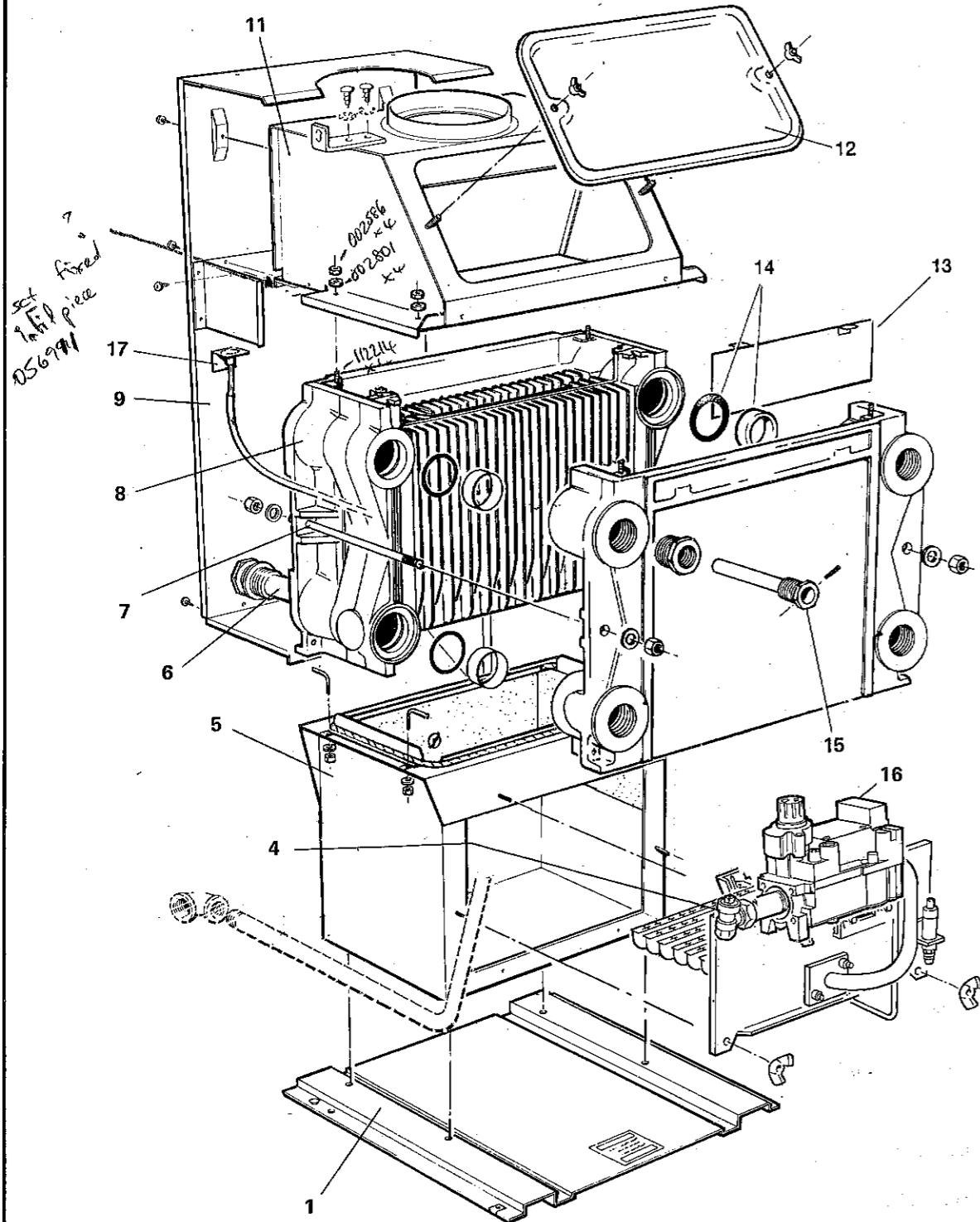
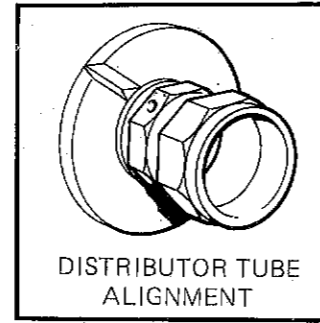
INSTALLATION

BOILER ASSEMBLY

1 BOILER ASSEMBLY - Exploded View (CF 50 / CF 60 shown).

LEGEND

- | | | |
|-----------------------|---|---|
| 1. Boiler baseplate | 9. Draught diverter back panel assembly | 14. Section alignment rings and 'O' rings |
| 4. Gas service cock | 11. Collector hood | 15. Thermostat pocket |
| 5. Combustion chamber | 12. Cleanout cover | 16. Burner & controls assembly |
| 6. Distributor tube | 13. Flue baffle | 17. TTB draught thermostat & bracket |
| 7. Tie rod | | |
| 8. Heat exchanger | | |



Note. The boiler assembly is shown with the casing removed

INSTALLATION

2 UNPACKING

Unpack the boiler and check the contents.

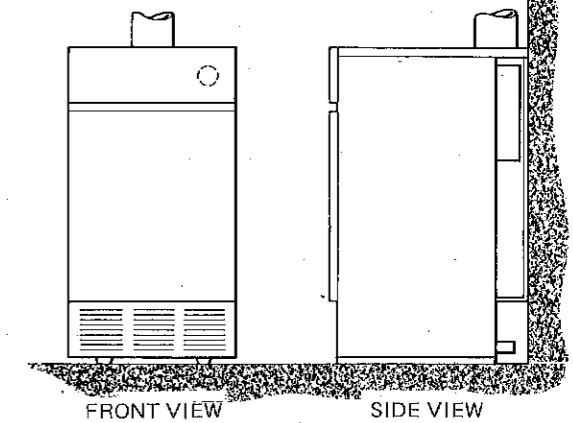
The boiler is supplied fully assembled in one pack A.

- | | |
|--|---|
| | 1 in. BSP plugs, 5 off |
| | 1 in. - 1/2 in. BSP reducing bush, 1 off |
| | Distributor tube, 1 off |
| | Thermostat pocket, 1 off |
| | Thermostat retaining clip (50 & 60 only), 1 off |
| | Thermostat retaining pin, 1 off |
| | Output setting label, 1 off |
| | Complete Boiler |
| | Packing list, 1 off |

UNPACKING - BOILER CLEARANCES

3 FLOOR MOUNTING

1. The floor must be flat and level and of a suitable load bearing capacity.



2. The back of the boiler may be fitted up to the wall.

4 BOILER CLEARANCES

The minimum overall dimensions of the space in which the boiler is to operate, and to facilitate servicing, are as follows:-

If an optional concealment grille is to be fitted see note below.

Additional space will be required for installation, depending upon site conditions.

IMPORTANT:

(a) In order to facilitate gas connection, a clearance of at least 100 mm (4 in.) must be available at either the left hand side or the right hand side DURING installation - refer to Frame 6.

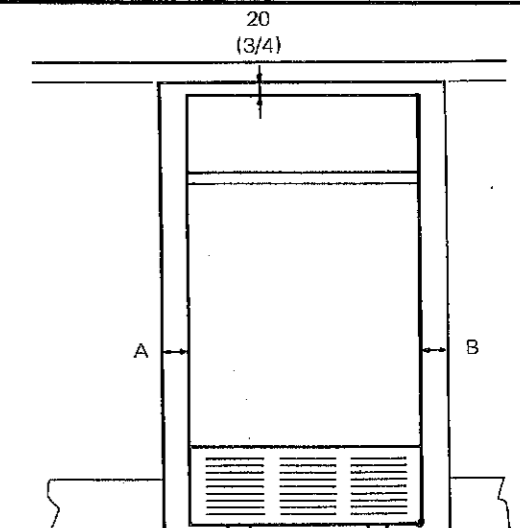
(b) A MINIMUM clearance of 25 mm (1 in.) should also be maintained between the flue pipe and any adjacent combustible material.

Boiler Size	Width	Depth	Height
CF 40	mm 490 (in.) (19 1/4)	535 (21)	870 (34 1/4)
CF 50 and 60	mm 550 (in.) (21 5/8)	535 (21)	870 (34 1/4)

Inflammable materials must not be placed in close proximity to the appliance. Materials giving off flammable vapours must not be stored in the same room as the appliance.

In addition a MINIMUM clearance of 533 mm (21 in.) MUST be available at the front of the boiler, for servicing.

	CF.40	CF.50 & 60
At the top of the boiler	mm 20 (in.) (3/4)	20 (3/4)
MINIMUM at ONE side of the boiler	A or B mm 10 (in.) (3/8)	10 (3/8)
MINIMUM aggregate clearance	A plus B mm 50 (in.) (2)	110 (4 1/2)



Notes:

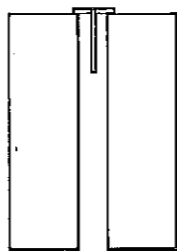
- A clip-on concealment panel is available as an optional extra - see separate fitting instruction. If such a panel is fitted, the clearance on that side MUST NOT be less than 110mm, and not less than the minimum specified above on the other side.
- If minimum LHS clearance is used on the CF50 & CF60 boilers, the TTB draught thermostat and bracket should be moved to the RHS of the boiler (alternative location). Refer to Frame 1.

5 BOILER CASING REMOVAL

To install the boiler, the casing MUST be removed.

1. Lift off the lower front panel (F). Remove the 2 securing screws and lift off the grille assembly.
2. Remove the gas valve cover by removing the retaining screw and disconnect the electrical leads. Refer to Frame 2 'Servicing'.
3. Release the gas valve lead from the retaining clip.
4. Remove the 2 screws securing the control panel (C) and disengage the panel by lowering and pulling it forward. Remove the 2 screws securing the rear plastic cover of the control box. Unplug the TTB in-line connector and lead and remove from the control panel. Place the panel safely to one side.
5. Remove the 2 screws securing the top panel (L) to the side panels (E) and (K).
6. Draw the top panel (L) forward slightly and lift it from the boiler.
7. Remove the 2 screws securing the RH side panel (E) to the flue collector and the base plate.
8. Pull the panel forward slightly, lifting it clear of the locating peg (I) and remove it from the boiler.
9. Repeat steps 7 and 8 to remove the LH side panel (K).
10. The boiler is held to the packaging base by four M6 screws. Remove the front screws. Slacken the rear screws and remove the boiler from the packaging base.
11. Remove the flue clean-out cover and ensure that the baffles are fully inserted in the flueways. (CF 40 and 50 only) - see right.

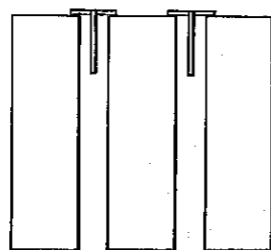
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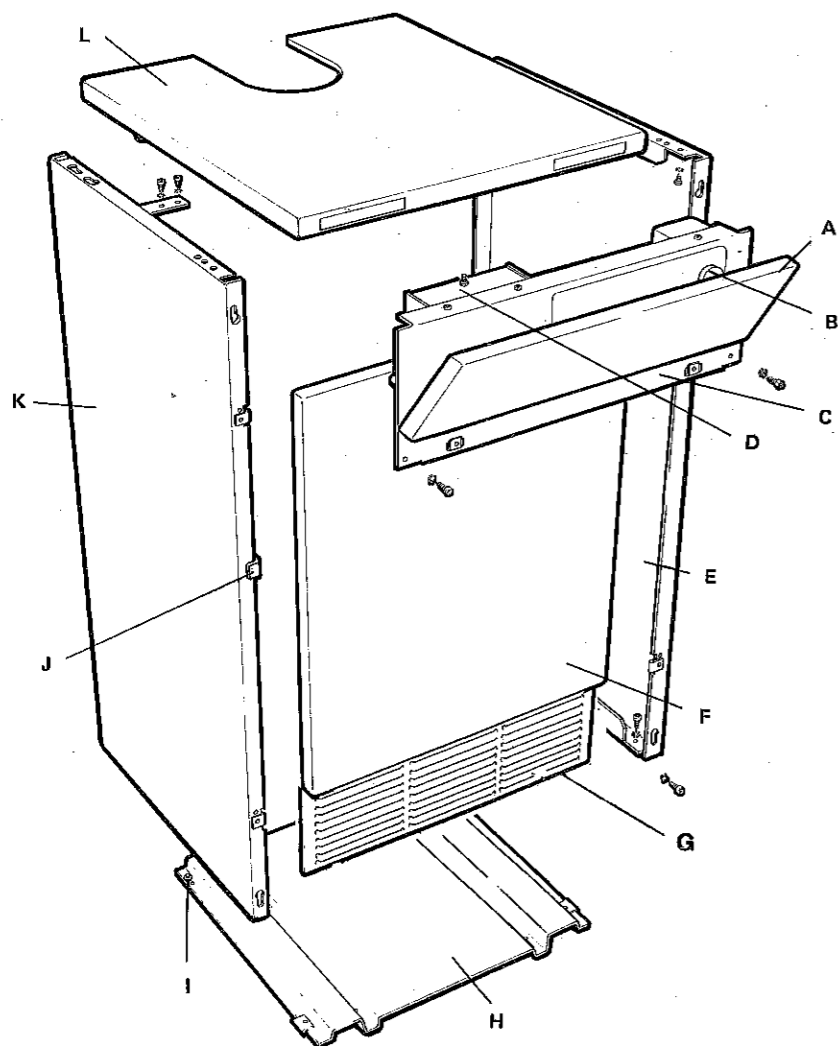
CF.40

BOILER FRONT

CF.50 2 off



CF 60 - no baffles.



LEGEND

- A. Control door
- B. Boiler thermostat
- C. Controls panel
- D. Control box
- E. RH side panel
- F. Lower front panel
- G. Grille assembly
- H. Base plate
- I. Locating peg
- J. Cable straps
- K. LH side panel
- L. Top panel

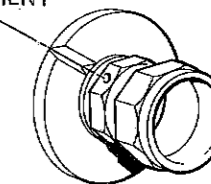
6 PREPARING THE BOILER

Notes (a) Before placing the boiler in the selected position, any gas and water connections at the rear of the boiler should be prepared because of lack of access. (See note on Fig.1 on Page 6).

(b) If an Optional Pump Kit is to be used it must be fitted at this stage - refer to the separate fitting instructions included with the kit.

1. Screw the distributor tube, supplied with 1 in. BSP x 28mm copper adaptor, into the selected heating return tapping, using an appropriate jointing material - Refer to Frame 8. IT IS IMPERATIVE THAT THE INDEX MARK ON THE DISTRIBUTOR BUSH IS IN ALIGNMENT WITH THE MARK ON THE SECTION BOSS AS SHOWN. DO NOT disturb it when connecting subsequent pipework. Fully Pumped systems, using more than one pump serving separate zones, MUST have a common return connection to the distributor tube.

ALIGNMENT



RH return tapping shown

3. Screw the boiler thermostat pocket, supplied, into the appropriate front section tapping, using an approved jointing material. Refer to Tables 7 and 8

Table 8 GRAVITY DOMESTIC HOT WATER AND PUMPED CENTRAL HEATING

CONNECTIONS AS VIEWED FROM FRONT				THERMOSTAT POSITION
Back Section				Front Section
CH		DHW		Top
Flow	Return	Flow	Return	
LH	LH	RH	RH	LH
LH	RH	RH	LH	LH
RH	RH	LH	LH	RH
RH	LH	LH	RH	RH

Table 7 FULLY PUMPED SYSTEMS

CONNECTIONS AS VIEWED FROM FRONT		THERMOSTAT POSITION
Back Section		Front Section
Flow	Return	Top
LH	LH	LH
LH	RH	LH
RH	RH	RH
RH	LH	RH

Note. The pump may be fitted to the flow or return.

7 WATER CONNECTIONS

1. Connect appropriate fittings to the rear tapplings and plug any unused tapplings.

Note. If using iron elbows, fit a short straight connector into the boiler tapping first, in order to clear the casing when fitted.
2. Place the boiler in position.

Connect the system flow and return pipework to the boiler as appropriate - Refer to Frames 8 and 9 for guidance on system design.

Notes (a) When the required output exceeds 14.4kW (49,000 Btu/h) 28mm (1 in.) pumped flow and return pipes should be used both to and from the boiler.

(b) Gravity pipework and connections MUST be at least 28mm (1 in.).

3. Ensure that all valves are open, fill and vent the system and check for water soundness.

Notes (a) Isolating valves must be fitted as close to the pump as possible.

(b) The boiler is not suitable for use with a direct hot water cylinder, or a sealed system.

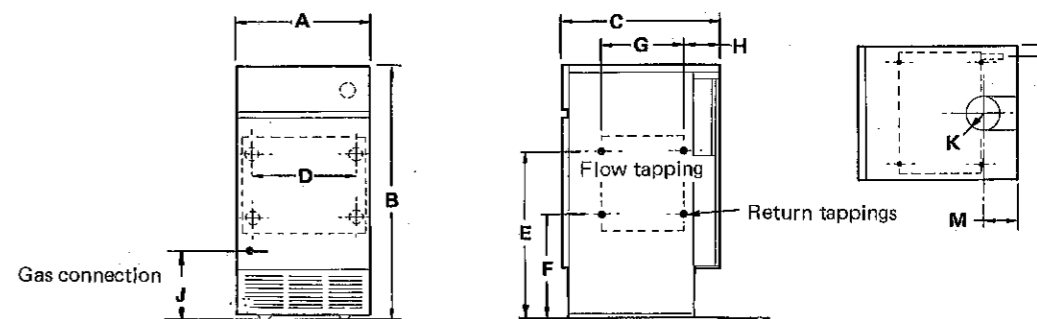


Table 9

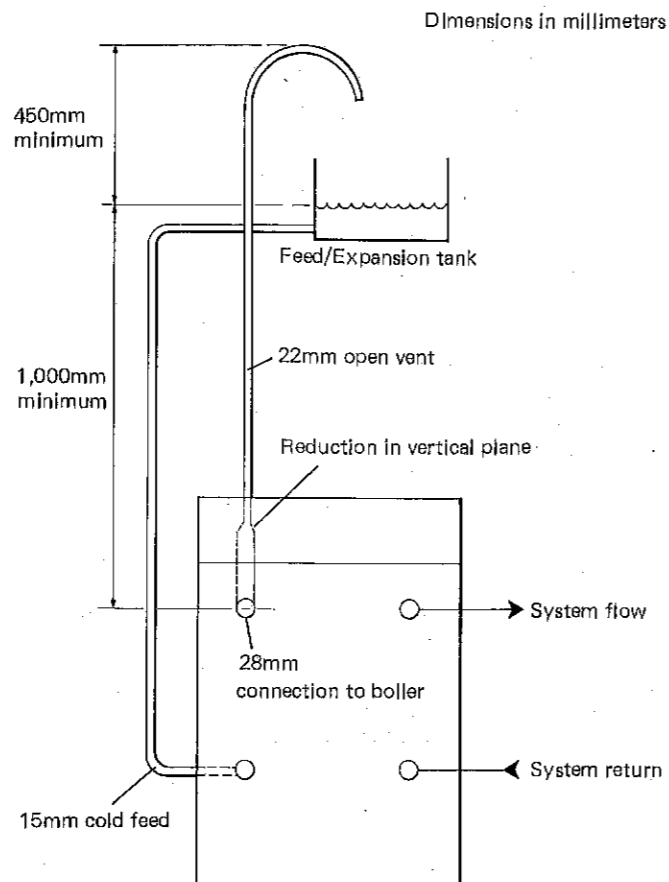
BOILER SIZE	Dimn	A	B	C	D	E	F	G	H	J	K	L	M
CF 40	mm	440	850	533	358	560	335	145	122	280	60	28	120
	in.	17 3/8	33 1/2	21	14 1/8	22	13 1/4	5 3/4	4 3/4	11	2 3/8	1 1/8	4 3/4
CF 50 & 60	mm	440	850	533	358	560	335	218	122	280	60	28	120
	in.	17 3/8	33 1/2	21	14 1/8	22	13 1/4	8 5/8	4 3/4	11	2 3/8	1 1/8	4 3/4

8 MINIMUM REQUIREMENTS. Fully pumped systems.

The following assumptions and conditions apply.

1. Open vent and cold feed connections are made to the boiler flow/return tapings according to the options shown in Table 7 Frame 6.
2. The boiler is assumed to be the highest point of the circulating system.
3. The circulating pump is positioned on the FLOW, and the vertical distance, between the pump and the feed/expansion tank, complies with the Pump Manufacturer's minimum requirements — to avoid cavitation. Should these conditions not apply, either lower the pump position, or raise the feed/expansion tank above the minimum requirements of Caradon Ideal Ltd.
4. The water velocity through the boiler flow/return pipes is assumed to be below 1 m/s (3 ft/s), whilst the pump flow rate is set to provide temperature difference of 11°C (20°F) across the boiler flow/return, at design input.
5. This information is intended as a GUIDE ONLY and cannot take into account instantaneous changes in head causes by operation of motorised valves, pumps etc. Due allowance MUST be made if surging is liable to occur.

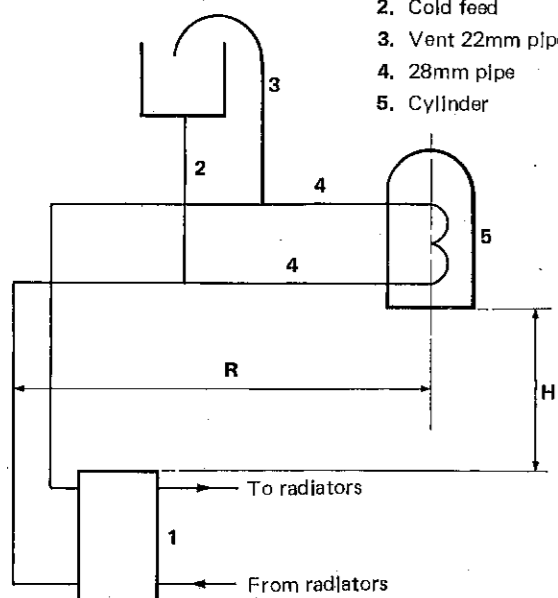
If in any doubt, contact Caradon Ideal Ltd.



9 GRAVITY HOT WATER AND PUMPED CENTRAL HEATING

1. Separate flow and return connections are used for each service. All possible configurations are shown in Table 8, Frame 6 and ONLY those connections shown should be used.
2. The schematic pipework graph, has been calculated on the assumption that NOT MORE than eight elbows are used in the gravity loop, including entry to the boiler.
3. For each extra elbow, in excess of eight, (R) MUST be reduced by 300mm (12 in.), or (H) increased by 100mm (4 in.).

1. Heat exchanger
2. Cold feed
3. Vent 22mm pipe
4. 28mm pipe
5. Cylinder



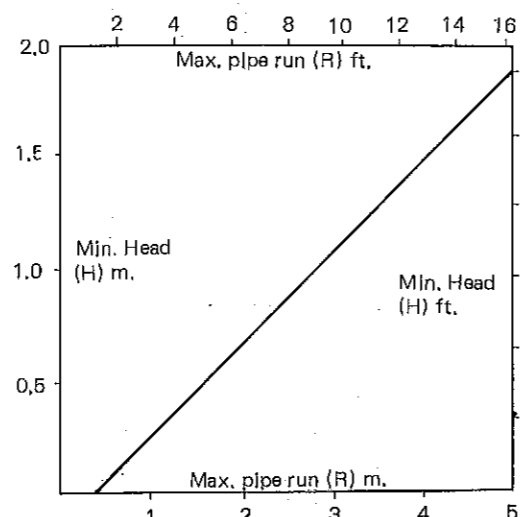
4. Whatever value is selected for (R), i.e. the horizontal distance between the centre line of the cylinder and the boiler tapings used — measured along the pipe run, the value of (H) i.e. the vertical distance between the top of the boiler and the base of the cylinder, MUST be at least that indicated by the graph.

Notes (a) Flow and return pipes should rise vertically on leaving the boiler.

(b) Horizontal pipes should be ABOVE ceiling level and as short as possible.

(c) A MINIMUM inclination of 25mm per 3m run (1 in. per 10 ft) is required to avoid air locks.

If the above conditions cannot be met pumped primaries should be used.



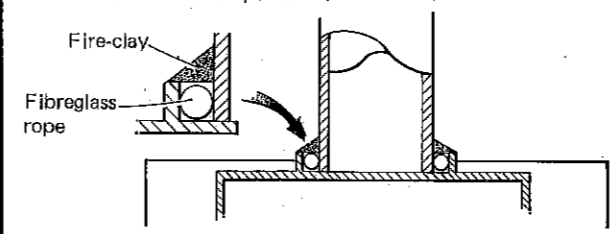
10 FLUE CONNECTION

Connect the flue pipe to the flue outlet.

Flue pipe spigot and socket connections should be sealed with fibreglass rope, or similar, and suitable fireclay cement.

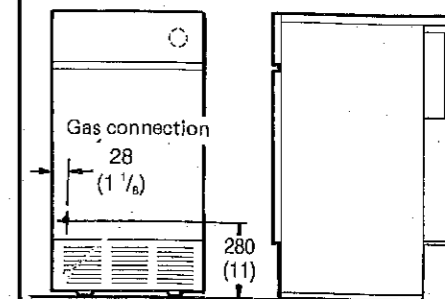
Notes:

- (a) The boiler flue connection outlet size is suitable for flue pipe conforming to BS,567. If sheet steel flue pipe is fitted, a suitable adaptor must be used.
- (b) To facilitate installation and subsequent disconnections, it is recommended that a slip or split socket be included in the flue installation adjacent to the boiler flue outlet connection.
- (c) A minimum of 600mm (2 ft.) of vertical flue directly above the boiler should be provided.



11 GAS CONNECTION

1. A MINIMUM working gas pressure of 20mbar (8 in. wg) MUST be available at the boiler inlet.
2. Extend a gas supply NOT LESS THAN 15mm (1/2 in.) OD to the boiler and connect to the gas cock situated at the front L. H. side of the boiler. (See note on Fig.1 on Page 6).
3. Test the gas installation for soundness and purge in accordance with BS.6891:1988 — Refer to Frame 22(b).



12 ELECTRICAL CONNECTIONS

WARNING: The appliance MUST be efficiently earthed.

A mains supply of 230 V ~ 50Hz single phase is required.

All external controls and wiring MUST be suitable for mains voltage.

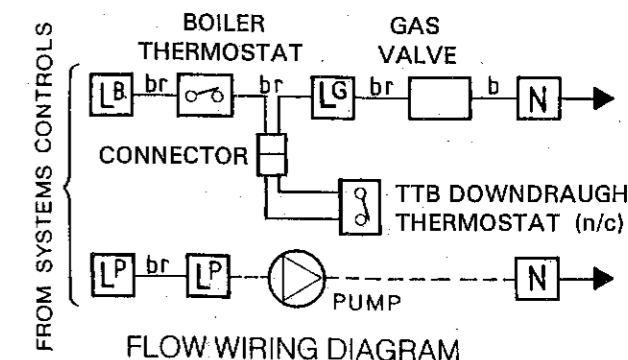
Wiring should be in 3 core PVC insulated cable NOT LESS than 0.75mm² (24 x 0.2mm) to BS. 6500, Table 16.

Wiring external to the boiler MUST be in accordance with current I.E.E. Wiring Regulations and local regulations.

The supply connection MUST be made to a fused double pole switch, having a 3mm (1/8") contact separation in both poles, serving only the boiler and system controls. The fuse rating should be 3 A.

This connection should be readily accessible and be made adjacent to the boiler.

LEGEND
b blue
br brown
bk black



13 INTERNAL WIRING

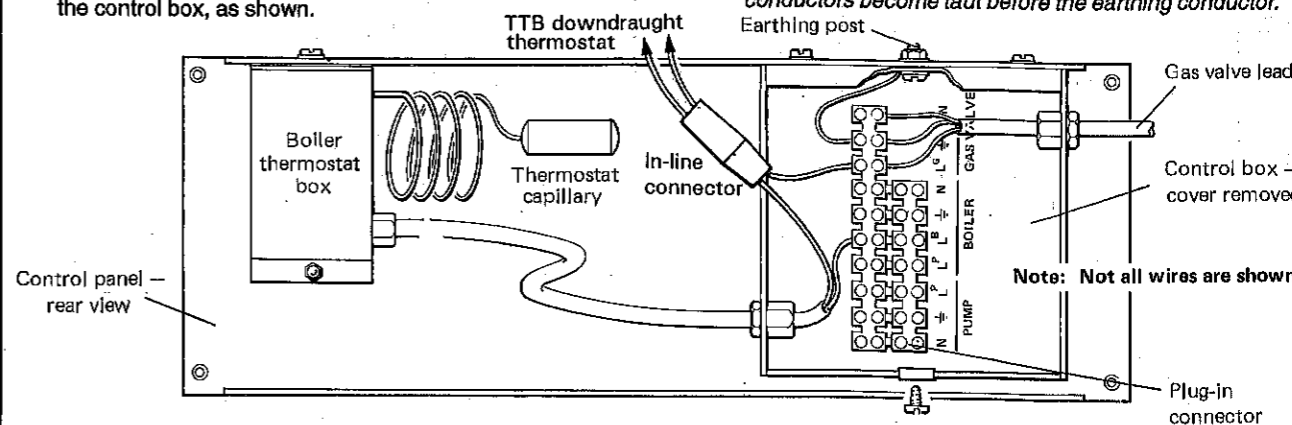
Flow and pictorial wiring diagrams are shown in Frames 12 and 15. A schematic wiring diagram is included in the Lighting Instruction label.

1. Remove the securing screw and lift off the control box cover.
2. Remove the 7-way terminal strip from inside of the control box cover and connect it to the 7-way terminal strip inside the control box, as shown.

3. Route the electrical leads into the box and wire into the plug-in connector as shown.

Notes:

- a Secure each lead with one of the cable clamps on the control box cover.
- b The mains lead connection MUST be made so that, should the lead slip from its anchorage, the current carrying conductors become taut before the earthing conductor. Earthing post.



14 EXTERNAL CONTROLS

External wiring MUST be in accordance with the current I.E.E. Wiring Regulations.

The wiring diagrams illustrated in Frames 16-18 cover the systems most likely to be used with this appliance.

For wiring external controls to the MEXICO SUPER 2 boiler, reference should be made to the system wiring diagram supplied by the relevant Manufacturer, in conjunction with the wiring diagrams shown in Frames 12 and 15. Difficulty in wiring should not arise, provided the following directions are observed.

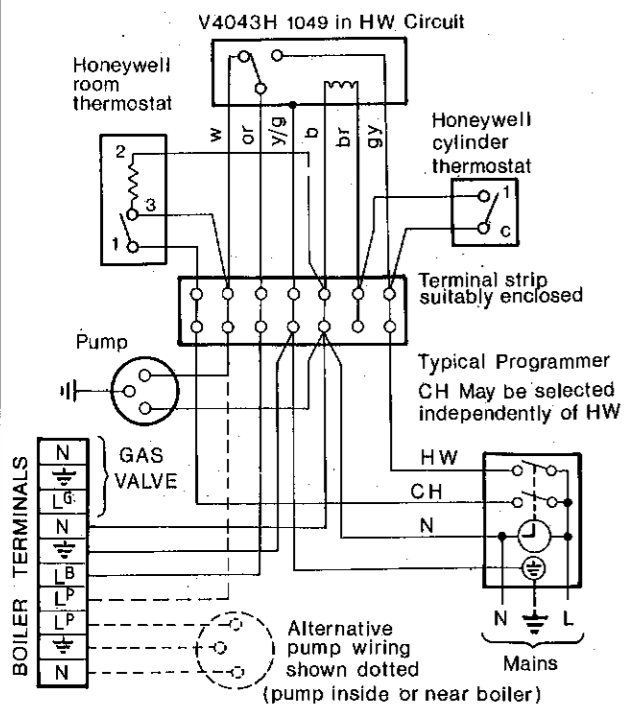
1. Controls that switch the system ON and OFF, e.g. a time switch MUST be wired in series, in the live mains lead to the boiler.
2. Controls that over-ride ON/OFF control, e.g. a frost thermostat, MUST be wired into the mains lead in parallel, with the control(s) to be over-riden - refer to Frame 19.
3. If a propriety system is used, follow the instructions supplied by the Manufacturers.

Note. If there are no external controls, the circulating pump MUST also be wired into the control box.

16 HONEYWELL 'C' PLAN Gravity H.W. & pumped C.H.

Notes:

1. SOME EARTH WIRES ARE OMITTED FOR CLARITY - ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
2. Numbering of the thermostat terminals is specific to manufacturer shown.

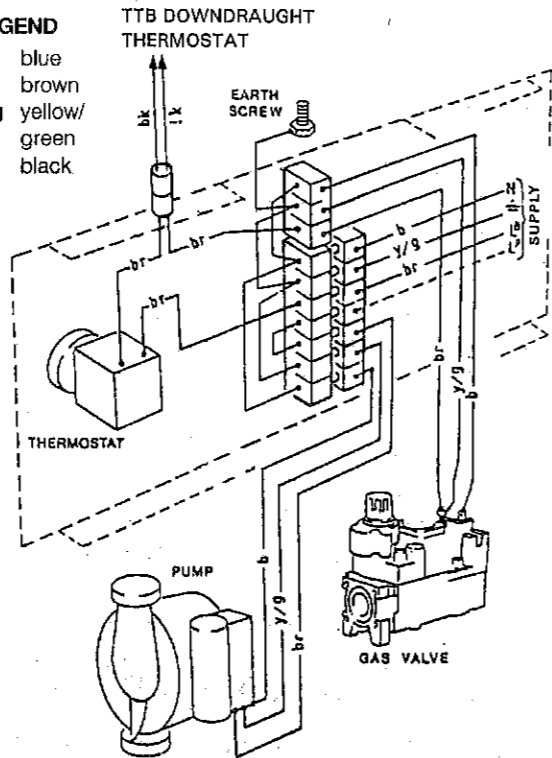


- LEGEND**
- b blue
 - g green
 - y yellow
 - w white
 - r red
 - br brown
 - gy grey
 - bk black
 - or orange

15 PICTORIAL WIRING DIAGRAM

LEGEND

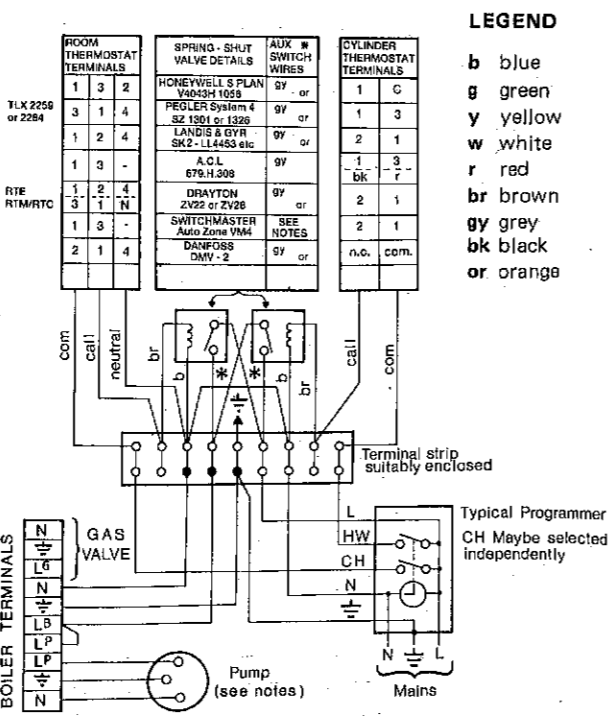
- b blue
- br brown
- y/g yellow/green
- bk black



17 TWO SPRING CLOSED VALVES Pumped only

Notes:

1. SOME EARTH WIRES ARE OMITTED FOR CLARITY - ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
2. This is a fully controlled system - therefore, set the boiler thermostat to its highest position.
3. Numbering of thermostat terminals is specific to manufacturer indicated.
4. 'SWITCHMASTER Autozone' valve also has grey and orange leads, but the GREY wire (NOT the orange wire) must be connected to the incoming live supply.
5. Black dots denote alternative pump connections.



LEGEND

- b blue
- g green
- y yellow
- w white
- r red
- br brown
- gy grey
- bk black
- or orange

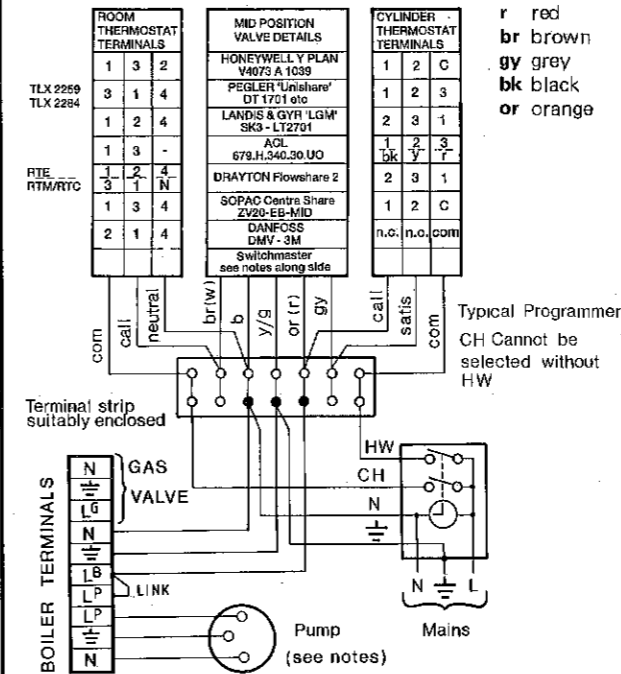
18 MID POSITION VALVE Pumped only

Notes:

1. SOME EARTH WIRES ARE OMITTED FOR CLARITY - ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
2. Black dots denote alternative pump connections.
3. This is fully controlled system - set boiler thermostat to highest position.
4. Numbering of thermostat terminals is specific to manufacturer.
5. Switchmaster MIDI operates similarly, but the wiring is not identical - see manufacturer's wiring diagram.

LEGEND

- b blue
- g green
- y yellow
- w white
- r red
- br brown
- gy grey
- bk black
- or orange



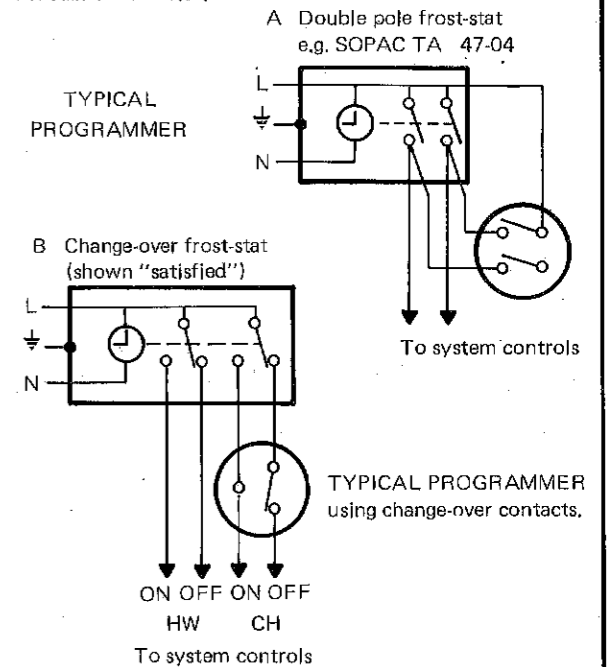
19 FROST PROTECTION

Central Heating systems fitted inside the house do not normally require frost protection, since the house acts as an overnight 'storage heater' and can generally be left at least 24 hours without fear of frost damage.

If however, parts of the pipework run outside the house, or if it is desired to leave the boiler off for more than a day or so, then a frost-stat should be wired into the system. This is normally done at the programmer, in which case the programme SELECTOR switches are set to 'Off' and all other controls MUST be left in the running position. The frost-stat should be sited in a cold place, but where it can sense heat from the system. Wiring should be basically as shown, with minimal disturbance to other wiring to the programmer. Designation of the terminals will vary; but the programmer and thermostat manufacturer's leaflets will give full details.

Diagram A shows a double pole frost-stat, which should suffice for all systems which do not use the 'Off' terminals of the programmer.

Diagram B shows a 'change-over' frost-stat, which will cover most systems which do use "CH OFF". If, however, on such a system, the HW pipework is in an isolated part of the house, a second frost-stat may be used to protect it also. If in doubt, ask your Installer for advice.



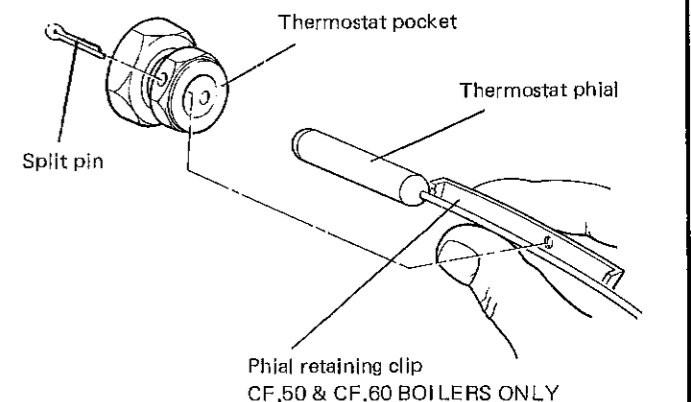
20 FITTING THE CASING Refer also to Frame 21

1. Offer up the RH side panel (E) locating it with the peg (I) and push the panel back.
2. Secure the panel to the base plate and the flue collector using the screws previously removed.
3. Repeat steps 1 and 2 to refit the LH side panel (K).

IMPORTANT. Wiring within the boiler casing MUST be neatly secured with the cable straps provided and MUST NOT be allowed to touch the burner front plate or the cleanout cover and collector hood.

4. Place the top panel (L) in position and push back.
5. Secure the top panel to the side panels using the screws previously removed.
6. Replace the control box cover after plugging in the TTB in-line connector and refit the control panel (C) using the screws previously removed.

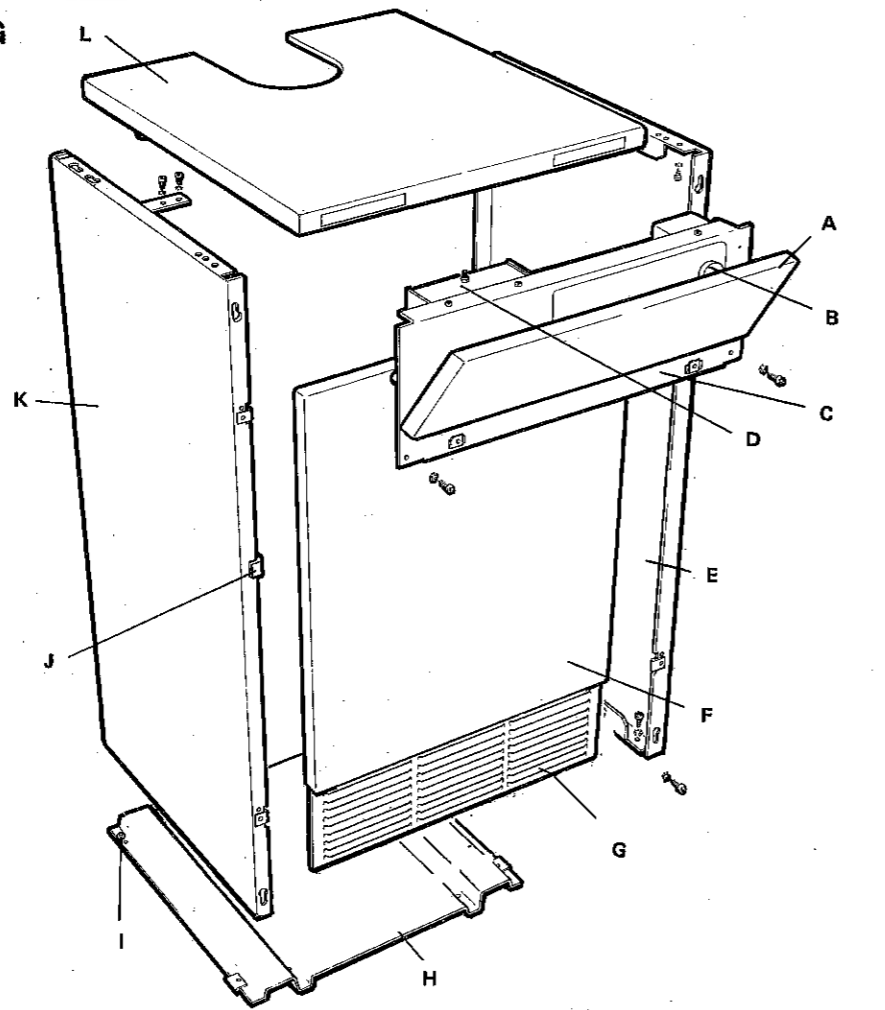
7. Insert the thermostat phial and phial retaining clips (CR.50 & 60 ONLY), into the thermostat pocket, taking care NOT to kink the thermostat capillary as it is unwound, and secure it with the split pins shown.



21 FITTING THE CASING
Cont.

LEGEND

- A. Control door
- B. Boiler thermostat
- C. Controls panel
- D. Control box
- E. RH side panel
- F. Lower front panel
- G. Grille assembly
- H. Base plate
- I. Locating peg
- J. Cable straps
- K. LH side panel
- L. Top panel



22 COMMISSIONING AND TESTING

(a) Electrical Installation

1. Checks to ensure electrical safety should be carried out by a competent person.
2. ALWAYS carry out the preliminary electrical system checks as detailed on the Instructions for the British Gas Multimeter, or similar test meter.

(b) Gas Installation

1. The whole of the gas installation, including the meter, should be inspected and tested for soundness, and purged in accordance with the recommendations of BS.6891:1988.
WARNING. Whilst effecting the required gas soundness test and purging air from the gas installation, open all windows and doors, extinguish naked lights and DO NOT SMOKE.
2. Purging air from the gas installation may be expedited by loosening the union on the gas service cock and purging until gas is smelled.
3. Retighten the union and check for gas soundness.

23 INITIAL LIGHTING Refer also to Frame 24

Note. The pilot burner connection can be tested for gas soundness - refer to Frame 25.

1. Connect the gas valve electrical leads.
2. Check that the gas service cock (G) is ON and the boiler thermostat knob (J) is OFF.
3. Loosen the screw in the burner pressure test nipple (D) and connect a gas pressure gauge via a flexible tube.
4. Turn the gas control knob (A) CLOCKWISE until resistance is felt and then release it.
5. Push in & retain fully depressed the gas control knob (A). Press and release piezo ignition button (I) repeatedly until the pilot lights.
6. Hold the gas control button (B) depressed for 15 seconds after the pilot burner has ignited. If the pilot burner fails to remain alight at this stage repeat the procedure detailed above, but wait longer than 15 seconds before releasing the gas control button (B).

24 INITIAL LIGHTING Cont.

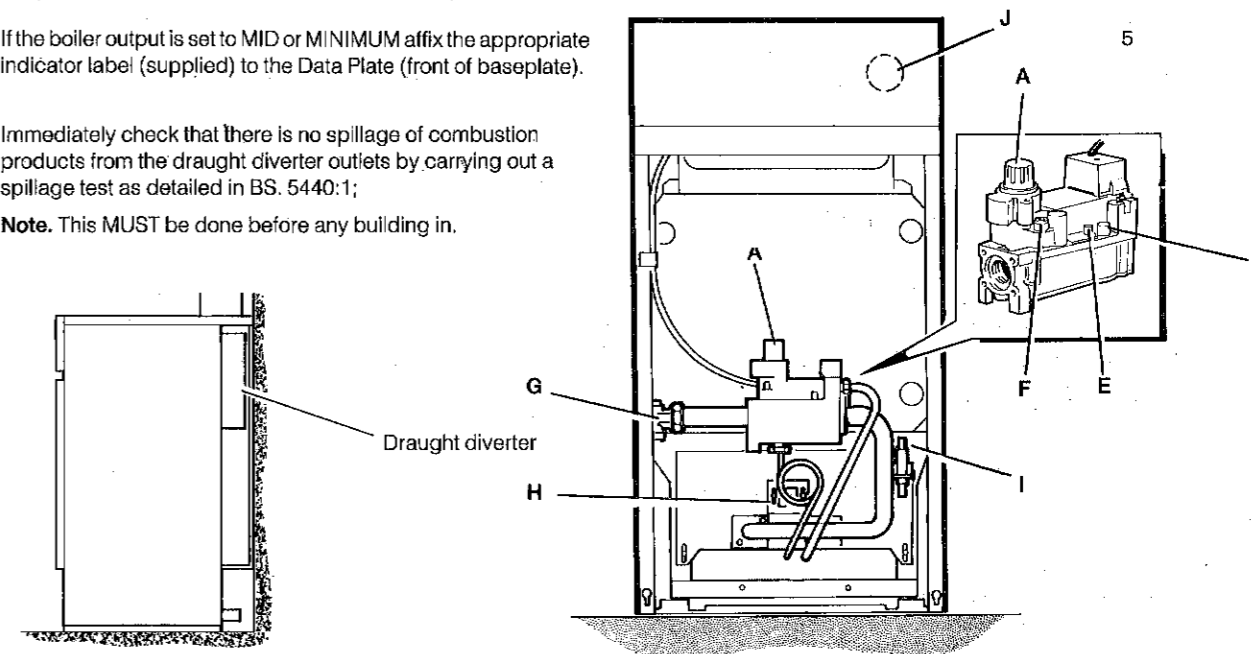
7. Check the appearance of the pilot flame to ensure that it envelops the tip of the thermocouple and is approximately 25mm (in.) long. The pilot flame is factory set
8. Switch the electricity supply ON and check that all external controls are calling for heat.
9. Turn the boiler thermostat knob (J) to position 6 and check that the burner cross-lights smoothly.
10. Test for gas soundness around the boiler gas components using leak detection fluid.
11. Operate the boiler for 10 minutes to stabilise burner temperature. The boiler is pre-set at the factory to its maximum nominal rating but can be range rated to suit the system design requirements. Refer to Table 2, page 2. If the burner pressure setting requires adjustment, turn the pressure adjusting screw (E) ANTICLOCKWISE to decrease the pressure and CLOCKWISE to increase the pressure.
12. If the boiler output is set to MID or MINIMUM affix the appropriate indicator label (supplied) to the Data Plate (front of baseplate).
13. Immediately check that there is no spillage of combustion products from the draught diverter outlets by carrying out a spillage test as detailed in BS. 5440:1;
Note. This MUST be done before any building in.

14. Turn the boiler thermostat knob (J) to OFF.
15. Remove the pressure gauge and tube. Retighten the screw in the pressure test nipple, ensuring that a gas-tight seal is made.

LEGEND

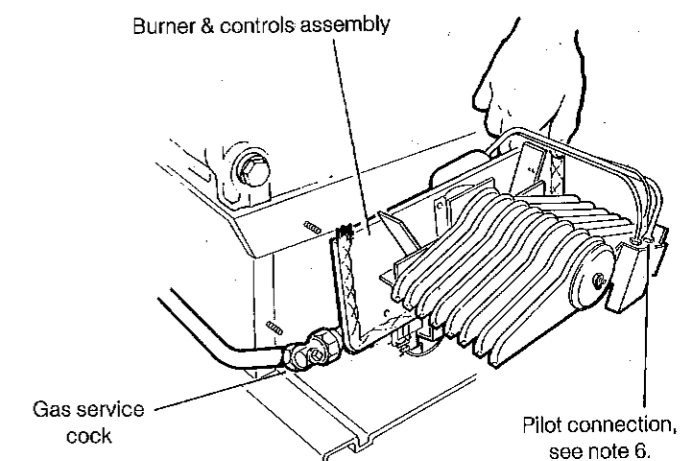
- A. Gas control knob.
- D. Burner pressure test nipple.
- E. Main burner pressure adjuster,
- F. Inlet pressure test nipple.
- G. Gas service cock.
- H. Sightglass.
- I. Piezo ignition button.
- J. Boiler thermostat knob.

BOILER CONTROLS



25 PILOT BURNER CONNECTION
GAS SOUNDNESS

1. Turn the gas service cock to OFF and undo the union nut.
2. Remove the four wing nuts and withdraw the burner and controls assembly complete, from the boiler.
3. Invert the burner assembly and re-connect to the gas service cock.
4. Turn the gas service cock to ON.
5. Light the pilot burner - Refer to Frame 23.
6. Test for gas soundness around the pilot burner connection, using leak detection fluid.
7. Turn the gas service cock to OFF and return the burner and controls assembly to the normal working position.



26 GENERAL CHECKS

Make the following checks for correct operation:

1. Turn the boiler thermostat OFF and ON and check that the main burner lights and extinguishes in response.
2. Check that the programmer, if fitted, and all other system controls function correctly.

Operate each control separately and check that the main burner or circulating pump, as the case may be, responds.

3. Flame Failure Device

Check the operation of the flame failure device in the gas control valve as follows:

- (a) Extinguish the pilot flame by closing the gas service cock (C) and note the time taken for the flame failure device to shut down, identified by a click within the gas control valve. This MUST NOT be longer than 60 seconds.
- (b) Open the gas service cock and re-light the pilot.
- (c) Turn the boiler thermostat (H) ON and the burner should light.
- (d) Turn the gas control knob to the OFF position - refer to Frame 24. The main burner and pilot flame should shut down immediately.

Note. A latch in the gas control valve provides a safety delay period of approximately 30 seconds before the boiler can be re-lit.

4. Water Circulation System

- (a) With the system HOT, examine all water connections for soundness.
- (b) With the system still hot turn off the gas, water and electricity supplies to the boiler and drain down in order to complete the flushing process.
- (c) Re-fill and vent the system, clear all air locks and again check for water soundness.
- (d) Balance the system.

Finally

Set the controls to the Users requirements, refit the lower front panel and close the control door.

Notes.

- (a) If an optional Programmer kit is fitted refer to the Programmer Kit Installation and User's Instructions.
- (b) The temperatures quoted below are approximate and may vary between installations.

Knob Setting	Flow Temperature	
	°C	°F
2	60	140
3	66	150
4	71	160
5	77	170
6	82	180

27 HANDING OVER

After completing the installation and commissioning of the boiler system, the Installer should hand over to the Householder by the following actions:

1. Hand the User's Instructions to the householder and explain his or her responsibilities under the Gas Safety (Installation and Use) Regulations 1994, & Amendments 1996
2. Draw attention to the Lighting Instruction label affixed to inside of the controls door.
3. Explain and demonstrate the lighting and shutting down procedures, including the function of the TTB draught thermostat.
4. The operation of the boiler and use and adjustment of ALL system controls should be fully explained to the Householder, to ensure the greatest possible fuel economy, consistent with household requirements of both heating and hot water consumption.
5. Explain the function and the use of the boiler thermostat and external controls.
6. Explain and demonstrate the function of time and temperature controls/radiator valves, etc, for the economic use of the system.
7. If an optional Programmer Kit is fitted, then draw attention to the Programmer Kit User's Instructions and hand them to the Householder.
8. Stress the importance of regular servicing by a CORGI registered installer, and that a comprehensive service should be carried out AT LEAST ONCE A YEAR.

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.

1 SCHEDULE

THE FOLLOWING SHOULD BE CARRIED OUT AT PERIODS NOT EXCEEDING ONE YEAR.

- (a) Light the boiler and carry out a pre-service check, noting any operational faults.
- (b) Clean the main burner and lint gauze.
- (c) Clean the heat exchanger.
- (d) Clean the main injector.
- (e) Check the condition of the thermocouple.
- (f) Check that the flue is unobstructed and that the flue system, including the flue cleanout cover, is sealed correctly.
- (g) If the appliance has been installed in a compartment check that the ventilation areas are clear.

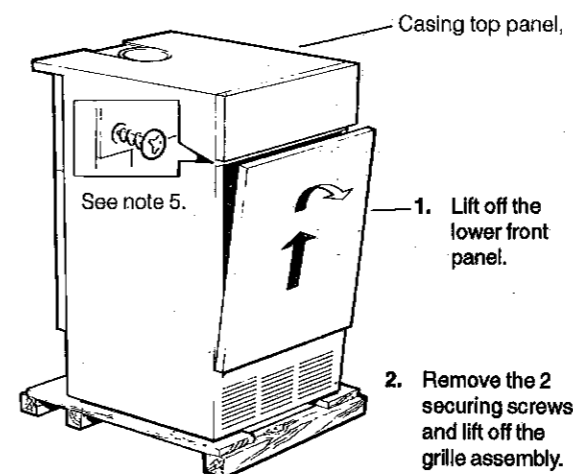
THE SERVICING PROCEDURES ARE COVERED MORE FULLY IN FRAMES 2 TO 9 AND MUST BE CARRIED OUT IN SEQUENCE.

WARNING. Always turn off the gas supply at the gas service cock and switch OFF and DISCONNECT the electricity supply to the appliance BEFORE SERVICING.

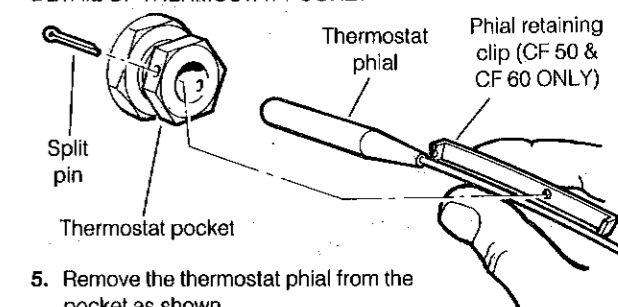
IMPORTANT. After completing servicing or exchange of components always test for gas soundness, carry out functional checks as appropriate, and test for spillage - Refer to Frame 24 (Installation).

Note. It may be necessary to remove the boiler casing to carry out the spillage test - Refer to Frame 5 (Installation).

2 BOILER CASING FRONT REMOVAL



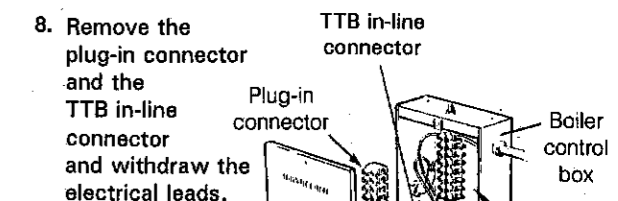
DETAIL OF THERMOSTAT POCKET



5. Remove the thermostat phial from the pocket as shown.
6. Remove the two screws securing the control panel and disengage the panel by lowering and pulling it forward.

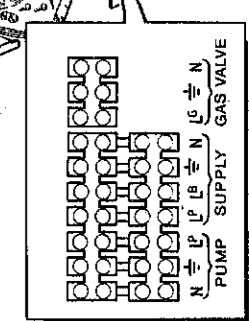
VIEW OF BOILER CONTROL BOX & TERMINAL WIRING

7. Remove the securing screw and lift off the control box cover.



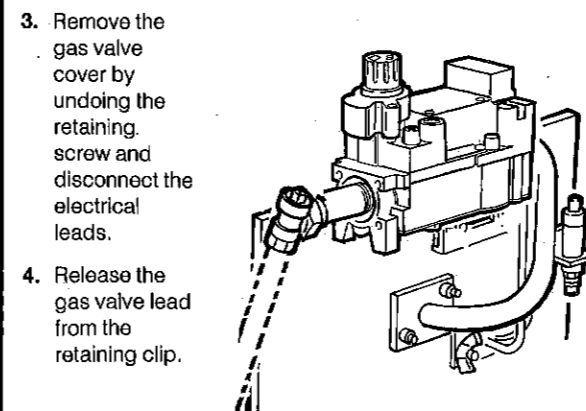
8. Remove the plug-in connector and the TTB in-line connector and withdraw the electrical leads.
9. Disconnect the programmer if fitted. Refer to the Programmer installation Instructions.

- (a) Release the two screws securing the programmer connection box to the back of the programmer.
- (b) Disengage the box by unhooking the lugs from the slots.

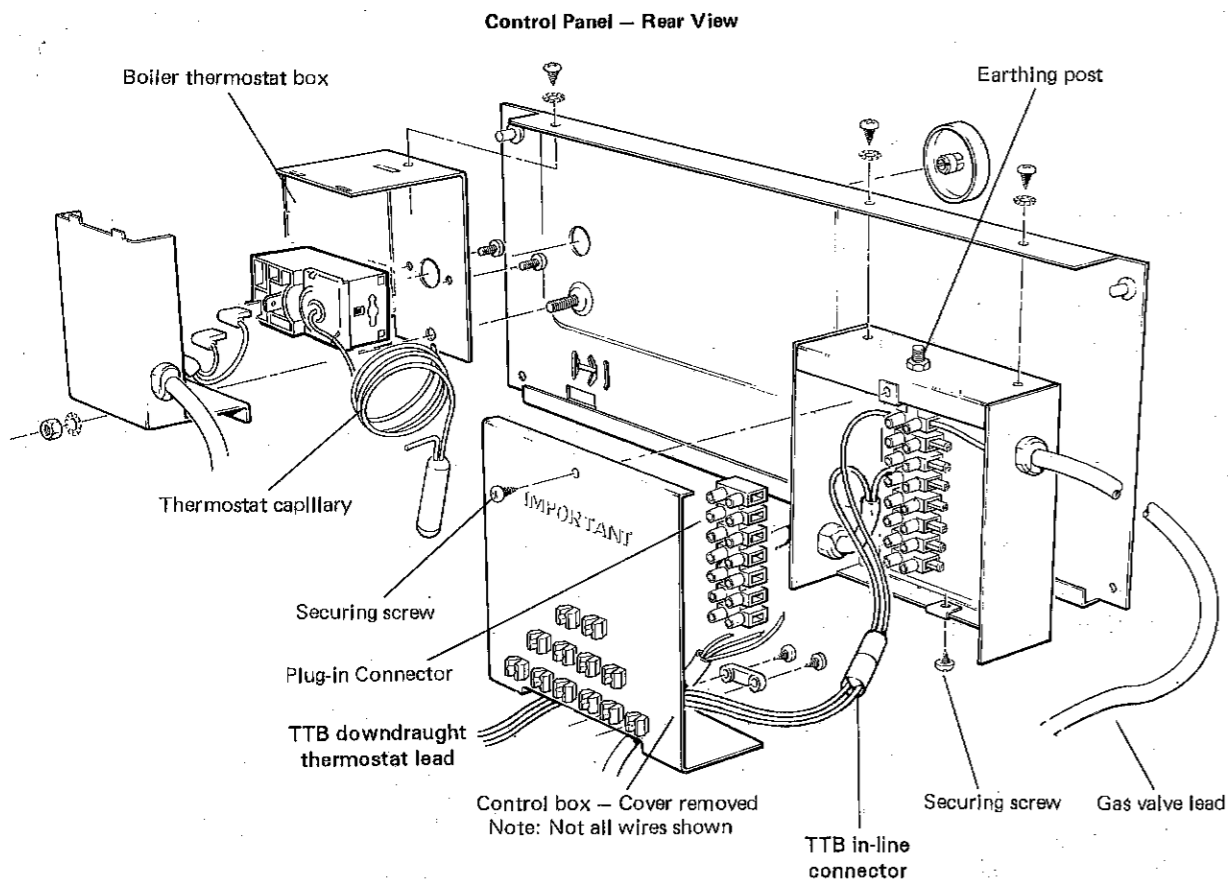


10. Place the control panel safely to one side.
11. Remove the 2 securing screws & lift off the casing top panel.

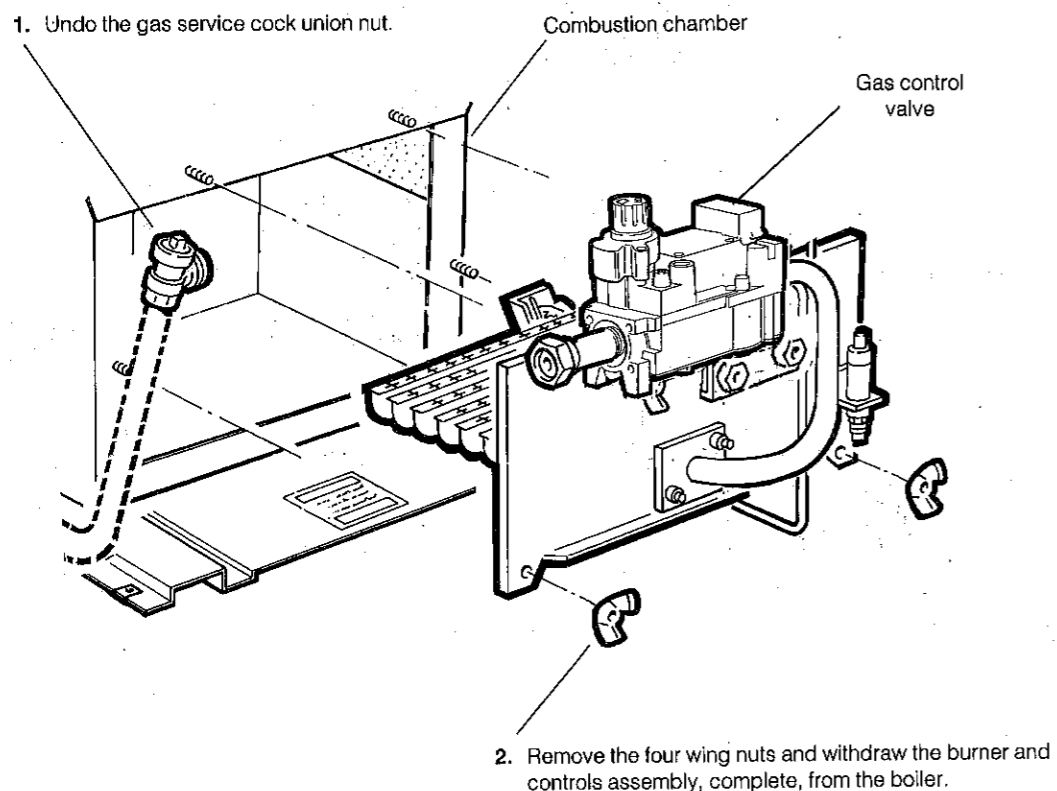
VIEW OF GAS CONTROL VALVE (Behind the lower front panel)



3 BOILER CASING FRONT REMOVAL - CONT.

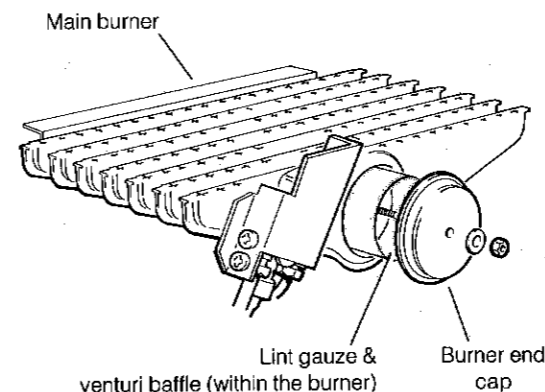


4 BURNER & CONTROLS ASSEMBLY REMOVAL



5 LINT GAUZE REMOVAL

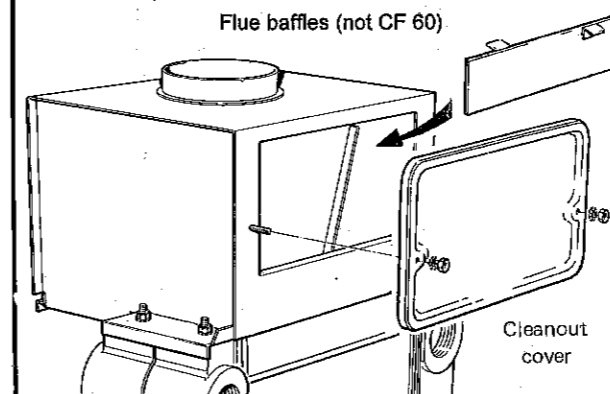
1. Remove the burner end cap.



2. Withdraw the venturi baffle and lint gauze.

7 CLEANING FLUEWAYS

1. Remove the two wing nuts and lift off the cleanout cover.
2. Lift out the flue baffles.
3. Remove all loose deposits from the heat exchanger, especially from between the fins, using a suitable brush.
Remove all debris from the combustion chamber base.
4. Check that the flue outlet is unobstructed.



9 GAS PRESSURE ADJUSTMENT

1. Pilot pressure

Pilot adjustment is factory set to maximum and no adjustment is possible.

8 RE-ASSEMBLY

Re-assemble the boiler in the following order:

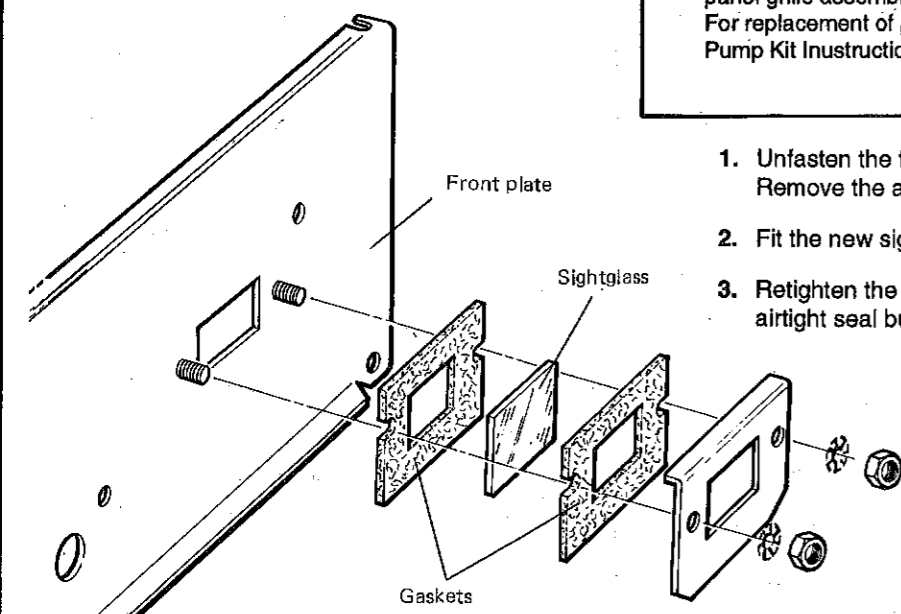
1. Replace the flue baffles into the boiler flueways, ensuring that they are correctly repositioned. Refer to Frame 5-'Installation'.
2. Refit the flue cleanout cover, renewing any damaged or deteriorating sealing gasket.
3. Refit the casing top panel.
4. Reconnect the electrical wiring and refit the controls panel, ensuring that the thermostat phial and phial retaining clip (CF 50 and CF 60 boilers ONLY) are correctly located in the thermostat pocket and secured by the split pin. Refer to Frame 2.
5. Check the sightglass in the front plate. Clean or renew as necessary.
6. Renew any damaged or deteriorating front plate gasket.
7. Refit the burner and controls assembly.
8. Reconnect the gas service cock.
9. Refit the grille assembly.

2. Main burner pressure

After servicing, reference should be made to Table 2, which quotes details of the rated output with the related burner pressure and heat input. Any required adjustments should be made using the pressure adjustment screw. Refer to 'Initial Lighting' Frame 23-'Installation'.

Finally, refit the lower front panel.

10 SIGHTGLASS REPLACEMENT

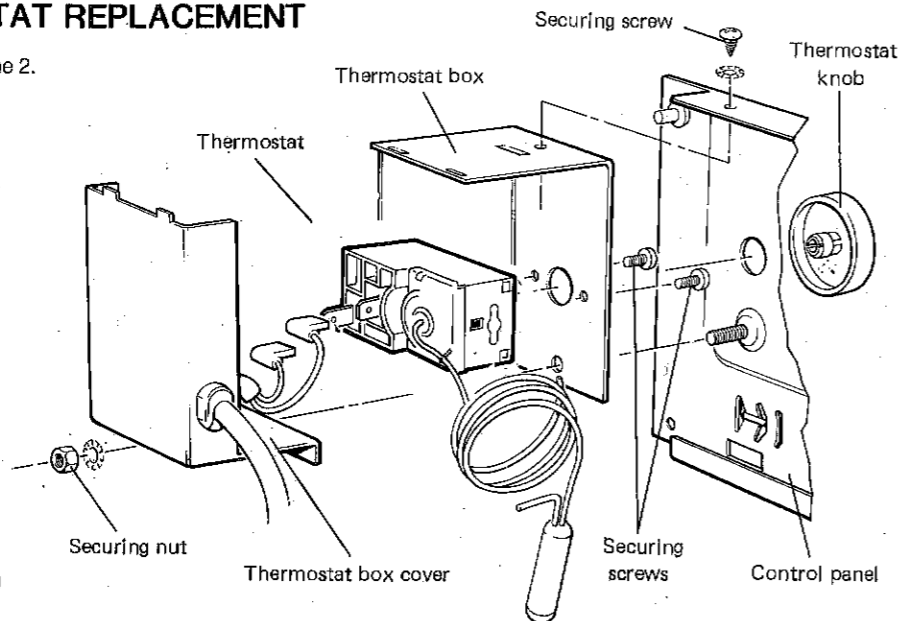


1. Unfasten the two M5 hexagon nuts and washers. Remove the assembly from the front plate.
2. Fit the new sightglass and re-assemble as shown.
3. Retighten the two M5 hexagon nuts to ensure an airtight seal but do NOT OVERTIGHTEN

To replace the components in Frames 10 to 20 the lower front panel grille assembly must be removed. Refer to Frame 2. For replacement of pumps or programmer units refer to the Pump Kit Instructions or Programmer Kit Instructions.

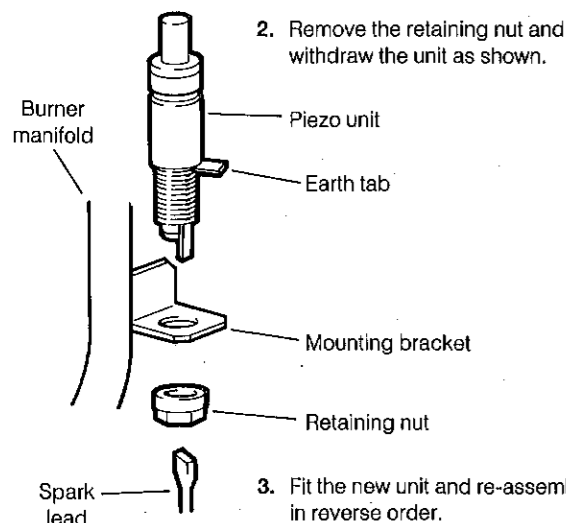
11 CONTROL THERMOSTAT REPLACEMENT

1. Remove the control panel. Refer to Frame 2.
2. Remove the securing nut and lift off the thermostat box cover.
3. Disconnect the two electrical leads from the thermostat.
4. Pull off the thermostat knob.
5. Remove the top securing screw and withdraw the thermostat box.
6. Remove the two securing screws and withdraw the thermostat.
7. Fit the new thermostat and re-assemble in reverse order, ensuring that:
 - (a) The thermostat capillary is towards the top of the box.
 - (b) The thermostat phial and phial retaining clip (CF.50 and CF.60 ONLY) are in position in the thermostat pocket BEFORE securing with the split pin.



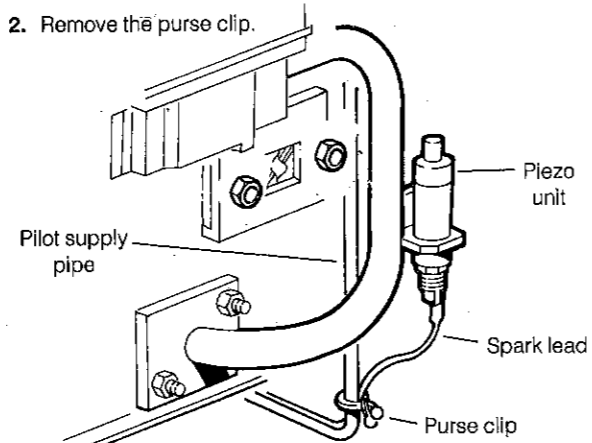
12 PIEZO UNIT REPLACEMENT

1. Disconnect the spark lead from the piezo unit body.
2. Remove the retaining nut and withdraw the unit as shown.
3. Fit the new unit and re-assemble in reverse order.



13 SPARK LEAD REPLACEMENT

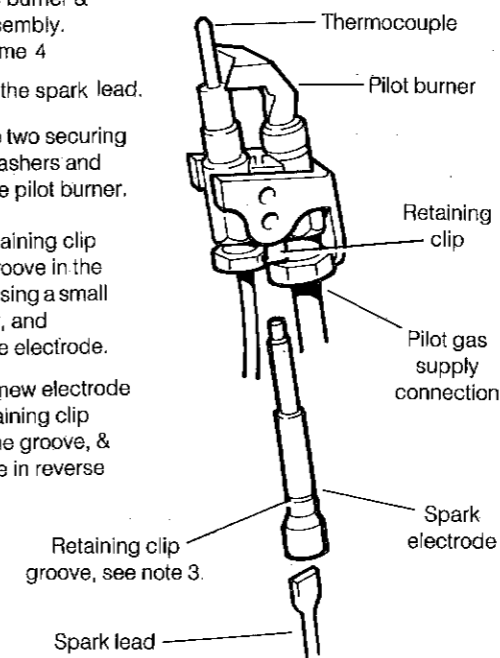
1. Remove the burner & controls assembly. Refer to Frame 4.
2. Remove the purse clip.
3. Disconnect the lead from the base of the electrode and the piezo unit, and withdraw the lead.
4. Fit the new lead and re-assemble in reverse order.



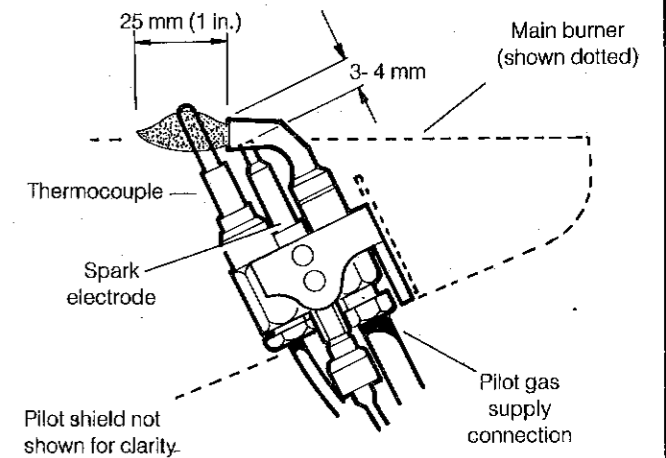
14 SPARK ELECTRODE REPLACEMENT. Showing pilot flame length & spark gap

DETAIL OF PILOT BURNER ASSEMBLY (Main burner not shown)

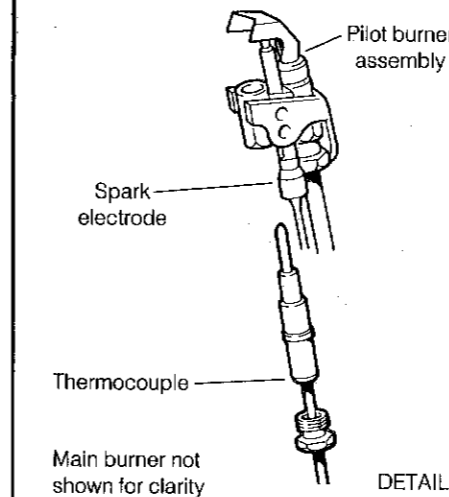
1. Remove the burner & controls assembly. Refer to Frame 4
2. Disconnect the spark lead.
3. Remove the two securing screws & washers and withdraw the pilot burner.
4. Prise the retaining clip out of the groove in the electrode, using a small screwdriver, and withdraw the electrode.
5. Push in the new electrode until the retaining clip locates in the groove, & re-assemble in reverse order.



DETAIL OF PILOT FLAME LENGTH & SPARK GAP



15 THERMOCOUPLE REPLACEMENT

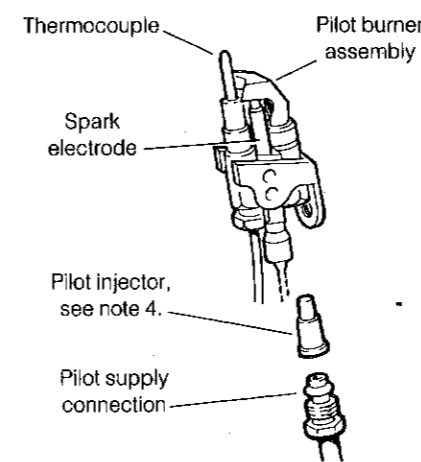


1. Remove the burner and controls assembly. Refer to Frame 4.
2. Remove the spark electrode as detailed in Frame 14.
3. Remove the purse clip.
4. Undo the thermocouple connection at the pilot burner and pull the thermocouple clear.
5. Undo the thermocouple connection at the gas valve.
6. Fit the new thermocouple and re-assemble in reverse order. **Note:** Avoid sharp bends in the thermocouple lead and ensure that it follows the same route as previously.

Main burner not shown for clarity

DETAIL OF THERMOCOUPLE

16 PILOT BURNER REPLACEMENT



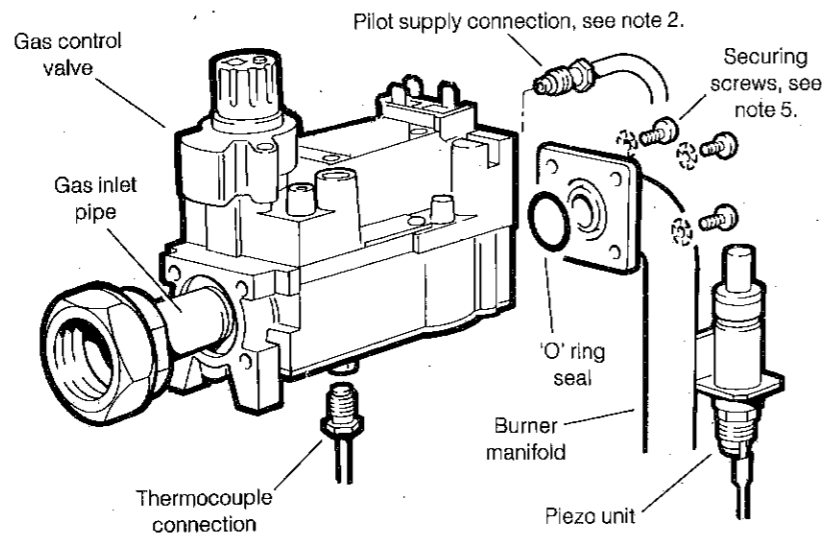
1. Remove the burner and controls assembly. Refer to Frame 4.
2. Remove the spark electrode. Refer to Frame 14.
3. Undo the thermocouple connection & pull the thermocouple clear. Refer to Frame 15.
4. Undo the pilot supply connection and ease clear of the pilot burner. DO NOT lose the pilot injector which is a push fit in the pilot burner housing.
5. Remove the two securing screws and washers and withdraw the pilot burner.
6. Fit the new pilot burner and re-assemble in reverse order ensuring that:
 - (a) The injector is in position when refitting the pilot supply.
 - (b) A gas-tight joint is made.
 - (c) The spark gap is correct. Refer to Frame 14.

Main burner not shown for clarity

DETAIL OF PILOT BURNER:

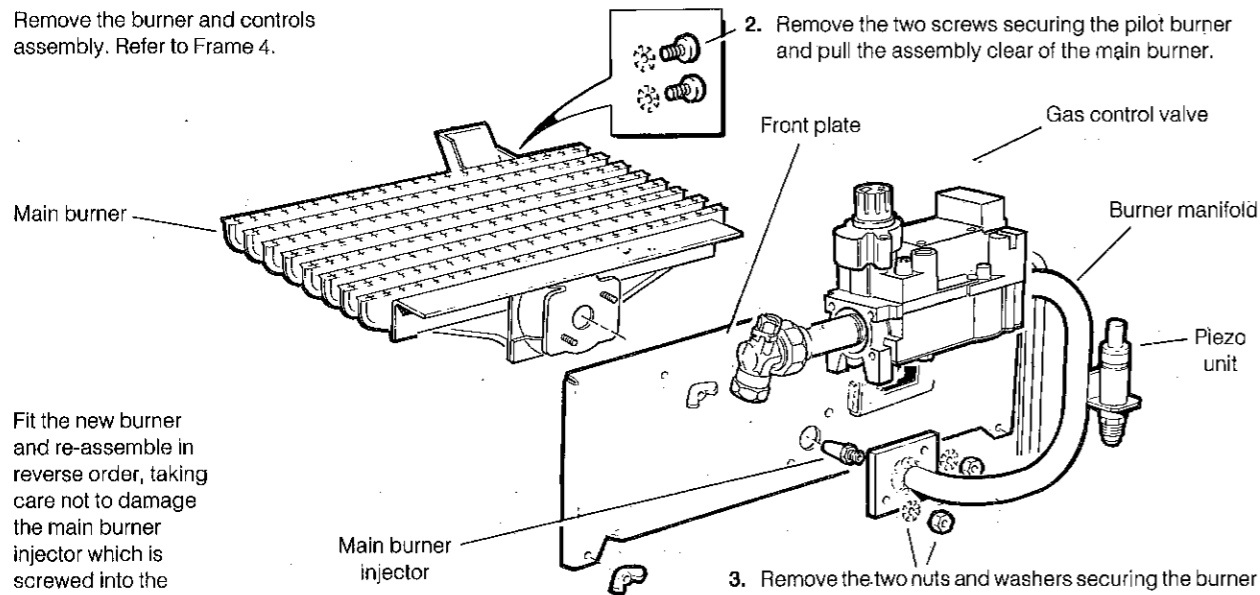
17 GAS VALVE REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 4.
2. Undo the pilot supply connection.
3. Undo the thermocouple connection.
4. Unscrew the gas inlet pipe from the valve.
5. Remove the 4 securing screws and withdraw the valve from the burner manifold.
6. Fit the new gas valve ensuring that
 - (a) The valve is fitted the right way round - an arrow engraved on the valve indicates the direction of flow.
 - (b) The sealing 'O' rings supplied with the valve are correctly fitted at the inlet and outlet flanges.
 - (c) An approved jointing compound is used when re-connecting the gas inlet pipe.



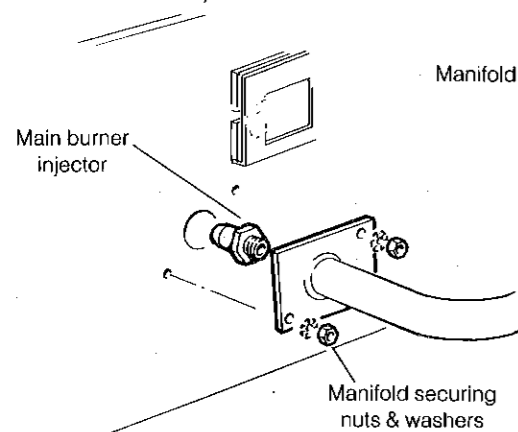
18 MAIN BURNER REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 4.
2. Remove the two screws securing the pilot burner and pull the assembly clear of the main burner.
3. Remove the two nuts and washers securing the burner to the front plate and manifold. Withdraw the burner.
4. Fit the new burner and re-assemble in reverse order, taking care not to damage the main burner injector which is screwed into the burner manifold.



19 MAIN BURNER INJECTOR REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 4.
2. Unscrew the burner injector from the manifold.



3. Fit the new injector using an approved jointing compound, and re-assemble in reverse order.

20 TTB DOWNDRAUGHT THERMOSTAT REPLACEMENT

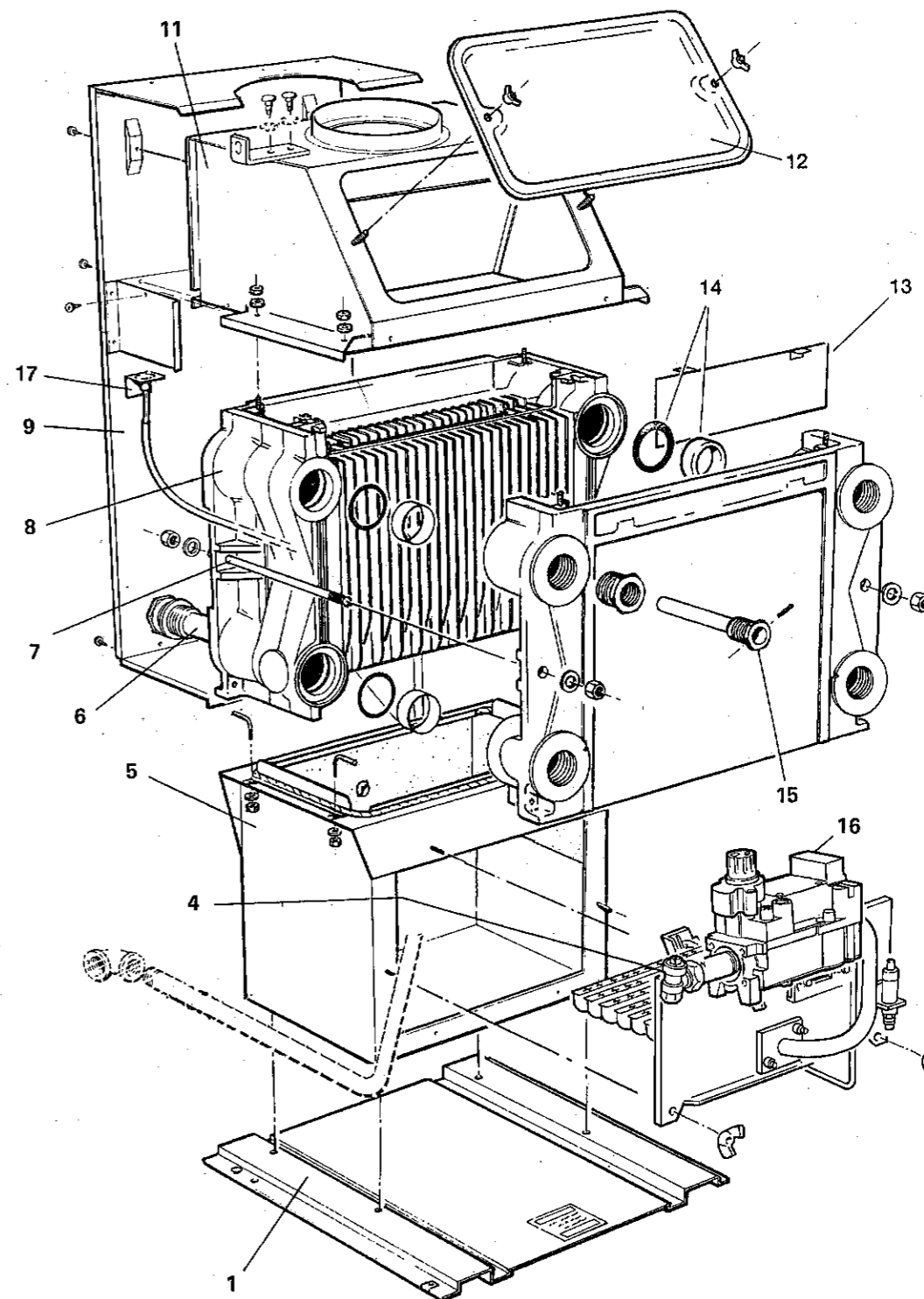
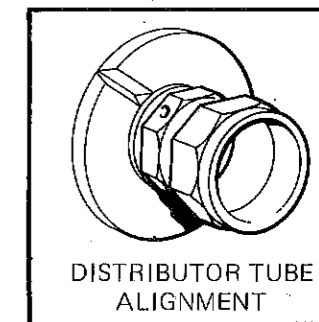
1. Remove the control panel. Refer to Frame 2.
2. Remove the securing screws and lift off the control box cover.
3. Unplug the TTB in-line connector and remove from cable clamp and control box. Refer to Frame 3.
4. Reach down the side of the boiler and carefully lift the TTB bracket from its retaining slots. Refer to Frame 21.
5. Withdraw the thermostat, bracket and lead down the side of the boiler.

Note: On the CF40 boiler, if built-in with minimum clearance at both sides, it will be necessary to remove the LH side panel for access to the TTB thermostat. Refer to Frame 5 of Installation.
6. Locate and fit the new TTB downdraught thermostat, bracket and lead and re-assemble in reverse order, ensuring that all electrical connections are correctly re-made and cables secured.

21 BOILER ASSEMBLY - Exploded View (CF 50 / CF 60 shown).

LEGEND

- | | | |
|-----------------------|---|---|
| 1. Boiler baseplate | 9. Draught diverter back panel assembly | 14. Section alignment rings and 'O' rings |
| 4. Gas service cock | 11. Collector hood | 15. Thermostat pocket |
| 5. Combustion chamber | 12. Cleanout cover | 16. Burner & controls assembly |
| 6. Distributor tube | 13. Flue baffle | 17. TTB downdraught thermostat & bracket |
| 7. Tie rod | | |
| 8. Heat exchanger | | |

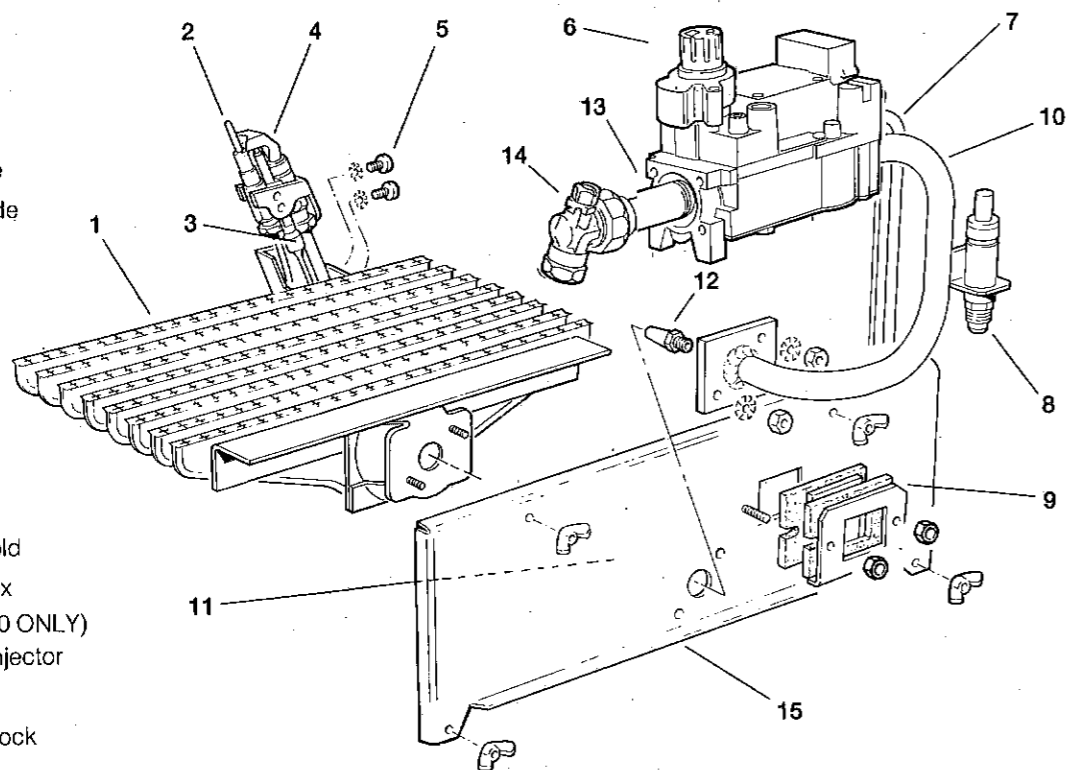


Note. The boiler assembly is shown with the casing removed

22 BURNER & CONTROLS ASSEMBLY- Exploded View.

LEGEND

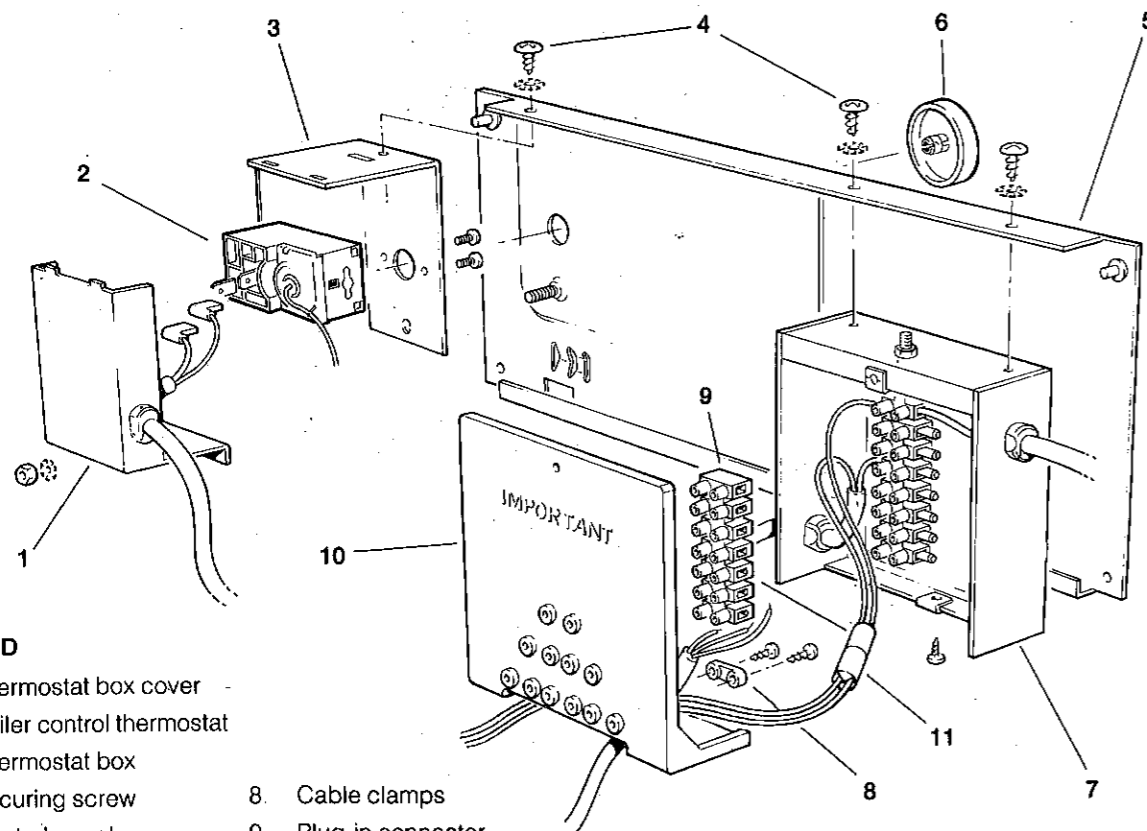
- 1. Main burner
- 2. Thermocouple
- 3. Spark electrode
- 4. Pilot burner
- 5. Pilot burner securing screws
- 6. Gas valve
- 7. Pilot pipe
- 8. Piezo unit
- 9. Sightglass
- 10. Burner manifold
- 11. Primary air box (CF 50 & CF 60 ONLY)
- 12. Main burner injector
- 13. Gas inlet pipe
- 14. Gas service cock
- 15. Front plate



23 BOILER CONTROL PANEL- Exploded View

LEGEND

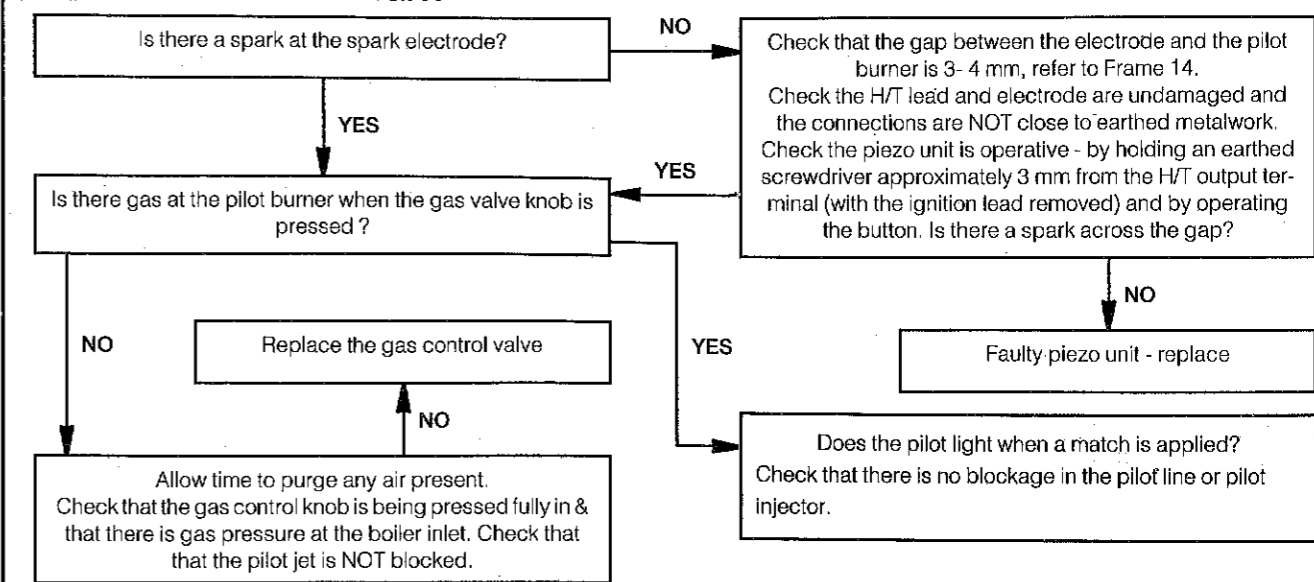
- 1. Thermostat box cover
- 2. Boiler control thermostat
- 3. Thermostat box
- 4. Securing screw
- 5. Control panel
- 6. Thermostat knob
- 7. Control box
- 8. Cable clamps
- 9. Plug-in connector
- 10. Control box cover
- 11. TTB in-line connector



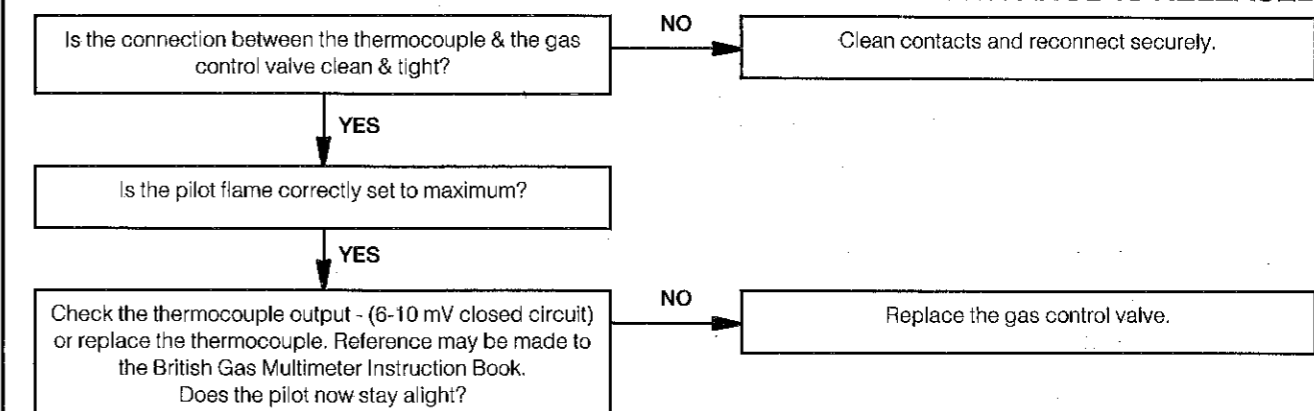
Before attempting any electrical fault finding, ALWAYS carry out the preliminary electrical system checks as detailed in the Instructions for the British Gas Multimeter, or other similar commercially

available meter. Detailed instructions on the cleaning & adjustment or replacement of faulty components are contained in the 'Servicing' section, of this publication.

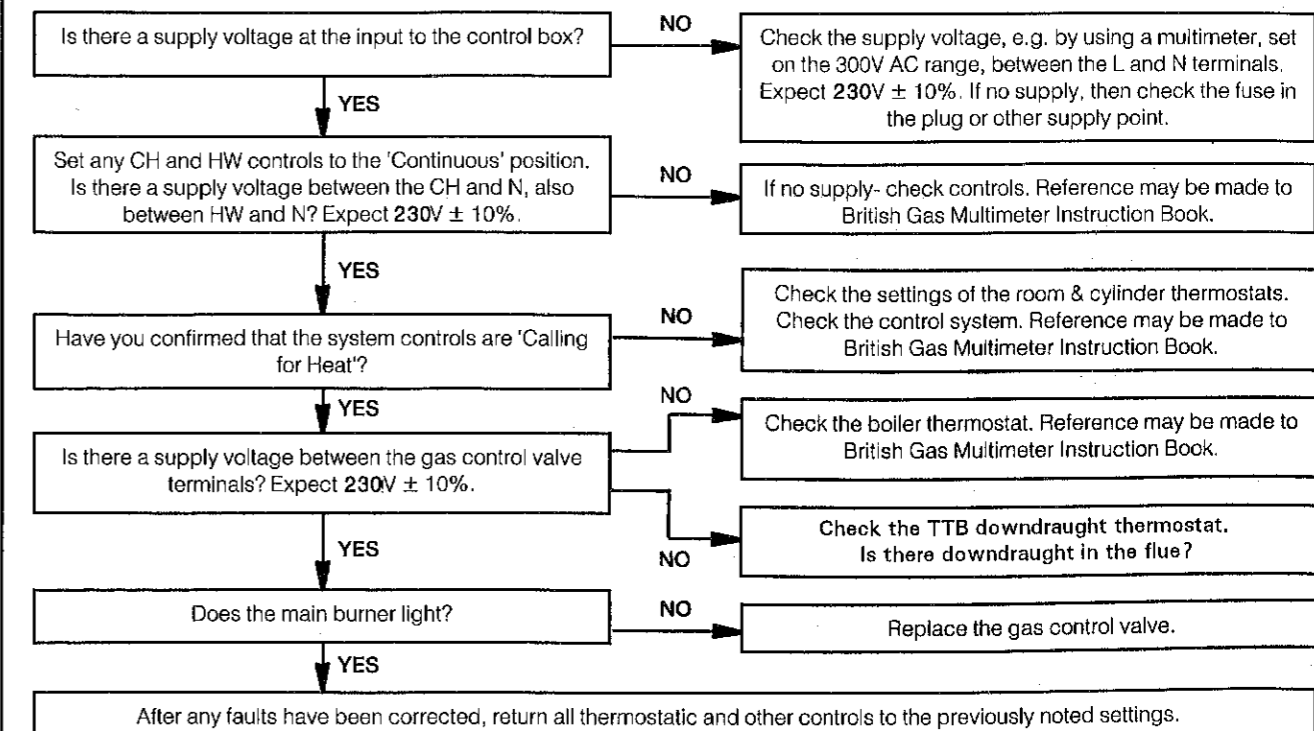
24 PILOT WILL NOT LIGHT



25 PILOT WILL NOT STAY LIT WHEN THE GAS CONTROL VALVE KNOB IS RELEASED



26 PILOT LIT BUT NO MAINS GAS



SERVICING

The following list comprises parts commonly required as replacements due to damage, expendability, or such that their failure, or absence, is likely to affect safety or performance. This List is extracted from the British Gas List of Parts, which contains all available spare parts.

Details of the British Gas lists are held by gas regions, **Caradon Ideal Ltd.** distributors and merchants.

SHORT LIST OF PARTS

Ideal Mexico Super 2 CF 40, CF 50 & CF 60 Gas Boilers

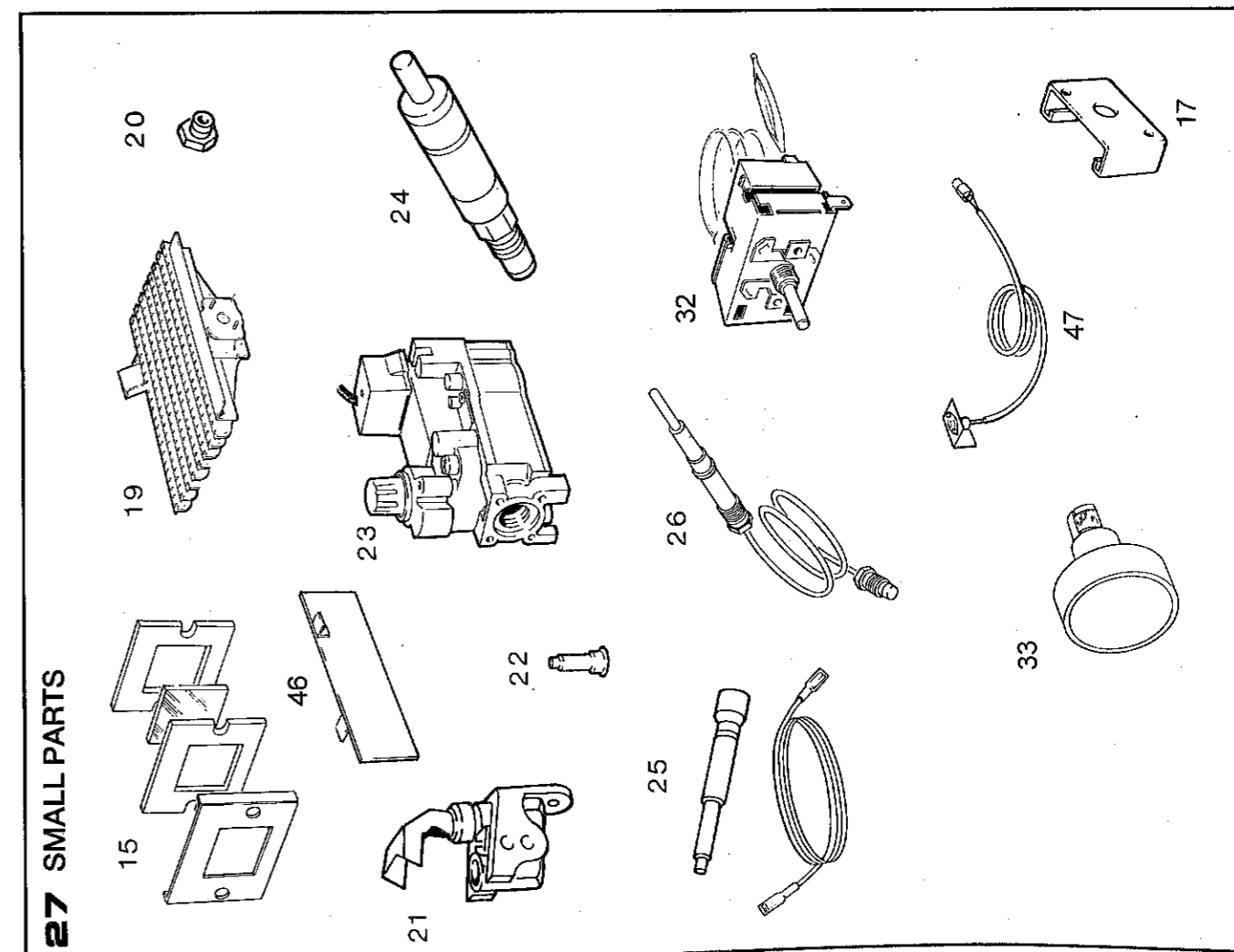
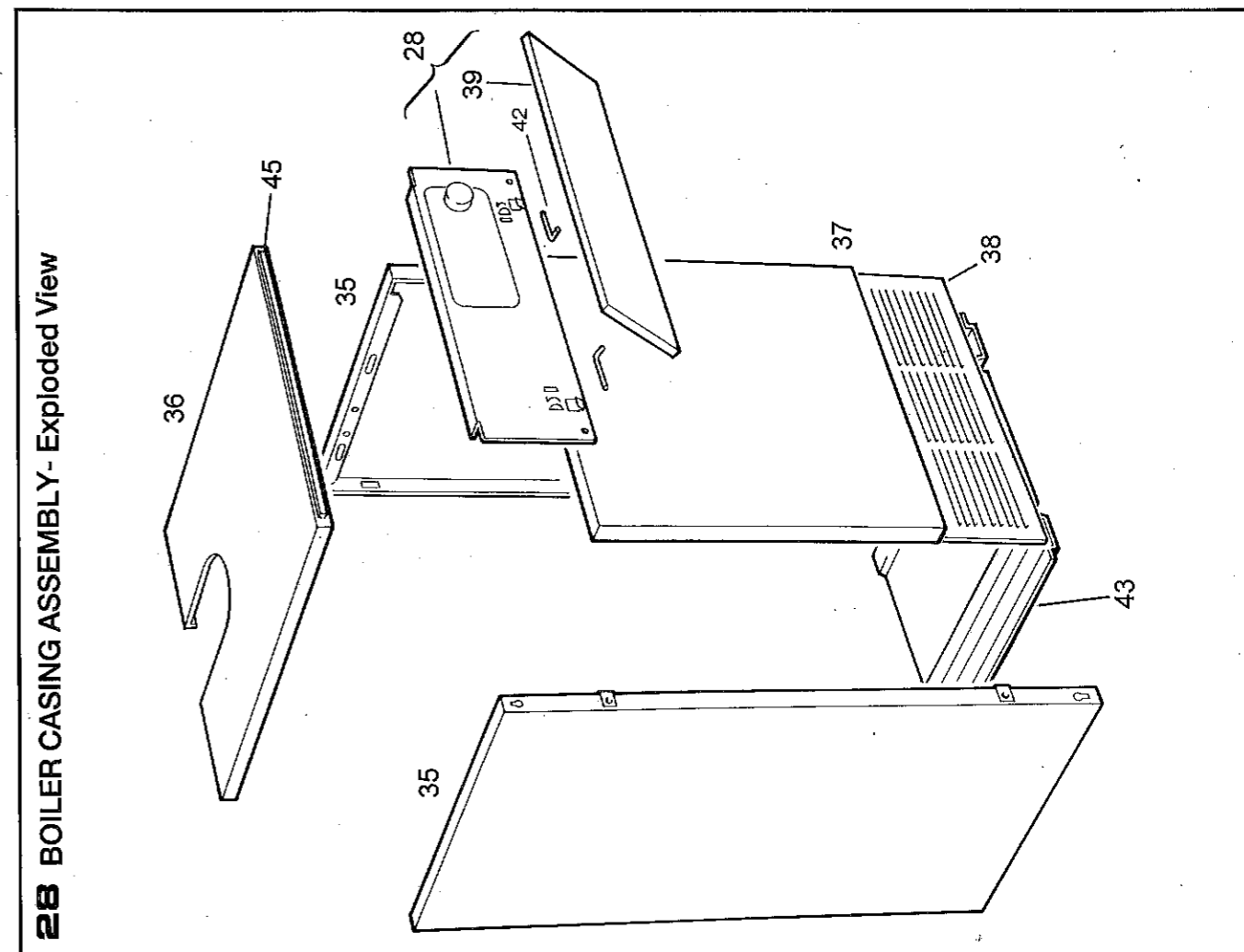
When ordering spares, please quote:

1. Boiler Model and size
2. Appliance G.C. Number
3. Description
4. Maker's Part Number
5. Quantity

Key No.	G.C. Part No.	Description	No. off	Maker's Part No.
15	319 494	Sight glass assembly, comprising, sight glass, frame, two sight glass gaskets & two M5 wing nuts.	1	079 334
17	341 563	Primary air box -CF 50 and CF 60 ONLY	1	
19		Main burner- with pilot burner bracket, AEROMATIC		
	385 878	AC 19 / 123 268 ; Ideal Mexico Super 2 CF 40	1	113 189
	385 879	AC 19 / 123 269 ; Ideal Mexico Super 2 CF 50	1	113 190
	385 880	AC 19 / 123 270 ; Ideal Mexico Super 2 CF 60	1	113 191
20		Main burner injector, BRAY		
	398 051	Cat 10 - Size 1200; Ideal Mexico Super 2 CF 40	1	004 190
	398 055	Cat 10 - Size 1400; Ideal Mexico Super 2 CF 50	1	003 361
	398 059	Cat 10 - Size 1700; Ideal Mexico Super 2 CF 60	1	004 305
21	382 944	Pilot burner, with injector (Key No. 22) HONEYWELL Q 385 A 1020	1	079 355
22	381 656	Pilot injector, HONEYWELL 4500 4108 001, double orifice (0.38 / 0.36)	1	003 825
23	E01-507	Gas control valve, HONEYWELL V4600 E 1016,	1	100 603
24	395 705	Spark generator, VERNITRON 60080	1	003 939
25	397 945	Ignition electrode, BUCCLEUCH, with H.T. lead	1	004 713
26	390 210	Thermocouple, HONEYWELL Q 309 A 2747; 750 mm lg.	1	003 876
31	E01-512	Thermostat and fittings	1	075 293
32	379 177	Thermostat , RANCO K36 - P1317	1	110 541
33	E01-154	Thermostat knob,	1	013 982
47	E01-147	TTB downdraught thermostat	1	075 309
34	319 388	Jacket white stove enamel, complete	1	079 377
35	319 391	Jacket side panel assembly	2	134 596
36	319 397	Jacket top panel assembly	1	134 933
37	E01-517	Jacket front panel assembly (door)	1	075 232
28	E01-513	Jacket upper front panel assembly	1	151 000
39	319 403	Controls panel door	1	134 207
42	319 405	Controls panel hinge and retainer (pack)	1	079 363
38	319 406	Jacket lower front panel grille assembly	1	134 773

SERVICING

SHORT LIST OF PARTS- COMPONENT DIAGRAMS



Technical Training

The Caradon Ideal Technical Training Centre offers a series of first class training courses for domestic, commercial and industrial heating installers, engineers and system specifiers. For details of courses please ring:

..... *Alexa Beadle on 01482 498 432*

Customer Care & Technical Support

Please use the following numbers for speedy assistance.

Ideal Parts *Tel: 01482 498 665*

..... *Fax: 01482 498 489*

Customer Care & Technical Support.

Scotland/N. England/Midlands Tel: 01482 498 636

Southern England/S. Wales Tel: 01482 498 660

..... *Fax: 01482 498 666*

Publications/literature *Tel: 01482 498 467*



THIS SYMBOL IS YOUR ASSURANCE OF QUALITY

These appliances are designed for use with Natural Gas only. They have been tested and conform with the provisions of BS. 6332 and BS. 5258.



CERTIFIED PRODUCT
Manufactured under a BS EN ISO 9001:1994
Quality System accepted by BSI

CARADON IDEAL Ltd. pursues a policy of continuing improvement in the design and performance of its products. The right is therefore reserved to vary specification without notice.

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A subsidiary of Caradon p.l.c

April 1997

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i Ideal BOILERS