

IDEAL MEXICO SUPER 2 B.E.D. CF 75 P, CF 100 P, CF 125 P & CF 140 P

Open Flue Gas Boilers. Installation & Servicing.

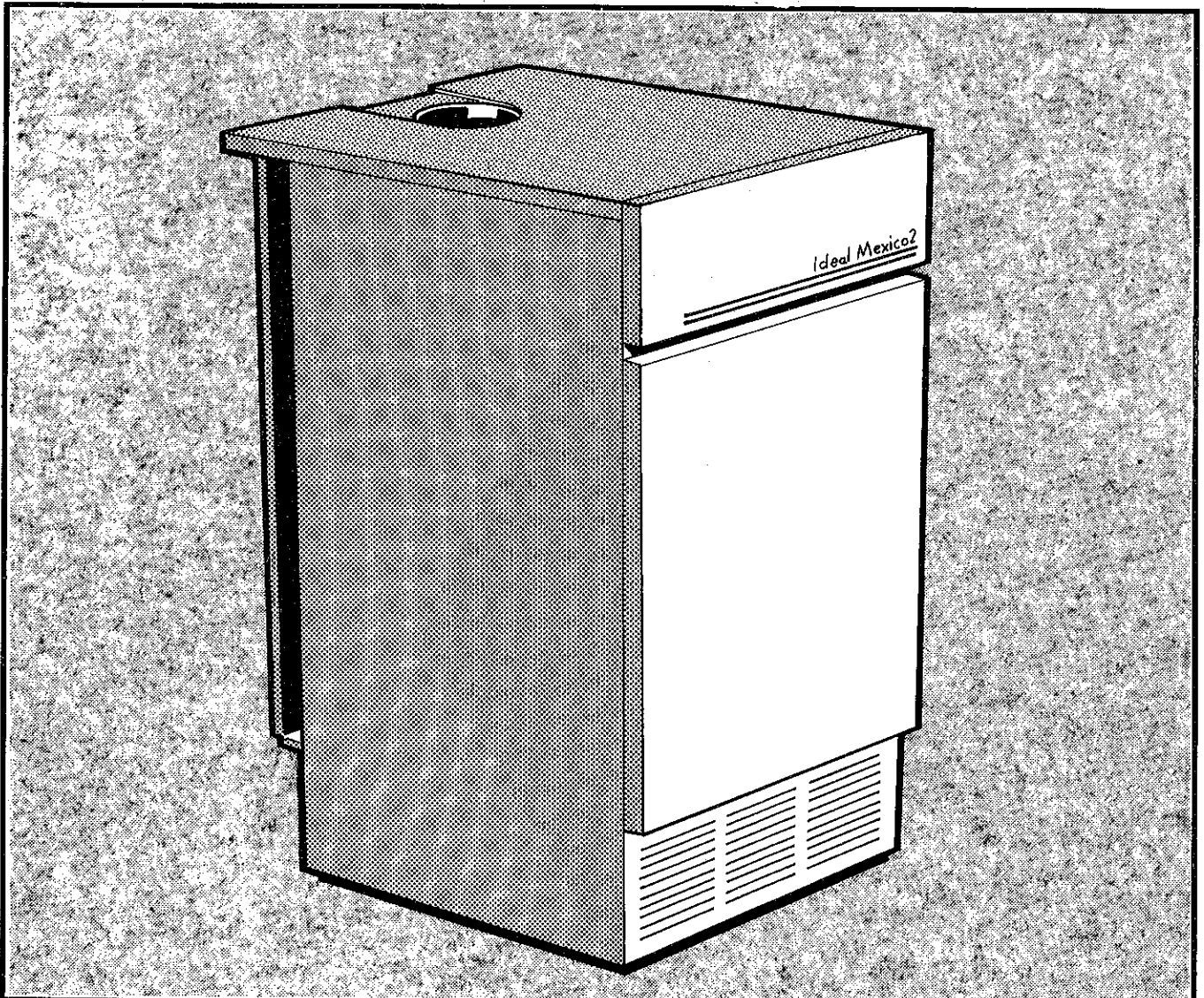
CAUTION: To avoid the possibility of injury during the installation, servicing or cleaning of this appliance, care should be taken when handling edges of sheet steel components.

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

G.C. Appliance Nos.

CF 75P	41 349 50
CF 100P	41 349 51
CF 125P	41 349 52
CF 140P	41 349 53

IMPORTANT. These appliances are for use with **PROPANE ONLY** Appliance Type **B_{11BS}**



NOTE TO THE INSTALLER: LEAVE THESE INSTRUCTIONS ADJACENT TO THE APPLIANCE



GENERAL

PERFORMANCE DATA

Table 1- GENERAL DATA

Boiler Size		CF 75 P	CF 100 P	CF 125 P	CF 140 P
Main Burner		AEROMATIC AC 19/ 123 252	AEROMATIC AC 19/123 284 (R.H.) AC 19/123 285 (L.H.)	AEROMATIC AC 19/123 287 (R.H.) AC 19/123 286 (L.H.)	AEROMATIC AC 19/123 288 (R.H.) AC 19/123 289 (L.H.)
Gas Control Valve		1/2 in. BSP. HONEYWELL V4600 E 1016			
Burner Injector		BRAY Cat.10-800	BRAY Cat. 10-520	BRAY Cat. 10-650	BRAY Cat. 10-800
Pilot Injector HONEYWELL		.20/ .23 P	.23 P	.23P	.23 P
Gas Supply Connection (in. BSP)		Rc 1/2 (1/2)	Rc 3/4 (3/4)		
Flue connection mm (in.)		100 (4)	125 (5)	150 (6)	150 (6)
Number of Boiler Sections		3	4	5	6
FLOW & RETURN Connections		Flow; 4 x Rc 1 (1 in. BSP) Return; 4 x 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.)		7.4 (1.6)	9.8 (2.1)	12.2 (2.7)	14.6 (3.2)
Dry Weight kg (lb.)		89 (196)	111 (245)	134 (295)	157 (346)
Boiler Size Height mm (in.)		850 (33.5)			
Width mm (in.)		440 (17.4)			
Depth mm (in.)		533 (21.0)	533 (21.0)	600 (23.6)	750 (29.5)
Gas Type		II _{2H} 3P			

Table 2- PERFORMANCE DATA

Boiler Size		CF 75 P	CF 100 P	CF 125 P	CF 140 P
Boiler input	NOMINAL kW (Btu/h)	27.3 (93 100)	35.8 (122 100)	43.4 (148 100)	53.5 (182 500)
	Gas consumption, l/s (ft ³ /h)	0.287 (37.1)	0.377 (48.8)	0.457 (59.2))	0.563 (72.9)
Boiler output to water	NOMINAL kW (Btu/h)	22.2 (75 800)	29.3 (100 000)	35.6 (121 600)	44.3 (151 100)
	Burner setting pressure (hot) mbar (in.w.g.)	35.0 (14)	35.0 (14)	35.1 (14)	34.9 (14)
Inlet setting pressure mbar (in.w.g.)		37 (14.8)	37 (14.8)	37 (14.8)	37 (14.8)
Flue gas flowrate g/s		13.1	17.2	20.8	25.7
Flue gas temperature °C		134	129	140	132

Notes:

- Gas consumption is calculated using a calorific value of 95.0 MJ/m³ (2500 Btu/ft.³).
- To obtain the fuel consumption in liquid form, divide the above figures by 270.
- The appliance is pre-set at the factory to give the nominal output at an inlet pressure of 37.0 mbar (14.8 in.w.g.).

Note :- A conversion kit is available to convert this appliance for use on natural gas. This kit contains all parts and instructions for setting it on natural gas. Once converted it is not possible to convert back to propane gas.

GENERAL

INTRODUCTION

The **Ideal Mexico Super 2** CF 75 P, CF 100 P, CF 125 P and CF 140 P are floor standing, natural draught, open flue gas boilers. They are rated to provide central heating outputs of: 22.2 kW (75 800 Btu/h) to 44.3 kW (151 100 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. (**Note.** The CF140 P does not have a pump kit). 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 Standard 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: It is important that no external control devices, (e.g. flue dampers, economisers etc.) are directly connected to this appliance unless covered by these 'Installation & Servicing Instructions' or otherwise recommended by Caradon Heating Ltd., in writing. If in doubt please enquire.

Any direct connection of a control device not recommended by Caradon Heating Ltd. could invalidate the BSI 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 insulation, 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 a shower.

INTRODUCTION- FLUEING

A compartment used to enclose the boiler MUST be designed and constructed especially 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:

- The position selected for the installation 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.
- 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 Propane Gas Supplier should be consulted at the installation planning stage, in order to establish the availability of an adequate supply of gas.

Installation pipes, cylinders and pressure regulators should be fitted in accordance with BS. 5482.1.

Bulk tank installations must comply with the Home Office code of practice for the storage of liquified petroleum gas at fixed installations.

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.

- The cross-sectional area of the flue, serving the boiler, MUST NOT be less than the area of the flue outlet of the boiler. If flue pipe is to be used it MUST NOT be less than the diameter of the flue outlet connection on the boiler.
- Flue pipes and fittings should be constructed from one of the following materials:
 - Aluminium or Stainless Steel
 - Cast Iron- coated on the inside with acid-resistant vitreous enamel.
 - Other approved material.
- If twin walled flue pipe is used, then it should be of an approved type.
- 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 listed 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 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 100 mm (4 in.) and the number of joints 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 clean of any soot or loose material. If a register 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.

CF Boilers only: This boiler is fitted with a downdraught sensing thermostat. If significant downdraught 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

7. The flue pipe MUST be fitted with a terminal (or ridge tile up to 5 in. flue diameter) of an approved type. This terminal must NOT be installed within 600 mm (24 in.) of an operable window, air vent or any other ventilation opening.

8. The chimney/ flue lining MUST be sealed at both the top and the bottom.

IMPORTANT. It is absolutely ESSENTIAL to ensure, in practice, that the flue discharge is in a draught 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 draught thermostat for added safety and protection. If this thermostat should operate and switch off the appliance, it is because the flue is subject to draught, 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:

1. 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 75 P	CF 100 P	CF 125 P	CF 140 P
Effective area cm ² (in. ²)	101 (16)	135 (21)	179 (28)	216 (34)

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 Propane Supplier should be requested to advise before proceeding.

2. 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.

FLUEING- WATER CIRCULATION

Table 4- CF 75 P

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in. ²)	264 (41)	132 (21)
LOW LEVEL cm ² (in. ²)	528 (82)	264 (41)

Table 5- CF 100 P

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in. ²)	333 (52)	167 (26)
LOW LEVEL cm ² (in. ²)	666 (104)	333 (52)

Table 6- CF 125 P

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in. ²)	420 (65)	210 (33)
LOW LEVEL cm ² (in. ²)	840 (130)	420 (65)

Table 7- CF 140 P

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in. ²)	495 (77)	248 (39)
LOW LEVEL cm ² (in. ²)	990 (154)	495 (77)

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 vent(s) 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 boiler flue products 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.

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

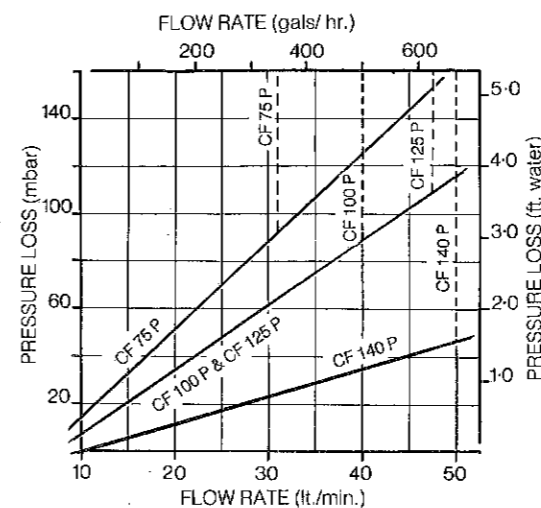
WATER CIRCULATION SYSTEM

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.

GENERAL

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 the graph below.

WATER FLOW RATE & PRESSURE LOSS



Dotted lines indicate flow rates equivalent to a temperature rise of 11°C (20°F)

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

WATER CIRCULATION- ELECTRICAL SUPPLY

carrying pipework.

The hot water storage cylinder MUST be of the indirect type and should preferably be 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.

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.

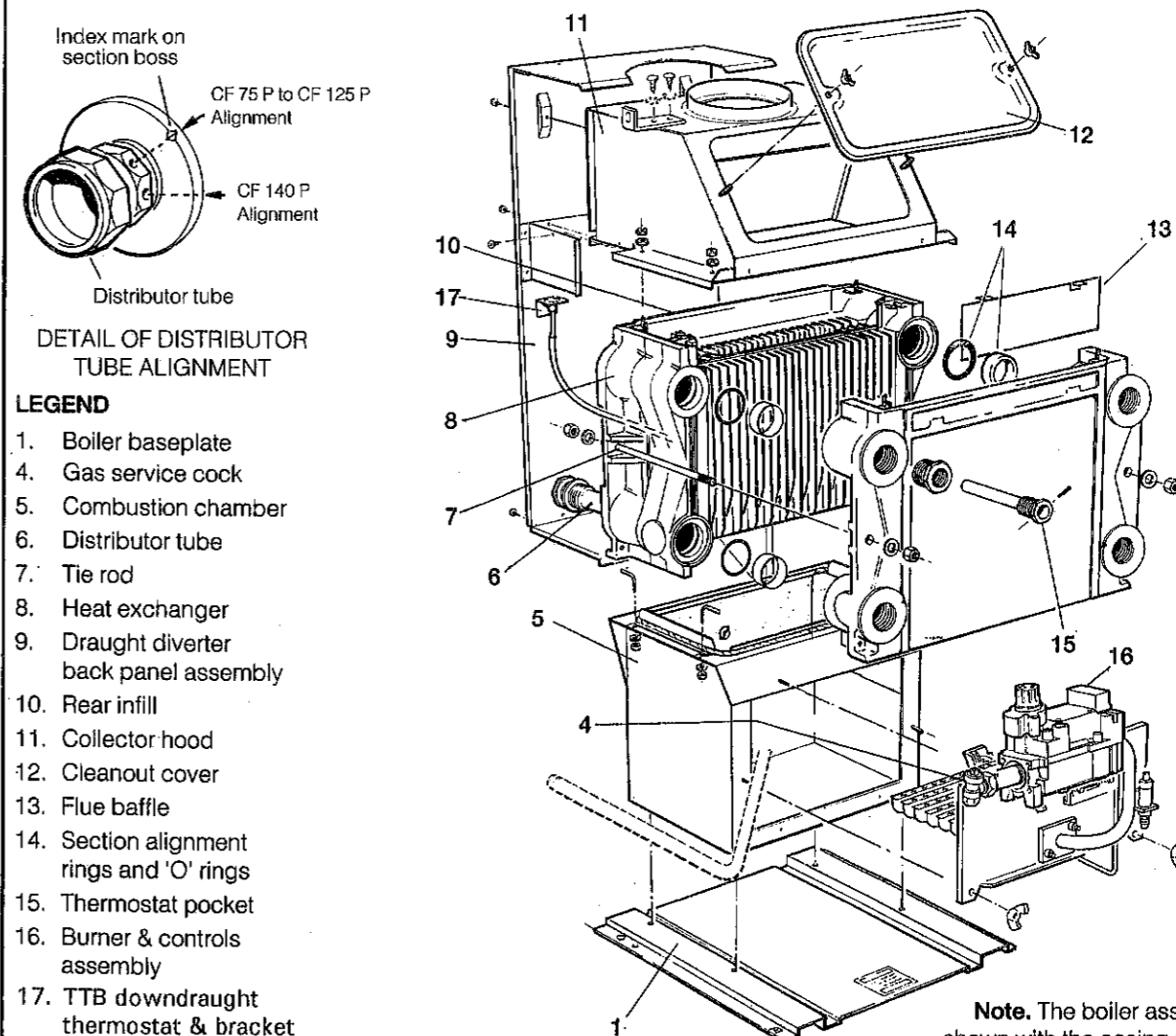
Fuse rating is 3A.

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.

1 BOILER ASSEMBLY- Exploded View.

Ideal Mexico 2 CF 75 P shown.



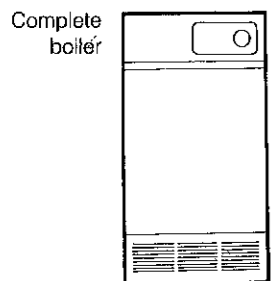
Note. The boiler assembly is shown with the casing removed

INSTALLATION

2 UNPACKING

Unpack the boiler & check the contents. The boiler is supplied fully assembled in one pack 'A'.

PACK 'A' CONTENTS



- Thermostat pocket, 1 off
- Thermostat retaining pin, 1 off

HARDWARE PACK CONTENTS

- 1in. BSP Plugs, 5 off
- 1in x 1/2 in. BSP reducing bush
- Distributor tube, 1 off

- Thermostat retaining clip, 1 off

UNPACKING- BOILER CASING REMOVAL

3 FLOOR MOUNTING & CLEARANCES

FLOOR MOUNTING

- The floor must be flat, level and of suitable load bearing capacity.
- The back of the boiler may be fitted up to the wall.

BOILER CLEARANCES

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

Boiler size	Width	Depth	Height
CF 75 P	mm (in.) 550 (21 5/8)	535 (21)	870 (34 1/4)
CF 100 P	mm (in.) 575 (22 5/8)	535 (21)	870 (34 1/4)
CF 125 P	mm (in.) 650 (25 5/8)	600 (23 5/8)	870 (34 1/4)
CF 140 P	mm (in.) 740 (29 1/8)	750 (29 1/2)	870 (34 1/4)

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

Important: In order to facilitate gas connection, a clearance of at least 100mm (4") MUST be available at either the LH or RH side DURING installation - refer to Frame 6.

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

Also, a minimum clearance of 533mm (21") MUST be available at the front of the boiler to enable the boiler to be serviced.

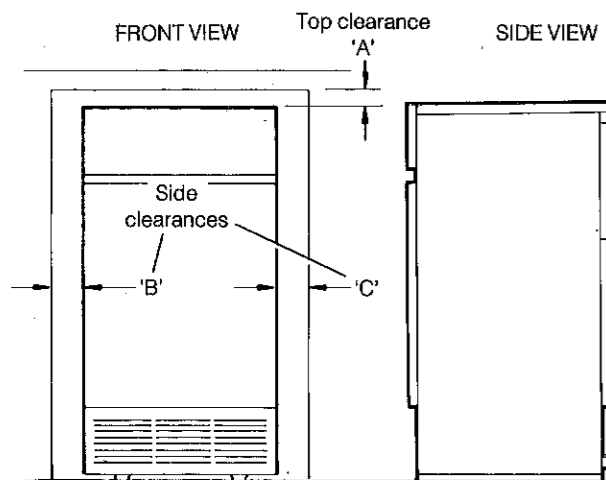
Boiler size	Top A	One Side B or C	Aggregate B + C
CF 75 P	mm (in.) 20 (3/4)	10 (3/8)	110 (4 1/2)
CF 100 P	mm (in.) 20 (3/4)	35 (1 3/8)	135 (5 1/4)
CF 125 P	mm (in.) 20 (3/4)	50 (2)	210 (8 1/4)
CF 140 P	mm (in.) 20 (3/4)	150 (6)	300 (12)

Notes:

- CF75P, CF100P & CF125P ONLY. 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 (CF75P & CF100P) or not less than the minimum aggregate (CF125P).

- If minimum LHS clearance is used on the CF75P & CF100P boilers, the TTB draught thermostat and bracket should be moved to the RHS of the boiler (alternative location). Refer to Frame 1.
- 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.

DIAGRAM TO SHOW BOILER CLEARANCES



- If minimum LHS clearance is used on the CF75P & CF100P boilers, the TTB draught thermostat and bracket should be moved to the RHS of the boiler (alternative location). Refer to Frame 1.
- 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.

4 BOILER CASING REMOVAL

To install the boiler, the casing **MUST** be removed.

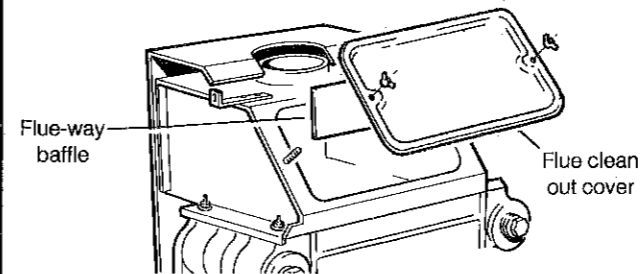
- Lift off the lower front panel.
- Remove the two securing screws & lift off the grille assembly.
- Remove the gas valve cover (CF 75 P) or electrical cover (CF 100 P, CF 125 P & CF 140 P) by removing the retaining screw & disconnect the electrical leads, refer to Frame 2 'Servicing'.
- Release the gas valve lead from the retaining clip.
- Remove the two screws securing the control panel 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.
- Remove the 2 screws securing the top panel to the side panels.
- Draw the top panel forward & lift it off the boiler.
- Remove the 2 screws securing the L.H. side panel to the flue collector & baseplate.
- Pull the panel forward, lifting it clear of the locating peg & remove it from the boiler.
- Repeat steps 7 & 8 to remove the R.H. side panel.
- The boiler is held to the packaging base by 4 M6 hex head screws. Remove the front screws, slacken the rear screws & remove the boiler from the packaging base.

INSTALLATION

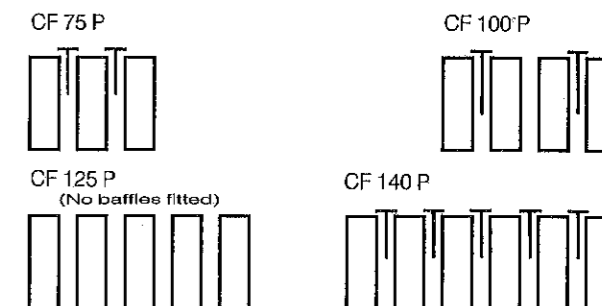
PREPARING THE BOILER- SERVICE CONNECTIONS

5 CHECKING THE FLUE-WAY BAFFLES



- Remove the flue clean out cover & ensure that the baffles are fully inserted in the flue-ways.

SIDE VIEW OF BOILER SECTIONS SHOWING THE BAFFLE ARRANGEMENTS



6 PREPARING THE BOILER

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

If an optional Pump Kit is to be used then it must be fitted at this stage. Refer to separate fitting instructions included with the kit.

- Screw the distributor tube (supplied with a 1 in. BSP x 28mm copper adaptor) into the selected heating return tapping using an appropriate jointing material.

IT IS IMPERATIVE THAT THE INDEX MARK ON THE DISTRIBUTOR BUSH IS IN ALIGNMENT WITH THE MARK ON THE SECTION BOSS, AS SHOWN IN FRAME 1.

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.

- Select the desired pumped flow tapping.
- Screw the supplied boiler thermostat pocket into the appropriate front section tapping, using an approved jointing material. Refer to Tables 8 & 9.
- Connect appropriate fittings to the rear tappings & plug any unused tappings.

Note: If using iron elbows fit a short straight connector into the boiler tapping first- to clear the casing when fitted.

Table 8- Fully Pumped Systems

CONNECTIONS AS VIEWED FROM FRONT		THERMOSTAT POSITION
BACK SECTION		FRONT SECTION
Flow	Return	Top
L.H.	L.H.	L.H.
L.H.	R.H.	L.H.
R.H.	R.H.	R.H.
R.H.	L.H.	R.H.
CF 140 P ONLY		
L.H.	L.H.	L.H.
R.H.	R.H.	R.H.

Table 9- Gravity Domestic Hot Water & Pumped Central Heating

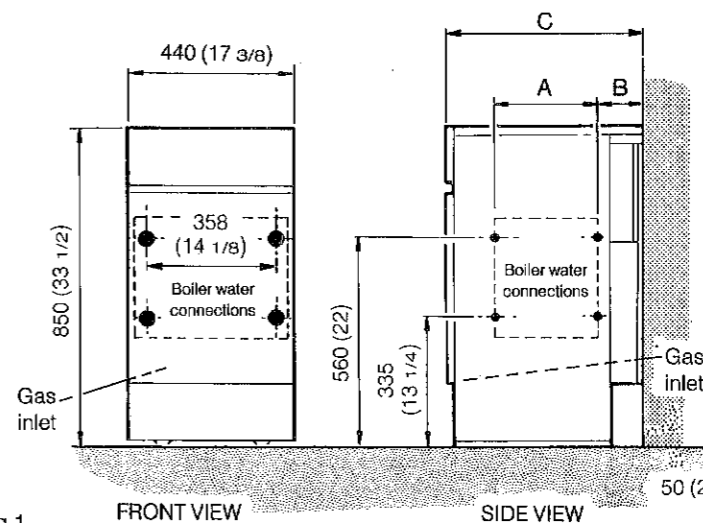
CONNECTIONS AS VIEWED FROM FRONT				THERMOSTAT POSITION
C.H.		D.H.W.		FRONT SECTION
Flow	Return	Flow	Return	Top
L.H.	L.H.	R.H.	R.H.	L.H.
L.H.	R.H.	R.H.	L.H.	L.H.
R.H.	R.H.	L.H.	L.H.	R.H.
R.H.	L.H.	L.H.	R.H.	R.H.
CF 140 P ONLY				
L.H.	L.H.	R.H.	R.H.	L.H.
R.H.	R.H.	L.H.	L.H.	R.H.

- Place the boiler in position

Note. The pump may be fitted on the FLOW or the RETURN

7 GAS CONNECTION

- A MINIMUM working gas pressure of 37 mbar (14.8 in.w.g.) MUST be available at the boiler inlet.
- Extend a gas supply to the boiler (for size refer to Table 1 on page 2) & connect to the gas cock situated at the front left hand side of the boiler. (See note on Fig. 1 on Page 6).



Boiler size	Dim. 'A'	Dim. 'B'	Dim. 'C'
CF 75 P	218 (8 5/8)	122 (4 3/4)	533 (21)
CF 100 P	291 (11 1/2)	122 (4 3/4)	533 (21)
CF 125 P	363 (14 1/4)	122 (4 3/4)	600 (23 5/8)
CF 140 P	436 (17 1/8)	202 (8)	750 (29 1/2)

8 WATER CONNECTION

- Connect the system flow & return pipework to the boiler as appropriate. Refer to Frames 9 & 10 for guidance on system design.

Note: All water connections are Rc 1 (1 in. BSP) but pumped pipework MUST be increased to 35 mm (1 1/4 in. BSP)- CF 125 P ONLY, or 42 mm (1 1/2 in. BSP)- CF 140 P ONLY immediately after leaving the boiler. Gravity pipework & connections MUST be at least 28 mm (1 in. BSP)- CF 75 P to CF 125 P, or 35 mm (1 1/4)- CF 140 P.

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

Notes:

- isolating valves must be fitted as close to the pump as possible.
- The boiler is not suitable for use with a direct hot water cylinder or a sealed system.

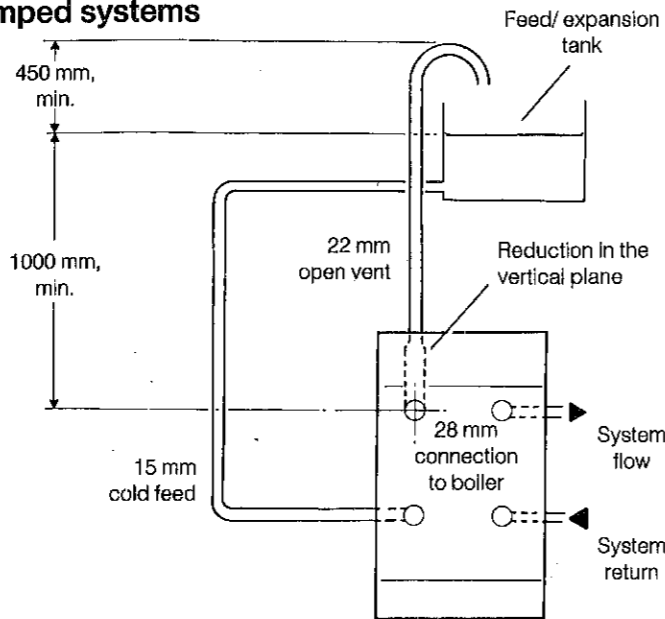
INSTALLATION

SYSTEM REQUIREMENTS- FLUE CONNECTION

9 MINIMUM REQUIREMENTS. Fully pumped systems

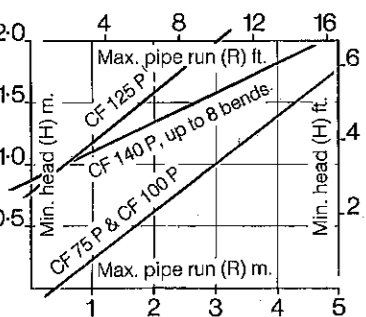
The following conditions & assumptions apply;

1. Open vent and cold feed connections are made to the boiler flow & return tappings according to the options shown in 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, & the vertical distance, between the pump & 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 a 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 caused by the 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.



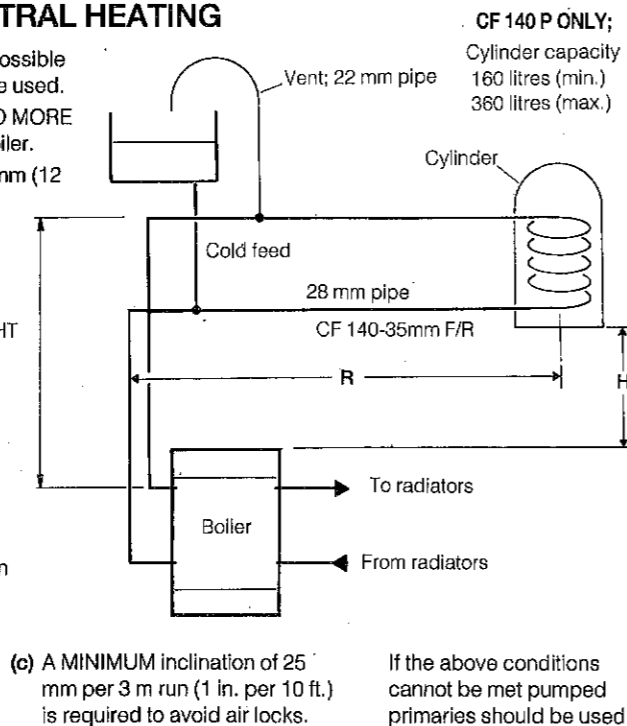
10 GRAVITY HOT WATER & PUMPED CENTRAL HEATING

1. Separate flow & return connections are used for each service. All possible configurations are given in Frame 6 & ONLY those shown should be used.
2. The schematic pipework graph is based on the assumption that NO MORE than 8 elbows are used in the gravity loop, including entry to the boiler.
3. For each extra elbow in excess of 8, 'R' MUST be reduced by 300 mm (12 in.) or 'H' increased by 100 mm (4 in.).
4. Whatever value is selected for 'R', (the horizontal distance between the centre line of the cylinder & the boiler tappings, used- measured along the pipe run) the value of 'H' (the vertical distance between the top of the boiler & the base of the cylinder) MUST be at least that indicated by the graph.



Notes.

- (a) Flow & return pipes should rise vertically on leaving the boiler.
- (b) Horizontal pipes should be ABOVE ceiling level & as short as possible.



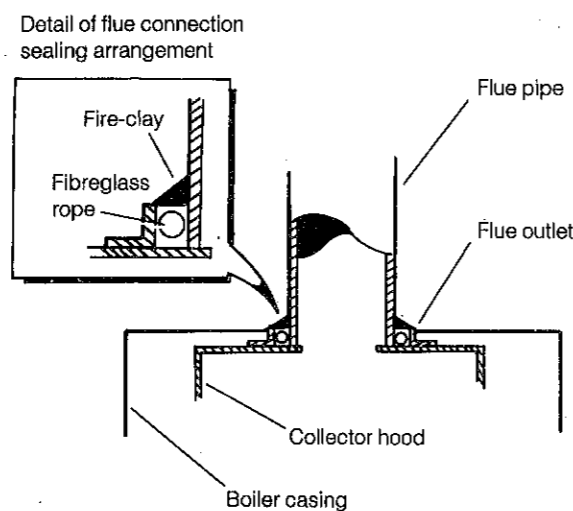
11 FLUE CONNECTION

Connect the flue pipe to the flue outlet.

1. 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 600 mm (2 ft.) of vertical flue directly above the boiler should be provided.
- (d) The flue pipe to be used MUST NOT be less than the diameter of the flue outlet connection on the boiler.



INSTALLATION

ELECTRICAL CONNECTIONS- WIRING DIAGRAMS

12 ELECTRICAL CONNECTIONS

WARNING. The appliance MUST be efficiently earthed.

A mains supply of 230 V ~ 50 Hz 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.

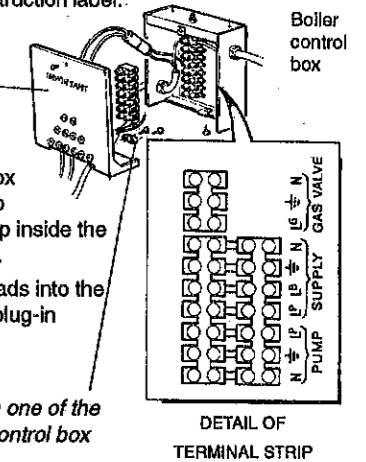
The supply connection MUST be made to a fused double pole switch, having a 3mm (1/8") contact separation in both poles, serving only the boiler and system controls.

The fuse rating should be 3A.

This connection should be readily accessible and be made adjacent to the boiler (except in the case of bathroom installations for domestic boilers where the point of connection to the mains MUST be outside of the bathroom.)

13 INTERNAL WIRING Flow and pictorial wiring diagrams are shown in Frames 14 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.



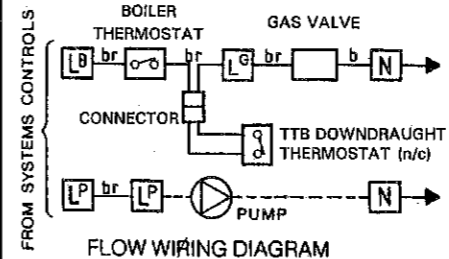
Notes:

- 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.

14 EXTERNAL CONTROLS

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

The wiring diagrams shown in Frames 16 to 18 cover the systems likely to be used with this appliance. For wiring external controls to the Ideal Mexico Super 2 boiler, reference should be made to the system wiring diagram supplied by the relevant Manufacturer, in conjunction with the Flow wiring diagram & Frame 13. Difficulty in wiring should not arise, provided the following directions are observed.



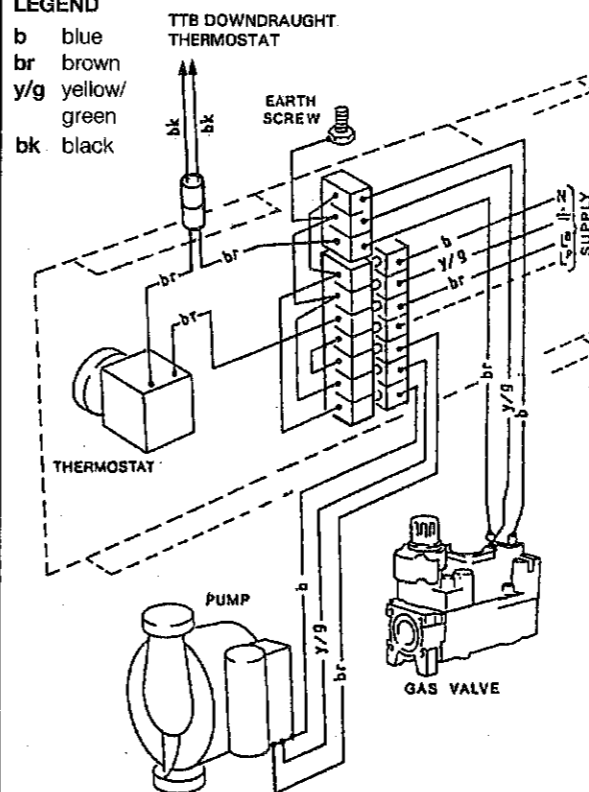
1. Controls that switch the system ON & OFF, e.g. a time switch MUST be wired in series, in the live mains lead to the boiler.
2. Controls that over-ride an ON/OFF control, e.g. a frost thermostat, MUST be wired into the mains lead in parallel with the control(s) to be over-riden. Refer to Frame 19.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

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

15 PICTORIAL WIRING DIAGRAM

LEGEND

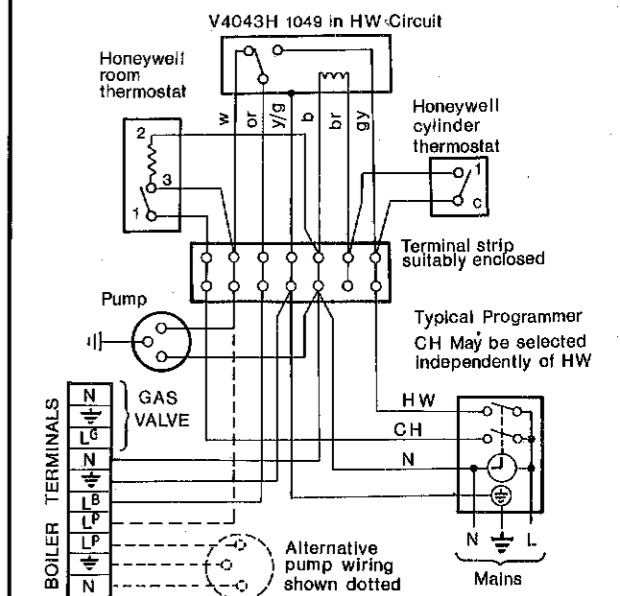
- b blue
- br brown
- y/g yellow/green
- bk black



16 HONEYWELL 'C' PLAN

Gravity H.W & pumped C.H.

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



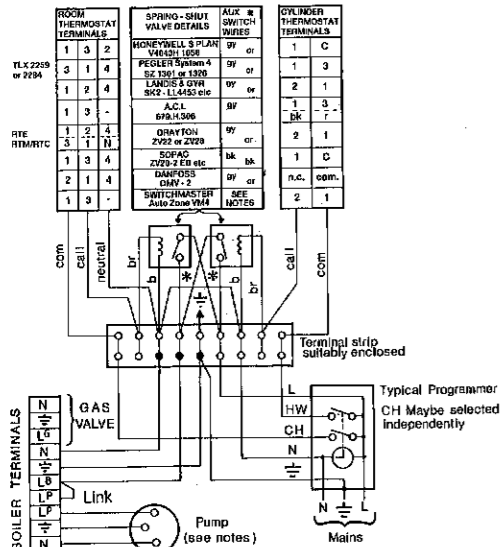
LEGEND

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

17 TWO SPRING CLOSED VALVES

Pumped only

- SOME EARTH WIRES ARE OMITTED FOR CLARITY. ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
- This is a fully controlled system, therefore set the boiler thermostat to it's highest position.
- Numbering of thermostat terminals is specific to the manufacturer indicated.
- '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.
- Black dots denote alternative pump connections.

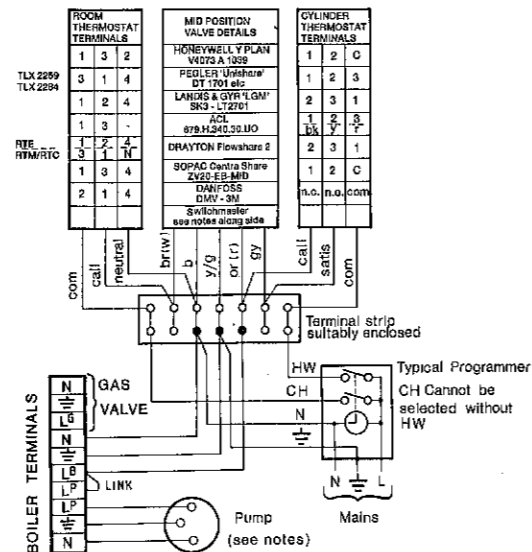


- LEGEND**
- | | | | |
|---------|----------|----------|----------|
| b blue | y yellow | r red | gy grey |
| g green | w white | br brown | bk black |

18 MID POSITION VALVE

Pumped only

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



- LEGEND**
- | | | | |
|---------|----------|----------|----------|
| b blue | o orange | r red | gy grey |
| g green | y yellow | br brown | bk black |

19 FROST PROTECTION

Central Heating systems fitted inside the house do not normally require frost protection, since the house acts a 'storage heater' & can normally be left at least 24 hrs without frost damage. However, if parts of the pipework run outside the house, or if the boiler will be left off for more than a day or so, then a frost 'stat' should be wired into the system. This is usually done at the programmer, in which case the programme selector switches are set to 'OFF' & 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 & thermostat manufacturer's leaflets will give full details.

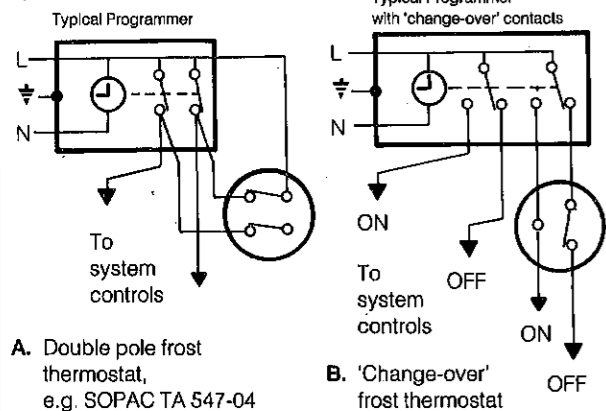
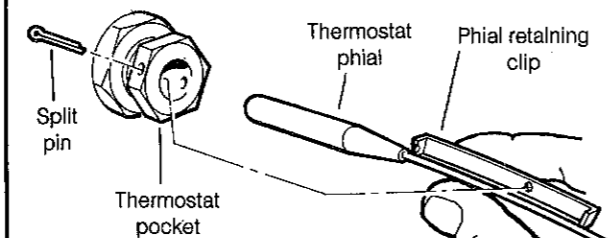


Diagram A shows a double pole frost 'stat', which should suffice for all systems not using the 'OFF' terminals of the programmer. Diagram B shows a 'change-over' frost 'stat', which will cover most systems which use 'CH OFF'. However if the HW pipework is in an isolated part of the house, a 2nd frost 'stat' may be used to protect it. If in doubt, ask your Installer for advice.

20 FITTING THE CASING

Refer to Frame 4 'Boiler Casing Removal' (pg. 6) for illustration of the procedure detailed below.

- Offer up the R.H. side panel, locating it with the peg in the baseplate, & push the panel back.
 - Secure the panel to the baseplate and the flue collector using the screws previously removed.
 - Repeat steps 1 & 2 to refit the L.H. side panel.
- IMPORTANT.** Wiring within the boiler casing MUST be neatly secured with the cable straps provided & MUST NOT be allowed to touch the burner front plate, or the cleanout cover and the collector hood.
- Place the top panel in position & push back.
 - Secure the top panel to the side panels using the screws previously removed.
 - Replace the control box cover after plugging in the TTB in-line connector and refit the control panel using the screws previously removed.
 - Insert the thermostat phial & phial retaining clip into the thermostat pocket. Take care NOT to kink the thermostat capillary as it is unwound & secure it with the split pin- as shown.



DETAIL OF THERMOSTAT POCKET

21 COMMISSIONING & TESTING

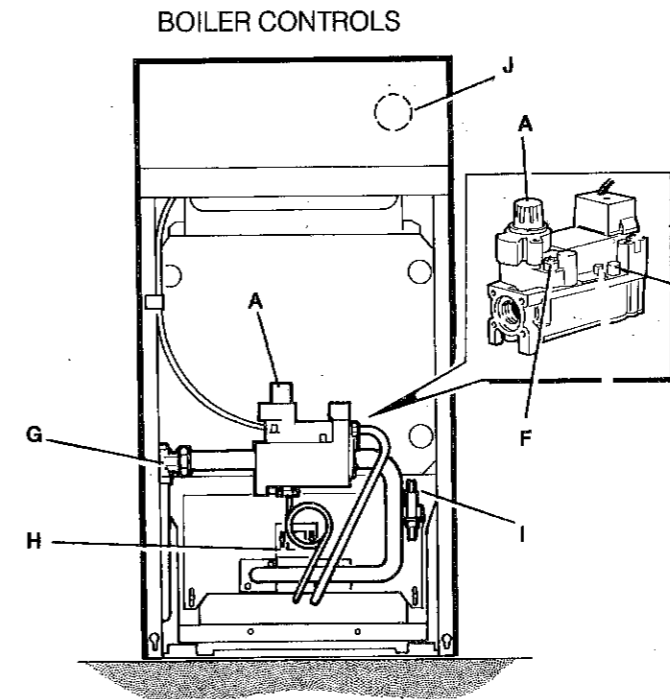
(a) Electrical Installation

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

(b) Gas Installation

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

22 INITIAL LIGHTING



- LEGEND**
- A. Gas control knob.
 - B. Burner pressure test nipple.
 - C. Inlet pressure test nipple.
 - D. Gas service cock.
 - E. Sightglass.
 - F. Piezo ignition button.
 - G. Boiler thermostat knob.

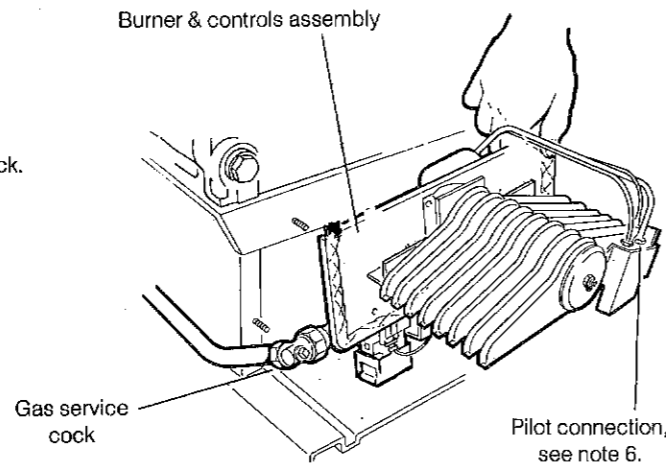
Note. The pilot burner connection can be tested for gas soundness - refer to Frame 23.

- Connect the gas valve electrical leads & refit the cover.
- Check that the gas service cock (G) is ON & the boiler thermostat knob (J) is OFF.
- Loosen the screw in the burner pressure test nipple (D) & connect a gas pressure gauge via a flexible tube.
- Turn the gas control knob (A) CLOCKWISE until resistance is felt and then release it.
- Push in & retain fully depressed the gas control knob (A). Press and release piezo ignition button (F) repeatedly until the pilot lights.
- Hold the gas control knob (A) depressed for 15 seconds after the pilot 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 knob (A).
- Check the appearance of the pilot flame to ensure that it envelopes the tip of the thermocouple & is approximately 25 mm (1 in.) long. The pilot flame is factory set
- Switch the boiler thermostat knob (J) to position 6 and check that the burners cross-lights smoothly.
- Test for gas soundness around the boiler gas components using leak detection fluid.
- Operate the boiler for 10 minutes to stabilise burner temperature. The boiler is pre-set at the factory to its maximum nominal rating.
- Check the burner pressure against the value quoted in Table 2, page 2.
- 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.
- Turn the boiler thermostat knob (J) to OFF.
- Remove the pressure gauge and tube. Retighten the screw in the pressure test nipple, ensuring that a gas-tight seal is made.

23 PILOT BURNER CONNECTION GAS SOUNDNESS

CF 75 P boiler shown

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 & re-connect to the gas service cock.
4. Turn the gas service cock to ON.
5. Light the pilot burner- refer to Frame 22.
6. Test for gas soundness around the pilot burner connection, using leak detection fluid.
7. Turn the gas service cock to OFF, & return the burner & controls assembly to the normal working position.



24 GENERAL CHECKS

Make the following checks for correct operation;

1. Turn the boiler thermostat OFF and ON to 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 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 ON and the burner should light.
 - (d) Turn the gas control knob to the OFF position - refer to Frame 22. 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 User's requirements, refit the lower front panel and close the controls 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.

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

25 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 the 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 or 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.

- 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.
5. Explain the function and 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.**
 9. Draw attention to the 'Emergency Action Notice' contained in the User's Instructions.

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(s) and lint gauze(s).
- (c) Clean the grille assembly lint gauze (CF 100 P. CF 125 P & CF 140 P ONLY).
- (d) Clean the heat exchanger.
- (e) Clean the main injector(s).
- (f) Check the condition of the thermocouple.
- (g) Check that the flue is unobstructed and that the flue system, including the flue clean-out cover, is sealed correctly.
- (h) If the appliance has been installed in a compartment check that the ventilation areas are clear.

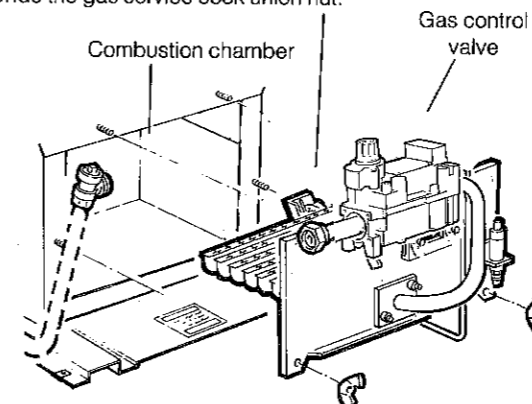
THE SERVICING PROCEDURES ARE COVERED MORE FULLY IN FRAMES 2 TO 11 & MUST BE CARRIED OUT IN SEQUENCE.

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 & test for spillage, (Frame 22 'Installation'). **Note:** It may be necessary to remove the boiler casing to carry out the spillage test, refer to Frame 4 'Installation'.

3 BURNER & CONTROLS ASSEMBLY REMOVAL CF 75 P SHOWN

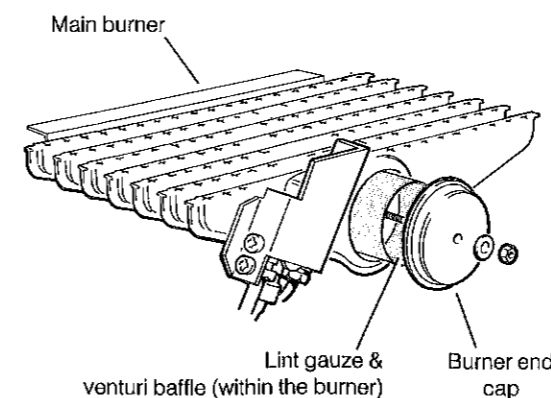
1. Undo the gas service cock union nut.



2. Remove the four wing nuts and withdraw the burner and controls assembly, complete, from the boiler.

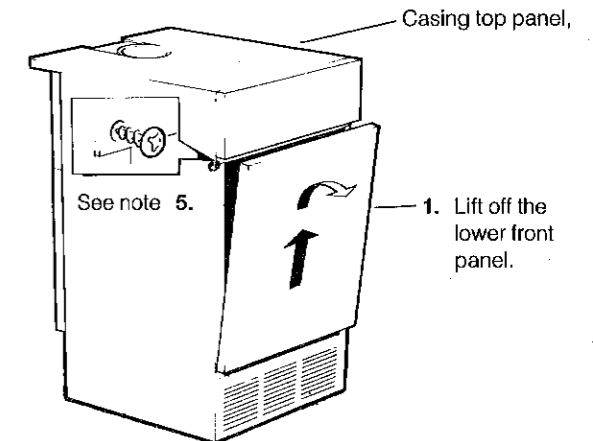
4 LINT GAUZE REMOVAL. CF 75 P Boilers ONLY.

1. Remove the burner end cap.



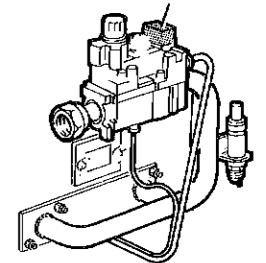
2. Withdraw the venturi baffle and lint gauze.

2 BOILER CASING FRONT REMOVAL



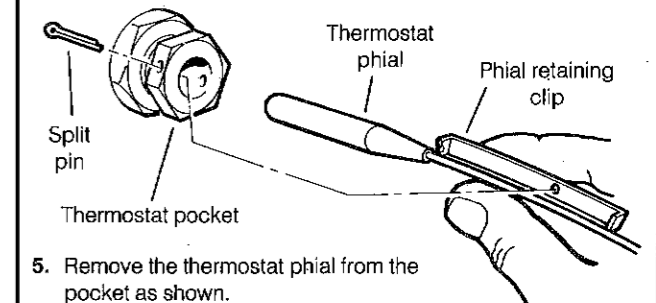
2. Remove the 2 securing screws & lift off the grille assembly.

VIEW OF GAS CONTROL VALVE (Behind the lower front panel)
Gas valve electrical cover



3. Remove the gas valve electrical cover and disconnect the electrical leads.
4. Release the gas valve lead from the retaining clip.

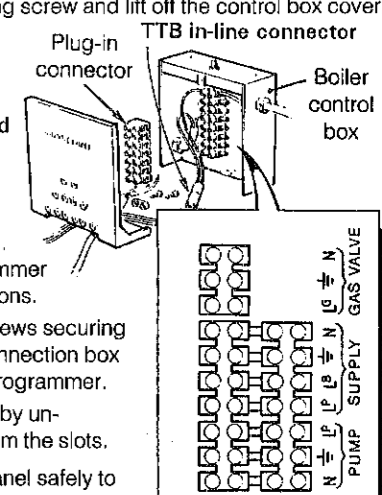
DETAIL OF THERMOSTAT POCKET



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.

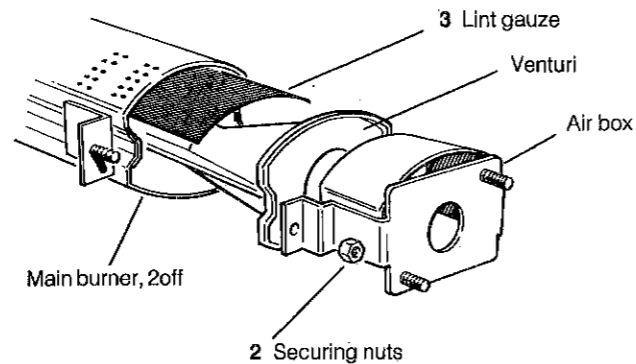
VIEW OF BOILER CONTROL BOX & TERMINAL WIRING

7. Remove the securing screw and lift off the control box cover.
8. Remove the plug-in connector and withdraw the electrical leads and the TTB in-line connector.
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.



6 LINT GAUZE REMOVAL. CF100 P, CF 125 P & CF 140 P Boilers ONLY

1. Remove both burners from burner front plate/manifold assembly. (See Frame 21, items 1-4, CF 100, CF125 & CF140 only for details).
2. From each burner, remove the two air box securing nuts and CAREFULLY remove the air box and venturi arrangement.
3. Withdraw both lint gauzes.

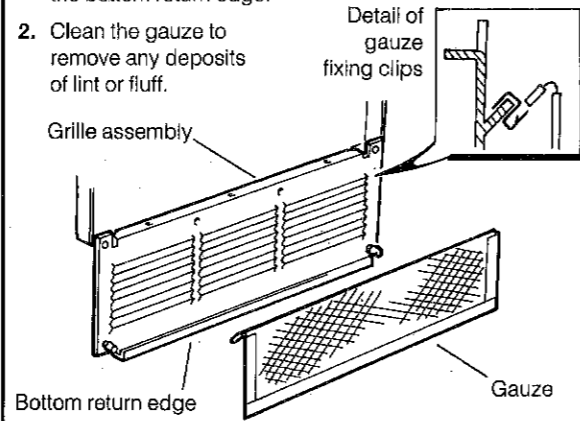
**7 CLEANING THE BURNER ASSEMBLY**

1. Clean the lint gauze(s) to remove any deposits of lint, fluff, etc.
 2. Brush off any deposits that may have fallen onto the burner head, ensuring that the flame ports are unobstructed. Remove any debris that may have collected on the assembly components. **Note:** Brushes with metallic bristles MUST NOT be used. Replace lint gauzes, venturi and air box in reverse order.
 3. Remove the main burner injector(s). Ensure that there is no blockage or damage. Clean or renew as necessary.
 4. Refit the injector(s) using an approved jointing compound.
 5. Inspect the pilot, thermocouple and spark electrode; ensure that they are clean and in good condition. In particular check that:
 - (a) The pilot burner is clean and unobstructed.
 - (b) The spark electrode is clean and undamaged.
 - (c) The spark lead is in good condition & securely connected.
 - (d) The spark gap is correct - refer to Frame 16.
 - (e) The thermocouple tip is not burned or cracked.
 - (f) The position of the thermocouple relative to the pilot burner is correct - refer to Frame 16.
 - (g) The thermocouple terminal at the gas valve is clean.
- Clean or renew components as necessary.**

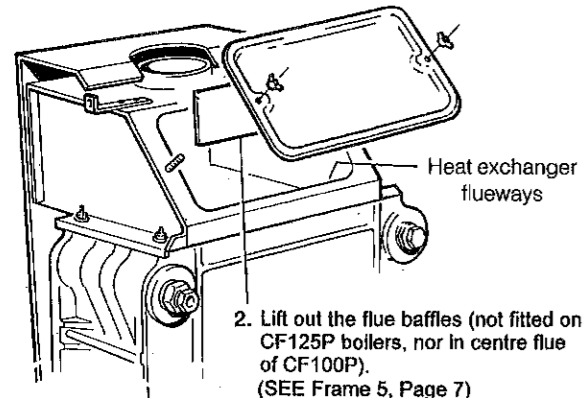
8 CLEANING THE LOWER FRONT PANEL LINT ARRESTING GAUZE

CF 100 P, CF 125 P & CF 140 P boilers ONLY

1. Unclip the gauze from the grille assembly and lift it clear of the bottom return edge.
2. Clean the gauze to remove any deposits of lint or fluff.
 - (a) Detail of gauze fixing clips
3. Refit the gauze by entering the bottom edge behind the grille return edge and engaging the top in the clips.

**9 CLEANING THE FLUEWAYS**

1. Remove the two wing nuts (CF 75 P & CF 140 P) or bolts (CF 100 P & CF 125 P) and lift off the cleanout cover.



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.

10 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. Re-connect the electrical wiring and refit the controls panel, ensuring that the thermostat phial and phial retaining clip 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.

11 GAS PRESSURE ADJUSTMENT**1. Pilot pressure**

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

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. Finally, refit the lower front panel.

NB the burner pressure is not adjustable.

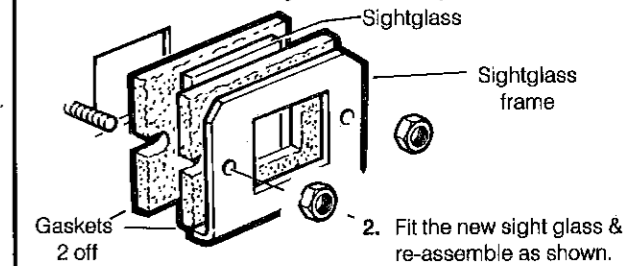
If the burner pressure is incorrect, check the supply pressure and all the isolating valves. Contact your LPG service centre if necessary.

COMPONENT REPLACEMENT

To replace the components in Frames 12 to 23 the lower 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.

12 SIGHTGLASS REPLACEMENT

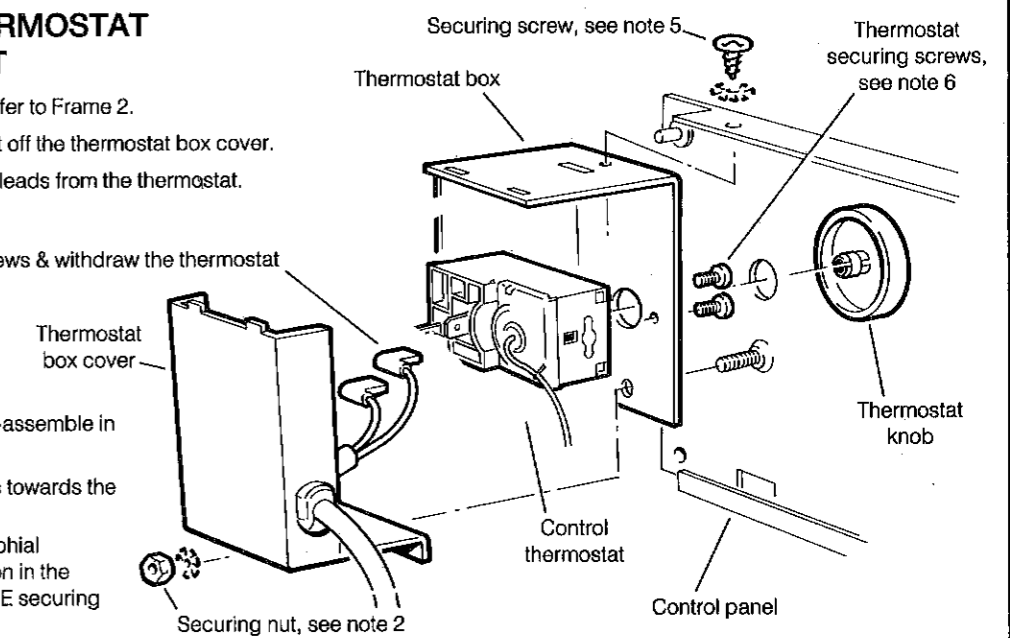
1. Unfasten the two M5 hexagon nuts and washers. Remove the assembly from the front plate.



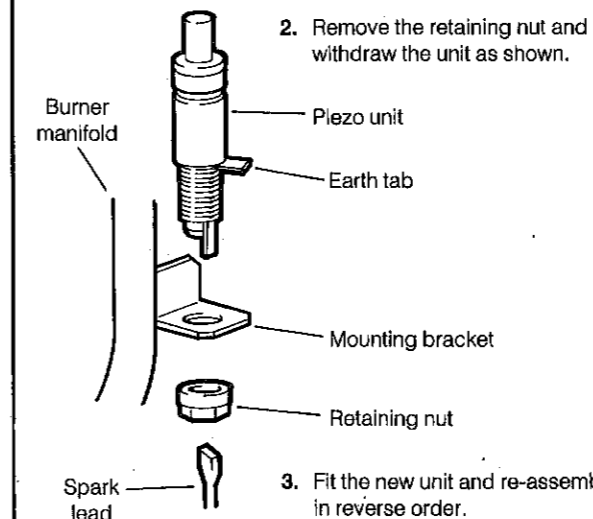
3. Retighten the two M5 hexagon nuts to ensure an airtight seal but do NOT OVERTIGHTEN

13 CONTROL THERMOSTAT REPLACEMENT

1. Remove the control panel. Refer to Frame 2.
2. Remove the securing nut & 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 screws & withdraw the thermostat box.
6. Remove the two securing screws & withdraw the thermostat.
 - (a) The thermostat capillary is towards the top of the box.
 - (b) The thermostat phial and phial retaining clip are in position in the thermostat pocket BEFORE securing with the split pin.

**14 PIEZO UNIT REPLACEMENT**

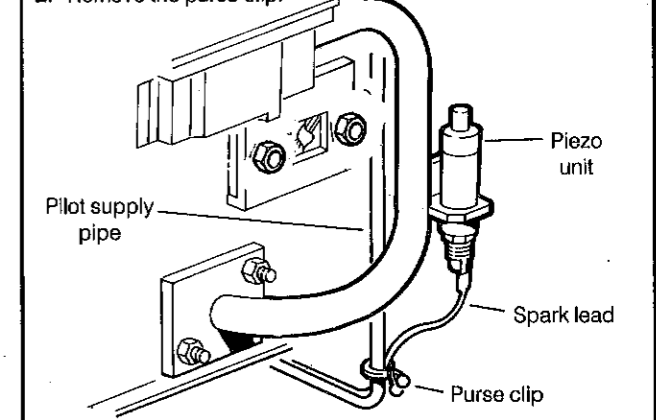
1. Disconnect the spark lead from the piezo unit body.



3. Fit the new unit and re-assemble in reverse order.

15 SPARK LEAD REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the purse clip.



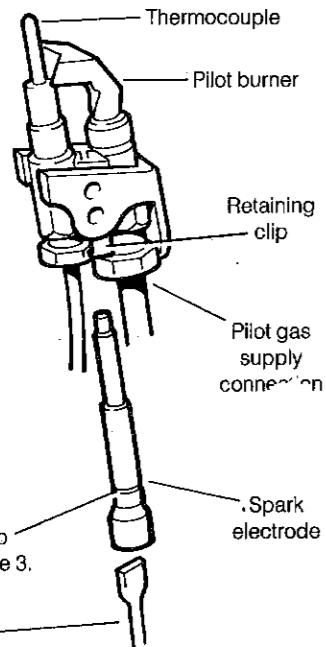
3. Disconnect the lead from the base of the electrode and the piezo unit, and withdraw the lead.
4. Fit the new lead and re-assemble in reverse order.

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

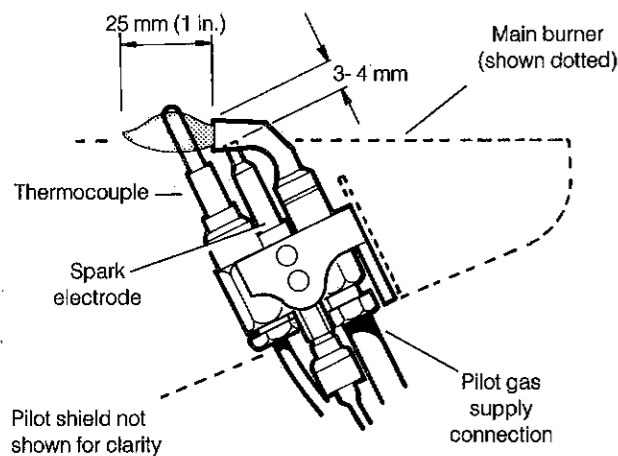
Ideal Mexico Super 2 CF 75 P boilers ONLY

DETAIL OF PILOT BURNER ASSEMBLY
(Main burner not shown)

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



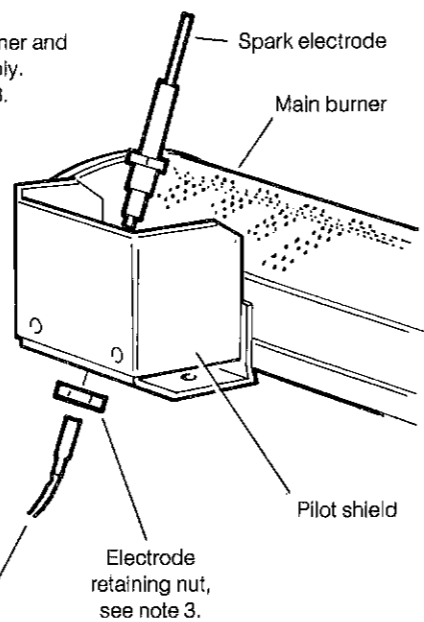
DETAIL OF PILOT FLAME LENGTH & SPARK GAP



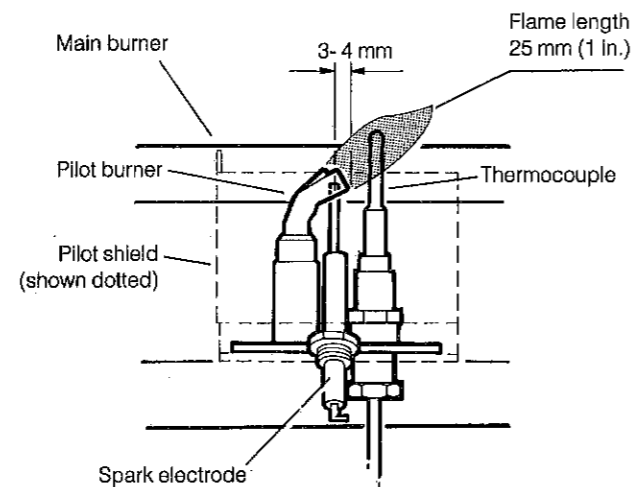
Ideal Mexico Super 2 CF 100 P, CF 125 P & CF 140 P boilers ONLY

DETAIL OF PILOT BURNER ASSEMBLY

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Disconnect the spark lead.
3. Remove the electrode retaining nut & withdraw the electrode.
4. Fit the new electrode & re-assemble in reverse order.



DETAIL OF PILOT FLAME LENGTH & SPARK GAP

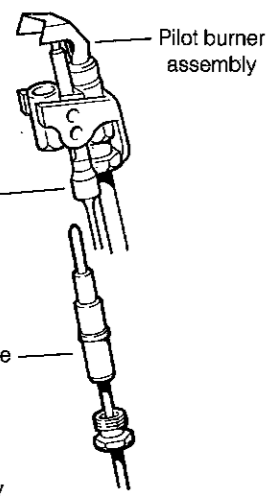


17 THERMOCOUPLE REPLACEMENT

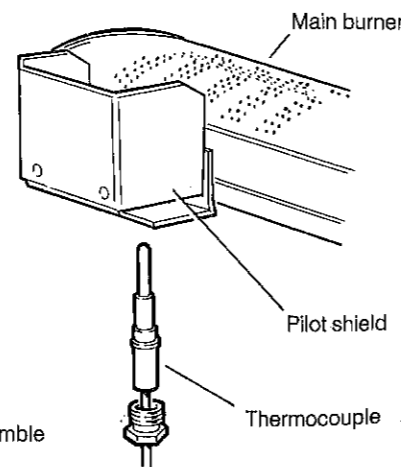
DETAIL OF THERMOCOUPLE;
CF 75 P BOILERS ONLY

1. Remove the burner and controls assembly. Refer to Frame 3.
2. CF 75 P ONLY. Remove the spark electrode. Refer to Frame 16.
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 and withdraw the thermocouple.
6. Fit the new thermocouple and re-assemble in reverse order.

Main burner not shown for clarity



DETAIL OF THERMOCOUPLE; CF 100 P,
CF 125 P & CF 140 P BOILERS ONLY



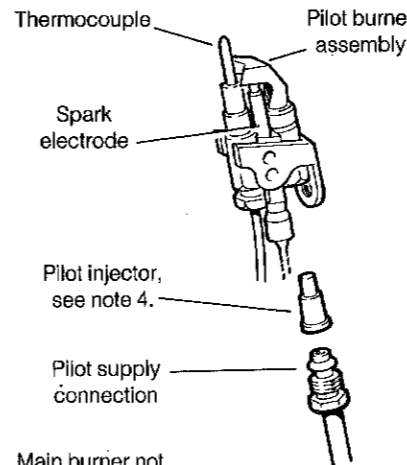
Note: Avoid sharp bends in the thermocouple lead and ensure that it follows the same route as previously.

18 PILOT BURNER REPLACEMENT

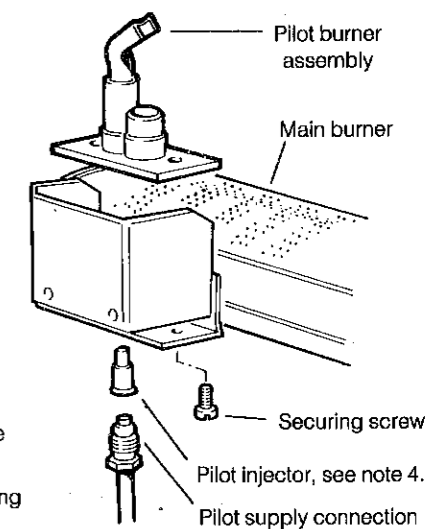
DETAIL OF PILOT BURNER;
CF 75 P BOILERS ONLY

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the spark electrode. Refer to Frame 16.
3. Undo the thermocouple connection & pull the thermocouple clear. Refer to Frame 17.
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 & 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 16.

Main burner not shown for clarity

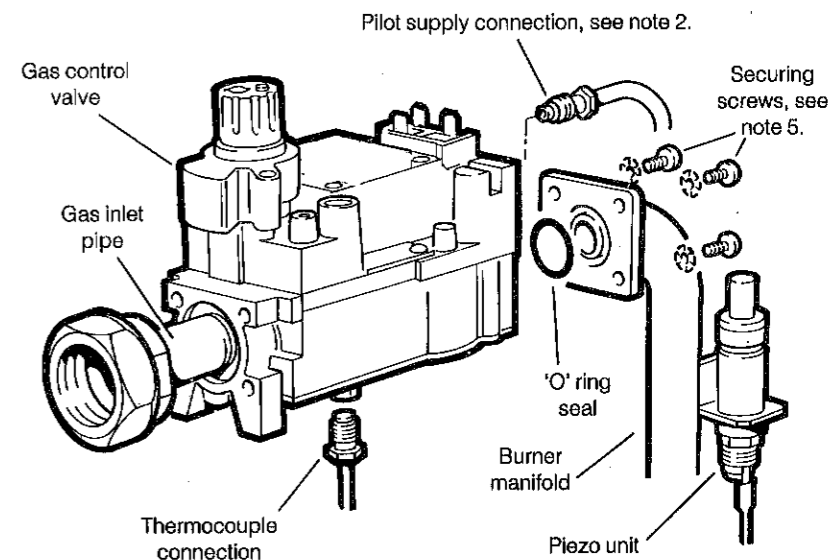


DETAIL OF PILOT BURNER; CF 100 P,
CF 125 P & CF 140 P BOILERS ONLY



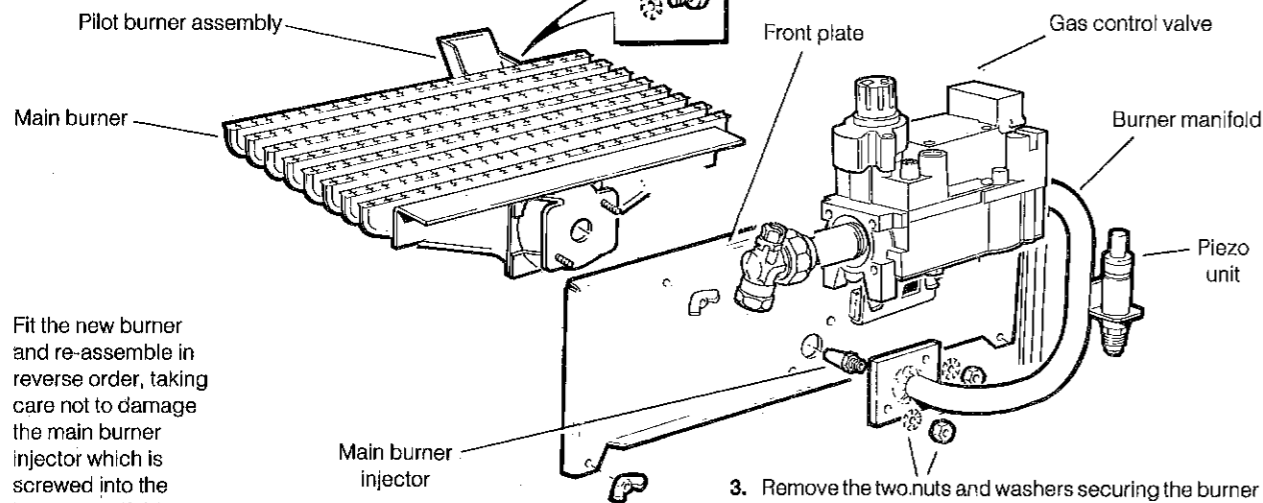
20 GAS VALVE REPLACEMENT.

1. Remove the burner and controls assembly. Refer to Frame 3.
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' ring supplied with the valve is correctly fitted at the outlet flange.
 - (c) An approved jointing compound is used when re-connecting the gas inlet pipe.



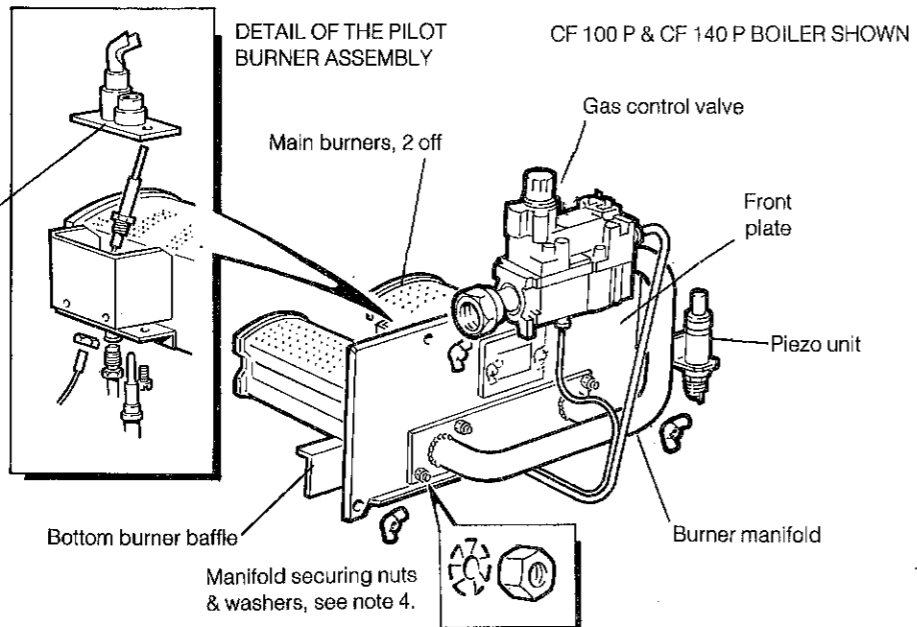
21 MAIN BURNER REPLACEMENT. CF 75 P Boilers ONLY.

1. Remove the burner and controls assembly. Refer to Frame 3.
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.



MAIN BURNER REPLACEMENT. CF 100 P, CF 125 P & 140 P Boilers ONLY.

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the two nuts and washers securing the bottom burner baffle, and remove the baffle.
3. Remove the pilot burner assembly. Refer to Frame 18 (CF 100 P & CF 140 P- R.H. burner, CF 125 P- L.H. burner).
4. Remove the nuts and washers securing the burner(s) to the front plate and manifold. Withdraw the burner.
5. Fit the new burner(s) and re-assemble in reverse order, taking care not to damage the main burner injector(s) screwed into the burner manifold.

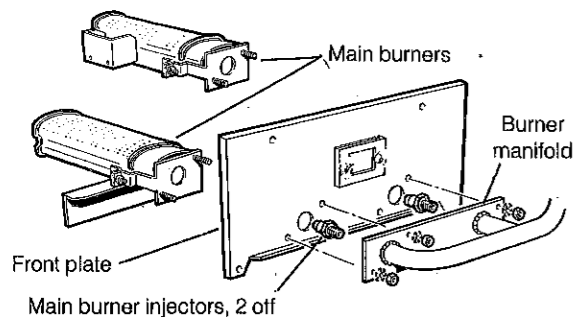


22 MAIN BURNER INJECTOR REPLACEMENT

Refer to Frame 21- 'Servicing' or Frames 25 & 26- 'Exploded Views' for illustration of the procedure detailed below.

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Unscrew the burner injector(s) from the manifold.
3. Fit the new injector(s) using an approved jointing compound, and re-assemble in reverse order.

DETAIL OF MAIN BURNER INJECTORS- CF 100 P, CF 125 P & CF 140 P BOILERS ONLY

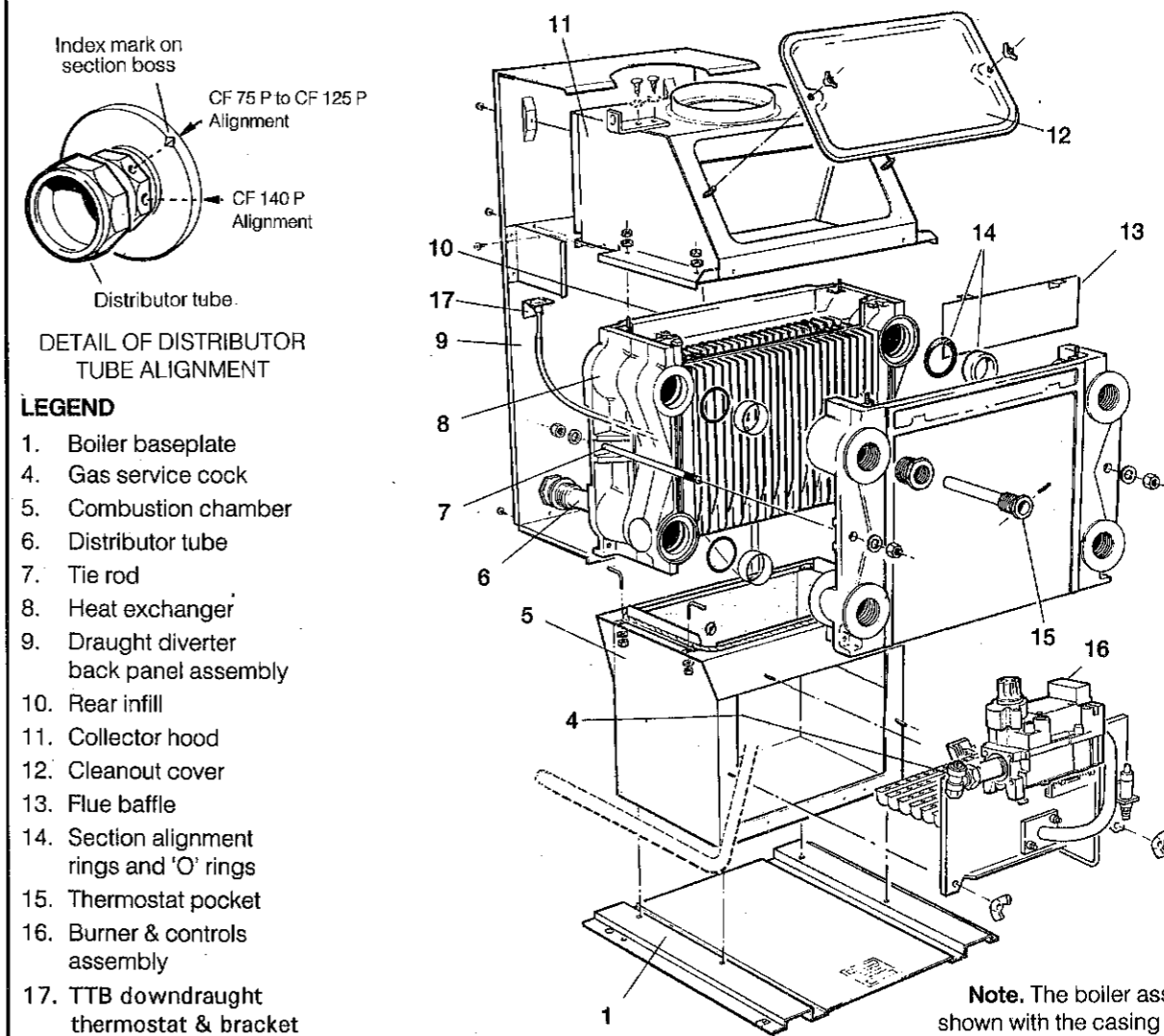


23 TTB DOWNDRAUGHT THERMOSTAT REPLACEMENT

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 2.
4. Reach down the side of the boiler and carefully lift the TTB bracket from its retaining slot. Refer to Frame 24.
5. Withdraw the thermostat, bracket and lead down the side of the boiler.
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.

24 BOILER ASSEMBLY- Exploded View.

Ideal Mexico Super 2 CF 75 P shown.

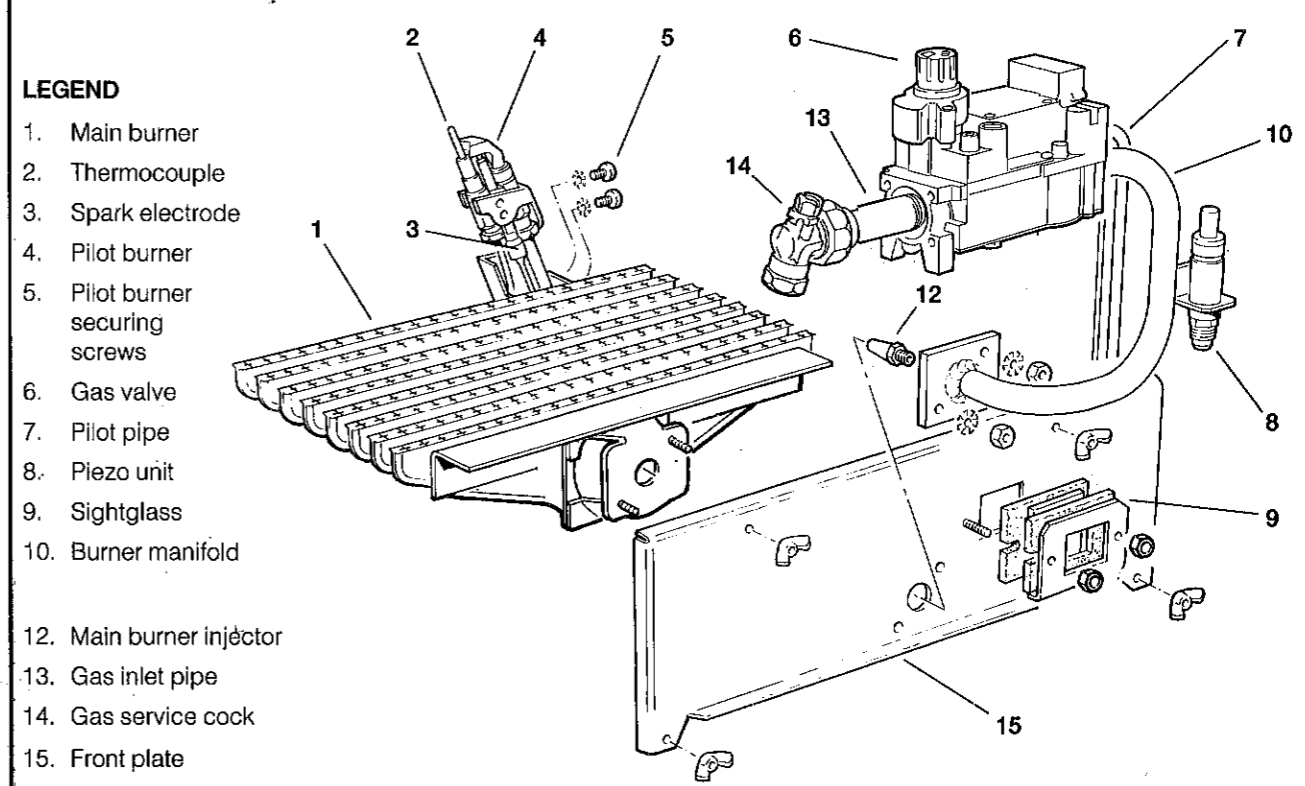


- DETAIL OF DISTRIBUTOR TUBE ALIGNMENT
- LEGEND
1. Boiler baseplate
 4. Gas service cock
 5. Combustion chamber
 6. Distributor tube
 7. Tie rod
 8. Heat exchanger
 9. Draught diverter back panel assembly
 10. Rear infill
 11. Collector hood
 12. Cleanout cover
 13. Flue baffle
 14. Section alignment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

Note. The boiler assembly is shown with the casing removed

25 BURNER & CONTROLS ASSEMBLY- Exploded View.

CF 75 P Boilers ONLY.



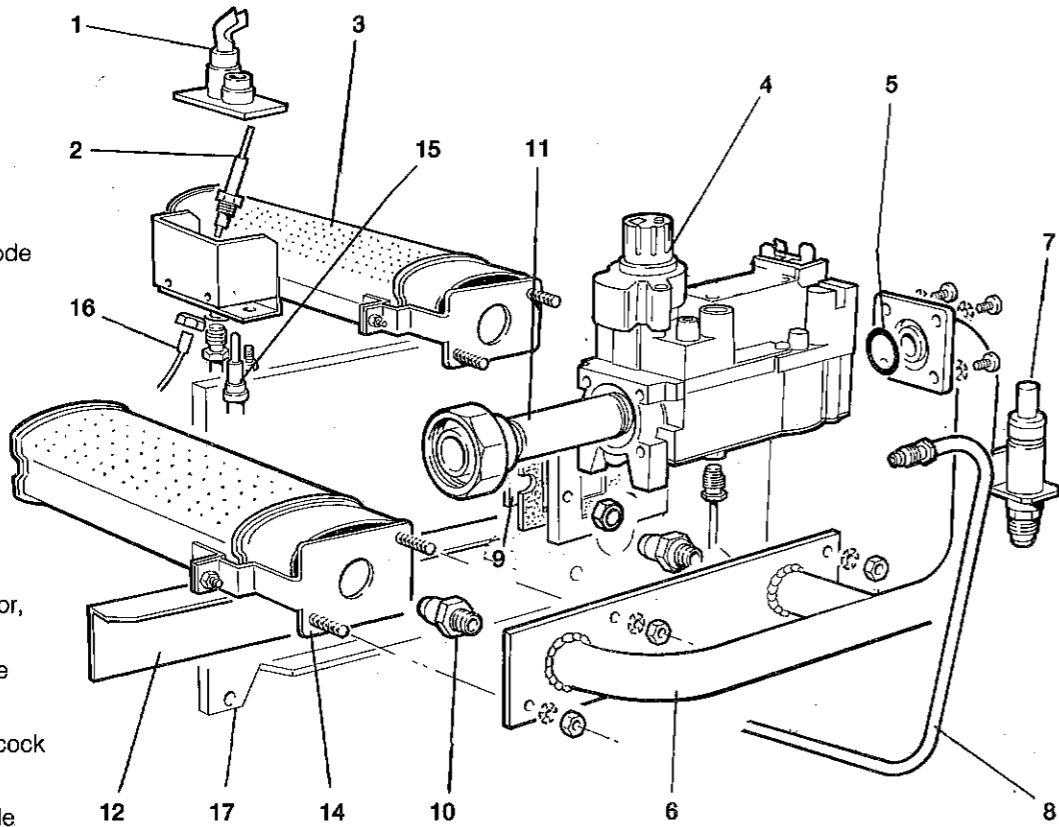
- LEGEND
1. Main burner
 2. Thermocouple
 3. Spark electrode
 4. Pilot burner
 5. Pilot burner securing screws
 6. Gas valve
 7. Pilot pipe
 8. Piezo unit
 9. Sightglass
 10. Burner manifold
 12. Main burner injector
 13. Gas inlet pipe
 14. Gas service cock
 15. Front plate

26 BURNER & CONTROLS ASSEMBLY- Exploded View.

CF 100 P, CF 125 P & 140 P Boilers ONLY.

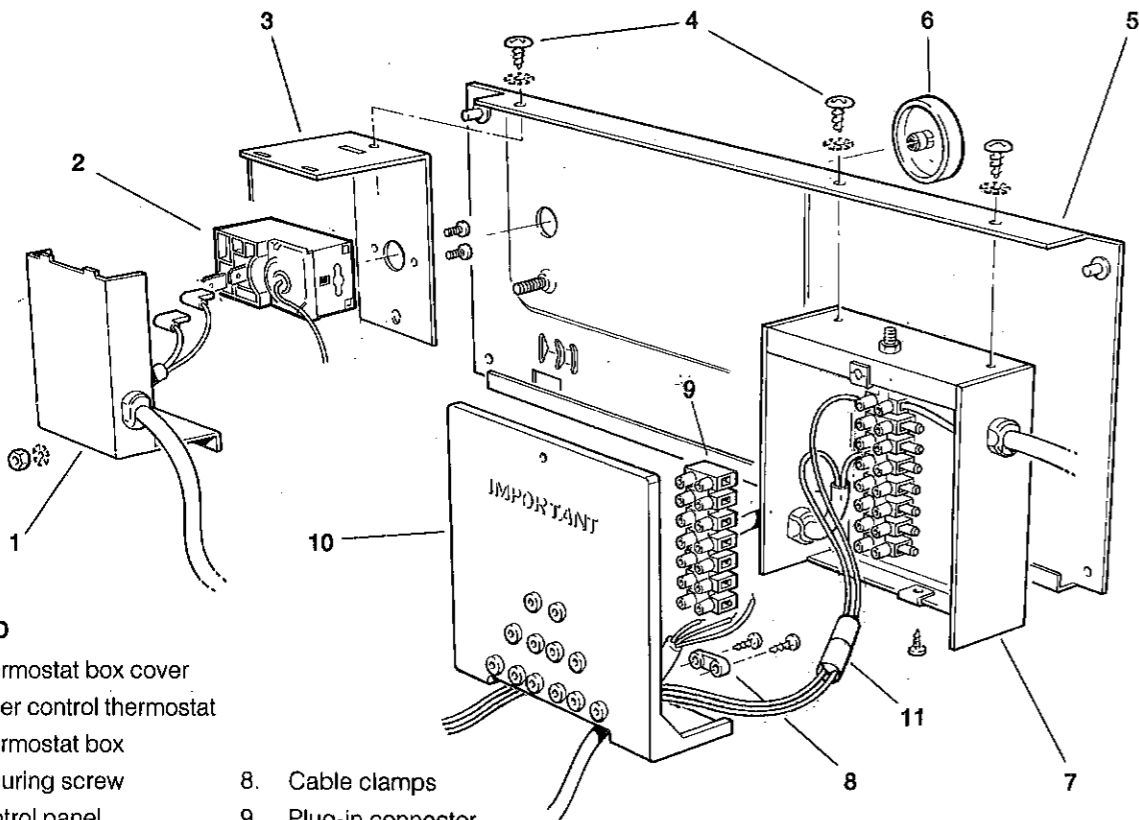
LEGEND

1. Pilot burner
2. Spark electrode
3. R.H. burner
4. Gas valve
5. 'O' ring seal
6. Burner manifold
7. Piezo unit
8. Pilot pipe
9. Sightglass
10. Burner injector, 2 off
11. Gas inlet pipe
12. Burner baffle
13. Gas service cock
14. L.H. burner
15. Thermocouple
16. Spark lead
17. Front plate



CF 100 P & CF 140 P BOILER SHOWN

27 BOILER CONTROL PANEL- Exploded View



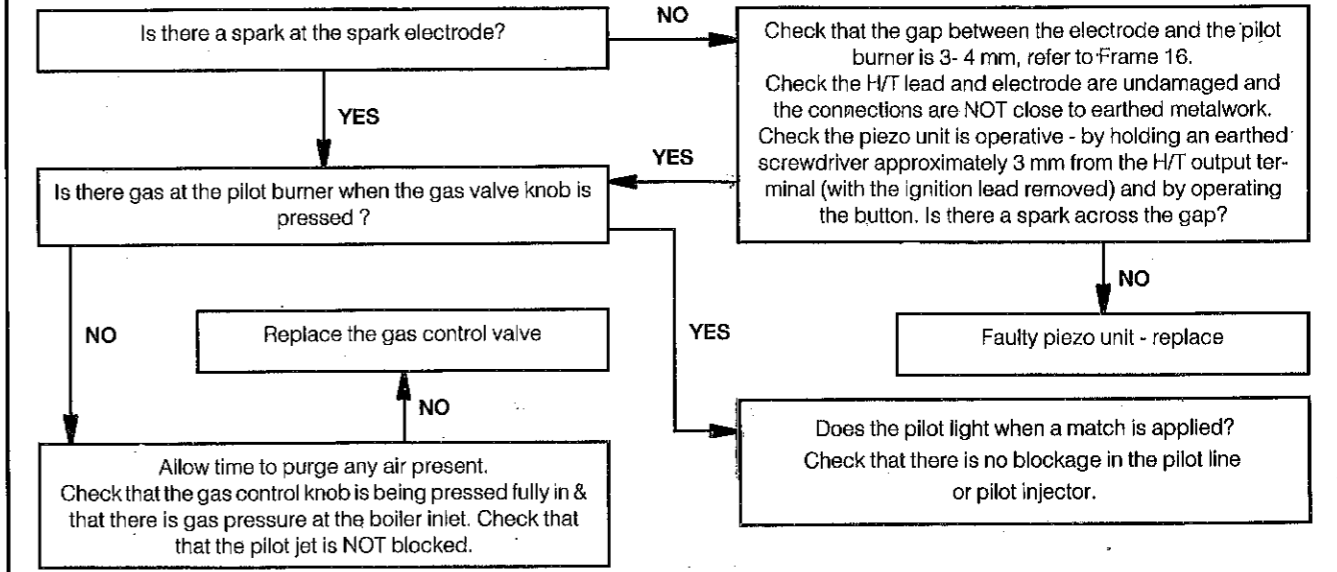
LEGEND

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

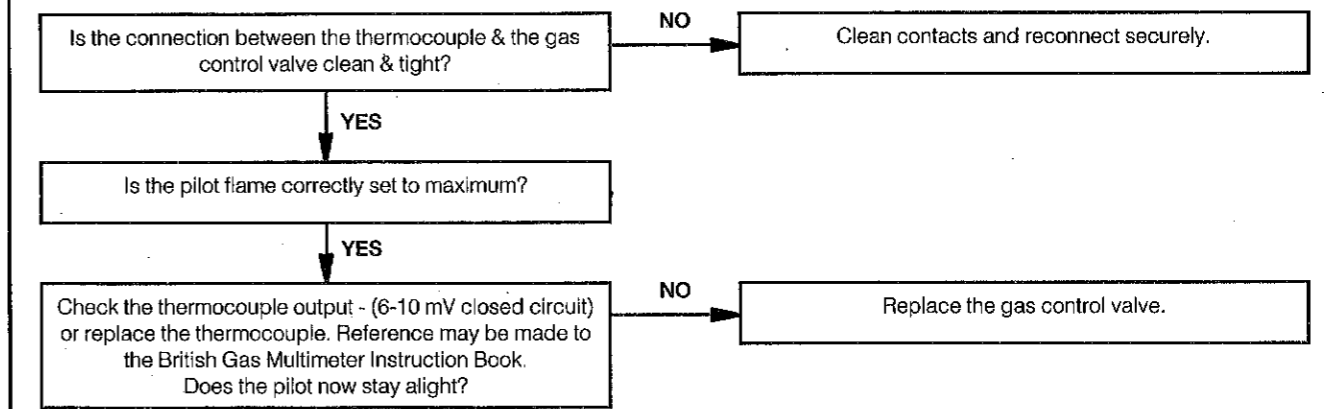
Before attempting any electrical fault finding, ALWAYS carry out the preliminary electrical system checks as detailed in the Instructions for the British Gas Multimeter, or other similar commercially

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

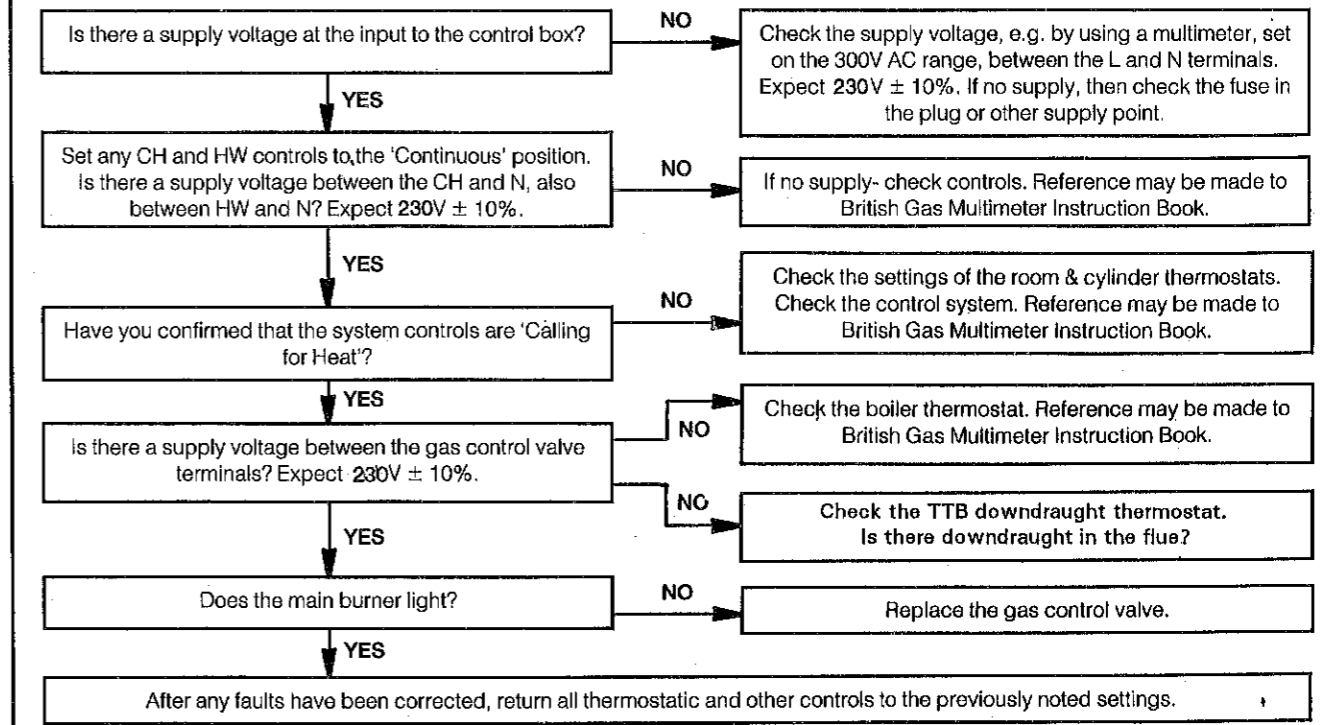
28 PILOT WILL NOT LIGHT



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



30 PILOT LIT BUT NO MAINS GAS



SERVICING

The following are parts commonly required as replacements due to damage or expendability. Their failure, or absence, is likely to affect safety or performance of this appliance. 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.

Ideal Mexico Super 2 CF 75 P, CF 100 P, CF 125 P and CF 140 P Gas Boilers.

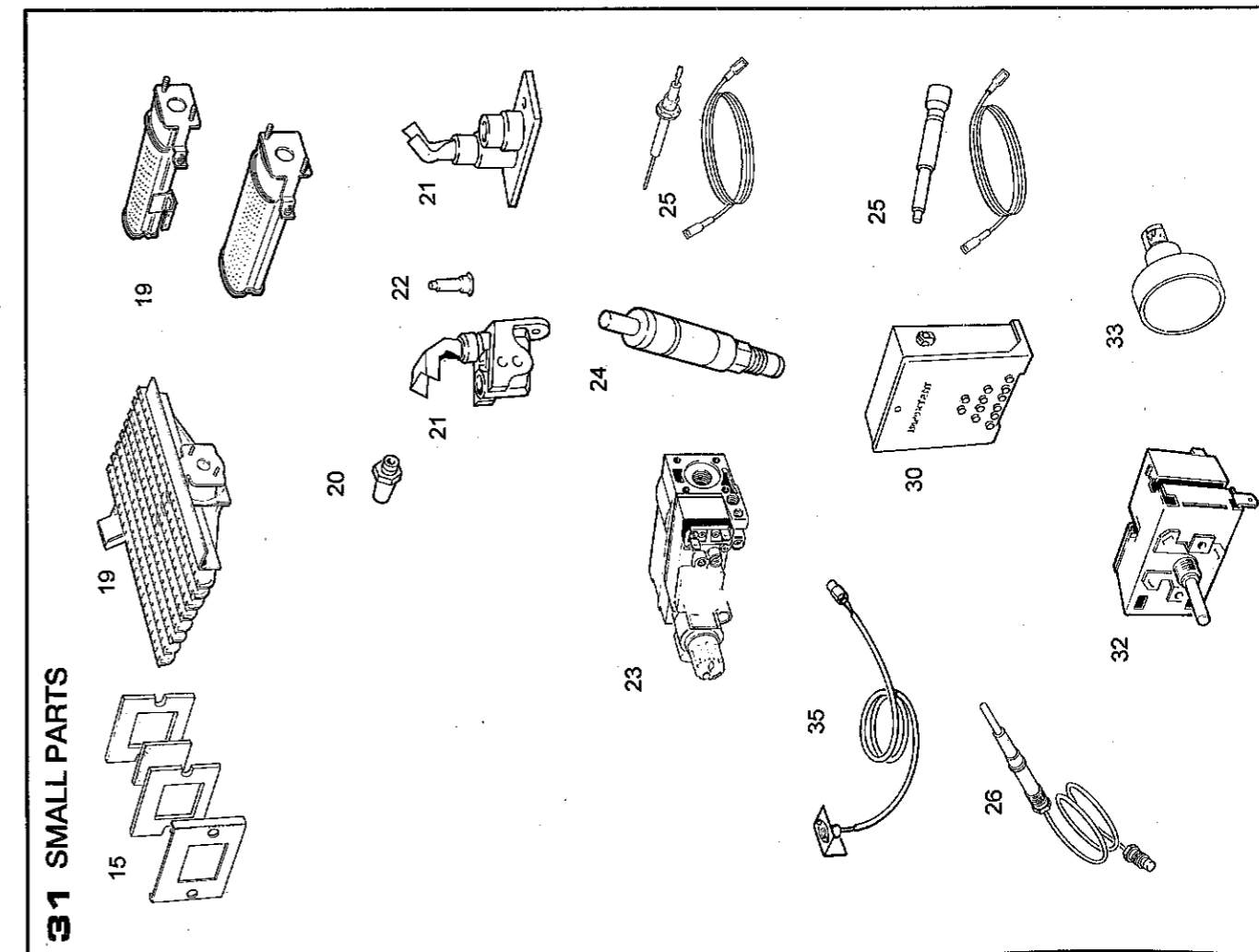
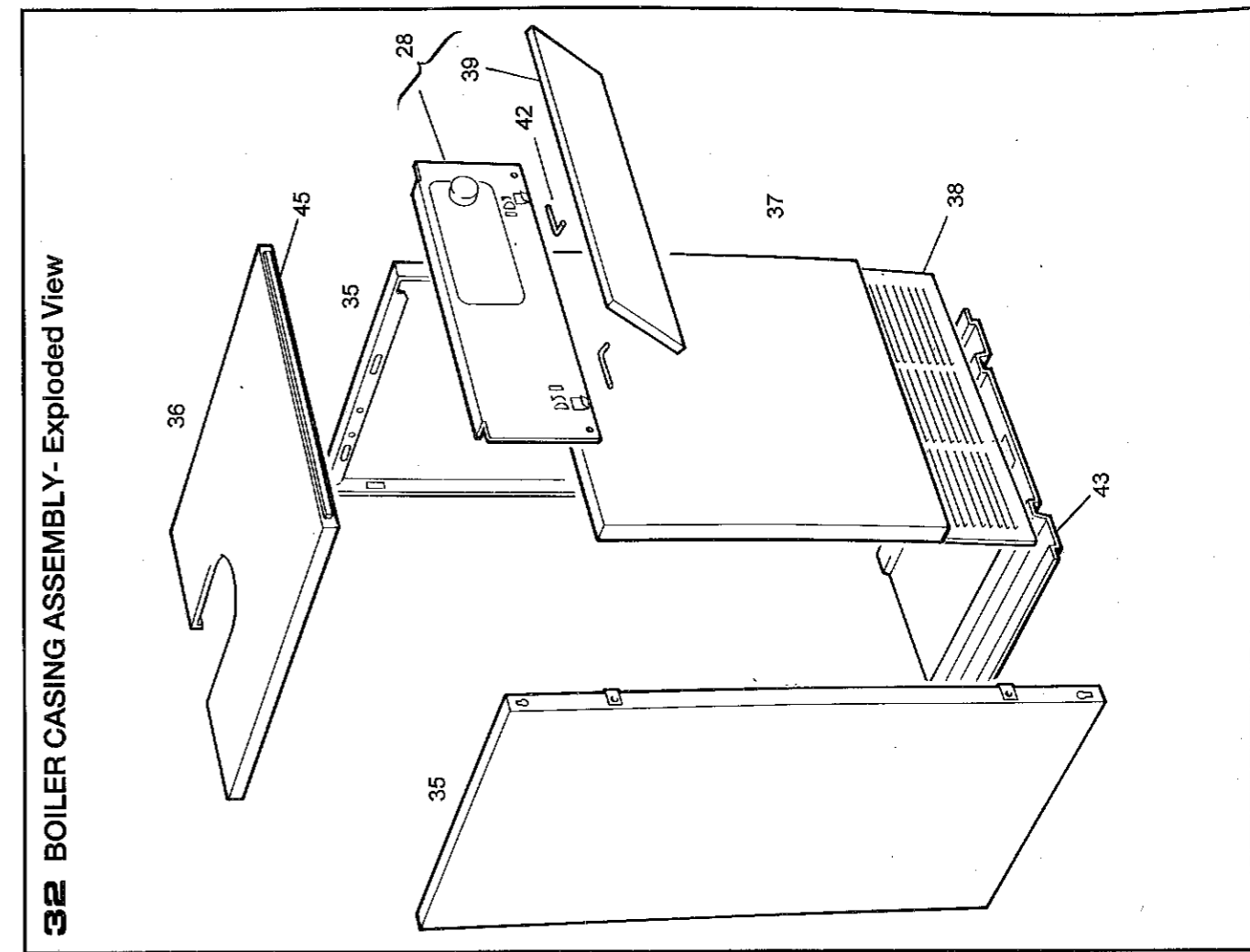
When ordering spares please quote: 1. Boiler Model 2. Description 3. Maker's Part Number 4. Quantity

Key No.	G.C. Part No.	Description	No. off	Maker's Part No.
15	319 494	Sightglass assembly, comprising sightglass, frame, two sightglass gaskets and two M5 wing nuts.	1	079 334
19		Main burner		
	E01 552	AEROMATIC No. AC19/123 252 - CF75P	1	013 975
	378 372	RH AEROMATIC No. AC19/123 284 - CF100P	1	100 159
	378 373	LH AEROMATIC No. AC19/123 285 - CF100P	1	100 160
	378 374	RH AEROMATIC No. AC19/123286' - CF125P	1	100 161
	378 376	LH AEROMATIC No. AC19/123287 CF125P	1	100 162
	378 375	RH AEROMATIC No. AC19/123 288 - CF140P	1	100 163
	378 377	LH AEROMATIC No. AC19/123 289 - CF140P	1	100 164
	341 355	Lint arresting gauze with 2 end cap gaskets; CF100P	1	
	341 356	Lint arresting gauze with 2 end cap gaskets; CF125P	1	
	382 831	Lint arresting gauze with 2 end cap gaskets; CF140P	1	
20		Main burner injector		
	398 043	BRAY Cat 10 800; CF75P	1	004 858
	389 612	BRAY Cat 10 520; CF100P	2	003 861
	E01 493	BRAY Cat 10 650; CF125P	2	003 862
	398 043	BRAY Cat 10 800; CF140P	2	004 858
21		Pilot burner, with injector Key No.24		
	E01 548	HONEYWELL Q 385 A1020; CF 75 P	1	079 390
	E01 549	HONEYWELL Q 349 A1067; CF100P,CF125P & CF140P	1	079 391
22		Pilot injector		
	E00 333	HONEYWELL double orifice (.20/23P); CF75P	1	004 816
	E01 506	HONEYWELL (.23P; CF100P,CF125,CF140P	1	004 590
23		Gas control valve		
	E01 507	HONEYWELL V4600E 1016	1	100 603
24	395 705	Spark generator, VERNITRON 60080	1	003 939
25		Ignition electrode,		
	397 945	BUCCHELEUCH, with HT lead; CF75P	1	004 713
	382 519	VERNITRON SKNT 1495, with HT lead; CF100P,RS125P & CF140P	1	003 777
26		Thermocouple		
	390 210	HONEYWELL Q309A2747-750mm lg; CF75P & CF100P	1	003 876
	390 038	HONEYWELL Q 309 A2754-900mm lg; CF125P&CF140P	1	030 032
28	E01 513	Upper front panel complete	1	151 000
31	E01 512	Thermostat and fittings	1	075 293
32	379 177	Thermostat, RANCO K36-P1317	1	110 541
33	E01 514	Thermostat knob	1	013 982
		Casing, white stove enamel		
35	319 391	Casing side panel assembly; CF75P & CF100P	2	134 596
	319 392	LH casing side panel assembly; CF125P	1	134 597
	319 393	LH casing side panel assembly; CF140P	1	134 670
	319 395	RH casing side panel assembly; CF125P	1	134 598
	319 396	RH casing side panel assembly; CF140P	1	134 680
36	319 397	Casing top panel assembly; CF75P	1	134 933
	319 398	Casing top panel assembly; CF100P	1	135 293
	319 399	Casing top panel assembly; CF125P	1	134 934
	319 400	Casing top panel assembly; CF140P	1	134 935
37	E01 517	Casing front panel assembly ("door")	1	075 232
38	319 406	Casing lower grille assembly; CF75P	1	134 773
	319 408	Casing lower grille assembly; CF100P,CF125P & CF140P	1	135 010
39	319 403	Controls panel door	1	134 207
42	319 405	Controls panel hinge pin kit	1	079 363
45	E01 525	Magnetic strip	1	113 011
47	E01 417	TTB draught thermostat with bracket	1	075 309

SHORT LIST OF PARTS

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*

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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April 1997

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i Ideal BOILERS