

# IDEAL MEXICO SUPER 2 B.E.D. RS 70, RS 80, RS 100 & RS 125.

## Balanced 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.

### Ideal Mexico Super 2 BED

RS 70

RS 80

RS 100

RS 125

### G.C. Number

41 349 57

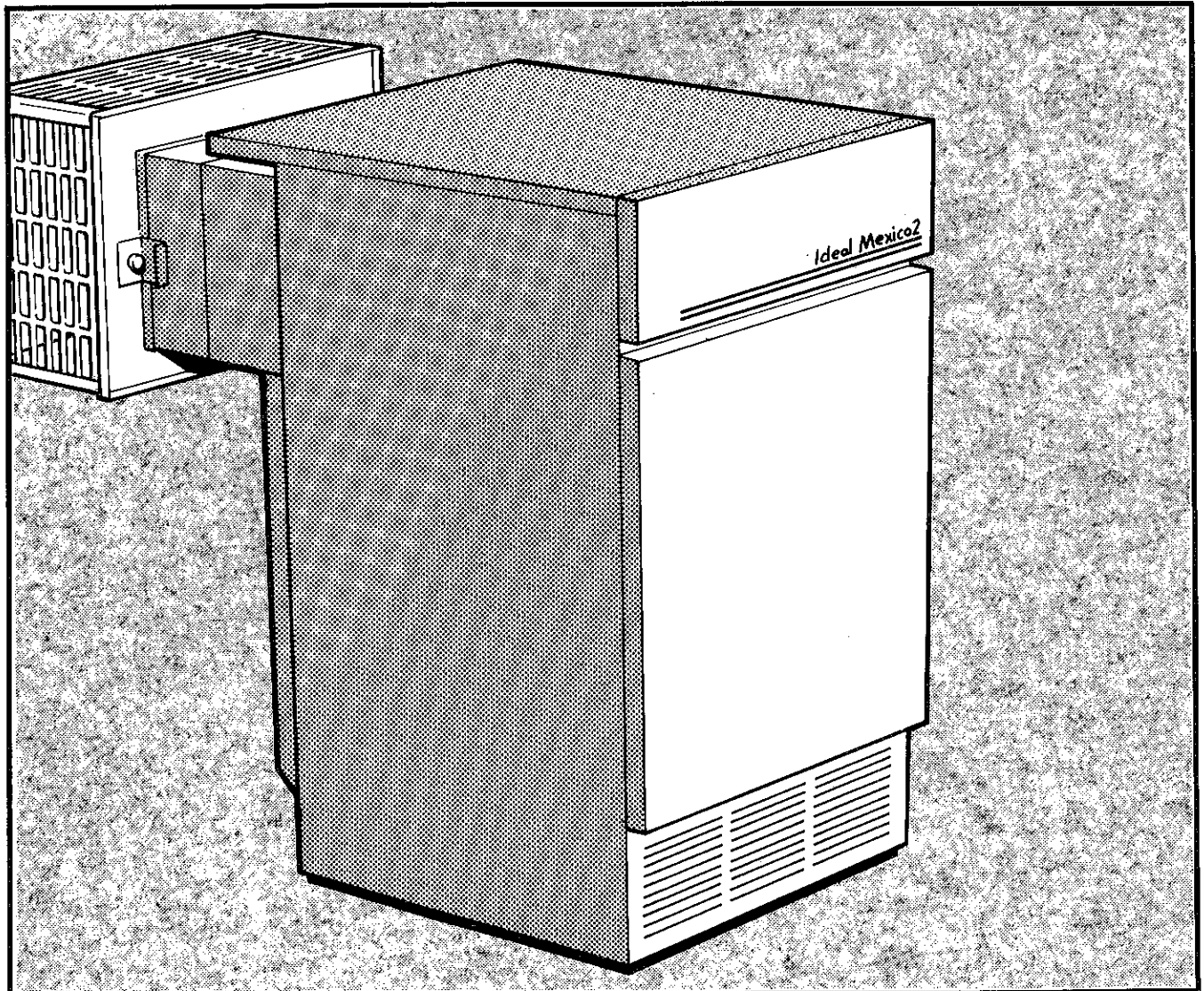
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**IMPORTANT:** The appliances are for use with **NATURAL GAS ONLY.**

Appliance Type C<sub>11</sub>



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

**BOILERS**  
**Ideal**

# GENERAL

# PERFORMANCE DATA

Table 1 - General Data

Boiler Size		RS 70	RS 80	RS 100	RS 125
Main Burner	AEROMATIC	AC 19 / 123 244	AC 19 / 123 244	AC 19/123 299 (RH) AC 19/123 216 (LH)	AC 19/123 298 (RH) AC 19/123 297 (LH)
Gas Control Valve		1/2 in. BSP. HONEYWELL V 4600 E 1016, 230V			
Burner Injector	BRAY	10 / 2200	10 / 2300	10 / 1400	103 / 1700
Pilot Injector		← HONEYWELL 38 / 36 A →			
Gas Supply Connection	in. BSP	Rc 1/2 (1/2)			
Number of Boiler Sections		3	3	4	5
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.)	7.4 (1.6)	7.4 (1.6)	9.8 (2.1)	12.2 (2.7)
Dry Weight exc. Terminal	kg. (lb.)	90 (198)	90 (198)	113 (249)	136 (300)
Boiler Size	Height	mm (in.) 850 (33.5)			
	Width	mm (in.) 440. (17.4)			
	Depth	mm (in.) 533 (21.0)			600 (23.6)
Gas Type		Natural 2 H			
Gas Supply Pressure		20 mb			

Table 2 - PERFORMANCE DATA

Boiler Size		RS 70	RS 80	RS 100	RS 125
Boiler Input	MIN	kW (Btu/h) 22.2 (75 900)	26.2 (89 500)	29.8 (101 800)	37.5 (128 000)
	Gas Consumption	l/s (ft. <sup>3</sup> /h) 0.57 (73)	0.68 (86)	0.77 (98)	0.97 (123)
Gas consumption calculated using HCV of 38.7 MJ/cu.m	MID	kW (Btu/h) 24.0 (81 900)	27.9 (95 200)	33.4 (113 900)	41.7 (142 400)
	Gas Consumption	l/s (ft. <sup>3</sup> /h) 0.62 (79)	0.72 (92)	0.86 (110)	1.08 (137)
	MAX (as shipped)	kW (Btu/h) 25.7 (87 700)	29.8 (101 700)	36.9 (125 800)	45.1 (153 800)
	Gas Consumption	l/s (ft. <sup>3</sup> /h) 0.66 (84)	0.77 (98)	0.95 (121)	1.17 (148)
Boiler Output to Water	MIN	kW (Btu/h) 17.6 (60 000)	20.5 (70 000)	23.4 (80 000)	29.3 (100 000)
	MID	kW (Btu/h) 19.1 (65 000)	22.0 (75 000)	26.4 (90 000)	33.0 (112 500)
	MAX	kW (Btu/h) 20.5 (70 000)	23.4 (80 000)	29.3 (100 000)	35.8 (122 000)
Burner Setting Pressure (hot)	MIN	mbar (in w.g.) 8.8 (3.5)	11.2 (4.5)	8.6 (3.4)	10.8 (4.3)
	MID	mbar (in w.g.) 10.3 (4.1)	12.6 (5.0)	11.0 (4.4)	13.0 (5.2)
	MAX	mbar (in w.g.) 11.9 (4.8)	14.2 (5.70)	13.4 (5.4)	15.0 (6.0)
Flue gas flow rate (max)	g/s	12.1	14.0	17.3	21.2
Flue gas temperature	°C	118	173	167	163

# GENERAL

## INTRODUCTION

The Ideal Mexico Super 2 BED RS 70, RS 80, RS 100 & RS 125 are floor standing, natural draught, balanced flue gas boilers. They are range rated to provide central heating outputs of 17.6kW (60 000 Btu/h) to 35.8kW (122 000 Btu/h).

The boiler has a cast iron heat exchanger, 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 control (& 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.

**Gas Safety (Installation and Use) Regulations, 1994 & 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.** This appliance range is certified 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 insulation, other than that required by the Local Authority and Building Regulations, is NOT necessary.

The boiler MUST be installed against an external wall & the back of the boiler casing may be fitted up to the wall.

THE BOILER IS NOT SUITABLE FOR EXTERNAL INSTALLATION.

# INTRODUCTION- FLUEING

**IMPORTANT NOTICE.** If the boiler is to be fitted in a timber framed building it should be fitted in accordance with the British Gas publication 'Guide for Gas Installation in Timber Framed Housing', reference DM2. If in doubt, advice must be sought from Caradon Ideal Ltd.

The boiler may be installed in any room or internal space, although particular attention is drawn to the requirements of the current I.E.E. Wiring Regulations and, in Scotland, the electrical provisions of the Building Regulations applicable in Scotland with respect to the installation of the boiler in a room or internal space containing a bath or shower.

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

Where installation will be in an unusual location special procedures may be necessary and BS. 6798 gives detailed guidance on this aspect. A compartment used to enclose the boiler MUST be designed and constructed specially 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 installation MUST allow adequate space for servicing in front of the boiler and for air circulation around the boiler. The amount of side clearance will depend on the type of connections used.
2. This position MUST also permit the provision of a satisfactory flue termination.

### 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.

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 boiler MUST be installed so that the terminal is exposed to external air.
2. It is important that the position of the terminal allows the free passage of air across it at all times.
3. The minimum acceptable spacings from the terminal to obstructions and ventilation openings are specified in Table 3.
4. Where the lowest part of the terminal is fitted less than 2m (6.6 ft.) above a balcony, above ground, or above a flat roof to which people have access, the terminal MUST be protected by a purpose designed guard. Terminal guards are available from:  
**Tower Flue Components Ltd., Vale Rise, Tonbridge, Kent TN9 1TB. (01732-351 555)**
5. Where the terminal is fitted within 1000mm (39 1/2 in) of a plastic or painted gutter, or 500mm (19 1/2 in) of painted

## GENERAL

eaves, an aluminium shield at least 1000mm(39½) long should be fitted to the underside of the gutter or painted surface.

- The air inlet/ products outlet duct and the terminal of the boiler MUST NOT be closer than 25 mm (1 in.) to combustible material. Detailed recommendations on protection of combustible material are given in BS. 5440:1 1978, sub-clause 20:1.

**IMPORTANT.** It is absolutely ESSENTIAL to ensure, in practice, that 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.

*If this should occur, the appliance MUST be turned OFF IMMEDIATELY and the Local Region of British Gas plc. called to investigate.*

## TERMINAL

The terminal assembly can be adapted to accommodate various wall thicknesses, refer to Frames 10 & 11 (Installation).

Table 3

Terminal Position	Minimum Spacing
1. Directly below an openable window, air vent or other ventilation opening.	300 mm (12 in.)
2. Below guttering, drain pipes or soil pipes.	300 mm (12 in.)
3. Below eaves	300 mm (12 in.)
4. Below balconies or a car port roof.	600 mm (24 in.)
5. From vertical drain pipes or soil pipes.	75 mm (3 in.)
6. From internal or external corners.	600 mm (24 in.)
7. Above adjacent ground, roof or balcony level.	300 mm (12 in.)
8. From a surface facing the terminal.	600 mm (24 in.)
9. From a terminal facing a terminal.	600 mm (24 in.)
10. From an opening in a car port (eg. door or window) into dwelling.	1200 mm (48 in.)
11. Vertically from a terminal on the same wall.	1500 mm (60 in.)
12. Horizontally from a terminal on the same wall	300 mm (12 in.)

## AIR SUPPLY

Detailed recommendations for air supply are given in BS. 5440:2. The following notes are for general guidance:

- It is NOT necessary to have a purpose provided air vent in the room or internal space in which the boiler is installed.
- If the boiler is to be installed in a cupboard or compartment, permanent air vents are required (for cooling purposes) in the cupboard/ compartment, at both high and low levels. The air vents must either communicate with room/ internal space, or be direct to outside air. The minimum effective areas of the permanent air vents, required in the cupboard/ compartment, are specified as follows and are related to the maximum rated heat input.

## Notes.

- Both air vents MUST communicate with the same room

## FLUEING- WATER CIRCULATION

or internal space, or MUST be on the same wall to outside air.

- In siting the air vents care must be taken to avoid the freezing of pipework.

Table 4- RS 70

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm <sup>2</sup> (in <sup>2</sup> )	245 (38)	123 (19)
LOW LEVEL cm <sup>2</sup> (in <sup>2</sup> )	245 (38)	123 (19)

Table 5- RS 80

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm <sup>2</sup> (in <sup>2</sup> )	282 (44)	141(22)
LOW LEVEL cm <sup>2</sup> (in <sup>2</sup> )	282 (44)	141 (22)

Table 6- RS 100

Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm <sup>2</sup> (in <sup>2</sup> )	354 (55)	177(28)
LOW LEVEL cm <sup>2</sup> (in <sup>2</sup> )	354 (55)	177 (28)

Table 7- RS 125

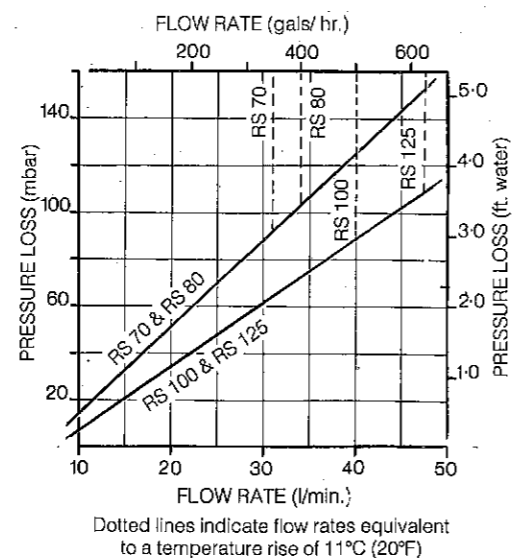
Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm <sup>2</sup> (in <sup>2</sup> )	438 (68)	219(34)
LOW LEVEL cm <sup>2</sup> (in <sup>2</sup> )	438 (68)	219 (34)

## WATER CIRCULATION SYSTEM

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

**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 differentials are shown in the graph below.

## WATER FLOW RATE & PRESSURE LOSS



## GENERAL

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.5449:1.

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 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 & hot water storage vessel. Draining taps should be at least 1/2 in. nominal size & be in accordance with BS.2879. If required a drain tap (not supplied) may be fitted to an unused bottom (1 in. 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.

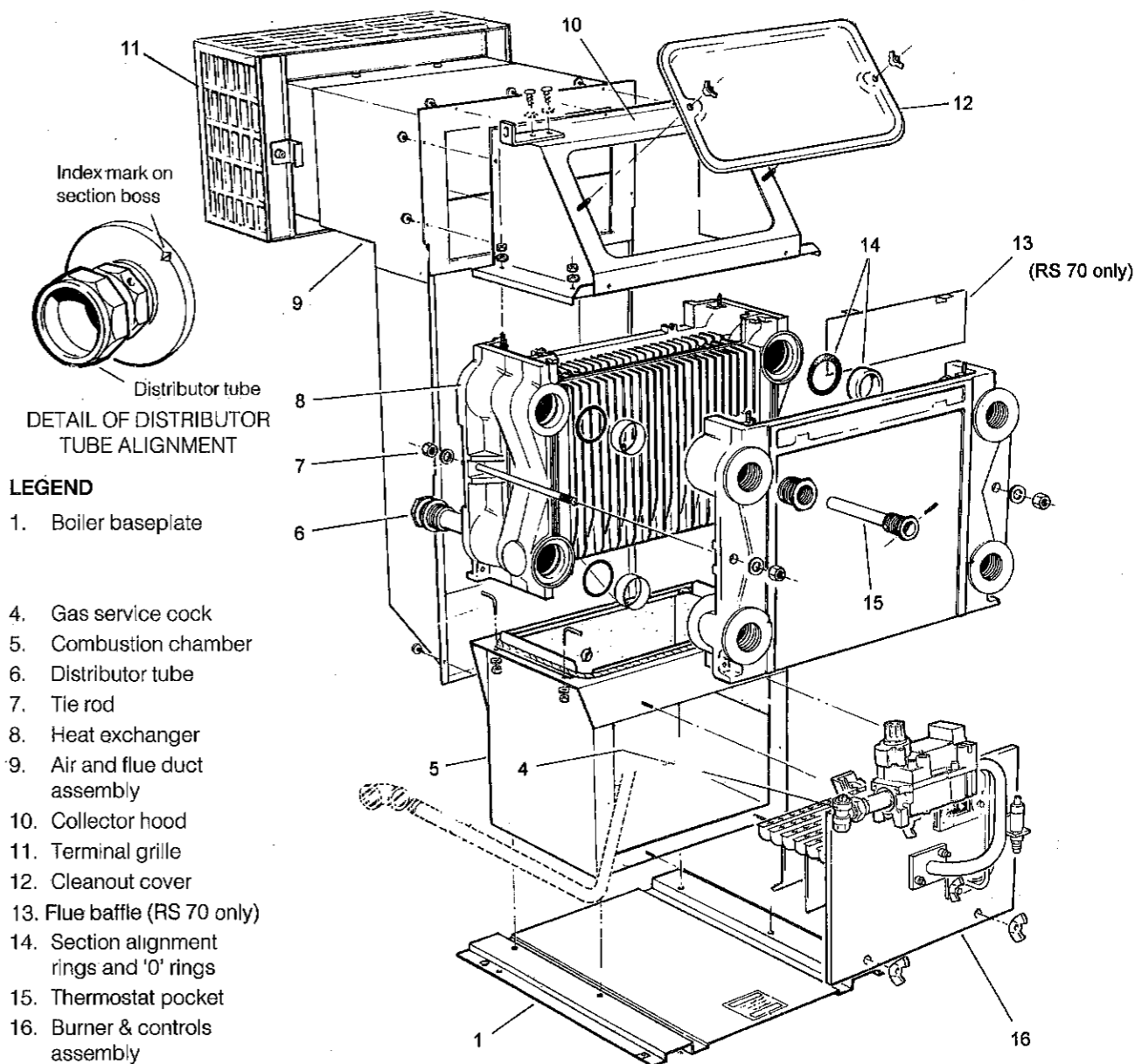
Fuse rating is 3A.

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.

For bathroom installations the point of connection to the mains must be situated outside the bathroom.

## 1 BOILER ASSEMBLY- Exploded View. Ideal Mexico 2 RS 70 Shown (with casing removed)



# INSTALLATION

## UNPACKING- BOILER CASING REMOVAL

**2 UNPACKING** The boiler is supplied fully assembled in one pack 'A', together with either one or two of four packs B, B1, C or D. Packs B, B1, or C contain the flue terminal appropriate to the wall thickness. Pack D contains the flue terminal extensions. Unpack & check the contents.

PACK 'A' CONTENTS	HARDWARE PACK CONTENTS	PACK 'B', 'B1' & 'C' CONTENTS	PACK 'D' CONTENTS
Complete boiler assembly	1 in. BSP plugs, 5 off	Flue terminal assembly	Flue terminal extension
	1 in. x 1/2 in. BSP reducing bush, 1 off		
	Distributor tube		Sachet of sealing mastic
	Thermostat pocket, 1 off		Adhesive tape
	Thermostat retaining clip, 1 off		
	Thermostat retaining pin	Sachet of sealing mastic 2 off	
	Output setting label		

## 3 FLOOR MOUNTING & BOILER 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:-

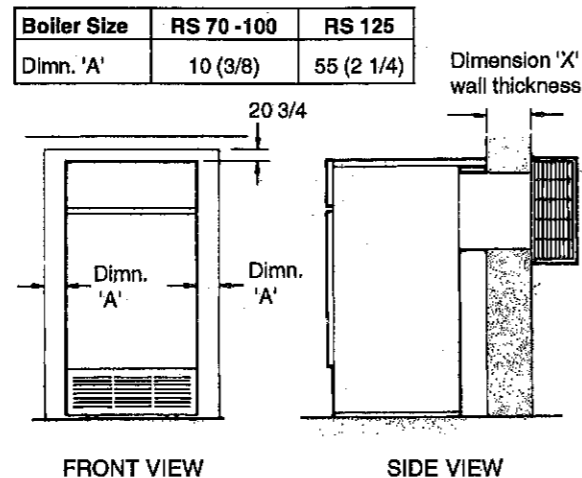
Boiler Size	Width	Depth	Height
RS 70 - 100	mm (in.) 460 (18)	535 (21)	870 (34 1/4)
RS 125	mm (in.) 550 (21 1/2)	600 (23 5/8)	870 (34 1/4)

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

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

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

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.



**Note:** A clip-on concealment panel is available as an optional extra for installations where the clearance on one side is greater than 110 mm. See separate fitting instructions.

## 4 WALL THICKNESS

The following table shows the Flue Pack(s) required for the given wall thicknesses.

Boiler Size	WALL THICKNESS		FLUE PACK REQUIRED
	Dimension (duct length) 'X', shown in Frame 3	Boiler fitted flush with wall	
RS 70 to RS 100 Boilers	Boiler fitted flush with wall	Boiler fitted in line with 600 mm kitchen units	C
	114 to 191 (4 1/2 to 7 1/2)	up to 125 (5)	
	229 to 305 (9 to 12)	163 to 242 (6 1/2 to 9 1/2)	
	318 to 394 (12 1/2 to 15 1/2)	253 to 332 (10 to 13)	
RS 125 Boilers	406 to 584 (16 to 23)	340 to 518 (13 1/2 to 20 1/2)	B & D
	Boiler fitted flush with wall & in line with 600 mm kitchen units		C
	114 to 191 (4 1/2 to 7 1/2)		
229 to 305 (9 to 12)			
	318 to 394 (12 1/2 to 15 1/2)		B1

All dimensions in mm (in.)

## 5 BOILER CASING REMOVAL

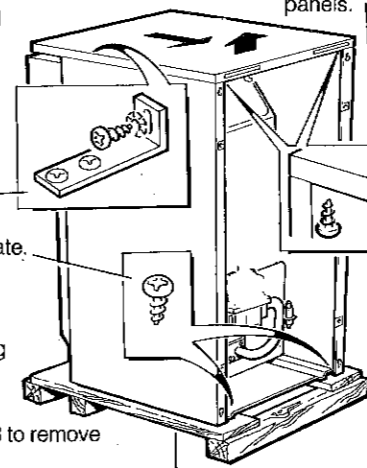
To install the boiler, the casing MUST be removed.

# INSTALLATION

## BOILER CASING REMOVAL- PREPARING THE WALL

## 6 BOILER CASING REMOVAL, cont.

- 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 pegs & 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.



## 7 CHECKING FLUE-WAY Baffles

- (RS 70 only)
- 
- SIDE VIEW OF BOILER SECTIONS SHOWING THE Baffle ARRANGEMENTS

## 8 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.	

Table 9- Gravity Domestic Hot Water & Pumped Central Heating

CONNECTIONS AS VIEWED FROM FRONT				THERMOSTAT POSITION	
BACK SECTION		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.	

into the boiler tapping first to clear the casing when fitted.

**Note:** The pump may be fitted to the FLOW or the RETURN

## 9 PREPARING THE WALL

- Cut the appropriate hole in the wall for insertion of the terminal assembly.

**Notes:**

(a) Make good the hole on the INSIDE of the building to the given dimensions BEFORE fitting the boiler, to facilitate sealing between the terminal & the wall when the boiler is in position.

(b) The terminal MUST NOT come into contact with a combustible material such as that used in non-standard construction of timber frame and plaster board etc.

- Place the boiler in the selected position. **Note:** RS 70-80 ONLY. If extension duct D is to be fitted, this must be done BEFORE the boiler is placed in position. Refer to Frame 11.

- Make good the brickwork around the air duct.

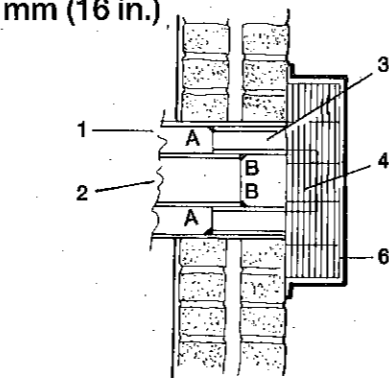
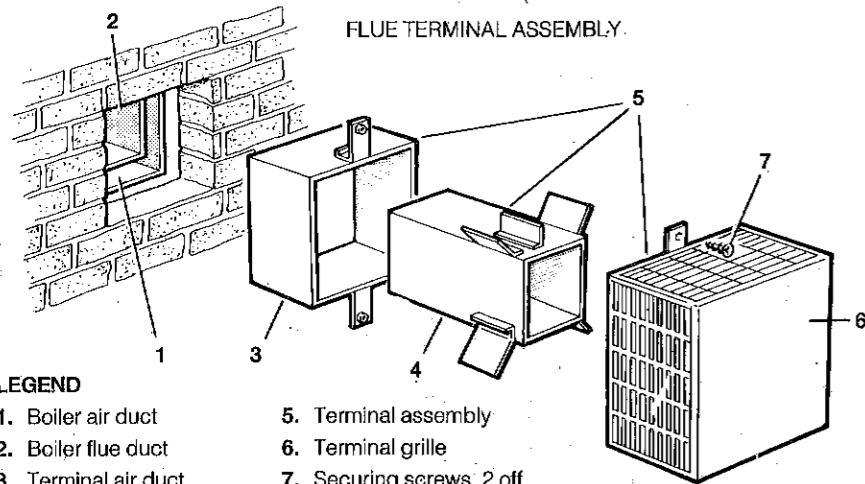
Boiler	Dimn. 'A'	Dimn. 'B'	Dimn. 'C'	Dimn. 'D'	Dimn. 'E'	Dimn. 'F'
RS 70	533 (21)	152 (6)	218 (8 5/8)	248 (9 3/4)	672 (26 1/2)	338 (13 1/8)
RS 80	533 (21)	167 (6 5/8)	218 (8 5/8)	312 (12 1/4)	640 (25 1/8)	394 (15 1/2)
RS 100	533 (21)	182 (7 1/4)	291 (11 3/8)	340 (13 3/8)	626 (24 5/8)	433 (17)
RS 125	600 (23 5/8)	182 (7 1/4)	363 (14 1/4)	340 (13 3/8)	626 (24 5/8)	433 (17)

Air duct width is 285 mm (12 in.)

FRONT VIEW SIDE VIEW REAR VIEW



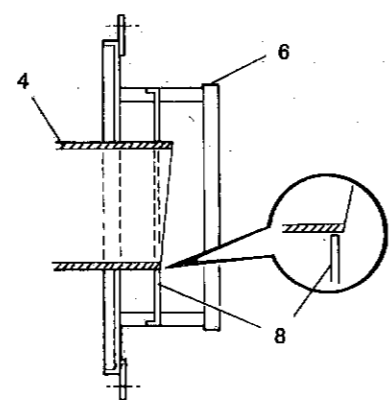
**10 FITTING THE FLUE ASSEMBLY: Duct lengths up to 400 mm (16 in.)**



A. Air duct joint B. Flue duct joint

FLUE TERMINAL SHOWN IN POSITION

8. From OUTSIDE the building, seal the flue duct join 'B' with the mastic provided.



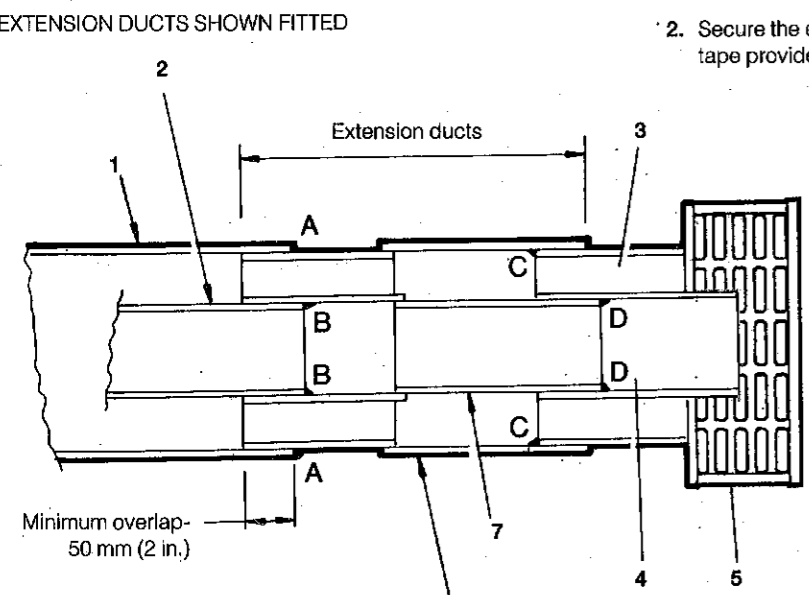
9. Fasten the terminal grille to the duct assembly.

When fitting the terminal grille, ensure that the splitter plate locates fully on the protruding flue duct such that there are no resultant gaps. Check particularly the bottom corner of the flue duct / splitter plate join - as shown in the opposite diagram.

- LEGEND**
- 1. Boiler air duct
  - 2. Boiler flue duct
  - 3. Terminal air duct
  - 4. Terminal flue duct
  - 5. Terminal assembly
  - 6. Terminal grille
  - 7. Securing screws, 2 off
  - 8. Splitter plate

- Note:** For duct lengths greater than 400mm (16 in.) refer to Frame 11.
1. Remove the two securing screws and separate the terminal air duct, flue duct and grille.
  2. From OUTSIDE the building, pass the terminal air duct through the wall opening and slide it into the boiler air duct, locating it as shown.
  3. Push the terminal air duct fully in until the fixing brackets contact the wall face.
  4. Make good between the wall and duct, from OUTSIDE the building.
  5. From OUTSIDE the building, seal the air duct join 'A' with the mastic provided.
  6. From OUTSIDE the building, pass the terminal flue duct through the wall opening and slide it into the boiler flue duct, locating it as shown.
  7. Push the flue duct fully in, up to the locating stops.

**11 EXTENSION DUCTS: Duct lengths greater than 400 mm (16 in.) RS 70 - 100 ONLY.**



2. Secure the extension air duct in position, using the adhesive tape provided, at join 'A'.
3. Remove the terminal assembly.
4. Slide the extension flue duct into the boiler flue duct to the same distance as the extension air duct, and seal the duct join 'B' with the mastic provided.
5. Place the boiler in position- entering the extension duct into the wall opening.
6. Make good the brickwork around the wall opening.
7. Separate the terminal air duct, flue duct & grille. Refer to Frame 10.
8. From OUTSIDE the building, pass the terminal air duct through the wall opening and slide it into the extension air duct, locating it as shown.
9. Push the duct fully in until the fixing brackets contact the wall face.
10. Make good between the wall & duct from OUTSIDE the building.
11. From OUTSIDE the building, seal the air duct join 'C' with the mastic provided.
12. From OUTSIDE the building, pass the terminal flue duct through the wall opening & slide it into the extension flue duct. Locate it as shown.
13. Push the flue duct fully in, up to the locating stops.
14. From OUTSIDE the building seal the flue duct join 'D' with the mastic provided.
15. Fasten the terminal grille to the duct assembly.

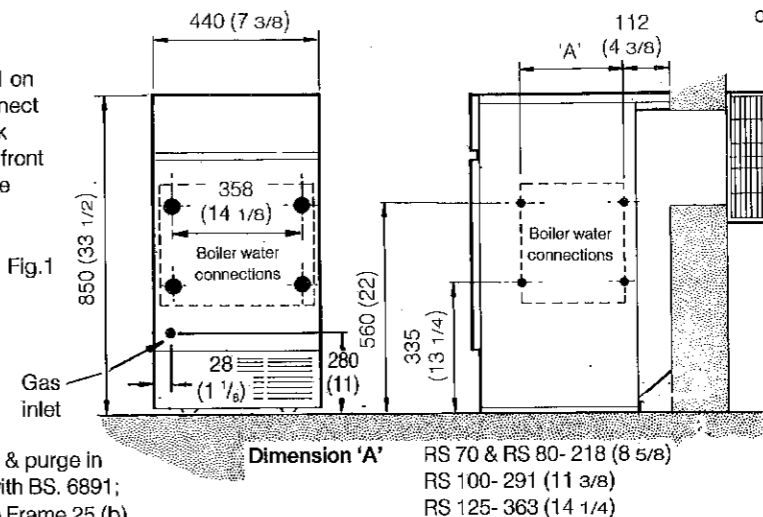
- LEGEND**
- 1. Boiler air duct
  - 2. Boiler flue duct
  - 3. Terminal air duct
  - 4. Terminal flue duct
  - 5. Terminal grille
  - 6. Extension air duct
  - 7. Extension flue duct
  - A. Air duct joint
  - B. Flue duct joint
  - C. Terminal air duct joint
  - D. Terminal flue duct joint
1. BEFORE PLACING THE BOILER IN POSITION, loosely fit the extension air duct and terminal assembly to the boiler air duct and adjust to the required overall duct length.
- Note:** Ensure that any of the duct overlaps are not less than 50 mm (2 in.)

**12 GAS CONNECTION**

1. A MINIMUM working gas pressure of 20 mbar (8 in. w.g.) MUST be available at the boiler inlet.
2. 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 L. H. side of the boiler.

(See note on Fig. 1 on Page 6).

3. Test the gas installation for soundness & purge in accordance with BS. 6891; 1988. Refer to Frame 25 (b).



**13 WATER CONNECTION**

1. Connect the system flow & return pipework to the boiler as appropriate. Refer to Frames 14 & 15 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)- (RS 125 ONLY) immediately after leaving the boiler. Gravity pipework & connections MUST be at least 28 mm (1 in. BSP)

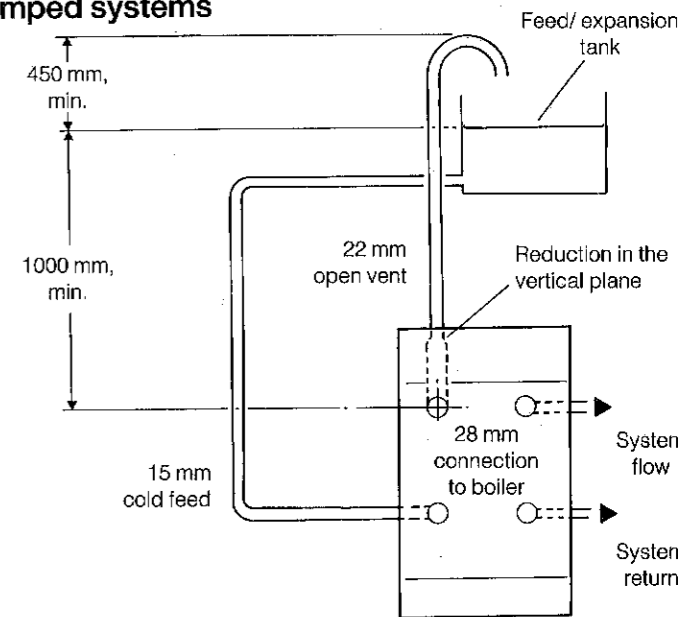
2. Ensure that all valves are open, fill and vent the system and check for water soundness.

- 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.

**14 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 8.
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.



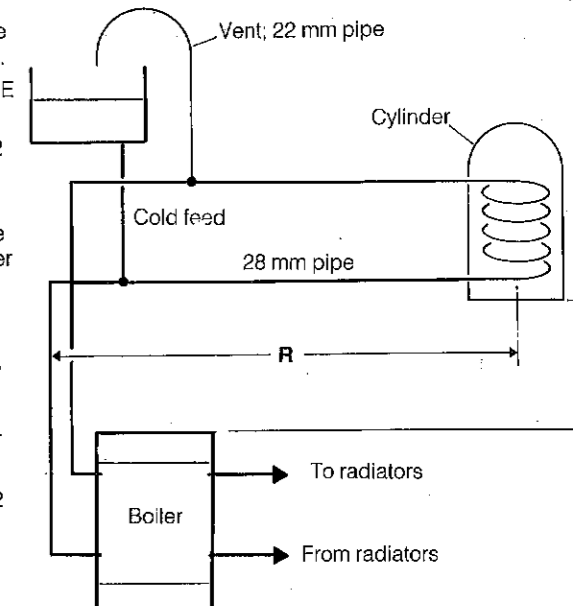
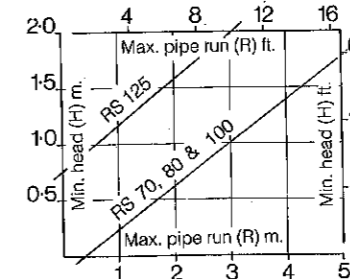
**15 GRAVITY HOT WATER & PUMPED CENTRAL HEATING**

1. Separate flow & return connections are used for each service. All possible configurations are given in Frame 8 & 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.
- (c) A MINIMUM inclination of 25 mm per 3 m run (1 in. per 10 ft.) is required to avoid air locks.

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



**16 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 0.75mm<sup>2</sup> (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.

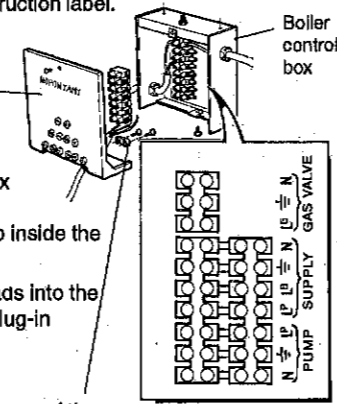
The fuse rating should be 3A.

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.)

**17 INTERNAL WIRING**

Flow and pictorial wiring diagrams are shown in Frames 18 and 19. 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.

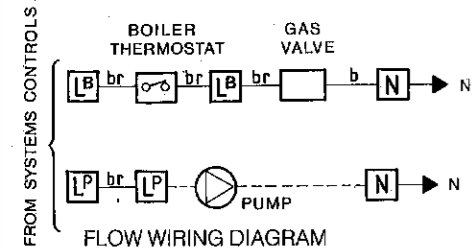
**18 EXTERNAL CONTROLS**

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

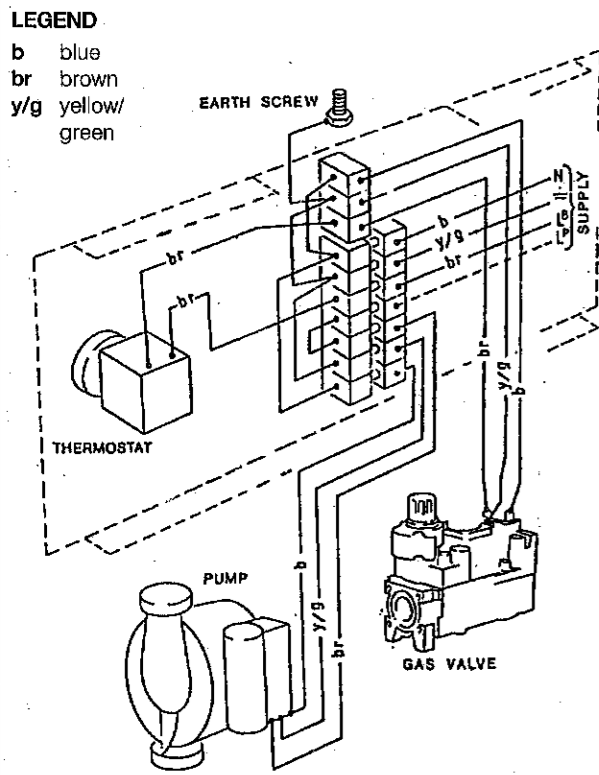
The wiring diagrams shown in Frames 20 to 22 cover the systems likely to be used with this appliance. For wiring external controls to the Ideal Mexico Super 2 boiler, reference should be made to the system wiring diagram supplied by the relevant Manufacturer, in conjunction with the Flow wiring diagram & Frame 19. 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 23.
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.



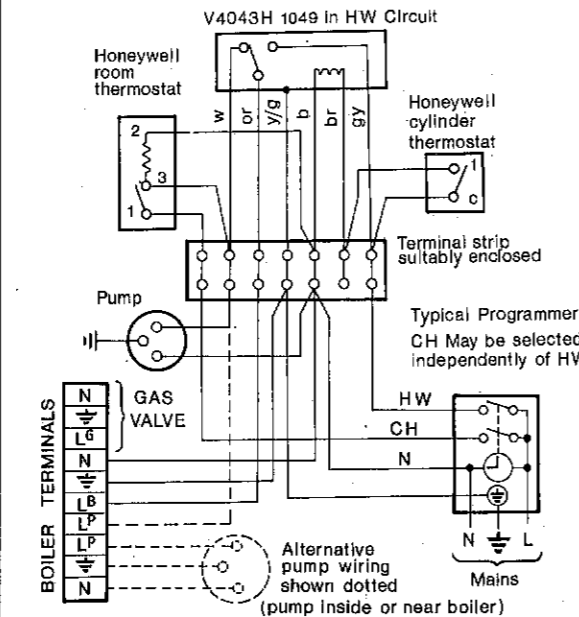
**19 PICTORIAL WIRING DIAGRAM**



**20 HONEYWELL 'C' PLAN**

Gravity H.W & pumped C.H.

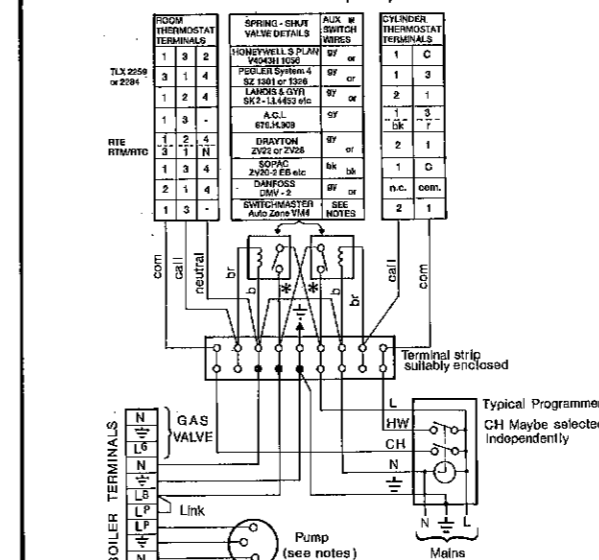
1. SOME EARTH WIRES ARE OMITTED FOR CLARITY. ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
2. Numbering of the thermostat terminals is specific to the manufacturer shown.



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

**21 TWO SPRING CLOSED VALVES**

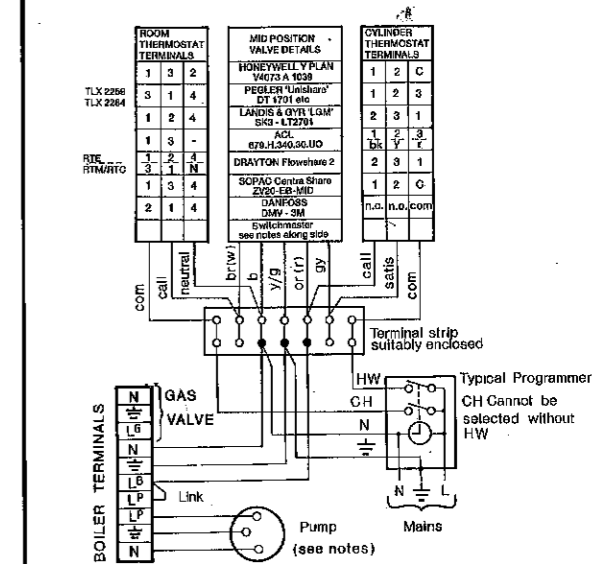
- Pumped only
1. SOME EARTH WIRES ARE OMITTED FOR CLARITY. ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
  2. This is a fully controlled system, therefore set the boiler thermostat to it's highest position.
  3. Numbering of the thermostat terminals is specific to the manufacturer indicated.
  4. 'SWITCHMASTER 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
  - y yellow
  - r red
  - gy grey
  - g green
  - w white
  - br brown
  - bk black

**22 MID POSITION VALVE SYSTEM**

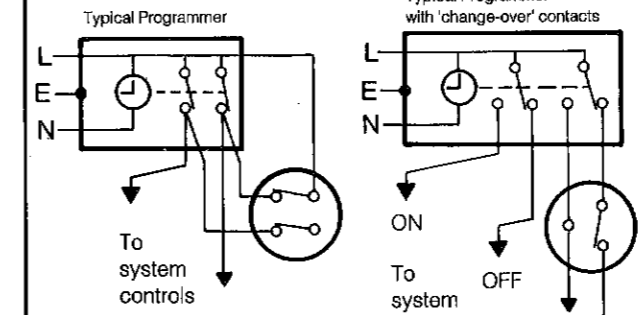
- Pumped only
1. SOME EARTH WIRES ARE OMITTED FOR CLARITY. ENSURE PROPER EARTH CONTINUITY WHEN WIRING.
  2. This is a fully controlled system, therefore set the boiler thermostat to it's highest position.
  3. Numbering of thermostat terminals is specific to the manufacturer indicated.
  4. 'Switchmaster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



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

**23 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.



- A.** Double pole frost thermostat, e.g. SOPAC TA 547-04
- B.** 'Change-over' frost thermostat
- 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.

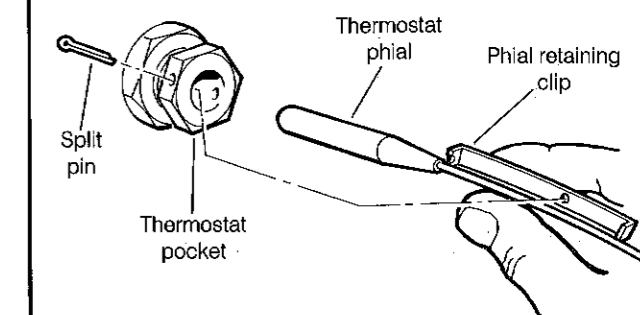
**24 FITTING THE CASING**

Refer to Frames 5 & 6 'Boiler Casing Removal' (pgs. 6 & 7) for illustration of the procedure detailed below.

1. Offer up the R.H. side panel, locating it with the peg in the baseplate, & push the panel back.
2. Secure the panel to the baseplate and the flue collector using the screws previously removed.
3. 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.

4. Place the top panel in position & push back.
5. Secure the top panel to the side panels using the screws previously removed.
6. Replace the control box cover & re-fit the control panel using the screws previously removed.
7. 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

25 COMMISSIONING & TESTING

(a) Electrical Installation

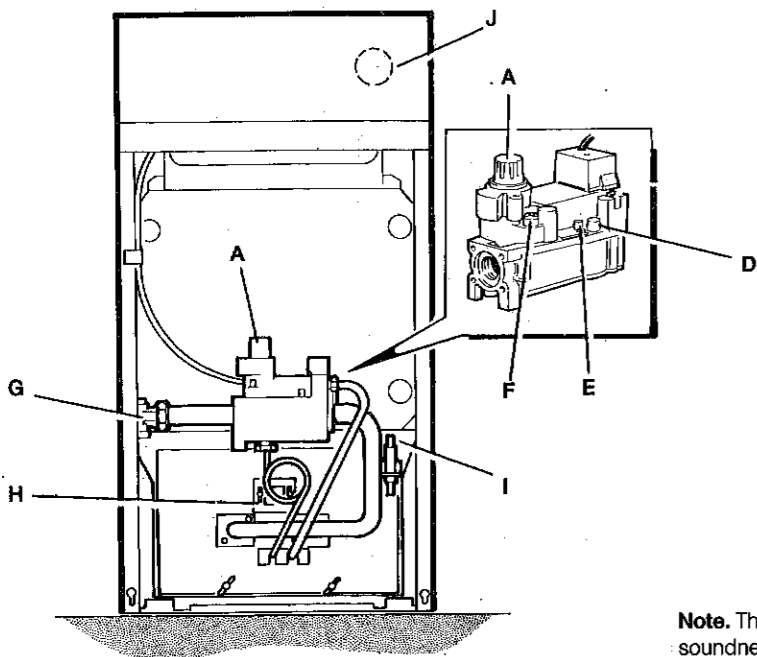
1. Checks to ensure electrical safety should be carried out by a competent person.
- (b) ALWAYS carry out the preliminary electrical system checks as detailed on the Instructions for the British Gas Multimeter, or a similar test meter.

(b) Gas Installation

- (a) 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.**
- (b) Purging air from the gas installation may be expedited by loosening the union on the gas service cock and purging until gas is smelled.
- (c) Retighten the union and check for gas soundness.

26 INITIAL LIGHTING

BOILER CONTROLS



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.

**Note.** The pilot burner connection can be tested for gas soundness - refer to Frame 27.

1. Connect the gas valve electrical leads & refit the cover.
2. Check that the gas service cock (G) is ON & the boiler thermostat knob (J) is OFF.
3. Loosen the screw in the burner pressure test nipple (D) & 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 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).
7. 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.
8. Switch the boiler thermostat knob (J) to position 6 and check that the burners cross-light 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.

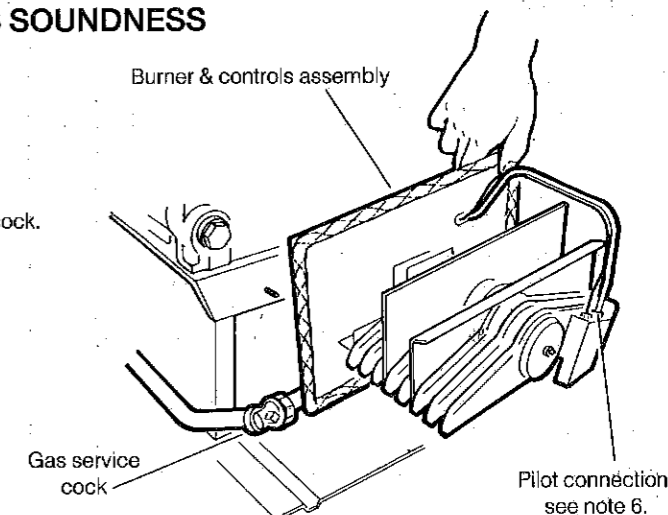
**Note.** Continual adjustment in either direction will produce the opposite effect.

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

27 PILOT BURNER CONNECTION GAS SOUNDNESS

RS 70 & RS 80 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 26.
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 and controls assembly to the normal working position.



28 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 26. 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

29 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.
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.

**1 SCHEDULE**

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

- Light the boiler and carry out a pre-service check, noting any operational faults.
- Clean the main burner(s).
- Clean the heat exchanger.
- Clean the main injector(s).
- Check the condition of the thermocouple.
- Check that the flue terminal is unobstructed and that the flue system, including the flue cleanout cover, is sealed correctly.
- 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 7 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 and carry out functional checks as appropriate.

**3 BURNER & CONTROLS ASSEMBLY REMOVAL** RS 70 & RS 80 shown.

- Undo the gas service cock union nut.
- Remove the four wing nuts and withdraw the burner and controls assembly, complete, from the boiler. Place on a convenient working surface.

**4 CLEANING THE BURNER ASSEMBLY**

- Brush off any deposits that may have fallen onto the burner head(s) - ensuring that the flame ports are unobstructed. Remove any debris that may have collected on the assembly. **Note:** Brushes with metallic bristles MUST NOT be used.
- Remove the main burner injector(s). Ensure that there is no blockage or damage & clean or renew as necessary.
- Refit the injector(s), using an approved jointing compound.
- Inspect the pilot, thermocouple and spark electrode; ensure that they are clean and in good condition. In particular check that:
  - The pilot burner is clean and unobstructed.
  - The spark electrode is clean and undamaged.
  - The spark lead is in good condition and securely connected.
  - The spark gap is correct. Refer to Frame 12.
  - The thermocouple tip is not burned or cracked.
  - The position of the thermocouple relative to the pilot burner is correct. Refer to Frame 12.
  - The thermocouple terminal at the gas valve is clean.

Clean or renew components as necessary.

**2 BOILER CASING FRONT REMOVAL**

- Lift off the lower front panel.
  - Remove the 2 securing screws & lift off the grille assembly.
- VIEW OF GAS CONTROL VALVE (Behind the lower front panel)

- Remove the gas valve electrical cover & disconnect the electrical leads.
  - Release the gas valve lead from the retaining clip.
- DETAIL OF THERMOSTAT POCKET
- Remove the thermostat phial from the pocket as shown.
  - 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
- Remove the securing screw and lift off the control box cover.
  - Remove the plug-in connector and withdraw the electrical leads.
  - Disconnect the programmer if fitted. Refer to the Programmer Installation Instructions.
    - Release the two screws securing the programmer connection box to the back of the programmer.
    - Disengage the box by unhooking the lugs from the slots.
  - Place the control panel safely to one side.
  - Remove the 2 securing screws & lift off the casing top panel.

**5 CLEANING THE FLUEWAYS**

- Remove the two wing nuts (RS 70 & RS 80) or bolts (RS 100 & RS 125) and lift off the cleanout cover.
- Lift out the flueway baffles. (RS70, only)
- 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.
- Check that the flue outlet duct is unobstructed.

**7 GAS PRESSURE ADJUSTMENT**

- Pilot pressure**  
Pilot adjustment is factory set to maximum and no adjustment is possible.
- 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 26 - 'Installation'. Finally, refit the lower front panel.

**9 CONTROL THERMOSTAT REPLACEMENT**

- Remove the control panel. Refer to Frame 2.
- Remove the securing nut & lift off the thermostat box cover.
- Disconnect the two electrical leads from the thermostat.
- Pull off the thermostat knob.
- Remove the top securing screws & withdraw the thermostat box.
- Remove the two securing screws & withdraw the thermostat.
- Fit the new thermostat and re-assemble in reverse order, ensuring that:
  - The thermostat capillary is towards the top of the box.
  - The thermostat phial and phial retaining clip are in position in the thermostat pocket BEFORE securing with the split pin.

**6 RE-ASSEMBLY**

- Re-assemble the boiler in the following order:
- Replace the flue baffles into the boiler flueways ensuring that they are correctly repositioned. Refer to Frame 5- Installation.
  - Refit the flue cleanout cover renewing any damaged or deteriorating sealing gasket.
  - Refit the casing top panel.
  - 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.
  - Check the sightglass in the front plate. Clean or renew as necessary.
  - Renew any damaged or deteriorating front plate gasket.
  - Refit the burner and controls assembly.
  - Reconnect the gas service cock.
  - Refit the grille assembly.

**COMPONENT REPLACEMENT**

To replace the components in Frames 8 - 18, 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.

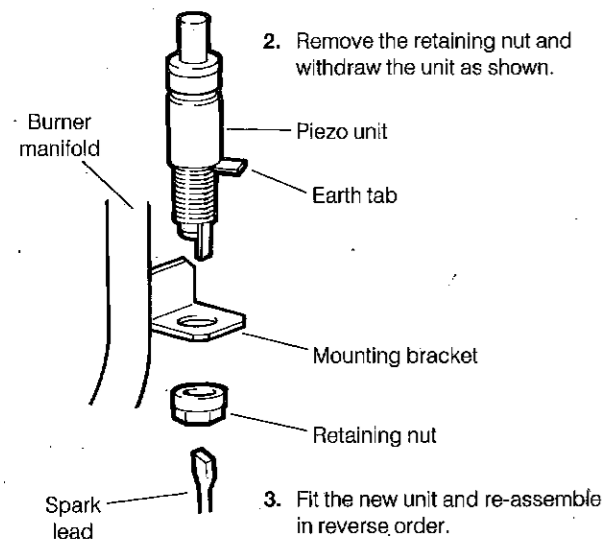
**8 SIGHTGLASS REPLACEMENT**

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



**10 PIEZO UNIT REPLACEMENT**

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

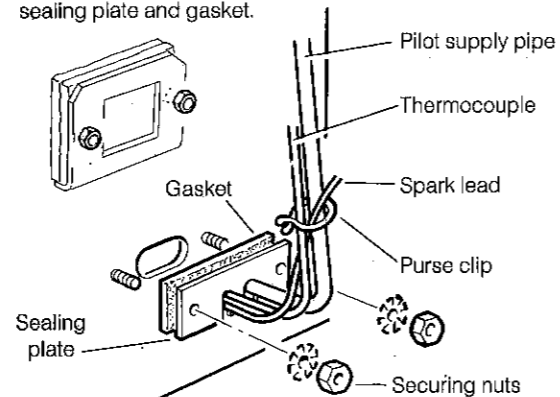


2. Remove the retaining nut and withdraw the unit as shown.

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

**11 SPARK LEAD REPLACEMENT**

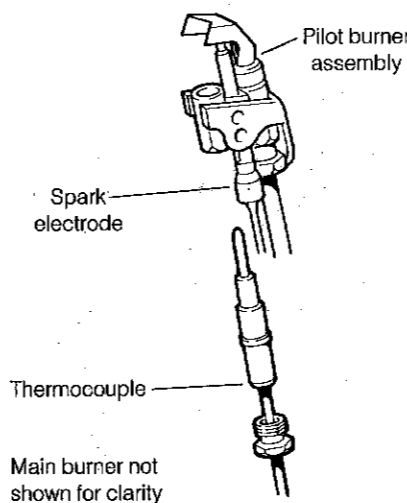
1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the purse clip.
3. Undo the two securing nuts and washers. Remove the sealing plate and gasket.



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

**13 THERMOCOUPLE REPLACEMENT**

DETAIL OF THERMOCOUPLE:  
RS 70 & RS 80 BOILERS ONLY



Main burner not shown for clarity

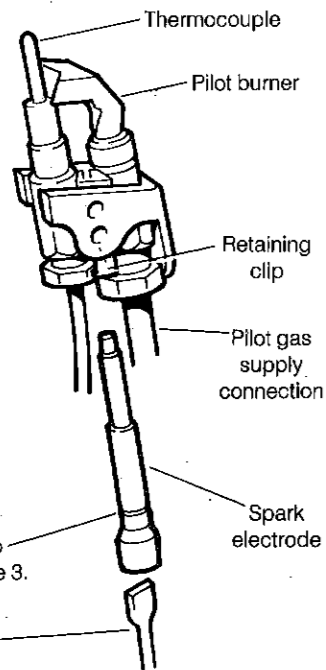
1. Remove the burner and controls assembly. Refer to Frame 3.
2. RS70 and 80 ONLY. Remove the spark electrode as detailed in Frame 12.
3. Remove the purse clip.
4. Undo the thermocouple connection at the pilot burner and pull the thermocouple clear.
5. Undo the thermocouple connection at the gas valve.
6. Remove the sealing plate and gasket (refer to Frame 11) and withdraw the thermocouple.
7. 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.

**12 SPARK ELECTRODE REPLACEMENT. Showing pilot flame length & spark gap**

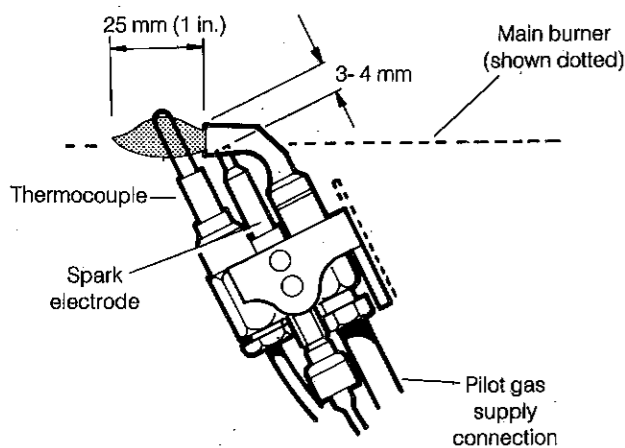
Ideal Mexico Super 2 BED RS 70, RS 80 & RS 125

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.



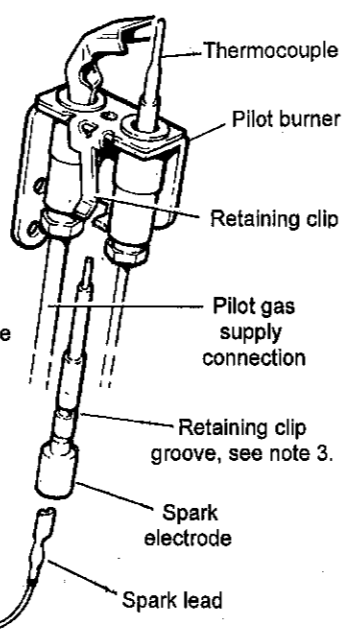
DETAIL OF PILOT FLAME LENGTH & SPARK GAP



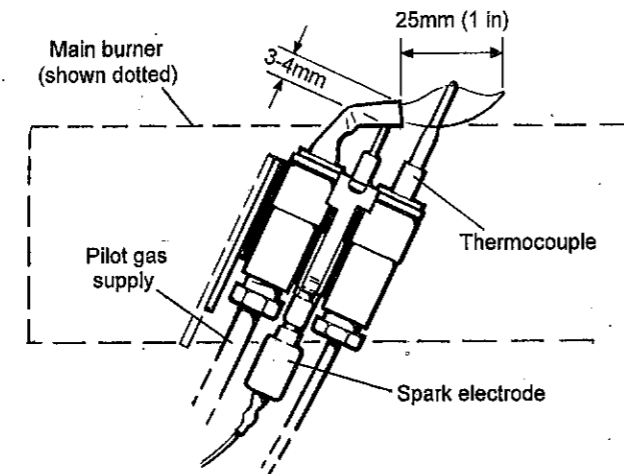
Ideal Mexico Super 2 BED RS 100

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 and withdraw the electrode.
4. Push in the new electrode until the retaining clip locates in the groove, & re-assemble in reverse order.

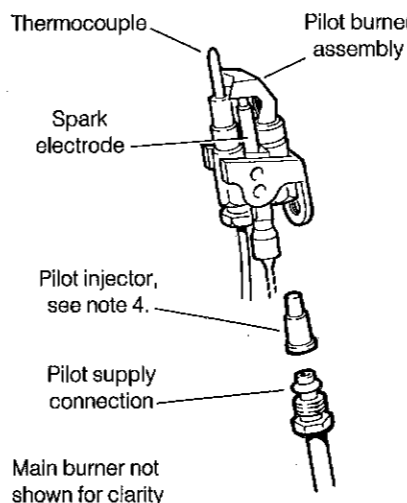


DETAIL OF PILOT FLAME LENGTH & SPARK GAP



**14 PILOT BURNER REPLACEMENT**

DETAIL OF PILOT BURNER:  
RS 70 & RS 80 BOILERS ONLY

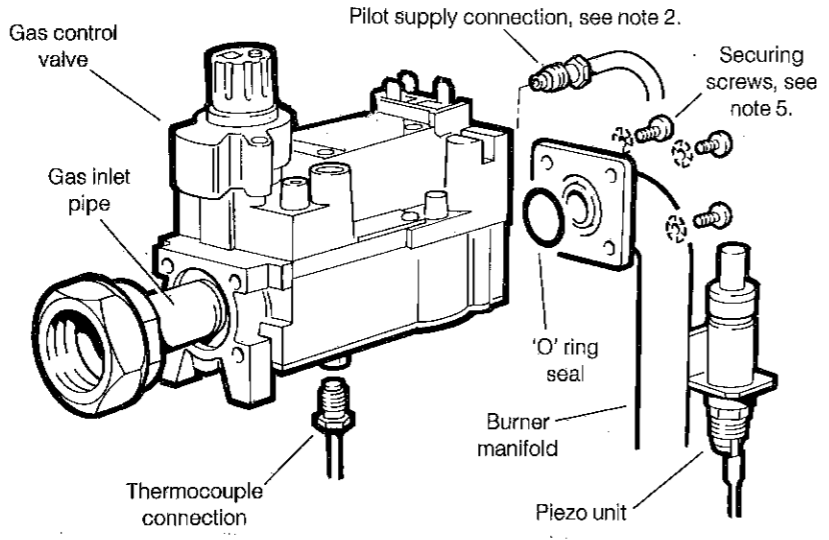


Main burner not shown for clarity

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the spark electrode. Refer to Frame 12.
3. Undo the thermocouple connection & pull the thermocouple clear. Refer to Frame 13.
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 12.

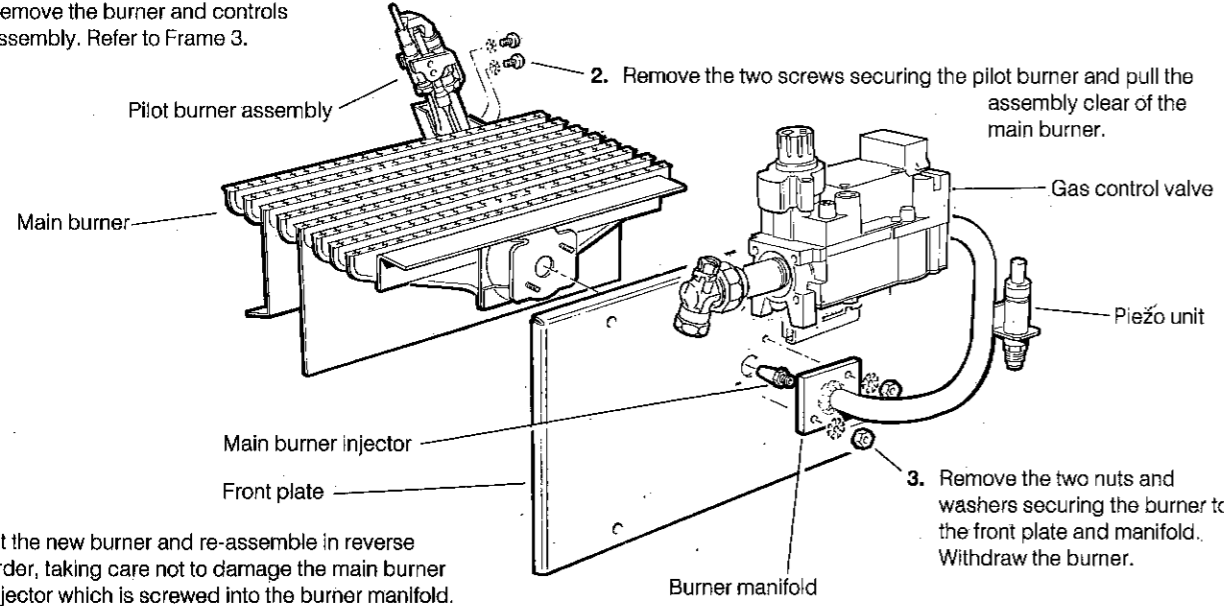
16 GAS VALVE REPLACEMENT.

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' 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.



17 MAIN BURNER REPLACEMENT. RS 70 & RS 80 boilers ONLY.

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

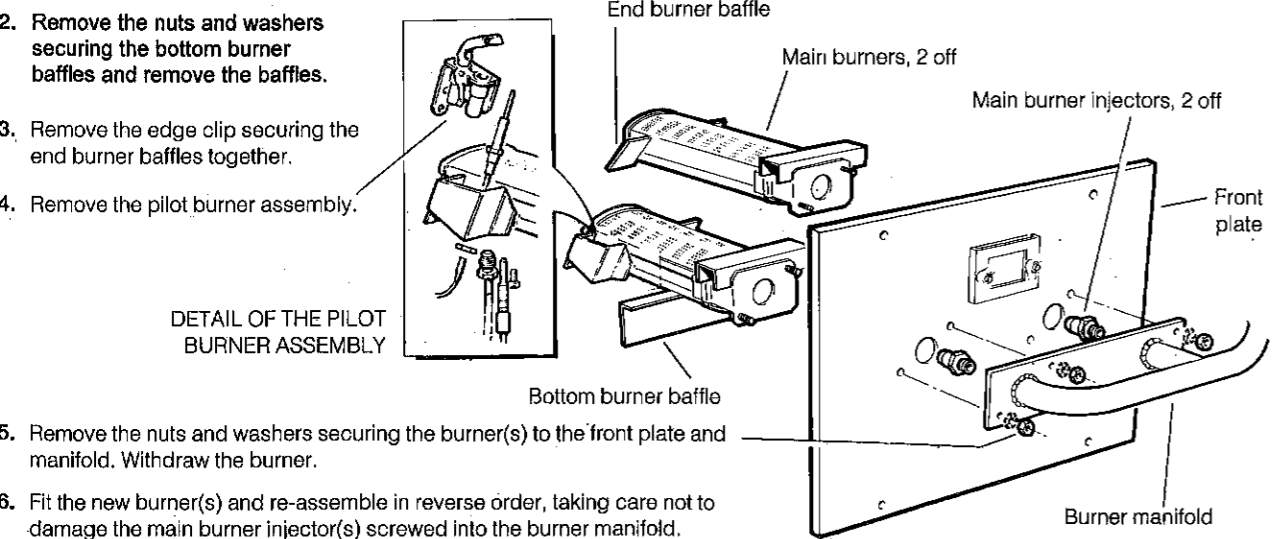


2. Remove the two screws securing the pilot burner and pull the assembly clear of the main burner.
3. Remove the two nuts and washers securing the burner to the front plate and manifold. Withdraw the burner.
4. Fit the new burner and re-assemble in reverse order, taking care not to damage the main burner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

18 MAIN BURNER REPLACEMENT. RS 100 & RS 125 Boiler only.

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

RS 125 shown (RS 100 pilot is on RH burner)



2. Remove the nuts and washers securing the bottom burner baffles and remove the baffles.
3. Remove the edge clip securing the end burner baffles together.
4. Remove the pilot burner assembly.
5. Remove the nuts and washers securing the burner(s) to the front plate and manifold. Withdraw the burner.
6. 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.

19 MAIN BURNER INJECTOR REPLACEMENT

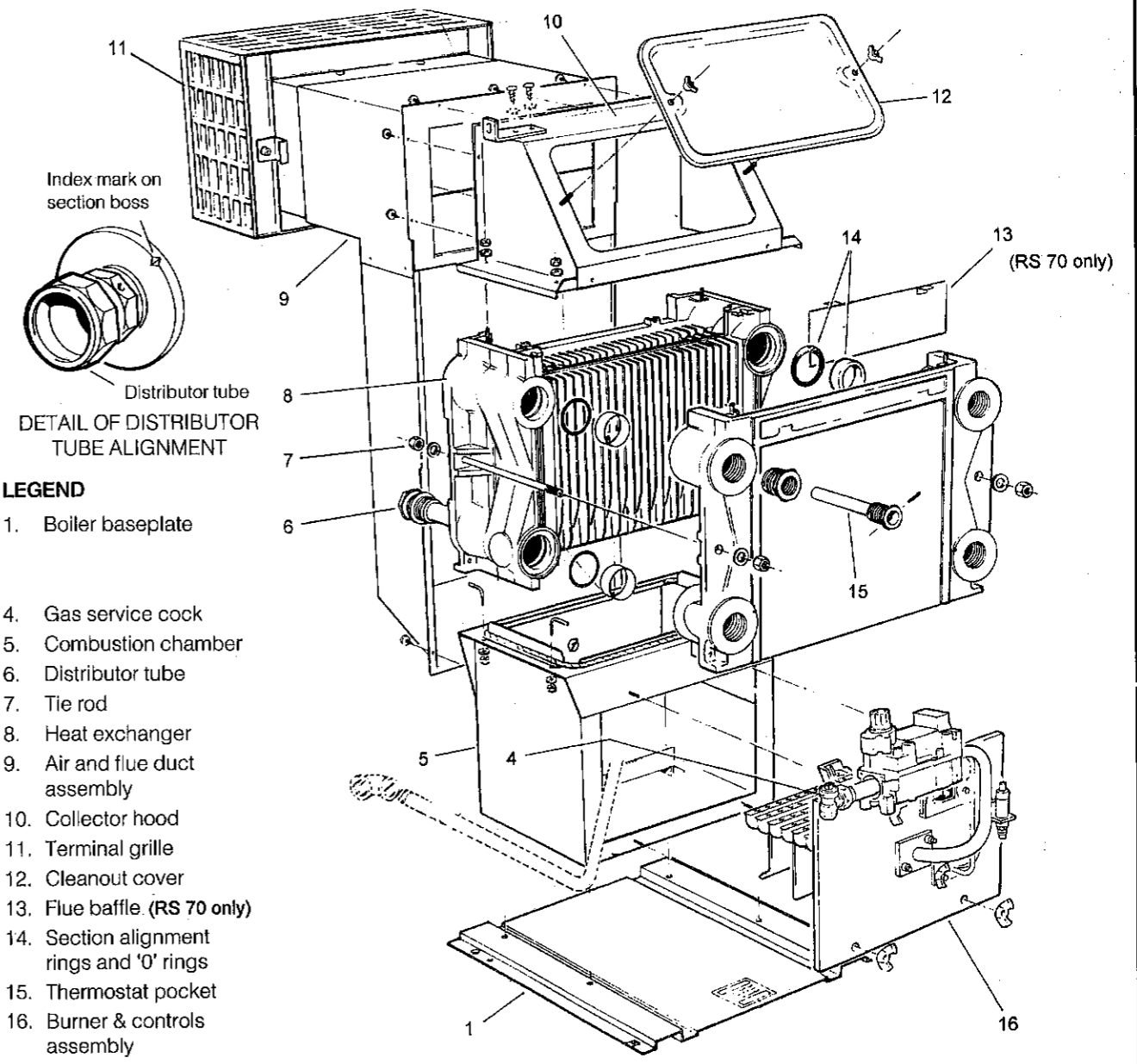
Refer to Frame 17- 'Servicing' or Frames 21 & 22-'Exploded Views' for illustration of the procedure detailed below.

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.

EXPLODED VIEWS

20 BOILER ASSEMBLY- Exploded View.

Ideal Mexico 2 RS 70 Shown



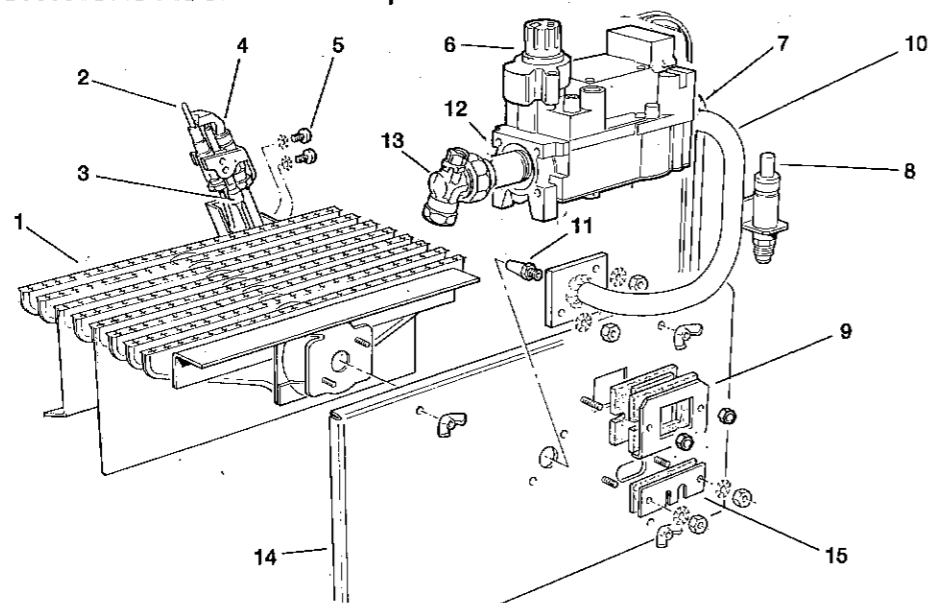
LEGEND

1. Boiler baseplate
4. Gas service cock
5. Combustion chamber
6. Distributor tube
7. Tie rod
8. Heat exchanger
9. Air and flue duct assembly
10. Collector hood
11. Terminal grille
12. Cleanout cover
13. Flue baffle (RS 70 only)
14. Section alignment rings and 'O' rings
15. Thermostat pocket
16. Burner & controls assembly

**21 BURNER & CONTROLS ASSEMBLY- Exploded View. RS 70 & RS 80 boilers ONLY.**

LEGEND

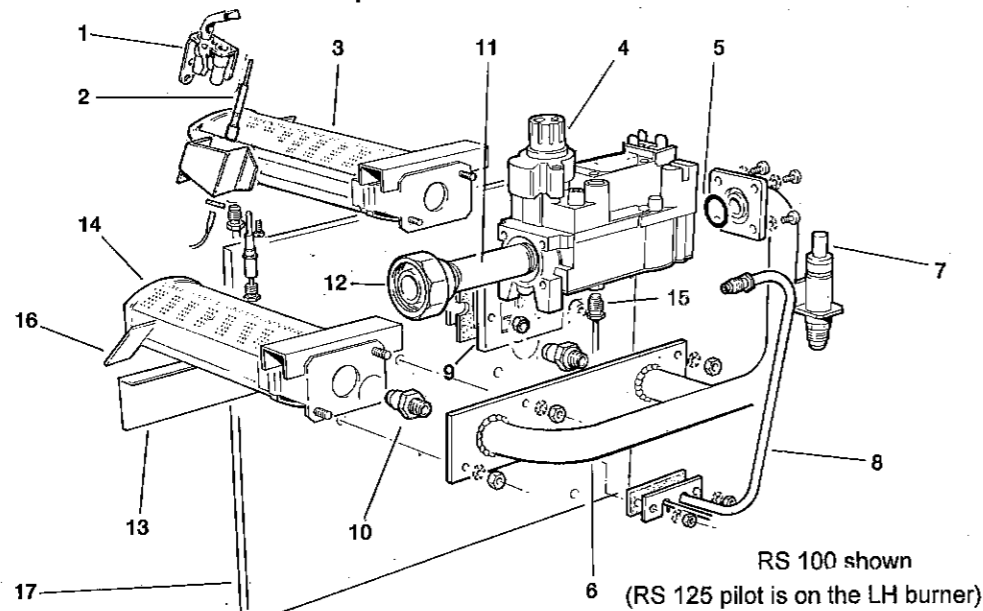
1. Main burner
2. Thermocouple
3. Spark electrode
4. Pilot burner
5. Pilot burner securing screws
6. Gas valve
7. Pilot pipe
8. Piezo unit
9. Sight glass
10. Burner manifold
11. Main burner injector
12. Gas inlet pipe
13. Gas service cock
14. Front plate
15. Sealing plate & gasket



**22 BURNER & CONTROLS ASSEMBLY- Exploded View. RS 100 & RS 125 boilers ONLY.**

LEGEND

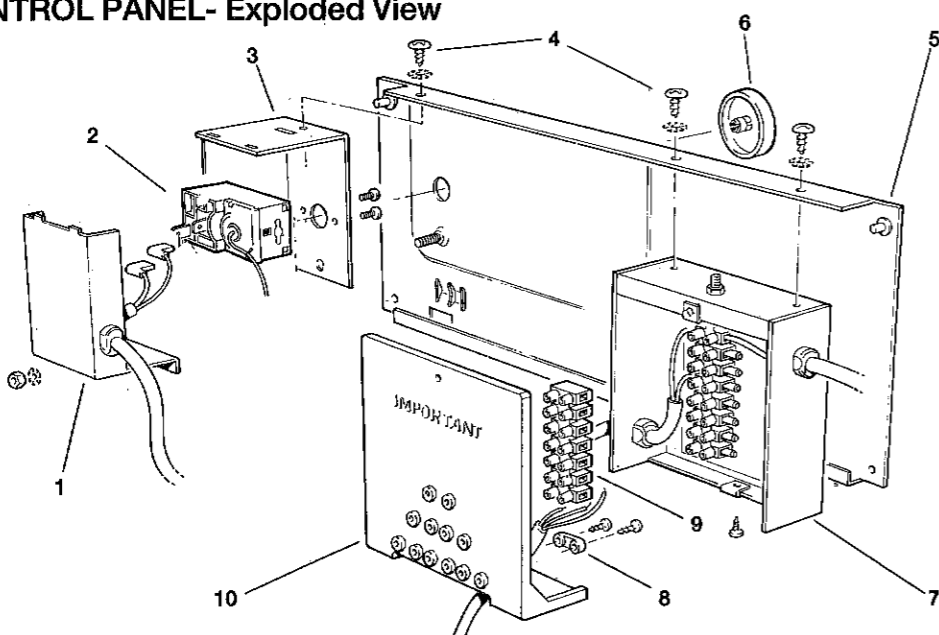
1. Pilot burner
2. Spark electrode
3. R.H. burner
4. Gas valve
5. 'O' ring seal
6. Burner manifold
7. Piezo unit
8. Pilot pipe
9. Sight glass
10. Burner injectors, 2off
11. Gas inlet pipe
12. Gas service cock (union 1/2)
13. Bottom burner baffle
14. L.H. burner
15. Thermocouple
16. End burner baffle
17. Front plate



**23 BOILER CONTROL PANEL- Exploded View**

LEGEND

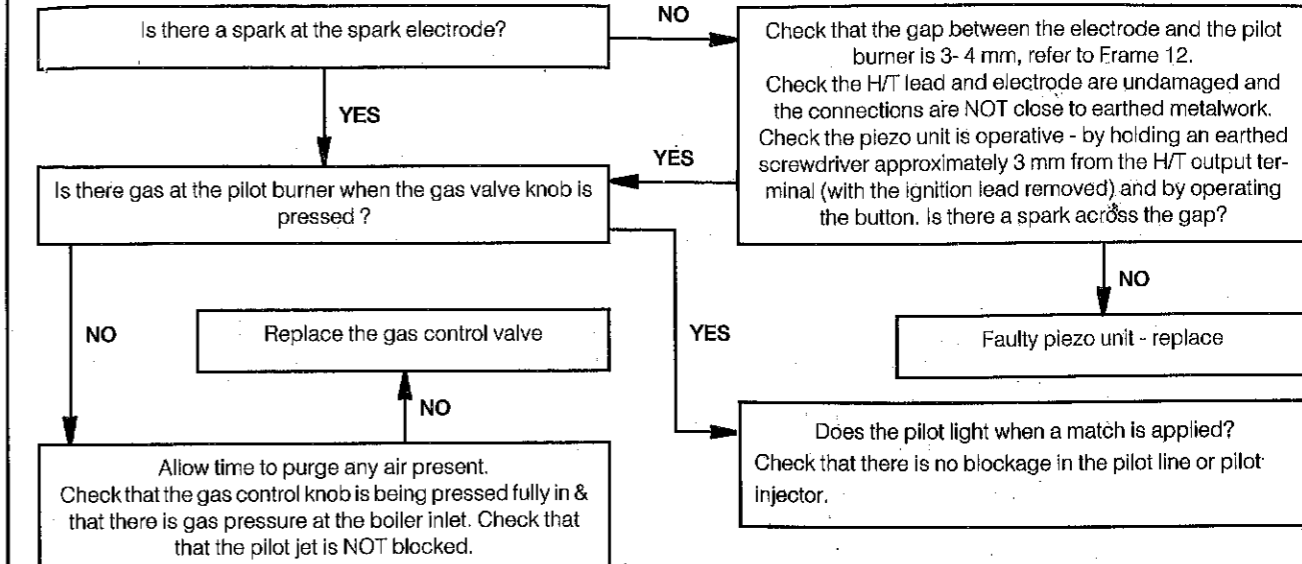
1. Thermostat box cover
2. Boiler control thermostat
3. Thermostat box
4. Securing screw
5. Control panel
6. Thermostat knob
7. Control box
8. Cable clamp
9. Plug-in connector
10. Control box cover



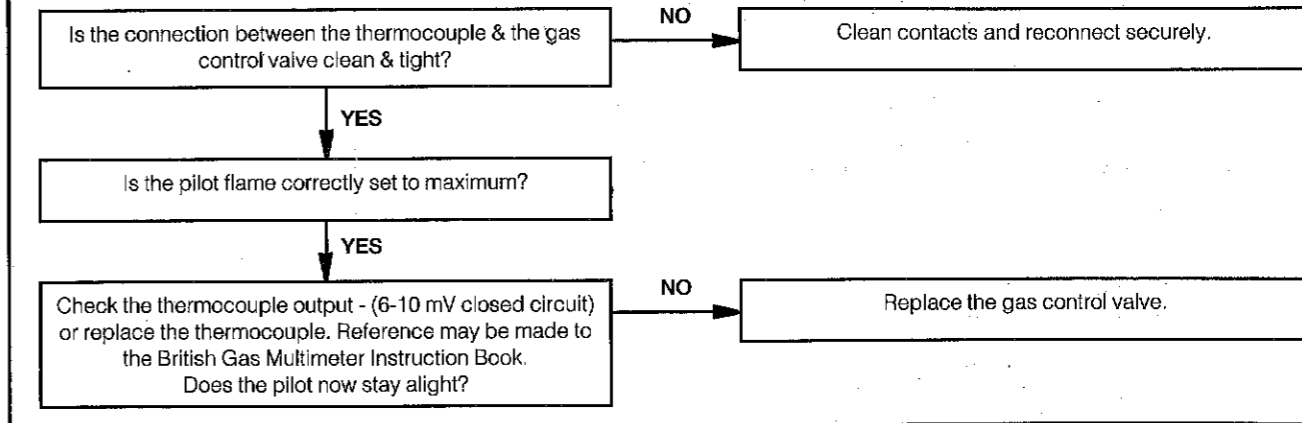
Before attempting any electrical fault finding, ALWAYS carry out the preliminary electrical system checks as detailed in the Instructions for the British Gas Multimeter, or other similar commercially

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

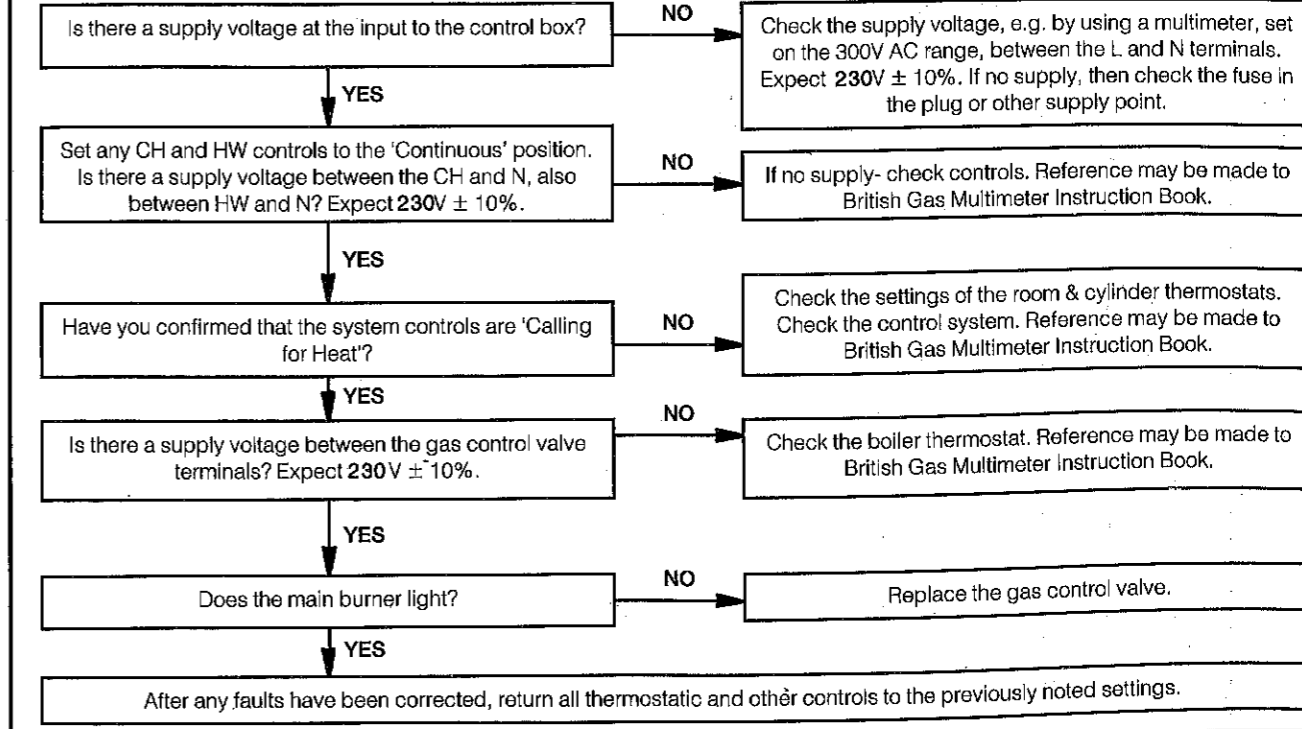
**24 PILOT WILL NOT LIGHT**



**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 BED  
RS 70, RS 80, RS 100 & RS 125 Gas Boilers

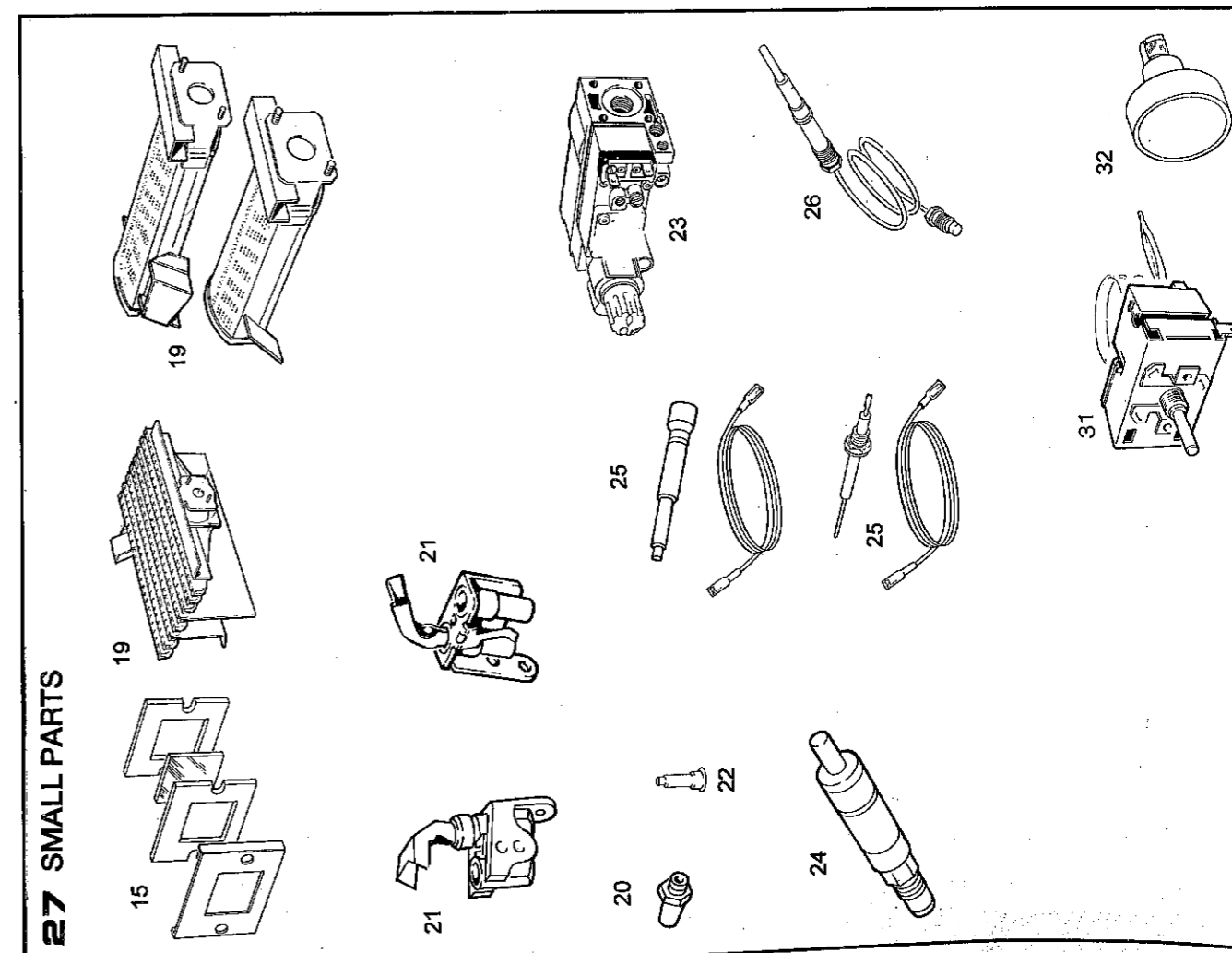
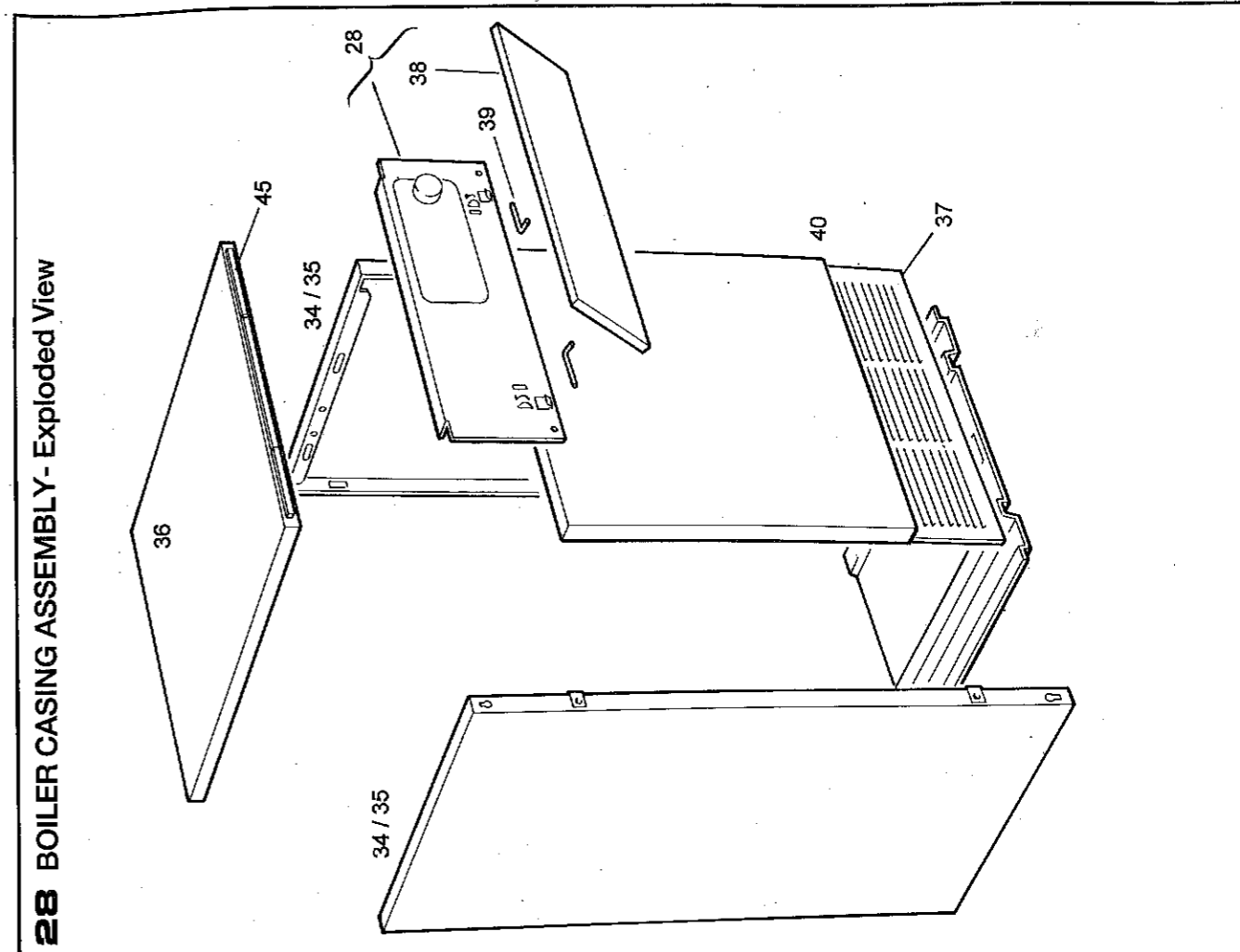
When ordering spares, please quote:

1. Boiler Model
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
19	382 957	Main burner, AEROMATIC No. AC19/123 244; RS 70 & RS 80	1	013 857
	E01 372	R.H:- AEROMATIC No. AC19/123 299; RS 100	1	150 871
	383 598	L.H:- AEROMATIC No. AC19/123 216; RS 100	1	012 959
	E01 374	R.H:- AEROMATIC No. AC19/123 298; RS 125	1	150 865
	E01 373	L.H:- AEROMATIC No. AC19/123 297; RS 125	1	150 864
20		Main burner injector, BRAY		
	398 064	Cat 10 - Size 2200; RS 70	1	004 049
	398 065	Cat 10 - Size 2300; RS 80	1	004 760
	398 055	Cat 10 - Size 1400; RS 100	2	003 361
	E01-490	Cat 103 - Size 1700; RS 125	2	150 986
21		Pilot burner, with injector Key No.22		
	382 944	HONEYWELL Q 385 A 1020; RS 70, RS 80 & RS 125	1	079 355
	E01-505	HONEYWELL Q 385 A 2036; RS100	1	075 291
22		Pilot injector,		
	381-656	HONEYWELL 4500 4108 001, double orifice (.36/.36)	1	003 825
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	BUCCHLEUCH, with H.T. lead; RS 70, RS 80 & RS 125	1	004
	386 575	HONEYWELL 45900413-004; RS 100	1	151 079
26		Thermocouple		
	390 210	HONEYWELL Q 309 A 2747-750mm lg.; RS 70 & RS 80	1	003 876
	390 210	HONEYWELL Q 309 A 2747-750mm lg.; RS 100	1	003 876
	390 038	HONEYWELL Q 309 A 2788-900mm lg.; RS 125	1	030 032
30	E01 512	Thermostat and fittings	1	075 293
31	379 177	Thermostat, RANCO K36-P1317	1	110 541
32	E01 514	Thermostat knob, FASTEX	1	013 982
33	E01-515	Casing, white stove enamel RS 70 to RS 100	1	075 294
	E01-516	Casing, white stove enamel RS 125	1	075 295
34	319 391	Casing side panel assembly; RS 70, RS 80 & RS 100	2	134 596
35	319 392	LH casing side panel assembly; RS 125	1	134 597
	319 395	RH casing side panel assembly; RS 125	1	134 598
36	319 441	Casing top panel assembly; RS 70, RS 80, & RS 100	1	134 931
	319 442	Casing top panel assembly; RS 125	1	134 932
28	E01-509	Casing upper front panel assembly	1	150 999
38	319 403	Controls panel door	1	134 207
39	319 405	Controls panel hinge retainer pack	1	079 363
37	319 406	Grille assembly	1	134 773
40	E01-517	Jacket front panel assembly (door)	1	075 232
45	E01 525	Magnetic strip	1	113 011

# 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.

### **CARADON IDEAL Ltd,**

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Registration No. London 322 137.

Registered Office; National Avenue, Kingston upon Hull,

North Humberside, HU5 4JN.

*A subsidiary of Caradon p.l.c*

April 1997

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**i Ideal** BOILERS