

IDEAL

July, 1991

MEXICO SUPER 2; 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

RS 70

RS 80

RS 100

RS 125

G.C. Number

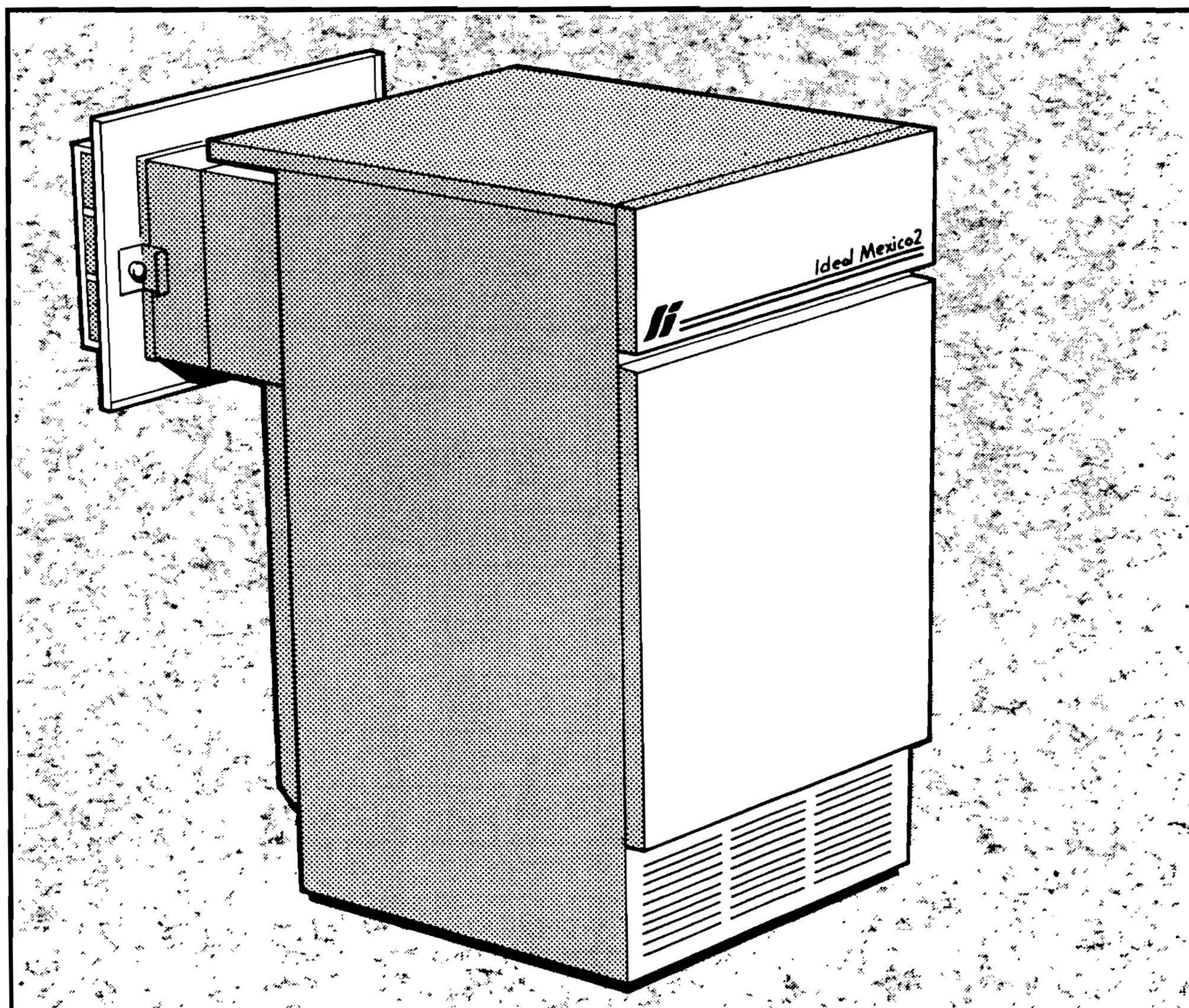
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IMPORTANT: The appliances are for use with **NATURAL GAS ONLY.**



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

Stelrad Ideal

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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 19/123 217 (R.H.) AC 19/123 216 (L.H.)	AC 19/123 219 (R.H.) AC 19/123 218 (L.H.)
Gas Control Valve			1/2 in. BSP HONEYWELL VR 4700 E 1031, 240 V		1/2 in. BSP HONEYWELL COMPACT V 4600A 1023, 240V	
Burner Injector		BRAY 103	2300	2700	1500	1800
Pilot Injector			HONEYWELL 38/36 A		HONEYWELL 56/42 A	
Gas Supply Connection		(in. BSP)	Rc 1/2 (1/2)		Rc 3/4 (3/4)	
Number of Boiler Sections			3	3	4	5
FLOW & RETURN Connections			Rc 1 (1 in. BSP)			
MAXIMUM Static Water Head		m (ft.)	30.5 (100)			
MINIMUM Static Water Head		m (ft.)	1.0 (3.3)			
Electrical Supply			240 V ~ 50 Hz			
External Fuse Rating			3 A			
Water Content		Litre (gal.)	7.4 (1.6)	7.4 (1.6)	9.8 (2.1)	12.2 (2.7)
Dry Weight		kg (lb.)	103 (226)	103 (226)	121 (265)	142 (312)
Boiler Size	Height	mm (in.)	850 (33.5)			
	Width	mm (in.)	440 (17.4)			
	Depth	mm (in.)	533 (21.0)			600 (23.6)

Table 2- PERFORMANCE DATA

Boiler Size			RS 70	RS 80	RS 100	RS 125
Boiler input	MINIMUM	kW (Btu/h)	23.7 (81 000)	28.3 (96 600)	32.4 (110 600)	39.3 (134 000)
	Gas consumption, l/s (ft³/h)		0.61 (78.0)	0.73 (93.1)	0.84 (106.6)	1.02 (129.1)
	MID	kW (Btu/h)	25.5 (87 000)	29.7 (101 300)	35.9 (122 600)	43.7 (149 300)
	Gas consumption, l/s (ft³/h)		0.66 (83.8)	0.77 (97.6)	0.93 (118.1)	1.13 (143.8)
	MAXIMUM	kW (Btu/h)	27.2 (93 000)	31.2 (106 500)	39.3 (134 200)	48.6 (166 000)
	Gas consumption, l/s (ft³/h)		0.71 (89.6)	0.81 (102.6)	1.02 (129.3)	1.26 (159.9)
Boiler output to water	MINIMUM	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)	32.8 (112 000)
	MAXIMUM	kW (Btu/h)	20.5 (70 000)	23.4 (80 000)	29.3 (100 000)	36.6 (125 000)
Burner setting pressure (hot)	MINIMUM	mbar (in.w.g.)	9.7 (3.9)	10.5 (4.2)	9.9 (4.0)	9.9 (4.0)
	MID	mbar (in.w.g.)	11.5 (4.6)	11.4 (4.6)	11.9 (4.8)	12.2 (4.9)
	MAXIMUM	mbar (in.w.g.)	13.2 (5.3)	12.8 (5.1)	14.5 (5.8)	14.7 (5.9)

Notes:

1. Gas consumption is calculated using a calorific value of 38.7 MJ/m³ (1038 Btu/ft.³).
2. The appliance is pre-set at the factory to the highest nominal rating.

GENERAL

INTRODUCTION

The **Ideal Mexico Super 2** 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 36.6kW (125 000 Btu/h).

The boiler has a cast iron heat exchanger, with an insulating blanket of aluminium foil backed fibreglass- held in place by clips, and is supplied fully assembled, complete with a white enamelled mild steel casing.

Programmer and Pump Kits, which fit within the casing, are available as optional extras and separate fitting instructions are included with the kits. A door at the top of the casing front panel hinges down- revealing the boiler thermostat control (& programmer if fitted).

The boilers are suitable for connection to OPEN VENTED SYSTEMS ONLY.

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, 1984

It is the law that all gas appliances are installed by competent persons (e.g. CORGI, 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 Institute for safety and performance. It is, therefore, 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 Stelrad Group Ltd., in writing. If in doubt please enquire.

Any direct connection of a control device not recommended by Stelrad Group 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 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 Installations in Timber Frame Housing', reference DM2. If in doubt, advice must be sought from the Local Gas Region of British Gas, or Stelrad Group 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:
Quinnel, Barret & Quinnel Ltd., 884 Old Kent Road, London, SE 15
and from,
Tower Flue Components Ltd., Vale Rise, Tonbridge, Kent TN9 1TB.
5. Where the terminal is fitted within 850 mm (34 in.) of a plastic or painted gutter, or 450 mm (18 in.) of painted

GENERAL

- eaves, an aluminium shield at least 750 mm (30 in.) long should be fitted to the underside of the gutter or painted surface.
6. 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.

- (a) 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
- (b) 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 ² (in ²)	245 (38)	123 (19)
LOW LEVEL cm ² (in ²)	245 (38)	123 (19)

Table 5- RS 80

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

Table 6- RS 100

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

Table 7- RS 125

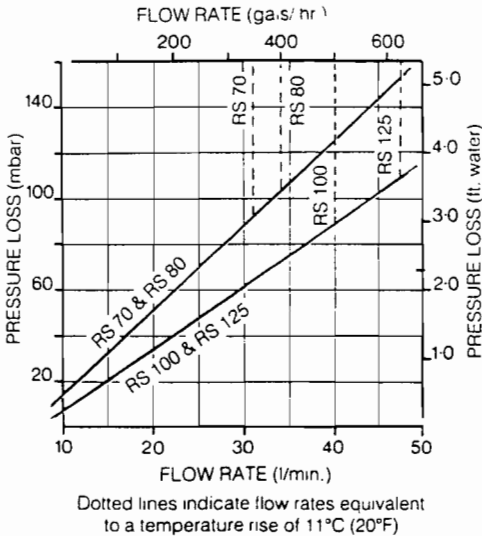
Position of air vent	Air from room/ internal space	Air direct from outside
HIGH LEVEL cm ² (in ²)	438 (68)	219 (34)
LOW LEVEL cm ² (in ²)	438 (68)	219 (34)

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 By 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 240 V ~ 50 Hz, Single Phase. Fuse rating is 3A.

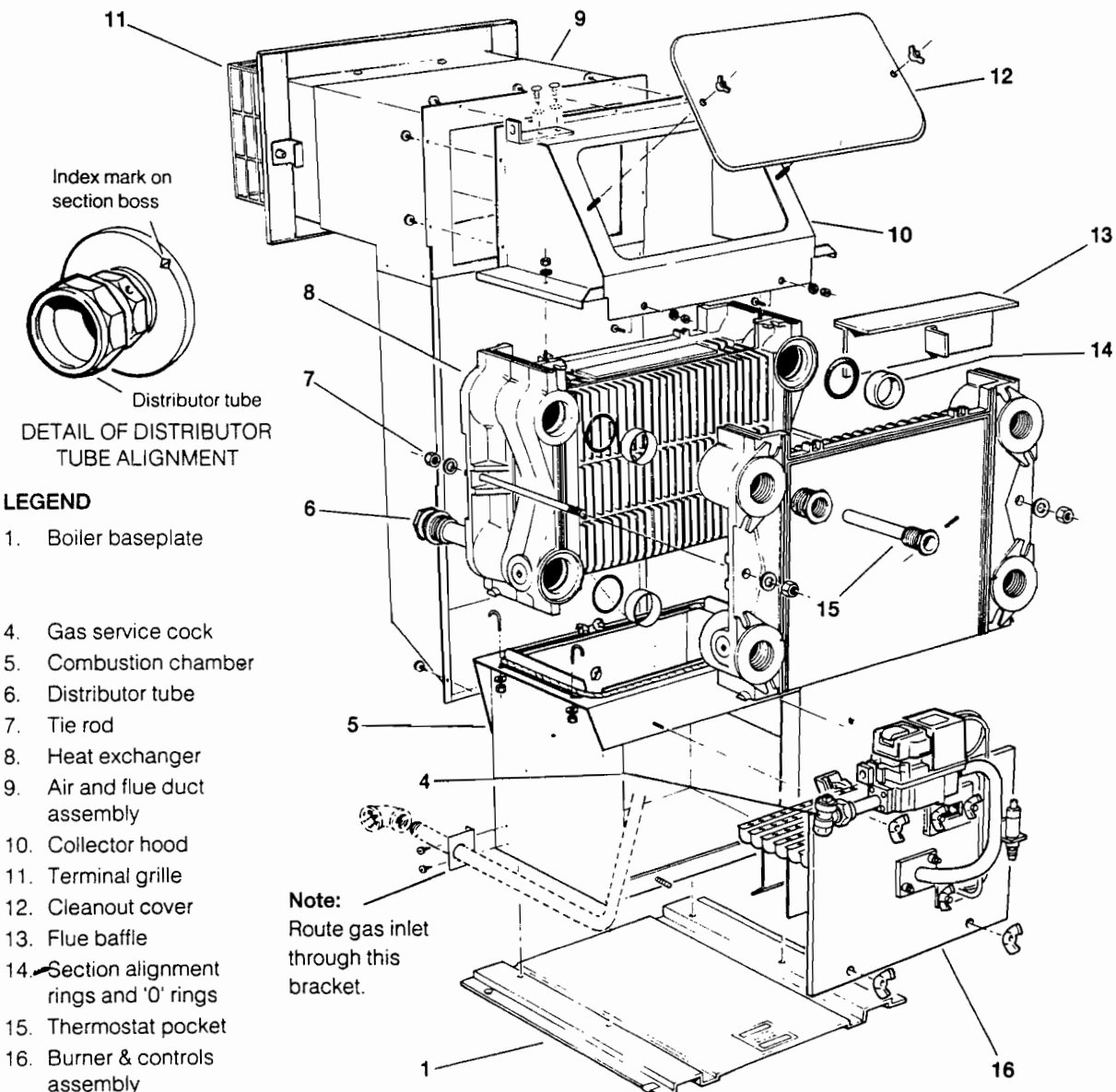
The method of connection to the mains electricity supply MUST facilitate complete electrical isolation of the boiler, preferably by the use of a fused three-pin & shuttered socket outlet, both complying with the requirements of BS. 1363.

Alternatively, a fused double-pole switch having a 3 mm (1/8 in.) contact separation in both poles and serving only the boiler, may be used.

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.

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

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

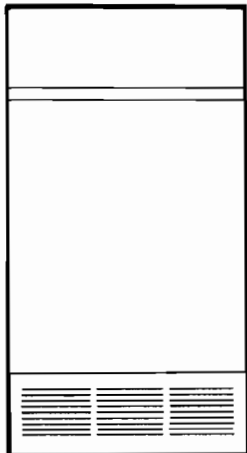


2 UNPACKING

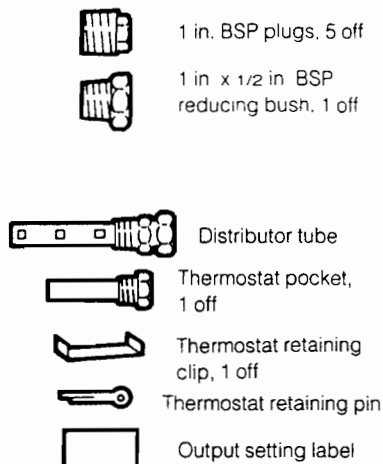
The boiler is supplied fully assembled in one pack 'A', together with either one or two of four packs B, B1, C or D. Packs B, B1, or C contain the flue terminal appropriate to the wall thickness. Pack D contains the flue terminal extensions. Unpack & check the contents.

PACK 'A' CONTENTS

Complete boiler assembly

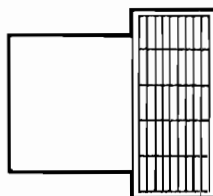


HARDWARE PACK CONTENTS



PACK 'B', 'B1' & 'C' CONTENTS

Flue terminal assembly

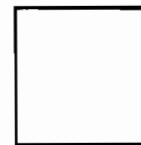


Sachet of sealing mastic, 2 off



PACK 'D' CONTENTS

Flue terminal extension



Sachet of sealing mastic,



Adhesive tape



3 FLOOR MOUNTING & CLEARANCES

FLOOR MOUNTING

- The floor must be flat, level & 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:

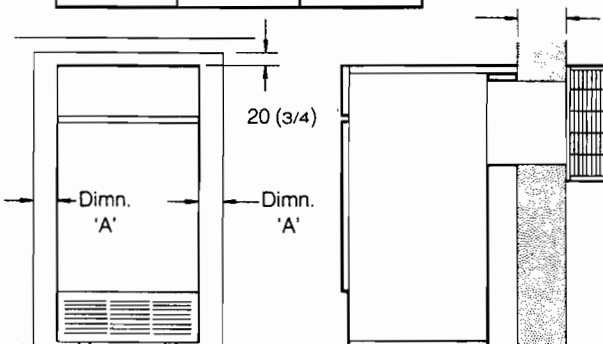
Boiler size	Width	Depth	Height
RS 70- 100 mm (in.)	460 (18)	535 (21)	870 (34 1/4)
RS 125 mm (in.)	550 (21 1/2)	600 (23 5/8)	870 (34 1/4)

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 8.

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

Boiler size	RS 70- 100	RS 125
Dimn. 'A'	10 (3/8)	55 (2 1/4)



FRONT VIEW

SIDE VIEW

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.

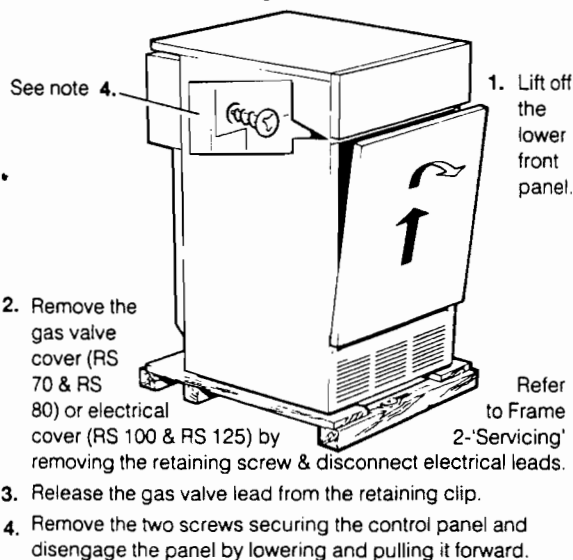
4 WALL THICKNESS

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

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

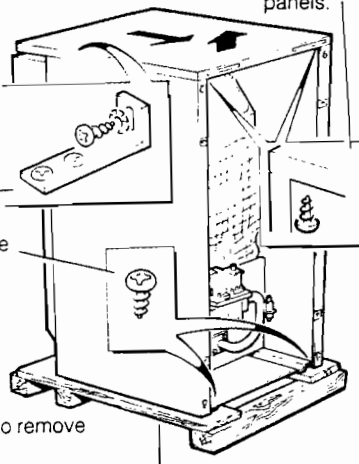
5 BOILER CASING REMOVAL

To install the boiler, the casing MUST be removed.

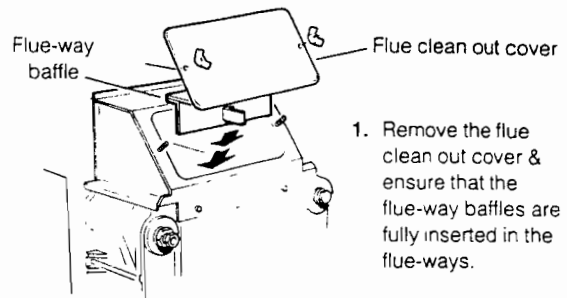


6 BOILER CASING REMOVAL, cont.

5. Remove the 2 screws securing the top panel to the side panels.
6. Draw the top panel forward & lift it off the boiler.
7. Remove the 2 screws securing the L.H. side panel to the flue collector & baseplate.
8. Pull the panel forward, lifting it clear of the locating pegs & remove it from the boiler.
9. Repeat steps 7 & 8 to remove the R.H. side panel.
10. 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



SIDE VIEW OF BOILER SECTIONS SHOWING THE BAFFLE ARRANGEMENTS

RS 70

RS 80

RS 100



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.

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.

1. 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.

2. Select the desired pumped flow tapping.
3. Screw the supplied boiler thermostat pocket into the appropriate front section tapping, using an approved jointing material. Refer to Tables 8 & 9.
4. 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.

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

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				FRONT SECTION
C.H.		D.H.W.		Top
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.

9 PREPARING THE WALL

1. 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.

2. 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.

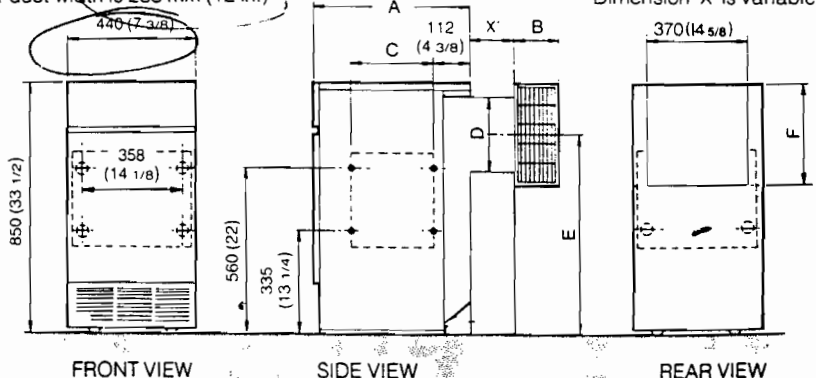
3. Make good the brickwork around the air duct.

All dimensions in mm (in.)

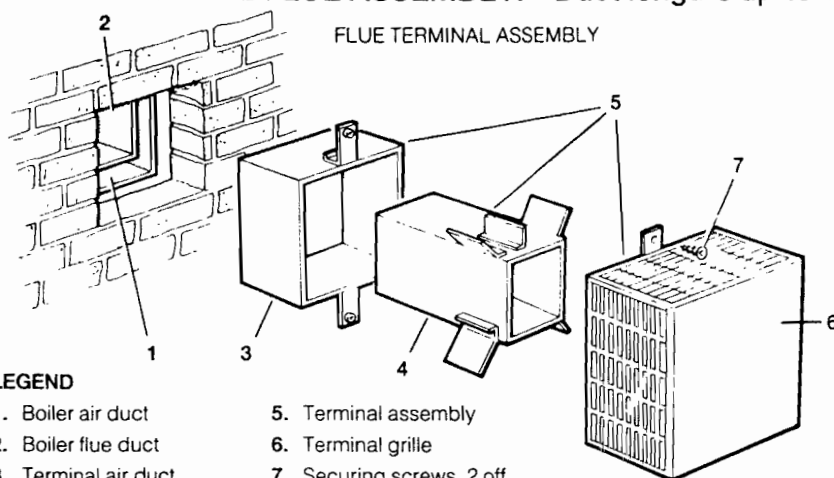
Boiler	Dimn. 'A'	Dimn. 'B'	Dimn. 'C'	Dimn. 'D'	Dimn. 'E'	Dimn. 'F'
RS 70	533 (21)	152 (6)	218 (8 5/8)	248 (9 3/4)	672 (26 1/2)	338 (13 1/8)
RS 80	533 (21)	167 (6 5/8)	218 (8 5/8)	312 (12 1/4)	640 (25 1/8)	394 (15 1/2)
RS 100	533 (21)	167 (6 5/8)	291 (11 3/8)	312 (12 1/4)	640 (25 1/8)	394 (15 1/2)
RS 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.)

Dimension 'X' is variable



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



LEGEND

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

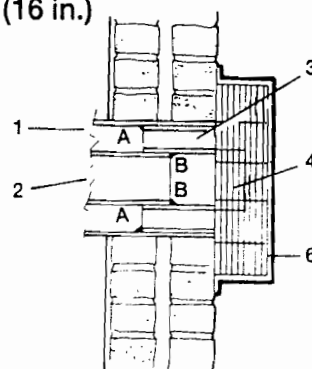
Note: For duct lengths greater than 400mm (16 in.) refer to Frame 11.

- Remove the two securing screws and separate the terminal air duct, flue duct and grille.
- 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.
- Push the terminal air duct fully in until the fixing brackets contact the wall face.
- Make good between the wall and duct, from OUTSIDE the building.
- From OUTSIDE the building, seal the air duct join 'A' with the mastic provided.
- 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.
- Push the flue duct fully in, up to the locating stops.

- Fasten the terminal grille to the duct assembly.

NOTE (RS 80 & RS 100 Only): When fitting the terminal grille, ensure that the splitter plate locates fully on the protruding flue duct such that there are no resultant gaps.

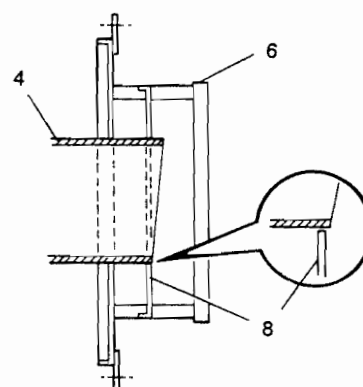
Check particularly the bottom corner of the flue duct / splitter plate join - as shown in the opposite diagram.



- | | |
|------------------|-------------------|
| A. Air duct join | B. Flue duct join |
|------------------|-------------------|

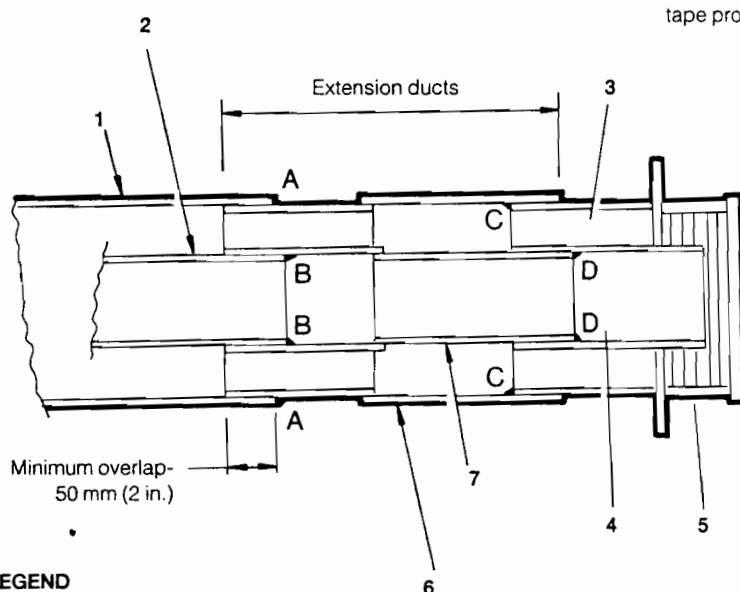
FLUE TERMINAL SHOWN IN POSITION

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



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

EXTENSION DUCTS SHOWN FITTED



LEGEND

- | | | |
|-----------------------|------------------------|----------------------------|
| 1. Boiler air duct | 5. Terminal grille | A. Air duct join |
| 2. Boiler flue duct | 6. Extension air duct | B. Flue duct join |
| 3. Terminal air duct | 7. Extension flue duct | C. Terminal air duct join |
| 4. Terminal flue duct | | D. Terminal flue duct join |

- 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.)

- Secure the extension air duct in position, using the adhesive tape provided, at join 'A'.

- Remove the terminal assembly.

- 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.

- Place the boiler in position- entering the extension duct into the wall opening.

- Make good the brickwork around the wall opening.

- Separate the terminal air duct, flue duct & grille Refer to Frame 10.

- 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.

- Push the duct fully in until the fixing brackets contact the wall face.

- Make good between the wall & duct from OUTSIDE the building.

- From OUTSIDE the building, seal the air duct join 'C' with the mastic provided.

- From OUTSIDE the building, pass the terminal flue duct through the wall opening & slide it into the extension flue duct. Locate it as shown.

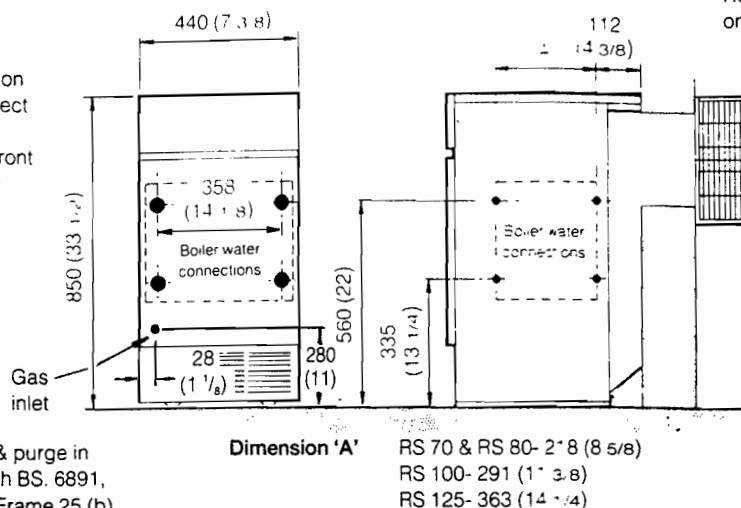
- Push the flue duct fully in, up to the locating stops.

- From OUTSIDE the building seal the flue duct join 'D' with the mastic provided.

- Fasten the terminal grille to the duct assembly.

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

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)

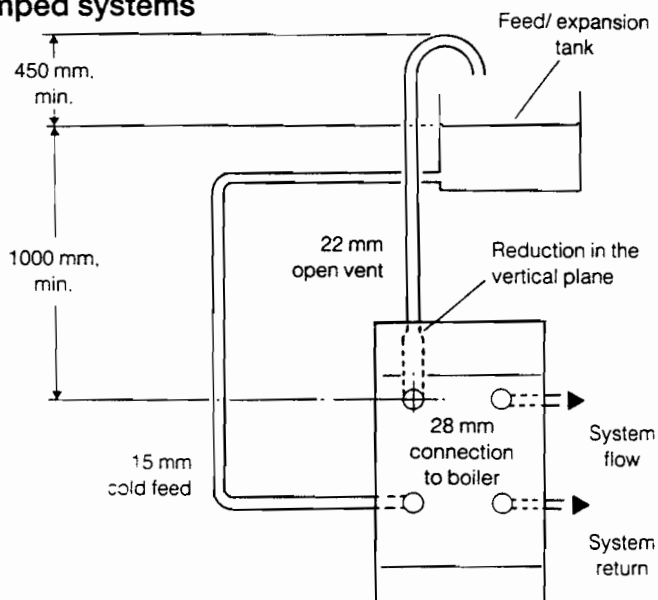
Notes:

- (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 Stelrad Group.
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 Stelrad Group.



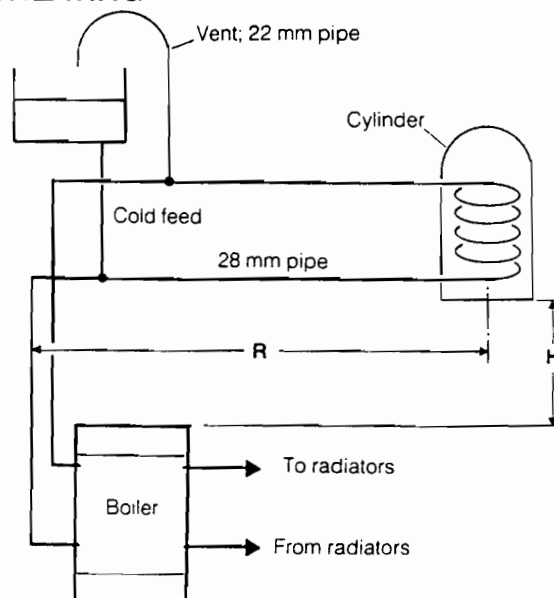
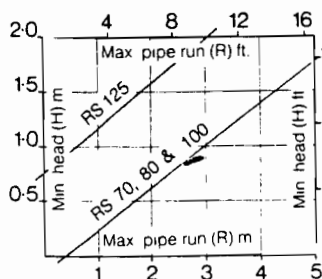
15 GRAVITY HOT WATER & PUMPED CENTRAL HEATING

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: This appliance **MUST** be efficiently earthed.

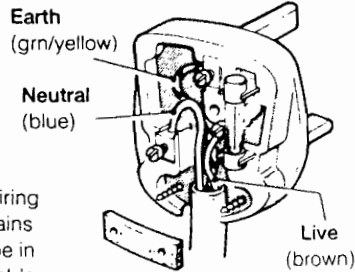
A mains supply of 240 V ~ 50 Hz is required.

All external controls & wiring **MUST** be suitable for mains voltage. Wiring should be in 3-core PVC insulating cable, NOT LESS than 0.75 mm² (24 x 0.2 mm) to BS.6500 Table 16.

Wiring external to the boiler **MUST** be in accordance with current I.E.E. Wiring Regulations & Local Regulations.

The supply connection may be made via a removable plug to a shuttered socket/ outlet, preferably adjacent to the boiler, & should such a plug be used for connection to the mains, it **MUST** be of the 3-pin type- wired as shown, fused at 3A & comply with the requirements of BS.1363.

Alternatively, a fused double-pole switch, having a 3 mm contact separation in both poles, serving only the boiler & system controls may be used.



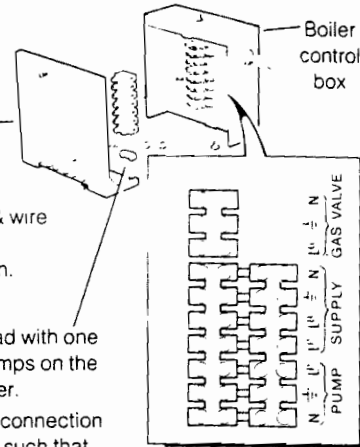
17 INTERNAL WIRING

Flow & pictorial wiring diagrams are shown in Frames 18 & 19. A schematic wiring diagram is included on the Lighting Instruction label.

1. Remove the securing screw & lift off the control box cover.
2. Route the electrical leads into the box & wire into the plug-in connector as shown.

Notes.

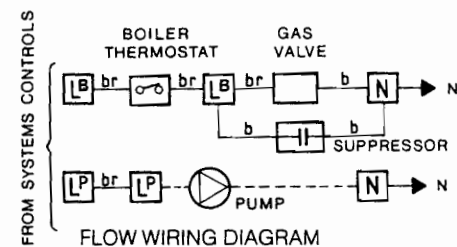
- (a) Secure each lead with one of the cable clamps on the control box cover.
- (b) The mains lead connection **MUST** be made such that, should the lead slip from its anchorage, the current carrying conductors become taut before the earthing conductor.



DETAIL OF TERMINAL STRIP

18 EXTERNAL CONTROLS

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.



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

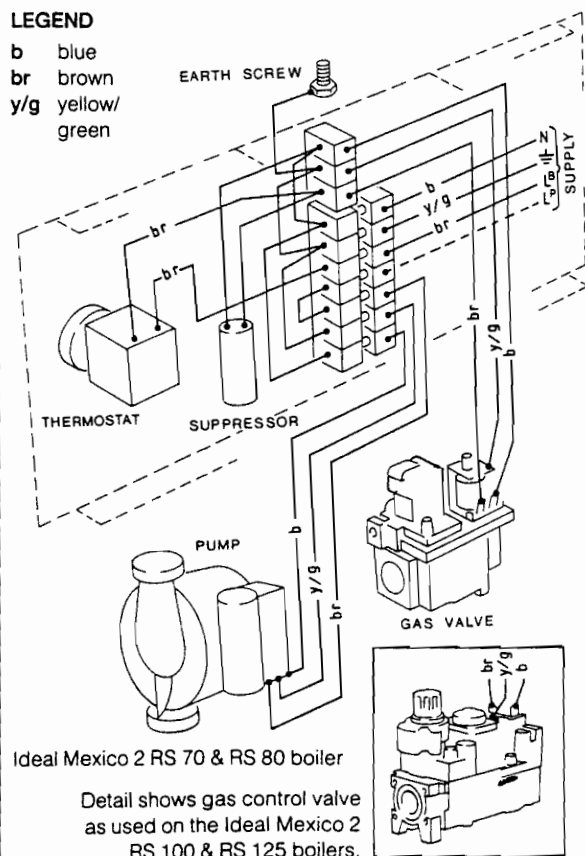
1. Controls that switch the system ON & OFF, e.g. a time switch **MUST** be wired in series, in the live mains lead to the boiler.
2. Controls that over-ride an ON/OFF control, e.g. a frost thermostat, **MUST** be wired into the mains lead in parallel with the control(s) to be over-ridden. Refer to Frame 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

LEGEND

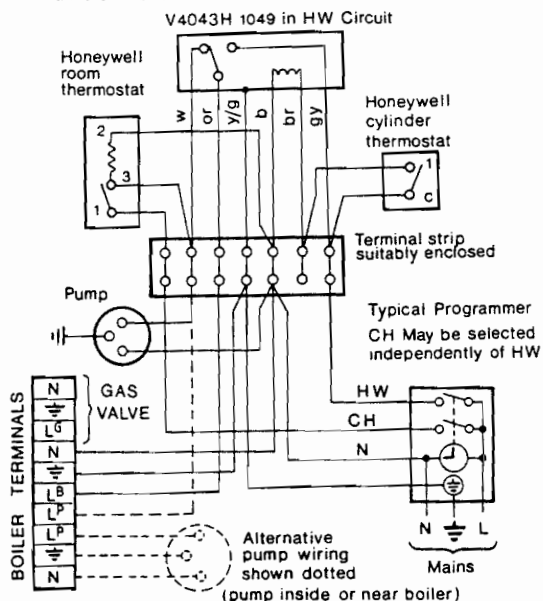
b blue
br brown
y/g yellow/green



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.



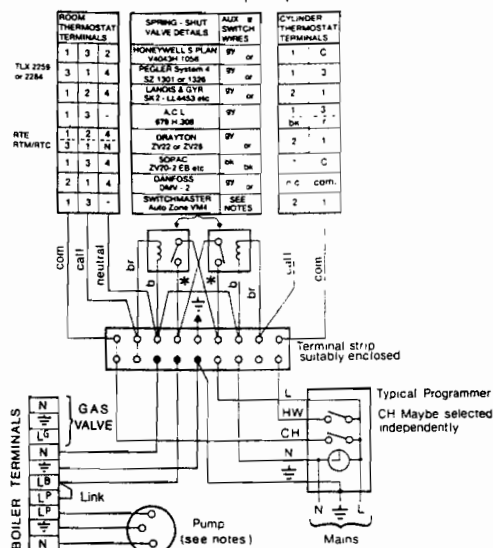
LEGEND

b blue w white bk black
y yellow r red gy grey
g green br brown 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 thermostat terminals is specific to the manufacturer indicated.
4. 'Switchmaster Autozone' valve also has grey & orange leads, but the ORANGE wire (not the grey wire) must be connected to the in-coming live supply.
5. Black dots denote alternative pump connections.



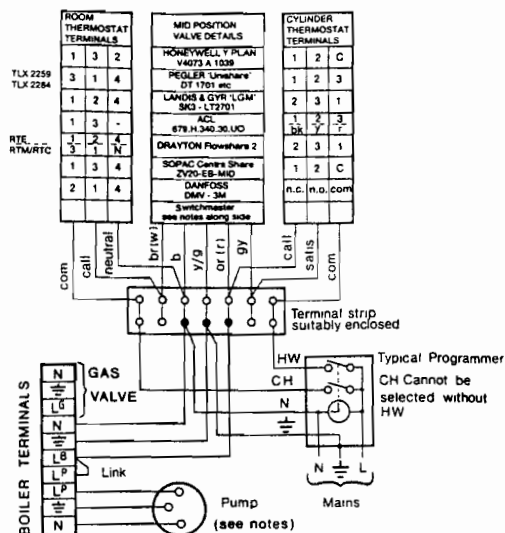
LEGEND

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.

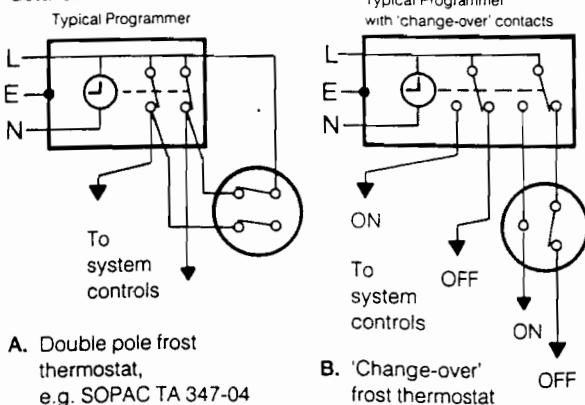


LEGEND

or orange 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 347-04

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.

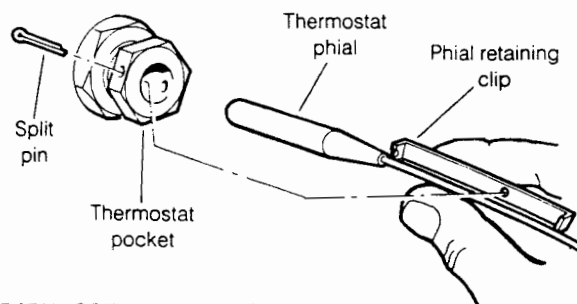
24 FITTING THE CASING

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

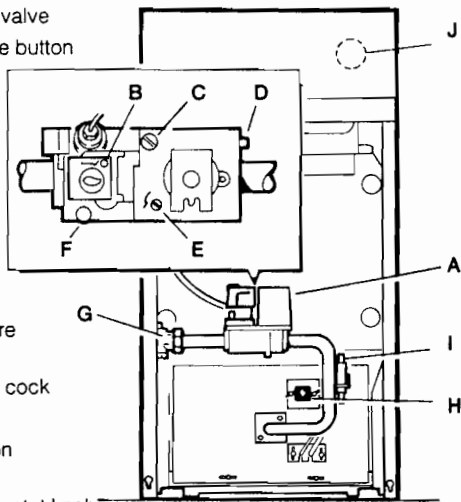
- (a) The whole of the gas installation, including the meter, should be inspected and tested for soundness, and purged in accordance with the recommendations of BS 6891:1988.
WARNING: Whilst effecting the required gas soundness test and purging air from the gas installation, open all windows and doors, 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; RS 70 & RS 80 ONLY

LEGEND

BOILER CONTROLS

- A. Gas control valve
- B. Control valve button
- C. Pilot pressure adjuster
- 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.

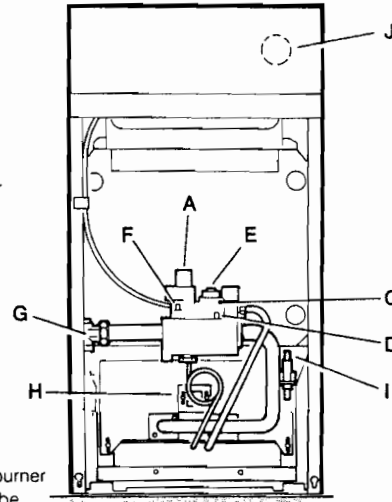
1. Connect the gas valve electrical leads.
2. Check that the gas service cock (G) is ON, & the boiler thermostat knob (J) is OFF
3. Loosen the screw in the burner pressure test nipple (D) & connect a gas pressure gauge via a flexible tube.
4. Slide the gas control button (B) to the RIGHT until resistance is felt & then release it.
5. Push in & retain fully depressed the gas control button (B), press & release piezo ignition button (I) repeatedly until the pilot lights.
6. Hold the gas control button (B) depressed for 15 seconds after the pilot burner has ignited. If the pilot burner fails to remain alight at this stage repeat the procedure detailed above, but wait longer than 15 sec.s before releasing the gas control button (B).
7. Check the appearance of the pilot flame to ensure that it envelopes the tip of the thermocouple & is approximately 25mm (1 in.) long. The pilot flame is factory set but if adjustment is necessary refer to Frame 7- Servicing.
8. Switch the electricity supply ON & check that all external controls are calling for heat.
9. Turn the boiler thermostat knob (J) to position 6 & check that the burner cross-lights smoothly.
10. Test for gas soundness around the boiler gas components using leak detection fluid.
11. Operate the boiler for 10 minutes to stabilise the burner temperature. The boiler is pre-set at the factory to it's maximum nominal rating, but can be range rated to suit the sytem design requirements. Refer to Table 2, page 2. If the burner pressure setting requires adjustment, turn the pressure adjusting screw (E) CLOCKWISE to DECREASE the pressure.
12. If the boiler output is set to MID or MINIMUM affix the appropriate indicator label, supplied, to the Data Plate (front of baseplate).
13. Turn the boiler thermostat knob (J) to OFF.
14. Remove the pressure gauge & tube. Retighten the screw in the pressure test nipple, ensuring that a gas-tight seal is made.
15. Refit the gas control valve cover.

INITIAL LIGHTING; RS 100 & RS 125 ONLY

LEGEND

BOILER CONTROLS

- A. Gas control knob
- C. Pilot pressure adjuster
- 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



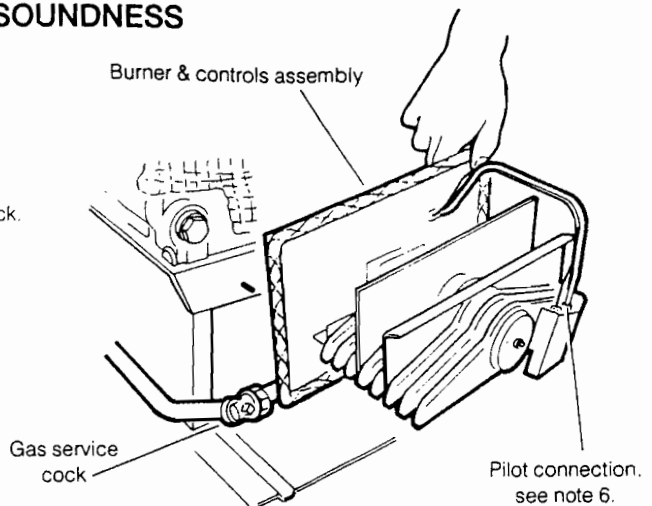
Note. The pilot burner connection can be tested for gas soundness—refer to Frame 27.

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 & then release it.
5. Push in & retain fully depressed the gas control knob (A). Press & 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 25mm (1 in.) long. The pilot flame is factory set but if adjustment is necessary refer to Frame 7- Servicing.
8. Switch the electricity supply ON & check that all external controls are calling for heat.
9. Turn the boiler thermostat knob (J) to position 6 & check that the burners cross-lights smoothly.
10. Test for gas soundness around the boiler gas components using leak detection fluid.
11. Operate the boiler for 10 min.s to stabilise burner temperature. The boiler is pre-set at the factory to it's 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, remove the protective cap & turn the pressure adjusting screw (E) ANTICLOCKWISE to DECREASE the pressure. **Note:** Always use a suitable screwdriver to avoid damaging the plastic head of the adjuster. Refit protective cap.
13. If the boiler output is set to MID or MINIMUM affix the appropriate indicator label, supplied, to the Data Plate (front of baseplate).
14. Turn the boiler thermostat knob (J) to OFF.
15. Remove the pressure gauge and tube. Retighten the screw in the pressure test nipple, ensuring that a gas-tight seal is made.

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) Slide or 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/ her responsibilities under the Gas Safety (Installation and Use) Regulations 1984.
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 the Local Gas Region or by a qualified Heating Engineer, 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.

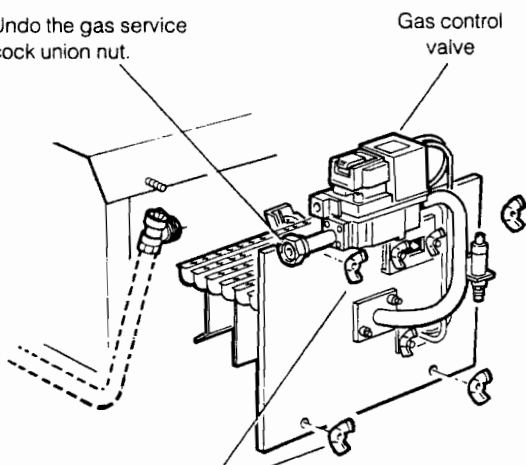
WARNING. Always turn OFF the gas supply at the gas service cock and switch OFF and DISCONNECT the electricity supply to the appliance BEFORE SERVICING.

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.



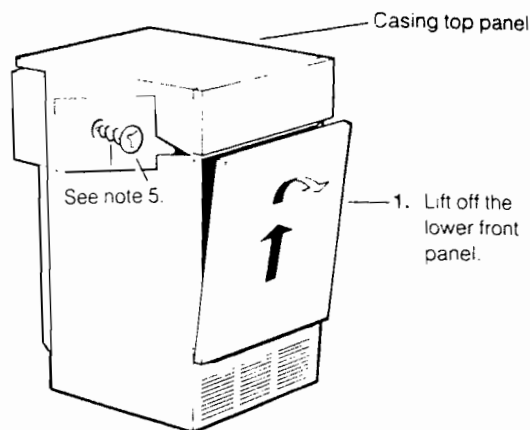
- Remove the four wing nuts and withdraw the burner and controls assembly, complete, from the boiler. Place on a convenient working surface.

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.

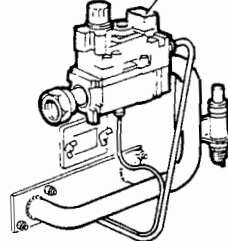
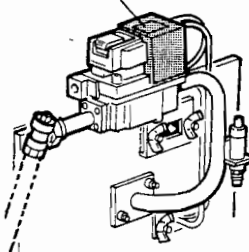
2 BOILER CASING FRONT REMOVAL



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

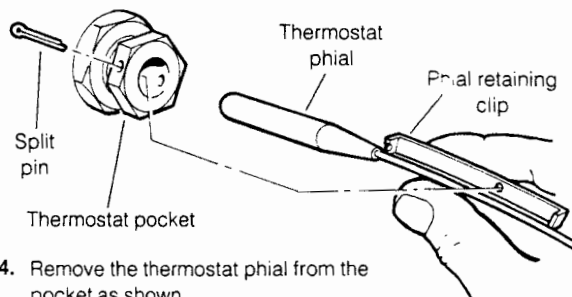
Gas valve cover
(RS 70 & RS 80)

Gas valve electrical cover
(RS 100 & RS 125)



- Remove the gas valve cover (RS 70 & RS 80) or electrical cover (RS 100 & RS 125) & disconnect the electrical leads.
- Release the gas valve lead from the retaining clip.

DETAIL OF THERMOSTAT POCKET



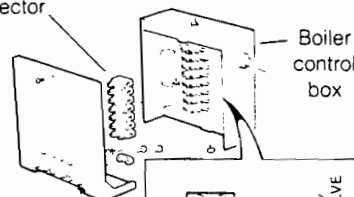
- Remove the thermostat phial from the pocket as shown.
- Remove the two screws securing the control panel and disengage the panel by lowering and pulling it forward.

VIEW OF BOILER CONTROL BOX & TERMINAL W. RING

- Remove the securing screw and lift off the control box cover

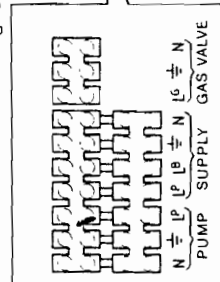
Plug-in connector

- Remove the plug-in connector and withdraw the electrical leads.



- Disconnect the programmer if fitted. Refer to the Programmer Installation Instructions.

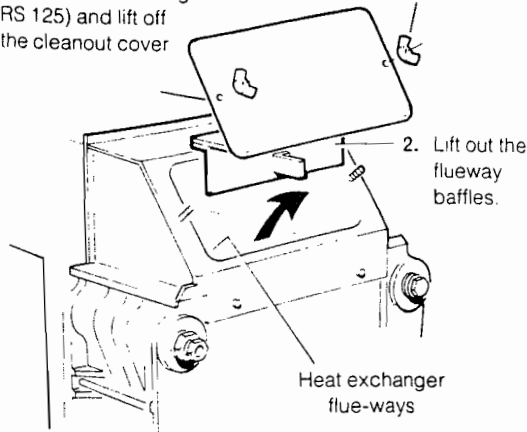
- Release the two screws securing the programmer connection box to the back of the programmer.
 - Disengage the box by unhooking the lugs from the slots.
- Place the control panel safely to one side.



- Remove the 2 securing screws & lift off the casing top panel.

5 CLEANING THE FLUEWAYS

1. Remove the two wing nuts (RS 70 & RS 80) or bolts (RS 100 & RS 125) and lift off the cleanout cover



2. Lift out the flueway baffles.
3. Remove all loose deposits from the heat exchanger, especially from between the fins, using a suitable brush. Remove all debris from the combustion chamber base.
4. Check that the flue outlet duct is unobstructed.

6 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 sight-glass 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.

7 GAS PRESSURE ADJUSTMENT

1. Pilot pressure

Light the boiler and check that the flame is 25 mm (1 in.) long. Refer to Frame 12. The pilot adjuster screw is factory set to maximum and no further adjustment should be necessary.

However if the pilot flame length is incorrect proceed as follows:

- (a) Slide the gas control button to the RIGHT (RS 70 & RS 80) or turn the gas control knob CLOCKWISE (RS 100 & RS 125) until resistance is felt & the release it.
- (b) Remove the gas control cover (RS 70 & RS 80 ONLY).
- (c) Turn pilot pressure adjuster screw CLOCKWISE until CLOSED.
- (d) Turn the pilot pressure adjuster screw ANTI-CLOCKWISE four full turns to give maximum setting.
- (e) Re-light the pilot. If the pilot flame length is still incorrect replace the pilot injector. Refer to Frame 14.

2. Main Burner pressure

After any 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.

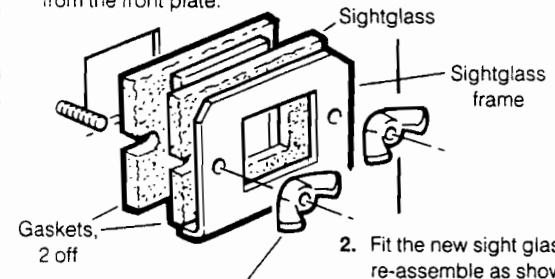
COMPONENT REPLACEMENT

To replace the components in Frames 8 to 18 the lower front panel must be removed. Refer to Frame 2.

For replacement of pumps or programmer units, refer to the Pump Kit or Programmer Kit Instructions.

8 SIGHTGLASS REPLACEMENT

1. Unfasten the two wing nuts & washers. Remove the assembly from the front plate.



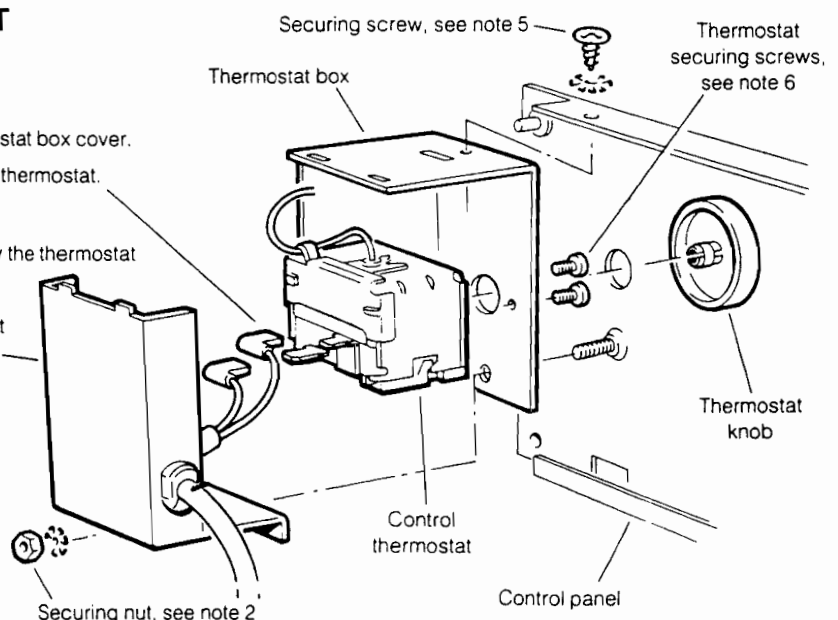
2. Fit the new sight glass & re-assemble as shown.
3. Retighten the two wing nuts to ensure an airtight seal, but DO NOT OVERTIGHTEN.

9 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.

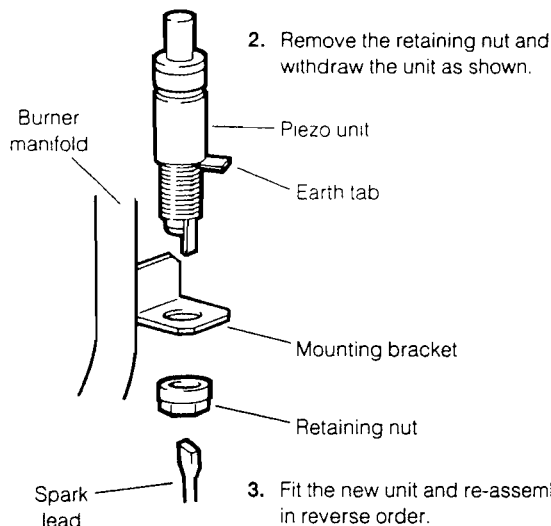
6. Remove the two securing screws & withdraw the thermostat.

7. Fit the new thermostat and re-assemble in reverse order, ensuring that:
 - (a) The thermostat capillary is towards the top of the box.
 - (b) The thermostat phial and phial retaining clip are in position in the thermostat pocket BEFORE securing with the split pin.



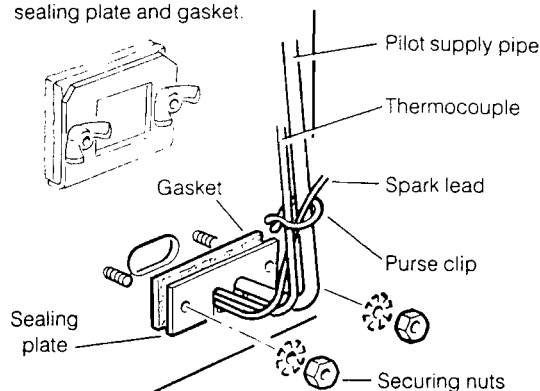
10 PIEZO UNIT REPLACEMENT

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



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.

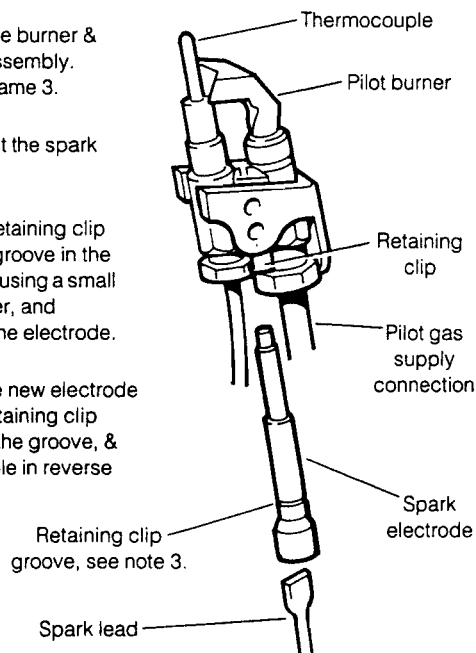
12 SPARK ELECTRODE REPLACEMENT. Showing pilot flame length & spark gap

Ideal Mexico Super 2 RS 70 & RS 80 boilers ONLY.

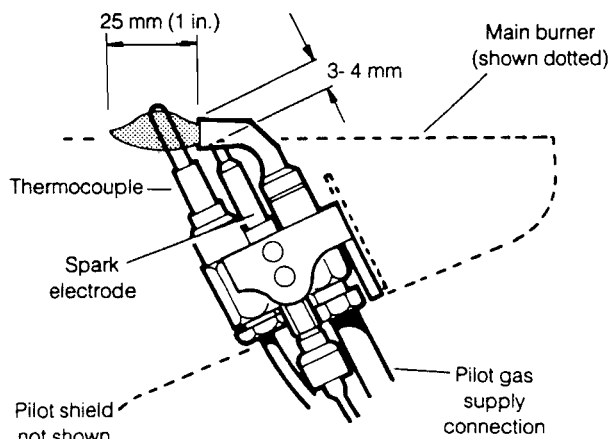
DETAIL OF PILOT BURNER ASSEMBLY
(Main burner not shown)

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.



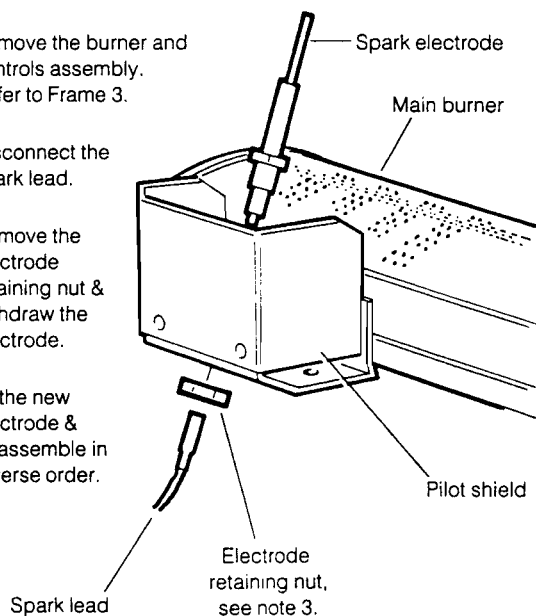
DETAIL OF PILOT FLAME LENGTH & SPARK GAP



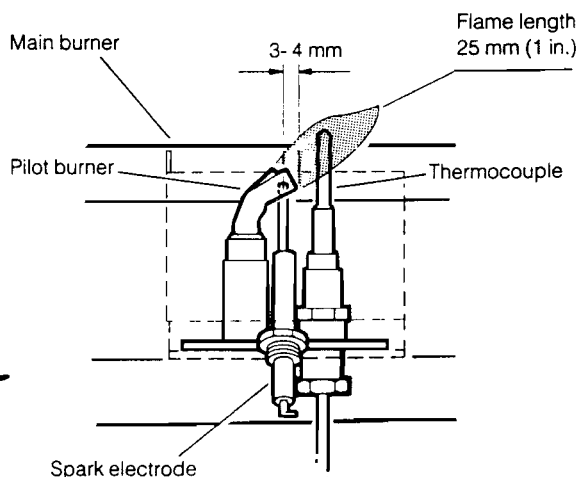
Ideal Mexico Super 2 RS 100 & RS 125 boilers ONLY.

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.

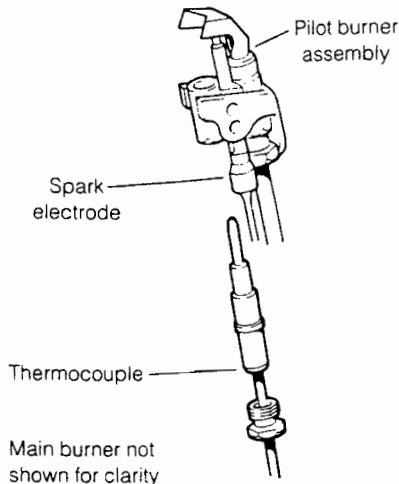


DETAIL OF PILOT FLAME LENGTH & SPARK GAP



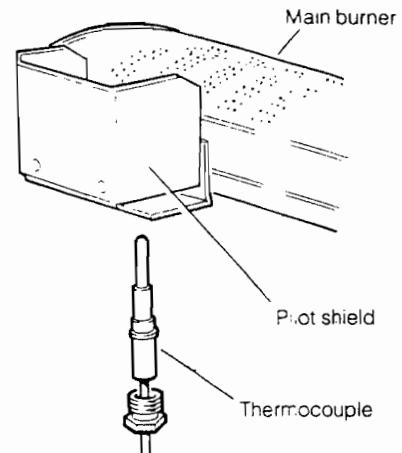
13 THERMOCOUPLE REPLACEMENT

DETAIL OF THERMOCOUPLE:
RS 70 & RS 80 BOILERS ONLY



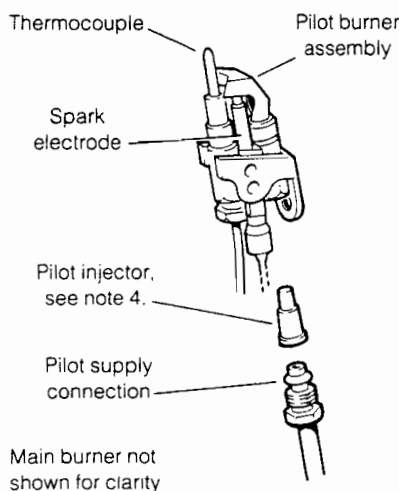
1. Remove the burner and controls assembly. Refer to Frame 3.
2. RS70 and 80 ONLY Remove the spark electrode as detailed in Frame 12.
3. Remove the purse clip.
4. Undo the thermocouple connection at the pilot burner and pull the thermocouple clear
5. Undo the thermocouple connection at the gas valve.
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.

DETAIL OF THERMOCOUPLE
RS 100 & RS 125 BOILERS ONLY



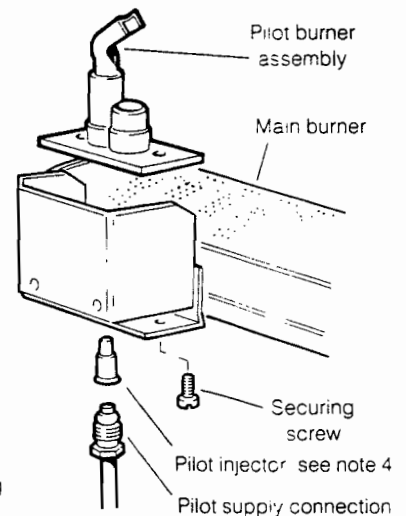
14 PILOT BURNER REPLACEMENT

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



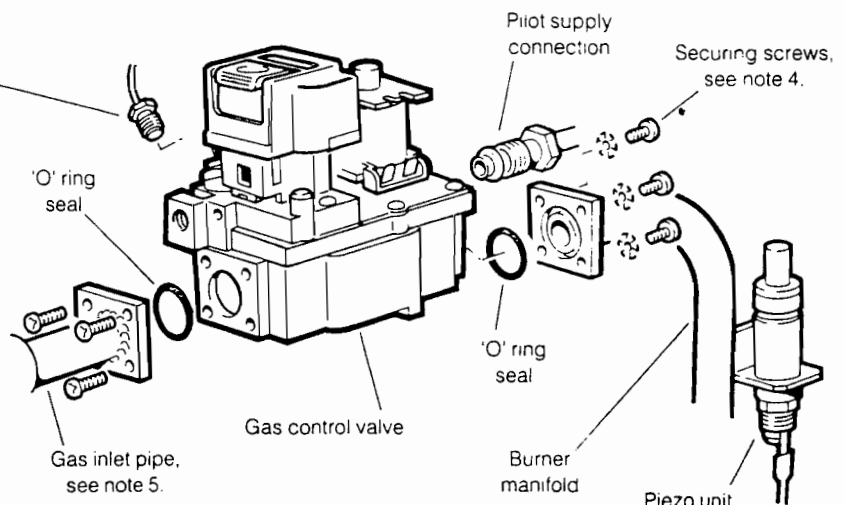
1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the spark electrode. Refer to Frame 12.
3. Undo the thermocouple connection & pull the thermocouple clear. Refer to Frame 13.
4. Undo the pilot supply connection and ease clear of the pilot burner. DO NOT lose the pilot injector 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

DETAIL OF PILOT BURNER:
RS 100 & RS 125 BOILERS ONLY



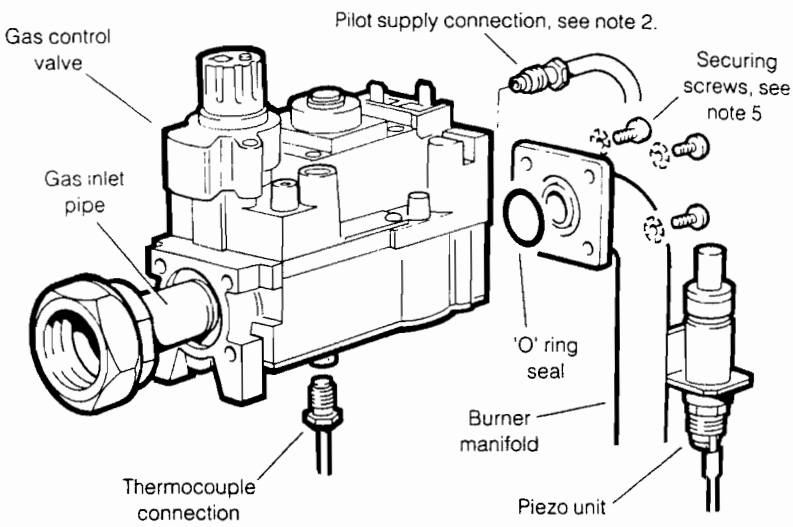
15 GAS VALVE REPLACEMENT. RS 70 & RS 80 boilers ONLY.

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Undo the pilot supply connection.
3. Undo the thermocouple connection.
4. Remove the four securing screws and withdraw the valve from the burner manifold.
5. Transfer the gas inlet pipe to the new valve.
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.



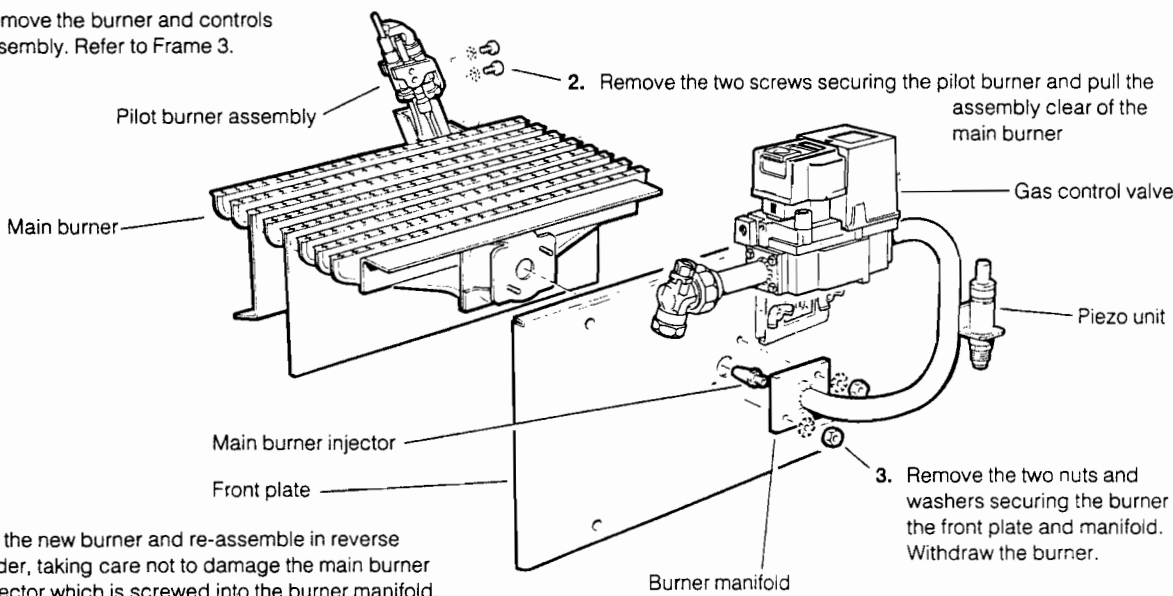
16 GAS VALVE REPLACEMENT. RS 100 & RS 125 boilers ONLY.

- 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.

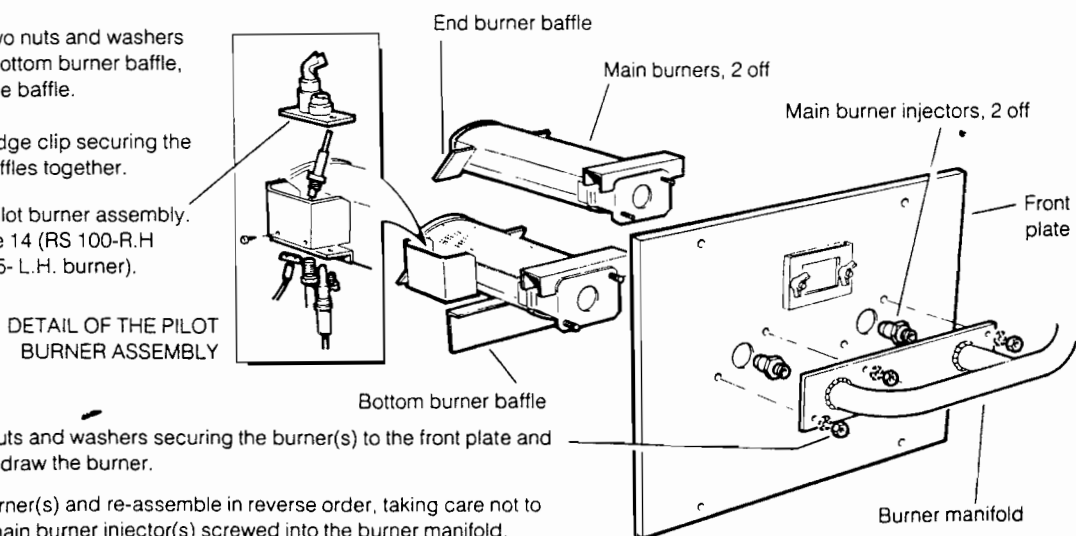
- 1. Remove the burner and controls assembly. Refer to Frame 3.
- 2. Remove the two screws securing the pilot burner and pull the assembly clear of the main burner.
- 3. Remove the two nuts and washers securing the burner to the front plate and manifold. Withdraw the burner.
- 4. Fit the new burner and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



MAIN BURNER REPLACEMENT. RS 100 & RS 125 boilers ONLY.

RS 125 boiler shown

- 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 edge clip securing the end burner baffles together.
- 4. Remove the pilot burner assembly. Refer to Frame 14 (RS 100-R.H burner, RS 125- L.H. burner).
- 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.



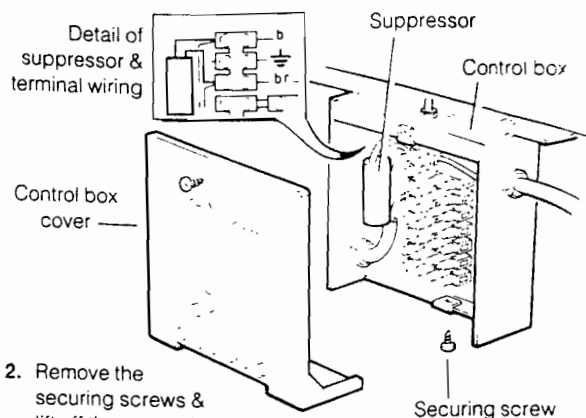
18 MAIN BURNER INJECTOR REPLACEMENT

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

19 SUPPRESSOR REPLACEMENT

1. Remove the control panel. Refer to Frame 2.

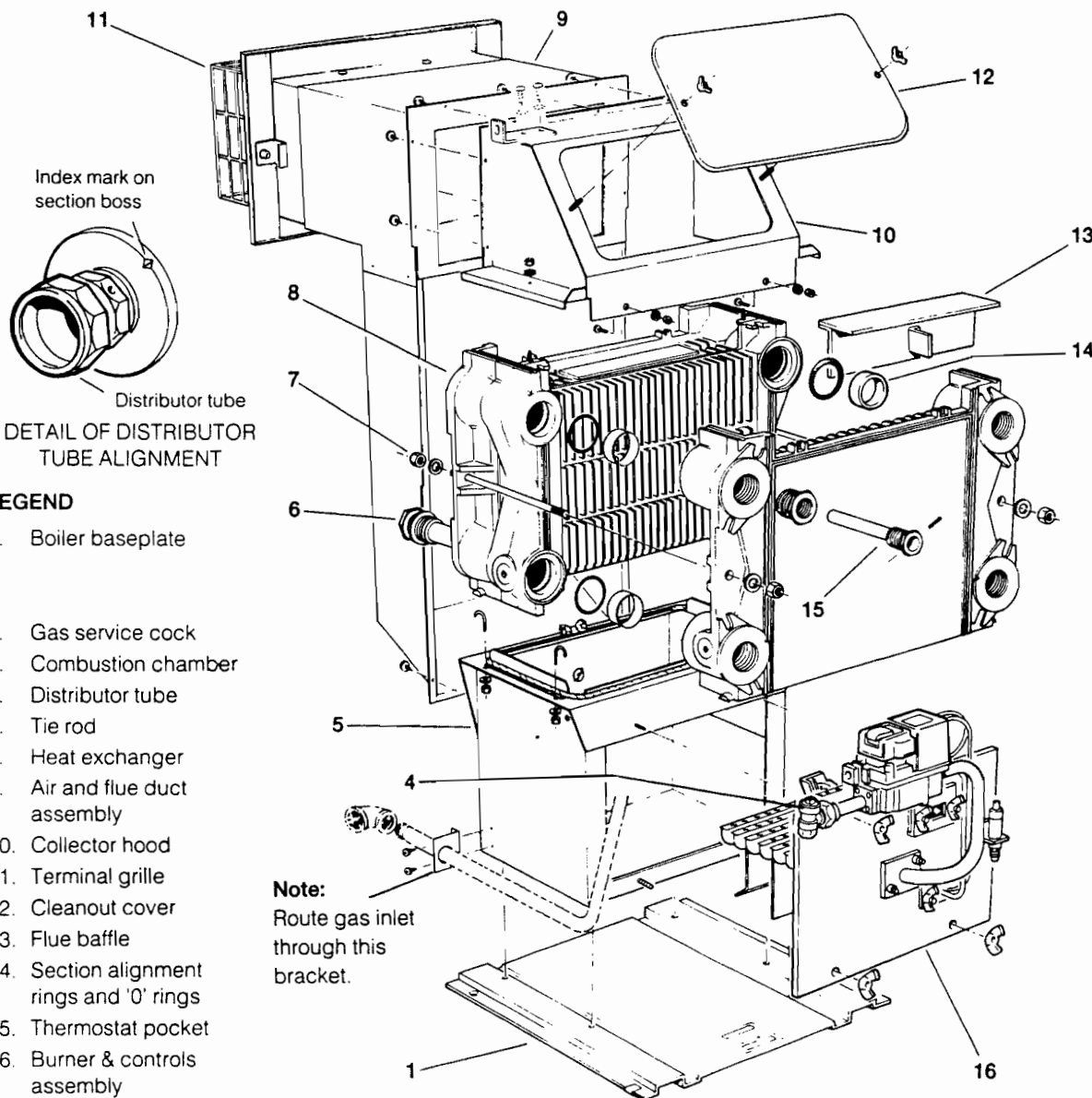


2. Remove the securing screws & lift off the control box cover.
3. Disconnect the suppressor leads from the terminal strip and withdraw the suppressor.
4. Fit the new suppressor and re-assemble in reverse order, ensuring that all electrical connections are correctly re-made

EXPLODED VIEWS

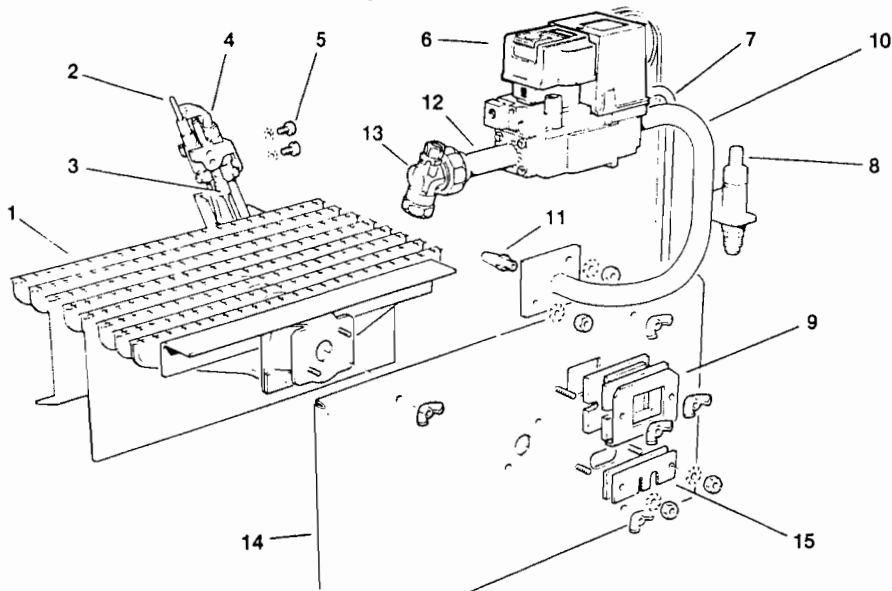
20 BOILER ASSEMBLY- Exploded View.

Ideal Mexico 2 RS 70 Shown



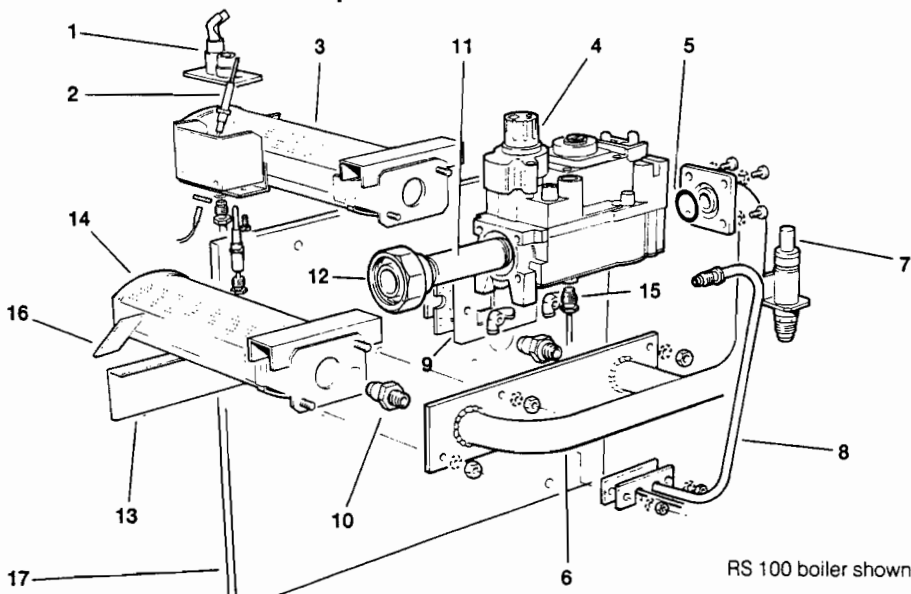
21 BURNER & CONTROLS ASSEMBLY- Exploded View. RS 70 & RS 80 boilers ONLY.

- 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



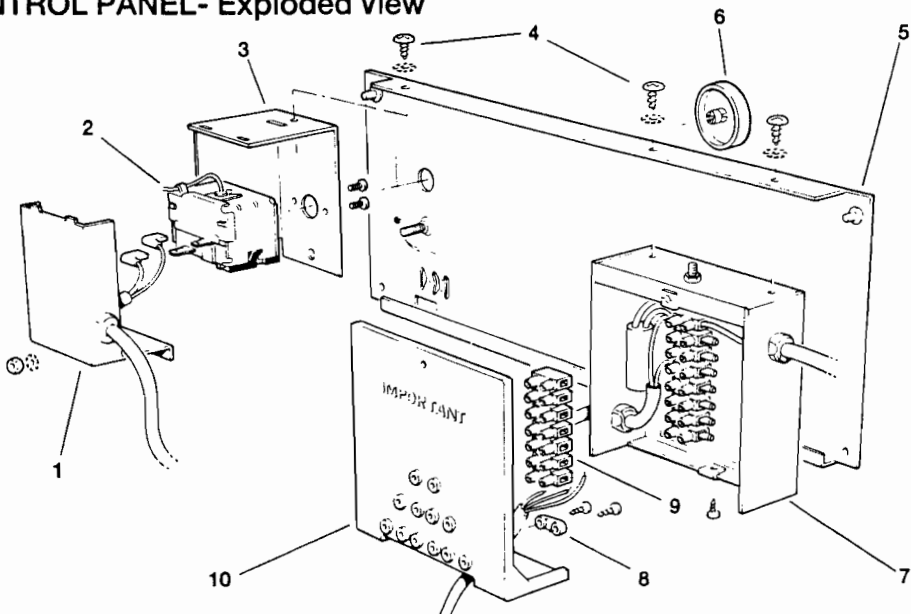
22 BURNER & CONTROLS ASSEMBLY- Exploded View. RS 100 & RS 125 boilers ONLY.

- 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

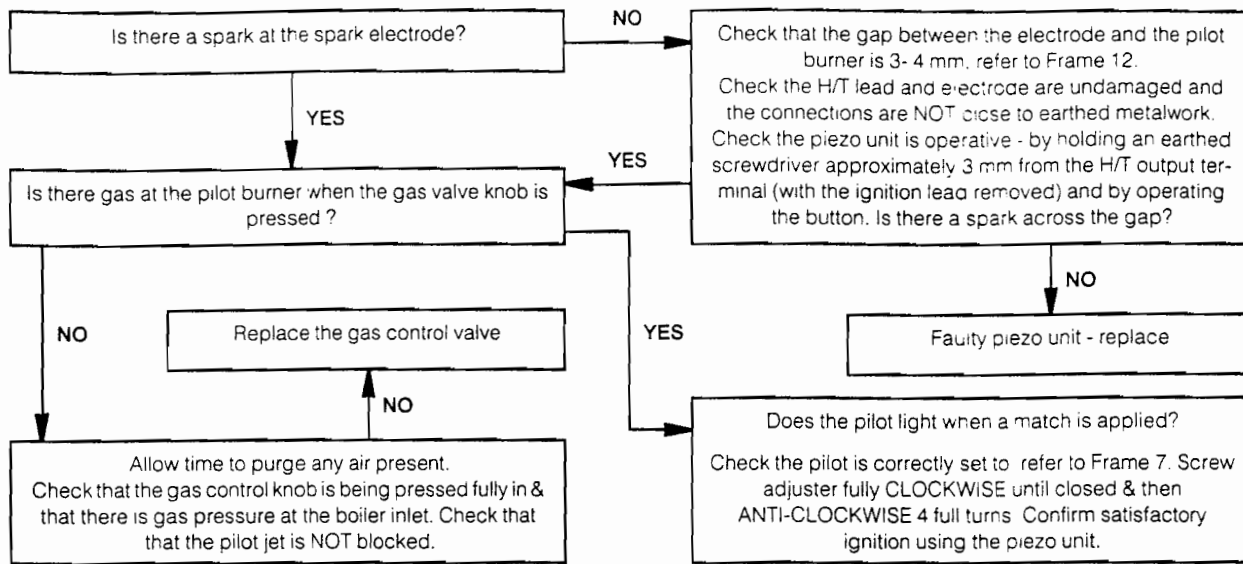
- LEGEND
- 1. Thermostat box cover
 - 2. Boiler control thermostat
 - 3. Thermostat box
 - 4. Securing screw
 - 5. Control panel
 - 6. Thermostat knob
 - 7. Control box
 - 8. Cable clamp
 - 9. Plug-in connector
 - 10. Control box cover



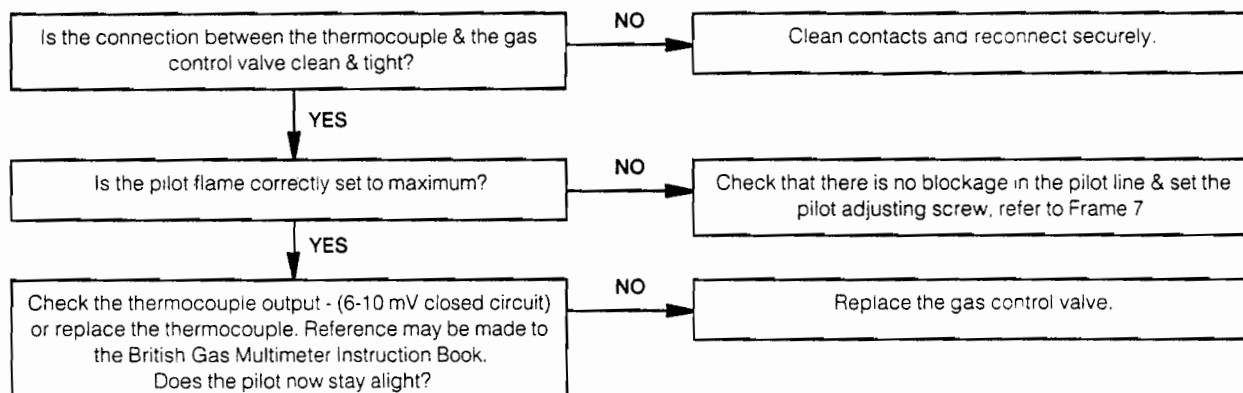
Before attempting any electrical fault finding, ALWAYS carry out the preliminary electrical system checks as detailed in the Instructions for the British Gas Multimeter, or other similar commercially

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

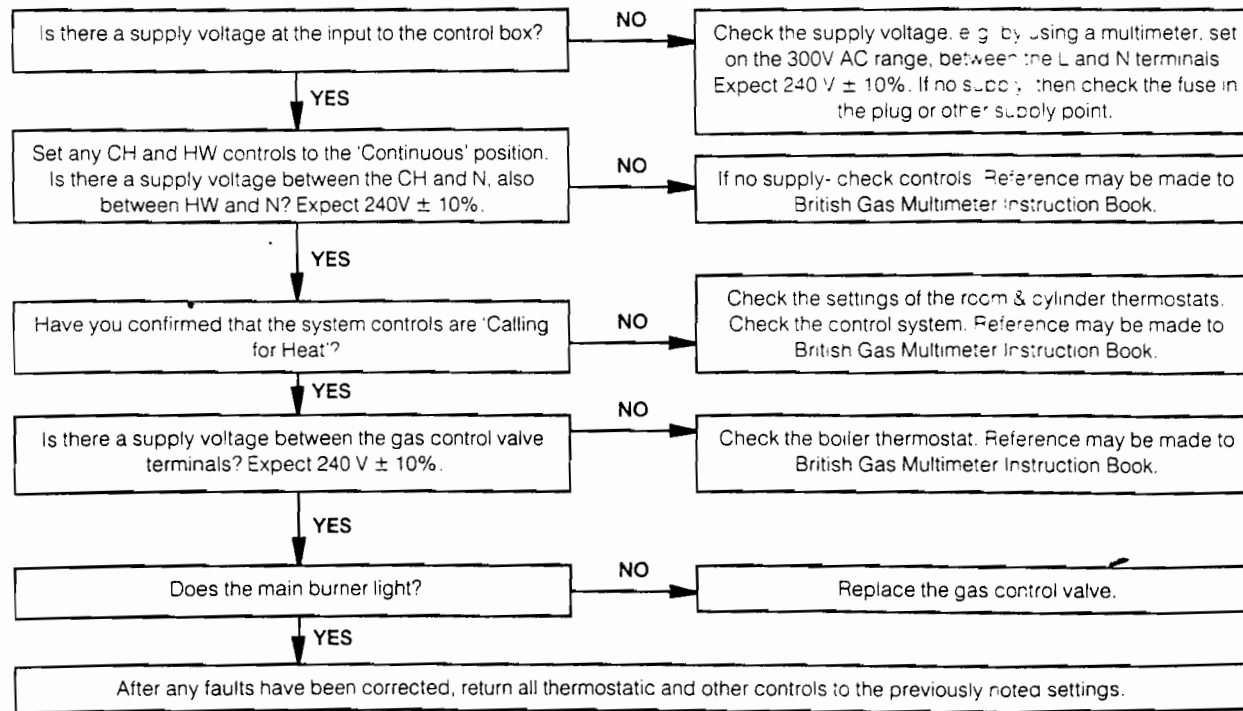
24 PILOT WILL NOT LIGHT



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



26 PILOT LIT BUT NO MAINS GAS



SERVICING

SHORT LIST OF PARTS

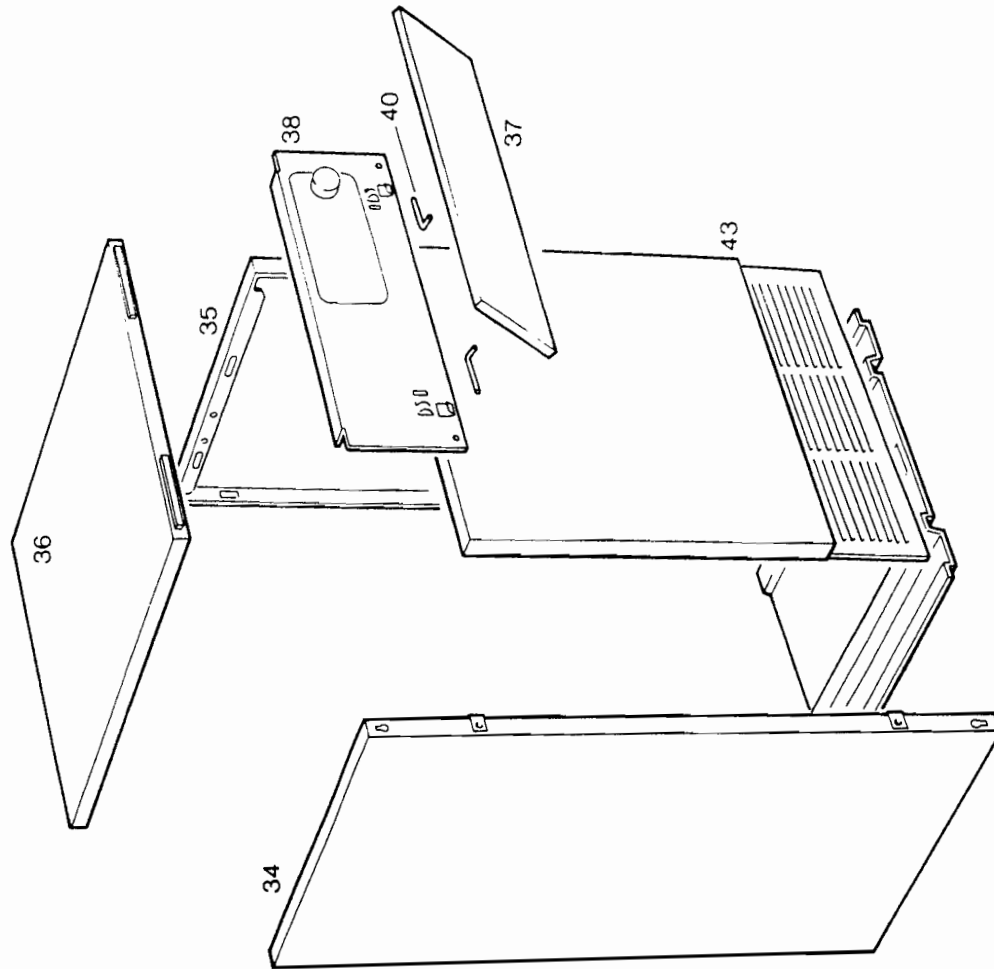
The following list comprises parts commonly required as replacements due to damage, expendability, or such that their failure, or absence, is likely to affect safety or performance.
This List is extracted from the British Gas List of Parts, which contains all available spare parts.

Details of the British Gas Lists are held by Gas Regions, STELRAD Distributors and by Merchants.

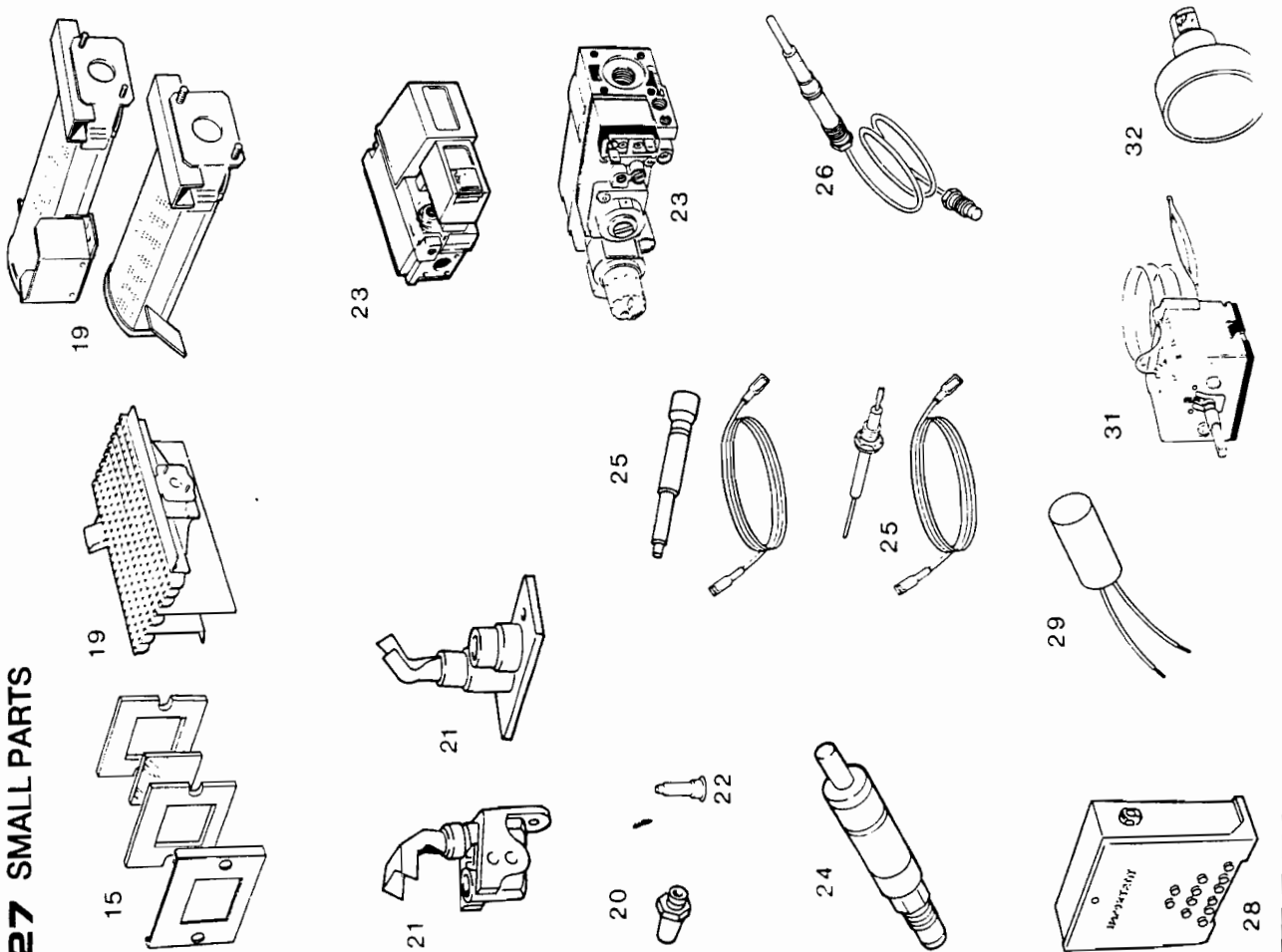
- Ideal Mexico Super 2**
RS 70, RS 80, RS 100 & RS 125 Gas Boilers
- When ordering spares, please quote:
- 1 Boiler Model
 - 2 Appliance G.C. Number
 - 3 Description
 - 4 Maker's Part Number
 - 5 Quantity

Key No.	G.C. Part No.	Description	No. off	Maker's Part No.
15	341 350	Sight glass assembly, comprising, sight glass, frame, two sight glass gaskets & two M5 wing nuts.	1	129 018 725
19		Main burner,		
	382 957	AEROMATIC No. AC 19/123 244; RS 70 & RS 80	1	129 088 735
	383 595	R.H:- AEROMATIC No. AC 19/123 217; RS 100	1	129 108 737
	383 598	L.H:- AEROMATIC No. AC 19/123 216; RS 100	1	129 108 738
	383 599	R.H:- AEROMATIC No. AC 19/123 219; RS 125	1	129 118 738
	383 596	L.H:- AEROMATIC No. AC 19/123 218; RS 125	1	129 118 737
20		Main burner injector, BRAY		
	389 515	Cat 103- Size 2300; RS 70	1	129 086 060
	389 519	Cat 103- Size 2700; RS 80	1	129 096 060
	389 506	Cat 103- Size 1500; RS 100	2	199 536 060
	389 511	Cat 103- Size 1800; RS 125	2	199 446 069
21		Pilot burner, with injector Key No. 22		
	382 944	HONEYWELL Q 385 A 1020; RS 70 & RS 80	1	589 088 740
	382 955	HONEYWELL Q 349 A 1067; RS 100 & RS 125	1	589 108 740
22		Pilot injector,		
		HONEYWELL 4500 4108 001, double orifice (.38/.36); RS 70 & RS 80	1	
		HONEYWELL 4500 4108 005, double orifice (.56/.42); RS 100 & RS 125	1	
23		Gas control valve,		
		HONEYWELL VR 4700 E 1031, 240 V; RS 70 & RS 80	1	
	393 659	HONEYWELL V 4600 A 1023, 240 V; RS 100 & RS 125	1	586 121 900
24	395 705	Spark generator, VERNITRON 60080	1	589 830 086
25		Ignition electrode,		
	319 384	BUCCLEUCH, with H.T. lead; RS 70 & RS 80	1	589 080 088
	395 884	VERNITRON SKNT 1495, with H.T. lead; RS 100 & RS 125	1	589 010 088
26		Thermocouple		
	390 083	HONEYWELL Q 309 A 2747- 750 mm lg.; RS 70 & RS 80	1	581 861 906
		HONEYWELL Q 309 A 2739- 600 mm lg.; RS 100	1	581 861 906
		HONEYWELL Q 309 A 2754- 900 mm lg.; RS 125	1	
28	319 385	Control box, including Key No. 29	1	586 071 271
29	384 689	Suppressor, ITT (can type)	1	589 040 030
31	382 469	Thermostat, RANCO CL6 PO148 000	1	589 960 051
32	341 359	Thermostat knob, FASTEX	1	586 011 517
		Casing, white stove enamel		
34	319 391	L.H. casing side panel assembly; RS 70, RS 80 & RS 100	1	129 077 212
	319 392	L.H. casing side panel assembly; RS 125	1	129 117 212
35	319 394	R.H. casing side panel assembly; RS 70, RS 80 & RS 100	1	129 077 213
	319 395	R.H. casing side panel assembly; RS 125	1	129 117 213
36	319 441	Casing top panel assembly; RS 70, RS 80 & RS 100	1	129 077 215
	319 442	Casing top panel assembly; RS 125	1	129 117 215
37	319 401	Casing upper front panel assembly	1	129 077 217
38	319 402	Controls panel assembly	1	129 077 221
39	319 403	Controls panel door with Lighting Instruction Label	1	129 077 222
40	319 404	Controls panel hinge	2	129 077 223
41	319 405	Controls panel hinge retainer	2	129 077 224
43		Lower front panel	1	

28 BOILER CASING ASSEMBLY- Exploded View



27 SMALL PARTS





**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 & BS. 5258.

Products bearing this Kitemark are made to a safety and performance standard under a stringent scheme of supervision and control monitored by the British Standards Institute.

CARADON HEATING 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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