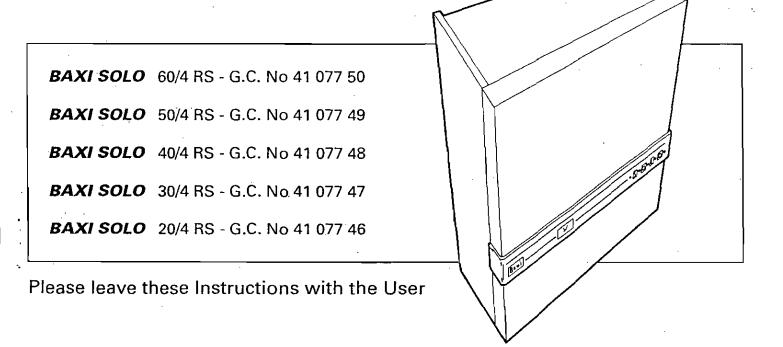


Supplied by freeboilermanuals.com

# ALL RS MODELS

### WALL MOUNTED ROOM SEALED GAS FIRED CENTRAL HEATING BOILERS

**INSTALLATION & SERVICING INSTRUCTIONS** 





### CONTE

### Introduction **Technical Data** System Details

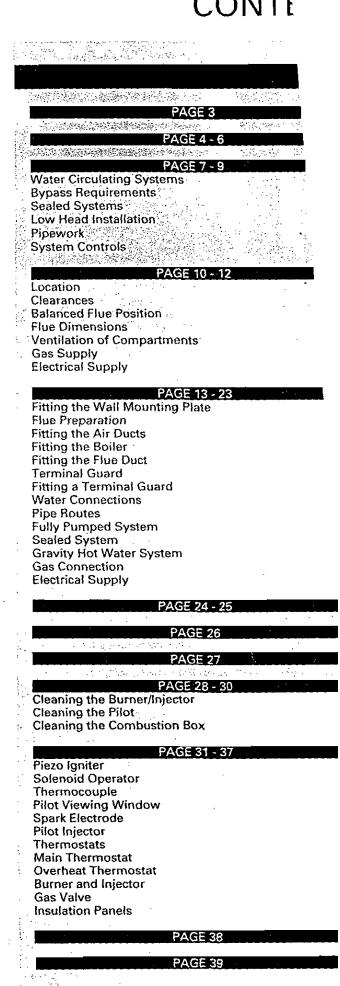
### Site Requirement

### Installation

**Commissioning the Appliance Fitting the Outer Case Overheat Cut-Off Device** Annual Servicing

**Changing Components** 

**Fault Finding Short Parts List** 



# INTRODUCTION

### Description

The Baxi Solo is a wall mounted room sealed central heating boiler with range rated outputs as shown in the table below.

### HEAT OUTPUT

Model	Min	Max
20/4	3.22kW (11,000 Btu/h)	5.86kW (20,000 Btu/h)
30/4	6.15kW (21,000 Btu/h)	8.79kW (30,000 Btu/h)
40/4	9.09kW (31,000 Btu/h)	11.72kW (40,000 Btu/h)
50/4	12.00kW (41,000 Btu/h)	14.70kW (50,000 Btu/h)
60/4	14.95kW (51,000 Btu/h)	17.58kW (60,000 Btu/h)

Each appliance is preset at its MAXIMUM heat input rating and is designed for use on NATURAL GAS only. They are suitable for gravity domestic hot water with pumped central heating, fully pumped open vented central heating and domestic hot water and sealed systems.

The standard flue assembly supplied is suitable for wall thicknesses between 100mm (4in) and 356mm (14in). An optional flue extension kit is available for walls of 356mm (14in) and 610mm (24in) thickness. A pump housing kit is also available when it is desired to fit a central heating pump within the confines of the case.

The appliance data badge is fitted to the combustion box door, adjacent to the burner feed pipe.

#### Installation

The installation must be carried out by a competent person and be in accordance with the relevant requirements of GAS SAFETY (Installation and Use) **REGULATIONS 1984, the BUILDING REGULATIONS** (Scotland) (Consolidation), the LOCAL BUILDING **REGULATIONS**, the current I.E.E. WIRING **REGULATIONS and the bye laws of the LOCAL** WATER UNDERTAKING. It should also be in accordance with the relevant BRITISH STANDARD CODES OF PRACTICE.

### B.S. Codes of Practice

STANDARD	SCOPE
BS 6891:1988	Gas Installation.
BS 5546	Installation of hot water supplies
이지는 제품과 학교 문화들었으니?	for domestic purposes.
BS 5449 Part 1	Forced circulation hot water
	systems.
BS 6798:1987	Selection & Installation of gas
	space heating.
BS 5440 Part 1	Flues.
BS 5440 Part 2	Air Supply.

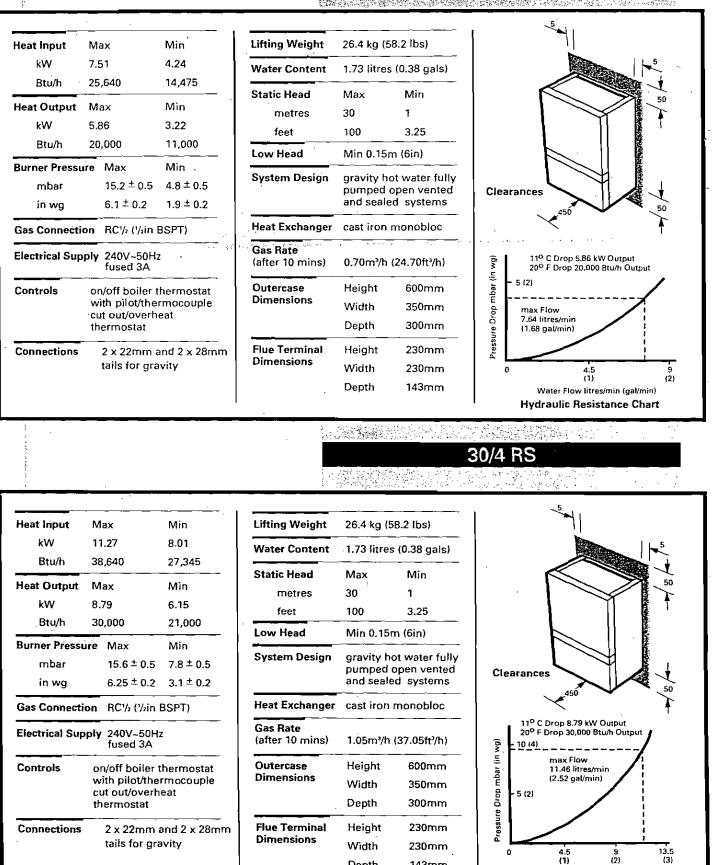
#### WARNING

The addition of anything that may interfere with the normal operation of the appliance (e.g. FLUE DAMPERS, ECONOMISERS etc) without the express written permission of BAXI could invalidate the appliance warranty and infringe the GAS SAFETY (Installation and Use) REGULATIONS 1984. 

# **TECHNICAL DATA**

### 20/4 RS

於國防衛营



Depth

143mm

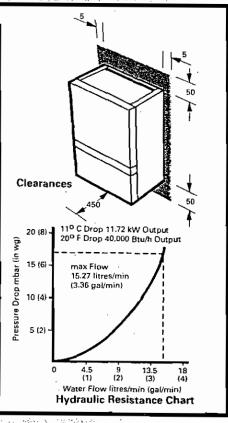
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Water Flow litres/min (gal/min) Hydraulic Resistance Chart

Heat Input	Μ	ах	Min	
kW	15	.23	11.95	
Btu/h	51	,970	40,780	
Heat Output	M	ах	Min	
kW	11	.72	9.09	
Btu/h	40	,000	31,000	
Burner Press	Ire	Max	Min	
mbar		15.4 ± 0.5	9.6 ± 0.5	
in wg		6.2 ± 0.2	3.9 ± 0.2	
Gas Connection		RC½ (½in BSPT)		
Electrical Sup	ply	240V~50Hz fused 3A		
Controls	wi cu	n/off boiler t ith pilot/the it out/overh ermostat	mocouple	
Connections	_	2 x 22mm a	nd 2 x 28n	

Lifting Weight	29.0 kg (6	63.9 lbs)
Water Content	1.85 litre	s (0.41 gals)
Static Head	Max	Min
metres	30	1
feet	100	3.25
Low Head	Min 0.20	m (8in)
System Design	pumped	ot water fully open vented ed systems
Heat Exchanger	cast iron	monobloc
Gas Rate (after 10 mins)	1,42m³/h	(50.07ft³/h)
Outercase	Height	600mm
Dimensions	Width	400mm
	Depth	300mm
Flue Terminal	Height	230mm
Dimensions	Width	230mm
	Depth	143mm

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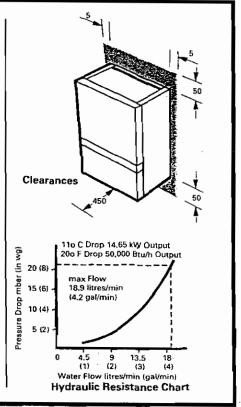
 $\tau^{\pm}$  s

40/4 RS

50/4 RS

Heat Input	M	ax	Min	
kW	19	.10	16.00	
Btu/h	65	i,D00	54,600	
Heat Output	M	ax	Min	
kW	14	.70	12.00 41,000	
Btu/h	50	,000		
Burner Pressu	re	Max	Min	
mbar		18.2 ± 0.5	12.9 ± 0.5	
ìn wg		7.3±0.2	5.2 ± 0.2	
Gas Connection		RC1/2 (1/2in BSPT)		
Electrical Sup	ρlγ	240V~50Hz fused 3A	2	
Controls	wi cu	i/off boiler t th pilot/the t out/overh ermostat	mocouple	
Connections		2 x 22mm a tails for gra	ind 2 x 28m vity	

		-		
Lifting Weight	32.1 kg (70.8 lbs)			
Water Content	2.4 litres (0.53 gals)			
Static Head	Max	Min		
metres	30	1		
feet	100	3.25		
Low Head	Min 0.15	m (6in)		
System Design	gravity hot water fully pumped open vented and sealed systems			
Heat Exchanger	cast iron	monobloc		
Gas Rate (after 10 mins)	 1.77m³∕h	(62.55ft³/h)		
Outercase	Height	600mm		
Dimensions	Width	450mm		
	Depth	300mm		
Flue Terminal	Height	241mm		
Dimensions	Width	307mm		
	Depth	143mm		



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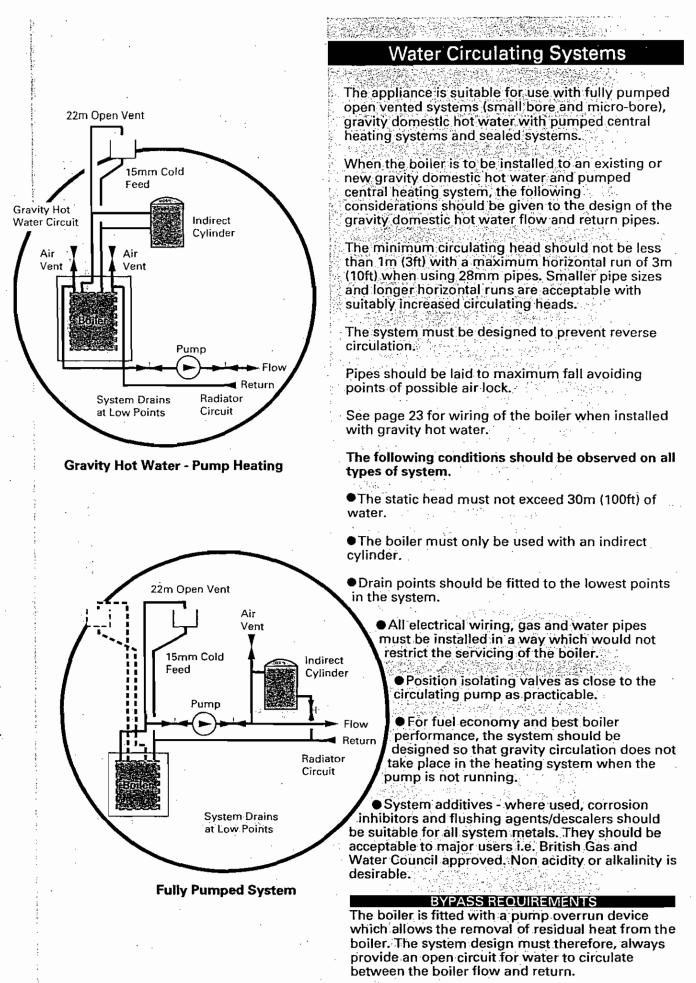
Heat Input	Max	Min	Lifting Weight	35.5 kg (7	78.0 lbs)		1
kW Btu/h	23.07 78,740	19.83 67,640	Water Content	2.76 litre	s (0.61 gals)		
Heat Output	 Max	 Min	Static Head	Max	Min		
kW	17.58	14.95	metres	30	1		
Btu/h	60,000	51,000	feet	100	3.25		
			Low Head	Min 0.15	m (6in)		
Burner Pressu mbar in wg	re Max 17.7 ± 0.5 7.1 ± 0.2	Min 13.1 ± 0.5 5.3 ± 0.2	System Design	pumped	ot water fully open vented ed systems	Clearances	450
Gas Connectio	on RC1/2 (1/2in	BSPT)	Heat Exchanger	cast iron	monobloc		C Drop 17.58 k
Electrical Sup	ply 240V~50H fused 3A	2	Gas Rate (after 10 mins)	2.15m³/h	(75.86ft³/h)		max Flow 22.7 litres/min
Controls	on/off boiler t	hermostat	Outercase	Height	600mm	25 (10) -	(5.0 gal/min)
	with pilot/the cut out/overh		Dimensions	Width	470mm	년 20(8) -	
	thermostat	-		Depth	320mm	20 (8) - 20 (8) - 15 (6) - 21 (4) - 25 (2) -	/
Connections	2 x 22mm a	and 2 x 28mm	Flue Terminal	Height	241mm	4, 5 (2) -	
	tails for gra	ivity	Dimensions	Width	307mm		45 0 125
.5				Depth	172mm		4.5 9 13.5 (1) (2) (3)

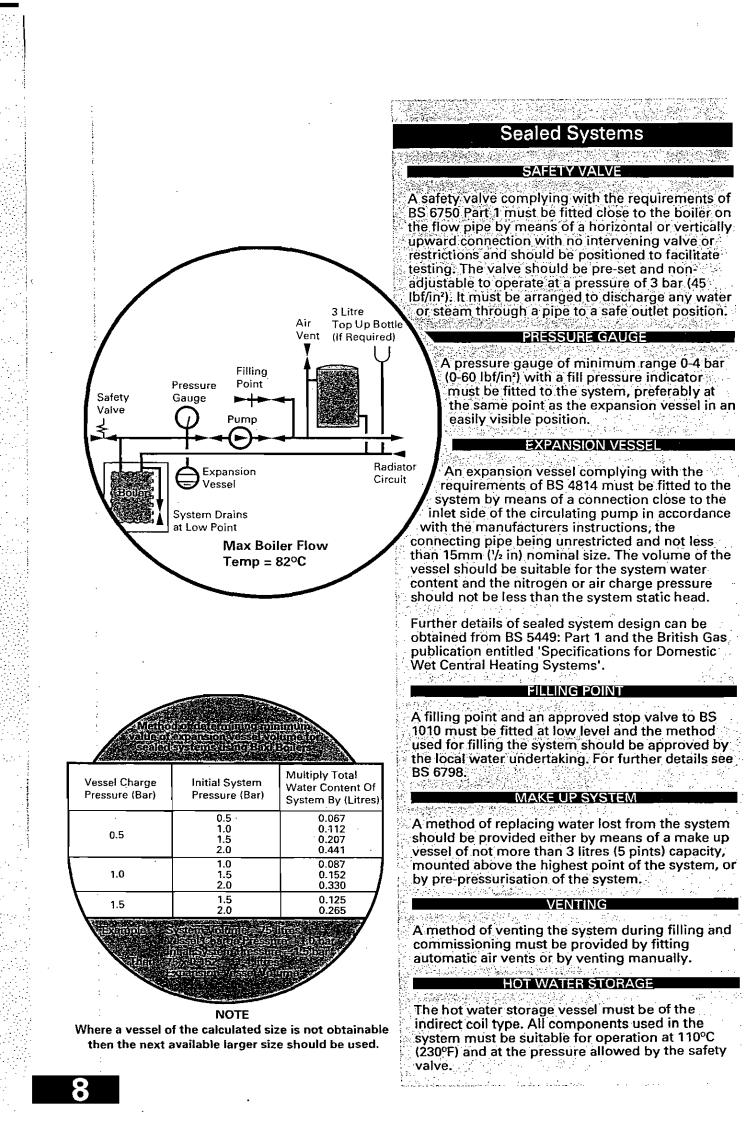
60/4 RS

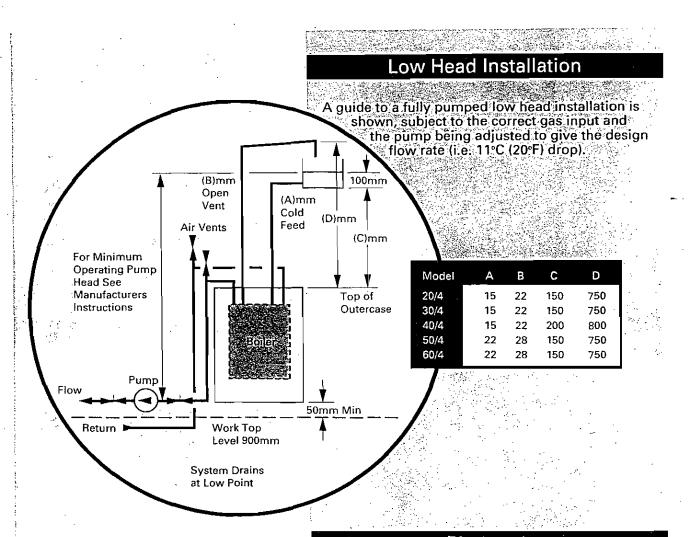
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### SYSTEM DETAILS







#### Pipework

The sizes of flow and return pipes from the boiler should be determined by normal methods, according to the requirements of the system.

An 11°C (20°F) drop across the system is recommended.

### System Controls

For optimum operating conditions, the heating system into which the boiler is installed should include a control system.

Such a system would normally comprise of timer control and separate room or cylinder thermostat as appropriate.

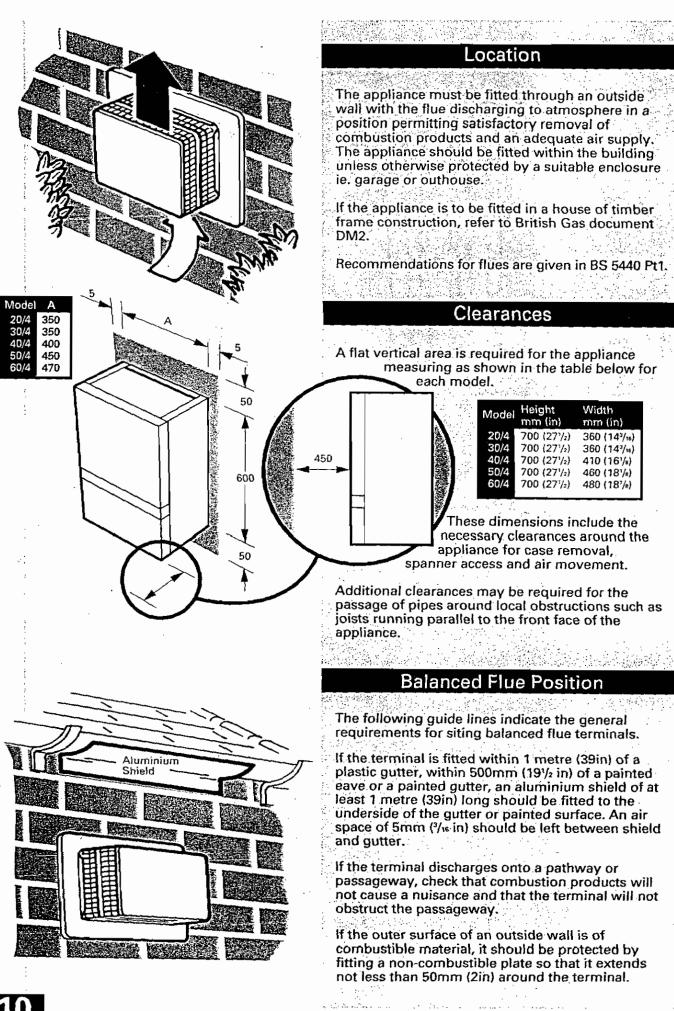
The boiler should be controlled so that it operates on demand only.

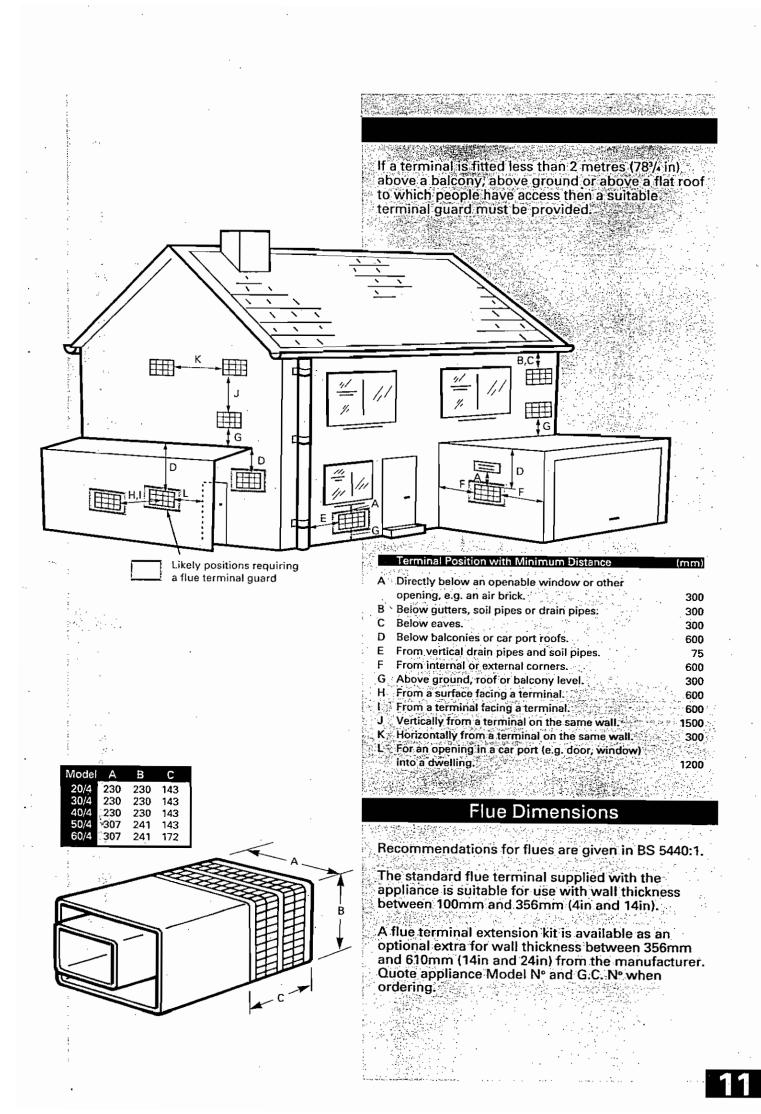
Operation of the system under control of the boiler thermostat only, does not produce the best results.

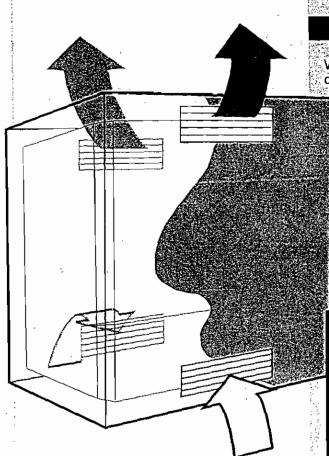
Reference should be made to control equipment manufacturers literature for information e.g. wiring diagrams; etc.

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# SITE REQUIREMENTS







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Ventilation of Compartments

Where the appliance is installed in a cupboard or compartment, air vents are required (for cooling purposes) in the cupboard or compartment at high and low level which may communicate with a room or direct to outside air.

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

An existing cupboard or compartment may be used, provided that it is modified for the purpose. Recommendations for air supplies and details of essential cupboard compartment design are given in BS 5440: Part 2.

NOTE: Both air vents must communicate with the same room or both be on the same wall to outside air.

Model	Position of	Air from	Air direct
	Air Vent	Room	from Outside
20/4	HIGH AND	67,59cm <sup>2</sup> FREE AREA	33.80cm² FREE AREA
	LOW LEVEL	(10.26in <sup>2</sup> )	(5.13in²)
30/4	HIGH AND	101.43cm <sup>2</sup> FREE AREA	50.72cm² FREE AREA
	LOW LEVEL	(15.38in <sup>2</sup> )	(7.69in²)
40/4	HIGH AND	137.07cm² FREE AREA (20.78in²)	68.54cm² FREE AREA (10.39in²)
50/4	HIGH AND	175cm <sup>2</sup> FREE AREA	87.5cm <sup>2</sup> FREE AREA
	LOW LEVEL	(27in <sup>2</sup> )	(13.5in <sup>2</sup> )
60/4	HIGH AND	207.63cm² FREE AREA (31.5in²)	103.82cm²FREE AREA (15.75 in²)

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### Gas Supply

The gas installation should be in accordance with BS 6891 : 1988.

The connection on the appliance is RC<sup>1</sup>/<sub>2</sub> (<sup>1</sup>/<sub>2</sub> in BSPT internal) located at the bottom right hand side of the appliance.

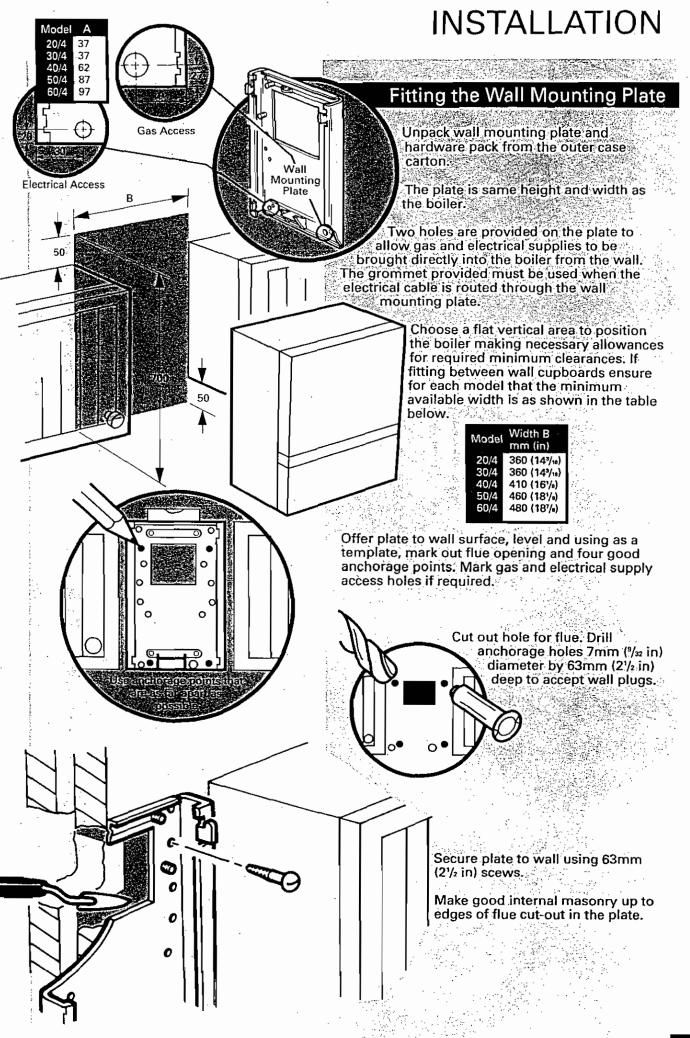
Ensure that the pipework from the meter to the appliance is of adequate size. Do not use pipes of a smaller diameter than the appliance gas connection.

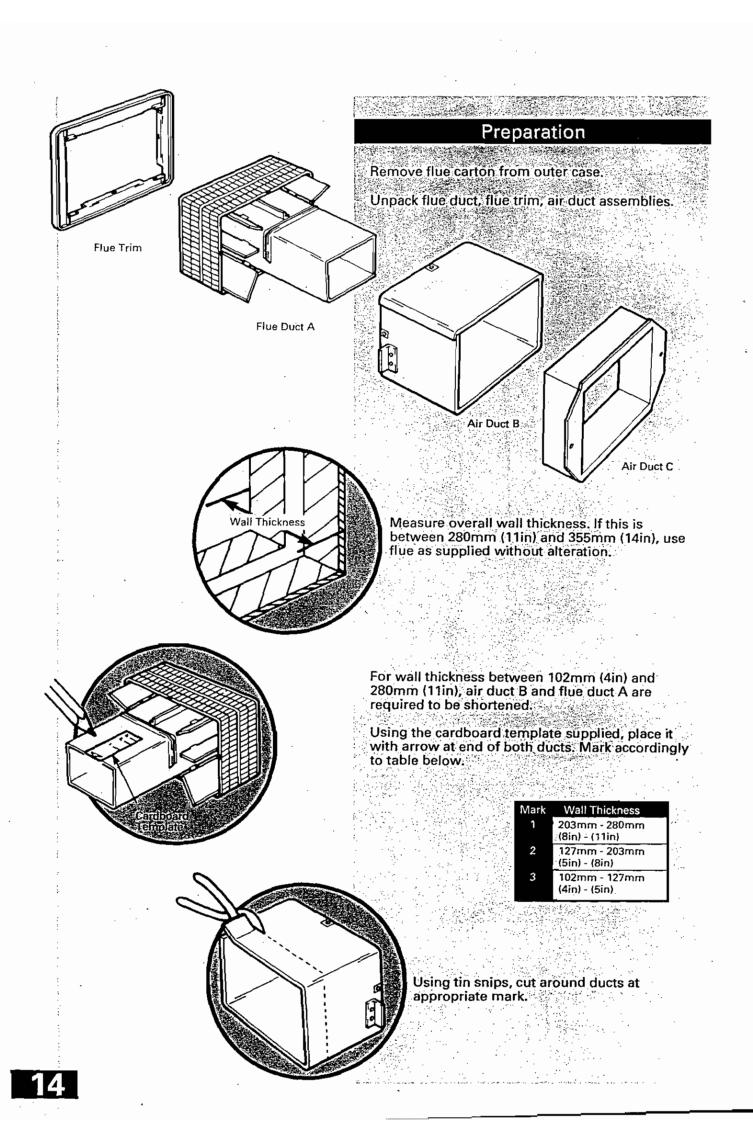
### Electrical Supply

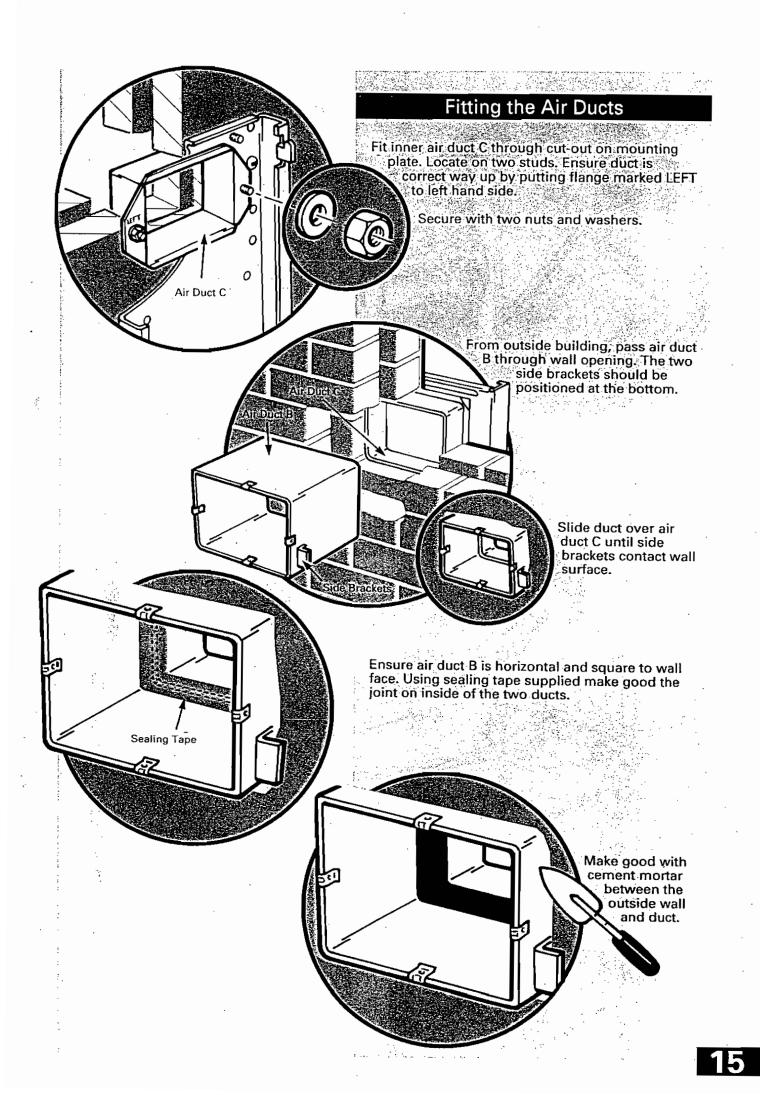
External wiring must be correcty earthed, polarized and in accordance with CURRENT I.E.E. WIRING REGULATIONS

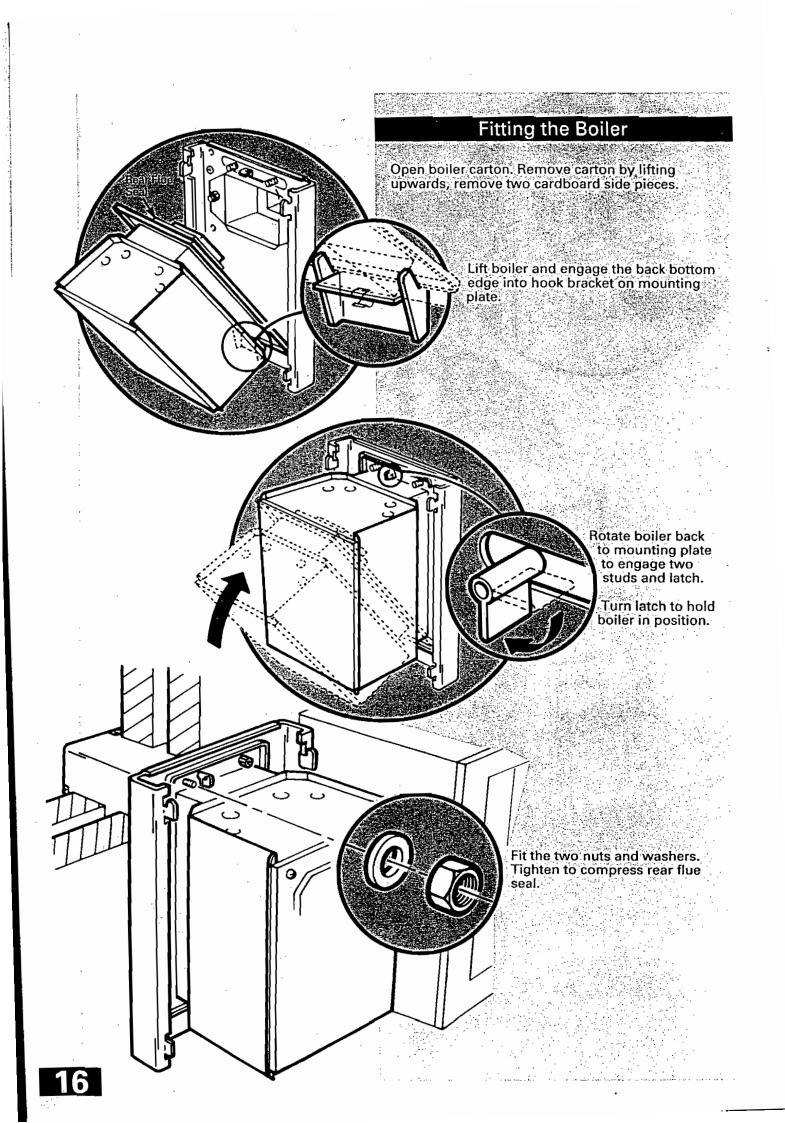
The mains supply is 240V ~ 50Hz fused at 3A. NOTE: The method of connection to the electricity supply must facilitate complete electrical isolation of the appliance, preferably by the use of a fused three pin plug and unswitched shuttered socket outlet, both complying with the requirements of BS 1363. Alternatively, connection may be made via a fused double-pole isolator with a contact separation of a least 3mm in all poles and serving the appliance and system controls only.

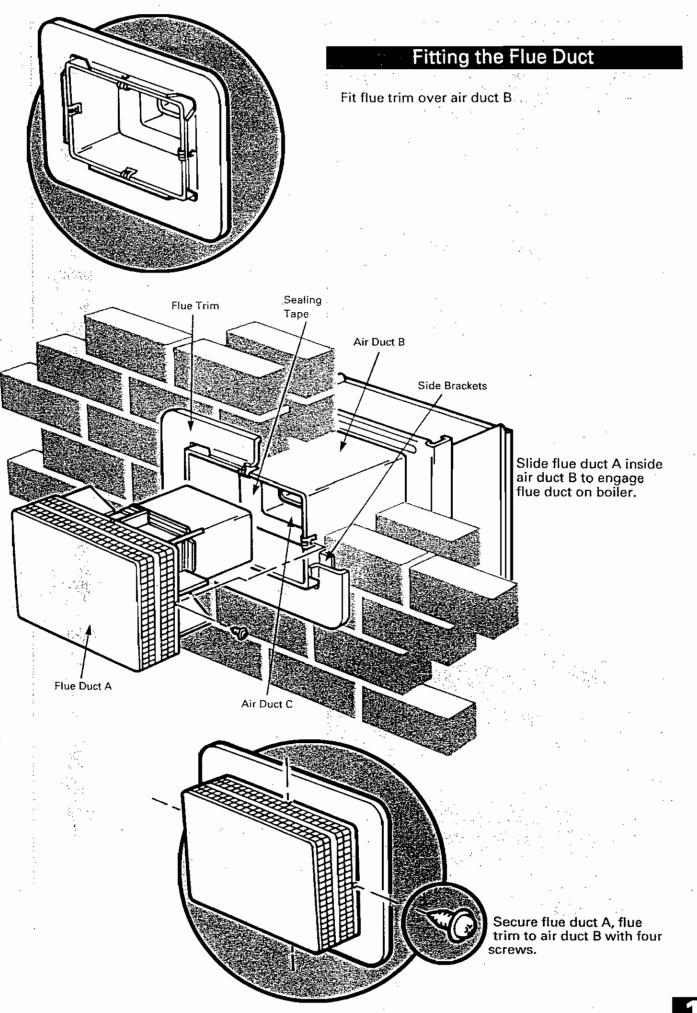
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### **Terminal Guard**

When codes of practice dictate the use of terminal guards, they can be obtained from most plumbers and builders merchants nationwide.

When ordering a terminal guard, quote the appliance model number.

The guard manufacturers listed below can be contacted for terminal sizes and guard model numbers.

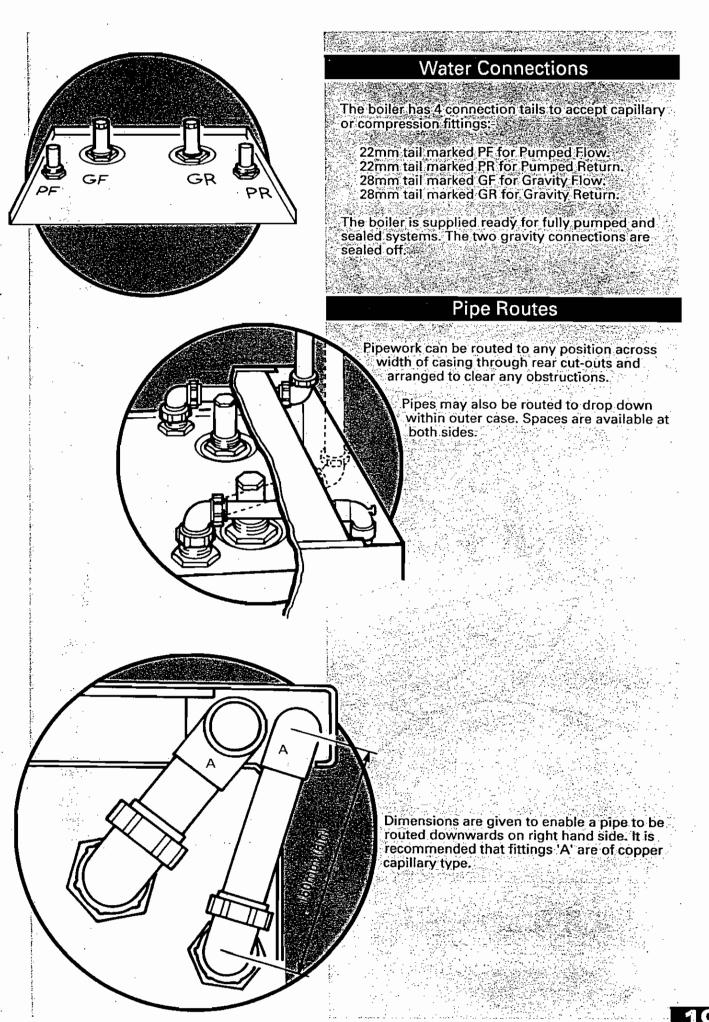
Quinnell, Barrett & Quinnell, 884 Old Kent Road, London, SE15 1NL. Tel: 071 639 1357.

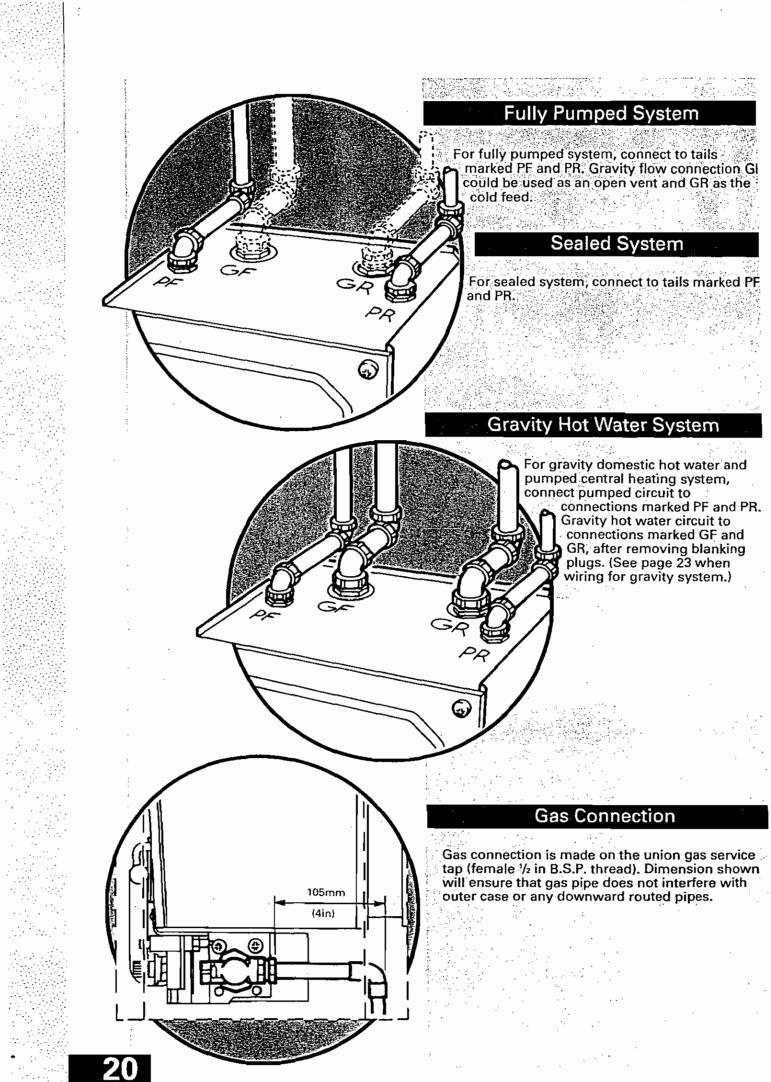
Tower Flue Components Ltd., Tower House, Vale Rise, Tonbridge, Kent. Tel: 0732 351555

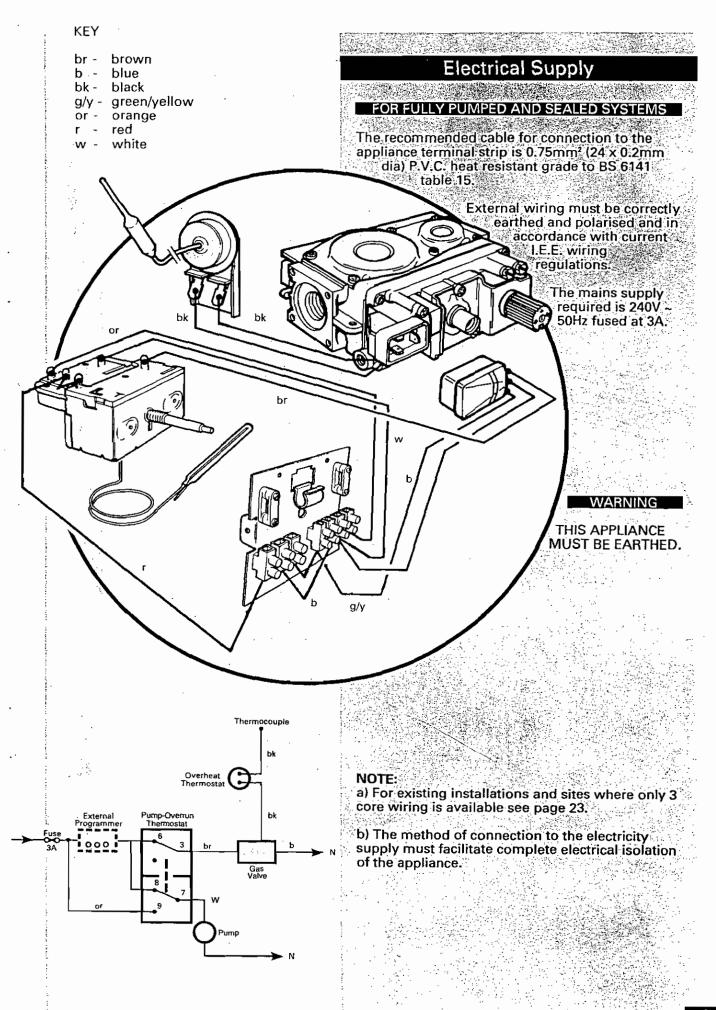
### Fitting a Terminal Guard

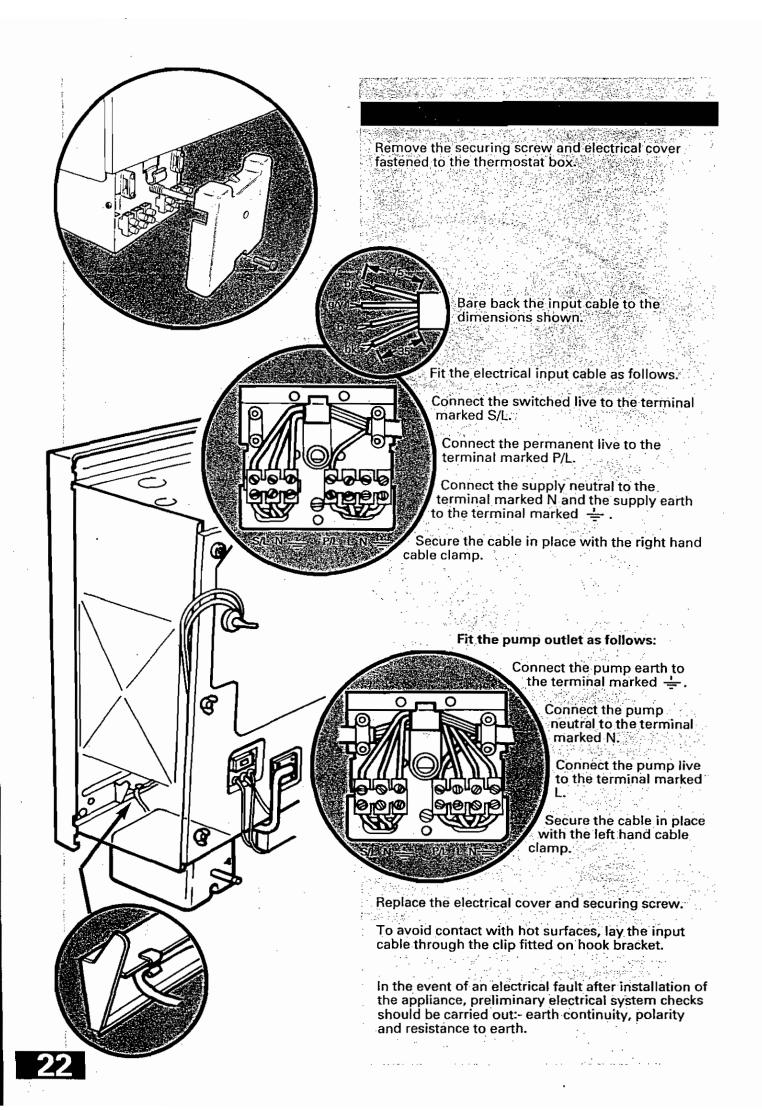
Position the guard over the terminal on the outside wall. Ensure guard is equally spaced a about terminal. Mark fixing positions.

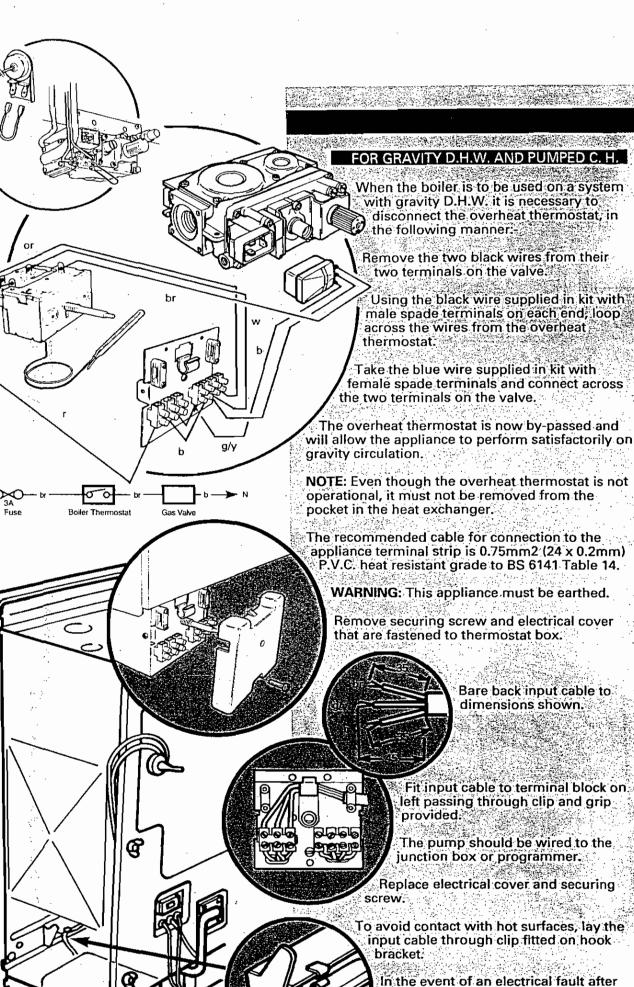
Drill and plug fixing positions, then secure guard to wall.





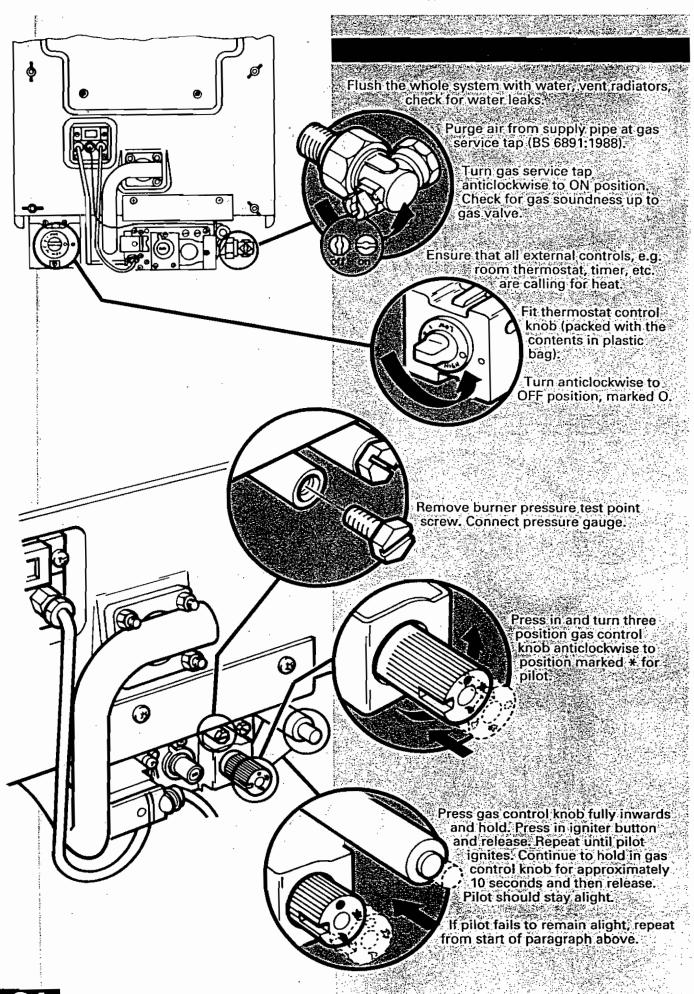


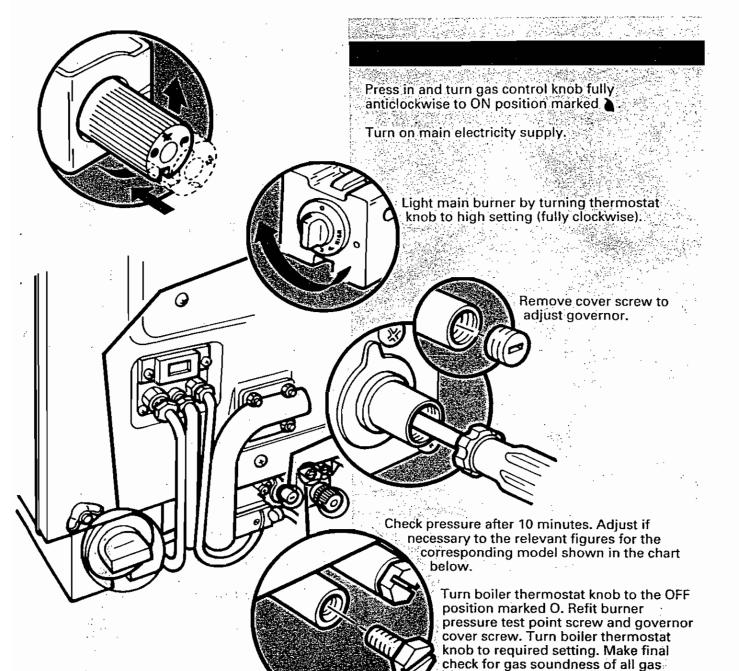




In the event of an electrical fault after installation of the appliance, preliminary electrical system checks should be carried:- earth continuity, polarity and resistance to earth.

# COMMISSIONING THE APPLIANCE





el		Input		Setting Pre		Cha
		kW	Btu/h	mbar	in wg	Cheo cont
	Maximum	7.51	25,640	15.2 ± 0.5	6.1 ± 0.2	burn
	Intermediate	5.71	19,483	8.8±0.5	3.5 ± 0.2	posi
	Minimum	4.24	14.475	4.8±0.5	1.9 ± 0.2	retu
	Maximum	11.27	38,460	15.6 ± 0.5	6.25 ± 0.2	inter
	Intermediate	9.47	32,300	11.0±0.5	4.4 ± 0.2	take
	Minimum	8.01	27,345	7.8±0.5	3.1 ± 0.2	relit
	Maximum	15.23	51,970	15.4 ± 0.5	6.2 ± 0.2	6
	Intermediate	13.41	45,750	12.0 ± 0.5	4.8 ± 0.2	The
	Minimum	11.95	40,780	9.6 ± 0.5	3.9 ± 0.2	then
	Maximum	19.10	65,000	18.2 ± 0.5	7.3 ± 0.2	
	Intermediate	17.30	59,200	15.6 ± 0.5	6.2 ± 0.2	Set
	Minimum	16.00	54,600	12.9 ± 0.5	5.2 ± 0.2	
	Maximum	23.07	78,740	17.7 ± 0.5	7.1±0.2	Set
	Intermediate	21.27	75,560	14.8 ± 0.5	5.9 ± 0.2	Set

19.83 67,640

13.1 ± 0.5 5.3 ± 0.2

Mod

20/4

30/4

40/4

50/4

60/4

Minimum

Check operation of flame failure device. Turn gas control knob to pilot position marked \*, main burner will go out. Turn gas control knob to OFF position marked O, control knob cannot be returned to pilot position until ignition restart interlock device in gas valve has disengaged. This takes 60 seconds approximately. Pilot must not be relit for 3 minutes after shut down.

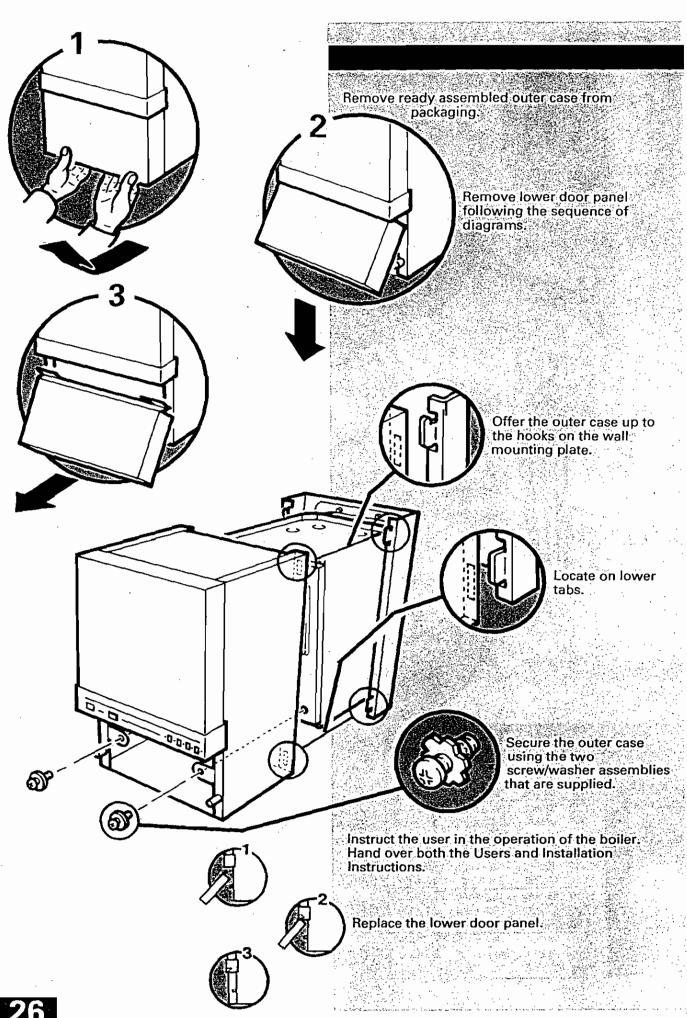
carrying joints on boiler.

The system should be flushed again when hot and then refilled. Vent radiators, check for water leaks.

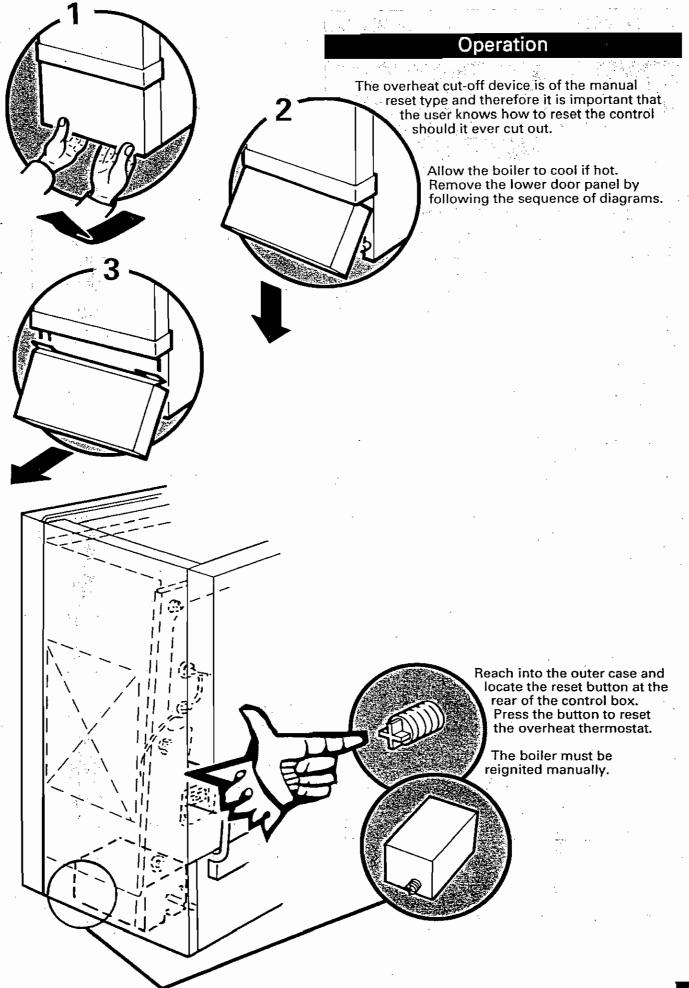
Set pointer on data label to input setting.

Set timer, room thermostat, cylinder thermostat to customer's requirements.

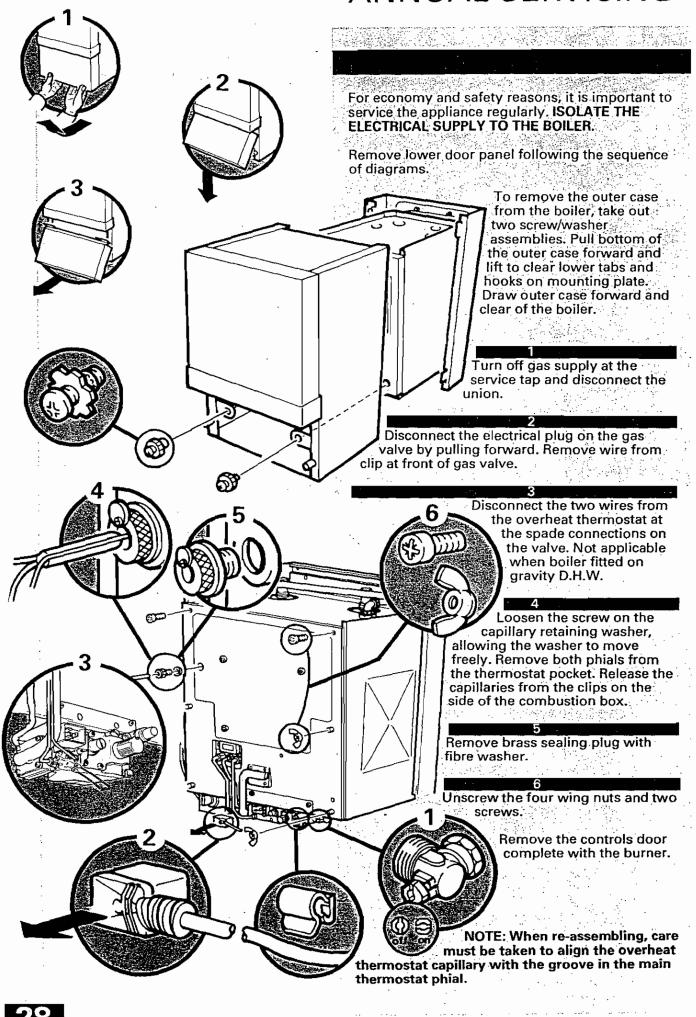
## FITTING THE OUTER CASE

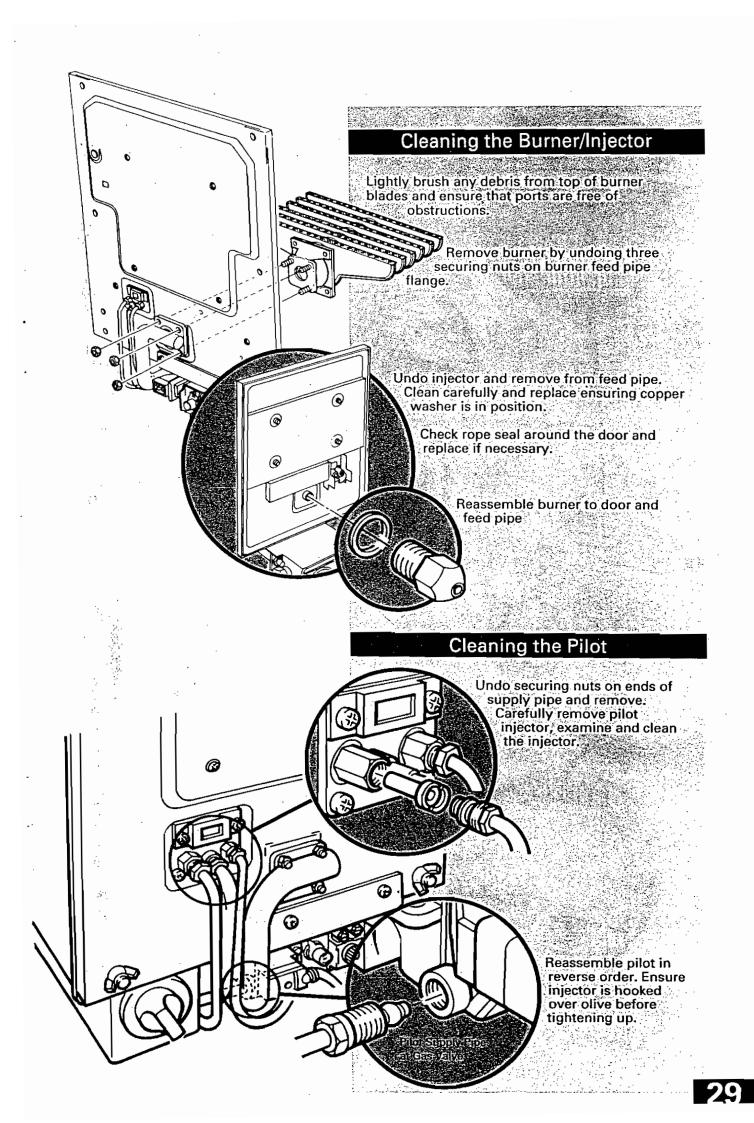


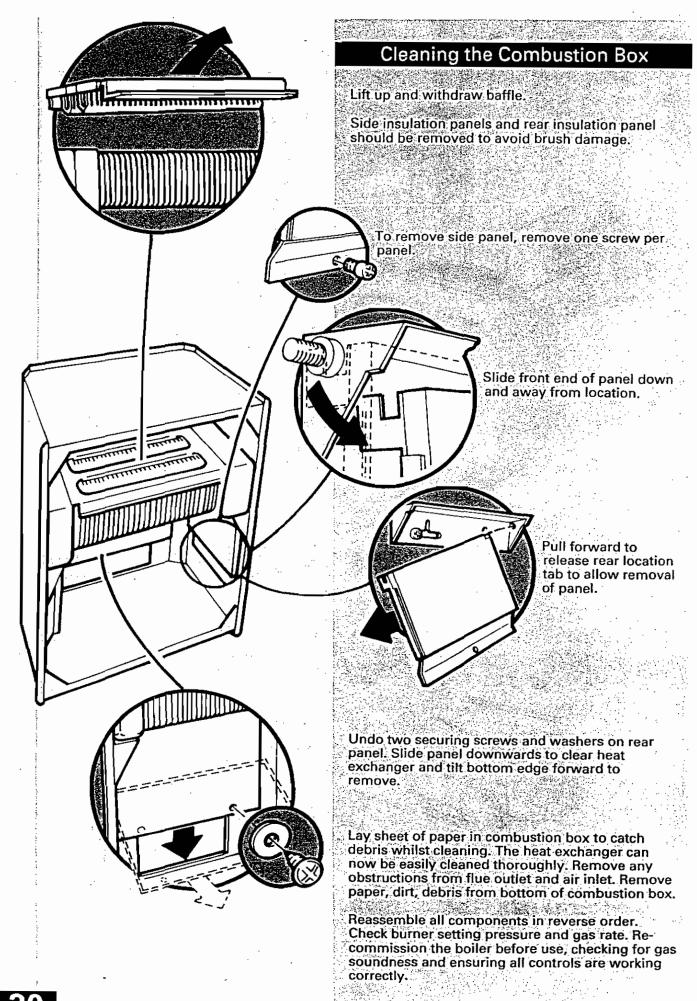
### **OVERHEAT CUT-OFF DEVICE**



# ANNUAL SERVICING







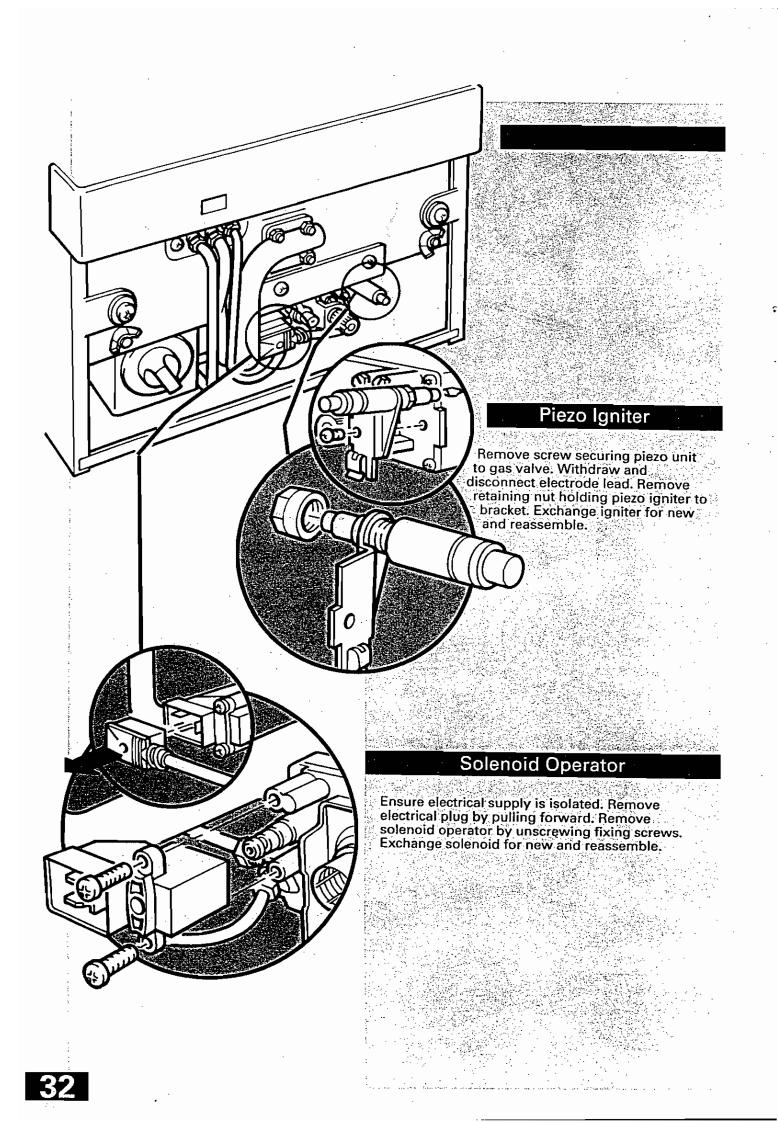
# CHANGING COMPONENTS

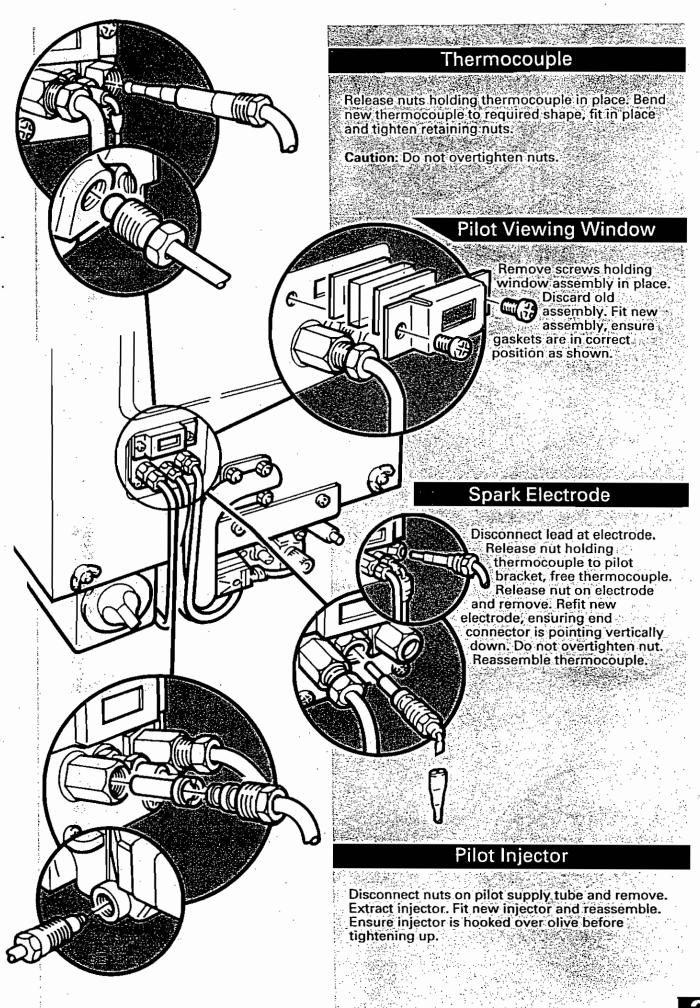
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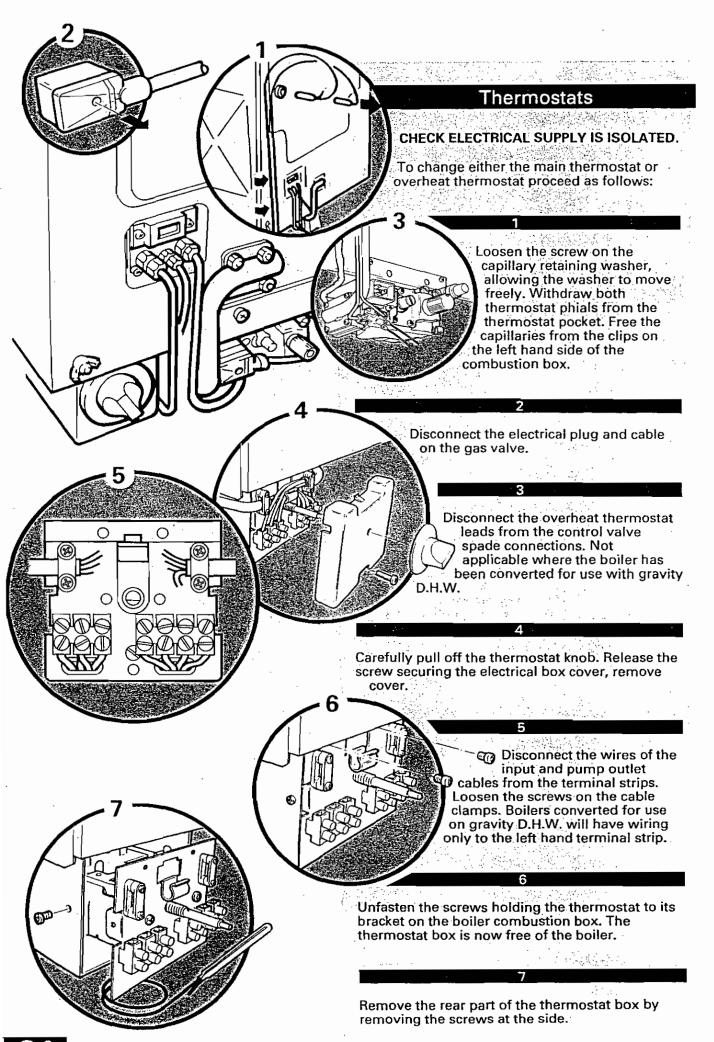
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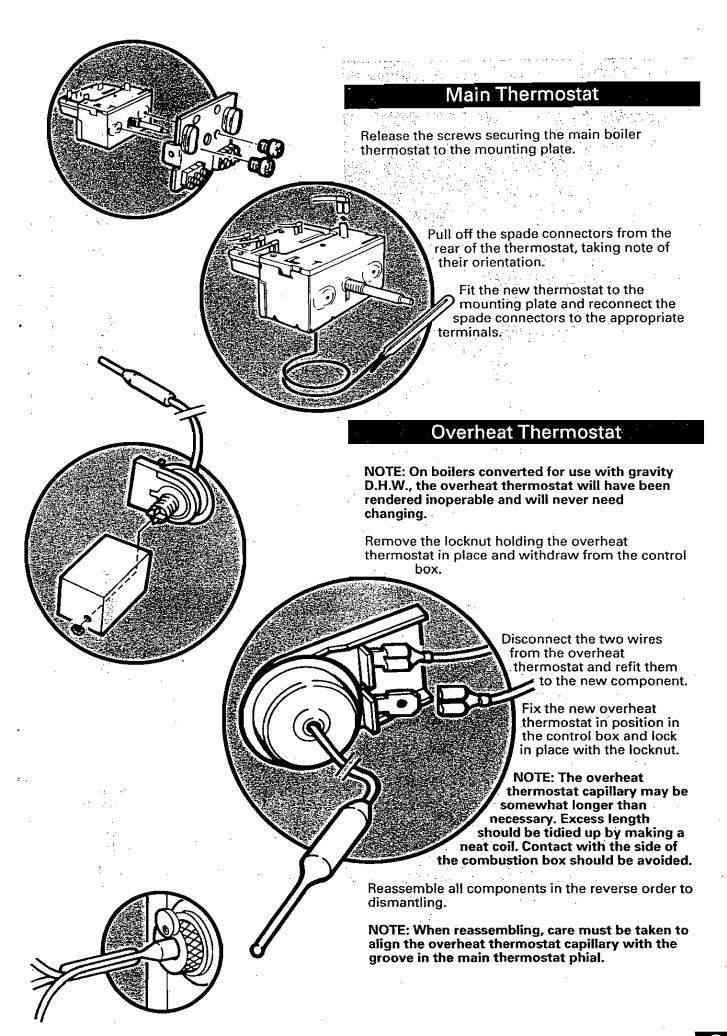
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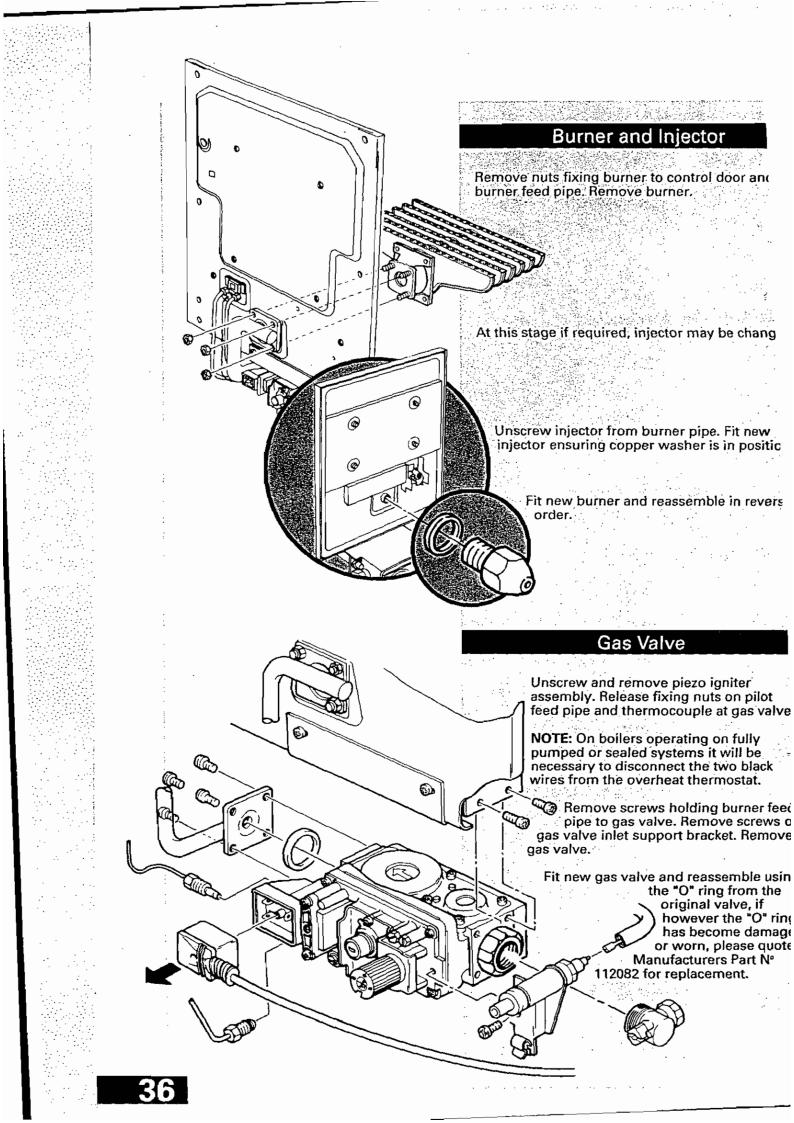
1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 -When changing components ensure that electrical and gas supplies are isolated. To change piezo igniter, soleniod operator, thermocouple, remove outer case door panel as shown. To change pilot viewing window, spark electrode, pilot injector and thermostats, remove outer case door panel. Remove outer case from boiler by taking out two screw/washer assemblies. Lift and draw outer case forward to clear location hooks and tabs. To change burner, injector, gas valve and insulation panels, remove outer case and controls door. Disconnect the gas union. 2  $\mathfrak{O}$ Disconnect the electrical plug and cable on the gas valve. Pull clip at front of gas valve forward and ease wire from clip. Disconnect the two wires from the overheat thermostat at the spade connections on the valve. 6)-Not applicable to boilers converted for use on gravity D.H.W. systems. Ð 4 Loosen the screw on the capillary retaining washer, allowing the washer to move freely. Remove both phials from the thermostat pocket. 5 Remove brass sealing plug with fibre washer. Unscrew the four wing nuts and two screws. NOTE: In the unlikely event of the heat exchanger casting or the heat exchanger baffle needing replacement, these items may be ordered directly from BAXI, stating the Model Nº and the Serial Nº of the appliance.

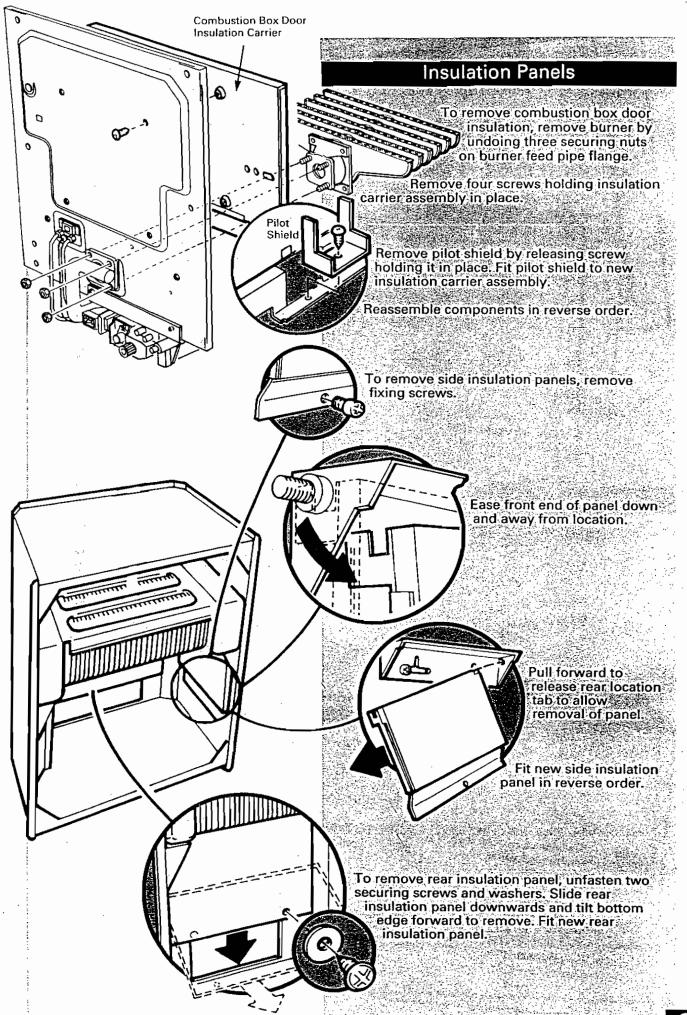




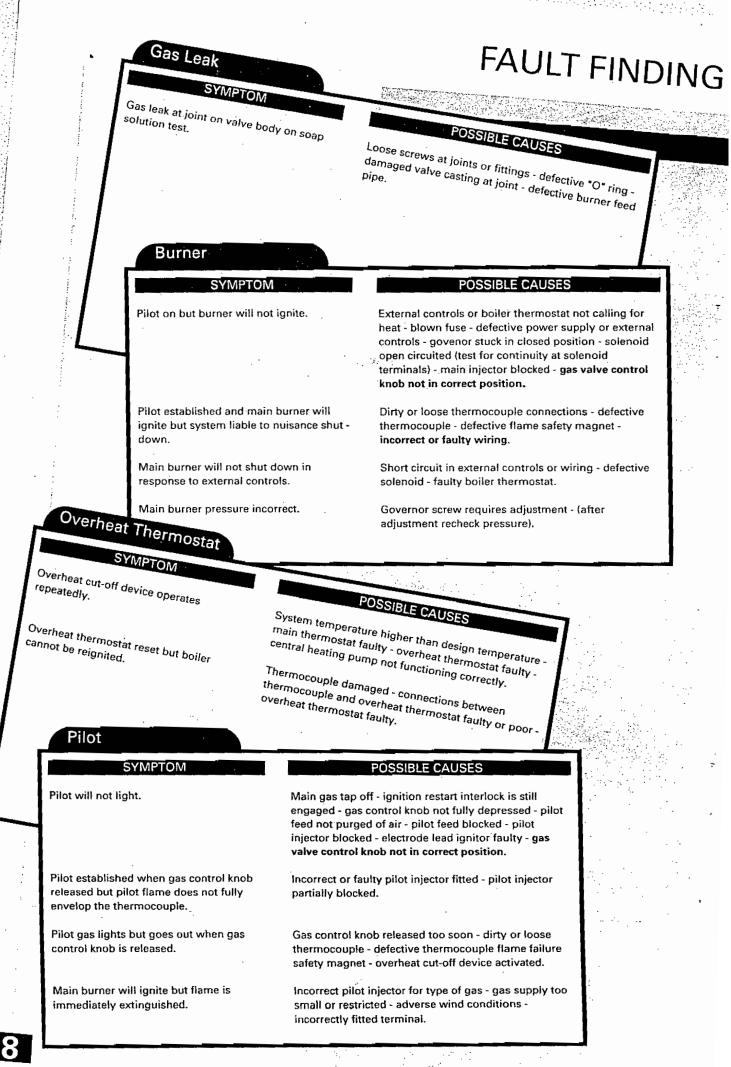


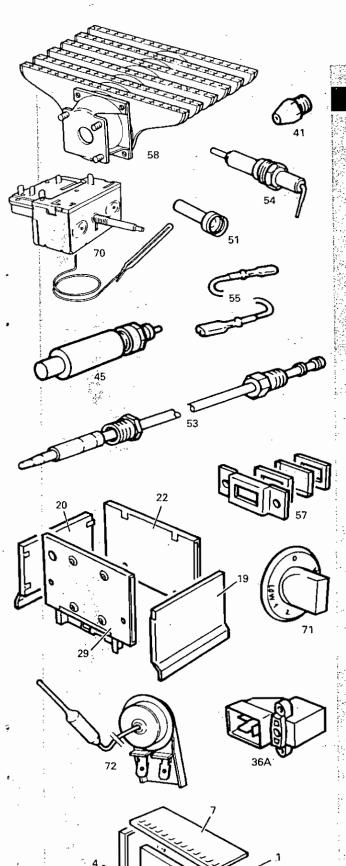


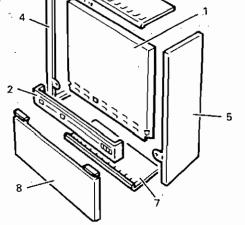




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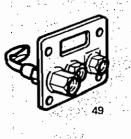


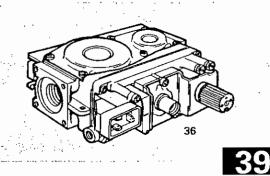




# SHORT PARTS LIST

γ	Description	Model	G.C. N⁰	Manuf'rs Part N⁰
зў.;				
	Panel Front	20/4-30/4	364 641	225306
6 2 A U		40/4	364 700	
		50/4	364 754	225319
17		60/4	364 775	225324
2	Trim Facia Assy	20/4-30/4	364 686	225859
		40/4	364 701	
4		50/4	364 755	225861
		60/4	364 816	225862
- 45	Panel Side Assy LH	All models	364 643	225302
	Panel Side Assy RH	All models	364 644	225304
	Panel Top & Bottom -:	20/4-30/4	364 646	5 224137
5		40/4	364 584	224139
		50/4	364 756	e geogra de la companya de la company
		60/4	364 817	225866
ani. Gel	Panel Door Lower	20/4-30/4	364 647	4.4.7
	Assy	40/4	364 702	21.8
		50/4	364 75	
		60/4	364 817	and the second
r,	Insulation Side Assy	All models	364 65	
	BH .			
)	Insulation Side Assy	20/4-30/4	364 65	6 226529
•••	LH	40/4-50/4	364 70	• ;
·		60/4	364 70	
2	Insulation Rear Assy	20/4-30/4	364 65	•
•	insulation real 7.55y	40/4	364 71	
		50/4	364 76	
	· .	60/4	364 82	
Э.	Insulation Door Assy	20/4-30/4	364 66	
	Insulation Door Assy	40/4	· 364 71	
4		50/4	364 76	
		50/4 60/4	364 82	
	Value Central SIT	· · ·		· · ·
3	Valve Control SIT	All models All models	381 62	
	Solenoid		364 83	
1	Injector Boiler	20/4	386 63	
		30/4	386 62	
		40/4	386 62	
		50/4	386 63	
<b>.</b> .		60/4	386 63	
5	Kit Piezo Igniter	All models	364 68	
9	Burner Pilot	All models	386 62	
1	Injector Pilot	All models	392 93	
	Thermocouple	All models	386 63	1
	Electrode Pilot	All models	386 62	7 225498
	Ignition			
~ '	Lead Electrode	All models	364 74	
7	Kit Window Viewing	All models	and a second second	
B	Burner Boiler	20/4-30/4	364 57	
ļ		40/4	364 57	
`		50/4-60/4	364 57	
0	Thermostat Boiler	All models	397 87	4 227786
	Knob Thermostat	All models	364 68	5 226821
2 ·	Thermostat Overheat	All models	397 87	5 227799





Baxi is one of the leading manufacturers of domestic heating products in the U.K.

Our first priority is to give a high quality service to our customers: Quality is built into every Baxi product - products which fulfil the demands and needs of modern consumers, offering choice, efficiency and reliability.

To keep ahead of changing trends, we have made a commitment to develop new ideas using the latest technology - with the aim to continue making the products that customers want to buy.

Baxi is also the largest manufacturing partnership in the country. Everyone who works at the company has a commitment to quality because, as shareholders, we know that satisfied customers mean continued success.

We hope you get a satisfactory service from Baxi. If not, please let us know.

BS 5750 Company

ΔX



Safety & Performance

BAXI manufacture a comprehensive range of products for the domestic heating market

> Gas Central Heating Boilers (Wall, Floor and Fireside models).

> > Independent Gas Fires.

**Renewal Firefronts.** 

Gas Wall Heaters.

Solid Fuel Fires

If you require information on any of these products, please write to the Sales Department at the address below.



Brownedge Road Bamber Bridge Preston Lancashire PR5 6SN Main Switchboard 0772 695555, Order Office 0772 695454 Literature Office 0772 695500, Technical Enquiries 0772 695504