IDEAL MEXICO SUPER RS 30/40 & 40/60 Balanced Flue Gas Boilers Installation & Servicing

CAUTION:

zin.

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

B.G.C. Appliance No.'s IDEAL MEXICO SUPER

RS 30/40 41 415 24 RS 40/60 41 415 25

NOTE: The appliances are for use with NATURAL GAS ONLY.

NOTE TO INSTALLER:

LEAVE THESE INSTRUCTIONS ADJACENT TO THE GAS METER

Table 1		GENERAL DATA	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Boiler Size		RS. 30/40	RS. 40/60			
Main Burner Bar		AEROMATIC 19/123224 AEROMATIC 19/1				
Gas Control		3/8" BS	P composit			
		0680006	5 240V 50 Hz			
Burner Injector		Bray Cat. 23 size 1150	Bray Cat. 23 size 1700			
Pilot Injector		◆ S.I.T. 11	77 113 No.27 —			
Gas Supply Connection			Rc½			
in, BSP		←				
Flow Connections		Rc1				
in, BSP		11				
Return Connections		◀ Rc1				
	in. BSP	1				
Minimum Static Water Head	m	-	1 -			
	ft.	4	3.3			
Maximum Static Water Head	m	4	30.5			
	ft,-	100				
Electric Supply		4 220/240	volt. 50 Hz			
External Fuse Rating			3 amp			
Water Content	litre	5.0	7.4			
	gal.	1.1	1.6			
Dry Weight	kg	70.4	92.4			
	lb	164.5	203			



PERFORMANCE DATA	TABLE 2		RS, 30/40	RS. 40/60
	min.	kW Btu/h x 1 000	12.04 41 100	15.02 57 300
Boiler	mid.	kW Btu/h x 1 000	13,86 47 300	19 . 00 64 800
Input *	max.	kW Btu/h x 1 000	15,63 53 300	22,54 76 900
	min.	kW Btu/h x 1 000	8.79 30 000	11,72 40 000
Boiler Output to Water	mid.	kW Btu/h x 1 000	10,26 35 000	14.65 50 000
	max.	kW Btu/h x 1 000	11.72 40 000	17.58 60 000
	min	mbar. (gauge) in. w.g.	8,3 3,3	6.7 2.7
Burner Setting	mid.	mbar. (gauge) in. w.g.	11.1 4.4	10,0 4,0
Pressure (hot)	max.	mbar (gauge) in. w.g.	14,3 5,7	13.9 5.6

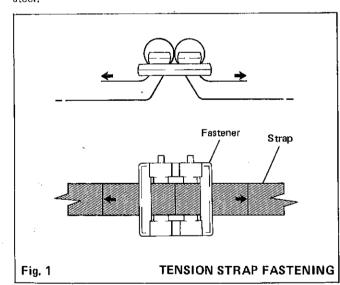
Note:

* To obtain gas consumption (a) in cu. ft/h — divide heat input (Btu/h) by C.V. of the Gas (Btu/cu.ft). (b) in litres/second — divide heat input (kW) by C.V. of the gas (MJ/m³).

INTRODUCTION

The IDEAL MEXICO SUPER's 30/40 and 40/60 are floor standing, balanced flued gas boilers, range rated, having outputs from 8.8kW to 17.6kW (30 000 Btu/h) to 60 000 Btu/h).

The boilers have a cast iron heat exchanger, with an insulating blanket of aluminium foil backed fibreglass, held in place by a securing strap — refer Fig. 1, and come fully assembled, complete with casing in White enamelled mild steel.



The boiler thermostat is located behind a sliding plastic panel on the upper front panel.

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.

A pump kit, which fits neatly inside the boiler casing, is available as an OPTIONAL EXTRA.

Full fitting instructions are included with the kit.

A De Luxe conversion kit, containing a central heating and DHW programmer is available as an OPTIONAL EXTRA across the range and includes full fitting instructions.

IMPORTANT:

This appliance range is certified by the British Standards Institute for safety and performance. It is, therefore, important that no external control devicese.g. flue dampers, economisers, etc., — be directly connected to this appliance unless covered by these 'Installation and Servicing' instructions or otherwise recommended by Stelrad Group Ltd., in writing. If in doubt please enquire.

Any direct connection of a control device not approved by Stelrad Group Ltd., could invalidate the B.S.I. certification and the normal appliance warranty and could also infringe the Gas Safety Regulations.

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 I.E.E. Regulations, the by-laws of the Local Water Undertaking, any relevant requirements of the Local Gas Region and the Local Authority, and the relevant recommendations of the following British Standards:

Codes of Practice:

CP.331:3 Low pressure installation pipes.

BS.5376:2 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).

Manufacturer's 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 may be installed in any room, although particular attention is drawn to the requirements of the I.E.E. 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 containing a bath or shower.

Where the installation of the boiler will be in an unusual location, special procedures may be necessary and BS.5376:2 gives detailed guidance on this aspect.

A compartment used to enclose the boiler must be designed and constructed specifically for this purpose. An existing cupboard or compartment may be used, provided that it is modified for the purpose.

Details of essential features of cupboard/compartment design, including airing cupboard installations, are given in BS.5376:2.

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

- The position selected for installation MUST allow adequate space for servicing in front of the boiler.
 Side clearance is only necessary for installation.
 The amount of side clearance will depend on the type of connections used.
- 2. This position MUST also permit the provision of a satisfactory balanced 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.

An existing service pipe must NOT be used without prior consultation with the Local Gas Region.

A gas meter is connected to the service by the Local Gas Region or a Local Gas Region Contractor.

An existing meter should be checked, preferably by the Gas Region, to ensure that the meter is adequate to deal with the rate of gas supply required.

Installation pipes should be fitted in accordance with CP,331:3.

Pipe work from the meter to the boiler MUST be of adequate size.

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

Long runs of gas pipework may need a larger pipe size than the boiler gas connection.

The complete installation MUST be tested for soundness as described in CP.331:3.

FLUING

Detailed recommendations for fluing are given in BS.5440:1. The following notes are intended for general guidance.

- The boiler MUST be installed so that the terminal is exposed to the 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 below:

	TERMINAL POSITION	Minimum Spacing Natural Draught
	Directly below an openable window, air vent or any other ventilation opening.	300mm (12in)
	Below guttering, eaves, drain-pipes or soil pipes	300mm (12in)
3,	Below balconies	600mm (24in)
4.	Above adjacent ground or balcony level	300mm (12in)
	From vertical drain pipes or soil pipes.	75mm (3in)
6.	From internal or external corners.	600mm (24in)
7.	From a surface facing the terminal.	600mm (24in)
8.	From a terminal facing the terminal.	600mm (24in)

If the terminal is fitted within 850mm of a plastic or painted gutter or 450mm of painted eaves, an alluminium shield of at least 750mm long should be fitted to the underside of the gutter or painted surface.

4. Where the lowest part of the terminal is less than 2m (6.6ft) above the level of any ground, balcony, flat roof or place to which people have access, the terminal MUST be protected by a guard of suitable material.

The dimensions of the guard shall be such that, when fitted in accordance with the Manufacturer's instructions, it shall be at least 50mm (2in) from any part of the terminal, NOT including the wall plate.

The guard shall NOT have any sharp edges likely to cause injury, nor shall any opening permit the entry of a ball of 16mm (5/8in) diameter under a force of 5N.

The material finish and mechanical strength of the guard shall be such as to ensure a reasonable life in normal working conditions.

The guard shall NOT affect the performance of the appliance.

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.The air inlet/products outlet duct, and the terminal of the boiler MUST be NOT closer than 50mm (2in) to combustible material.

Detailed recommendations on protection of combustible material are quoted in BS,5440:1.

BOILER TERMINAL

The terminal box of the balanced flue, with the addition, if necessary, of a duct extension, can be adapted to accommodate various wall thicknesses — refer 'Packaging'.

AIR SUPPLY

Detailed recommendations for air supply are given in BS.5440:2, the following notes being intended for general guidance:

It is NOT necessary to have a purpose provided air vent in the room 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.

These air vents may communicate with a room/internal space or direct to outside air.

age 2 Page 3

The MINIMUM effective areas of the permanent air vents required in the cupboard/compartment are as follows:

Note: Both air vents MUST communicate with the same room or internal space, or MUST both be on the same wall to outside air.

RS. 30/40

Position of Air Vent		Air from Room Internal Space	Air Direct from Outside
HIGH LEVEL	cm2	140	70
	in ²	22	11
LOW LEVEL	cm2	140	140
	in ²	22.	11

RS. 40/60

Position of Air Vent		Air from Room Internal Space	Air Direct from Outside
HIGH LEVEL	cm ²	200	100
	in ²	31	16
LOW LEVEL	cm ²	200	100
	in ²	31	16

WATER CIRCULATION SYSTEM

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

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

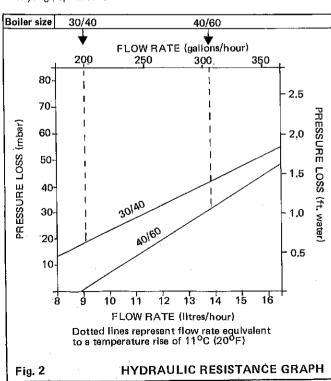
Note: The appliance is NOT suitable for gravity heating systems.

The hydraulic resistance of the boiler is given in Fig. 2.

The central heating system should be in accordance with the relevant recommendations given in BS.5376:2 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 be preferably manufactured of copper.

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.

The boiler MUST be vented.

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

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

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

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

ELECTRICAL SUPPLY

External wiring MUST be in accordance with the I.E.E. Regulations and any Local Regulations which apply.

The boiler is supplied for 200/250 volt, 50 Hz N Single Phase.

Fuse rating is 3A,

The method of connection to the mains electricity supply should facilitate complete electrical isolation of the boiler, preferably by the use of a fused three-pin plug and shuttered socket-outlet, both complying with the requirements of

Alternatively, a fused double-pole switch, or fused spur-box, serving only the boiler, may be used.

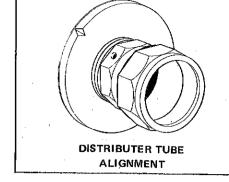
The point of connection to the mains should be readily accessible and adjacent to the boiler, EXCEPT that, for bathroom installations, the point of connection to the mains MUST be situated outside the bathroom.

INSTALLATION

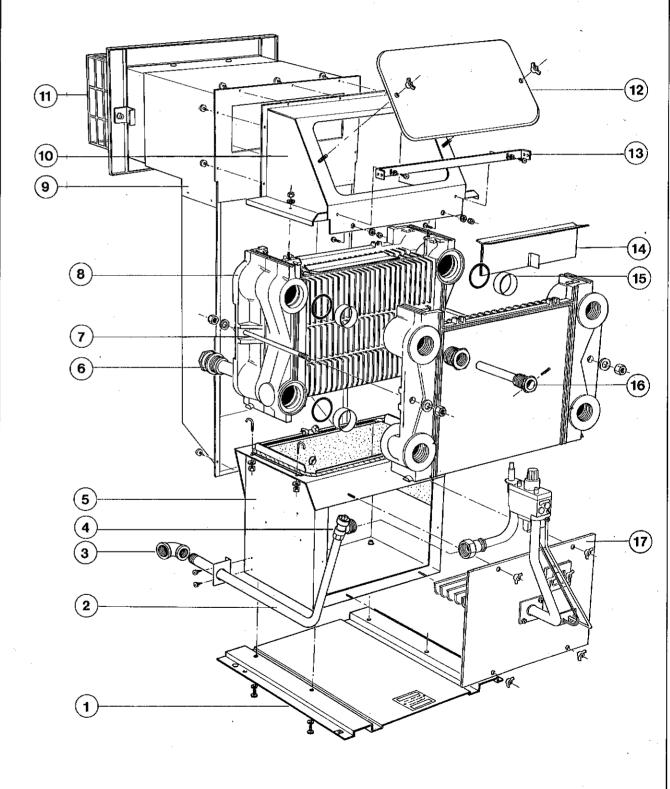
LEGEND:

- Boiler baseplate
- Gas inlet pipe
- Gas inlet elbow
- Gas cock
- Combustion chamber Distributor tube
- Heat exchanger
- Air and flue duct assembly

- 10. Collector hood
- 11. Terminal grille
- 12. Cleanout cover
- 13. Front tie piece 14. Flue baffle
- 15. Section alignment
- rings and 'O' rings
- Thermostat pocket
- 17. Burner controls assembly



BOILER BODY ASSEMBLY



(RS. 40/60 shown)



Fig. 3

PACKAGING

The boiler is supplied fully assembled, and despatched in one carton, together with either one or two of four cartons - B, B1, C or D.

Cartons B, B1 and C contain the terminal outlet appropriate to the wall thickness.

Carton D contains the flue duct extensions.

RS, 30/40 & 40/60

Supplied in carton		With boiler fitted flush up to wall Wall thickness	With boiler fitted in line with 600mm metric kitchen units Wall thickness
С	mm	114 to 191	Up to 125
	in	4½ to 7½	Up to 5
В	mm	229 to 305	163 to 242
	in .	9 to 12	6½ to 9½
B1	mm	318 to 394	253 to 332
	in	12½ to 15½	10 to 13
B & D	mm	406 to 584	340 to 518
	in	16 to 23	13½ to 20½

The boiler is to be floor standing, and the space in which the boiler is to be fitted MUST have the following MINIMUM dimensions

		RS. 30/40 & 40/6	0
WIDTH	mm	460	*
	in	18	
DEPTH	mm	535	
	in	21	
HEIGHT	mm	870	
	in	. 34¼	

This space includes the following minimum clearances for installation and servicing:

		RS. 30/40 & 40/60	
At the top	mm .	20	
of boiler	in	3/4	
At each side	mm	10	*
of boiler	in	3/8	

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

* N.B. in order to facilitate gas connection a clearance of at least 100mm (4") must be available at either the left-hand or right-hand side DURING installation. The boiler can if required then be built in to the minimum requirements shown in the above tables.

To facilitate pipework installation and removal of boiler from packaging base, the boiler casing will have to be removed. REMOVAL OF CASING and PACKAGING BASE-refer Fig.4 Lift off the lower front panel.

Remove the upper front panel by unfastening the two screws securing it to the side panels and lifting it off the locating pegs. Unfasten the two screws securing the plug-in connector to the control box, remove the gas valve lead from the cable clip on the right hand side panel. Place the upper front panel to one side.

Unfasten the two screws holding the side panels to the boiler basetray, and the two screws holding the front casing tie-piece to the casing side panels.

Pull the casing forward slightly and lift it clear of the locating pegs at the rear of the boiler basetray. Pull forward and remove.

Place the casing assembly carefully to one side, on its back, to prevent damage.

The boiler is held to the packaging base by four M6 hex

head screws, through the boiler basetray assemblies into the packaging base.

Remove the front screws and slacken the rear screws in order to remove the boiler from the packaging base.

Before placing the boiler in the selected position, any gas and water connections at the rear of the boiler should be prepared because of lack of access, especially any rear location of the distributor tube.

Cut a suitable opening in the wall - refer Fig. 5.

The brick courses will probably dictate a larger hole than the one indicated.

The Installer is advised to make good the hole in the inner skin to the given dimensions BEFORE fitting the boiler.

This will ease the job of sealing between the terminal box and the wall after the boiler has been fixed in position.

The terminal box MUST NOT come into contact with combustible material, such as that used in non-standard constructions of timber framework and plaster board etc.

If in difficulty, the Local Gas Region will advise,

Place the boiler in the selected position ready for water and flue connections.

FITTING THE FLUE DUCT ASSEMBLY AND TERMINAL GRILLE

Refer Fig. 6

Separate the terminal grille (A) from the terminal duct assembly (B), by removing the two screws (C).

Smear mastic liberally on the INNER surface of the boiler air duct (G) and the OUTER surface of the terminal air duct (F).

The end of each duct should be coated to a MINIMUM depth of 25mm (1in).

From outside the building, pass the duct assembly through the opening and slide it into the boiler outlet.

Ensure the flue duct (D) slides OVER the boiler flue outlet (E) and the air duct (F) slides INTO the boiler air duct (G).

Push the terminal duct assembly in until the side fixing brackets (H) contact the wall face.

Make good between wall and ducts, INSIDE and OUTSIDE the building.

When thoroughly dry, fasten the terminal grille to the flue duct assembly with the two screws.

EXTENSION DUCTS - RS.65 to RS.100 ONLY

Extension ducts are available for installation where the wall thickness exceeds 408mm (16in).

They are used to bridge the gap between the appliance terminal box and the flue duct assembly, and NO other method should be used.

Neither should the gap be left unbridged.

FITTING THE EXTENSION DUCT

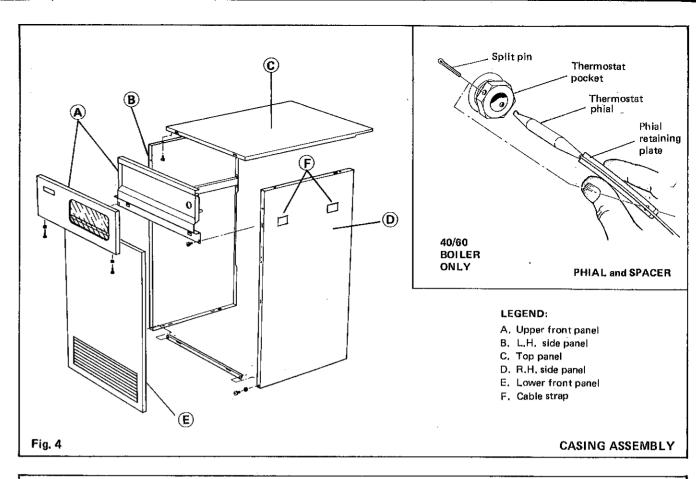
Refer Fig. 7

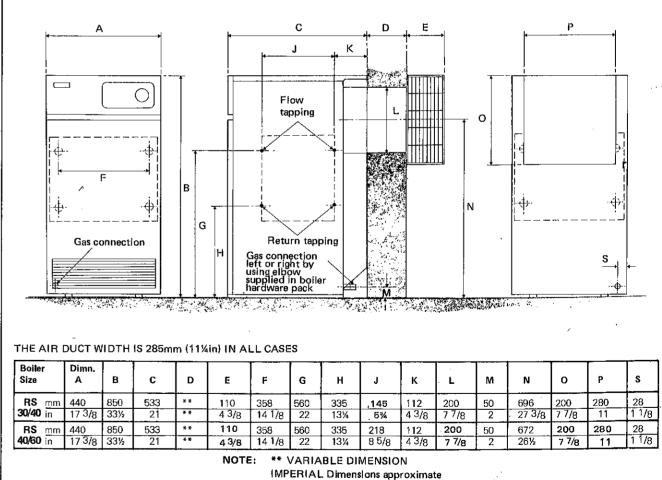
Take the LARGER duct and apply mastic liberally over 25mm (1in) of the OUTER surface of the SMALLER end. Next, similarly apply mastic to 25mm (1in) of the INNER surface of the boiler terminal air duct — this is the OUTER duct.

Slide the SMALL end of the air duct extension through the wall opening and approximately 50mm (2in) INTO the boiler terminal box air duct.

Slide the LARGE end of the flue duct extension OVER the boiler terminal box flue duct - approximately 50mm (2in).

Apply mastic liberally to the first 25mm (1in) of the INNER surface of the air duct extension and the OUTER surface of the terminal duct assembly air duct.





Now fit the terminal duct assembly from outside the building - the terminal grille MUST be removed by means of screws (C).

Fig. 5

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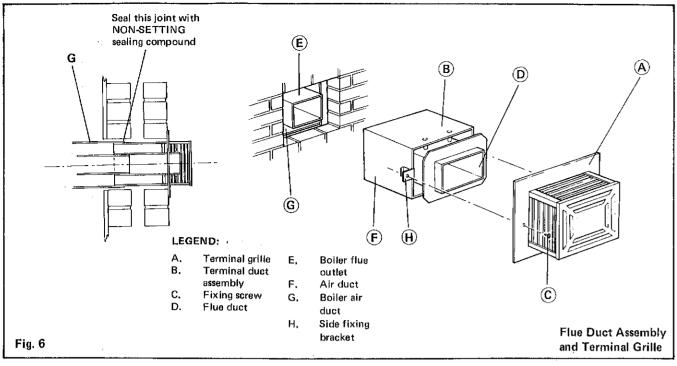
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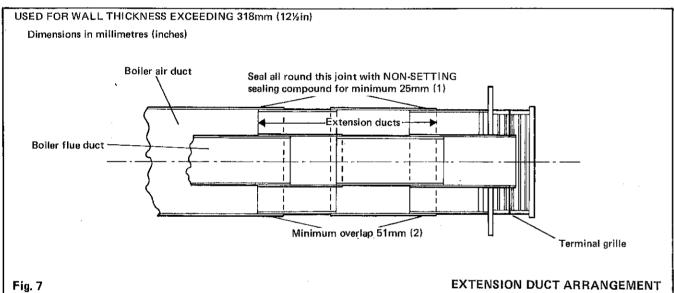
Slide the flue duct OVER the extension flue duct and the air duct INTO the extension air duct,

Push the terminal duct assembly inward until the fixing brackets contact the wall surface.

Make good INSIDE and OUTSIDE the building, around the wall opening, and fit the terminal grille.

DIMENSIONS





WATER CONNECTIONS — Fig. 5

This appliance is NOT suitable for use in either a sealed system or a direct system.

All water connections are Rc1 (1in.BSP).

A distributor tube is supplied in the Hardware Pack, complete with a 1in.BSP Male x 28mm copper compression

It is essential that the distributor tube is fitted into the heating return connection on all CH, or CH and DHW.

Fully Pumped systems, using more than one pump, serving separate zones, MUST have a common return connection to the distributor tube.

Screw the distributor tube into the appropriate return tapping on the boiler until the mark on the tube adapter coincides with the mark on the casting, refer Fig. 3., to ensure the correct positioning of the distributor tube.

Subsequent pipework MUST NOT be allowed to disturb the position of the tube.

FULLY PUMPED SYSTEMS

All of the possible configurations are shown in Table 3. It should be noted that, for correct boiler performance, only those connections shown should be used.

GRAVITY DOMESTIC HOT WATER AND PUMPED CENTRAL HEATING

system, SEPARATE Flow and Return connections are used for EACH service.

The use of a cylinder thermostat is RECOMMENDED.

All of the possible configurations are shown in Table 4.

To use Tables 3 and 4, decide whether the pump is to be fitted internally or externally, i.e. inside the casing or outside the casing, and whether the system is to have a

Once these factors are known, it is then a simple matter to find the possible variations available for these parameters.

The schematic pipework graph, following in Fig. 8, has been calculated on the assumption that NOT MORE than eight elbows are used in the gravity loop, including entry to the

For each extra elbow, in excess of eight, (R) MUST be reduced by 300mm (12in), or (H) increased by 100mm (4in).

The pipe runs for gravity circulation should be planned with reference to the diagram and graph illustrated by Fig. 8.

Whatever value is selected for (R), i.e. the horizontal distance between the centre line of the cylinder and the boiler

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Page 9

In a gravity domestic hot water and pumped central heating

Gravity pipework and connections MUST be at least 28mm.

It should be noted that, for correct boiler performance, only those connections shown should be used.

pump on the flow or the return.

boiler.

tappings used - measured along the pipe run, the value of (H), i.e. the vertical distance between the top of the boiler

and the base of the cylinder, MUST be at least that indicated by the graph.

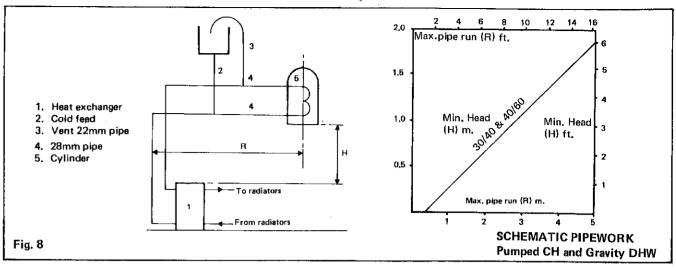


Table 3 **FULLY PUMPED SYSTEMS**

	CHOSEN PUMP POSITION		CONNE	CTIONS AS V	THERMOSTAT POSITION		
		· · · · · · · · · · · · · · · · · · ·	Front	t Section	Back	Section	Front Section
	Flow	Return	Flow	Return	Flow	Return	Тор
Pump	*	*			LH	LH	LH
fitted	*	*			LH	RH	LH
external	*	*			RH	RH	RH
to boiler	*	*			RH	LH	RH
D 644 1	*		LH	LH		· · · · · · · · · · · · · · · · · · ·	RH
Pump fitted inside boiler	*		LH	RH			RH
jacket	*		LH			 LH	RH
Jacket	*		LH			RH	RH
	*		RH	RH			LH
	*	···	RH	LH			LH
	*		RH			RH .	LH
	*		RH			LH	LH
		*		LH	LH		RH
		*		LH	RH		RH
		*		RH	LH		LH
	[*	ļ.	RH	RH		LH

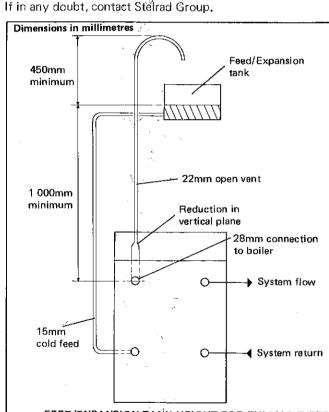
GRAVITY DOMESTIC HOT WATER AND PUMPED CENTRAL HEATING

		EN PUMP ITION	CONNECTION AS VIEWED FROM FRONT							THERMOSTAT POSITION	
				Fron	t Sectio	n_		Back	Section	· · · · · · ·	Front Section
	<u></u>			CH	[OHW	7	Н	Ė	HW	Тор
	Flow	Return	Flow	Return	Flow	Return	Flow	Return	Flow	Return	
Pump	*	*		·			LН	LH ·	RH	RH	LH
fitted	*	*					LH	RH	RH	LH	LH
external	*	*					RH	RH	LH	LH	RH
to boiler	*	*					RH	LH	LH	RH	RH
Pump fitted	*		LH	LH		ſ	·····	- 1	LH	LH	RH
inside boiler	*		ĹΗ	RH					LH	LH	RH
jacket	*		LH					ŘН	LH	LH	RH
Juonot	*		RH	LH					RH	RH	LH
	*		RH	RH					RH	RH	LH
	*		RH					LH	RH	RH	LH
		*		LH			LH		RH	RH	RH
		*		LH			RH		LH	LH_	RH
		*		RH			RH		LH	LH	LH
		*		RH			LH		RH	RH	LH

GUIDE TO MINIMUM REQUIREMENTS --FEED/EXPANSION TANK HEIGHT FOR FULLY PUMPED SYSTEMS -

With reference to the associated diagram, the following assumptions and conditions apply:

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



FEED/EXPANSION TANK HEIGHT FOR FULLY PUMPED SYSTEMS - GUIDE TO MINIMUM REQUIREMENTS

GAS CONNECTION

The gas inlet to the boiler is at the rear of the boiler and an elbow is supplied in the Hardware Pack to allow connection from right or left – for inlet size refer Table 1.

A MINIMUM dynamic inlet pressure of 20.0 mbar (8in.w.g.) MUST be available at the boiler inlet.

REPLACING THE BOILER CASING

After the pipework installation has been completed, the casing should be refitted.

Offer up the casing assembly so that the side panels drop over the location pegs at the rear of the boiler basetray, push casing back.

ENSURE that the electrical gas valve lead is not trapped and screw down each side panel to the front of the boiler

Screw the casing tie piece to the casing side panels.

ELECTRICAL CONNECTION The appliance MUST be efficiently earthed,

A mains supply of 200/250 volt, 50 Hz, N Single Phase

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

Wiring should be in three-core PVC insulated cable, NOT less than 24/0.2mm.

Wiring external to the boiler MUST be in accordance with the I.E.E. Regulations and any Local Regulations which apply.

The input cable conductors, between the cord anchorage and the terminals, MUST be such that the current carrying conductors become taut before the earthing conductors should the cable slip out of the anchorage.

The supply connection may be made via a removable plug to a shuttered socket-outlet and, should such a plug be used for connection to the mains, it MUST be of 3-pin type, wired as shown in Fig. 10, fused at 3 amp, and complying with the requirements of BS.1363.

Wiring within the boiler casing MUST be neatly secured with the cable straps provided and MUST NOT be allowed to touch the burner front plate or the cleanout cover and collector hood. Refer Fig. 4.

REPLACING THE UPPER FRONT PANEL

Replace the plug-in connector into the control box and fix with the two screws previously removed.

Offer up the upper front panel over the top locating pegs and fasten it to the side panels with the two No.8 pozi screws. ENSURE that the gas valve lead is replaced in the cable clip? on the right hand side panel.

Insert the thermostat phial and phial retaining bracket (on RS.60 boiler only) into the thermostat pocket, taking care NOT to kink the thermostat capillary as it is unwound, and secure it with the split pin supplied in the Hardware Pack, making sure the split pin passes through the hole in the retaining bracket where applicable.

INTERNAL WIRING

The internal wiring of the control box is shown in Figs. 11

A wiring diagram is also contained in the Lighting Instruction Plate inside the lower front panel of the boiler.

EXTERNAL CONTROLS

The wiring diagrams illustrated in Figs. 13-19 cover the systems most likely to be fitted to this appliance.

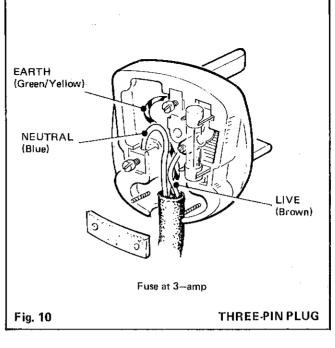
For wiring external controls to the IDEAL MEXICO SUPER RS boiler models, reference should be made to the system wiring diagrams supplied by the relevant Manufacturer, in conjunction with the wiring diagrams shown in Figs. 11 and 12. Difficulty in wiring up should not arise, providing the following directions are observed:

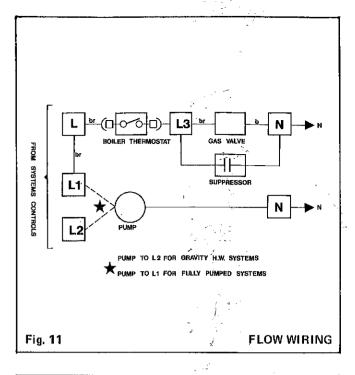
- 1. Controls that switch the system ON and OFF, e.g. a time switch, MUST be wired in series in the live mains lead to the boiler.
- 2. Controls that over-ride an ON/OFF control, e.g. a frost thermostat, MUST be wired into the mains lead in parallel with the control(s) to be over-ridden.
- 3. Controls that switch the circulating pump only ON and OFF, e.g. a room thermostat, MUST be wired in series with the pump in the live pump lead.
- 4. If a proprietary system is used, follow the instructions supplied by the Manufacturers.

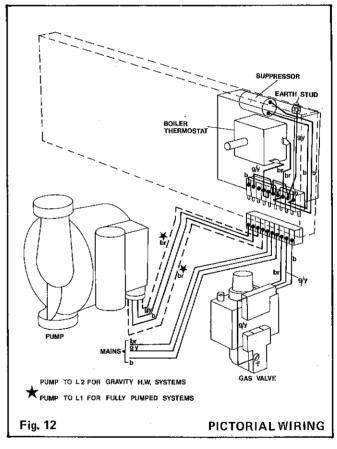
Advice on required modifications to the wiring may be obtained from the component Manufacturers.

Note:

- 1. Connections between the frost thermostat and time control should be made without disturbing other wiring.
- 2. The frost thermostat should be sited in a cool







NOTE: The frost thermostat should be wired to the programmer as shown, without disturbing other wiring. FROST PROTECTION O HW СН Programmer Double pole Ò frost thermostat e.g. SOPAC TA347-04 WIRING DIAGRAM -**Double Pole Frost Thermostat** Wired to Programmer Fig. 13

place in the house, but where it can sense heat from the system.

COMMISSIONING AND TESTING

In the event of an electrical fault after the installation of the appliance, preliminary electrical system checks shall be carried out i.e. earth continuity, polarity and resistance to earth — as described in the British Gas Multimeter book.

Electrical Installation

Checks to ensure electrical safety should be carried out by a competent person.

Gas Installation

The whole of the gas installation, including the meter, should be inspected and tested for soundness, and should be purged in accordance with the recommendations of CP.331:3.

Purging air from the gas installation may be expedited by

removing the cabinet front panel of the boiler, loosening the union on the inlet gas cock and purging until gas is smelled. Retighten the union and check for gas soundness.

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.

Water Circulating System

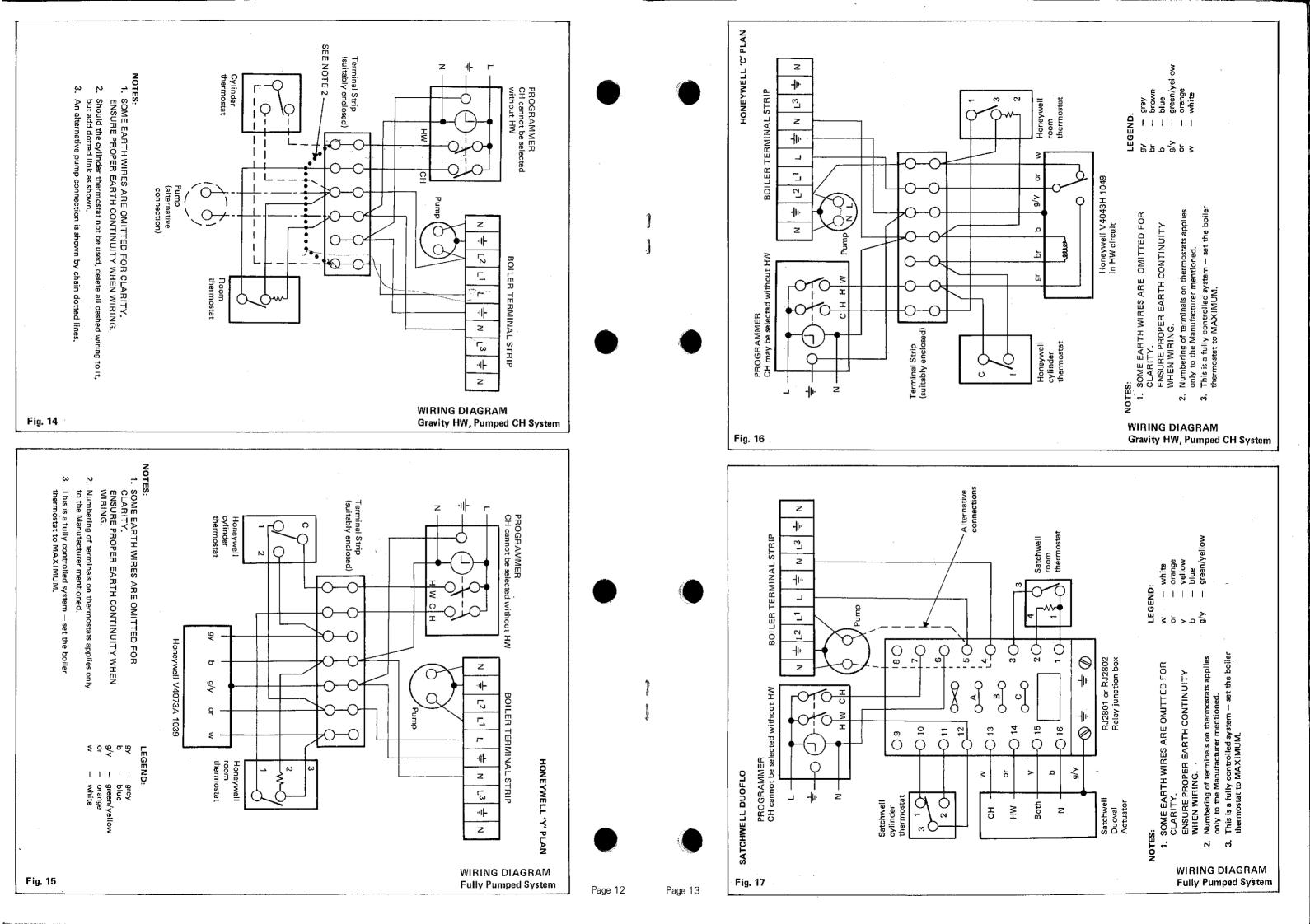
The whole of the system should be thoroughly flushed out with cold water WITHOUT the pump in position. Ensure that all valves are OPEN.

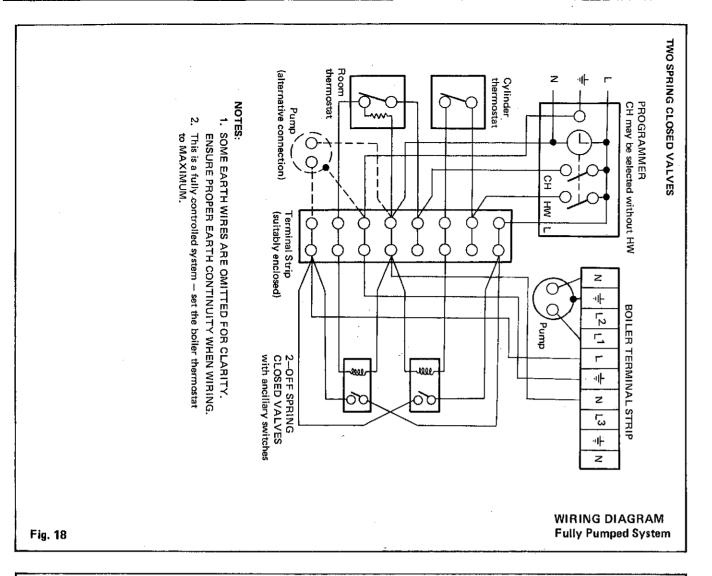
With the pump fitted, the system should be filled and air locks cleared.

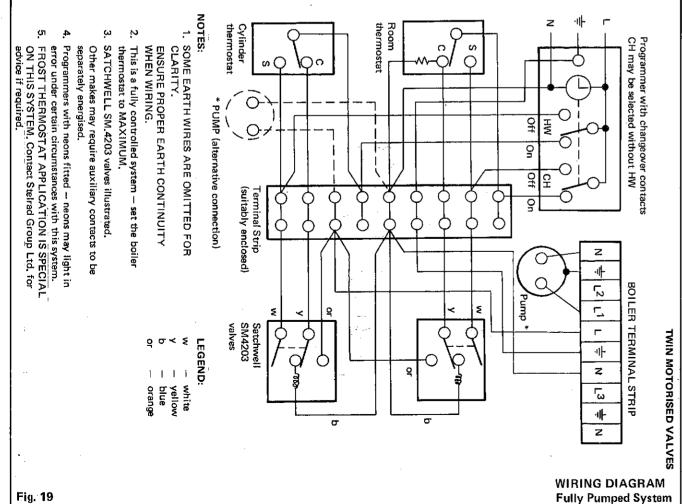
Check for water soundness.



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INITIAL LIGHTING INSTRUCTIONS - Refer Fig. 20

Check that ALL drain cocks are CLOSED and that stop valves in the flow and return lines are OPEN.

Check that the inlet gas cock is ON and that the boiler thermostat control knob is at OFF.

Loosen the screw in the burner pressure test nipple (E) and connect a gas pressure gauge via a flexible tube.

Push down and turn the gas control knob (A) clockwise until the black dot on the top of the knob is towards the boiler body. Now turn the knob anti-clockwise until the star shape symbol on the top of the knob is towards the boiler body and then fully push down the knob and hold

Press in and release the piezo unit button (D) repeatedly until the pilot, situated at the back of the boiler, is seen to light through the sight glass (F). Hold down the gas control knob for 20 seconds after the pilot burner has junited. Should the pilot light go out at this or any other stage, turn the gas control knob clockwise until the black dot on the top of the gas control knob is towards the boiler body.

Wait for three minutes and then repeat the procedure detailed above, but wait longer than 20 seconds before releasing the gas control knob.

The pilot flame should envelop 10mm of the thermocouple tip. Note that the pilot adjuster screw leaves the factory set fully open and should NOT be altered. When the pilot is alight turn the gas control knob anti-clockwise until the flame shape symbol on the top of the knob is towards the boiler body.

Check that the electricity supply, and ALL external controls, are ON.

Turn the boiler thermostat knob (B) to position 6 - the boiler will then light.

Operate the boiler for ten minutes to stabilise the burner temperature.

Test for gas leaks around boiler gas components, using leak detection fluid.

The burner setting pressure is set at maximum value before the boiler leaves the factory. Table 2 gives the required burner pressure for lower outputs.

If the burner setting pressure needs adjusting turn the pressure adjusting screw (C) CLOCKWISE to REDUCE the pressure and ANTI-CLOCKWISE to INCREASE the pressure. Remove the gas pressure gauge and tube, and retighten the sealing screw in the pressure test nipple.

Check for gas leaks around test nipple.

GENERAL CHECKS

Make the following checks for correct operation:

- 1. Turn the boiler thermostat OFF and ON and check that the main burner is extinguished and relit in response.
- 2. Check the operation of the flame failure device in the gas control.

The flame failure device MUST cut off the gas to the burner within 60 seconds.

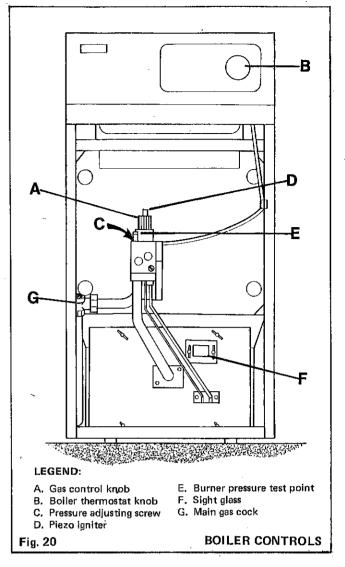
With the burner alight again; turn the gas control knob fully clockwise until the black dot on the top of the knob is towards the boiler body.

The burner and pilot flames should shut down immediately.

Note: A latch in the gas control provides a safe delay period before the boiler can be relit.

3. The correct operation of the programmer, and all other system controls, should be proved.

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



With the system HOT, examine ALL water connections for soundness.

Then turn OFF the gas, electricity and water supplies to the appliance and drain down whilst the system is still hot - in order to complete the flushing process.

Refill and vent the system and again check for water soundness.

Replace the lower front panel.

Finally, set the controls to the User's requirements.

The temperatures quoted below are approximate and may vary between installations.

Knob Setting	Flow Temp	erature
_	oC .	o _E
1	54	130
2	60	140
3	66	150
4	71	<u>160</u>
5	77	170
6	82	180

HANDING OVER

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

- 1. Hand the User's Instructions publication to the Householder and explain his/her responsibilities under the Gas Safety Regulations, 1972.
- 2. Draw attention to the Lighting Instruction Plate, affixed to the inside of the front panel.

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- 3. Explain, and demonstrate, the lighting and shutting down procedures.
- 4. The operation of the boiler and the use, and adjustment, of ALL system controls, should be fully explained to the Householder, to ensure the greatest possible fuel economy, consistent with household requirements of both heating and hot water consumption.

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 condition.

- 5. Explain the function and the use of the boiler thermostat and external controls.
- 6. Explain, and demonstrate, the function of time and temperature controls, radiator valves etc., in the economic use of the system.
- 7. Stress the importance of regular servicing by the Gas Region, or by a qualified Heating Engineer.

SERVICING

WARNING:

ALWAYS turn OFF the gas supply at the gas cock, and switch OFF and DISCONNECT the electricity supply to the appliance BEFORE SERVICING.

A COMPREHENSIVE SERVICE SHOULD BE CARRIED OUT AT LEAST ONCE A YEAR.

THE USER IS ADVISED TO MAKE A CONTRACT WITH THE LOCAL GAS REGION OR A QUALIFIED HEATING ENGINEER.

MAIN BURNER

Lift off the lower front panel from the boiler casing. Slacken the screw retaining the grey plastic electrical plug on the side of the gas control valve and pull the plug out: undo the earth connection taking care not to lose the earth screw and washer. Undo the union inlet gas cock, Remove the four wing nuts securing the burner front plate and remove the burner assembly complete from the boiler. Brush off any deposits from the burner flame strip.

Brushes with metallic bristles must NOT be

Ensure that the flame ports are unobstructed and remove any debris that may have collected inside the burner body. Inspect the pilot burner, thermocouple and ignition electrode - ensure they are clean and in good condition. In particular, check that:

- 1. The pilot burner is firmly secured.
- 2. The pilot shield is clean and unobstructed.
- 3. The ignition electrode and lead are clean, undamaged and secure.
- 4. The thermocouple tip is NOT burned or cracked.
- 5. The thermocouple terminal, at the gas valve, is clean
- 6. The pilot burner head is clean and undamaged. Re-assemble in reverse order.

FLUEWAYS

Remove the burner assembly as previously described. Remove the split pin from the thermostat pocket and pull out the thermostat phial and phial retaining bracket (on RS.60 boiler only),

Remove the upper front panel by undoing the two screws

securing it to the side panels, and lifting if off the locating hooks.

Unfasten the two screws securing the plug-in electrical connector to the control box and remove the connector,

Place the upper front panel to one side. Undo the wing nuts securing the cleanout cover.

Lift out the stainless steel baffles from the flueways.

Remove all the loose deposits from the heat exchanger, especially from between the fins - using a suitable flexible brush, and remove all debris from the combustion chamber floor.

Replace the stainless steel baffles into the boiler flueways, Refit the cleanout cover.

ALWAYS REPLACE any DAMAGED or DETERIORATED sealing gaskets.

Reconnect the electrical plug-in connector to the control box on the upper front panel and fasten it — using the two M4 screws.

Refit the upper front panel, ENSURING that the thermostat phial and phial retaining bracket (on RS.60 boiler only) are correctly located in the thermostat pocket, and secured by the split pin.

Refit the burner assembly,

Complete the gas and electrical connections.

PILOT BURNER

Light the boiler and check that:

1. The pilot flame impinges on the thermocouple head and that the position of the thermocouple, relative to the pilot burner and the main burner, is as shown by Fig. 22.

The pilot flame should envelop the thermocouple tip. The pilot adjuster screw leaves the factory set fully open and should NOT be altered.

ADJUSTMENT OF GAS PRESSURE

After each occasion of servicing, reference should be made to Table 2, which quotes details of the rated output, with the related burner setting pressure and heat input,

Any required adjustments should be made by using the pressure adjustment screw (C), illustrated in Fig.20 as described under Initial Lighting Instructions.

Refit lower front panel.

REPLACEMENT OF COMPONENTS

WARNING:

ALWAYS turn OFF the gas supply at the inlet gas cock, and switch OFF and DISCONNECT, the electricity supply BEFORE WORKING on the appliance.

To facilitate the replacement of components, remove and replace the lower front panel, where necessary, as previously described in 'Servicing'.

For replacement of faulty Pump or Programmer units, The Pump Kit leaflet, or the Programmer Kit leaflet. should be referred to.

Sight Glass

Unfasten the two wing nuts holding the sight glass assembly to the burner front plate.

When fitting the replacement assembly, make certain the parts are in correct order, i.e. gasket, glass, gasket and frame. Retighten the two wing nuts to ensure an airtight seal but DO NOT OVERTIGHTEN.

Control box

Remove the upper front panel from the boiler as previously described.

Pull off the thermostat knob.

Remove the two screws and washers securing the control box cover, and lift it off,

Remove the three screws and washers securing the control box assembly to the upper front panel.

Fit the new control box.

Re-assemble in reverse order.

Boiler Thermostat

Remove the upper front panel from the boiler as previously described.

Pull off the thermostat knob and remove the two screws and washers securing the control box cover, and lift it off. Disconnect the two electrical connections from the thermostat.

Undo the three screws and washers securing the control box case to the upper front panel and lift it off.

Remove the thermostat capillary from its retaining clip. Undo the two screws securing the thermostat body to the control box case.

Fit the new thermostat so that its terminals face towards the near edge of the control box - refer Fig. 23, and re-assemble in reverse order.

ENSURE that the thermostat capillary is clipped and leads through the slot in the control box edge.

ENSURE also that the thermostat phial and phial retaining bracket (on RS.40/60 boiler only) are in position in the thermostat pocket BEFORE securing with the split pin.

Piezo Unit

Disconnect the igniter lead from the piezo unit body. Undo the backnut securing the piezo unit to the bracket on the gas control valve. Fit the new unit, ensuring that the backnut is fully tightened.

Reconnect the igniter lead.

Igniter Lead

Remove the burner assembly complete as previously

Disconnect the igniter lead at the piezo unit and at the electrode.

Unfasten the two screws securing the pipe sealing plate to the front plate and carefully remove the plate and gasket. Remove the purse clips that secures the igniter lead to the pilot gas pipe and the thermocouple lead,

Fit the new igniter lead and secure it to the pilot pipe with the purse clips.

Re-assemble in reverse order.

Thermocouple

Remove the burner assembly complete as previously described.

Undo the thermocouple connections at the gas valve and pilot burner assembly.

Unfasten the two screws securing the pipe sealing plate to the front plate and carefully remove the plate and gasket. Remove the purse clips securing the thermocouple to the pilot pipe.

Fit the new thermocouple, it is important that the thermocouple is pushed fully home and held in that position while the securing nut is tightened. This nut should be tightened to finger tight plus half a turn.

Re-assemble in reverse order.

Pilot Burner

Remove the burner assembly complete as previously described.

Pull off the igniter lead at the electrode.

Undo and remove the thermocouple, the electrode and the pilot gas pipe from the pilot burner.

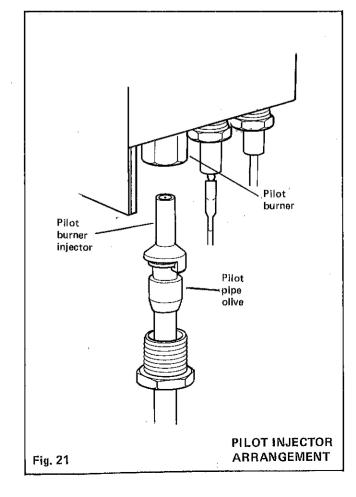
Note: Withdrawal of the pilot gas pipe from the pilot burner will automatically bring with it the pilot burner injector and care must be taken not to damage the injector in any way.

Undo the two screws and washers securing the pilot burner to the pilot burner bracket and remove the pilot burner.

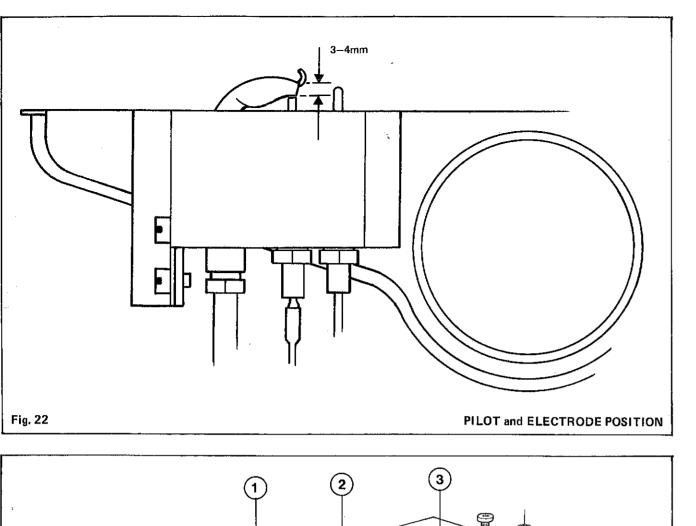
Fit the new pilot burner.

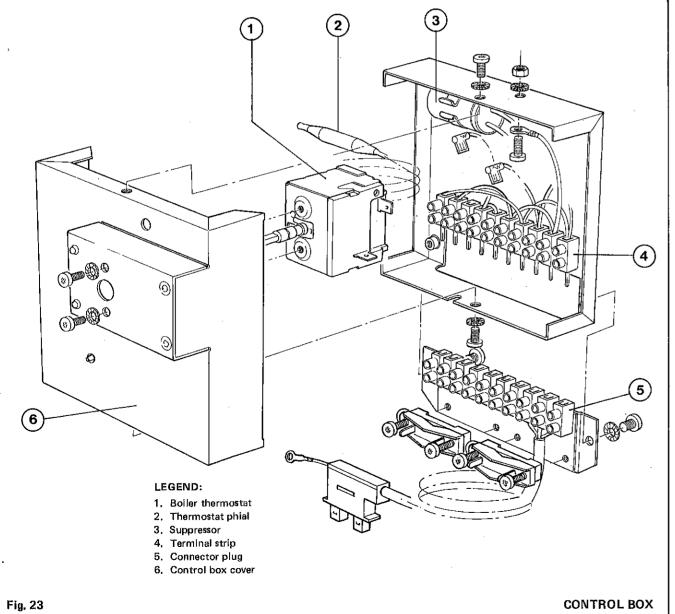
When refitting the pilot gas pipe it is essential that the pilot burner injector is located on the specially shaped olive at the end of the pilot gas pipe before inserting the pipe into the pilot burner - refer Fig. 21,

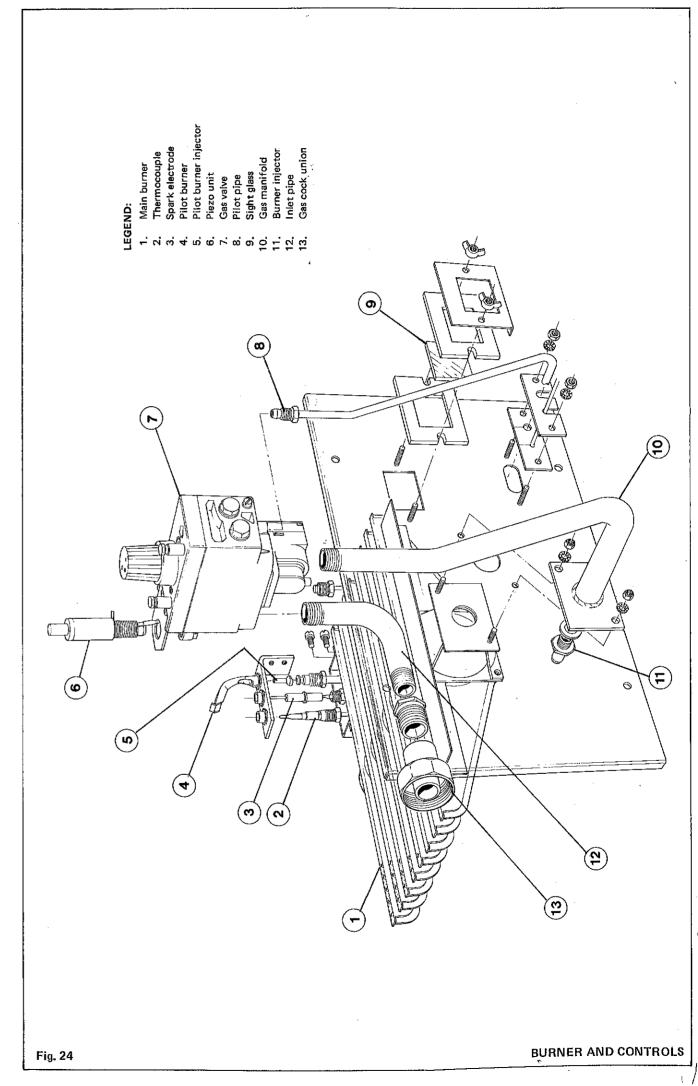
Re-assemble in reverse order.



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Electrode

Remove the burner assembly complete as previously described.

Disconnect the igniter lead from the electrode.

To gain access to the electrode connection, first unscrew the thermocouple and remove it from the pilot burner assembly. Unscrew the electrode and fit new item. When refitting the thermocouple it is important that it is

pushed fully home and held in that position while the securing nut is tightened.

This nut should not be overtightened: finger tight plus half a turn is sufficient.

Re-assemble in reverse order.

Gas valve

Remove the burner assembly complete as previously described.

Disconnect the pilot gas pipe and thermocouple at the gas

Undo the two screws securing the piezo unit bracket to the gas valve and remove.

Unscrew the gas valve from the burner manifold and then unscrew the inlet gas pipe from the gas valve. Fit the new gas valve ensuring that the arrows embossed on the sides of the valve point in the direction of the gas flow. Refit the inlet gas pipe to the valve and then the valve to the burner manifold using approved jointing compound. Reconnect the piezo unit bracket, pilot pipe and thermocouple.

Refit the burner assembly to the boiler and test for gas soundness.

Main Burner

Remove the burner assembly complete, as previously described.

Pull off the igniter lead at the electrode.

Undo and remove the thermocouple, electrode and the pilot gas pipe from the pilot burner.

Note: Withdrawal of the pilot gas pipe will automatically bring with it the pilot burner injector and care must be taken not to damage the injector in any way.

Undo the two screws and washers securing the pilot burner to the main burner and remove. Undo the two nuts and washers securing the main burner to the front plate and manifold and lift the burner off.

Fit the new burner and re-assemble in reverse order. When refitting the pilot gas pipe it is essential that the pilot burner injector is located on the specially shaped olive at the end of the pilot gas pipe before inserting the pipe into the pilot burner, refer Fig. 21.

Main Burner Injector

Remove the burner as described previously. Fit the new injector, using a NEW gasket. Re-assemble in reverse order.

FAULT FINDING

Before attempting any electrical fault finding, ALWAYS carry out the preliminary electrical system checks as detailed on pages 6-9 of the Instructions for the British Gas Multimeter.

The preliminary electrical system checks are the FIRST electrical checks to be carried out during a fault finding procedure.

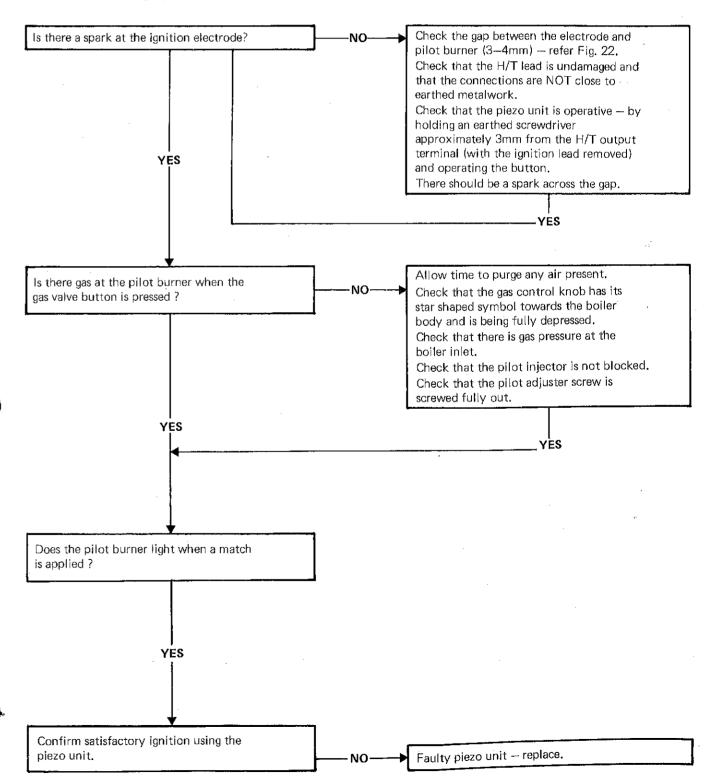
On completion of the service/fault finding task, which has required the breaking and remaking of electrical connections. then the checks:

- (a) Earth Continuity,
- (b) Polarity, and
- (c) Resistance to Earth -

MUST be repeated.

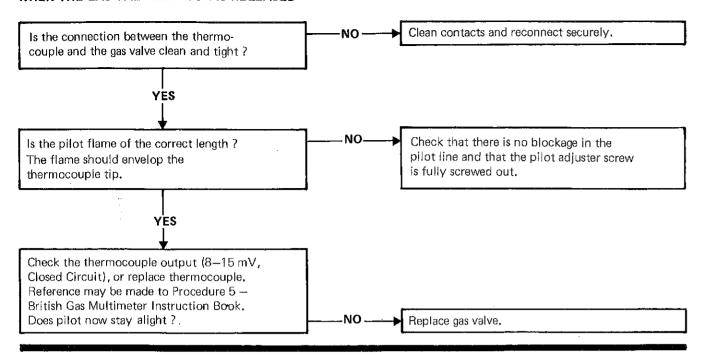
DETAILED INSTRUCTIONS ON THE REPLACEMENT OF FAULTY COMPONENTS ARE CONTAINED IN THE SERVICING SECTION OF THIS PUBLICATION.

PILOT WILL NOT LIGHT

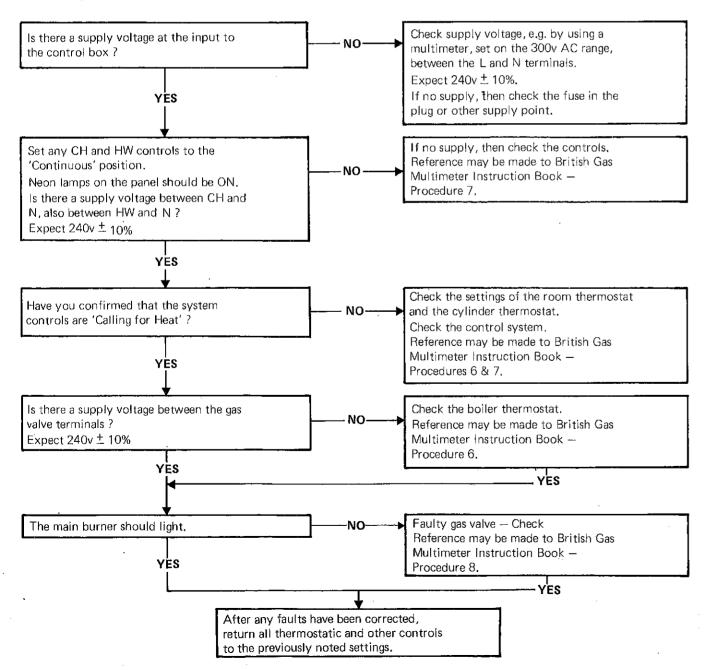


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PILOT WILL NOT STAY LIT WHEN THE GAS VALVE BUTTON IS RELEASED



PILOT LIT, BUT NO MAINS GAS



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 B.G.C. List of Parts, which contains all available spare parts.

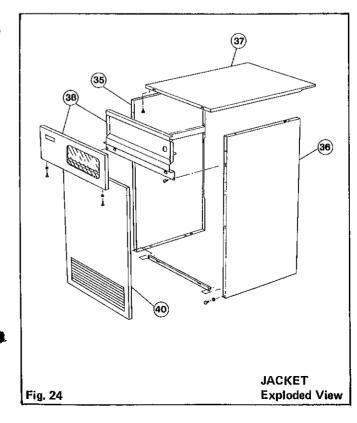
Copies of the B.G.C. Lists are held by Gas Regions, Stelrad Distributors and by Merchants.

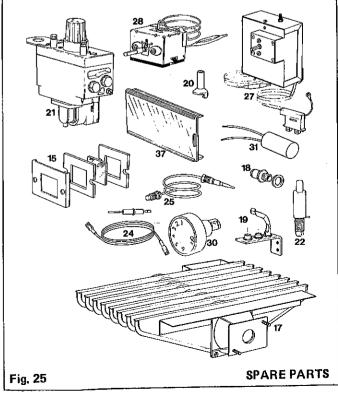
IDEAL MEXICO SUPER RS.40S & 60 BOILERS

When ordering spares, please quote:

- Boiler Model
- 2. B.G.C. Appliance Number
- Description
- 4. Maker's Part Number
- 5. Quantity

Key No.	B.G.C. Part No.	Description	No. Off	Maker's Part No.
15	341 350	Sight glass assembly, comprising: sight glass and frame with		
		2-sight glass gaskets and 2-M5 wing nuts	1	129018725
17	384 342	Main burner — AEROMATIC 19/123224 complete with		
		pilot burner bracket RS 30/40	1	129038735
	384 343	- AEROMATIC 19/123225 complete with		
i		pilot burner bracket RS 40/60	-1	129008735
18	398 400	Burner injector—Bray Cat, No.23 size 1150 with sealing washer RS 30/40	1	129078736
	398 363	- Bray Cat, No.23 size 1700 with sealing washer RS 40/60	1	129118739
19	384 344	Pilot burner S.I.T. 0-150-072 (15A21) with injector	1	589038740
20	395 674	Pilot burner injector S.I.T. 1-177-113 .27 m/m	1	589038742
21	384 345	Control valve S.I.T. Rc 3/8 0.680.006 240v	1	586031900
22	395 705	Spark generator VERNITRON 60080	1	589830086
24	395 720	Ignition Electrode S.I.T. 0-007-213 and Ht lead 600mm lg.	1	586030088
25	391 688	Thermocouple S.I.T. 0.290,086 600mm lg.	1	576030051
27	341 394	Control box — includes Key No's 31, 32 and 33	1	586071270
28	382 401	Thermostat — RANCO CL6 P0104	1	586121511
29	341 431	Thermostat phial retaining bracket (not illustrated)	1	586011518
30	341 359	Thermostat knob	1	586011517
31	384 689	Suppressor assembly — can type — with 85mm leads	1	589040030
32	341 395	Jacket – WHITE Stove Enamel	1	129078211
33	341 363	L.H. side jacket panel assembly — WHITE Stove Enamel	1	129018212
34	341 365	R.H. side jacket panel assembly — WHITE Stove Enamel	1	129018213
35	341 367	Jacket top panel assembly – WHITE Stove Enamel	1	129078215
36	341 398	Jacket upper front panel assembly (LESS controls) —		_
		WHITE Stove Enamel, with plastic sliding fascia cover	1	129078216
37	341 371	Plastic sliding fascia cover	1	129018140
38	341 399	Jacket lower front panel assembly — WHITE Stove Enamel —		
		complete with Instruction Plate	1	129078218





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THIS SYMBOL IS YOUR ASSURANCE OF QUALITY

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

STELRAD GROUP pursues a policy of continuing improvement in design and performance of its products. The right is therefore, reserved to vary specification without notice.

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