

IDEAL MEXICO SLIMLINE 2 CF 40 & CF 50 Conventional Flue Gas Boilers

Installation & Servicing

B.G.C. Appliance No.'s

Ideal Mexico Slimline 2

CF. 40

41 407 58

CF 50

41 387 23

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		CF 40	CF 50
Main Burner Bar		Aeromatic AC 19/123 291	Bray Mk.9 AB.16642 LR
Gas Control		½ in. BSP Honeywell Compact V.4600 A. 1023 240v	
Burner Injector		Bray Cat.16 Size 1100	Bray Cat.16 Size 1350
Pilot Injector		Honeywell 45004 108 001	Honeywell 0.3045000062-01
Gas Supply Connection		Rc½	
	in. BSP	½	
Flow Connections		Rc1	
	in. BSP	1	
Return Connections		Rc1	
	in. BSP	1	
Flue Outlet Size	mm	102	
	in.	4	
Maximum Static Water Head		30.5 (100)	
Minimum Static Water Head		1.0 (3.3)	
Electric Supply		230 v ~ 50Hz	
External Fuse Rating		3 amp	
Water Content	litre	16	20
	gal.	3.5	4.4
Dry Weight	kg.	76.65	85.60
	lb.	169	189

PERFORMANCE DATA

		CF.40	CF 50
Boiler Input *	min. kW	11.72	15.84
	Btu/h x 1 000	40	54.1
	max. kW	15.24	19.41
	Btu/h x 1 000	52	66.2
Boiler Output to Water	min. kW	8.79	11.72
	Btu/h x 1 000	30	40
	max. kW	11.72	14.65
	Btu/h x 1 000	40	50
Burner Setting Pressure	min. mbar (gauge)	8.7	10.2
	in.w.g.	3.5	4.1
	max. mbar (gauge)	14.3	15.1
	in.w.g.	5.7	6.0

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).

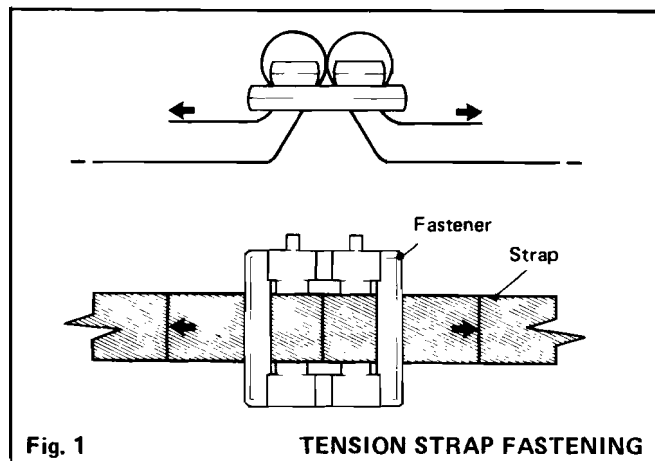
BOILERS
iIdeal

INTRODUCTION

The Ideal Mexico Slimline 2 CF 40 & CF 50 models are floor-standing open flued boiler, range rated, having outputs of 8.79 to 11.72 kW (30 000 to 40 000 Btu/h) and 11.72 to 14.65 kW (40 000 to 50 000 Btu/h) respectively. The boiler is supplied with an insulating blanket of aluminium foil backed fibreglass, covering the top and sides of the boiler body, and held in place by a securing strap. (See Fig.1).

The boiler casing is of mild steel, white enamelled top, side, upper and lower front panel.

The boiler thermostat is located behind the lower front panel, in the control box mounted on the gas valve.



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.


INSTALLATION REQUIREMENTS

IMPORTANT.

This appliance range is certificated by the British Standards Institution for safety and performance. It is, therefore, important that no external control devices, e.g. flue dampers, economisers etc., are directly connected to these appliances - unless covered by these 'Installation and Servicing' instructions or otherwise recommended by Caradon Ideal Ltd. in writing. If in doubt please enquire.

Any direct reconnection of a control device not approved by Caradon Ideal Ltd. could invalidate the B.S.I. certification and the normal appliance warranty. It could also infringe the Gas Safety Regulations.

Gas Safety (Installation and Use) Regulations, 1994.

It is the law that all gas appliances are installed by CORGI registered installers (identified by ) in accordance with the above regulations.

Failure to install appliances correctly could lead to prosecution. It is in your own interest, and that of safety, to ensure that the law is complied with. The installation of the boiler must also be in accordance with I.E.E. Regulations, the by-laws of the Local Water Undertaking, any relevant requirements of the Local Gas Region and Local Authority, and the relevant recommendations of the following British Standards:

Codes of Practice: -

CP331:3 Low pressure installation pipes

BS 5376:2 Boilers of rated input not exceeding 60kW.

BS 5449:1 Forced circulation hot water systems (smallbore 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 60kW).

BS 5440:2 Air supply (for gas appliances of rated input not exceeding 60kW)

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 location selected for the boiler MUST permit the provision of a satisfactory flue and an adequate air supply. The location must also provide adequate space for servicing and air circulation around the boiler.

The back of the boiler cabinet may be fitted up to the wall. This appliance should not be installed in a bedroom and must not be installed 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.

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.

Pipework from the meter to the boiler must be of adequate size. Do not use pipes of a smaller size than the boiler gas connection.

The complete installation must be tested for soundness as described in the above Code.

FLUE SYSTEM

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

1. The cross-sectional area of the flue serving the boiler must be not less than the area of the flue outlet of the boiler. If flue pipe is to be used it must be not less than 102mm (4in.) I.D.
2. Flue pipes and fittings should be constructed from one of the following materials:
 - (a) aluminium or stainless steel, or
 - (b) cast iron - coated on inside with acid resistant vitreous enamel.
 - (c) or other approved material.
3. If double walled flue pipe is used, it should be of a type acceptable to British Gas.
4. If a chimney is to be used it should preferably be one that is composed of or lined with a non-porous acid resistant material. (Chimneys lined with salt glazed earthenware pipes are acceptable if the pipes comply with BS 65 and BS 540:1). A flue pipe constructed from one of the materials in 2(a), 2(b) or 2(c) above should form the initial connection to lined chimneys.

Where a chimney is to be used that is not composed of or lined with a non-porous acid resistant material it should be lined with a stainless steel flexible flue liner or any other liner that is acceptable to British Gas. The internal diameter of the liner must be not less than 102mm (4in) and the number of joints must be kept to a minimum.

5. Before connecting the boiler to, or inserting a liner into, a flue that has been previously used, the flue must be thoroughly swept clean of any soot and loose material.

If a register plate, restrictor plate, damper etc. is fitted in the flue it must be removed before connecting the boiler to, or inserting a liner into, the flue.

6. The flue should terminate in accordance with the relevant recommendations given in BS 5440:1.
7. The flue **MUST** be fitted with a terminal.
The terminal should be of a type which has been tested and found satisfactory by British Gas.
This terminal must **NOT** be installed within 600mm (2ft) of an openable window, air vent or any other ventilation opening.

AIR SUPPLY

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

The room in which the boiler is installed **MUST** have, or be provided with, a permanent air vent.

This vent **MUST** be either direct to outside air or to an adjacent room, or internal space, which must itself have, or be provided with, a permanent air vent, of at least the same size, direct to outside air.

The minimum effective area of the permanent air vent(s) required is as follows:

CF 40	38cm ² (6"²)
CF 50	63cm ² (10"²)

The air vent(s) must **NOT** have provision for closing or adjustment and should be sited to avoid risk of accidental damage or blockage. If other methods of ventilation are envisaged, the local Gas Region should be requested to advise before proceeding.

If the boiler is to be installed in a cupboard or compartment, permanent air vents are required (for combustion, flue dilution and cooling purposes), in the cupboard or compartment, at both high and low levels, to ensure safe and efficient combustion and ventilation. These air vents may communicate with a room/internal space appropriately ventilated, or direct to outside air.

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

CF 40

Position of air vent	Air from room/ internal space	Air direct from outside
High Level	140 cm ² (22in ²)	70 cm ² (11in ²)
Low Level	280 cm ² (44in ²)	140 cm ² (22in ²)

Note:

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

CF 50

Position of air vent	Air from room/ internal space	Air direct from outside
High Level	190cm ² (30in ²)	95cm ² (15in ²)
Low Level	380cm ² (60in ²)	190cm ² (30in ²)

Note:

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

Where cupboard/compartment air vents are open to a room or internal space, the room or internal space must itself be provided with a permanent air vent(s) as previously specified.

Effect of an Extractor Fan

If there is any type of extract fan fitted in the premises, there is a possibility that, if adequate air inlet area from outside is not provided, spillage of the products from the boiler flue could occur when the fan is in operation. Where such installations occur, a spillage test, as detailed in BS 5440:1 must be carried out, and any necessary action taken.

Ventilators in Series

In installations requiring two ventilators to be fitted in series, e.g. across a cavity wall, each should be sized in accordance with the above data. Where there are more than two ventilators in series, each should have an area of 50% in excess of the value quoted above.

WATER CIRCULATION SYSTEM

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

The following indirect open vented systems are suitable:—
Combined gravity domestic hot water and pumped central heating. Combined pumped gravity domestic hot water and pumped central heating. Pumped central heating only. Gravity domestic hot water only, up to a minimum domestic hot water cylinder storage capacity of 180 litres (40 gal.)

The resistance with an 11°C temperature difference will be approximately 2in. w.g. (5 mbar).

The central heating system should be in accordance with the relevant recommendations given in BS 5376:2 and, in addition, for smallbore and micro-bore 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 flow and return connections to a fully pumped system may be made either at one side of the boiler or diagonally to suit convenience.

In a combined pumped heating and gravity domestic hot water system, the gravity flow and return connections must be made to the same side of the boiler, and the pumped connections to the opposite side. 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 ½in. nominal size and be in accordance with BS 2879.

ELECTRICAL SUPPLY

WARNING: The appliance **MUST** be efficiently earthed.

A mains supply of 230 V ~ 50Hz single phase, fused at 3 A. is required.

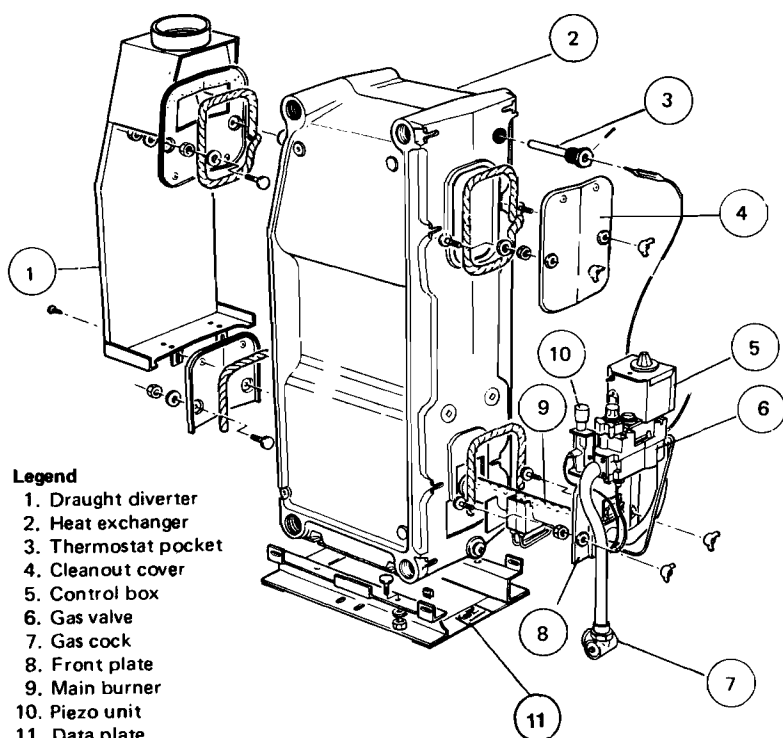
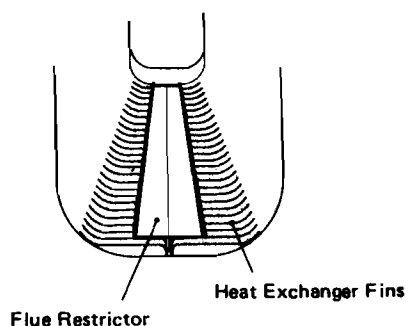
All external controls and wiring **MUST** be suitable for mains voltage.

Wiring external to the boiler **MUST** be in accordance with current I.E.E. Wiring Regulations and local regulations.

INSTALLATION

IMPORTANT:

BEFORE COMMENCING INSTALLATION remove the flue cleanout cover, (4) — Fig. 1, and **ENSURE** that the flue restrictor, sited over the flueway fins during Works assembly, is in its correct position as illustrated.



- Legend**
- 1. Draught diverter
 - 2. Heat exchanger
 - 3. Thermostat pocket
 - 4. Cleanout cover
 - 5. Control box
 - 6. Gas valve
 - 7. Gas cock
 - 8. Front plate
 - 9. Main burner
 - 10. Piezo unit
 - 11. Data plate

Fig. 2

CF 50 Shown

EXPLODED VIEW — BOILER

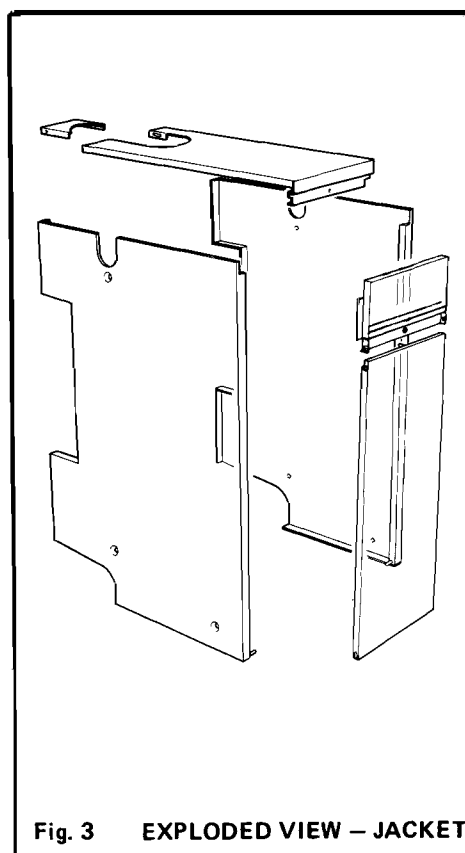


Fig. 3

EXPLODED VIEW — JACKET

PACKAGING

The boiler is supplied fully assembled and despatched in one carton.

The boiler is to be floor-standing and the space in which the boiler is to be fitted must have the following minimum dimensions:

Width	355 mm (14")
Depth	535 mm (21")
Height	870 mm (34 1/4")

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

At the top of the boiler 20 mm (3/4")

At the side(s) of the boiler a minimum aggregate clearance (Ref. Fig.5) with a minimum of 25 mm (1") at either side. 100 mm (4")

In addition a minimum clearance of 250 mm (10") must be available at the front of the boiler to enable the boiler to be serviced.

A minimum clearance of 25mm (1in) should also be maintained between the flue pipe and any adjacent combustible material.

Consideration should, where necessary, be given to any extra clearances required for particular installation requirements.

To avoid damage to the boiler jacket it is recommended that the jacket be removed before the boiler body is removed from the pallet.

By lifting off the lower front panel, then by unscrewing the two self tapping screws located at the bottom edge of the upper front panel push back and remove the upper front panel. Lift off the jacket top panel, then by unscrewing the three Pozi pan screws securing each side panel to the boiler body, lift off and remove the side panels.

The cardboard fitting on the boiler cleanout cover must be removed before installation.

DIMENSIONS

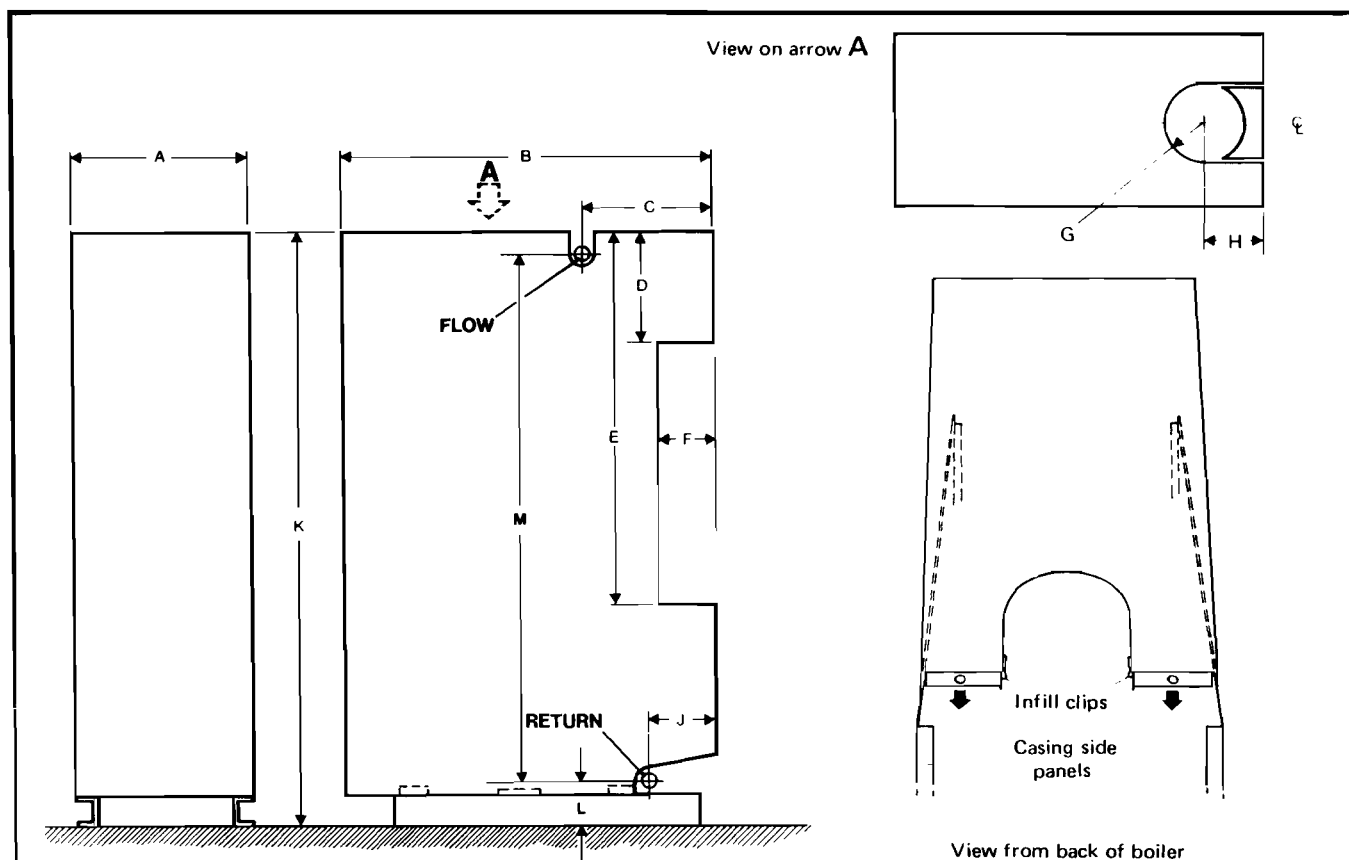


Fig. 4

CASING TOP PANEL ARRANGEMENT

Dimension		A	B	C	D	E	F	G	H	J	K	L	M
Metric	mm	255	535	190	162	540	114	58	83	123	850	75	740
Imperial	in	10.0	21.0	7.5	6.4	21.3	4.5	2.3	3.3	4.8	33.5	3.0	29.1

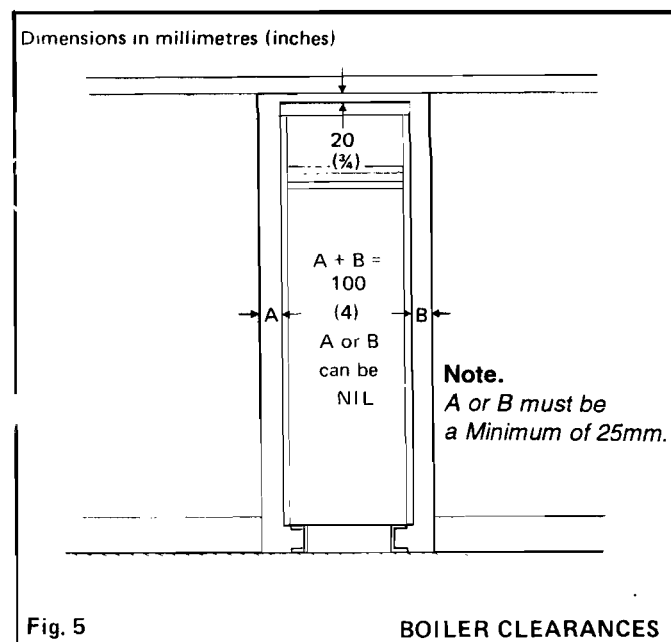


Fig. 5

BOILER CLEARANCES

Remove the heat exchanger from the pallet by undoing the two M6 nuts and bolts, and place it in the selected position ready for water and flue connections. The jacket may now be replaced in reverse order to that described in 'Packaging'

WATER CONNECTIONS (Fig.4)

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

All water connections are Rc1 (1 in. BSP). The front top and bottom plugged connections MUST NOT BE USED.

Two spare blanking-off plugs are provided, in the hardware

pack, for use as necessary in the rear flow or return water connections. Pipework connections to all systems may use flow and return connections on the same side, or opposite sides of the boiler. That is:-

Fully pumped System

In a fully pumped system, either a LH or a RH flow connection, together with a LH or RH return connection, may be used.

Gravity Domestic Hot Water and Pumped Central Heating

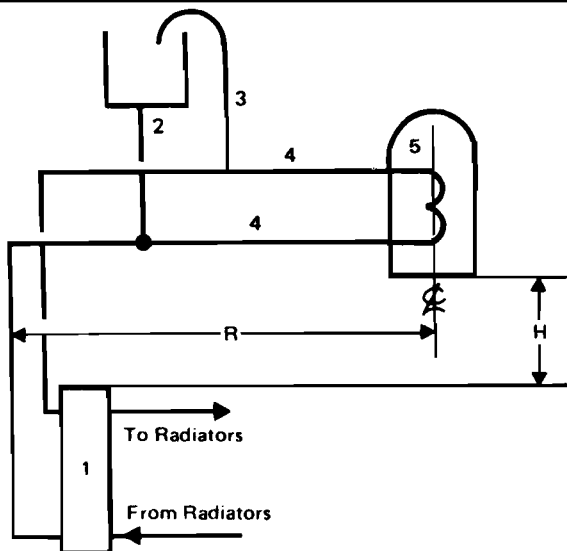
In a gravity DHW and pumped CH system separate flow and return connections are used for each service.

The use of a cylinder thermostat is recommended. This will prevent excessive domestic hot water temperatures and thus reduce gas consumption.

The schematic pipework graph following in Fig.6 has been calculated on the assumption that not more than eight elbows are used in the gravity loop, including entry to the boiler. For each extra elbow in excess of eight, (R) must be reduced by 300mm (12in.) or (H) increased by 100mm (4 in.). The pipe runs for gravity circulation should be planned with reference to the diagram and graph illustrated by Fig.6. Whatever value is selected for (R) (i.e. the horizontal distance between the centre line of the cylinder and the boiler tapplings 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.

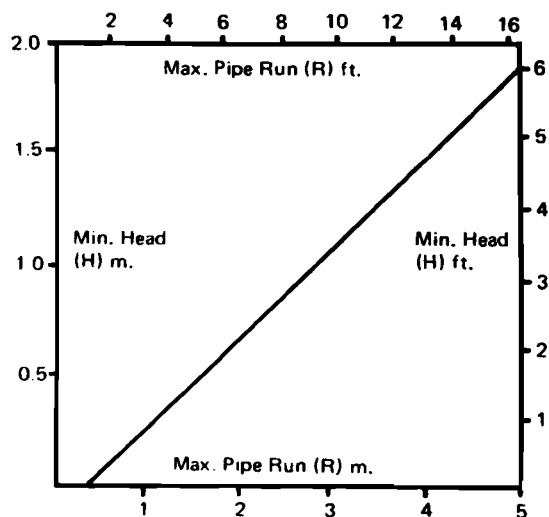
GAS CONNECTIONS

A minimum gas pressure of 20 mbar (8 in. w.g.) MUST be available at the boiler inlet. The main gas cock is at the bottom left of the boiler, and attachment to the gas supply may be either LH or RH.



1. Heat Exchanger
2. Cold Feed
3. Vent 22mm Pipe
4. 28mm Pipe
5. Cylinder

Fig. 6



SCHEMATIC PIPEWORK

ELECTRICAL CONNECTION

WARNING: The appliance **MUST** be efficiently earthed.

A mains supply of 230 V ~ 50Hz single phase is required.

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

Wiring should be in 3 core PVC insulated cable NOT LESS than 0.75mm² (24 x 0.2mm) to BS. 6500, Table 16.

Wiring external to the boiler **MUST** be in accordance with current I.E.E. Wiring Regulations and local regulations.

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

The fuse rating should be 3 A.

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

Wiring within the boiler casing must be neatly secured in the cable clips provided and such wiring must not be permitted to touch the burner plate or the cleanout cover.

INTERNAL WIRING

Remove the top of the control box to gain access to the internal wiring. The internal wiring is illustrated in Figs. 8 and 9.

A wiring diagram is also contained in the lighting instruction plate inside the front casing panel.

Note: The mains lead to the control box must be secured in the cable clip provided.

EXTERNAL CONTROLS

The wiring diagrams illustrated by Figs. 10–16 cover the systems most likely to be fitted to this appliance. All possible combinations of external controls cannot be illustrated.

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 (see Fig. 11).
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.

Wire the mains connector, supplied in the bag of fittings, as follows:

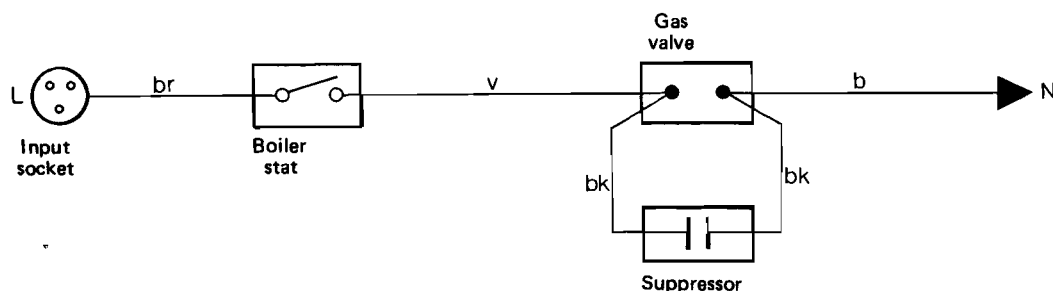
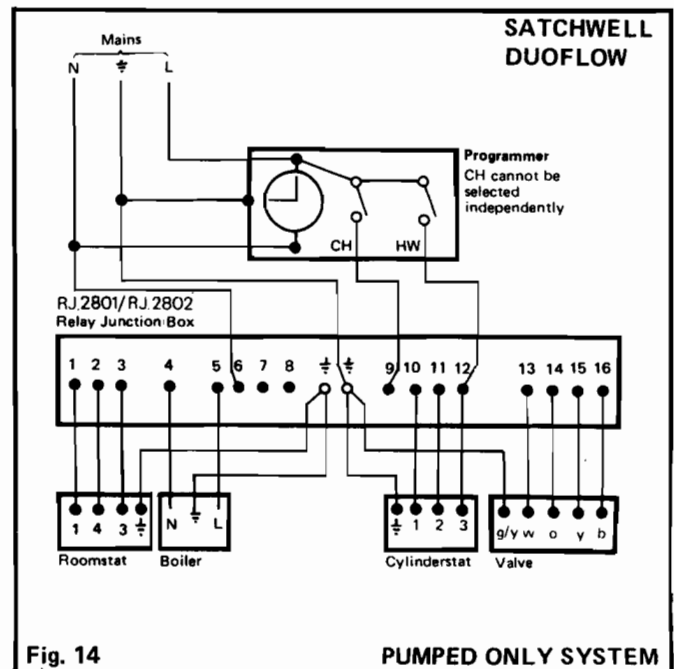
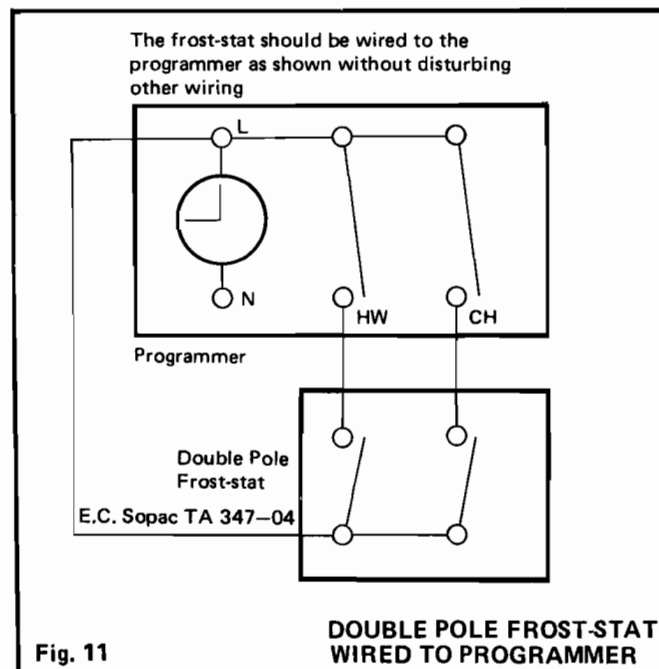
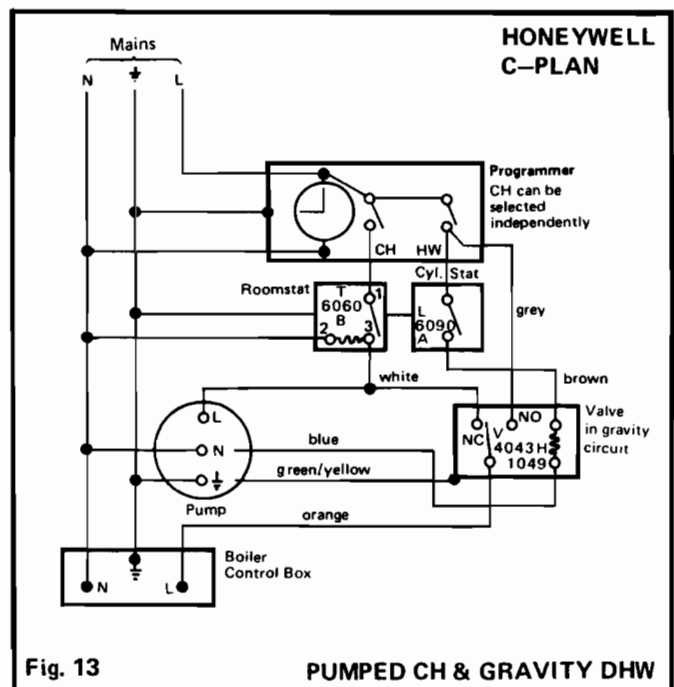
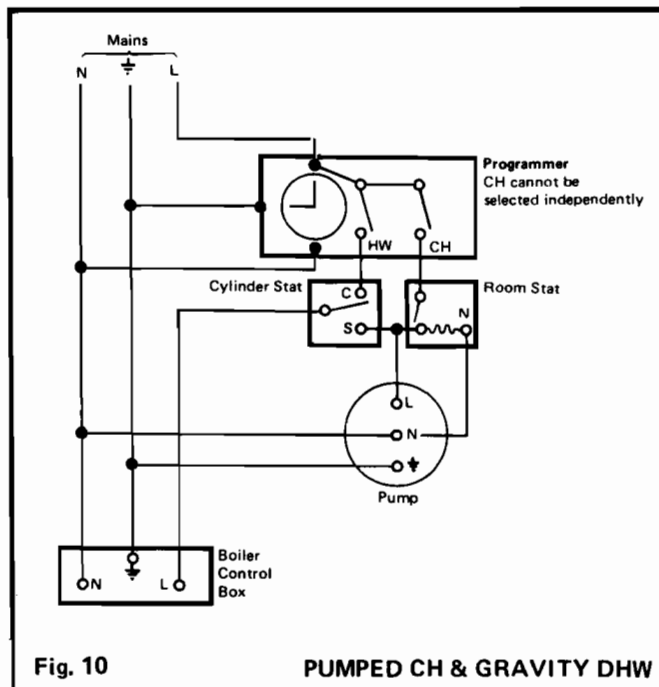
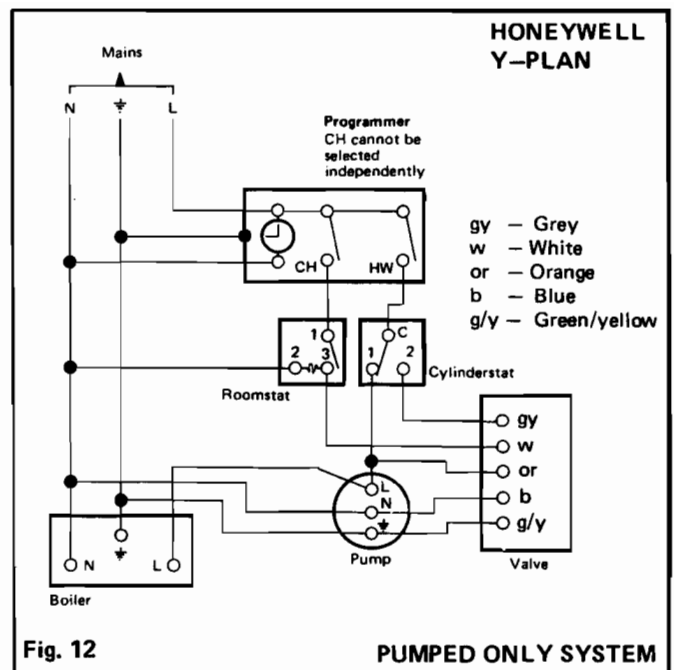
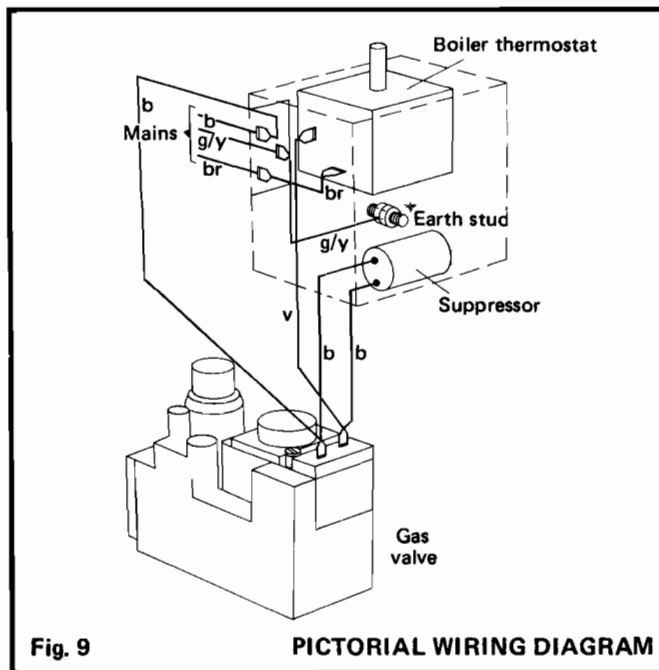


Fig. 8

WIRING DIAGRAM



TWIN MOTORISED VALVES

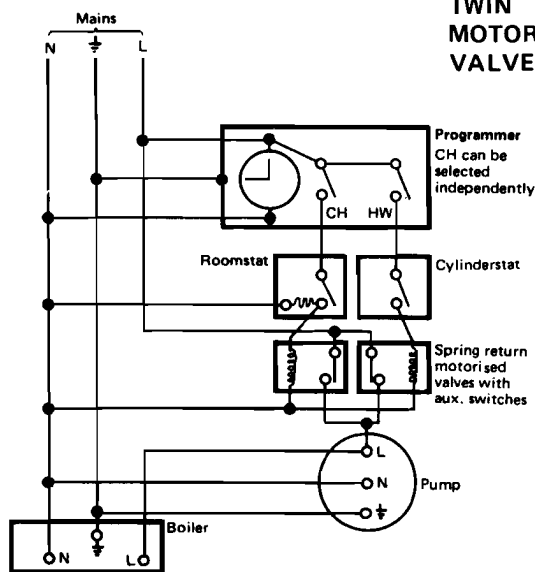


Fig. 15

PUMPED ONLY SYSTEM

Brown cable to the live pin (L)
Blue cable to the neutral pin (N)
Green/Yellow cable to the earth pin (\perp)

The connector may now be plugged into the control box.

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

Note:

1. Connections between the frost thermostat and the time control should be made without disturbing other wiring.
2. The frost thermostat should be sited in a cool place in the house, but where it can sense heat from the system.

COMMISSIONING AND TESTING

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 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 smelt. 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.

INITIAL LIGHTING INSTRUCTIONS (Refer Fig.17)

The inlet gas cock must have been OFF for at least three minutes before initiating the lighting sequence.

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 (8) and connect a gas pressure gauge via a flexible tube.

Turn the gas control knob (4) clockwise until resistance is felt and then release it. Wait for three minutes.

Push in the gas control knob, press and release the piezo unit button (3) repeatedly, until the pilot is seen to light through the sight glass. Hold the gas control knob depressed for 20

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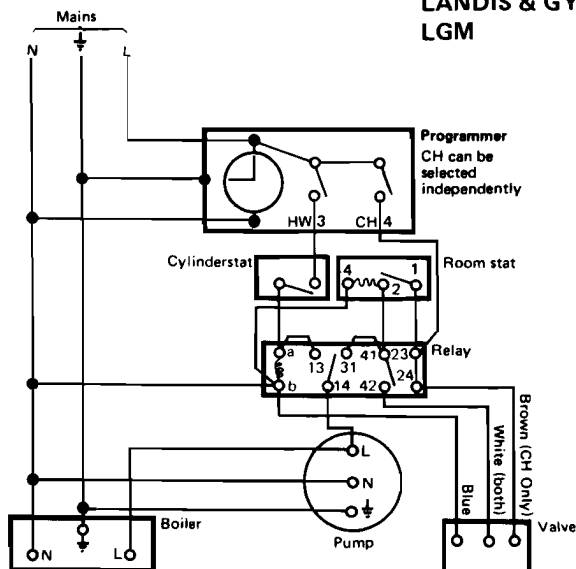
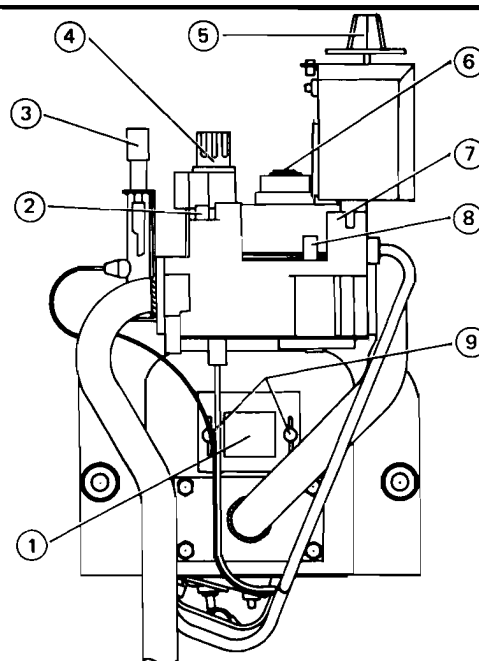


Fig. 16

PUMPED ONLY SYSTEM



1. Sight glass
2. Inlet pressure test point
3. Piezo unit button
4. Gas control knob
5. Boiler thermostat knob
6. Pressure adjusting screw
7. Pilot adjuster screw
8. Burner pressure test nipple
9. Small wing nuts securing sight glass frame

Fig. 17

GAS LINE ASSEMBLY

seconds after the pilot burner has ignited.

Should the pilot light go out, at this or any other stage, turn the gas control knob clockwise and release it. 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 cover 13mm (1/2in) of the thermocouple tip. Turn the pilot adjuster screw (7) anti-clockwise to increase the flame and clockwise to decrease it.

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

Turn the boiler thermostat knob (5) to position 6, the boiler will then light. Operate the boiler for 10 minutes to stabilise the burner temperature. Test for gas leaks around boiler gas components, using leak detection fluid. Check the burner

setting pressure against the values quoted in Table 1. If the burner setting pressure requires adjusting, remove the protective cap and turn the pressure adjusting screw (6) clockwise to increase pressure and anti-clockwise to decrease it.

A screwdriver with a 10mm bit should always be used for adjustment to avoid damaging the plastic head on the screw. Replace the protective cap. Remove the gas pressure gauge and tube and retighten the sealing screw in the pressure test nipple. Check for gas leaks around test nipple.

If the piezo unit should not work for any reason, the boiler may be lit by means of a paper spill. Remove the sight glass (1) and position a lighted spill near the pilot burner.

Push in the gas control knob and hold it depressed until the pilot burner lights; hold down the knob for a further 20 seconds. Replace the sight glass and effect the subsequent lighting procedure detailed in the foregoing instructions.

Any fault on the piezo unit must be rectified.

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 re-lit 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 clockwise until resistance is felt and then release it. 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 re-lit.

3. Check the appearance of the pilot flame and, if necessary, make appropriate adjustment by use of the pilot adjuster screw, refer (7), Fig. 17 — 'Initial Lighting Instructions'.
4. Check there is no spillage of combustion products from the boiler draught diverter by carrying out a spillage test as detailed in BS 5440:1.
5. The correct operation of external system controls should be proved. Turn each, in turn, to OFF and ON and check that the main burner or circulating pump, as the case may be, responds.
6. 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.
7. Finally, set the controls to the User's requirements.

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

Knob Setting	Flow Temperature	
	°C	°F
1	54	130
2	60	140
3	66	150
4	71	160
5	77	170
6	82	180

USER'S INSTRUCTIONS

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

1. Hand the supplied '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.
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 conditions.
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:

Switch OFF, and disconnect, the electricity supply and turn OFF the inlet gas cock BEFORE servicing the boiler.

A comprehensive service should be carried out at least once a year. The User is advised to make a contract with the Gas Region or a qualified Heating Engineer.

Remove the lower front panel of the cabinet, then by unscrewing the two self tapping screws located at the bottom edge of the upper front panel push back and remove the upper front panel.

Unscrew the union nut at the main gas cock. Disconnect the mains plug from the boiler control box. Remove the phial of the boiler thermostat from its pocket.

Remove the wing nuts and washers, securing the burner front plate, and remove the burner assembly complete with the gas valve, control box and associated gas line etc., from the

LEGEND

- | | |
|-----------------------------|---------------------|
| 1. Burner gauze (not shown) | 10. Spark electrode |
| 2. Burner | 11. Pilot injector |
| 3. Piezo unit | 12. Pilot burner |
| 4. Gas valve | |
| 5. Control box | |
| 6. Sight glass | |
| 7. Pilot pipe | |
| 8. Burner injector | |
| 9. Thermocouple | |

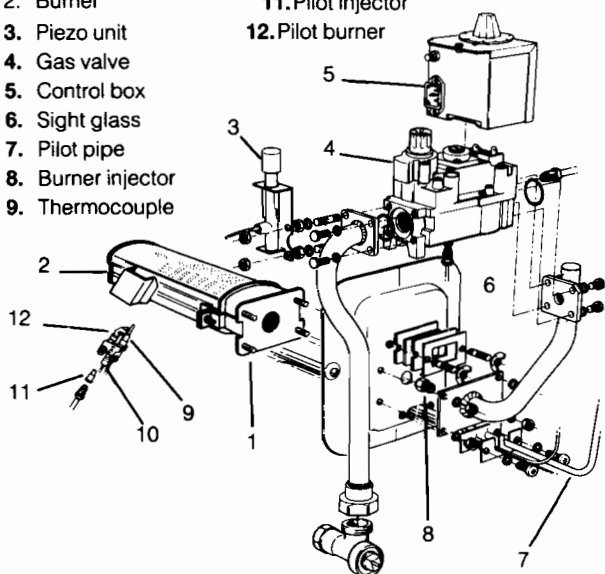


Fig.18

CF 40 BURNER / GAS LINE ASSEMBLY

LEGEND

- | | |
|-----------------|---------------------|
| 1. Burner gauze | 8. Burner injector |
| 2. Burner | 9. Pilot bracket |
| 3. Piezo unit | 10. Thermocouple |
| 4. Gas valve | 11. Spark electrode |
| 5. Control box | 12. Pilot injector |
| 6. Sight glass | 13. Pilot burner |
| 7. Pilot pipe | 14. Burner baffle |

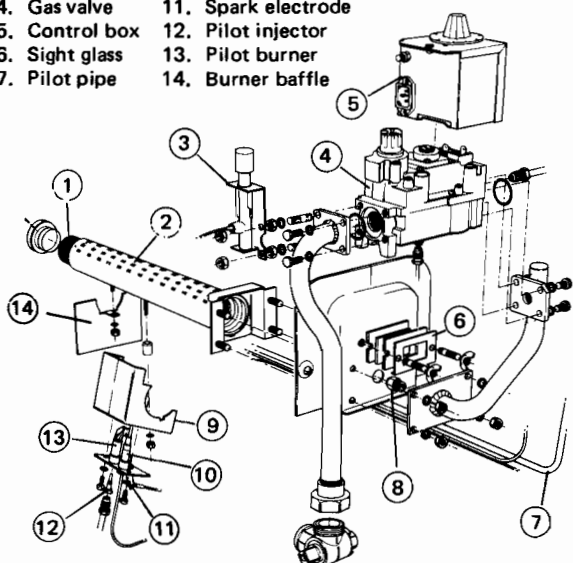


Fig. 19

boiler. Remove to a convenient working surface for attention.

CF 40 only

Disconnect the HT lead from the spark electrode. Ease up the retaining clip and remove the electrode downwards. Disconnect the thermocouple and the pilot gas pipe from the pilot burner assembly, retaining the pilot injector in a safe place.

Remove the two nuts holding the burner to the air box, slide off the burner/venturi assembly. Carefully remove the venturi from the burner. The gauze can now be removed and cleaned. Be sure to replace the pilot injector on re-assembly.

CF 50 only

Remove the two split pins securing the burner end cap. The cap, together with the circular gauze, can now be removed from the burner bar. Clean the gauze to remove any deposits of lint, fluff etc. and brush off any deposits that may have fallen on the burner head. Ensure that the flame ports are unobstructed and remove any debris that may have collected in the burner body.

Note: Brushes with metallic bristles must NOT be used.

When replacing a defective CF 50 main burner, it is most important that the baffle (14) (refer Fig.19) is fitted to the new burner.

Inspect the pilot burner, thermocouple and ignition electrode and ensure they are clean and in good condition.

FLUEWAYS

Remove the complete burner assembly (Figs. 18 and 19), also the cleanout cover at the top of the boiler, and the flue restrictor situated above the flueway fins. Remove all loose deposits from the heat exchanger, particularly from the flueways formed between the fins, using a suitable flexible brush, (available from local Gas Regions, ref. No.4798 A, C and K), and sweep the debris from the combustion chamber floor.

Refit the flue restrictor, cleanout cover and the burner assembly, replacing any damaged or deteriorated sealing gaskets. Complete the gas and electrical connections.

PILOT BURNER

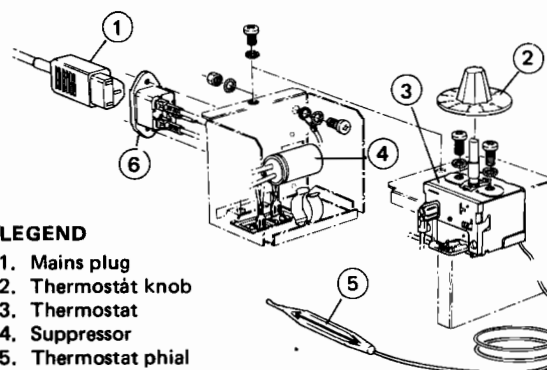
Light the boiler and check that:

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. 21 A or B
2. The pilot flame covers 13mm (1/2in) of the thermocouple tip. Turn the adjuster screw (7) – Fig.17, anti-clockwise to increase the flame, and clockwise to decrease it.

ADJUSTMENT OF GAS PRESSURE

After each occasion of servicing, reference should be made to Table 1 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 (6) illustrated in Fig. 17.



LEGEND

- | |
|---------------------|
| 1. Mains plug |
| 2. Thermostat knob |
| 3. Thermostat |
| 4. Suppressor |
| 5. Thermostat phial |
| 6. Mains socket |

Fig. 20

CONTROL BOX ASSEMBLY

Replace the upper and lower front panels in reverse order to that under the heading 'PACKAGING'.

REPLACEMENT OF COMPONENTS

WARNING:

ALWAYS TURN OFF THE GAS SUPPLY AND SWITCH OFF THE ELECTRICITY SUPPLY BEFORE WORKING ON THE APPLIANCE.

Note:

To replace the following components it will be necessary to remove the casing lower front panel.

Sight Glass

Undo 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. Re-tighten the two wing nuts to ensure an air-tight joint but DO NOT OVERTIGHTEN.

Boiler Thermostat

Remove the electrical plug connection at the side of the control box. Remove the split pin and withdraw the phial from the pocket. Remove the screw on the top left hand side of the control box and lift away the top half of the control box from the bottom half of the control box. It is not necessary to disconnect the lead to the gas valve.

Pull off the thermostat knob and the two electrical connections to the thermostat head.

Unscrew the two screws holding the thermostat to the control box and withdraw the thermostat capillary from the plastic clip inside the control box. Fit the replacement thermostat and re-assemble in reverse order.

Piezo unit

Unplug the igniter lead from the piezo unit body, remove the two nuts securing the body to the studs on the gas valve and fit the new unit. Re-connect the igniter lead.

Igniter Lead

Switch off the electricity supply and disconnect the mains plug from the boiler control box.

Turn off the inlet gas cock and disconnect the union nut.

Withdraw the boiler thermostat phial from the pocket after removing the split pin.

Remove the wing nuts securing the burner front plate. This plate, complete with burner assembly and gas line, can now be removed from the boiler. The igniter lead can be removed by disconnecting at the piezo unit and the electrode. Fit the new lead and re-assemble in reverse order.

Thermocouple

Remove the burner assembly as previously described. Undo the thermocouple connections at the pilot burner and gas valve. Fit new thermocouple. Avoid sharp bends in the thermocouple lead. Re-assemble in reverse order.

Electrode

Remove the burner assembly as above (under 'Igniter Lead' paragraph). Pull off the igniter lead at the electrode. The CF 40 electrode is held by a clip which should be gently prised aside; the electrode can then be withdrawn downwards.

The CF 50 electrode is secured by a nut. Remove the nut and withdraw the electrode upwards. Re-assemble in reverse order.

Pilot Burner

Remove the burner assembly (described under 'Igniter Lead'). Remove igniter electrode (described under 'Electrode'). Undo the thermocouple and pilot pipe connections at the gas valve and at the pilot burner. Undo the two screws holding the pilot burner to the pilot burner bracket. The pilot burner can now be withdrawn. Fit the new pilot burner, ensuring that the pilot injector is in position when refitting the pilot pipe, and re-fit the thermocouple and electrode. Re-assemble in reverse order.

Control Box

Disconnect the electrical plug connection at the left hand side of the control box. Remove the split pin and withdraw the thermostat phial from the pocket. Remove the screw on the top left hand side of the control box and withdraw the top half of the control box from the lower half.

Disconnect the leads from the gas valve. Remove the lower half of the control box from the gas valve by unfastening the securing screw. Fit the new control box in reverse order.

GAS VALVE AND MAIN BURNER

Remove the burner and control assembly as previously described under 'Igniter Lead'.

Main Burner - CF 40

Remove the igniter electrode and pilot burner assembly as described above. Undo the four nuts securing the main burner to the front plate and gas valve outlet pipe and withdraw the burner.

Fit the new burner in reverse order, taking care not to damage the main injector in the end of the gas valve outlet pipe. Refit the pilot burner, pilot pipe, thermocouple and igniter electrode.

Main Burner - CF 50

Undo the nut securing the pilot bracket to the main burner and remove the pilot bracket.

Undo the four nuts securing the burner to the front plate and gas valve outlet pipe and withdraw the burner. Remove the nuts securing the burner baffle to the burner (ensure that this baffle is refitted to the new burner).

Fit the new burner in reverse order, being careful not to damage the main burner injector which is screwed into the end of the gas valve outlet pipe.

Gas Valve

Remove the control box as previously described. Remove the piezo unit by unfastening the two nuts which secure the body to the studs on the gas valve. Undo the pilot pipe and thermocouple connections at the gas valve.

Unfasten the two nuts and screws securing the gas supply pipe to the left hand side of the gas valve. Unfasten the four screws securing the gas valve outlet pipe. The two sealing 'O' rings should be discarded, and new 'O' rings fitted.

Re-assemble in reverse order ensuring that the new gas valve is fitted the right way round (an arrow engraved on the gas valve indicates the direction of flow).

Ensure that the sealing 'O' rings are fitted correctly between the flanges on the end of the gas pipes and the gas valve. Check the complete assembly for gas soundness.

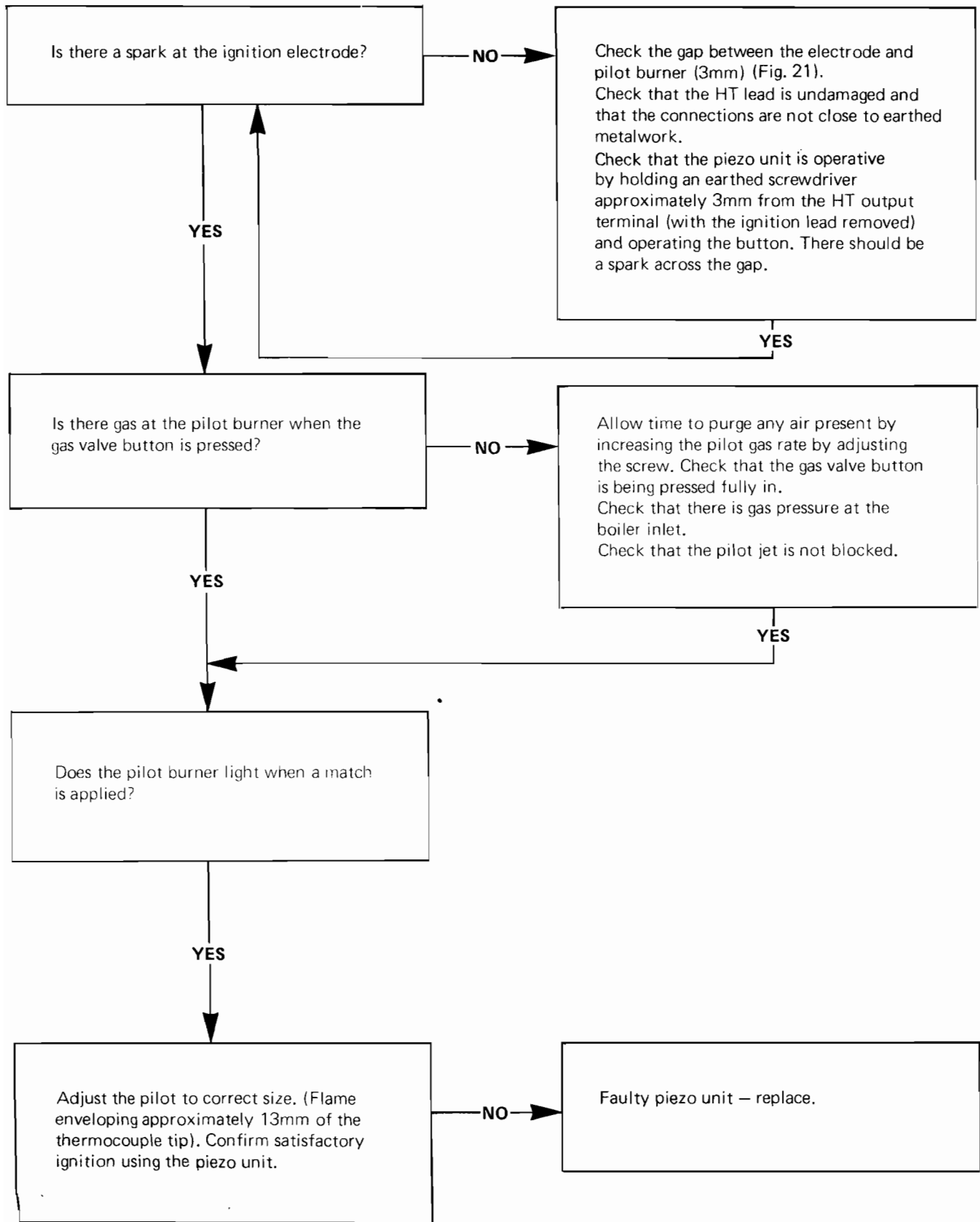
IMPORTANT

Use an approved jointing compound when replacing the main burner injector or service cock.

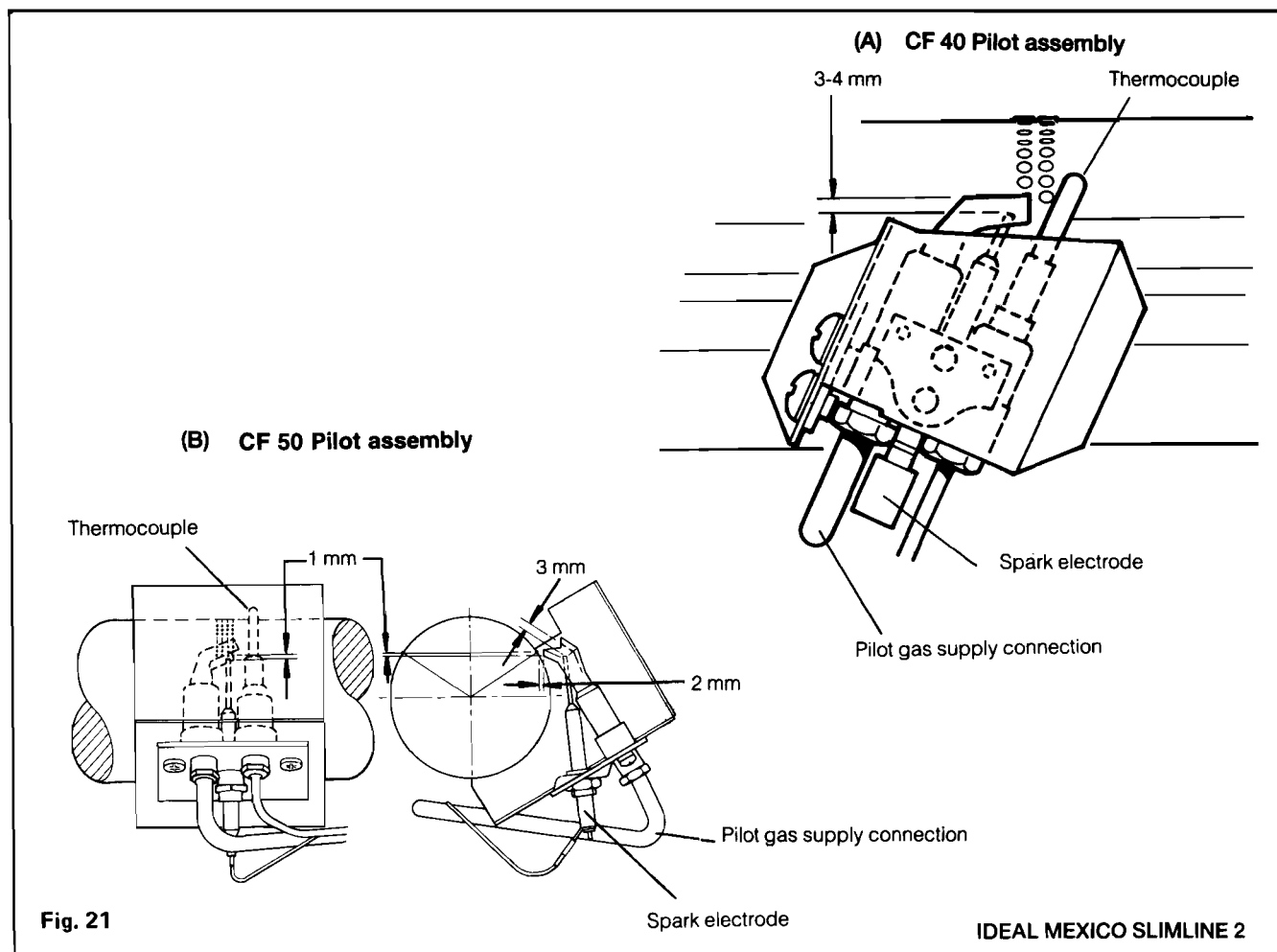
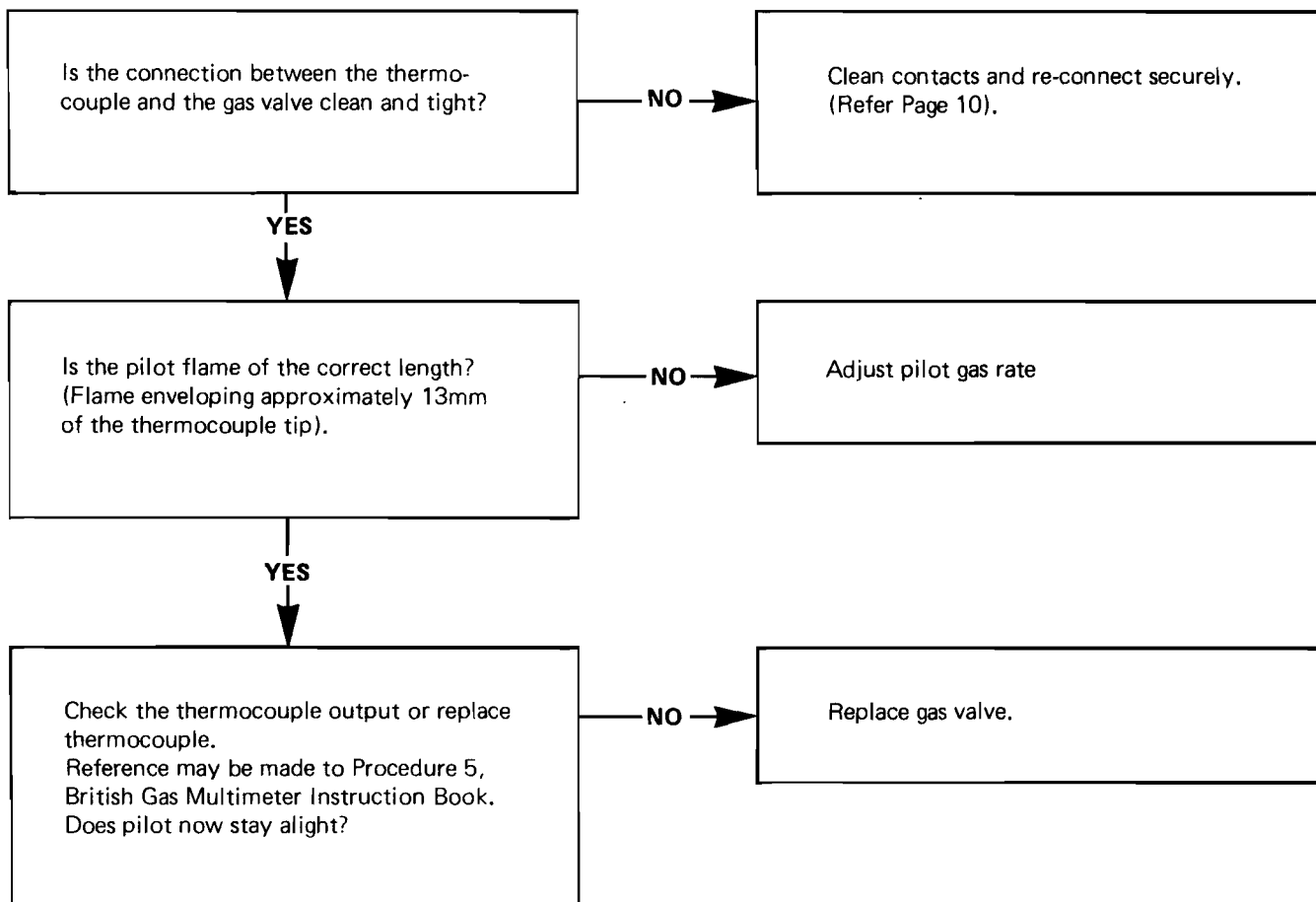
FAULT FINDING

Detailed instructions on the replacement of faulty components will be found in the Servicing section of this booklet.

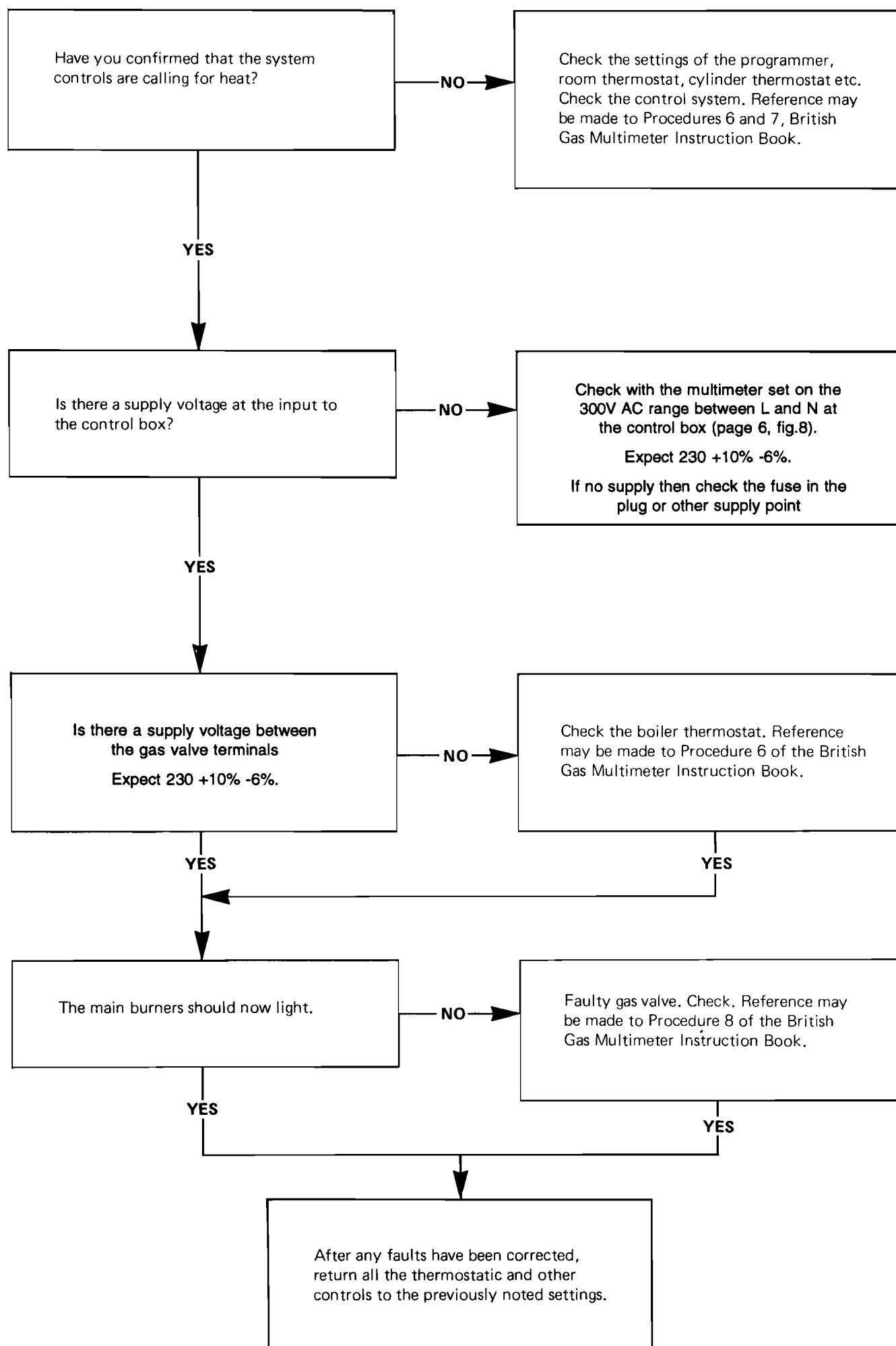
PILOT WILL NOT LIGHT:



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

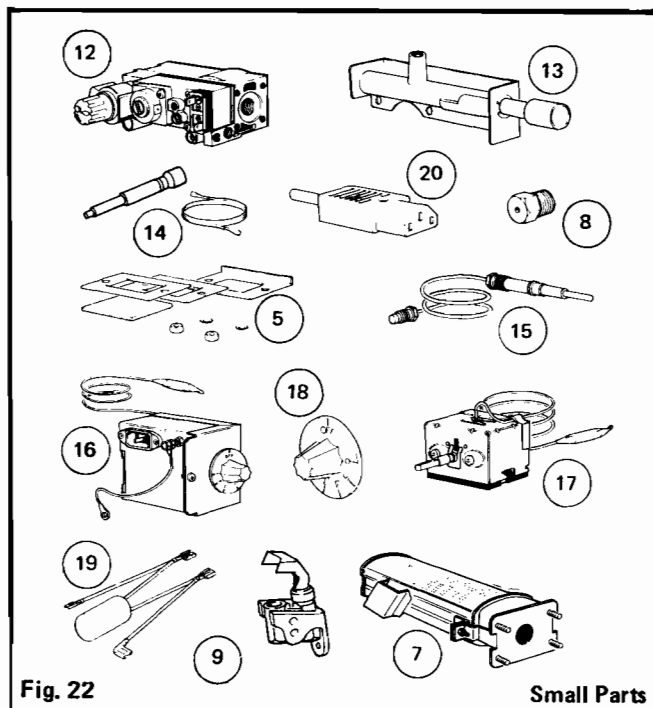


PILOT LIT BUT NO MAINS GAS:



SHORT LIST OF PARTS

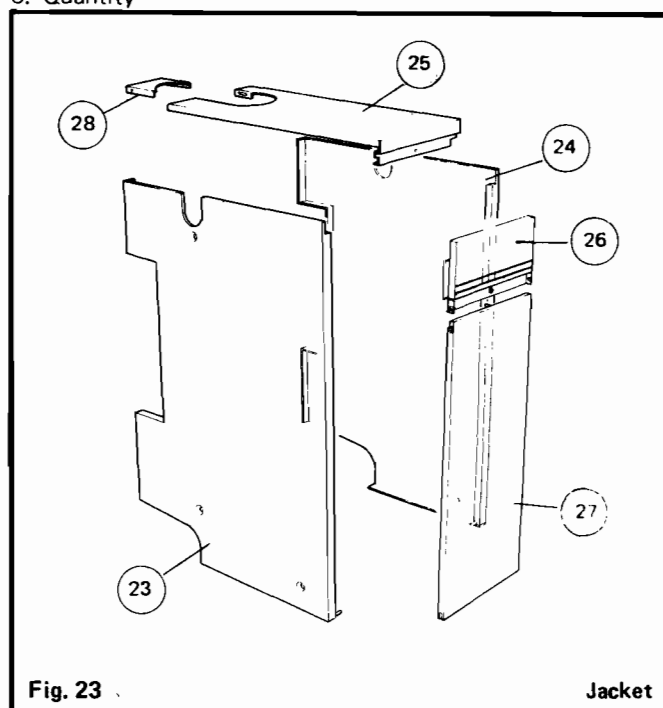
The following list comprises parts commonly required as replacements. It is extracted from the B.G.C. List of Parts which contains all available spare parts. Copies of the B.G.C. lists are held by Gas Regions, Caradon Ideal Ltd. distributors and by merchants



IDEAL MEXICO SLIMLINE 2, CF 40 GAS BOILER

When ordering spares, please quote:

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



Key No.	B.G.C. Pt. No.	Description	No. Off	Maker's Pt. No.
5	319 414	Sight glass assembly kit	1	079334
7	378 371	Main burner Aeromatic AC19/123 291 (less injector) complete with pilot burner bracket.	1	100 165
8	398 339	Burner injector Bray Cat.16 size 1100	1	003 279
9	382 944	Pilot burner Honeywell Q385A 1079 complete with injector (Honeywell 45 004 108 001 marked 38/36A)	1	079 355
12	393 659	½in. BSP Honeywell Compact gas control V.4600A 1023 240v	1	003 114
13	388 047	Spark generator Vernitron 60038/01	1	052 288
14	308 476	Ignition electrode and HT lead assy. (HT lead 600 mm long)	1	079 686
15	390 039	Thermocouple Honeywell Q.309A 2739 600mm lg.	1	000 842
16	341 060	Control box including Key Nos. 17,18 and 19	1	053 621
17	382 401	Thermostat Ranco CL6 P0104 with 24 in. capillary (replaces C26 P0616 interchangeable)	1	003 178
18	341 359	Thermostat knob assembly (PLASTEX)	1	057 263
19	393 390	Suppressor assy. ITT TS121A plastic can type with wiring harness	1	058 887
20	354 776	Mains connector Ashley or Bulgin to CEE 22 Sheet V and BS.4491	1	003 069
22	319 464	Jacket White stove enamel with, White upper front panel including key No.s 23, 24, 25, 26, 27 & 28	1	078 224
23	341 072	LH Side jacket panel assy. White stove enamel	1	132 260
24	341 073	RH Side jacket panel assy. White stove enamel	1	132 261
25	341 074	Jacket top panel assy. White stove enamel	1	132 263
26	319 346	Jacket upper front panel assembly. White stove enamel	1	078 221
27	341 248	Jacket lower front panel assy. White stove enamel complete with instruction plate and location plug	1	078 230
28	341 266	Jacket top panel infill piece	1	132 244



**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.

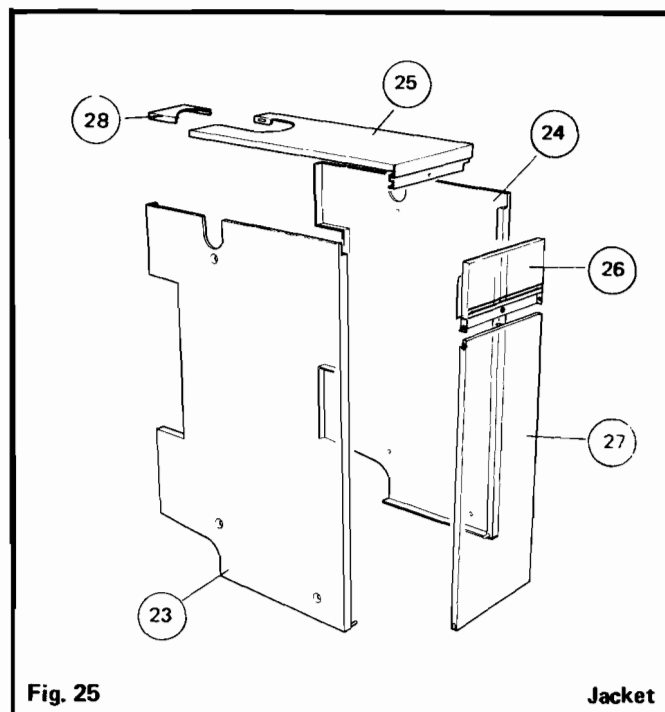
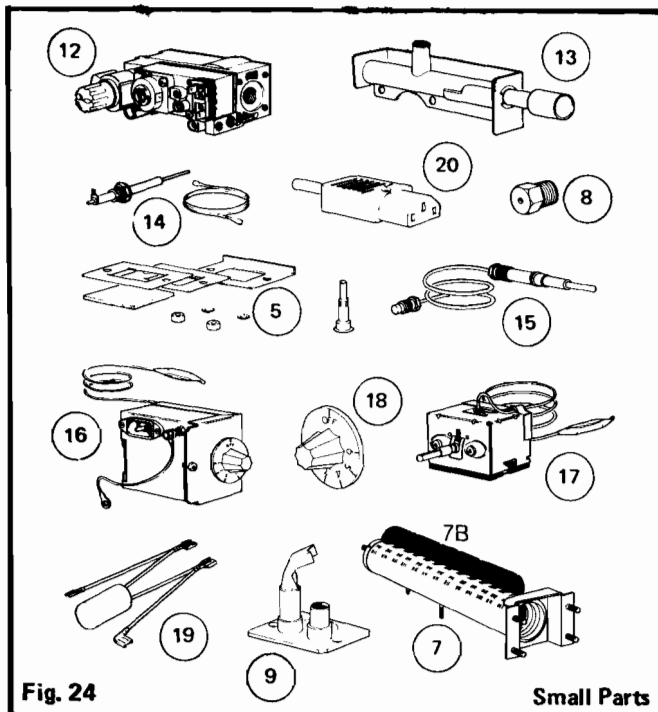
SHORT LIST OF PARTS

The following list comprises parts commonly required as replacements. It 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, Caradon Ideal Ltd. distributors and by merchants

IDEAL MEXICO SLIMLINE 2, CF 50 GAS BOILER

When ordering spares, please quote:

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



Key No.	B.G.C Pt. No.	Description	No. Off	Maker's Pt. No.
5	319 414	Sight glass assembly kit	1	160079334
7	398 252	Main burner Bray Mk. 9 AB 16642 LR (less injector)	1	129198735
7B	341 070	Lint arresting gauze	1	129198750
8	398 330	Burner injector Bray Cat.16 Size 1350	1	129198736
9	391 664	Pilot burner Honeywell Q.359A 1041 complete with injector Key No.10	1	129198740
10	391 665	Pilot burner injector Honeywell 0.30A 45000062-010	1	589040081
12	393 659	1/2in. BSP Honeywell Compact gas control V4600A 1023 240v	1	586121900
13	388 047	Spark Generator Vernitron 60038/01	1	586810087
14	341 961	Ignition electrode and HT lead assy. (HT lead 460mm lg.)	1	589030088
15	390 039	Thermocouple Honeywell Q.309A 2739 600mm lg.	1	576890051
16	341 060	Control Box including Key Nos. 17, 18, 19	1	586811270
17	382 401	Thermostat Ranco CL6 P0104 with 24 in. capillary (replaces C26 P0616 interchangeable)	1	586121511
18	341 359	Thermostat knob assembly (FASTEX)	1	586011517
19	393 390	Suppressor assy. ITT TS121A plastic can type with wiring harness	1	589040010
20	354 776	Mains connector Ashley or Bulgin to CEE 22 Sheet V and BS.4491	1	589030015
22	319 464	Jacket White stove enamel with, White upper front panel including key No.s 23, 24, 25, 26, 27 & 28	1	129278211
23	341 072	LH Side jacket panel assy. White stove enamel	1	129198112
24	341 073	RH Side jacket panel assy. White stove enamel	1	129198113
25	341 074	Jacket top panel assy. White stove enamel	1	129198116
26	319 346	Jacket upper front panel assembly. White stove enamel	1	129308217
27	341 248	Jacket lower front panel assy. White stove enamel complete with instruction plate and location plug	1	129308118
28	341 266	Jacket top panel infill piece	1	129198122

CARADON IDEAL Ltd. pursues a policy of continuing improvement in the design and performance of its products. The right is therefore reserved to vary specification without notice.

Customer Care & Technical Support

Please use the following numbers for speedy assistance.

Ideal Parts..... Tel: 01482 498 665
..... Fax: 01482 498 489

Customer Care & Technical Support.

Scotland/N. England/Midlands..... Tel: 01482 498 636
Southern England/S. Wales..... Tel: 01482 498 660

..... Fax: 01482 498 666
Publications/Literature..... Tel: 01482 498 467

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i Ideal BOILERS

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