

Baxi W.M. 5513 OF

Baxi W.M. 40/3 OF

Central heating boilers Cat. 1 N

Installation and Servicing Instructions

G.C. No. 41 077 37

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Baxi W.M. 55/3 OF- Baxi W.M. 40/3 OF

Introduction

The Baxi WM 55/3 OF is a wall mounted open flue boiler range rated between 16.1 kW (55,000 Btu/h) and 10 kW (34,000 Btu/h) heat outputs.

The Baxi WM 40/3 OF is a wall mounted open flued boiler range rated between 11.7 kW (40,000 Btu/h) and 7.3 kW (25,000 Btu/h) heat outputs.

These appliances are set at maximum output.

The appliances are designed for use on Natural Gas only and consist essentially of three components namely:

1. Wall mounting plate.
2. Combustion chamber with heat exchanger, burner, controls and draught diverter hood.
3. Outer Case.

Installation Requirements:

General

The installation must be carried out by a competent installer and be in accordance with relevant BS Codes of Practice, I.E.E. Wiring Regulations, Gas Safety Regulations, Building Regulations and byelaws of the local Water Undertaking. References should be made to B.S. Codes of Practice CP331 -

Part 3, B.S. 5440 Parts 1 and 2, B.S. 6798, B.S. 5449 Part 1 and B.S. 5546

Siting

The unit must be fitted on a wall suitable to meet the requirements of the open flue and be capable of supporting the assembled appliance. It may be fitted on a wall of timber construction. It should not be installed in a bathroom, bedroom or bed sitting room. Details of essential features of cupboard/compartment design are given in BS. 6798.

Clearances

A vertical area is required for the appliance as follows: 520mm (21 in) wide x 870mm (34in) high. The above dimensions include the necessary clearances around the appliance for case removal, spanner access and for air movement. The minimum outer case clearances are indicated in [Fig. 2](#) and are as follows:

Top	Minimum 100mm (4in).
:	(Additional clearance may be required for the passage of pipes around local obstructions such as joists running parallel to the front face of the appliance).
Bottom	Minimum 100mm (4in).
:	
Sides	Minimum 10mm (3/8in).
Front	Suitable for servicing access.

The wall mounting plate should be used as a template to determine the position of the appliance on the wall.

Ventilation

Detailed recommendations for air supply are given in B.S. 5440:2.

The following notes are intended to give general guidance.

The room in which the unit is situated requires a permanent air vent which must be either direct to outside air or to an adjacent room or internal space which must itself have a permanent air vent of at least the same size direct to outside air.

The minimum effective area of the permanent air vent(s) is specified below and is related to the maximum rated input of the appliance.

Minimum Free Area of Air Vent:	
WM 55/3 OF	66cm ² (10 sq. in.)
WM 40/3 OF	50cm ² (7.5 sq. in.)

If, however, the boiler is fitted in a compartment which has such ventilation direct to outside, the room containing the compartment does not require additional ventilation.

Fitting in a compartment

The unit may be fitted in a specially built or modified compartment meeting the following general requirements:

1. Preferably it should be only of sufficient size to permit access for inspection and servicing of the unit and the compartment.
2. The use of an oversize compartment which can be used as a storage cupboard should be avoided. If this is not possible then arrangements should be made to prevent materials stored in the cupboard from coming in contact with hot surfaces on the boiler or flue.
3. The door should be of sufficient size to permit the unit to be withdrawn from the compartment.
4. Two permanent air vents must be fitted to the compartment as table below.
5. When the compartment is ventilated to the room then the room itself must have permanent ventilation as indicated in VENTILATION.

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

FREE AREA OF AIR VENTS				
	TO ADJACENT ROOM		TO OUTSIDE	
Position of opening	WM 55/3 OF	WM 40/3 OF	WM 55/3 OF	WM 40/3 OF
HIGH LEVEL	200cm ² (30in. ²)	150cm ² (23in. ²)	100cm ² (15in. ²)	75cm ² (12in. ²)
LOW LEVEL	400cm ² (60in. ²)	300cm ² (46in. ²)	200cm ² (30in. ²)	150cm ² (23in. ²)

Flue arrangements

Detailed recommendations for flues are given in B.S. 5440:1.

The unit is intended for connection with 100mm (4in) flue tube.

The integral draught diverter of the unit makes the combustion performance independent of conditions in the secondary flue but in common with other fuels an efficient flue is necessary to ensure a trouble-free installation.

Open Flue requirements are:

1. The flue should be kept as short and as warm as possible. Minimum equivalent height 1.2m (4ft).
2. Give maximum possible vertical rise from the appliance before using any bends, wherever possible at least 600mm (2ft). Avoid the use of right angled bends.
3. Terminate in an approved terminal preferably above ridge height but at least above the eaves of a pitched roof.
4. If 'Twin-wall' type flue tubing is to be used the inner tubing of the boiler adaptor must not project into the draught diverter of the boiler. An adaptor which meets this requirement is obtainable.
5. An existing brick chimney should be lined with acid and moisture resistant materials such as stainless steel flexible flue pipe. This is particularly important if the flue is above 6.5m (20ft) in height and not wholly internal. Whether or not the chimney is to be lined it must be swept thoroughly before the installation.
6. Whatever type of flue is used must be properly supported and not simply rested on the boiler.

Water Circulation Systems

The unit is suitable for use with fully pumped systems (small bore and micro bore with open vents) and gravity domestic hot water with pumped central heating systems.

The unit is not suitable for use with sealed systems. When the unit is to be installed on an existing or new gravity domestic hot water and pumped central heating system the following considerations should be given to the design of the gravity domestic hot water flow and return pipes.

(i) The minimum circulating head should not be less than 1m (3ft) with a maximum horizontal run of 3m (10ft) when using 28mm (1in) pipes. Smaller pipe sizes and longer horizontal runs are acceptable with suitably increased circulating heads.

(ii) The system must be designed to prevent reversed circulation.

(iii) Pipes should be laid to maximum fall avoiding points of possible air lock.

The following conditions should be observed on all types of system.

(i) THE WATER SPREADER ADAPTER MUST BE FITTED TO THE BOILER RETURN CONNECTION ON ALL SYSTEMS.

(ii) The static head must not exceed 30m. (100ft) of water.

(iii) The boiler must only be used with an indirect cylinder.

(iv) Drain points should be fitted to the lowest points in the system.

(v) All electrical wiring, gas and water pipes must be installed in a way which will not restrict the servicing of the boiler.

(vi) Arrangements must be made so that gravity circulation does not take place in the heating circuit when the pump is not in use.

Gas Supply

The gas installation should be in accordance with C.P. 331: Part 3.

The connection of the appliance is Rc1/2 (1/2in BSPT internal) located at the bottom right hand side of the appliance.

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

Electrical Supply

External wiring must be correctly earthed and polarised and in accordance with the I.E.E. Wiring Regulations.

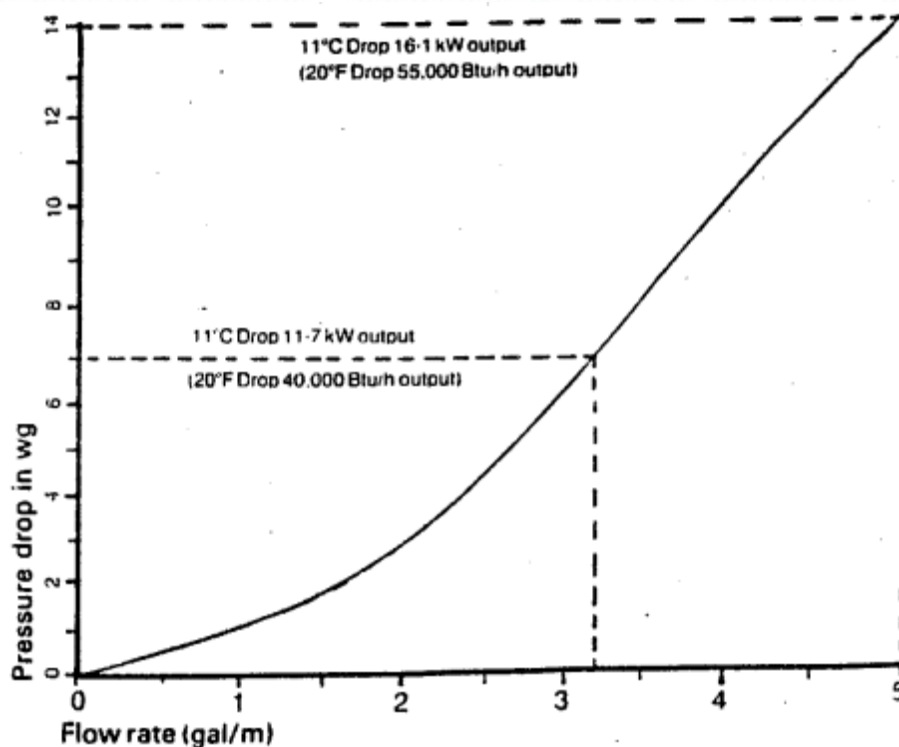
For wiring instructions see '[ELECTRICAL CONNECTIONS](#)'.

Appliance Details

Overall sizes with outer case in position.

Height	670mm (26in)
Width	500mm (20in)
Forward projection	
from wall	330mm (13in)
Weight empty	60.2kg (133lbs)
Water content	2.7 litres (6 gallons)
Boiler tapplings	3xRc1 (1 in BSPT internal)
Gas connections	Rc1/2 (1/2in BSPT internal)
Electrical supply	240VA.C. 50Hz-3 amp fuse
Max. working head	30m (100ft)
Flue connection size	100m (4in)
Recommended	
thermocouple	
output	10-15 millivolts

Hydraulic Resistance Chart



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Fitting the Appliance

1. Select the most suitable position for the boiler using the wall mounting plate as a template, ensuring adequate clearances where necessary. ([Fig. 2.](#)) Note that the centre of the flue is NOT the centre of the outer case.
2. If the bottom edge of the outer case is required to line up with the wall cupboards, the lower edge of the plate should be positioned 63mm above the bottom edge of the cupboards.
3. (a) Position the plate to the wall ensuring correct level.
(b) Mark the three widest sound anchorage points.
(c) Remove the plate and drill the anchorage holes 10mm diameter (3/8in), 90mm deep ensuring the holes are not more than 1 mm (1/32in) oversize.
4. Secure the wall fixing plate to the wall with the three coach screws provided ensuring that the frame is horizontal.
5. Lift the combustion chamber assembly into position on to the two brackets on the wall mounting plate until the screws drop into the slots and secure.

he four screws to the wall mounting plate with the nuts and washers provided ([Fig. 4](#)).

6. Connect the outer support bracket onto the studs or the draught diverter using the M6 wing nuts provided (see [Fig. 26](#)).

7. Connect the plug and socket retaining bracket to the R.H. side of the combustion box using the screws provided (see [Fig. 16](#)).

8. Connect the flue pipe (see '[Flue Arrangements](#)').

9. Connect the water flow and return pipes (see '[Boiler Connections](#)').

10. Connect the gas supply (see '[Gas Connections](#)').

11. Connect the electrical supply (see '[Electrical Connections](#)' (page 7)).

12. Complete the installation as outlined in 'Commissioning the Appliance' ([page 7](#)).

Installation of Water Circulation System

(BS 5376:2, BS 5449:1)

(a) BOILER CONNECTIONS.

The boiler has three Rc1 (1 in BSPT internal connections on the right hand side and is supplied with the following fitting.

1 off- 1in BSP plug.

2 off -22mm street elbows.

2 off-1in BSPTx 22mm adapters with compression nuts and olives.

NB. ONE ADAPTER IS FITTED WITH A PLASTIC WATER SPREADER. THIS MUST BE FITTED TO THE BOTTOM RETURN CONNECTION ON ALL SYSTEMS.

Additional fittings are supplied for gravity domestic hot water.

1 off-injector tee.

1 off -28mm street elbow.

1 off-1 in BSPx28mm adapter with compression nut and olive.

(b) The adapters can be fitted in the appropriate connections - see [Fig. 5 & 6](#) before lifting the boiler into position on the wall.

(c) Pipework can be routed over the top of the combustion box to a position anywhere across the width of the casing and arranged to clear ceiling joists at right angles to the front face of the appliance.

(d) When installing the pipework ensure that:

(i) Fittings are used at the first joint of all boiler connections.

(ii) The pipework will run through the cutouts provided in the case when it is fixed ([Fig. 1](#)).

(iii) Drain off points should be provided as appropriate.

(iv) Pipe sizes are suitable for the system design.

Pumped Domestic Hot Water and Pumped Central Heating System

The pipes should be connected in the following order: See [Fig. 5](#) for example.

(a) Fit the adapter with the plastic water spreader in the bottom return tapping on the boiler.

Do not use excessive jointing material which may obstruct the holes in the spreader.

(b) Fit an adapter 1 in BSPx22mm in either of the two flow tapplings and plug the unrequired flow connection with the 1 in BSP plug provided.

(c) Connect the flow and return pipework using the 22mm street elbows, nut and olives provided.

Gravity Domestic Hot Water and Pumped Central Heating System

The pipes should be connected in the following order, see [Fig. 6](#) for example.

(a) Fit the adapter with the plastic water spreader in the bottom return tapping. Do not use excessive jointing material which may obstruct holes in the spreader.

(b) Fit the gravity injector tee, provided to the return adapter using a 22mm street elbow, nut and olive, with the 28mm diameter spigot facing down, as shown in [Fig. 6](#).

(c) Connect the gravity return pipework to the 28mm diameter spigot using a 28mm compression or Yorkshire fitting.

(d) Connect the pumped return pipework to the 22mm pipe supplied on the injector tee-see [Fig. 6](#).

(e) Fit the 1 in BSPx 28mm adapter provided into the top tapping - [Fig. 6](#), and connect the gravity flow pipework using the 28mm street elbow, nut and olive.

(f) Fit the remaining 1 in BSPx 22mm adapter into the top tapping and using the 22mm street elbow nut and olive provided complete the pumped flow pipework.

Pump

A suitable pump e.g. Grunfos Type UPS 15 Mk2 or SMC Comet 2 with isolating valves may be fitted inside the outer case. Using standard fittings.

Accuracy is important to avoid the pump or pipework fouling the outer case.

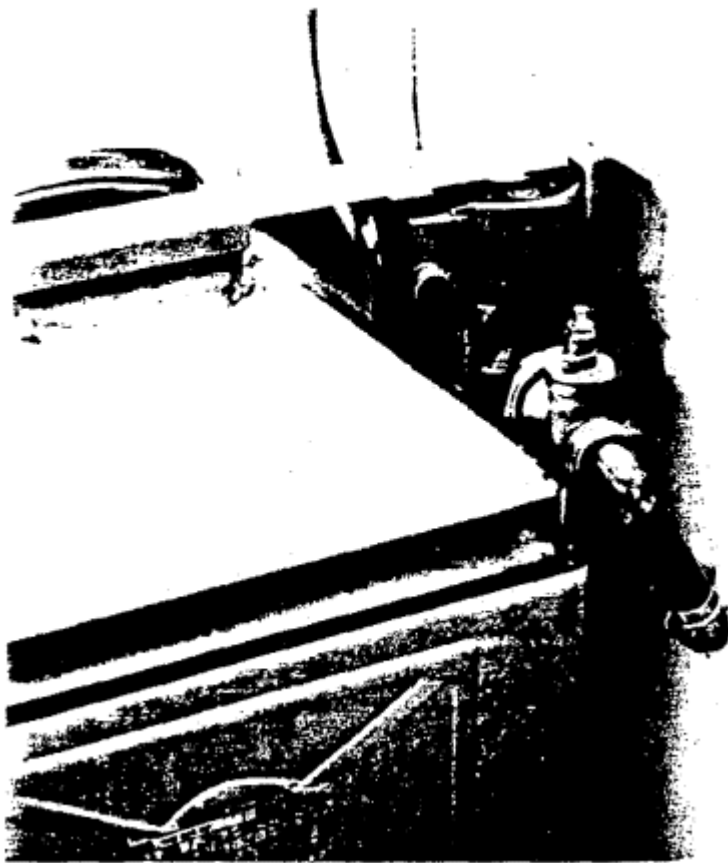
Gas Connections ([Fig. 4](#))

Adapt the 15mm (1/2in) gas supply pipe within the outer casing to suit the particular flow and return arrangement, making the gas connection to the gas service tap. Connect to the gas service tap using either an Ext/int malleable iron elbow or BSPT/capillary elbow.

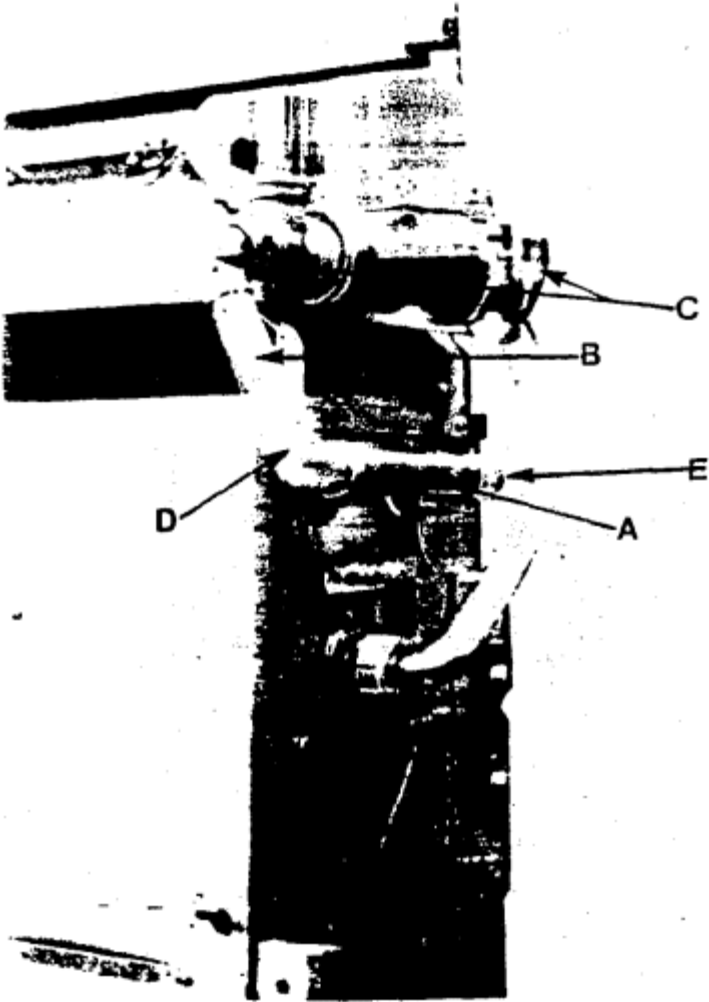
LENGTH OF PIPE				
A	B	C	D	E
163mm	95mm	22mm street elbows	22mm Yorkshire	22mm Yorkshire
		No. off 2	Capillary Elbow	Capillary Tee
			No. off 1	No. off 1

The pump must be connected to the same electrical isolator that serves the boiler.

To avoid contact with hot surfaces the pump supply cable must be secured with the cable clips provided and routed clear of any hot surfaces.



Pump Location Inside Case



Pump Pipework Arrangement

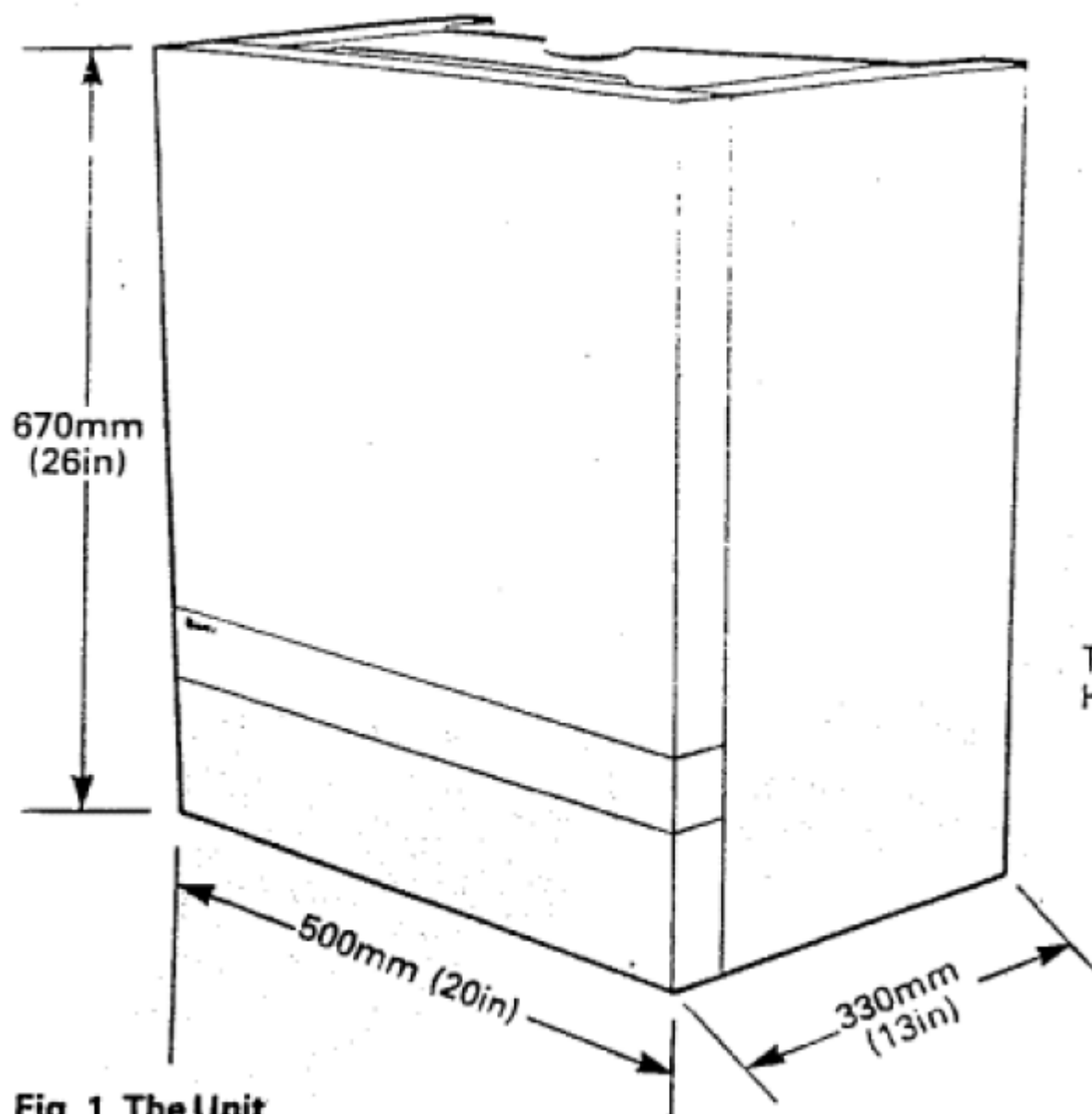


Fig. 1. The Unit

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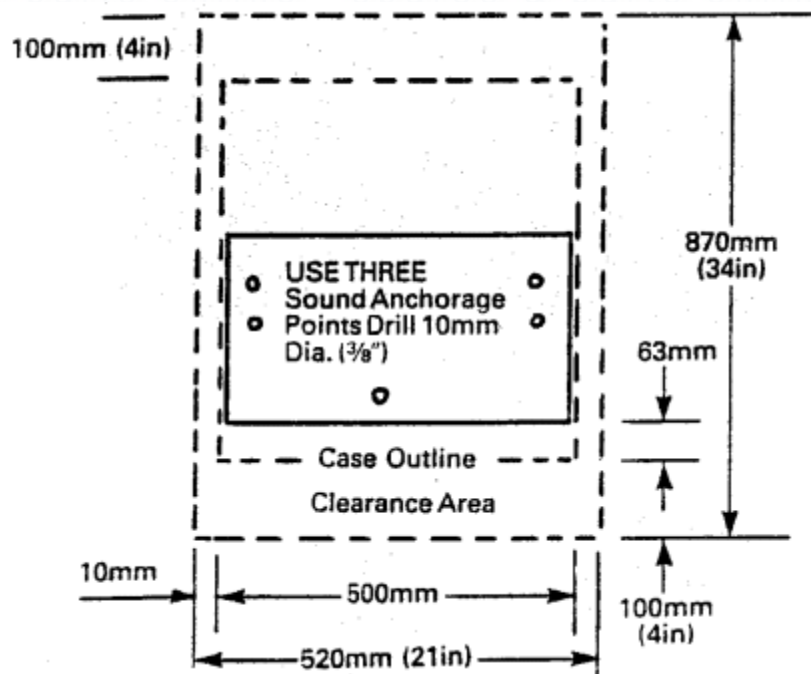


Fig. 2. WM 55/3 OF Wallmounting Plate requirements

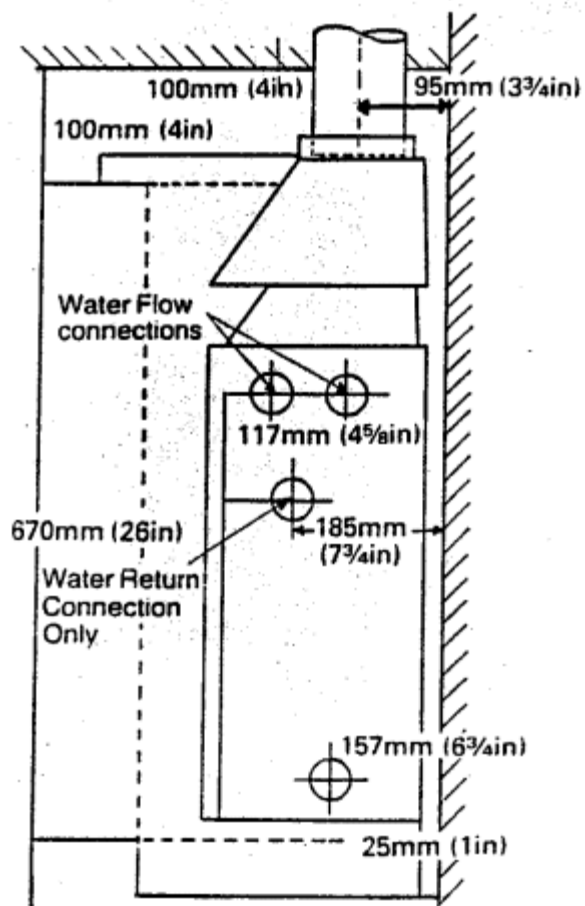
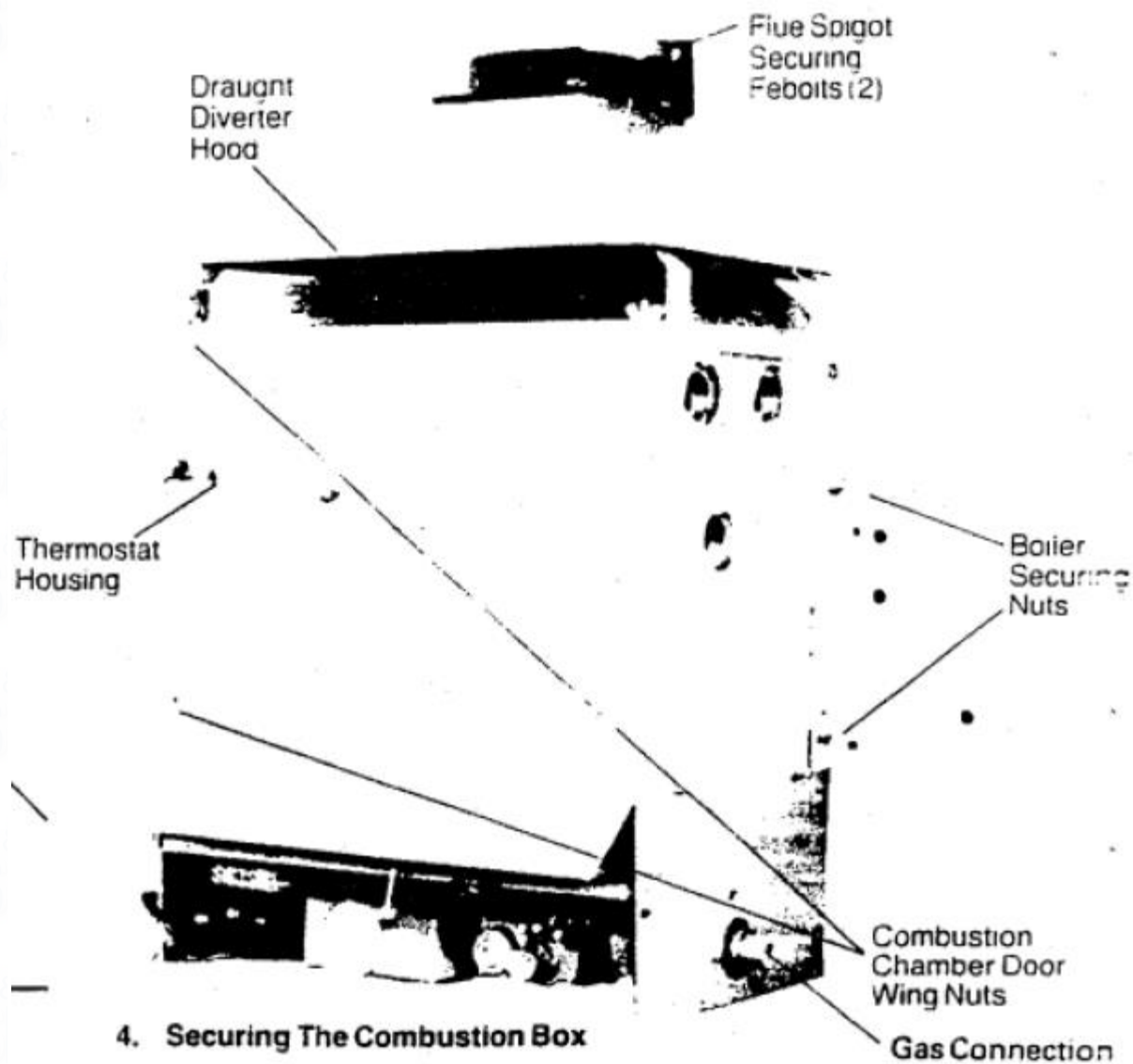


Fig. 3. Gas & Water Tappings



4. Securing The Combustion Box

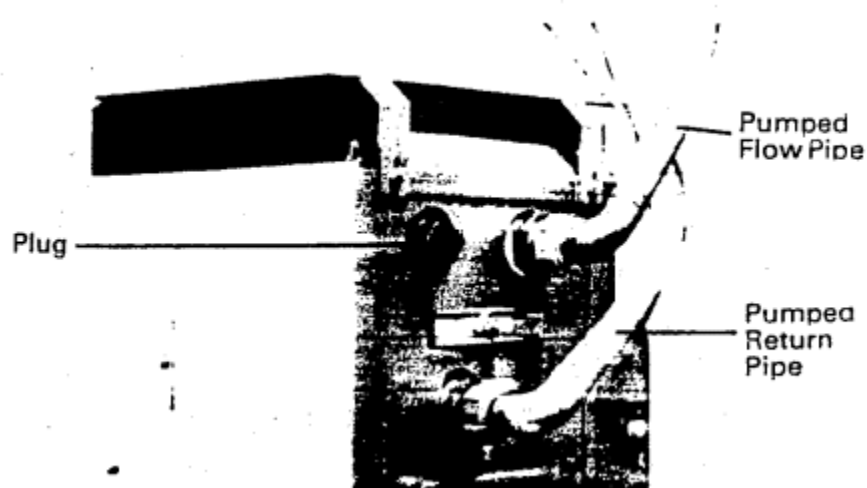


Fig. 5. Pumped DHW & CH

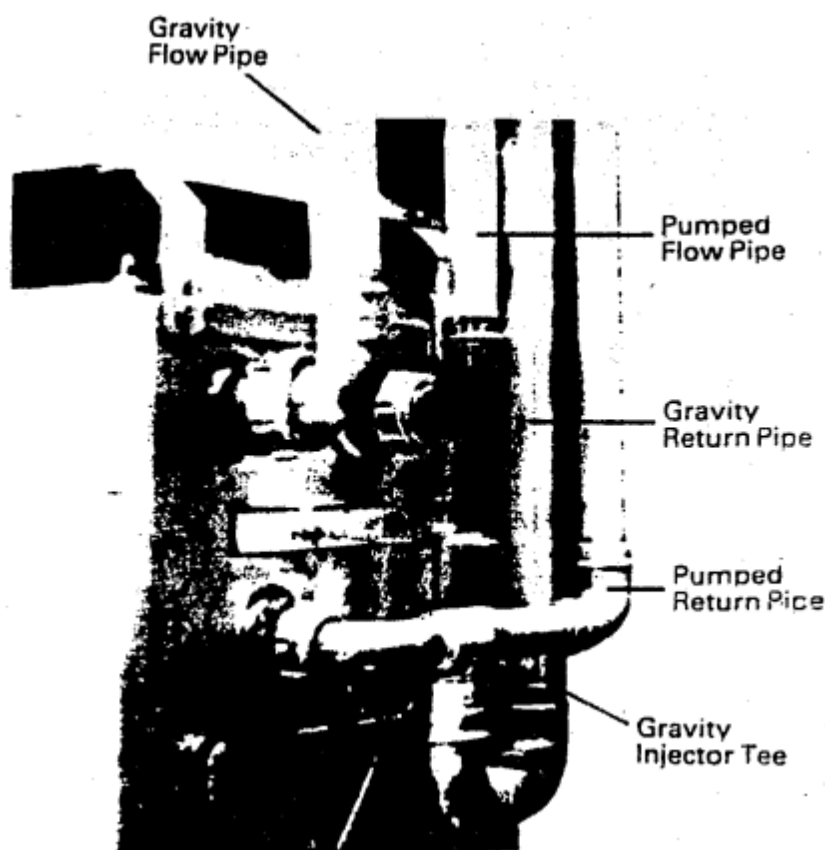


Fig. 6. Gravity DHW & Pumped CH

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Electrical Connections

General

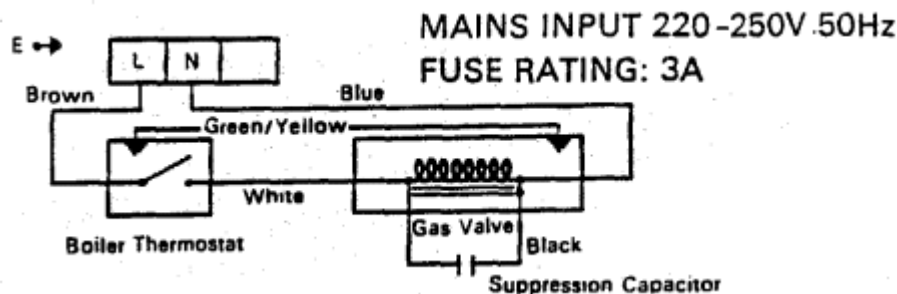
In the event of an electrical fault after installation of the appliance, preliminary electrical system checks can be carried out as described in the British Gas Multimeter instruction book.

The mains supply required is 220/250V/50Hz fused at 3 amp. A double pole switch should be provided in the installation or an unswitched socket outlet should be used. All external wiring shall be correctly earthed and polarised and generally in accordance with I.E.E. Wiring regulations.

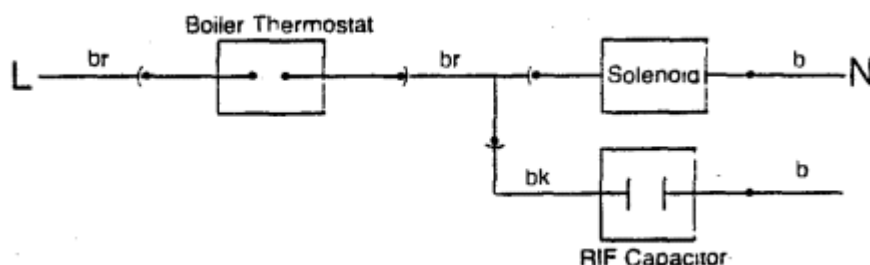
Electrical Supply

1. The recommended cable for connection to the appliance terminal strip is 0.75 sq. mm. 20/24 PVC heat resistant grade.
2. To avoid contact with hot surfaces the input cable must be secured with the cable clips provided. These are located on the L.H. and R.H. boiler support feet attached to the underside of the appliance.

Illustrated Wiring Diagram



Functional Flow Wiring Diagram



Control Systems

A selection of control systems is indicated with the appropriate heating circuit arrangements ([Figs. 11 -14](#)).

Connect the electrical controls system to the unit as follows:

1. Disconnect the electrical plug and socket by pulling the plug upwards, after first removing the retaining screw.
2. Remove the electrical socket cover by removing the retaining screw ([Fig. 7](#)).
3. Feed the input electrical cable behind the case support bracket(s) to the electrical socket and then connect the live and neutral wires as indicated inside the socket and run approximately 50mm (2in) of the earth wire through the slot in the side of the housing. Clamp the cable using the cable gripper provided.

4. Refit the electrical socket. Connect the earth wire to the point provided ([Fig. 7](#)).
5. Clip the input electrical cable to the cable grip(s) provided, ensuring that the cable does not touch the underside of the combustion box.
6. Refit the electrical plug to the socket and replace the retaining screw.

Commission the Appliance

1. Flush the whole system with all valves open.
2. Fill the system with water, vent the radiators and check for water soundness.
3. Connect the gas supply pipe and then turn the gas service tap clockwise to the 'ON' position. Check for gas soundness. (C.P. 331 Part 3).
4. Purge the air from the supply pipe at the gas service tap.
5. Ensure that all external controls e.g. room thermostat, timer, etc., are calling for heat.
6. Turn the boiler thermostat to the 'OFF' position ([Fig. 8](#)).
7. Turn on the mains electricity supply.
8. Remove the burner pressure test point screw and connect a pressure gauge.
9. Hold in the grey ON/OFF button on the gas control valve ([Fig. 8](#)).
10. Press in the igniter button and release. Repeat until pilot lights. Hold in grey ON/OFF button for a further 15 seconds and then release. The pilot should then stay alight. If pilot fails to remain alight turn the grey ON/OFF button clockwise, wait three minutes and start again from 8. The flame should be without a yellow tip and should extend past the pilot shroud by approximately 12mm (1/2in).
11. Operate the burner by turning the thermostat knob to the high setting. CHECK THE OPERATION OF THE FLAME FAILURE DEVICE by turning the grey ON/OFF button clockwise. The burner and the pilot should go out.
12. Turn the boiler thermostat to the OFF position. Wait three minutes and relight the pilot.

13. Operate the burner by turning the thermostat knob to the high setting.

14. Remove the cover screw and adjust the appliance governor ([Fig. 8](#)) to the setting pressure corresponding to the required input. Check the pressure after 10 minutes burning time and adjust if necessary. Adjust the input indicator arrow on the data label if necessary.

Setting Pressures

Appliance	Maximum	Setting	Intermediate	Setting	Minimum	Setting
	Input	Pressure	Input	Pressure	Input	Pressure
WM55/30F	21.2kW	17.75 m bar	17.35kW	11.75 m bar	13.3kW	7.5 m bar
	72,400Btu/h	7.1 in w.g.	59,200 Btu/h	4.7in w.g.	45,500Btu/h	3.0in w.g.
WM40/30F	15.44kW	17.75 m bar	11.87kW	11.25 m bar	9.96kW	7.5 m bar
	52,600Btu/h	7.1 in w.g.	40,500 Btu/h	4.5in w.g.	34,000Btu/h	3.0in w.g.

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15. The system should be flushed again, when hot, refilled and checked for water leaks.

16. Make a final check for gas soundness.

17. Turn the boiler thermostat to the required setting.

18. Turn off the electrical supply.

19. Remove pressure gauge and tighten the test point screw. Ensure a gas tight seal is made.

20. Turn on the electrical supply.

21. Test for spillage as follows:

(a) Ensure that all doors and windows into the room containing the appliance are closed and any extraction fans, etc., are set in operation.

(b) Light the boiler and leave on full rate for at least 5 minutes.

(c) Apply a smoke match around the bottom edge of the upper draught diverter hood. Spillage is indicated by smoke being blown back into the room. IF SPILLAGE IS DETECTED DISCONNECT THE BOILER AND SEEK EXPERT ADVICE.

OR

Hold a cold mirror or polished metal which is not above room temperature around the bottom edge of the upper draught diverter hood and tilt it to a slight angle to facilitate viewing. Spillage is indicated by misting of the cold surface. This method becomes insensitive if the mirror becomes too warm too quickly. If there is any doubt repeat the test after a further 10 minutes IF SPILLAGE IS DETECTED DISCONNECT THE BOILER AND SEEK EXPERT ADVICE.

22. Assemble the outer case in the following manner: ([Fig. 8a](#)).

(a) Hook the side panels over the case support bracket ([Fig. 26](#)) on the canopy and locate them on the wall mounting plate. Secure to the brackets at the lower end of each side panel and the case support bracket with the screws provided.

(b) Locate the top and bottom panels and secure at the front with full screws provided.

(c) Hook on the front panel at the top of the side panels and push on to the studs at the bottom.

(d) Secure the panel door on the studs at the bottom.

23. Instruct the consumer on the use of the unit.

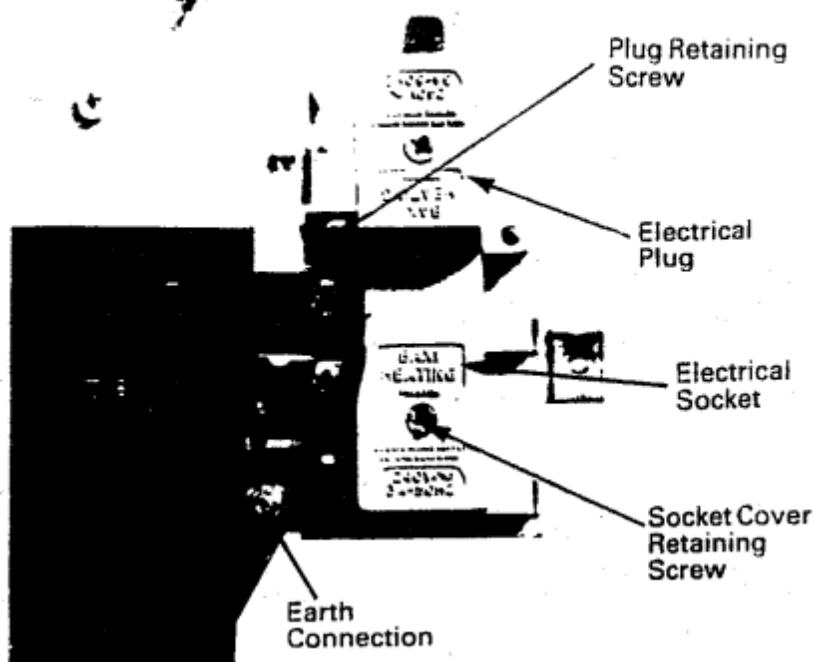


Fig. 7. Electrical Plug & Socket

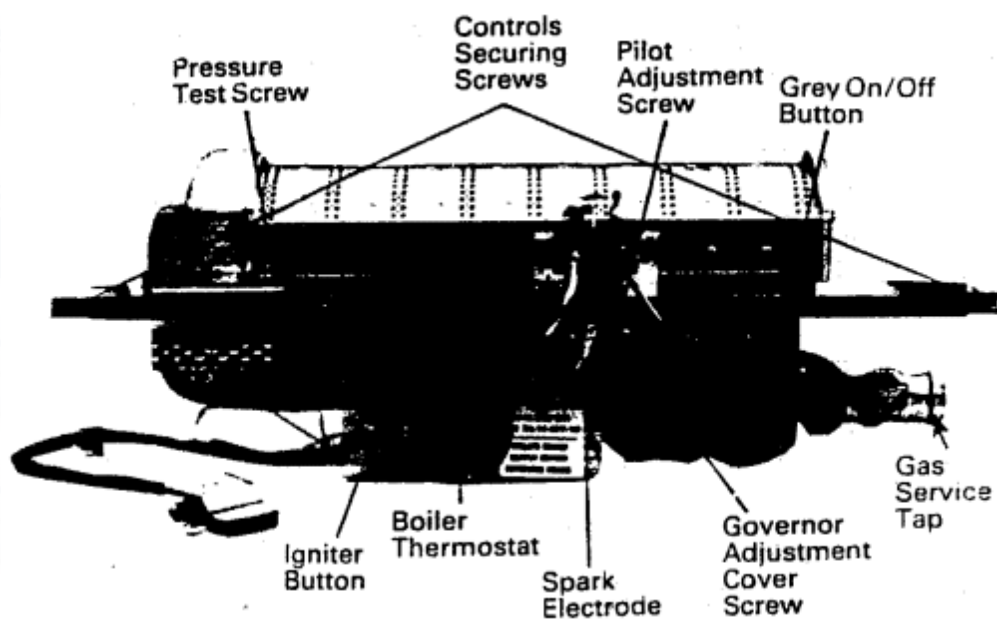


Fig. 8. Unit Controls

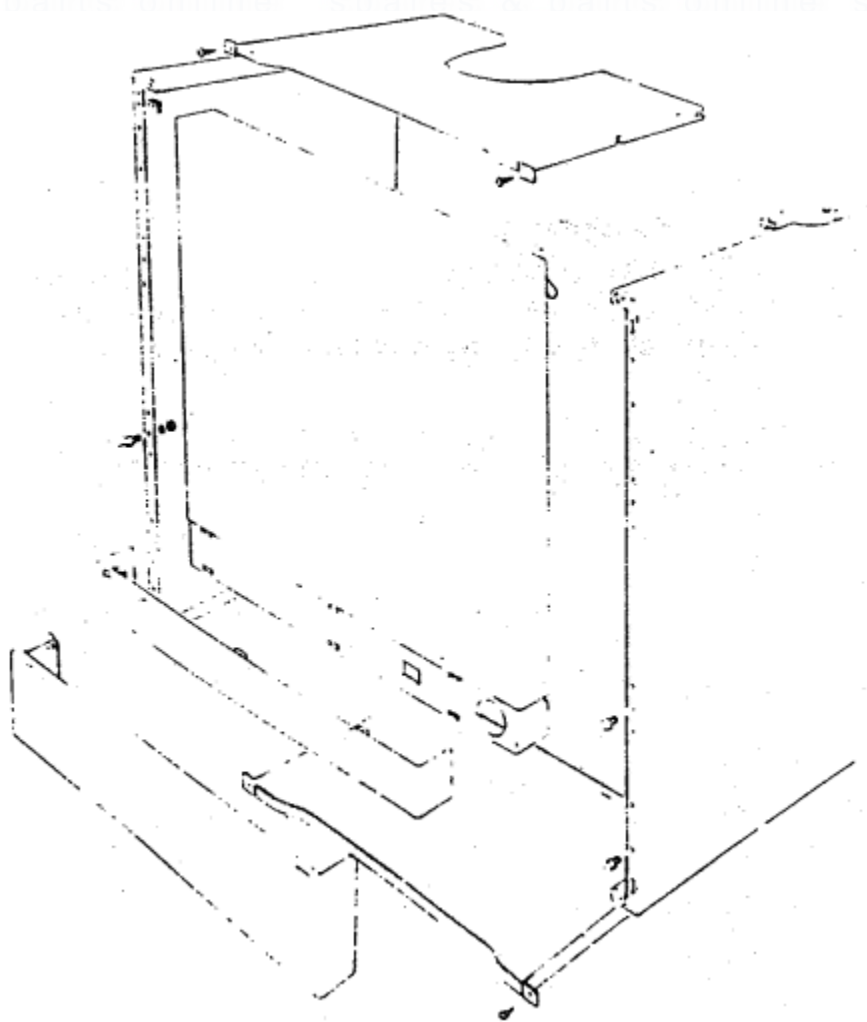


Fig. 8a. Outer Case Assembly

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Notes for Guidance System Design

Pipe Sizing

(a) The sizes of flow and return pipes from the boiler should be determined by normal methods according to the requirements of the system. An 11°C (20°F) drop across the system is recommended.

(b) The open vent pipe must be a minimum of 22mm and must rise continuously to above the feed and expansion tank. The flow pipe from the boiler may form part of the open vent. No part of the open vent should contain a valve.

(c) In a fully pumped system the cold feed pipe (15mm) may be connected to the flow pipe, 6 inches away from the vent pipe, but there must always be a cold water path to the boiler's return connection.

(d) For fuel economy and best boiler performance, the system should be designed so that gravity circulation does not take place in the heating system when the pump is not running.

Fuel Economy

When designing a control system for a central heating installation, better fuel economy is achieved by exercising control of the boiler from a room thermostat or cylinder thermostat as appropriate. Allowing the boiler to cycle under the control of the boiler thermostat does not produce the best results. The examples given below and on the following pages indicate alternatives to meet different circumstances.

Fully Pumped Systems

One Zone Valve ([Fig. 11](#))

Zone valve with auxiliary switch fitted at point V. A cylinder thermostat and a room thermostat are used to control both the pump and the boiler. The room thermostat also controls the zone valve to stop water circulation in the heating system.

Two Zone Valves ([Fig. 13](#))

Zone valves are fitted at points V and U to stop water circulation to the heating system and the cylinder. The valves are controlled by a room thermostat and a cylinder thermostat respectively, each of which also controls the boiler and the pump.

Diverter Valve ([Fig. 14](#))

A diverter valve is inserted at point W to direct water circulation to either the cylinder or the heating system. The valve along with the pump and the boiler is controlled by a cylinder thermostat and a room thermostat.

Gravity D.H.W. Systems

Sundial Control ([Fig. 12](#))

Both the boiler and the pump are controlled by a cylinder thermostat and a room thermostat. The room thermostat overrides the cylinder thermostat when heating is called for.

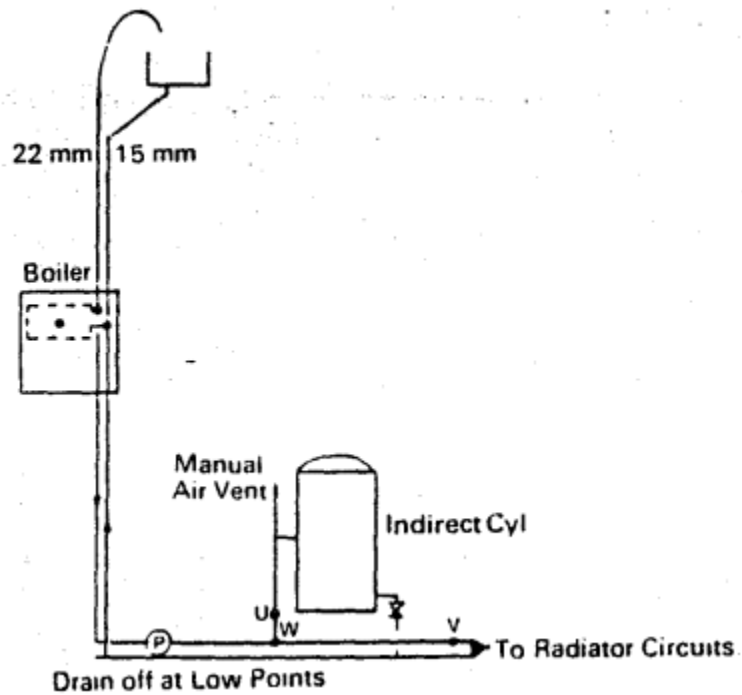
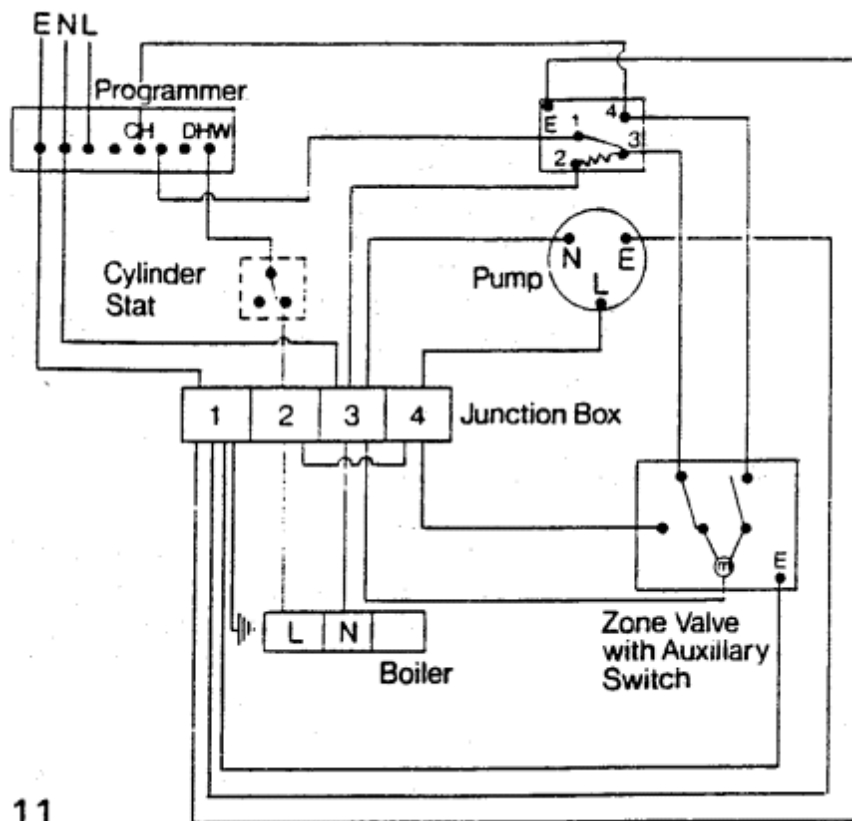
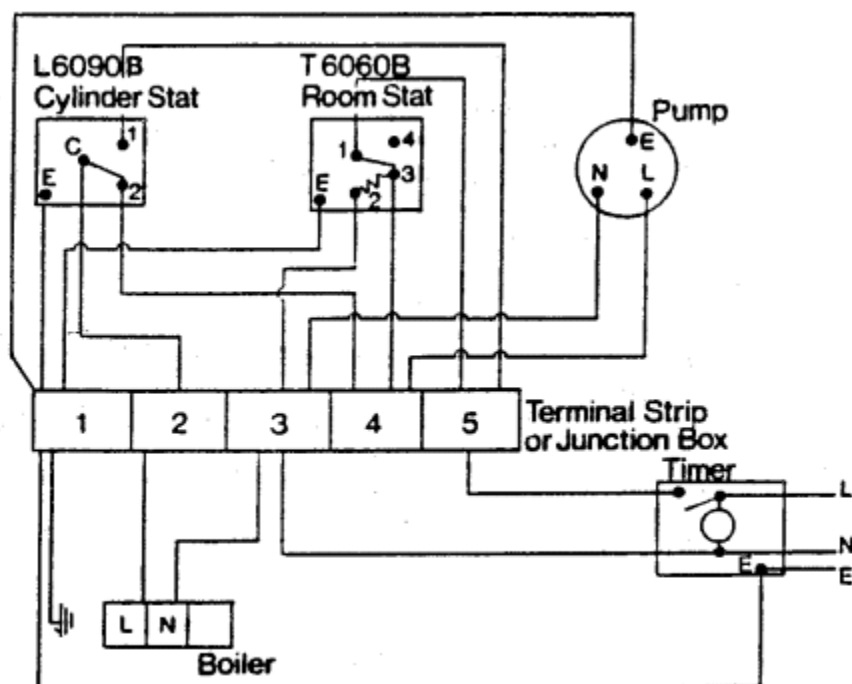


Fig. 10. Dropping. Flow and Return Pipes

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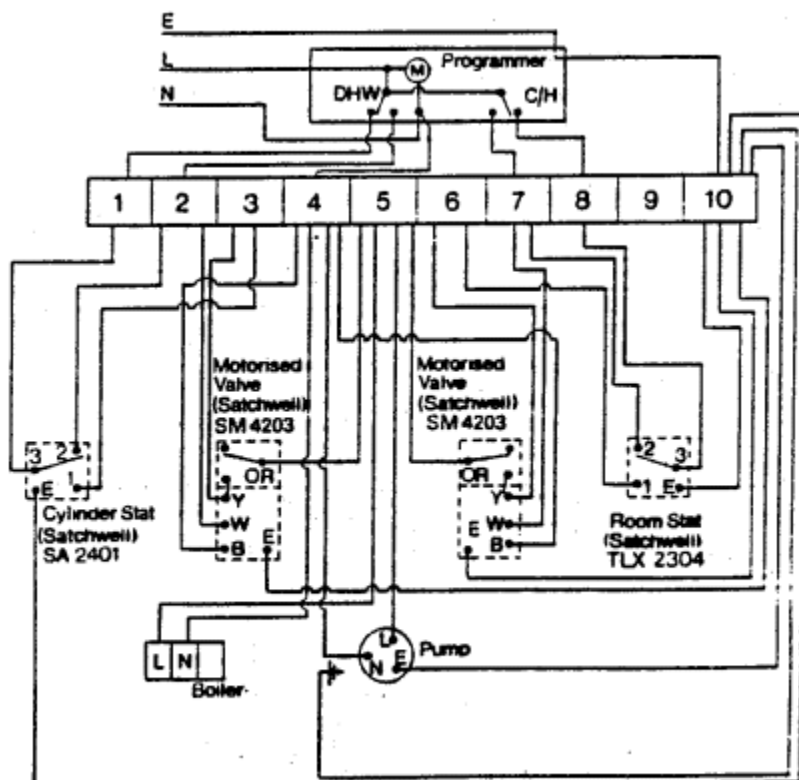


11. One Zone Valve - Fully Pumped System



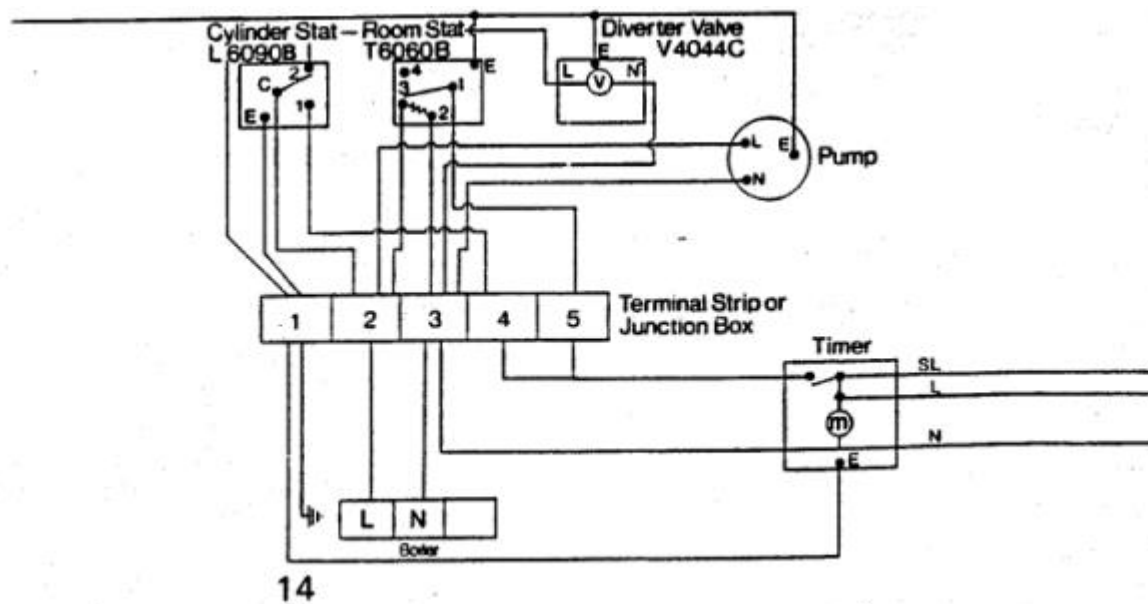
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12. Sundial Control - Gravity Domestic Hot Water System



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13. Two Zone Valve - Fully Pumped System



14. Diverter Valve - Fully Pumped System

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Servicing the Unit

(see also servicing guide on The Boiler)

1. Turn off the electrical supply to the boiler.
2. Remove the outer case front panels and the bottom panel.
3. Turn off the gas supply at the service tap and disconnect the union.
4. Disconnect the electrical plug and socket by removing the screw and pulling the electrical plug upwards ([Fig. 7](#)).
5. Remove the thermostat phial from the housing after removing the capillary from the clip ([Fig. 4](#)).
6. Remove the four wing nuts securing the combustion chamber door. Remove the door by swinging the lower edge forward and then upwards until clear of the locating pegs.

7. Remove the controls by removing the two controls securing screws and easing the assembly forward carefully until burner and controls clear the combustion box and place the complete unit on one side ([Fig. 15](#)).

8. Slide out the heat exchanger baffles noting their positions.

9. Clean the Boiler:

Place a card or piece of paper below the combustion chamber to collect any deposits. Clean the heat exchanger with a bristle brush. Brush between the two heat exchanger sections and clean the underside of the lower section and the top section taking care not to damage the insulation at the back of the combustion chamber. Remove the card or piece of paper. Suitable brushes for cleaning the heat exchanger are:

50mm (1in) diameter x 150mm (6in) bristle brush.

25mm (1 in) diameter x 63mm (2 1/2in) long bristle brush.

10. Remove the lint arrester retaining screw and then remove the lint arrester from the controls assembly by sliding forwards. Clean the lint arrester by washing, brushing or by using a vacuum cleaner and replace ([Fig. 16](#)).

11. Clean the Burner:

(a) Disconnect the burner feed pipe at the union connection on the burner elbow.

(b) Remove the two air box retaining screws and remove the air inlet box from the burner.

(c) Remove the three screws securing the burner to the controls tray and place the burner on one side ([Fig. 17](#)).

(d) Remove the nut and washer securing the burner end plates and dismantle the burner. Clear away any lint or deposits that may have accumulated inside the burner. Replace the end plates, nut and washer ensuring the gaskets are not damaged and fit flush to their sealing faces. Replace if necessary ([Fig. 16](#)).

(e) Disconnect the locknut securing the burner elbow and remove the elbow complete with the injector.

(f) Remove the injector from the burner elbow and clean carefully.

(g) Replace the injector and the burner elbow and secure to the burner with the locknut.

(h) Re-assemble the burner air box and lint arrester in reverse order of dismantling. If it has been washed, thoroughly dry the lint arrester before replacement.

12. Clean the Pilot:

Unscrew the pilot tubing nuts at both ends and remove the pilot tube. Remove the adapter after first removing the thermocouple to gain access to the adapter. Remove and clean the pilot injector and clean the pilot shroud ([Figs .16 & 17](#)). Re-assemble the pilot components in the reverse order of dismantling.

13. Re-assemble the controls and combustion chamber door in reverse order of dismantling. Ensure that the rear of the controls tray locates fully over the front edge of the combustion rear base tray.

14. Connect the gas union at the service tap. Turn on the gas service tap and check for gas soundness.

15. Re-fit the electrical plug, retaining screw. Turn the thermostat to the 'OFF' position. Re-fit thermostat phial.

16. Re-fit the bottom panel without the front panel.

17. Hold in the grey 'on/off' button on the gas valve ([Fig. 15](#)).

18. Press in the igniter button and release. Repeat until pilot lights. Hold in grey ON/OFF button for a further 15 seconds and then release. The pilot should then stay alight. If pilot fails to remain alight turn the grey ON/OFF button clockwise, wait three minutes and start again from 17. The flame should be without a yellow tip and should extend past the pilot shroud by approximately 12mm (1/2in).

19. Turn on the electricity supply to the boiler.

20. Remove the pressure test point screw, connect a pressure gauge and operate the burner by turning the thermostat knob to its highest setting ([Fig. 15](#)).

21. Check that the correct pressure corresponding to the output is adequate for the installation.

(See data label). If necessary remove the cover screw and adjust the appliance governor ([Fig. 15](#)). Turn the screw clockwise to increase pressure and alter position of input indicator arrow on data label to suit

22. Turn the boiler thermostat to the OFF position and replace the pressure test point sealing screw ensuring a gas tight seal.
23. Turn the boiler thermostat to its original setting.
24. Replace the front panels.

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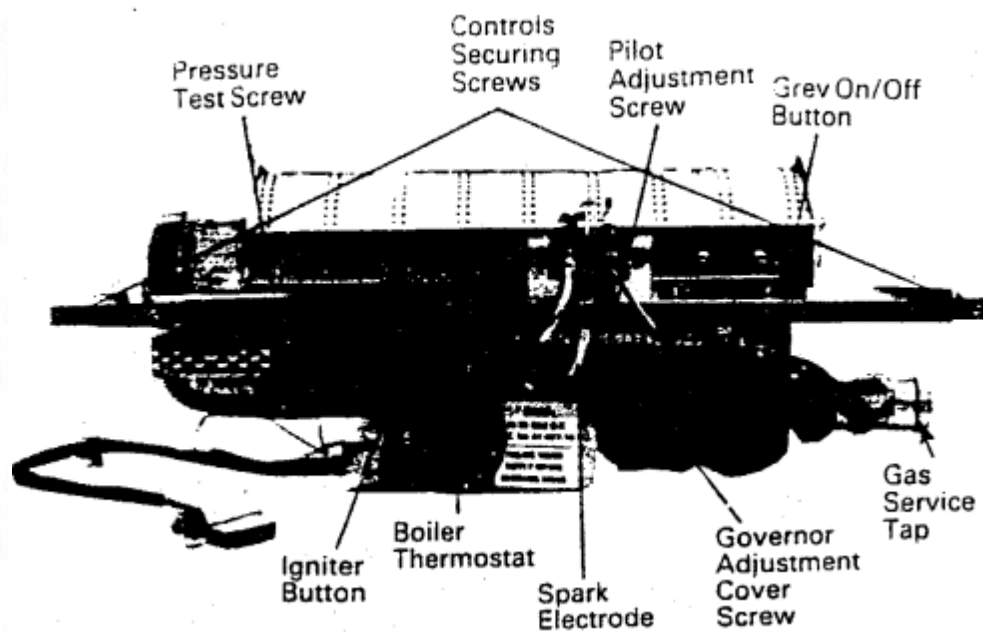


Fig. 15. Unit Control

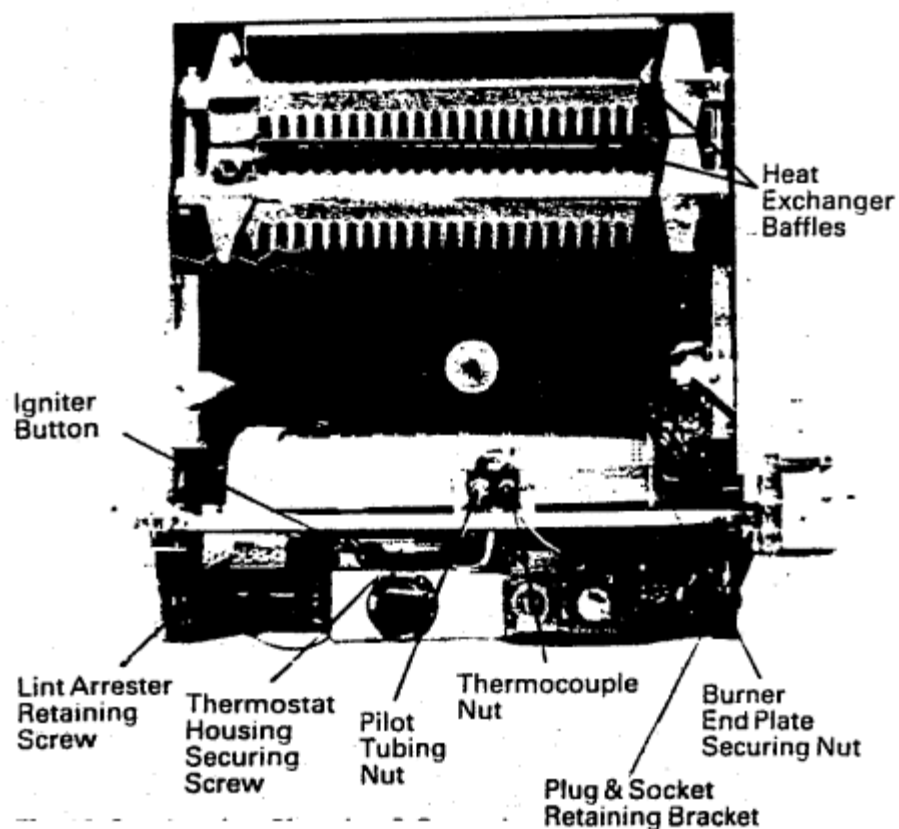
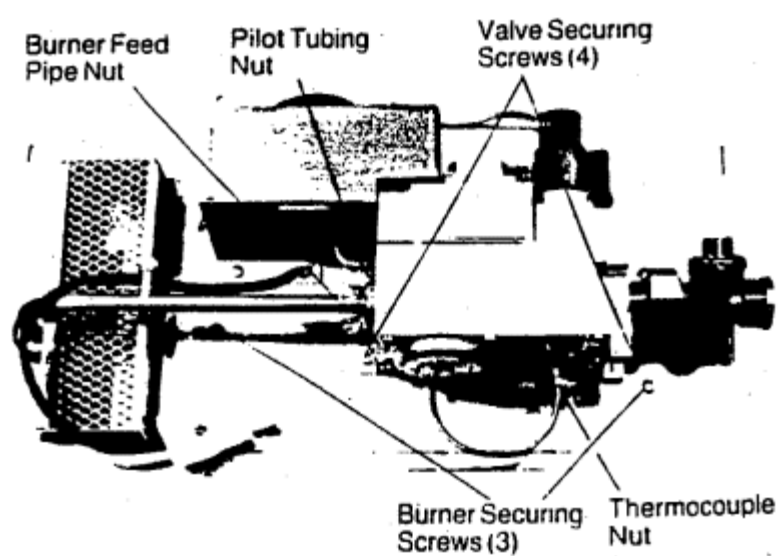
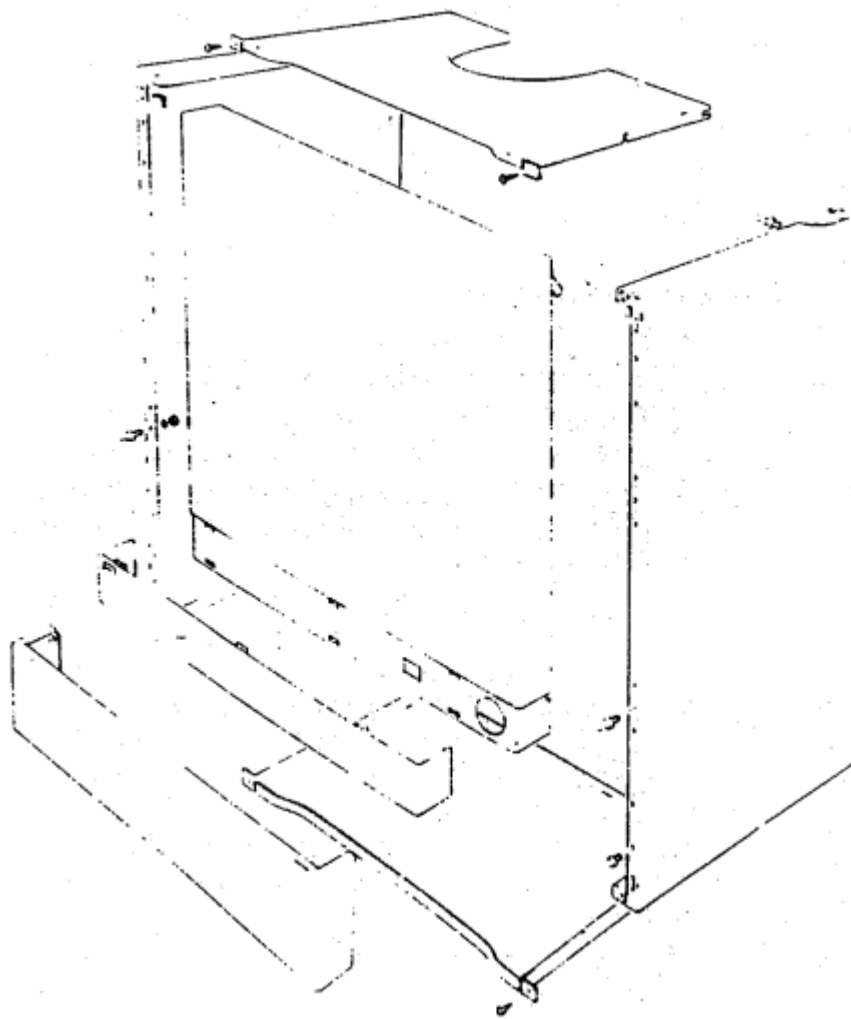


Fig. 16. Combustion Chamber & Controls



17. Controls Tray



20. Outer Case Assembly

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Exchanging the Components

Thermocouple

Remove the combustion chamber door and controls as described in the Annual Service instructions from items 1-7 inclusive.

- (a) Release the 10mm A/F thermocouple nut at the gas valve ([Fig. 21](#)).
- (b) Release the thermocouple nut at the pilot bracket ([Fig. 22](#)).
- (c) Fit the new thermocouple etc.

(d) Re-assemble the controls and combustion chamber in reverse order of dismantling.

Injector

Remove the combustion box door assembly and controls as described in the Annual Service Instructions from item 1-7 inclusive.

(a) Disconnect the burner feed pipe at the union connections on the burner elbow and Honeywell gas valve and remove.

(b) Remove the lint arrester retaining screw and remove the lint arrester from the air inlet box.

(c) Remove the three screws securing the burner to the controls tray and remove the burner ([Fig. 21](#)).

(d) Disconnect the locknut securing the burner elbow to the burner and remove the elbow complete with the injector.

(e) Remove the injector from the burner elbow.

(f) Replace parts in reverse order of dismantling.

Burner

Remove the combustion chamber door and controls as described in the Annual Servicing Instructions from item 1-7 inclusive.

(a) Disconnect the burner feed pipe at the union connections on the burner elbow and Honeywell gas valve and remove.

(b) Remove the lint arrester retaining screw and remove the lint arrester from the air inlet box.

(c) Remove the three screws securing the burner to the controls tray and remove the burner ([Fig. 21](#)).

(d) Remove the two air inlet retaining screws and remove the burner from the air inlet box ([Fig. 22](#)).

(e) Replace the parts in the reverse order of dismantling.

Boiler Thermostat

Remove the front casing panels as described in the Annual Service Section item 2 and disconnect the electrical supply.

(a) Remove the thermostat phial from the housing after removing the capillary from the clip ([Fig. 4](#)).

(b) Remove the thermostat knob by pulling forwards.

(c) Remove the screw securing the thermostat to its mounting bracket. Pull the complete assembly forwards until the three spade electrical connections can be disconnected. The thermostat housing can now be removed from the boiler ([Fig. 22](#)).

(d) Remove the nut and washer securing the thermostat to the housing.

(e) Replace the thermostat and re-assemble to the appliance in reverse order. Ensure that the green/yellow earth wire is fitted to the earth tag on the thermostat and that the capillary lies in the groove in the corner of the thermostat housing.

Honeywell Gas Valve ([Fig. 21](#))

Remove the combustion chamber door and controls as described in the servicing instructions from item 1-7 inclusive.

(a) Disconnect the thermocouple nut at the gas valve.

(b) Disconnect the pilot tubing nut at the gas valve.

(c) Disconnect the burner feed pipe at the union connections on the burner elbow and Honeywell gas valve and remove.

(d) Remove the screw securing the thermostat housing to its mounting bracket. Pull the complete assembly forwards until the three electrical connections at the gas valve can be disconnected.

(e) Disconnect the four screws securing the Honeywell valve to the controls bracket.

(f) Remove the gas valve from the unit.

(g) If the individual sub-components of the gas valve are to be replaced refer to the makers' instructions.

(h) If the complete gas valve is to be replaced remove the adaptor and union connector from the inlet and outlet connections and fit them to the new valve using suitable jointing compound.

(i) Re-assemble the new valve in reverse order of dismantling.

(j) Check and adjust governor if necessary to give correct burner pressure as shown on the data badge as in sections 20-22 of 'Servicing the Unit'.

Insulation in Combustion Chamber ([Fig. 23](#))

Remove the combustion chamber door and controls as described in the servicing instruction items 1-7 inclusive.

(a) Remove the screw and washer securing back panel insulation then slide the insulation downwards to remove.

(b) Remove the screw, nut and washer securing the front panel insulation, and the three screws securing the air guide plate and retain the spring clips from the rear side.

(c) Fit the new insulation.

(d) Re-assemble in reverse order.

Spark Electrode

Remove the combustion chamber door and controls as described in the 'Annual Service' instructions items 1-7 inclusive.

(a) Disconnect the thermocouple nut 11mm A/F at the pilot bracket and remove the thermocouple.

(b) Disconnect the spark electrode lead at the electrode.

(c) Disconnect the pilot feed pipe at the nut on the pilot bracket.

(d) Disconnect the pilot bracket by removing the 2 screws, nuts and washers and remove the pilot bracket.

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(e) Remove the locking nut securing the electrode to the bracket and withdraw the electrode.

(f) Fit the new electrode checking that the spark gap is between 3.5 and 4.5 mm.

(g) Re-assemble in reverse order of dismantling. Reconnect the electrode lead and check that the electrode is sparking correctly to the pilot shroud.

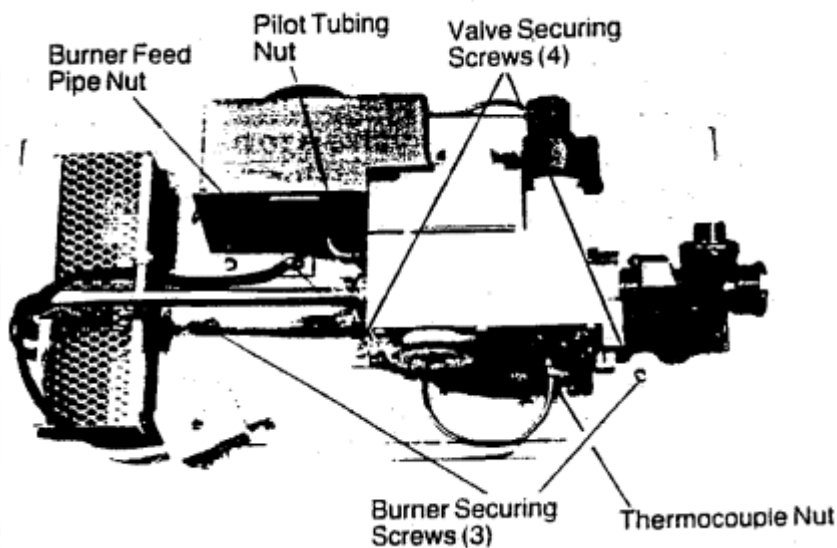
Piezo Unit

Remove the combustion chamber door and controls as described in the 'Annual Service' instructions items 1-7 inclusive.

(a) Disconnect the spark electrode lead at the piezo igniter.

(b) Disconnect the 16mm A/F nut securing the igniter to the bracket.

(c) Re-assemble in reverse order. Ensure that the earthing tag makes contact with the bracket.



21. Controls Tray

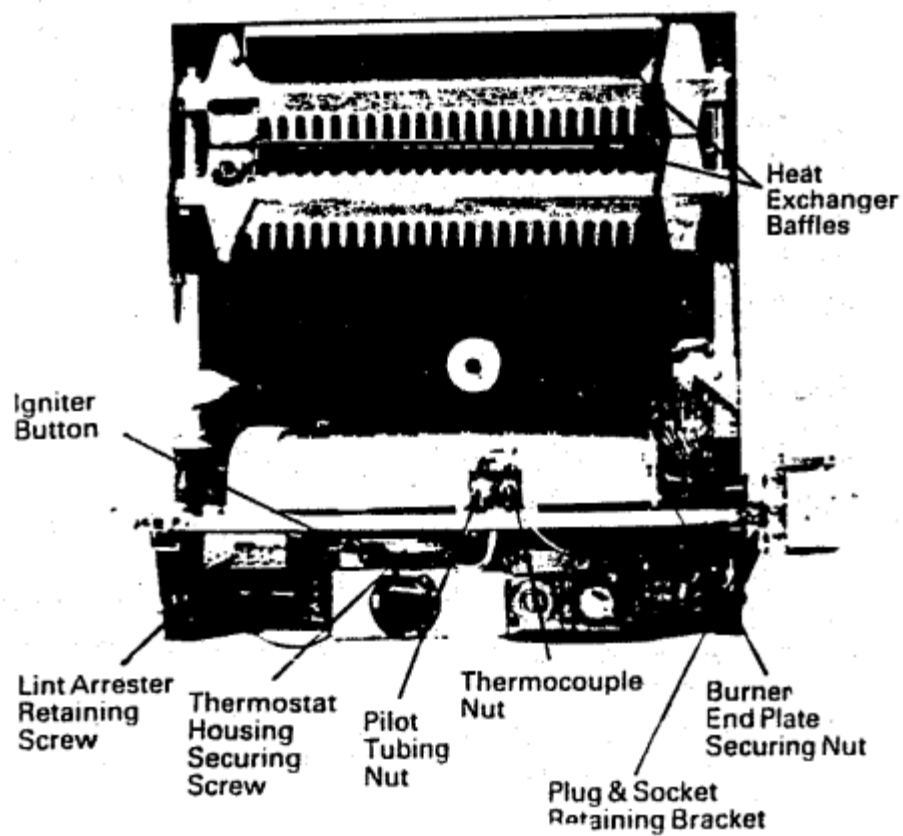


Fig. 22. Combustion Chamber and Controls

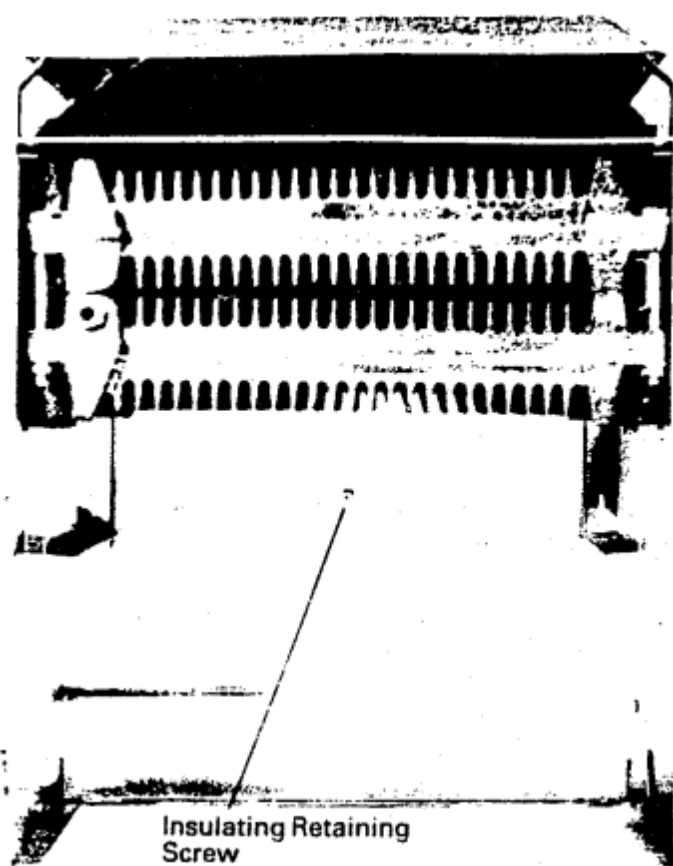


Fig. 23. Combustion Chamber

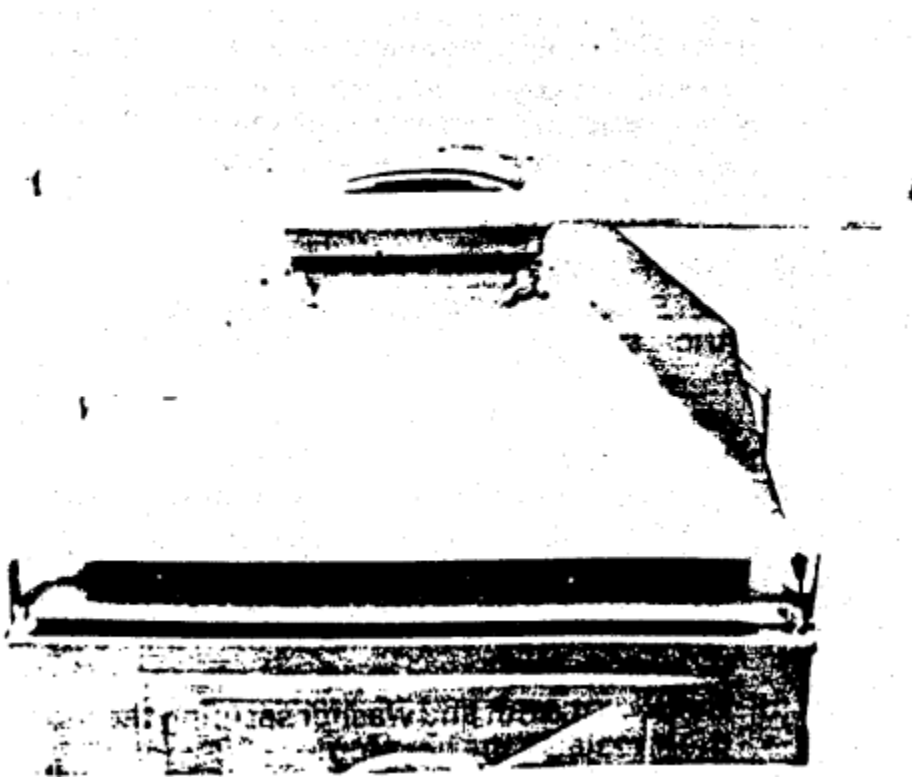


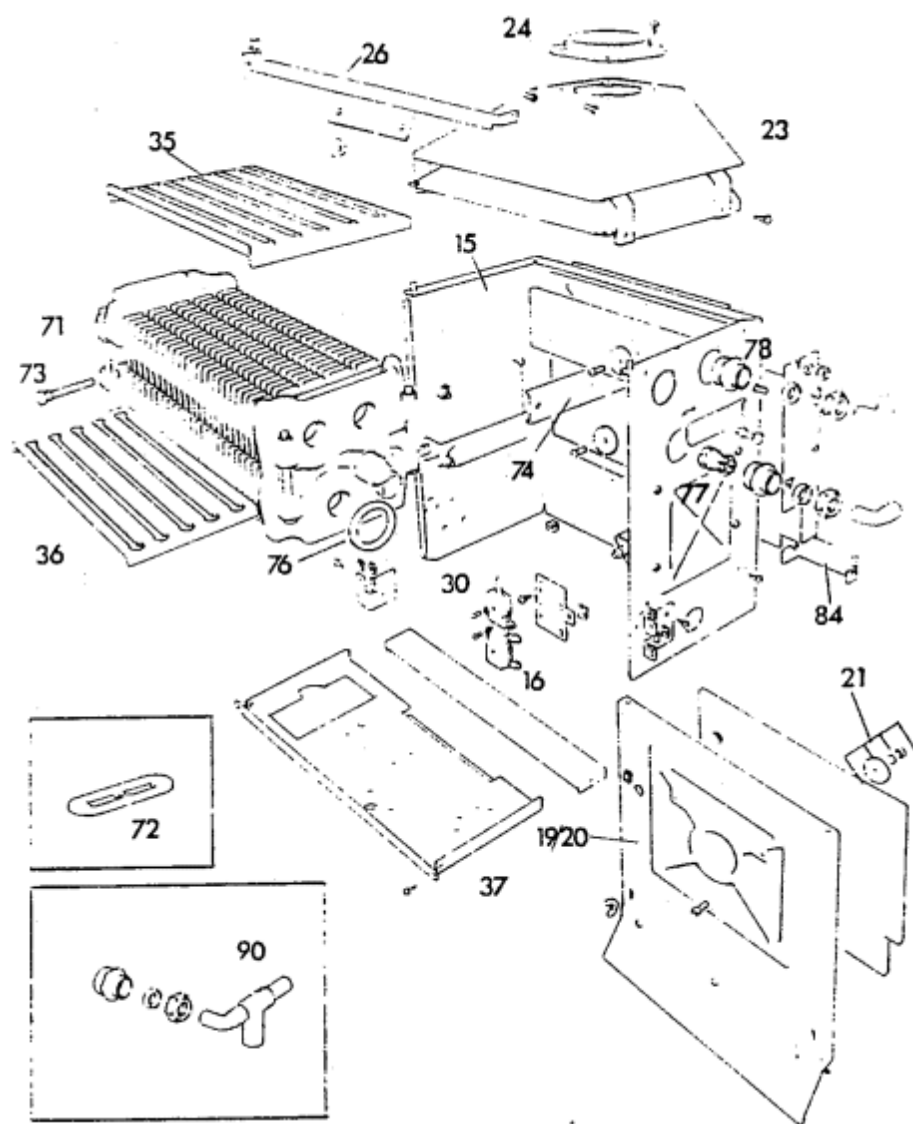
Fig. 26. Outer Case Support Bracket Location

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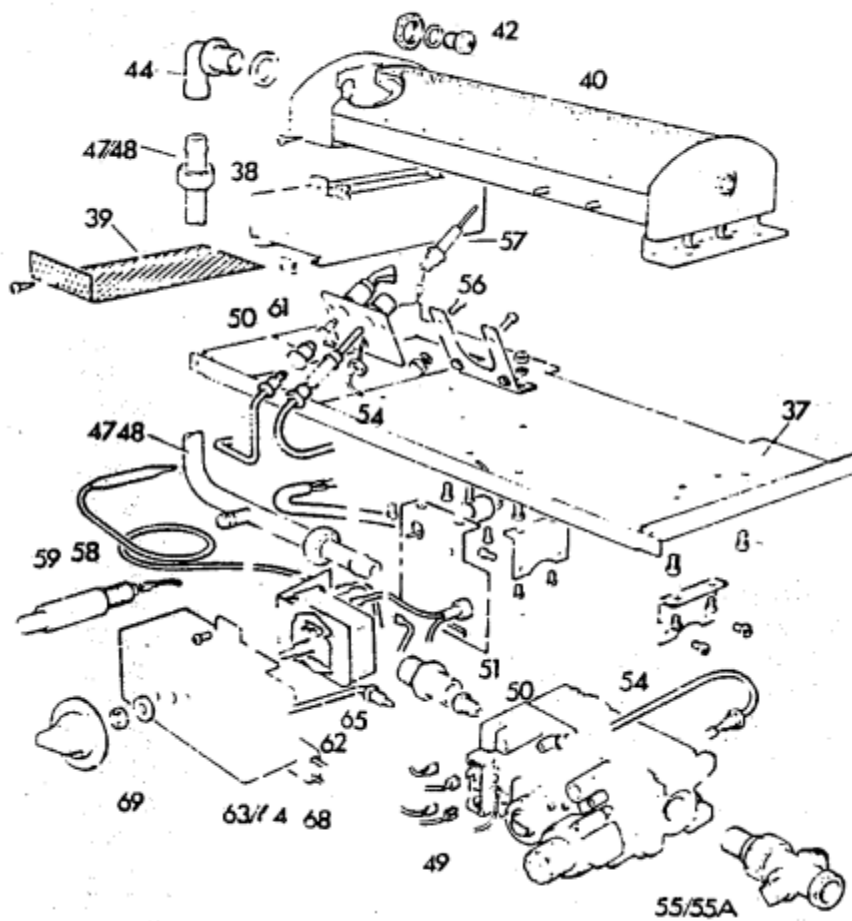
Baxi W.M. 55/3 OF Baxi W.M. 40/3 OF

Exploded Diagram

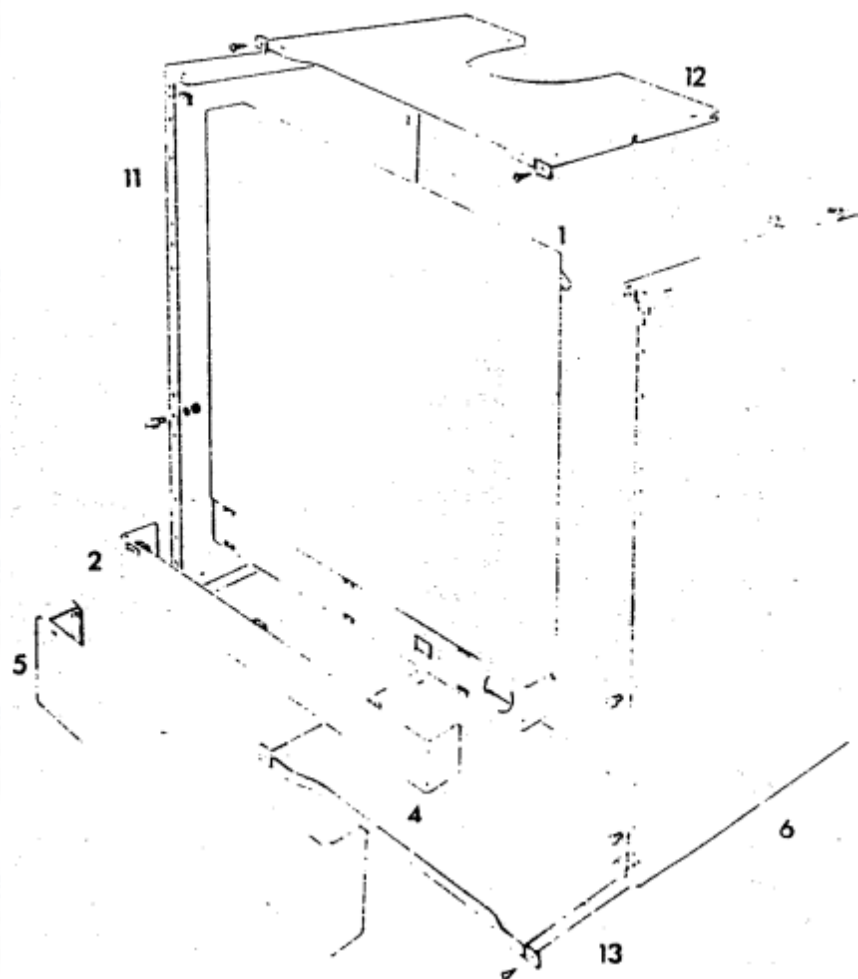
Boiler/Combustion Box



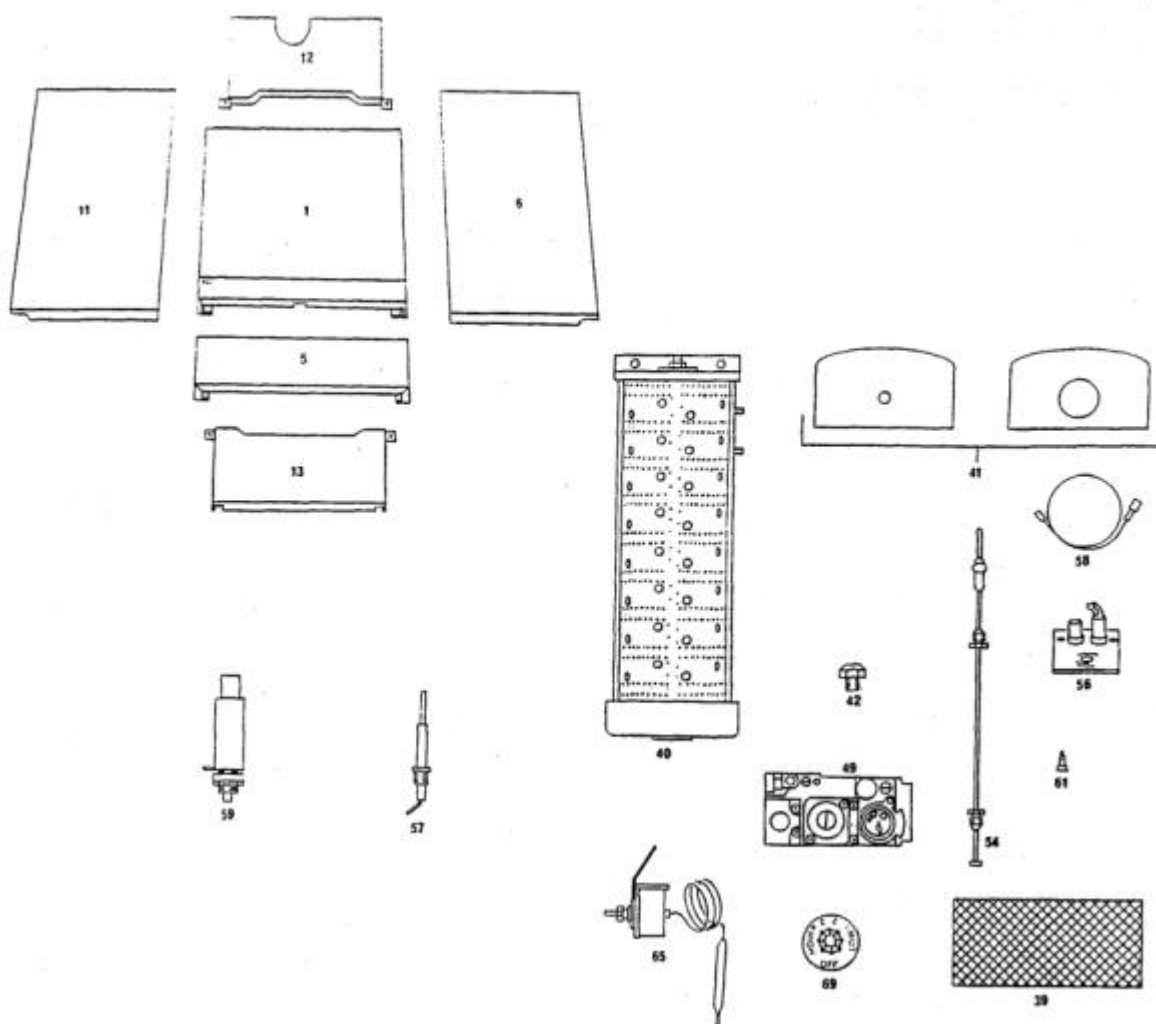
Controls



Outercase



List of parts available on Request.



SHORT PARTS LIST

Baxi WM 55/3.40/3 OF Cat 1-Nat Gas GC Number 41 077 37/38

Key No.	B. G. Number	Description	Manufacturer Part No.
1	364 390	Panel Front	100286
5	364 393	Panel Door	100284
6	364 394	Kit-Panel Side-R.H.	100301
11	364 395	Kit-Panel Side-L.H.	100300
12	364 396	Panel-Top	100263
13	364 593	Panel- Bottom	100398
39	364 228	Arrester- Lint	100205
40	384 807	Burner-Boiler-Aeromatic	102136

41	364 145	Kit-Gaskets-Boiler Burner	100133
42	183 930	Injector- Burner- 1.5mm	042939
49	390 180	Valve- Control - Honeywell V46000 1029	062623
54	390 131	Thermocouple- 18" Honeywell Q309A 1202	102005
56	391 664	Burner-L.E. Pilot- Honeywell Q359A 1041	062638
57	387 852	Electrode - Pilot Ignition - Kigas E3356	102024
58	183 928	Lead-Electrode	102143
59	183 936	Kit - Piezo Ignitor	040456
61	391 665	Injector-L.E. Pilot- N.G.- Honeywell 0.30A	062639
65	384 139	Thermostat- Ranco C16 P0114	042818
69	183 630	Knob-Control-Thermostat	042717

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