

Baxi FS 601 OF

GC No. 41 077 24

Baxi FS 601S OF

GC No. 41 077 21

Baxi FS 501 OF

GC No. 41 077 23

Baxi FS 501S OF

GC No. 41 077 20

Baxi FS 401 OF

GC No. 41 077 22

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GC No. 41 077 19

Central heating boilers Cat. 1N

Installation and Service Instructions

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Installation Instructions

Introduction

This is a range of floor standing, open flue boilers with the option of a standard model or an 'S' version which incorporates a programmer in the facia panel.

There is a choice of outputs listed below:

Boiler Type	Heat output	
	kW	Btu/h
FS 601 OF	14.9 to 17.6	51,000 to 60,000
FS 601S OF		
FS 501 OF	12.0 to 14.7	41,000 to 50,000
FS 501S OF		
FS 401 OF	9.1 to 11.7	31,000 to 40,000
FS 401S OF		

The boilers share a common outer case within which there is adequate space to fit a central heating pump using standard fittings.

All appliances are designed for use on Natural Gas only. Each appliance consists essentially of two components, namely:

1. Combustion chamber with heat exchanger, burner, controls and inlet of air duct.
2. Outer case. (Control Panel - packed separately.)

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. Regulations, Gas Safety Regulations, Building Regulations, and by-laws of the Local Water Undertaking. References should be made to BS Codes of Practice 331- Part 3, BS6798, and BS 5440 Part 1 & 2, 5449 Part 1.

Siting

These appliances must be fitted on a suitable outside or inside wall with due considerations of the open flue requirements. They should not be installed in a bathroom, bedroom or bed sitting room.

A new or existing cupboard or compartment used to enclose the boiler must be constructed specifically for this purpose. Details of essential features of cupboard/ compartment design are given in BS 5376:2.

Clearances

The minimum vertical areas required for the appliances depend on the appliance rating and its application. The details given in Fig. 4 cover both the standard and the 'S' versions.

Ventilation

Detailed recommendations for air supply are given in BS 5440:2. The following notes are intended to give general guidance.

The room in which the open flue unit is situated requires an air vent which should be direct to outside or to a room which itself has an air vent direct to outside.

Ventilation areas required:

Table 1

Boiler Type	Minimum free area of air vent	
	cm ²	in ²
FS 601 OF & S OF	74	11.5
FS 501 OF & S OF	57	9
FS 401 OF & S OF	39	6

Where the boiler is in a compartment with air vents direct to outside the room containing the compartment does not require the provisions of additional ventilation.

The actual minimum effective area requirements of cupboard/compartment air vents are based upon the rated input of the appliance. See [Table 2](#) below.

Flue arrangement

The appliances are intended for connection with 100mm (4") flue tube. In common with other fuels an efficient flue is necessary.

For full information on flues refer to BS 5440 but the general requirements are as follows:-

1. The flue should be kept as short and as warm as possible.
2. Give maximum possible vertical rise from the appliance before using any bends (preferably at least 600mm (2')). 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. A boiler 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 (20') in height and not wholly internal. **WHETHER OR NOT THE CHIMNEY IS TO BE LINED IT MUST BE SWEEPED THOROUGHLY BEFORE THE INSTALLATION.**

6. Whatever type of flue is used it must be properly supported and not simply supported on the boiler.

Boiler Type	Compartment vented to adjacent room		Compartment vented to outside building	
	High level vent area	Low level vent area	High level vent area	Low level vent area
FS 601 OF & S OF	212cm ² (33in. ²)	423cm ² (67in. ²)	106cm ² (17in. ²)	212cm ² (33in. ²)
FS 501 OF & S OF	176cm ² (27in. ²)	353cm ² (55in. ²)	88cm ² (14in. ²)	176cm ² (27in. ²)
FS 401 OF & S OF	140cm ² (22in. ²)	281cm ² (44in. ²)	70cm ² (11in. ²)	140cm ² (22in. ²)

Table 2

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Water circulation systems (see [pages 8 & 9](#))

The appliances are only suitable for connection to a cistern supply and can be used with:

1. Pumped domestic hot water and pumped central heating systems.
2. Gravity flow domestic hot water and pumped central heating systems.

(a) With 28mm pipes the minimum circulating head for gravity domestic hot water should not be less than 1 m (3.3') measured vertically from the flow connection on the boiler to the flow connection on the cylinder. At this head, the maximum horizontal distance measured along the run of the pipe should not exceed 3m (10'). Greater horizontal distances and smaller pipe sizes are acceptable with suitably increased heads. Allowances must be made for pipe bends where necessary.

(b) If the above conditions are not easily met then pumped primaries should be used.

(c) Gravity flow and return pipes should be laid to maximum fall to avoid air locks.

The following points are of particular importance:

1. THE WATER SPREADER MUST BE FITTED TO THE PUMPED RETURN CONNECTION ON ALL SYSTEMS.
2. The appliances must not be used on sealed systems.
3. The system must be designed to avoid reverse circulation.
4. The static head must not exceed 30m (100') of water.
5. The boilers must only be used with an indirect cylinder when domestic hot water is required.
6. Drain points should be fitted at the lowest points in the system.
7. The system must be designed such that gravity circulation in the heating system does not take place when the pump is not running.

Gas supply

The gas connection is located at the bottom left hand side of the appliance and is Rc 1/2 (1/2" B.S.P.T. internal). 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

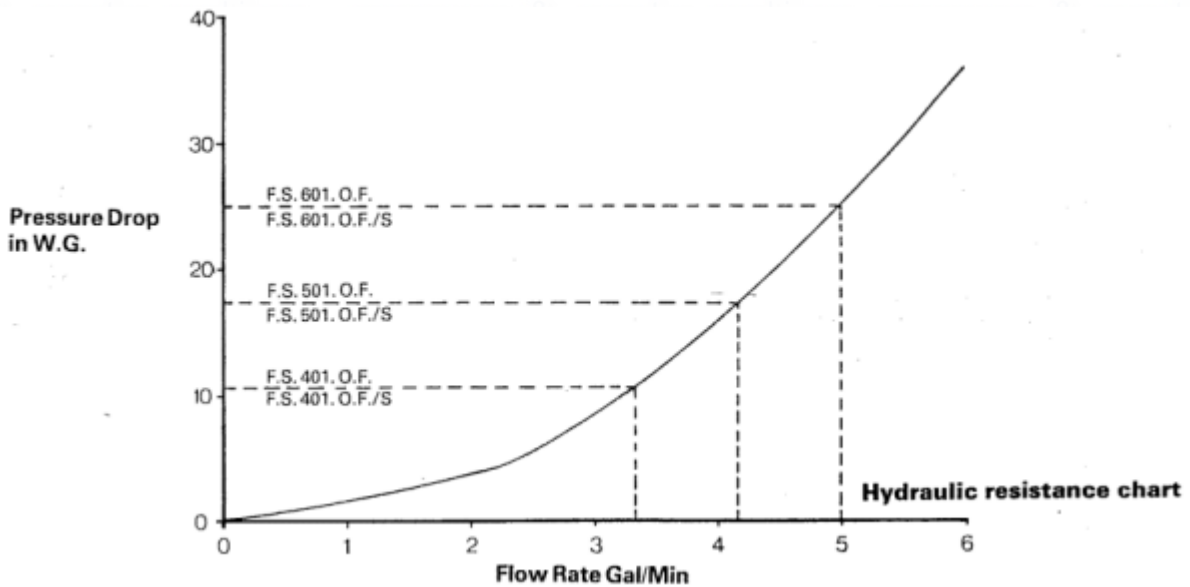
External wiring must be correctly earthed and polarised and in accordance with I.E.E. regulations.

For wiring instructions see '[Electrical Connections](#)'.

Appliance details (all appliances)

Height	900mm (35 1/2")
Width	395mm (15 1/2")
Forward projection from the wall	535mm (21")
Weight empty	78.7kg (173.5lb)
Water content	5.1 litres (1.12 gallons)
Boiler tapings	4xRp1 (1" BSP internal) and 1 xRp3/4(3/4" BSP internal)

Electrical supply	240v ~ 50 Hz - 3 amp fuse
Gas connection	Rc 1/2 (1/2" BSPT internal)
Max. working head	30m (100')
Thermocouple output	10-15mv.



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Fitting the Appliance

1. A sound and level floor which conforms to the requirements of the Local Authorities and Building Regulations must be provided.
2. Select the most suitable position for the boiler taking due account of any clearances required for the safe and proper functions of the boiler and its associated controls.
3. Manoeuvre the boiler into position so that the two spacer pips on the rear of the down draught diverter touch the wall.
4. Connect the water flow and return pipes (see [Boiler Connections](#)).
5. Connect the flue pipe, making sure that the flue trim is placed in position before the final connection is made.
6. Partially fit the outer case.

7. Connect the electrical supply (see [Electrical Connections](#)).
8. Complete the installation. See '[Commissioning the Unit](#)'.
9. Complete the assembly of the outer case.

Boiler connections (Fig. 3)

The boilers have 5 water connections:

2xRp1 (1" BSP internal) return connections
2xRp1 (1" BSP internal) flow connections
1xRp3/4 (3/4" BSP internal) flow connection.

The 1 x Rp3/4 (3/4" BSP internal) flow connection is for use when the pump is fitted inside the outer case. For other installations this connection must be plugged.

THE WATER SPREADER MUST BE FITTED TO THE PUMPED RETURN CONNECTION ON ALL INSTALLATIONS. THE MARKS ON THE SPREADER MUST BE BETWEEN THE TWO MARKERS ON THE COMBUSTION CHAMBER (Fig. 1). CHECK THAT THE SPREADER HAS ONLY TWO LOCATION MARKS.

When installing the pipework ensure that:

- (i) Suitable union fittings are used at the first joint of all boiler connections.
- (ii) The pipework will run through the cutouts provided in the outer case (Fig. 2).
- (iii) Drain off points are provided as appropriate.
- (iv) Pipe sizes are suitable for the system design.

Pump (Fig. 5)

A suitable pump e.g. Grundfos Selectric 4 or SMC Commodore with ball type isolating valves and 22mm compression fittings may be fitted inside the outer case. The pump should be connected to the 3/4 flow connection on the front of the heat exchanger using the following standard fittings.

A-1 off-Elbow 3/4 BSP male x 3/4 BSP female
B-1 off-Conex straight connector 3/4 BSP male x 22mm copper
C-3 off 22mm Yorkshire elbows
D-1 off 60mm long-22mm copper tube

E-1 off-100mm long-22mm copper tube

F-1 off 145mm long-22mm copper tube

G-1 off-42mm long-22mm copper tube

The redundant flow connection(s) must be plugged.

Accuracy is important to avoid the pump and or pipework obstructing removal of the top panel of the combustion chamber, or fouling the top panel of the outer case.

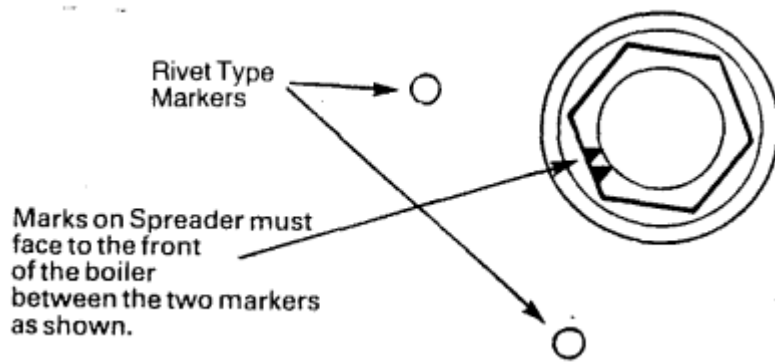
Outer case (Fig. 6)

Assemble the outer case in the following manner:

1. Locate the RH side panel over the pegs at the RH side of the base and press downwards to secure. When fitting the panels if access is restricted the cutouts at the top of the back edge of the panels can be used to pass the case fixing brackets.
2. Secure the panel to the case fixing brackets with the two screws provided.
3. Repeat 1 & 2 with the LH side panel.
4. Secure the hinges of the fascia panel to the two side panels using two of the four screws provided.
5. At this point the electrical connections to the fascia panel can be made and the appliance can be commissioned.
(See '[Electrical Connections](#)' and '[Commissioning the Appliance](#)' 1-17).
6. Swing the fascia panel upwards and secure to the side panels using the two screws retained to the control fascia.
7. Lift trim clear of flue connection on the boiler and locate the top panel on the top of the side panels and press down to secure. Reposition the trim in the cut out on the top panel.
8. Hook the bottom edge of the front panel over the lugs on the base and swing the top edge back till the pegs at the top of the panel locate in the corresponding holes. Press to secure.

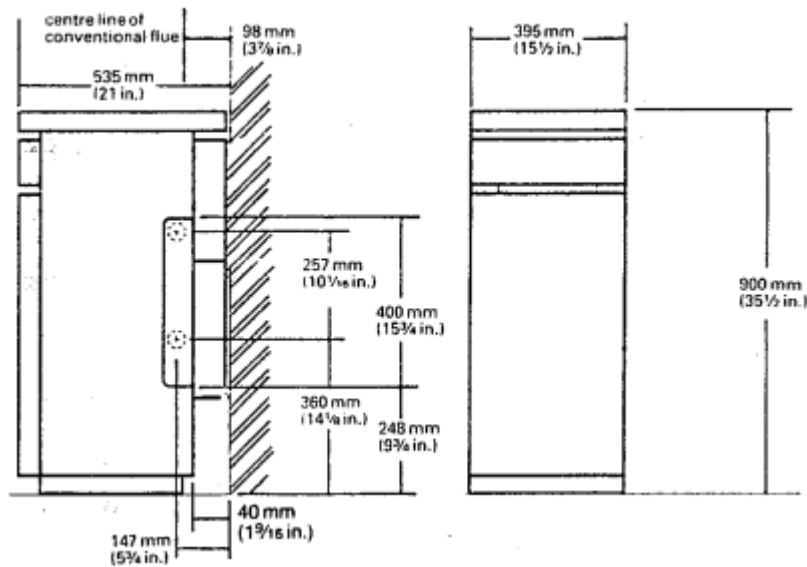
Gas connection (Fig. 3)

Adapt the gas supply 15mm (1/2" BSP) within the outer case making the gas connection to the service tap provided.

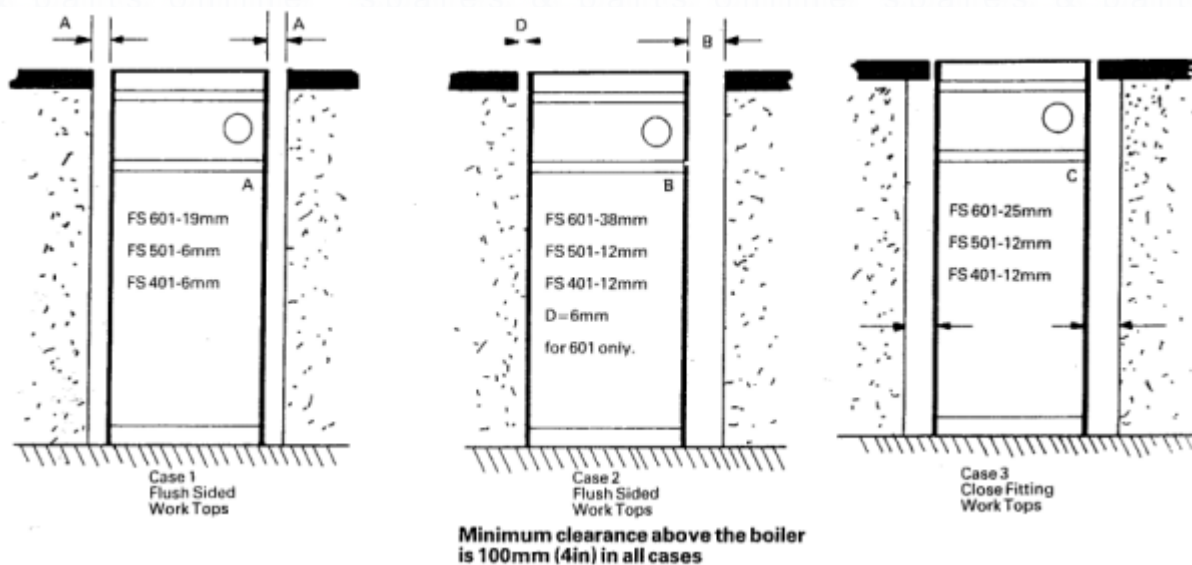


1. Spreader in Pumped Return Connection

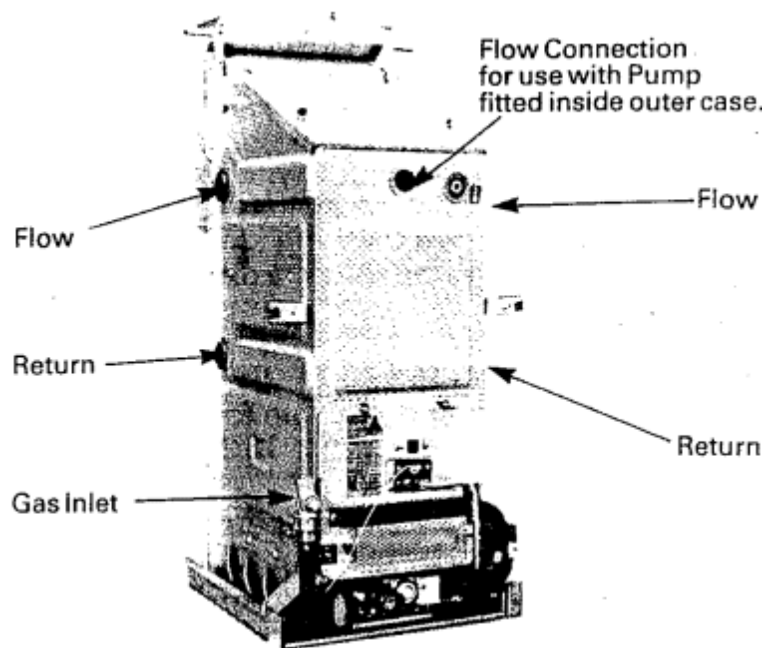
Page 4



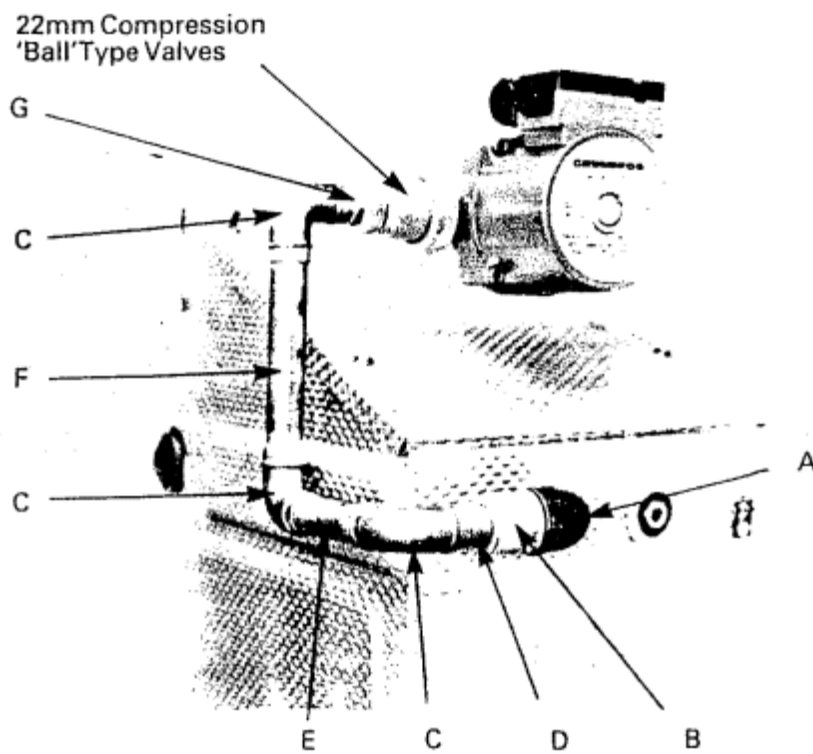
2. Outer Case



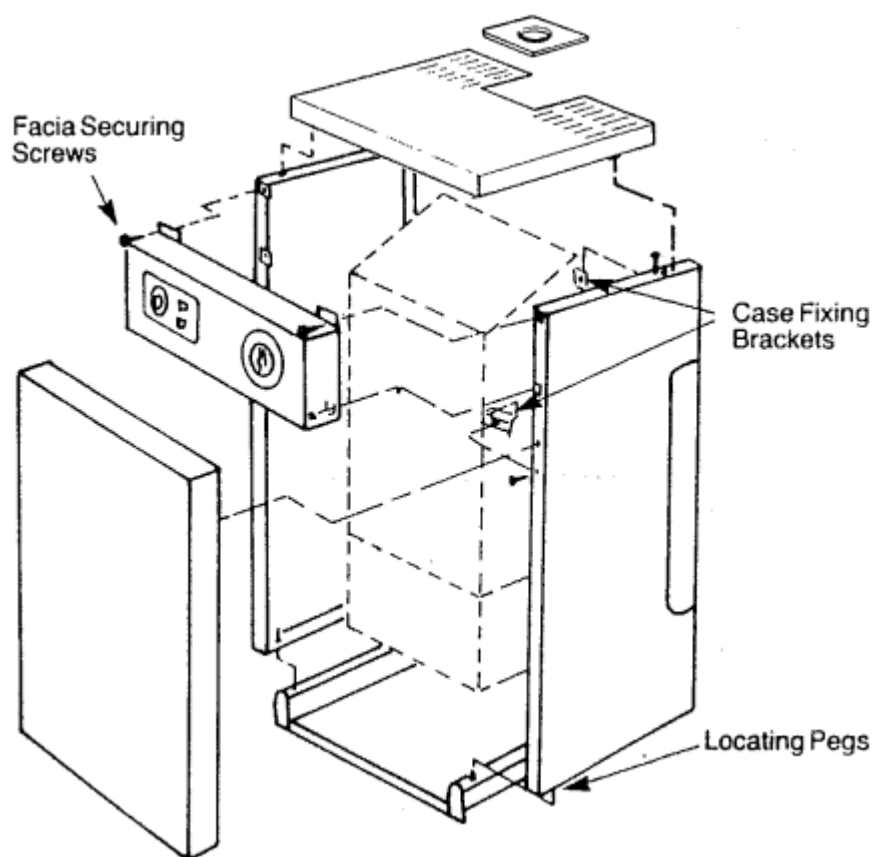
4. Clearances - Work Tops



3. Boiler Connections



5. Pump in casing



6. Outer Case Assembly

Electrical connections

General

The mains supply required is 220/250 V 50 Hz fused at 3 amps. 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 be in accordance with I.E.E. regulations.

Electrical supply to controls

The recommended cable for connection to the appliance is 0.5 sq. mm 16/20 PVC heat resistant grade to BS 6500 1975.

The input cable should be secured with the cable clips provided and be laid to avoid contact with hot surfaces.

The length of the supply conductors between the cable grip and the terminals must be such that the current carrying conductors become taut before the earthing conductor if the cable should slip out of the cable grip.

1. With the outer case assembled as in 'outer case' 1-4 remove the 2 screws securing the thermostat cover to the fascia panel (Fig. 7).
2. Fit the input cable to the terminal strip and clamp using the cable grip provided and clamp the incoming cable into the cable clips provided on the outer case side panel so as to avoid contact with the hot combustion box surfaces.
3. Connect the 2 green and yellow earth wires halfway down the appliance wiring harness to the combustion chamber earth point on the outer case support bracket.
4. Fit the socket at the end of the wiring harness to the plug attached to the burner feed pipe and clip the wire to the cable clips provided.
5. Refit the thermostat cover to the fascia panel.
6. Push the thermostat phial into the thermostat pocket and clip the capillary behind the retaining clip (Fig. 8).

Programmer ('S' versions only)

This programmer is suitable for controlling all types of central heating and domestic hot water installations.

Data: Rated voltage 220/250V Mains frequency 50Hz Total rating 10A 250 VAC Insulation - double insulated.

1. With the outer case assembled as in 'outer case' items 1-4 remove the 3 screws securing the programmer cover (Fig. 7).
2. Fit the wires to the terminal strip provided and to the boiler to suit the chosen control systems (see '[Control Systems](#)') ensuring that the wires are fixed to the cable clamp provided and secured away from hot surfaces with the cable clips and straps provided.
3. Refit the programmer cover.

The programmer supplied is set to give ten programmes. If 16 programmes are required the programmer must be adjusted.

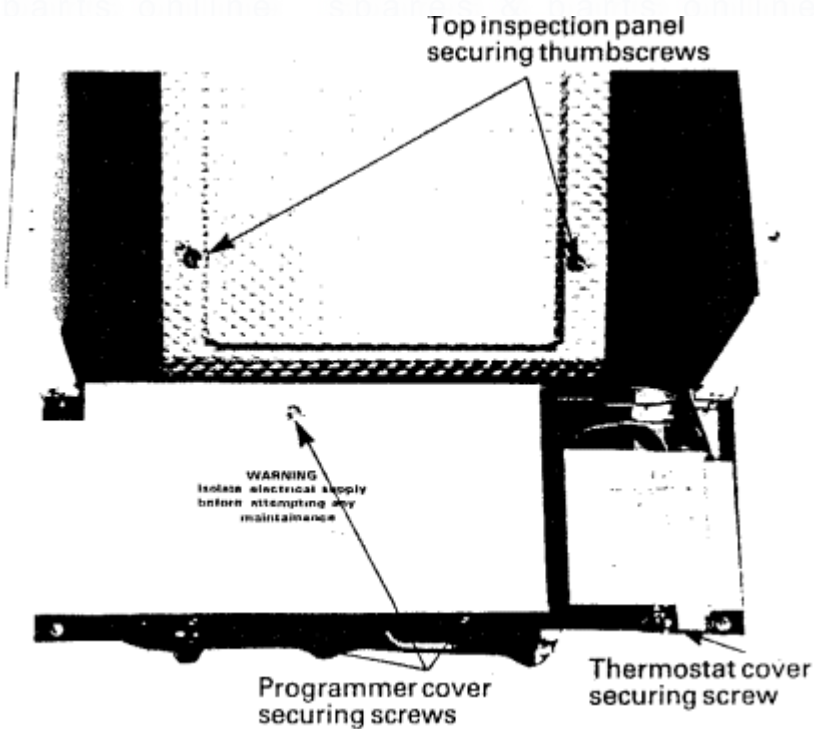
Ten position is suitable for gravity hot water and pumped central heating.

Sixteen position is suitable for gravity hot water with cylinder thermostat and motorised valve and pumped central heating: or hot water and central heating pumped with cylinder and room thermostats with a motorised valve in both circuits. To adjust for 16 programmes set the hot water programmer selector to the ON position and the central heating programmer to the OFF position.

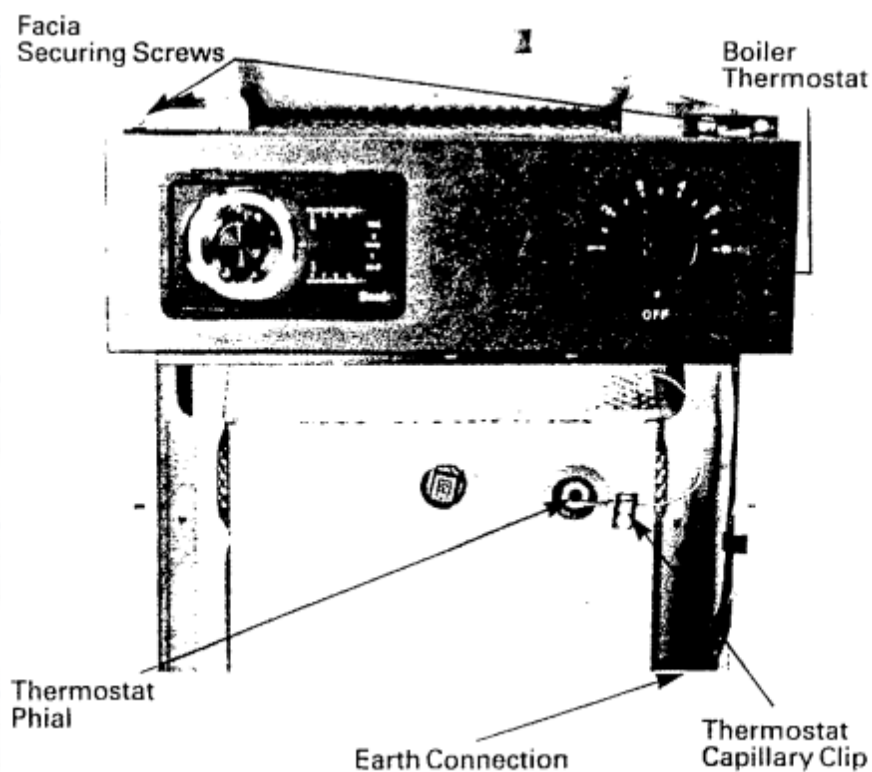
Turn the white programme range adjuster (Fig. 9) 90° anti-clockwise. To revert to ten programmes follow the same procedure but turn the white programme range adjuster 90° clockwise.

Line voltage is applied to terminals 3 & 4 when the programmer is in the ON position for hot water and central heating and to terminals 1 & 2 when it is in the OFF position.

Terminals 1.2.3.4.N.L. connect the controls for Domestic Hot Water and Central Heating applications shown in '[Control Systems](#)'.



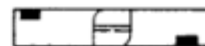
7. Facia Panel-Rear



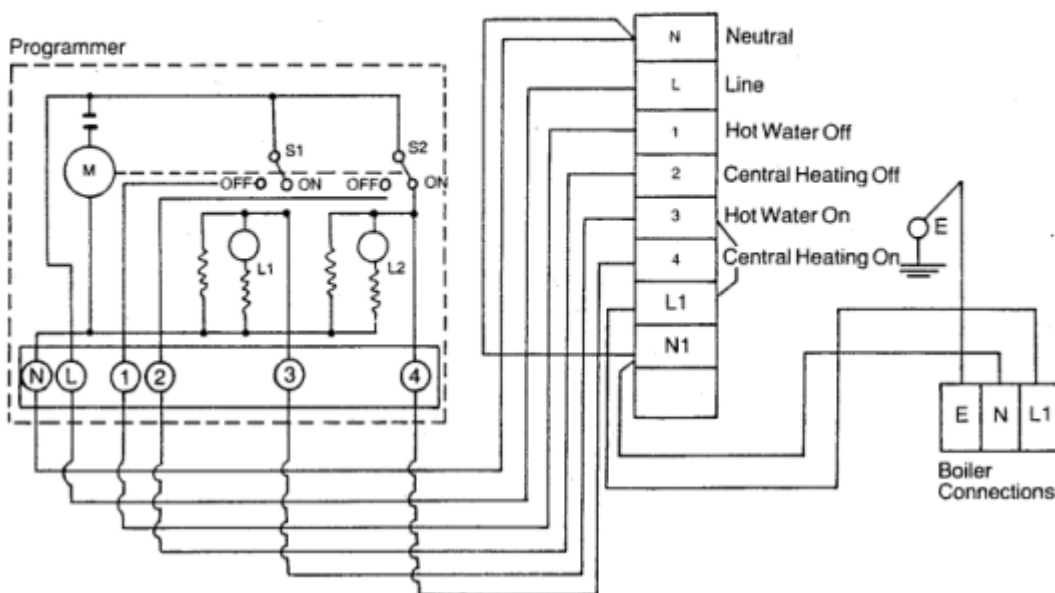
8. Boiler Thermostat



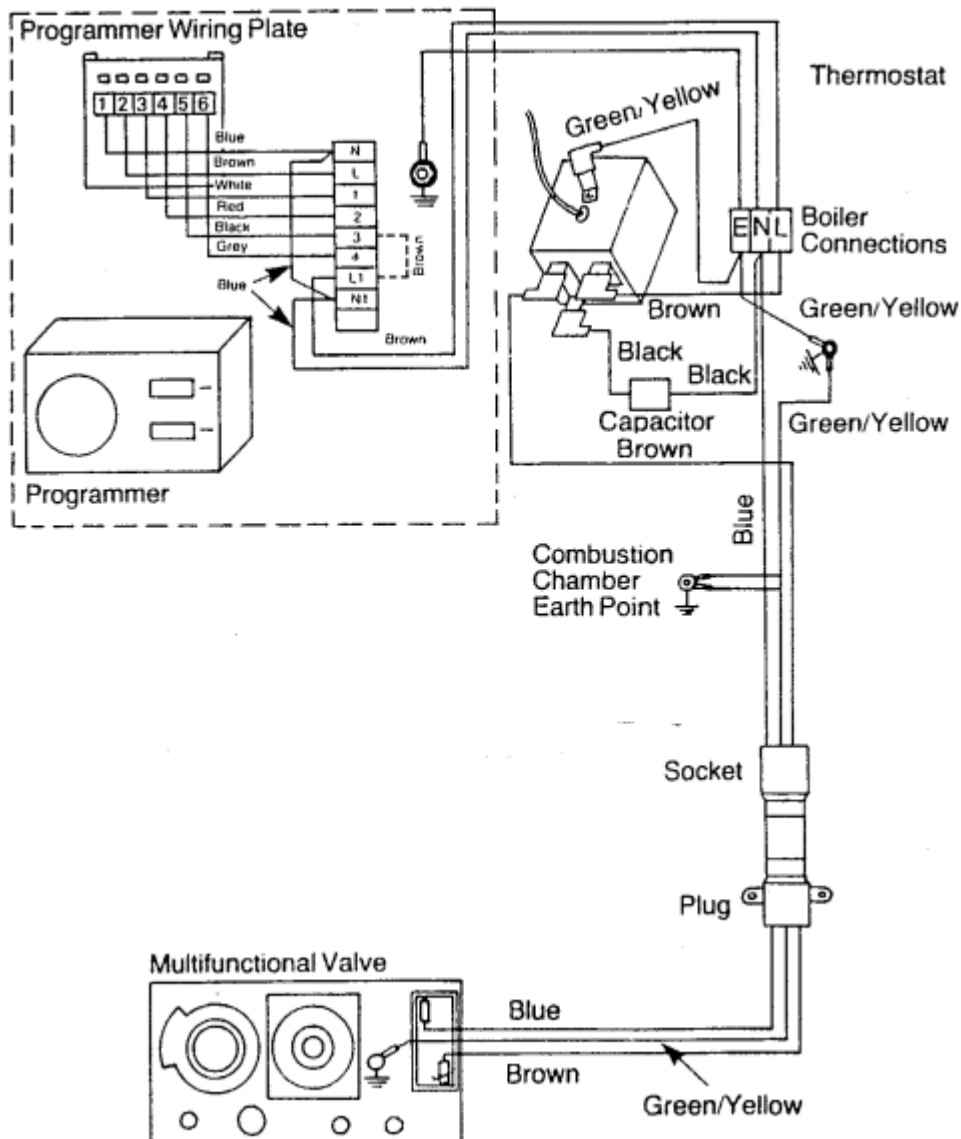
Programmer range adjuster set for 10 programmes.



Programme range adjuster set for 16 programmes.



9. Internal Wiring- Programmer



10. Internal Wiring-Boiler

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Notes for Guidance

1. 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.

Normally the pump should be set to give a 11°C (20°F) drop across the system with the gas rate of the boiler adjusted to the output required.

(b) The open vent pipe must be a minimum of 22mm and must rise continuously to above the feed 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) The cold feed pipe, 15mm, should be connected to the return main as near as possible to the boiler and should not include a valve unless required by the local water authority.

Domestic Hot Water

An indirect cylinder must be used. If a self priming indirect type is employed it must be of adequate size and applied strictly in accordance with the cylinder manufacturers' instructions.

Fuel economy

Better fuel economy is achieved by exercising control of the boiler by means of a room thermostat and or a cylinder thermostat as appropriate. Examples of different control systems are given below along with the appropriate wiring diagrams.

ALLOWING THE BOILER TO CYCLE ON THE BOILER THERMOSTAT DOES NOT PRODUCE THE BEST RESULTS.

SIMILARLY FOR ECONOMY AND BOILER PERFORMANCE THE SYSTEM SHOULD BE DESIGNED SO THAT GRAVITY CIRCULATION IN THE HEATING CIRCUIT DOES NOT TAKE PLACE WHEN THE PUMP IS NOT RUNNING.

Control systems

Fully pumped systems One Zone Valve (Fig. A)

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. C)

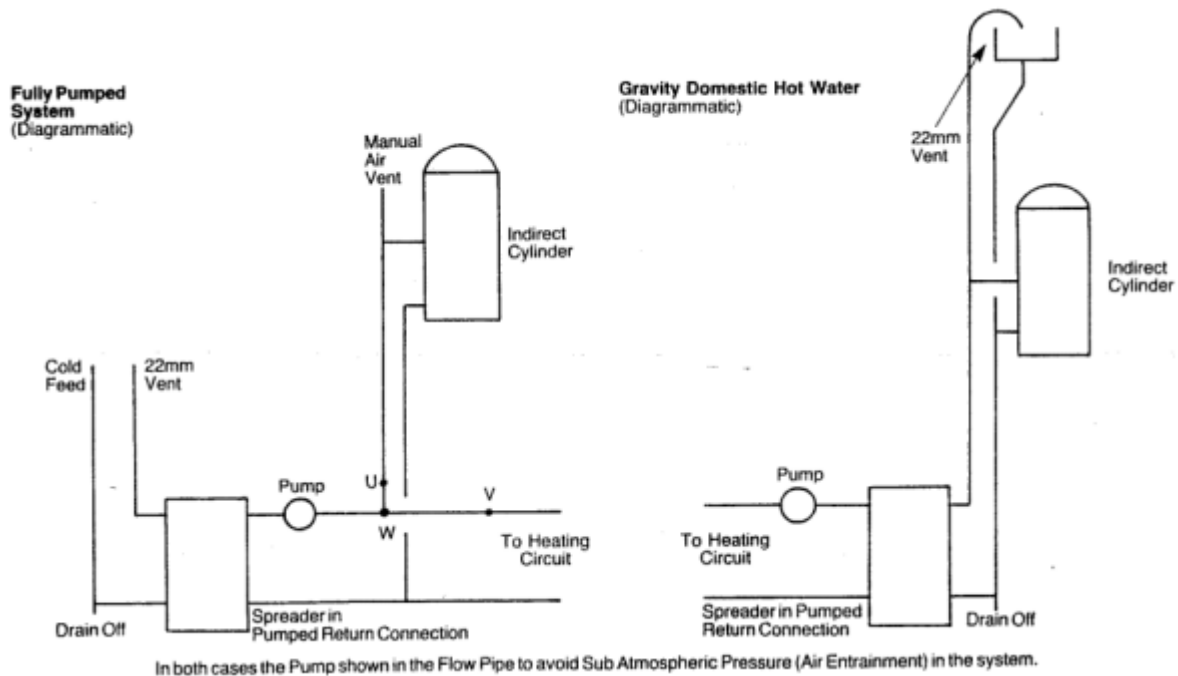
Zone valves are fitted at points V and U to stop water circulation to the heating system and the cylinder. The valves are controlled by a room thermostat and a cylinder thermostat respectively, each of which also controls the boiler and the pump.

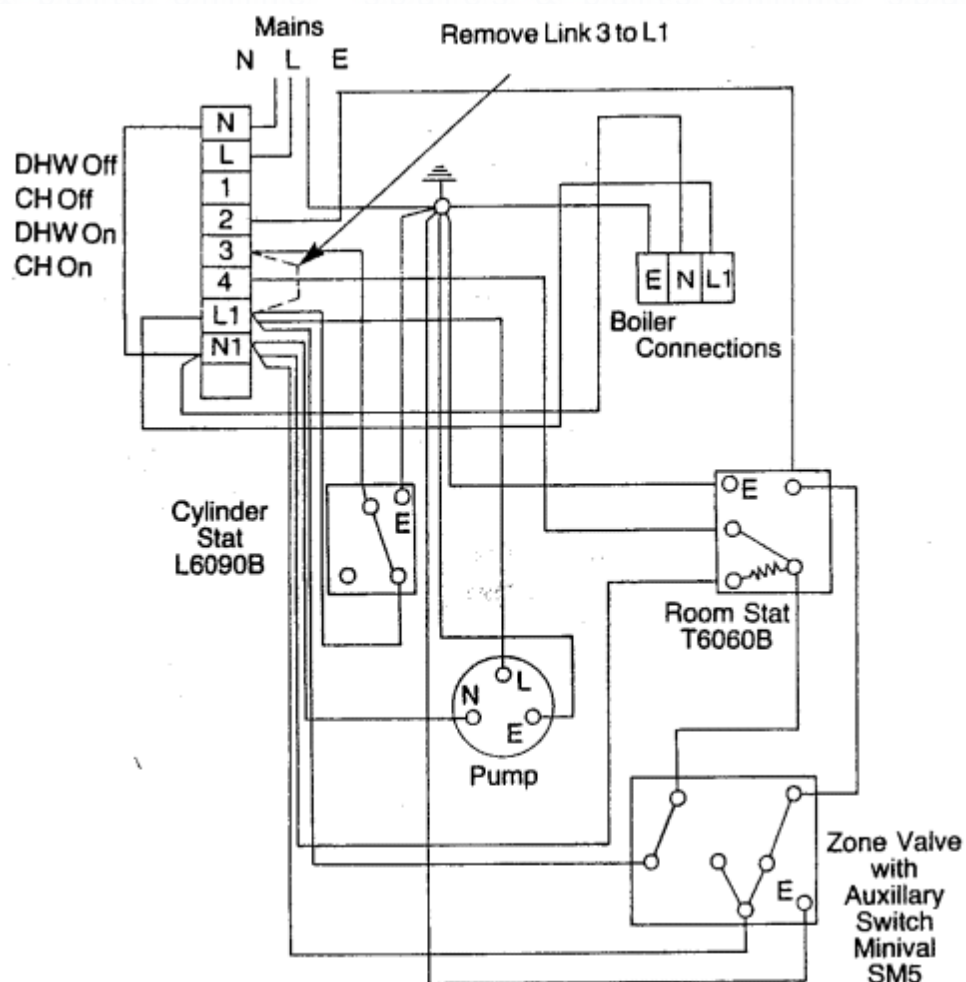
Diverter Valve (Fig. D)

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.

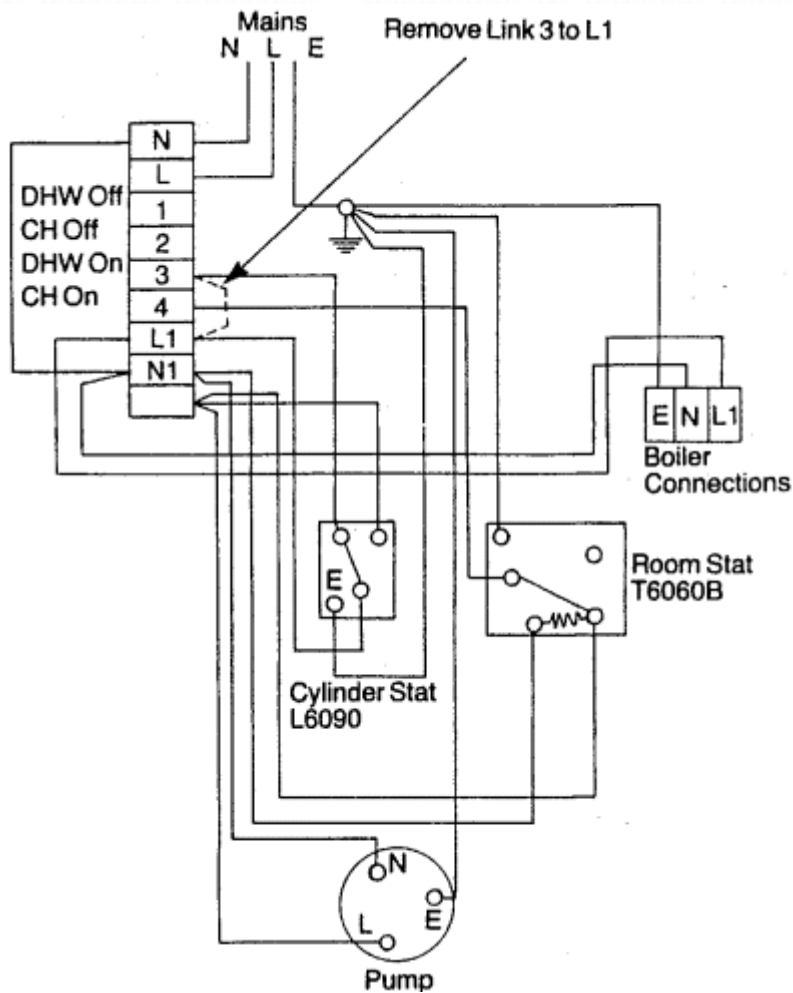
Gravity D.H.W. Systems Sundial Control (Fig. B)

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.

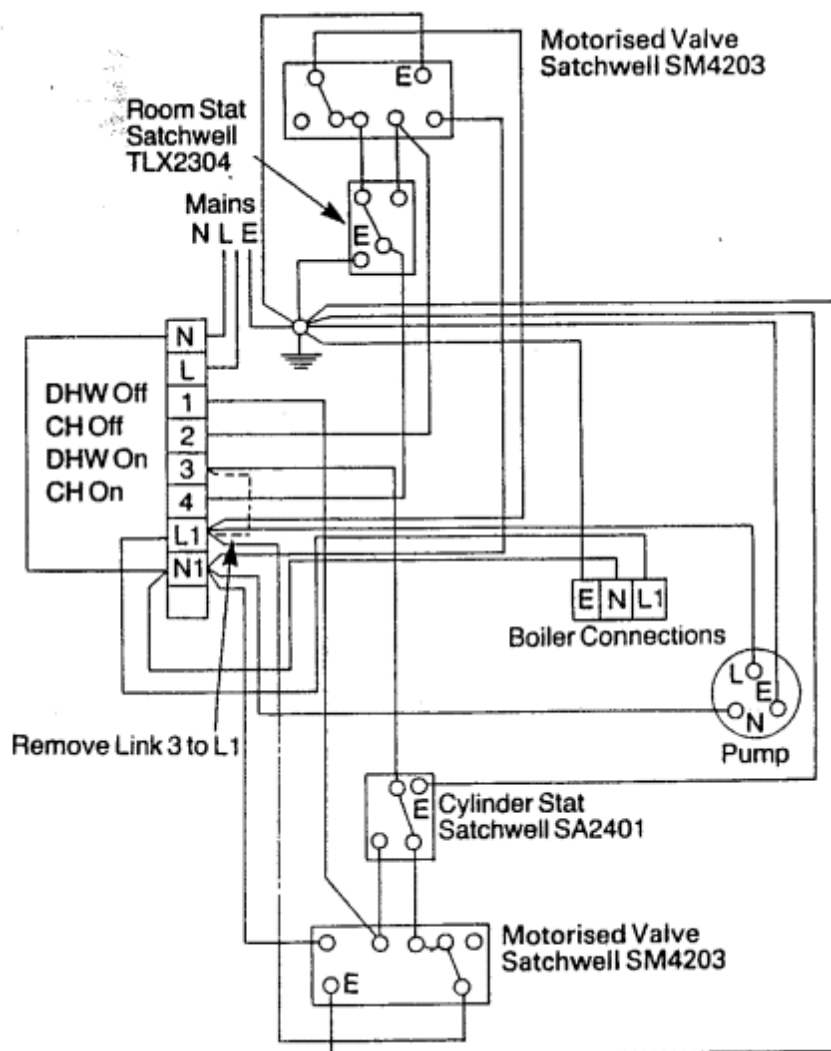




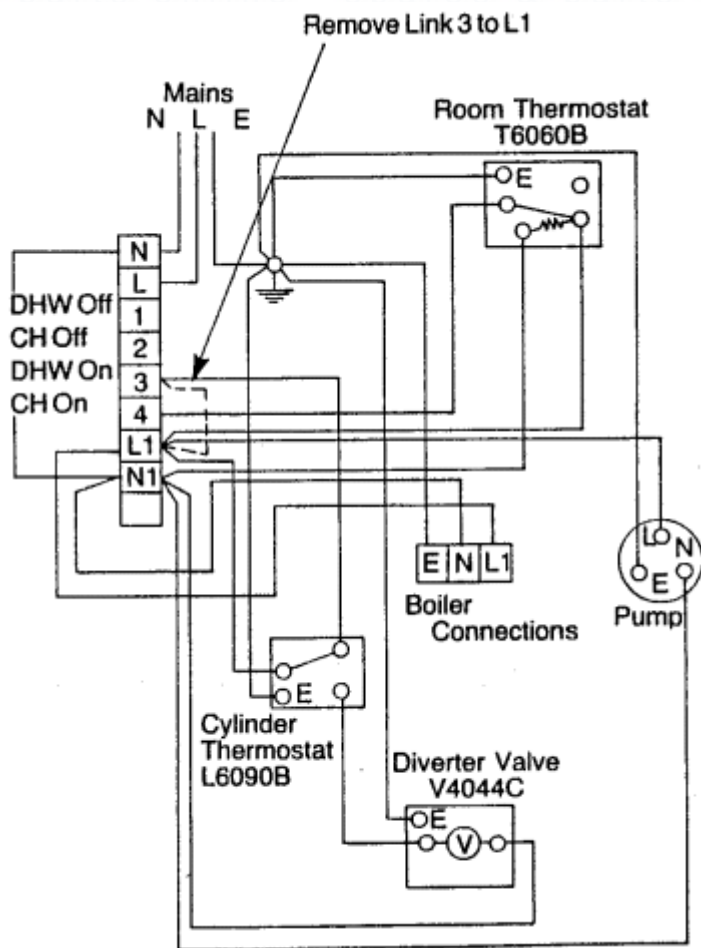
A -One Zone Valve - Fully Pumped System



B -Sundial Gravity System



C - 2 Zones Valves - Fully Pumped System



D - Diverter Valve - Fully Pumped System

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Commissioning the Unit

1. Flush the whole system with all valves open.
2. Fill the system, vent the radiators and check for water leaks.
3. Turn the gas service tap to the 'on' position, check for gas soundness (C P 331:3).
4. Purge the air from the gas supply pipe at the gas service tap.
5. Turn the boiler thermostat to the 'off' position.
6. Turn on the mains electrical supply and ensure that all external controls e.g. room thermostat, timer, etc., are calling for heat.

7. Remove the burner pressure test point screw and connect a pressure gauge.

8. Hold in the grey 'on/off' button on the gas control valve (Fig. 11).

9. Press the Piezo Unit button (Fig. 11) and release. Repeat until pilot lights. Hold in grey 'on/off' button for a further 20 seconds and then release. The pilot light should then stay alight. If the pilot fails to remain alight turn the grey 'on/off' button clockwise, wait 3 minutes and start again from 8. The flame should be without a yellow tip and be approximately 25mm (1") long. No adjustment of the pilot flame is necessary as with the restrictor screw fully open the pilot jet is sized to give the correct flame length at 20 mbar (8" wg) inlet pressure.

10. 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.

11. Turn the boiler thermostat to the OFF position. Wait three minutes and re-light the pilot.

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

13. Remove the cover screw and adjust the appliance governor to give the correct pressure corresponding to the required input. See table below. Check this pressure after 10 minutes and adjust if necessary (Fig. 11). Replace cover screw.

14. Turn the boiler thermostat to the 'off' position and re-check the pilot flame length.

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

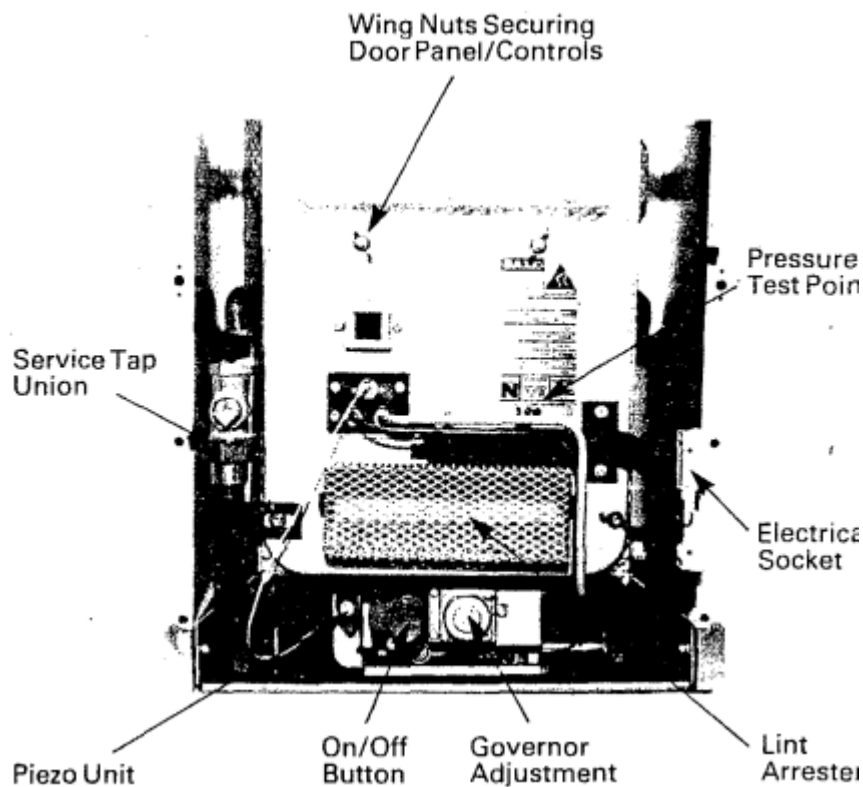
16. Make a final check for gas soundness.

17. Replace the burner pressure test point screw and then turn the boiler thermostat to the required setting.

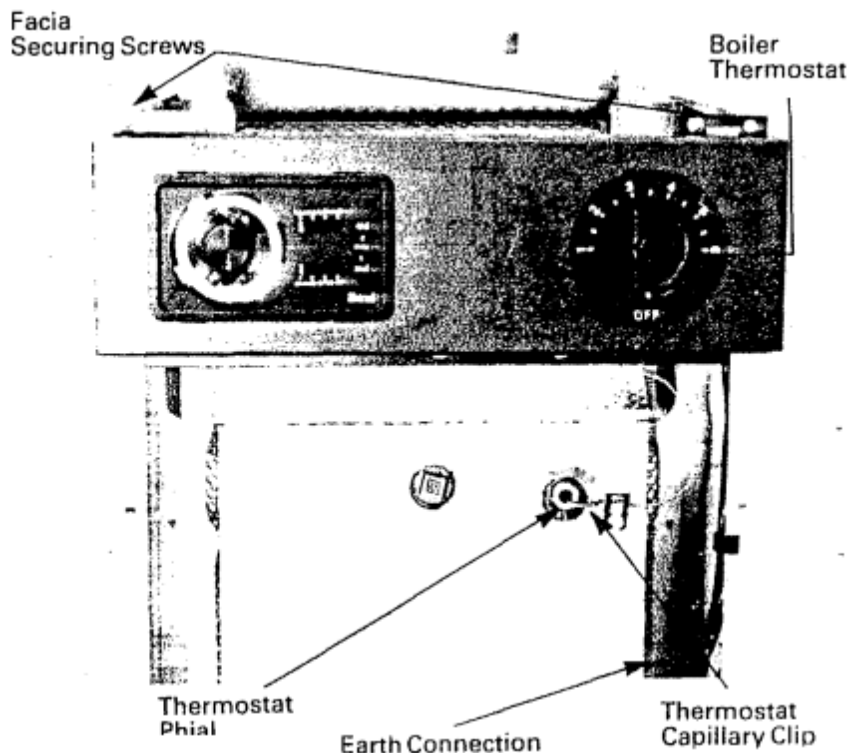
18. Complete the assembly of the outer case as described in '[outer case](#)' items 7 & 8.

19. Instruct the user in the use of the unit.

NOTE: In the event of an electrical fault after the installation of the appliance, preliminary electrical system checks must be carried out (i.e. Earth continuity, polarity and resistance to earth).



11. Burner Controls

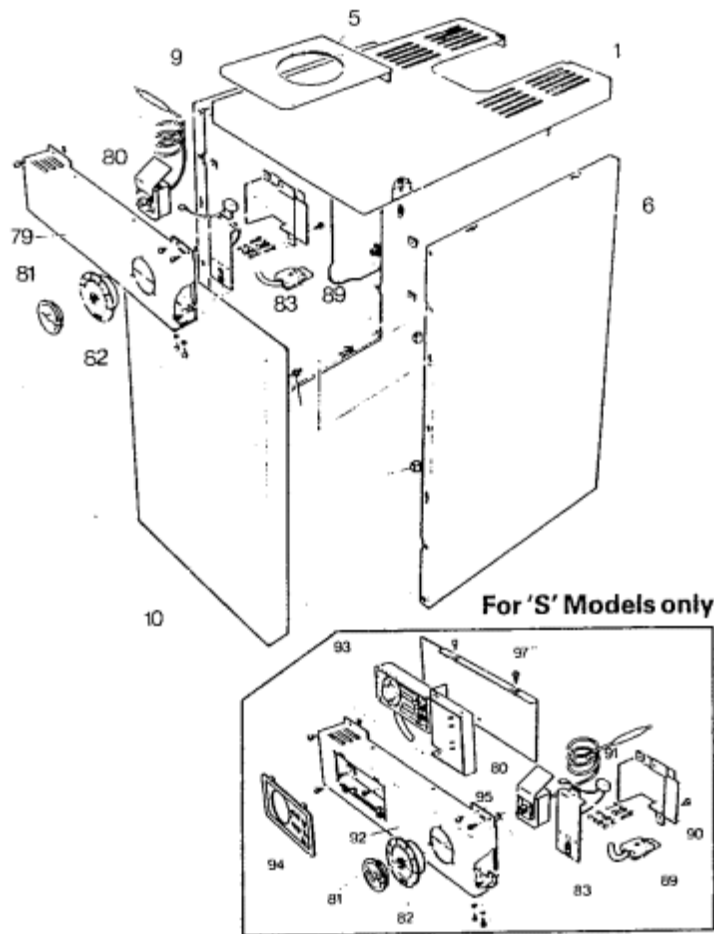


12. Boiler Thermostat

Model	Maximum Input	Setting Pressure	Minimum Input	Setting Pressure
FS 601 OF	22.91 kW (78200 Btu/h)	16.8 mbar (6.7" w.g.)	19.5727 kW (66800 Btu/h)	12.3 mbar (4.9" w.g.)
FS 601 OF/S				
FS 501 OF	19.25 kW (65700 Btu/h)	17.1 mbar (6.85" w.g.)	15.91 kW (54300 Btu/h)	11.7 mbar (4.7" w.g.)
FS 501 OF/S				
FS 401 OF	15.26 kW (52100 Btu/h)	16.9 mbar (6.8" w.g.)	12.07 kW (41200 Btu/h)	10.5 mbar (4.2" w.g.)
FS 401 OF/S				

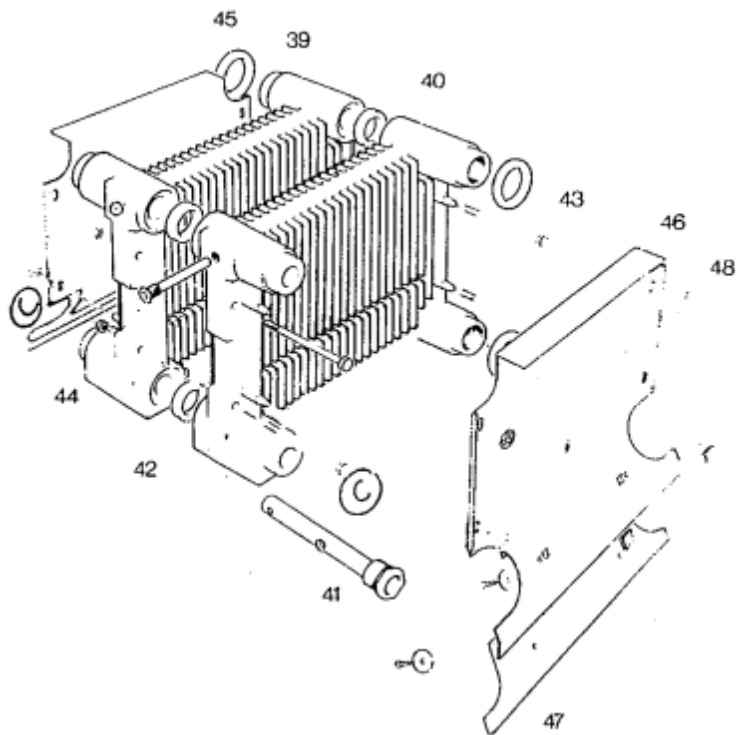
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Exploded Diagrams

Outer Case

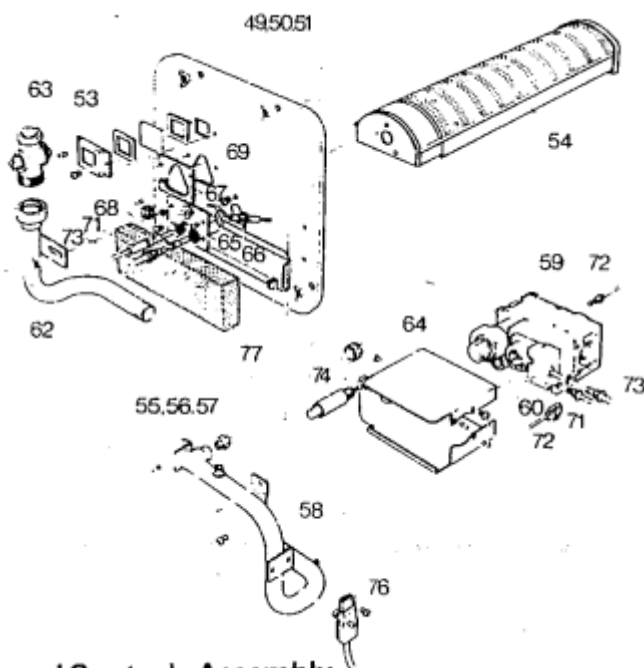


Outer Case

Key 38 Boiler

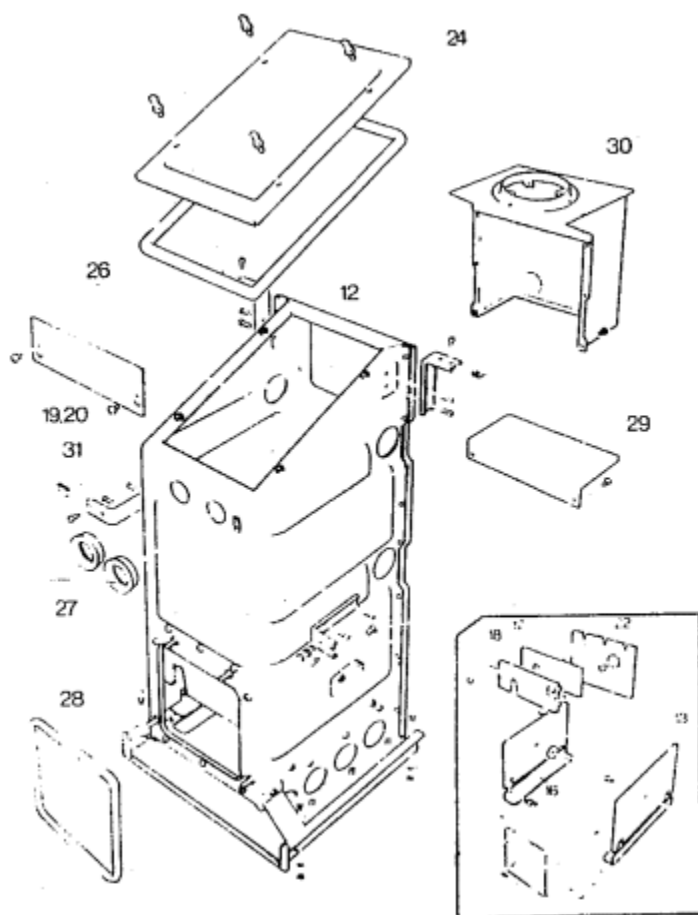


Key 38 Boiler



Burner and Controls Assembly

Burner and Controls Assembly



Combustion Box

Combustion Box

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Servicing the Unit

(See 'BOILER SERVICING GUIDE' label on the boiler)

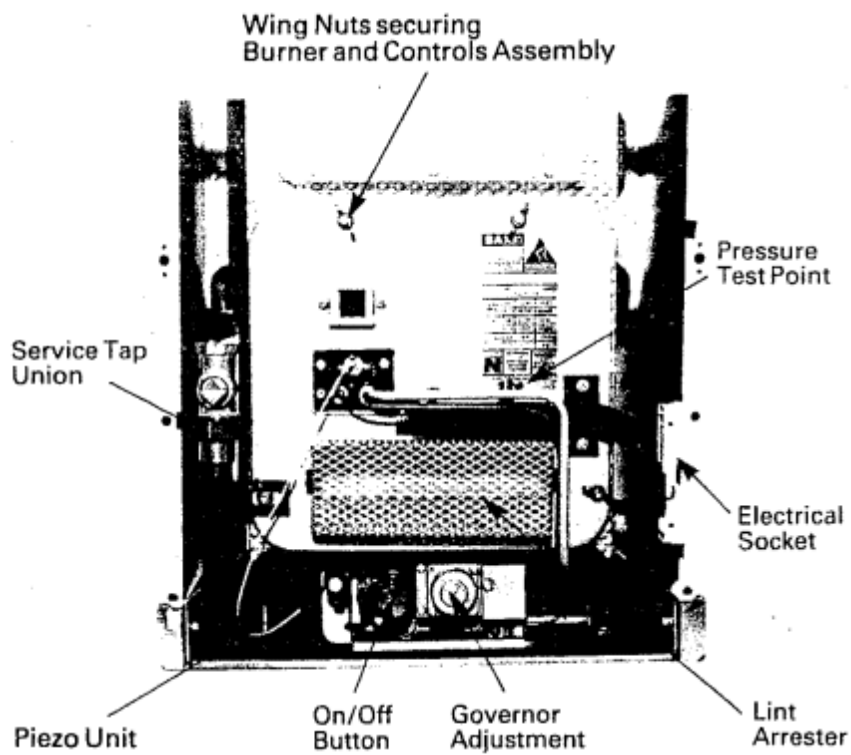
Items 1-28 are for maintenance to be carried out annually.

1. Turn off the electrical supply to the boiler.
2. Remove the front panel of the outer case by pulling forwards at the top and lifting upwards.
3. Lift trim on flue pipe connection clear of the top panel and remove the top panel of the outer case by pulling upwards.

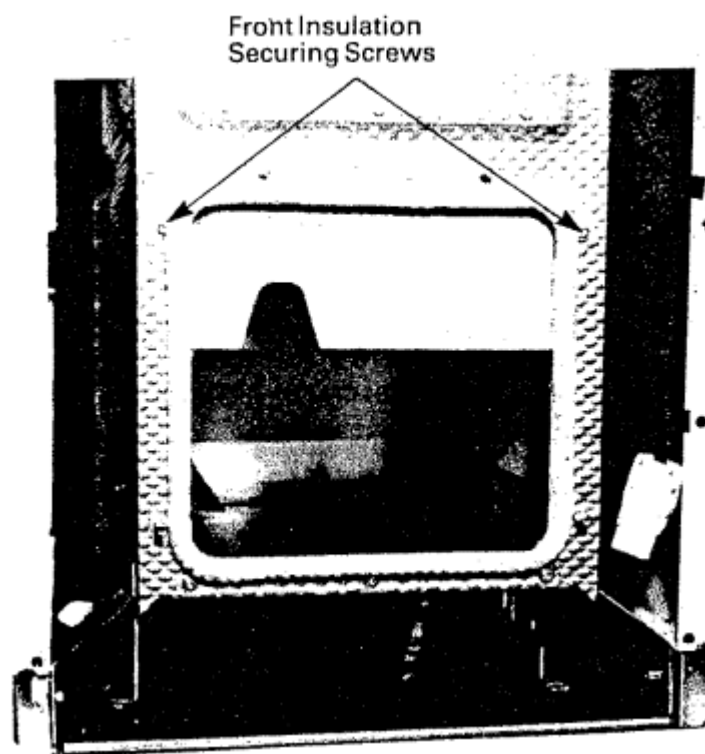
4. Turn off the gas supply at the service tap and disconnect the union (Fig. 13).
5. Disconnect the electrical socket by pulling upwards (Fig. 13).
6. Remove the 4 wing nuts and carefully withdraw the burner and controls assembly (Fig. 13).
7. Release the two screws securing the front insulation assembly and remove the assembly (Fig. 14).
8. Remove the four thumbscrews securing the top inspection panel.
9. Clean the fins of the heat exchanger with a stiff bristle brush.
10. Clean out any deposits that have collected in the bottom of the combustion chamber ensuring that the two air openings in the base are clear.
11. Remove any debris that may have collected under the combustion box.
12. Refit the top inspection panel.
13. Clean the burner as follows:
 - (a) Pull and release lint arrester from the front of the door panel held in position by two spring clips. This can be cleaned by thoroughly washing and then allowed to dry (Fig. 13).
 - (b) Disconnect the burner by removing the 3 securing screws (Fig. 16).
 - (c) Remove the end flange assembly of the burner which is secured in position by a single screw together with 1 washer. Clear away any deposits which may have accumulated on the gauze or inside the burner. Refit the end flange taking care that the gasket is not damaged and that the washer is replaced (see Fig. 17).
 - (d) Remove the injector from the inlet manifold, clean carefully and replace.
14. Clean the pilot as follows:

Unscrew the pilot tubing nuts at both ends and remove the pilot tube. Remove and clean the pilot injector and clean the pilot shroud (Fig. 16).
15. Re-assemble the pilot components and then the burners in reverse order of dismantling.

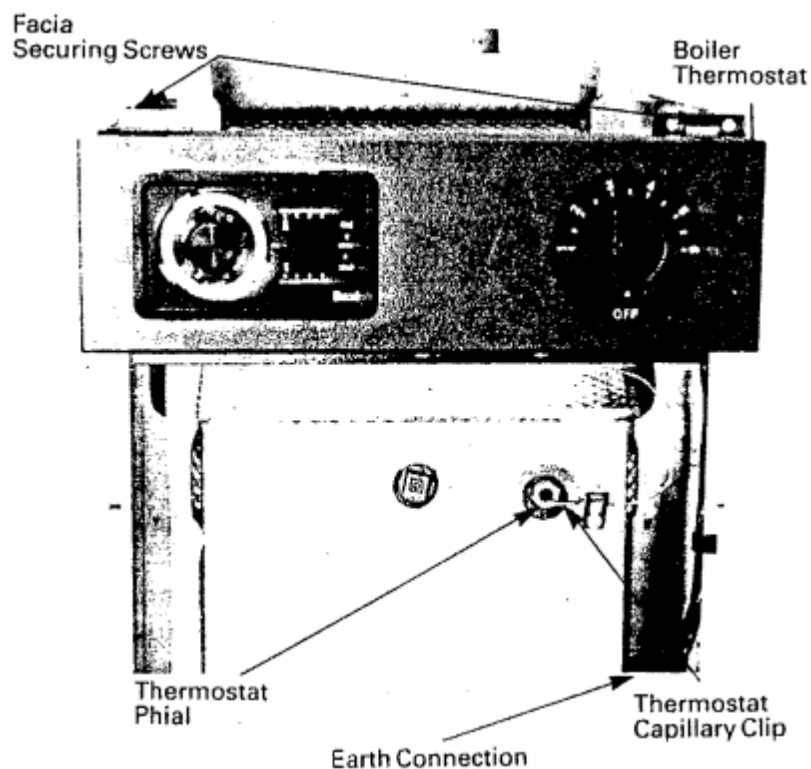
16. Check all insulation panels for damage. Replace if necessary. Refit the front insulation panel and secure with two screws (Fig. 14).
17. Refit the burner and controls assembly checking that the door seal is undamaged. Replace if necessary.
18. Reconnect the gas union at the service tap. Turn on the tap and check for gas soundness.
19. Refit the electrical socket and turn the thermostat to the OFF position.
20. Refit the outer case top panel.
21. Hold in the grey 'on/off' button on the gas control valve (Fig. 13).
22. Press in the Piezo Unit button and release. Repeat until the pilot lights. Hold in the grey 'on/off' button for a further 20 seconds and then release. The pilot should then stay alight. If the pilot fails to remain alight, turn the grey 'on/off' button fully clockwise and release. Wait 3 minutes and start again from 21. The flame should be without a yellow tip and be approximately 25mm (1") long. No adjustment of the pilot flame is necessary as with the restrictor screw fully open the pilot jet is sized to give the correct flame length at 20 mbar (8" w.g.) inlet pressure.
23. Turn on the electricity supply to the boiler.
24. Remove the pressure test point screw (Fig. 13). Connect a pressure gauge and operate the burner by turning the thermostat knob to its highest setting.
25. Check that the pressure corresponding to the range rated output is correct for the installation (see data label). If necessary remove the coverscrew and adjust the appliance governor (Fig. 13).
26. Turn the boiler thermostat to the 'OFF' position and refit the pressure test point screw.
27. Turn the boiler thermostat to its original setting.
28. Replace the outer case front panel.



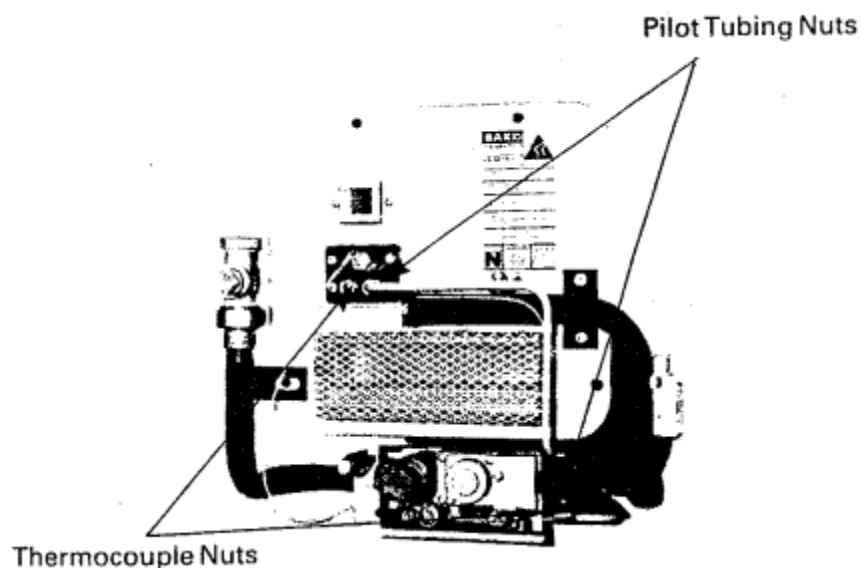
13. Burner Controls



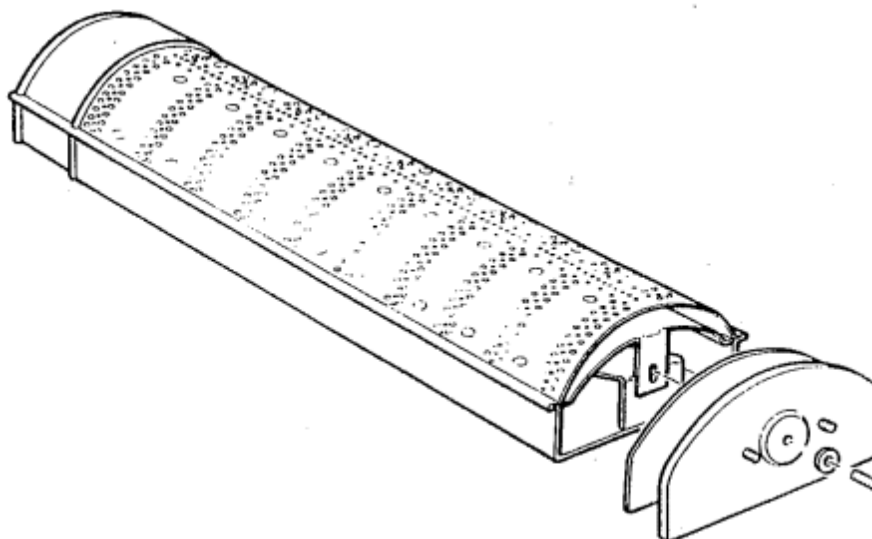
14. Insulation-Combustion Box Door



15. Boiler Thermostat



16. Burner and Control Assembly



17. The Burner

Page 13

Removal/exchange of individual components

Thermocouple

1. Turn off the electrical supply to the boiler.
2. Remove the outer case front panel by pulling forwards at the top and lifting upwards.
3. Turn off the gas supply at the service tap or at the grey 'on/off' button on the gas valve.
4. Release the thermocouple nut at the side of the gas valve (Fig. 16).
5. Release the thermocouple nut at the pilot bracket. 6. Re-assemble in reverse order of dismantling.

Thermocouple re-route device

1. Remove the burner and controls assembly as described in steps 1 to 6 "[Servicing the Unit](#)".
2. Release thermocouple nut at the valve.
3. Disconnect the re-route nut.

4. Remove terminal cover and re-route device.

Injector

1. Remove the burner and controls assembly as described in steps 1 to 6 "[Servicing the Unit](#)".
2. Remove the lint arrester.
3. Remove the screws securing the burner to the door panel (three screws) (Fig. 18) and remove the burner.
4. Unscrew the injector from the inlet manifold.
5. Re-assemble in reverse order of dismantling.

Burner

1. Remove the burner and controls assembly as described in steps 1 to 6 "[Servicing the Unit](#)".
2. Remove the lint arrester.
3. Remove the screws securing the burner to the door panel (three screws) (Fig. 18) and remove the burner.
4. Re-assemble in reverse order of dismantling.

Boiler thermostat

1. Isolate the electrical supply to the boiler.
2. Remove the outer case front panel by pulling forwards at the top and lifting upwards.
3. Remove the outer case top panel by pulling upwards.
4. Remove the two fascia retaining screws (Fig. 19) taking care not to lose the two spacer washers and allow the fascia to swing forwards on its hinges.
5. Release the thermostat capillary from behind its retaining clip and remove the thermostat phial from the boiler (Fig. 19).
6. Remove the screw securing the thermostat cover to the fascia (Fig. 20).
7. Disconnect the four spade electrical terminals from the thermostat.

8. Pull off the thermostat knob and remove the locknut securing the thermostat to the fascia panel.

9. Re-assemble in reverse order of dismantling ensuring that the thermostat phial is replaced into the thermostat pocket.

Programmer ('S' versions only) (Fig. 21)

1. Allow the fascia to swing forwards as described in items 1-4 of '[Boiler Thermostat removal](#)'.

2. Slacken the two screws securing the wiring block to the programmer by swinging the fascia upwards and approaching the screws from below. Pull the wiring block away from the programmer.

3. Straighten the 4 tabs holding the programmer front cover to the fascia panel and remove the panel.

4. Remove the two screws securing the programmer to the fascia panel and remove the programmer.

5. Re-assemble in reverse order of dismantling.

Honeywell Gas Valve

1. Remove the burner and controls assembly as described in steps 1 to 6 of '[Servicing the Unit](#)'.

2. Disconnect the thermocouple nuts at the valve and at the pilot bracket.

3. Disconnect the pilot feed pipe at the valve and at the pilot bracket ensuring that the pilot injector is not misplaced.

4. Disconnect the electrode lead and remove the piezo unit.

5. Remove the screw securing the electrical terminal cover to the gas valve. Disconnect the electrical connections.

6. Remove the valve complete with the heat shield and inlet pipe by disconnecting the flanged injector manifold.

7. Disconnect the flanged inlet pipe. Retain the O ring for reassembly but replace if damaged.

8. Remove the heat shield by undoing the retaining screw.

9. Release the thermocouple re-route nut and remove the re-route.
10. Individual sub components of the valve may be replaced as outlined by Honeywell instructions.
11. Re-assemble in reverse order of dismantling.

Insulation in Combustion Chamber

1. Remove the burner and controls assembly as described in steps 1 to 6 "[Servicing the Unit](#)".
2. Release the two screws securing the front insulation assembly and remove the assembly (Fig. 23).
3. Remove the two screws and washers securing the two side insulation panels (Fig. 22) and carefully remove diagonally through the door opening.
4. Remove the two screws and washers securing the back panel insulation.
5. Remove the ceramic insulation pad from the front insulation assembly by bending the securing tabs.
6. Remove the two sloping panels of insulation adjacent to the heat exchanger by removing four screws and washers. Ease out the bottom edge of the insulation panel and slide down (Fig. 22).
7. Replace insulation as necessary and bend down securing tabs.
8. Re-assemble in reverse order of dismantling, taking care not to damage the new insulation.

Piezo Unit

1. Remove the burner and controls assembly as described in steps 1 to 6 "[Servicing the Unit](#)".
2. Disconnect the electrode lead at the piezo unit.
3. Remove the nut securing the piezo unit to the heat shield and remove the piezo unit.
4. Re-assemble in reverse order of dismantling.

Spark Electrode

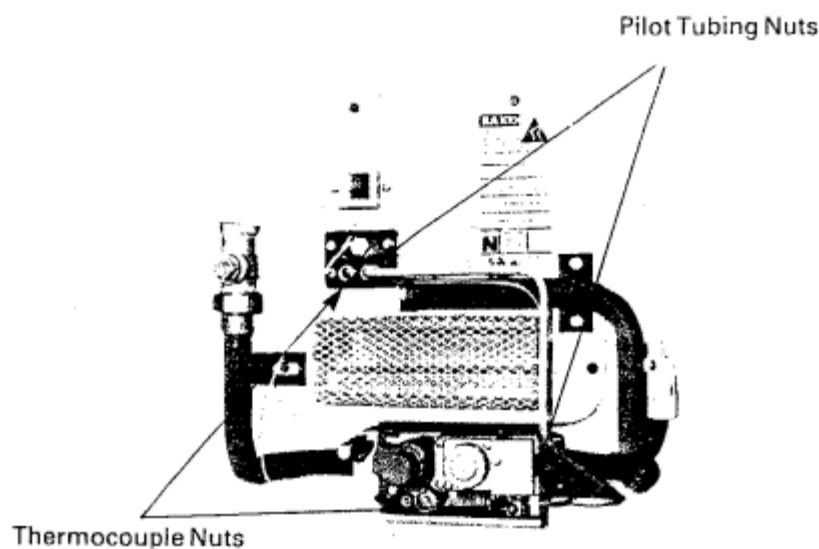
1. Remove the burner and controls assembly as described in steps 1 to 6 "[Servicing the Unit](#)".

2. Disconnect the electrode lead at the electrode.

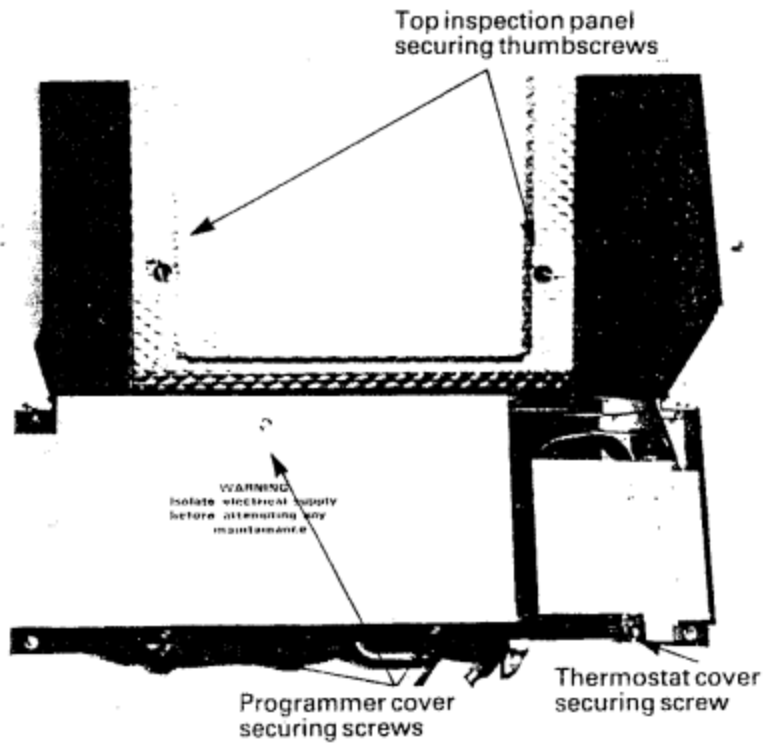
3. Remove the nut securing the electrode and remove the electrode.

4. Re-assemble in reverse order of dismantling.

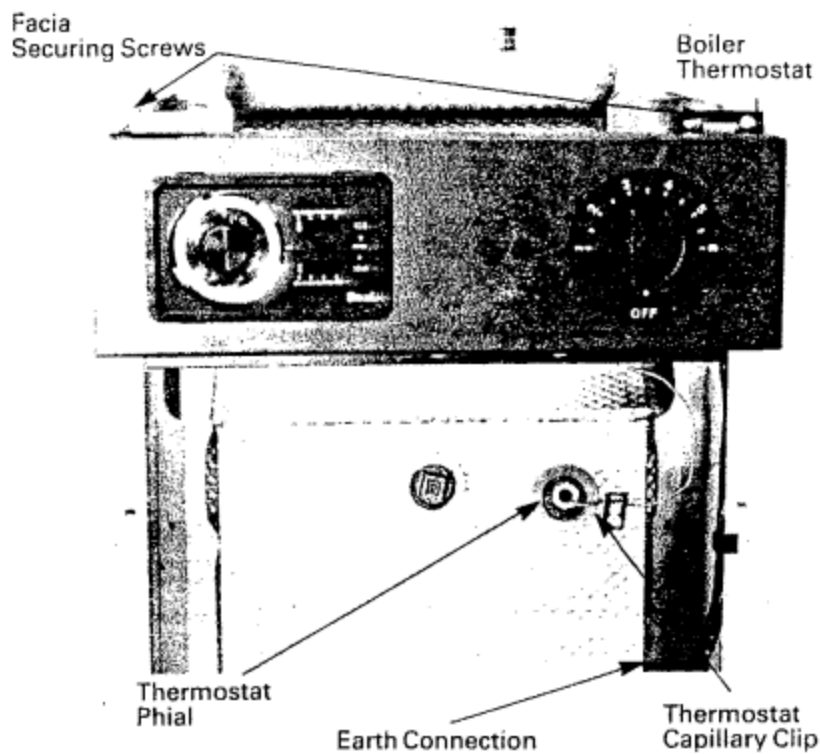
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18. Burner and Control Assembly



20. Facia Panel-Rear



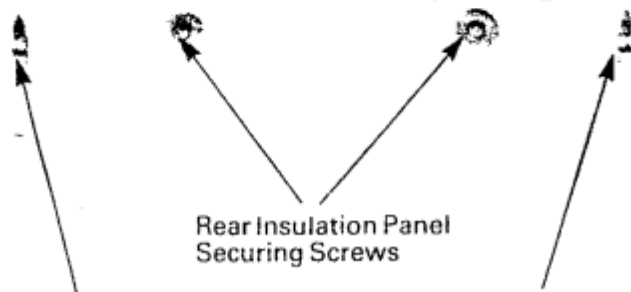
19. Boiler Thermostat

Sloping Insulation Panel
Securing Screws



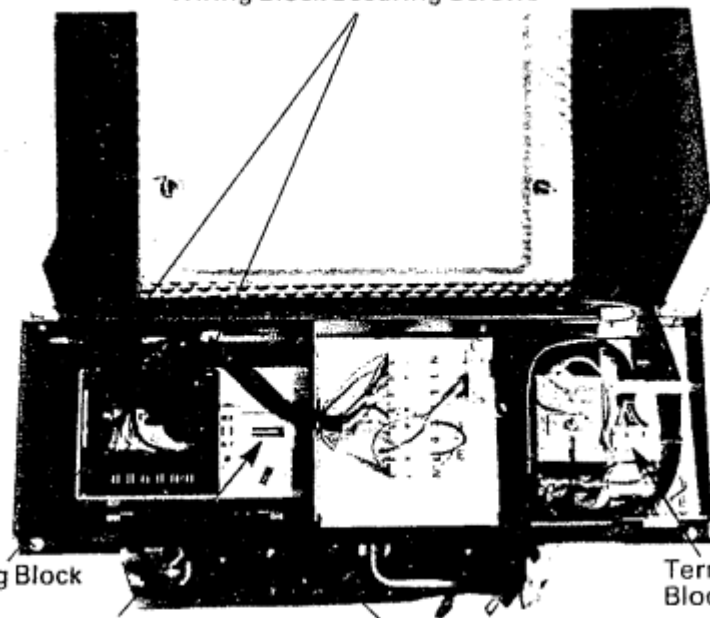
Rear Insulation Panel
Securing Screws

Side Insulation Panel Securing Screws



22. Combustion Box

Wiring Block Securing Screws



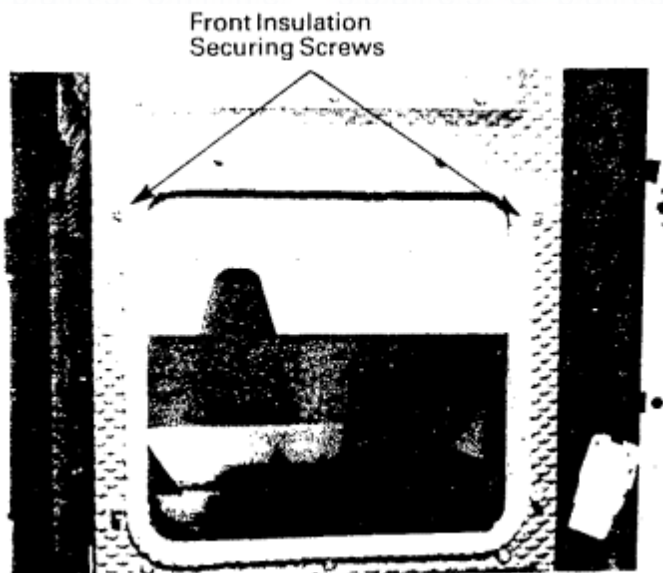
Wiring Block

Range Adjuster

Programmer Facia
Securing Tabs

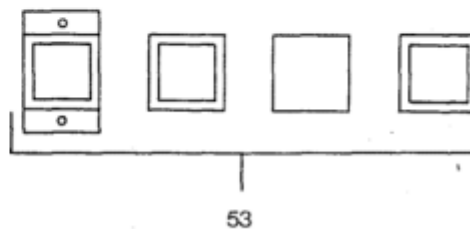
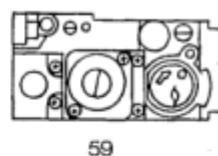
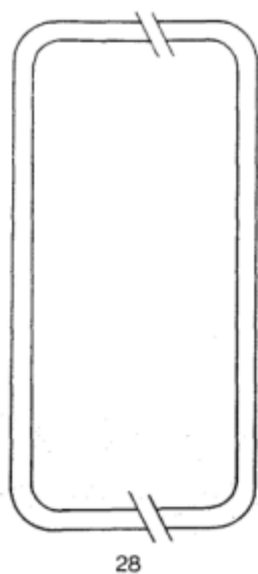
Terminal
Block

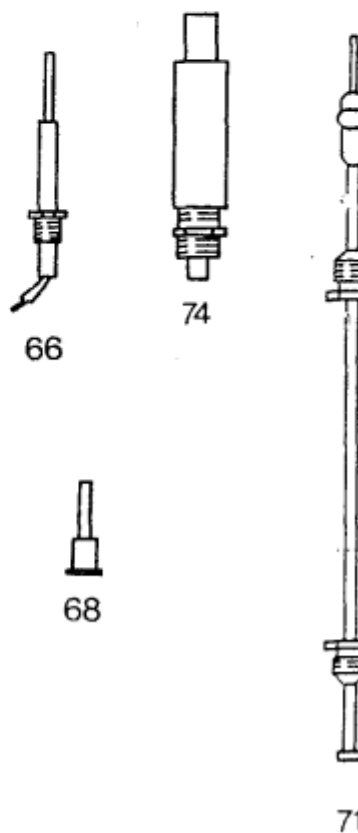
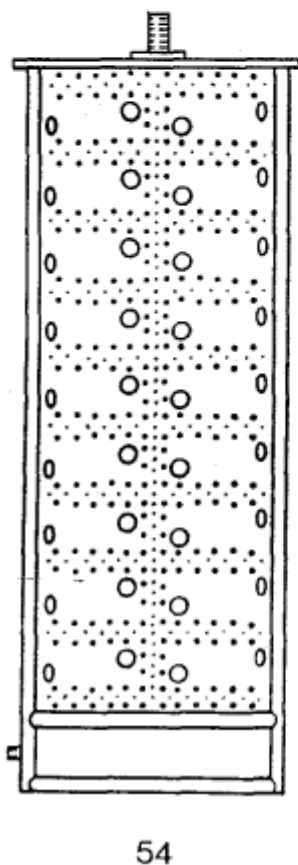
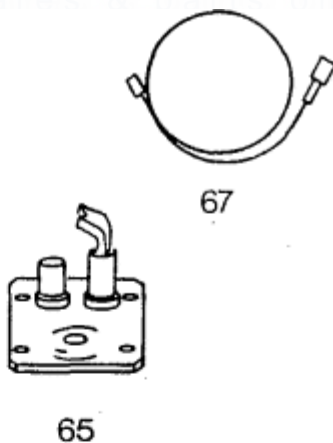
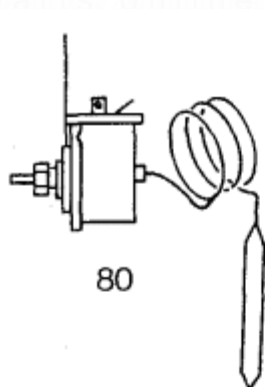
21. Electrical Connections



23. Insulation-Combustion Box Door

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SHORT PARTS LIST

Baxi FS 601/501/401 OF Cat. 1 Nat. Gas BG Appliance Numbers 41 077 2
4/23/22

Key	G.C. No.	Description	Manufacturers Part No.
28	364 260	Seal -Panel Door	112057
53	364 143	Kit-Sight Window	100134
54	383 508	Burner-Boiler-Aeromatic	112036
55	364 330	Injector - Stereomatic - 6x 1.55mm FS 601 OF	112040
56	364 331	Injector-Stereomatic- 6x 1.4mm FS 501 OF	112060
57	364 332	Injector - Stereomatic - 6x1.3mm FS 401 OF	112051
59	393 180	Valve - Control - Multifunctional - Honeywell V4600C	062623
65	364 341	Burner- Pilot - Honeywell Q359A 1058 (with gasket)	110028
66	387 852	Electrode - pilot ignition Kigass E3396	102024
67	183 628	Lead - Electrode	042740
68	364 282	Injector - Pilot - Honeywell - 0.38/0.35A	112011
71	390 131	Thermocouple - 18" Honeywell Q3909 A	102005
74	183 936	Kit-Piezo Unit	040456
77	364 340	Arrester - Lint	110069
80	382 387	Thermostat- Ranco - GI P1004	112025
81	364 287	Knob Thermostat	112026

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