

# **SPRINT RAPIDE RS 75 N**

## **Wall Mounted Balanced Flue Combination Boiler.**

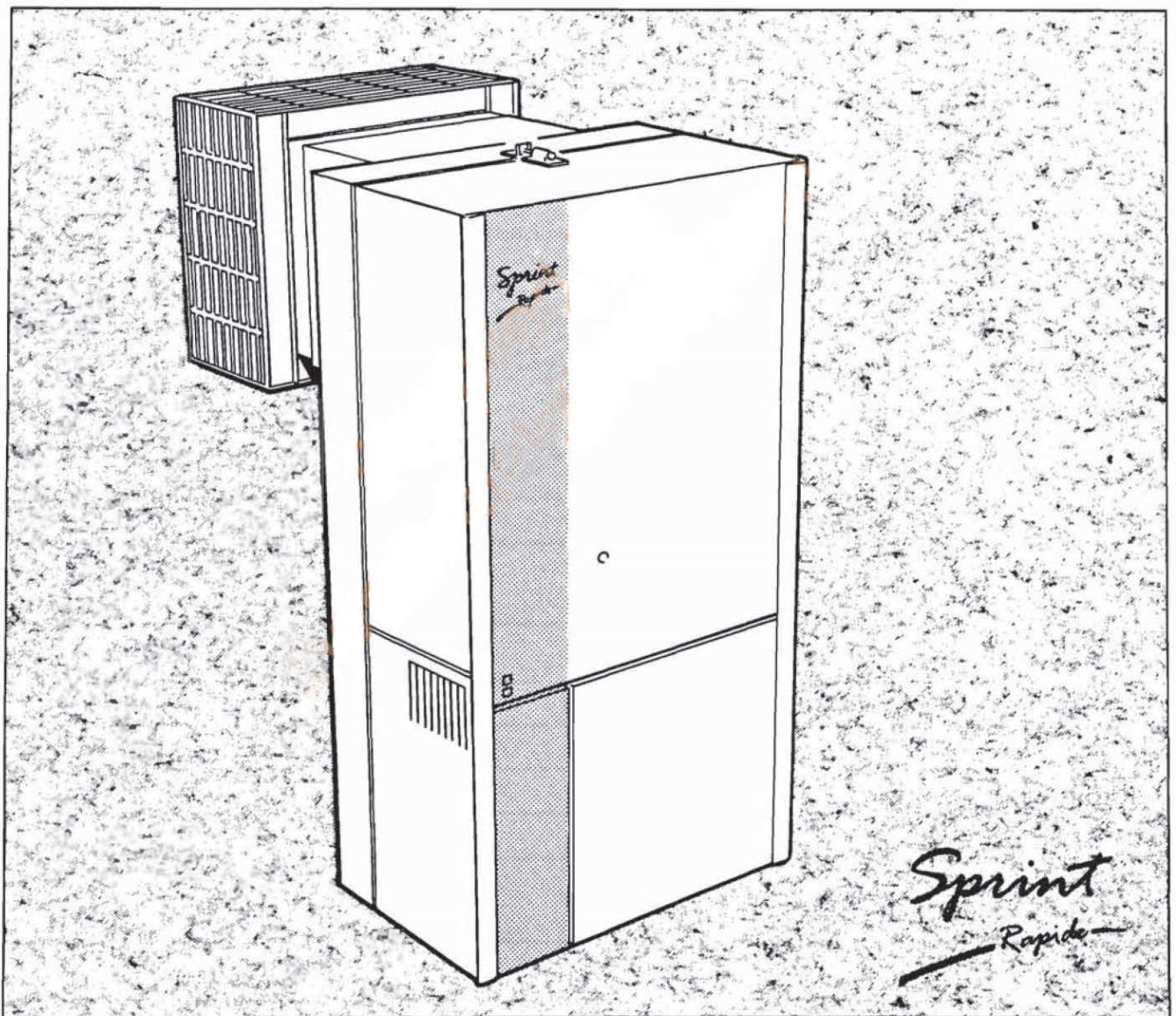
### **Installation & Servicing.**

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

**Ideal Sprint Rapide**  
RS 75 N

**G.C. Appliance No.**  
47 415 06

**IMPORTANT:** The appliances are for use with **NATURAL GAS ONLY.**



**NOTE TO THE INSTALLER:** LEAVE THESE INSTRUCTIONS ADJACENT TO THE GAS METER

# **Stelrad Ideal**

Table 1- GENERAL DATA

|                                                |                    |             |                                 |
|------------------------------------------------|--------------------|-------------|---------------------------------|
| Boiler Size                                    |                    |             | RS 75 N                         |
| Main Burner                                    |                    |             | FURIGAS type 'R' 118 500 020    |
| Gas Control Valve                              |                    |             | HONEYWELL V 4700 N 4001         |
| Burner Injector                                |                    |             | BRAY Cat. 10 size 2200          |
| Pilot Injector                                 |                    |             | HONEYWELL 45003-508-001, 38/36A |
| Gas Supply Connection                          |                    |             | Rc 1/2 (1/2 in. BSP/t)          |
| Inlet Connection                               | Domestic hot water |             | 15 mm compression union         |
| Outlet Connection                              | Domestic hot water |             | 15 mm compression union         |
| Flow Connection                                | Central heating    |             | 22 mm compression union         |
| Return Connection                              | Central heating    |             | 22 mm compression union         |
| MAXIMUM Working Pressure (sealed systems)      | bar (psi)          |             | 2.65 (38.5)                     |
| MAXIMUM Static Water Head                      | m (ft)             |             | 27.5 (90.0)                     |
| MINIMUM Static Water Head (open water systems) | m (ft)             |             | 1.8 (6.0)                       |
| MAXIMUM Domestic Hot Water Inlet Pressure      | bar (psi)          |             | 10.0 (145.0)                    |
| MINIMUM Domestic Hot Water Inlet Pressure      | bar (psi)          |             | 0.65 (9.4)                      |
| Electrical Supply                              |                    |             | 240 V ~ 50 Hz                   |
| External Fuse Rating                           |                    |             | 3 A F2 A                        |
| Water Content                                  | Central Heating    | litre (gal) | 2.9 (0.64)                      |
|                                                | Domestic Hot Water | litre (gal) | 0.55 (0.12)                     |
| Dry Weight                                     |                    | kg (lb)     | 49.6 (109.1)                    |
| MAXIMUM Installation Weight                    |                    | kg (lb)     | 40.4 (88.9)                     |
| Boiler Size                                    | Height             | mm (in.)    | 900 (36)                        |
|                                                | Width              | mm (in.)    | 465 (18)                        |
|                                                | Depth              | mm (in.)    | 310 (12)                        |

Table 2- PERFORMANCE DATA Central Heating

| Central Heating               |                | Maximum       | Minimum       |
|-------------------------------|----------------|---------------|---------------|
| Burner Setting Pressure (Hot) | mbar (in.w.g.) | 15.9 (6.4)    | 3.0 (1.2)     |
| Output                        | kW (Btu/h)     | 22.6 (77 000) | 8.8 (30 000)  |
| Input                         | kW (Btu/h)     | 28.2 (96 300) | 12.0 (41 000) |
| Gas Consumption (Hot)         | l/s (ft³/h)    | 0.73 (92.8)   | 0.31 (39.6)   |

Table 3- PERFORMANCE DATA Domestic Hot Water

| Domestic Hot Water                                   |                | Maximum       |
|------------------------------------------------------|----------------|---------------|
| Burner Setting Pressure (Hot)                        | mbar (in.w.g.) | 15.9 (6.4)    |
| Domestic Hot Water Output                            | kW (Btu/h)     | 22.6 (77 000) |
| Domestic Hot Water Flowrate at 35°C Temperature Rise | l/m (g.p.m.)   | 9.3 (2.1)     |

Note. Gas consumption is calculated using a calorific value of 38.7 MJ/m³ (1038 Btu/ft³)

## INTRODUCTION

The **Ideal Sprint Rapide RS 75 N** is a wall mounted, low water content, natural draught, balanced flue combination boiler.

Central heating (C.H.) output is fully modulating between 8.8 kW (30 000 Btu/h) minimum and 22.6 kW (77 000 Btu/h) maximum. Instantaneous domestic hot water (D.H.W.) output is also fully modulating with a maximum of 22.6 kW (77 000 Btu/h).

The boiler is designed for use with fully pumped, sealed water systems. Consult Stelrad Group Ltd., if connection is to be made to open water systems.

It is supplied, fully assembled, with a domestic hot water calorifier, diverter valve, circulating pump, pressure gauge, safety valve and expansion vessels for both central heating (C.H.) and domestic hot water (D.H.W.). Variable C.H. and D.H.W. temperature controls are fitted and the boiler also features a D.H.W. preheat facility which can be switched on or off as required.

The boiler casing is of white enamelled mild steel with a removable white and grey glass fascia. The controls compartment, below the boiler, has a white and grey enamelled mild steel lift-off cover. The boiler controls (and Programmer, if fitted) can be readily accessed through the hinged door at the left hand side of the lift-off cover.

An optional Programmer Kit is available if required.

## OPERATION

When there is no call for C.H. and the D.H.W. preheat switch OFF, the boiler fires only when D.H.W. is drawn off.

With the D.H.W. preheat switch ON the boiler will periodically fire for a few seconds without any D.H.W. draw-off in order to maintain the D.H.W. calorifier in a heated condition.

When there is a call for C.H. the heating system is supplied at the selected temperature until D.H.W. is drawn off. The full output from the boiler is then directed via the diverter valve to the calorifier to supply a maximum D.H.W. draw-off of 9.3 l/min (2.1 g.p.m.) at 35° C temperature rise.

At the minimum D.H.W. draw off rate of approximately 3 l/min (0.7 g.p.m.) the maximum temperature is limited to 65° C by the modulating gas control.

## Gas Safety (Installation and Use) Regulations, 1984

It is the law that all gas appliances are installed by competent persons (e.g. CORGI, identified by ) in accordance with the above Regulations. Failure to install appliances correctly could lead to prosecution.

It is in your own interest, and that of safety, to ensure that the law is complied with. The installation of the boiler MUST also be in accordance with the current I.E.E. Wiring Regulations, The Building Regulations (1985), Building Standards (Scotland), the Bye Laws of the Local Water Undertaking and any relevant requirements of the Local Authority. Detailed recommendations are contained in the following British Standard Codes of Practice.

### Codes of Practice:

|                |                                                                                                   |
|----------------|---------------------------------------------------------------------------------------------------|
| BS. 6891: 1988 | Low pressure installation pipes.                                                                  |
| BS. 6798       | Installation of gas fired hot water boilers of rated input not exceeding 60 kW.                   |
| BS. 5449:1     | Forced circulation hot water systems (small bore and microbore domestic central heating systems). |
| BS. 5546       | Installation of gas hot water supplies for domestic purposes (2nd Family Gases).                  |

BS. 5440:1 Flues (for gas appliances of rated input not exceeding 60 kW).

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

**IMPORTANT.** This appliance is approved by British Gas for safety and performance. It is, therefore, important that no external control devices, (e.g. flue dampers, economisers, etc.) are directly connected to this appliance unless covered by these 'Installation & Servicing Instructions' or otherwise recommended by Stelrad Group Ltd., in writing.

If in doubt please enquire.

Any direct connection of a control device not recommended by Stelrad Group Ltd. could invalidate the British Gas Certification and the normal appliance warranty. It could also infringe the Gas Safety (Installation and Use) Regulations and the above regulations or other statutory requirements.

Manufacturers notes must NOT be taken, in any way, as over-riding statutory obligations.

## LOCATION OF BOILER

The boiler MUST be installed on a flat and vertical non-combustible wall capable of adequately supporting the weight of the boiler and any ancillary equipment.

THE BOILER IS NOT SUITABLE FOR EXTERNAL INSTALLATION.

**IMPORTANT NOTICE.** If the boiler is to be fitted in a timber framed building it should be fitted in accordance with the British Gas publication 'Guide for Gas Installation in Timber Frame Housing', reference DM2.

If in doubt, advice must be sought from the Local Gas Region of British Gas, or Stelrad Group Ltd.

The boiler may be installed in any room or internal space, although particular attention is drawn to the requirements of the current I.E.E. Wiring Regulations and, in Scotland, the electrical provisions of the Building Regulations applicable in Scotland with respect to the installation of the boiler in a room or internal space containing a bath or shower.

Where a room sealed appliance is installed in a room containing a bath or shower then the appliance and any electrical control utilising mains electricity should be situated so that it cannot be touched by a person using the bath or shower.

Where installation will be in an unusual location special procedures may be necessary and BS. 6798 gives detailed guidance on this aspect. A compartment used to enclose the boiler MUST be designed and constructed specially for the purpose. Details of essential features of cupboard/ compartment design, including airing cupboard installations, are given in BS. 6798.

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

1. The position selected for the installation MUST allow adequate space for servicing in front of the boiler and for air circulation around the boiler. The amount of side clearance will depend on the type of connections used.
2. This position MUST also permit the provision of a satisfactory flue termination.

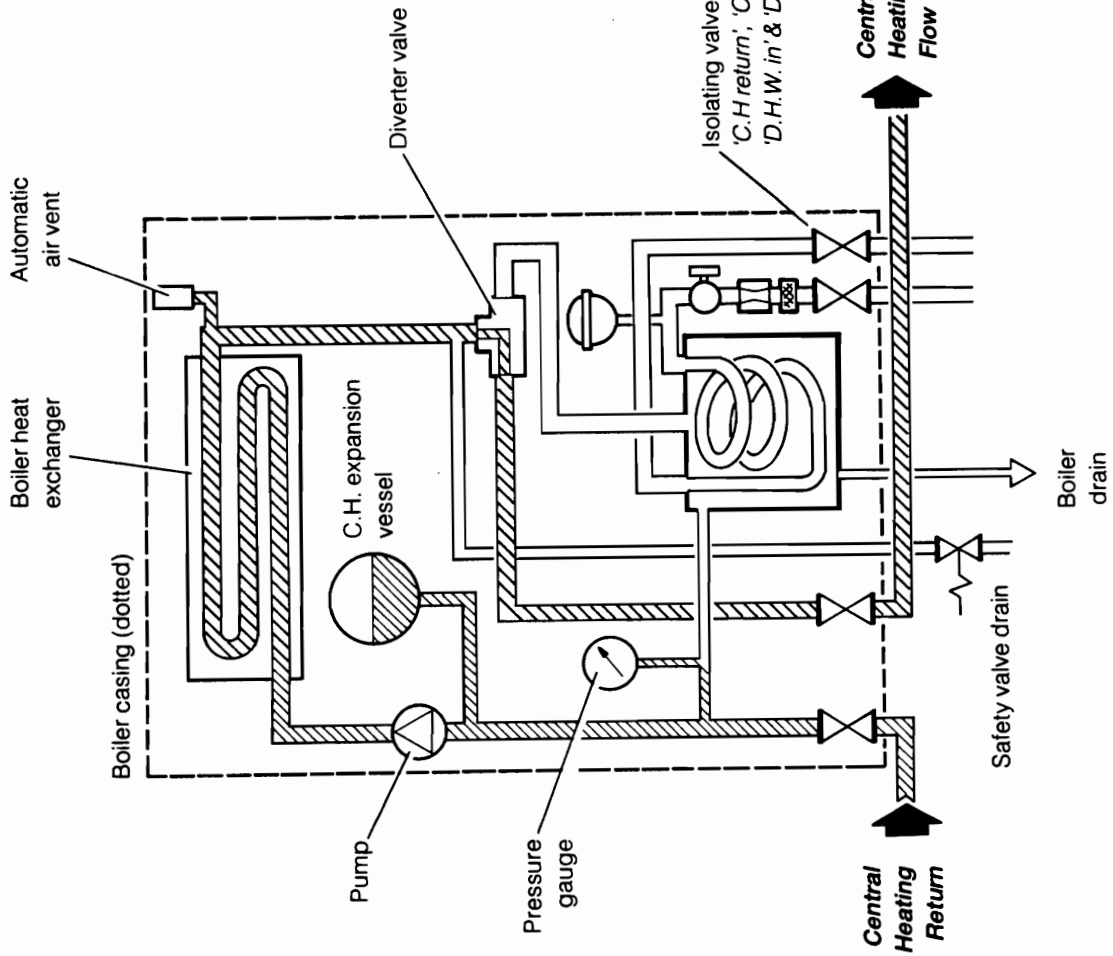
## GAS SUPPLY

The Local Gas Region should be consulted at the installation planning stage, in order to establish the availability of an adequate supply of gas.

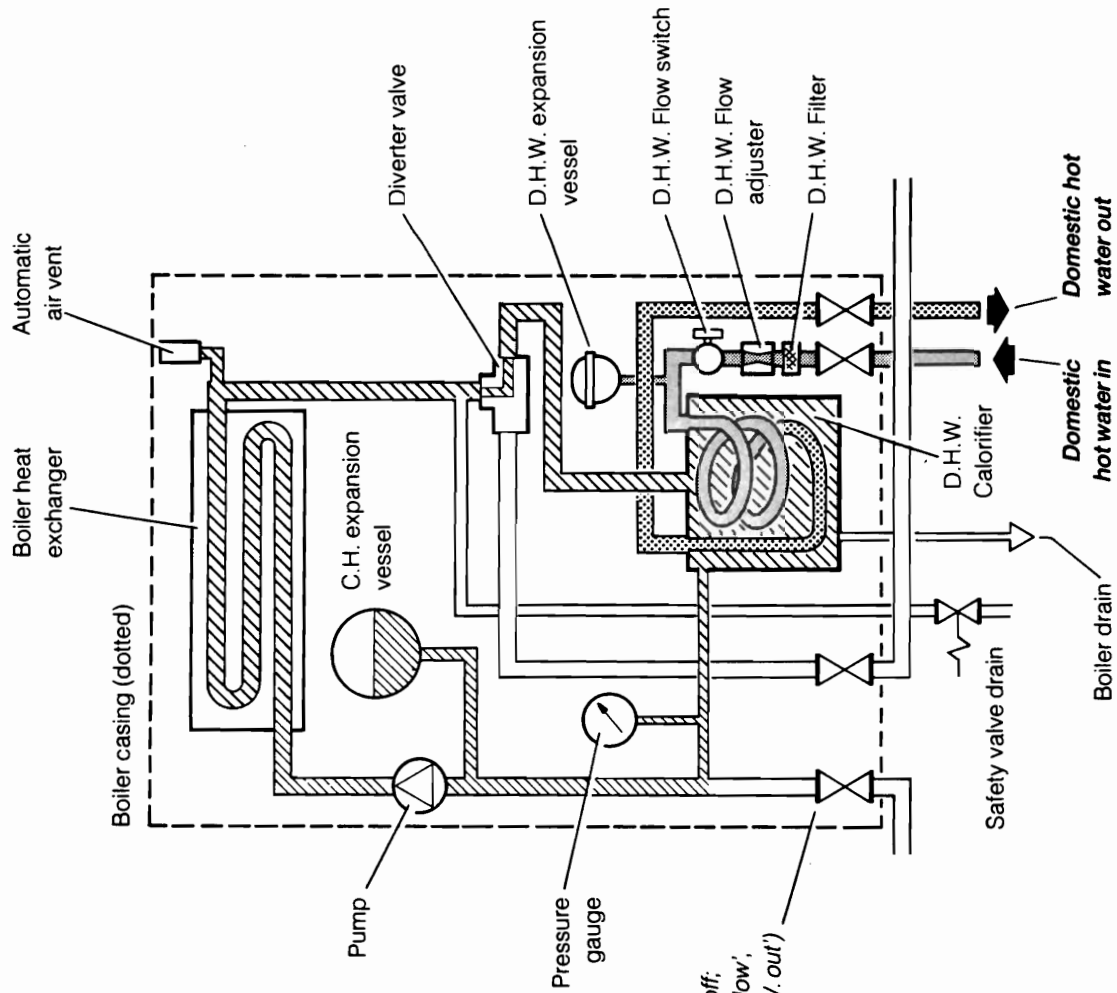
A gas meter can only be connected by the Local Gas Region or by a local Gas Region Contractor.

BOILER WATER CIRCUIT DIAGRAMS

Central Heating (C.H.) Water Circuit



Domestic Hot Water (D.H.W.) Circuit



## EXTERNAL CONTROLS

External wiring **MUST** be in accordance with the current I.E.E. Wiring Regulations.

Difficulty in wiring should not arise, providing the following directions are observed:

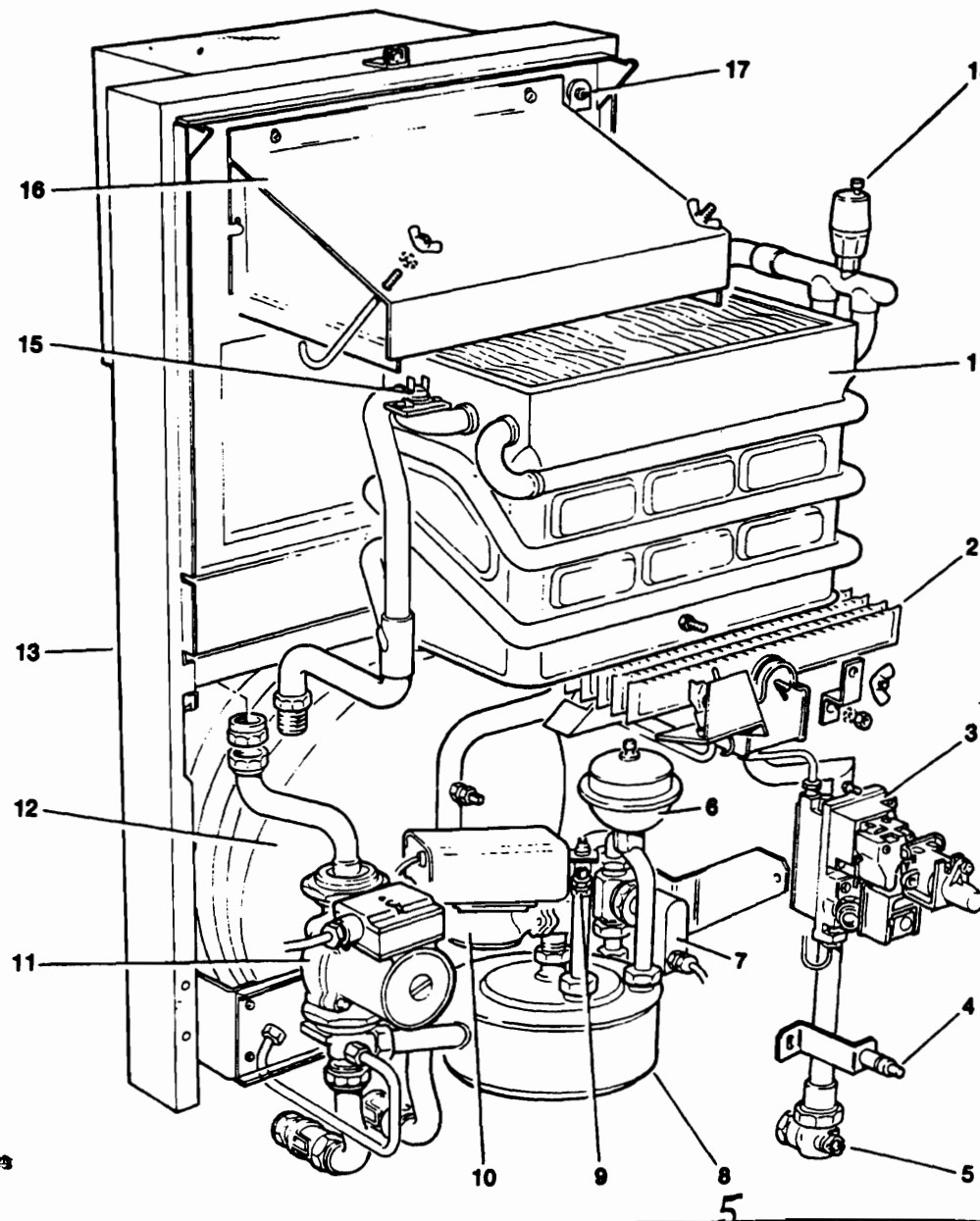
1. **Room Thermostat.** Remove the link between terminals RS1 and RS2, wire in the room thermostat. Refer to the thermostat manufacturers instructions.
2. Controls that over-ride an ON/OFF control, e.g. a frost thermostat **MUST** be wired into the mains in parallel with the controls to be over-ridden. Wire the frost thermostat into terminals FRS1 and FRS2.
3. **Time Switch.** *External.* Remove the link between terminals CK3 and SCK4, wire in the time switch. Ensure that the switched live from the timer is wired into SCK4

*Optional Programmer Kit.* Refer to the 'Ideal Sprint Rapide Programmer Kit Installation Instructions'.

**Table 6- WATER FLOW RATE & PRESSURE LOSS**

|                          |                 |               |
|--------------------------|-----------------|---------------|
| Boiler Output            | kW (Btu/h)      | 22.6 (77 000) |
| Water Flow Rate          | l/min. (gal./h) | 254 (335)     |
| Temperature Differential | 13° C (23° F)   |               |
| Pressure available       | mbar (in.w.g.)  | 209 (84)      |

## 1 BOILER ASSEMBLY- Exploded View



### LEGEND

1. Heat exchanger
2. Main burner assembly
3. Gas control valve
4. Piezo igniter
5. Gas service cock
6. D.H.W. expansion vessel
7. D.H.W. flow switch
8. D.H.W. calorifier
9. D.H.W. thermistor sensor
10. Diverter valve
11. Pump
12. C.H. expansion vessel
13. Back panel assembly
15. 'Dry fire' thermostat
16. Flue collector hood
17. Overheat thermostat
18. Automatic air vent

## 23 INITIAL LIGHTING. *Continued from Frame 22.*

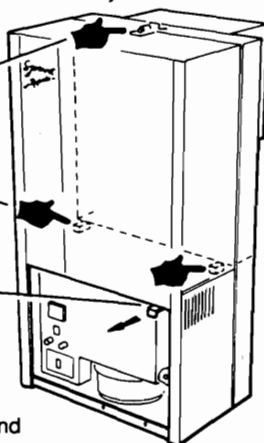
**FITTING THE CASING.** **WARNING.** The casing **MUST** be properly fitted for the boiler to operate correctly.

1. Lift the boiler casing up to the boiler assembly and secure the top captive screw.

Bottom captive screws

2. Slide the glass fascia upwards and locate it in the retaining catch.

3. Secure the bottom captive screws.



The casing **MUST** seat correctly and compress the sealing strip to make an air-tight joint. If side clearance is limited this may be checked by ensuring that the top and bottom edges of the casing are correctly located.

### CENTRAL HEATING

1. Check that the 'Heating' switch (H) and the 'Domestic Hot Water Pre-heat' selector switch (E) are OFF.
2. Check that all external controls are calling for heat & switch ON the electricity supply. The 'Mains On' indicator neon will glow.
3. Set the 'Heating' switch to ON. Check that the pump starts and that the main burner cross-lights smoothly from the pilot flame.

**Note.** The burner pressure should increase slowly to maximum setting.

4. Ensure that the pump selector switch is set to No. 3.

Pump



DETAIL OF PUMP SELECTOR SWITCH

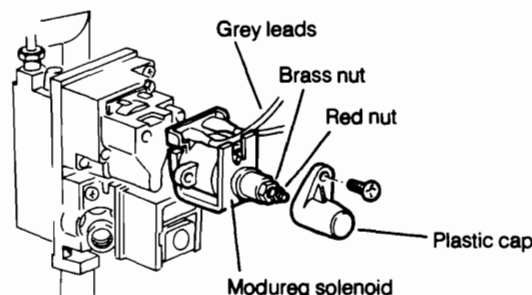
5. Test for gas soundness around the boiler gas components using leak detection fluid.

6. The boiler central heating control is fully modulating, operating between burner pressures of 15.9 mbar (6.4 in.w.g.)  $\pm$  0.5 mbar (0.2 in.w.g.) MAX, and 3.0 mbar (1.2 in.w.g.)  $\pm$  0.5 mbar (0.2 in.w.g.) MIN. The control is

factory set and should require no adjustment. However if adjustment is found to be necessary proceed as follows.

7. Refit the controls inner cover and cable entry shroud, swing the control panel back to its working position and secure.

8. Operate the boiler for 10 minutes to stabilise the burner temp.
9. Remove the plastic cap from the Modureg solenoid.



DETAIL OF GAS CONTROL VALVE

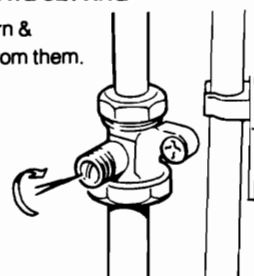
10. Disconnect one grey lead from the Modureg solenoid. The burner pressure should reduce to the minimum setting of 3.0 mbar (1.2 in.w.g.)  $\pm$  0.5 mbar (0.2 in.w.g.). To adjust, turn the brass nut **CLOCKWISE** to **INCREASE** the pressure.
11. Reconnect the lead to the Modureg solenoid. The burner pressure should increase to the maximum setting of 15.9 mbar (6.4 in.w.g.)  $\pm$  0.5 mbar (2.0 in.w.g.). To adjust, turn the red plastic nut **CLOCKWISE** to **INCREASE** the pressure- using a 7 mm spanner. **Note.** ALWAYS adjust the minimum pressure **BEFORE** the maximum.
12. Replace the plastic cap.

### DOMESTIC HOT WATER (D.H.W.)

1. With the burner firing as above, fully open a D.H.W. tap. The pump and burner should continue to run and the diverter valve should de-energise to circulate water from the boiler to the D.H.W. calorifier. The D.H.W. control is also fully modulating operating between the same maximum and minimum pressure as the C.H. control, therefore no further adjustment should be necessary.

### DOMESTIC HOT WATER FLOWRATE SETTING

1. Fully open all D.H.W. taps in turn & ensure that water flows freely from them.
2. Close all taps except the furthest one from the boiler and check that the boiler is firing at maximum rate.
3. Turn the D.H.W. flow adjuster (N) **CLOCKWISE** to reduce the D.H.W. flowrate until a D.H.W. temperature of approximately 35°C rise is obtained at the tap. This corresponds to a flow rate of about 9.3 l/min (2.0 gpm).
4. Turn off the D.H.W. tap, and switch OFF the electricity supply.



## 24 GENERAL CHECKS

Make the following checks for correct operation.

### DOMESTIC HOT WATER (D.H.W.) MODE.

1. Set the 'Heating' switch (H) to OFF.
2. Switch ON the electricity supply.
3. Set the 'Domestic Hot Water Preheat' switch (E) to ON. The pump should start, circulating water through the D.H.W. calorifier, and the burner should fire at minimum rate for about one minute- preheating the D.H.W. calorifier. **Note.** If no D.H.W. is drawn off, the boiler will fire periodically for a short time to maintain the calorifier temperature.
4. If the preheat facility is not required, set the 'Domestic Hot Water Preheat' switch (E) to OFF.
5. Fully open a D.H.W. tap; check that the pump starts and the main burner lights at maximum rate.
6. Reduce the D.H.W. draw-off rate to the minimum required to

keep the boiler firing and check that the burner pressure decreases in response to D.H.W. temperature rise.

7. Close the D.H.W. tap and check that the main burner extinguishes and the pump stops.

### CENTRAL HEATING (C.H.) AND DOMESTIC HOT WATER (D.H.W.) MODE.

1. Set the 'Heating' switch (H) to ON. Check that the main burner fires at the maximum rate.
2. Fully open a D.H.W. tap and check that hot water is delivered.
3. Close the D.H.W. tap and turn off the 'Heating' switch. Check that the main burner extinguishes and the pump stops.
4. Check the correct operation of the programmer, if fitted, and all other system controls. Operate each control separately and check that the main burner responds.
5. Remove the pressure gauge and tube. Retighten the sealing screw in the pressure test nipple, ensuring that a gas tight seal is made.

## 25 GENERAL CHECKS. *Continued from Frame 24.*

### FLAME FAILURE DEVICE

1. Turn the electricity supply OFF.
2. Extinguish the pilot flame by closing the gas service cock (Q) and note the time taken for the flame failure device to shut down- identified by a click within the gas control valve.  
This MUST NOT be longer than 60 seconds.
3. Open the gas service cock and re-light the pilot.
4. Turn the electricity supply ON and the burner should light.
5. Slide the gas control button (T) UPWARDS until resistance is felt and then release it. The main burner and pilot flames should shut down immediately.

#### Notes.

- (a) A latch in the gas control valve provides a safety delay period of approximately 30 seconds before the boiler can be re-lit.
- (b) If the pilot is extinguished for any reason WAIT FOR 3 MINUTES before attempting to re-light the boiler.

### WATER CIRCULATION SYSTEM.

1. With the system cold check that the initial pressure is correct to the system design requirements. For pre-pressurised systems this should be 1.0 bar (14.5 psi).
2. Set the RED fill-pressure indicator on the pressure gauge (D) to the initial system pressure. Refer to Frame 14- 'Filling'.
3. With the system hot examine all water connections for soundness. The system pressure will increase with temperature rise but should not exceed 2.5 bar (36.6 psi).
4. With the system still hot turn off the gas, water and electricity supplies to the boiler and drain down in order to complete the flushing process.
5. Re-fill and vent the system as described in 'Guide to System Requirements', clear all air locks and again check for water soundness.
6. Re-set the system initial pressure to the design requirement.
7. Balance the system and set the by pass.

### BY PASS ADJUSTMENT. Refer also to Frame 14.

**Note.** The flow through the boiler MUST NOT fall below the values shown in the Table in Frame 14.

With the boiler firing at full output and with one small radiator open, open the bypass until a temperature differential of 13°C is achieved across the boiler flow and return pipes.

### FINALLY.

1. Refit the controls front cover in reverse order of removal.
2. Set the controls to the User's requirements.

#### Notes.

- (a) The design water output temperatures are as follows:

Central Heating- 82°C Maximum.

Domestic Hot Water- 65°C Maximum (at 3 l/min. draw-off).

However, these can be set lower to 60°C (C.H.) and 45°C (D.H.W.) via the Central Heating and Domestic Hot Water temperature control knobs (F) and (G). Refer to Frame 22.

- (b) If an optional Programmer Kit is fitted, refer to the Programmer Kit Installation and User's Instructions.

3. Check that the casing is seated correctly and compressing the sealing strip all around the casing.

**WARNING:** The boiler MUST NOT be operated with the casing removed.

**IMPORTANT.** It is absolutely ESSENTIAL to ensure, in practice, that products of combustion discharging from the terminal cannot re-enter the building or any other adjacent building through ventilators, windows, doors, other sources of natural air infiltration, or forced ventilation/ air conditioning.

*If this should occur, the appliance MUST be turned OFF IMMEDIATELY and the Local Region of British Gas plc. called to investigate.*

## 26 HANDING OVER

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

1. Hand the User's Instruction to the Householder and explain his/her responsibilities under the Gas Safety (Installation and Use) Regulations 1984.
2. Draw attention to the Lighting Instruction label affixed to the inside of the control compartment front cover.
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 the 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 in-operative during frosty conditions.
5. Explain the function and the use of the boiler heating and domestic hot water controls.

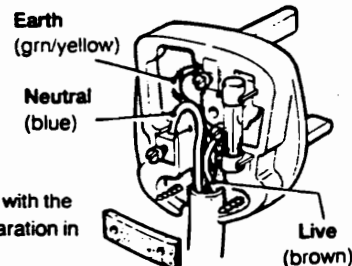
6. Explain the function of the boiler over-heat thermostats.  
Emphasise that if cut-out occurs, the boiler should be turned off and the local Heating Installer consulted.
7. Explain and demonstrate the function of time and temperature controls, radiator valves, etc. for the economic use of the system.
8. If an optional Programmer Kit is fitted, then draw attention to the Programmer Kit User's Instructions and hand them to the Householder.
9. LOSS OF SYSTEM WATER PRESSURE. Explain that the dial on the control panel indicates the central heating system pressure and that if the normal COLD pressure of the system, indicated by the red arrow on the dial, is seen to decrease over a period of time then a water leak is indicated. In this event the local Heating Installer should be consulted.  
DO NOT FIRE THE BOILER IF THE PRESSURE HAS REDUCED TO ZERO FROM THE ORIGINAL SETTING.
10. Stress the importance of regular servicing by the Local Gas Region or by a qualified Heating Engineer and that a comprehensive service should be carried out AT LEAST ONCE A YEAR.

## 15 ELECTRICAL CONNECTIONS

**WARNING.** This appliance MUST be efficiently earthed.

A mains supply of 240 V ~ 50 Hz is required. All external controls & wiring MUST be suitable for mains voltage. Wiring should be in 3-core PVC insulating cable, NOT LESS than 0.75 mm<sup>2</sup> (24 x 0.2mm) and 70° C 'T' rating, to BS. 6500 Table 16.

Wiring external to the boiler MUST be in accordance with the current I.E.E. Wiring Regulations and any Local Regulations. The supply connection may be made via a removable plug to a shuttered socket/ outlet, preferably adjacent to the boiler, and should such a plug be used for connection to the mains, it MUST be of the 3-pin type -wired as shown, fused at 3 A and comply with the requirements of BS. 1363. Alternatively, a fused double-pole switch having a 3 mm contact separation in both poles, serving only the boiler & system controls may be used.



## 16 INTERNAL WIRING

Flow, Pictorial and Schematic wiring diagrams are shown in Frames 17, 18 and 19. A wiring diagram is also included on the Lighting Instruction label.

1. Remove the securing screws (1) and lift off the controls inner cover.

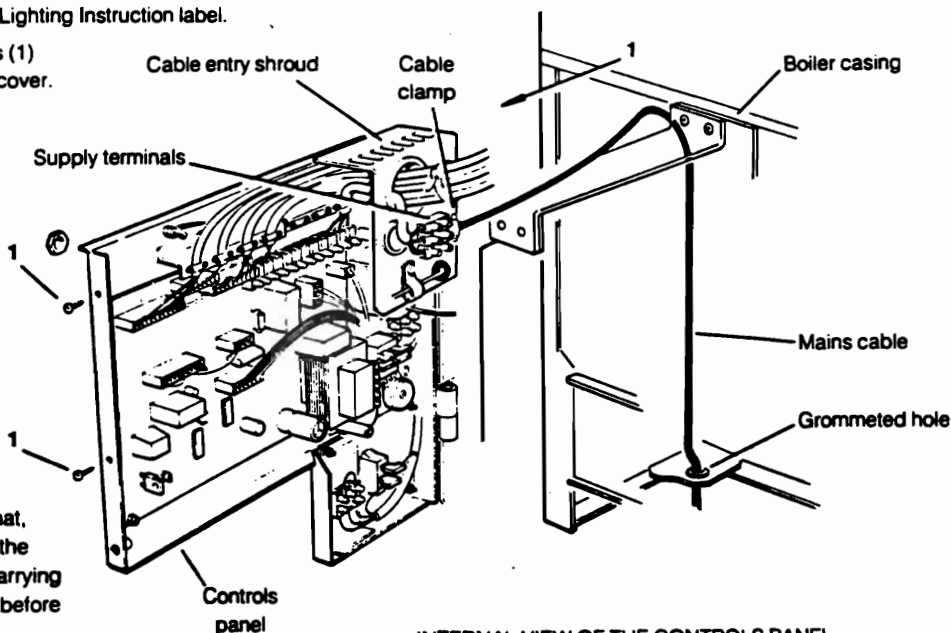
2. Route the mains lead as shown, passing it through the grommet at the bottom L.H. side.

3. Wire into the supply terminals marked 'L' and 'N' and 'E'. Secure with the cable clamp.

### Notes.

- (a) The mains lead connection MUST be made in such a way that, should the lead slip from the anchorage, the current carrying conductors become taut before the earthing conductor.

- (b) The 'T' rating of the mains lead should be 70° C.

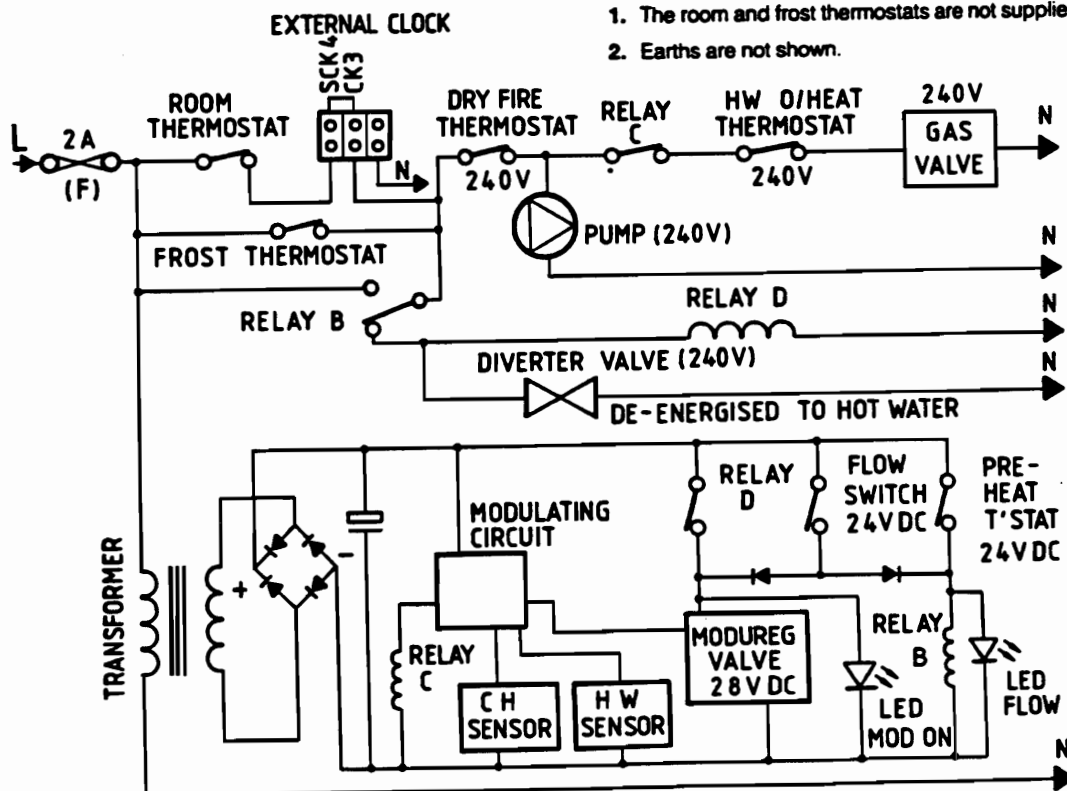


INTERNAL VIEW OF THE CONTROLS PANEL  
(with the inner cover shown removed)

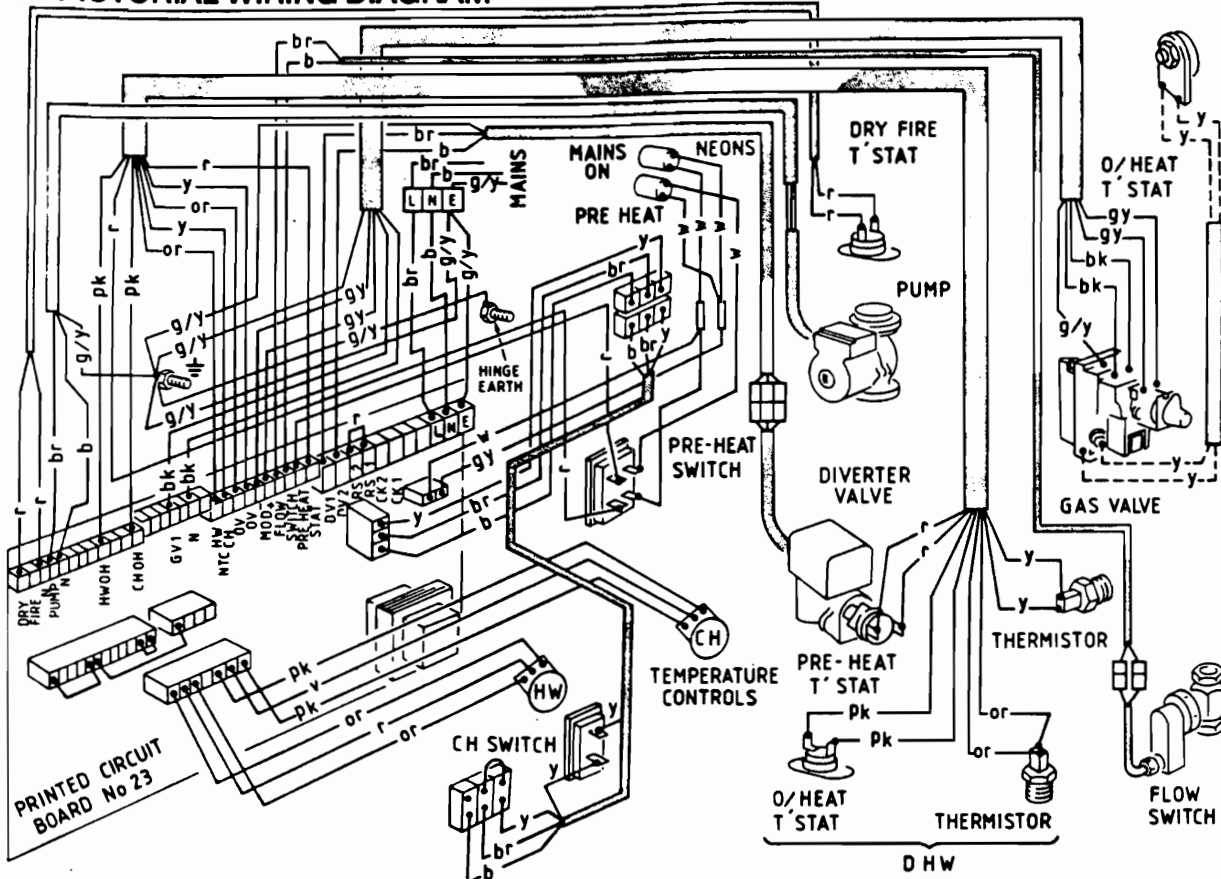
## 17 FLOW WIRING DIAGRAM

### Notes.

1. The room and frost thermostats are not supplied.
2. Earths are not shown.

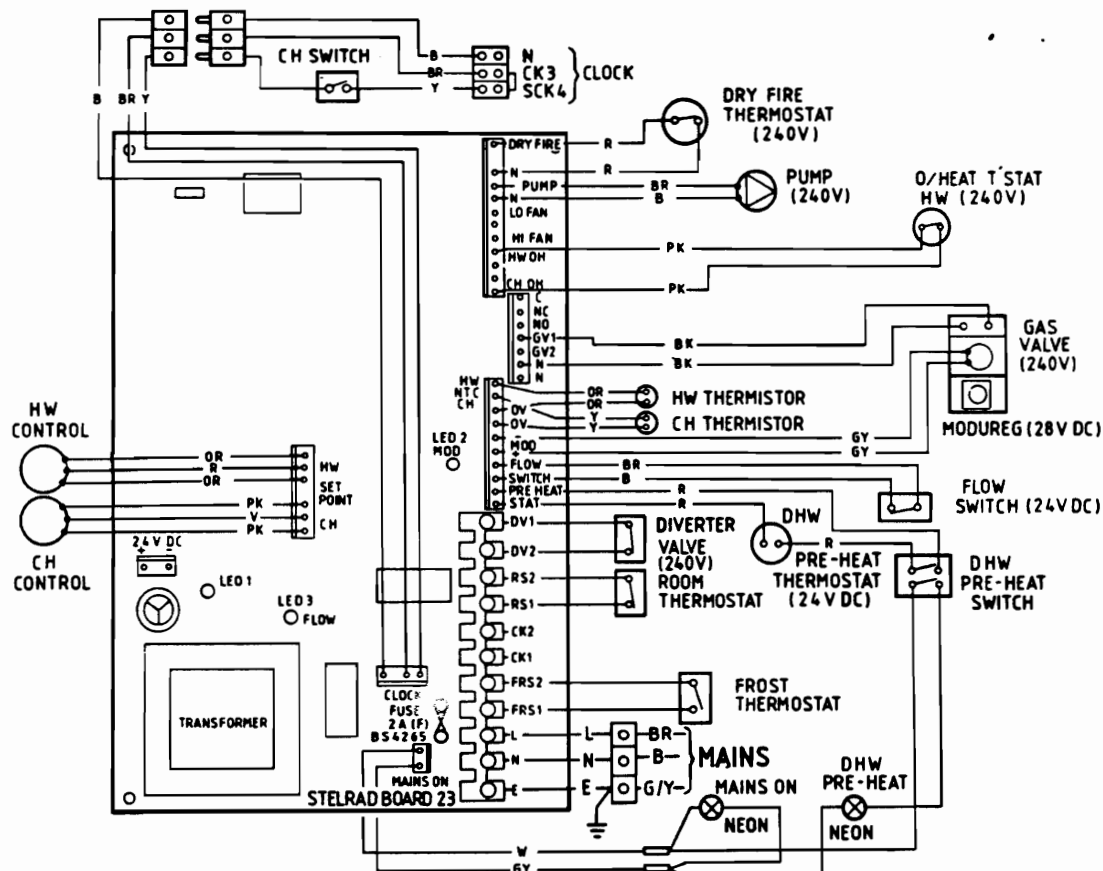


## 18 PICTORIAL WIRING DIAGRAM



**LEGEND**  
 br brown    r red    or orange    bk black    v violet  
 b blue    w white    pk pink    y yellow    gy grey    g/y green/yellow

## 19 SCHEMATIC WIRING DIAGRAM



**LEGEND**  
 br brown    r red    or orange    bk black    v violet  
 b blue    w white    pk pink    y yellow    gy grey    g/y green/yellow

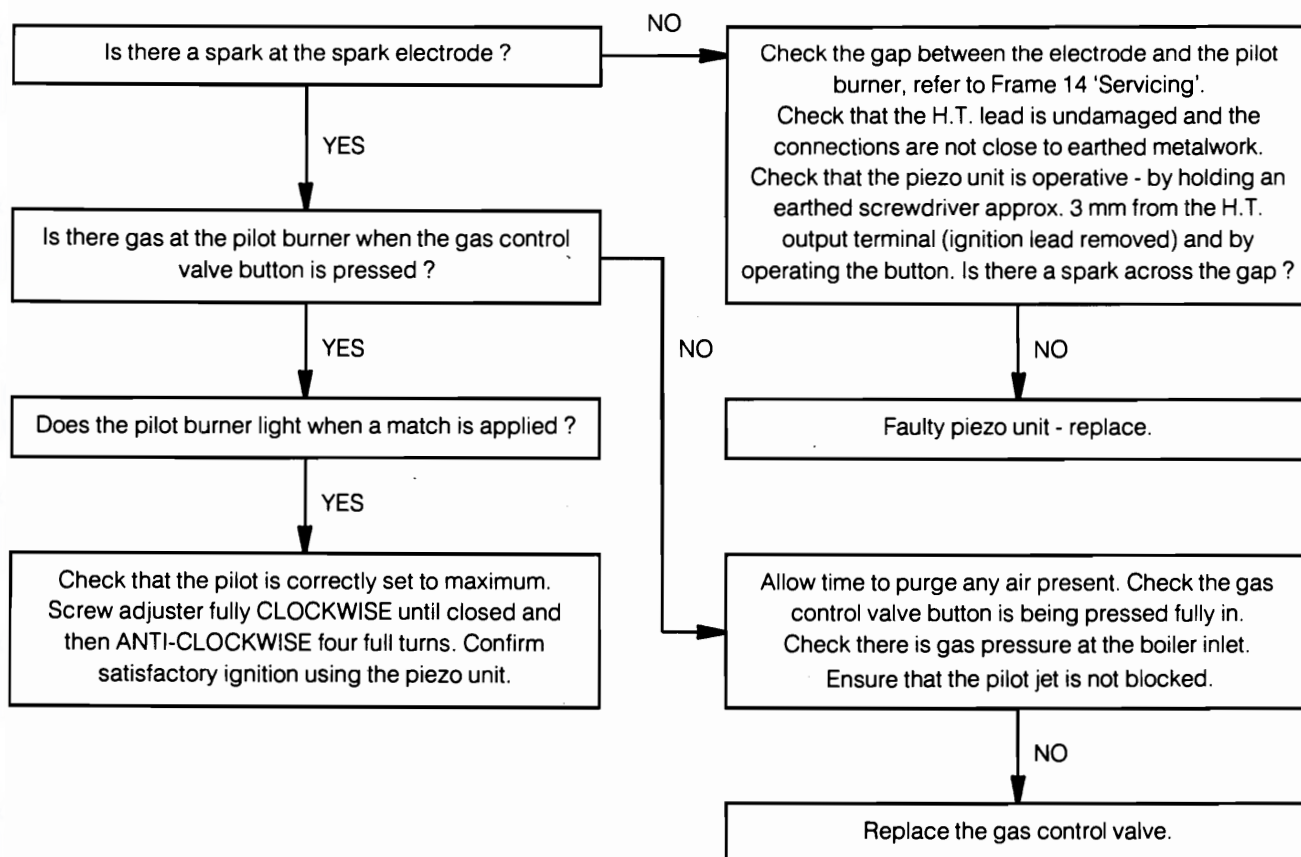
## SERVICING

Before attempting any electrical fault finding, ALWAYS carry out the preliminary electrical system checks using a suitable meter.

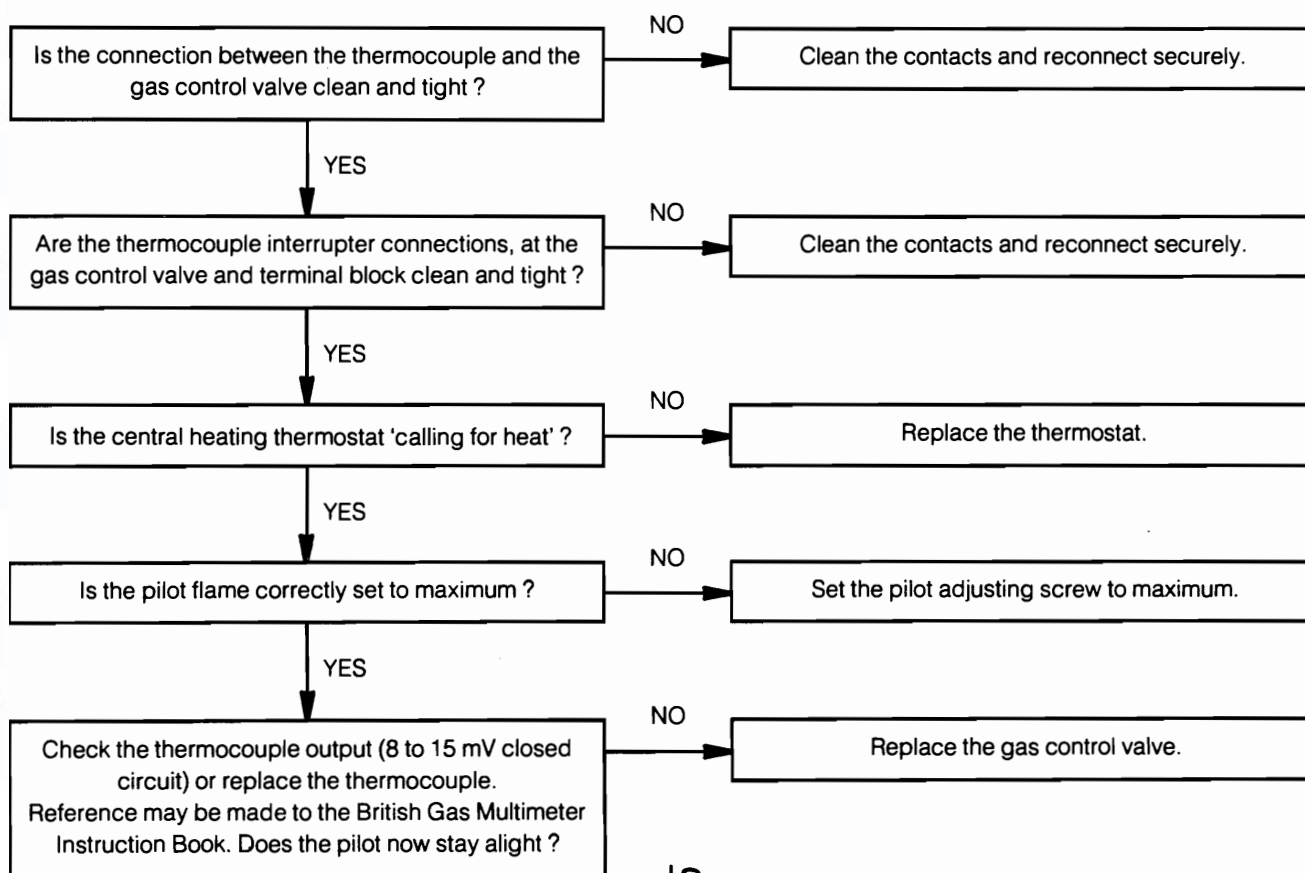
## FAULT FINDING

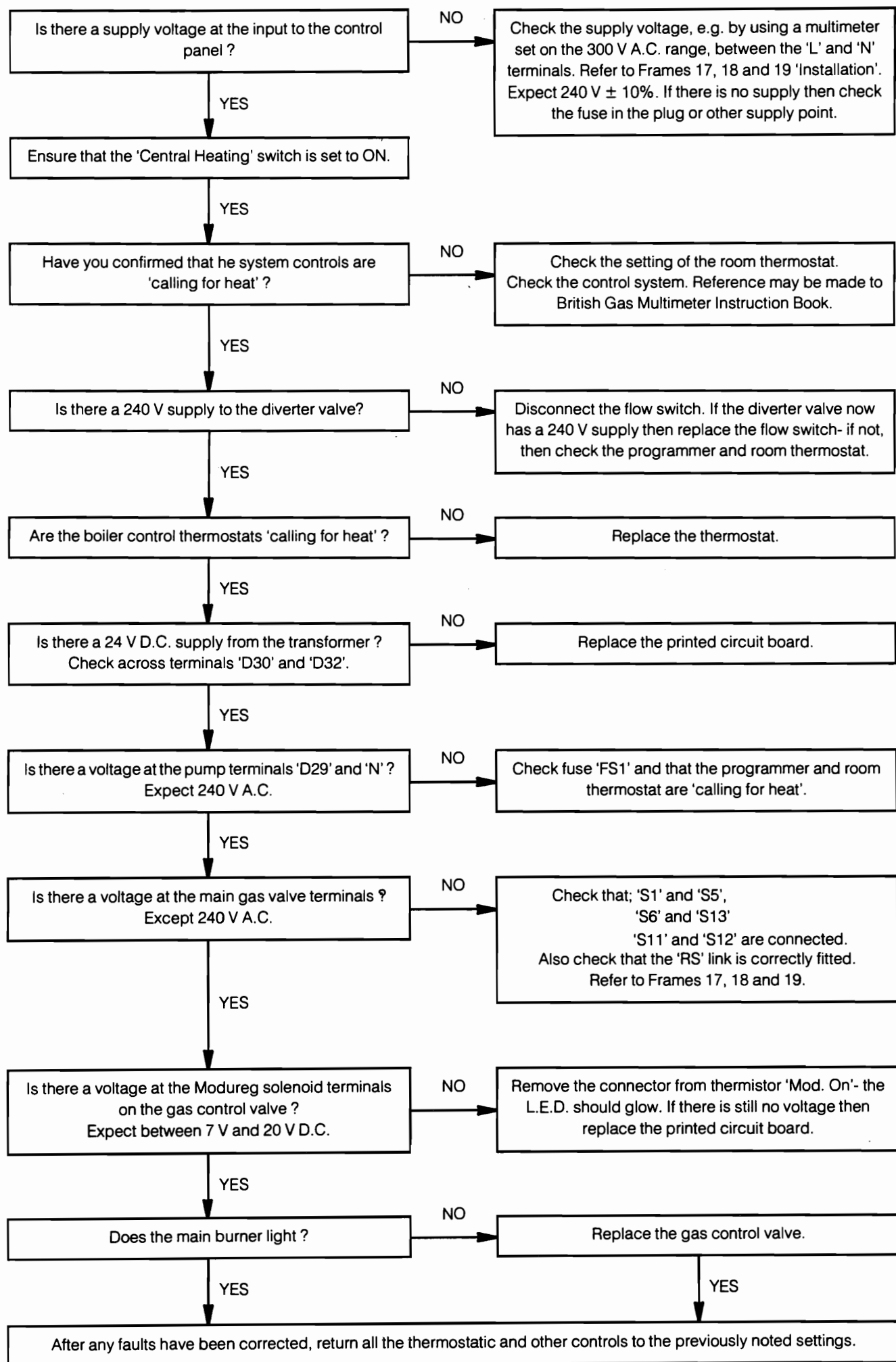
Detailed instructions on the cleaning and adjustment or replacement of faulty components are contained in the 'Servicing' section of this publication.

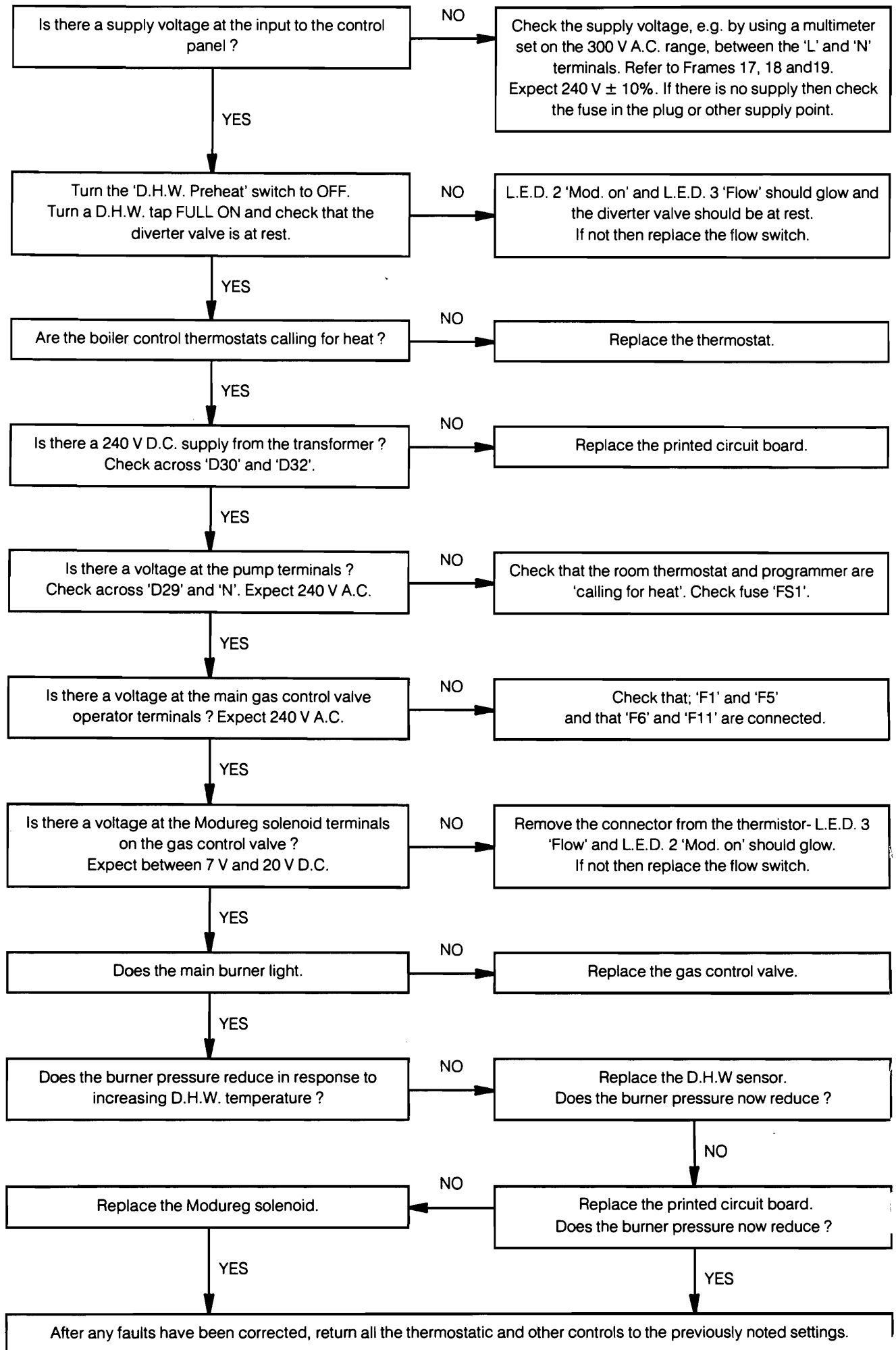
### 46 PILOT WILL NOT LIGHT



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



**48 PILOT LIT BUT NO MAINS GAS Central Heating Mode.**

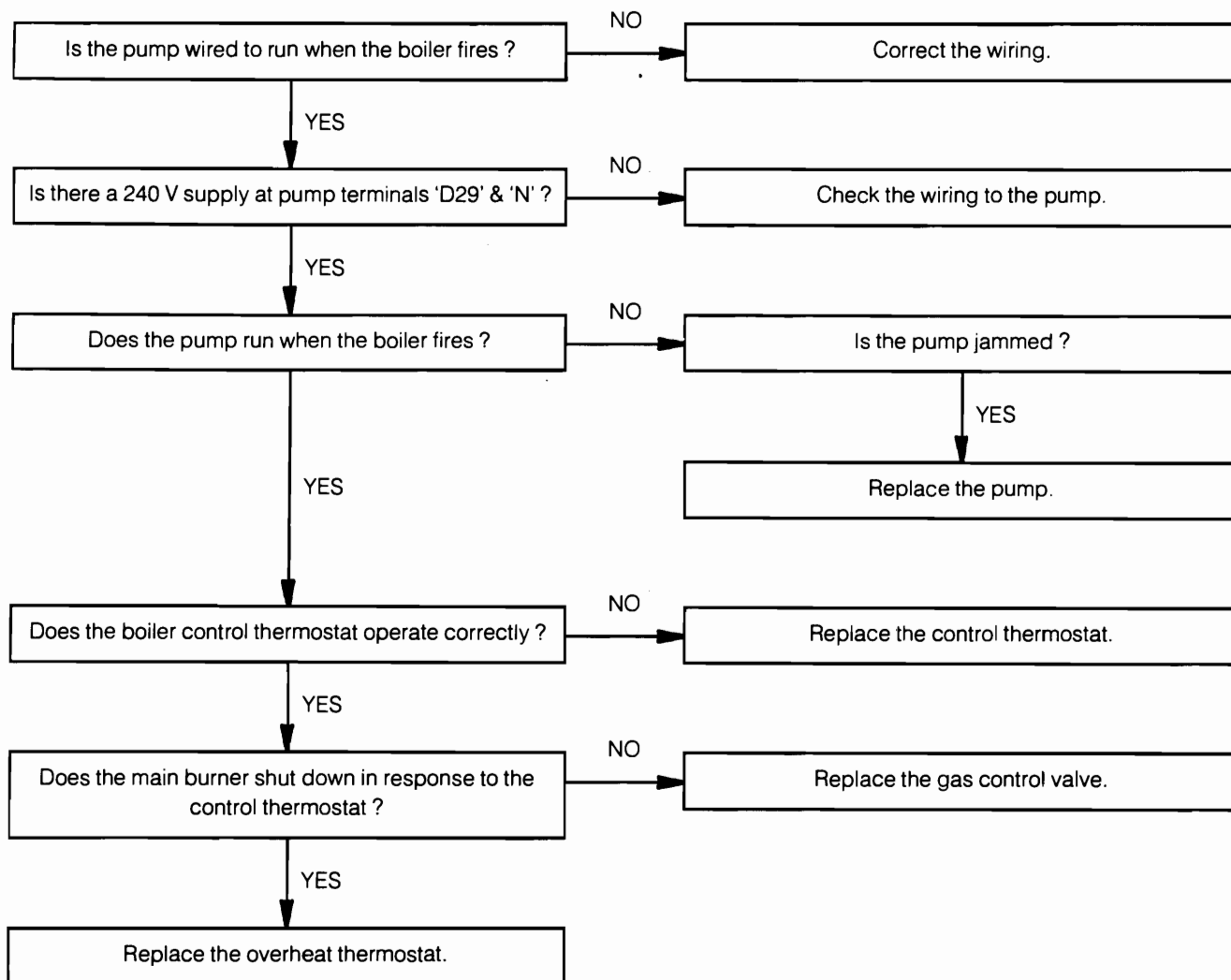
**49 PILOT LIT BUT NO MAINS GAS Domestic Hot Water Mode.**

## 50 MAIN BURNER IS SHUT DOWN BY THE OVERHEAT THERMOSTATS

### Central Heating Mode

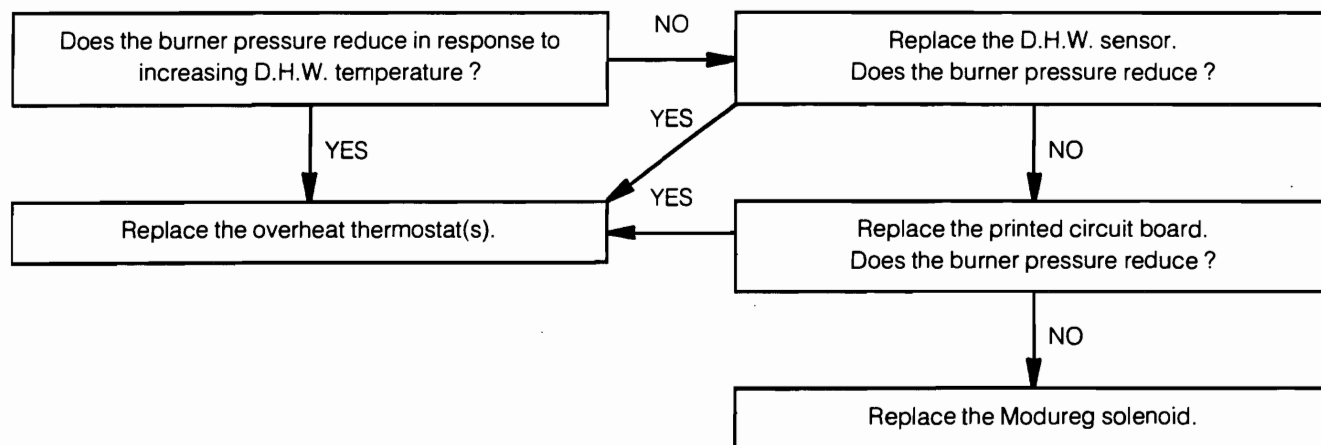
#### Notes.

1. If the boiler has been shut down by the C.H. overheat thermostat, the pilot flame will be out.
2. If the boiler has been shut down by the dry-fire thermostat only the pilot flame will be alight, but the main burner will not fire.
3. Before re-setting the thermostat(s) and continuing with the fault finding procedure, ensure that the boiler and system are full of water and free from air locks.



### Domestic Hot Water Mode.

**Note.** Carry out the tests detailed above before commencing.



## SERVICING/SPARE AND REPLACEMENT PARTS.

Stelrad Group Ltd. do not accept any liability resulting from the use of unauthorised parts, or the repair and servicing of appliances not carried out in accordance with the Company's recommendations and specifications. A comprehensive service should be carried out at least once a year. The User is advised to make a contract with the local Gas Region or a qualified Heating Engineer.

### 1 SCHEDULE

The following should be carried out at periods not exceeding one year.

- Light the boiler and carry out a pre-service check, noting any operational faults.
- Clean the main burner.
- Clean the heat exchanger.
- Clean the main injector.
- Check the condition of the thermocouple.
- Check that the flue terminal is unobstructed and that the flue system, including the inner cover, is sealed correctly.
- If the appliance has been installed in a compartment, check that the ventilation areas are clear.

The servicing procedures are covered more fully in Frames 2 to 8 and must be carried out in sequence.

**WARNING.** Always turn OFF the gas supply at the gas service cock and switch OFF and DISCONNECT the electricity supply to the appliance BEFORE SERVICING.

**IMPORTANT.** After completing the servicing or exchange of components, always test for gas soundness and carry out any functional checks as appropriate.

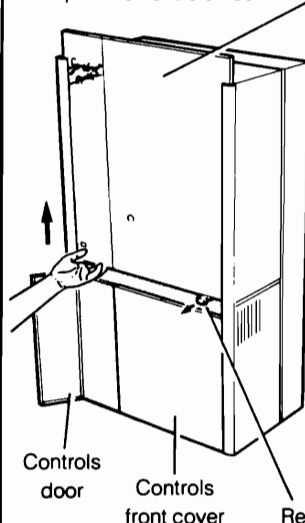
**Note.** In order to carry out either the servicing or replacement of components then the boiler casing must be removed. Refer to Frame 2.

**IMPORTANT.** When work is complete the casing **MUST** be correctly re-fitted, ensuring that a good seal is made.

### 2 BOILER CASING REMOVAL

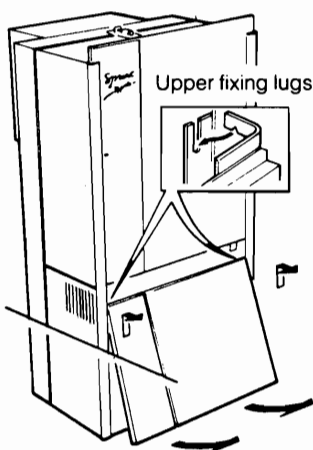
Take care not to damage the glass fascia panel.

- Open the controls door.



- Slide the glass fascia upwards & locate it in the retaining catch.

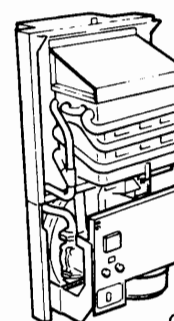
- Remove the controls front cover by pulling forward at the bottom, then lifting to disengage from the upper fixing lugs.



- Release the bottom captive screws.
- Push in the retaining catch & slide the glass fascia down.

- Release the top captive screw, lift the casing off the boiler and place it safely to one side.

Bottom captive screws

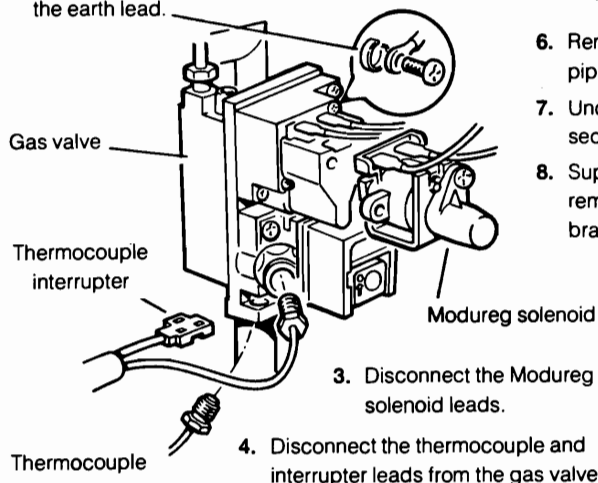


- Remove the control panel securing screw and swing the panel open.

Control panel securing screw

### 3 BURNER AND CONTROLS ASSEMBLY REMOVAL

- Release the gas valve cover securing screw and slide the cover off.
- Disconnect the operator leads and the earth lead.



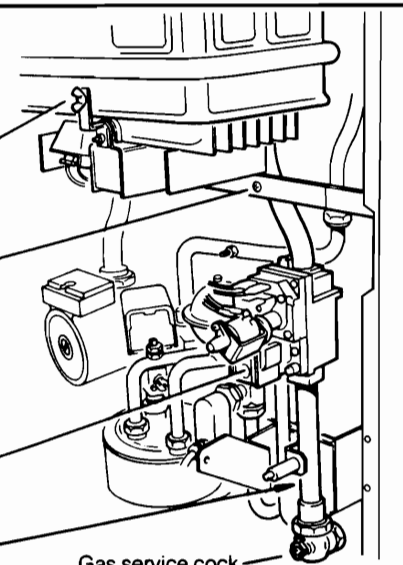
- Disconnect the Modureg solenoid leads.

- Disconnect the thermocouple and interrupter leads from the gas valve.

- Undo the gas service cock union nut.

Front support bracket wing nut

- Remove the gas inlet pipe securing screw.
- Undo the gas manifold securing screw.
- Support the assembly and remove the front support bracket wing nut.



- Withdraw the assembly from the boiler and place it on a convenient working surface.

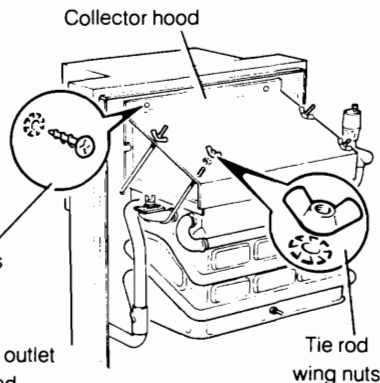
#### 4 CLEANING THE BURNER ASSEMBLY

1. Brush off any deposits that may have fallen onto the burner head(s)- ensuring that the flame ports are unobstructed. Remove any debris that may have collected on the assembly.  
**Note.** Brushes with metallic bristles **MUST NOT** be used.
2. Remove the main burner injector. Ensure that there is no blockage or damage & clean or renew as necessary.
3. Refit the injector using an approved jointing compound.
4. Inspect the pilot, thermocouple and spark electrode; ensure that they are clean and in good condition.  
In particular check that:
  - (a) The pilot burner is clean and unobstructed.
  - (b) The spark electrode is clean and undamaged.
  - (c) The spark lead is in good condition & securely connected.
  - (d) The spark gap is correct. Refer to Frame 14.
  - (e) The thermocouple tip is not burned or cracked.
  - (f) The position of the thermocouple relative to the pilot burner is correct. Refer to Frame 14.
  - (g) The thermocouple terminal at the gas valve is clean.

*Clean or renew components as necessary.*

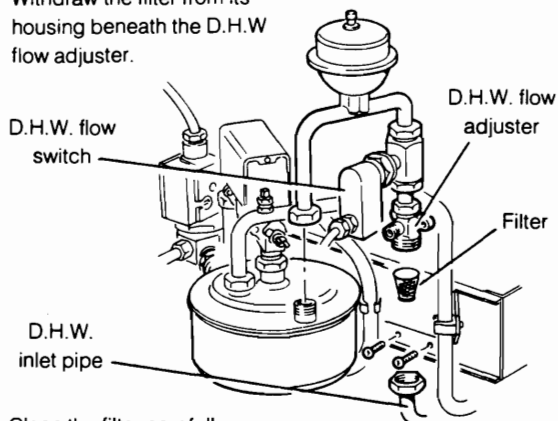
#### 5 CLEANING THE FLUEWAYS

1. Remove the two securing screws and washers from the collector hood.
2. Slacken the wing nuts, disengage the tie rods and remove the collector hood.
3. Place a plastic sheet or similar beneath the boiler, and remove all loose deposits from the heat exchanger finned block brushing from above and below, and also from the copper skirt, using a suitable brush and/or clearing rod.
4. Check that the flue outlet duct is unobstructed.



#### 6 CLEANING THE D.H.W. FILTER

1. Close the D.H.W. inlet isolating valve.
2. Open the lowest D.H.W. draw off tap. Drain any residual water into a receptacle via the D.H.W. drain screw.
3. Undo the unions shown and remove the D.H.W. inlet pipe.
4. Withdraw the filter from its housing beneath the D.H.W. flow adjuster.



5. Clean the filter carefully.

#### 7 RE-ASSEMBLY

Re-assemble the boiler in the following order.

1. Refit the D.H.W. filter using new sealing washers.
2. Refit the flue collector hood- renewing any damaged or deteriorating sealing gasket.
3. Refit the burner and controls assembly.
4. Reconnect the gas service cock and electrical wiring.
5. Check the sightglass in the boiler casing. Clean or renew as necessary.
6. Swing the controls panel back to its normal working position and secure.
7. Refit the boiler casing.

**IMPORTANT.** When work is complete the casing **MUST** be correctly refitted- ensuring that a good seal is made.

**The boiler MUST NOT be operated if the casing is not fitted.**

### COMPONENT REPLACEMENT

To remove the components detailed in Frames 9 to 41 it is necessary to remove the boiler casing. Refer to Frame 2.

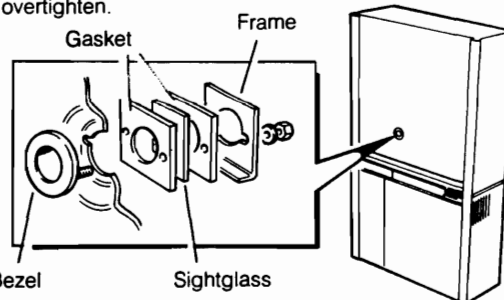
**IMPORTANT.** When work is complete the casing **MUST** be correctly fitted. **The boiler MUST NOT be operated if the casing is not fitted.**

#### 8 GAS PRESSURE ADJUSTMENT

1. **Pilot.** Refer also to Frame 22- 'Installation'.  
Light the pilot and check that the flame is 25 mm (1 in.) long. The pilot adjuster screw is factory set to maximum and no further adjustment should be necessary. However if the pilot flame length is incorrect proceed as follows.
  - (a) Slide the gas control button (T) UPWARDS until resistance is felt and then release it.
  - (b) Turn the pilot pressure adjuster screw (U) CLOCKWISE until fully CLOSED.
  - (c) Turn the pilot pressure adjuster screw ANTI-CLOCKWISE four full turns to give maximum setting.
  - (d) Relight the pilot. If the flame length is still incorrect then replace the pilot injector. Refer to Frame 14.
2. **Main Burner.**  
After any servicing the maximum and minimum burner setting pressures should be checked. Refer to the Data Plate on the front of the control panel. Any required adjustments should be made as described in Frame 23- 'Installation'.  
Finally, refit the controls compartment front cover.

#### 9 SIGHTGLASS REPLACEMENT

1. Remove the glass fascia panel from the casing.
2. Unfasten the two nuts and washers & remove the assembly.
3. Fit the new sightglass and re-assemble as shown.
4. Retighten the two nuts to ensure an airtight seal but **DO NOT** overtighten.
5. Refit the glass fascia panel.



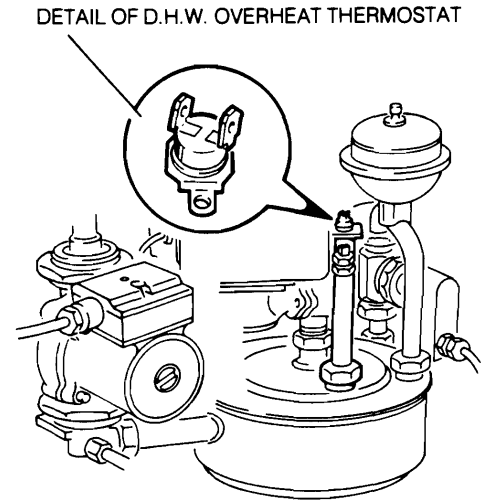
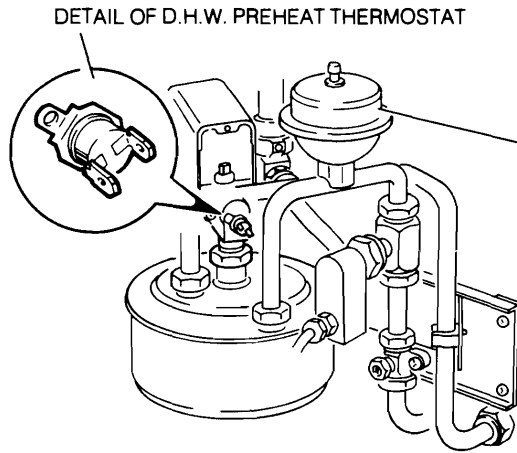
## 10 D.H.W. PRE-HEAT THERMOSTAT AND OVERHEAT THERMOSTAT REPLACEMENT

1. Remove the two screws securing the faulty thermostat and withdraw the thermostat.

2. Pull off the two electrical leads from the thermostat.

3. Fit the new thermostat and re-assemble in reverse order (polarity is immaterial).

**Note.** D.H.W. overheat thermostat only: If access to the securing screws is difficult then remove the D.H.W. expansion vessel. Refer to Frame 30.



## 11 OVERHEAT THERMOSTAT REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frames 3.

2. Remove the collector hood. Refer to Frame 5.

3. Remove the grommet and withdraw the w the interrupter leads.

4. Unclip the leads from the back panel.

5. Release the securing clip and withdraw the thermostat 'pancake' and cover.

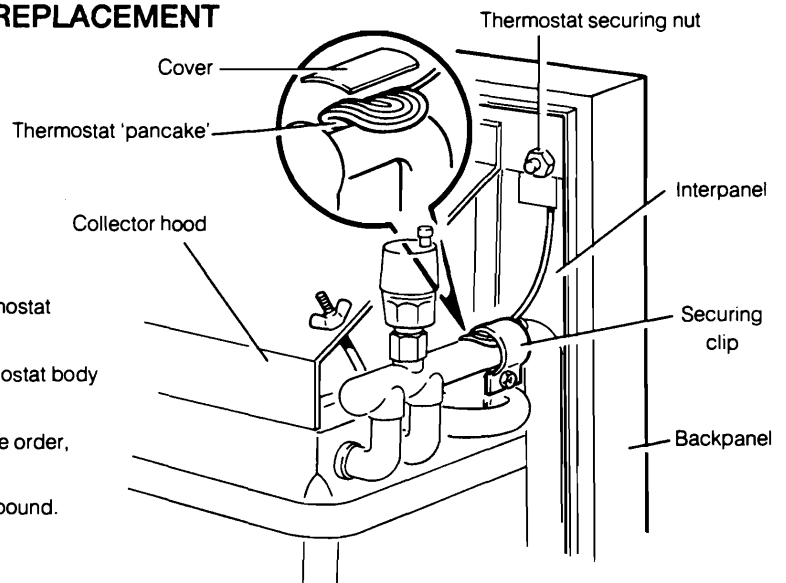
6. Remove the securing nut and withdraw the thermostat body from the 'interpanel', complete with leads.

7. Fit the new thermostat and re-assemble in reverse order, ensuring that:

(a) The 'pancake' is smeared with heat sink compound.

(b) The 'pancake' cover is refitted.

(c) The grommet is correctly refitted.



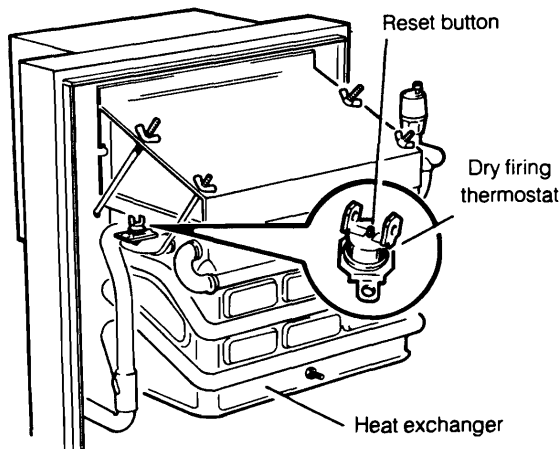
DETAIL OF OVERHEAT THERMOSTAT

## 12 DRY FIRING THERMOSTAT REPLACEMENT

1. Remove the two securing screws.

2. Pull off the two electrical leads.

3. Fit the new thermostat and re-assemble in reverse order.

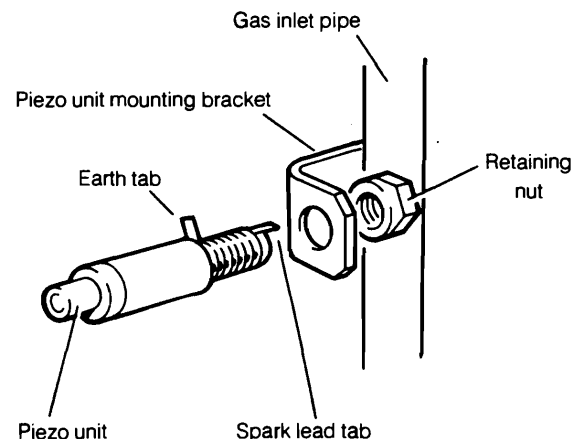


## 13 PIEZO UNIT REPLACEMENT

1. Disconnect the spark lead from the unit.

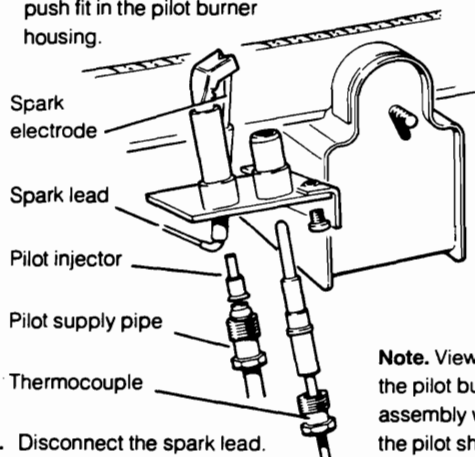
2. Remove the piezo retaining nut and withdraw the unit.

3. Fit the new unit in reverse order and check that it functions correctly.



## 14 PILOT BURNER REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Undo the pilot supply connection & ease clear of the pilot burner. Do NOT lose the pilot injector which is a push fit in the pilot burner housing.



3. Disconnect the spark lead.

**Note.** Views show the pilot burner assembly without the pilot shield.

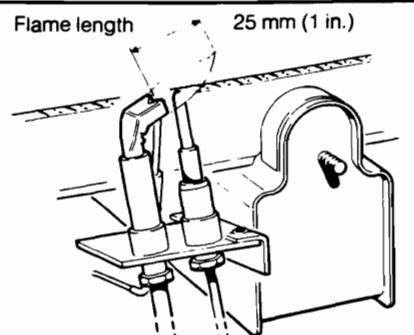
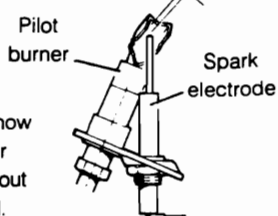
3. Undo the thermocouple connection and pull the thermocouple clear.

4. Disconnect the spark lead.

5. Remove the 2 securing screws and withdraw the pilot assembly & shield.

6. Transfer the spark electrode & pilot shield to the new pilot burner.

7. Fit the new pilot burner assembly and re-assemble in reverse order, ensuring that:
  - (a) The injector is in position when refitting the pilot supply.
  - (b) A gas tight joint is made. Refer to Frame 22 'Installation'.
  - (c) The spark gap is correct. 3 to 4 mm



DETAIL OF PILOT BURNER FLAME LENGTH

## 15 SPARK ELECTRODE REPLACEMENT

**Refer to Frame 14 for the illustration of the following procedure.**

1. Undo the pilot supply connection & ease clear of the pilot burner.  
DO NOT lose the pilot injector which is a push fit in the pilot burner housing.

2. Undo the thermocouple connection and pull the thermocouple clear.

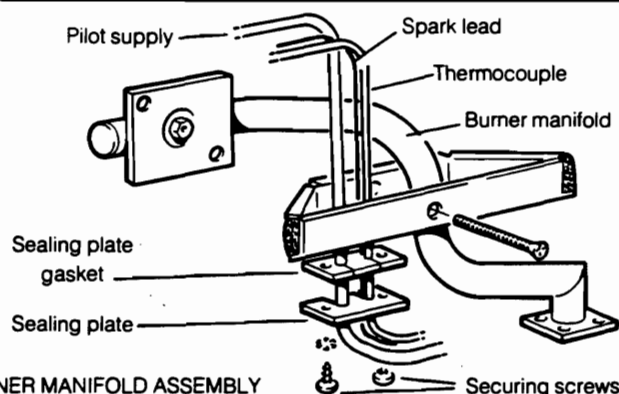
3. Disconnect the spark lead.

4. Undo the spark electrode retaining nut and withdraw the electrode.

5. Fit the new electrode and re-assemble in reverse order.

## 16 SPARK LEAD REPLACEMENT

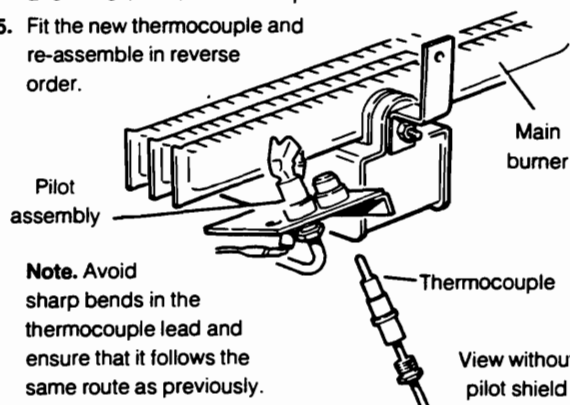
1. Remove the burner and control assembly. Refer to Frame 3.
2. Remove the buckle clip.
3. Undo the two securing screws and washers and remove the sealing plate.
4. Disconnect the spark lead from the base of the electrode and withdraw the lead.
5. Fit the new lead and re-assemble in reverse order.



VIEW OF MAIN BURNER MANIFOLD ASSEMBLY

## 17 THERMOCOUPLE REPLACEMENT

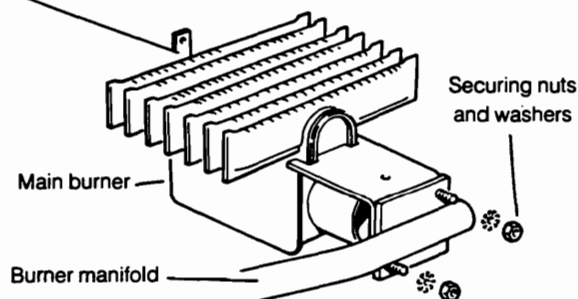
1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the buckle clip.
3. Undo the thermocouple connection and pull the thermocouple clear.
4. Remove the burner manifold sealing plate (refer to Frame 16) and withdraw the thermocouple.
5. Fit the new thermocouple and re-assemble in reverse order.



**Note.** Avoid sharp bends in the thermocouple lead and ensure that it follows the same route as previously.

## 18 MAIN BURNER REPLACEMENT

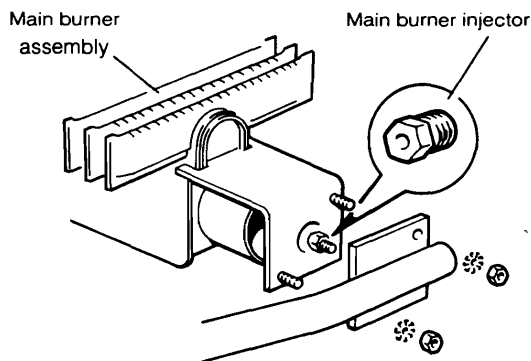
1. Remove the burner and controls assembly. Refer to Frame 3.
2. Remove the pilot burner assembly. Refer to Frame 14.
3. Remove the two nuts and washers securing the burner to the manifold and withdraw the burner.
4. Transfer the burner end bracket to the new burner.



5. Fit the new burner and re-assemble in reverse order taking care not to damage the burner injector which is screwed into the gas manifold.

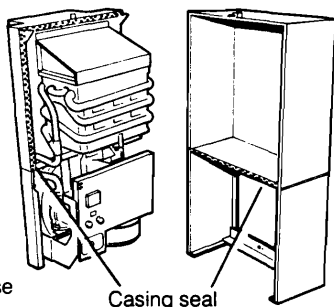
## 19 MAIN BURNER INJECTOR REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Unscrew the main burner injector from the manifold.
3. Fit the new injector using a suitable jointing compound and re-assemble in reverse order.



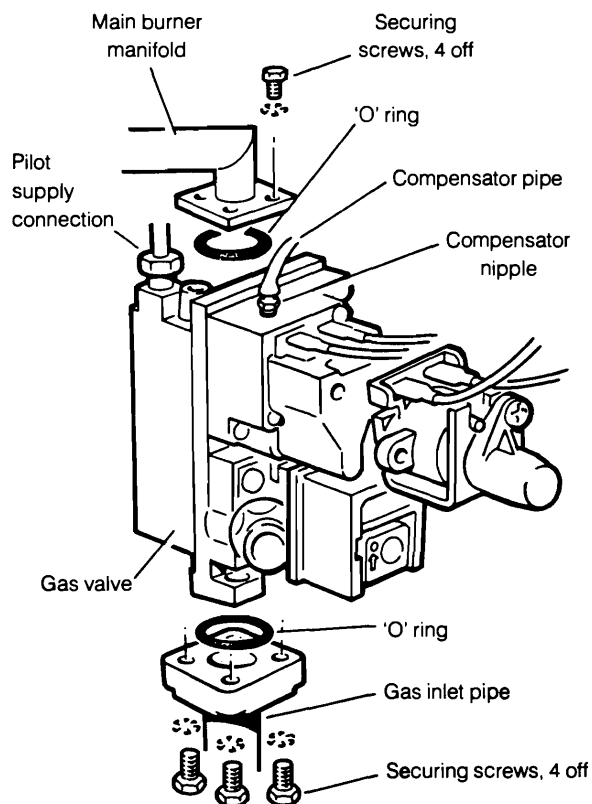
## 21 CASING SEAL REPLACEMENT

1. There are 3 seals; on the lower edge of the casing; around 3 edges of the casing and on the burner manifold. For the latter, refer to Frame 3 and remove the burner and controls assembly. The outer casing seals must be replaced together.
2. Remove the old seals & any traces of old adhesive.
3. Peel the backing tape off the new sealing strip & apply as shown. Avoid stretching the strip & ensure a good bond by pressing firmly.
4. Re-assemble in reverse order. **Note.** The casing must be correctly seated, compressing the seal to make an airtight joint. If side clearances are limited, then this can be checked by ensuring that the top and bottom edges of the casing are correctly located.



## 20 GAS VALVE REPLACEMENT

1. Remove the burner and controls assembly. Refer to Frame 3.
2. Undo the pilot supply connection.
3. Disconnect the pressure compensator pipe and transfer the nipple to the new valve.
4. Remove the four securing screws and withdraw the valve from the burner manifold.
4. Transfer the gas inlet pipe to the new valve.
5. Fit the new gas valve, ensuring that:
  - (a) The valve is fitted the right way round - an arrow engraved on the valve indicates the direction of flow.
  - (b) The sealing 'O' rings supplied with the valve are correctly fitted at the inlet and outlet flanges.

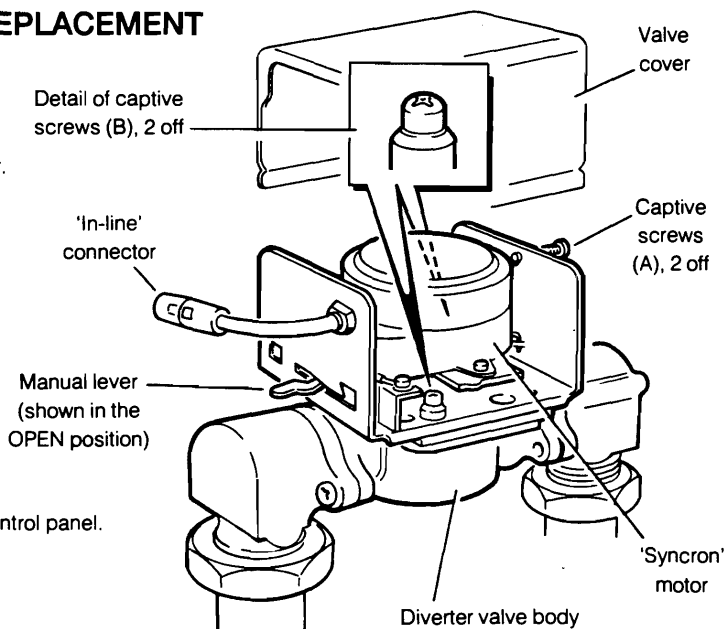


**Note.** After replacement, the maximum & minimum burner setting pressures should be checked. Refer to Frame 23 'Installation'.

## 22 DIVERTER VALVE ACTUATOR REPLACEMENT

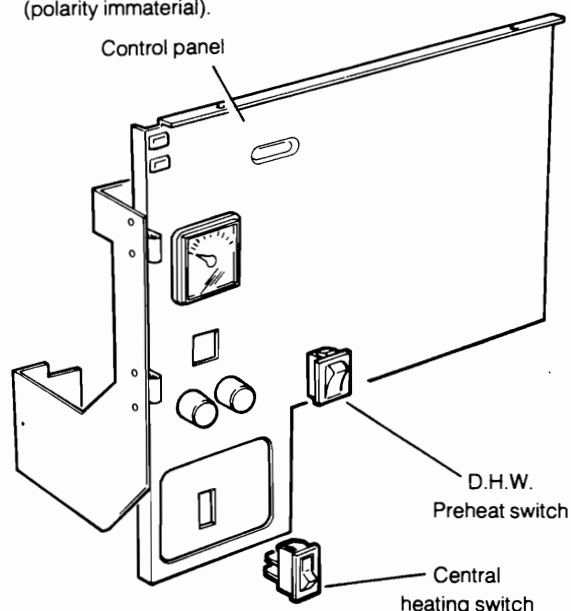
1. Remove the three securing screws and lift off the controls inner cover. Refer to Frame 16 'Installation'.
2. Unplug the diverter valve lead at the 'in-line' connector.
3. Release the captive screw (A) and lift off the valve cover.
4. Set the manually operated valve lever to OPEN.
5. Release the two captive screws (B) and lift the actuator off the valve body.
 

**Note.** At this stage, if required, the 'Synchron' motor may be replaced. Refer to the instructions supplied with the replacement motor.
6. Fit the new actuator, PRESET TO THE OPEN POSITION.
7. Disconnect the valve lead from the P.C.B. (refer to Frames 17, 18 & 19) and discard the lead.
8. Connect the lead of the new actuator directly into the control panel.
9. Secure the lead to the wiring harness using the cable straps provided.
10. Re-assemble in reverse order.



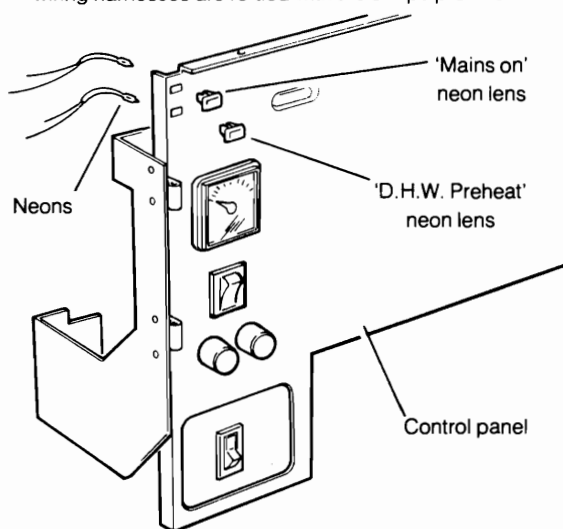
## 23 PRE-HEAT SELECTOR SWITCH & HEATING SWITCH REPLACEMENT

1. Remove the three securing screws and lift off the controls inner cover. Refer to Frame 16 'Installation'.
2. Pull the electrical leads off the terminals of the defective switch.
3. Compress the retaining clips and prise the switch out through the front of the control panel.
4. Fit the new switch and re-assemble in reverse order, (polarity immaterial).



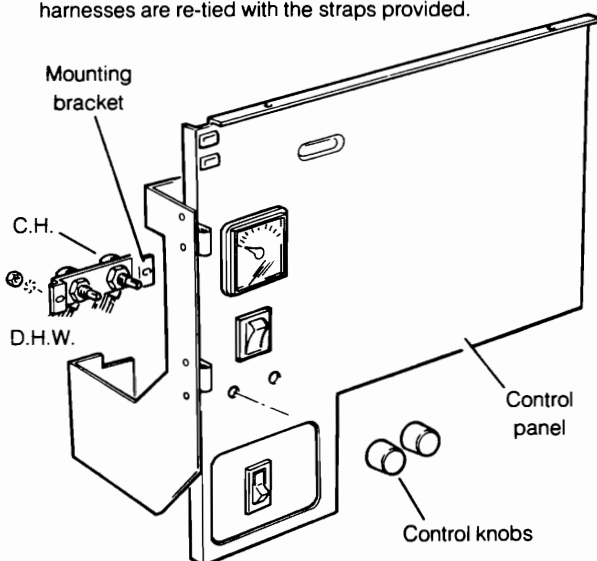
## 24 INDICATOR NEON REPLACEMENT

1. Remove the securing screws. Lift off the controls inner cover & cable entry shroud. Refer to Frame 16 'Installation'.
2. Disconnect the electrical lead from the L.H. side of the mains supply terminal block.
3. Release the pressure gauge capillary clamp.
4. Remove the 2 screws and slide the cable entry shroud back.
5. Release the wires from the harness and disconnect the neon leads from the P.C.B.
6. Disengage the two neons from the lenses and withdraw the complete harness from the control panel.
7. Fit the new neon harness and re-assemble in reverse order, ensuring that; each neon is fitted in its correct lens and the wiring harnesses are re-tied with the straps provided.



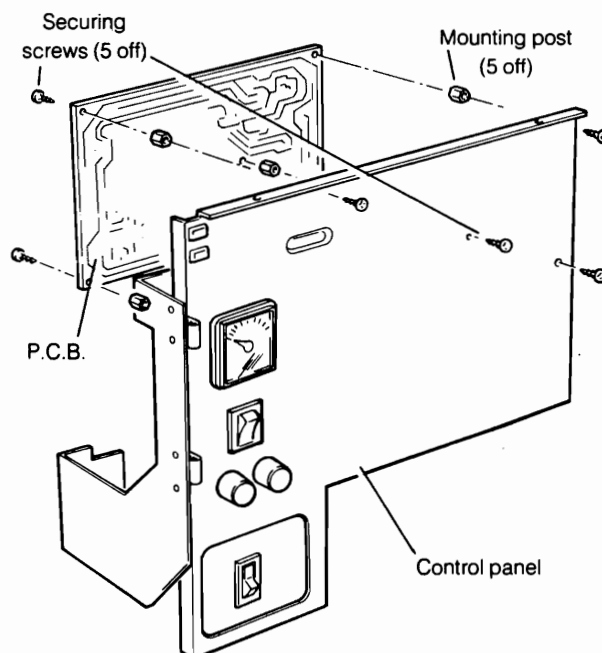
## 25 C.H. AND D.H.W. POTENTIOMETER REPLACEMENT

1. Remove the three securing screws and lift off the controls inner cover. Refer to Frame 16 'Installation'.
2. Unplug the potentiometer lead from the P.C.B. (refer to Frames 17, 18 and 19- 'Installation') and release the wires from the harness.
3. Remove the control knobs.
4. Remove the securing nuts and withdraw the potentiometers and mounting bracket assembly.
5. Fit the new potentiometer and mounting bracket assembly complete.
6. Re-assemble in reverse order, ensuring that the wiring harnesses are re-tied with the straps provided.



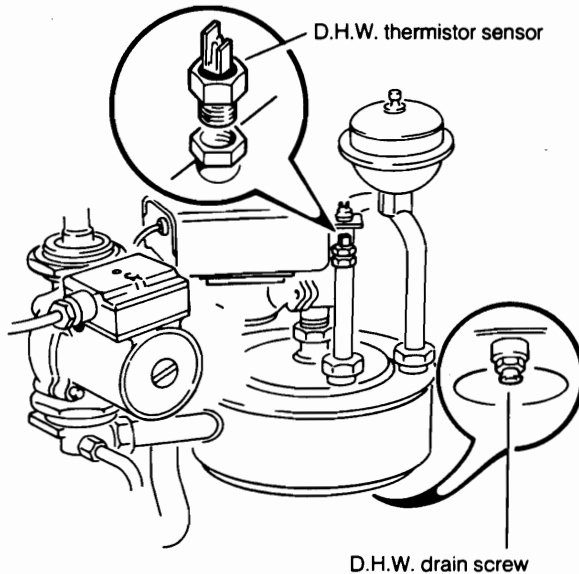
## 26 P.C.B REPLACEMENT (INCLUDING TRANSFORMER)

1. Remove the securing screws and lift off the controls inner cover. Refer to Frame 16 'Installation'.
2. Disconnect all electrical wiring from the PCB. Refer to Frames 17, 18, 19 'Installation' and Frame 45 'Exploded Views'.
3. Remove the securing nuts from the four mounting posts, and lift off the PCB.
4. Transfer the RS link to the new board.
5. Fit the new PCB and re-assemble in reverse order.



## 27 D.H.W. THERMISTOR SENSOR REPLACEMENT

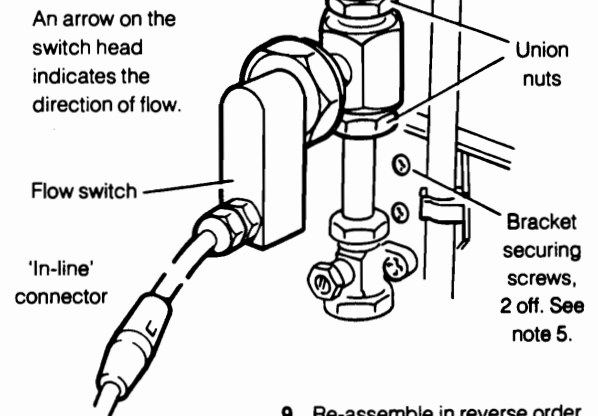
1. Close the D.H.W. inlet isolating valve.
2. Open the lowest D.H.W. draw-off tap.
3. Drain any residual water into a receptacle via the D.H.W. drain screw.
4. Pull the electrical lead off the thermistor sensor.
5. Unscrew the sensor from the pipe.



6. Fit the new sensor, using a suitable jointing compound complying with BS. 5292 (e.g. PermaBond A 129) and re-assemble in reverse order.

## 28 D.H.W. FLOW SWITCH REPLACEMENT

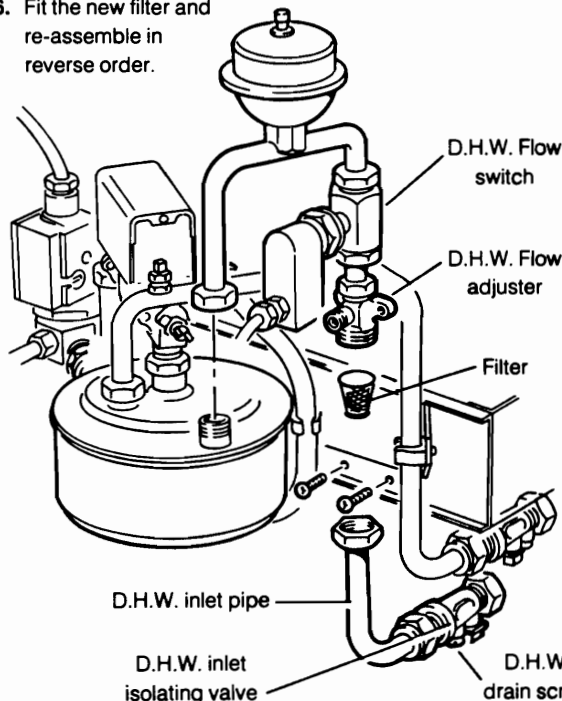
1. Disconnect the flow switch lead at the 'in-line' connectors.
2. Close the D.H.W. isolating valve.
3. Open the lowest D.H.W. draw-off tap.
4. Drain any residual water into a receptacle via the D.H.W. drain screw on the D.H.W. inlet isolating valve.
5. Remove the 2 securing screws and withdraw the control panel support bracket.
6. Undo the union nuts shown. Withdraw the switch & inlet pipe.
7. Transfer the inlet pipe to the new flow switch.
8. Fit the new flow switch complete with new sealing washers, ensuring that the switch is fitted the right way round. An arrow on the switch head indicates the direction of flow.



9. Re-assemble in reverse order.

## 29 D.H.W. FILTER REPLACEMENT

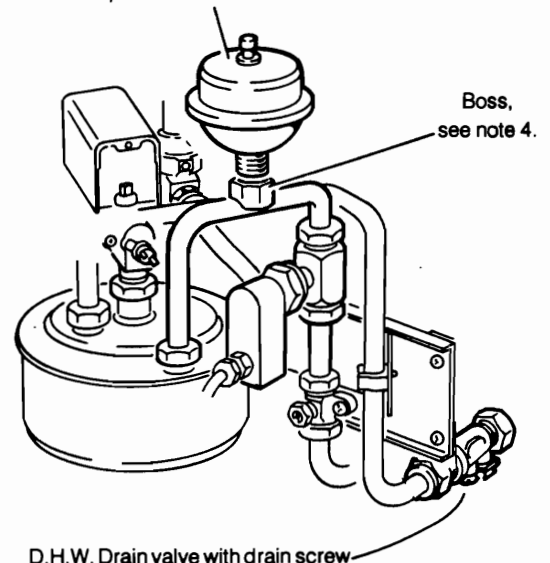
1. Close the D.H.W. inlet isolating valve.
2. Open the lowest D.H.W. draw-off tap.
3. Drain any residual water into a receptacle via the D.H.W. drain screw.
4. Undo the unions shown and remove the D.H.W. inlet pipe.
5. Withdraw the filter from its housing beneath the D.H.W. flow adjuster.
6. Fit the new filter and re-assemble in reverse order.



## 30 D.H.W. EXPANSION VESSEL REPLACEMENT

1. Close the D.H.W. inlet isolating valve.
2. Open the lowest D.H.W. draw-off tap.
3. Drain any residual water into a receptacle via the D.H.W. drain screw.
4. Unscrew the expansion vessel from the pipe, applying an appropriate counterforce on the boss to prevent damage.
5. Fit the new vessel complete with new sealing washer and re-assemble in reverse order.

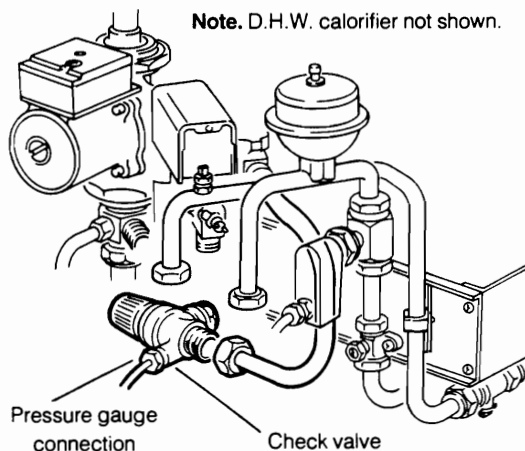
D.H.W. Expansion vessel



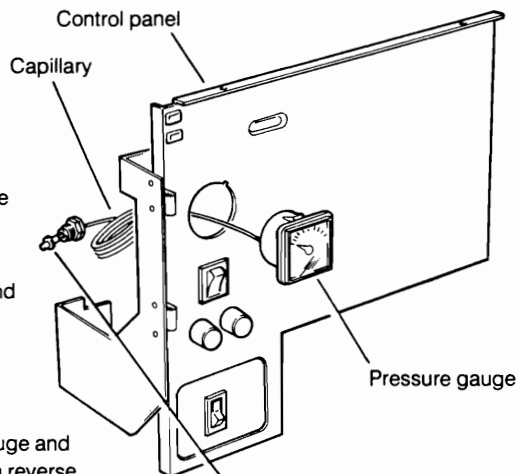
### 31 PRESSURE GAUGE REPLACEMENT

DETAIL OF THE BOILER CONTROL PANEL.

1. Remove the securing screws and lift off the controls inner cover. Refer to Frame 16 'Installation'.
2. Release the pressure gauge capillary clamp and withdraw the capillary from the entry, through the split grommet.



3. Disconnect the pressure gauge capillary from the safety valve.
4. Compress the retaining lugs and withdraw the gauge through the front of the control panel.
5. Fit the new gauge and re-assemble in reverse order, ensuring that:



- (a) The capillary is carefully & neatly routed, as previously.

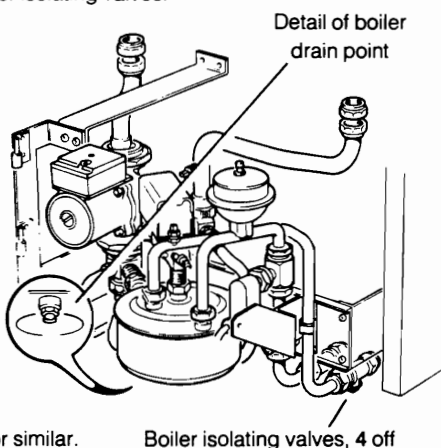
- (b) The sealing 'O' is correctly fitted.
- (c) The gauge is correctly orientated within the control panel.

### 32 DRAINING THE BOILER

**IMPORTANT:** IN ORDER TO REPLACE THE COMPONENTS IN FRAMES 33 TO 41 IT IS NECESSARY TO DRAIN THE BOILER.

1. Close the boiler isolating valves.

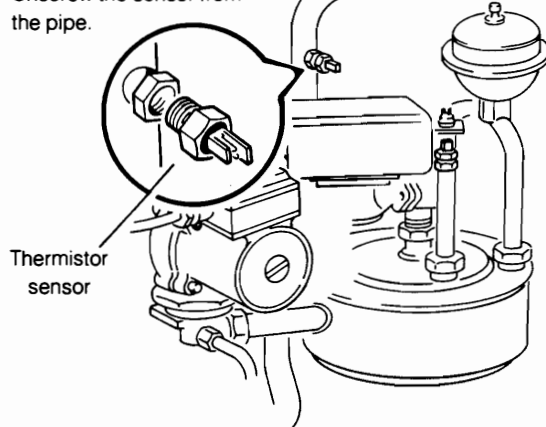
2. Open the boiler drain point. There may be a slight water leakage therefore any gas or electrical components and the floor should be protected with water proof sheets or similar.



3. To refill the boiler refer to Frame 14 'Installation'.

### 33 C.H. THERMISTOR REPLACEMENT

1. Drain the boiler. Refer to Frame 32.
2. Pull the electrical lead off the thermistor sensor.
3. Unscrew the sensor from the pipe.

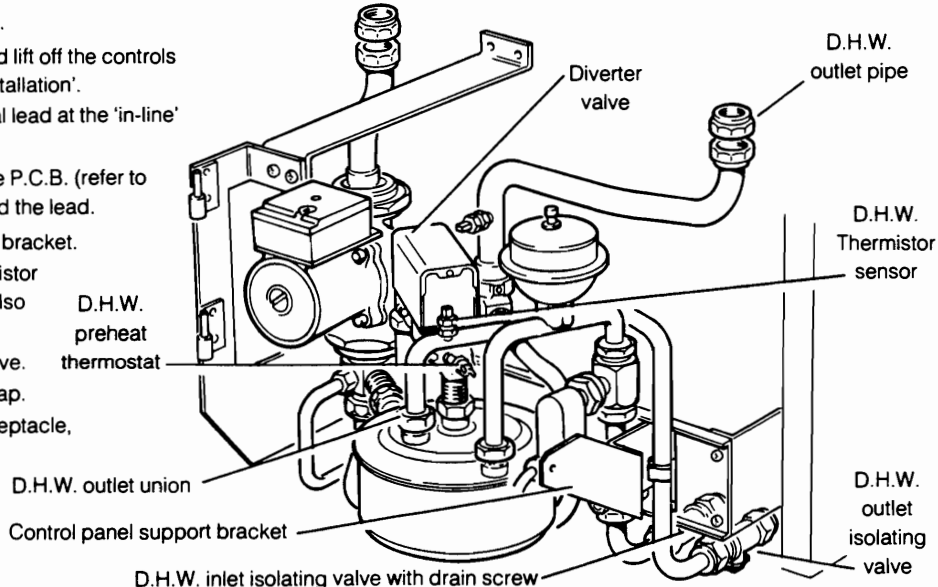


4. Fit the new sensor using an appropriate jointing compound and re-assemble in reverse order.

### 34 DIVERTER VALVE (COMPLETE) REPLACEMENT

DETAIL OF BOILER INTERNAL PIPEWORK

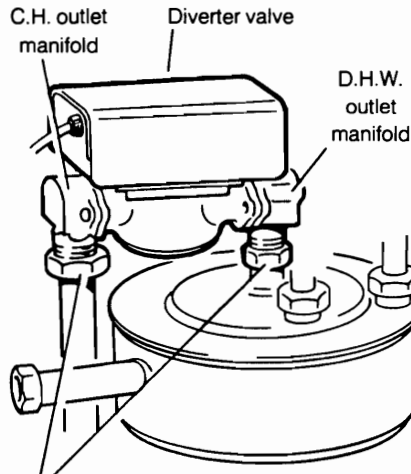
1. Drain the boiler. Refer to Frame 32.
2. Remove the 3 securing screws and lift off the controls inner cover. Refer to Frame 16 'Installation'.
3. Unplug the diverter valve electrical lead at the 'in-line' connector, if fitted.
4. Disconnect the valve lead from the P.C.B. (refer to Frames 17, 18 and 19) and discard the lead.
5. Remove the control panel support bracket.
6. Pull the leads off the D.H.W. thermistor sensor, overheat thermostat and also the D.H.W. preheat thermostat.
7. Close the D.H.W. inlet isolating valve.
8. Open the lowest D.H.W. draw-off tap.
9. Drain any residual water into a receptacle, via the D.H.W. drain screw.
10. Undo the 2 unions on the D.H.W. outlet pipe, unclip the pipe and lift it aside.



Continued in Frame 35.

**35 DIVERTER VALVE (COMPLETE) REPLACEMENT**

11. Disconnect the safety valve pipe from the inlet manifold.



Unions, see note 13.

12. Slacken the socket screw, using a 2.5 mm Allen key.

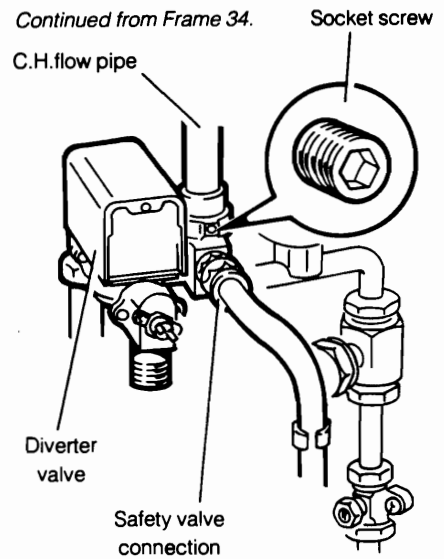
13. Undo the C.H. and the D.H.W. outlet manifold unions and withdraw the valve from the boiler.

14. Transfer the inlet and outlet manifolds to the new valve, fitting the new 'O' rings provided. Also renew the 'O' ring on the central heating flow pipe.

15. Fit the new valve, complete with the new sealing washers, and connect the electrical lead directly into the control panel.

16. Secure the lead to the wiring harness using the cable straps provided.

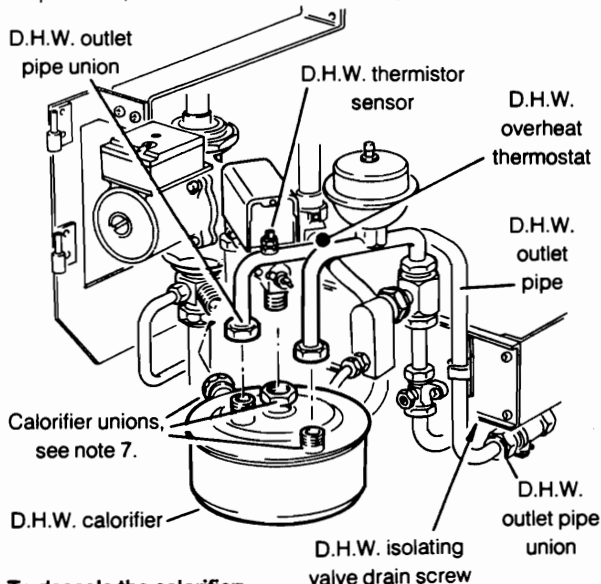
Continued from Frame 34.



17. Re-assemble in reverse order.

**36 D.H.W. CALORIFIER REPLACEMENT**

1. Drain the boiler. Refer to Frame 32.
2. Close the D.H.W. inlet isolating valve.
3. Open the lowest D.H.W. draw-off tap.
4. Drain any residual water into a receptacle via the D.H.W. drain screw.
5. Pull the leads off the D.H.W. thermistor sensor and overheat thermostat.
6. Undo the unions on the D.H.W. outlet pipe. Unclip the pipe and lift it aside.
7. Undo the three remaining calorifier unions and withdraw the calorifier from the boiler.
8. Fit the new calorifier, complete with the new sealing washers provided, and re-assemble in reverse order.

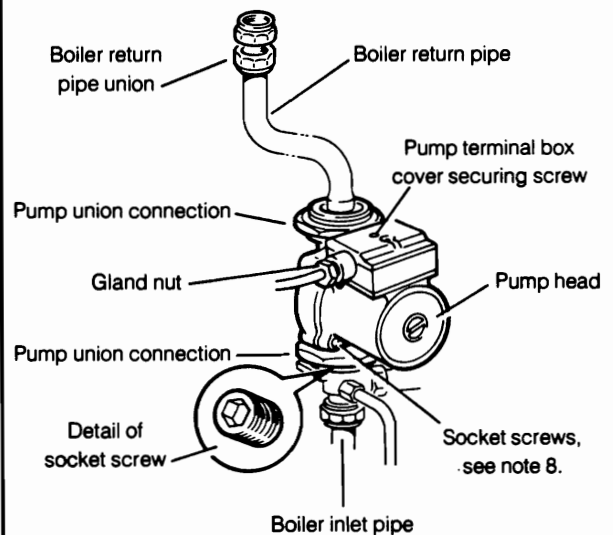
**To descale the calorifier:**

- (a) Remove the calorifier from the boiler as described above.
- (b) Descale the domestic hot water coil, using a proprietary descaling agent.
- (c) Rinse thoroughly with clean water.
- (d) Re-assemble in reverse order.

**WARNING:** The compounds are highly corrosive and ingestion or contact with skin, eyes and clothing **MUST** be avoided. Protective clothing should be worn and the descaling operation conducted out of doors or in a well ventilated area.

**37 PUMP REPLACEMENT**

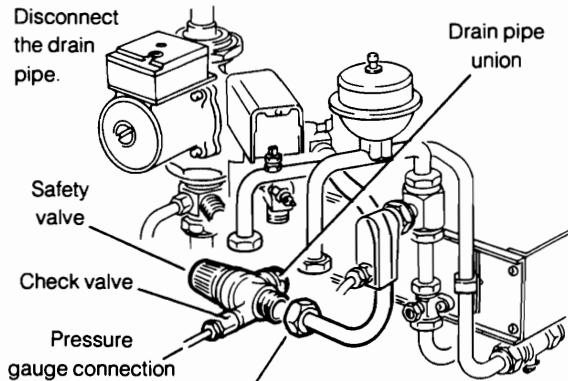
1. Drain the boiler. Refer to Frame 32.
2. Remove the pump terminal box cover and disconnect the electrical leads. **Note.** A hole in the control panel support bracket permits access to the cover securing screw.
3. Unscrew the gland nut and withdraw the cable from the terminal box.
4. Undo the boiler return pipe union.
5. Slacken the socket screw, using a 2.5 mm Allen key.
6. Withdraw the pump, complete with inlet pipe and boiler return pipe, by rotating it to the left and lifting.
7. Undo the pump union connections and, using the new sealing gaskets provided, transfer the inlet pipe and the boiler return pipe to the new pump.
8. Remove the four socket screws and rotate the head of the new pump through 90° in order to position the wiring box at the top.



9. Fit the new pump and reassemble in reverse order, ensuring that:
  - (a) The new sealing washer provided is fitted to the boiler return pipe connection.
  - (b) The electrical connections are correctly re-made. Refer to the diagram inside the terminal box cover.
  - (c) The pump selector switch cover is correctly fitted and that the switch is set at position '3'.

### 38 SAFETY VALVE REPLACEMENT

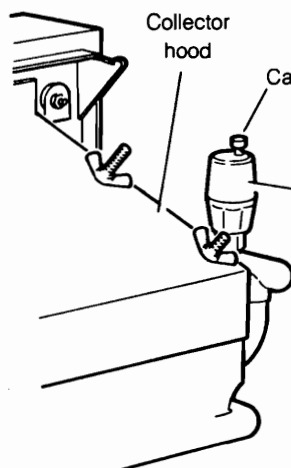
1. Drain the boiler. Refer to Frame 32.
2. Disconnect the pressure gauge capillary.
3. Disconnect the drain pipe.



4. Undo the safety valve union & withdraw the valve from the boiler.
5. Transfer the check valve to the new safety valve, using a suitable jointing compound.
6. Fit the new valve and re-assemble in reverse order.

### 39 AUTOMATIC AIR VENT REPLACEMENT

1. Drain the boiler. Refer to Frame 32.



2. Unscrew the automatic air vent from the boiler flow header, applying an appropriate counter force to the boss in order to prevent damage.

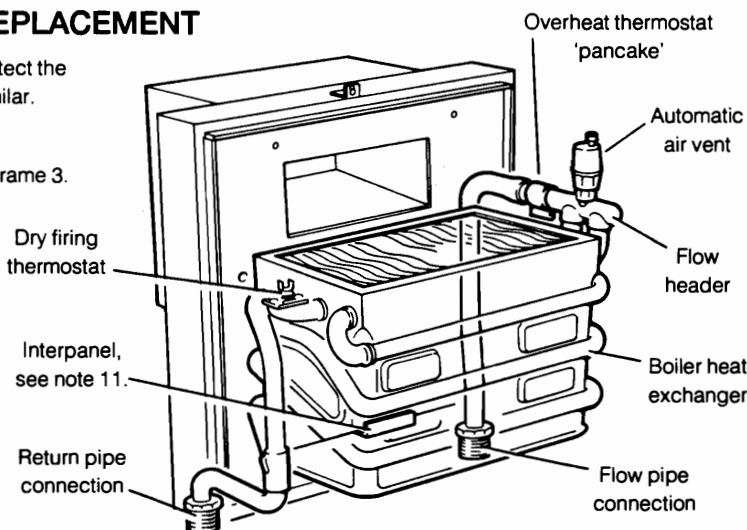
3. Fit the new air vent, using the 'O' ring provided, and re-assemble in reverse order.

**IMPORTANT.** Ensure that the vent cap is loose.

### 40 BOILER HEAT EXCHANGER REPLACEMENT

**IMPORTANT.** Before starting the removal procedure protect the gas and electrical controls with a waterproof sheet or similar.

1. Drain down the boiler. Refer to Frame 32.
2. Remove the burner and controls assembly. Refer to Frame 3.
3. Remove the flue collector hood. Refer to Frame 5.
4. Remove the overheat thermostat 'pancake' and clamp from the flow header. refer to Frame 11.
5. Remove the dry firing thermostat, refer to Frame 12, and transfer it to the new heat exchanger.
6. Remove the automatic air vent, refer to Frame 39, and transfer it to the new heat exchanger.
7. Slacken the boiler flow pipe socket screw at the diverter valve inlet manifold. Refer to Frame 35.
8. Slacken the pump socket screw. Refer to Frame 37.
9. Undo the boiler flow flow and return pipe connections. Swing the pipes aside.
10. Support the heat exchanger and remove the locknuts.



11. Lift the heat exchanger to disengage it from the interpanel and bottom panel. Withdraw it from the boiler.

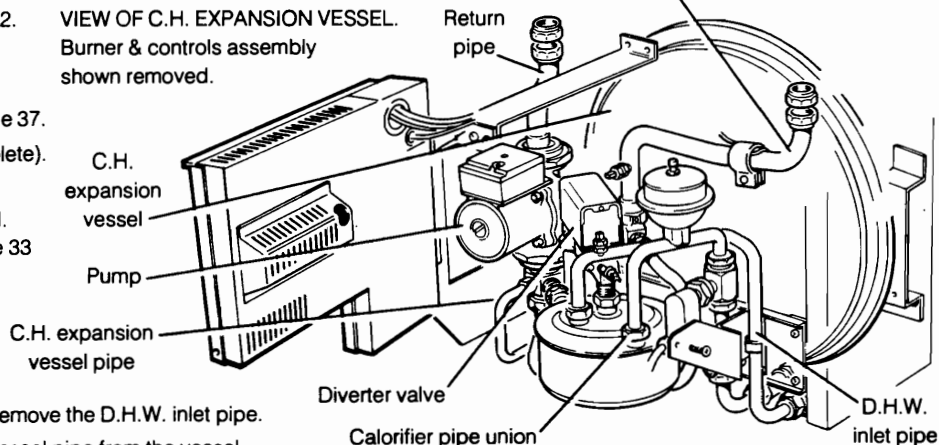
12. Fit the new heat exchanger and re-assemble in reverse order.

### 41 C.H. EXPANSION VESSEL REPLACEMENT

In the unlikely event of the failure of the C.H. expansion vessel it is recommended that a new vessel is fitted exterior to the boiler. It should be positioned on the return pipe & as close to the boiler as possible. However, if the vessel must be replaced, the following procedure may be used:

1. Drain the boiler. Refer to Frame 32.
2. Remove the burner and controls assembly. Refer to Frame 3.
3. Remove the pump. Refer to Frame 37.
4. Remove the diverter valve (complete). Refer to Frames 34 & 35.
5. Disconnect the lead from the C.H. thermistor sensor. Refer to Frame 33.
6. Undo the union and remove the C.H. flow pipe.
7. Remove the D.H.W. flow switch. Refer to Frame 28.
8. Undo the calorifier pipe union & remove the D.H.W. inlet pipe.
9. Disconnect the C.H. expansion vessel pipe from the vessel and slacken the union at the other end. Swing the pipe aside.
11. Remove the vessel retaining bracket.

VIEW OF C.H. EXPANSION VESSEL.  
Burner & controls assembly shown removed.



10. Lift and draw the vessel forward to remove it from the boiler.

11. Fit the new vessel and re-assemble in reverse order.

The following list comprises parts commonly required as replacement components due to damage, expendability, or such that their failure or absence is likely to affect safety or performance.

The list is extracted from the British Gas List of Parts, which contains all available spare parts.

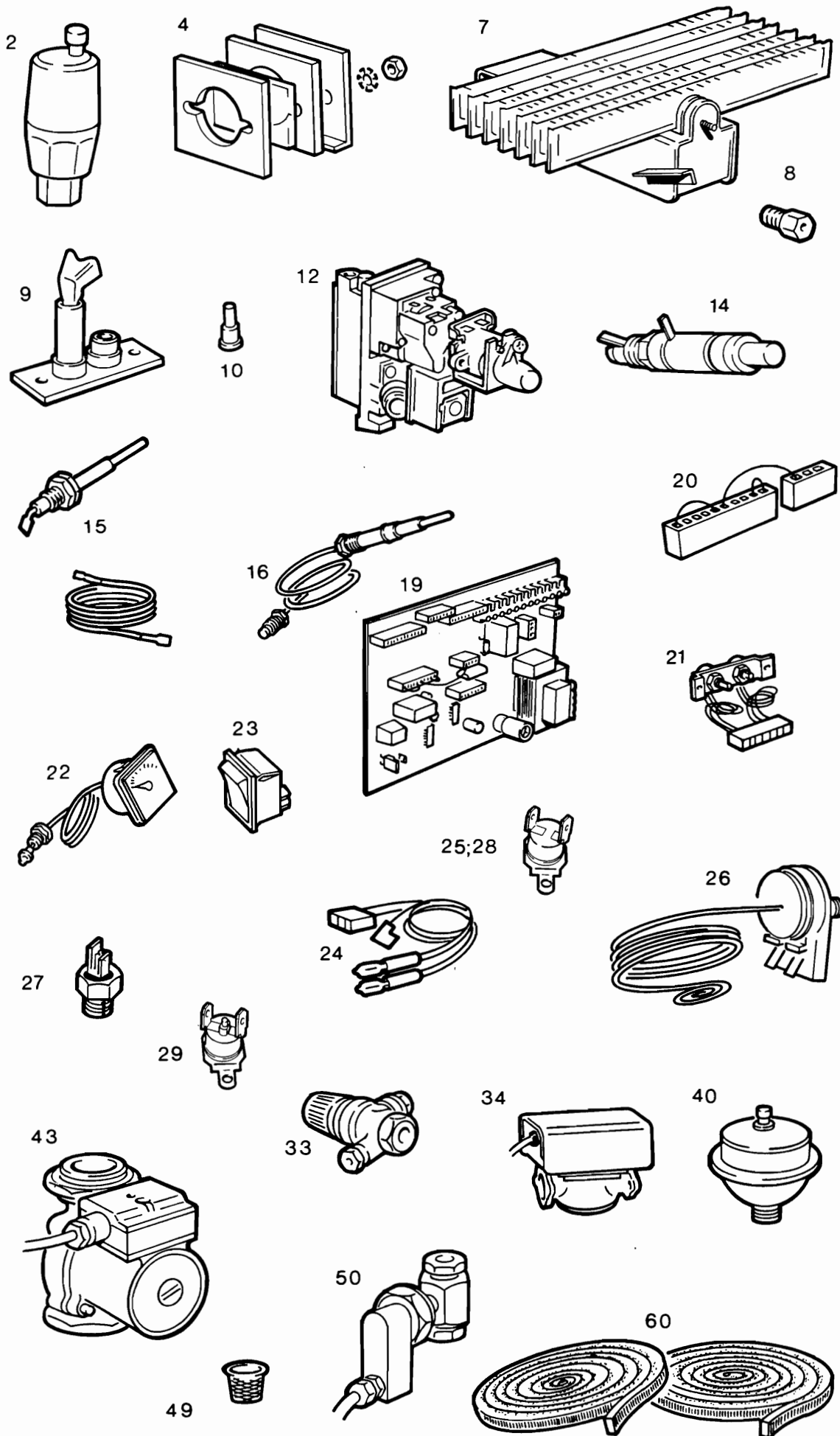
Details of the British Gas Lists are held by Gas regions, STELRAD Distributors and by Merchants.

**Ideal Sprint Rapide RS 75 N Combination Gas Boiler.**

When ordering spares please quote:

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

| Key No. | G.C. Part No. | Description                                                                                                                             | No. Off | Makers Part No. |
|---------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------|
| 2       | 386 830       | Automatic air vent, CALEFFI 5030                                                                                                        | 1       | 199 224 305     |
| 4       | 319 493       | Sight glass assembly kit                                                                                                                | 1       | 160 079 333     |
| 7       | 392 916       | Main burner, FURIGAS Type R 118 500 020                                                                                                 | 1       | 199 226 064     |
| 8       | 398 064       | Main burner injector, BRAY Cat. 10 Size 2200                                                                                            | 1       | 189 776 060     |
| 9       | 341 956       | Pilot burner, HONEYWELL Q 359 A 1041 with HONEYWELL 45004 108 001 injector                                                              | 1       | 589 040 085     |
| 10      | 381 656       | Pilot injector, HONEYWELL 45004 108 001                                                                                                 | 1       | 589 040 083     |
| 12      | 386 800       | Gas control valve, HONEYWELL VR 4700 N 4001                                                                                             | 1       | 586 221 910     |
| 14      | 341 933       | Spark generator, VERNITRON 60080                                                                                                        | 1       | 589 220 086     |
| 15      | 319 012       | Spark electrode, VERNITRON 60951 with H.T. lead                                                                                         | 1       | 589 220 088     |
| 16      | 390 038       | Thermocouple, HONEYWELL Q 309 A 2788, 36 in. lg.                                                                                        | 1       | 581 861 906     |
| 19      | 374 041       | Printed circuit board, STELRAD BOARD No. 23                                                                                             | 1       | 589 220 201     |
| 20      | 374 053       | Printed circuit board RS link assembly                                                                                                  | 1       | 589 220 202     |
| 21      | 374 038       | Potentiometer assembly (C.H. and D.H.W.)                                                                                                | 1       | 589 220 205     |
| 22      | 374 044       | Pressure gauge, ALTECNIC                                                                                                                | 1       | 589 220 207     |
| 23      | 386 802       | 'Central Heating' switch, ARROW HART Cygnet Series No. 100 0 11 E (A)                                                                   | 1       | 589 220 209     |
| 23 A    | 386 803       | 'Domestic Hot Water Preheat' switch ARROW HART Cygnet Series No. 200 0 11 E (A)                                                         | 1       | 589 220 210     |
| 24      | 374 009       | Neon indicator assembly, REDILEAD                                                                                                       | 2       | 589 220 212     |
| 25      | 386 850       | D.H.W. overheat thermostat, ELMWOOD 2455 R 98 608                                                                                       | 1       | 589 220 216     |
| 26      | 386 853       | Overheat thermostat, RANCO L07 P 4002                                                                                                   | 1       | 589 220 218     |
| 27      | 374 067       | Temperature Sensors (C.H. and D.H.W.), NTC Thermistor                                                                                   | 2       | 589 220 221     |
| 28      | 386 851       | D.H.W. preheat thermostat, ELMWOOD 2455 R 98 609                                                                                        | 1       | 589 220 225     |
| 29      | 386 804       | Dry fire thermostat, ELMWOOD R 455 RMT 247 B2035                                                                                        | 1       | 160 013 843     |
| 33      | 374 045       | Safety valve, 3 bar CALEFFI 3141                                                                                                        | 1       | 199 220 425     |
| 34      | 386 670       | Diverter valve, HONEYWELL V 4044 C 1536                                                                                                 | 1       | 199 220 427     |
| 34 A    | 397 661       | Diverter valve actuator, HONEYWELL                                                                                                      | 1       | 160 065 745     |
| 34 B    | 386 670       | Diverter valve actuator motor, HONEYWELL                                                                                                | 1       | 160 065 746     |
| 40      | 341 950       | D.H.W. expansion vessel, WMP                                                                                                            | 1       | 589 220 046     |
| 43      | 383 722       | Pump (with gaskets), GRUNDFOS UPS 15-60                                                                                                 | 1       | 589 220 031     |
| 49      | 374 046       | D.H.W. filter                                                                                                                           | 1       | 199 220 451     |
| 50      | 374 047       | D.H.W. flow switch, HONSBURG Fluvatest UM 15 MA                                                                                         | 1       | 199 220 453     |
| 55      | 374 058       | Boiler casing assembly, white stove enamel with dimple foil insulation, 3 securing screws and retaining washers, and including Key No.4 | 1       | 199 224 031     |
| 56      | 374 059       | Glass fascia                                                                                                                            | 1       | 199 220 098     |
| 58      | 374 061       | Controls compartment lift off cover, stove enamel with name badges and Lighting Instructions label                                      | 1       | 199 220 099     |
| 60      | 374 062       | Casing seal pack                                                                                                                        | 1       | 199 224 034     |

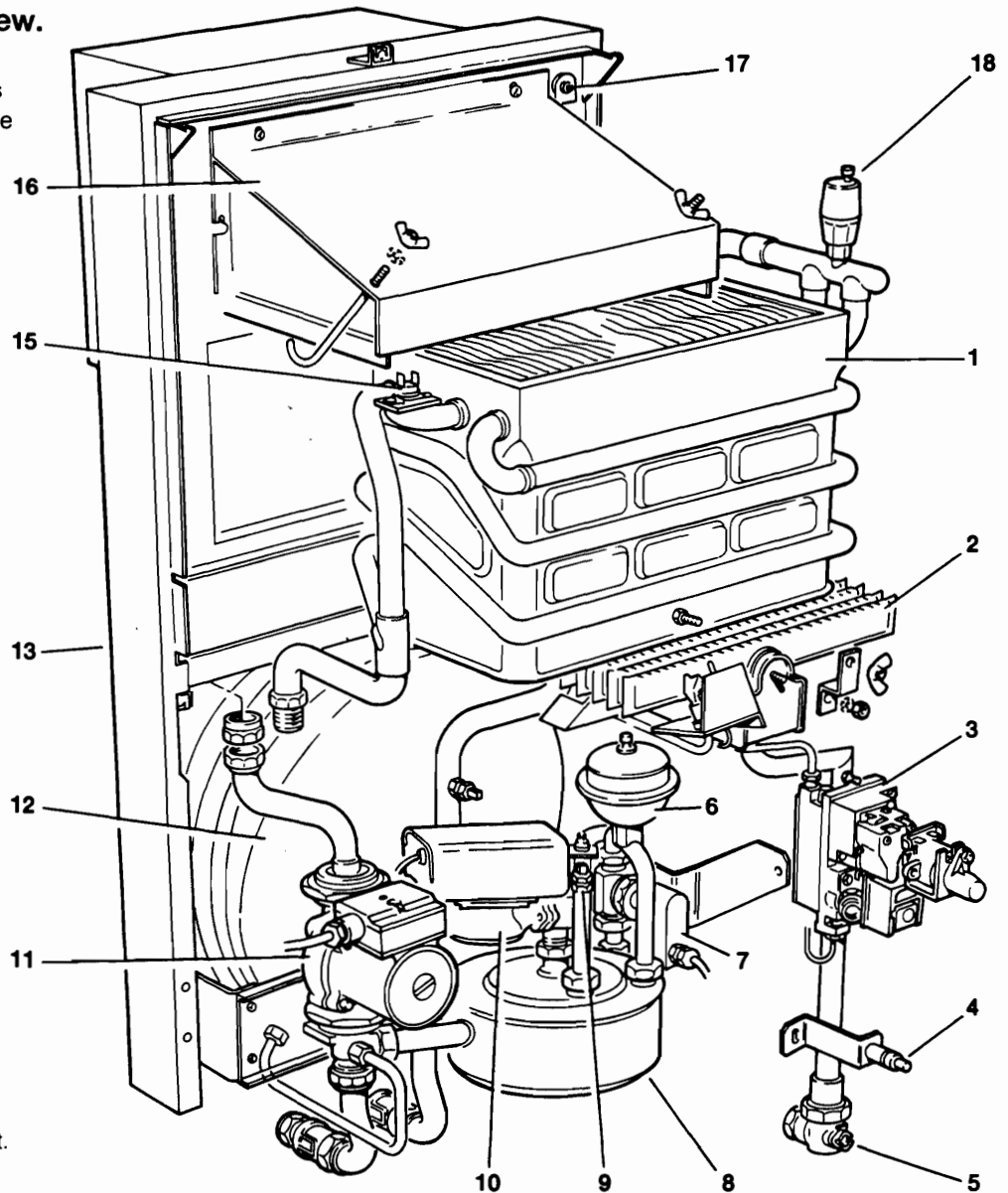
**51 SMALL PARTS**

**42 BOILER ASSEMBLY****Exploded View.**

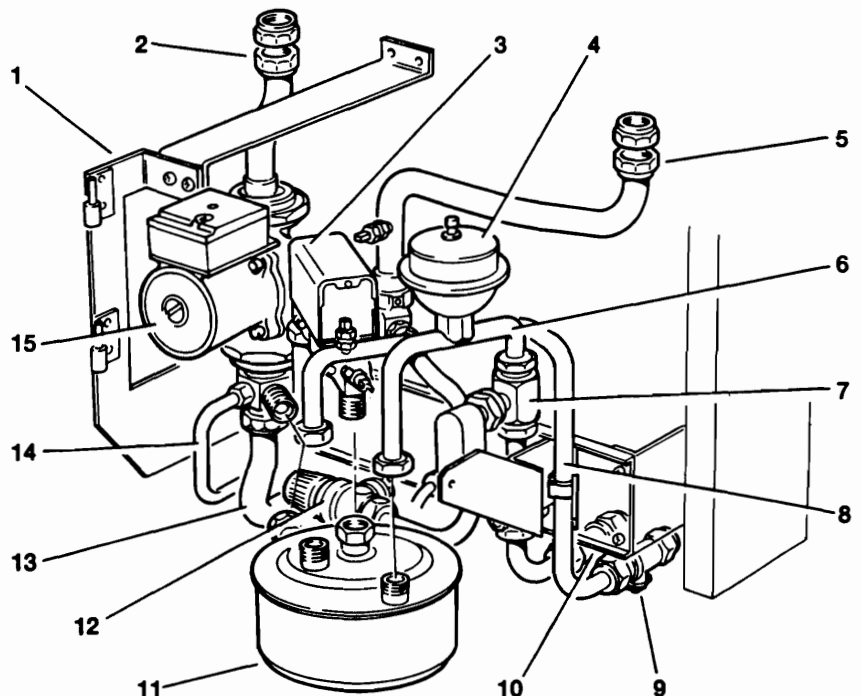
**Note.** The boiler controls panel and hinge arms are shown removed.

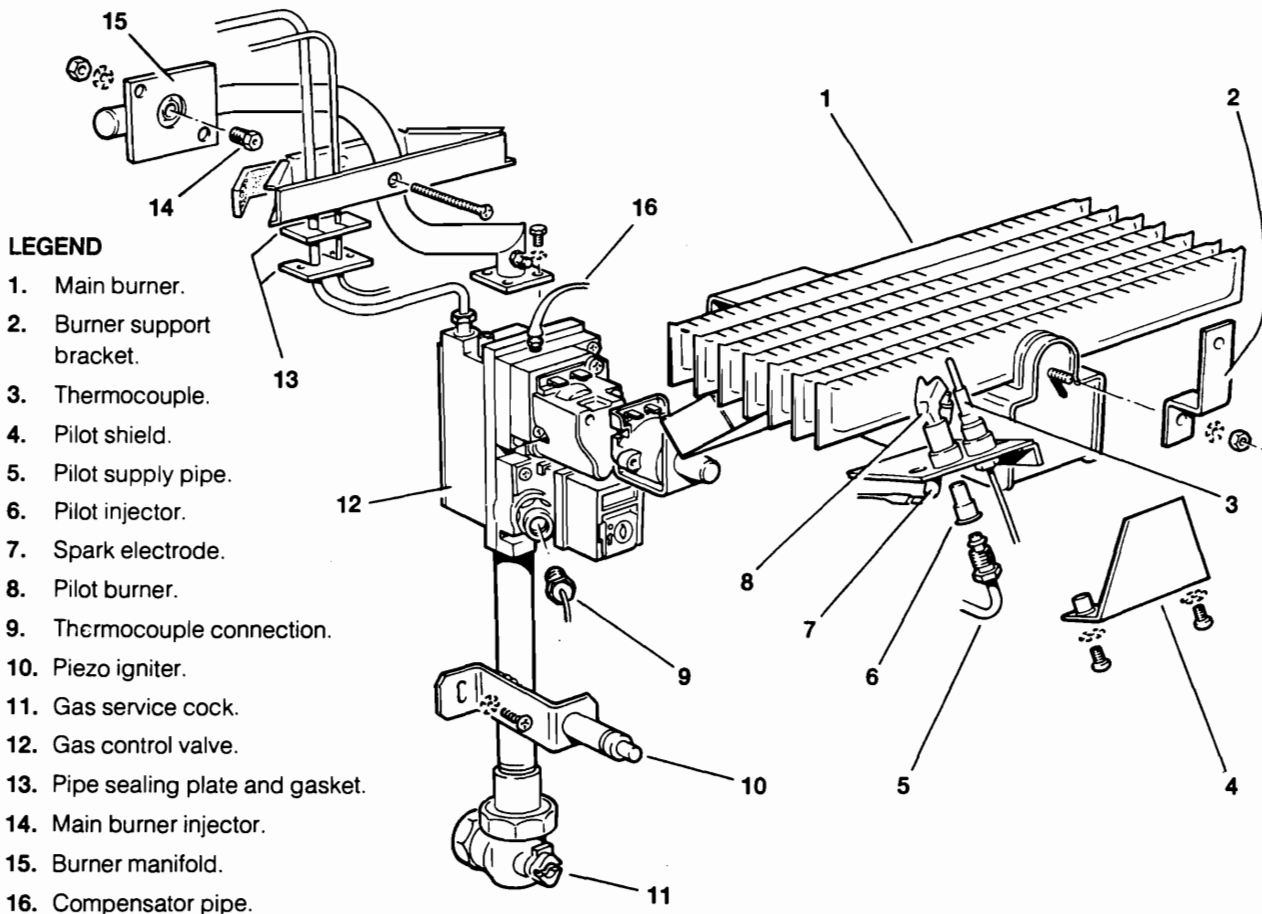
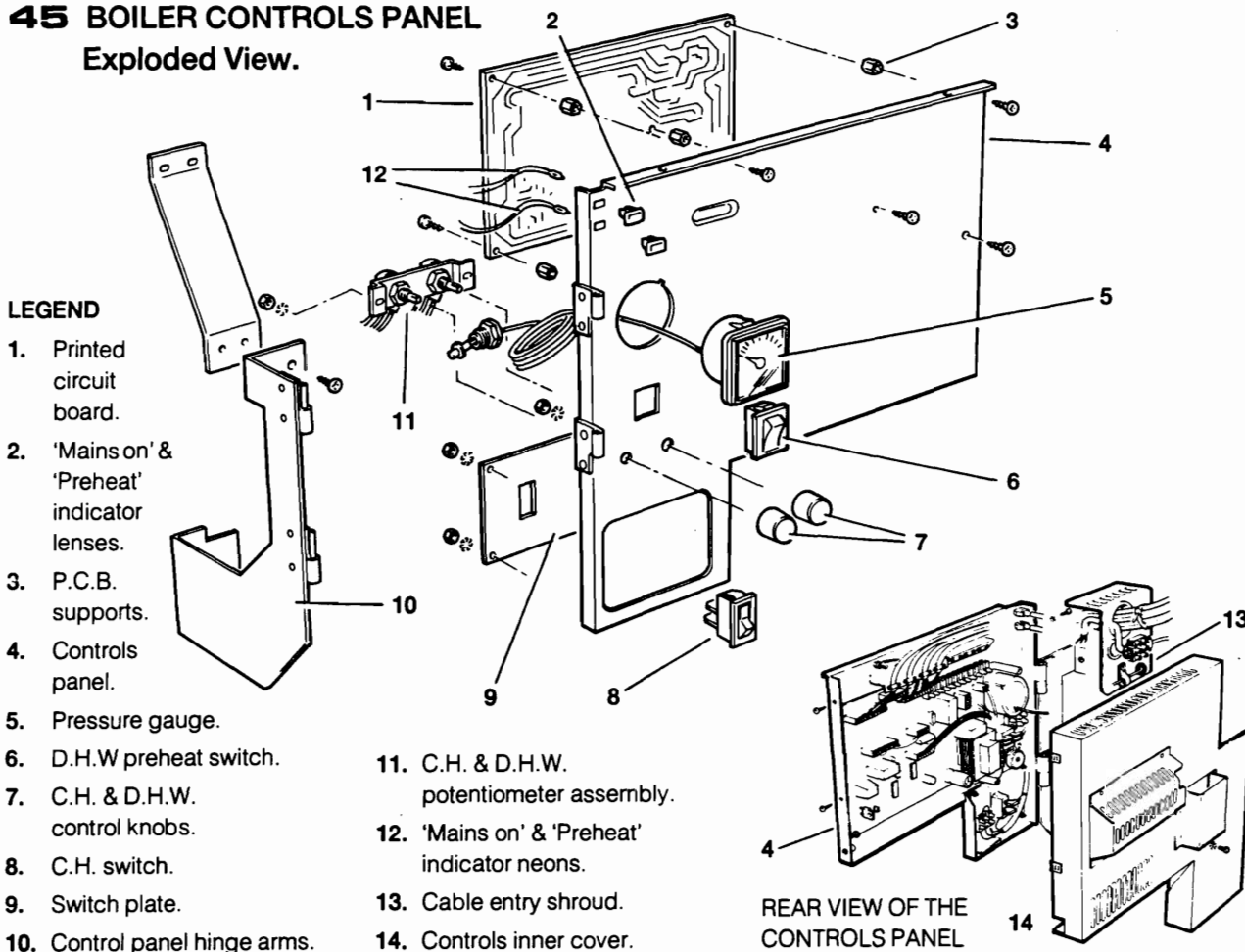
**LEGEND**

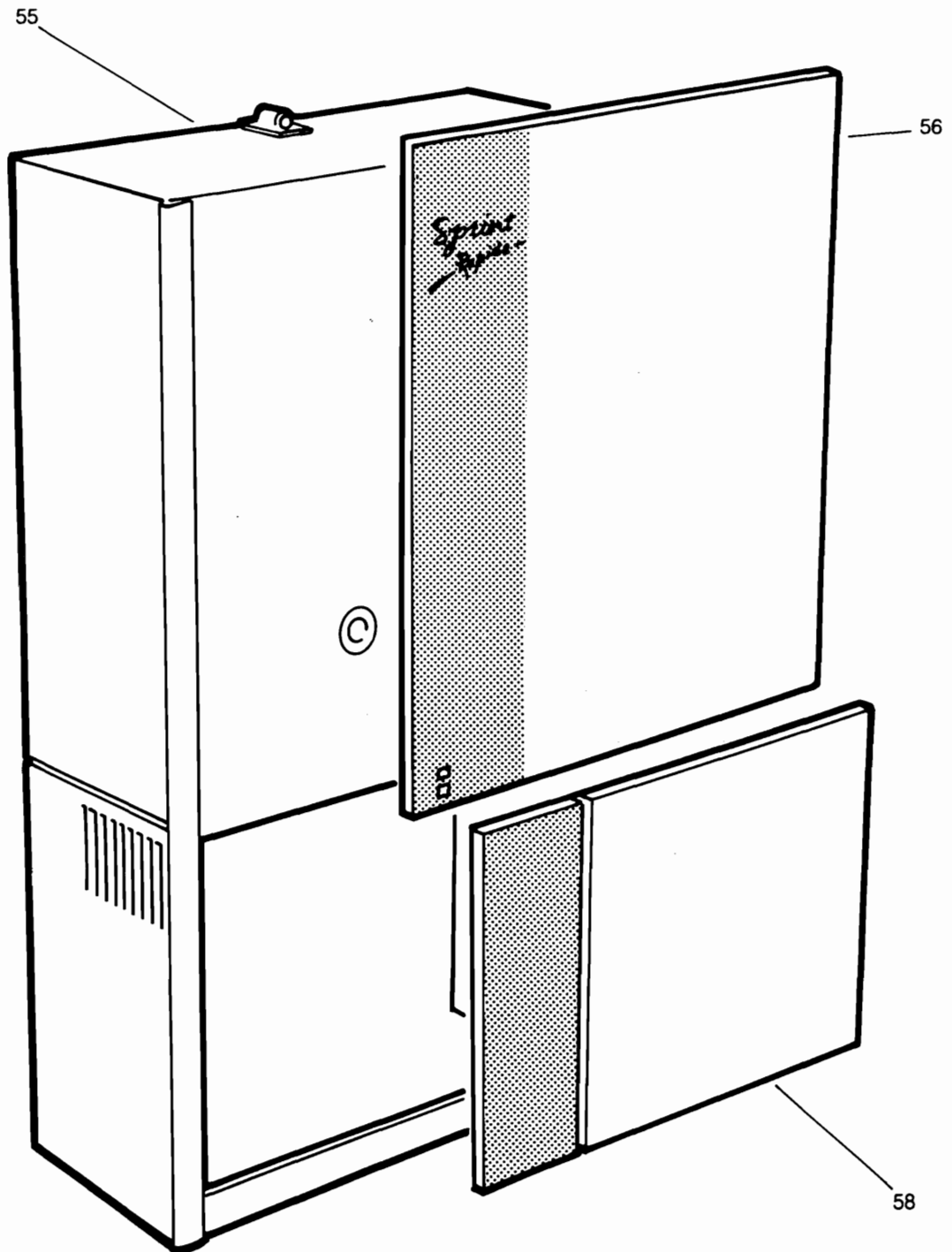
1. Heat exchanger.
2. Main burner assembly.
3. Gas control valve.
4. Piezo igniter.
5. Gas service cock.
6. D.H.W. expansion vessel.
7. D.H.W. flow switch.
8. D.H.W. calorifier.
9. D.H.W. thermistor sensor.
10. Diverter valve.
11. Pump.
12. C.H. expansion vessel.
13. Back panel assembly.
15. 'Dry fire' thermostat.
16. Flue collector hood.
17. Overheat thermostat.
18. Automatic air vent.

**43 BOILER PIPEWORK****LEGEND**

1. Control panel hinge arm.
2. Boiler return pipe.
3. Diverter valve.
4. D.H.W. expansion vessel.
5. Boiler flow pipe.
6. D.H.W. inlet pipe.
7. D.H.W. flow switch.
8. D.H.W. outlet pipe.
9. D.H.W. outlet isolating valve.
10. D.H.W. inlet isolating valve.
11. D.H.W. calorifier.
12. Safety valve.
13. Inlet pipe.
14. Expansion vessel pipe.
15. Pump.



**44 BURNER AND CONTROLS ASSEMBLY - Exploded View.****45 BOILER CONTROLS PANEL Exploded View.**

**52 BOILER CASING ASSEMBLY**

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

**STELRAD GROUP Limited**

Sales and Marketing  
Accord House, Goulton Street  
Kingston upon Hull.  
North Humberside. HU3 4DJ

Telephone: 0482 223673 Telex: 592786

Head and Registered Office;  
Newtown Road, HENLEY-on-Thames. Oxfordshire  
RG9 1HL

Registration No. London 322137

A SUBSIDIARY OF METAL BOX p.l.c.

Printed in England.

**H.0680 (2) 12/89**

