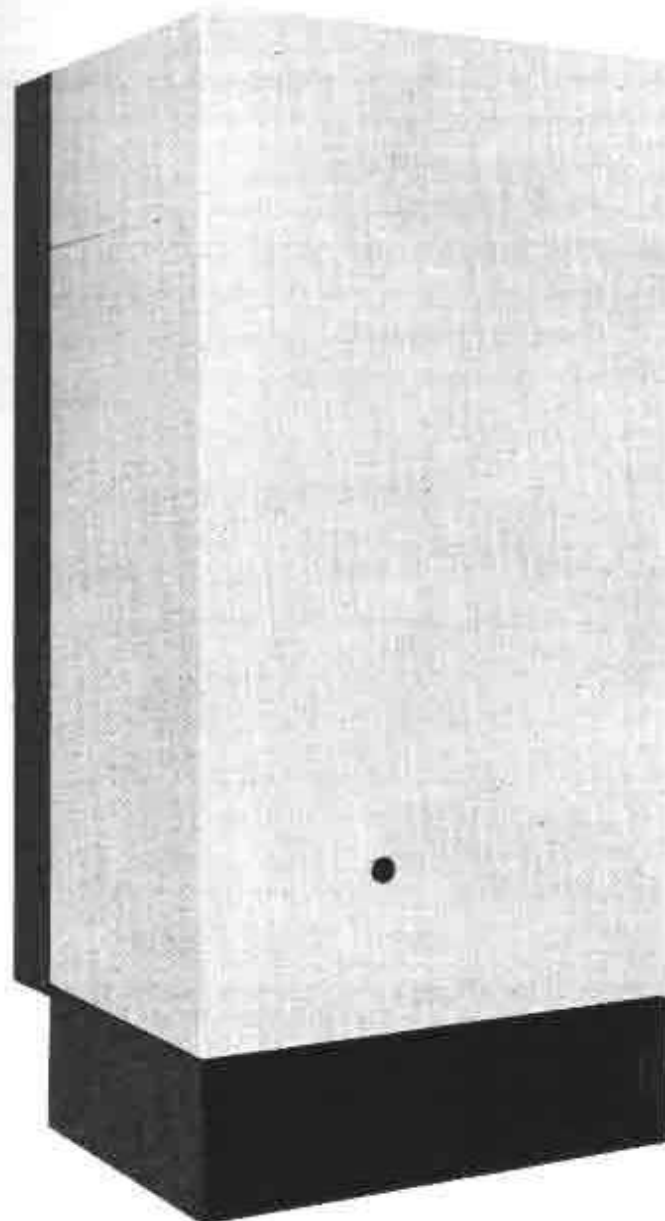


MYSON
HEATING

Installation and Servicing Instructions

Apollo 15/30 S, 30/50 S and 40 S Wall mounted gas boilers

G. C. Appliance No's, Apollo 15/30 S: 41 494 05, Apollo 30/50 S: 41 494 06
Apollo 40 S: 41 494 07



Read these instructions thoroughly before working on the boiler.

For use with Natural Gas only. (Leave these instructions adjacent to the gas meter).

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If you have any reason to complain of any shortage of components listed in frames 1, 5 or 13, supply a list of the item(s) concerned, boiler model, your name, address and any information which may help us to avoid further error.

Address for return:
Spares Administration Manager
Curzon Components Ltd.
Earlsway
Team Valley Trading Estate
Gateshead, Tyne and Wear
NE11 0SA

1. INTRODUCTION

These fanned draught room-sealed wall mounted boilers are for use on natural gas only, and are suitable for rear or side exit flue.

The Apollo 15/30 S is range rated from an output of 4.4 to 8.8 kW (15 000 to 30 000 Btu/h).

The Apollo 30/50 S is range rated from an output of 8.8 to 14.7 kW (30 000 to 50 000 Btu/h).

The Apollo 40 S has a fixed output of 11.7 kW (40 000 Btu/h).

The Apollo 15/30 S and 30/50 S are factory set to the maximum output.

The boilers are designed for use only on fully pumped open vented or sealed systems with an indirect hot water cylinder. **THEY MUST NOT BE CONNECTED TO A DIRECT CYLINDER.**

2. TECHNICAL DATA

Boiler	Apollo 15/30 S	Apollo 30/50 S	Apollo 40 S
Burner type	Seven bladed		
Burner injector	16/800	16/1400	108/950
Pilot injector	38/36A		
Pilot flame	Approximately 20 mm long		
Electrode gap	3.0 to 4.0 mm		
Ignition	Piezo push button		
Weight (empty)	27.3 kg (60 lb)		
Lifting weight (installing)	21.8 kg (48 lb)		
Water content	0.36 litre (0.08 gal)	0.50 litre (0.11 gal)	
Max. flow temperature	82°C		
Design temperature rise	9°C		
Maximum static head	30.5 m (100 ft)		
Minimum static head	150 mm (6 in) above the highest point of the system		
*Head loss	0.38 m (15 in)	0.71 m (28 in)	
Height	711 mm (28 in)		
Width	340 mm (13 ³ / ₈ in)		
Depth	300 mm (11 ³ / ₄ in)		
Clearance required for servicing	Top	50 mm (2 in)	
	Bottom	90 mm (3 ¹ / ₂ in)	
	Front	300 mm (11 ³ / ₈ in)	
	Sides	5 mm (1/4 in)	
Flue terminal size	100 mm dia. x 65 mm deep (4 in dia x 2 ¹ / ₂ in deep)		
Water connections	Compression fittings to accept 22 mm copper tubing to BS2871		
Gas connection	Rp ¹ / ₂		

*Head loss given is applicable only when the flow through the boiler is 690 litres/h (2.5 gal/min) for the Apollo 15/30 S and 1146 litres/h (4.2 gal/min) for the Apollo 30/50 S and Apollo 40 S.

NOMINAL BOILER RATINGS

Boiler	Output		Input		Burner setting pressure	
	kW	Btu/h	kW	Btu/h	mbar	in wg
Apollo 15/30 S	4.4	15 000	5.8	19 600	4.1	1.6
	6.6	22 500	8.4	28 700	9.0	3.6
	8.8	30 000	11.0	37 500	14.9	6.0
Apollo 30/50 S	8.8	30 000	11.4	38 900	5.2	2.1
	11.7	40 000	14.9	50 900	9.0	3.6
	14.7	50 000	18.3	62 500	13.2	5.3
Apollo 40 S	11.7	40 000	14.7	50 000	17.7	7.1

3. GENERAL REQUIREMENTS

The boiler must be installed in accordance with: The Gas Safety (Installation and Use) Regulations 1984 and the current issue of the Building Regulations, Building Standards (Scotland) Regulations, Local Building Regulations, Model and local Water Undertaking Byelaws and IEE Wiring Regulations.

Detailed recommendations are stated in the following British Standards: BS6891:1988, BS6798:1987, BS5546:1979, BS5440:1:1978, BS5440:2:1976 and BS5449:1:1977.

Note: Gas Safety (Installation and Use) Regulations 1984: It is the law that all gas appliances are installed by competent persons, 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.

4. DELIVERY

The unit is delivered in two packages (1) the cased boiler and (2) the flue/terminal assembly type A, B, C, D or E as required. In addition a 965 mm (38 in) flue extension is available. Under no circumstances should more than two extension kits be used.

A plug-in programmer kit is also available to fit inside the boiler casing. This programmer simplifies wiring and is suitable for use with all external control systems shown in the system wiring diagrams supplied with the boiler.

A fit from the inside kit is available which enables the flue/terminal assembly to be fitted from inside the building.

A pump and by-pass kit is available which positions the pump in a readily accessible position, includes a built in by-pass which does not require adjusting and allows the combined cold feed and vent to be connected directly to the boiler.

5. GAS SUPPLY

The Apollo 15/30 S requires 1.1 m³/h (37 ft³/h) of natural gas, the Apollo 30/50 S requires 1.8 m³/h (62 ft³/h) and the Apollo 40 S requires 1.4 m³/h (51 ft³/h). The meter and supply pipes must be capable of delivering this quantity of gas in addition to the demand from any other appliances in the house.

The complete installation must be tested for gas soundness and purged as described in BS6891.

6. ELECTRICITY SUPPLY

240 V ~ 50 Hz via a fused double pole switch with a contact separation of at least 3 mm in both poles or preferably a fused 3 pin plug and shuttered socket outlet (both complying with the requirements of BS1363) adjacent to the boiler.

Fuse the supply at 3 A. The minimum requirement for the power supply cable is that it should be a PVC sheathed flexible cord at least 0.75 mm² (24 x 0.2 mm) (code designation HO5 VV-For HO5 VVH2-F) as specified in table 16 of BS6500:1984. Any wiring external to the boiler shall comply with the latest IEE Wiring Regulations, and any local regulations which apply.

The appliance must be earthed.

In the event of an electrical fault after installation of the appliance, preliminary electrical systems checks must be carried out i.e. Earth Continuity, Short Circuit, Polarity and Resistance to Earth.

7. AIR SUPPLY

The room in which the boiler is installed does not require a purpose provided air vent.

If the boiler is installed in a cupboard or compartment, permanent air vents are required in the cupboard or compartment, one at high level and one at low level, either direct to the outside air or to a room. Both high and low level air vents must communicate with the same room or must both be on the same wall to the outside air. Both the high level and low level vent must each have a free area of 99 cm² (15 in²) for the Apollo 15/30 S, 165 cm² (25 in²) for the Apollo 30/50 S and 133 cm² (20 in²) for the Apollo 40 S. The free area of each vent may be halved if the ventilation is provided directly from outside.

8. FLUE SYSTEM

Five telescopic flue/terminal assemblies are available and a fixed length, 965 mm (38 in), extension kit.

The flue lengths are:

Size A: 123-175 mm (4³/₄-7 in)

Size B: 171-275 mm (6³/₄-10³/₄ in)

Size C: 274-478 mm (10³/₄-18³/₄ in)

Size D: 362-652 mm (14¹/₄-25³/₄ in)

Size E: 582-1092 mm (23-43 in)

Unless otherwise specified the C size flue/terminal will be supplied with the boiler.

The following method should be used to determine the required flue/terminal assembly.

Rear flue A = C + 83 mm (3¹/₄ in)

Side flue A = B + C + 127 mm (5 in)

Where A = required flue length, B = inside wall to side of boiler and C = finished wall thickness.

If A is greater than 1092 mm (43 in) one or two extension kits may be used.

Note: The maximum allowable flue length is 3022 mm (119 in).

9. BOILER LOCATION

The boiler is not suitable for external installation.

The boiler must be mounted on a flat wall which is sufficiently robust to take the weight of the boiler.

The boiler is suitable for installation to a combustible wall e.g. wood cladding, provided that the air/flue tube assembly is not closer than 25 mm (1 in) to combustible material. A metal sleeve should be installed to surround the air/flue tube assembly to provide a 25 mm (1 in) annular space. Further guidance is given in BS5440:1:1978, sub-clause 20.1.

If the boiler is to be installed in a timber framed building it should be fitted in accordance with the British Gas publication — "Guide for Gas Installation in Timber Framed Housing" reference DM2. If in doubt advice must be sought from the local region of British Gas or from Myson Heating.

The boiler may be installed in any room, although particular attention is drawn to the requirements of the current IEE wiring regulations and, in Scotland, the electrical provisions of the Building Standards applicable in Scotland with respect to the installation of the boiler in a room containing a bath or shower.

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

Where the installation of the boiler will be in an unusual position, special procedures may be necessary and BS6798 and BS5546 give detailed guidance on this aspect.

A cupboard or compartment used to enclose the boiler must be designed and constructed specifically for this purpose. An existing cupboard or compartment may be used provided that it is modified for the purpose. Details of essential features of cupboard/compartment design including airing cupboard installations are given in BS6798 and BS5546 and should be complied with.

The boiler requires only the clearances stated in the technical data, page 3, after installation. If it is felt that extra space is required for installation any adjacent kitchen units or fittings may have to be removed.

When using side exit flue the air/flue tube may be 'hidden' by boxing in if required. See BS5440:1:1978, sub-clause 20.1 for details.

The boiler must be installed so that the flue terminal is exposed to the external air. It is important that the position of the terminal allows the free passage of air across it at all times.

The minimum acceptable spacings from the terminal to obstructions, corners and ventilation openings are specified in the following table:

Terminal position	Minimum spacing
Directly below an openable window, air vent or any other ventilation opening	300 mm (12 in)
Below gutters, soil pipes or drain pipes	75 mm (3 in)*
Below eaves or a balcony	200 mm (8 in)*
Above adjacent ground or balcony level	300 mm (12 in)†
From vertical soil pipes or drain pipes	75 mm (3 in)
From internal or external corners	25 mm (1 in)
From a surface facing the terminal	600 mm (24 in)
From a terminal facing the terminal	1200 mm (48 in)
Vertically from a terminal on the same wall	1500 mm (60 in)
Horizontally from a terminal on the same wall	300 mm (12 in)
Adjacent to an opening window	150 mm (6 in)
From an opening in a car port i.e. door or window into the house	1200 mm (48 in)

* If the terminal is fitted within 850 mm (34 in) of a plastic or painted gutter/pipe or 450 mm (18 in) of painted eaves, an aluminium shield of at least 750 mm (30 in) in length should be fitted to the underside of the gutter/pipe or painted surface.

† If the terminal is fitted less than 2 m (6.6 ft) above a balcony, above ground or above a flat roof to which people have access then a suitable terminal guard must be provided and fitted.

A type K1 protective guard is available from Tower Flue Components Ltd. at: Vale Rise, Tonbridge, Kent TN9 1TB Tel: 0732 351555.

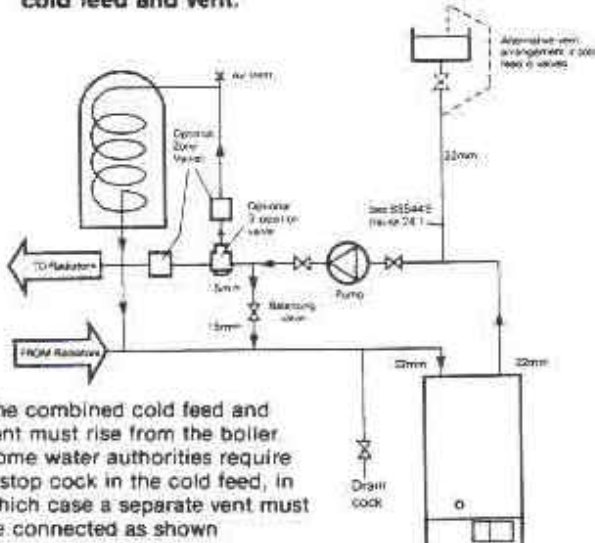
The guard must be securely fitted to the wall and centrally located over the flue terminal. Refer to the manufacturers instructions.

10. IMPORTANT INSTALLATION NOTES

1. The Apollo is to be used only on fully pumped systems, and with an indirect cylinder.
2. Only high head pumps producing at least 3.35 m (11 ft) head at a flow rate of 1146 litres/h (4.2 gal/min) must be used.
3. Connect the pump in the flow pipe as shown in the water system schematics.
4. Mains electricity and the pump must always be connected to the boiler to allow the pump overrun to function.
5. It is important that the polarity of the mains supply is correct and that the boiler is adequately earthed.
6. For open vented systems a combined or close coupled feed and vent must be connected as shown in the water system schematics.
7. A system by-pass is essential. The by-pass should be of 15 mm pipe and must be as short as possible across the 22 mm flow and return pipes and at least 1.5 m away from the boiler. Install the by-pass as shown in the water system schematics and adjust as described in the commissioning instructions.
8. The system wiring must be completed in accordance with the diagrams supplied with the boiler.
9. When commissioning, the system must be vented and the pump running before the main burner is lit.
10. The system must be flushed twice; initially cold with the pump removed and all valves open, and then after the first heating.
11. Where the Apollo replaces an older boiler in an existing system, make sure the cylinder is indirect.
12. In areas with hard or aggressive water we recommend that Fernox CP3 inhibitor should be used. See commissioning instructions for details of use.
13. The inner case of the boiler should not be removed during installation.

11. WATER SYSTEM SCHEMATICS

a. Fully pumped open vented system with combined cold feed and vent.



The combined cold feed and vent must rise from the boiler. Some water authorities require a stop cock in the cold feed, in which case a separate vent must be connected as shown.

The by-pass balancing valve should be of a type that is non-adjustable by the householder and must have at least 1.5 m of 22 mm pipe each side between it and the boiler. Always ensure that the pump has sufficient static head. Check the pump manufacturer's minimum head.

The flow through the boiler must not be allowed to fall below 690 litres/h (2.5 gal/min) for the Apollo 15/30 S and 1146 litres/h (4.2 gal/min) for the Apollo 30/50 S and Apollo 40 S while the burner is alight.

Fit one or more drain cocks to enable the water system to be fully drained.

12. SEALED SYSTEM REQUIREMENTS

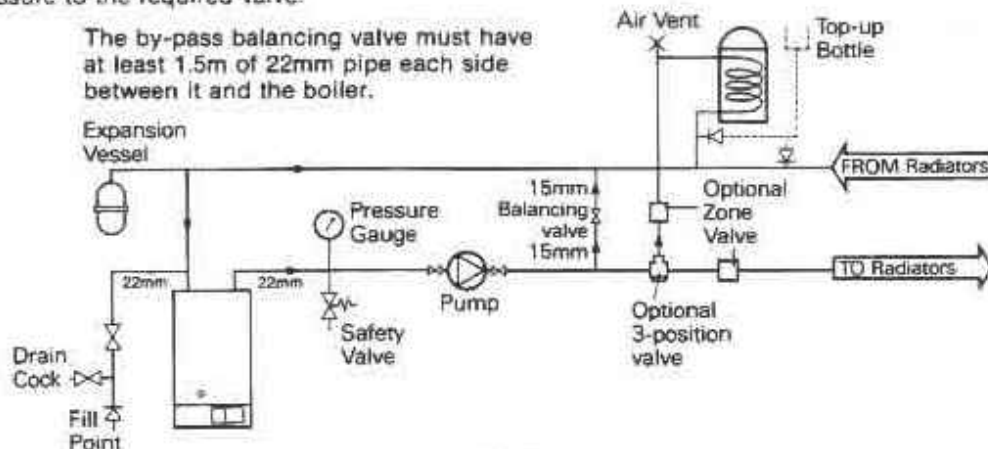
- The installation must comply with the requirements of BS6798 and BS5449:1. Maximum water temperature is $82^{\circ}\text{C} \pm 3^{\circ}\text{C}$.
- A safety valve set to operate at 3 bar (45 lbf/in²) shall be fitted in the flow pipe close to the boiler. There must not be any valves between the safety valve and the boiler. The valve should be positioned on a discharge pipe fitted to prevent any discharge creating a hazard to occupants or cause damage to electrical components and wiring.
- A pressure gauge covering at least the range 0 to 4 bar (0 to 60 lbf/in²) shall be fitted in the system.
- A diaphragm type expansion vessel, to BS4814, shall be connected at a point in the return pipe close to the boiler. The vessel must be chosen to suit the volume of water in the system and the charge pressure must not be less than the static head at the point of connection. Further details can be obtained from 'Material and Installation Specification for Domestic Central Heating and Hot Water' published by British Gas.

Sizing Table:

Air or Nitrogen charge pressure (bar)	0.5		1.0	
Pre-pressurisation pressure (bar)	None	1.0	None	1.5
Expansion vessel volume (litres)	A x 0.07	A x 0.120	A x 0.088	A x 0.160

A = System volume (litres)

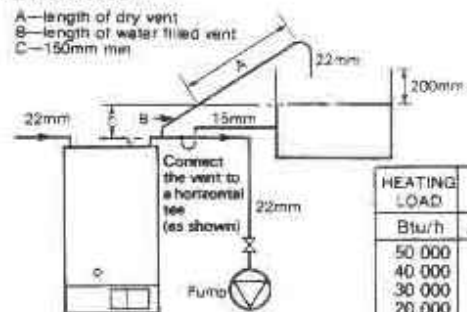
- The hot water cylinder shall either be the indirect coil type or a cylinder fitted with an immersion calorifier.
- Water lost from the system shall be replaced from a make-up vessel, and non return valve, mounted higher than the top of the system on the return side of the cylinder or radiators. Where access to a make-up vessel would be difficult, make-up can be provided by pre-pressurisation of the system.
- The system may be filled from the mains via a temporary hose connection from a draw-off tap supplied from a service pipe under mains pressure, provided that this procedure is acceptable to the local water authority. The following fittings should form a permanent part of the system and fitted in the order stated:
 - a stop valve complying to the requirements of BS1010:2, ii) a test cock, iii) an anti-vacuum valve of a type approved by the National Water Council, and iv) a non-return valve of an approved type.
- Fill the system until the pressure gauge registers 1.5 bar (22 lbf/in²). Examine for leaks and rectify where necessary. Refer to the commissioning instructions, page 10, light the boiler and allow the system to reach its maximum working temperature. Examine for leaks then turn off the boiler. Drain the system while it is still hot. Refill, vent and adjust the cold fill pressure to the required value.



The by-pass balancing valve must have at least 1.5m of 22mm pipe each side between it and the boiler.

b. Length of wet and dry vents for close coupled cold feed.

The distance between the cold feed and vent connection to the system must not be more than 150 mm. The point of connection of these pipes should be as close to the boiler as practicable.



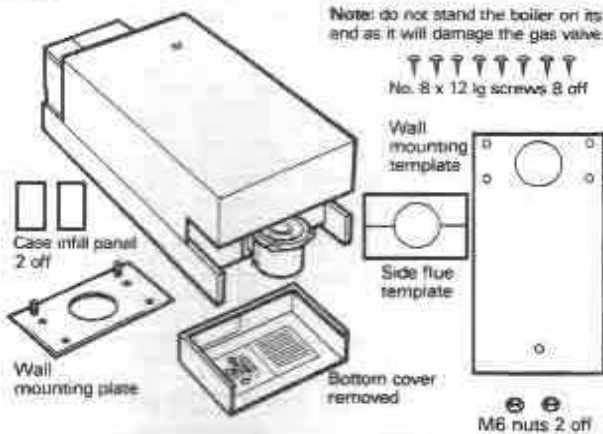
HEATING LOAD Btu/h	VENT LENGTH	
	A (mm)	B (mm)
50 000	420	330
40 000	330	290
30 000	230	260
20 000	140	200
10 000	50	200

13. INSTALLATION PROCEDURE

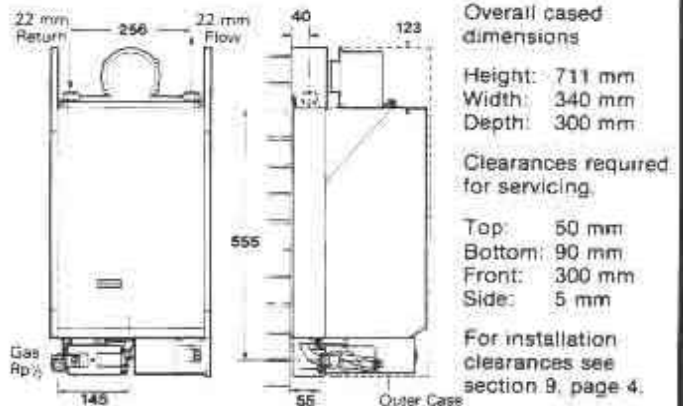
FOR REAR EXIT FLUE Refer to frames 3, 4, 5, 6, 7 and 8 then proceed to frame 16

1 UNPACK THE BOILER

Carefully unpack the boiler. Do not discard the packing until all the items are found. Carefully slide off the bottom cover from the boiler, and remove the outer case by slackening the bottom fixing screw and pulling the case off the fixing pins. Place the case and bottom cover safely aside to avoid possible damage.



2 BOILER DIMENSIONS AND POSITION OF WATER AND GAS CONNECTIONS



Water connections: compression fittings are supplied for flow and return to accept 22 mm copper tubing to BS2871

3 PREPARE THE WALL

1. Decide upon the position of the boiler using the wall mounting template. The overall size of the template is the size of the boiler plus the minimum side, top and bottom clearances.
2. Tape the template to the wall, ensuring it is level and the correct way up.
3. Make sure that the position of the flue terminal will meet the requirements given on page 5.
4. Mark the position of the hole for the flue.
5. Remove the template and cut the 115 mm (4 1/2 in) dia. hole in the wall for the flue/terminal assembly.
6. Reposition the template on the wall, mark, drill and plug the five fixing holes to accept 2 1/2" lg. No. 12 woodscrews.
7. Make a note of the finished wall thickness, this is very important and is required for frame 6 when adjusting the flue/terminal assembly.
8. Remove the template and position the wall mounting plate centrally over the hole in the wall, ensuring it is level and the right way up (studs at the bottom). Secure to the wall with four 2 1/2" lg. No. 12 woodscrews (not supplied).

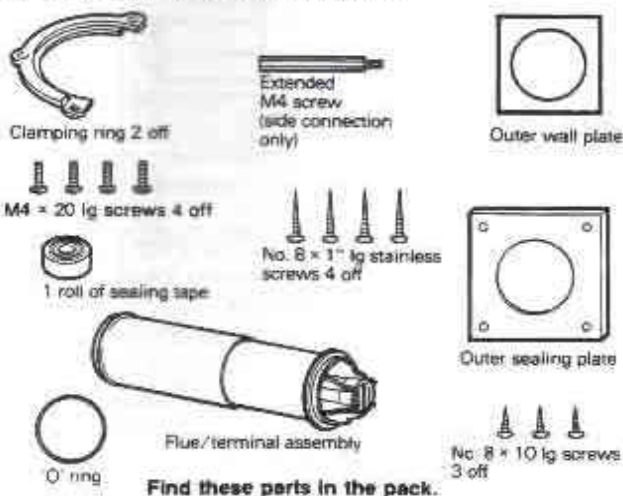
4 SECURE THE BOILER TO THE WALL

Note: The inner case does not need to be removed during installation.

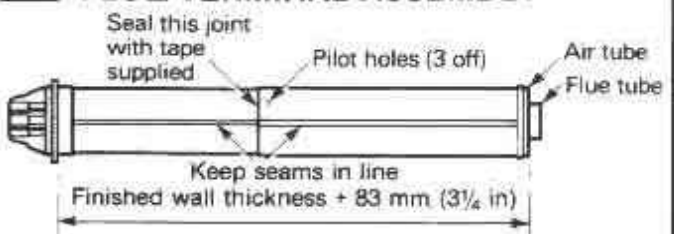
1. Lift the boiler into position and locate the two holes in the top of the chassis over the studs on the wall mounting plate. Secure to the wall mounting plate with two M6 nuts supplied.
2. Secure the bottom of the boiler to the wall with a 2 1/2" lg No. 12 wood screw (not supplied) via the hole previously drilled and plugged.
3. Remove the flue diverter from the top of the boiler taking care not to damage the gasket.
4. Connect the system flow and return pipes to the top compression unions (see water system schematics, page 6).
5. Refit the flue diverter facing to the rear.

5 UNPACK THE FLUE TERMINAL ASSEMBLY

Carefully unpack the flue/terminal assembly. Do not discard the packing until all the items are found.



6 ADJUST THE LENGTH OF THE FLUE/TERMINAL ASSEMBLY



1. Using the measurements noted in frame 3 adjust the length of the flue/terminal assembly so that it is 83 mm (3 1/4 in) + finished wall thickness, from the back of the terminal flange to the end of the OUTER air tube as shown.
Note: Ensure that the seams in the outer air tubes are in line
2. Drill through the three pilot holes, shown above, with a 2.8 mm drill and secure the two tubes together using the three No. 8 x 10 lg screws supplied with the flue/terminal assembly.
Note: When drilling through the outer air tube take care not to damage the inner flue tube with the drill.
3. Seal the centre joint with the tape supplied

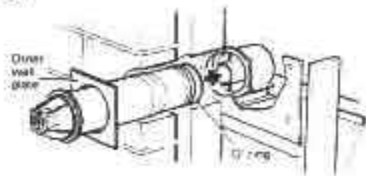
FOR SIDE EXIT FLUE

Refer to frames 9, 10, 11, 12, 13, 14 and 15 then proceed to frame 16

7 FIT THE FLUE/TERMINAL ASSEMBLY

Note: If the wall is to be made good up to the terminal the outer wall plate need not to be used

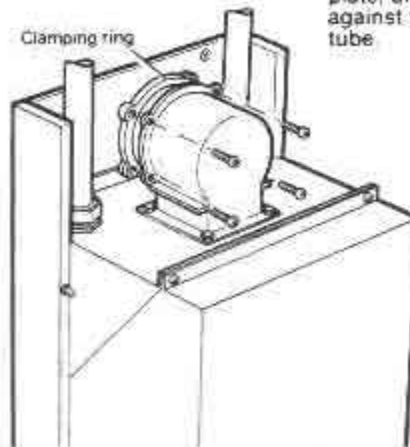
1. Fit the outer wall plate over the flue/terminal assembly.
2. Fit the 'O' ring in position over the outer air tube against the flared section.



3. From outside the building insert the flue/terminal assembly into the wall. Ensure that the slots in the end of the terminal are vertical.
4. Push the flue/terminal assembly towards the boiler and engage the tube into the flue diverter on top of the boiler, ensuring that the inner flue tube slides INTO the inner tube of the diverter and the outer air tube slides into the diverter. Check that the 'O' ring is on the boiler side of the flared section. Push fully home until the flared end of the outer tube is in contact with the flue diverter.

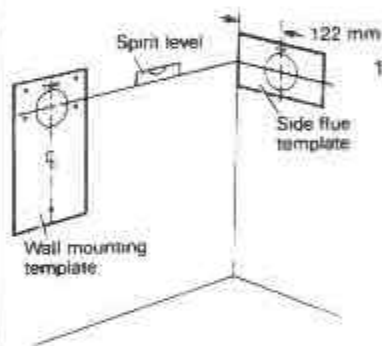
8 CONNECT THE FLUE TO THE BOILER

1. Fit the two halves of the clamping ring over the air tube as shown. Ensure that the flat side is against the wall mounting plate, and the recessed side against the flared part of the air tube.



2. Secure the clamping ring to the flue diverter using the four M4 screws supplied (use the threaded holes in the clamping ring).
3. Tighten the screws to seal the flue assembly.
4. Proceed to frame 15.

9 PREPARE THE WALL



1. Decide upon the position of the boiler using the wall mounting template. The overall size of the template is the size of the boiler plus the minimum side, top and bottom clearances. Note that the maximum distance (using the longest flue/terminal assembly and two 965 mm (38 in) flue extensions) from the side of the white case to the OUTSIDE of the wall is 2895 mm (114 in).
2. Tape the wall mounting template to the wall, ensuring it is level and the correct way up.
3. Continue the red line horizontally across the wall until it reaches the side wall.

10 Prepare the wall—continued

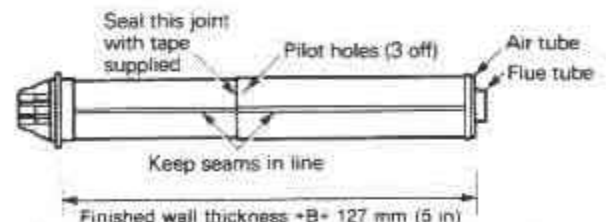
4. Tape the side flue template to the side wall so that it is in the corner and that the line just drawn lines up with the red line on the template. Check that the position of the terminal will meet the requirements given on page 5.
5. Mark the positions of the four wall mounting plate fixing screws and the lower fixing screw.
6. Drill and plug the five fixing holes to accept 2 1/2" lg No. 12 woodscrews. Mark the position of the hole for the flue/terminal assembly.
7. Cut the 115 mm (4 1/2 in) dia. hole in the side wall for the flue/terminal assembly.
8. Make a note of the finished wall thickness and the distance from the side wall to the side of the white case as shown on the template. These measurements are very important and are required in frame 12 when adjusting the flue/terminal assembly.
9. Remove the templates and place the wall mounting plate in position on the wall ensuring it is level and the right way up (studs at the bottom). Secure to the wall with four 2 1/2" lg. No. 12 woodscrews (not supplied).

11 SECURE THE BOILER TO THE WALL

Note: The inner case does not need to be removed during installation.

1. Lift the boiler into position and locate the two holes in the top of the chassis over the studs on the wall mounting plate. Secure to the wall mounting plate with two M6 nuts supplied.
2. Secure the bottom of the boiler to the wall with a 2 1/2" lg No. 12 wood screw (not supplied) via the hole previously drilled and plugged.
3. Remove the flue diverter from the top of the boiler taking care not to damage the gasket.
4. Connect the system flow and return pipes to the top compression unions (see water system schematics, page 6).
5. Refit the flue diverter facing left or right as determined by the flue direction.
6. Unpack the flue/terminal assembly as frame 5.

12 ADJUST THE LENGTH OF THE FLUE/TERMINAL ASSEMBLY

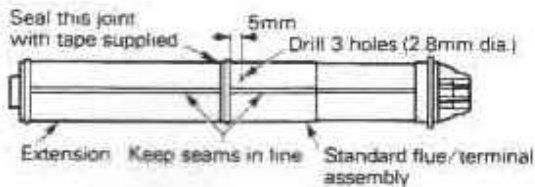


(B is the distance between the wall and the outside of the brown side trim)

1. Using the measurements noted in frame 10, adjust the length of the flue/terminal assembly so that it is 127 mm (5 in) + finished wall thickness - distance between the wall and the outside of the brown trim from the back of the terminal flange to the end of the OUTER air tube as shown.
Note: Ensure that the seams in the outer air tubes are inline.
2. Drill through the three pilot holes shown above, with a 2.8 mm drill and secure the two tubes together using the three No. 8 x 10 lg screws supplied with the flue/terminal assembly.
Note: When drilling through the outer air tube take care not to damage the inner flue tube with the drill.
3. Seal the centre joint with the tape supplied.

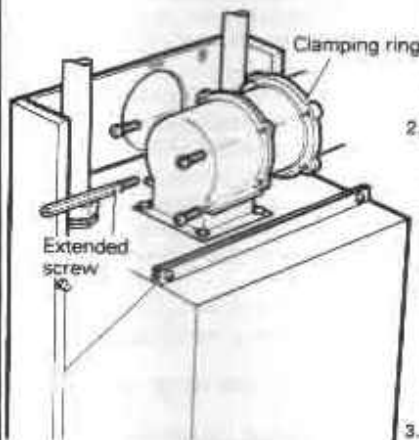
13 FLUE EXTENSION

The flue extension kit allows the standard flue/terminal assembly to be extended by 965 mm (38 in). A maximum of two flue extensions may be used, if required.



- If the flue extension kit is used, connect the plain end of the extension to the swaged end of the standard flue/terminal. Ensure that the inner flue tube of the standard flue/terminal fits **INSIDE** the inner flue tube of the extension and the outer air tube fits **OVER** the air tube of the extension. Push fully home.
Note: Ensure that the seams in the outer air tubes are in line.
- Drill three equally spaced holes using a 2.8 mm drill in the position shown, through both the standard flue/terminal and the extension tube sleeve. Secure the two tubes together using the three No. 8 x 10 lg screws supplied with the flue extension.
Note: When drilling through the outer air tube take care not to damage the inner flue tube with the drill.
- Seal the joints with the tape supplied with the flue extension.
- Adjust the **OVERALL** length as described in frame 12. Secure and seal the joints.

15 CONNECT THE FLUE TO THE BOILER

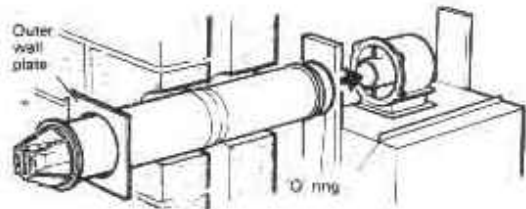


- Fit the two halves of the clamping ring over the air tube as shown. Ensure that the flat side is facing away from the boiler, and the recessed side is against the flared part of the air tube.
- Secure the clamping ring to the flue diverter using three M4 screws and the special extended screw supplied (use the threaded holes in the clamping ring).
Note: The extended screw must be used for the rear lower fixing. The "fin" on the side of the flue diverter should be used to assist in the location of the extended screw.
- Tighten the screws to seal the flue assembly.
- Make good the gap on the inside wall around the flue tube.

14 FIT THE FLUE/TERMINAL ASSEMBLY

Note: If the wall is to be made good up to the terminal the outer wall plate need not be used.

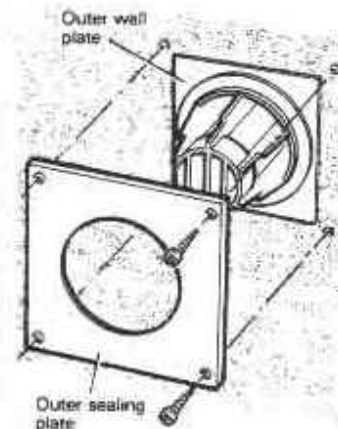
- Fit the outer wall plate over the flue/terminal assembly.
- Fit the 'O' ring in position over the outer air tube against the flared section.



- From outside the building insert the flue/terminal assembly into the wall. Ensure that the slots in the end of the terminal are vertical.
- Push the flue/terminal assembly towards the boiler and engage the tube into the flue diverter on top of the boiler, ensuring that the inner flue tube slides **INTO** the inner tube of the diverter and the outer air tube slides **into** the diverter. Check that the 'O' ring is on the boiler side of the flared section. Push fully home until the flared end of the outer tube is in contact with the flue diverter.

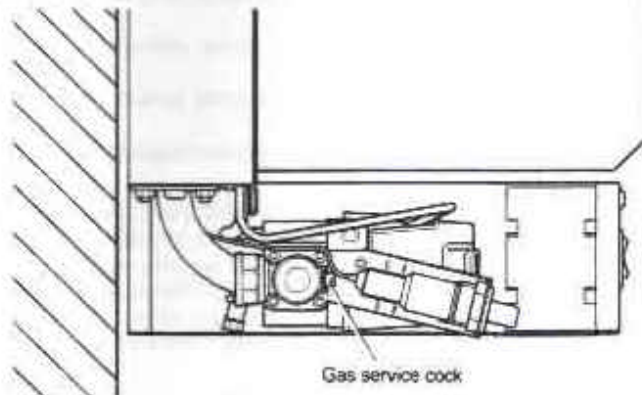
16 FIT THE OUTER SEALING PLATE

Note: The outer sealing plate need not be used if the wall is made good up to the terminal.



- Place the outer sealing plate over the terminal and mark the position of the four fixing holes.
- Remove the sealing plate and drill and plug the fixing holes, suitable for 1" lg No. 8 woodscrews.
Note: The terminal should be covered before drilling to prevent debris entering the terminal.
- Remove any covering from the terminal. Position the sealing plate over the terminal and secure to the wall with four 1" lg No. 8 screws (supplied with the flue assembly).

17 CONNECT THE GAS SUPPLY



Connect a 15 mm gas supply to the service cock.

Pressure test the gas supply for soundness and purge the supply in accordance with BS6891.

18 CONNECT THE POWER SUPPLY CABLE

Note: A permanent live and the pump must be connected to the boiler.

- Remove the screw securing the front of the wiring centre and carefully lower it.
- Slacken two screws in the cable clamp below the wiring centre. Feed the power supply cable under the clamp and connect the wires, brown to L and blue to N on the terminal block and green and yellow to the earthing screw.
- Keep the wiring centre in the open position, take up excess slack in the power supply cable between the terminal block and the cable clamp, then tighten the cable clamp screws. Check that the wiring centre will open and close freely without straining the power supply cable.
Note: When connecting the power supply cable, ensure that the length of the earth lead is such, that if the power supply cable slips out of the cable clamp the live and neutral leads become taut before the earth lead.
- The pump lead and any external controls wiring should be passed through one or both of the bushes, provided at the rear of the wiring centre, and connected to the terminal block. See wiring diagram, page 17.
- If a programmer is not fitted, remove link HW to ON and connect a switched live to terminal ON.
- Replace the wiring centre if the programmer kit is not to be fitted.

19 FIT THE PROGRAMMER KIT

1. Slide out and discard the fascia panel on the side of the control box.
2. Engage the programmer fixing into the slot in the control box and push fully home.
3. Connect the programmer 6-pin plug to the 6-pin socket on the wiring centre, push fully home until the latch engages.
4. Close the wiring centre and secure in position with the fixing screw.

14. COMMISSIONING

See page 11 for boiler controls.

Thoroughly flush the whole system with cold water without the pump in position. Ensure all valves are open. With the pump fitted, fill, vent and check for water soundness, rectifying where necessary.

1. Ensure that the electricity supply is OFF and the boiler thermostat switch set at O. Remove the screw securing the gas valve cover and lift off cover. Loosen the gas valve inlet pressure test point screw one turn. Turn on the gas supply and open the gas service cock (the cock is closed when the operating slot is vertical) to purge in accordance with BS6891. Retighten the test point screw and test for gas soundness around the screw.

2. Fully depress the gas valve operating button and keep it pressed in. At the same time operate the igniter button to light the pilot, which can be seen through the inspection window. If the pilot does not light, operate the igniter repeatedly until it does. When the pilot lights, continue to hold the gas valve operating button in for a further 10 to 20 seconds, then release it slowly.

Caution: If the pilot does not stay alight, release the gas valve operating button and slide it in the direction of the arrow. Wait for 3 minutes and repeat operation 2 until the pilot is lit. Continue to hold the gas valve button in for 20 seconds, then release it slowly.

3. The pilot throttle is factory set fully open. Check that the pilot flame (approximately 20 mm long) envelops the thermocouple tip. Adjust if necessary.

4. Turn on the electricity supply and set the programme switch to CONT if a programmer is fitted. Check that all system controls are turned on. Set the boiler thermostat switch to HIGH and check that the main burner lights smoothly from the pilot flame. With the main burner alight test the integral gas supplies and joints for soundness using a suitable detecting fluid.

5. Allow the burner to run for 10 minutes and check the setting pressure as follows:

a. Set the boiler thermostat switch to O. Remove the burner setting pressure test point screw on the burner manifold and connect a pressure gauge.

b. Set the boiler thermostat switch to HIGH and if necessary adjust the burner setting pressure to give the heat input required. Turn the adjusting screw clockwise to decrease the burner setting pressure.

Note: The boiler is factory set to the maximum input. See Technical Data, page 3 for the boiler ratings and setting pressures.

6. Set the boiler thermostat switch to O, disconnect the pressure gauge and replace the test point screw. Test for gas soundness around the screw.

7. Replace the gas valve plastic cover and secure with its screw. Ensure the cable clamp is located correctly in the cover.

8. Check that the arrow on the data plate is against the correct boiler rating.

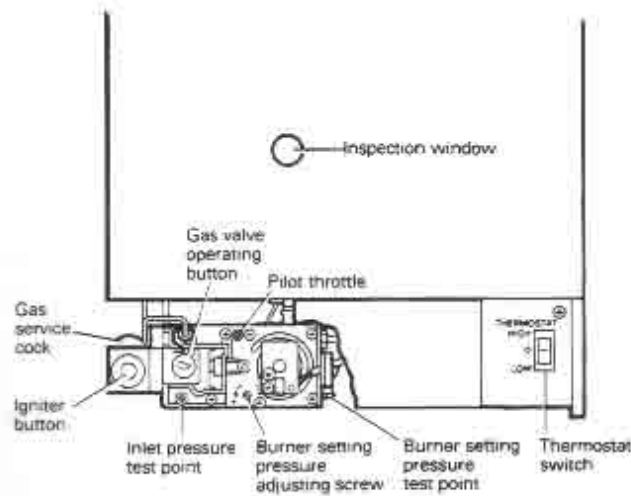
When the system has been tested, drain the water while it is still hot in order to complete the flushing process. Where an inhibitor is added to the system, Fernox Manufacturing Co. Ltd. recommend Fernox CP3 for use with copper tube boilers and this should be used in accordance with their instructions. Where the boiler is used on an old system, special care is required. The system should be drained and flushed out, ensuring that all the radiators are drained. When filling add the correct quantity of CP3 for the system volume. As a guide a 3 radiator system will on average require about 2¼ pints, a 6 radiator system 4¼ pints and a 9 radiator system about 6¼ pints. After the system has been filled, vent and make a final check for water soundness.

Adjust the by-pass valve as follows:

1. Fully close the by-pass valve and then open it one full turn. Start the boiler with the heating circuit only in operation and balance the system using pump and radiator valves to give an 11°C temperature drop across the individual radiators.

2. Adjust the by-pass valve as necessary to give a temperature rise of 9°C across the boiler flow and return, i.e. measured before the by-pass.

15. BOILER CONTROLS (gas valve cover removed)



16. FINAL ASSEMBLY AND HANDING OVER THE INSTALLATION

Before fitting the outer case, the infill panel(s) must be fitted to the side of the case. If rear exit flue has been used, fit the two panels, if side exit flue has been used fit one of the panels to the side opposite the flue. To fit an infill panel, place it in position in the case side and secure with four of the No. 8 x 12 lg screws supplied with the boiler.

Lift the outer case into position over the boiler and push back to engage the fixing pins on the chassis side into the case. Secure the case in position by re-tightening the bottom fixing screw.

If a programmer is fitted, set the clock to the correct time (do not rotate the dial anti-clockwise) and the programme and selector switches to the required settings. See User instructions.

Hand the user instructions to the User and instruct in the safe operation of the boiler and controls. Replace the boiler bottom cover.

Advise the User of the precautions necessary to prevent damage to the system and to the building in the event of the system remaining inoperative during frost conditions.

Advise the User that for continued efficient and safe operation of the boiler it is important that adequate servicing is carried out at least once a year by a qualified service engineer or the local Gas Region.

Leave a permanent card attached to the boiler giving:

1. Name and address of installer.
2. Date of installation.
3. A wiring diagram of the circuit.

17. ANNUAL SERVICING

To ensure continued efficient operation of the appliance, it is recommended that it is checked and cleaned as necessary at regular intervals. The frequency of servicing will depend upon the particular installation conditions and usage but in general once per year should be adequate. It is the law that any service work must be carried out by a competent person such as British Gas or other Corgi registered personnel.

The following aspects of the boiler and installation should be examined, and rectified as necessary.

1. Run the boiler and check the operation of its controls, observe the flame picture and ensure that the boiler responds to any switches and programmer.

2. Check the installation of the flue terminal and ensure it is not obstructed.

If it is necessary to dismantle the boiler the following checks should be made:

1. Remove the combustion fan and ensure that it is clean and free of debris. Check the impellor for freedom of rotation.
2. Remove the combustion chamber front and check if the burner or heat exchanger requires cleaning.
3. Examine the main injector orifice and ensure it is clear and undamaged.
4. If a sufficiently large pilot flame cannot be achieved examine the pilot injector orifice to ensure it is clear and undamaged.
5. When refitting the inner case check that the seal is in good condition and ensure that it compresses satisfactorily.

On completion of the service run the boiler and ensure that it operates satisfactorily.

The boiler data plate is positioned on the inner case.

The procedure for Annual Servicing is given in frames 20 to 27.

WARNING: Before commencing work slide off the bottom cover and slide the gas valve operating button in the direction of the arrow to turn off the boiler. Allow the boiler to cool and isolate the electricity supply. Turn off the gas supply at the gas service cock.

IMPORTANT: Always test for gas soundness after completing any servicing of gas carrying components and carry out functional checks of controls.

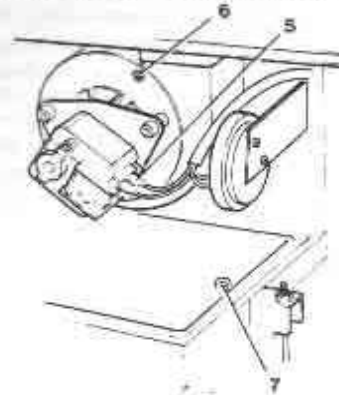
20 DISMANTLING

1. Slacken the screw securing the bottom of the outer case and pull off the case. Place the case safely aside to avoid possible damage.
2. Remove the screw 'A' securing the wiring centre and lower the wiring centre.
3. If a programmer is fitted, unplug the programmer plug from the wiring centre and slide out the programmer. If a programmer is not fitted, slide out the fascia panel.
4. Unscrew the four inner case fixing screws 'B' and remove the inner case.



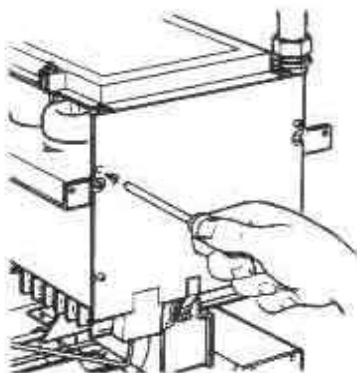
21 Dismantling — continued

5. Disconnect the two leads from the fan motor, the polarity of these leads is not important.
6. Remove the three hex hd. screws and washers securing the motor assembly to the fan housing and carefully withdraw the motor complete with impellor from the fan housing.
7. Remove the two screws securing the flue hood cover and remove the cover.



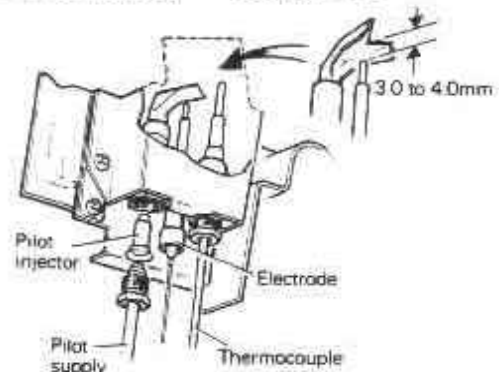
22 Dismantling — continued

8. Slacken the two nuts securing the flue hood to the combustion chamber.
9. Remove the four screws and wing nut securing the combustion chamber front cover and withdraw the cover.



23 Dismantling — continued

10. Withdraw the electrode from the pilot assembly by pulling it downwards.
11. Undo the nut and disengage the thermocouple.
12. Remove the pilot supply and thermocouple clamping bracket from the bottom left hand corner of the chassis.
13. Undo the tubing nuts and disconnect the pilot supply from both the pilot assembly and gas valve.



24 Dismantling — continued

14. Carefully remove and retain the pilot injector.
15. From underneath the base of the chassis remove the two pozi screws securing the burner manifold.
16. Lift out the burner assembly taking care not to lose the burner flange 'o' ring.
17. Cover the exposed gas way in the base of the chassis.

25 CLEANING THE BOILER

1. Brush the heat exchanger from above and below using a suitable brush. Brush back to front **NOT** sideways. Remove any fallen deposits from the boiler base.
2. Examine the fan impellor and carefully clean if necessary.
3. Turn the burner upside down and tap gently to remove any debris.
4. Unscrew the injector from the burner manifold, clean by blowing through or washing. Do **NOT** clear the injector with a pin or wire. Clean the pilot injector in a similar manner.
5. Clean the pilot burner and electrode with a fine wire brush if necessary.
6. Excessive build up of carbon on the thermocouple tip should be removed with a fine wire brush.

To clean or replace the pilot filter in the gas valve refer to frame 39.

26 REASSEMBLY

1. Replace the burner injector using a small amount of jointing compound. **Note:** the 40 S injector uses a sealing washer.
2. Remove the protective covering from the gas way in the base of the chassis.
3. Check that the 'o' ring is in position in the burner flange.
4. Replace the burner assembly and secure with two screws previously removed.
5. Replace the pilot injector and reconnect the pilot supply to the gas valve and pilot assembly.
6. Re-engage the thermocouple and secure with nut.
7. Replace the pilot supply and thermocouple clamping bracket.
8. Replace the electrode ensuring it is pushed fully home. Check that the spark gap, see frame 23, is 3.0 to 4.0 mm.
9. Replace the flue hood cover.
10. Replace the fan motor and impellor assembly and reconnect the fan leads (the polarity of the leads is not important).
11. Replace the combustion chamber front ensuring that the burner stud locates in the bracket. Secure with four screws and one wing nut.
12. Fully tighten the nuts securing the flue hood.

27 Reassembly — continued

13. If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Check the pilot flame, test for gas soundness and check the burner setting pressure. Remove the programmer if fitted.
14. Ensure that the inner case seal is intact around the boiler chassis. Fit the inner case and secure with four screws. Tighten sufficiently to form a seal.
15. Open the wiring centre and replace the programmer and reconnect the plug or replace the fascia panel if a programmer is not fitted.
16. Replace the wiring centre and secure it in position with the fixing screw.
17. Lift the outer case into position over the boiler and push back to engage the fixing pins on the chassis side into the case. Secure in position by re-tightening the bottom fixing screw.
18. If a programmer is fitted, set the clock to the correct time and the selector switches to their previous settings.
19. Replace the bottom cover.

18. REPLACEMENT OF PARTS

The procedure for the replacement of parts is given in frames 28 to 45.

WARNING: Before commencing slide off the bottom cover and slide the gas valve operating button in the direction of the arrow to turn off the boiler. Allow the boiler to cool and isolate the electricity supply. Turn off the gas supply at the gas service cock.

IMPORTANT: Always test for gas soundness after completing any exchange of gas carrying components and carry out functional checks of controls.

28 TO REPLACE THE SPARK ELECTRODE, PILOT INJECTOR OR PILOT BURNER

Remove the outer and inner cases, see frame 20.

Spark electrode:

Disconnect the electrode lead from the spark electrode. Remove the electrode by pulling it downwards and withdrawing it from the pilot burner.

Insert a new electrode ensuring it is pushed fully home and reconnect the electrode lead.

Remove the two screws securing the pilot shield, lift off the pilot shield and check that the spark gap, see frame 23, is 3.0 to 4.0 mm. Replace the pilot shield.

Pilot injector:

Remove the spark electrode, pilot supply and thermocouple clamping bracket and disconnect the pilot supply. Carefully remove the pilot injector, see frame 23. Fit a new injector, reconnect the pilot supply, replace the clamping bracket and spark electrode.

Pilot burner:

Remove the spark electrode, pilot supply, injector and thermocouple. Remove the three screws securing the pilot shield and pilot burner. Fit a new pilot burner and secure with two screws. Replace the injector, pilot supply, thermocouple and electrode. Check that the spark gap, see frame 23, is 3.0 to 4.0 mm. Remove the uppermost screw securing the pilot burner and replace the pilot shield and two fixing screws.

Re-assemble:

If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Check the pilot flame and test for gas soundness. Remove the programmer if fitted.

Replace the inner case and programmer or facia panel.
Replace the outer case and bottom cover.

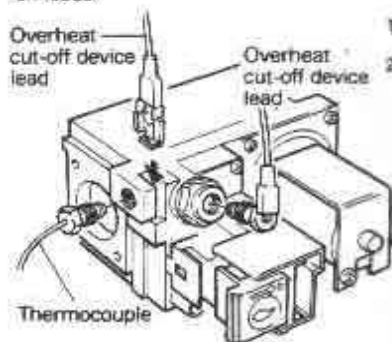
29 TO REPLACE THE BURNER

NOTE: The burner fitted may be either Furigas (silver) or Bray (blue) either may be used as a replacement for the other.

1. Remove the outer and inner cases, see frame 20.
2. Remove the burner assembly as described in frames 22, 23 and 24.
3. Remove the pilot assembly and main burner injector and fit to the new burner. Use a small amount of jointing compound on the burner injector. **Note:** The 40 S injector uses a sealing washer.
4. Using a new 'o' ring in the burner manifold flange fit the burner and re-assemble as described in frame 26.
5. If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Check the pilot flame and test for gas soundness. Remove the programmer if fitted.
6. Replace the inner case and programmer or facia panel.
7. Replace the outer case and bottom cover.

30 TO REPLACE THE OVERHEAT CUT OFF DEVICE

Three thermostats are mounted on the right hand (flow) pipe from the heat exchanger. The overheat cut off device is the one with the soldered on leads.



1. Remove the outer and inner cases, see frame 20.
2. Remove the screw securing the gas valve plastic cover and lift off cover.
3. Remove the pilot supply and thermocouple clamping bracket.
4. Unscrew the thermocouple from the gas valve and withdraw the cut off device lead. Unscrew the other cut off device lead from the gas valve.

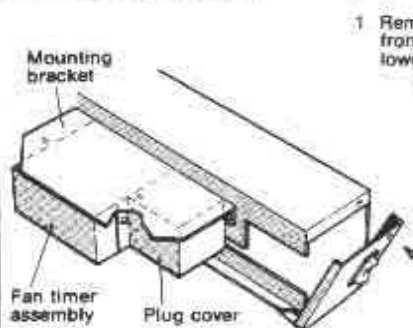
5. Unscrew the fixing screws and remove the overheat cut off device from the mounting plate and carefully withdraw the leads through the chassis.
6. Ensure that the mounting plate is clean and fit the new cut off device, ensure that the leads are routed the same as the old ones. Re-assemble in reverse order.
7. Refer to the commissioning instructions, page 10, and light the boiler.
8. Replace the bottom cover.

31 TO REPLACE THE 'HI' OR 'LO' THERMOSTATS

Three thermostats are mounted on the right hand (flow) pipe from the heat exchanger. The 'Hi' thermostat is marked with brown paint and the 'Lo' thermostat with white paint.

1. Remove the outer and inner cases, see frame 20.
2. Disconnect the two wires from the thermostat.
3. Unscrew the fixing screws and remove the thermostat.
4. Ensure that the mounting plate is clean, fit the new thermostat and secure in position.
5. Re-connect the two wires. The polarity of these wires is not important. Ensure that a brown and yellow wire goes to the 'Hi' thermostat and a white and yellow wire to the 'Lo' thermostat. See wiring diagram, page 17.
6. Replace the inner case, programmer or facia panel and outer case.
7. Refer to the commissioning instructions, page 10, light the boiler and allow it to heat up. Check that the 'Hi' thermostat switches the boiler off and on when the boiler thermostat switch is set to HIGH. Set the boiler thermostat switch to LOW and check that the 'Lo' thermostat switches the boiler off and on.
8. Replace the bottom cover.

32 TO REPLACE THE FAN TIMER ASSEMBLY



1. Remove the screw securing the front of the wiring centre and lower the wiring centre.
2. If a programmer is fitted, unplug the programmer plug from the wiring centre and slide out the programmer. If a programmer is not fitted, slide out the facia panel.
3. Remove the screw securing the plug cover. Remove cover and disconnect the six-way plug.

4. Remove the one screw securing the mounting bracket to the side of the control box and remove the fan timer assembly complete with mounting bracket.
5. Remove the two screws securing the fan timer assembly to the mounting bracket and remove the fan timer assembly.
6. Replace with a new fan timer assembly and reassemble in reverse order.
7. Replace the bottom cover.
8. Switch on electricity supply to the boiler and check that the fan runs for approximately half a minute in every 5.

33 TO REPLACE THE PIEZO UNIT

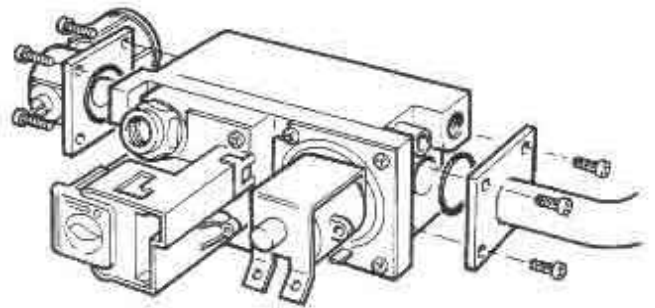
1. Disconnect the electrode lead from piezo unit.
2. Undo the nut securing the piezo unit to the mounting bracket and remove unit.
3. Fit a new unit and re-connect electrode lead.
4. Operate piezo unit and check spark is present at pilot.
5. Replace the bottom cover.

34 TO REPLACE THE GAS VALVE

ENSURE THAT THE GAS SUPPLY IS OFF

1. Remove the outer and inner cases, see frame 20.
2. Remove the screw securing the gas valve plastic cover and lift off cover.
3. Disconnect the push-on terminals (the polarity of these wires is not important) and unscrew the earth terminal.
4. Remove the fan timer assembly, see frame 32.
5. Disconnect the pilot supply and thermocouple from the gas valve and pilot assembly.
6. Disconnect the overheat cut off device leads from the gas valve, see frame 30.
7. Disconnect the electrode lead from the piezo unit. Remove the one 3 mm socket screw securing the piezo unit mounting bracket and remove the bracket.
8. Remove the eight 3 mm socket screws securing the gas valve (four to the service cock and four to the burner manifold).
9. Hold the thermocouple, pilot supply and overheat cut off device leads aside and withdraw the gas valve.
10. Using new 'o' rings in the service cock and manifold flanges (both 'o' rings are the same size) re-assemble the new valve to the boiler in reverse order. Do not replace the plastic gas valve cover at this stage.

35 Gas Valve — continued



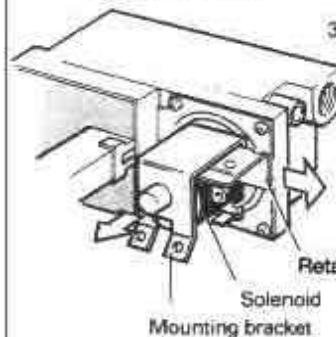
11. If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Check the pilot flame, test for gas soundness and check the burner setting pressure. Remove the programmer if fitted.
12. Replace the inner case and programmer or fascia panel.
13. Replace the outer case and bottom cover.

36 TO REPLACE THE BURNER INJECTOR

1. Remove the outer and inner cases, see frame 20.
2. Remove the burner assembly as described in frames 22, 23 and 24.
3. Unscrew the injector from the burner manifold.
4. Screw in a replacement injector using a small amount of jointing compound. **Note:** the 40 S injector uses a sealing washer.
5. Replace the burner assembly as described in frame 26.
6. If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Check the pilot flame and test for gas soundness. Remove the programmer, if fitted.
7. Replace the inner case and programmer or fascia panel.
8. Replace the outer case and bottom cover.

37 TO REPLACE THE GAS VALVE SOLENOID

1. Remove the screw securing the gas valve plastic cover and lift off cover.
2. Disconnect the push-on terminals (the polarity of these wires is not important) and unscrew the earth terminal from the gas valve.



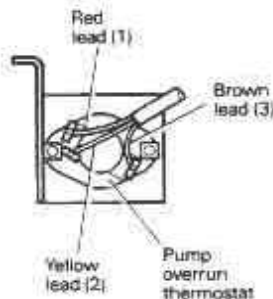
3. Carefully prise out the retaining clip from behind the solenoid and lift off the solenoid and its mounting bracket.
Position the new solenoid into the mounting bracket and reassemble in reverse order.

5. Refer to the commissioning instructions, page 10. Light the boiler to check the gas valve operation.
6. Replace the bottom cover.

38 TO REPLACE THE PUMP OVERRUN THERMOSTAT

The pump overrun thermostat is situated at the bottom right hand corner of the chassis above the wiring centre.

1. Remove the outer and inner cases, see frame 20.
2. Remove the fan timer assembly, see frame 32.
3. Remove the one screw securing the pump overrun thermostat mounting bracket situated next to the wiring centre underneath the chassis. Carefully withdraw the bracket complete with thermostat.
4. Disconnect the three leads and remove the two screws securing the thermostat to the bracket.
5. Fit the new thermostat to the mounting bracket and secure with two screws.
6. Connect the three leads to the thermostat and re-assemble in reverse order.
7. Refer to the commissioning instructions, page 10. Light the boiler and allow it to heat up fully. Switch off the boiler at the programmer or external controls and check that the pump runs for 5-15 minutes.
8. Replace the bottom cover.

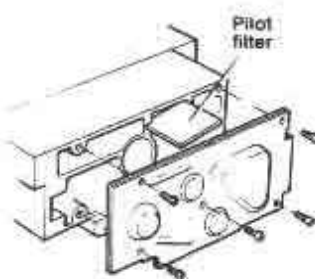


39 TO REPLACE THE PILOT FILTER

NOTE: It is extremely unlikely that the pilot filter will become blocked. If the pilot injector and pilot supply are clear and the filter is still suspect proceed as follows:

ENSURE THAT THE GAS SUPPLY IS OFF

1. Remove the gas valve as described in frame 34.
2. Remove the five screws securing the rear cover plate and carefully remove it. Discard the gasket.
3. Carefully remove the pilot filter and replace with a new one.
4. Replace the rear cover using a **NEW** gasket and secure by evenly tightening the five screws.
5. Replace the gas valve in reverse order to frame 34.
6. If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Light the boiler and test for gas soundness. Remove the programmer if fitted.
7. Replace the inner case and programmer or fascia panel.
8. Replace the outer case and bottom cover.



40 TO REPLACE THE PROGRAMMER (If fitted)

1. Remove the screw securing the front of the wiring centre and carefully lower it.
2. Unplug the programmer plug from the wiring centre.
3. Slide out the programmer from the control box.
4. Slide the new programmer into the control box, and push fully home.
5. Connect the programmer plug to the wiring centre.
6. Close the wiring centre and secure in position with the fixing screw.
7. Refer to the commissioning instructions, page 10, light the boiler and check controls.
8. Set the programmer clock to the correct time and the switches to their previous settings.
9. Replace the bottom cover.

41 TO REPLACE THE THERMOCOUPLE

1. Remove the outer and inner cases, see frame 20.
2. Remove the screw securing the gas valve plastic cover and lift off cover.
3. Remove the pilot supply and thermocouple retaining bracket.
4. Disconnect the thermocouple from both the pilot assembly and gas valve.
5. Carefully bend the replacement thermocouple to match the discarded one.
6. Connect the thermocouple to the gas valve and pilot assembly. Ensure that the overheat cut off device lead is in position before the thermocouple is secured to the gas valve, see frame 30.
7. Replace pilot supply and thermocouple retaining bracket.
8. Replace the gas valve plastic cover and secure with its screw. Ensure that the cable clamp is located correctly on the right hand side.
9. Replace the inner case, programmer or fascia panel and outer case.
10. Refer to the commissioning instructions, page 10. Light the pilot and check that the gas valve operating button may be released after 20 seconds, with the pilot remaining alight.
11. Replace the bottom cover.

42 TO REPLACE THE AIR FLOW PRESSURE SWITCH

The airflow pressure switch is situated at the top right hand corner of the chassis to the right of the fan.

1. Remove the outer and inner cases, see frame 20.
2. Carefully disconnect the flexible tube from the pressure switch and disconnect the two leads, noting their position (the polarity of the leads is not important).
3. Remove the two screws securing the pressure switch mounting bracket to the flue hood.
4. Re-assemble in reverse order. Ensure that the leads are connected to terminal 2(N) and 3(C). **Note:** If the pressure switch has two spigots, connect the flexible tube to the one marked P2.
5. Refer to the commissioning instructions, page 10. Light the boiler and check that the pressure switch allows the main burner to light.
6. Replace the bottom cover.

43 TO REPLACE THE FAN MOTOR AND IMPELLOR ASSEMBLY

1. Remove the outer and inner cases, see frame 20.
2. Remove the motor and impellor assembly as described in frame 21.
3. Re-assemble in reverse order using the new assembly.
4. Refer to the commissioning instructions, page 10, light the boiler and check that the fan switches on and off as the main burner cycles on and off respectively.
5. Replace the bottom cover.

44 TO REPLACE THE COMBUSTION CHAMBER INSULATION

1. Remove the outer and inner cases, see frame 20.
2. Slacken the two flue hood nuts and remove the combustion chamber front cover, see frame 22.
3. Slide out the front insulation panel and carefully replace with a new one.
4. Slide out the two side panels and remove the rear panel by pulling forwards at the top then lifting out.
5. Fit a new rear panel, lower edge first and push back into position. Slide in two new side panels.
6. Replace the combustion chamber front cover ensuring that the burner stud locates in the bracket. Secure with four screws and one wing nut.
7. Fully tighten the nuts securing the flue hood.
8. Replace the inner case and programmer or fascia panel.
9. Replace the outer case and bottom cover.

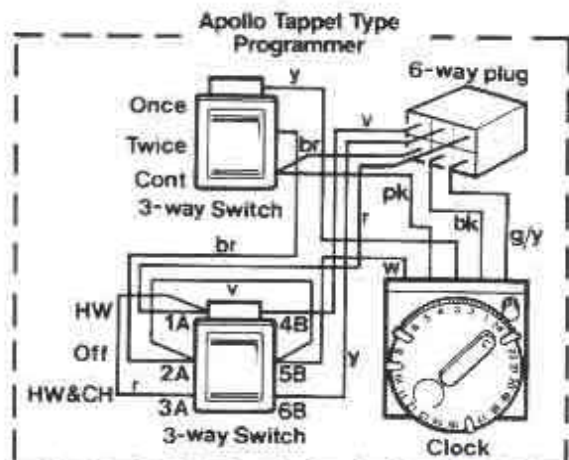
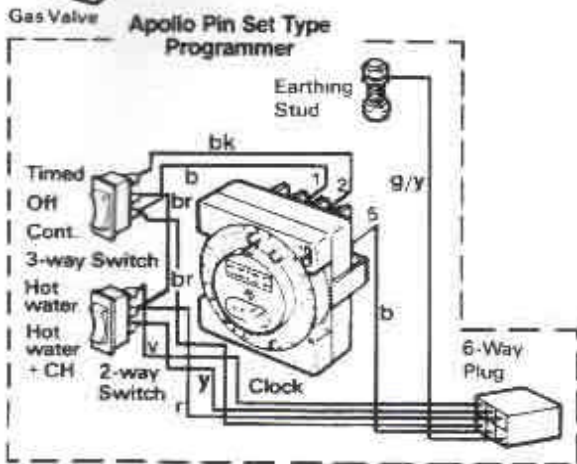
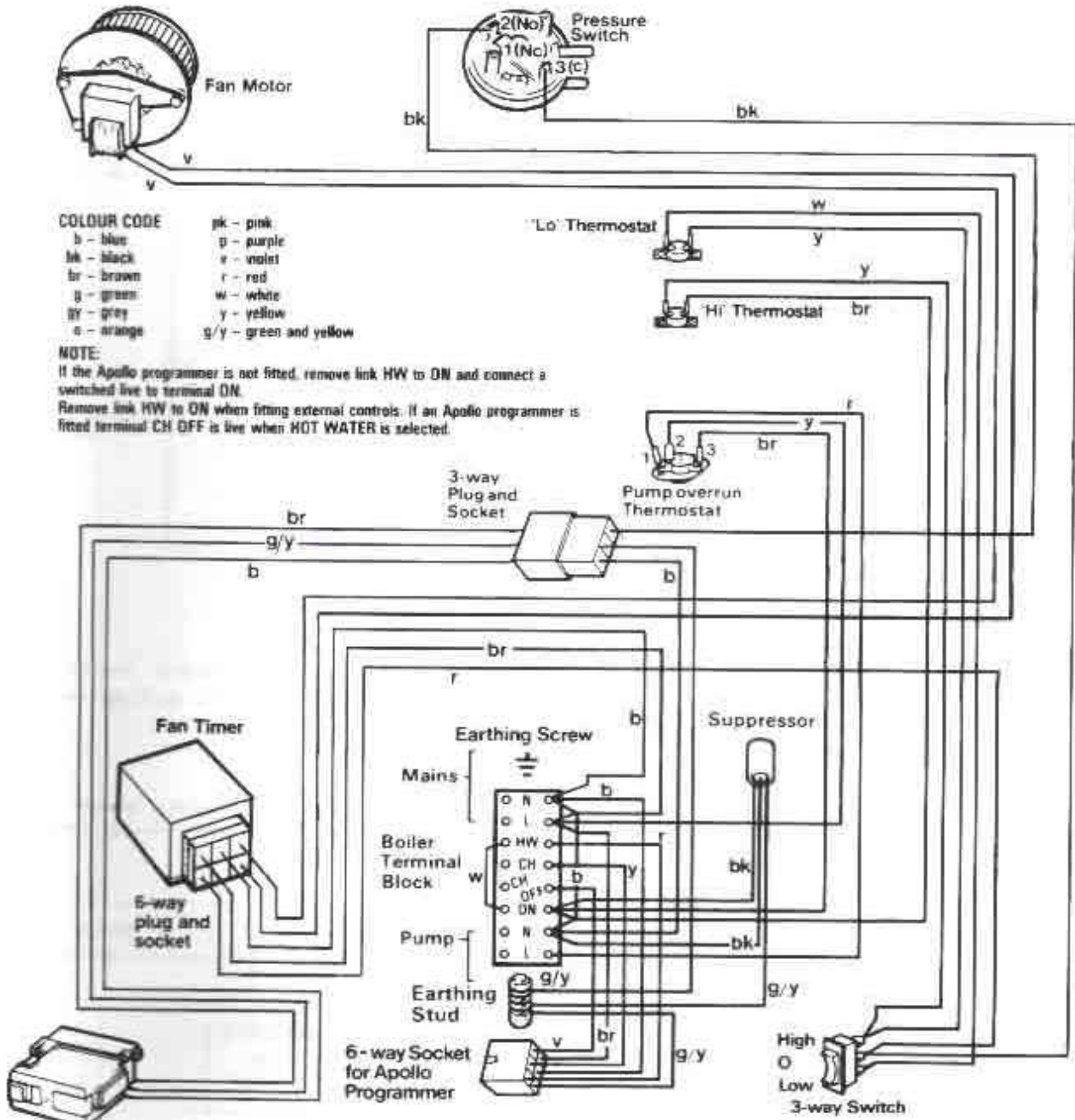
45 TO REPLACE THE HEAT EXCHANGER

ENSURE THAT THE SYSTEM IS DRAINED

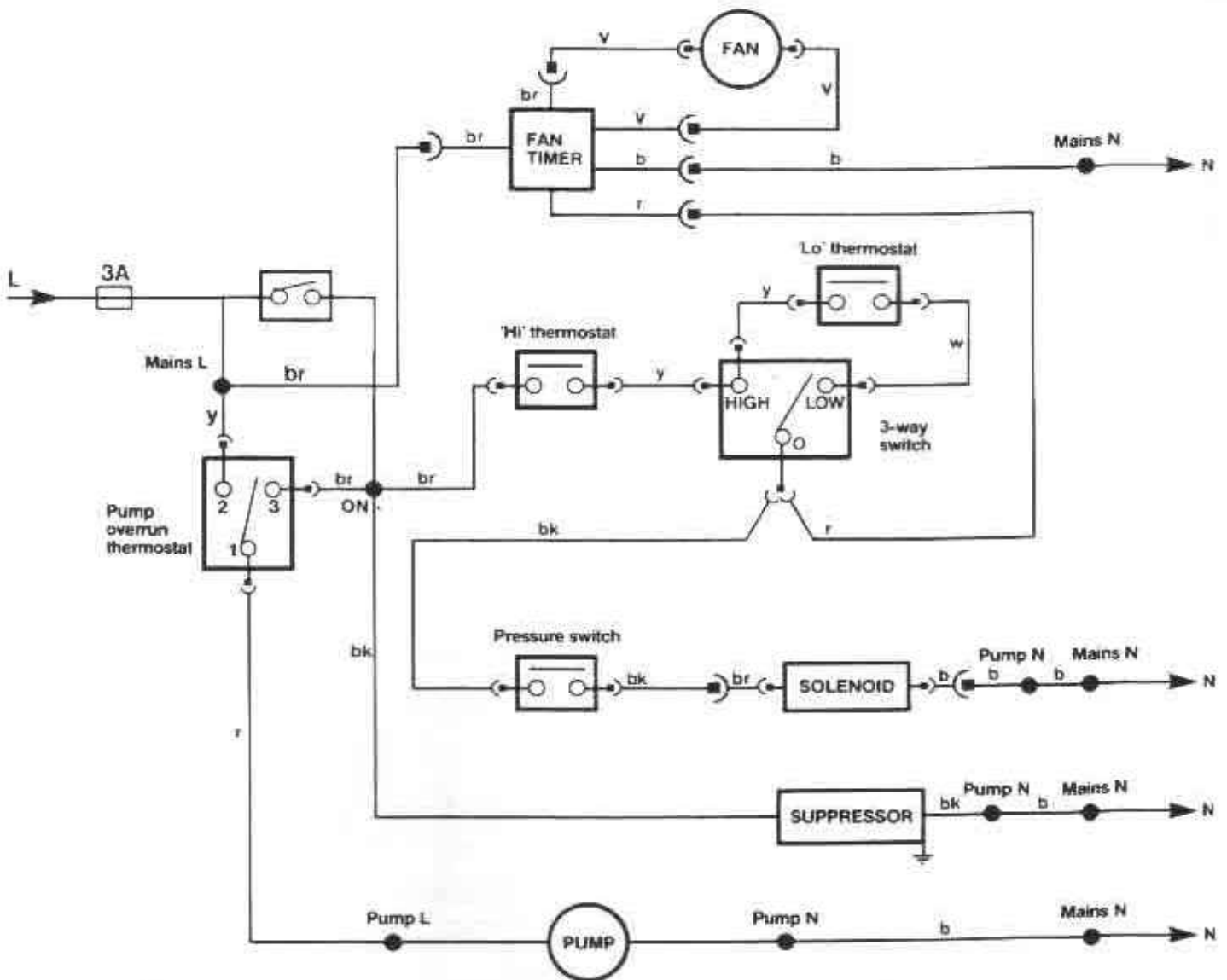
1. Remove the outer and inner cases, see frame 20.
2. Remove the burner assembly as described in frames 22, 23 and 24.
3. Remove the two flue hood nuts and disengage the tie rods.
4. Remove the four screws (two each side) securing the combustion chamber. Carefully lower the combustion chamber to clear the heat exchanger and remove.
5. Undo the fittings securing the inlet and outlet pipes to the heat exchanger and remove heat exchanger.
6. Re-assemble in reverse order using a new heat exchanger.
7. Fill and vent the system.
8. If a programmer is fitted, temporarily reconnect it to the wiring centre. Refer to the commissioning instructions, page 10. Light the boiler and test for gas soundness. Remove the programmer if fitted.
9. Replace the inner case and programmer or fascia panel.
10. Replace the outer case and bottom cover.

19. WIRING DIAGRAMS

a. Illustrated wiring diagram



b. Functional flow wiring diagram without programmer

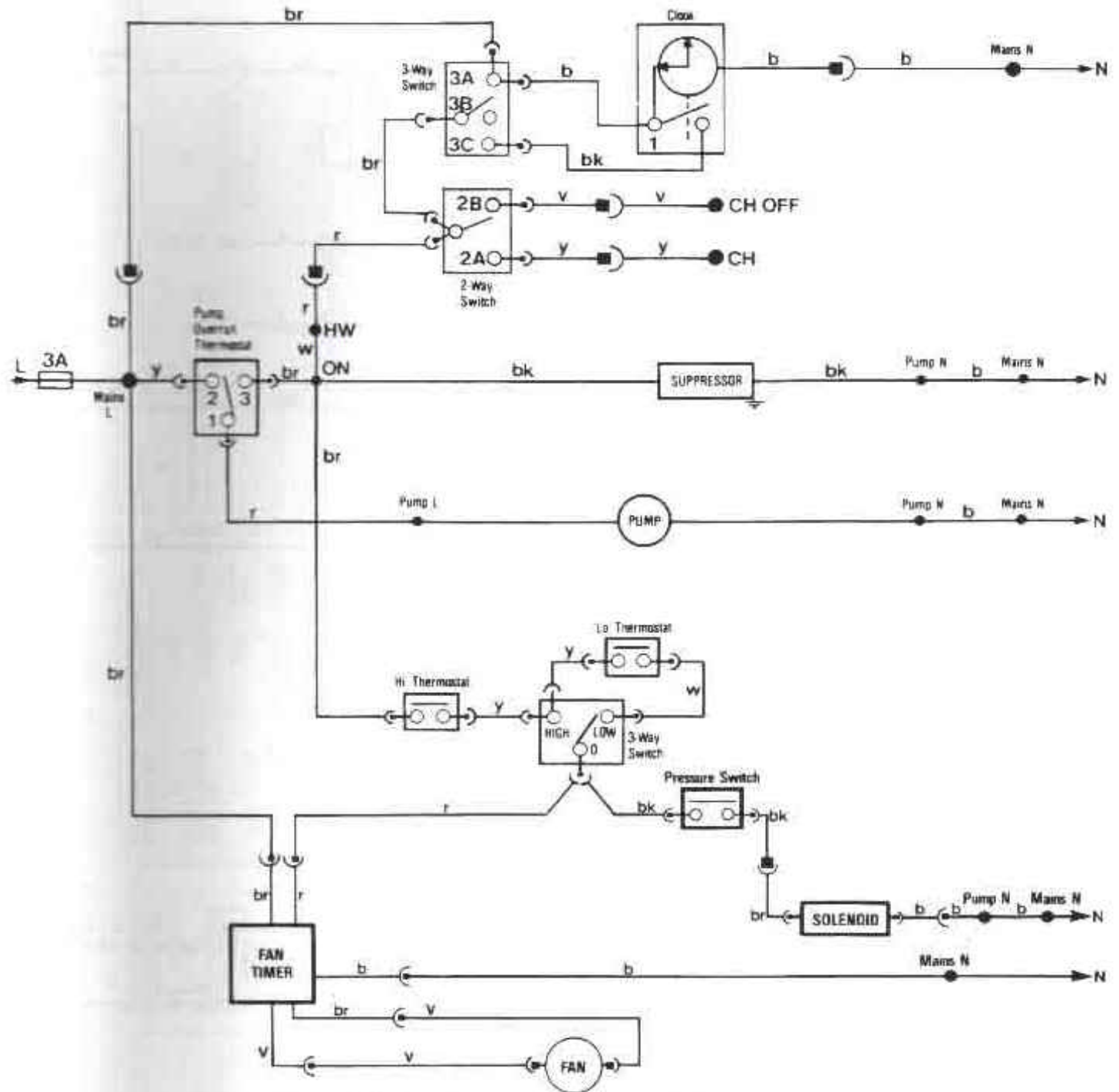


NOTE: If a programmer is not fitted, link HW to ON to be removed by installer and a switched live connected to terminal ON.

COLOUR CODE

- b — blue
- bk — black
- br — brown
- g — green
- gy — grey
- o — orange
- pk — pink
- p — purple
- v — violet
- r — red
- w — white
- y — yellow
- g/y — green and yellow

c. Functional flow wiring diagram with Apollo pin set type programmer



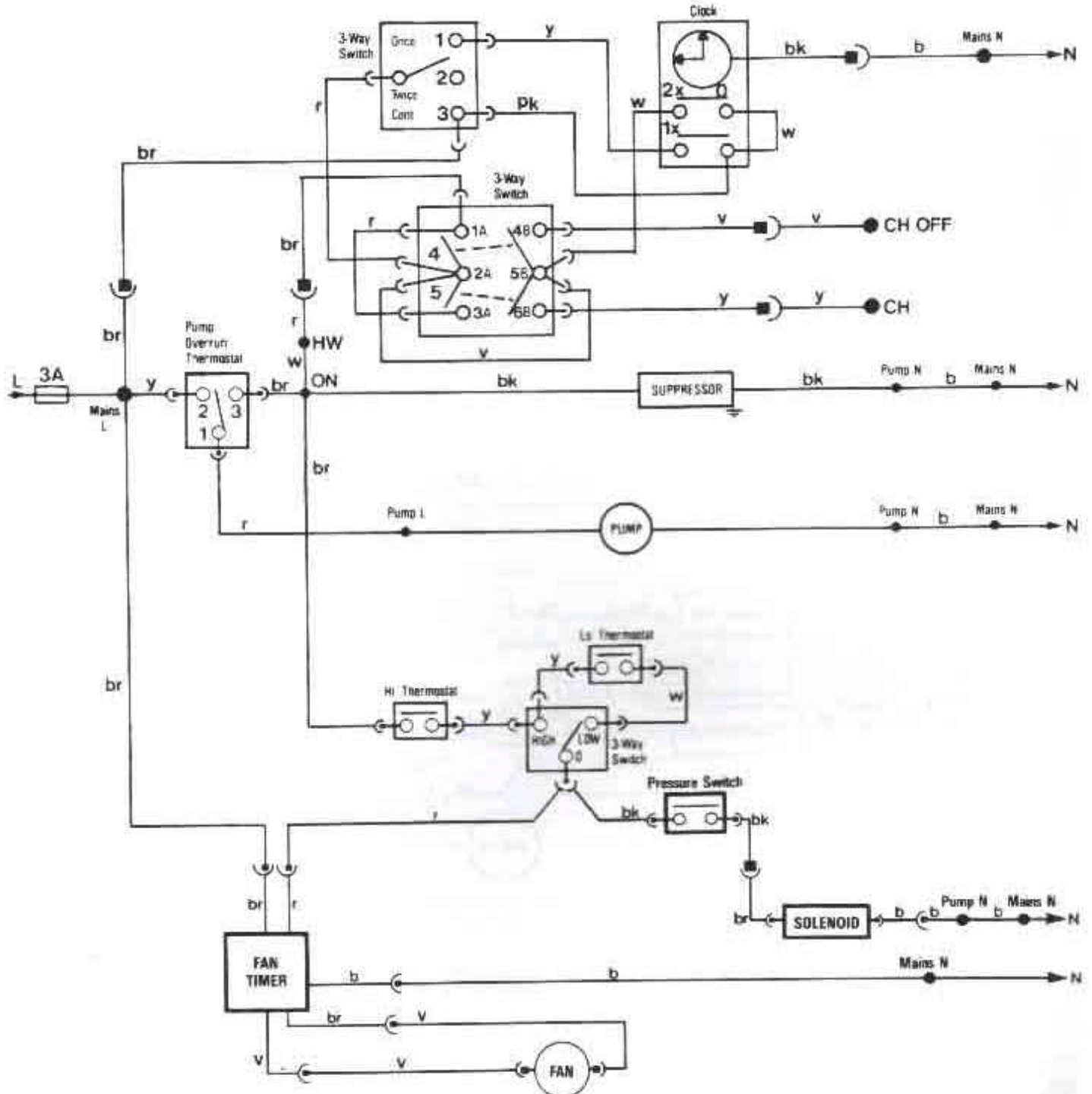
NOTE: Link HW-DN is removed when any external controls are fitted.

COLOUR CODE

- b - blue
- bk - black
- br - brown
- g - green
- gr - grey
- o - orange
- pk - pink
- p - purple
- v - violet
- r - red
- w - white
- y - yellow
- g/y - green and yellow

SERVICE	SELECTOR SWITCH CLOSED					
	1	2A	2B	3A	3B	3C
OFF						
CH OFF, HW ON						
CH + HW						
CONT CH - HW						
CONT HW						

d. Functional flow wiring diagram with Apollo tappet type programmer



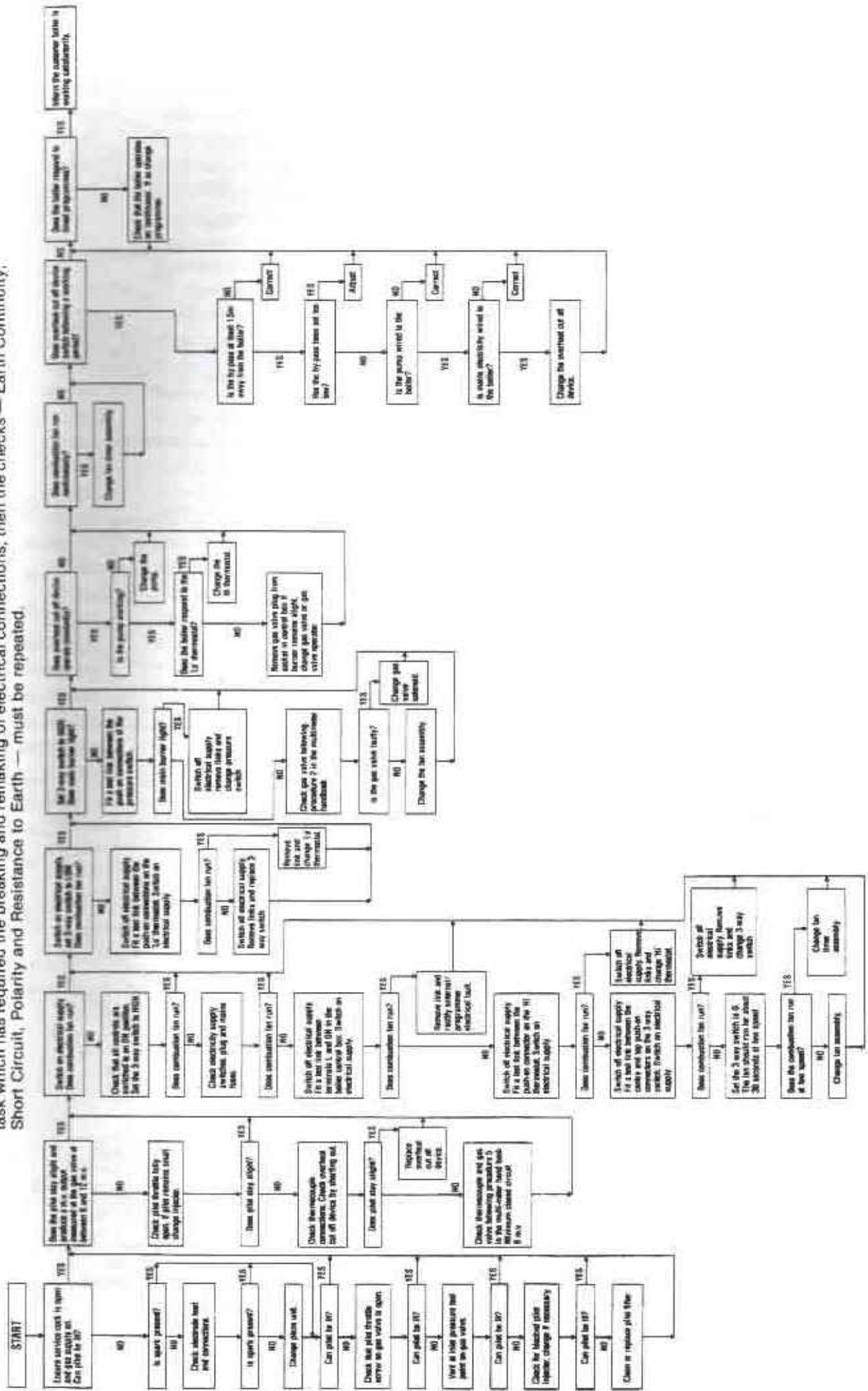
NOTE: Link HW-ON is removed when any external controls are fitted.

COLOUR CODE

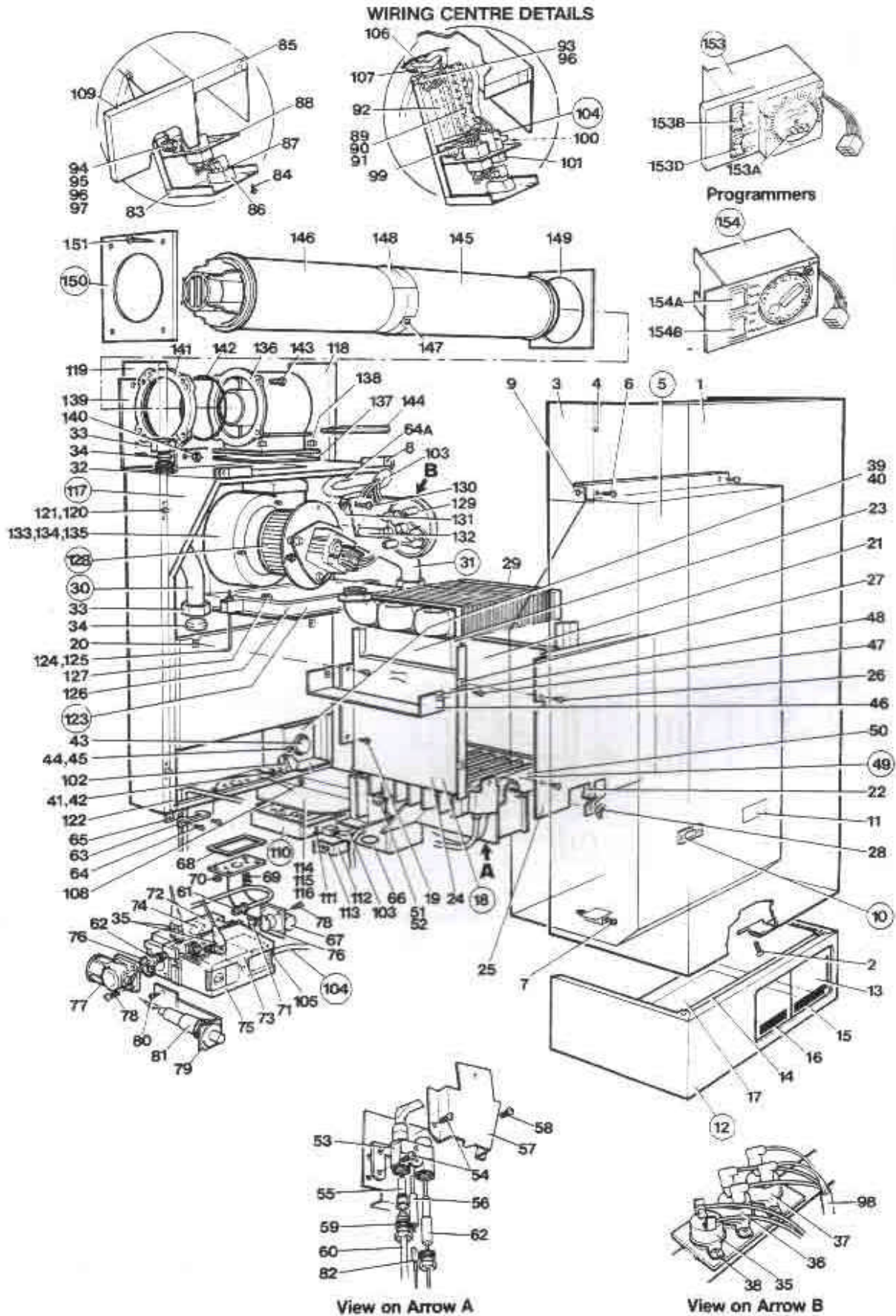
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- o - orange
- pk - pink
- p - purple
- v - violet
- r - red
- w - white
- y - yellow
- g/y - green and yellow

SERVICE	SELECTOR SWITCH CLOSED				
	1	2	3	4	5
OFF					
CH OFF HW2X					
CH OFF HW1X					
CH + HW2X					
CH + HW1X					
CONT CH + HW					
CONT HW					

Preliminary electrical system checks i.e. Earth Continuity, Short Circuit, Polarity and Resistance to Earth are the first electrical checks to be carried out during a fault finding procedure. On completion of the service/fault finding task which has required the breaking and remaking of electrical connections, then the checks — Earth Continuity, Short Circuit, Polarity and Resistance to Earth — must be repeated.



21. EXPLODED VIEW — APOLLO FANFARE 15/30 S, 30/50 S, 40 S



Encircled numbers denote a complete assembly

22. SHORT LIST SPARE PARTS

Key No.	GC No.	Description	Qty.	Part No.
1	332 711	Outer case	1	402A2193
10	377 000	Inspection window assembly	1	402A2476
13	323 339	Plastic door	2	402C053
21	323 342	Combustion chamber insulation (sides)	2	402C104
22	323 405	Combustion chamber insulation (front), 15/30 S	1	402C105
22	323 343	Combustion chamber insulation (front), 30/50 S, 40 S	1	402C178
23	323 406	Combustion chamber insulation (rear), 15/30 S	1	402C141
23	323 344	Combustion chamber insulation (rear), 30/50 S, 40 S	1	402C181
35	377 093	Overheat cut-off device	1	402A2512
36	382 397	'Hi' thermostat	1	402S114
37	382 373	'Lo' thermostat	1	402S115
43	384 208	Pump overrun thermostat	1	402S088
49	377 094	Burner and pilot assembly, 15/30 S	1	402A2504
49	377 095	Burner and pilot assembly, 30/50 S	1	402A2505
49	377 096	Burner and pilot assembly, 40 S	1	402A2506
50	382 422	Burner, 15/30 S	1	402S2510
50	382 423	Burner, 30/50 S, 40 S	1	402S2511
51	398 316	Main injector, Cat 16 size 800, 15/30 S	1	402S067
51	398 329	Main injector, Cat 16 size 1400, 30/50 S	1	307S527
51	398 481	Main injector, Cat 108 size 950, 40 S	1	402S507
52	323 468	Main injector washer, 40 S	1	402C532
53	397 663	Pilot burner	1	Q385A1095
55	384 980	Pilot injector, 38/36A	1	4500-4108-001
56	386 512	Spark electrode	1	309S330
62	390 131	Thermocouple	1	Q309A2721
66	323 361	Burner 'O' ring	1	402S098
72	388 691	Gas valve	1	V4700E1049
76	359 211	Gas valve 'O' ring	2	400-0016-7-32
81	393 889	Piezo unit	1	402S083
82	323 367	Spark electrode lead with grommet	1	402S089
110	359 328	Fan timer assembly	1	402A1678
128	332 721	Fan assembly	1	402S2240
129	382 417	Air flow pressure switch	1	402S2526

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MYSON

The Housewarmers



BS 5258
BS 6312

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All goods sold are subject to our official Conditions of Sale, copy of which may be obtained on application.