POTTERTON

Kingfisher 2

open flue gas fired boilers

KINGFISHER 2 CF 40
KINGFISHER 2 CF 50
KINGFISHER 2 CF 60

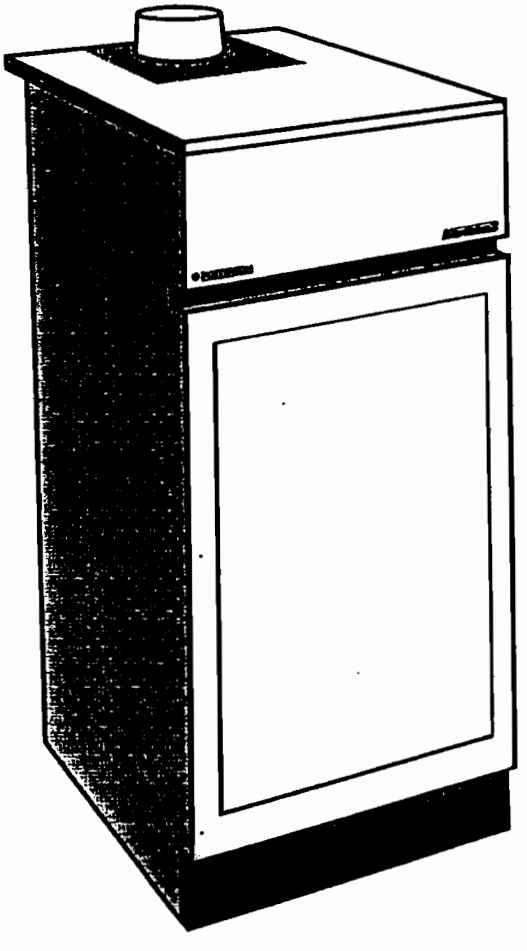
Kingfisher 2 CF40
G.C. No. 41 607 07
G.C. No. 41 607 34 (Sealed System)

Kingfisher 2 CF50
G.C. No. 41 607 08
G.C. No. 41 607 35 (Sealed System)

Kingfisher 2 CF60
G.C. No. 41 607 09
G.C. No. 41 607 36 (Sealed System)

- **Can be used beneath standard height working surfaces.**
- **Piezo electric push button ignition for easy lighting.**
- **Highly efficient, designed especially for natural gas operation.**
- **No by-pass pipework required in the system.**
- **A circulating pump can be mounted within the standard case (optional extra in kit form).**

IMPORTANT
THIS APPLIANCE IS FOR USE WITH NATURAL GAS (G20) ONLY. IT MUST BE INSTALLED AND SERVICED BY A COMPETENT PERSON AS STATED IN THE GAS SAFETY (INSTALLATION AND USE) REGULATIONS 1994.
Leave these instructions adjacent to the gas meter.



INSTALLATION AND SERVICING INSTRUCTIONS

DATA SECTION

GAD (90/396/EEC)

GENERAL

These Potterton open flue appliances are automatically controlled and have been designed for combined systems. e.g. small bore or microbore central heating with an indirect domestic hot water supply which can either have pumped or gravity circulation. The boilers can also be used on pumped central heating or domestic hot water only systems .

DESCRIPTION - See Fig. 2 and 3

Potterton Kingfisher 2 CF boilers can be installed. either in a kitchen or utility room or inside a suitably ventilated purpose designed or modified compartment. The boilers are finished in a white. stove enamelled, sheet steel casing, which conforms in height with other kitchen furniture.
If the boiler height is required to fit flush with 900mm high units, then an optional extra top panel is available. An internal fitting pump kit is also available as an optional extra.

THE SYSTEM

Diagrammatic layouts of a fully pumped system and a combined pumped central heating/gravity hot water system are shown in the system diagrams Other system variations together with their wiring arrangements are shown in the System Guide Leaflet
The recommendations of BS.6798 and BS.5449 Part 1 must be observed.
When used in conjunction with the Potterton Overheat Thermostat Kit, these boilers are suitable for use in sealed systems. Full details of both installation and system requirements are available with the kit. Under no circumstances should these boilers be connected to a sealed system, if the Overheat Thermostat Kit is not fitted to the appliance.

1. All systems should be designed so that the static head at the boiler is between a minimum of 0.09 bar (3 ft.wg.) and a maximum of 3 bar (100 ft.wg.).
2. If the head is at or near the 0.09 bar (3 ft.wg.) minimum extra care should be taken when designing the system to ensure that pumping over or ingress of air down the vent pipe cannot occur.
3. All gravity systems should have a minimum effective head of 1.2m (4 ft.) between the centre line of the boiler heat exchanger and the centre line of the domestic hot water cylinder.
4. Most types of system controls, such as two-way valves, threeway valves, diverter valves, twin pumps, zone valves and room, cylinder and frost thermostats can be used in conjunction with the boilers.
5. The circulating pump should be selected with reference to Fig.1. The resistance through the boiler heat exchanger will not exceed 31 mbar (12.5 in.wg.) at a flow rate of 5 gal/min.
6. The resistance through any other type of system control such as three-way valves, should also be taken into account when selecting a pump, refer to their manufacturers literature.
7. A drain cock(s) should be fitted at the lowest point(s) in the system, so that the whole system can be drained.
8. It is recommended that all pipework to these boilers should include union fittings at suitable points to facilitate connection of the gas and water supplies.
9. The boiler must be used on indirect hot water systems only. In a fully pumped system, the primary pipework should include a lock shield valve in the return from the cylinder.

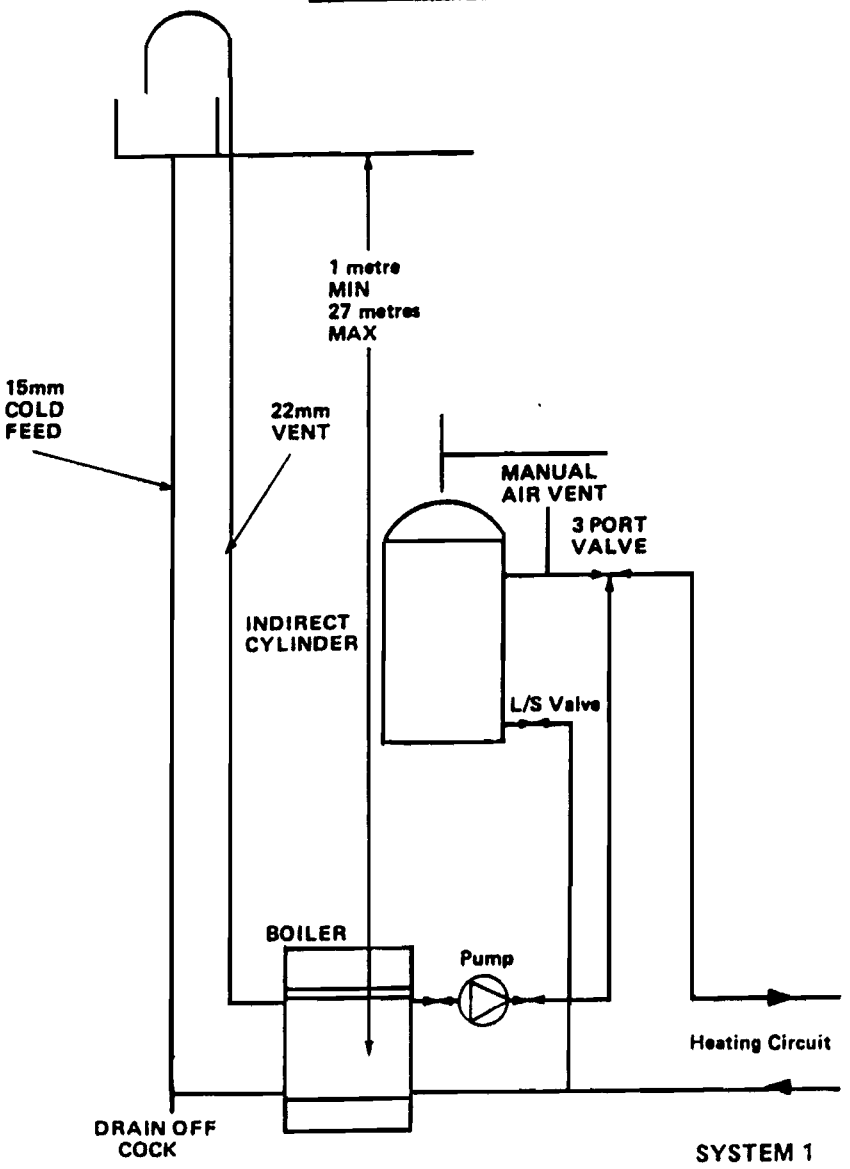
GENERAL DATA TABLE 1

		CF.40			CF.50			CF.60		
Heat Input	kW	12.04	13.86	15.62	16.06	17.82	19.54	18.17	20.81	23.45
	Btu/h	41,100	47,300	53,300	54,790	60,810	66,660	62,010	71,010	80,000
Heat Output	kW	8.79	10.26	11.72	11.72	13.19	14.65	13.19	15.39	17.58
	Btu/h	30,000	35,000	40,000	40,000	45,000	50,000	45,000	52,500	60,000
Heat Output	kW	0.6	0.7	0.8	0.6	0.7	0.8	0.8	0.9	1.1
into Air (approx)	Btu/h	2000	2320	2630	2000	2390	2760	2760	3240	3629
Weight	kg	68.6			68.6			69.5		
Empty	lbs	151			151			153		
Water	litres	5.7			5.7			5.7		
Content	pints	10			10			10		
Burner	mbar	5.2	6.9	8.7	9.1	11.2	13.2	8.8	11.8	14.6
Pressure	in.wg.	2.1	2.8	3.5	3.6	4.5	5.3	3.5	4.7	5.9
Injector Size/marking		3.5mm			3.5mm			7 x 1.05		
Gas Rate	cu.m/h	1.12	1.29	1.46	1.50	1.66	1.82	1.70	1.94	2.19
	cu.ft/h	39.7	45.7	51.5	52.9	58.8	64.4	59.9	68.6	77.3
G.C. No.		41 607 07			41 607 08			41 607 09		
Potterton Code Letters		HEA			HEB			HEC		

Max Working Head : 3.0 Bar (100ft.wg.)
Gas Connection : to ½ in. BSP Loose Key UnionCock
Electrical Connection : To 3-way Terminal Strip
Combination Gas Control : CF.40, CF.50 S.I.T. Composit
CF.60: S.I.T.NOVA
Thermostat : Ranco CL6 (max. flow temp. approx. 82°C)

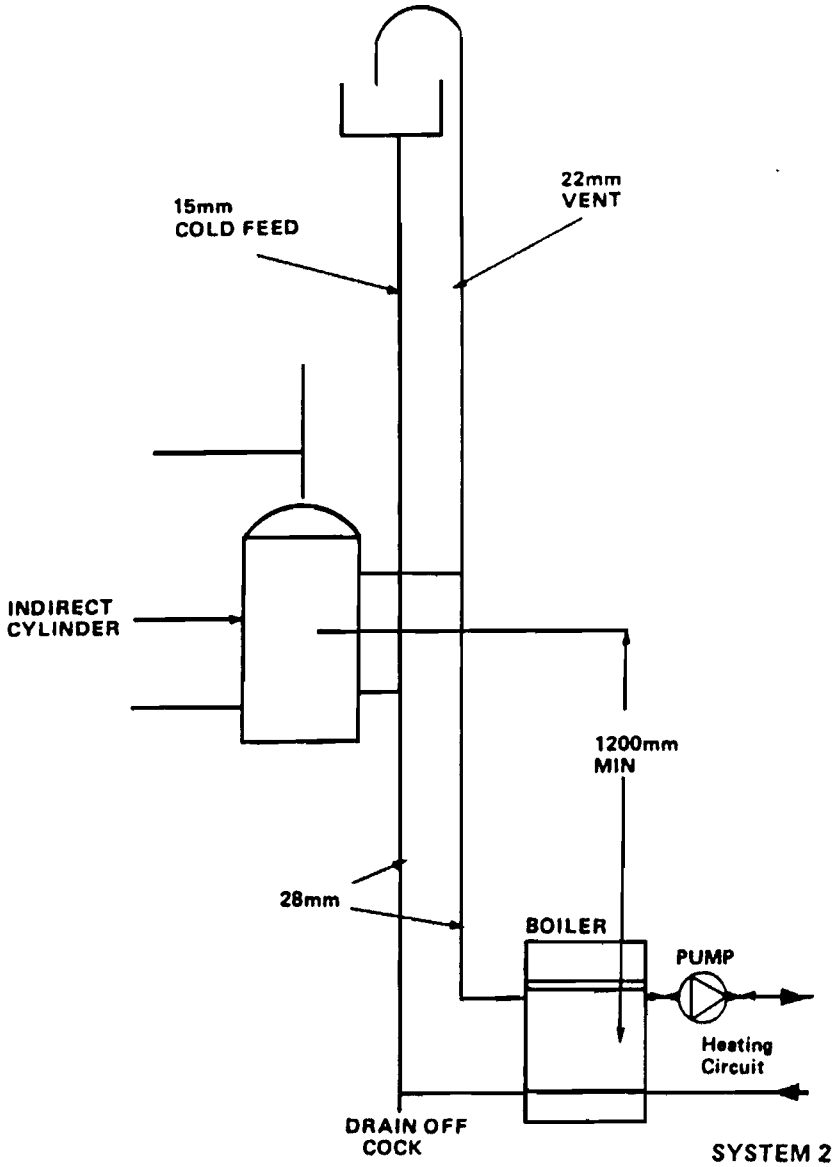
Pilot Burner : S.I.T.0.140.012
Main Burner : CF.40 Furigas
CF.50 Furigas
CF.60 Bray
Electricity Supply : 240V ~50 Hz
Power Consumption : 20W (excluding pump)
Gas Supply Pressure : 20 mbar at appliance inlet
Performance data is based on G20 reference gas.

FULLY PUMPED SYSTEM



SYSTEM 1

PUMPED HEATING AND GRAVITY HOT WATER



SYSTEM 2

SYSTEM DIAGRAMS (Diagrammatic Only – Refer to Page 7 for connections).

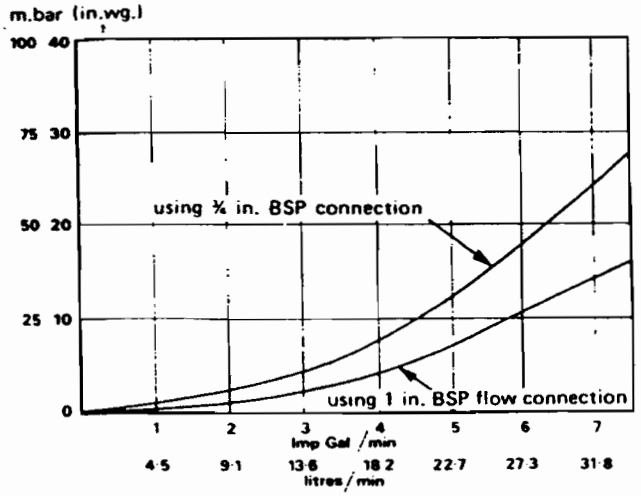


FIG. 1 PRESSURE LOSS ACROSS BOILER

BOILER BASE

A level floor which conforms to the Local Authority and Building Regulations, should be provided. Normally insulation beneath the boiler base tray is not required as floor temperatures beneath the tray conform to the requirements of BS.5258. However, some composition floors which tend to soften or deform at low temperatures, may need insulating, if in doubt, consult Potterton Myson Ltd.

CLEARANCES AROUND THE BOILER

For ease of installation provide temporary access particularly to the water connections at the rear of the boiler. The appliance can then be "built in" to the minimum clearance dimensions on completion of the installation.

The position selected for the boiler must give the minimum clearances for operation and servicing:–

610mm (2ft) at the front
50mm (2in) at each side. (CF.60)
25mm (1in) at each side. (CF.40 and CF.50)
20mm (¾in) at the top.

The correct minimum clearance at the back of the boiler is automatically obtained once the boiler base tray is pushed up against the wall. If a skirting board is fitted, the section behind the boiler should be removed to permit full contact up to the wall.

A clearance necessary for the pipework, may be needed on one side, but if the pipework can be run at the back or inside of any adjacent kitchen furniture, this clearance will not be necessary .

COMBUSTION AIR AND VENTILATION REQUIREMENTS

A. Ventilation of compartments containing gas boilers.

There should be two permanent air vents, one at low level and one at high level, both communicating either directly with outside air or with a room or space which is suitably ventilated. Each opening, whether left free or furnished with a grille, must have a minimum effective area in accordance with Table 2.

The essential details for compartment installation are given in BS 5376:2

B. Ventilation for rooms containing gas boilers

The ventilation of the room containing the boiler shall include air for combustion and draught diverter dilution. This applies also when the boiler is sited in a compartment, unless the air vents are both direct to outside.

A permanent air vent shall be provided in an outside wall of the building at either high or low level.

The opening may be:

(a) Directly into the room or space containing the boiler, or
(b) Via a duct through a wall or the roof into the room (where such a method is considered, British Gas should be consulted), or
(c) Into an adjacent room or space which has an internal permanent air vent of the same size to the room containing the boiler. It is undesirable to ventilate via a kitchen, bathroom or toilet.

The air vent should be sited as far as possible from any extract fan to avoid short circuiting. To avoid the possibility of freezing water pipes, the vent should not be sited near the pipes.

The minimum effective area of the permanent air vent must be 39 sq.cm. (6 sq.in.) for the CF.40 boiler 57 sq. cm. (9 sq.in.) for the CF.50 or 74 sq.cm. (11 sq.in.) for the CF.60.

If the room (e.g. a kitchen) from which air is drawn, has an extract fan fitted, then the opening size of the permanent air vent should take this into account to ensure that the operation of the boiler flue is not adversely affected when the extract fan is running with all doors and windows closed. This should be checked in accordance with BS.5440 Parts 1 and 2.

C . Grilles and Ducts

Any grille and/or duct should be so sited and of a type not to become easily blocked or flooded and should offer low resistance to air flow.

IMPORTANT

These appliances are certified for safety. It is therefore important that no external control devices (e.g. flue dampers, economisers, etc.) be directly connected to these appliances unless covered by these installation instructions or otherwise recommended in writing.

Any direct connection of a control device not approved by Potterton Myson Ltd. could invalidate the certification and the normal appliance warranty.

FLUE

An efficient flue system must be provided to evacuate the products of combustion from the boiler. Reference should also be made to The Building Regulations and British Standard 5440 Part 1. The following notes have been compiled for your guidance:—

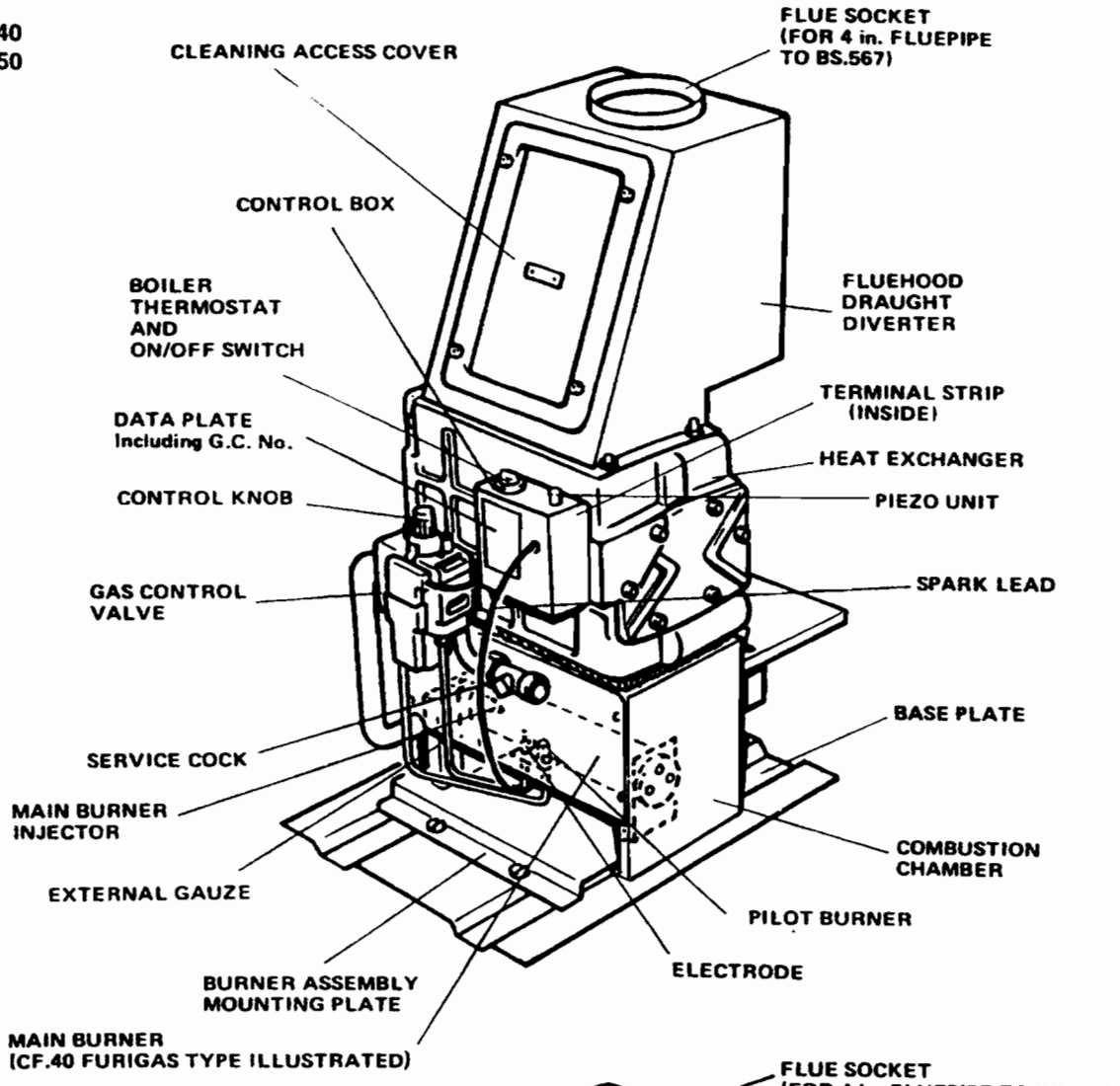
(a) Ideally a flue should rise vertically to a termination point which is unaffected by down draught or wind eddies. Therefore, for practical purposes, the flue should have the shortest possible run to external atmosphere, with as near vertical rise as possible; 90° bends should be avoided. The terminal must be at least above roof edge level.
(b) Wherever possible there should be at least 2 ft. (600 mm) of vertical flue from the boiler flue socket.
NOTE: Some gas regions insist on a split socket in this length.
(c) Horizontal runs should be avoided. If a near horizontal run is unavoidable, the total vertical height necessary should be calculated in accordance with BS.5440 Part 1.
(d) Wherever possible internal stacks should be used.
(e) All brick chimneys without an integral lining must be lined with either asbestos cement flue pipe to BS.567 or stainless steel flexible lining.
(f) Where condensation is likely, a means of draining must be provided.
(g) If an existing flue is being used, ensure that it has been thoroughly swept before lining or connecting the boiler.

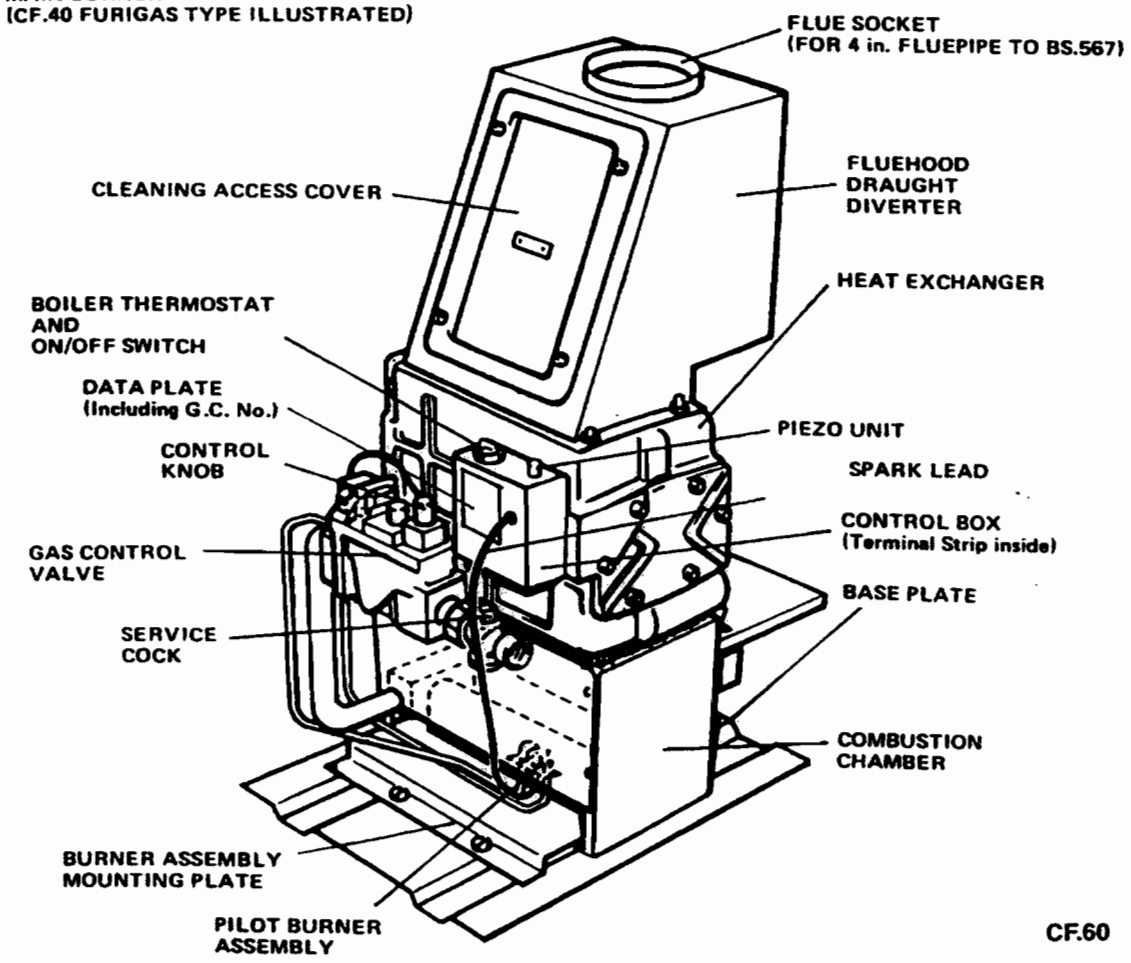
IMPORTANT

These appliances are certified for safety. It is therefore important that no external control devices (e.g. flue dampers, economisers, etc.) be directly connected to these appliances unless covered by these installation instructions or otherwise recommended in writing.

Any direct connection of a control device not approved by Potterton could invalidate the certification and the normal appliance warranty.

CF.40
CF.50





CF.60

FIG.2 GENERAL ARRANGEMENT

ELECTRICITY SUPPLY

A 240V ~50Hz. single phase electricity supply fused to 3A. must be provided in accordance with the latest edition of the IEE wiring regulations and any other local regulations that may apply. The current rating of the wiring to the boiler must be at least 3A in accordance with BS 6500 Table 16. and have a cross-sectional area of at least 0.75mm² (24/0.20).

The method of connection to the mains electricity supply must facilitate complete isolation of the boiler together with any external controls fitted in the system, preferably by the use of a fused "three-pin" plug and shuttered socket outlet: both complying with the requirements of BS.1363. Alternatively, a fixed double pole switch, having a 3 mm contact separation in both poles and serving only the boiler and external controls may be used.

The principle of wiring the boiler and external controls is shown in Fig.5.

GAS SUPPLY

The gas meter and installation pipe should be checked to ensure that they are large enough for the boiler and any other appliance already installed, the Local Gas Region will assist in this matter. The recommendations of CP.331 Parts 2 and 3 must be observed.

SAFETY VALVE AND THERMOMETER

If the local authorities regulations stipulate that a safety valve should be fitted, this should be installed in the flow pipework as close to the boiler as possible. If a thermometer is to be installed, preferably of the immersion type, this should also be fitted in the flow pipework as close to the boiler as possible.

The requirements for a sealed system are specified in the Installation Instructions supplied with the Overheat Thermostat Kit.

SERVICING

The efficient performance of this boiler is dependent upon regular servicing which should be carried out annually. Servicing is best arranged by a contract placed with Potterton Myson and further details are available from our Service Department. Servicing can be carried out once the casing front panels have been removed, all parts that are likely to require servicing are easily accessible.

COMMISSIONING

Each boiler has to be adjusted once it is installed and this is an operation which should only be undertaken by suitably qualified engineers. Potterton Myson offer this service on a chargeable basis.

ACCESSORIES

The following Potterton Myson controls are recommended for use with your boiler:

i) Electronic Programmer - EP2001. EP3001, or EP6000
ii) Cylinder Thermostat - PTT2 or PTT100
iii) Room Thermostat - PRT2 or PTT100
iv) Frost Thermostat PRT100 FR
v) Motorised Zone Valve MSV222 or MSV228
vi) Motorised Diverter Valve MSV322
vii) Thermostatic Radiator Valve

Data sheets describing these products are available on request.

TABLE 2
COMBUSTION AIR AND VENTILATION REQUIREMENTS OF COMPARTMENTS

Boiler Type	Level of Air Vent	Area for Air from Room	Area for Air from outside
CF.40	High	22 in.² 140 cm²	11 in.² 70 cm²
	Low	44 in.² 280 cm²	22 in.² 140 cm²
CF.50	High	28 in.² 176 cm²	14 in.² 88 cm²
	Low	56 in.² 352 cm²	28 in.² 176 cm²
CF.60	High	32 in.² 212 cm²	16 in.² 106 cm²
	Low	64 in.² 424 cm²	32 in.² 212 cm²

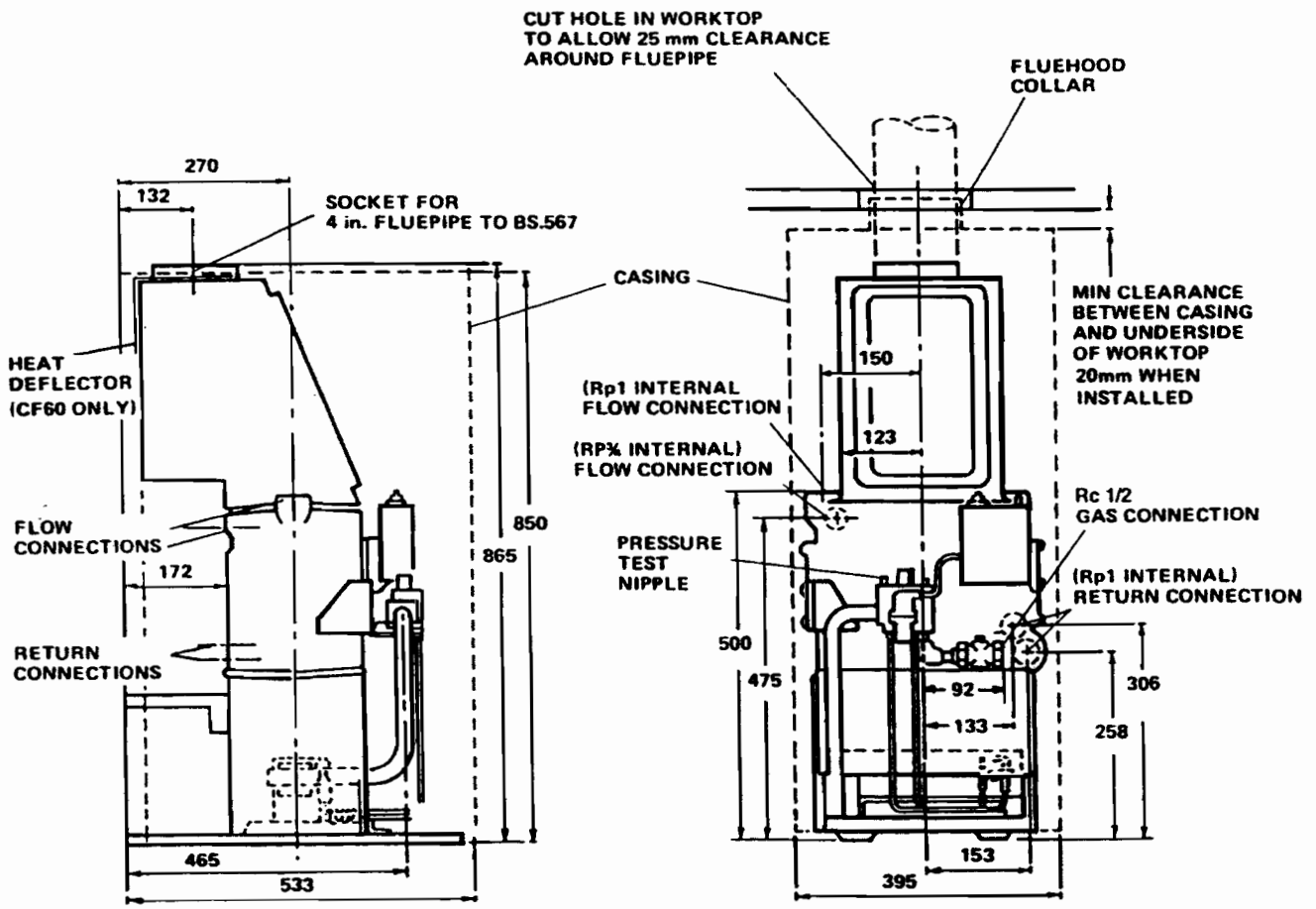


FIG. 3 CONNECTIONS AND DIMENSIONS CF.40 SHOWN

INSTALLATION SECTION

INSTALLATION INSTRUCTIONS

It is the law that all gas appliances are installed and serviced by competent persons as stated in Gas Safety (Installation and Use) Regulations 1994.

For Health and Safety Information see back page.

Electrical installation and servicing should be carried out by a competent person in accordance with the I.E.E. Wiring Regulations.

1. UNPACKING

A. The appliance will arrive on site in two cartons as follows:— Carton 1: Boiler Assy and Literature
Carton 2: a) Case Top; b) Side Panels: c) Case Front Panels (2); d) Plinth: e) Fastener Pack: f) Case Tie Bracket
g) Side Panel Infill;h) Fluehood Collar.

B. Open Carton No I – Boiler Assy. There is no need to open the casing carton at this stage.

NOTE: If the Overheat Thermostat Kit is used, refer to the fitting instructions supplied with the kit.

2. PRE-PIPING THE WATER CONNECTIONS

GENERAL

All pre-piping should be completed prior to positioning the boiler. This enables the boiler to be installed with limited access and ensures that adequate clear ance is available to fit the casing.

The connections at the rear of the heat exchanger should be copper to iron compression type straight fittings

A. Combined Gravity System: See System Diagram 2

1) Connect a l75mm length of 28mm pipe to a 1in. BSP to 28mm copper to iron compression elbow on the Rp 1 gravity flow tapping at the top of the heat exchanger. A 28mm elbow can then be angled to exit the boiler at the desired position.
2) Connect a 75mm length of 22mm pipe to a ¾ in BSP to 22mm copper to iron straight compression fitting to the Rp ¾ in, tapping at the rear left-hand side of the heat exchanger. A 22mm elbow can then be angled to the desired position.
If the Potterton Internal Pump Kit is used, follow the fitting instructions supplied with the kit.
3) Connect a 1 in. BSP to 22mm copper to iron straight compression fitting to the lower Rpl pumped return tapping
A 75mm length of 22mm pipe should be used fitted to a 22mm copper elbow.
4) Connect a 1 in. BSP to 28mm copper to iron straight compression fitting to the upper Rp1 gravity return tapping. A 75mm length of pipe should be used.

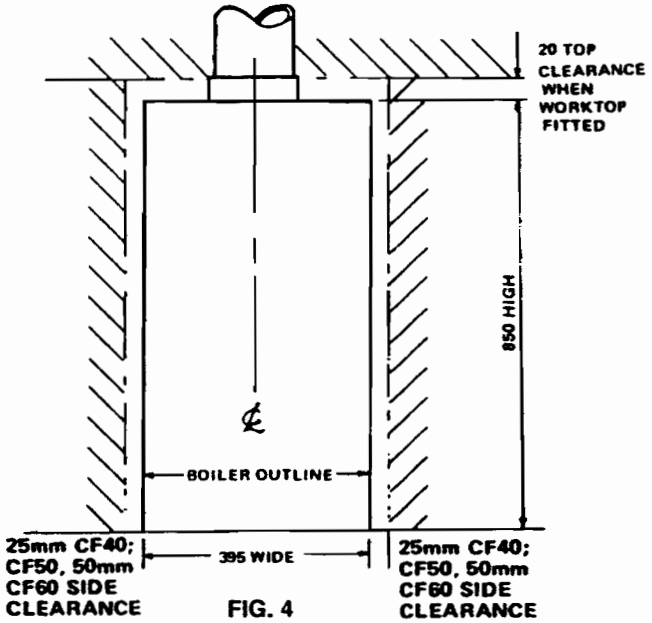


FIG. 4

B. Fully Pumped System or Pumped Central Heating Only: See System Diagram 1.

1) Either the Rp1 or Rp ¾ flow connections may be used for the 22mm combined flow pipework.
If the Rp1 flow connection is used, the vent pipe should be connected into the flow pipe as close to the boiler as possible. Blank off the Rp¾ flow connection at the rear of the heat exchanger.
If the Rp¾ flow connection is used, then the Rp1 connection should be separately vented.
If the Potterton Internal Pump Kit is used, follow the fitting instructions supplied with the kit.
2) Fit a 1 in. BSP to 22mm straight compression fitting to the lower combined Rp1 tapping at the rear of the heat exchanger. A 75mm length of pipe should be used with a 22mm elbow which can be angled to exit the boiler at the desired position.
3) The upper Rp1 return tapping can either be blanked off or used to connect the cold feed.

3. POSITIONING THE BOILER

Refer to Fig.4. For boiler clearances.

NOTE: The casing top panel extends to the rear as far as the boiler base tray If a skirting board is fitted, the section behind the boiler must be removed in order to allow wall contact at both top and bottom of the boiler

A. Manoeuvre the boiler into position, until the rear of the boiler base tray touches the wall (or skirting board) .
B. When the boiler has been finally positioned, check that it is level.

4. FINAL CONNECTIONS

A. Make the flow and return connections in accordance with normal practices.
B. On certain combined systems, i.e. pumped central heating and gravity hot water, it may be necessary to install a check valve to prevent gravity circulation in the heating circuit when the pump is not working. This valve must be installed with the arrow on it pointing vertically upwards and in the direction ot the flow
C. If the Potterton Internal Pump Kit is not used, then the circulating pump can be fitted to either the flow or return to suit the installation.
D. Connect the gas supply pipe to the boiler gas service cock. The pipe must be run close along the side of the combustion chamber, then up to the cock. A cut-out is provided in the return edge of the adjacent casing side panel, so the pipe can run straight out from behind the boiler. There is only a minimum clearance for the pipe run.
E. Ensure the drain cock(s) is fitted.
F. Remove the circulating pump, open all water valves and thoroughly flush the system.
G. Refit the pump, fill and vent the system and test for water soundness, rectify if necessary.

FLUE (See Fig. 3)

Open the casing pack and remove the fluehood collar.
Slide the fluehood collar onto the flue pipe prior to fixing to the boiler. Position the flange to rear of boiler. Make the flue connection to the boiler draught diverter, sealing the joint with a suitable compound.

WIRING

If the Overheat Thermostat Kit is to be used, refer to Section 3 'Wiring' in the instructions supplied with the kit for connection details. When the kit is incorporated 4 core cable must be fitted as shown in the wiring diagram.
Care must be taken to ensure that all wiring to the boiler is kept clear of sharp edges and hot surfaces.

NOTE: Ensure that the earth conductor is longer than the L and N from the point of anchorage, so that the current carrying conductors become taut before the earth conductor.

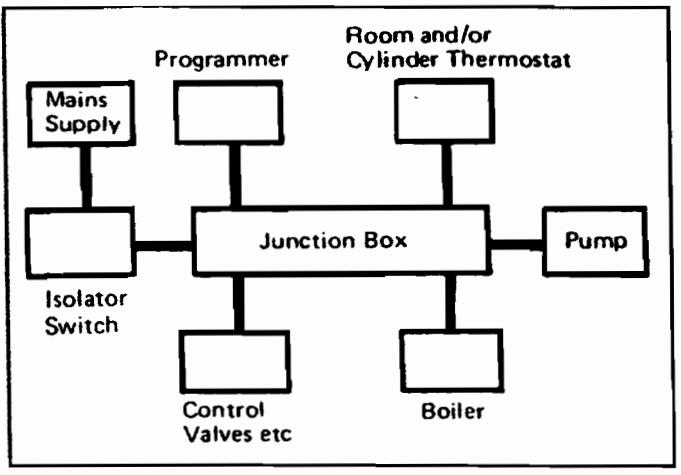


FIG. 5 PRINCIPLE OF WIRING

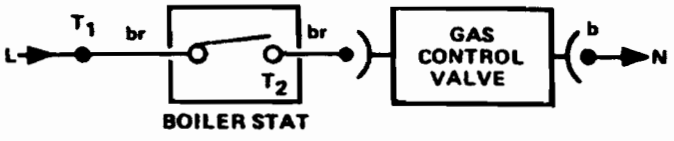


FIG. 6A WIRING DIAGRAM

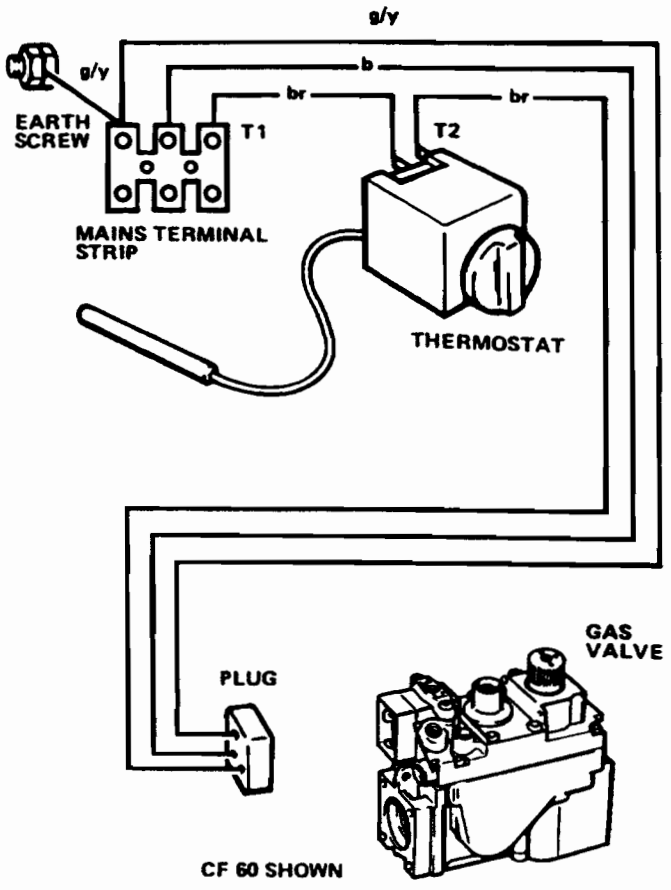


FIG. 6B

Ensure that sufficient input cable is provided to allow routing along the top of the casing side panel. (See Section 10 – Casing).
Remove the side screw and hinge the control box from its housing to expose the terminal strip.
The boiler terminal strip is not designed to accept wiring from all the on-site system controls and therefore the installer will usually need to incorporate a suitable junction box. The principle of wiring up the boiler and its controls is shown in Fig.5. However, the layout of a particular system will itself govern the most economical location for the junction box and its terminals.
When all wiring is complete hinge the control box into its housing and secure it with the side screw.

7. COMMISSIONING THE BOILER

Before lighting the boiler, the whole of the gas installation, including the meter, must be inspected and tested for soundness and purged, in accordance with the recommendations of CP.331: Part 3.

7.1. PRELIMINARY ELECTRICAL SYSTEM CHECKS

In the event of an electrical fault after installation of the appliance, preliminary electrical system checks as described in the British Gas Multi-meter instruction book must be carried out. The checks to be carried out are :

A. Earth Continuity Check.
B. Short Circuit Check
C. Polarity Check
D. Resistance to Earth Check
See Figures 6A, B and 7.

IMPORTANT

This series of checks are the first electrical checks to be carried out during a fault finding procedure. On completion of a service/ fault finding task which has required the breaking and remaking of electrical connections, then the checks A. Earth Continuity; C. Polarity; and D. Resistance to Earth must be repeated.

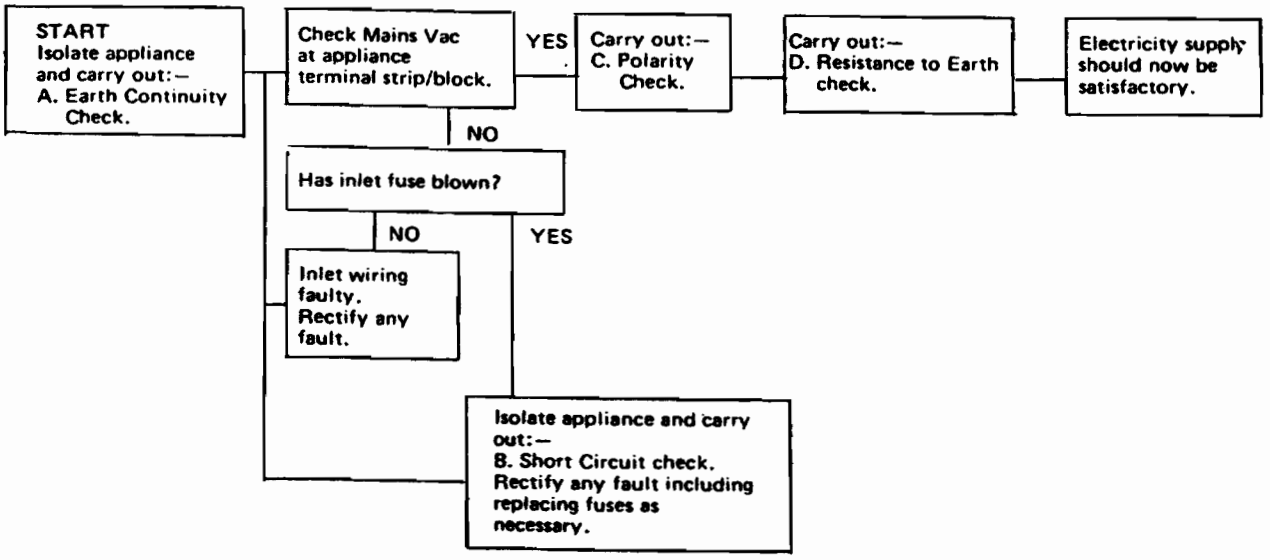


FIG. 7

8. LIGHTING

A. Check that the main electricity supply to the boiler is switched on and that the boiler thermostat is in the off position.

B. Turn on the main gas supply.

WARNING:
OPEN ALL WINDOWS AND EXTINGUISH ANY NAKED LIGHTS IN THE ROOM AND PUT OUT PIPES AND CIGARETTES.

C. Break the union at the boiler gas service cock then open the cock and purge any air from the supply pipe. See CP.331 Part 3.

D. Close the cock. remake the union then re-open the cock and test for gas soundness using a soap solution.
WARNING: DO NOT USE A NAKED FLAME.

E. Ensure that the system is full of water and that the pump and radiator isolating valves are open.

F. Ensure that the time control, if fitted, is in an ON condition, and that the room and/or cylinder thermostats. where fitted are set to high.

G. Turn the control knob on the gas control valve clockwise until the black dot lines up with the mark on the gas valve body. This ensures that the valve is in the 'OFF' condition. (See knob details).

H. Lift the tab and swing aside the cover above the pilot burner. Turn the control knob on the gas control valve so that the stylised ignition symbol lines up with the mark on the gas valve body (See Fig.9. Press and hold in the control knob and press the piezo unit until a click is heard. Release the piezo unit and repeat operation until the pilot ignites. Hold in the control knob for a further 15 seconds; on release the pilot should remain alight. Turn the control knob anti-clockwise until the stylised flame symbol lines up with the mark in the valve body. Swing back the small cover above the pilot burner.

NOTE: On first lighting establishment of the pilot flame may be slightly delayed due to the presence of air in the pipework. If the pilot fails to light or goes out at any time, immediately turn Ihe control knob clockwise as far as possible, then release it and wait three minutes before repeating the lighting procedure. The control knob should not be touched during this period,

I. Turn the boiler thermostat on and to a high setting and the main burner will light.

J. Set the boiler thermostat and the room and/or cylinder thermostat(s) and time control, where installed, to their required operating conditions.

K. Check that there is no spillage or leakage of combustion products in accordance with BS.5440 Part 1. Check gas soundness of joints using leak detection fluid.

L. Allow the system to reach maximum working temperature and examine for water soundness.

M. Switch off the boiler, using the thermostat knob.

N. Drain the system whilst it is still hot, then refill and vent and make a final examination for soundness.

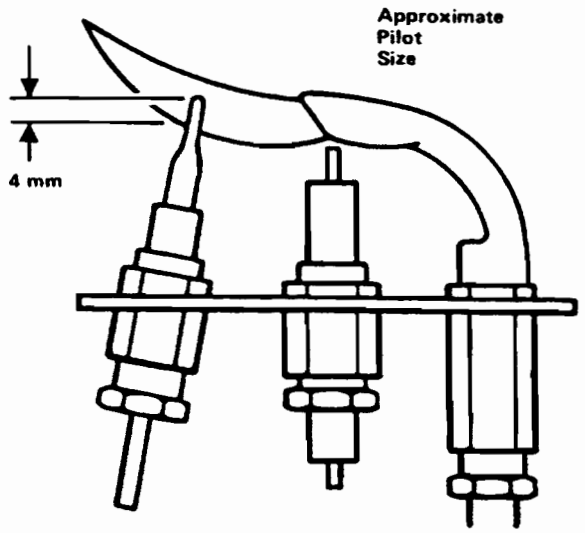


FIG. 8

9. FINAL ADJUSTMENT

A. Gas Rate and Main Burner Pressure Setting

(1) Fit a pressure gauge to the pressure test nipple at the outlet side of the gas valve (see Fig.9).

(2) Turn on the boiler thermostat. then check that the burner pressure is in accordance with Table 1.

(3) (i) CF.40, CF.50. If burner pressure adjustment is necessary, turn the small slotted head screw, located on the top of the control valve between the control knob and the inlet pressure tapping (clockwise to decrease pressure). Shut down the boiler, remove the pressure gauge and refit the screw in the pressure test nipple, ensuring a gas tight seal is made.
(ii) CF 60 only. If burner pressure adjustment is necessary, remove the screwed cap on the top of the control valve and turn the screw beneath clockwise to increase pressure or anti-clockwise to decrease. Refit the screwed cap when the pressure is correct, Shut down the boiler, remove the pressure gauge and refit the screw in the pressure test nipple, ensuring a gas tight seal is made.

(4) With the burner set to its correct pressure, the heat input given in Table 1 should also be obtained and this should be checked by meter reading over a period of at least 10 minutes once the boiler is hot.

(5) When the desired heat input is achieved, remove the self-adhesive arrow from the inspection ticket and stick it to the Data Plate to indicate the burner setting pressure appropriate to the system design.

B. Pilot Burner

The pilot burner is factory-set for all boilers, and therefore no adjustment should be required. However, should the pilot adjustment screw need to be removed or altered for any reason, this may be carried out with the use of a coin. (CF.40 and CF.50 only. CF.60 is accessible with a screwdriver).

The pilot flame should heat the thermocouple so that the pilot safety device is "held in" but must not cause the thermocouple to glow br ight red. Fig.8 shows the approximate pilot sizes for each appliance. The E.M.F. generated by the thermocouple should be of the order of 20 – 30 mV open circuit, 10 – 14 mV closed circuit. Drop out should occur between 1 – 3 mV closed circuit.

C . Boiler Thermostat

(1) At its minimum and maximum settings, the thermostat should control the water flow temperature at approximately 55° C to 82°C (130°F—180°F) respectively.

(2) The thermostat has been calibrated by the makers and no attempt should be made to recalibrate it on site. Turn the thermostat to the off position and check that the main burner shuts down.

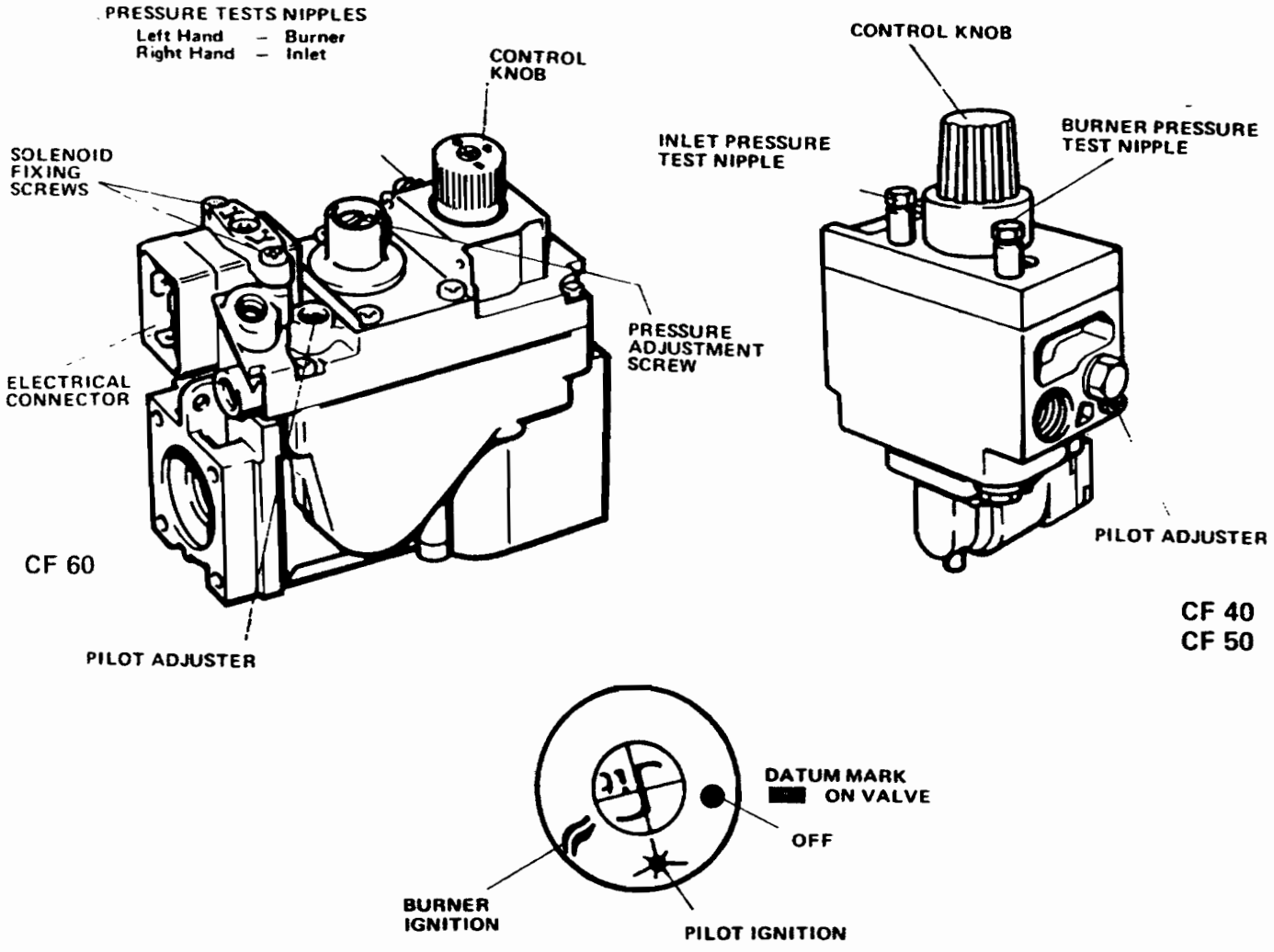
D . Gas Control Valve

(i) Main Solenoid
Check the operation of the valve by turning off the electricity supply, either by the isolating switch or the time control, where installed The main burner must shut down immediately.

(ii) Pilot Solenoid
Turn the gas control knob to the off position The pilot must shut down, and a "click" indicating thermocouple drop out, should be heard within 60 seconds.

E . Remote Controls

Check that any other remote control connected in the system such as time clocks and thermostats control the boiler as required.



KNOB DETAILS **FIG. 9**

10. CASING—See Fig.10

A. Remove the casing pack contents and check against parts list
   a) Case top panel
   b) Side panels (left and right hand)
   c) Case front panels (upper and lower)
   d) Plinth
   e) Fastener pack
   f) Rear tie strap
   g) Side panel infill
   h) Fluehood collar (fitted in Section 5. Flue)

B. Electrically isolate the boiler and remove the screw at the left hand side of the control box. Hinge forward to cxpose the inside of the control box.

C. Remove the screw at the top left hand side of the control box backplate and remove the front strap from its transit position.

NOTE: CF60 only (See Fig. 3)
Remove the fluehood heat deflector from its transit position at the rear of the fluehood, together with the spacing nuts under the deflector.

D. Fit the captive nuts supplied in the Fastener Pack to the hole positions shown in Fig.10 (8 off. including 2 for the side infill panel if fitted). The 4 smaller captive nuts and screws contained in the additional bag should be used for the plinth.

E. Fit the rear tie strap to the two studs at the rear of the fluehood with 2 M5 nuts. Ensure that the cut-outs are downward facing.

NOTE: CF.60 only
Refit the heat deflector over the nuts securing the tie strap. Secure with 2 further M5 nuts.

F. Fit the front tie strap to the rear of the control box. Do not fully tighten the screws at this stage. (Re-use the M5 screw holding tie strap in transit position and the other from the tie strap itself.

G. If required, the side infill panel may be fitted to the left or right hand side panel to improve the side appearance of the boiler.
The side panels are handed by the location label fitted to the lower, rear corner of the side panel.

H. Using the locating labels to identify the correct panel, fit the correct holes in the side panels over the knibs, on the rear of the boiler base tray.

J. Use self-tapping screws to secure the side panels to the rear tie strap, front tie strap and the captive nuts at the front of the boiler base tray.

K. Fit the cable retaining clips to the top flange on the appropriate side panel. Ensure that the cable is routed away from hot metallic surfaces.

L. Pick up the casing top panel and locate the plastic panel fasteners over the larger diameter of the key hole cut-outs in the side panel. Slide the top panel towards the wall to lock into position. Secure the front of the top panel with two self-tapping screws and captive nuts.

M. It is now possible to lower the fluehood collar onto the top panel and push into position over the fluehood socket. The flange should be positioned towards the wall.

N. Square up the casing assembly and secure in position by fully tightening the screws left loose at the rear of the control box. Close the control box and secure with the side screw.
Ensure the thermostat phial is pushed fully into the pocket and securely located by its split pin.

P. Fit the plinth to the four captive nuts at the base of the side panels using the screws and washers from the additional polythene bag. The two lugs on the plinth should be uppermost and forward facing.

Q. Fit the brass studs to the smaller hole of the bank of three holes in each side of the upper front panel using the M5 nuts and shakeproof washers. Push firmly home into the retainers in the side panels.

R. Fit the two universal case restraining brackets and their captive nuts to the holes beneath the bank of three holes in the flange of the lower front panel (see Fig.10).
Fit the brass studs to the smaller holes of the bank of three holes in each side of the lower front with the M5 nuts and shakeproof washers.

S. Locate the two slots on the bottom flange of the lower front panel over the locating lugs on the plinth, spring the panel restrainer inside the side panel flange and push firmly home into the retainers in the side panel.
The case assembly is now complete. It is possible to adjust the boiler thermostat; or turn the boiler off without removing the lower front panel. simply pull the panel forward and allow the restrainer to rest against the side panel.
If a second side infill panel or casing top panel extension to allow flush fitting with 900mm kitchen units are required, they may be obtained as optional extras .

NOTE: On open flued boilers, no attempt should be made to cover the open area at the rear of the side panels.

T. Remove the temporary label from the top of the casing, having checked compliance with the information it contains.

NOTE: If the Overheat Thermostat Kit is used, stick the revised wiring diagram label over the wiring section of the information label fitted to the inside of the casing lower front panels.

11. INSTRUCT THE USER

The installer should demonstrate the operation of the boiler to the householder, and ensure that all boiler literature is handed over to the user. The installer should advise the householder on the precautions necessary to avoid damage during frost conditions. The householder should be advised that, for continued efficient and safe operation, it is important that adequate and regular servicing is carried out on the boiler.

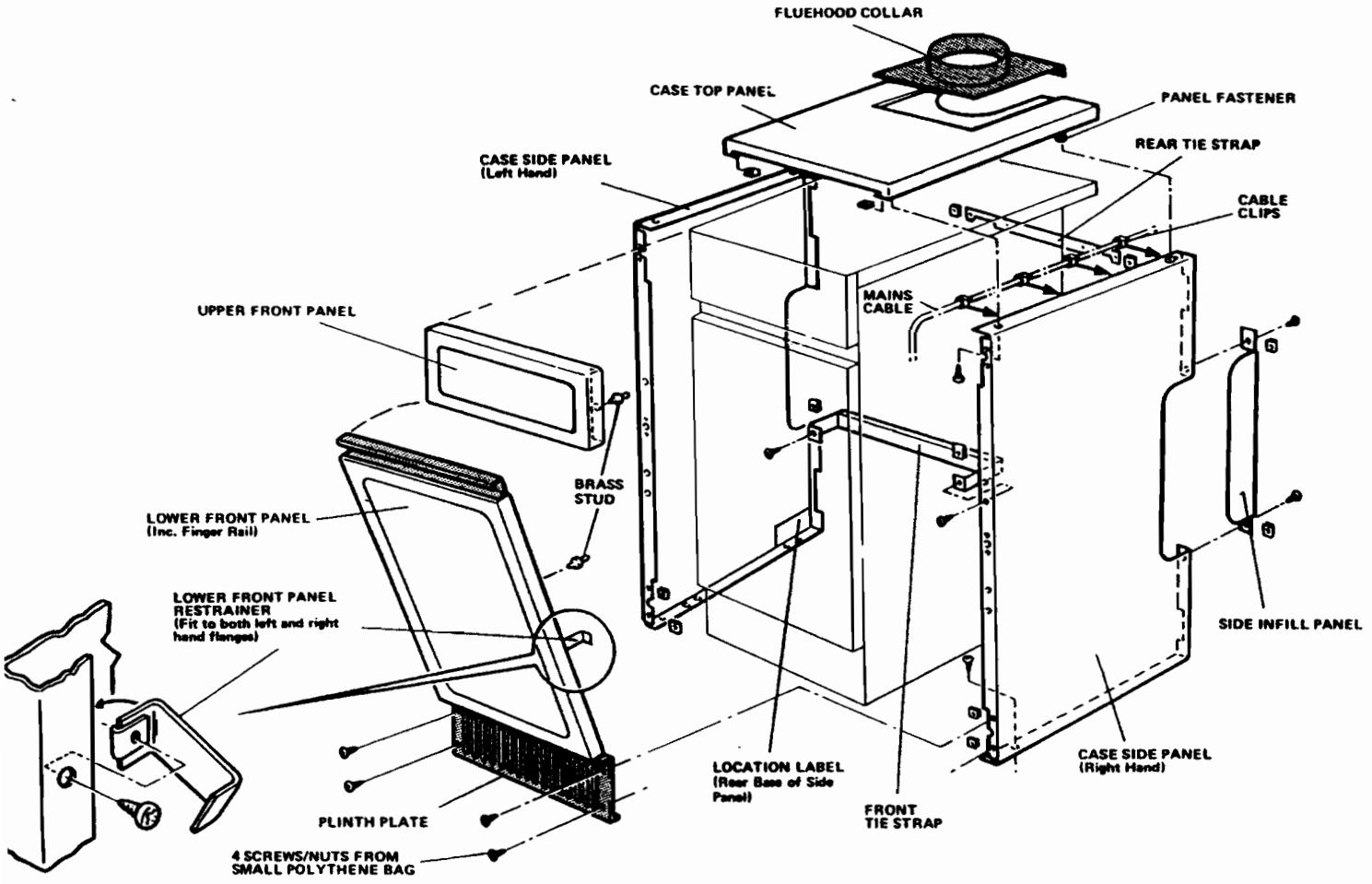


FIG. 10

SERVICING SECTION

SERVICING INSTRUCTIONS

Regular skilled servicing and cleaning of the appliance is essential to ensure continued safe and efficient operation. The frequency of cleaning will depend upon the particular installation conditions, and the use to which the appliance is put, but in general, once per year should be adequate.

It is the law that all appliances are installed and serviced by competent persons as stated in Gas Saftey (Installation and Use) Regulations 1994.

For Health and Safety information see back page.

Electrical installation and servicing should be carried out by a competent person in accordance with the I.E.E. Wiring Regulations.
If there has been any delay in cleaning and the boiler has been switched off, it is desirable to operate the boiler for a short time to dry out deposits in the flueway which. if they are left in the cold state, will absorb moisture and become both corrosive and difficult to remove.
The following notes apply to the boiler and its controls, but it should be remembered that attention must also be paid to the heating circuit itself including radiator valves, thermostats, the time control and the expansion and feed water system. In all cases prior to servicing, light up the boiler and check that the pilot and main burners have a clean, even flame and that the gas rate and main burner pressure is correctly set.

BEFORE THE START OF ANY SERVICING WORK, SWITCH OFF THE MAIN ELECTRICITY SUPPLY AND DISCONNECT THE PLUG AT THE MAIN ISOLATING SWITCH AND SOCKET. TURN OFF THE BOILER GAS SERVICE COCK.

NOTE: Where it is required to break any seal during servicing the seal should be examined carefully for damage and if necessary replaced. It is important to obtain the correct Potterton Myson approved part for the seal replacement which is available from Interpart spares stockists, or where difficulty in supply is experienced, directly from Potterton Myson.
After any servicing or component replacement, always test the boiler for gas soundness and carry out functional checks of controls. (See Commissioning Section in Installation Instructions) .

1. PREPARING THE BOILER

A. Remove the casing upper and lower front panels by pulling forward.
B. Remove the plinth after removing the 4 self tapping screws and washers.
C. Remove the combustion chamber front panel assembly by removing the 4, M5 screws and washers from each corner.

2. MAIN BURNER ASSEMBLY — Removal & Cleaning

NOTE: If an Overheat Thermostat is fitted, the leads must first be removed from the gas valve prior to burner removal.
CF.60: Remove the insulating boot and disconnect the in-line connector. Remove the thermocouple from the gas valve and slide the white insulator and connector from the slot at the underside of the gas valve.
CF.40 & CF.50: Slacken the thermocouple and remove the thermocouple interrupter.

A. Disconnect the union at the boiler gas service cock.
B. Remove the 2 hexagon head screws and washers securing the burner mounting plate to the boiler base tray
C. (i) CF.60: Remove the 2, M5 screws and washers securing the control valve to the bracket from the heat exchanger.
(ii) CF.40 & CF.50: Release the securing screw on the supply pipe clamping bracket and remove the clamping bracket.
D. (i) CF.60: Unplug the electrical lead from the left hand side of the gas valve.
(ii) CF.40 & CF.50: Disconnect the earth screw and remove the screw retaining the lower section of the plastic terminal cover. Remove the plastic cover. Gently ease forward the top section of the plastic connector and at the same time pull it away from the tag connections complete with it's cable .
E. Disconnect the spark lead from the piezo unit.
F. Remove the burner and control assembly from the combustion chamber.
G. On boilers using burners fitted with external gauzes, remove the gauzes by unscrewing either M5 nuts (CF.60) or M5 wingnut (CF.40).
H. Remove the pilot assembly from the burner by unscrewing the 2 pilot mounting screws and uncoupling the thermocouple and pilot gas connecttion at the base of the pilot.
J. Remove and inspect the pilot injector for dirt deposits and clean if necessary. The pilot injector may be extracted using a blunt tool such as an Allen key. Likewise inspect and clean the electrode and thermocouple using a soft brush.
K. Remove the burner(s) by releasing the four nuts securing the burner(s) to the burner mounting plate.
L. Clean all deposits from the surface of the burner flamestrips with a soft brush or vacuum cleaner. Remove the burner end caps and extract the gauzes from those burners with internally fitted gauzes. Remove all deposits from inside each burner and ensure all gauzes are clean and free from dirt.
M. Inspect the main burner injector(s) and if necessary remove and ensure they are clean.
N. Re-assemble the injectors, gauzes and burners to the main burner Assembly but do not refit to the boiler at this stage as the flueways in the heat exchanger have first to be cleaned.

HEAT EXCHANGER

A. Unscrew the four nuts and remove the access cover from the fluehood.
B. Working from above and below the heat exchanger, using a suitable brush, remove all deposits from between the fins of the casting.
C. Refit the fluehood cover, ensuring that a good seal is made. Tighten the four nuts.
D. Remove all deposits from inside the boiler combustion chamber.

MAIN BURNER ASSEMBLY—Replacement

Re-assembly of the main burner is by the reverse order of the removal procedure.

5. OTHER BOILER COMPONENTS

No further servicing has to be carried out on any other unit. Repair is by replacement and instructions on this are given later.

6. BOILER ADJUSTMENT

A. Refit the combustion chamber front plate across the front of the combustion chamber and secure it with the four screws.
B. Fit a pressure gauge to the pressure test nipple at the left hand side of the control knob (see Fig.9).
C. Switch on the main electricity supply to the boiler and check that the boiler thermostat is in the off position .
D. Turn on the gas service cock,
E. Ensure that the system is full of water and that the pump and radiator isolating valves are open,
F. Ensure that the time control, if fitted, in an 'ON' condition and that the room and/or cylinder thermostats, where fitted, are set to high temperatures.
G. Turn the control knob on the gas control valve clockwise as far as possible and release. This ensures the valve is in the off condition.
H. Lift the tab and swing aside the cover above the pilot burner. Turn the control knob on the gas control valve so that the stylised ignition symbol lines up with the mark on the gas valve body (See knob details). Press and hold in the control knob and press the piezo unit until a click is heard, Release the piezo unit and repeat operation until the pilot ignites. Hold in the control knob for a further 15 seconds, on release the pilot should remain alight. Turn the control knob anti-clockwise until the stylised flame symbol lines up with the mark in the valve body. Swing back the small cover above the pilot burner.

NOTE: On first lighting, establishment of the pilot flame may be slightly delayed due to the presence of air in the pipework. If the pilot fails to light or goes out at any time, immediately turn the control knob clockwise as far as possible then release it and wait three minutes before repeating the lighting procedure. The control knob should not be touched during this period.

J . Pilot Burner

The pilot pressure is factory set and therefore should not require adjustment. However, should the pilot adjustment screw need to be removed or altered, this may be carried out with the use of a coin. The pilot flame should heat the thermocouple so that the pilot safety device is"held in" but must not cause the thermocouple to glow bright red. Fig.8 shows the approximate sizes of the pilot flames.

K. Turn on the boiler thermostat and set it to the required temperature and the main burner will light, Check that the burner pressure is in accordance with the setting indicated by the arrow fitted on the data plate .
L. i)**CF.60:** If burner pressure adjustment is necessary remove the screwed cap on the top of the control valve and turn the screw beneath clockwise to increase pressure or anti-clockwise to decrease. Refit the screwed cap when the pressure is correct. Shut down the boiler, remove the pressure gauge and refit the screw in the pressure test nipple, ensuring a gas tight seal is made.

ii) **CF.40:** If burner pressure adjustment is necessary turn the small slotted head screw, located on the top of the control valve between

the control knob and the inlet pressure tapping, clockwise to decrease pressure or anticlockwise to increase. Shut down the boiler, remove the pressure test nipple ensuring a gas tight seal is made.

With the burner set to its correct pressure, the heat input should also be obtained and this should be checked by meter reading over a period of at least 10 minutes once the boiler is hot.

l. Refit the casing plinth and secure with the four screws .

. Refit the front casing panels.

. REMOVAL/REPLACEMENT OF BOILER COMPONENTS

. Main Burner and Injector

) Carry out operations A, B and C under 1. 'Preparing the Boiler'.

) Turn off the boiler gas service cock.

) Isolate the main electricity supply to the boiler, and/or disconnect plug.

) Carry out operations A to F under 2. 'Main Burner Assembly — Removal and Cleaning'.

) Unscrew the two screws and remove the pilot assembly from the main burner.

)- Unscrew the two screws, nuts or wing nuts securing the burner to the burner manifold. On CF.40 and CF.60 remove gauze.

') Release the four nuts securing the burner(s) to the mounting plate, remove burner.

:) Unscrew the injector(s) from the manifold.

!) Replacement is the reverse of removal.

0) Test the boiler as described in 6. 'Boiler Adjustment'.

). Pilot Burner and Injector

i) Carry out operations A, B and C under 1. 'Preparing the Boiler'.

2) Turn off the boiler gas service cock.

3) Isolate the main electricity supply to the boiler and/or disconnect plug.

4) Carry out operations A to F under 2. "Main Burner Assembly — Removal and Cleaning'.

5) Remove the two screws securing the pilot assembly to its mounting bracket.

6) Disconnect the thermocouple, spark electrode and spark lead from pilot assembly.

7) Disconnect the pilot supply pipe at the base of the pilot. The pilot injector may be extracted using a blunt tool such as an Allen key.

8) Replacement is the reverse of removal.

9) Test the boiler as described in 6. "Boiler Adjustment".

C. Thermocouple

1) Carry out operations (1) to (6) under 7.B. "Pilot Burner and Injector".
2) Disconnect the thermocouple lead from the gas control valve, noting the route the lead takes from the pilot assembly. The replacement lead must be routed in a similar manner, so that sharp bends in the lead are eliminated.
3) Replacement is the reverse of removal.
4) Test the boiler as described in 6. "Boiler Adjustment" .

NOTE: If the Overheat Thermostat Kit is fitted, care should be taken not to disturb the thermocouple interrupter leads.

D.i) Gas Control Valve (without Overheat Thermostat Kit)

1) Carry out operation A to F under 2. "Main Burner Assembly— Removal and Cleaning'.
2) Turn off the boiler gas service cock.
3) Isolate the main electricity supply and/or disconnect plug,
4) Disconnect the pilot supply tube and the thermocouple lead from the gas valve.

5)i) **CF.40:** Unscrew the valve from the burner
CF.50: manifold pipework. Remove the inlet pipework from the valve and refit to the new valve.

ii) **CF.60:** Remove the four screws securing the burner manifold flange to the gas valve. Retain the gasket and securing bracket for use when fitting the new valve. Remove the pipework on the inlet side of the valve. Refit the gasket. securing bracket and burner manifold to the new valve.

6) When all pipework connections are complete, replacement into the boiler is described in Section 4 'Main Burner Assembly. Replacement'.
7) Test the boiler as described in 6. "Boiler Adjustment".

D.ii) Gas Control Valve (with Overheat Thermostat Kit)

1) Carry out operation A to F under 2. 'Main Burner Assembly — Removal and Cleaning'.
2) Turn off the boiler gas service cock.
3) Isolate the main electricity supply and/or disconnect plug,
4) Disconnect the union at the gas service cock.
5) Disconnect the pilot supply tube at the gas valve .
6) Remove the thermocouple from the underside of the gas valve.

7)i) **CF.40, CF.50** – Remove the soldered insert and disconnect the thermocouple interrupter.

ii) **CF.60** – Remove the insulating boot and disconnect the in-line connector. Slide the white insulator and the connector from the slot at the underside of the gas valve.

8)i) **CF.40, CF.50** – Unscrew the valve from the burner manifold ptipework. Remove the inlet pipework from the valve and refit to the new valve.

ii) **CF.60** – Remove the four screws securing the burner manifold flange to the gas valve, Retain the gasket and securing bracket for use when fitting the new valve. Remove the pipework on the inlet side of the valve and refit to the new valve. Refit the gasket, securing bracket and burner manifold to the new valve,

9) When all pipework connections are complete replacement into the boiler is described in Section 4. 'Main Burner Assembly Replacement'.
10) Test the boiler as described in 6. "Boiler Adjustment'.

E.i) Boiler Thermostat (without Overheat Thermostat Kit)

1) Remove the casing upper and lower panels by pulling forward.
2) Turn off the boiler gas service cock.
3) Isolate the main electricity supply to the boiler, and/or disconnect plug.
4) Remove the split pin then withdraw the thermostat phial from its pocket in the heat exchanger.
5) Remove the screw at the left hand side of the control box and hinge down to gain access.
6) Disconnect the two wires from the thermostat.
7) Pull off the thermostat knob, then remove the two screws and washers from around the spindle of the thermostat. Remove the thermostat complete with its capillary. (Pliers may be used to open the slot in the side of the box).
8) Replacement is the reverse of removal. Ensure that the thermostat phial is inserted to the full depth of its pocket and resecure with split pin. The thermostat capillary should be routed away from the heat exchanger and positioned in its slot at the side of the control box. (It may be necessary to use pliers to close the slot).
9) Test the boiler as described in 6. "Boiler Adjustment".

E.ii)Boiler Thermostat (with Overheat Thermostat Kit)

1) Remove the casing front panels by pulling forward .
2) Turn off the boiler gas service cock.
3) Isolate the main electricity supply to the boiler. and/or disconnect plug.
4) Remove the screw at the left hand side of the control box and hinge down to gain access.
5) Remove the split pin from the thermostat pocket head and withdraw the boiler thermostat phial from the pocket,
6) Use a pair of pliers to open the thermostat capillary slot on the side of the control box and remove the capillary from the slot.
7) Remove the leads from the boiler thermostat, noting their positions.
8) Pull off the thermostat knob, then remove the two screws and washers from around the spindle of the thermostat. Remove the thermostat complete with its capillary.
9) Replacement is the reverse of removal. Ensure that the new phial is correctly coupled with the overheat thermostat phial and inserted to the full depth of the pocket. The capillaries should be positioned away from the heat exchanger and sharp edges.
10) Test the boiler as described in 6. 'Boiler Adjustment'.

. Spark Electrode

) Carry out operations A, B and C under 1. 'Preparing the Boiler'.
) Turn off the main gas and electricity supply to the boiler.
) Carry out operations A to E under 2. 'Main Burner Assembly – Removal and Cleaning'.
) Disconnect the thermocouple and lead from the pilot assembly.
) Unscrew the electrode securing nut and remove the spark electrode.
) Fit the new electrode and ensure that the spark gap between the pilot hood and electrode is between 2mm and 4mm.
) Replacement is the reverse of removal.
) Test the boiler as described in 6. 'Boiler Adjustment'.

G. Piezo Unit

1) Remove casing lower panel by pulling forward.
2) Turn off the boiler gas service cock.
3) Isolate the main electricity supply to the boiler and/or disconnect the plug.
4) Remove the screw at the side of the control box and hinge down the front to gain access to the piezo unit.
5) Pull off the spark lead from unit.
6) Remove the two screws holding the piezo unit to the control box, and withdraw the unit.
7) Replacement is the reverse of removal.
8) Test the boiler as described in 6. 'Boiler Adjustment'.

H Spark Lead

1) Carry out operations A, B and C under 1. 'Preparing the Boiler'.
2) Turn off the main gas and electricity supply to the boiler.
3) Pull off the lead from the pilot assembly and the piezo unit.
4) Replacement is the reverse of removal. If difficulty is experienced fitting the lead onto the unit through the hole in the front of the control box, remove the side screw and hinge down the control box to gain access to the piezo unit.
5) Test the boiler as described in 6. 'Boiler Adjustment' .

NOTE: Fit the black end of the spark lead to the piezo unit.

J. Overheat Thermostat (if fitted)

1) Remove the casing front panels by pulling forward .
2) Turn off the boiler gas service cock.
3) Isolate the main electricity supply to the boiler, and/or disconnect plug.
4) Remove the screw at the left hand side of the control box and hinge down to gain access.
5) Remove the split pin from the thermostat pocket head and withdraw the phial assemblies. Remove the coiled overheat phial from the assembly.
6) Use a pair of pliers to open the thermostat capillary slot in the side of the control box and remove the capillary from the slot.
7) Remove the two leads from the overheat thermostat .
8) Remove the thermostat fixing nut and remove the thermostat complete with its capillary.
9) Replacement is the reverse of removal. Smear the surface of the coiled end of the overheat thermostat with heat conductive paste (available on request, Pt.No. 705086).
   Ensure that the thermostat phials are correctly coupled prior to fitting into the thermostat pocket and inserted to the full depth of the pocket.
   The capillaries should be positioned away from the heat exchanger and sharp edges.
10) Test the boiler as described in 6. 'Boiler Adjustment'

8. Flame Supervision Testing

With the boiler running, temporarily loosen the thermocouple connection at the gas valve. The main burner should shut off within approximately one second.
Tighten the thermocouple connection and re-light the pilot.

9. FAULT FINDING

As well as the fault finding chart given, reference should also be made to the wiring diagrams Figs. 6A & 6B. Electrical procedures are in accordance with the instructions for the British Gas Multimeter Booklet.

CONDITION	POSSIBLE CAUSE	POSSIBLE CAUSE
A. Pilot fails to light	(1) No gas supply	Check all cocks are open in the supply to the boiler.
	(2) Control knob not pressed fully down	Control knob must be pressed fully down.
	(3) Blocked pilot filter CF.40, CF.50 only.	Remove the large hexagon headed plug adjacent to the inlet connection to the valve. Lift out the filter and replace as necessary.
	(4) Blocked pilot injector	The pilot filter on the CF.60 gas valve is not a serviceable item. Remove and clean the injector as described in Section 7.B.
	(5) Piezo unit not working	Check that the striker and plunger mechanism is operating correctly. If the operating mechanism is correct, proceed as follows:— Disconnect the spark lead from the piezo unit, then place the stripped end of a suitable piece of insulated wire in the piezo; hold the other end of the wire close to the boiler waterway, then operate the generator and check if a spark is made. If no spark appears, replace the piezo. If a spark is made but it does not spark at electrode:
	(6) Electrode or lead damaged.	Replace electrode or lead as detailed in Section 7.F or 7.H.
	(7) Overheat Thermostat not operating	a) Check that reset button is pressed. b) Check overheat thermostat using procedure given in Fig.14. Replace if necessary as detailed in 7J.

CONDITION	POSSIBLE CAUSE	POSSIBLE CAUSE
B. Main burner fails to light and pilot is extinguished when pressure on the control knob is released.	(1) Control knob not held down long enough.	Control knob must be fully pressed down for 20 seconds before main valve can be energised.
	(2) Loose thermocouple connection into control valve.	Tighten thermocouple union nut finger tight plus ¼turn only. Ensure connection is clean and dry. TOO MUCH PRESSURE MAY DAMAGE INSULATION AND CAUSE FAILURE.
	(3) Partially blocked pilot filter or pilot injector	As item A(3) and A(4).
	(4) Failure of thermocouple, power unit or latching mechanism	After pilot has been on for 20 seconds release control knob. If pilot goes out: a) Check F.F.D. and thermocouple using procedure given in Fig.11. b) If thermocouple has failed, replace as described in 7.C. Similarly, if control valve has failed, replace as described in 7.D.
C. Main burner fails to light, pilot burning.	(1) Boiler thermostat set to 'OFF' or low setting.	Note reading of thermostat dial and check temperature of flow pipe.
	(2) Additional controls not calling for heat.	Check programmer or clock is 'ON' and that room thermostat or other distant control is not closed down. Carry out preliminary electrical system checks.
	(3) S.I.T. control solenoid valve failed.	Check solenoid using procedure given in Fig.12. If solenoid valve has failed, replace as described:– CF.40; CF.50 ONLY: a) Disconnect electrical supply to the valve. b) Remove solenoid valve by unscrewing the two screws securing the solenoid valve to the base of the control valve. c) Lift off the solenoid valve and its gasket. d) Re-assemble in reverse order. CF.60 ONLY: a) Disconnect electrical supply to the valve. b) Remove solenoid securing screws (see Fig.9). c) Re-assemble in reverse order.
	(4) Thermostat out of calibration or faulty	Check thermostat using procedure given in Fig.13. If faulty replace thermostat as detailed in 7.E.
	(5) Blocked main burner injector.	Clean or replace injector as detailed in Section 7.A.
D. Burner fails to shut down when water reaches pre-determined temperature.	(1) Thermostat out of calibration or faulty.	Remedy as in Item C.(4)
	(2) Dirt on valve seat of S.I.T. control CF.40, CF.50 only.	Clean the valve seat as follows: a) Remove the solenoid valve as detailed in C.(3) above. b) Clean the valve seat and the valve chamber. c) Re-assemble in the reverse order.

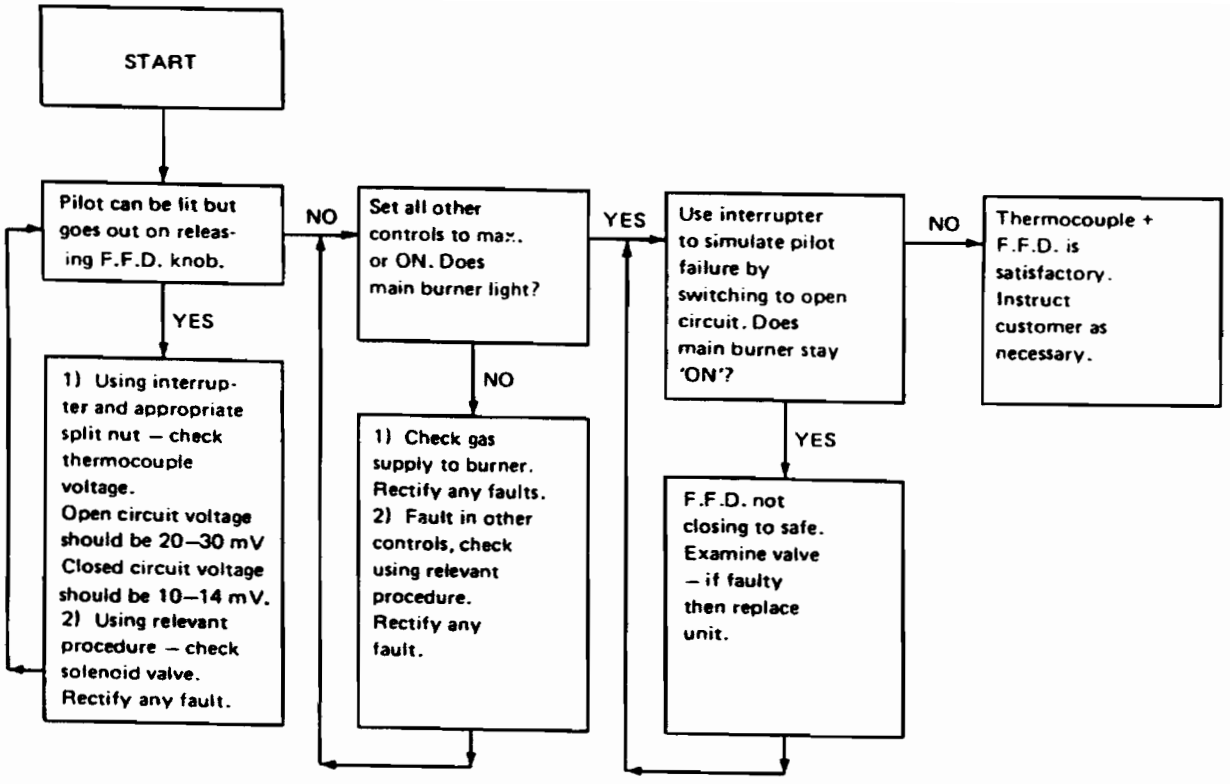


FIG. 11 F.F.D. AND THERMOCOUPLE

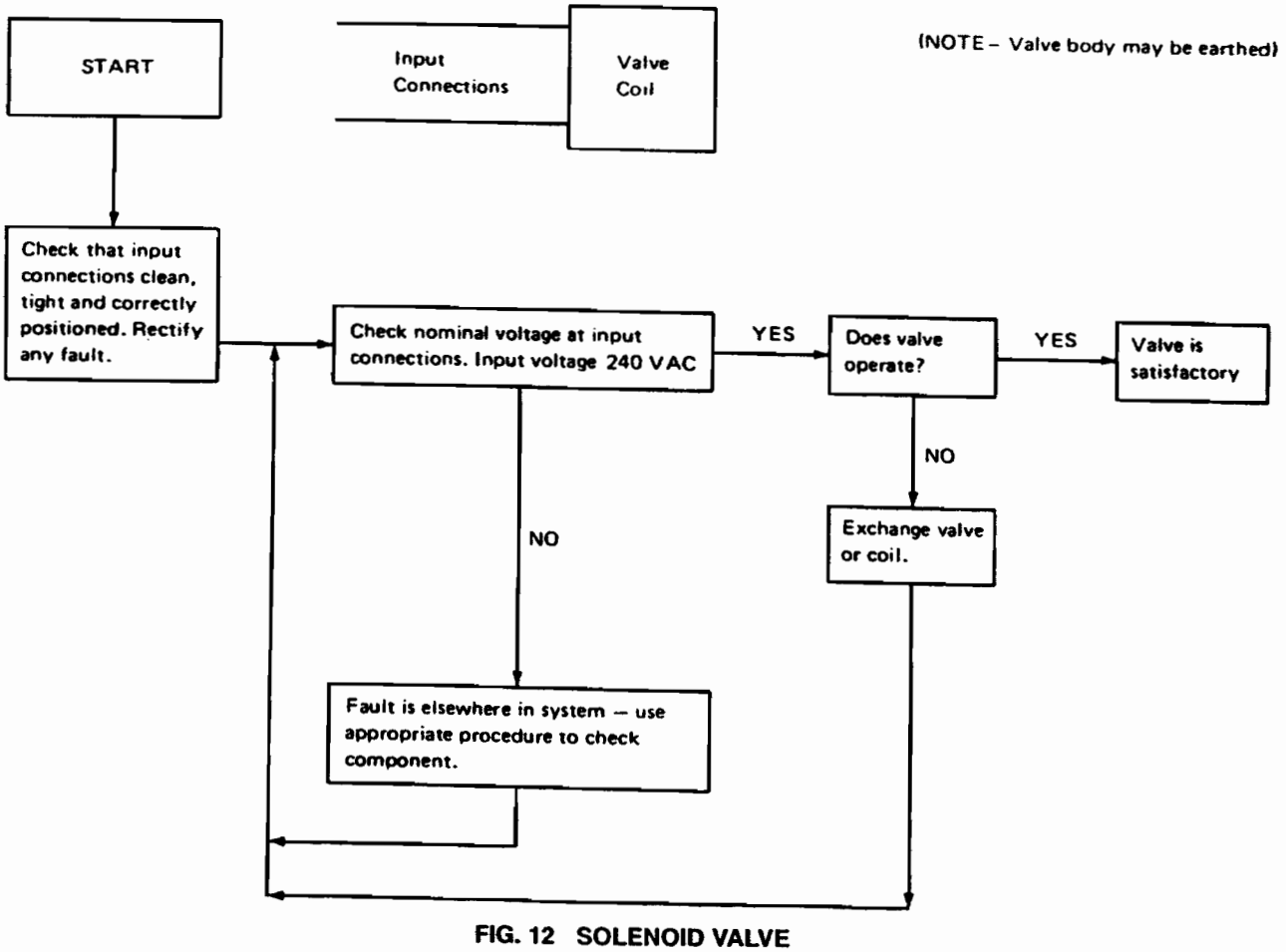


FIG. 12 SOLENOID VALVE

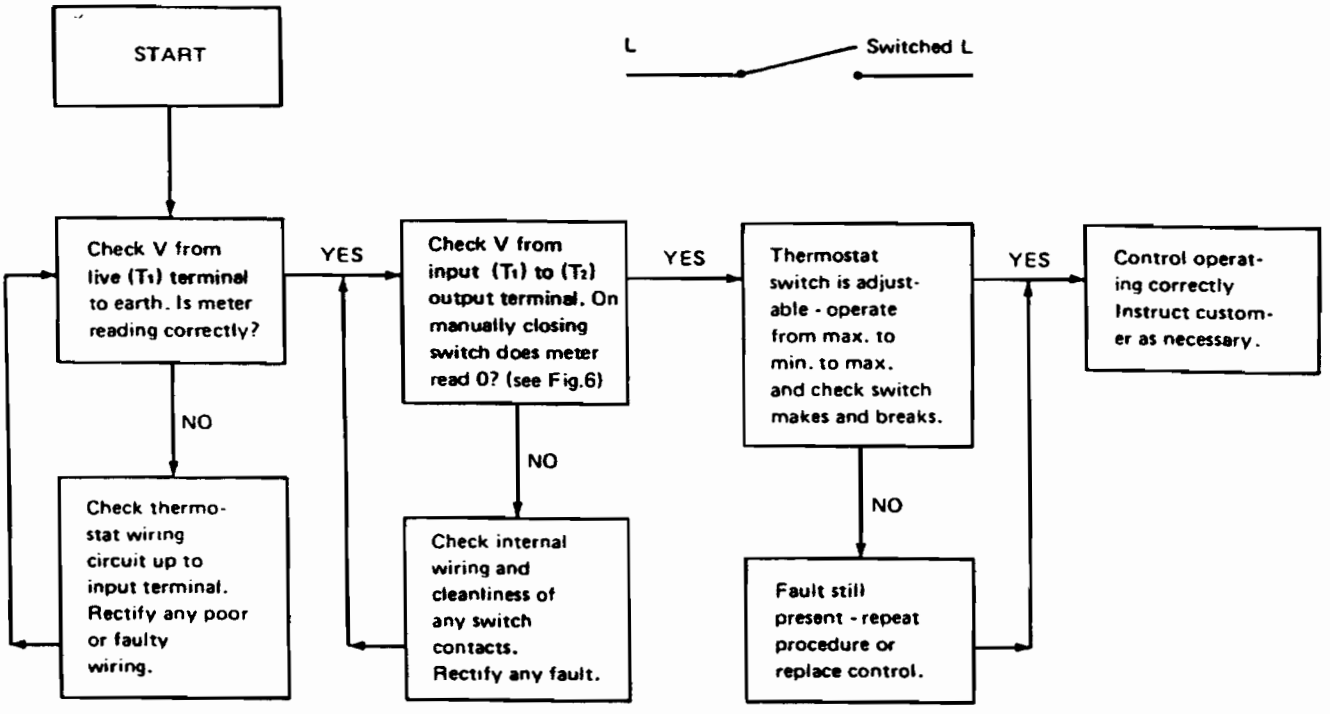
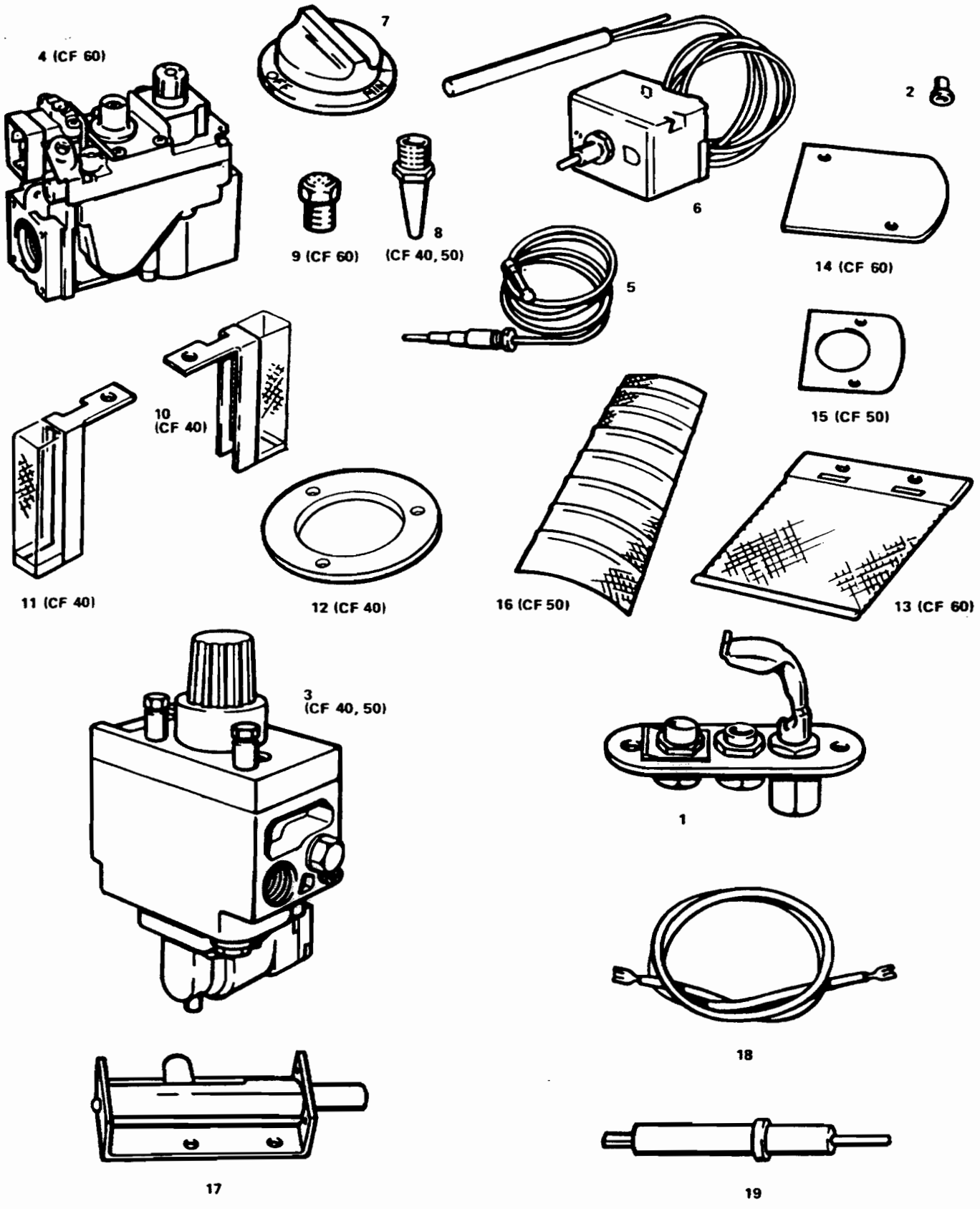


FIG. 13 THERMOSTAT

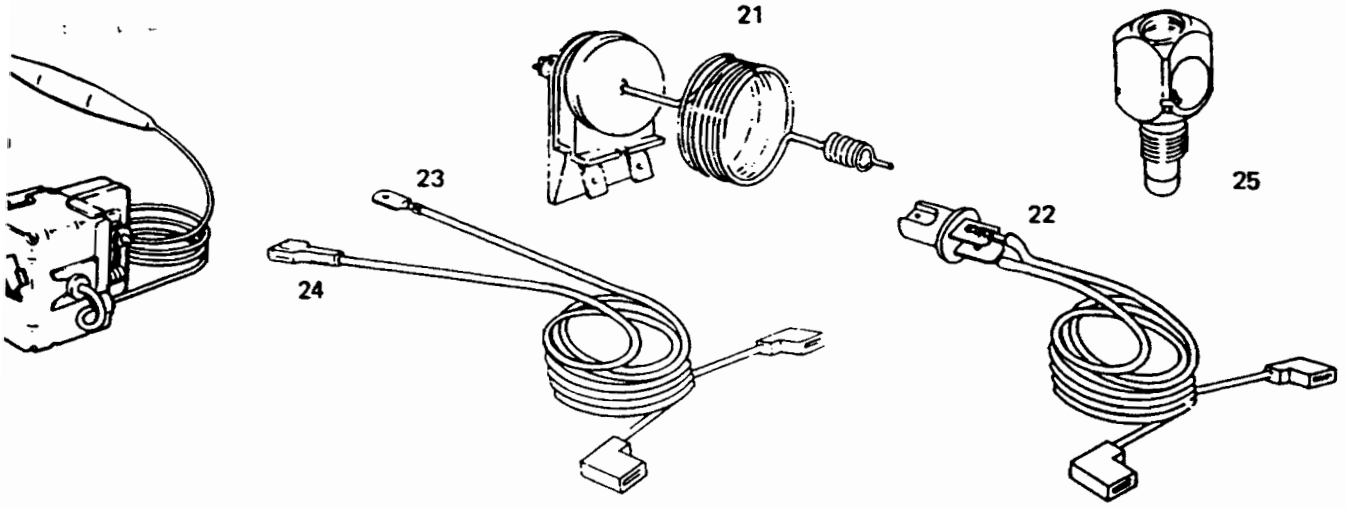
. SHORT PARTS LIST

Item Number			Description	Potterton Part No.	G.C. No.
CF.40	CF.50	CF.60			
1	1	1	Pilot Burner S.I.T. 0.140.012	402893	205 208
*	*	*			
2	2	2	Pilot Burner Injector S.I.T.	402892	395 674
3	3	*	Gas Control Valve S.I.T. Composit	402856	391 745
*	*	4	Gas Control Valve S.I.T. Nova	402906	381 627
5	5	5	Thermocouple	402905	381626
6	6	6	Thermostat Ranco CL6	404486	381 628
7	7	7	Thermostat knob	206515	381 629
8	8	*	Main Burner Injector CF.40 & CF.50	410902	384 512
*	*	9	Main Burner Injector CF.60	410998	378 772
10	*	*	Main Burner Lint Resistant Gauze R.H. (CF.40) Furigas Burner	203130	384 895
11	*	*	Main Burner Lint Resistant Gauze L.H. (CF.40) Furigas Burner	203131	384 896
12	*	*	Main Burner End Plate Gasket CF.40	905359	358 033
*		*			
*		*			
*	*	13	Main Burner Lint Resistant Gauze CF.60	204646	358 687
*	*	14	Main Burner End Plate Gasket CF.60	905484	358 686
*	15	*	Main Burner End Plate Gasket CF.50 Furigas	906242	384 893
*	16	*	Main Burner Lint Resistant Gauze CF.50 Furigas	906240	384894
17	17	17	Piezo Unit—Vernitron	407623	387 951
18	18	18	Spark Lead	407665	336 405
19	19	19	Spark Electrode—S.I.T.	402885	395 677



SUPPLEMENTARY INFORMATION FOR OVERHEAT THERMOSTAT KIT

CF. 40	CF. 50	CF. 60	Description	P.I .L. No.	G.C. No.
20	20	20	Boiler Control Thermostat	404491	381 752
21	21	21	Overheat Thermostat	404492	381 753
22	22	-	Thermocouple Interrupter Lead Assy	206753	337 174
-	-	23	Thermocouple Interrupter Lead Female/Male Connection	206787	337 184
-	-	24	Thermocouple Interrupter Lead Female/Female Connection	206786	337 183
25	25	-	Thermocouple Interrupter Body	640845	



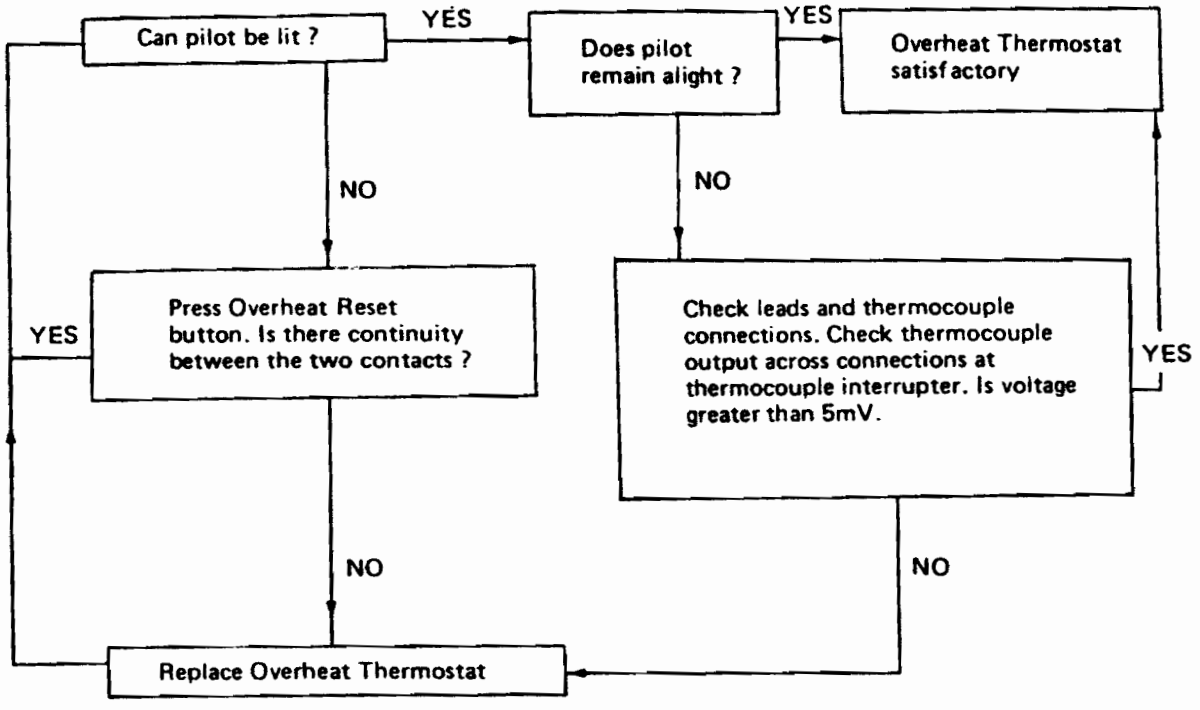
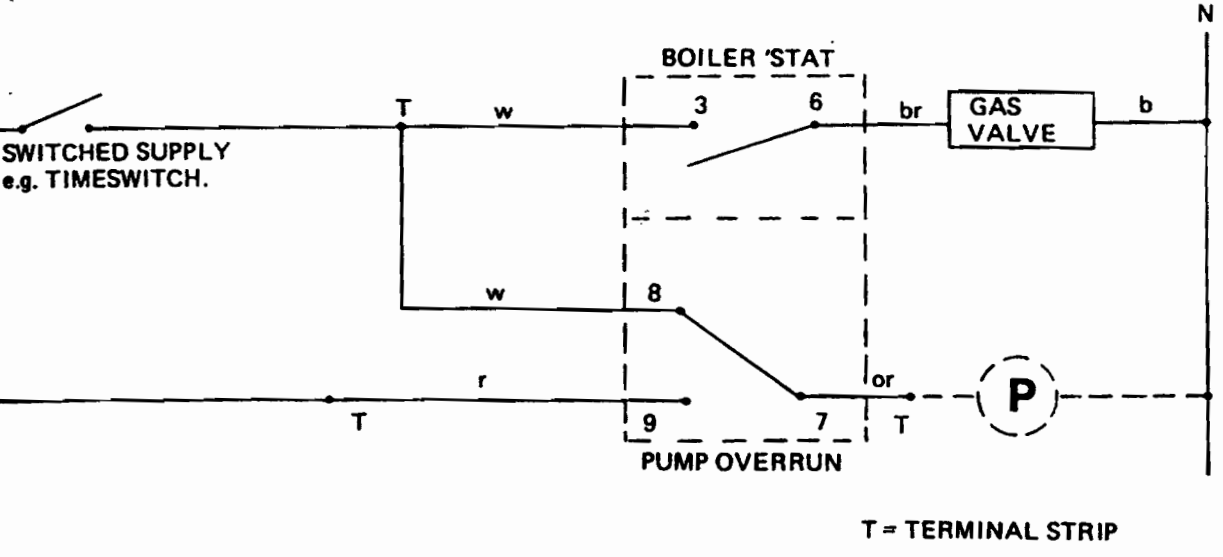


FIG. 14 FAULT FINDING OVERHEAT THERMOSTAT



T = TERMINAL STRIP

FIG. 15 FUNCTIONAL FLOW DIAGRAM (FOR OVERHEAT THERMOSTAT KIT)

HEALTH AND SAFETY INFORMATION FOR THE INSTALLER AND SERVICE ENGINEER

Under the Consumer Protection Act 1987 and section 6 of the Health and Safety at Work Act 1974, we are required to provide information on substances hazardous to health.

Small quantities of adhesives and sealants used in the product are cured and present no known hazards.

The following substances are also present.

Insulation & Seals

Material	—	Ceramic Fibre; Alumino—Silicone Fibre
Description	—	Boards, Ropes, Gaskets
Known Hazards	—	Some people can suffer reddening and itching of the skin. Fibre entry into the eye will cause foreign body irritation. Irritation to respiratory tract.
Precautions	—	People with a history of skin complaints may be particularly susceptible to irritation. High dust levels are only likely to arise following **harsh** abrasion. In general, normal handling and use will not present discomfort, follow good hygiene practices, wash hands before consuming food, drinking or using the toilet.
First Aid	—	Medical attention must be sought following eye contact or prolonged reddening of the skin.

Thermostat

Material	—	Contains very small quantity of xylene.
Description	—	Sealed phial and capillary containing liquid.
Known Hazards	—	Irritating to skin, eyes and throat. Vapour is harmful. Inflammable—do not extinguish with water.
Precautions	—	Do not incinerate. Avoid contact with broken/leaking phials. Do not purposely puncture.
First Aid	—	Eye/skin contact, wash with clean water, seek medical attention.

Sales Enquiries:	*Service Enquiries:*	*Spares Enquiries:*	*Technical Helpline:*	*Training Administration:*
Sales Department, Eastern Avenue, Team Valley Trading Estate, Gateshead, Tyne & Wear NE11 0PG.	Service Department, Brooks House, Coventry Road, Warwick, CV34 4LL	Parts Division, Queensway, Leamington Spa, Warwickshire, CV31 3RG.	Technical Department, Brooks House, Coventry Road, Warwick, CV34 4LL	Unit 5, Titan Business Centre, Spartan Close, Tachbrook Park, Leamington Spa, Warwickshire CV34 6RS
Tel: 0191 491 4466 Fax: 0191 491 7568	Tel: 01926 496896 Fax: 01926 410006	Tel: 01926 880600 Fax: 01926 880680	Tel: 01926 410044 Fax: 01926 410006	Tel: 01926 430481 Fax: 01926 882971

Made in England by: Potterton Myson Limited
Registered Office: Portobello Works, Emscote Road, Warwick CV34 5QU
Registered No: 412935

POTTERTON

Publication No. 559853/0396