

Wonderfire

AIRFLAME EXCEL MK.3 *remote control*

AF 18XL RC	9500374
AC 18XL RC	9500375

INSTALLATION & SERVICING MANUAL

Patent applied for

Please leave these Instructions with the user

This Appliance is for use in the United Kingdom (GB) and the Republic
of Ireland (IE) only.

9860379/02

IMPORTANT NOTES

If your Wonderfire Airflame Excel Mk.3 burner is to be installed within a mk.3 Wonderfire convector box, then this manual should be read in conjunction with the convector box installation manual (part number 9860375). This appliance is intended for decorative purposes. Under no circumstances must rubbish or debris of any description be thrown onto the fuel bed.

Please read the following section before commencing with installation.

Before installation, ensure that the local distribution conditions (identification of the type of gas and pressure) and the adjustment of the appliance are compatible.

It is the law that competent persons, in accordance with the Gas Safety (Installation and Use) (amendment) Regulations 1994, install all gas appliances.

Improper installation of this decorative open gas fire could be hazardous to health. This fire is to be used only in a properly flued, incombustible, masonry fireplace with the chimney or flue free of any obstruction or damper. If in doubt consult building regulations or a supplier.

This appliance must be installed in accordance with the rules in force.
The flue must be swept before installation.

This appliance must be fitted in a fireplace opening conforming to BS 1251.

A flue with a minimum diameter of 7", a minimum effective height of 3 metres, with a good upward draught is required for fires operating within standard fireplace openings. Larger fireplace openings may require a correspondingly larger chimney diameter, a faulty flue or chimney may result in products of combustion spilling into the room with consequent possible damage to furniture and decor. Conduct a smoke test before proceeding with installation.

GB only: A permanent ventilation grille of fixed design and having a minimum free area of 100cm² must be fitted with direct access to outside air to room.

Note: see convector instructions if being installed within a Wonderfire convector box for ventilation requirements.

IE only: This appliance must be installed in accordance with IS 813 1996 (as amended).

We strongly recommend the use of an approved fireguard whenever the elderly, infirm or young children are in the presence of a working fire.

The appliance is fitted with an A.S.D. (atmosphere sensing device) if the appliance closes down after a period of operation for no apparent reason, the consumer should be informed to stop using the appliance, until the installation and appliance have been thoroughly checked.

BATTERY REQUIREMENTS:

HANDSET :	1 x 9V	(PP3 type)
RECIEVER:	4 x 1.5V	(AA type)

RELATED DOCUMENTS:

Gas Safety (Installation and Use) Regulations 1994 (as amended)	BS 5440 Part 1 1990
BS 5871 Pt 3 Installation of Decorative Fuel Effect Fires	BS 5440 Part 2 1989
Fireplace components conforming to BS 1251 assembled	BS 5871 Part 3 1990
in accordance With BS 8303-1986	BS 6461 Part 1 1984
Relevant Building Regulations	BS 6461 Part 2 1984
Republic of Ireland: IS 813 1996 (as amended)	

CONTENTS

Check contents before proceeding with the installation of your Wonderfire

1. 1 x Burner Assembly
2. 1 x Two-piece front Coal
3. 1 x Ceramic Fuel Matrix
4. 1 x Set of Dress Coals
5. 1 x User instructions
6. 1 x Installation Instructions
7. 1 x Guarantee card
8. 1 x Loose parts pack (containing 1 x fixing screw and 1 x fibre rawlplug)
9. 1 x Smoke match tube
10. 1 x Remote control handset
11. 1 x PP3 battery
12. 4 x AA batteries

TECHNICAL DATA

Heat inputs (gross) :

	AF18XL RC	AF18XLP RC **
Minimum	3.1kW	4.7kW
Maximum	10.5kW	9.0kW

Setting pressures:

	AF18XL RC	AF18XLP RC **
Maximum (cold)	13.75mbar \pm 0.75 mbar	35.0mbar \pm 0.75 mbar

Injector sizes:

AF18XL RC	AF18XLP RC **
82-722	92-260

Supply pressures:

Natural gas (G20)	20mbar
Propane (G31)	37mbar

Burner tray dimensions:

Width	430mm (17") at front tapering to 300mm(11 ³ / ₄ ") at rear
Depth	225mm (9")
Height (including dress coals)	295mm (11 ¹ / ₂ ")

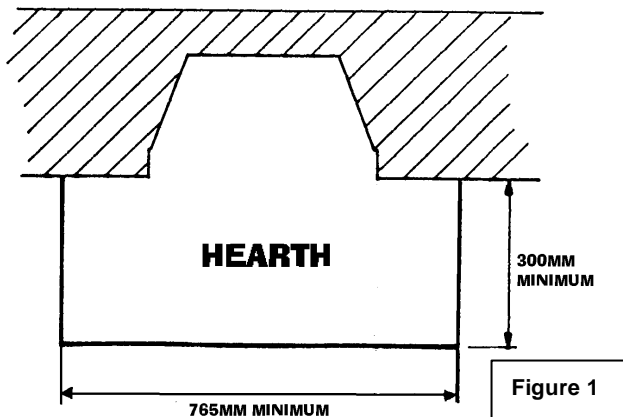
** When converted using kit number 9500377

INSTALLATION AND COMMISSIONING INSTRUCTIONS

PLEASE READ CAREFULLY BEFORE STARTING WORK

Fireplace, flue and ventilation details

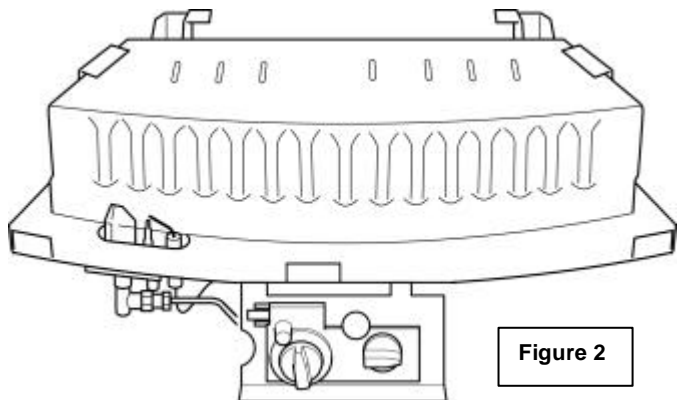
Read the important notes on the inside front cover before proceeding with the installation of your fire. Only when you have complied with all of the above should you commence with the installation of the appliance.



NOTE: Hearth requirements in Figure 1. The appliance must be mounted behind a non-combustible hearth (N.B. conglomerate marble hearths are considered as non-combustible). The appliance can be fitted to a purpose made proprietary class “O”-150°C surround. The hearth material must be at least 12mm thick. The periphery of the hearth (or fender) should be at least 50mm above floor level to discourage the placing of carpets or rugs over it. The surface of the hearth must be sufficiently flat to enable the bottom of the front surround and the bottom front cover to be aligned horizontally. Any excessive unevenness (uneven tiles, Cotswold stone, etc.) should be rectified. The appliance must not stand on combustible materials or carpets.

The minimum height from the top surface of the hearth to the underside of any shelf made from wood or other combustible materials is as follows:-

- For a shelf up to 150mm deep:
Minimum height = 818mm.
- For a shelf deeper than 150mm:
818mm + 12.5mm for every 25mm depth over 150mm.



Burner Position

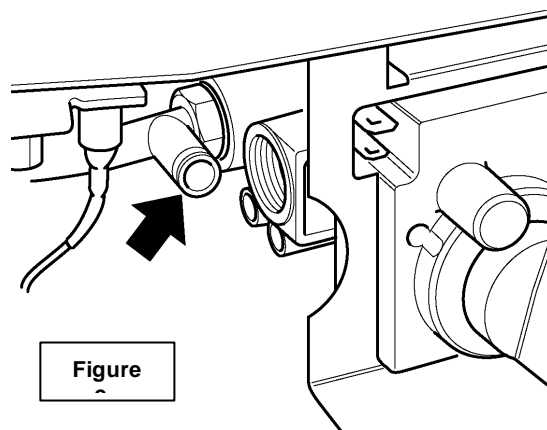
The burner (figure 2) is produced from a soft ceramic material and should be handled carefully.

Remove all packaging material from the burner, and inspect for any signs of mishandling which may affect the performance. There are two sets of burner ports. One set are located on the top face of the burner, and the other, on the front face. Each unit is flame tested before it leaves the factory, and as a result, some slight discoloration may be evident around the burner ports. There may also be some slight surface cracking evident on the burner, which is completely normal and is not detrimental to performance. The burner is retained by two clamps and set in position before it leaves the factory. Check that the injector is aligned straight and central to the venturi. Check that the pilot unit is clear of the front face of the burner by 2-4mm.

8mm (5/16) Bundy or semi-rigid tubing must be used to connect the appliance to the gas supply.

Centre the burner tray in the fireplace opening with the tray as far to the rear as possible. Secure the burner in position and fix through the centre front leg into the hearth using a heatproof wall plug and fixing screw (supplied). Purge the gas supply and make the connection to the control. Test all joints for gas soundness.

Attach a manometer to the pressure test point (see figure 2a) and follow the lighting procedure to establish the pilot and then turn to maximum setting. Check the gas pressure against the setting pressures (see gas data).



Turn off the fire and allow to cool.

COMMISSIONING THE BURNER

Placing the front coal

Remove both front coal pieces from the protective packaging and position in front of the burner as shown in figure 3. If necessary, the front tags maybe adjusted as shown in figure 3a, to ease the fit of the front coal.

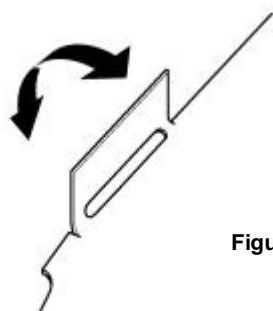
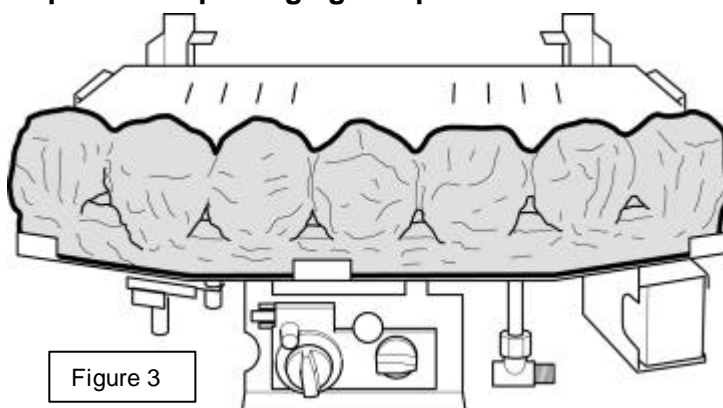
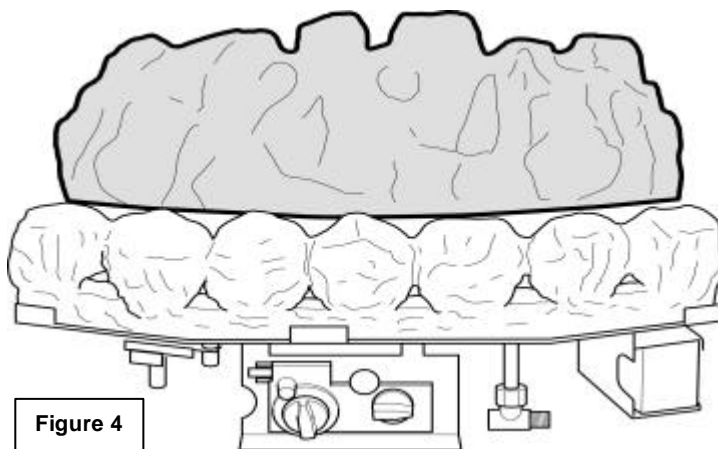


Figure 3a



Placing the fuel matrix

Remove the fuel matrix from its protective packaging and position on top of the burner as shown in figure 4. The rear face of the burner should locate into two cut-outs on the top face of the rear legs. Ensure that the matrix sits flatly on the top of the burner.



Placing the dress coals

Open the loose coals to find two further bags. These contain:

- 6 x Finger coals
- 18 x Random cut coals

Open the bags and keep the different types of coals separate. Begin the coal build by placing six random shaped coals as shown in figure 5, ensuring that they form a bridge between the front coal and the coal matrix. In order to get the best flame effect, it is important that the coals are evenly spaced, and sit 10-15mm from each other.

Next, take five random shaped coals and position as shown in figure 6. This second row of coals should rest on top of the first row, overlapping by 5-10mm. Again, ensure even spacing to obtain the best flame effect.

Now take four more random shaped coals and position as shown in figure 7 to make the third row. These coals should again overlap the previous row by about 5mm. Ensure even spacing between coals.

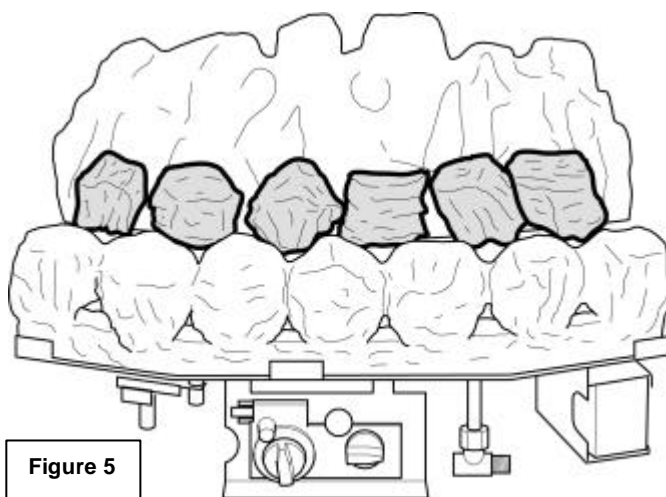


Figure 5

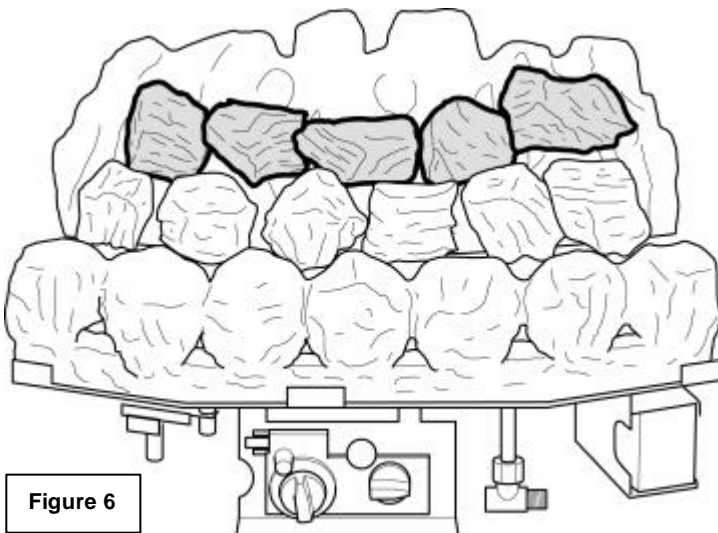


Figure 6

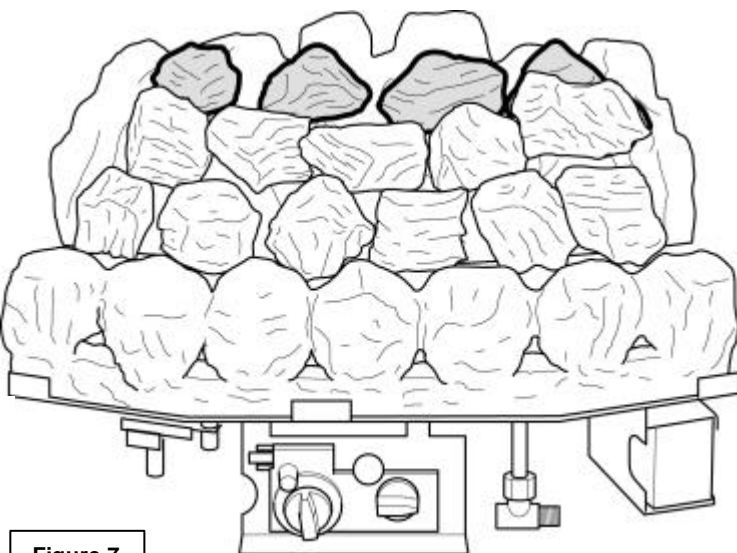
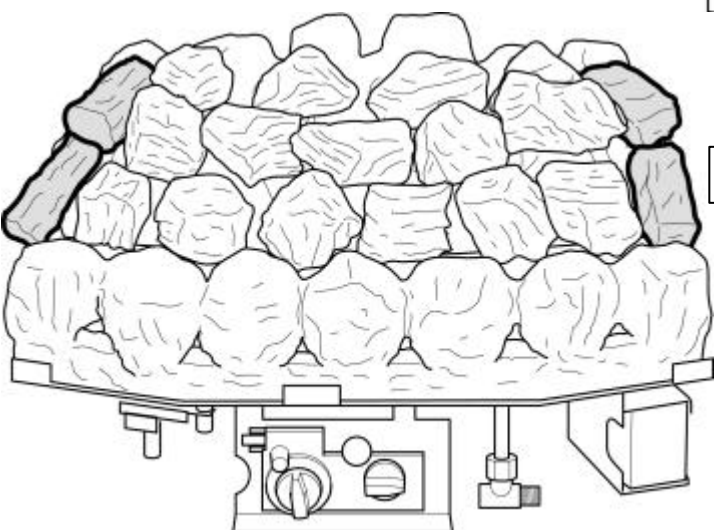


Figure 7

Next, take four finger coals and position as shown in figure 8.

Figure 8



'c' 'b' 'a' 'b' 'c'

Placing the dress coals – continued

Finally, take the three remaining random shaped coals. Place one in the centre of the matrix (position 'a'), place the other two next to it (position 'b') as shown in figure 9. To complete, place the two remaining finger coals along the back of the matrix (position 'c') also shown in figure 9.

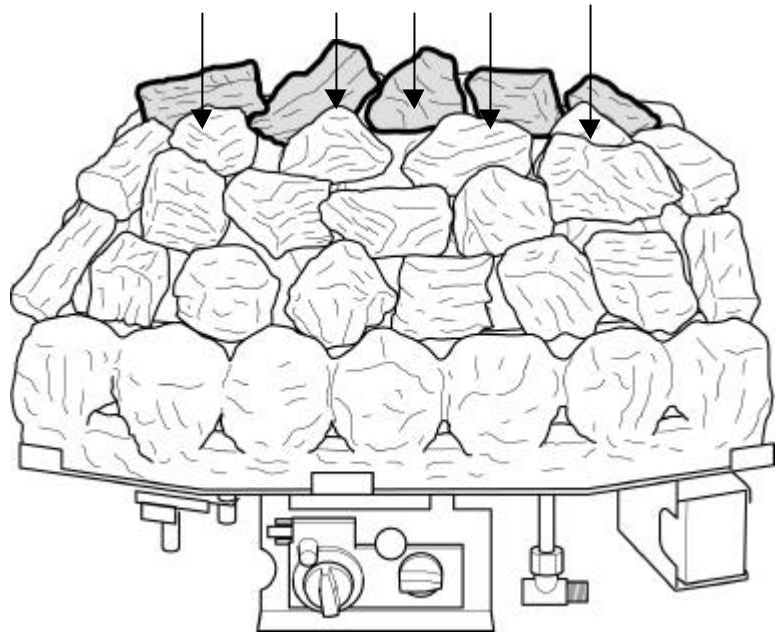


Figure 9

OPERATION OF THE FIRE

This fire may be controlled manually, by use of a gas valve mounted on the appliance.

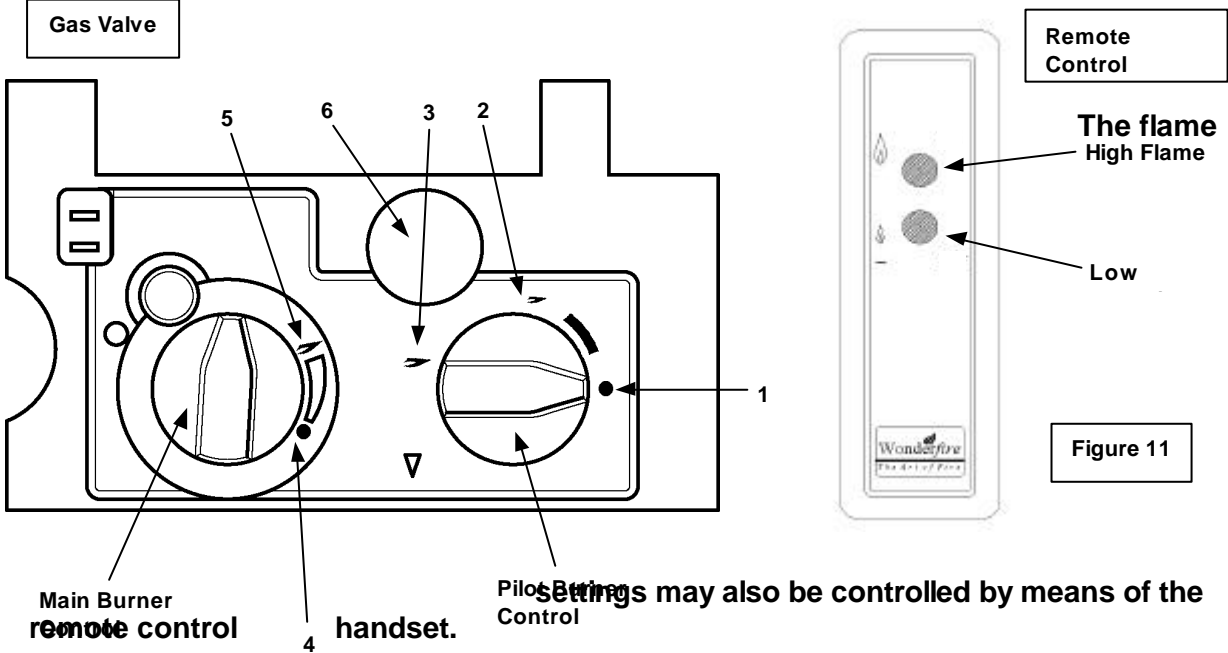


Figure 10

Figure 11

Settings may also be controlled by means of the handset.

To prevent accidental operation of the fire, we recommend that the fire be switched off when not in use.

Operation of the fire – continued

To Light the Pilot

Please note:- The fire must be lit manually.

Ensure that the pilot burner control knob is in the OFF position (1). Depress the control knob and turn anti-clockwise to the ignition position (2) to activate the piezo ignition system. A 'click' will be observed, and the pilot should light. Hold the knob in

This position (keeping it depressed) for ten seconds to allow the flame supervision device to establish.

Observe if it is alight by looking through the slots to the left hand end of the front coals.

If the pilot does not light immediately, repeat the above procedure, keeping the knob depressed for several seconds in order to purge any air from the system.

If after ten seconds, ignition has not occurred, turn the control knob back to the OFF position and repeat the ignition procedure after 30 seconds.

Once the pilot is lit, keep the control knob depressed for ten seconds to allow the flame supervision device to establish.

When the control knob is released, the pilot should remain lit. If the pilot fails to remain lit, repeat the ignition procedure, this time keeping the control knob depressed for a longer period of time.

Lighting the Main Burner

Once the pilot light is established, the main burner can be lit by turning the pilot burner control knob anti-clockwise to position 3 (refer to figure 10), and by then turning the main burner control knob to the 'high' position (5).

Controlling the heat setting.

In order to change from one setting to another turn the main burner control knob to the required position. Alternatively, if a setting between LOW (4) and HIGH (5) is required, then the control knob may be turned to this position.

Note: We recommend you use the appliance at a low setting for the first few hours of use to reduce the thermal cracking of the surface of the burner.

Surface cracking of the burner is normal and is no cause for concern. Whilst binding materials are being burnt out of the burner there may be a slight odour.

To Turn the Fire back to Pilot Setting

Turn the main burner control knob fully clockwise. Alternatively turn the pilot burner control knob clockwise to the ignition position (2). Refer to figure 10.

To Turn the Fire off

Rotate the pilot/burner control knob clockwise to position 1, as shown in figure 3.

Using the Remote Control Handset

When the pilot burner control knob is in position 3, the remote control handset may be used to vary the flame effect between 'High' and 'Low', or switch the fire back to pilot setting.

The handset operates on ultrasonic principles, and as such it is not necessary to point the handset directly at the fire.

In order to vary the flame effect between 'High' and 'Low' position, press, and keep depressed, either the 'High Flame' (or 'On') button, or the 'Low Flame' (or 'Off') button as appropriate. Refer to figure 11.

In order to switch the fire to pilot setting, depress the 'Low Flame' (or 'Off') button, and hold until only the pilot flame remains alight.

In order to disable the handset, but still leave pilot alight, turn the pilot burner control knob the ignition position 2. Refer to figure 10.

Battery Life & Replacement

Please note: In order to ensure maximum battery life and optimal performance, we recommend that only 'Long Life' type replacement batteries are used.

Handset

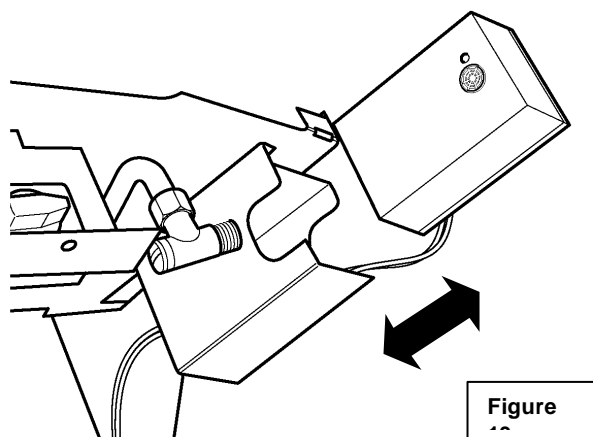
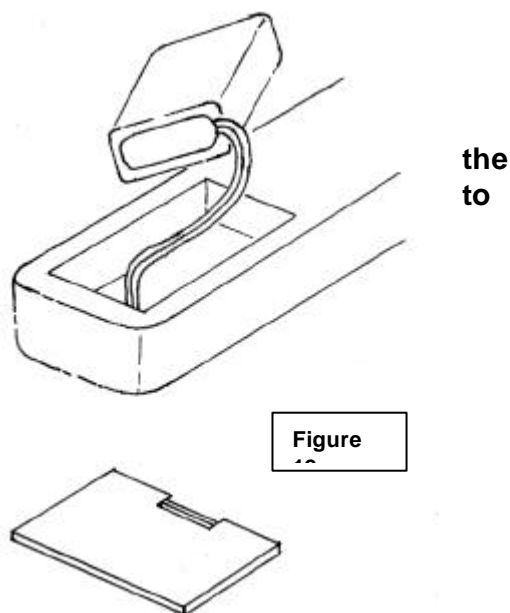
The remote control handset is powered by 1 x PP3 battery, which should be replaced approximately every 12 months.

To replace: Remove cover from rear of handset, remove and discard old battery. Replace battery and refit cover. See figure 12.

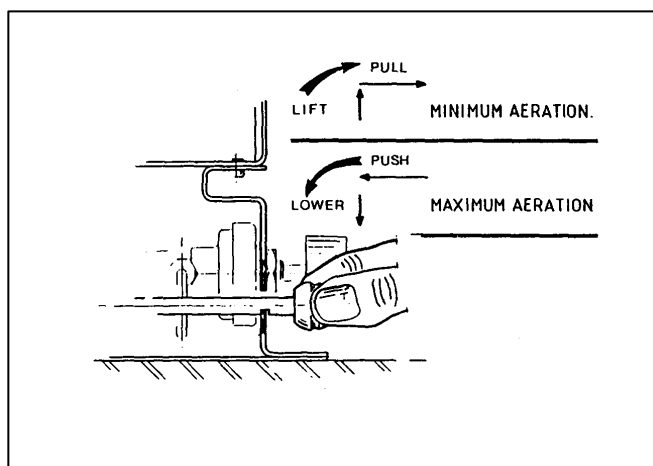
Receiver Unit

The receiver/valve is powered by 4xAA batteries, which should be replaced every 12 months.

To replace: Make sure the fire is switched off. Remove the front iron



and ash-pan cover. Withdraw the battery holder as shown in figure 13, and open. Remove the old batteries and discard. Replace with new batteries. Refit batteries into holder and replace cover. Re-fit battery holder, also shown in figure 13.



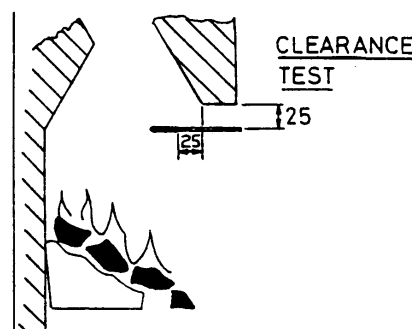
For fires fitted with Aeration Control

To operate the aeration control system, the following procedure should be followed:

- Allow the appliance to warm up, (for at least fifteen minutes) in the fully aerated position, with the control lever pushed in to the locked position – see figure 14, also see figure 10 item No. 6 aeration control knob.
- Switch to the minimum aerated position by slightly lifting the control lever. A spring mechanism will close the aeration shutter.
- To return to the fully aerated position push the control lever in and slightly downwards until it rests in its locked position.

Figure 14

Please note : It is advisable to run the fire in its fully aerated mode (control knob pushed in) at the beginning of each operation and if running at the minimum rate setting, or to burn off any carbon deposits which may have built up after prolonged use of the minimum aerated setting.



CLEARANCE TEST

Note : this test is to be conducted with the firefront in position. Warm up the appliance on MAX for five minutes. Insert a smoke match tube as shown in figure 15, 30mm from either side of the fireplace opening, Smoke should be drawn positively into the appliance. If not repeat the test after a further ten minutes. If smoke is still not positively drawn into the appliance, isolate the gas supply appliance and seek expert advice.

Figure 15

SERVICING AND MAINTENANCE

See convector instructions if your Airflame Excel mk.3 burner is installed within a Wonderfire convector box.

Annual Maintenance

The coals should be removed and any sooting carefully brushed from the surface with a soft brush.

The coal matrix should be removed and any debris shaken off. The burner should be removed from the fireplace and any debris carefully removed using a soft brush.

Inspect the burner for any damage and repair or replace if necessary. Please note surface cracking of the burner is quite normal.

Check the venturi and injector for linting and clean if necessary. Clean any debris or carbon from around the pilot unit and check the correct operation of the gas control. Reinstall the burner into the fireplace, reconnect the gas supply and check the soundness of all gas connections. Refit the coals in accordance with the section of this manual entitled, "Commissioning the burner".

Follow the lighting procedure and check for spillage. If spillage is found the cause should be identified and remedied.

Check any purpose made room ventilation is free from obstruction.

NEVER ATTEMPT TO INSPECT OR REMOVE THE FIRE UNLESS IT HAS BEEN ALLOWED TO COOL FOR AT LEAST 15 MINUTES

The following procedures should be carried out with these tools at hand.

Slot head screwdriver	12mm spanner	3/4 AF spanner
7mm spanner	14mm spanner	External circlip pliers
10mm spanner	15mm spanner	Phillips No.2 type screwdriver
11mm spanner	16mm spanner	

Before servicing the component parts carry out the following procedure:

1. Turn off the appliance and wait least 15 minutes to allow the fire to cool.
2. Isolate the gas supply.
3. Remove the coals, matrix and front coal.
4. Disconnect the inlet supply/appliance union.
5. Unscrew the appliance fixing screw.
6. Remove the appliance.

To remove the injector:

Carefully invert the burner assembly ensuring that the ceramic surfaces are not damaged. Disconnect the injector/supply pipe union, place the burner assembly upright. Remove the injector. Replace in reverse order.

To remove the Piezo unit:

The piezo unit is an integral part of the gas valve, and cannot be removed. – refer to section entitled "To remove gas valve".

To remove the thermocouple/pilot unit:

The thermocouple is an integral part of the pilot unit, and must be replaced as such. To remove the pilot unit, disconnect the pilot gas feed pipe at the union with the pilot elbow, disconnect the H.T. lead from the pilot unit. Disconnect the thermocouple from the gas valve. To detach the unit from the burner, first remove the screw securing the dust cage to the pilot/burner. Carefully remove the dust cage and place aside. Remove the second retaining screw and withdraw the pilot unit. Replace in reverse order.

To remove the gas valve/F.S.D.

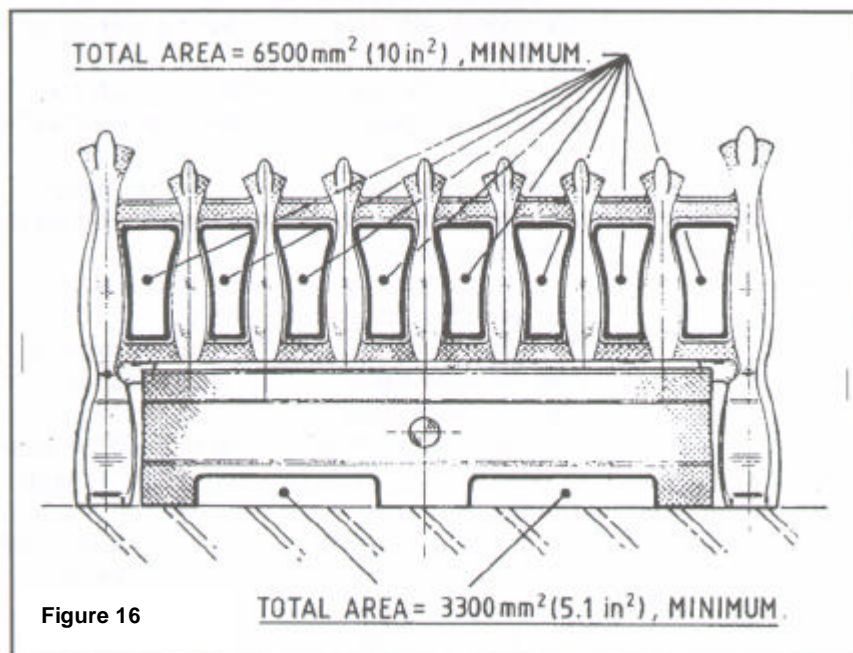
Invert the burner assembly, disconnect the inlet pipe union, pilot supply union, manifold pipe union, H.T. lead, and thermocouple connecting nut from the valve end. Remove two retaining screws and withdraw the valve from the front leg. Replace in reverse order.

FAULT FINDING CHART

Problem	Remedy
Pilot light will not light when ignition button is pressed.	<ol style="list-style-type: none"> 1. Check that the lighting instructions are being followed. 2. Check that the spark is jumping between the electrode and the pilot head. If not, check for debris around the electrode, condition of the wiring and any possible short circuit. 3. Check that the gas is passing through the pilot injector. If not, check pipe, injector and tap for possible blockage and rectify. 4. Purge the system.
Pilot light ignites, but will not establish after holding the tap knob in for ten seconds.	<ol style="list-style-type: none"> 1. Ensure that the pilot flame is impinging on the thermocouple probe. 2. Check that the thermocouple butts are tight on both the tap and the pilot unit assembly. 3. If steps 1) and 2) do not cure the problem it is likely that the thermocouple is faulty. Remove and replace.
Fire operates well, but 'pops'.	<ol style="list-style-type: none"> 1. Popping is usually caused by the coals being placed too closely together. Ensure that the coal arrangement instructions given in this manual have been followed precisely. 2. If the injector has been removed or disturbed during the installation, ensure that the compression joint has been assembled correctly and is gas tight.
Excessive sooting.	<p>A small amount of sooting can occur on any fire of this type, especially those operating on LPG.</p> <ol style="list-style-type: none"> 1. Excessive sooting can be caused by incorrect arrangement of the coals. Ensure that the coal arrangement instructions given in this manual have been followed precisely. 2. The position of the injector is set in the factory, but if this has been disturbed during installation, then it should be reset. The correct position is when the injector points directly down the centre of the venturi. A blue flame with yellow tips should be produced in this position. 3. Check the flue pull. A 'lazy' chimney will not exhaust all of the soot particles from the burner. 4. Prolonged use of the minimum aeration setting on models with adjustable aeration. Return to the full aeration setting after cleaning.
Fire glows, but little or no flame is produced.	<p>This type of fire is designed to be efficient, and produce radiant heat in favour of expensive flames. The flames that are produced are 40-60mm long. If the flames are significantly shorter than this after the fire has been allowed to burn on MAX for 30 minutes, check the following.</p> <ol style="list-style-type: none"> 1. Ensure that the injector is clear from obstruction. 2. Ensure that the correct injector is fitted (see gas data). 3. Measure the gas pressures with the fire operating at MAX setting. The reading at the pressure test point should be as laid down in the gas data section of this manual. If the pressure is low, check the gas run for kinks, fiction producing fittings etc. Do not install more than 1.2 metres of 8mm gas line with natural gas fires. 4. Check that any restrictor elbow is fully open.

**NOTE: ALWAYS USE GENUINE WONDERFIRE
SPARE PARTS**

**THIS APPLIANCE IS NOT SUPPLIED WITH A DECORATIVE FIREFRONT.
A SLOTTED FIREFRONT WITH A MINIMUM FREE AREA AS SHOWN IN FIGURE 12
MUST ALWAYS BE USED.**



SHORT SPARES LIST

**Never fit non-standard parts as this may invalidate the warranty.
Use only genuine Wonderfire replacement parts.
Use only the correct number of fibre bed components and install them as described
in the procedures.**

Description	Wonderfire Part number
Gas Valve	9730096
Main injector (AF18XL)	9730091
Main injector (AF18XLP)	9730007
Pilot unit (NG)	9740029
Pilot unit (LPG)	9740030
Ceramic burner	9530043
Front coal	9770100
Coal matrix	9770099
Pack of dress coals	9780050
Lint guard/dust cage	0567619
Piezo Unit	9740040
Remote control handset	9550129
Receiver unit	9930054

Manufactured by Wonderfire ©1999

As our policy is one of continuous development, some details given in this manual may be subject to change.