

# morsø

## INSTALLER GUIDE

### SQUIRREL BALANCED FLUE GAS STOVE

MODEL No. 552



**THIS APPLIANCE IS FOR USE WITH NATURAL GAS (G20)  
WHEN CONVERTED USING CONVERSION KIT NO. 0555211 THIS  
APPLIANCE IS FOR USE WITH PROPANE GAS (G31)  
THIS APPLIANCE IS SUITABLE ONLY FOR INSTALLATION IN THE UNITED  
KINGDOM (GB) AND THE REPUBLIC OF IRELAND (IE).**

We trust that these instructions give sufficient details to enable this appliance to be installed and maintained satisfactorily. However, if further information is required, our **Technical Helpline** will be pleased to help.

Telephone **08706 061 065** (National call rates apply in the United Kingdom)  
**In the Republic of Ireland call 0044 8706 061 065**

Manufactured by Morsø Jernstøberi A/S, Furvej 6, 7900 Nykøbing Mors, Denmark  
Distributed by Baxi Fires Division, Wood Lane, Erdington, Birmingham B24 9QP,  
England

**INSTALLER: Please leave this guide with the owner**

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## 1. SAFETY

### Installer

Before continuing any further with the installation of this appliance please read the following guide to manual handling

- The lifting weight of this appliance is 53.5 kg
- This stove is heavy. We therefore recommend that two people should be sufficient to lift the fire. If fitting or moving the appliance alone we recommend the use of suitable lifting apparatus.
- When lifting always keep your back straight. Bend your legs and not your back.
- Avoid twisting at the waist. It is better to reposition your feet.
- Avoid upper body/top heavy bending. Do not lean forward or sideways whilst handling the fire.
- Always grip with the palm of the hand. Do not use the tips of fingers for support.
- Always keep the fire as close to the body as possible. This will minimise the cantilever action.
- Use gloves to provide additional grip.
- Always use assistance if required.

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## 2. APPLIANCE DATA

**This product uses fuel effect pieces and burner compartment walls containing Refractory Ceramic Fibres (RCF), which are man-made vitreous silicate fibres. Excessive exposure to these materials may cause irritation to eyes, skin and respiratory tract. Consequently, it is important to take care when handling these articles to ensure that the release of dust is kept to a minimum. To ensure that the release of fibres from these RCF articles is kept to a minimum, during installation and servicing we recommend that you use a HEPA filtered vacuum to remove any dust and soot accumulated in and around the fire before and after working on the fire. When replacing these articles we recommend that the replaced items are not broken up, but are sealed within a heavy duty polythene bag, clearly labelled as RCF waste. This is not classified as “hazardous waste” and may be disposed of at a tipping site licensed for the disposal of industrial waste. Protective clothing is not required when handling these articles, but we recommend you follow the normal hygiene rules of not smoking, eating or drinking in the work area and always wash your hands before eating or drinking.**

**This appliance does not contain any component manufactured from asbestos or asbestos related products.**

<b>Gas</b>	<b>Natural (G20)</b>	<b>Propane (G31) *</b>
Inlet Pressure	20mbar	37mbar
Input - Max. (Gross)	4.3kW (14,670 Btu/h)	4.6kW (15,695 Btu/h)
Input - Min. (Gross)	1.5kW (5,120 Btu/h)	1.6kW (5,460 Btu/h)
Output - Max.	3.5kW (11,945 Btu/h)	3.8kW (12,965 Btu/h)
Output - Min.	1.2kW (4,095 Btu/h)	1.3kW (4,435 Btu/h)
Burner Test Pressure (Cold)	19.6 ± 0.75mbar (7.86 ± 0.3in w.g.)	35.9 ± 0.75 mbar (14.41 ± 0.3in w.g.)
Gas Connection	8mm pipe	8mm pipe
Burner Injector	Cat 82 - 280	Cat 92 - 140
Ignition	Piezo Electric. Integral with Gas Tap	Piezo Electric. Integral with Gas Tap
Gas Rate	0.412m <sup>3</sup> /hr	0.166m <sup>3</sup> /hr
Efficiency class	1	1

\* When converted using Kit 0555211

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## 3. GENERAL INSTALLATION REQUIREMENTS

**3.1** The installation must be in accordance with these instructions.

For the user's protection, in the United Kingdom it is the law that all gas appliances are installed by competent persons in accordance with the current edition of the Gas Safety (Installation and Use) Regulations. Failure to install the appliance correctly could lead to prosecution. The Council for the Registration of Gas Installers (CORGI) requires its members to work to recognised standards.

In the United Kingdom the installation must also be in accordance with:

- All the relevant parts of local regulations.
- All relevant codes of practice.
- The relevant parts of the current editions of the following British Standards: -  
BS 1251  
BS 5440 Part 1  
BS 4543 Part 2  
BS 5440 Part 2  
BS 5871 Part 1  
BS 6891

In England and Wales, the current edition of the Building Regulations issued by the Department of the Environment and the Welsh Office

In Scotland, the current edition of the Building Standards (Scotland) Regulations issued by the Scottish Executive.

In Northern Ireland, the current edition of the Building regulations (Northern Ireland) issued by the Department of the Environment for Northern Ireland.

In the republic of Ireland the installation must be carried out by a competent person and installed in accordance with:

- a) The current edition of IS 813 "Domestic gas installations"
- b) All relevant national and local rules in force.
- c) The current building regulations

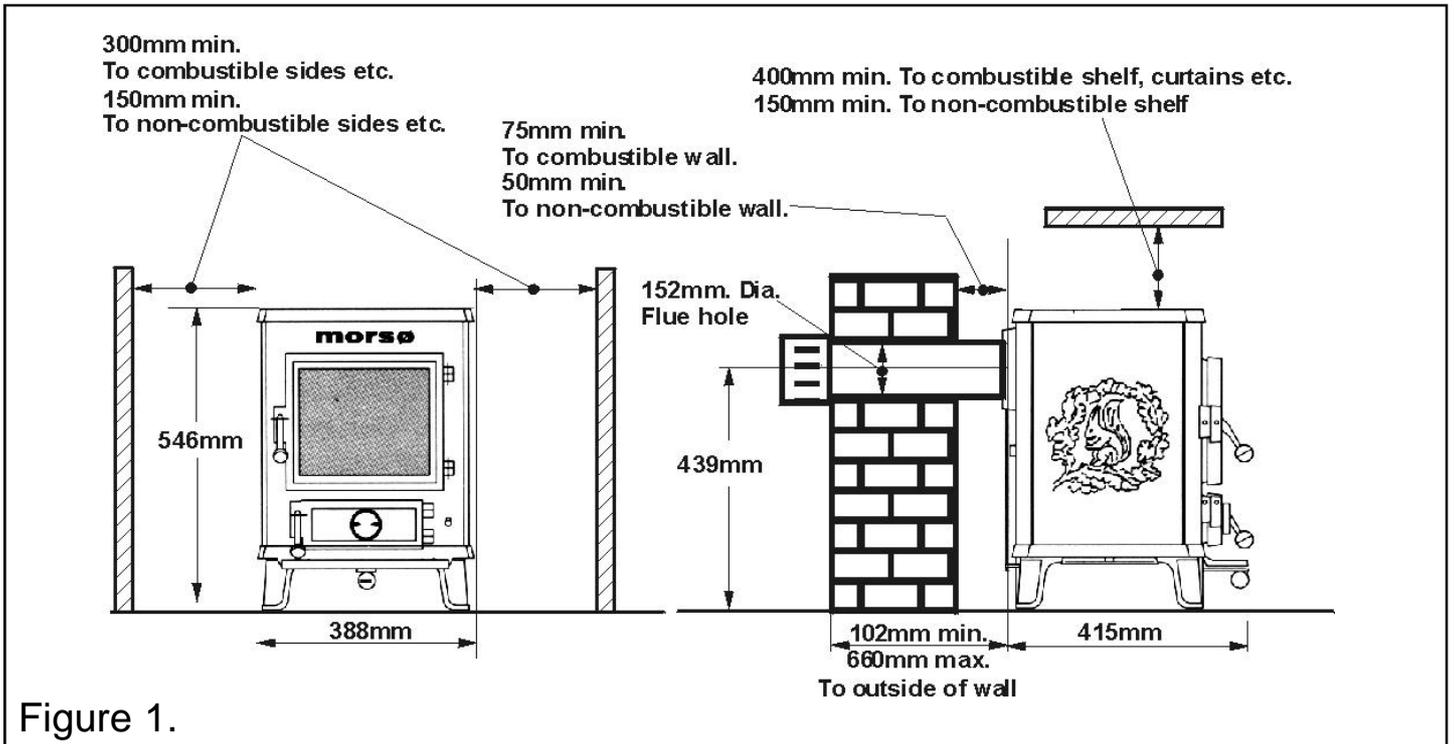
Where no specific instructions are given, reference should be made to the relevant British Standard Code of Practice.

**The hearth** must be made from a non-combustible material and be at least 400mm wide x 420mm deep x 12mm thick.

**Clearances** from combustible and non-combustible materials must be at least those shown in figure 1

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The outside wall thickness must meet the conditions shown in figure 1.



The flue terminal position must meet the conditions shown in figure 2.

The flue details are shown in figure 1

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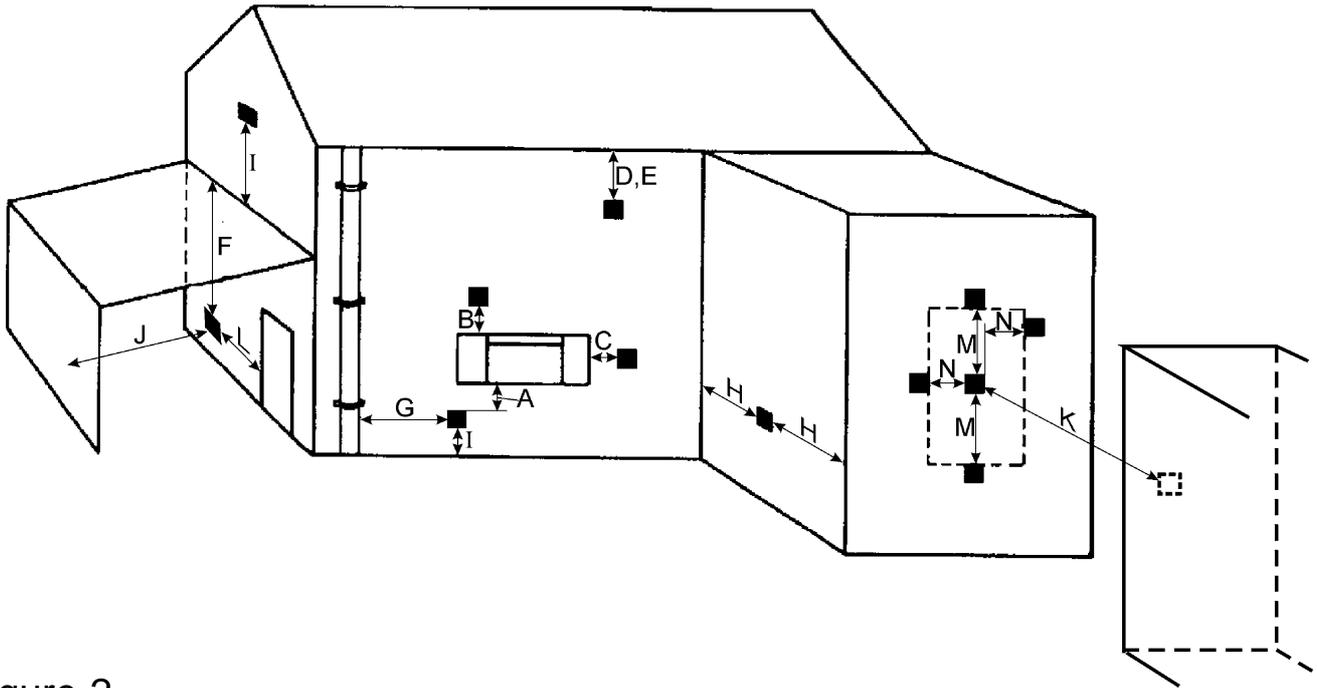


Figure 2

	<b>Terminal Position</b>	<b>Minimum Distance</b>
A*	Directly below an opening, air brick, opening window etc.	300mm
B*	Above an opening, air brick, opening window etc.	300mm
C*	Horizontally to an opening, air brick, opening window etc.	300mm
D	Below gutters, soil pipes or drain pipes	300mm
E	Below eaves	300mm
F	Below balconies or car port roof	600mm
G	From a vertical drain pipe or soil pipe	75mm
H	From an internal or external corner	600mm
I	Above ground, roof or balcony level	300mm
J	From a surface facing the terminal	600mm
K	From a terminal facing the terminal	600mm
L	From an opening in a car port (e.g. door, window) into dwelling	1200mm
M	Vertically from a terminal on the same wall	1500mm
N	Horizontally from a terminal on the same wall	300mm
O	From the wall on which the terminal is mounted	N/A
P	From a vertical structure on the roof	N/A
Q	Above intersection with roof	N/A

\*In addition, the terminal should not be nearer than 300mm to an opening in the building fabric formed for the purpose of accommodating a built-in element such as a window frame or door frame. See figure 3.

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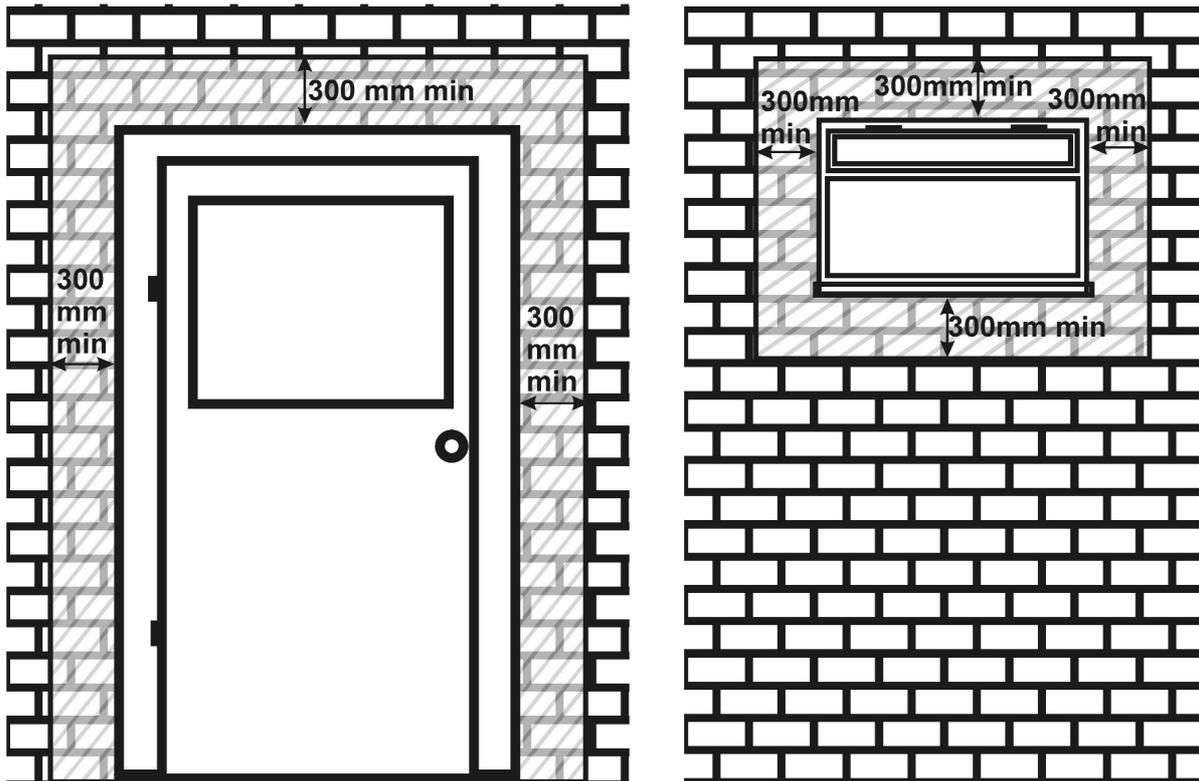


Figure 3

**Ventilation:** In the United Kingdom (GB) no special ventilation bricks or vents are required in the room containing this appliance.

In the Republic of Ireland (I.E.), reference should be made to the current edition of IS 813 “Domestic gas Installations” which makes clear the conditions that must be met to demonstrate that sufficient ventilation is available.

**Propane gas** appliances must not be installed in a cellar, basement or other room which is built entirely below ground level (See Gas Safety (Installation & Use) Regulations).

A **fireguard** complying with BS 8423 should be fitted for the protection of young children, the elderly, or the infirm. Such a guard is also recommended for the protection of pets.

**Installation to a timber-framed building** should be in accordance with the relevant sections of The Institute of Gas Engineers publication IGE/UP/7 "Gas installations in timber frame buildings".

Please note that advice should be sought before installing in a timber frame building since the alterations required may nullify any NHBC cover relating to the property. If in doubt, guidance should be requested from your local authority planning or building department.

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**Soft wall coverings** (e.g. embossed vinyl etc.) are easily affected by heat. They may therefore, scorch or become discoloured when close to a heating appliance. Please bear this in mind when installing.

**The Building Regulations** require a terminal guard to be fitted if the terminal could come into contact with people near the building or be subject to damage. Fitting a terminal guard is recommended where contact with or damage to the terminal is possible even if regulations do not demand it.

## 4. STOVE LOCATION

1. Place the stove in position and mark the centre of the flue. For timber framed buildings make sure that the flue opening will be between studs. Ensure that the minimum dimensions specified in figures 1, 2 & 3 are adhered to.
2. Move the stove clear to allow room for cutting the flue hole. Place dust sheets on the floor and any furnishings.
3. **Core Drilling:** Drill a pilot hole through the wall. Inspect the hole to ensure that it is in the brickwork and not in mortar. If it is in mortar, it is advisable to reposition the hole approximately 25mm away - Make sure that the minimum side clearances and height (See figures 1, 2 & 3) are complied with.

Drill the flue hole with a 152mm (6in) core drill. Where practical, it is recommended that the hole is drilled from inside the building to about half the wall depth with the remainder drilled from outside. This ensures that the edges of the hole are clean on both sides.

**Hammer & Chisel Cutting:** Mark a 152mm (6in) diameter circle for the flue hole. Chisel out the area marked. It may be necessary to make good both the internal and external wall faces. To achieve a neat finish and to make any future removal of the flue unit easier, it is recommended that a cardboard cylinder is formed around the flue unit and inserted in the hole while making good. Remove the cardboard cylinder after making good.

### 3.1 Preparing the Flue Hole - Timber Frame Buildings:

- Drill the pilot hole and hole in outer wall as above.
- Since the flue will pass through combustible material in the inner leaf of the wall, a non-combustible sleeve 203mm (8in.) diameter will be required round the flue. See figure 4.
- Cut a hole through the inner leaf to accommodate a non-combustible sleeve 203mm (8in.) outside diameter. To minimise the effect of breaking through the vapour control layer (VCL), if possible, cut the hole approximately 10mm undersize so that the sleeve will be forced through the layer. A recommended technique for cutting the inner

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leaf is shown in figure 3.

- Fit the non-combustible sleeve to the inner leaf. The sleeve must extend to be at least flush with the breather membrane / timber sheathing but must not protrude more than 10mm into the cavity.

- The annular gap between the flue unit and the sleeve must be sealed to prevent air heat and moisture passing along it.

### 3.2. Cut the flue to size

- Measure the total wall thickness.
- Measure the distance from the inside face of the wall to the back of the stove.
- Add the above two measurements and add a further 95mm.
- Mark the flue at this total distance measured from the terminal end. See figure 5.
- Insert the polystyrene ring between the inner and outer flue tubes to support them.
- Cut both tubes squarely at the marked position. Important: Remove all polystyrene from the flue unit after cutting.

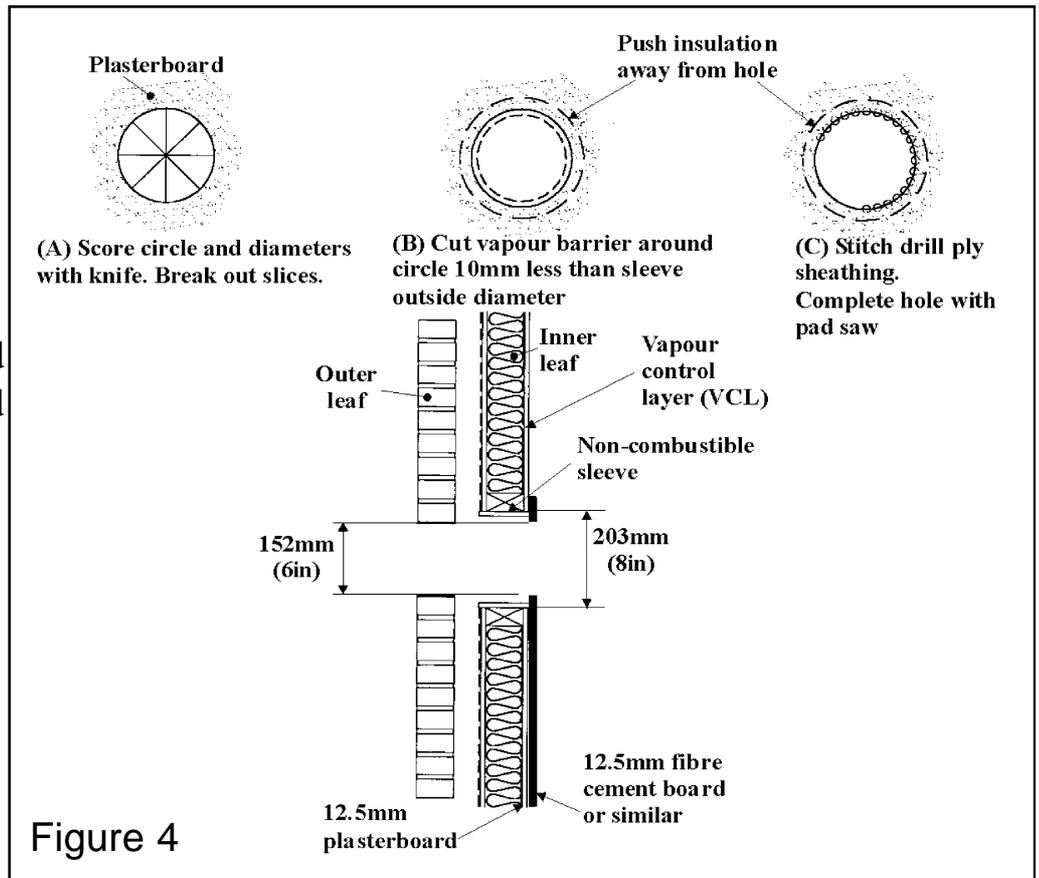


Figure 4

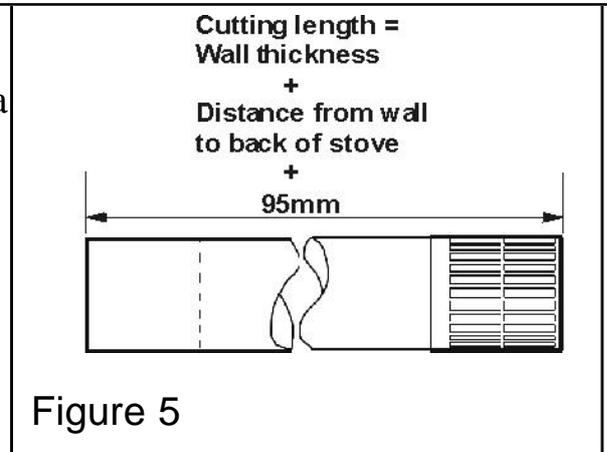


Figure 5

### 3.3 Fit to Wall

- Fit the flue tubes firmly over the spigots at the rear of the stove. Make sure that the seam on the flue tube is not at the bottom. Push on firmly.
- Secure the flue to the fire by drilling through the outer flue tube and outer spigot at a distance of between 6mm & 7mm from the cut end of the outer flue tube and securing with the two no.6 self tapping screws supplied.
- Seal the flue unit all round the circumference of the outer spigot with the tape supplied.

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- **Timber frame buildings:** Fit a drip collar round the flue positioned so that it will be located in the centre of the wall cavity - see figure 6. The drip collar can be made by wrapping a non-corrosive wire round the flue or moulding a bead of mastic round the flue.

- Offer the fire complete with flue unit through the wall

- **Timber frame building with combustible outer leaf (e.g. shiplap boarding):** A metal or other non-combustible end plate must be fitted

on the outside of the wall. The plate must be concentric with the flue and at least 254mm (10in) square or diameter. See figure 6.

- Seal the outer flue tube to the outside surface of the wall with fireclay or cement. Make sure that the slots in the flue terminal are not closer than 8mm to the wall and are not obstructed by cement.

### 3.4 Fit the Terminal Guard

- Place the guard centrally over the flue terminal with the fixing ears at each side - not at the top and bottom. See figure 7.

- Holding the guard in position and using it as a template, mark on the wall the positions of the four fixing holes.

- Remove the guard. Drill and plug the holes
- Replace the guard fixing with suitable screws

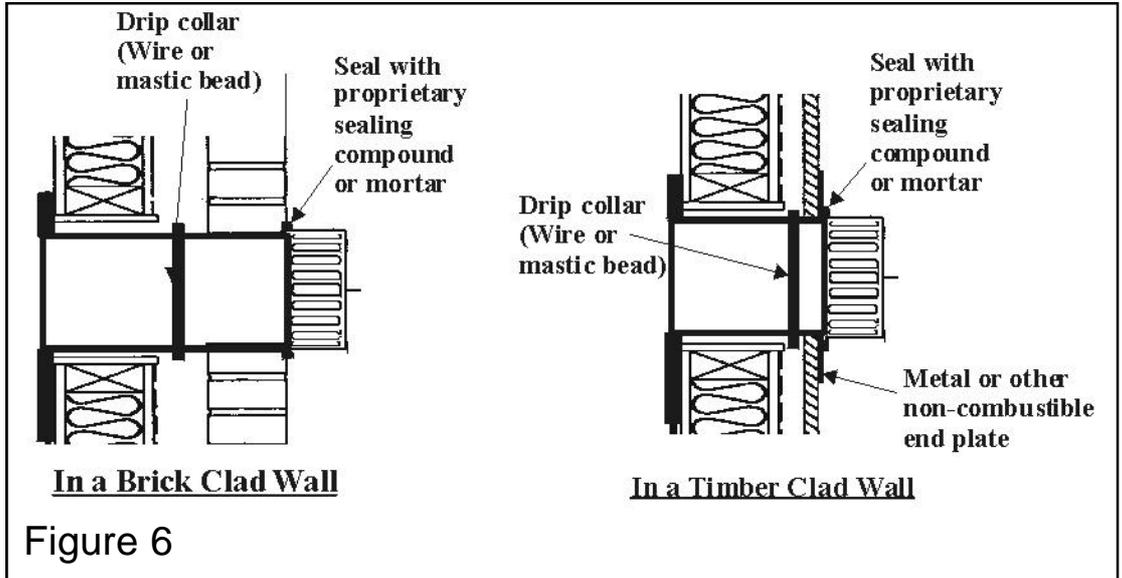


Figure 6

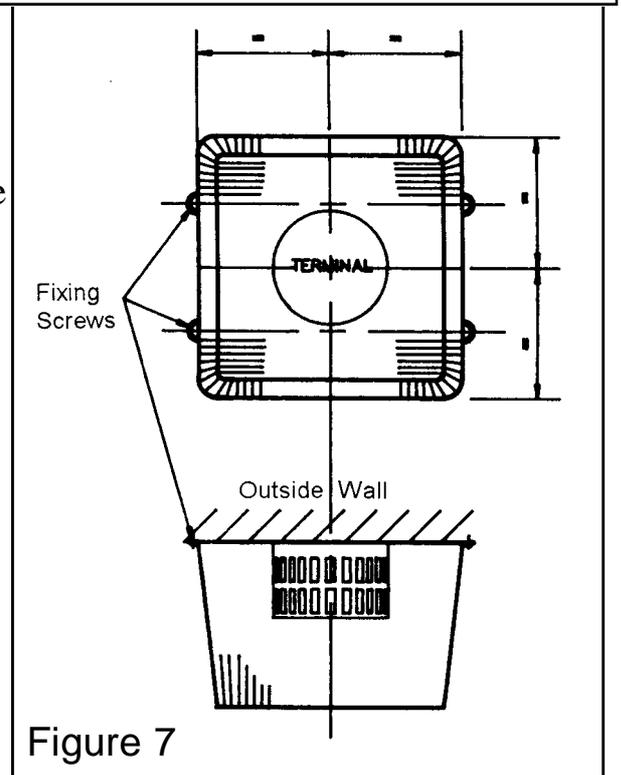


Figure 7

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## 4. PACK CONTENTS

### Pack 1

- 1 Cast iron stove containing gas burner unit & interior flueway
- 2 Ceramic base pieces
- 1 Set of 7 coals
- 1 Pair of ceramic firebox side walls
- 2 Side wall retaining brackets
- 1 Ceramic firebox back wall
- 1 8mm nut & olive
- 1 Key for door
- 1 Flue tube sealing rope
- Installer and Owner guides

### Pack 2

- 1 Flue unit
- 1 Terminal Guard
- 2 Screws for flue securing
- 1 Length of flue sealing tape

Remove all the items carefully to prevent damage. Take special care when handling the ceramic components. Some items may be contained in the packaging fitments - Examine the packaging carefully before discarding. Check that all the items are present and undamaged.

## 5. GAS SUPPLY CONNECTION

- A nut and olive are provided for an 8mm pipe inlet connection to the elbow at the bottom front of the appliance. The elbow can be rotated to allow a connection from any direction. The elbow includes a valve for isolating the gas supply.
- The supply pipe must be rigid material. Flexible pipe must not be used.
- **Note: Prior to connecting the gas supply it is advisable to blow out the gas supply so that any dirt which may be present in the pipe is cleared and cannot enter the gas valve or pilot burner and so cause a blockage**
- With the supply connected pressure check the installation pipework for gas soundness. In the United Kingdom check in accordance with the current edition of BS6891. In the Republic of Ireland check in accordance with the rules in force.

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## 6. IGNITION CHECK

Before attempting to install, it is worth checking that the ignition system performs satisfactorily.

See figure 12.

Set the right hand control knob to the off position marked ●.

Depress the right hand control knob and rotate it anticlockwise through the ignition position marked ☆ to the pilot ignition position marked ◐. A 'click' will be heard as the integral piezo operates. A spark should be seen between the electrode and pilot tip. If there is no spark check the following: -

- Ensure that the electrode lead is connected to the terminal at the base of the electrode.
- If the above is correct, check for damage to the electrode lead.

## 7. FITTING THE CERAMIC FUEL EFFECT AND BURNER COMPARTMENT WALLS

1. The door is secured with a locking screw. Remove the screw with the allen key supplied (See figure 8). Open the door.

2. Remove the front grate. To do this, hold firmly and lift.

3. Place the rear ceramic wall against the back of the firebox.

4. The rear ceramic wall must be located onto the ledges at the back of the rear base ceramic (See figure 9). To achieve this, hold the rear ceramic wall against the rear of the firebox at its uppermost position. Whilst holding the rear ceramic wall in this position locate the rear ceramic base coal into position (See figure 9). The rear wall can now be released. Ensure that the rear ceramic wall sits on the ledge at the back of the rear base coal.

5. Fit the left hand side wall against the left hand side of the firebox. Locate the bottom of the side wall into the channel

along the bottom of the firebox (See figure 10). Supplied with the stove are two ceramic retaining brackets. One for each side of the firebox. Hold the ceramic side wall against the steel firebox plate and slide the long leg of a retaining bracket behind the steel

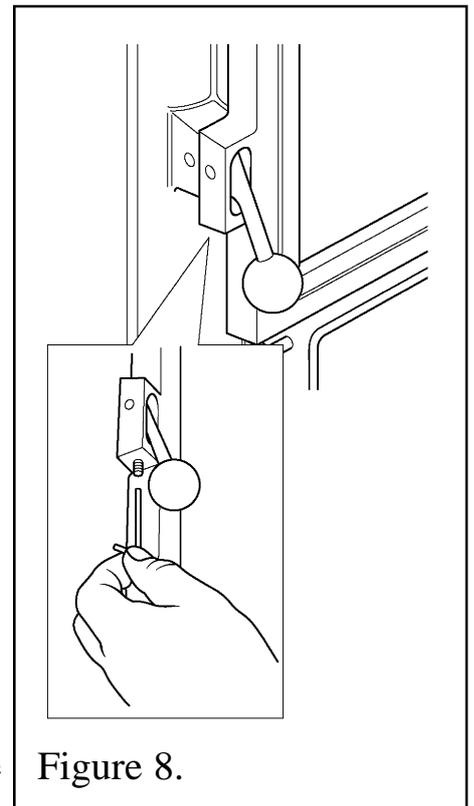


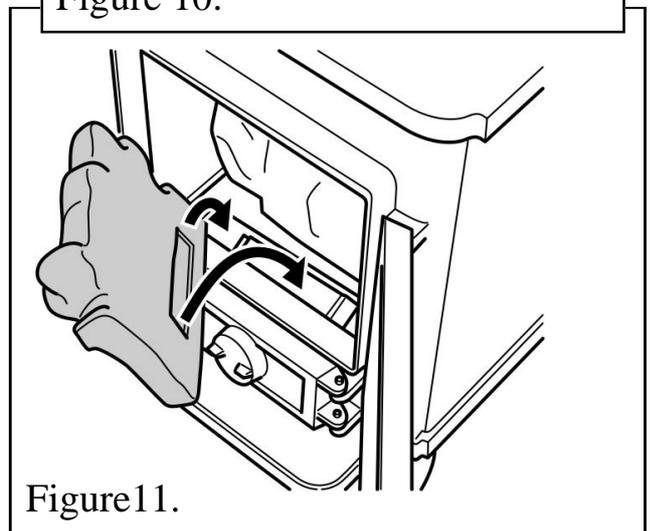
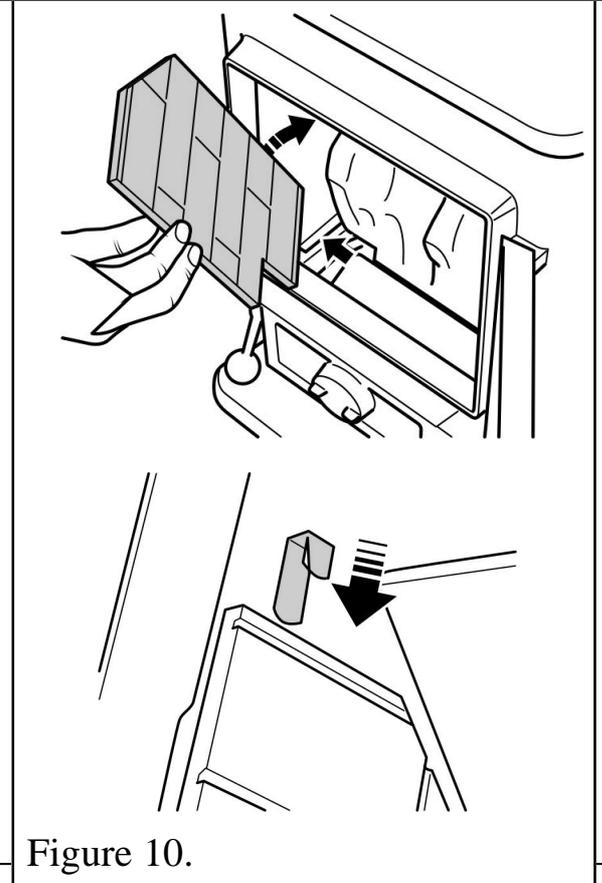
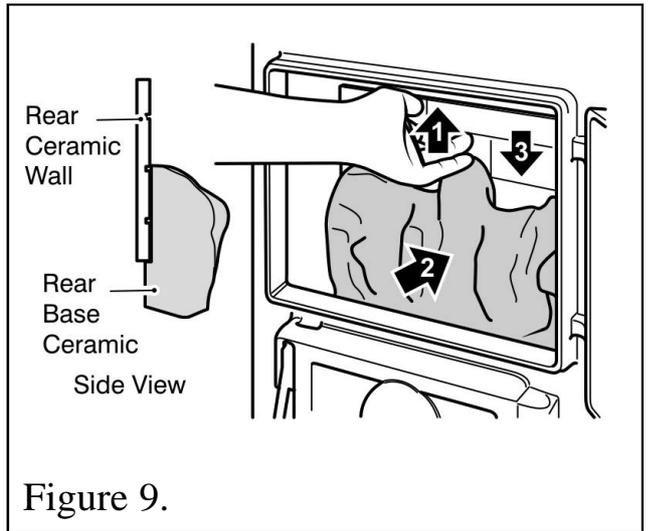
Figure 8.

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firebox plate. Push down to hold the ceramic side wall in place.

6. Fit the right hand side wall against the right hand side of the firebox. Locate the bottom of the side wall into the channel along the bottom of the firebox (See figure 10). Hold the ceramic side wall against the steel firebox plate and slide the long leg of a retaining bracket behind the steel firebox plate. Push down to hold the ceramic side wall in place.

7. On the front of the burner there is a bracket for supporting the front ceramic base. At the rear of the front ceramic base is a recess. Fit the front ceramic base piece locating the recess onto the forward projecting part of the burner bracket (See figure 11).



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There are seven overlay coals. There are three ceramic coals identified with the number '1'. Two identified with the number '2' and two identified with the number '3'.

**8.** Locate one of the ceramic coals identified with a number '1' as in figure 8.

**9.** Locate the two ceramic coals identified with a number '2' as in figure 9.

**10.** Locate the remaining two ceramic coals identified with a number '1' as in figure 10.

**11.** Locate the two ceramic coals identified with a number '3' as in figure 11.

**12.** Replace the front grate previously removed .

**13.** Close and secure the door by refitting the locking screw.

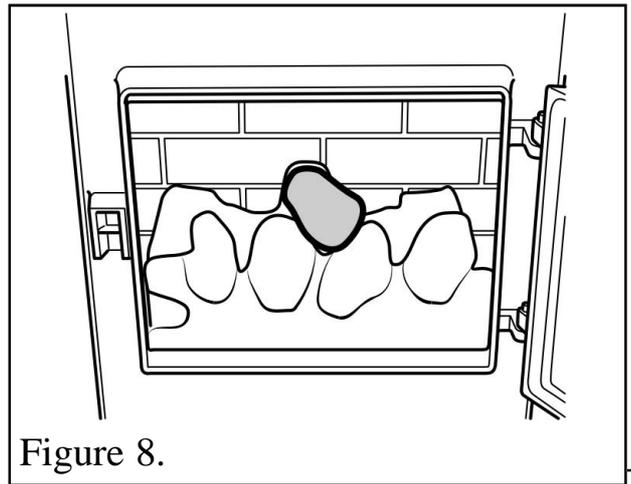


Figure 8.

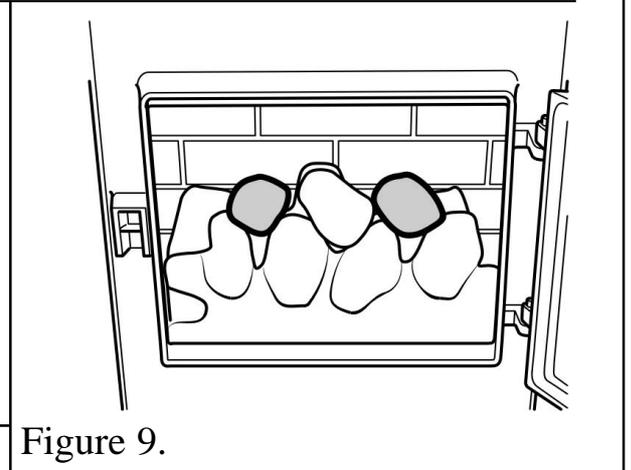


Figure 9.

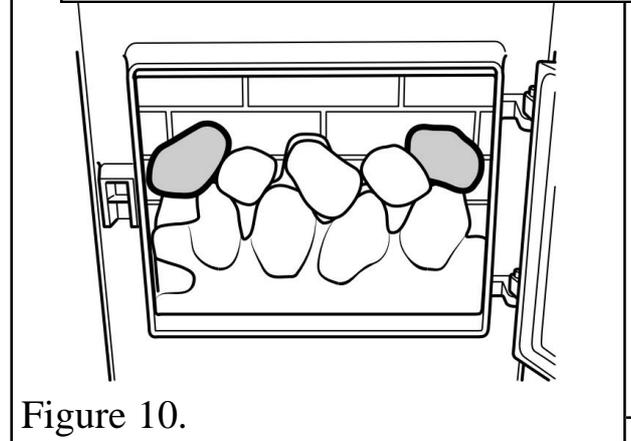


Figure 10.

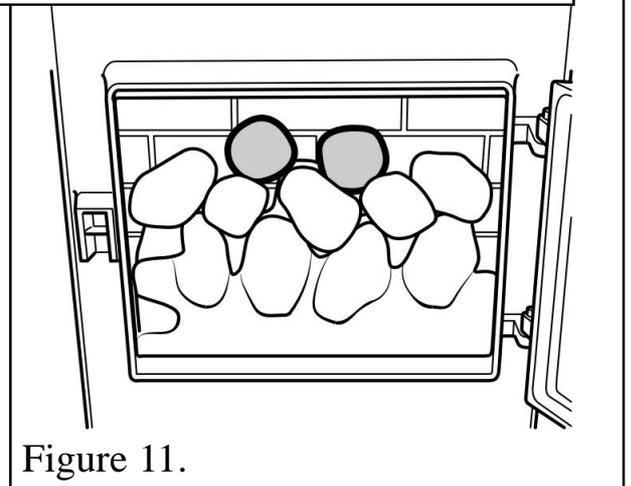


Figure 11.

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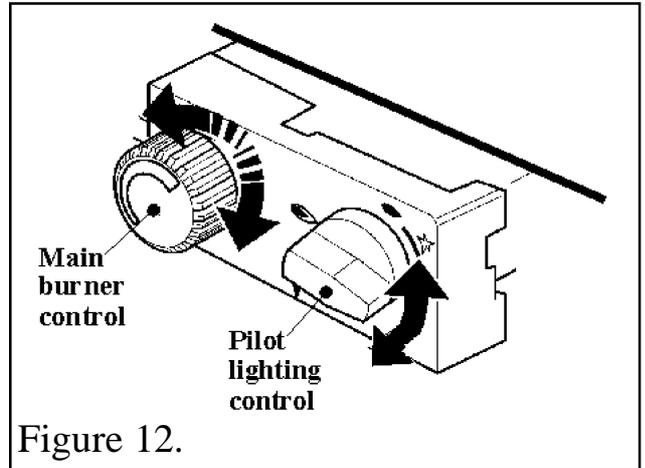
## 8. FINAL CHECKS

### 8.1 Checking the full operating sequence.

See figure 12.

If the fire is turned off or the flames go out, wait at least 3 minutes before attempting to relight. A safety device in the control stops the fire being turned back on until it is safe

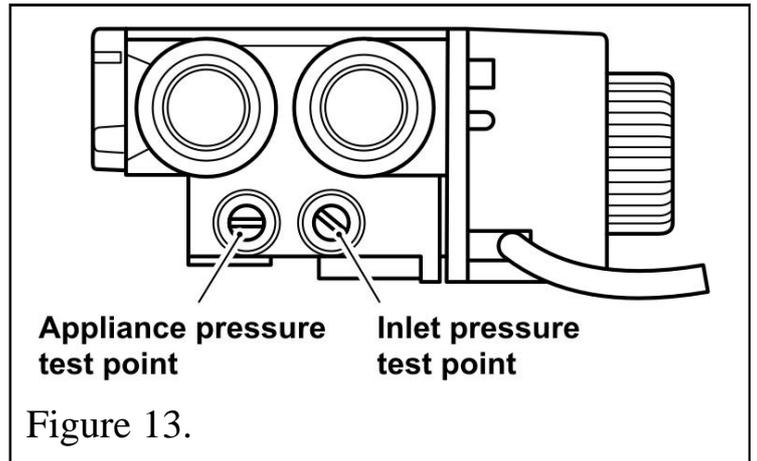
- Turn the left hand control knob fully clockwise.
- Push in the right control knob and, while keeping it depressed, turn anticlockwise through the ignition position marked  and up to the pilot position marked . The spark should light the pilot.
- If the pilot does not ignite, keep the knob depressed for a few seconds to purge air from the supply pipes. Then turn back to the off position marked  and repeat the ignition procedure.
- When the pilot has lit, keep the right hand control knob depressed for a few seconds to allow the pilot flame to stabilise then release it. If the pilot does not remain alight ensure that the air has been purged.
- Partially depress the right control knob and turn to the main burner position marked . The main burner should now light at its low position.
- The left-hand knob is for burner flame adjustment. Turning it anticlockwise should gradually increase the flame height.
- The flame height control does not have to be re-set every time the fire is lit. It can be kept at any position enabling the customer to use the right hand control only to ignite the burner at the set flame height.
- After checking turn the right hand knob to off. Depress the control knob partially at the pilot position marked , turn clockwise to the off position marked  and release the knob. If any resistance is felt when turning, release the downwards pressure on the knob before continuing to turn.



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## 8.2 Checking the reference pressure.

The burner aeration is non-adjustable. The appliance is preset to give the correct heat input on Natural Gas at 20 mbar (8in w.g) inlet pressure and no further adjustment is necessary. The burner pressure should be checked at the pressure test point located at the side of the control unit (See figure 13). The pressure check should be carried out using a calibrated pressure gauge after



removing the test point screw. The fire should be alight and the left hand control knob at its fully anticlockwise setting (Maximum flame height). The pressure setting should be within the limits shown on page 3 of this manual (Appliance data). After checking the pressure, turn the fire off, remove the pressure gauge and replace the pressure test sealing screw. Relight the fire and test all gas joints for soundness using a suitable leak detection fluid.

## 9. FINAL REVIEW & SERVICING

### Final Review

- Visually inspect the appliance. Clean off any marks incurred during installation.
- Advise the customer how to operate the appliance. Advise the customer that they should read their Owner's guide before operating the fire and always follow the advice in the section headed "Cleaning your stove".
- Advise the customer that the top, front, sides and back of the appliance are working surfaces and become very hot during use. Therefore care should be exercised, particularly with the young, elderly or infirm.
- Explain to the customer that the appliance has a flame failure device. Point out the explanation of this system shown in the Owner Guide under "Operating your stove". Advise that if the fire goes out for any reason wait at least three minutes before relighting. Stress that if the monitoring system repeatedly shuts off the fire, the appliance should be switched off and a specialist should be consulted.
- Advise the customer that the door can be opened for cleaning the interior by using the special key supplied. Stress that the door locking screw should be refitted afterwards to prevent inadvertent opening when the stove is alight.
- Stress that no extra coals must be added over and above those supplied with the appliance and that any replacements must only be the authorised spares. Warn that ignoring this advice could cause incomplete clearance of the products of combustion with consequent health hazards.
- Explain to the customer that when operating the stove for the first time, some

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vapours may be given off which may cause a slight odour and could possibly set off any smoke alarms in the immediate vicinity. These vapours are quite normal with new appliances. They are totally harmless and will disappear after approximately twelve hours use.

- Hand these instructions, the Owner Guide and the door key to the customer.
- Recommend that the appliance should be serviced and the flue checked by a competent person (In the UK preferably a CORGI registered person) at least annually. If the appliance is in premises in the United Kingdom occupied by a tenant, point out that by law a landlord must have any gas appliance, flue and pipework which is situated in a tenant's premises checked for safety at least every 12 months

## Servicing

- Always turn off the gas supply and allow to cool completely before commencing any servicing.
- **This product uses fuel effect pieces and a burner compartment walls containing Refractory Ceramic Fibres (RCF), which are man-made vitreous silicate fibres. Excessive exposure to these materials may cause irritation to eyes, skin and respiratory tract. Consequently, it is important to take care when handling these articles to ensure that the release of dust is kept to a minimum. To ensure that the release of fibres from these RCF articles is kept to a minimum, during installation and servicing we recommend that you use a HEPA filtered vacuum to remove any dust and soot accumulated in and around the fire before and after working on the fire. When replacing these articles we recommend that the replaced items are not broken up, but are sealed within a heavy duty polythene bag, clearly labelled as RCF waste. This is not classified as “hazardous waste” and may be disposed of at a tipping site licensed for the disposal of industrial waste. Protective clothing is not required when handling these articles, but we recommend you follow the normal hygiene rules of not smoking, eating or drinking in the work area and always wash your hands before eating or drinking.**

**This appliance does not contain any component manufactured from asbestos or asbestos related products.**

- Check that the appliance is clean and that no matter is blocking the burner or pilot which may cause imperfect flames or prevent a correct electrode spark.
- After servicing, make sure that the ceramic walls and fuel effect pieces are replaced correctly as described in this guide. Make sure that the door locking screw is in place.
- **Always test for gas soundness after servicing the appliance.**