Opening up an Old Fireplace

Opening up an old fireplace is like striking gold in your very own home.

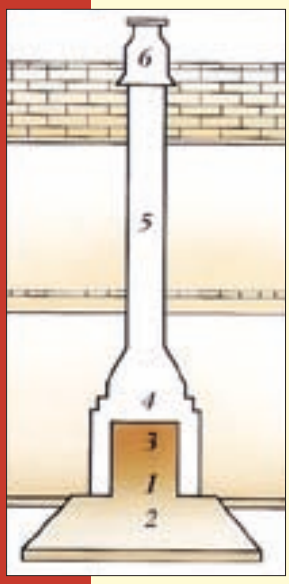
In addition to a glowing, warmer, more welcoming living room, you are creating a much healthier and more invigorating atmosphere, and adding to the character of your investment into the bargain.

Solid fuel fires are clean and easy to operate, highly efficient, flexible and easy to install.

What's more, you don't need to be a master builder to tackle the job of opening up a blocked up but otherwise intact fireplace.

All you require is common-sense, some muscle power and, in certain cases, a little professional advice or practical help to ensure that you comply with Building Regulations.

Alterations to fires and fireplaces are classified as building work and is subject to Building Control approval. You are advised to contact your Local Authority before commencing work. What follows is the proper sequence of events for a safe and effective revival of open-fire magic in your home. But don't forget, The Solid Fuel Association offers professional advice where problems are encountered.



1

BLOCKED UP FIREPLACE OPENING

This is what you see before you start the job and it obscures what was a fireplace.

2

HEARTHS

The constructional hearth is usually provided when the house is built. It is a concrete slab about 125mm deep that extends beneath the fire and out into the room. There is often a raised decorative hearth called the superimposed hearth laid on top of the constructional hearth above the floor level.

3

FIREBACK

Within the recess there may be a fireback or firebrick enclosing the area where the fire used to burn. Behind the fireback there may be a space filled with rubble for insulation, and above it may be a throat or throat forming lintel.

4

LINTELS

The constructional lintel is normally reinforced concrete and supports the brickwork above the fire. Sometimes known as the load bearing lintel, it can take the form, in some old houses, of an iron arch bar or a brick built arch. The throat forming lintel or block, as the name suggests, forms a throated or shaped entry to the chimney. Its function is to direct and lead the combustion gases into the flue.

5

FLUE

The flue is the passage in the chimney through which the combustion gases pass to the atmosphere.

6

CHIMNEY

The chimney is the brickwork in which the flue is formed. It may not have been used for some time and must be carefully checked.

Your chimney could have been capped to prevent birds or rain from entering. Any obstruction must be removed. The flashing is the metal sheet, usually lead or zinc, making a waterproof joint where the chimney joins the roof.

Opening up

HARDBOARD COVER ON TIMBER FRAME:

Simply prise the frame free, ready for further investigation. Make good any minor damage to the surround and decorations.

BRICKED-UP-OPENING:

You need to find a recess called a builder's opening, a rectangular opening in the chimney-breast - approximately 580mm wide, 355mm deep and 635-650mm high - into which the fireback is fitted.

Chimney breasts can normally be readily identified because they project either into the room or externally from the outer wall. But in any case an air brick or ventilator may be visible.

The way to check for a builder's opening is by carefully removing the air brick or ventilator, or by removing two bricks about 300mm above the floor. Protect your room from falling dust. Next hold a lighted taper in front of the opening. A flame drawn towards the opening indicates the up-draught caused by a clear chimney; a still flame suggests that the chimney has been somehow obstructed. This obstruction needs to be cleared.

If you are now certain of a suitable opening, together with an unobstructed chimney, you can proceed to open up the fireplace. Make sure your room is protected against a heavy accumulation of rubble and dust.

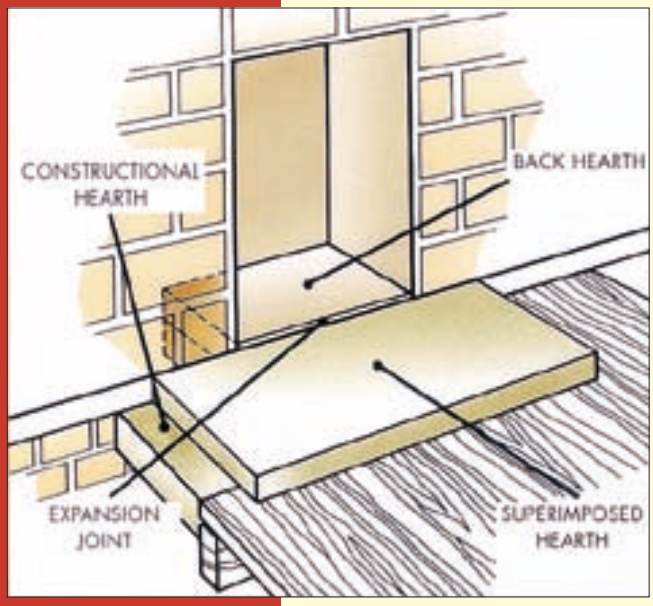
Don't disturb a sound or repairable fireback if one is present, and be certain not to disturb any lintel , brick arch or iron arch bar.

If there is any sign of a space above the builder's opening or any sign of dampness or staining, seek further advice from the Solid Fuel Association. Otherwise, for safety's sake, this is the time to have your chimney swept and to ensure that your room has an adequate supply of air.

Hearths

Your fireplace will normally be made up of a three-part hearth.

The main "constructional hearth" is a 125mm thick concrete slab providing a barrier between the fire and combustible wood structures and should extend not less than 500mm beyond the front of the chimney breast and a minimum of 150mm to each side of the builder's opening. If you have a solid floor this will probably be suitable for use as a constructional hearth. If your home was built before February 1966 it is unlikely to comply with current Building Regulations, in which case seek advice from The Solid Fuel Association.



Laid above and forward is the "superimposed hearth". This is the decorative horizontal surface constructed in ceramic tiles, brick, stone or other non-combustible materials. It i normally not less than 48mm thick and must project forward of an open fire not less than 300mm.

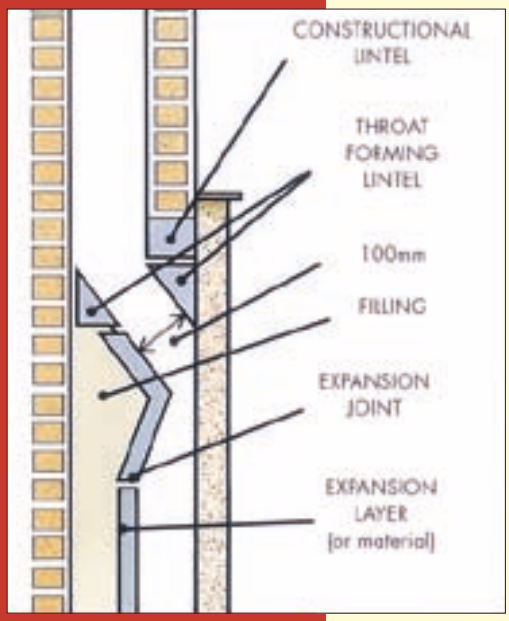
The "back hearth" lies on the constructional hearth behind the superimposed hearth. Construction is 4 parts sharp sand, 1 part cement mixed with water (allow to dry before positioning fireback) or a laid pre-cast slab. Its thickness will be determined by the thickness of the superimposed hearth. When finished both top surfaces should be flush. To provide an expansion joint between the superimposed and back hearths lay a length of glass fibre rope between the two.

Lintels

Lintels are vital support members, and should on no account be disturbed.

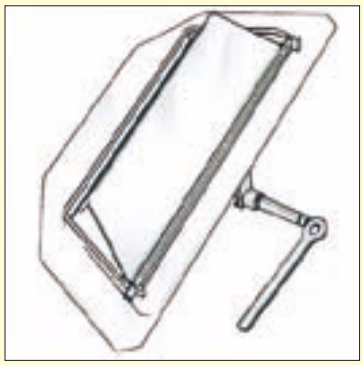
Note that concrete constructional lintels may be positioned a few brick courses above the throat-forming lintel.

The throat-forming lintel is a chamfered block, usually of reinforced concrete, designed to provide a back surface parallel with the upper fireback to form an angled passage (or throat) through which combustion gases flow into the flue. It could be a separate lintel or be incorporated in a throat-forming block.



A practical size of throat for a 400mm wide fire is about 300mm wide and 100mm deep. Wider fires need wider throats. The smaller the throat dimensions, the less air it draws from the room and the greater the warmth in the room.

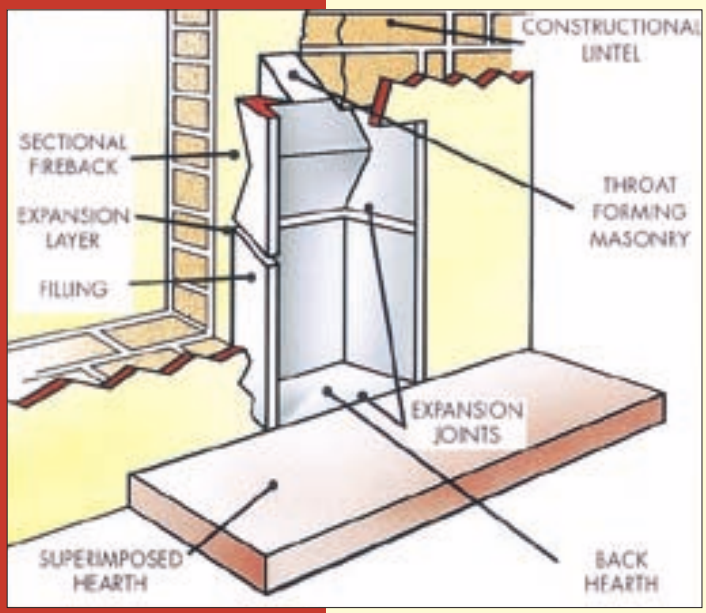
An adjustable ventilation regulator, removable for sweeping, can be fitted on top of the fireback to vary the throat size.



Fireback

Minor cracks in existing fabricated firebacks can be repaired with fire cement, which can also be used to repair or re-point brick-built firebacks, although more extensive damage may need the attention of a specialist builder.

New firebacks must be of British Standard dimensions to match both standard and modern surrounds and open fires.



To make them easier to fit and allow for differential expansion to greatly reduce cracking, many modern firebacks are horizontally split into two parts. Other firebacks could be of four or five parts.

Care taken to install it with proper room for expansion will greatly prolong its life.

Filling in the back in particular needs care. The in-filling should be solid but not too strong a mix. The BS Code of Practice recommends 1 part lime, 2 parts sand, 4 parts broken brick. Vermiculite concrete - 6 parts vermiculite, 1 part cement is an alternative insulating mix.

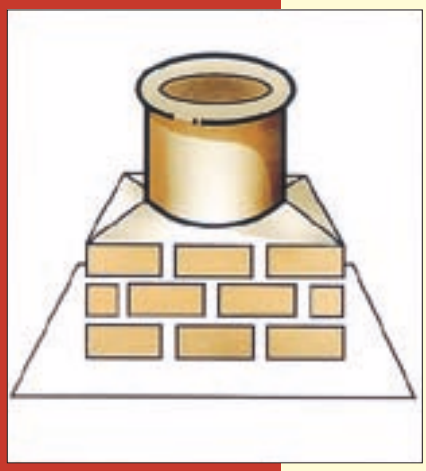
To allow for expansion it is advisable to put corrugated paper or thin strawboard around the back of the lower fireback half before in-filling. When a fire is lit later, this quickly burns away to leave a void.

Finish off the top of the fireback at an angle, as well as around its sides, using a weak mortar mix.

Chimney

It is absolutely essential to make an external check on the condition of the chimney in the roof space and above roof level. Ensure the mortar joints are intact and that the structure is vertical.

To comply with Building Regulations chimneys should be tested before re-use as mortar joints may have deteriorated with age. The flue must be clear of obstruction and gas tight.



The chimney pot should be sound and safely fitted. So as not to adversely affect the up-draught it should be above the ridge level and preferably should not be overshadowed by taller buildings or trees.

If the chimney has been capped, remove the cap and check the chimney is complete, also remove any cowl and ensure the pot is at least 200mm internal diameter.

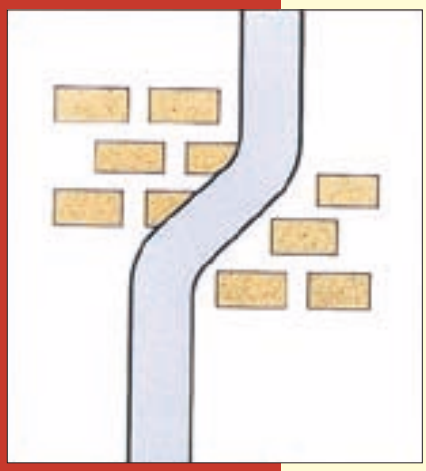
Ensure that the flashing - a waterproof joint fashioned usually in lead or zinc - is complete between the base of the chimney and the roof.

If you are in any doubt about the condition of the chimney, contact The Solid Fuel Association for the name of your nearest chimney specialist who will be able to carry out a full inspection of the flue. It may be necessary to have the chimney lined.

Flue

The flue is the passage in the chimney through which the combustion gasses pass to the atmosphere. Ideally it should be the same dimensions from just above the throat to the base of the chimney pot, although in some cases it will change direction for constructional reasons.

Flues for open fires should be a minimum of 185mm square or 200mm diameter. If bituminous coal is to be burnt then a 225mm diameter is recommended.



Larger fire openings will require bigger flue sizes.

Chimneys constructed since 1966 are required by Building Regulations to be lined with one of the acceptable linings quoted in those Regulations. If you have any problems with linings seek specialist advice.

Some flexible flue liners are only recommended for use with gas appliances and are not suitable for solid fuel. If a flexible flue liner is present it must be removed and the flue should be tested. If the liner is made of stainless steel and is of a type suitable for solid fuel, it is unlikely to be in good condition if the flue has been closed for any length of time, and will need to be replaced.

METRIC CONVERSIONS

Imperial to Metric

1 yard = 0.91m (914mm)

1 foot = 0.305m (305mm)

1 inch = 25.4mm

Metric to Imperial

1 metre = 39.37in

25.4mm = 1in

Selection

and

Installation

of

Appliance

and

Fireplac

The design of open fires has moved with the times to offer you style, efficiency and economy. Properly installed, they'll give you all the warmth you require together with the benefit of fresh, healthy ventilation for your living room.

Alternatively you can opt for the extra economy of an enclosed roomheater or stove with the fire merrily glowing behind glass doors By adding a concealed back boiler you can provide domestic hot water and enough power to run up to ten average-sized radiators.

Visit your nearest stove shop where you can see a wide range of appliances to suit every situation.

Lighting up

If you didn't sweep the chimney when you revealed the builders opening, you must do so before first lighting-up. Subsequently you should have it swept at least once a year; and twice a year if you burn bituminous coal or wood.

Ask your Approved Coal Merchant or contact the National Association of Chimney Sweeps, Guild of Master Sweeps or Association of Professional Independent Chimney Sweeps for a list of members in your area.

All work must dry out for at least 24 hours before lighting even a small fire.

To work properly, a cold chimney needs to be prewarmed by a small fire - paper and a white fire lighter will do.

If instead of being carried away, the smoke comes back into the room. it could be due either to a blockage or lack of ventilation. Building Regulations recommend 50% of the throat area be provided as free ventilation area for open fires. In most cases this will equate to approximately 13,000mm^2 (20sq ins). Care should be taken when siting this vent to ensure the incoming air does not cause discomfort to occupants of the room. For further advice contact The Solid Fuel Association Tel. 01773 835400.

If smoke or fumes escape from the chimney into the room or elsewhere into the home, carefully put out the fire or allow it to burn itself out and seek advice from The Solid Fuel Association.

Once you have successfully completed your pre-fire checks you can now light your first real fire, using paper, white fire lighters and a fuel chosen with the help of your Approved Coal Merchant. But remember, keep your fire low for the first four or five hours.

Sources of Further Information

Copies of Building Regulations are available at your Public Reference Library, or via www.planningportal.gov.uk/buildingregulations. Advice is also available from your Local Authority Building Control Department or The Solid Fuel Association.

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