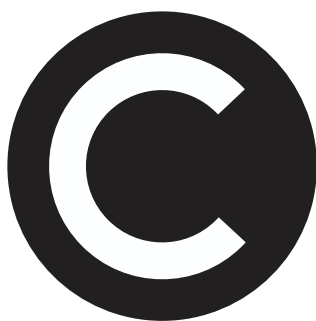




charnwood

— C-SERIES —

Operating & Installation Instructions



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OPERATING INSTRUCTIONS



Congratulations on becoming the owner of a HETAS approved Charnwood C-Series Stove. Your stove has been approved by DEFRA to burn wood logs in a smoke control area if it is used in accordance with these instructions. It is therefore very important that you read and understand these instructions before using the stove.

Before lighting the stove check with the installer that the work and checks described in the Installation Instructions have been carried out correctly and that the chimney has been swept, is sound and free from any obstructions. The stove is not suitable for use in a shared flue system.

Remember that the stove will be hot and that it is made from hard materials – ensure that you have good balance before operating the fire.

Do not use an aerosol spray on or near the stove when it is alight. There is a risk of explosion or flash ignition of the spray.

When using the stove in situations where children, aged and/or infirm persons are present a fireguard must be used to prevent accidental contact with the stove. The fireguard should be manufactured in accordance with BS 8423:2002.

The stove is suitable for intermittent operation.

FUEL

This stove has been designated to burn wood. Only dry well seasoned wood should be burnt on this appliance as burning wet unseasoned wood will give rise to heavy tar deposits in the stove, on the glass and within the chimney. For the same reason hard woods (such as Ash, Beech and Oak) are better than soft woods (such as Pine and Spruce). Burning wet unseasoned wood will also result in considerably reduced outputs. The wood should be cut and split and then left to season in a well ventilated dry place for at least one year but preferably two years before use. Approximate suitable log sizes are:

C4 & C6	255mm (10in) long and 75mm (3in) diameter
C5 & C8	305mm(12in) long and 75mm (3in) diameter
C7	380mm(15in) long and 75mm (3in) diameter.

PETROLEUM COKE IS NOT SUITABLE FOR USE ON THIS APPLIANCE. ITS USE WILL INVALIDATE THE GUARANTEE.

This stove is not designed to burn household waste.

For advice on other fuels please contact Charnwood.

These appliances have been approved by HETAS as intermittent operating appliances for burning dry seasoned wood logs only. HETAS approval does not cover the use of other fuels either alone or mixed with wood logs nor does it cover the instructions for use of other fuels.

FITTING THE RIDDLING GRATE

Tool required for fitting the riddling grate:

10mm Spanner
Pozidriv screwdriver

Before fitting the riddling grate (Fig. 1) remove the fuel retainer and the wood ash retainer. The wood ash retainer is not required when the riddling grate is fitted.

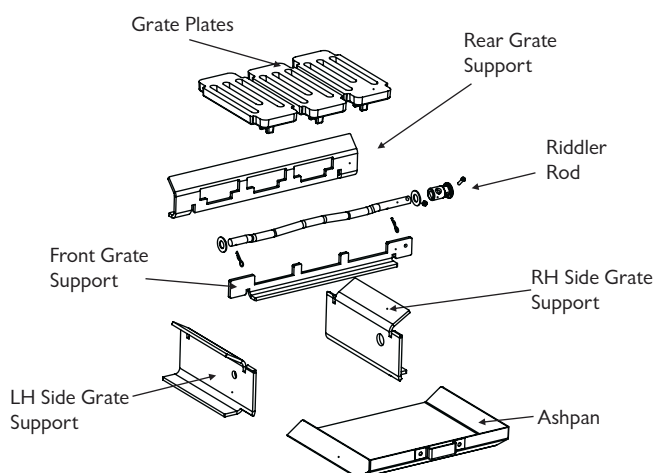
Undo the nut on the riddling blanking hole using a 10mm spanner. Remove the cover and spacing washer (ensure you keep these in a safe place as you will need to replace them if the riddling grate is removed).

Feed the riddler rod through the hole on the right hand side of the stove, and slide one washer onto the rod (if there is not sufficient room to the right of the stove to do this then remove the riddler knob, fit one washer over the rod and then slide the rod through the hole from the inside of the stove).

Feed the rod through the two side fireplates and slide the other washer on to the rod so that the washers end up outside the two side fireplates. With the side fireplates pushed together fit the retaining clips so that the washers come inside the clips.

Slide the side fireplates apart so that they rest against the sides of the firebox. Slot in the front and rear support plates.

Fig.1. Optional Grate Kit



Fit the grate plates into position through the front and rear grate support plates, making sure they locate correctly onto the riddler rod. Fit the fuel retainer. Slide the ashpan under the grate.

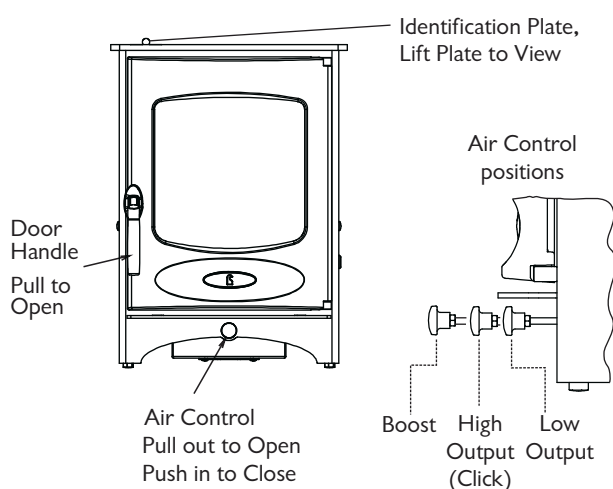
LIGHTING

On initial lighting, the stove may smoke and give off an odour as the silicon paint with which the firebox is painted reacts to the heat. This is normal and will cease after a short time, but meanwhile the room should be kept well ventilated.

At first only light a small fire and burn it slowly for two hours to allow any residual moisture in the chimney to evaporate.

Light the stove using dry kindling wood and paper or fire lighters. Put the paper, or fire lighters, and kindling in the firebox and cover with a few small dry logs. Open the air control fully (see Fig. 2). Light the paper or fire lighters. The door may be left cracked open for a few minutes to assist the combustion and heat up the firebox more quickly. When the kindling wood is well alight add a few more small logs, close the door but leave the air control fully open. When the flames are established around these logs, load the stove with the required fuel load. Maintain the air control at maximum at this stage. Once the fire is up to temperature the airwash system will begin to work, so allow the fire to become hot before adjusting the air control to the required setting. During the lighting period, do not leave the stove unattended. Do not leave the door open except as directed above to avoid excessive smoke.

Fig.2. Stove Controls



When relighting the stove, leave the ash on the base if burning wood, unless it is becoming too deep, in which case some of it may be removed. If burning high ash content fuel, clear the grate and empty the ashpan before relighting.

CONTROLLING THE FIRE

The rate of burning and hence the output is controlled by the air control (see Fig. 2).

Open the air control fully (boost position) when lighting or when rapid burning is required. It should not be left fully open for long periods as this can cause over-firing or excessive smoke production. For high output move the air control to the 'click position' or for low burning to the fully closed position.

When the fire is burning normally the air control gives enough airwash to keep the glass clean. However, it will not always be possible to keep the glass clean with the air control fully closed. For correct firing we recommend the use of a stove pipe thermometer which may be purchased from your supplier or from Charnwood.

REFUELLING

Keep the firebox well filled but do not allow fuel to spill over the top of the fuel retainer.

Logs should be evenly distributed, filling the firebed to give the most pleasing flame pattern. The air control must be fully opened after refuelling until the flames are established above the fire. It is best to refuel on to a hot bed of ash. If at this point the fire starts to die, the door must be cracked open until the fire is revived. If the fire has started to die down before refuelling, then more kindling wood must be added, the air control opened fully and the door cracked open to re-establish the firebed **before** adding larger logs (see suitable log sizes in Fuel section). This will avoid excessive smoke emission.

Care should be taken, especially when burning wood, that fuel does not project over the fuel retainer or damage to the glass may be caused when the door is closed. It can also cause the glass to blacken up. Maximum filling height is such that logs cannot fall from the fire when the door is opened. In smoke controlled areas do not fill the stove above the level of the front firebars as overloading can cause excess smoke. Liquid fuels are not to be used on this appliance.

ASH CLEARANCE

The ashpan should be emptied regularly before it becomes too full. Never allow the ash to accumulate in the ashpan so that it comes in contact with the underside of the grate as this will seriously damage the grate bars. The ashpan is handled using the tool provided. Care should be taken to ensure that ash is cool before emptying it into plastic liners or bins.

OPERATING INSTRUCTIONS



To make ash removal easier there is a special Charnwood ash carrier available. This may be purchased from your supplier or, in case of difficulty, from Charnwood.

REDUCED BURNING

For reduced burning the fire door must be closed.

When burning wood in areas that are not smoke controlled, load some large logs on the fire and allow to burn for half an hour before closing the air control (this will help to reduce tar deposits in the chimney). Some experimentation may be necessary to find the setting most suitable for the type of fuel being used and the draw on the chimney.

To revive the fire, empty the ashpan (if burning fuel other than wood), riddle the fire, and open the air control to maximum. When the fire is burning well load on more fuel as necessary and adjust the air control to the desired setting.

MAINTENANCE

Cleaning

The stove is finished with a high temperature paint which will withstand the temperatures encountered in normal use. This may be cleaned with a damp lint-free cloth when the stove is cold. Should re-painting become necessary, high temperature paints are available from your supplier or from stove shops.

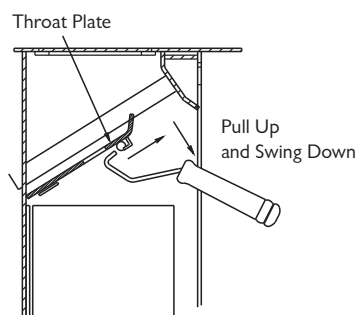
Cleaning the Glass

Most deposits on the glass may be burnt off simply by running the fire at a fast rate for a few minutes. If it becomes necessary to clean the glass then open the door and allow it to cool. Clean the glass using a damp cloth and then wiping over with a dry cloth. Any stubborn deposits on the glass may be removed with a proprietary stove glass cleaner or ceramic hob cleaner. Do not use abrasive cleaners or pads as these can scratch the surface which will weaken the glass and cause premature failure.

When Not in Use

If the fire is going to be out of use for a long period (for instance in the summer) then to prevent condensation, and hence corrosion, the air control should be left fully open and the fire door left ajar. It is also advisable to sweep the chimney and clean out the fire. Spraying the inside of the door and firebox with a light oil, such as WD40, will also help to keep all internal parts working well. After long periods where the fire has been out of use, the chimney and appliance flueways should be cleaned before lighting.

Fig.3. Throat Plate Position and Lowering



Door Seals

For the fire to operate correctly it is important that the door seals are in good condition. Check that they do not become worn or frayed and replace them when necessary.

Servicing

It is recommended that the fire is serviced once a year to keep it in first class working order. After cleaning out the firebox thoroughly, check that all internal parts are in good working order, replacing any parts that are beginning to show signs of wear. Check that the doors seals are in good condition and that the door seals correctly. A servicing guide is available on request. Repairs or modifications may only be carried out by the Manufacturer or their approved agents. Use only genuine Charnwood replacement parts.

THROAT PLATE AND FLUEWAY CLEANING

It is important that the throat plate and all the stove flueways are kept clean in order to prevent potentially dangerous fume emission. They should be cleaned at least monthly, and more frequently if necessary. It is necessary to let the fire out to carry out these operations.

The front of the throat plate is pulled forward and then lowered as shown in Fig. 3. Any sooty deposits should then be swept from the plate and into the fire.

Return the throat plate to its correct position - raise the front of the plate, push it back and then lower it onto the retaining lugs.

CHIMNEY SWEEPING

Where the chimney previously served an open fire, it is possible that the higher flue gas temperature from a stove may loosen soot



deposits with the consequent risk of flue blockage. It is therefore recommended that the chimney be swept a second time within a month of regular use after installation.

The chimney should be swept at least twice a year. Where the top outlet or vertical rear flue connector is used it will generally be possible to sweep the chimney through the appliance.

First remove the fuel retainer and the throat plate. Then sweep the chimney ensuring that soot is removed from all horizontal surfaces after sweeping.

In situations where it is not possible to sweep through the appliance the installer will have provided alternative means, such as a soot door. After sweeping the chimney the appliance flue outlet and the flue pipe connecting the stove to the chimney must be cleaned with a flue brush.

After clearing any soot from within the stove, replace the throat plate (see Fig. 3) and the fuel retainer.

Different types of sweep's brushes are available to suit different flueways. For prefabricated insulated chimneys the manufacturers instructions with regard to sweeping should be consulted.

TROUBLE SHOOTING

Fire Will Not Burn

Check that:

- a) the air inlet is not obstructed in any way,
- b) chimneys and flueways are clear,
- c) a suitable fuel is being used,
- d) there is an adequate air supply into the room,
- e) an extractor fan is not fitted in the same room as the stove.
- f) there is sufficient draw in the chimney. Once the chimney is warm a draught reading of at least 2.5 mm (0.10 in.) water gauge (25Pa) should be obtained.

Blackening of Door Glass

Differences in chimney draughts mean that the best settings of the air controls will vary for different installations. A certain amount of experimentation may be required, however the following points should be noted and with a little care should enable the glass to be kept clean in most situations:

- a) Wet or unseasoned wood, or logs overhanging the front fence will cause the glass to blacken.
- b) The airwash relies on a supply of heated air to keep the glass clean,

therefore, when lighting the stove allow the firebed to become well established before closing the air control. This may also be necessary when re-fuelling the stove.

c) When re-fuelling keep the fuel as far back from the front fence as possible, do not try to fit too much fuel into the firebox.

d) Do not completely close the air control.

It is always more difficult to keep the glass clean when running the stove very slowly for long periods.

If blackening of the glass still occurs check that all flue connections and the blanking plate are well sealed. It is also important that the chimney draw is sufficient and that it is not affected by down-draught. When the chimney is warm a draught reading of at least 2.5 mm (0.10 in.) water gauge (25Pa) should be obtained. Some blackening of the glass may occur below the level of the fuel retainer. This will not obscure the view of the fire or affect its performance.

Fume Emission

Warning Note:

Properly installed and operated this appliance will not emit fumes.

Occasional fumes from de-ashing and re-fuelling may occur.

Persistent fume emission is potentially dangerous and must not be tolerated. If fume emission does persist, then the following immediate actions should be taken:

- a) Open doors and windows to ventilate the room and then leave the premises..**
- b) Let the fire out and safely dispose of the fuel from the appliance.**
- c) Check for flue or chimney blockage, and clean if required.**
- d) Do not attempt to re-light the fire until cause of fuming has been identified, if necessary seek professional advice.**

The most common cause of fume emission is flueway or chimney blockage. For your own safety these must be kept clean.

Fire blazing out of control

Check that:

- a) The door is tightly closed.
- b) The air control slider is fully closed.
- c) A suitable fuel is being used.
- d) Door seals and airwash slide are intact.

Chimney Fires

OPERATING INSTRUCTIONS



If the chimney is thoroughly and regularly swept, chimney fires should not occur. However, if a chimney fire does occur close the air control, and tightly close the door of the appliance. This should cause the chimney fire to go out in which case the controls should be kept closed until the stove has gone out. The chimney and flueways should then be cleaned. If the chimney fire does not go out when the above action is taken then the fire brigade should be called immediately. After a chimney fire the chimney should be carefully examined for any damage. Expert advice should be sought if necessary.

CO ALARM

Your installer should have fitted a CO alarm in the same room as the appliance. If the alarm sounds unexpectedly, follow the instructions given under "Warning Note" above.

IF YOU NEED FURTHER HELP

If you need further help with your Charnwood then your Installer will be able to provide the answers to most questions. Your Local Charnwood Premier Dealer has a great deal of experience and will also be able to provide helpful advice. Further help is available from the Charnwood Customer Services department who will be pleased

INSTALLATION INSTRUCTIONS



to give advice, if necessary.

HEALTH AND SAFETY PRECAUTIONS

Please take care when installing the stove that the requirements of the Health and Safety at Work Act 1974 are met.

Some types of fire cement are caustic and should not be allowed to come into contact with the skin. In case of contact wash with plenty of water.

If there is a possibility of disturbing any asbestos in the course of installation then please use appropriate protective equipment.

There must not be an extractor fan fitted in the same room as the stove as this can cause the appliance to emit fumes into the room.

There must be an adequate air supply into the room in which the appliance is installed to provide combustion air. The combustion air supply must be via a permanently open vent. The requirement for minimum free area is partly dependent on the design air permeability of the house. In older properties the air permeability will be above 5.0m³/(h.m²), but in some modern properties it may be less. The

Air Permeability m ³ /(h.m ²)	Minimum Vent Area cm ² (in ²)				
	C-Four	C-Five	C-Six	C-Seven	C-Eight
> 5.0	No Requirement	No Requirement	9.4 (1.5)	11 (1.76)	16.5 (2.6)
<5.0	27.5 (4.3)	27.5 (4.3)	36.9(5.7)	38.5 (6.0)	44 (6.8)

vent must be positioned such that it is not liable to blockage.

Minimum areas are given in the following table:

This stove is capable of intermittent operation, and is not suitable for use in a shared flue system.

In addition to these instructions the requirements of BS.8303 and BSEN 15287-1:2007 must be fulfilled. Local Authority Bylaws and Building Regulations, including those referring to national and European Standards, regarding the installation of Solid Fuel burning appliances, flues and chimneys must also be observed.

CO ALARMS

Building regulations require that whenever a new or replacement fixed solid fuel or wood/biomass appliance is installed in a dwelling a carbon monoxide alarm must be fitted in the same room as the appliance. Further guidance on the installation of the carbon monoxide alarm is available in BS EN 50292:2002 and from the alarm manufacturer's instructions. Provision of an alarm must not be

considered a substitute for either installing the appliance correctly or

Specification	C-Four	C-Five	C-Six	C-Seven	C-Eight
Nominal Heat Output kW (BTU/hr)	4.9 (16,700)	5.0 (17,000)	6.7 (22,800)	7.6 (25,900)	8.3 (28,300)
Stove Weight kg (Packed)	83	96	96	115	119
Flue Temperature °C	281	259	272	280	316
Flue gas Mass Flow g/s	4.2	5.3	4.3	7.3	6.3
Hearth Temperature °C	51.6	69.9	88.1	55.4	53.4
Minimum distance from combustibles mm	600 side 600 rear	500 side 400 rear	500 side 500 rear	500 side 500 rear	600 side 650 rear

ensuring regular servicing and maintenance of the appliance and chimney system.

SPECIFICATION

The outputs in the table are based on a 45 minute re-fuelling cycle burning seasoned hardwood logs. All tests are carried out in accordance with BSEN 13240.

CHIMNEY

In order for the appliance to perform satisfactorily the chimney height must not be less than 4 metres measured vertically from the outlet of the stove to the top of the chimney. The internal dimensions of the chimney should preferably be 175 mm (7") or 200mm (8") either square or round and MUST NOT BE LESS THAN 125 mm (5") for C-Four and C-Five or 150mm (6") for C-Six, C-Seven and C-Eight.

If an existing chimney is to be used it must be swept and checked, it must be in good condition, free from cracks and blockages, and should not have an excessive cross sectional area. If it was previously used by an open fire then the chimney should be swept one month after installation to clear any soot falls which may have occurred due to the difference in combustion between the stove and the open fire.