

USER INFORMATION



Back Cabin Cooker, Solid Fuel (Pie Pod Mini)

Issue 5 02-02-17

BAKE - BOIL & ROAST FRY - SIMMER & TOAST®



www.bubbleproducts.co.uk

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1. WARNINGS.

During normal use, many parts of this appliance and appliance chimney can become too hot to touch. It is essential that you provide secure and suitable fireguards.

Always use fireproof gloves when attending to or using the appliance.

The glass fire box door panel on this appliance conforms to the requirements of BS 1945: 1971 and satisfies the heating appliance (Fireguards Safety) regulations 1991.

On initial firing of the appliance the paint finish on the appliance and chimney will cure through the application of heat. During this process open all windows, door and ventilators until all traces of fumes have cleared.

Before purchasing fuel for your appliance, always check with the supplier that the fuel does not contain Petro Coke. Do not use Petro Coke or any petro Coke derivatives on this appliance. This type of fuel will cause damage to the cooker grate, door glass and other internal components.

When using this appliance always make sure that adequate ventilation is available, do not block or obstruct purpose made vents. The appliance must have an adequate and unrestricted supply of fresh air.

Frost Protection, if you have a boiler version of the appliance, make sure that the water in your heating system circuit has a suitable water treatment is added, your installing engineer will advise you on this.

If you are unsure about these warnings, seek advice from any HETAS registered engineer.

2. INTRODUCTION.

BAKE, BOIL & ROAST - FRY, SIMMER & TOAST

It's all available plus a whole lot more from the Mini, Traditional, Back Cabin Cooker,



Cooking facilities are as follows:-

- OVEN SIZES are 297 deep x 245 wide x 297 high with oven tray supports together with a stainless oven heat shield tray and stainless wire rack.
- HOT PLATE 334 wide x 226 deep with hot spot and simmer areas.
- Stainless steel, removable oven lining.
- Stainless steel oven tray.
- Stainless steel wire oven rack.

Features

- See through oven door with built in temperature gauge.
- Fully adjustable door hinges and locks.
- Built in heat shields to reduce rear and side radiation.

- Oven door glass with thermometer.
- Easy access controls.
- Easy access lighting.
- Stainless steel grate carrier, front fret and grate, the high chrome content of the stainless steel grate gives a much longer life.
- Deep ash pan, capable of holding 24 hours of burnt ash.
- Large combustion chamber capable of holding a large fuel load, max log size 210 long x 120 dia.
- Overnight burning on solid fuel.
- Three controlled air routes into the cooker.

Optional Extras:-

- Stainless Steel Fiddle rail.
- Insulated Hot Plate lid.
- Stainless Hob Saver.
- Alternate colours detailed below.

Colour Options

Gun Metal is the standard colour, Black, Almond or Dark Forest Green are available as alternate options.

Door hinges and hinge pins can be either stainless steel or brass.

Fall in love with a Pie Pod and it will give you many hours of fun and pleasure.

As a user - owner you will need to familiarise yourself with how the cooker works and how the oven side works, once you have acquired the necessary skill you will be able to provide home cooked food from your new cooker.

Tools

- A wire handled poker.
- A riddle/ashpan removal tool.
- A wire rack and wire rack removal tool.

Spare Parts

Use genuine, original Bubble parts.

4. SAFETY.

Safety issues are set out below.

1. Installation / Use - Correct Compliance.

The appliance must be installed and used in line with our installation and user instructions.

2. Fume Emissions.

There are 4 main causes of fume or smoke to leak from the appliance.

- The chimney is blocked.
- There are too many bends in the chimney.
- The above deck chimney extension is not high enough.
- The chimney is not airtight.
- The boat is moored in a position near to high buildings, high trees or higher surrounding land and downdraughting is occurring.

3. Fire - Protection From.

Fire can be caused by a variety of potential danger points and because of the space limitation on boats; this risk is ever present and must be assessed.

Assure yourself by carrying out radiation tests.

Run the cooker and check out the temperature on all surrounding, adjacent or nearby combustible materials and make sure that they are adequately protected from the effects of heat radiation.

Protection can be gained by the use of -:

- Sheet metal heat shields and spacers.
- Heat resistant boards.
- Fireguards.

Combustible materials can be-:

- Wooden furniture.
- Curtains.
- Wooden panels or frames adjacent to the flue pipe or where it passes through the deck of the boat.
- Carpet or flooring close to the appliance.
- Items near to the appliance, which could fall onto it and ignite, should the boat suffer a slight impact.

4. Burns - Protection From.

During normal use many parts of this appliance and appliance chimney can become too hot to touch.

We recommend that you provide and secure suitable fireguards.

ALWAYS USE heatproof gloves.

The glass door panel on this appliance conforms to the requirements of BS 1945: 1971 and satisfies the heating appliance (Fireguards Safety) regulations 1991 but it does get very hot and must not be touched whilst the cooker is running.

The oven door-opening handle is designed to stay cool and can be used whilst the cooker is running.

A special handle is provided for the opening of the firebox and ashpit door.

A special tool is provided with one end used for removal of both the oven tray and wire rack and the other end provided for use in the riddle eye at the end of the riddle rod.

A poker is also supplied

5. FUELS.

1. About Wood Burning.

As in most things in this life, preparation and forward planning is the key to success.

- Purchase and prepare the fuel.
- Store the fuel.
- Dispose of the waste

The first thing to learn about burning wood is that the fuel has to be dried or seasoned and technically this means moisture content of less than 20%. (Bubble products can supply moisture meters.)

To achieve the 20% moisture level, the wood needs to be correctly stored for about 12 months after cutting, before burning.

This is a general guide and dependent upon the type of wood to be used, Pine will dry out faster than Elm, and some woods such as Willow will take much longer to dry.

Cut and split logs sizes bearing in mind that the max log size is 210 long x 120 diameter.

Don't be tempted to put too much fuel on in one go, a little and often is always better, we have more to say on wood burning and refuelling in the cooking section later on.

You will not be able to burn wood properly until you have built up at least 20 - 30mm of wood ash on top of the wood grate, this can take two to three days of burning to build up, when it has, riddle with care as you can soon riddle it away.

You will find that when you are wood burning you will only have to empty the ash pan once a week, if that.

Take great care with very dry fuel such as compressed wood waste, peat briquettes, kiln dried timber or pallet wood, if the cooker is excessively loaded with these fuels it can race away and over fire, it is better to mix these fuels with other fuels or use them sparingly.

Burning green or wet wood is a complete waste of time; it will be totally unsatisfactory and result in increased fuel consumption, reduced heat output and excessive tarring of the chimney.

2. About Bituminous Coal Burning.

We do not recommend the burning of bituminous coal but we do offer the following information.

Bituminous Coal burns in different phases of combustion.

- Phase One Burn

Is long flame combustion where copious amounts of air has to be supplied from under the fire bed and up through a grate, into the burn zone.

During this phase, tar and volatiles are burned or vaporised off from the coal, because the coal has a very high calorific value, masses and masses of air is required to allow proper combustion to occur.

If air in sufficient volume is not allowed to enter the firebox then the incomplete burning process will generate a high volume of unburned hydrocarbons in the form of dense, heavy smoke and soot particles, most unpleasant.

- Phase Two Burn

In its next phase of combustion, the remaining fuel burns like coke with what we call "short flame incandescence."

If you burn house coal on your Bubble cooker, it must be 50mm doubles in size and it must be placed onto an established hot fire, throw the shovel away and use tongs to load the fuel on to the fire.

Do not put more than one x 50mm single piece on at any one time otherwise the door glass will soot up and the chimney will smoke.

Give the cooker plenty of air through the over fire and under fire controls.

If you don't allow adequate air into the fire, the door glass will soot up and smoke will be exhausted through the chimney, annoying your neighbours and sooting up the cooker and chimney.

3. About Hard Coke.

It is possible to burn coke on a Bubble cooker on a boat but you have to experiment with the air controls and building up the fire using the little and often regime, during the evening.

You will have to use the long chimney extension, as you will not be able to maintain enough chimney vacuum without it.

4. About Fuels Generally.

Do not use Petro Coke on Bubble Cookers, if you do it will invalidate the warranty and cause damage to the grate, grate frame, cooker glass and could damage the cooker beyond repair.

Petro Coke is the waste product from oil refining, kilo for kilo, it is three to four times more powerful than ordinary house coal and can be hugely damaging to your appliance.

It is supplied by coal merchants and mixed with hard coke to form a pretty powerful combustible cocktail. If the cocktail is mixed correctly it can be a good fuel, but we have found that the mixing process is not reliable and sometimes a bag of fuel can be almost all petro coke.

Obviously manufacturers and coal merchants will deny this fact.

There is a large variety of solid fuel available for use on solid fuel cookers however because the cooker is designed for use on boats we recommend the use of large type solid fuel such as -:

Anthracite nuts 50mm. (Stovesse Nuts)

Anthracite is a hard fuel and difficult to get going. It burns with very little ash and gives off lovely wispy blue flames.

Furnacite.

Furnacite is good and stays in well.

Established fires will run on air wash only.

Coalite.

Coalite burns with plenty of clean flames and is very easy to light. It is designed specifically to be run on open fires in smoke control zones.

Established fires will run on air wash only.

Bituminous House coal.

See our earlier comments in sec 2 on what to buy and how to use it if you have to.

6. FUEL LOGISTICS

One of the major complaints about using solid fuel cookers on boats is dirt and dust.

This is brought about for two reasons:-

1. Because the chimney on a boat cannot generate the vacuum required to suck dust up the chimney as it would in a house or normal long chimney.
2. Cooker designers have not adequately addressed the problem of how to stop dust leaking from the appliance and as a consequence some appliances are just impossible to operate without spilling dust.

In a boat space is at a premium and any dust soon shows itself.

We have found that there are several ways we can improve this situation as follows.

Because we have a short chimney we have to keep it hot to make it work, therefore before opening the cooker door, give the cooker a few minutes of full bottom air to increase the temperature in the firebox and so increase the flue vacuum.

Riddle the cooker with a hot fire and always keep the refuelling door closed whilst riddling.

Use a tippy ash pan holder to dispose of the ash. Some boaters have an extra tippy to store hot ashes in until they have cooled down.

Store the fuel in a suitable bucket and use tongues or a small shovel to refuel.

Always carry firelighters and or pre prepared bundles of kindling sticks to make lighting quick and easy.

Keep your fuel carefully stored and keep a good mix of smokeless fuel, kindling sticks and well-dried logs.

Keep logs in a suitable basket to avoid mess.

Use a good quality hearth tidy.

Do not store fuel within a combustible distance from the appliance.

Do not use chemicals or fluids to start the fire.

7. CHIMNEY

The power, suck or vacuum the chimney can develop depends upon the following-:

IT'S HEIGHT.

IT'S DIAMETER.

THE TEMPERATURE OF THE GASSES IN IT.

THE RESISTANCE OF THE INNER SURFACE OF THE FLUE PIPE OR PIPES.

LOCATION OF MOORING

The boat is moored in a position near to high buildings, high trees or higher surrounding land.

If there are any of the above in the immediate location (within 100 -200 yards) of the boat, **under changing and fluctuating wind conditions, downdrafting will occur.**

If you have to moor in situations where the above-mentioned criteria exist, and the cooker is running, you must **let the appliance go out or move to another mooring.**

On Boats we normally have low flues which are small in diameter and generally not very well insulated, coupled with all these problems we have the other one which is the boat moves across constantly changing surroundings and through locks, into headwinds and crosswinds and also moors up in constantly changing locations which create major possibilities for downdrafting to occur.

Any bend in any part of the chimney roughness on the internal chimney wall will slow down the velocity of rising gasses and reduce the effectiveness of the chimney.

Any slight reduction in the flue gas temperature will reduce the chimney vacuum or pull, hence when the cooker is slowed down for all night burning, as the flue gas cools down the chimney vacuum reduces and the chimney could develop so little pull that the cooker may well go out. This problem is highlighted even more during very cold weather when the chimney can cool down even faster.

On a boat this is obviously not possible; therefore we have to take great care to make sure that we get the chimney to work as well as possible given all the limitations that Narrow Boats impose upon us.

Here are the rules.

- Always use top outlet for flue pipe take off.
- Try to avoid positioning the appliance in such a way as to need bends in the in the flue. If have to put bends in a flue pipe we will allow a slight kick off the cooker and a similar kick into the deck flange.
- Always try to get the cooker as low as possible in the boat as this will allow installation of maximum length flue pipe.
- Use the Harworth high performance above deck chimney system which is specially designed to keep the flue gasses hotter and help to maintain a good chimney vacuum.
- If you have to moor in a position near to high buildings, high trees or higher surrounding land.
- Fit a rotary swinging cowl to each extension or make one interchangeable.
- Clean or have the chimney cleaned regularly. (Frequency depends upon type of fuel and length of time used).
- All rules are there to be broken, but you have been warned.
- Don't phone in and ask for dispensations.

8. OPERATING PRINCIPLES.

The output generated from a solid fuel cooker depends upon several factors.

- The ability of the chimney to pull air through the cooker. (See Section 7)
- The size and capacity of the firebox.
- The grate design.
- The control and direction of combustion air allowed to go into and through the cooker.
- The type of fuel.
- The calorific value (C.V.) of the fuel.
- The ability of the cooker to dispose of the heat (radiate or convect) generated from the burning fire.

In the design of the cooker we have attempted to address all of these points and produce a product that will provide years of reliable and efficient performance and also look good.

9. OPERATING PROCEDURES

1. Lighting the cooker.

Make sure that the long above deck extension is fitted.

The cooker comes without the wood-burning insert fitted but if you are going to wood burn only, fit the wood-burning insert. (Small circular grate which fits on top of the existing grate.)

If you are burning solid fuel you will not need to fit the wood burning insert.

Open the door and build a fire in the normal way using newspaper or firelighters first, then place plenty of small chopped pieces of dry sticks onto the paper or firelighter.

Open

- The ash pit door air valve in the ash pit door.

- The sliding over fire air valve door.
- The air wash air valve slider on the upper front face of the cooker.

Light the fire at the base and let it get going before closing the door.

Because the chimney is cold it will take a little while for the fire to get going, when it does you will find it draws well and you will be quickly able to partially close the air valve in the ash pit door.

Keep an eye on the fire throughout the lighting process and once the sticks are well alight put some larger wood on and get that well alight before putting any solid fuel onto the fire.

Assuming you are using good dried kindling the fire will burst into flames very quickly so keep an eye on it during the ignition stage and use the air inlet controls to keep the fire under control and not burning too fiercely.

When your fire is well alight you can start to control the burn rate and heat output.

2. Controlling the Cooker.

There are **three** air control valves on the cooker.

- Under fire air for solid fuel and wood burning.
- Over fire air for wood burning.
- Air wash air to help keep the door glass clean.

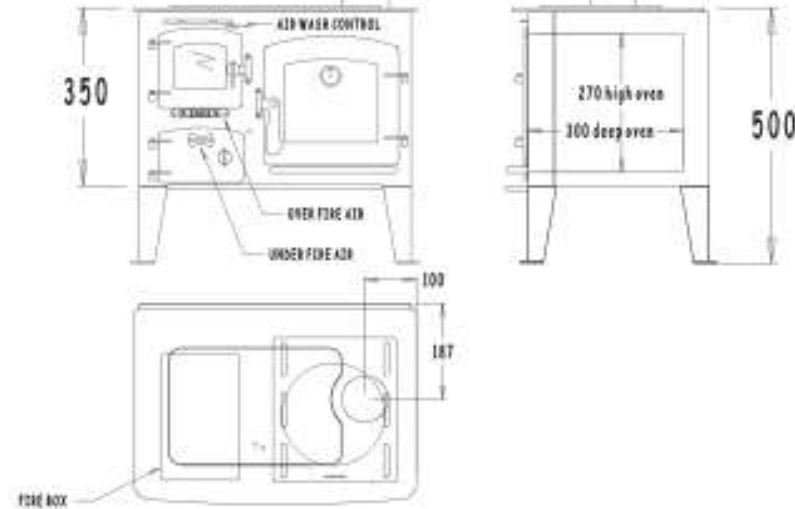
You will find your own way to run the cooker but to start with we give guidance on the use of the air control valves.

The under fire air control valve in the ash pit door will be used mainly for burning smokeless solid fuels.

It controls the volume of air allowed to go through the grate and into the burning fuel.

The over fire air valve in the bottom of the fuel door is used for wood burning and additional air wash for keeping the door glass clean,

The air wash air is used for keeping the glass clean and burning wood or coal, this control is quite sensitive and you will learn that it needs gentle and small adjustment to achieve the correct airflow.



When the fire is well established control can be achieved by using one or more or all of the controls.

3. Refuelling and de-ashing the Cooker.

Correct refuelling and air control is the key to keeping.

- A nice looking fire.
- A clean door glass.
- A clean chimney.
- Happy neighbours.

If you put a small amount of fuel onto a good fire it will soon recover and rapidly get back up to temperature.

Depending upon the fuel being used, smoke will only come from the fire immediately after it has been re fuelled or during the lighting stage, if the fire recovers or is allowed to burst into flame quickly, smoke emission is kept to a minimum and will only occur for a short period of time.

To help you make this happen the cooker has the potential to allow massive amounts of air into the combustion zone from a variety of different directions.

Even with all this available air it is sometimes advisable just to open the door slightly if the fire is particularly smoky during lighting or immediately after re-fuelling.

ON THE OTHER HAND

If you let the fire burn low and then put a huge load of fuel onto it, you will kill the fire and it will go out or take some considerable time to recover, during this time it will smoke and soot the chimney up and annoy your neighbours.

RECOVERING THE FIRE

If the fire is allowed to get low, refuel with small amounts of wood and give the cooker plenty of air until the firebox temperature recovers. Slowly build the fire up by adding fuel little and often.

When the fire is established control the burning rate by reducing the airflow. Use the air valves but keep plenty of air wash going to keep the glass clean.

Excessive smoke emission is a sure sign that you are not running the cooker correctly and you are likely to encounter complaints from neighbours.

When the cooker is running correctly there will be no or very little smoke coming from the chimney.

After a fresh charge of fuel it may be necessary to open all three air controls, when the fire has settled down, use the over fire air and the air wash.

Once the cooker is up to temperature you will see how the fuel gasses off to produce lovely light wispy flames rolling around the firebox. These flames are very controllable and by building on your experience you will be able to get the cooker to respond to most of your requirements.

De Ashing the cooker is important, if the ashpan is allowed to overfill, ashes will touch the grate and stop cooling air reaching it, this will in turn cause the grate to overheat and become damaged and unserviceable. This sort of damage will not be allowed as fair wear and tear and will not be covered by the warranty.

4. Overnight burning

Do not top the fire off with bituminous house coal.

It is completely unsuitable and will lead to a sooty glass, sooty cooker and a rapidly blocked chimney.

There is a skill and knowledge to acquire if you want to get the cooker to burn for long periods.

Here are the critical factors

- What type of fuel to use?
- How and when to re-fuel.
- Where to set the air controls.
- How to set the chimney up.
- What happens to the chimney when the cooker is slowed down?

5. Tips

Maximum length of burn will be achieved using a smokeless fuel.

Build the fire up slowly by adding fuel during the evening, try to get the firebox full of red-hot fuel, before retiring to bed, give the cooker a slight riddle and then top it up with a final load of fuel. Leave the over fire air and the air wash just cracked.

- If you admit too much air it will burn all the fuel away.
- If you don't admit enough air the cooker will go out without burning all the fuel and the glass will become dirty.
- You will have to experiment to find out the best way to keep the fire in.

6. Riddling the Cooker

To riddle the cooker simply insert one end of the riddling tool into the eye at the end of the riddling rod and pull / push until the ash has been riddled away.

It is also advisable to give the fire a good poking to make sure that ash has been removed from the front, sides and back of the combustion chamber, when the ash has been removed the fire will burn evenly from back to front with no dead spots.

10. MAINTAINANCE

To keep your cooker working well, you must make sure that it is kept in good condition.

As you can see we have linked cleaning with maintenance, if you pay attention to keeping the cooker clean and tidy, maintenance will be much reduced and the cooker will work to its maximum potential.

Overheating, ash and clinker are the major problems when burning solid fuel as opposed to wood.

To try and minimise these problems we have designed this cooker with a large ash pan and an externally operated riddling grate allowing you to riddle the cooker with the door closed.

1. Day to day attention.

Make sure that the fuel-loading door and ash pit doors close correctly and that there is no ash or dirt trapped behind them. Make sure that the door rope seals are in good condition.

As the sealing ropes on the refuelling and ashpan door bed in it may be necessary to adjust the door fastening cam by undoing the small locking grub screw and tightening up the cam by rotating it clockwise and then re fasten the locking grub screw.

Make sure that the base of the ash pit is kept clean.

For the cooker to work correctly, it is important that all the air coming into it goes through the air valves only, if the upper and lower doors are not properly closed this will not happen as it should.

3. Baffle and deflector plate.

The **baffle plate** is fitted over the top of the combustion chamber and is designed to restrict the rapid departure of heat from the combustion chamber and so improve combustion performance.

As the flames rise in the cooker they hit the baffle plate and are pushed from right to left allowing them to hit the hot plate and then travel over the oven top and out to the flue pipe via a **small deflector plate** designed to make the flue gasses go on a longer route out of the cooker.

Both plates should be inspected occasionally to make sure that they are in good condition.

The baffle plate is a consumable item and may need replacing from time to time.

The deflector plate must be removed once every 4 weeks to make sure that the flue pipe is clean and debris has not accumulated behind or to the sides of the baffle plate.

4. Riddling grate.

The **riddling grate** fits in the circular hole in the bottom of the grate carrier plate.

It can be riddled by pulling and pushing the riddling rod, always use the tool for this job as the end of the riddling rod gets hot when the cooker is running.

To remove the grate the riddle rod must be detached from it.

To do this proceed as follows:-

Let the cooker go out.

Clean all the ashes out of the grate.

Open the de ashing door and remove the ash pan.

Remove the 6mm nut on the end of the riddle rod under the grate. You will have to stop the riddle rod rotating by inserting the tee bar into the brass eye.

Note the 6mm nut is punched on one end to allow it to lightly lock on to the riddle rod.

When replacing this nut put it back with the punched end outermost.

If you over tighten this nut it will cause the riddling action to lock up.

When the nut is removed, pull the rod out of the grate lever and it should then be possible to remove the grate by lifting it out.

Re build in reverse order.

5. Riddling grate carrier.

The riddling grate carrier supports the riddling grate.

To remove it first remove the riddling grate.

Remove all the firebricks.

Then lift out the riddling grate frame.

Note.

It is important that the frame is flat and sitting snugly down on to the fixed hearth plate.

6. The Firebricks.

The firebricks are consumable items and will need to be replaced from time to time.

If the cooker is left to run with damaged fire bricks the steel panels could burn through and damage the cooker beyond repair.

The firebricks comprise of -:

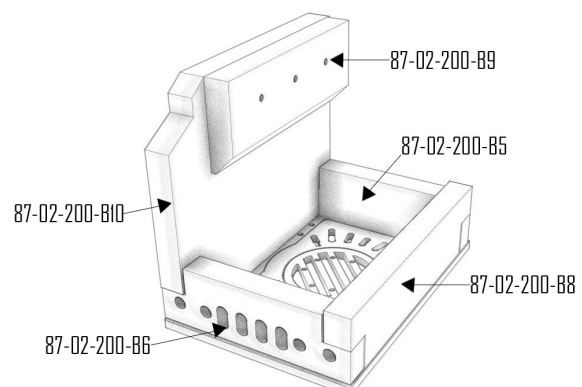
One right hand side comprising B9 and B10.

One left hand side B8.

One front B6.

One rear B5.

They are self supporting and are fitted as follows.



Left side brick b10 and then fix the additional side brick B9 to it using the three stainless screws.

Front brick.

Back brick.

Right hand side brick.

There is also a small vertical firebrick, not shown on the illustration, fitting on the vertical inside edge of the left hand side of the firebox door opening.

7. Keeping the cooker clean.

To clean the cooker externally allow it to go out and simply give it a slight dusting with a very soft small brush.

8. Keep the chimney clean.

Remove the chimney extension and slowly push a 4" brush down the chimney.

All the debris should fall into the cooker ready to be cleaned out.

Remove the hot plate and the small deflector plate to gain access to the base of the chimney.

When you are happy that the chimney is clean.

Use a vacuum cleaner to vac all the debris from the cooker.

Note it will be useful if you could enlist an assistant to stand near to the cooker with a vacuum cleaner running to vac any dust, which may leak from the cooker.

10. Cleaning the door glass.

If you are running the cooker correctly and using the specified fuel the door glass will remain clean, there may be slight sooting after lighting or re fuelling but this can be easily removed using a damp cloth when the cooker has gone out and cooled down.

If you use house coal and do not refuel as per our specific instructions on how to refuel, the door glass will soot up!

Warning

Do not attempt to clean the glass door with a damp cloth whilst the cooker is running or the door is hot.

If the door glass does become tarred up you will have to use a glass cleaner available from Bubble Products.

When using these cleaners you should carefully follow the detailed instructions on the product packaging.

Avoid contact with skin, eyes and items other than the glass.

Before closing the firebox or oven door always make sure that there are no obstacles likely to break the glass upon closing.

Do not use the door glass to push awkward shaped logs into the firebox as this will break the glass.

11. To Replace Door Sealing Ropes and Glass

Note that before attempting any maintenance work the appliance must be allowed to fully cool down.

The door sealing rope should be replaced if it does not form a good airtight seal.

The door glass should be replaced if it becomes etched or permanently discoloured.

Proceed as follows:-

Remove the door and lay it down on some bubble pack.

Support it around its periphery.

Undo the 4 screws and clamping plates then lift the glass out.

Replace the glass and the plates and screws.

11. WATER HEATING.

1. Frost protection.

Make sure that the water in your heating system circuitry has a suitable anti freeze added; your builder or installer will advise you on this.

The Bubble cooker can be supplied with a small boiler capable of heating your hot water cylinder or a small radiator.

If you have a water heating cooker there are certain extra items you will have to take care of.

You must know which type of plumbing system is installed on your boat, as there are two distinct types, which are

2. Gravity or fully pumped systems

In each case learn how the plumbing is laid out and where the feed and expansion tank is situated.

In each case go through the checking procedure detailed below, before lighting the cooker.

The feed and expansion tank on land based systems is automatically topped up should any overheating or evaporation occur, generally on boats this is not the case and topping up has to be done by hand, because of this it is important to carry out regular checks on the water level in the feed and expansion tank and you installer or builder should instruct you on this procedure.

3. Gravity Systems.

If the plumbing system has been designed as a gravity system you should be able to run the cooker without a water-circulating pump.

Before you light the cooker go through this checking procedure.

The feed and expansion tank is topped up to the specific level.

The system installer must advise you how to do this.

The system is free from entrapped air.

The installer will tell you where the air vents are located but remember if you bleed air off you must top up the feed and expansion again to make sure that the system is correctly and adequately filled up with water.

Check that the chimney is free from obstruction and the long extension is fitted.

Check that the inner's of the cooker are correctly fitted in place.

Check that there are no closed valves likely to stop the flow of water around the heating circuit.

(It is illegal to place any un-shielded valves on a solid fuel heating circuit we give advice in 5 as a precautionary exercise.)

Remember if a solid fuel system is valved off in any way, the boiler becomes a bomb and will explode with devastating power.

After you have checked as above proceed as follows:-

Light a small fire and build it up slowly.

Keep an eye on the progress of the heat out of the appliance through the system and keep an eye on the water level in the header tank.

Heat will build up in the water and force the water to expand and push itself around the system and possibly into the header tank.

Getting heat into the system is a slow and steady job; you must be patient and let it push through the system slowly.

Once heat is back returning into the appliance the system will gather momentum and circulation will proceed faster.

At this stage it will then be possible to build the fire up a little as the heating circuit will be able to dissipate the increasing volume of heat production from the cooker.

If the cooker is brought up to temperature too quickly there could well be some water lost through the feed and expansion tank.

4. NOTE WELL.

When you are lighting a cooker from cold there will be a build up of liquid condensates on the boiler surfaces and this can build up to be quite a lot of moisture.

As soon as the return water gets warm this condensation will stop, if the return water does not get hot condensation may well stream from the appliance.

It is sometimes possible to fit a clip on pipe thermostat to operate a circulating pump for advice call our technical line.

5. Pumped Systems.

If the system is designed as a pumped system you will have to keep the circulating pump running whilst the cooker is alight.

You must go through this checking procedure before lighting the cooker.

The feed and expansion tank is topped up to the specific level.

- The system installer must advise you on this point
- The system is free from entrapped air.
- The installer will tell you where the air vents are located.
- Turn the water-circulating pump on and make sure that it is running.
- The installer will tell you where the pump switch is located.

- When you have turned the pump on make sure that you have enough power in your batteries or electrical system to keep the pump running all the time that the cooker is under fire.
- Check that the chimney is free from obstruction and the long extension is fitted.
- Check that the inners of the cooker are correctly fitted in place.

Light a small fire and build it up slowly.

Heat will build up in the water and the system will slowly come up to temperature.

At this stage it will then be possible to build the fire up a little more.

If the cooker is brought up to temperature too quickly there could well be some water lost through the feed and expansion tank or safety valve, replace this water when the system has settled down.

When the fire has settled down, adjust the air control as desired to give the temperature required.

Note if the circulating pump fails, hot water may expand out of the feed and expansion tank and also out of the safety valve.

Take great care if this happens as the water will be up to boiling temperature and if there is a big fire in the cooker, may soon turn to steam.

Open the front door of the cooker and allow it to cool down as quickly as possible.

12. COOKER SPARE PARTS

See separate list.

13. COOKING SECTION

Now that you are an expert on how to control the fire the fun can start.

Just take a note that all solid fuel cooking is best carried out on either a falling or stable oven and so the key to temperature control is to let the oven stabilise and then put your cooking in, if you find that the oven temperature stalls after the food is put into the oven the fire must be in a condition where there is plenty of fuel on it and it is burning steadily, if you have to start refuelling during the cooking procedure you may well have difficulty achieving satisfactory oven temperatures.

Remember it is a small cooker and so don't put huge amounts of cooking into the oven as this could stall the oven temperature.

Cooking introduction.

The cooking side of the appliance can-:

Bake Boil and Roast - Fry Simmer and Toast ©

To start with we describe how the oven will provide each of its features and how it interrelates with its heat source from the fire.

Obviously if you have a big fire you will get a hot oven unless you leave the oven door open.

If you have a low fire then the oven will become proportionally cooler.

How the oven works

The oven is a traditional oven in as much as the main heat input to the oven comes from the left hand side and the oven top.

Wood fuel burns with long flames and this is what is required to get the oven up to temperature quickly, we call this type of oven a **flame impingement oven**.

The oven has a firebrick base under the stainless oven bottom plate and although the oven will come up to temperature very quickly it will hold a steadier temperature when the firebrick has thoroughly warmed through and this can take up to 6 hours.

How to set the fuel up for cooking.

Make sure that you have pre prepared the fuel, if you intend to fry or boil and want the fire to respond quickly; you will need small kindling as this will ignite and come into flame quickly.

If you intend to bake you will need to have the oven at a steady temperature which can be achieved using a two or three quartered logs, the key is don't let the fire get too low before refuelling, if you do use a few pieces of kindling and then a larger log, if the logs are too large they will just kill the fire and the oven will lose temperature.

Think about cooking on gas a small flame to maintain the temperature and a large flame to rapidly increase the temperature, on a wood fire, if you kill it by putting too much fuel on a low fire then you have effectively turned off the gas.

Smokeless fuel can be loaded onto a well established fire and will burn unattended, for a much longer time period, it will not generate long flames and so it will take much longer to raise the oven temperature but it will provide a more stable oven and hot plate temperature for a longer time period.

Therefore you will have to think carefully about what temperatures are needed and how long those temperatures are required to be maintained for and provide a necessary mix of fuel as required.

Cooking from cold

From cold lay the fire with half a newspaper lightly crunched up into single or half page balls or a suitable firelighter available from us.

Use one or two quartered logs to chop up into kindling sticks.

Here are the kindling sticks from the two 1.5 kilo logs



Lay a layer of kindling on to the paper and light the paper in two or three places.

Open all the air inlet vents fully:-

- AIR WASH SLIDE
- OVER FIRE AIR
- UNDER FIRE AIR

Put your half full kettle on the top plate of the appliance.

Let the kindling get going.

When the kindling is well alight the firebox will be full of flames, which you can see through the front door of the appliance.

When the kindling is well alight more wood can be loaded and the air controls can be adjusted accordingly with the objective being to get the absolute maximum heat from the fire into the appliance.

You will note that the firebox has high temperature lining bricks surrounding the grate and this is done to try and keep the fire box up to a high temperature. When the fire is first ignited you will see that the firebricks become discoloured and coated in a light soot film, as the firebox temperature increases the soot will burn off indicating that the combustion chamber is coming up to its working temperature.

When the firebox is up to its working temperature it will be possible to load a new log on to the fire which will immediately ignite and flame off and then gently decompose into charcoal as illustrated.

At this stage control of the fire will be made using air wash control only with over fire and under fire air turned off.

If you put a couple more logs on and leave the air wash half open the fire will burn at half rate and the oven temperature will carry on increasing steadily.



Remember that like all solid fuel appliances the oven will **overrun** by quite a way and so you need to be slowing the fire down well in advance of your target temperature.

Cooking from an existing fire

If the fire is established decide what type of cooking you intend to do and prepare the fire accordingly.

If the oven is at the desired temperature just make sure that you have the fire in a condition to stay healthy for the duration of the

cook, if it is not, add fuel, or turn the fire down according to your needs, then the same regime will apply where you try to keep control of the temperatures by control of the fire.

How to use the oven

Two thirds up the oven is a thermometer which will indicate the oven temperature at that point and overtime you will learn the best temperatures for your cooking.



The oven is vented into the flue of the appliance and cooking smells will be kept to a minimum.

The cooker can be used for-:

Frying, Boiling and Simmering- carried out on the hot plate.

Baking and Roasting is carried out on the shelves provided with the oven.

Some cookware can be stacked in the oven as illustrated.

A kettle kept on the right hand side of the hot plate should rapidly boil when moved across and over the fire.

Slow Cooking can be achieved in a casserole dish placed either on the right hand side of the hotplate or in the base of the oven after the appliance temperature has been correctly adjusted.

Toasting can be carried out directly on the hot plate; it generally takes less than a minute per side assuming the hot plate is up to temperature, we can supply a toasting frame if required.

14. GLOSSARY OF TERMS COOKER

Downdraught

A wind effect creating a situation where air is being blown down the flue pipe.

Vortexing

A wind effect creating a situation where air is being sucked down the flue pipe by negative pressure inside the boat.

Chimney vacuum

The negative pressure, which the chimney system is able to generate which draws the products of combustion from the appliance.

Combustible materials.

Any materials in close proximity to the appliance which can easily ignite with the application of enough heat.

Thermostat

A device for controlling air or water temperature.

Multi fuel cooker

A cooker, which can accommodate all the combustion and other technical requirements of wood, coal and smokeless fuel burning.

Volatiles

Combustible entrapped hydrocarbons.

15. GLOSSARY OF TERMS OVEN - COOKING.

1. Target Temperature.

This is the oven temperature, which the cook tries to maintain in order to cook the food correctly. On wood fired ovens there is a degree of skill required in maintaining the target temperature.

2. Kindling.

Small sticks of wood used to start the fire or used as fuel to rapidly increase the oven temperature.

3. Flame Off.

Wood fuel burns in two phases, phase one is what we call long flame combustion and in phase two, the remnants of phase one burn as charcoal.

4. Oven Overrun.

This is a phenomenon, which occurs with solid or wood fuelled ovens.

If the fire is slowed down when the oven temperature gauge shows the desired temperature the oven temperature will carry on increasing because it is not possible to turn the heat off instantly. The degree of overrun can be as much as 20 - 30 deg C and obviously this can cause the food to overcook or burn.

The user has to learn how much overrun occurs and adjust the fire well in advance of the target temperature being achieved.

16. WARRANTY.

Fill in the warranty form and returned it to us, the information recorded on the warranty form helps us to deal with any problems you may encounter.

Where we do not hold returned warranty forms replacement parts would only be issued when we are sure that the cooker has not been damaged by improper use or installation.

The warranty covers:-

PARTS ONLY for a period of ONE YEAR and is conditional upon all the requirements of our installation instructions being fully adhered to.

The warranty does not cover the following:-

- DIRE DOOR GLASS.
- BAFFLE PLATES.
- THE RIDLING GRATE.
- THE RIDLING GRATE FRAME.
- LABOUR COSTS.
- TRAVELING COSTS.
- CONSEQUENTIAL LOSS.
- CONSEQUENTIAL DAMAGE.
- DAMAGE RESULTING FROM IMPROPER USE.
- DAMAGE RESULTING FROM THE USE OF PETRO COKE BASED FUEL.
- TRANSPORT COSTS IN CONNECTION WITH REPAIRS CARRIED OUT UNDER GUARANTEE.
- LABOUR COSTS INVOLVED WITH FITTING PARTS SUPPLIED UNDER GUARANTEE.

The main fabricated body of the appliance is warranted for a period of five years.

All warranties run from the date of purchase.

17. RECIPES

Encouragement is given to our customers to send in recipes and videos for inclusion in this booklet and the website and for the benefit of all gastronomes to vicky@oilstoves.co.uk

White Bread. ?

White Bread Cakes. ?

Jam Rolly Polly. ? (Can't Wait.) Authors.

Treacle Tart. ?

Sponge Cake. ?

Yorkshire Pudding. ??

Savoury Yorkshire Pudding. ???

Meat and Potato Pie. ?

Rabbit and Dumpling Stew. ?

Braised Steak. ?

Buttered Trout in Bacon Wraps stuffed with almonds. (We have tried this, its lovely.)

Beef Hash. ?

18. BIBLIOGRAPHY

Bread for Life

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Terry hibbard

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