Bubble Products

www.bubble-stoves.co.uk

DOUBLE BUBBLE USER INSTRUCTIONS

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READ FIRST

Thoroughly read this booklet before attempting to light the stove.

It is most important that you feel confident in understanding what all the controls do and that you are fully familiar with the lighting instructions.

There is a skill to be developed in burner lighting and you will need to take your time and proceed step by step.

As you gain experience the lighting procedure will become easier, to start with memorize the following -:

Learn these first.

1. . Where are the oil flow control knobs and which direction of rotation will increase the oil flow ?

2. Where are the thermostat control knobs and which direction of rotation will increase the water temperature. ?

3. Where are the oil trip off levers and which way are they operated to turn the oil off ?

Learn these next

4. What are the main lighting wicks and where are they ?

5. What are the internal wicks and where are they ?

5. How is the oil supply to the burner turned off. ?

6. How is the oil supply to the appliances turned off ?

1. Never try to light a hot or flooded pot

These user instructions have been laid out as follows

1-0 INTRODUCTION

The double bubble has several attractive features which make it stand out from most other oil stoves.

The use of twin burners allows the stove to have a wide range of performance from 4 kW to a maximum output of 20 kW.

The heat balance of the stove can be adjusted by fitting insulation material inside the outer panel, this is particularly useful when fitting the stove into small rooms or spaces.

This performance range means that the stove can be used in a wide variety of different applications.

The front mounted controls allow for easy operation and maintainance.

The one piece coal kit is easy to remove and effective in use.

The twin barometric dampers allow for complete control of the chimney vacuum.

The stove will run without electricity providing there is provision for adequate gravity circulation of the hot water.

DETAILS

1.The stove is a free standing room heater with an integrated high water content hot water boiler which extends to the base of the appliance.

1a. The stove bums kerosene in a controlled manner utilizing a 150mm dia lined class 1 chimney or a prefabricated class 2 chimney to discharge the products of combustion.

2.The stove has a front opening door and a removable fender on top of which are three removable fender tops and two removable (oil valve controls) cover plates.

3. On both the left and right hand side of the fender are the oil control valves, obviously the right valve is for the right pot and the left valve is for the left pot.

4. On top of the valves are the controls, one for turning the oil flow up or down, one for setting the water temperature and a small lever on the side of the valve for tripping the oil on or off.

5. The stove can be turned on and off as required it does not have to run continuously although it can if required.

5a. The stove can be run with either one or both pots alight, when running on one pot only, you must carefully follow the single pot running instructions.

6. It may not be possible to run the stove continuously on low fire through the summer months or through the night, unless adequate and continuous heat leak radiators are turned

on to dissipate the heat that the stove will continuously generate.

7. If the stove is run without an adequate heat leak it will run for a limited period of time and then automatically shut off, as the build up of heat in the boiler causes the non electric safety thermostat, (built into the oil control valve) to trip off.

7a If required, space heating from the stove can be reduced by approx.20%. See your installer or phone bubble stoves for further info.

8. All statements of output are made on the assumption that the stove is run on a CONTINUOUS BASIS IN WINTER TIME CONDITIONS.

10. The following instructions assume that the stove has been correctly installed and correctly commissioned, and there are no basic system faults in the existing central heating circuits and there is an adequate uninterrupted heat leak available at all times.

11. The stove must not be run with-:

1. Cracked or damaged door glass.
2. Without the lighting port plugs fitted.
3. With the door permanently open or ajar.
4. On one pot only unless the single pot running

instructions have been fully adhered to.

12. This stove is designed to run with or without a coal effect kit.

13. It must be clearly understood that coal effect will only be available at the output levels detailed.

COAL EFFECT AVAILABILITY

(Between 3 and 6 on the oil flow control dials and with the thermostat calling for full fire.)

15. For spacing from combustibles and fireguarding this stove must be treated in the same way as a SOLID FUEL APPLIANCE and as such, whilst it is running, some parts of it will become hot and must not be touched.

16. Fireguards must be fitted and only British Standard 6539 or 6778.

2-0 HOW IT WORKS

1. YOUR stove generates heat from burning oil mixed with air in a pair of vaporizing pots which are located in the bottom of the stove.

2. Once alight, the performance of the appliance is controlled by the oil control valves which are situated behind the front fender below the operating knobs on the lower left and right hand side of the appliance, operation is as follows -:

3. Each valve has oil flow control from mini to maxi via six graduations from 1.5kW to 10kW by simply turning the flow control knobs to the desired setting from 1 to 6 to increase or decrease the flame size.

4. In addition each valve also has an automatic water temperature control thermostat and an automatic oil cut off device (should the appliance water temperature become too high)

5. The water temperature is controlled automatically by a thermostat on each valve which is simply set by turning clockwise to increase the temperature and anti clockwise to decrease the temperature.

6. If the stove is operated with the thermostat controls set to maximum it will run on full flame until it achieves the target water temperature and then drop the flame onto mini, from there on it will automatically modulate the flame from high to low in line with the heating load demand.

(Assuming that the oil flow control knob is set to 5 or 6)

7. When running your stove keep both valves set so as to get equal sized flames on each pot, in this way you will then see a balanced flame effect.

8. CONTROLS LIST

1. 2 x Oil flow control knob 1 to 6. (you to set)
2. 2 x Water temp. control knob. (you to set)
3. 2 x Safety thermostat. (automatic)
4. 2 x Oil trip lever. (you to set and automatic)

9. THE oil trip safety fuel cut off lever is situated on the right hand side of the left hand oil control valve and the left hand side of the right hand valve.

LIFT FOR OIL OFF .
PRESS DOWN FOR OIL ON.

(To gain access to it, remove fret tops and cover plate's. The trip is a small bent metal lever projecting out from the side of the valve.)

10.The lever is designed to cut off the fuel supply into the oil control valve either manually or automatically consequently stopping the stove by shutting off the oil supply from the oil control valve. It is also designed to warn you of a problem with the oil control valve, if the stove goes out unexpectedly and you can't get the trip lever to trip on there are two possible causes.

10-1. The water temperature has become too hot and caused the safety stat to shut off the oil supply.

10-2. Oil has entered the safety float chamber thus automatically shutting off the oil supply into the stove.

11. If item 1 has caused a shut down you will have to wait for the water temperature to drop before you will be able to reset the valve.

12. If item 2 has caused the problem you will have to seek help from your serviceman.

13. OIL FLOW CONTROL KNOB

Controls the flow of oil into the pot and can be rotated to adjust the flow of oil from minimum to maximum or any setting in between, determined by where you set it, calibrated from off through 1 to 6.

Fully clockwise turns the appliance off,

Setting No 1 is minimum

Setting No6 is maximum

14. WATER TEMPERATURE CONTROL KNOB

also controls the flow of oil but this control is different in as much as it is related to the water temperature.

FULLY CLOCKWISE is for low water temperature

FULLY ANTI CLOCKWISE is for high water temperature.

15. The water sensing thermostat will automatically control the boiler water temperature at what ever setting is required.

16. If the stove is fired up at full output (oil control turned to 6) it will run on full flame until it achieves the target water temperature as set on the stat knob, and then automatically drop the flame onto mini, from there on it will automatically modulate the flame from high to low in line with the heating load demand.

17. This means that when the required water temperature is achieved it will not be possible to turn the flame up via the oil flow control knob because the water temperature control has taken priority.

3-0 LIGHTING AND ADJUSTING (both pots)

Before attempting to light the stove we hope that you read this simple preamble on how a pot burner works.. If you know how and what the burner does you will be more confident with the appliance.

The function of the burners is to -:

1. Turn the oil into a gas
2. Mix the gas with air

Before it can do this it needs -:

1. An oil supply
2. An air supply
3. Heat to convert the oil into gas.

Inside the burner are catalysers which are designed to heat up to a bright red and then to radiate this heat back down onto the incoming oil, to turn it into gas.

All around the outer edge of the burner are small holes which allow air to be drawn into the burner by the sucking action of the chimney.

The air will then mix with the vaporized oil and burn as a blue flame, just like a gas burner.

Once the burner is up and running it runs in what we call equilibrium, which means that the heat from the burner is sufficient to turn all the fuel running into the burner, into gas and so maintain the equilibrium.

If Excess fuel is allowed to run in to the burner, it will cause the burner to be chilled and then it will not be able to turn all the fuel into gas, at this stage the burner is out of equilibrium.

The burner is very carefully designed and controlled and your installer should set it up to operate in equilibrium.

It all sounds very simple and indeed it is, however there is one major difficulty which is as follows.

To get all this simple process working, you have to get the catalysers up to temperature, once they are up to temperature the whole process of vaporization as described above is self maintaining whilst ever there is a continuous supply of oil and air.

To get the catalysers up to temperature and so start the whole process of vaporization, is where you and the lighting process come in.

You have to get the catalyser hot without allowing too much oil to build up in the pot, as obviously whilst the burner is being ignited it is out of equilibrium.

(If you lit the pot and immediately allowed oil to flow into it at full output (setting 6), the oil would run in faster that the burner could burn it and you would put the flame out and flood the pot.)

If you don't allow enough oil into the pot to keep the ignition flame going, it will simply go out through lack of fuel.

The skill is allowing enough oil in to get the wicks well alight and then allowing oil in slowly just to allow the ignition flame to grow slowly and then start to heat up the catalysers and so set the self perpetuating process of vaporization into action without allowing excess oil to build up in the pot.

The oil control valves are fitted at either side of the stove and you must be confident that you know which way to rotate the oil flow knobs to turn the oil flow up and down and off

CLOCKWISE TO TURN DOWN AND TO THE OFF POSITION

ANTI CLOCKWISE TO TURN ON AND UP TO FULL OUTPUT.

You must also know about the thermostats and how they influence the operation of the oil flow.

The thermostats operate as follows -:

ANTI CLOCKWISE TO INCREASE THE WATER TEMPERATURE

CLOCKWISE TO DECREASE THE WATER TEMPERATURE

With twin pot stoves, you must -:

a. Keep your eye on both pots to make sure that they both stay alight during the lighting process,

b. Carefully control the flow of oil in the pots.

To help make lighting the pots easier we have provided lighting wicks fitted as follows -:

Each lighting port plug has a wick attached, these wicks are used to ignite two further wicks which are hooked through the holes in the inner skin of each pot and positioned so as to cross ignite when the main wick is put back into the stove, generally the smaller internal wicks will lay from the oil inlet across to the bottom of the lighting port tube, you should be able to see these when you look down into the bottom of the lighting port tubes.

Before attempting to light the stove take all the inners out of each pot and make sure that there has not been an accidental build up of excess oil in the pot bottoms.

3-0 LIGHTING INSTRUCTIONS (BOTH BURNERS)

1. Make sure that the oil is turned off.

2. Open the front door.

3. Carefully remove the coal kit and practice refitting it.

When you are happy with the coal kit re fitting proceed as follows-:

4. Remove all the inners of both pots -:

a. The upper catalysers with the top ring and

b. The lower catalysers

(Practice re fitting these in the correct order)

5. Turn the oil on and allow a small pools of oil to flow into each pot about the size of a small biscuit. (1.5" or 35mm diameter)

When the oil has trickled into the pots, before proceeding, make sure that the pool has formed around the oil inlet and bottom of the lighting port tubes where the lighting wicks are positioned. If the oil is not in this position do not attempt to light it the appliance, if it is proceed as follows -:

6. Turn the oil off on both valves to prevent an excessive build up of oil.

7. Make sure that the two smaller internal wicks can be seen in the bottom of the ignition tubes.

7a Refit all the internals to the pots in the reverse order.

7b Refit the coal kit.

7c Close the front door.

8. Dip the lighting wicks down through the lighting port tube and soak them in oil.

9. Light the main wicks, and when they are well alight quickly fit them into the pots to allow them to cross ignite the internal wicks.

10. Look inside the pots and watch for signs of flames or burning, if you look through the small holes in the bottom outer edge of the pot near to where the oil runs in, you will be able to see a small yellow flickering glow .This will indicate that the ignition flame is still alight.

NOTE

If one pot goes out turn the oil off to both pots quickly to stop an excessive build up of oil and start again , but before you re start, you must allow time for the pots to have cooled down to less than 30 degree's C.

DO NOT ATTEMPT TO LIGHT A HOT STOVE.

11. When you are sure that both pots are alight, turn the fuel flow on again at the lowest setting which is No1 on the oil flow control dial.

12. Let the flame establish on low fire , this may take about 3 to 5 minutes.

13. When the pots are running on low fire gradually turn the oil flow up to setting 3 and let the chimney warm up.

14. When the burners are running correctly on position 1 (LOW FIRE) the lower catalyzer will be glowing dull red.

15. Keep an eye on the low fire and if a dirty yellow flame can be seen, turn the oil flow up to no2 until the pot runs in blue flame combustion and then call back the installer to re adjust the low fire.

16. On full output, after approximately 10 minutes, the coals should begin to glow red and there should be whispy blue flames licking through them, to get the maximum effect the stove will need to be left for half an hour or so, if there are a lot of yellow flames call back your service man to re adjust the oil flow, a few yellow flames are acceptable.

17 Excess oil flow, poor flue vacuum, bad coal positioning or bad lighting technique will cause rapid sooting of the glass and coals.

NEVER TRY TO RELIGHT A HOT BURNER, MAKE SURE THAT THE BURNER IS COMPLETELY COOLED DOWN BEFORE RE LIGHTING.

3-1 LIGHTING INSTRUCTIONS (SINGLE BURNER)

PREAMBLE

To run the stove on a single burner the un used burner must be blanked off to stop combustion air being drawn through it.

A blanking plate is provided with the stove.

Secondly you must make sure that there is no oil in the unused pot and that the oil valve is tripped off and turned off.

Always blank off the right hand pot and then trip and turn off the the matching right hand valve.

PROCEDURE

1. If the stove is not fully cooled wait until it is before setting the stove up for single burner operation.

2. When it is fully cooled down, open the front door and remove the coal kit.

3. Fit the burner blanking plate over the right hand pot making sure it fits snugly on to the burner to create an air tight seal and refit the coal kit.

4. Trip off the right hand valve.

5. Turn off the right hand valve.

5a. If there is a separate isolation valve on the right hand pot fuel supply line, turn it off.

5b. Operating the left hand valve only,turn the oil on and allow a small pool of oil to flow into the left hand pot, about the size of a small biscuit. (1.5" or 35mm diameter)

When the oil has trickled into the pot, before proceeding, make sure that the pool has formed around the oil inlet and bottom of the lighting port tube where the lighting wick is positioned. If the oil is not in this position do not attempt to light the appliance, if it is proceed as follows -:

7. Make sure that the smaller internal wick can be seen in the bottom of the left hand ignition tube.

7c Close the front door.

8. Dip the lighting wick down through the lighting port tube and soak it in oil.

9. Light the main wick, and when it is well alight quickly fit it into the pot to allow it to cross ignite the internal wick.

The whole system is designed so that it can be removed in its entirety without the need to disturb the coals making routine cleaning and servicing very easy.

To remove it, turn the stove off and when it is cooled down, undo the front door knob, open the door and carefully lift it out, using the shaped front fret.

The coal support bars and coals may need replacing from time to time and they are available from your supplier as a service item.

Take care not to drop any coals into the pot.

8-0 ROUTINE MAINTENANCE

EVERY 4 WEEKS -:

1. Operate each descaling lever by turning it completely two or three times. To do this you will have to remove the front skirt to gain access to the front heat shield which is then lifted off the two screws.

2. Behind the front heat shield are two further heat shields one on the right and one on the left, remove these and you will then see the two descaling levers, rotate the levers fully and as you are rotating gently pull them out about 6mm (1/4")

3. When you have descaled refit all the components.

Note there should be a slight resistance to turning on the descaling levers, if they are loose tighten the nut slightly to adjust the fit.

4. The door glass may require light cleaning occasionally depending upon the continuous running time of the stove

5. Lightly clean the inside of the door glass using dry cloth.

6. Do not attempt to clean the glass whilst it is hot or warm. This will cause the glass;ass to craze or crack.

EVERY 8 WEEKS -:

1. Clean each of the burners completely by removing all the inner components as follows,

2. Open front door.

3. Remove coal kit.

4. Remove the upper catalyser and ring.

5. Remove the lower cayalyzer.

6. Scrape the bottom of the pot clean and remove all carbon build up, if the small internal wick is disturbed make sure that it is refitted back into it's correct position .

7. Reassemble in the reverse order.

ONCE PER YEAR -:

Have your service man replace or clean all the filters in the oil supply line.

EVERY FOUR YEARS -:

Have your service man clean the filter in the Oil Control Valve.

AS REQUIRED -:

Keep the Coals, Coal kit, and burner inners in good condition, replace as necessary.

9-0 FAULT FINDING

1. RACING

Audible vibrations generated by excessive flames during the lighting process caused by allowing too much oil to build up in the pots or excessive chimney draught.

a. Turn off the oil flow on both pots and let the stove go out.

2. FLUE VACUUM or (chimney pull)

The pot type burner is extremely sensitive to flue vacuum variations.

Good combustion will not be possible unless the chimney is working correctly.

If the burners do not run well check -:

1 The seals in the stove are good and that there is no ingress of air into the appliance flue ways.

2 The correct fuel oil is being used.

3 The chimney is free FROM blockages and pulling as normal.

4. That the vapourizing pots don't need cleaning.

A longer burner life will be achieved if the regulator is moved only by one number at a time leaving approx. two minutes between each setting change.

3. BURNER SHUTS DOWN AND STOVE GOES OUT

Oil tank empty

Oil in tank at low level.

Water temperature safety stat shut down

Secondary float chamber in oil control valve flooded

Safety trip button accidentally caught and tripped off.

Fire valve tripped off.

Damaged oil feed pipe.

Height of oil control valve has been disturbed.

4. OIL TRIP LEVER WILL NOT RESET

Water temperature safety stat shut down.

Secondary float chamber in oil control valve flooded. (Call serviceman)

5. BURNER WILL NOT COME ON TO HIGH FIRE

Water temperature has reached the required setting and is under the control of the thermostat.

Oil in storage tank is low or about to run out.

Height of oil control valve has been disturbed.

6. OIL WILL NOT FLOW INTO THE VAPORIZING POT

Oil tank empty

Water temperature safety stat shut down

Secondary float chamber in oil control valve flooded.

Safety trip button accidentally caught and tripped off.

Fire valve tripped off.

Damaged oil feed pipe.

Height of oil control valve has been disturbed.

7. BURNER STARTS TO RUN SOOTY OR WITH WITH DIRTY YELLOW FLAMES

10. Look inside the pot and watch for signs of flames or burning, if you look through the small holes in the bottom outer edge of the pot near to where the oil runs in, you will be able to see a small yellow flickering glow .This will indicate that the ignition flame is still alight.

NOTE

If the pot goes out turn the oil off to quickly to stop an excessive build up of oil.

Start again , but before you re start, you must allow time for the pot to have cooled down to less than 30 degree's C.

DO NOT ATTEMPT TO LIGHT A HOT STOVE.

11. When you are sure that the pot is alight, turn the fuel flow on again at the lowest setting which is No1 on the oil flow control dial.

12. Let the flame establish on low fire , this may take about 3 to 5 minutes.

13. When the pot is running on low fire gradually turn the oil flow up to setting 3 and let the chimney warm up.

14. When the burner is running correctly on position 1 (LOW FIRE) the lower catalyzer will be glowing dull red.

15. Keep an eye on the low fire and if a dirty yellow flame can be seen, turn the oil flow up to no 2 until the pot runs in blue flame combustion and then call back the installer to re adjust the low fire.

16. On full output, after approximately 10 minutes, the coals should begin to glow red and there should be whispy blue flames licking through them, to get the maximum effect the stove will need to be left for half an hour or so, if there are a lot of yellow flames call back your service man to re adjust the oil flow, a few yellow flames are acceptable.

17 Excess oil flow, poor flue vacuum, bad coal positioning or bad lighting technique will cause rapid sooting of the glass and coals.

NEVER TRY TO RELIGHT A HOT BURNER, MAKE SURE THAT THE BURNER IS COMPLETELY COOLED DOWN BEFORE RE LIGHTING.

4-0 GLASS AND STOVE CLEANING

The door glass will require light cleaning occasionally

The frequency of cleaning will depending upon how the stove is used.

Where stoves are ignited each day then the glass may soot up as the lighting process may generate a little soot until the stove has settled down into blue flame combustion.

Where stoves are running continuously then the glass will need cleaning less frequently but when cleaning is required you will need to let the stove go out and completely cool down

Use a soft cloth and slightly damp it with vinegar or a proprietary stove glass cleaner

Very gently rub the glass in a vertical direction, do not rub the glass with horizontal motion otherwise you may disturb the glass strips

After cleaning wipe dry making sure that you have not dislodged the glass strips.

To clean the stove externally, let it go out and simply brush away any dust with a very soft brush.

To clean the stove internally use a soft brush and brush away any dust or combustion debri into a vacuum cleaner hose.

Occasionally scrape away any hard carbon deposits from the bottom of the burner pot.

5-0 EXTINGUISHING

Shutting the burners or burner off is a very simple manoeuvre.

Turn the oil flow control knob or knobs FULLY in a clockwise direction until you feel it stop in its off position.

After a few minutes, the flame will die down and eventually extinguish itself.

DO NOT TOUCH THE STOVE UNTIL IT HAS COMPLETELY COOLED DOWN.

NEVER TRY TO RE LIGHT A HOT BURNER, MAKE SURE THAT THE BURNER IS COMPLETELY COOLED DOWN BEFORE RE LIGHTING.

DO NOT TURN OIL ON UNDER ANY CIRCUMSTANCES WHILST THE STOVE IS STILL HOT OR WARM.

6-0 FUEL SUPPLY INFORMATION

Your Fuel is stored in an oil tank which should incorporate the following features.

1 A fuel gauge which can be in the form of a numbered circular dial or a site glass into which oil is fed so as to indicate the amount of oil in the tank.

2 An manually operated isolation valve on the tank, usually a gate valve.

3 A fuel filter to filter out any small particles of dirt or contamination which may get into the oil or tank.

4 An automatically operated safety valve designed to shut off the oil supply should a fire occur near to the stove.

5 A manually operated isolation valve near to the stove to allow you or the service man to turn the oil off should the need arise.

If you allow the stove to run the oil tank dry it will obviously go out.

Before filling the fuel tank you must make sure that each valve is tripped and turned off, otherwise the pot will flood.

If the pot floods do not attempt to light the stove until the excess oil has been removed from it.

7-0 THE COAL KIT

The coals are located on the coal support bars which are designed to glow red in the flame, passing on the incandescence into the coals.

Care must be taken when positioning the coals on the spikes.

This indicates that the fuel air ratio is disturbed and the burner is running fuel rich. There are two main possibilities when fault finding, either too much fuel or not enough air.

Air is leaking into the combustion chamber.

Check out seal of pot to closure plate.

Check out door seal.

Check out chimney vacuum

Check for downdraft.

Check out prevailing wind conditions

Check for correct grade of fuel.

Check out oil flow rate.

Check for chimney blockage or partial blockage

Burner air inlet holes have become blocked due to lack of service.

Oil control valve is faulty. (unlikely)

8. OIL SMELLS

Generally slight oil leaks in the appliance may only be noticed when the appliance is turned off as the oil vapour will normally be drawn into the appliance and vented off through the chimney.

If you notice an oil smell let the appliance go out and check the oil feed pipe joints and the tee piece where the oil goes into the pot.

The tee piece has an adjustable packing which may need to be tightened up after first undoing the lock nut.

If this does not work then you will need to replace the gland packing which is available as a service item from us or your supplier.

Make sure that your installer has filled 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.

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.

LABOUR, TRAVELING OR CONSEQUENTIAL LOSS OR DAMAGE ARE NOT COVERED.

ARRANGE FOR SERVICE visits with a local service engineer.

Maintenance on this product must be carried out only by approved personnel, WHO HAVE BEEN SUITABLY TRAINED.

11-0 RUNNING COSTS

Running costs can be calculated from the information supplied on the bottom of our price list.

This product is subject to continuous development and improvement and it is consequently acknowledged that due to this process there may be some omissions and errors.

This publication is intended only to assist the reader in the use of this product and therefore Harworth Heating Ltd shall not be liable for any loss or damage whatsoever arising from the use of any information, error or omission found in this guide.

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PRODUCTS

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