Additional troubleshooting for boiler stoves

Boiler stoves work slightly differently to non-boiler stoves and need certain extra considerations.

Boiler stoves generally burn with a cooler firebox temperature due to the water jacket constantly taking away heat. For the stove to work effectively and for a thorough combustion you need to be able to maintain a good temperature in the firebox.

It is crucial to use good quality dry well seasoned fuel, with logs not too large.

Central heating pumps should not circulate until the water reaches 50°C, and should not circulate at too fast a rate.

The BTU value of radiators and pipework should not exceed the water cylinder output at which you intend to run the stove and in any case should never have a combined BTU value higher than the maximum output of the stove.

If you are experiencing problems including insufficient heat being provided – in order to help establish the cause and solution we will need to know specifically what fuel you are burning and the rate (kg per hour) at which you are burning the fuel, and in the case of wood, the average moisture content of the centre of the logs (we suggest using a moisture meter to check moisture levels in logs).

Only by monitoring this burning rate over the course of several burn cycles can we quantify the outputs being produced and begin to establish a cause of the problem.

If you are experiencing these problems please email us at enquiries@saltfirestoves.com with your invoice number, name and purchase date, detailing as much information as possible considering all of the above information (and the general troubleshooting advice we give for all stoves). The more accurate and detailed the information the quicker we will be able to help you to establish improvements you can make to your system.

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KEEP SAFE – DO NOT THROW AWAY

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Troubleshooting Solutions For Stove Problems

Installed and used correctly your stove will provide years of warmth with little effort, but used incorrectly will be difficult to achieve the results you expect and can be damaged.

Combustion is a complex chemical process with many variables, all of which need to be correct for your stove to burn correctly. Taking the time to understand these variables and the combustion process will make your life with your new stove a happy one.

1. Stove is difficult to light / keep lit

Common causes:

a. **Damp fuel** – Wood should be maximum 20% moisture and ideally 12-15%. We strongly advise purchasing a digital moisture meter to test your logs. Always split logs in half and test the centre of the log.

b. **Poor draught and chimney strength** – Your chimney needs to pull through adequate air for combustion. Flue draught should be between 12Pa and 18Pa – if in doubt consult a local expert.

c. **Logs too big** – Always start fires small and gradually build them up. Begin with paper or solid firelighters, building a small fire with kindling (small sticks of wood) until the kindling is well alight and hot. Then gradually build the fire with your wood logs (not too thick). (Splitting the logs will increase the surface area allowing more thorough burning). Once the firebox is up to temperature, people choosing to burn coal can then gradually build a coal fire, or those just using wood can add some slightly larger logs.

d. **Chimney/flue blocked** – Excessive soot should not be allowed to build up in the flue – flues should be professionally cleaned when required and in any case at least once per year, or more if your chimney / fuel type is causing excessive soot build up.

2. Fuel burns too quickly

The rated output on your stove is based on burning dry seasoned hardwood and re-fuelling every hour. By turning down the vent controls the fuel will burn slower and last longer.

Common causes:

a. **Excessively strong chimney draught** – If by turning down the vents the fire still burns too quickly, this is normally due to excessively strong draught on the chimney. This will lead to over-firing of the stove which is inefficient, losing excessive heat into the chimney and pulling too much cold air through the house. A flue damper fitted into the first section of flue pipe can help to calm a chimney draught.

b. **Fuel type/size** – try experimenting with different types of wood/fuel and different sized logs. Coal and slightly larger logs will burn slower. Softwood such as pine will burn particularly fast.

3. Smoke comes back into room

A small amount of smoke entering the room when you open the stove door is normal but should stop after a few seconds.

If smoke ever leaks constantly into the room stop using the fire immediately, shut down all vents on the stove, open windows and exit the room. Do not use the stove until a local expert has established the problem.

Common causes:

a. **Insufficient air supply into the room** – do you have an air brick of sufficient size to feed the stove with air?

b. **Blocked chimney** – have the chimney swept and checked by a registered chimney sweep.

c. **Insufficient chimney draught** – can be due to a variety of reasons – please refer to previous text under "Poor draught and chimney strength"

d. **Rapid condensation of the gases** - causing them to slow down and back up in the chimney – this can be due to too broad a chimney/flue, relative to the size of the appliance or the flue not being adequately insulated. You may need a flue liner and/or insulation in the chimney.

4. Glass gets dirty quickly

Common causes:

a. **Top vents not open** – if your stove had top vents these control the airwash system – the top vent needs to be constantly open adequately to ensure enough air is coming into the stove. No airwash will work when the stove is burning very slowly (slumbering).

b. **Poor fuel** – wet wood or softwood (e.g. pine) will produce a lot of tar, creosote and soot, dirtying the glass and eventually blocking the flue.

c. **Insufficient chimney draught** – see previous note under "Poor draught and chimney strength".

d. **Baffle plate incorrectly fitted** – see diagram. The plate should rest on the back wall of the stove and tilt up towards the front, where it rests on the protruding lugs on either side of the stove. The below diagram shows a typical stove and the positioning of the baffle plate – your stove may be slightly different. Some stoves have the baffle permanently fixed in position, but usually they are easily removable.

5. Not enough heat being produced

Common causes:

a. **Poor quality fuel** – logs should be dry well seasoned hardwood.

b. **Poor draught and chimney strength** – see previous notes.

c. **Excessive draught** – too much heat being lost up the chimney – try a damper in the flue.

d. **Insufficient air supply** - Check air supply is sufficient / vents on stove are clear. Does the room have a vent?

e. **Not enough fuel being burned** – the rated output of your stove is based on burning beech wood (typical of most hardwoods), refuelling once per hour. One kg of this wood has approximately 4-5 kw hours of energy.

f. **Larger stove / stove with higher output required for room size.**
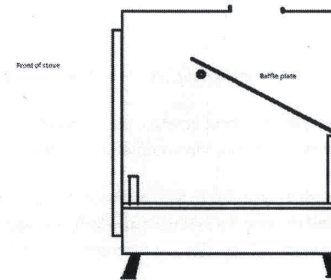
6. Too much heat in room

Common causes:

a. **Excessive chimney draw** – try fitting a damper unit in flue

b. **Too much air supply** – close down primary vent, then if still too hot reduce secondary vent.

c. Stove may be too large for room size.

7. Grate deformed / Baffle plate deformed

Your stove will have been designed to operate correctly for many years with a relevant quantity of fuel and re-loading times. The grate and baffle plate can over time start to bow/deform – this can only be caused by very high temperatures.

Common causes:

a. **Excessive chimney draw** – try a damper in the flue.

b. **Excessive primary air supply** – close down primary vents.

c. **Incorrect fuel**

d. **Stove overloaded** – excessive burning of too much fuel.

The baffle plate and the inner linings of the stove, and the grate all designed to be replaceable parts – call us if you need to order new ones.