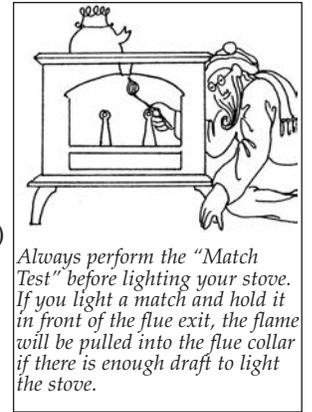


# TROUBLESHOOTING

Woodstock Soapstone Company's Customer Service Representatives are available by phone Monday through Saturday from 9 a.m. to 5 p.m Eastern. You can reach us by calling toll-free **1-800-866-4344** or e-mailing **info@woodstove.com**. This troubleshooting guide is intended to help you understand more about the operation of your stove and to be a helpful, accessible resource for you.

## The Quick Draft Test

Many stove performance problems are caused by poor draft. One of the first things to do when diagnosing operational problems is to be sure that you have adequate draft. If you perform the simple draft test that follows, it will often tell you where to look for a solution to your operational problems. (If the draft is not good, you would look for problems (1) with basic chimney specifications, (2) with obstructions inside the chimney, (3) with a tight seal between the stovepipe and the chimney - especially in fireplace installations, (4) with wind, (5) with negative house pressure, and so on. If the draft is good, you would generally look for problems within the stove or with the operation of the stove - (1) a plugged combustor, (2) plugged air passages, (3) wet or unseasoned wood, for example.) Here's the test:



*Always perform the "Match Test" before lighting your stove. If you light a match and hold it in front of the flue exit, the flame will be pulled into the flue collar if there is enough draft to light the stove.*

**1. Perform The Match Test:** Light a match in front of the flue outlet inside your stove. If the flame is drawn toward the outlet and chimney, then you have adequate draft to light your stove. If the flame doesn't move or is leaning toward you, you do not have enough draft and need to correct this situation before starting a fire.

**2. How To Improve Draft Before Re-Testing:** Open a door or window in the room where the stove is installed. Wait a minute or two, then light a match again in front of the flue outlet. The flame should be pulled into the flue opening. If this doesn't work, light a small piece of rolled up newspaper and hold it in front of the flue outlet. This should warm the chimney enough to establish proper draft. If this does not work, you have a draft problem. **DO NOT** light the stove, because you will simply get smoke back into the room. Read carefully the grid below, and try to determine the source of the draft problem. Feel free to call us for help at 800-866-4344. Our toll free customer service help line is open from 9 to 5, (E.T.) Monday through Saturday.

## Troubleshooting Grid:

Use this grid to help identify the cause and solution for common woodstove problems.

Problem	Cause	Solution
<b>Stove Smokes At Start Up</b>	Bypass door or air damper is closed.	Check that air control and bypass damper are both open (both handles all the way down).
	Chimney is blocked.	Clear chimney and cap of obstructions.
	Flue is cold.	Warm the flue with burning newspaper or a hair dryer and re-check draft with match.
	Negative pressure in room.	Turn off exhaust fans, open window in the room, then do the match test.
	Small difference between outdoor and indoor temperatures.	Prime the chimney by burning newspaper in the flue.
	Flue is too large.	Install a liner that matches the stove's flue outlet. A 6" or 7" liner is recommended for the Keystone/Palladian.
<b>Stove Puffs Smoke When Combustor Is Engaged</b>	Combustor is plugged.	Let the stove cool down and clean the combustor.
	Not enough air for the fire.	Increase the amount of air coming into the stove by opening air damper.

Problem	Cause	Solution
<b>Stove Smokes Occasionally/ Erratically</b>	Wind forcing smoke down chimney.	Increase height of chimney or install a wind cap.
	Negative pressure in the home.	Turn off exhaust fans, open a window in the room, consider solving pressure problems with an HVAC professional.
	Inadequate draft.	Increase the amount of air coming into the stove by opening air damper.
	Wet wood.	Use smaller pieces of dry split wood.
	Flue is too large.	Install a liner that matches the stove's flue outlet. A 6" or 7" liner is recommended for the Keystone/Palladian.
	Multiple inlets to chimney.	Connect stove to a chimney that only has one appliance per flue. Block other inlets properly.
<b>Warping Or Breaking Of Cast Iron Parts</b>	Overfiring as a result of compensating for wet wood.	Burn dry cordwood.
	Overfiring - too much primary air.	After kindling a fire and getting the <u>internal</u> firebox temperature to 500° (250° on stovetop or about 300° on stovepipe), engage the combustor by bringing the bypass handle up and reduce the air damper to 1. You should see the bright yellow flames slow down and become more orange in color. Make fine adjustments to your damper (moving it closer to 0 in 1/8 to 1/4 inch increments) until you achieve this slower moving, darker flame.
	Overfiring after reloading firebox.	After reloading the firebox, let the <u>internal</u> firebox temperature come up to the 500° mark (250° on stovetop or about 300° on stovepipe) before re-engaging the combustor and re-adjusting your air control as above.
<i>Note: The cast iron parts in your stove are high quality class 30 grey iron. They will withstand normal operating temperatures of up to 1400 degrees, internally, ( or roughly up to 700° surface temperature). When iron parts become warped or heavily oxidized (reddish-brown in color, with a rough surface), it is evidence that they have been repeatedly exposed to temperatures above 1400 degrees.</i>		
<b>Combustor Not Glowing</b>	Late stage in burning cycle.	The combustor does not need to glow to be working. Check smoke exiting from chimney to ensure combustor is working properly.
<b>Window Dirty</b>	Air flow restricted.	Check air gap at top of stove window inside stove. There should be 1/4" gap between glass and edge of cast iron. A smaller gap may cause window to soot.
	Smoldering fire.	Open air control in 1/4 inch increments until some slow flames appear. Run hot fire to burn smoke off the glass. Or, remove build-up with glass cleaner when stove is cold.

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
<b>Stove Burning Too Hot Or Too Fast</b>	Excessive air fueling fire.	Adjust air control on stove.  Check gaskets with dollar bill test (close the door on a dollar bill. If you can pull the bill out between the door and gasket, the seal is too loose) on loading door, bypass door, ashpan door. Replace gaskets if necessary.  Consider installing pipe damper in chimneys with excessive draft.  Check the air damper plate under the rear flue exit. Make sure the damper plate is not lifted off its track. If it is, with a gloved hand, gently push the plate up and rest it back into the slide track.
	Combustor not firing.	Follow instructions for starting fire and make sure firebox is up to 500° before engaging combustor. Once combustor is engaged, set air control at 1 and leave alone.
	Wet wood.	Test stove by making a fire with wood that is kiln dried (available at supermarkets or Woodstock Soapstone).
	Heat going up chimney.	Test by attaching thermometer to stovepipe. Temperature on stovepipe should register 200° - 300° while combustor is engaged. Consider installing pipe damper.
<b>Acrid Odor During First Burn</b>	Paint curing/window gasket curing.	Open windows and try to leave house during first several burns until paint/gasket is cured.
<b>Water Leaking From Chimney</b>	Rain coming down chimney without a cap.	Install a cap on chimney.
	Stovepipe installed incorrectly.	Install stovepipe crimped end down to allow condensation to run back inside the stovepipe and stove instead of running down outside of pipe.
	New masonry chimney curing.	Burn several fires without using combustor in order to heat inside of new chimney and cure masonry completely.
	Failure of seal on storm collar.	If water is leaking along outside of pipe, most likely rain is getting through between storm collar and chimney pipe. Re-caulk.

## Is my Combustor still working?

Your catalytic combustor is viable for 12,000 to 14,000 burn hours. This translates, roughly, into a life span of 4 -6 years. If the catalytic coating is not working as it should, it is not burning the gas vapors in the smoke and therefore, the smoke exiting your chimney will be darker in color. If your draft is sluggish and you have ruled out any draft related issues in the venting or in the wood supply, your combustor may not be burning the smoke vapors and too much volume is trying to pass through the honeycomb at one time. If heat output is diminished, and any other factors are ruled out, that may also be a sign that the catalytic combustor is not burning the smoke vapors, therefore not extracting maximum heat from available btu's in the wood you are burning.