



Energy Efficiency: Catalytic Wood Stoves

(General)

What is a Catalytic Wood Stove?

Catalytic stoves appear similar to traditional wood stoves, however they have a secondary combustion process where the smoke passes by a coated ceramic honeycomb structure causing it to ignite and burn. This produces more heat and increases the efficiency of the stove. This process causes a slower burn, allowing the stove to do more with less. This means less wasted fuel and less time loading your catalytic stove.

How to Operate the Bypass

The bypass device allows smoke from the fire to temporarily bypass, or go around the catalytic combustor. You will find the bypass on the side of the firebox, near the top of the stove. The bypass handle can be found on the right hand side. If the handle is pointed towards you, this means the bypass is open, and when pointed away it will be closed.

It is very important to remember that the bypass **MUST** be open when opening the Loading Door. Push down the handle until a positive click is heard, then you will know the bypass is fully closed.

Catalytic Thermometer

When the red needle is in the ACTIVE zone, the fire is burning efficiently and you cannot add additional wood fuel.

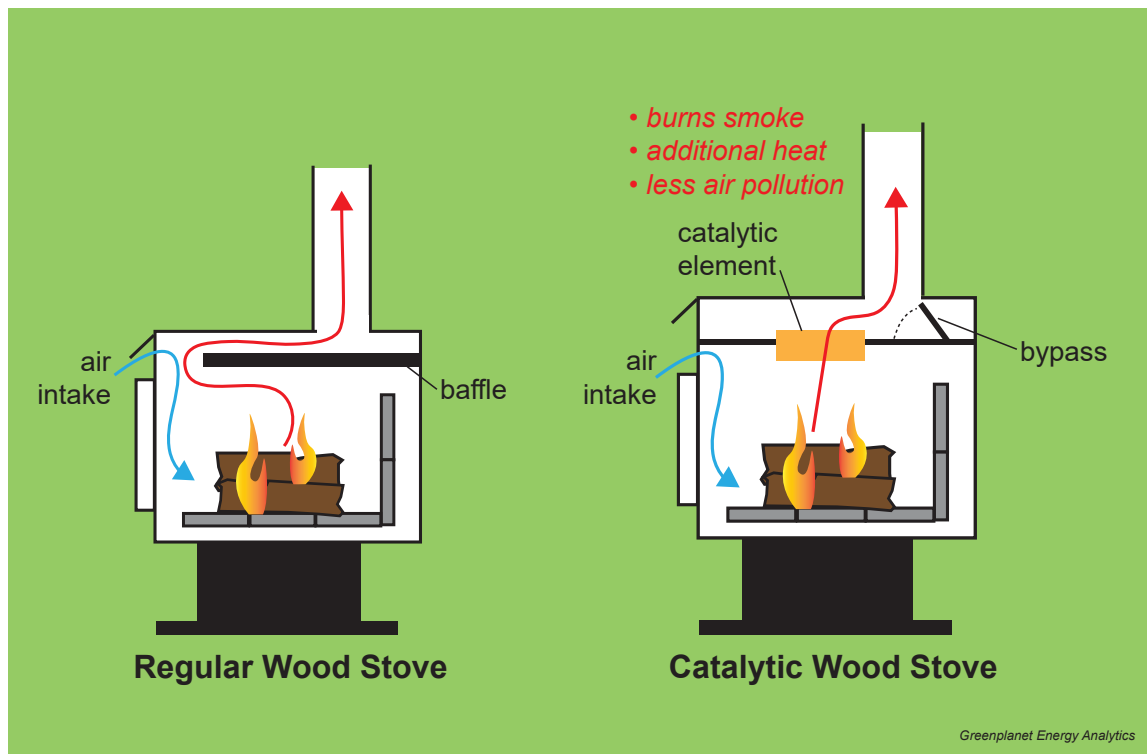
Once the needle drops to the INACTIVE zone the fire has died down due to low fuel. You must now add wood fuel in order to restart the stove.

Thermostat Knob

The burn rate is controlled by the thermostat knob. When starting a new fire, turn the knob to high for at least 20-30 minutes until the fire is mature. Incrementally turn the burn rate lower over the course of 5 mins. As long as the fire is burning efficiently you can now leave the thermostat alone. A common mistake among new owners is readjusting the burn rate too often.

Lighting a Fire

1. Set the Burn Rate to High and open the Bypass.
2. Build your fire directly on the bricks in the bottom of the stove. Use about 10 balls of non-glossy paper and about 20 pieces of kindling in a criss-cross fashion to allow air flow.



3. Light the fire and leave the loading door cracked open for 3-5 minutes.
4. Once the fire is burning steadily, add medium sized wood, leaving the door cracked open again for 5 minutes until logs are burning well.
5. You can now shut the loading door while leaving the bypass open, allowing fire to mature.
6. When nearly all wood is burning, fully load the stove. Once the needle enters the ACTIVE zone you can close the bypass.
7. Leave the burn rate on high for 20-30 minutes before turning it down.



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Things to Remember

The higher the burn rate, the higher the temperature, however, this will result in higher fuel consumption.

Only use seasoned or dried wood. This is wood that has been split and kept dry for 6-12 months. A moisture meter can be handy to ensure your wood has a 20% moisture content or less. Any wetter and your stove will not burn efficiently, resulting in low heat and wasted fuel.

Tips for storing wood

- Wood should be split into 6 inch diameter pieces or smaller for faster drying.
- Always stack split side down, and off of the ground.
- Ensure that the top of the stack is covered to protect from snow and rain.
- Firewood should be stored for at least 6-9 months. 24 months is best.

Maintenance Schedule

Daily Maintenance

Remove ash while leaving some coals to help start the next fire.

Monthly Maintenance

Chimney should be visually inspected for build up of creosote or structure deterioration.

Annual Maintenance

- Clean the chimney as needed to improve efficiency and avoid chimney fires.
- Inspect the loading door and bypass gaskets for physical deterioration, missing sections or obvious leakage.
- Inspect the door glass gasket to ensure glass is secured in place with no movement or travel.
- Adjust the loading door tension as needed.
- Clean the catalytic thermometer.

Video - How to Use a Catalytic Stove

<https://www.youtube.com/watch?v=GagmWAGhdB0>



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