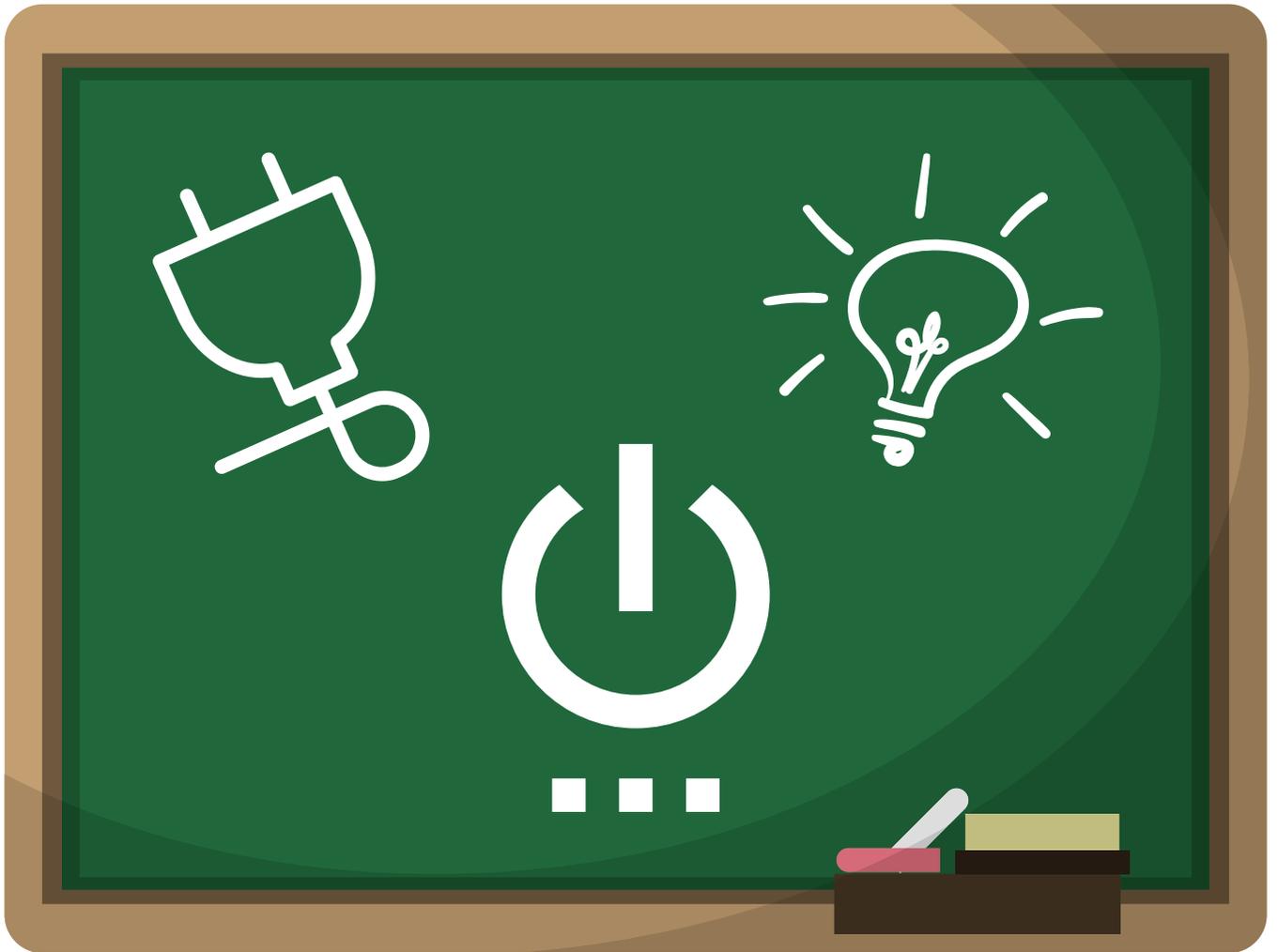


Guide to Switches



The following guide is used to help identify and troubleshoot issues concerning safety and operational switches in ComfortBilt stoves.

**Whenever performing maintenance on your stove, ensure that the stove is cool, and that power has been disconnected.*

On/Off Power Switch



Location:

The On/Off Power Switch is located on the rear of the stove on all models.



Function:

The purpose of this switch is to provide power to all of the active components of the stove. (Fans, motors, etc...)



Troubleshooting:

If the stove will not power on, verify that the switch is set to the On or - position. There is also an internal fuse that is located in a tray between the On/Off rocker and the power plug inlet. A spare fuse is sent with the stove inside the square plastic housing of the fuse tray.

Proof of Fire Switch



Location:

The 2 Proof of Fire/Low Limit switches are located on the left side (as you are looking at the front) mounted into the exhaust pipe housing just above the exhaust motor. (On all stove models)



Function:

The purpose of these switches is to allow the stove to progress from Ignition mode into Heating mode once it senses a preset temperature range (approximately 52° Celsius). If the stove never goes into Heating mode, try the following steps.



Troubleshooting:

If the stove faults out, giving the low temp alarm despite having a large fire going, it could be a faulty switch. The easiest way to test this, is to switch the wires from the currently used switch to the redundant backup switch that is pre-installed next to the active switch. (Just move the wires from their current position, to the 2 open posts on the switch next to it)

Hopper Lid Switch



Location:

The Hopper Lid Switch is located on the top-right side of the stove, mounted just underneath the hopper lid on all models. (All models except the HP50 and HP22i insert models have the roller style shown above. The HP50 and HP22i insert have a plunger style, not shown)



Function:

The main purpose of the Hopper Lid Switch is to detect when the hopper lid is opened or closed. When the lid is open, it will stop the auger from feeding pellets.

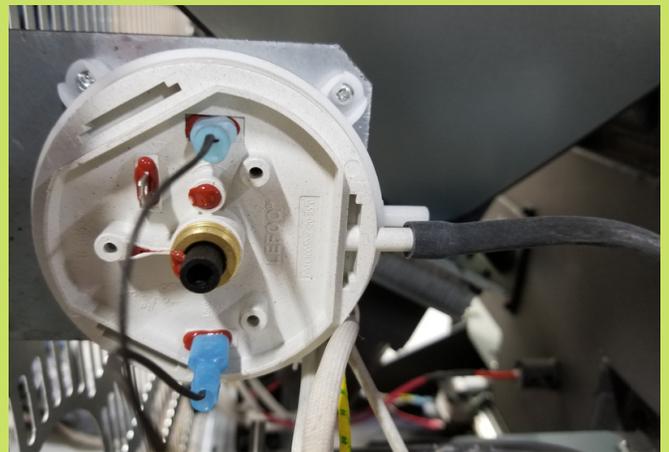


Troubleshooting:

When the switch is operating correctly, there will be an “L” symbol visible on the bottom of the main screen on the control panel whenever the hopper lid is shut. If the “L” is not present, follow these steps:

- 1. Manual Test:** Depress the roller (or plunger) all the way down with your finger. If the “L” reappears on the screen while the switch is manually engaged, this usually means that the switch itself is probably good but is seated in a way that is not making good contact with the lid. If the “L” does not reappear, or flickers on and off, this could indicate some internal problem within the switch or the wiring.
- 2. Readjustment:** If the switch is verified good using a manual test, oftentimes a readjustment may resolve the issue. Most often, it is the roller arm on the top that had gotten bent down by the weight of the lid closing. Using your finger, you can slightly bend the roller arm back and up so that it makes better contact with the lid plate when it closes.
- 3. Bypass:** If the switch itself is verified to be bad, there is the option to bypass it. When you take the switch assembly apart, you will see where the wire forks attach to the bottom screw posts. Connecting both forks to the same screw post will complete the circuit and will report an always closed message to the motherboard. When bypassed, the auger will not stop feeding even when the hopper lid is open. Caution is advised, please do not put your hands down into the hopper during operation.

Vacuum Switch



Location:

On all HP22, HP22N, HP61, and HP50 models - the Vacuum switch is located on the left side of the stove (when facing the front) mounted on a plate several inches above the exhaust motor housing. On the HP22i Insert model, the switch is located on the right side (when facing the front). On the HP21, the switch is located on the lower right side and the switch itself faces toward the back of the stove.



Function:

The purpose of the vacuum switch is to detect the negative pressure in the fire chamber caused by the exhaust fan. When the exhaust fan is on, it creates a slight draw through the hose connected to the side of the switch which will tug on an internal diaphragm, thus causing the switch to “close” and report to the motherboard. If the vacuum switch does not detect negative pressure, it will stop the auger from feeding pellets



Troubleshooting:

When the switch is operating correctly, there will be a “V” symbol visible on the bottom of the main screen on the control panel whenever the exhaust fan is running. If the “V” is not present, follow these steps:

- 1. Check Doors:** Ensure that the front door and bottom ash pan are latched tightly, and that the gaskets are present and intact. When the front door, or ash pan are open, this will cause a loss of pressure and the vacuum switch will not report.
- 2. Readjustment:** When the stove is powered, but in the off position (no fans running), turn the black adjustment post/dial in the center of the switch clockwise until it is finger tight. (the dial may recess slightly, this is normal). Turn the stove on so that the exhaust fan comes on, then slowly turn the black dial counter -clockwise until you see the “V” reappear on the screen. When this happens, turn it another ¼ to ½ turn counter-clockwise to allow play at lower levels.
- 3. Sticky Diaphragm:** Sometimes the diaphragm inside vacuum switches will float too far to the back side and suction itself against the inner housing. When this happens, it is usually a simple matter of tapping the housing a few times with a rod or screw-driver handle to vibrate the diaphragm loose from its stuck position. Use this technique along with an adjustment for best results.
- 4. Hose:** If the small rubber vacuum hose or metal elbow has a hole or clog in it, it will not accurately be able to detect the difference in pressure. Ensure that the rubber and metal elbow hoses are intact, have no leaks, and are free of obstruction. (You can disconnect the rubber hose from the switch side and blow into it, back towards the burn area to check for obstructions)
- 5. Airflow:** Many times, the vacuum switch is not the problem. A vacuum switch not engaging could also be the result of limited airflow (usually caused by channels and pathways within the stove getting clogged) A thorough cleaning of the stove may restore perfect functionality to this switch. (See “Cleaning” guide)
- 6. Bypass:** In a worse case scenario, if you are unable to get the vacuum switch to engage, you can temporarily bypass it. *Please note that you do so at your own risk. Simply connect the 2 lead wires together using a small paperclip or metallic tab. While connected together the V should display on the screen.