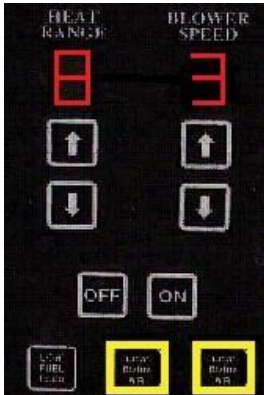


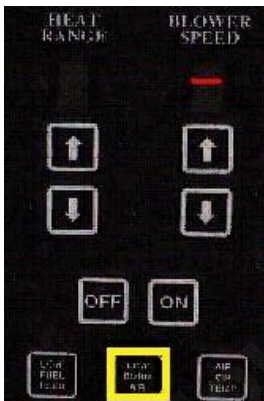
Diagnostic Mode Normal Board

The Diagnostic Mode is a tool which allows a tech to test components in a customer's stove remotely by walking them through a series of buttons on the board the electrical motors can be tested, and helps determine if the lockout switches are functional.



To enter Diagnostic, the unit should be off and unplugged. Enter by plugging the unit in and quickly pressing the Low Burn Air button AND the Air on Temp button. Both are pressed together and released quickly. This will bring up a set of two numbers, as well as light the LED's above all three lower buttons.

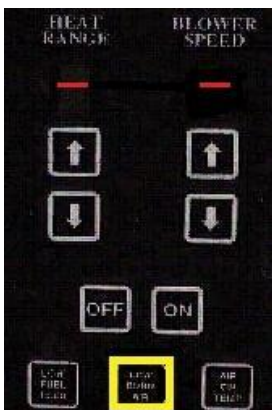
These numbers indicate what the stove's heat sensor is reading. This does NOT correspond to Fahrenheit, it's merely an alphanumeric code. A normal heat reading for a cold stove at an average room temp would be anywhere from 8-1 to 8-9. If the stove is still just a bit warm from being just shut down you might see a code where the first number is a 7. Essentially, the lower the left number is the warmer the heat sensor is reading. For instance "over temp limit" is 1-3. If the sensor is reading an open (not plugged in or broken wire) the left number will be a 9. If this is seen check the sensor plug on the control board and inspect the wires from there back to the sensor itself. These wires cannot be spliced if broken as a splice will change the resistance reading the board is looking at and the stove will not run properly. Even if the wires are intact and plugged in if the 9 code shows, the sensor is bad.



The next step in the sequence is to press and release the LBA (center bottom button) again. Depending on model and installation this may produce a dash in one or more of the LED readouts.

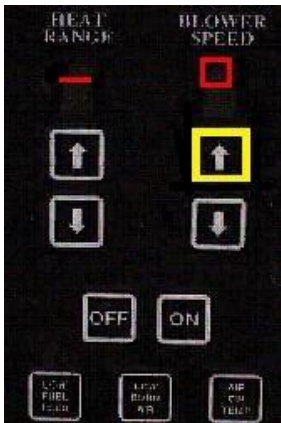
The dash in the "blower speed" (right) readout means the thermostat circuit is closed, this circuit on the control board is equipped with a jumper wire when the stove or replacement board is shipped. The customer may if desired remove this jumper when installing an external thermostat to the unit. If there is no dash present you should ask the customer if they have such a thermostat connected to the unit. If they do, ask them to turn the stat up to a high temperature and ensure the dash appears when they do so.

(This makes a great test for thermostat issues)

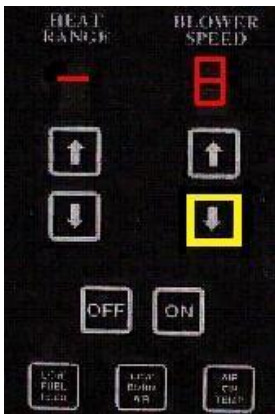


The other dash on the "Heat Range" (Left) should only appear on single auger stoves with the exception of the CPM and the IP (which have a different setup) in the dual auger stoves this dash should not appear at this time. If it does then the primary vacuum switch is closed meaning its wired wrong or defective. In the single auger stoves which do not have a primary vacuum switch, the circuit is kept closed with a chip installed in the vacuum bypass connection on the board. If this dash is not present in this case check to ensure that chip is installed. If it is then the board may be defective.

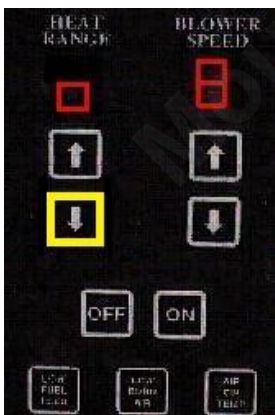
At this point the blowers and auger motors can be tested by using the arrow buttons. The “Blower Speed” buttons for the blowers and the “Heat Range” buttons for the augers.



The Blower Speed UP arrow will turn on the exhaust/combustion blower circuit. Pressing this button causes a small “o” to appear in the blower speed readout. When the blower starts up, in the case of stoves which did not have a dash in the heat range, this dash should appear within a few seconds, indicates the exhaust blower has pulled the primary vacuum switch closed. Once the dash appears it should not blink at all or go out. If this happens or the dash did not appear, check the primary vacuum switch, its hose and stint, as well as the wires to make sure they are plugged in to the correct terminals and that the hose is on the correct nipple. It should be noted that this could also be caused by a blocked flue or the exhaust blower not coming on when the blower speed up was pressed. After testing the blower, if testing of other components is necessary, leave the exhaust blower running so it will hold pressure on the vacuum switches.

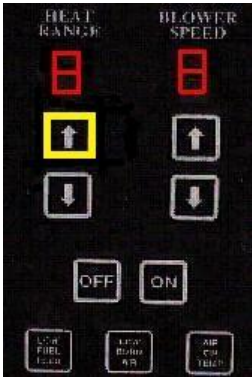


The Blower Speed DOWN arrow controls the Room Air blower. When the button is pressed it will read a small “0” if the exhaust blower is not turned on or an “8” if it is. The blower will come on at max power. At this time the customer can check the vents in the front of the stove to feel for the air being blown out to determine if it is blowing as hard as it should. If the blower is running and no appreciable air is felt the blower needs to be cleaned out. one can also have just the room fan on to listen for noises associated with this component as well. After testing this the room fan can be turned back off as it is not a necessity for any other components to have it running.

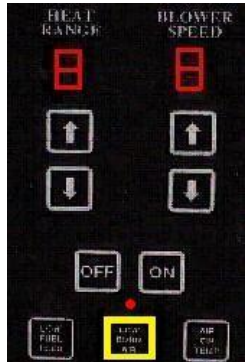


The heat range DOWN arrow runs the lower auger in the dual auger stoves, and the mixer motor in the CPM and CDV stoves. It does nothing with any of the other units as there is nothing connected to that circuit. When testing a dual auger unit if there is fuel in the hopper the lower auger should always be turned on prior to turning on the upper auger, if the upper is turned on first it could jam itself without the lower auger taking dropped fuel out as it comes down.

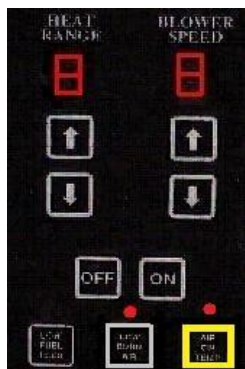




The Heat Range UP arrow powers the top auger in dual auger stoves and the feed auger in single auger stoves. Remember with the exception of the IP and the CPM the exhaust blower must be pulling the vacuum switch for the auger to run. In diagnostic mode the auger will not “cycle” as the timing circuit is not engaged the auger should run continuously. While the auger is running open the front door then close and open the hopper to ensure the switches DO stop the auger from turning. If the auger does not stop troubleshoot the switch that let it keep running.



The Low Burn Air (center bottom button) turns on the igniter. The igniter on the CPM is powered by the Air on Temp button (Right bottom button). When the button is pushed it will light the LED above the button to show it is on, when testing the igniter, the unit should have the exhaust blower running as well so the heat is pulled through to the firebox where it should become visible. In the single auger stoves it’s much easier to see the glow from the igniter with the burn pot lifted out of the cradle.



In the case of the CPM one should also push the “AOT” (air on temp) button to engage the air pump, this will light up the light above the AOT button and turn the pump on. To turn these items off press the same button or buttons, the LED will go out showing the component is no longer receiving power.

To remove the stove from diagnostic, simply unplug it, when its plugged back in it will be back in its running configuration

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