



# **Pellet Stove Test Manual**

## **Stricter Emission Standards**

Adopt stricter emission standards than the EPA.

1. Washington: 4.5 grams per hour for non-catalytic and pellet stoves; 2.5 grams per hour for catalytic and pellet stoves.
2. Montana: The tax code, Subchapter 1, 42.4.104 (2) (d) says a tax credit applies to biomass stoves and furnaces which emit less than six grams per hour.
3. Ten states require that only outdoor hydronic wood boilers qualified by an EPA voluntary program be installed: New England states, New York, Pennsylvania, Maryland and Indiana. In two states - Washington and Oregon they are banned altogether.

### **Forbid Sale of Exempt Stoves**

1. California: Forbids sale or installation of residential indoor wood stoves that are exempt from EPA regulation.
2. Washington: Same as California, above.
3. Oregon requires all stoves sold must meet EPA standards.
4. Colorado requires all new wood stoves sold must meet EPA standards, Pellet stoves must be below 4.1, and masonry stoves must not emit more than 6 grams PM per 6 kilograms of fuel. Wood boilers and furnaces are exempt which does allow outdoor wood boilers to be installed.
5. Utah: Solid Fuel Burning Devices must be EPA certified to be installed in the following Utah counties: Box Elder, Cache, Davis, Salt Lake, Tooele, Utah, and Weber Counties.

### **Forbids Sale and/or Installation of Uncertified Stove**

1. Washington: Since 1992, has forbidden sale and installation of wood stoves or inserts that are not certified to the stricter Washington state emission standards.
2. Oregon: Forbids sale and installation of wood stoves or inserts that are not certified. Oregon began certifying stoves in 1986 and the EPA in 1988.
3. Denver-Metro area, Colorado: Prohibits sale and installation of new or used uncertified wood burning appliances
4. Summit County, Colorado: Forbids the installation of a non-certified wood stove in a new home or as a replacement unit for an existing non-certified stove.
5. Idaho: Several counties ban selling second-hand non-certified stoves.

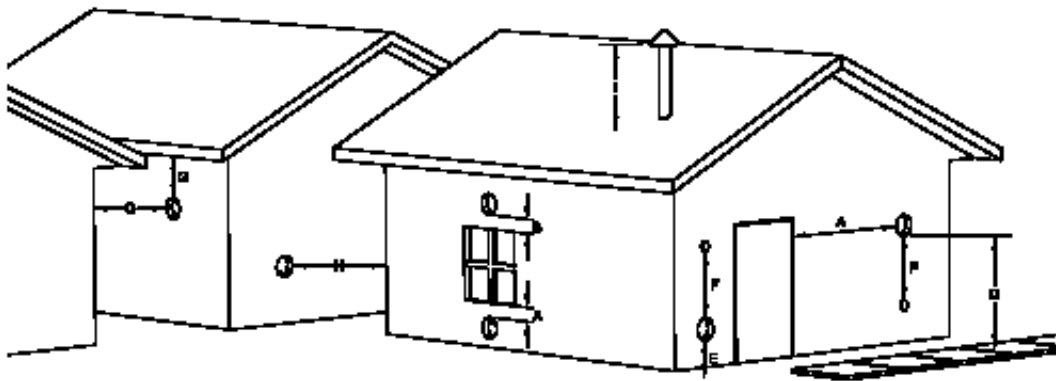
### **Forbids Installation of Fireplaces**

Denver Metro area: Banned unless they are equipped with an EPA Phase II wood or pellet burning insert, or electric or gas log.

## Installation

### VENT TERMINATION CLEARANCES:

- A — Minimum 4-foot clearance below or beside any door or window that opens.
- B — Minimum 1-foot clearance above any door or window that opens.
- C — Minimum 3-foot clearance from any adjacent building.
- D — Minimum 7-foot clearance from any grade when adjacent to public walkways.
- E — Minimum 2-foot clearance above any grass, plants, or other combustible materials.
- F — Minimum 3-foot clearance from a forced air intake of any appliance.
- G — Minimum 2-foot clearance below eaves or overhang.
- H — Minimum 1-foot clearance horizontally from combustible wall.
- I — Must be a minimum of 36-inches above the roof and 24-inches above the highest point of the roof within 10-feet.



VENT TERMINATION CLEARANCES



**5500M and 5500XL**

**ABC Board**

HEAT  
RANGE

8



OFF

A

B

BLOWER  
SPEED

8



ON

C

## **Error Codes and Display Indicators**

<u><b>Error codes</b></u>	<u><b>Error description</b></u>	<u><b>Possible Causes</b></u>
<b>Err1</b>	<b>High Limit Sensor has Tripped</b>	<ul style="list-style-type: none"> <li>• Inadequate Ventilation</li> <li>• Room Fan Failure</li> <li>• Exhaust Blockage</li> <li>• Electrical Open in Wiring</li> </ul>
<b>Err2</b>	<b>Stove Ran Out of Fuel During Normal Operation or Vacuum Issue</b>	<ul style="list-style-type: none"> <li>• Hopper Empty</li> <li>• Auger Output Failure or Jam</li> <li>• Flame or Fuel Quality Caused Fire to burn to slowly or go out</li> <li>• Electrical Open in Wiring</li> <li>• Vacuum pressure issue</li> </ul>
<b>Err3</b>	<b>The stove was unable to reach temperature to turn on the room fan</b>	<ul style="list-style-type: none"> <li>• Flame or Fuel Quality caused fire to burn to slowly or go out</li> <li>• Auger output failed or jam</li> <li>• Hopper Empty</li> <li>• Thermistor not connected to control board or bad</li> </ul>
<b>Err4</b>	<b>The Power failed while the stove was hot, and when power was restored the fire went out</b>	<ul style="list-style-type: none"> <li>• Electrical Open in Wiring</li> <li>• Power Loss</li> </ul>
<b>Err5</b>	<b>The Auger Output Fuse Has Blown</b>	<ul style="list-style-type: none"> <li>• Auger Motor Jammed or Bad</li> </ul>
<b>Err6</b>	<b>The Igniter Output Fuse has blown</b>	<ul style="list-style-type: none"> <li>• Igniter Shorted out or bad</li> </ul>
<b>Err7</b>	<b>The Draft Fan(Exhaust Fan)Output fuse has blown</b>	<ul style="list-style-type: none"> <li>• Draft fan motor jammed or bad</li> </ul>
<b>Err8</b>	<b>The Room Fan Output Fuse has Blown</b>	<ul style="list-style-type: none"> <li>• Room Fan Motor Jammed or Bad</li> </ul>
<b>Err9</b>	<b>Bad Control Board</b>	<ul style="list-style-type: none"> <li>• Bad board try to reset it</li> </ul>
<b>Err 11</b>	<b>Vacuum Issue</b>	<ul style="list-style-type: none"> <li>• Check to see if stove is clean and exhaust fan is clean</li> <li>• Bypass the pressure switch</li> </ul>

## **Display Indicators**

Several situations or events are indicated in normal operation by blinking display indicators or segments in the display:

**Flashing On Light:** This means that the stove is in the “Start Up” state waiting for either a 3 minute time-out to begin burning or for the stove to reach the warm temperature whichever comes first.

**Flashing Off Light:** This indicates that the stove is in the shutdown state waiting for the OFF button, or for a 15 minute period after the stove was turned off, or for the stove to cool down, or for the door to be closed.

**The “A”, “B”, and “C” buttons on the control panel are reserved for diagnostic use only. These controls are disabled by default when the unit is shipped from our factory.**

**Activate the “A” and “B” Buttons:** Press the Heat Range Down and the Blower Range UP at the same time for 5 seconds to activate.

**Factory Defaults:** To return the control to its original factory default settings, Press and hold the “B” and “C” until P1 Appears use the heat range arrow to increase to P9 and Press the ON Button. The unit will Turn Off and the board will be reset.

## **Flashing A light: Vacuum Problem**

- **RUN TEST ON UNIT** to make sure there the exhaust motor is working.
- Check the seal around the door. Have the customer take a piece of paper and shut the door on it. See if they can remove the piece of paper. If they can they need a new seal.
- Make sure the door is closed and the hopper lid is closed.
- Have the customer remove the side panel and check the pressure switch hose and make sure there is no buildup or damage to this hose or lose from the pressure switch.
- Have the customer make sure that the clean outs are in the unit and secure down. Also make sure they have cleaned them out. This is **NOT A BAD VACUUM SWITCH.**



## **Flashing B light: Over Heat and went into shut down mode**

- **RUN TEST ON UNIT** when the unit is cooled down. This will let you know what the thermistor is reading.
- Check that the thermistor is still connected to the control board. This will give the same error code if the thermistor reads 0.

## **Flashing C light: Hopper Lid**

- **Check that the hopper lid is closed if so have the customer open the lid and push the switch down and see if it stops flashing if so have them adjust it up so that it will make a good connection with the lid.**
- **If it does not have them check the wires connected to the hopper switch if they are loose have them turn of the unit unplug it from the wall and connect the wires.**
- **If the wires are secure and they are still receiving this error have them bypass the switch if it clears the code they will need a new hopper switch.**

## **Constant C light: Bad Board**

- **You can try to reset the board to see if this clears this code to reset this board press the B and C buttons at the same time until P1 appears on the control panel. Use the heat range arrow up until you reach P9 and press the on button as soon as this is done the board will turn off.**
- **If it does not reset or the board is not responding it will need to be replaced.**

### **No power to the control board**

- If there is no power to the control board have them check the fuse on the board. It takes a 5 amp fuse. We do not sell this item they can purchase it a local hardware store or auto parts store.
- If the fuse is good have them plug the unit into a different electrical outlet (NONE GFI outlet the unit will not operate correctly on this type of outlet)

**When Replacing an ABC board with a New 4 digit board No Wiring Harness is needed also **send out instruction on how to wire the new board.****

## **Room fan not coming on**

- **RUN TEST ON UNIT** if it operates in test mode check the thermistor reading, and make sure the thermistor is connected to the board.
- If it does not come on in test mode check that the wires are secure and there is no damage to the wires.
- Have them connect direct power to the blower If it still does not operate the blower will need to be replaced.

## Auger not turning

- **RUN TEST ON UNIT** if it turns in this mode there is a vacuum problem. The vacuum will not allow the auger to turn this is **NOT A BAD VACUUM SWITCH**.
- If it is not turning but it is making noise have the customer get out of the test mode and turn of the unit. They will need to remove all the pellets out of the hoper and check for a jam.
- If there is no jam and the motor is not making any noises then the motor is bad.

## **Exhaust blower not working**

- **RUN TEST ON UNIT** if it does not have them connects direct power to the motor and if it still does not work the motor is bad.
- If the motor is humming sound and will not turn. Have them turn off the stove and clean the motor, exhaust housing, and exhaust pipes to make sure there is no buildup or blockage. If it still continues making the humming sound and will not turn have them connect direct power to the motor and if it still does not work the motor is bad.

## Igniter is not glowing

- **RUN TEST ON UNIT** if it works in test mode there is a vacuum problem. This will not allow the igniter to come on during start up. **(NOT A BAD VACUUM SWITCH)**



## **Possible Causes for a vacuum issue:**

Gasket around door or glass not sealing properly.

Clean-out slides on front of unit open.

Clean-out slides inside firebox not closed properly.

**Unit has not been cleaned:** firebox, underneath firepot, behind clean-outs on inside of unit, brass port inside firebox clogged, vacuum hose clogged-brittle-cracked, exhaust pipe clogged, exhaust pipes not sealed, improper venting—excessive horizontal length—too many elbows—vented INTO chimney, and the last thing to rule out is a faulty pressure switch itself.

90 to 95% of the time a faulty pressure switch is **NOT** the problem.

**Just because the unit will run with the pressure switch “jumped” does not mean the pressure switch is faulty. It simply means we have told the unit to “ignore” the vacuum problem.**

**Cleaning firebox:** clean thoroughly, remove firepot-clean underneath, clean brass port in firebox, remove ceramic brick (6039-6041)—tap on the back wall of the firebox several times to loosen any accumulated soot or ash-lift clean-out slides-remove any and all soot and ash—may need to use a flexible brush or some customers use a straightened wire clothes hanger and push any build-up in between the two clean-outs to one side or another and then remove.

Check gasket around door and glass and make sure it seals all the way around-that it is not frayed or burned allowing any gaps.(some 5500-5510 have gaps at bottom of glass gasket)

Make sure the door seals—doing paper test.

### **UNPLUG UNIT.**

Remove side panel—left side facing stove—locate pressure switch-remove hose from pressure switch-blow through to make sure it is not clogged or cracked. Make sure it is connected well to the brass port going into the back of the firebox,--AGAIN—make sure it is not brittle cracked or damaged—reconnect hose to pressure switch making sure the clamp is tight.

Make sure the exhaust piping has been cleaned—all of it, not just the clean-out tee removed and emptied.

Make sure the piping is sealed—especially the first piece attached to the exhaust pipe.

**THESE UNITS CANNOT BE VENTED INTO A CHIMNEY. THE PIPE-(3” or 4” PELL VENT)- MUST RUN ALL THE WAY TO THE TOP.**

## **5500M/5500XL ABC BOARD TESTING PROCEDURE**

To run this test the **UNIT MUST BE COOLED OFF**. Power up the unit by plugging in the power supply cord to the back of the unit. Press the on button and the circuit board display will show a "2" and a "0" or a "1" and "5". When the display clears you can start the test.

**Step 1:** Press and Hold down the A and B buttons at the bottom of the board until the display shows an "0" and a "1". **This steps checks the Exhaust Blower and Vacuum Switch**. Check to see if the Blower is running and if the Red LED is on above the A button. Open the door and see if the LED goes off; shut the door and make sure it comes back on. If the A is not on in this step check the gaskets on the door and clean the units exhaust blower and ash cleanouts **Vacuum Issue**. If so, Press the ON button to go to the next step.

**Step 2:** Display will show an "0" and "2". **This step checks the room blower**. Check to see if the room fan is running. If so, Press the ON button.

**Step 3:** Display will show an "0" and "3". **This step is not for this unit. Press ON**

**Step 4:** Display will show an "0" and "4". **This step checks the Auger Motor**. With the hopper lid closed, the auger motor should be running. If so, lift the lid to check the micro switch mounted on the right side of the hopper; the motor should stop. Close the lid to make sure that the motor comes back on. If so Press the ON button.

**Step 5:** Display will show an "0" and "5". **This step checks the igniter**. If the board skips this step, something is wired wrong or wires are missing. **Do not skip this step**. Check to see if the Igniter is working and they can see it is glowing. If so have them Press the ON button.

**Step 6:** Display will show an "i" and "1". **This step does not pertain to this unit press the ON button.**

**Step 7:** Display will show an "i" and "2". **This step checks the Thermostat Plug**. Make sure that the LED (Red light) over the A button is on. If so, Press the ON button to go to the next step.

**Step 8:** Display will show a numerical value. **This is the room temperature measured at the thermistor attached to the exhaust housing**. The displayed temperature should be close to the room (ambient) temperature. **NO temp reading (00) thermistor disconnected from the board or bad board**. Press the On button to go to the next step.

**Step 9:** Display will show the Frequency of the A/C input voltage. **Display should show a 59, 60, or 61**. If so, Press the ON button to go to the next step.

**The display will show a "2" and a "0" or "1" and "5" as it did when it first powered up. The unit will turn off.**

## **ABC Board Version 14, 15, 20**

The "A" and "B" buttons were not active on this board when shipped. To Activate Press the Heat Range Arrow Down and the Blower Range Arrow UP at the same time for 5 seconds to activate.

If you press the "A" Button the Heat Range number will disappear. The number will appear on the blower side. This is the Auger Speed. **Factory default is 5.**

If you press the "B" Button the Heat Range number will disappear. The number will appear on the blower side. This is the Combustion Air. **Factory default is 5.**

Reset to Factory- Hold in "B" and "C" until P1 appears. Use the Heat Range Arrow to increase to P9 and Press the "ON" Button-The unit will turn OFF and the board will be reset.

## **ABC Board Version 21**

Fallow Version 14, 15, 20 but during the Test mode **the "A" light will stay on.**

## **ABC Board Version 25, 26**

The "A" and "B" buttons were not active on this board when shipped. To Activate Press the Heat Range Arrow Down and the Blower Range Arrow UP at the same time for 5 seconds to activate.

If you Press the "A" Button the number will change on the control panel this is the high end combustion air. **The factory is 96.**

If you Press the "B" Button the number will change on the control panel this is the low end combustion air. **The factory is 88.**

Reset to Factory- Hold in "B" and "C" until P1 appears. Use the Heat Range Arrow to increase to P9 and Press the "ON" Button-The unit will turn OFF and the board will be reset.

### **During the Test Mode the "A" Light will stay on**

Make sure when you begin the test the door is shut. If the door is open when you begin the test mode the "A" Light will come on.



**5500M, 5500XL, and 5510**  
**4 Digit Board**

4 Digit 5500 Pellet Stove Control  
Operating Manual Firmware Revision 2.76-2.78



## **Error Codes and Display Indicators**

<u><b>Error codes</b></u>	<u><b>Error description</b></u>	<u><b>Possible Causes</b></u>
<b>Err1</b>	<b>High Limit Sensor has Tripped</b>	<ul style="list-style-type: none"> <li>• Inadequate Ventilation</li> <li>• Room Fan Failure</li> <li>• Exhaust Blockage</li> <li>• Electrical Open in Wiring</li> </ul>
<b>Err2</b>	<b>Stove Ran Out of Fuel During Normal Operation or Vacuum Issue</b>	<ul style="list-style-type: none"> <li>• Hopper Empty</li> <li>• Auger Output Failure or Jam</li> <li>• Flame or Fuel Quality Caused Fire to burn to slowly or go out</li> <li>• Electrical Open in Wiring</li> <li>• Vacuum pressure issue</li> </ul>
<b>Err3</b>	<b>The stove was unable to reach temperature to turn on the room fan</b>	<ul style="list-style-type: none"> <li>• Flame or Fuel Quality caused fire to burn to slowly or go out</li> <li>• Auger output failed or jam</li> <li>• Hopper Empty</li> <li>• Thermistor not connected to control board or bad</li> </ul>
<b>Err4</b>	<b>The Power failed while the stove was hot, and when power was restored the fire went out</b>	<ul style="list-style-type: none"> <li>• Electrical Open in Wiring</li> <li>• Power Loss</li> </ul>
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<b>Err7</b>	<b>The Draft Fan(Exhaust Fan)Output fuse has blown</b>	<ul style="list-style-type: none"> <li>• Draft fan motor jammed or bad</li> </ul>
<b>Err8</b>	<b>The Room Fan Output Fuse has Blown</b>	<ul style="list-style-type: none"> <li>• Room Fan Motor Jammed or Bad</li> </ul>
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<b>Err 11</b>	<b>Vacuum Issue</b>	<ul style="list-style-type: none"> <li>• Check to see if stove is clean and exhaust fan is clean</li> <li>• Bypass the pressure switch</li> </ul>



## Display Indicators

Several situations or events are indicated in normal operation by blinking display indicators or segments in the display:

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**Flashing Dash in Heat Range Display:** This indicates that the stove is in normal run mode and is ramping from the current heat range setting to the target heat range setting. Once the ramp is complete the dash will stop flashing. For Ramping from heat range 1 to 5, the default time is 12 minutes (with a 90 second ramp time).

**Flashing Automatic Mode Indicator:** This indicates that the stove is in normal operation and is running in the automatic mode. However either the draft fan or auxiliary setting is manually configured.

**Flashing draft fan:** This indicates that the stove is in normal operation and that the vacuum sensor detects a loss of pressure either because the door is open or because there is a negative pressure in the room with respect to the exhaust.

**Flashing Aux Indicator:** This Indicates that the igniter is on during the lighting stage.

**Quickly Flashing Heat Range Setting Indicator (changes twice per second):** This indicates that the stove is in normal operation and that an over-temperature condition exists causing the fuel to stop.

**Slowly Flashing Heat Range Setting Indicator (changes once per second):** This indicates that the stove is in a cut back condition in an attempt to prevent an over-temperature shutdown

**Factory Defaults:** To return the control to its original factory default settings, Press and hold the AUX UP and AUX DOWN buttons together for three seconds.

## **Possible Causes for a vacuum issue:**

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Check gasket around door and glass and make sure it seals all the way around-that it is not frayed or burned allowing any gaps.(some 5500-5510 have gaps at bottom of glass gasket)

Make sure the door seals—doing paper test.

### **UNPLUG UNIT.**

Remove side panel—left side facing stove—locate pressure switch-remove hose from pressure switch-blow through to make sure it is not clogged or cracked. Make sure it is connected well to the brass port going into the back of the firebox,--AGAIN—make sure it is not brittle cracked or damaged—reconnect hose to pressure switch making sure the clamp is tight.

Make sure the exhaust piping has been cleaned—all of it, not just the clean-out tee removed and emptied.

Make sure the piping is sealed—especially the first piece attached to the exhaust pipe.

**THESE UNITS CANNOT BE VENTED INTO A CHIMNEY. THE PIPE-(3” or 4” PELL VENT)- MUST RUN ALL THE WAY TO THE TOP.**

## **5500M 4 Digit Control Board Test**

To run this test the **UNIT MUST BE COOLED OFF**. Power up the unit by plugging in the power supply cord to the back of the unit. Press the on button and the circuit board then press and hold the Off and Auger Delay buttons simultaneously for 3 seconds. To advance through the test press the on key. If the **Heat Range Light is on during every test check Hopper Switch Wires.**

1. **Exhaust Fan Output Test**- The display will show “**drift**”. The exhaust fan is turned on full then reduced to a level just above the typical minimum pressure switch setting. The **ON LED** indicates whether the pressure sensor is detected. If the pressure switch is not detected, the fan ramps to full on for two seconds then returns to the previously established level if the pressure switch closes. If the Draft Fan Fuse is not blown and the fuse detection circuit is functioning, the Draft Fan LED will be lit and the other three top row LEDs will be off.
2. **Room Fan Output Test** – The display will show “**rfan**”. The room fan is turned on full. If the Room Fan Fuse is not blown and the fuse detection circuit is functioning, the Room Fan LED will be lit and the other three top row LEDs will be off.
3. **Igniter Output Test** – The display will show “**ignt**”. The igniter motor is turned on full. If the Igniter (AUX) Fuse is not blown and the fuse detection circuit is functioning, the **AUX LED will lit** and the other three top row LEDs will be off.
4. **Auger Output Test** – The display will show “**augr**”. The auger motor is turned on full. If the auger fuse is not blown and the fuse detection circuit is functioning, the **Heat Range LED will be lit** and the other three top row LEDs will be off.
5. **Hopper Switch Test** – The display will show “**hppr**”. If the hopper switch is open (lid is open), the ON LED will turn on otherwise, it will be off. If the hopper switch is wired in series with the auger, this test is not valid, and the validation of the hopper switch should be done in the previous Auger Output test.
6. **Thermostat Input Test** – The display will show “**stat**”. If the thermostat input is closed, the **ON LED light will be on**, otherwise it will be off.
7. **Flue gas Thermistor Test** – The display will show the fluegas temperature in degrees F. **This should read 54° F**
8. **AC Frequency Test** - Displays the measured AC frequency in hertz followed by the letter “H”. This should read **59, 60, or 61H**
9. **Watchdog Reset** – The Watchdog timer is tested to ensure that the board can be reset. The message “**BYE**” will be displayed until the Watchdog resets board.

## 5500M C Codes

To adjust the operation constants, press the hold the MODE and AUGER DELAY buttons simultaneously for 3 seconds. The display will show "C-1". Use the HEAT RANGE UP or HEAT RANGE DOWN buttons to change the constant number (see the list of vales below). When the desired constant is displayed, press the ON button to toggle between viewing and editing the value. While editing a parameter, use the AUX again to return to the constant number list. Press the OFF button to exit the operational constants mode.

- C1- Reset to defaults (hold Mode and Auger Delay buttons for 3 seconds to reset all to defaults).
- C2- Fuel Lbs. per Hour HR 1 (0-5.0) – This is the fuel rate in pounds per hour for a heat range setting of 1. The default is 1.75 lbs.
- C3- Fuel lbs. per Hour HR 9 (0-5.0) – This is the fuel rate in pounds per hour for a heat range setting of 5. The default is 4.5lbs. The fuel rates used between setting 1 and 5 are linearly interpolated between these two settings.
- C4- Draft Fan Level HR 1 (0-500) – This is the draft fan output level for a draft fan setting of 9. The default is 150
- C5- Draft Fan Level HR 9 (0-500) – This is the draft fan output level for a draft fan setting of 9. The default is 350. See next parameter for disbursement.
- C6- Monitor Hopper Switch (0-1) – If this parameter is set to 0 (default), the hopper switch input is ignored. If it is set to 1, the hopper input is monitored, and if the hopper is opened, the auger will stop. The delay LED will flash when the hopper is opened.
- C7- Ramp Seconds for increasing level (0-300) – When the heat range setting is adjusted, control will ramp from the current setting to the target setting to avoid abrupt changes in the outputs that could cause problems with the flame quality. The ramp seconds value sets the amount of time to spend on each heat range setting (1-9 pseudo ranges not 1-3 user ranges) as the current setting is ramping toward the target. If the current setting is ramping down toward a lower target, the ramp value is half this number. The default value is 90 seconds.
- C8- Startup Minutes for detecting Warm Stove – (10-60) this is the amount of time the control will wait for the stove to reach the warm temperature (110 Degrees F) after the stove has been started before shutting down and reporting an Error condition Err3. The default is 30minutes.
- C9- Over temp Set point – (0-500) this is the temperature the flue gas can reach before an over temp condition exists. If the measured temperature is higher than this set point, the control will stop auguring fuel until the temperature returns to a safe operating point. The default is 445 degrees.
- C10- Cutback Set point – This is the temperature that the flue gas can reach before a cutback condition exists. If the measured temperature is higher than this set point, the control ramps down the heat range according to the auger ramp seconds value. The default is 430 degrees.
- C11- Room fan on set point – (0-300) this is the temperature that the measured flue gas must reach before the room fan turns on. This variable also serves to indicate to the control that the stove is warm. If the measured temperature is higher than this set point, the stove is considered warm and will not create an Er3. Whether or not the stove is warm also determines if the unit will recover from a power failure. If the stove is warm when the power is lost and cold when it returns, it will shut down with an Er4 error. The default is 130 degrees.

- C12- Cold stove set point – (0-300) this variable is used to determine when the stove is cold and ready to be shut down. If during the shutdown sequence the measured temperature is less than this value, the stove will stop running the fans to cool it off. **The default is 110 degrees.**
- C13- Room fan level HR 9 (0-500) – this is the output level applied to the room fan for a setting of 1. **The default values is 300/500.**
- C14- Room fan level HR 9 (0-500) – This is the output level applied to the room fan for a setting of 9. **The default value is 500/500.** The room fan output levels used between settings 1 and 9 are linearly interpolated between these two settings.
- C15- Auger load time (0-30) – This variable is used to control the length of time that the fuel is augured into the burn pot during startup. **The default is 6 minutes.**
- C16- Starter on time (0-30) – This variable is used to control the length of time that the igniter is turned on during startup. **The default is 8 minutes.**
- C17- Ignore fuse errors (0-1) – This variable can be used to ignore errors detected by open fuses. By default, it is 0 (do not ignore the vacuum switch), but can be set to 1 for diagnostic of emergency operation purpose.
- C18- Ignore vacuum switch (0-1) – This variable can be used to ignore the vacuum switch. By default it 0 (do not ignore the vacuum switch), but can be set to 1 for diagnostic or emergency operation purposes.
- C19- Bump rate in pounds per hour (0-0.5) – The bump rate defines the rate of fuel to be delivered when the unit is over temperature or in shutdown to prevent burn back, Since this stove design isn't conducive to burn back, **the default setting is 0lbs. per hour**, but can be adjusted to a maximum of 0.5lbs per hour.
- C20- Purge time (0-120) – The purge time defines how many seconds to run the auger to purge it on power down or shutdown as the stove moves from a warm state to a cool state. It is intended to push and partially heated pellets still in the auger tube out. **By default, the auger will run for 30 seconds**, but can be set between 0 and 120.
- C21- Enable serial communication (0-10 – **By default, serial communication is not enabled (0).** Set this variable to 1 to enable communication.

## **How to check the exhaust and duct temperature in real time:**

### **U CODES**

- 1) Press and hold Mode and Draft Fan UP.....hold until you see U1
- 2) Press the On Button it will display a 3 digit number (this is the current exhaust temperature)
- 3) Press OFF it will go back to U1

### **If a furnace**

- 4) Press Heat Range UP to U2 and Press ON (this is the current duct temp.)
- 5) Press OFF will go to U2
- 6) Press OFF the control board will go back to the main control board