

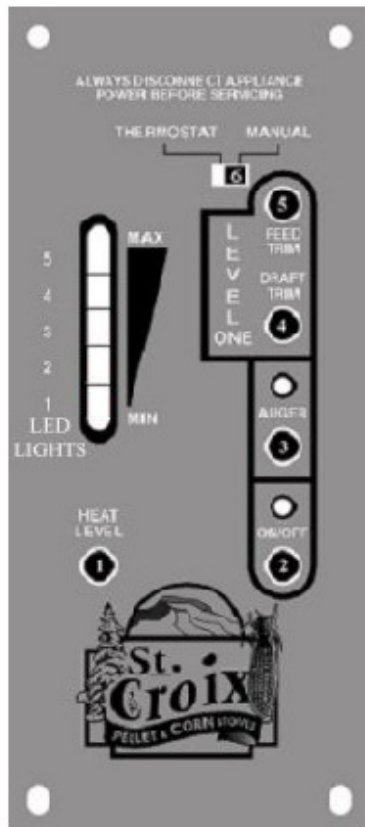


## Discontinued Models DHC3000 Control Boards

*These instructions are only intended for customers who are replacing one of the discontinued control boards listed below*

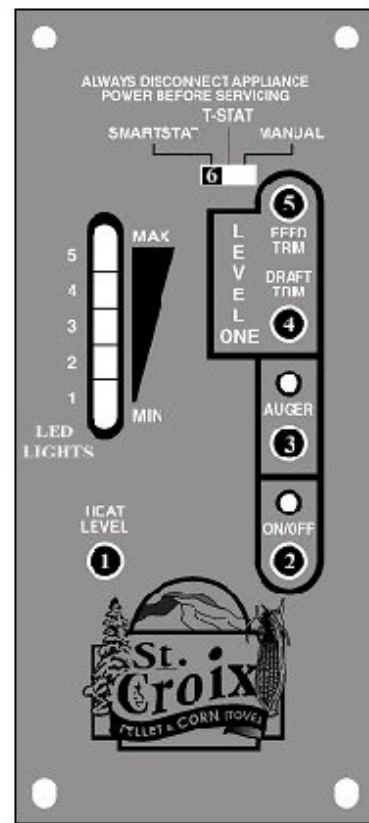
The Company that manufactures the St. Croix Control Boards has reached the point of discontinuing another older model Control Board. They will be replaced with the DHC4000 Series Board that we introduced about 3 years ago with some of our newer models.

Please take a look at the 2 control boards below. If your Control Board looks like one of these or is even older and it doesn't have the Thermostat Slide switch, then your board has been discontinued.



80P52632B

Auburn, Lancaster, Greenfield



80P22348B

Afton Bay, Prescott, Hastings, York

The new Control Board is backwards compatible with the DHC3000 and plugs directly into the old wiring harness. **The Part Number for your replacement board is 80P30523-R**

**Please note your Replacement Board must say “NON-REVOLUTION STOVES” at the bottom.**

This control board has 4 programs; Programs 1 and 2 are for the current Ashby models, the Auburn, the Lancaster and the Greenfield. Programs 3 and 4 are for the Afton Bay, the Prescott EXL, the Prescott EXP, the Hastings, and the York

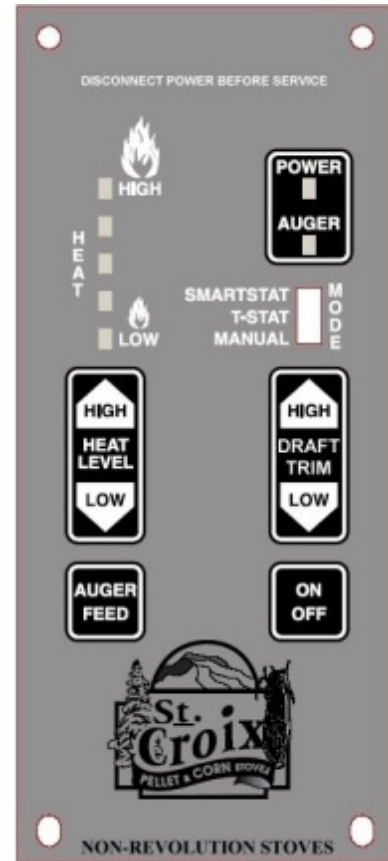
### **THE BOARD SHIPS SET TO PROGRAM 1**

**Program 1** is the same program as the old Multi-Fuel board 80P52632B shown on the previous page. Program 2 is for “tweaking” the Program for higher Air to Fuel Ratio to adjust for fuel problems.

**Program 3** is the same program as the old Pellet Board 80P22348B shown on the previous page. Program has been added 4 to be used with Cherry Pits.

The DHC4000 Series control board offers more Feedrate adjustments and Draft Fan voltage adjustments. This allows for more user friendly control over how the stove burns based on the quality of fuel.

**Please take the time to identify which board you are replacing and which program to choose for running your stove.**



80P30523-R

### **Changing the program on the Control Board**

After installing your new board, your stove must be in the **OFF** position and the unit must be completely cooled down so the Proof of Fire Switch is Open.

**The Thermostat slide switch must be in the Manual mode.**

**Press & hold** the Auger Feed Button, then **Press & Release** the Trim **High & Low** Buttons at the same time.

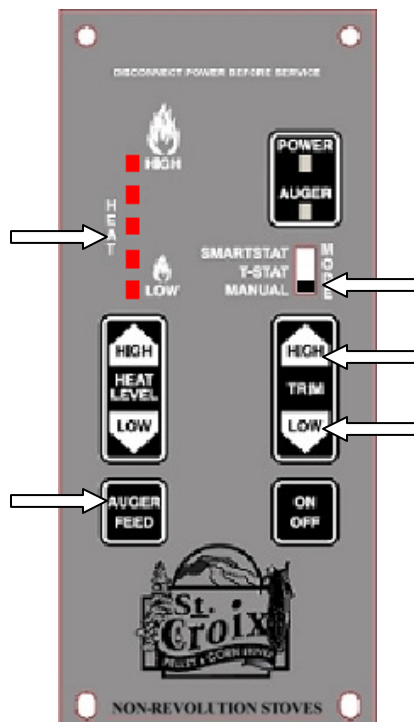
Watch the LED lights flash. The number of times the lights Flash will indicate which program is running.

**Program 1 – LED lights flash *once***

**Program 2 – LED lights flash *twice***

**Program 3 –LED lights flash *three times***

**Program 4 – LED lights flash *four times***



**PELLET STOVES** - If you replaced Control Board **80P22348B** or any similar *Digital Pellet Stove Control Board*, please use the following instructions on how to light your stove.

1. Make sure there are pellets in the hopper and the viewing door and ash pan door are closed.
2. Push the On/Off button on the control board.

At this point all that needs to be done is to monitor the burn pot to make sure the stove starts up properly. Once the On/Off button has been pushed the Start Up program takes over.

The Start up Program works as follows:

- a. The Combustion fan and Room fan come on at high speed and the control board checks to make sure the Vacuum switch locks in.
- b. When the board senses the Vacuum switch the Combustion fan drops to the #1 setting and the Room fan shuts off.
- c. The Igniter and the Auger come on (the Auger runs for 2 minutes). The stove will typically light in the first 3 - 4 minutes. After 5 minutes the board checks for "Proof of Fire" and starts feeding pellets on the #1 setting. Once the board senses P.O.F. the Igniter shuts off and the stove has started successfully.
- d. If the board fails to sense P.O.F. it will repeat the previous step and continue feeding pellets on the #1 setting for 5 more minutes.
- e. The board will check for P.O.F. one more time. If the board still fails to sense the Proof of Fire switch, the stove will go into "Safety shutdown" (See Diagnostic Features on page 35)

If the stove fails to start, repeat steps listed above.

### **Shutting the Unit Off**

1. Press the On/Off switch once; the lights will go off and the fire will go out in a few minutes. The board essentially goes into "Safety shutdown".
2. As long as the temperature within the Pellet stove remains above 110° F the Fans will continue to run. When the P.O.F. switch drops out, the room fan shuts off and the Combustion fan will run for another 10 minutes and finally shut down completely.
3. NEVER unplug the Stove to shut it off. Doing so may cause a significant amount of smoke to enter the room.

**Thermostat Slide Switch** – All three positions of the slide switch work the same as the discontinued version of the board.

**MULTI-FUEL STOVES** - If you replaced Control Board **80P52632B** or any similar **Digital Multi-Fuel Stove Control Board**, please use the following instructions on how to light your stove.

1. Make sure there is Fuel in the hopper.
2. Add one cup of **Pellets** to the burn pot (not more and not less). Do not try to start your stove with corn or other small grains; Grain is difficult to start. Add a generous amount of starter gel to the pellets.
3. This next item is optional, but it will give an immediate boost to the start up procedure. Crumple up half of a newspaper page, light the gel and toss the paper in the burn pot.
4. Close the door and push the On/Off button on the control board.
5. **Set the controls to Heat Level #1**
6. **Once the Proof of Fire switch locks in and the Power Light quits blinking, adjust the heat level to the desired level.**

The Start up Program works as follows:

- a. The Combustion Fan comes on at high speed and the control board checks to make sure the Vacuum switch locks in.
- b. When the Control Board senses the Vacuum switch the Exhaust Fan drops to a lower start up speed until the Proof of Fire Switch locks in.
- c. After 5 minutes the board checks for “Proof of Fire” and automatically starts feeding Fuel on the #1 setting. If the board senses P.O.F. then the stove has started successfully.
- d. If the board fails to sense P.O.F. after 5 minutes it will repeat the last step and continue feeding corn on the #1 setting for 5 more minutes.
- e. The board will check for P.O.F. again. If the board still fails to sense the Proof of Fire switch the stove will go into “Safety shutdown”

If stove fails to start, repeat steps 2 through 6 listed above.

## **Shutting the Unit Off**

1. Press the On/Off switch once; the lights will go off and the fire will go out in a few minutes. The board essentially goes into “Safety shutdown”.
2. As long as the temperature within the Ashby-MF remains above 110°F the both Fans will continue to run. When the P.O.F. switch drops out, the room fan shuts of and the Combustion fan will run for another 10 minutes and finally shut down completely.
3. NEVER unplug the Multi-Fuel Stove to shut it off. Doing so may cause a significant amount of smoke to enter the room.

**Thermostat Slide Switch** – Only the Manual and T-Stat Position of the Slide Switch work with the Multi-Fuel Stoves. **SmartStat is incompatible with the Multi-Fuel Stoves.**

## TROUBLESHOOTING & FREQUENTLY ASKED QUESTIONS

Your Stove is very trouble free in operation when properly maintained and quality fuel is used. When the Stove fails to operate properly, troubleshoot your stove by following the suggestions listed below.

**Please read the following guide for answers to frequently asked questions**

1. When first starting the Stove, the auger tube is empty, which will delay feeding fuel to the burn pot. This will in some cases prevent the Stove from starting.

**Solution:** Prime the burn pot using the Auger Feed button if the auger tube is empty.

2. **My Stove keeps overloading the burnpot.** First check the moisture content of your fuel. It should be 15% or less. Also make sure you are using clean fuel. Otherwise this is mainly caused by improper combustion. (See *Damper* Adjustment section of the Operations Manual) Besides the damper adjustment there are several areas that can have an effect on the combustion process.

**Solution:** Check all Gaskets, Doors and Door Latching Systems for air leaks. Any leaks in these areas will negatively affect the burn process and cause the pot to overload.

3. **My Stove isn't burning and the number 2 LED light is blinking.** This diagnostic light indicates the vacuum switch no longer senses negative pressure in the firebox area of the Stove. What caused the Stove to go out?
  - a. The door of the unit was left open longer than 60 seconds. (**See solution**)
  - b. The ash pan door was left open for longer than 60 seconds. (**See solution**)
  - c. The combustion fan is not running. (Defective fan or control board)
  - d. The vacuum switch is defective.
  - e. The vacuum hose is disconnected
  - f. The vent system is plugged with fly-ash.

**Solution:** *If the fire is out and the stove is off* simply re-light the Stove, however *if the fire is still burning in the burn pot* make sure all doors are securely latched and hold down the On/Off button (approximately 5 seconds) until Stove starts up again. This will re-start the Stove in the start-up program.

4. **My Stove isn't burning and the number 3 LED light is blinking.** This diagnostic light indicates that the Proof of Fire Switch no longer senses a fire in the Stove. First check to see if there are pellets in the hopper. If there are pellets in the hopper, we need to figure why the Stove went out.

- a. Unburned fuel in the burnpot means the fire went out before the auger quit feeding.

This could be due to a power Failure. If this is the case and the Stove is still hot when the power comes back on, the feed system will resume. If the fire had gone out in the pot, the feed would continue to run until the Proof of Fire switch dropped out and shut the Stove down. **The result would be unburned pellets in the burn pot.**

**Too much Combustion Air on the low setting.** Adjust the air damper or the combustion fan voltage. If the fuel burns up too quickly when burning on low, the fire will eventually go out. If this is the case the unit will again continue to feed fuel until the Proof of Fire switch dropped out and shut the Stove down. **The result would be unburned pellets in the burn pot.**

- b. If all the fuel is burned up means the auger quit feeding fuel while there was still a fire in the burnpot. Check to see if there is fuel in the hopper. If the hopper is empty, fill the hopper and re-light the Stove.

If there is fuel in the hopper check to see if there is an obstruction in the auger system or if the auger set screw is loose.

**Solution:** Remove obstruction and re-light the Stove or tighten the setscrew on the auger shaft.

5. **My Stove isn't burning and the #4 LED light is blinking.** This means the high Limit has shut the Stove down. The Convection Blower could be defective or may need cleaning. The high limit switch may be also defective. It is best to call your dealer for support when trying to troubleshoot the High Limit Switch. Do not use your Stove if the High Limit switch frequently trips.
6. **I turned the Stove on with the On/Off switch and nothing happens.** First check to see if the Stove is plugged in and the receptacle has power to it.

**Solution:** Check the fuse on the back of the control board. Replace with a 125 Volt, 5 Amp fuse.

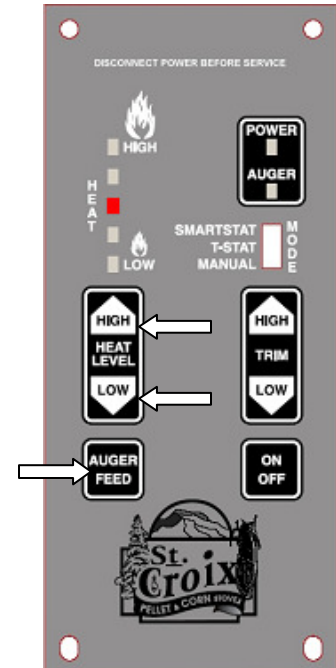
7. **Why is my glass dirty?** Normal operation of your St. Croix Stove will produce a light build-up on the glass that wipes off with a dry paper towel. However extended burning on the low setting only will produce a tan color. These types of build-up on the glass are normal. A heavy black build-up on the glass could indicate a problem.

**Solution:** Adjust the combustion air damper or combustion fan voltage. If this doesn't seem to help, make sure the clean out cover plates are installed in the Stove. It also could be an indication that the Stove is getting plugged and needs a good cleaning. Refer to the section in the manual that covers the Daily, Periodic and Yearly Maintenance of the Stove.

8. Are there any adjustments that can be made, through the control board, to the amount of fuel that is fed into the burnpot?

Answer: There are several ways to adjust the amount of fuel that is fed into the burnpot. The feedrate can be fine-tuned while the Stove is in operation by **pressing and holding** the “Auger Feed” button down and then **either** pressing the “Heat Level High” button to advance the feedrate higher, **or** pressing the “Heat Level Low” button to decrease the feedrate.

There are 5 levels on the control board and they are indicated by a single flash of the LED's. The default setting is the center LED. This gives 2 adjustments increasing the feedrate (LED's 4 & 5) and 2 adjustments decreasing the feedrate. (LED's 1 & 2) The ON time is **increased or decreased** .25 seconds with each adjustment.

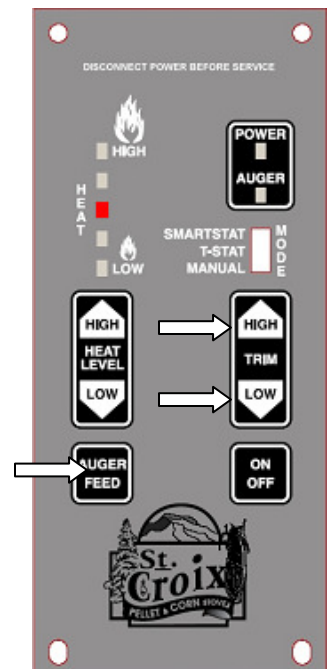


9. Are there any adjustments that can be made, through the control board, to the Combustion Fan voltage to help adjust the draft?

Answer: The Draft can be adjusted in a similar fashion as mentioned in the previous example.

The Fan voltages can be fine-tuned while the Stove is in operation by **pressing and holding** the “Auger Feed” button down and then **either** pressing the “Trim High” button to advance the voltages higher, **or** pressing the “Trim Low” button to decrease the fan voltages.

There are 5 levels on the control board and they are indicated by single flash of the LED's. The default setting is the center LED. This gives 2 adjustments increasing the voltage (LED's 4 & 5) and 2 adjustments decreasing the voltage. (LED's 1 & 2) The voltage is **increased or decreased** 2.5 volts with each adjustment.



10. **Are there Cycle Time adjustments on the Control Board for different types of fuel?**

Answer: There are 4 individual programs on the control board, each with a different Cycle time.

**When replacing your Control Board you are responsible for choosing the correct Program.**

**Program 1** has an **11.5 second cycle time**. The LED's flash **once**. This program is for use with Pellets, Corn, Wheat, Rye, Cherry Pits or Distiller Grain Pellets. *(When using this program with Wheat or Rye, the ON-Times may need to be decreased. See point 8).* ***This program is not for use with Pellets stoves***

**Program 2** has a **13.0 second cycle time**. The LED's flash **twice**. This program is for use with Pellets, Corn, Wheat, Rye, Cherry Pits or Distiller Grain Pellets. ***This program is not for use with Pellets stoves***

**Program 3** has an **11.5 second cycle time**. The LED's flash **three times**. This program is for use with Pellets & Cherry Pits. This program does have Self-Ignition and is used in units that have the Versa Grate System & Igniter installed. ***This program is not for use with Multi-Fuel Stoves***

**Program 4** has a **10.0 second cycle time**. The LED's flash **four times**. ***This program is for use with Cherry Pits only.*** This program does have Self-Ignition and is used in units that have the Versa Grate System & Igniter installed. ***This program is not for use with Multi-Fuel Stoves***

11. **How do I change to a different Program on the control board?**

First the Stove must be turned off and cooled down.

Step 1 - The Thermostat switch must be in the **Manual** position.

Step 2 – Press and hold the **Auger Feed** Button.

Step 3 – Press the **Trim High and Low Auger Feed** Button. Release all 3 buttons at the same time.

Step 4 – Observe the LED light flashing as described in point 10 above.

Changing the Cycle Time will change the BTU Input of the Stove. The longer the Cycle time the lower the BTU rating.

