

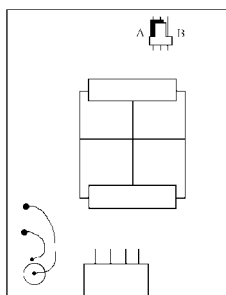
Optional Control Board Up-grade Conversion Kit (p/n 38500)

Stove Models: WP50, HP40, FP60, TP40, TP340, TP440, MP40, MP240, MP250, MP35/50, & PI35

Note: When replacing control board model OII500 (without start button), the following kit will also be required (p/n 15016-1)

Installation

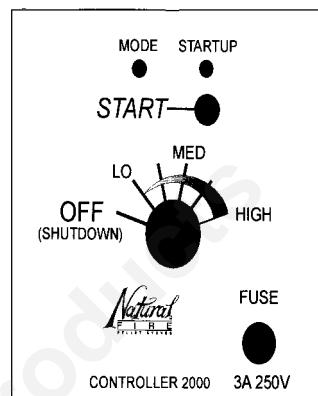
1. Unplug stove from electrical source.
2. When installing the model 2000 control board on one of the stove models listed above, ensure that the jumper on the back of the control board is set in the "A" position as shown below. **Not all control boards have this jumper.**



3. Your replacement control board comes with a wiring adapter that has an end connector to join the stove main wiring connector to the new style replacement control board. Loosen the four screws on the old control board and pull the unit out sufficiently to unplug the wiring cable. Also, unplug the two-circuit mox connector to the power cord. Remove the old control board. Take the new control board and join its wiring connector to the corresponding connector on the stove main wiring and join the two-circuit mox connector to the corresponding connector to the power cord. Position the new controller and fasten it down with the four screws.
 - a. If you are installing this new control board onto a pellet stove model that does not have the start button feature, then an additional wire pigtail is added to this installation. The part number for that kit is #15016-1. Use the following instructions:
 - i. Plug the silver tipped end (this is the female mox terminal) of the violet wire (provided in the kit) into the open space of the six prong mox connector on the stove wire harness.
 - ii. Find the safety disc (HP40 on back flue exit, WP50 & TP40 on the backside). Unplug violet wire from safety disc terminal and plug in the provided new violet wire to the same terminal.
 - iii. Plug the old violet wire into the new violet wire.
 - iv. Plug the 6 to 9 mox adapter (provided) to the new control board and then to stove wiring harness. Plug in 2 prong mox from control board to power cord.
 - v. Install new control board onto stove.
4. Plug stove into standard 115 volt A.C., 60 hertz electrical outlet.

Note that you will enjoy a greater degree of control over your stove and easier operation now that you have five burn rate settings and automatic draft fan control for each setting.

Control Board Functions



LED Function Displays: The *Ready* LED (left) displays green when the stove is on and changes to orange when feeding fuel. The *ignition* LED (right) displays red during the start-up cycle. Both displays are programmed to blink error codes in the event of a malfunction:

Blink Codes

Ready - Mode LED Codes:

Green	Stove is On
Orange	Fuel is Feeding
Green Blink	Cool Down Mode. Long blink on, very short blink off

Ignition - Startup LED Codes:

Red	In Start-up Cycle
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Shutdown Code:

Cool Down Mode	Long on, very short off green blink-Left LED.
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Error Blink LED Codes:

Low Limit Error	2 short blinks (Rose) - Left LED.
Ignition Error	2 short blinks (Deep Red) - Right LED.

Fuse: The fuse protects the control board from power surges or spikes. If the fuse blows, replace it with the same type as original (3 amp, 250 volt).

Adjusting Draft Fan Shutter

(See owner's manual for location). It may be necessary to further open or close your draft fan shutter to adjust for the revised feed cycles and draft fan voltage.

- A. Lack of Combustion Air: Open shutter more for maximum combustion air. Symptoms of insufficient air include; unburned fuel, lazy orange flame, excessive ash or soot, excessive buildup on glass.
- B. Excessive Combustion Air: Close shutter to a smaller opening for less combustion air. Symptoms of excessive air include; fuel burns too quickly (results in smoking or smoldering pellets) white to yellow flames, etc.

Shutdown Procedure

Turn the *fuel rate switch* to the off position. The draft fan will automatically turn off when the stove cools down and the last bit of pellets burn up, approximately 20 minutes.

Manual Start-Up Procedure

Turn the feed rate switch “on” by rotating the dial to any one of the five burn rate settings. Next, press the start button to initiate the 20-minute start timing cycle as follows:

- 0.01 Minutes - Fuel delivery starts running on high (cup motor and auger motor receive full line voltage but at the On-Off time of the High burn rate). Draft fan is **not** On.
- 7.0 Minutes - Fuel delivery switches off. Open the door and apply a non-volatile starting material (i.e. firestarter gel) to the fuel in the firepot, then light with a match. Let it burn a couple of minutes before closing door.

NOTE: *You may use your firestarter any time before the seven-minute fuel delivery stops. If so, after lighting the firestarter, you may want to give the stove another minute or two while the heat of the flame increases and the fuel continues to feed. Then turn the control board Off. This will give you draft fan for combustion without fuel delivery.*

- 10.0 Minutes - Draft fan comes on to line voltage for 10 seconds then drops to 65 volts for the rest of the Start cycle.
- 20.0 Minutes - End of Start cycle. If the Low-Limit switch is not closed by this time, the right LED (Start LED) blinks red.

If you press the start button again while the right LED is blinking, without turning the controller Off, this next start cycle will turn Off the draft fan and give no auger feed. After three minutes the draft fan will come on to line voltage for 10 seconds, then drop down to 65 volts for the rest of this new start cycle which will go for 10 more minutes. The start cycle ends after a total of 13 minutes.

WARNING: *If there are burning pellets present in the firepot, pressing the start button will shut the draft fan off and could cause a smoking condition into the living space. If this occurs, then shut the control board to Off. The draft fan will come on without fuel feeding.*

Note: During the manual start-up time (where the fire is built by hand), it is possible for the fire not to get going soon enough to provide sufficient heat for the low limit thermal switch to close by the end of the start cycle. In that case, the right LED will show 2 short blinks deep red.

If the fire did not get going, and there are many unburned pellets remaining in the firepot, you will want additional start time to manually build a fire without additional pellets. Just press the start button, while the right LED is still blinking, without turning the main knob to off. This will begin a new start cycle without delivering more pellets as described in paragraph after the line containing words “20.0 minutes – end of start cycle”.

Fuel Delivery System: The feed rate switch manages the fuel/combustion air delivery system. The system is on a 16 second timing sequence as follows:

Control Board Settings

Feed Rate Setting	(Cup/Auger Motors) ON / OFF Time (seconds)	Draft Fan Voltage (nominal)
Low =	3 on / 13 off	65 v.
Medium Low =	6 on / 10 off	75 v.
Medium =	8 on / 8 off	90 v.
Medium High =	11 on / 5 off	105 v.
High =	continuous	115 v.

Control Board Pigtail Kit
Retro-Fit Kit for Adding Start Button Capability When Replacing
Model 011500 Control Board With Model 2000 Control Board
(Kit Part #15016-1)

This kit is required when upgrading from a Model 011500 Control Board to a Model 2000 Control Board (Cat. No. 28M61).

Installation Procedure:

1. **Unplug the stove power cord from the wall outlet.**
2. Remove the 4 screws from the control board face plate.
3. Remove the control board by unplugging the control board connectors at both the 6-position molex and the 2-position molex.
4. (Model HP40 only) Use a ¼" nut driver and remove the 2 screws which secure the right louvered panel to the unit. Remove panel and set aside.
5. Locate the safety disc on stove back (safety disc is the thermal switch with one red wire and one violet wire connected). See the following for disc locations by stove model:
 - HP40 – Disc is located on the rear flue outlet,
 - TP40 & WP50 – Disc is located on the stove back on the upper right hand corner (as viewed facing the stove back).
6. Disconnect the violet wire from the safety disc, then connect it to the corresponding connector on the new violet wire provided in this kit.
7. Connect the corresponding connector on new violet wire onto the prong on safety disc.
8. Install the model 2000 control board by plugging the 6-position molex (provided) to the corresponding connector on stove wire harness. Next, connect the 9-position molex (provided) to corresponding connector on the control board. Connect the 2-position molex from control board to corresponding connector on stove.
9. Secure the control board faceplate to unit using the 4 screws from original control board.

WARNING: Do not test or operate stove without the control board mounting screws installed (the screws provide the required "ground" to the control board). Failure to follow this warning may result in electrical shock to installer / operator. Loss of ground can also damage the control board.