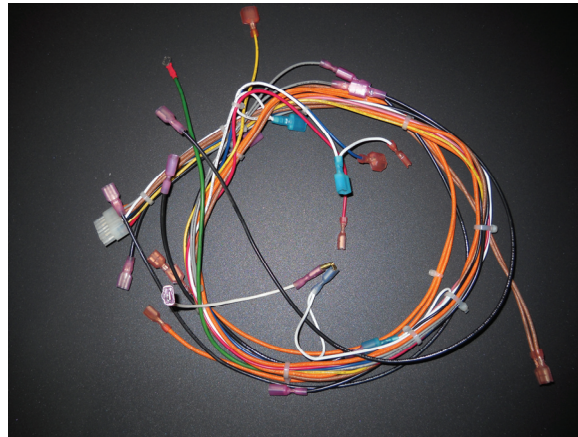


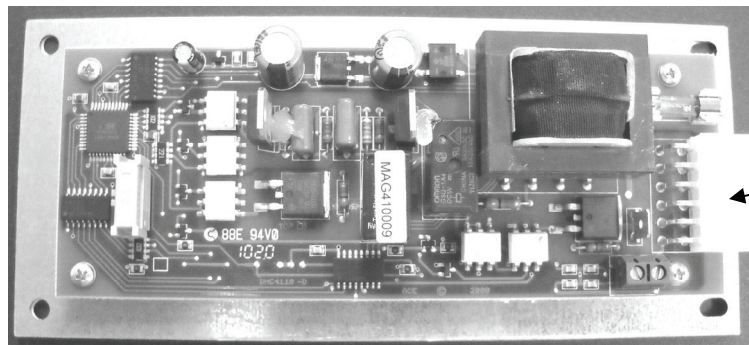
Control Panel Kit LR New Style

Part #NPS-1005-N-7

For Models LR01 (2011 to present)



- Unplug unit
 - Open both side panels.
 - Remove existing wire harness and control panel
 - Attach the following:
 - Control Board
- molex connector and black lead to terminal

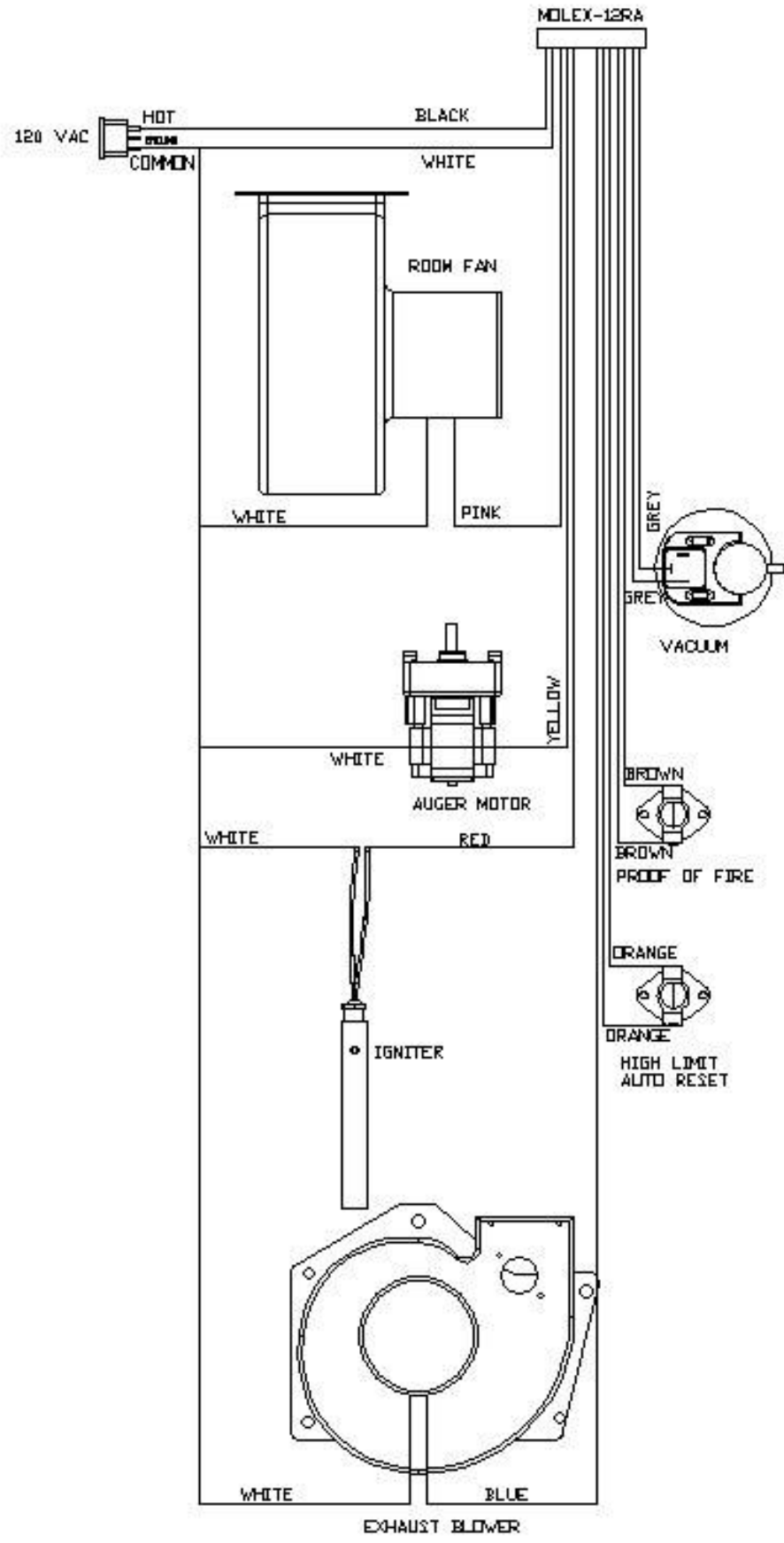


Molex

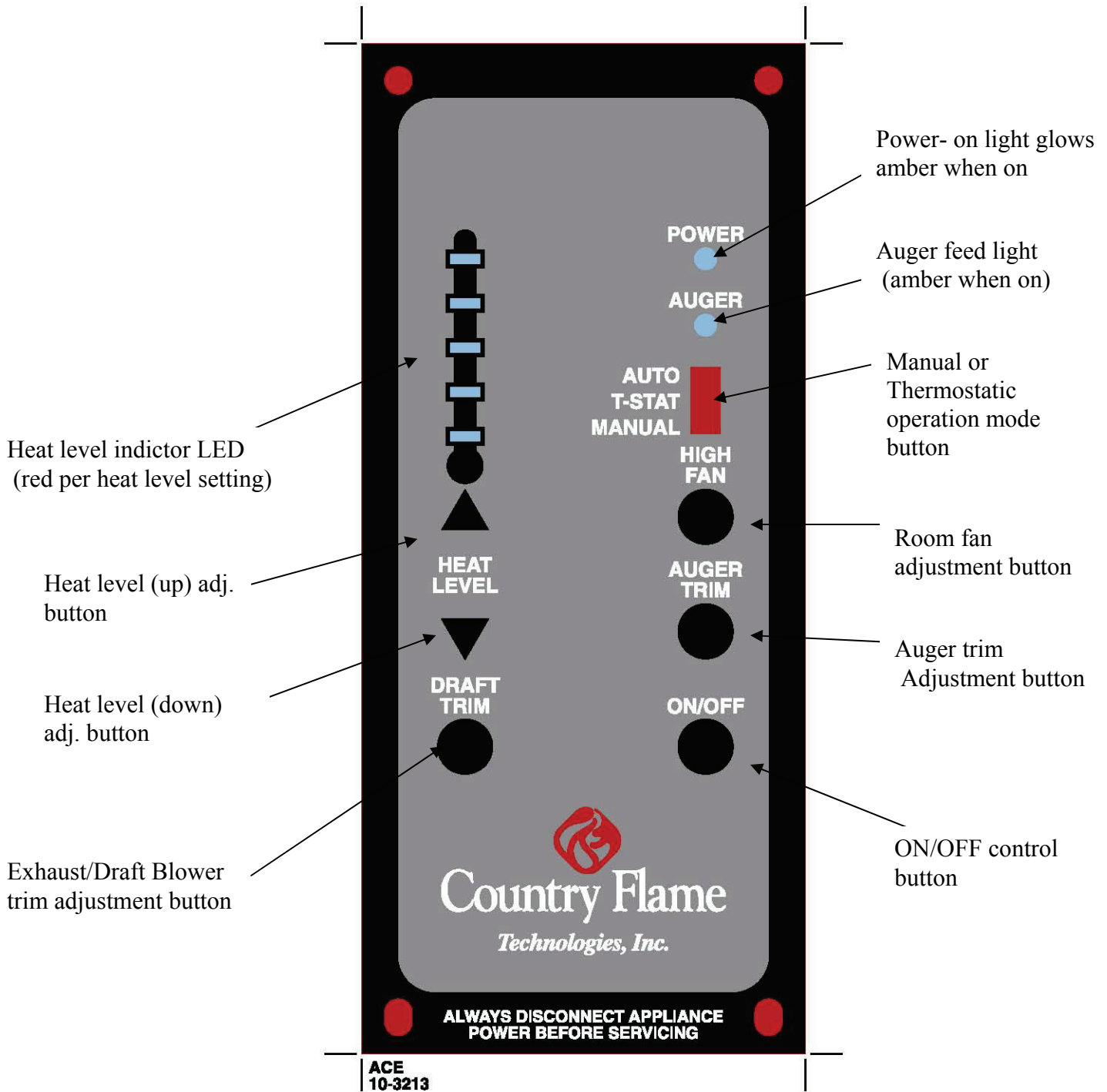
- Snap disc right side
 - Exhaust Fan
 - High Limit Snap Disk
 - Vacuum Pressure Switch
 - Proof of Fire Snap Disk
 - Auger Motor
 - Room Air Fan
 - Electrical Plug
 - Igniter
 - (these are not plugged into anything if there is not an igniter)
- not used
white wire to one lead blue wire to one lead
two orange wires to both leads
two grey wires to both leads top terminal and middle terminal
two brown wires to both leads (closer to the exhaust blower)
white wire to one lead yellow wire to one lead
double white wires to one lead pink wire to one lead
double white wires middle terminal black wire bottom terminal
green wire to top terminal other end of green wire screwed to base of unit
red wire to one lead white wire to one lead

- Plug unit in
- Turn on unit

LR-01 MODEL WIRING DIAGRAM
WARNING: DISCONNECT POWER BEFORE SERVICING THIS UNIT.



Below is a graphical display of the Country Flame NPS-1005-N Control Board front panel. Each operational function of the control board is shown for proper operation of the control center.



OPERATING INSTRUCTIONS

(Using self igniter systems, if auto ignition system (optional) has been installed)

NOTE: Each time the stove is started, the firepot must be checked for debris and clear air holes. Some fuels will cause the firepot to build up more frequently making it necessary to stir and clean the firepot more often. Do not allow ash to build up underneath the firepot area or in the ash pan as it will block off the air flow to the firepot. After unit has been plugged in the exhaust fan will run for 12 minutes.

Your control panel has three (3) separate modes of operation (switch located on top of board). The MANUAL setting allows the operator to choose heat level setting changes without a thermostat. The T-STAT setting allows the operator to set the highest heat level setting desired and when the thermostat is satisfied, the unit will automatically go to the low heat level setting. The AUTO setting allows the unit to shut completely off when the thermostat is satisfied and re-start when the thermostat calls for heat. The AUTO setting can only be used with **wood pellets or a 50/50 mix of corn and wood pellets.**

Before lighting your Country Flame for the first time make sure that all items are out of the hopper and firebox area. Note: If using a wall thermostat, make sure that the thermostat is turned up above room temperature. The unit will operate on low fire if the thermostat is turned down.

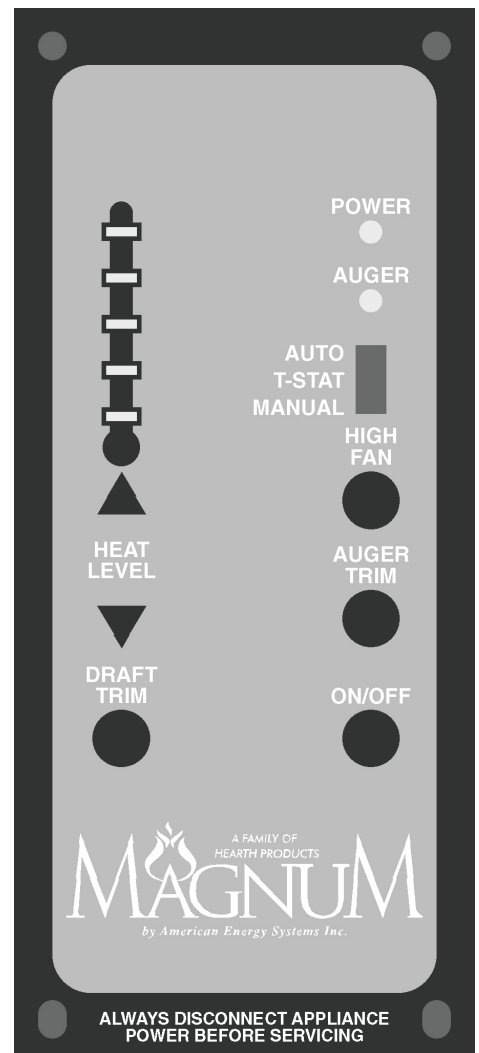
- ✓ Load the hopper with fuel (Corn or Wood Pellets).
- ✓ Close the door
- ✓ Push the “On/Off” button.
- ✓ Turn the air intake butterfly damper to approximately ¼ inch open. (More or less as needed.)

NOTE: Priming the auger is required when the unit is new or when the hopper has completely run out of fuel. This can be done approximately 1 minute after pushing the on/off start button. Press and hold the “auger” button until fuel begins to drop into the firepot. When fuel begins to drop regularly, release auger button, the auger is primed.

NOTE: The viewing door, ash pan door and hopper door must be closed and/or latched during operation or vacuum will not be established. If vacuum can not be established the stove will shut down and the #2 heat level setting light will blink. The ON/OFF button must be held for app. 6 seconds to reset. If this happens the exhaust fan will run for 5 ½ minutes and the room fan will run for ½ minute.

The unit starts automatically on a pre-set heat level setting. After the unit has been turned on, and the 1 minute diagnostics has run, you may select a desired heat level. However, the heat level feed rate will not change until the unit has completed the 15 minute startup sequence. It is recommended to burn the unit on the number #2 or #3 heat level setting for the first 30-45 minutes.

If the fire temperature has not reached proper operating temperature within the minimum cycle time (15 min.) the auger will stop feeding, the stove will shut down and the #3 heat level setting light will blink. You will need to press and hold the ON/OFF button for 6 seconds to start the cycle over again. If the system is set on auto start it will attempt two startups on its own.



The draft and room air blower speed varies with each feed rate. The “Draft Trim” button will override the variable fan function +/- 5 volts on all heat levels. To override, press and hold the “Draft Trim” button along with the heat level button arrow up or heat level button arrow down, depending on desired change.

The auger feed rate on each setting is pre-programmed but may be changed if necessary. The “Auger Trim” button will override the programmed feed rates by +/-5% on all heat levels. To override the feed rate press and hold the ‘Auger Trim’ button along with the heat level button arrow up or heat level button arrow down, depending on desired change.

NOTE: In case of a power outage or interruption lasting longer than 5 seconds, the “On/Off” button must be pushed and held for app. 6 seconds to re-engage the auger. If needed re-light the unit.

NOTE: If the fire is burning too fast and the fuel is being burned up too quickly, turn the air intake butterfly damper closed a little to slow the fire down. This should be done in small 1/4” increments so that the fire doesn’t change too quickly. You can also adjust the draft or auger trim to balance out the burn rate.

NOTE: When changing the heat levels there will be a delay so the system can complete the cycle before switching to the new heat level.

NOTE: In case of a power outage, the pressure switch has tripped, the door has been opened, the hopper door has been left open or any power interruption lasting longer than 5 seconds, the “On/Off” button must be pushed and held for app. 6 seconds (or until you here a click) to re-engage the auger system.

IMPORTANT: The circuit board will not function properly if the outlet is not a constant 120 volt, 60 cycle power source. The outlet must be grounded properly and have the correct polarity. A polarity and ground tester can be picked up at any hardware store to assure proper operation. If you are using a power generator, solar power or wind generation make sure that you have a constant correct power source.

The unit’s electrical warranty would become void if a constant power source is not available. Also make sure that a proper surge protector is between the unit and the power source. The circuit board will not be warranted if there is not a surge protector installed to the unit.

It is strongly recommended that you unplug the power source during times when the unit is not being operated to protect the unit from power surges, power spikes and drops in power. It is very common for a circuit board to work when the unit is shut off in the spring and then won’t work in the fall. Unplugging the unit will prevent this from happening.

OPERATING INSTRUCTIONS (Without using system igniter)

NOTE: Each time the stove is started, the firepot should be checked for debris and clear air holes. Some fuels will cause the firepot to build up more frequently making it necessary to stir and clean the firepot more often. Do not allow ash to build up underneath the firepot.

Your control panel has three (3) separate modes of operation (switch located on top of board). The MANUAL setting allows the operator to choose heat level setting changes without a thermostat. The T-STAT setting allows the operator to set the high heat level setting and when the thermostat is satisfied, the unit will automatically go to the low heat level setting. The AUTO setting allows the unit to shut completely off when the thermostat is satisfied and re-start when the thermostat calls for heat. The AUTO setting can only be used with wood pellets.

Before lighting your Country Flame for the first time make sure that all items are out of the hopper and firebox area. Note: If using a wall thermostat, make sure that the thermostat is turned up above room temperature. The unit will operate on low fire if the thermostat is turned down.

- ✓ Load the hopper with fuel (Corn or Wood Pellets).
- ✓ Place a small handful of wood pellets or fire starter in the firepot.
- ✓ Squirt a small amount of fire starter gel on top of the wood pellets.
(Evenly across the wood pellets)
- ✓ Light the fire starter gel.
- ✓ Close the door
- ✓ Push the “On/Off” button.
- ✓ Turn the air intake butterfly damper to approximately ¼ inch open.
(More or less as needed.)

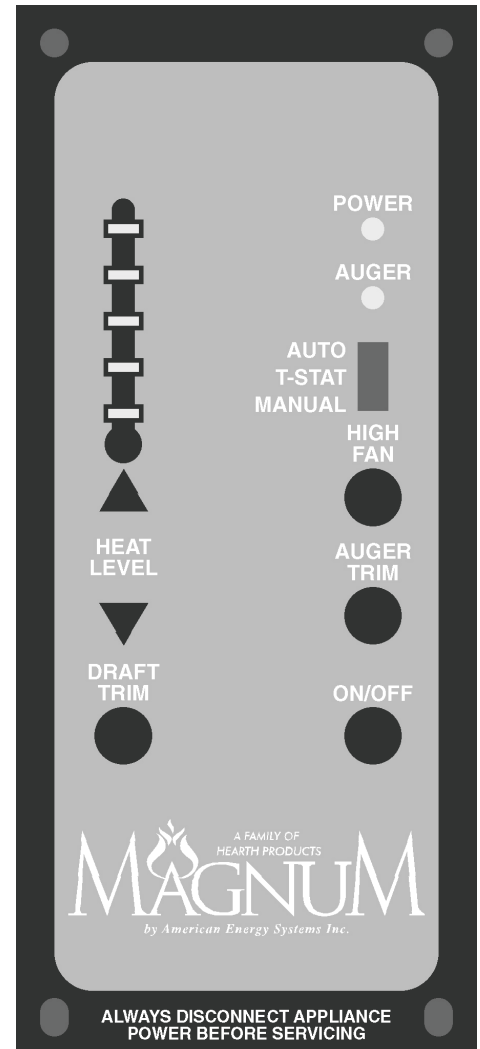
NOTE: Priming the auger is required when the unit is new or when the hopper has completely run out of fuel. This can be done approximately 1 minute after pushing the on/off start button. Press and hold the “auger” button until fuel begins to drop into the firepot. When fuel begins to drop regularly, release auger button, the auger is primed.

NOTE: The viewing door, ash pan door and hopper door must be closed and/or latched during operation or the vacuum will not be established. If vacuum can not be established the stove will shut down and the #2 heat level setting light will blink.

The ON/OFF button must be pushed and held for app. 6 seconds to reset the system.

The unit starts on a pre-set heat level setting. After the unit has been turned on you may select the desired heat level. However, the feed rate heat level will not change until the unit has completed the 15 minute startup sequence. It is recommended to burn the unit on the number #2 or #3 heat level setting for the first 30-45 minutes.

If the fire temperature has not reached proper operating temperature within the minimum cycle time (15 min.) the auger will stop feeding, the stove will shut down and the #3 heat level setting light will blink. You will need to press and hold the ON/OFF button for 6 seconds to start the cycle over again. If the system is set on auto start it will attempt two startups on its own.



The draft and room air blower speed varies directly with the feed rate. The “Draft Trim” button will override the variable fan function +/- 5 volts on all heat levels. To override, press and hold the “Draft Trim” button along with the heat level button arrow up or heat level button arrow down, depending on desired change.

The auger feed rate on each setting is pre-programmed but may be changed if necessary. The “Auger Trim” button will override the programmed feed rates by +/-5% on all heat levels. To override the feed rate press and hold the ‘Auger Trim’ button along with the heat level button arrow up or heat level button arrow down, depending on desired change.

NOTE: In case of a power outage or interruption lasting longer than 5 seconds, the “On/Off” button must be pushed to re-engage the auger. If needed re-light the unit.

NOTE: If the fire is burning too fast and the fuel is being burned up too quickly, turn the air intake butterfly damper closed a little to slow the fire down. This should be done in small 1/4” increments so that the fire doesn’t change too quickly. You may also adjust the draft and auger trim to balance the burn rate.

NOTE: When changing the heat levels there will be a delay so the system can complete the cycle before switching to the new heat level.

NOTE: In case of a power outage, the pressure switch has tripped, the door has been opened, the hopper door has been left open or any power interruption lasting longer than 5 seconds, the “On/Off” button must be pushed and held for app. 6 seconds (or until you here a click) to re-engage the auger system.

IMPORTANT: The circuit board will not function properly if the outlet is not a constant 120 volt, 60 cycle power source. The outlet must be grounded properly and have the correct polarity. A polarity and ground tester can be picked up at any hardware store to assure proper operation. If you are using a power generator, solar power or wind generation make sure that you have a constant correct power source.

The unit’s electrical warranty would become void if a constant power source is not available. Also make sure that a proper surge protector is between the unit and the power source. The circuit board will not be warranted if there is not a surge protector installed to the unit.

It is strongly recommended that you unplug the power source during times when the unit is not being operated to protect the unit from power surges, power spikes and drops in power. It is very common for a circuit board to work when the unit is shut off in the spring and then won’t work in the fall. Unplugging the unit will prevent this from happening.

INTRODUCTION

This section will explain the inputs/outputs, operation, and maintenance of new control board. Included are helpful hints and suggestions that will make the operation and maintenance of the board an easier and more enjoyable experience. We offer our continual support and guidance to help you achieve the maximum benefit from our units.

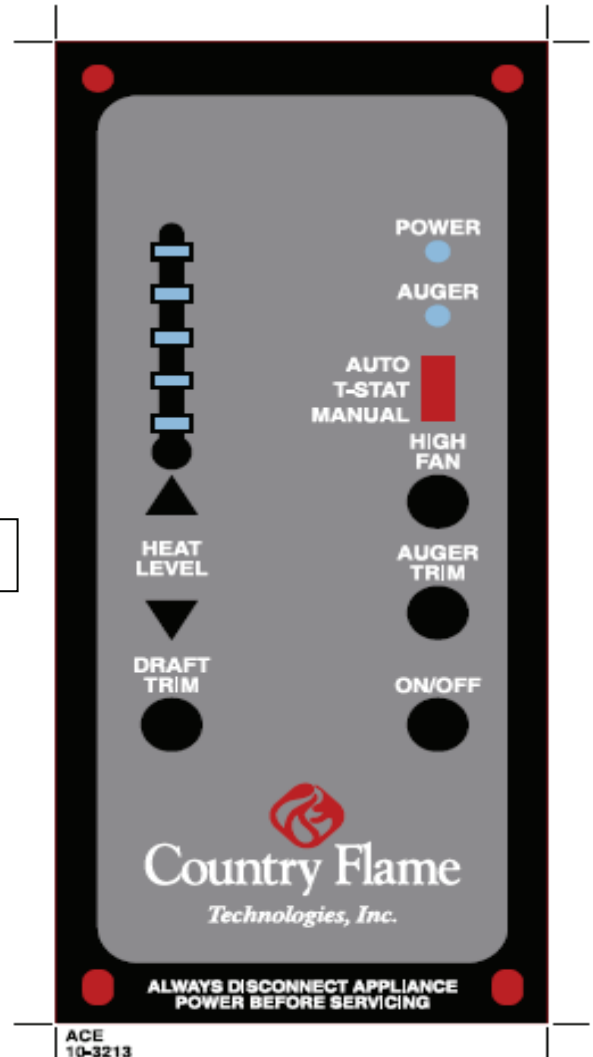
Important Information:

The information provided in this document applies to Program Revision 18 of NEW CONTROL board and may not be applicable to other revisions.

THE CONTROL BOARD DESIGN

The Figure 1 shows the design/layout of the control board for NEW CONTROL.

FIGURE 1: THE DESIGN



NEW CONTROL has following **INPUT(s)** to control the system functions.

1. **ON/OFF** Switch
2. **AUTO/TSTAT/MANUAL** Switch
3. **AUGER TRIM/FEED** Switch
4. **HEAT CONTROL UP**
5. **HEAT CONTROL DOWN**
6. **DRAFT/FAN TRIM**
7. **HIGH FAN TRIM**

NEW CONTROL has following **OUTPUT(s)** to display the system functions.

1. **POWER ON/OFF LED**
2. **PRIME ON/OFF LED**
3. **HEAT LEVEL INDICATION/ALARM LED**

INPUT SWITCHES

1. ON/OFF
 - When pressed in IDLE, ON/OFF switch turns ON the unit. When pressed in Ignition/Run, ON/OFF switch turns OFF the unit.
2. TSTAT/AUTO/MANUAL
 - When in TSTAT/AUTO, the unit follows TSTAT input. In MANUAL mode, HEAT levels can be controlled by using HEAT UP/DOWN keys.
3. PRIME/FEED
 - To prime press & hold, PRIME/FEED switch starts the auger if in RUN mode. This switch is only effective in Run/Ignition mode. During Run, Auger trim can be adjusted by pressing & holding PRIME/FEED switch and HEAT UP/DOWN switch.
4. HEAT UP/DOWN
 - The heat levels can be controlled by using these switches. There are five (5) HEAT levels indicated by HEAT LEVEL INDICATION LEDs.
5. DRAFT TRIM
 - The DRAFT FAN trim can be controlled using this switch and HEAT UP/DOWN. During Run, DRAFT trim can be adjusted by pressing & holding DRAFT trim switch and HEAT UP/DOWN switch.
6. HIGH FAN
 - The HIGH FAN trim can be controlled using this switch. During Run, HIGH FAN trim can be adjusted to line voltage by pressing the HIGH Fan switch.

OUTPUT LEDES

1. POWER ON/OFF LED
 - This LED is ON if the unit is ON, else unit is OFF.
2. PRIME/FEED LED
 - If YELLOW/PRIME/FEED LED is ON, the Auger is ON and Proof of Fire is closed. If YELLOW/PRIME/FEED LED is OFF, the auger is OFF.
3. HEAT LEVEL INDICATION LED
 - Depending upon the HEAT LEVEL, respective HEAT LEVEL INDICATION LED will glow. For reference purpose, lowest level LED is LED1 and highest level LED is LED5.

OPERATION

Power Initialized:

The exhaust fan will run approx. 15 minutes after power initialized or after a power failure.

If POF open, unit enters initial cool down mode (approximate 9-min). If POF is closed, unit will begin a Warm Re-Start to IGN.

1.0 START ON/OFF

1.1 Ignition mode:

Comb Fan 100 %, Auger @ IGN level, Igniter ON & after the 1st cycle (approximately 13 minutes), Igniter is OFF. Comb Fan remains @ 100% Auger cycle remains @ IGN level for balance of igniter period (15-min

typical). (Additionally, Auger Setting & Room Fan may be preset for desired level during IGN period and this will be the operation value at end of igniter period)

1.2. RUN mode:

Simultaneously @ end of 15-min Igniter period:

a) Igniter & IGN auger sequence will terminate.

b) At any time POF is closed, the Room FAN is active for cooling with 5-independent levels: 20%, 40%, 60%, 80%, 100% drive.

c) Manual Auger is indicated with Yellow LED and displays on period of Auger motor.

d) Heat Levels (combustion & Auger) are 5-levels with 20% incremental steps from 0% to 100%.

1.3. TSTAT operation in RUN:

Auto/T-Stat mode can be enabled or disabled by pressing TSTAT switch. If Auto/TSTAT mode enabled, unit starts following TSTAT. Unit detects open T-Stat during RUN only and provides for Low feed combustion regardless of pre-set Heat level. If the TSTAT is open for 30 minutes (approximate), the unit turns off and goes to IDLE mode.

If T-Stat is closed in TSTAT/Auto mode, unit will follow manual mode.

1.4 TSTAT operation in IDLE:

Auto/T-Stat mode can be enabled or disabled by pressing TSTAT switch in IDLE.

If in Auto/T-Stat mode, unit will start if TSTAT is closed.

2.0 CYCLE OFF SYSTEM OPERATION

System can be Turned OFF by pressing On/Off switch. Fan(s) will operated 15-min typical or until POF is OPEN for safe cooling.

2.1. Alarms:

a) If Air Pressure Switch (APS) is OPEN during RUN for 30 seconds, AUG stops feeding and LED2 (LOW HEAT LEVEL LED) will start blinking showing APS Error. Unit enters COOL Down.

b) If low limit (POF) is not closed at end of IGN period or during RUN for 30 seconds, and LED3 (MED HEAT LEVEL LED) will start blinking showing POF error. Unit enters a COOL Down.

c) If High Limit (OT) is OPEN during RUN for 30 seconds, AUG stops feeding and LED4 (HIGH HEAT LEVEL LED) will start blinking showing OT Error. Unit enters COOL Down.

SPECIAL FUNCTIONS

3.1 AUGER OFF FUNCTION DURING IGNITION

If in Ignition, if High Fan switch is pressed, Auger turns off for two (2) minutes.

SPECIAL NOTE

A) For factory testing, igniter sequence may be bypassed by depressing HEAT UP and HEAT DOWN keys at the same time. Unit will go directly to RUN Mode.

B) Programs can be changed only in IDLE mode, by pressing HEAT UP switch and then MODE/HIGH FAN switch.

C) Auger does not start for two (2) minutes in Programs #1, #2, #9 and #10 (corn mode) but Auger runs for 3 minutes and then turn off for 2 minutes in Programs 3 through 8 (pellet mode).

Programs can be changed only in IDLE mode if APS (vacuum) is OPEN, by pressing HEAT UP switch and then MODE/HIGH FAN switch.

To change the program, the system should be in IDLE mode (not in Ignition or RUN mode) with APS (vacuum) fail.

After this, by pressing Fuel (MODE SW) switch and Heat-Up switch, the program can be changed.

The Red LEDs will blink x number of times depending upon the x number of program.