

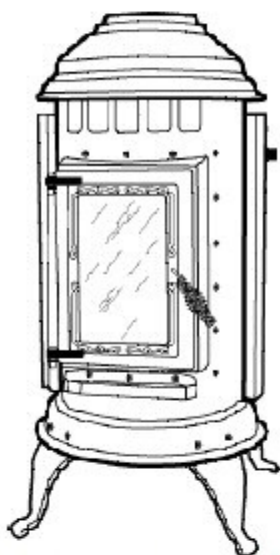


# PELLET HEATER REPAIR MANUAL

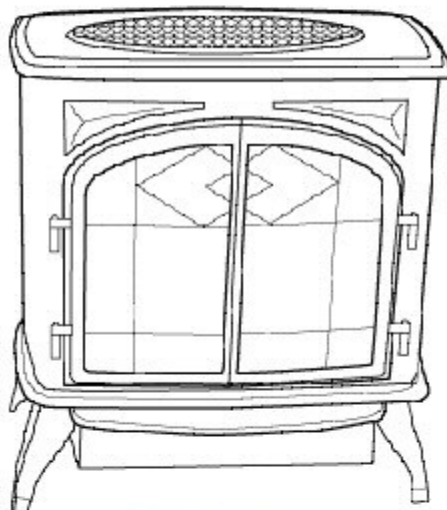
*For EI (Electronic Ignition) Models*

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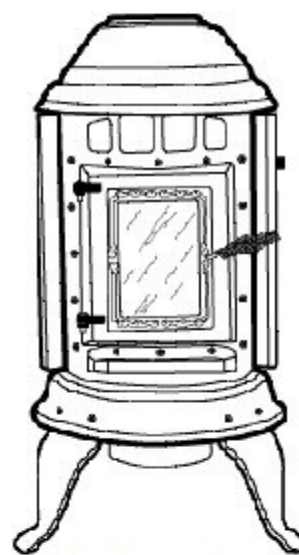
Please familiarize yourself with entire manual before attempting a repair or adjustment of the heaters.



The Parlour Pellet 3000



The Echo Pellet



The Little Gnome



**THELIN HEARTH PRODUCTS**

63 Laxalt Dr. Carson City, NV 89706

[www.thelinco.com](http://www.thelinco.com)

775-241-2586

# THELIN HEARTH PRODUCTS

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## INTRODUCTION & SERVICE PHILOSOPHY

The following is a comprehensive service manual which will assist both the dealer or service personnel in maintaining and servicing the Parlour and Gnome Pellet Stoves.

Before getting into the specifics of service, we would like to give an overview of our service philosophy and what we expect of dealers when they take on the Thelin line.

To become a pellet stove dealer means by definition, that you will be making a commitment to service. This is an appliance—not another wood stove. If you are not prepared to enter into the appliance repair and service business, then you should not consider becoming a pellet stove dealer. Pellet stoves, for the most part, are wonderful heaters that will, with proper maintenance, provide years of clean, trouble-free burning and quality heat. The simple fact is they have many moving parts, unlike a wood stove, and these parts require lubrication and maintenance. Because the pellet technology is new, the user must be educated and trained as to the proper use and maintenance from season to season to avoid performance problems. For these reasons we require our dealers set up a service department that is dedicated to keeping the customer happy with a care-free unit. The user must be made aware of his or her responsibilities and what is required to keep the unit working at peak performance. The service department and personnel should adhere to the following guidelines:

1. When a customer calls for service they should be greeted with a friendly, calming voice, assuring them that the

problem will be given prompt attention. It is important to get and give accurate, relevant information. The following information is a guideline:

- Customer's name, address, and phone number.
- Serial number of the stove.
- What the customer thinks is wrong.
- When did the problem start?
- When was the unit last serviced?
- When and where was the stove purchased?
- Who installed the unit, when, and how is it vented?

**Note:** At this point, the problem can usually be dealt with by phone. Ninety percent of pellet stove problems are lack of cleaning.

2. Service personnel should possess a high degree of mechanical aptitude, good common sense couple with an analytical mind. The ability to read and use electrical schematics, listen to customer complaints politely and determine what might be causing the difficulty. The customer needs to feel confident that the service person will be able to detect system malfunctions accurately, analyze problems, and solve them.
3. When entering the customer's home the service person should be neat and clean in appearance, have the necessary tools and parts required to attend to the problem and share with the customer an explanation of charges and the customer's responsibilities in regard to future maintenance. This must be done in such a manner that there is no misunderstanding or ill feeling.

## THELIN HEARTH PRODUCTS

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4. Remember, it is the service person who represents your business when in the customer's home. A good impression by the service person creates a good impression of your business. The work is expected to be neat and professionally done.
5. If you need to schedule a service call, remember the following: Prioritize calls so "no heat" calls are taken care of first. Do minor calls next but don't put them off or you will only have an angry, upset customer who will cause a lot of grief for you and your business. Stick to your schedule. If you tell a customer you will be there tomorrow at 2:00 p.m., be there or call well in advance to let them know. Their time is valuable also. If a part is needed and you don't have it, tell them and order one as soon as you get back to the store. Give honest responses, not creative excuses.
6. Once on the job the service person must use a systematic approach and think in terms of cause and effect. After some experience with the stove, you should be able to look at the fire, flame pattern, sounds, and smells and detect problems immediately. To obtain this degree of expertise, you must acquaint yourself with every component and stove function. Never guess.

### TOOLS AND SERVICE KIT

**The tools and equipment needed for servicing the Parlour and Gnome Pellet Stoves are as follows:**

- Good shop vacuum with blower capabilities
- Set of socket drivers which must include 3/8, 11/32, 1/2, and 7/16 sockets or nut drivers and T-30 to RX Tip
- Phillips and plastic coated slot screw driver
- Flashlight
- Extension cord with ground
- Allen wrench set (long handle)
- Wire stripper and cutter
- Electrical continuity tester with light or LED
- Fully charged 12V Gel Cell Battery 30 Amp
- Assorted crimp connectors with crimp tool

**Note: See Appendix B for the routine stove clean out and maintenance.**

The Parlour and Gnome Service Kit includes the following:

- Fan motor
- Feed motor
- Main circuit board
- Switch board
- One each T-1 and T-2 sensors
- Relay and igniter
- Fuses:
  - Main fuse: 1 Amp 1-1/2" S.B.
  - Feed fuse: 2 Amp F.B.
  - Igniter: 5 Amp F.B.
- Fan blade with hold-on
- E.I. board has re-settable fuses
- FTM 80 field test module (plugs into circuit board for quick diagnostic tests on fan, feed motors and T-1, T-2 sensors)

# THELIN HEARTH PRODUCTS WARRANTY REPLACEMENT PROGRAM

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*Effective January 1, 2017.*

*Please read this warranty replacement program carefully before applying for warranty replacements or credit.*

## **WARRANTY COVERAGE**

Warranted for five years from the date of retail purchase against defects in workmanship to include heater cabinet and body. Warranted for one year from date of retail purchase to include drive mechanism and electronic components. Solely for the benefit of the original purchaser. (Retain your dated sales receipt as proof of purchase.)

### **Covered**

Replacement of defective parts and labor and product return to consumer.

### **Not Covered**

Door glass, plating, and gasket. Damages caused by abuse or failure to perform normal maintenance and any related expense. This warranty shall not apply to any defect, malfunction, or failure to conform with the warranty provisions if caused by damage (not resulting from defect or malfunction) due to unreasonable use by purchaser. Consequential damages, incidental damages, or incidental expenses, including damage to property. Some states do not allow the exclusions or limitation or incidental consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights which vary from state to state.

### **Authorized Warranty Payment**

Thelin Hearth Products will credit the dealer account the sum of eighty dollars (\$80.00) per occurrence and forty cents (\$0.40) per mile, maximum one hundred miles round trip.

### **Consumer Qualification for Warranty Performance**

Return product or defective part with proof of purchase and narrative description of defect together with your name and address, freight prepaid to:

Thelin Hearth Products, Warranty Department 63  
Laxalt Dr. Carson City, NV 89706.

Returned part or product will be repaired or replaced at Thelin Hearth Products option and will be returned to you freight prepaid as soon as practical, but not later than 30 days after received.

### **Warranty Work**

All warranty work must be authorized by the factory in advance of the repair and an authorization number assigned.

**A warranty claim form must be completed and signed by both the repair person and the customer.**

All claims must be submitted to Thelin Hearth-Warranty Department. In the event a part or unit has to be replaced, a Return Merchandise Authorization (RMA) warranty claim form must be affixed to the part or unit with a description of the defect. Only the factory can authorize a heater return. Any replacement parts required may be obtained from Thelin Hearth Products and will require a purchase order. Parts will be invoiced to the dealer account and credit will be issued upon return to Thelin. All returned parts must be accompanied by a warranty claim form. If you have a warranty claim for installing parts, use the same claim form and authorization number.

### **Please note:**

No credit will be issued until a warranty form with an authorization number is received along with the defective part.

Contact Information:

Email - Customer Service: [CSTHP@thelinco.com](mailto:CSTHP@thelinco.com)

Call: 775-241-2586 x 107 Thelin Dealer Customer and Warranty Service

Factory Repair Location:

Thelin Hearth Products, Inc.  
63 Laxalt Dr.  
Carson City, NV 89706



## CUSTOMER EXCHANGE / RETURN FORM

### CUSTOMER INFORMATION:

NAME: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

PHONE #: \_\_\_\_\_

FAX#: \_\_\_\_\_

E-MAIL ADDRESS: \_\_\_\_\_

### PRODUCT INFORMATION:

(CIRCLE ONE)

WOOD STOVES

GAS STOVE

PELLET STOVES

MODEL NUMBER \_\_\_\_\_ SERIAL NUMBER \_\_\_\_\_

DATE OF PURCHASE \_\_\_\_\_ DATE OF INSTALLATION \_\_\_\_\_

(Please Provide Proof Of Purchase)

### ACTION REQUIRED:

\_\_\_\_\_ RETURN\* (Available within 30 days of purchase) \_\_\_\_\_ EXCHANGE\*

(A 20% Restocking Fee May Be Applied)

\*shipping charges are not included in refunds, returns, and exchanges.

Please take a moment to fill out the information below so that we may better assist our future customers and provide better products. Thank you.

### REASON FOR RETURN:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CUSTOMER SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

\*\*\*\* OFFICE USE ONLY\*\*\*\*

RMA# \_\_\_\_\_ DATE APPROVED: \_\_\_\_\_ CSR: \_\_\_\_\_

Circle One: RTS CREDIT REPLACE SCRAP OTHER: \_\_\_\_\_

5061 Brooks St., Unit B, Montclair, CA 91763 - Phone # 909-399-3355- Fax # 909-399-3357

# THELIN HEARTH PRODUCTS - WARRANTY CLAIM FORM

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## Customer Information

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

## Unit Information

RA Number: \_\_\_\_\_

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

## Dealer Information

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Date: \_\_\_\_\_

Mileage: \_\_\_\_\_

Serviceman: \_\_\_\_\_

Describe Defect: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Describe Repair: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Customer Verification:

*I verify that the above repairs were made to my Thelin Hearth Products. Pellet or Gas Heater and that I am the original owner of the above model.*

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Service Person Verification:

*I verify that the above repairs were made to the above Thelin Hearth Products. Heater (Parlour Pellet, Parlour Gas & Gnome).*

Service Person Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Distributor Authorization: \_\_\_\_\_

# THELIN HEARTH PRODUCTS

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## SERVICE CALLS

The objective when making a service call is to get the customer up and running as quickly as possible. For this reason the best method of attack is to find the problem quickly and isolate the faulty component and swap it out with the good component in your dealer service kit. The defective module or part can then be repaired and returned to the factory away from the customer's home.

With this objective in mind, the troubleshooting can be divided into six (6) general categories.

1. The fan and feed motors
2. The main circuit board
3. The switch (control knob)
4. The temperature sensors T-1 and T-2
5. The AC power line components
6. The wiring harness and connectors thereto

These six (6) areas represent the areas where a problem might occur. They are listed in the order of highest probability, based on their history and level of complexity. The design of the electronics has been done with reliability as the highest priority, and the components that are under the most electrical or thermal stress are very conservatively rated.

The main board has been listed second, due to the large number of parts which increases its chance of failure on a statistical basis. In practice, however, it should be the most reliable, due to the rigorous test procedure each board goes through before being installed on the stoves. Because of this,

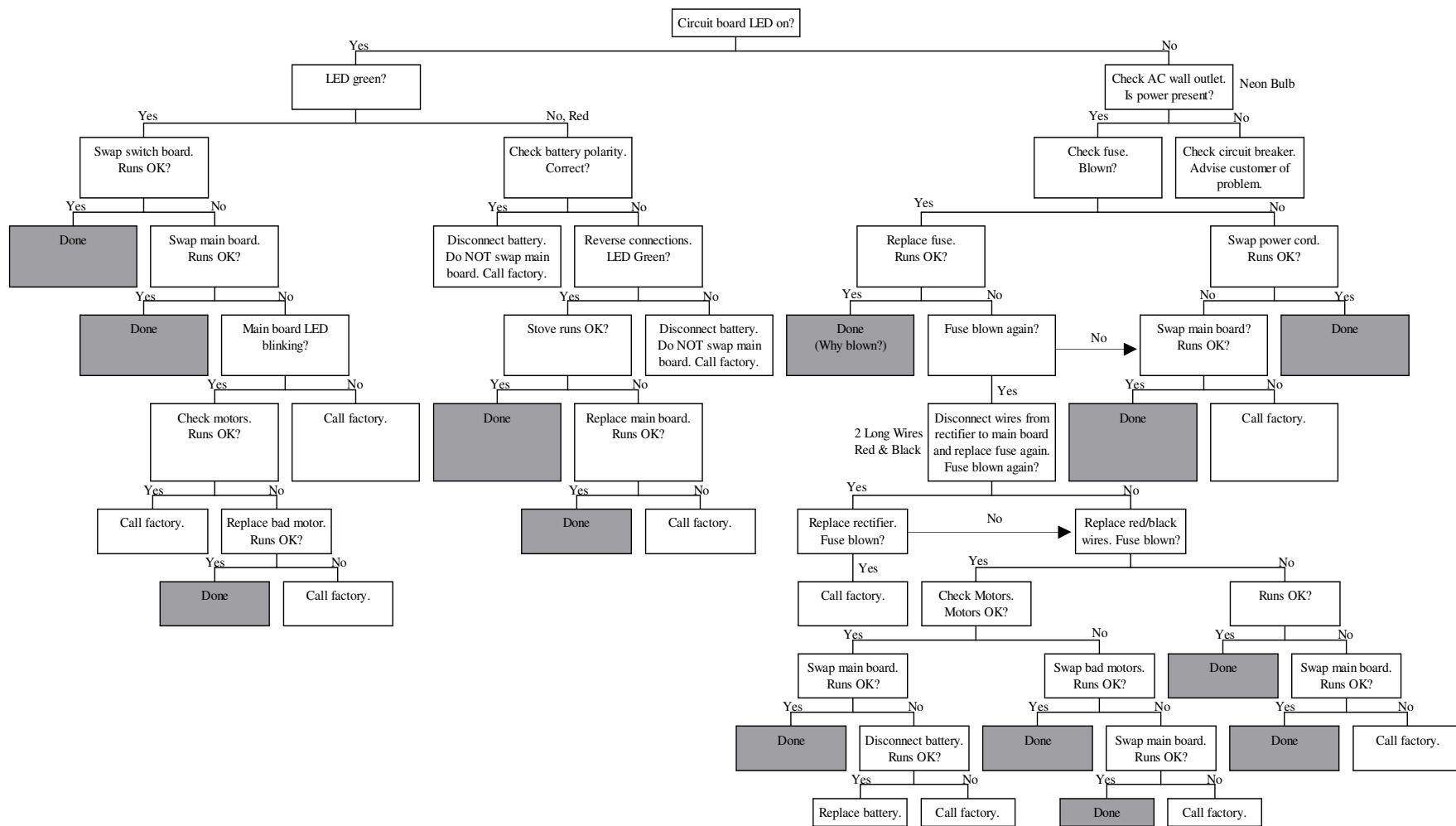
mechanical items, such as the motors, should be suspected first. Remember, ninety percent (90%) of pellet stove failures are due to improper maintenance by the end user. **Check the stove for cleanliness and routine maintenance before doing any mechanical service work.**

Following is a list of complaints and/or service problems that represent at least 95% of possible service calls. Use the FTM80 to test component failure.

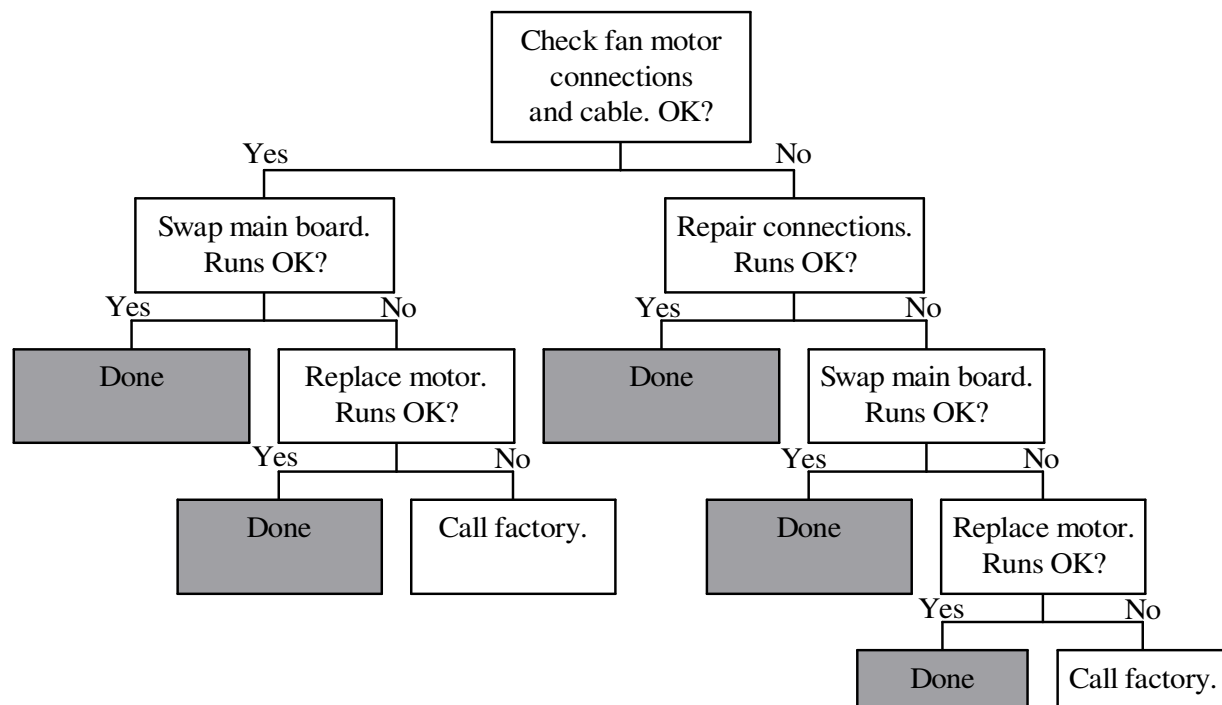
1. Stove not running at all.
2. Feed motor runs, but no fan.
3. Fan motor runs, but no feed.
4. Stove runs, but shuts down about 10 minutes after start up.
5. Stove runs, but keeps shutting down with over-temp (red) LED coming on.
6. Stove runs, but heat output remains at the LOW level, even when the control knob is on HIGH.
7. Stove does not run on battery or battery does not charge.
8. Stove runs on FAN position but when switched to LOW, MED, or HIGH, shuts off immediately.
9. Stove seems to be running on HIGH or on CLEAN mode at all times.
10. Fan speed seems normal for each position, but feed rate seems excessive even on LOW.
11. Stove is running fine and then shuts off for no apparent reason.
12. Fan speed erratic (surges).
13. Igniter does not run.



# 1 - STOVE NOT RUNNING AT ALL

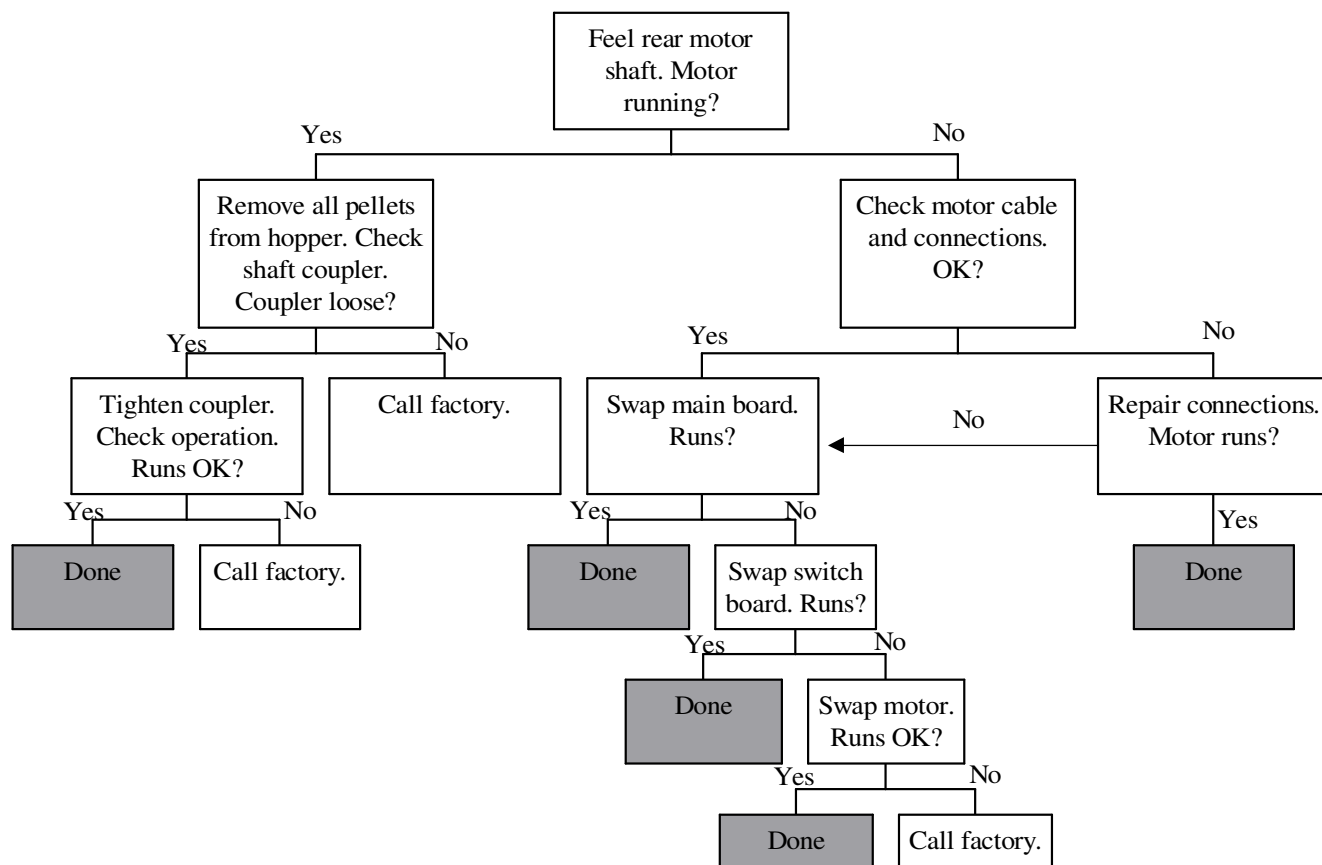


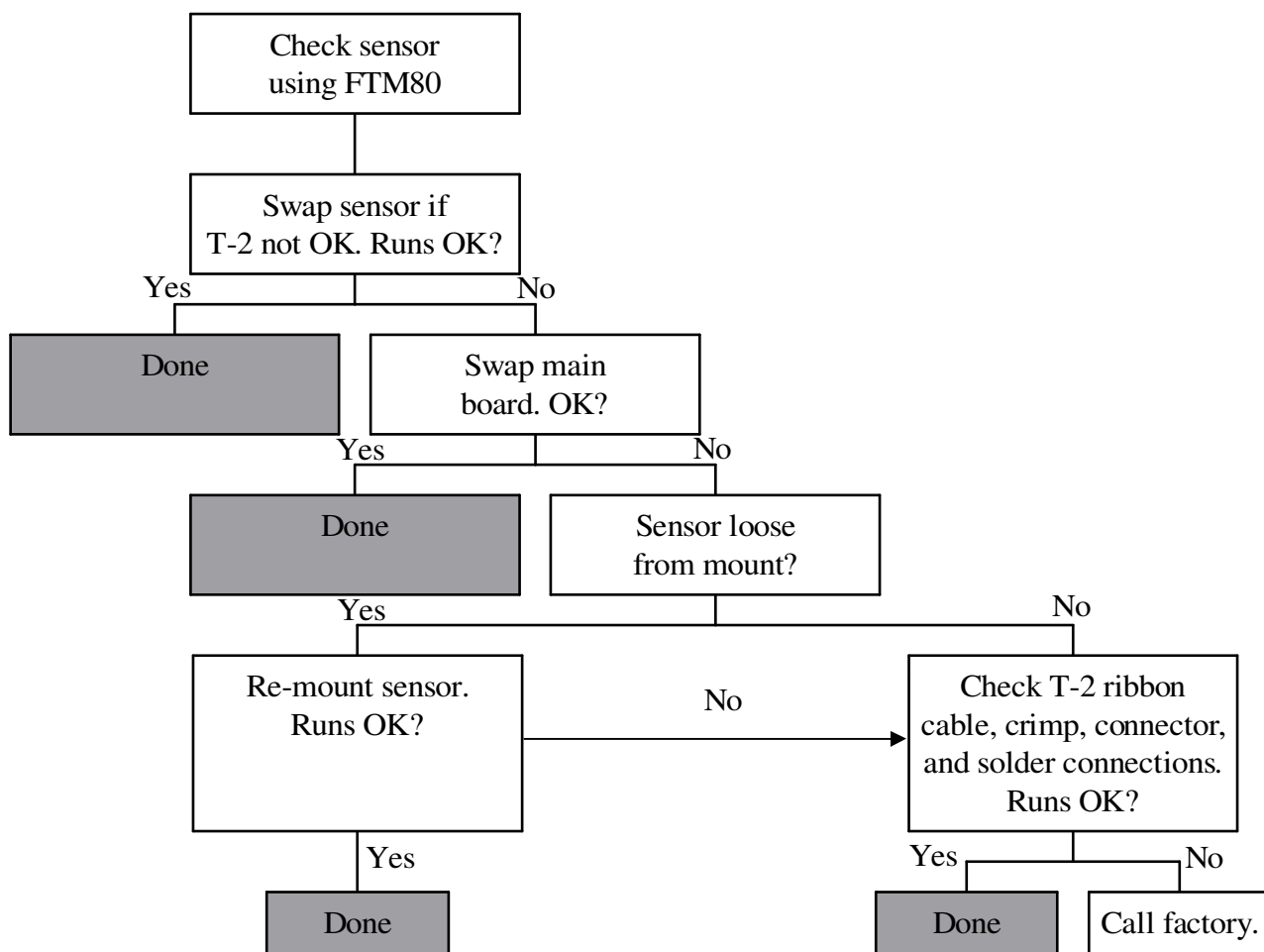
## 2 – FEED MOTOR RUNS, BUT NO FAN



*Note: Replacing motor brushes while the motor is still installed is very difficult but can be done easily if stove is turned on its side and battery removed (See Appendix A and Diagrams 3 and 5).*

### 3 – FAN MOTOR RUNS, BUT NO FEED



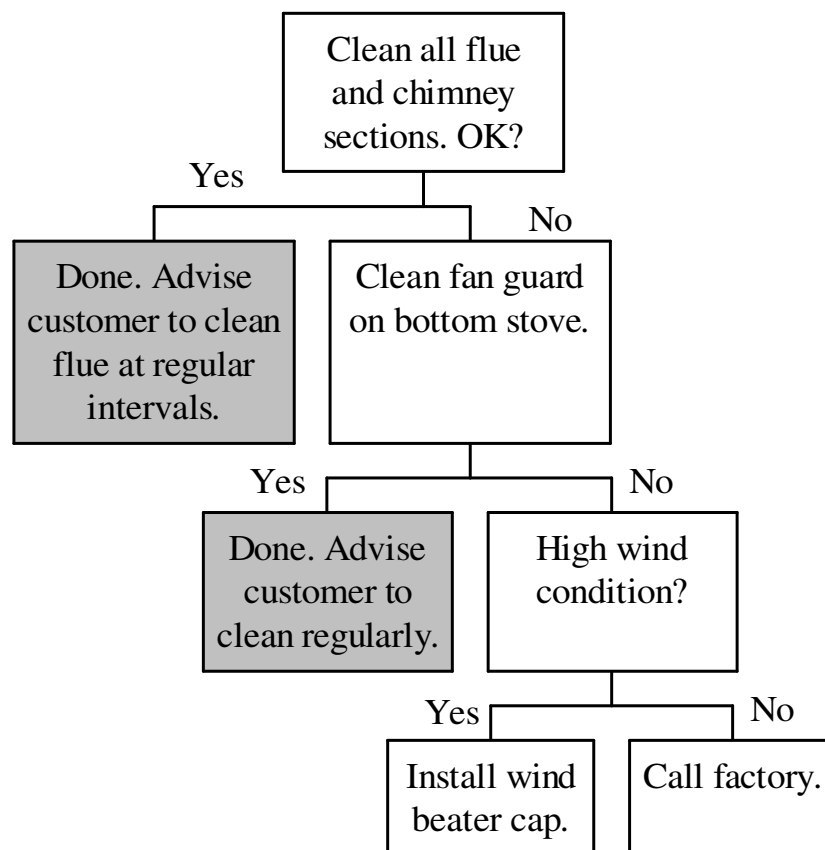
**4 – STOVE RUNS, BUT SHUTS DOWN 10 MINUTES AFTER START-UP\***

*\* Make sure stove is hot enough to activate T-2 sensor – must reach 140°F.*

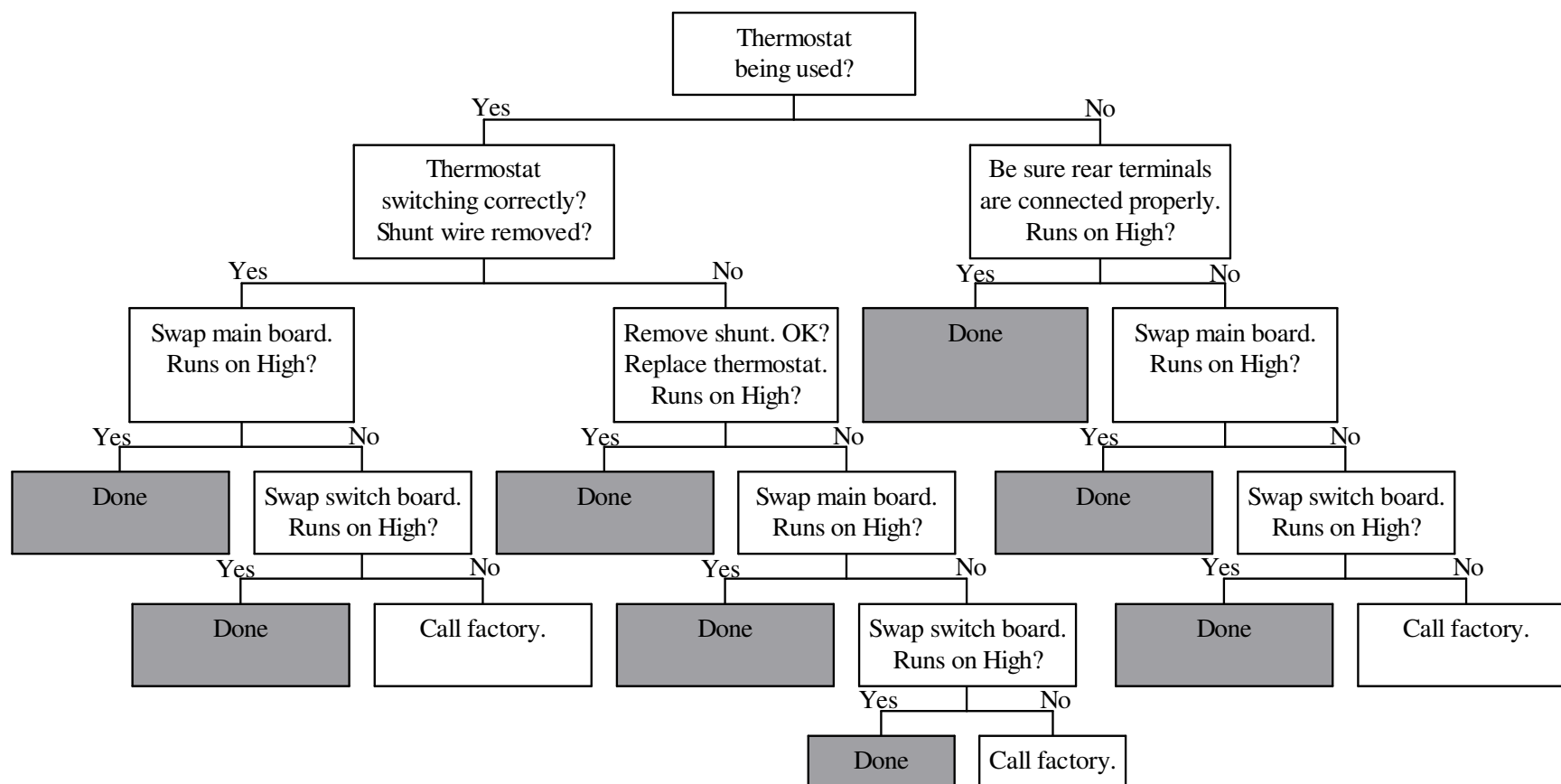
## 5 – STOVE RUNS, BUT SHUTS DOWN RANDOMLY WITH OVERTEMP LED ON

**STEADY RED = HIGH TEMP**

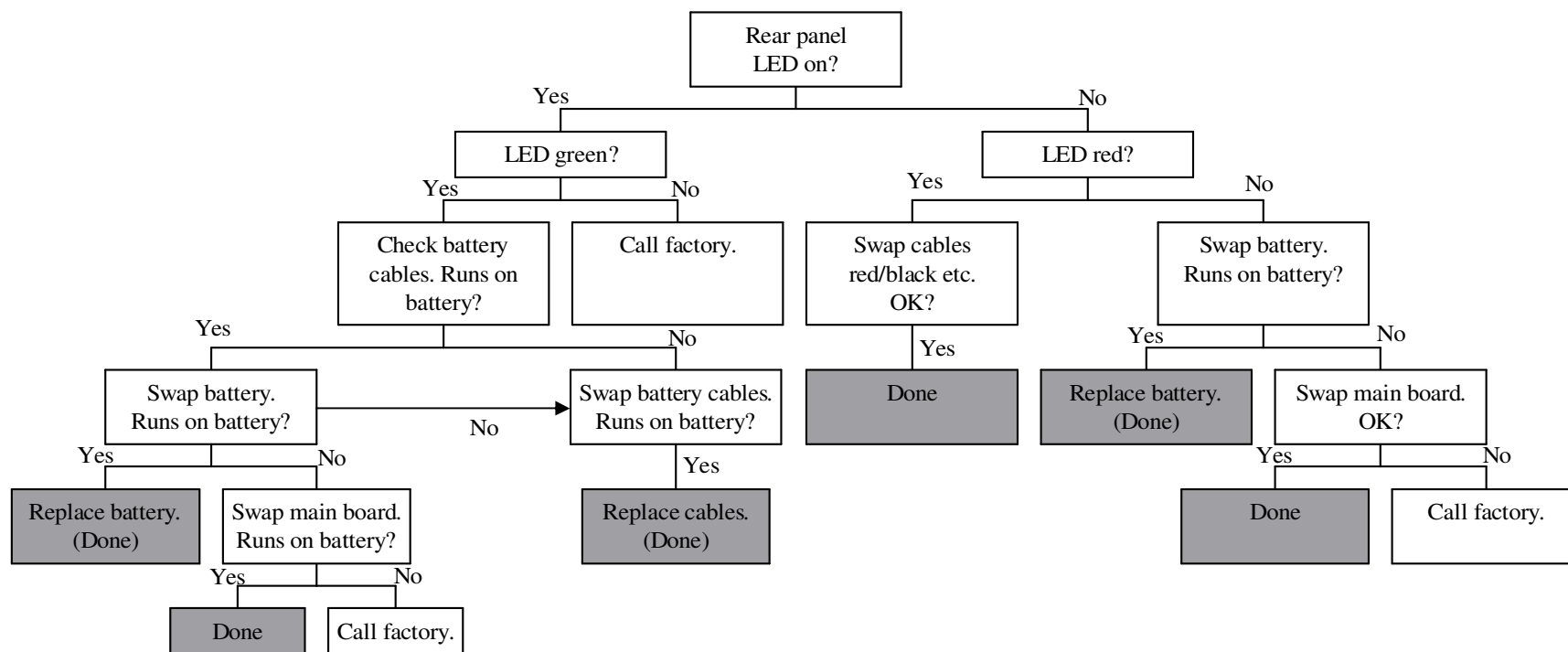
**BLINKING RED = BLOCKED FLUE**



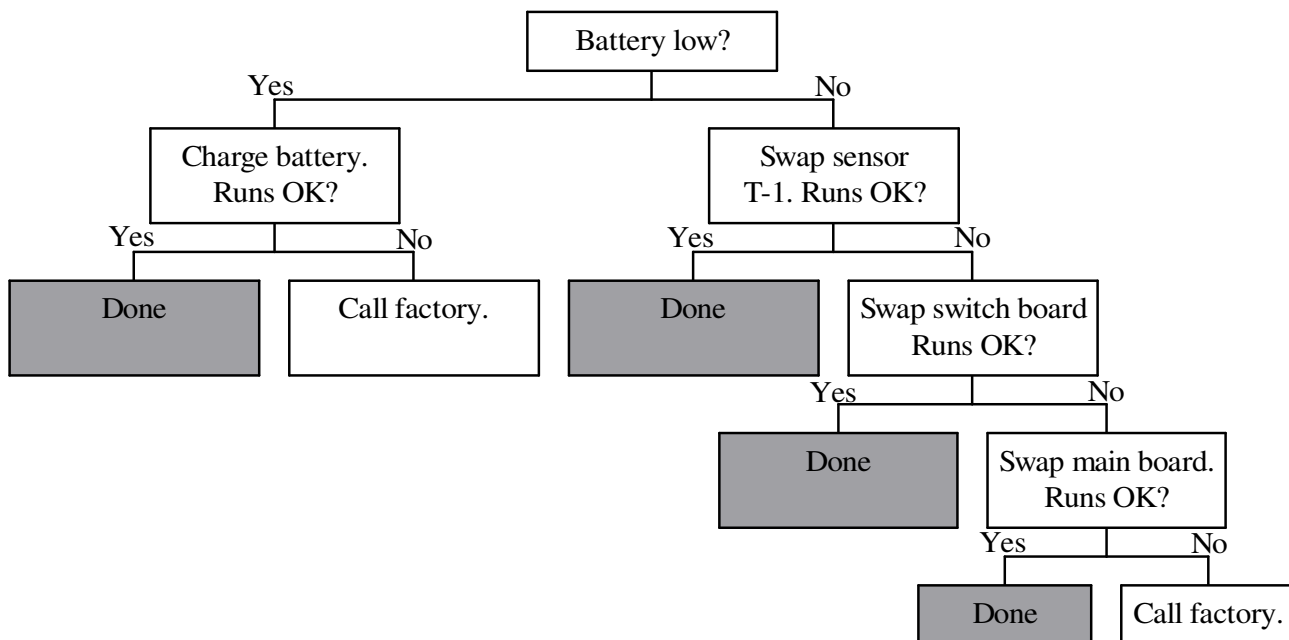
## 6 – STOVE RUNS, HEAT OUTPUT STAYS LOW, EVEN ON HIGH SETTING



## 7 – STOVE WILL NOT RUN ON BATTERY OR CHARGE BATTERY

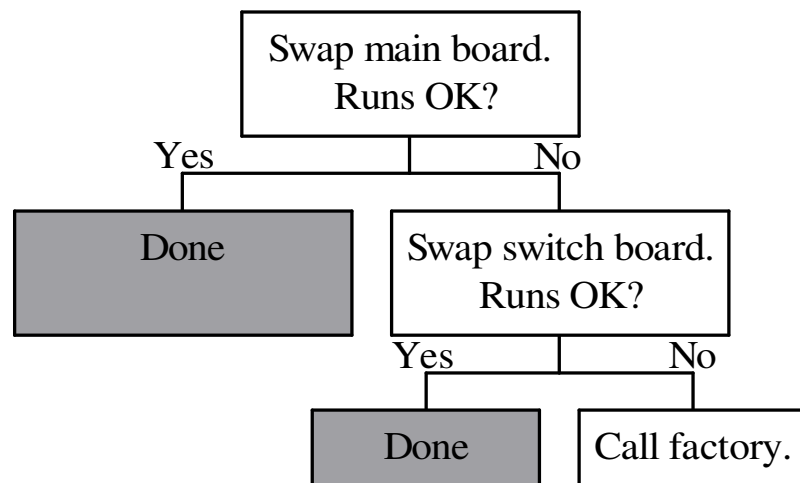


# **8 – STOVE RUNS IN FAN ONLY MODE, BUT WHEN TURNED TO LOW, MED, OR HIGH, IT SHUTS OFF IMMEDIATELY**

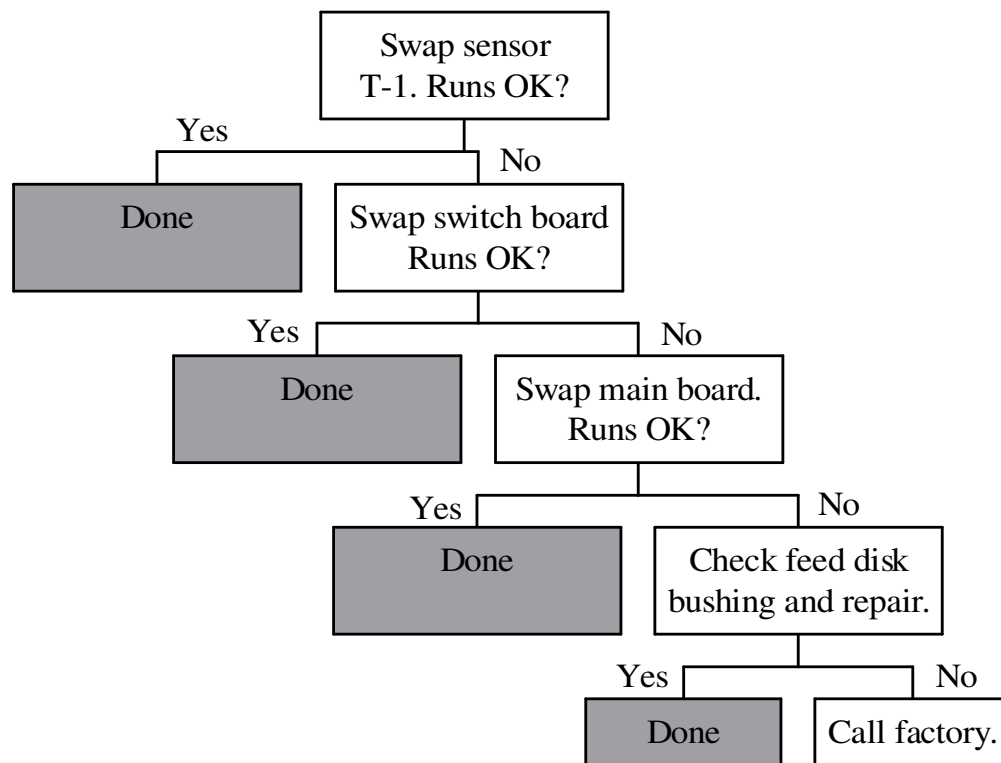




## 9 – FAN ALWAYS VERY HIGH, ALL MODES EXCEPT OFF

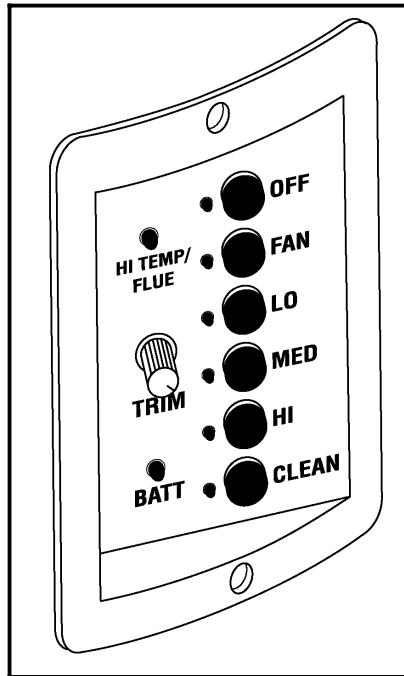


# 10 – FEED ALWAYS VERY HIGH, ALL MODES EXCEPT OFF



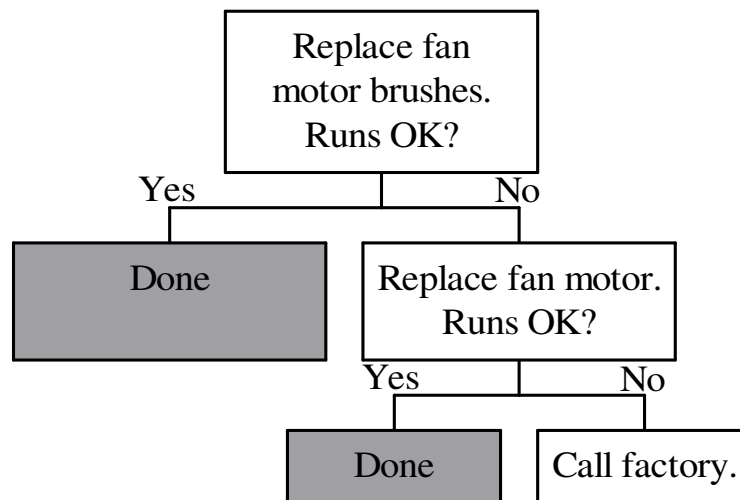
## 11 – STOVE RUNS FINE AND THEN SHUTS OFF FOR NO APPARENT REASON

Check the feed “trim” button and adjust to higher (clockwise) setting. If the feed is too low, the stove will cool down and when it reaches a lower temperature, the stove will shut down automatically. This can be corrected by adjusting the feed setting to a higher setting.

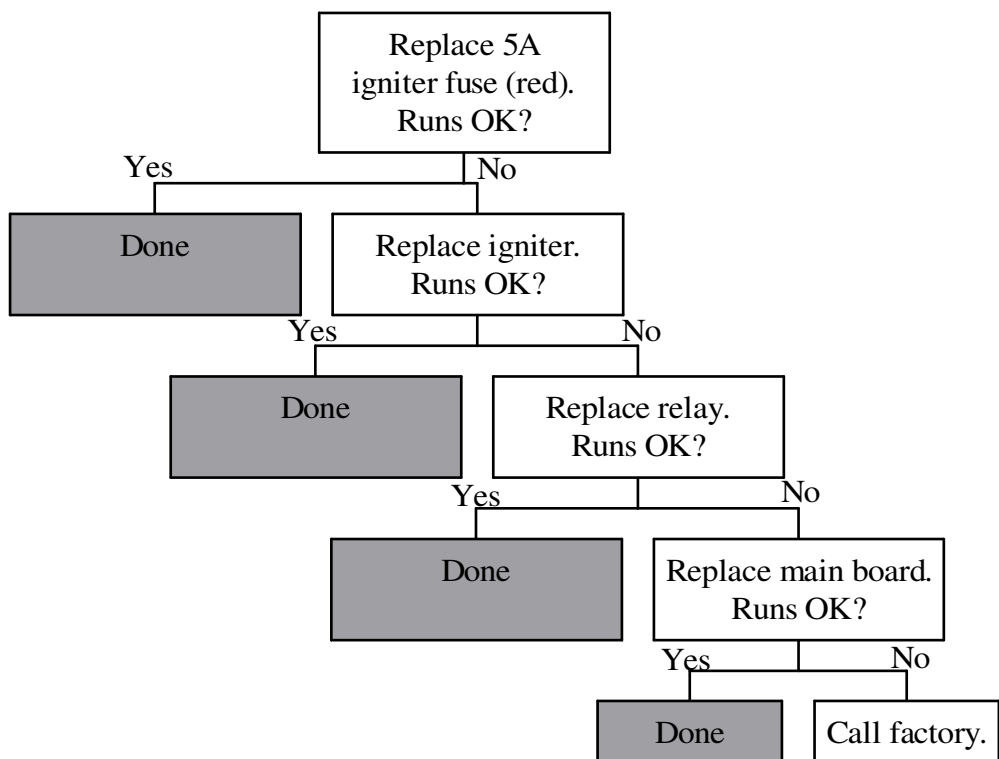


**E.I. PUSH BUTTON**

## 12 – FAN SPEED ERRATIC (SURGES)



### 13 – IGNITER DOES NOT WORK



## REMOVAL & REPLACEMENT OF COMPONENTS

1. **Circuit Board:** the circuit board is located inside the outer shield on the right side of the stove below and back from the switch.
2. **Removal of Heat Shield:** First remove the push button switch plate and disconnect the ribbon cable from the switch. (See Paragraph 6.) Carefully remove outer shield from the heater by unscrewing the six torx head machine screws (three on each side). **Be careful to hold shield** as you remove the last one as it will fall.
3. **Feed Assembly:** The feed assembly and gear motor is accessed by removing the rear inspection panel for both of the heaters. Remove the four #8 screws attaching the inspection cover and remote cover. Remove all pellets from hopper and feed disk area inside the unit. Locate feed motor and unplug wire harness connections (**note location of red wire on motor to assure proper rotation of motor**). Remove 3/8" nuts attaching feed motor bracket to rear of feed chute. Gently remove feed assembly by pulling toward rear of unit. The feed shaft may be removed by loosening the allen screws on the lovejoy coupler (see Figure 2). Reverse process to install feed motor assembly.

**NOTE:** When assembling the shaft and coupler, always use a small amount of locktight (removable) on allen set screws. (See Figure 2). After the assembly has been installed, the feed disk must ride close to but not touching

the shaft bushing. An adjustment to the feed bushing may be necessary. This may be accomplished from inside the hopper with an allen wrench. See assembly diagram (Figure 2).

4. **Fan Motor:** The fan is located directly under the combustion fan housing. Access is provided through the bottom plate on both the heaters. (See Figure 3 and Appendix A). Remove the wire harness leads to the motor, noting their position both red and black. Next remove the plastic convection fan blade locking clip. Pull fan blade off shaft. Remove the three #10 nuts holding the fan motor base plate to the housing. **Carefully** pry the base plate breaking the factory silicon seal. Remove the motor and fan blade from the unit. Using a long allen wrench, loosen the allen set screw holding the combustion fan blades on the motor shaft. Remove the two #10 nuts holding the motor mount to the fan plate. Remove the two #8 phillips screws that hold the motor mount to the motor. Reverse the process to replace the fan motor assembly.

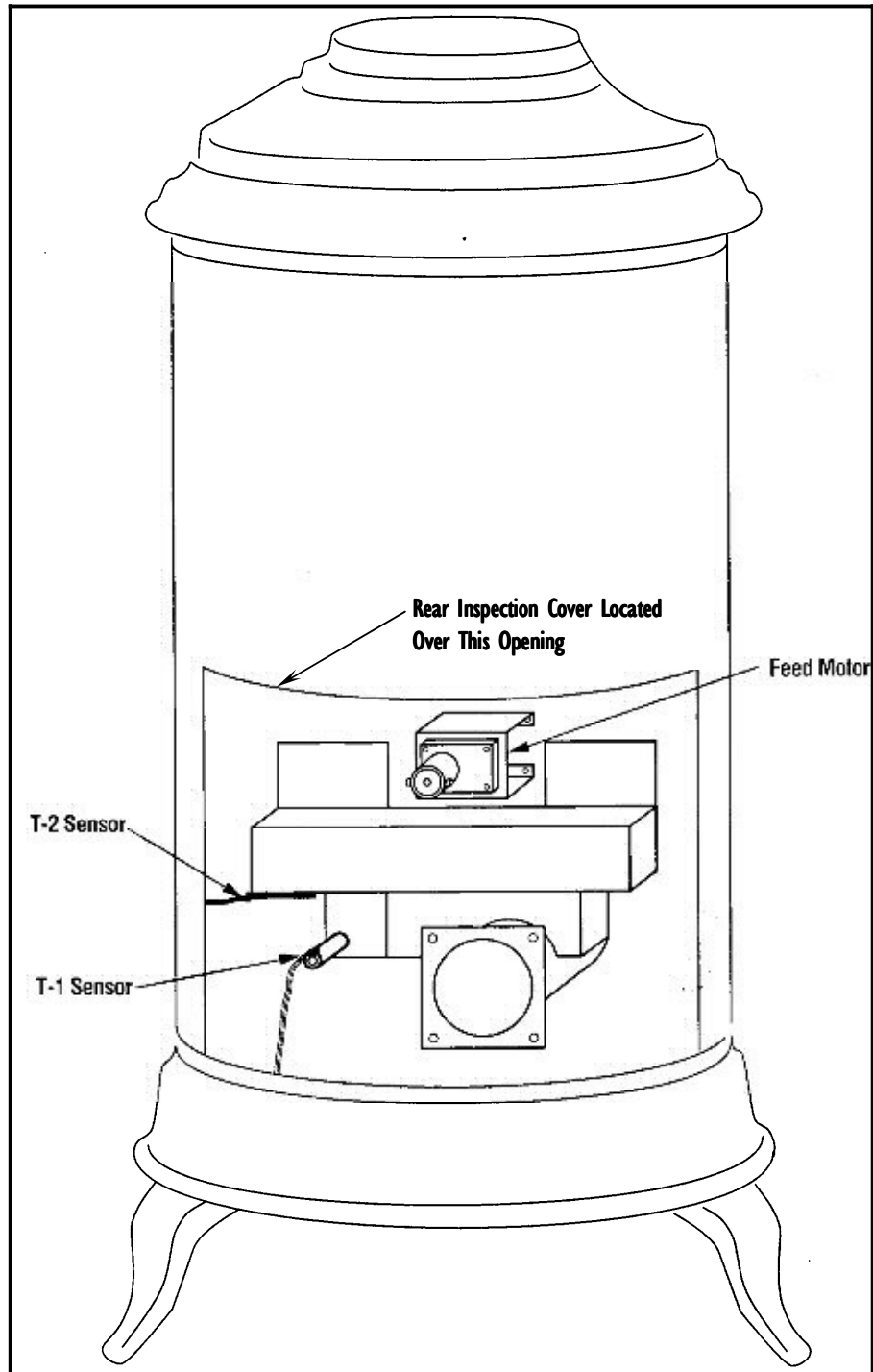
**NOTE:** When installing the combustion fan blades on the motor shaft, use locktight (removable) on the allen set screws. The proper position of the blades is the blade positioned 5/8" from end of the shaft. (See Figure 2 and Figure 3.) When assembling the fan motor plate back into the unit, use new gasket and high temperature silicone sealant on cleaned surfaces. Fan motor brushes may be replaced by carefully removing the plastic screw caps on each side of the motor and replacing with factory replacements. (See Figure 2.)

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5. **T-1 and T-2 Sensors:** The T-1 and T-2 sensors may be accessed by removing the inspection covers on the back of the unit. The T-1 sensor is installed into the side of the exhaust tube just inside of the cover. Unplug the harness connector to the sensor. Using a wrench, unscrew the brass fitting and sensor holder from the exhaust tube. The T-2 sensor is located left of the combustion housing attached on the lower portion of the manifold. Unplug the harness connector from the sensor. Remove the #10 nut attaching the sensor holder and remove the sensor. Reverse the process to install the new sensor fitting and holder. (See Figure 1.)
6. **Push Button Control Switch:** The control switch is located on the right side of both the heaters. In both units, remove the two #8 phillips screws holding the cover. Remove the switch from the back side by unscrewing the two small Phillips screws (see Figure 4). Reverse the procedure to install the new switch.
7. **Transformer and Rectifier:** The transformer and rectifier are located on the bottom plates on both of the heaters. Remove the bottom plates on both of the heaters. Remove the two #6 phillips screws and nuts. Remove the wires noting the positions. Remove the transformer. The rectifier may be removed by unplugging the wires from the harness and transformer (note the position of the red [+] and black [-] wires). Remove the #6 phillips screw and nut. Remove the rectifier. Reverse the procedure to install the new parts. (See Figure 6 and Figure 8.)

**FIGURE 1 – T-1 AND T-2 SENSORS**





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## TECHNICAL DATA

The following technical data is necessary to fine tune, check, and correct Thelin Hearth Products Pellet Heaters in the field or store.

### Circuit Board Nomenclature and Operation (Figure 9)

1. Please note location of elevation pin >3K (greater than 3,000 feet elevation) <3K (less than 3,000 feet elevation) and make the adjustments accordingly at the time of installation.
2. Please note the type setting jumper (type 1 and 2). To move the type setting, simply pull up on the jumper and move to the left two pins (type 1) or two right pins (type 2). See Figure 9.
3. The LOW fan trim and HI fan trim pots are located at the lower left corner of the circuit board and allows you to increase voltage to the fan by 1-1/2 volts. Fan Motor Voltages for Pittman Motors (trim button at minimum, all the way counter-clockwise).

#### Parlour Pellet

Low Fan:	7.5 volts
Hi Fan:	10.2 volts

#### Gnome Pellet

Low Fan:	7.0 volts
Hi Fan:	9.5 volts

4. The feed trim button is located on the side of the stove to the left of the push buttons. Feed Motor Voltages settings are the same for the Parlour and Gnome. With the trim button at minimum (counter-clockwise) (See Figure 4):

Low:	3.9 to 5.0 volts
Medium:	8.2 volts to wave*
Hi:	9.5 volts to wave*

With the trim button at maximum (clockwise):

Low:	4.0 volts to wave*
Medium:	9.7 volts to wave*
Hi:	11.0 volts to wave*

*\* Wave means the voltage to the feed motor can fluctuate two (2) volts on the Low trim button setting and four (4) volts on the High trim button setting. This fluctuation is based on the T-1 sensor data being sent to the circuit board chip. For example, if the stove is on High and the feeding at 11.0 volts, it will continue to do so until it reaches a temperature (at the T-1 sensor) of 48 degrees C., and then it will kick itself back up to 11.0 volts. This allows the stove to maintain voltages of the feed motor and you must be aware of this fluctuation.*

### Operation of Red Light Indicator

This indicator is located directly under the control knob and trim button. A **blinking red light** means there is a blocked flue condition or a severe down draft. Check ash build-up in the flue or obstruction in exhaust pipe. A **steady red light** means an overheat, hi-temp condition has occurred. Check for air flow through system, holes blocked in fire pot, or a faulty T-1 sensor.

### Purpose of Feed Trim

By turning the feed trim button clockwise, the customer can increase the low feed rate on all three settings. Some brands of pellets need a higher feed rate to sustain the fire on the low setting.

Please call the factory if you need additional information not provided in the Service Manual.

### BATTERY BACK-UP OPERATION & DC CURRENT INFORMATION

Under normal operation the Parlour and Gnome Pellet Stoves run on 110V current transformed to 12V. In the normal mode the current draw is approximately .25 amps at 110V AC. The equation is as follows:

$$27 \text{ watts operation} \div 110\text{V} = .25 \text{ amps}$$

When the power fails and the stove switches to the battery back-up (automatically), the current draw becomes approximately two amps. The equation is as follows:

$$27 \text{ watts operation} \div 12\text{V} = 2.25 \text{ amps}$$

We say “approximately” because the stove is not always running on the same mode. For example, the stove is **not** always running on the “high” mode, so these values would be a little less.

In determining the life of the battery or how long the stove will run on the battery, you must first ask what size battery is being utilized. For example, we recommend a 30-amp battery. If this battery is used, you can generally figure you will get seven to ten hours run time on the battery. This is determined as follows:

If the stove is drawing 2.25 amps on 12V operation, and you have a 30-amp battery, you divide 30 by 2.25. The result is 13.3 hours of possible battery life. The problem, however, is that the battery can not drain down to zero because it would shorten the battery life. There is a built-in feature in each stove that will shut the stove down when the battery gets low. This is why we rate the 30-amp battery at seven to 10 hours of run time. If the stove just runs on “Low,” you could get 12 to 15 hours of run time.

If you were to use a 100-amp battery, the run time would increase to approximately 30 hours.

For battery hookup, see Figure 5 (Parlour EI) and Figure 7(Gnome EI).

We hope this answers any questions you might have concerning the battery back-up operation of the Parlour and Gnome Pellet Stoves. Please feel free to call us if you have any questions.

# THELIN HEARTH PRODUCTS

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## FUSE FUNCTIONS

The Gnome and Parlour Pellet Heaters have three fuses that protect the electronic components. Their functions are as follows:

### AC Line Fuse

**Description:** 1 amp slow-blow, 1-1/4 inch. Littelfuse® 313001 mounted in black fuse holder (see Figure 5).

**Function:** Main AC Line protection. Protects overall board from component which would cause large currents capable of fire or heat damage. Designed to blow if fan rotor is shorted, or is in a lock-motor condition.

On the Parlour and Gnome, the AC Line Fuse is on the bottom plate which is located on the right side facing the stove. [See Figure 5 (Parlour EI) and Figure 7 (Gnome EI).]

### Battery Fuse

**Description:** Re-set fuse mounted on board

**Function:** Main battery fuse. Protects overall circuit board when system is being run on the battery instead of AC line. Designed to blow if the fan rotor is shorted or in locked-motor condition. Also protects the circuit board if battery charging circuitry has a failure which would draw excessive current. It takes about 20 minutes for this fuse to re-set.

### Feed Motor Fuse

**Description:** Re-set fuse mounted on board

**Function:** Protects the feed motor from damage due to a jammed feed system. The feed motor current rises sharply in this condition and it will take several seconds to blow in this mode and about 20 minutes to re-set.

For location of the AC and igniter fuses, see Figure 5 and Figure 7.

**Note:** New surface mount board (2004) has re-settable fuse for feed, fan, and battery.

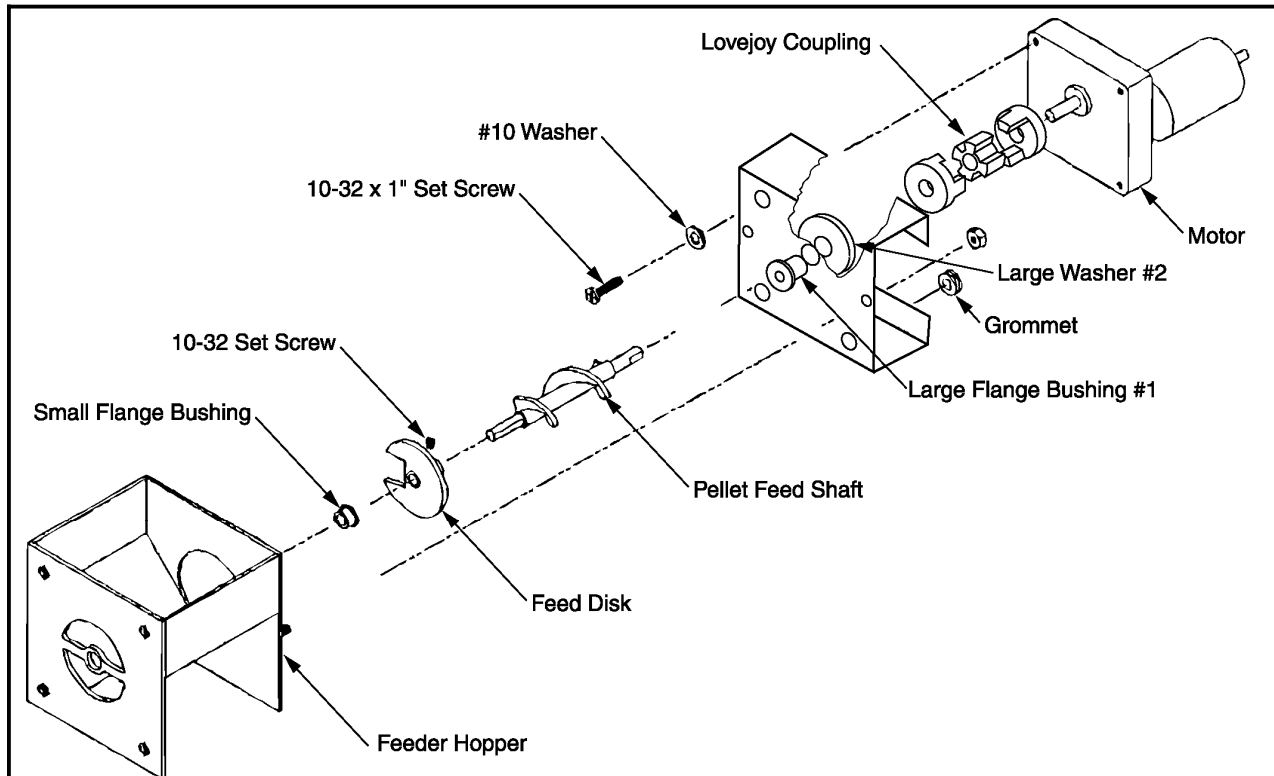
### Electronic Ignition Fuse

**Description:** This is a 5A 250V fuse located in red fused holder on bottom of stove. (See Figure 5)

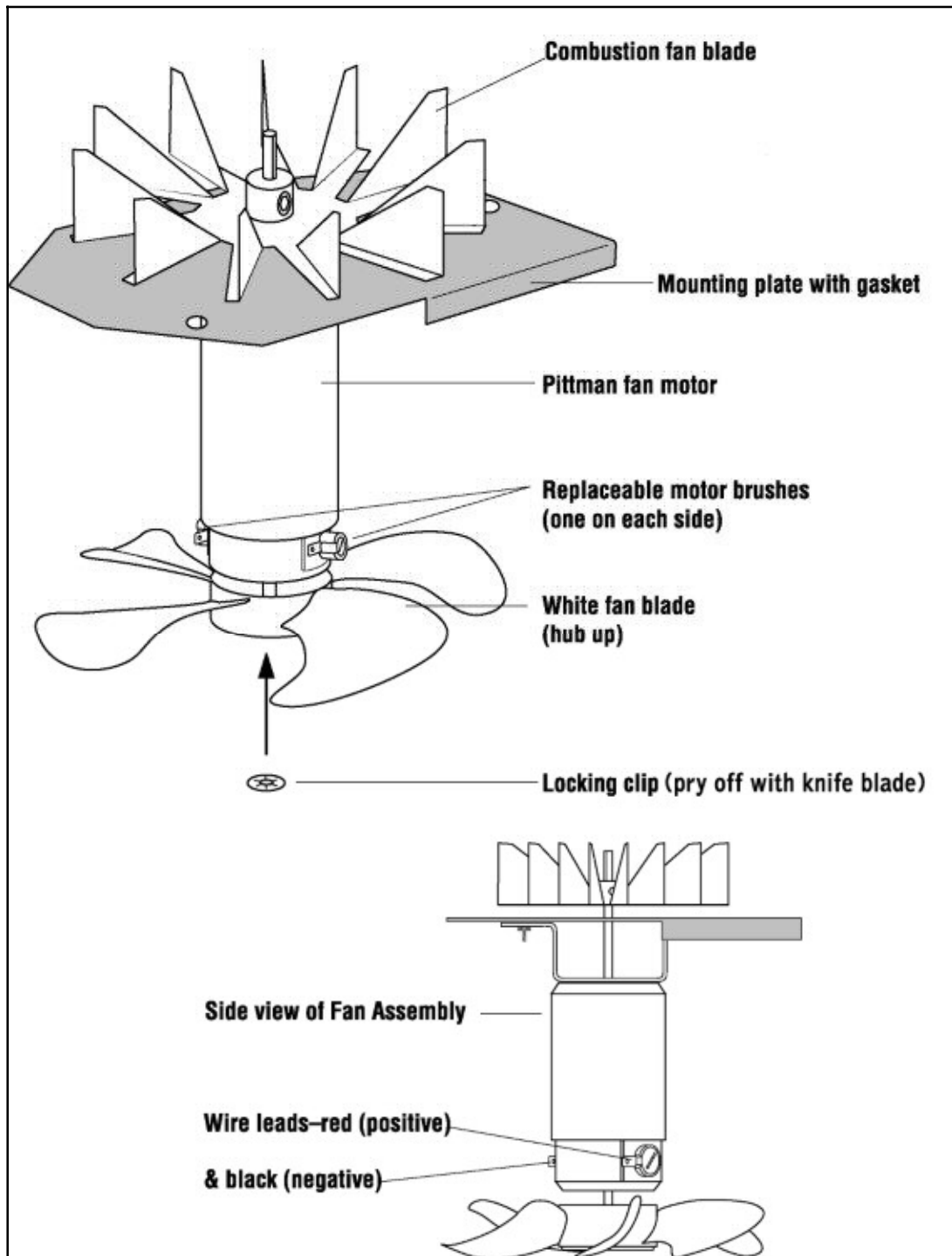
**Function:** Protects circuitry from short in igniter.

# THELIN HEARTH PRODUCTS

**FIGURE 2 – PELLET FEED SYSTEM (SERIAL # 6000)**



**FIGURE 3 –FAN MOTOR**



## THELIN HEARTH PRODUCTS

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FIGURE 4 – PARLOUR & GNOME E.I. CONTROL SWITCH (2004)

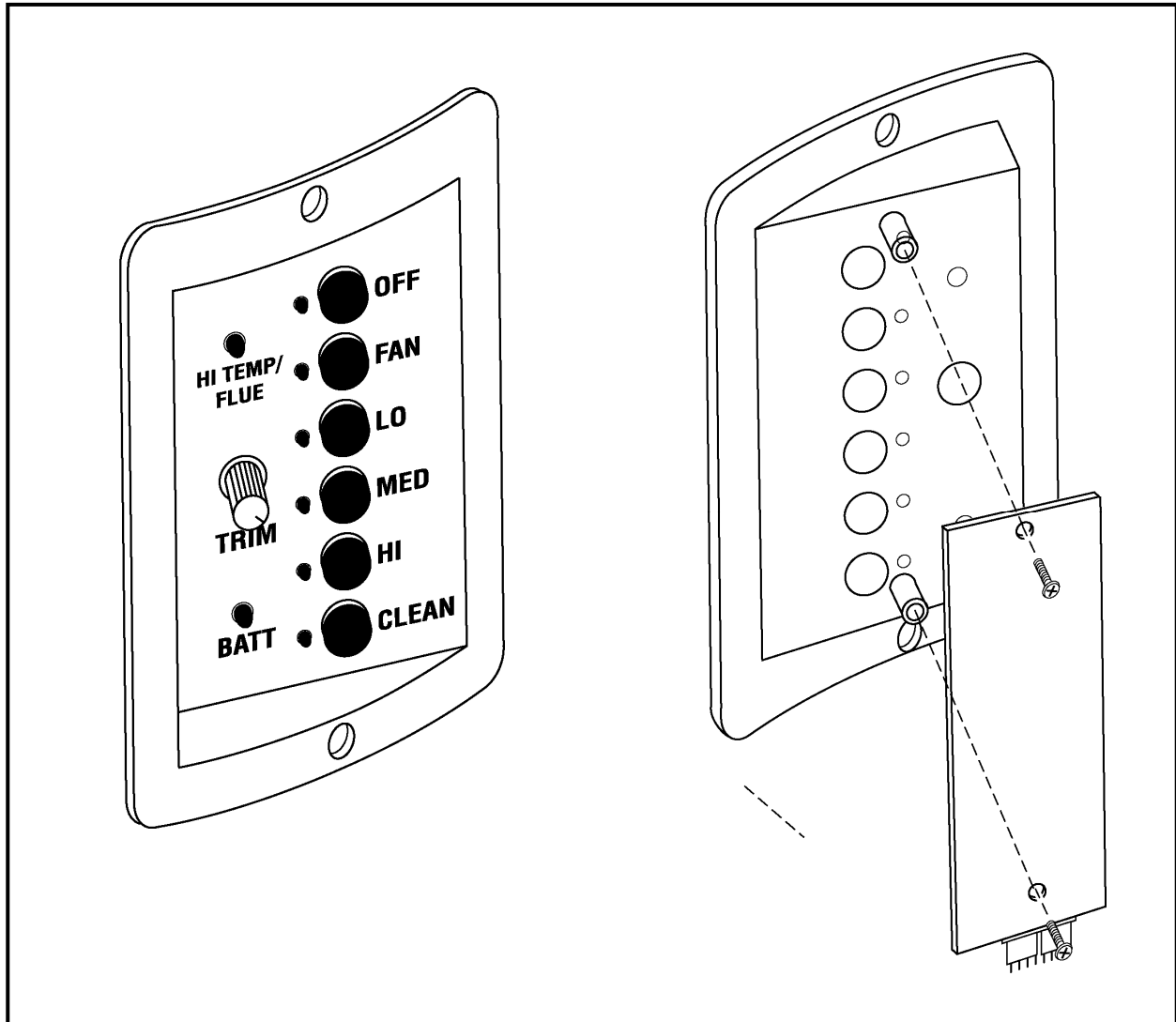


FIGURE 5 – PARLOUR E.I. TRANSFORMER PLATE FRONT VIEW

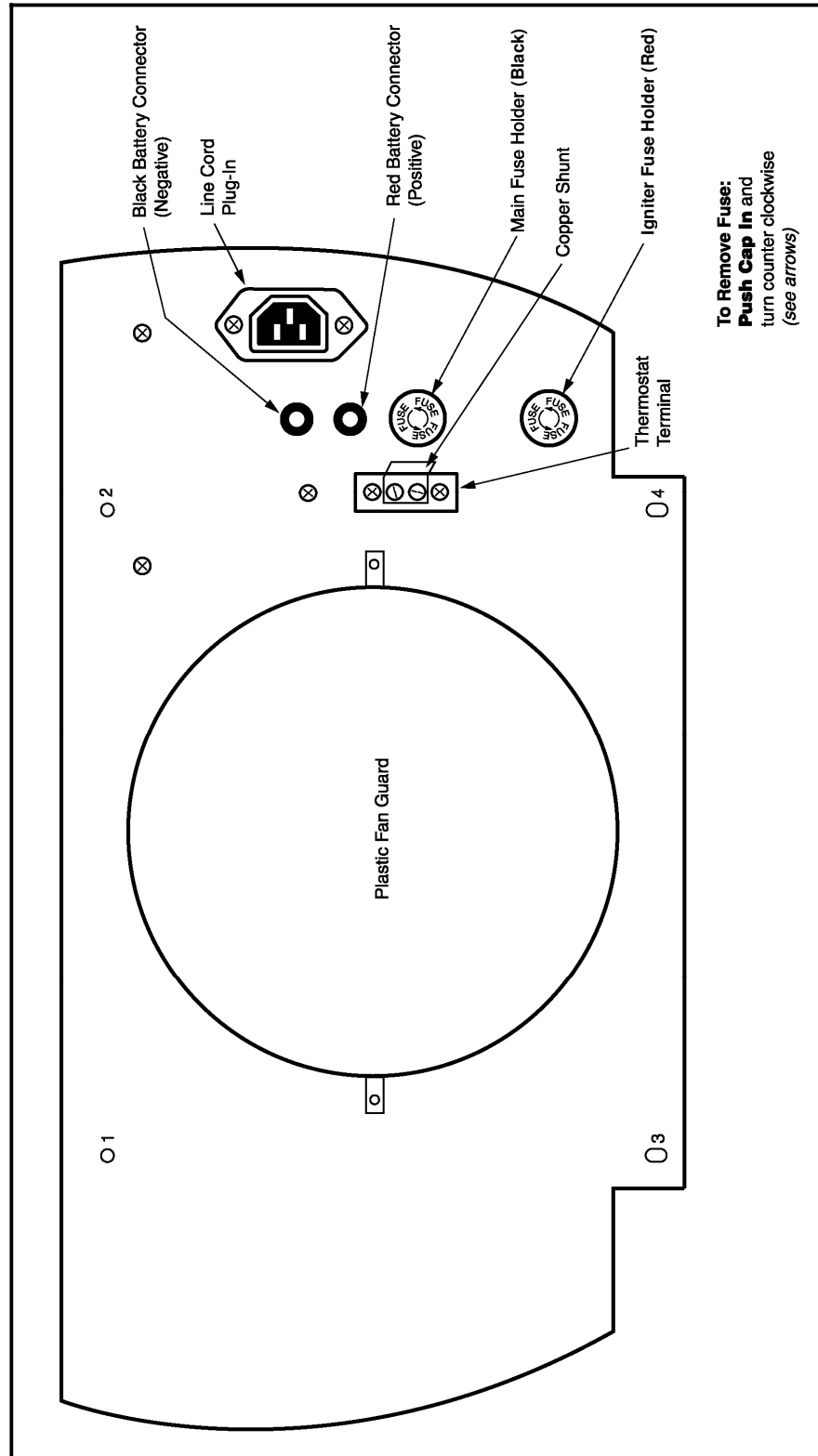


FIGURE 6 – PARLOUR E.I. TRANSFORMER PLATE BACK VIEW

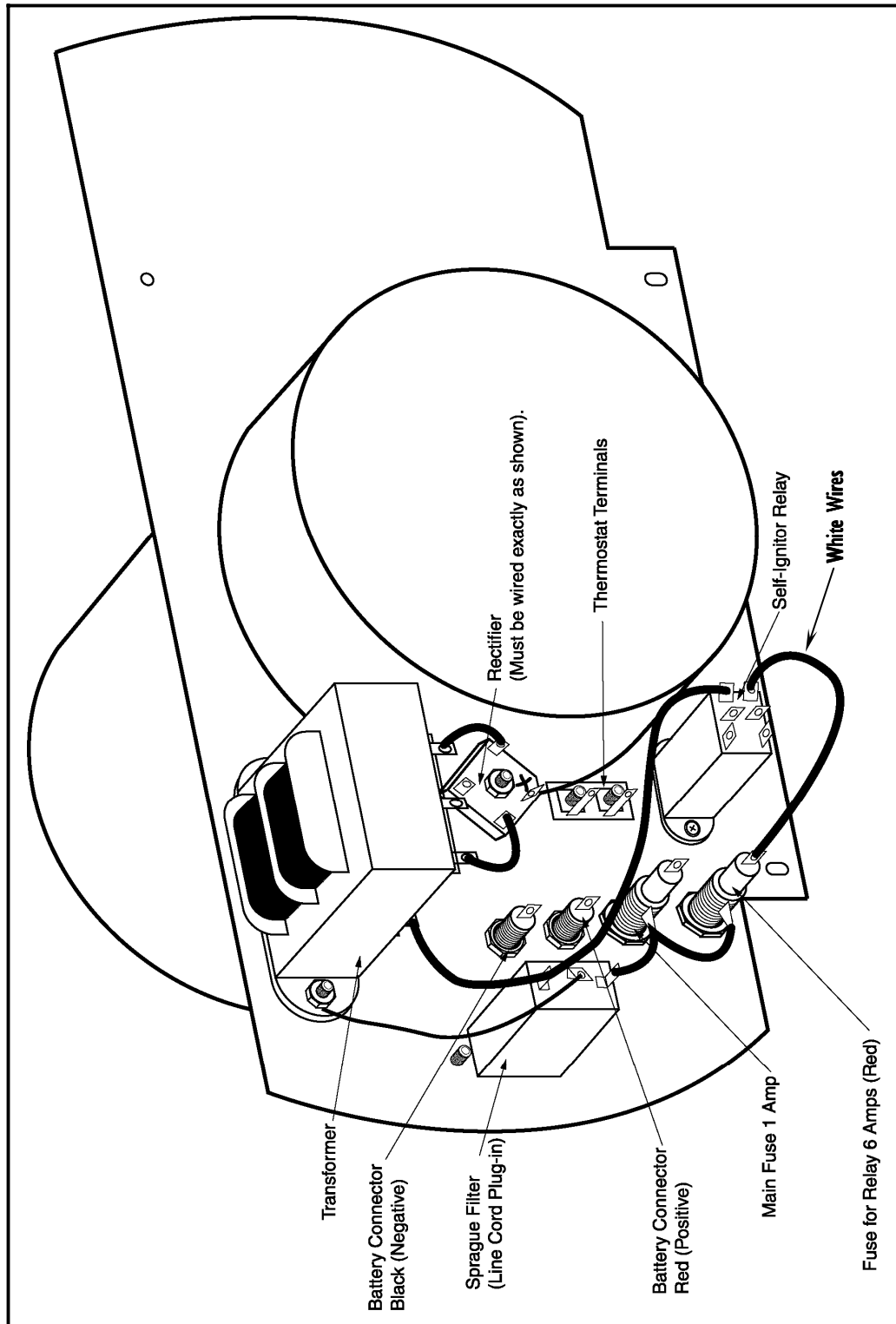




FIGURE 7 – GNOME E.I. TRANSFORMER PLATE FRONT VIEW

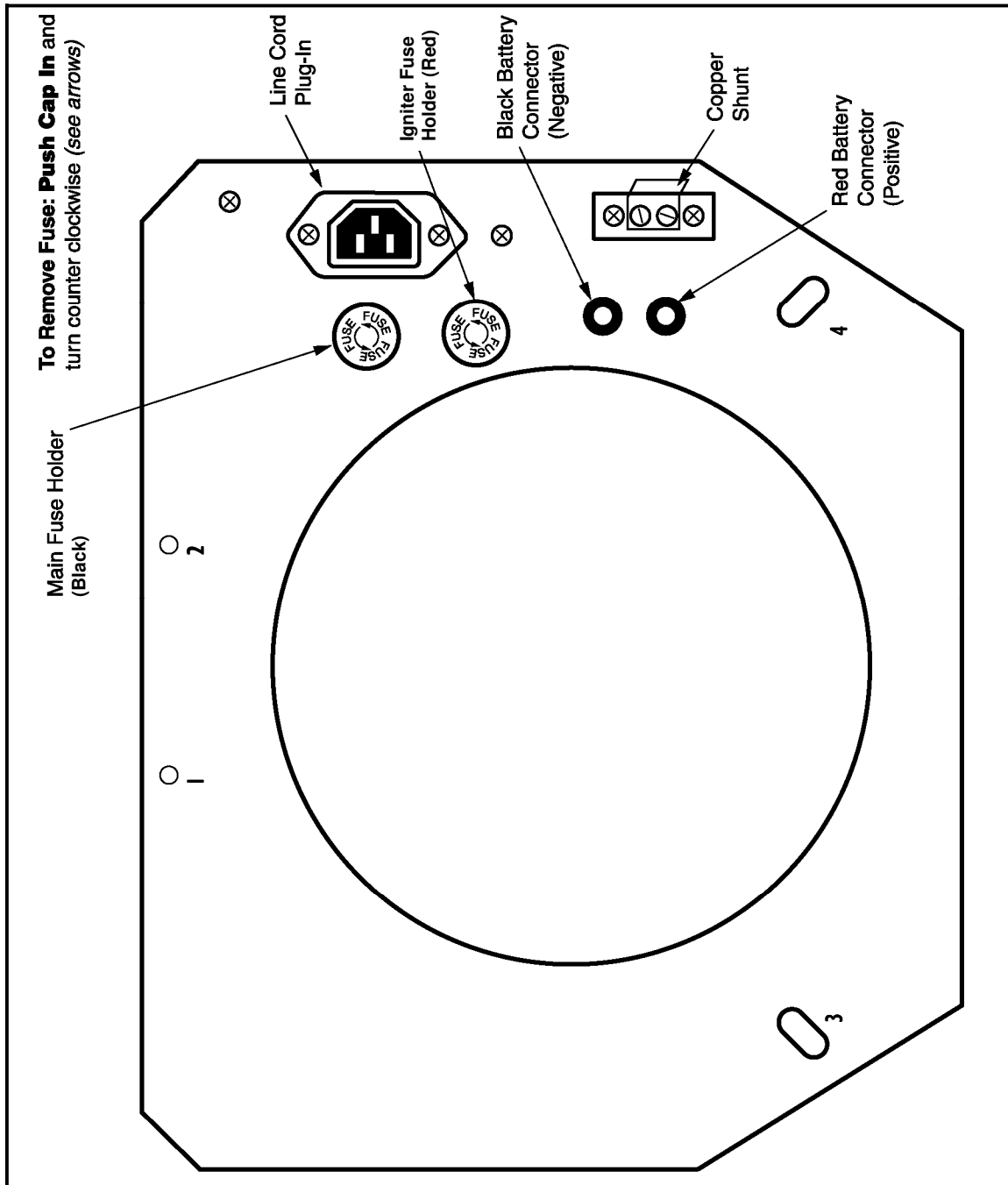
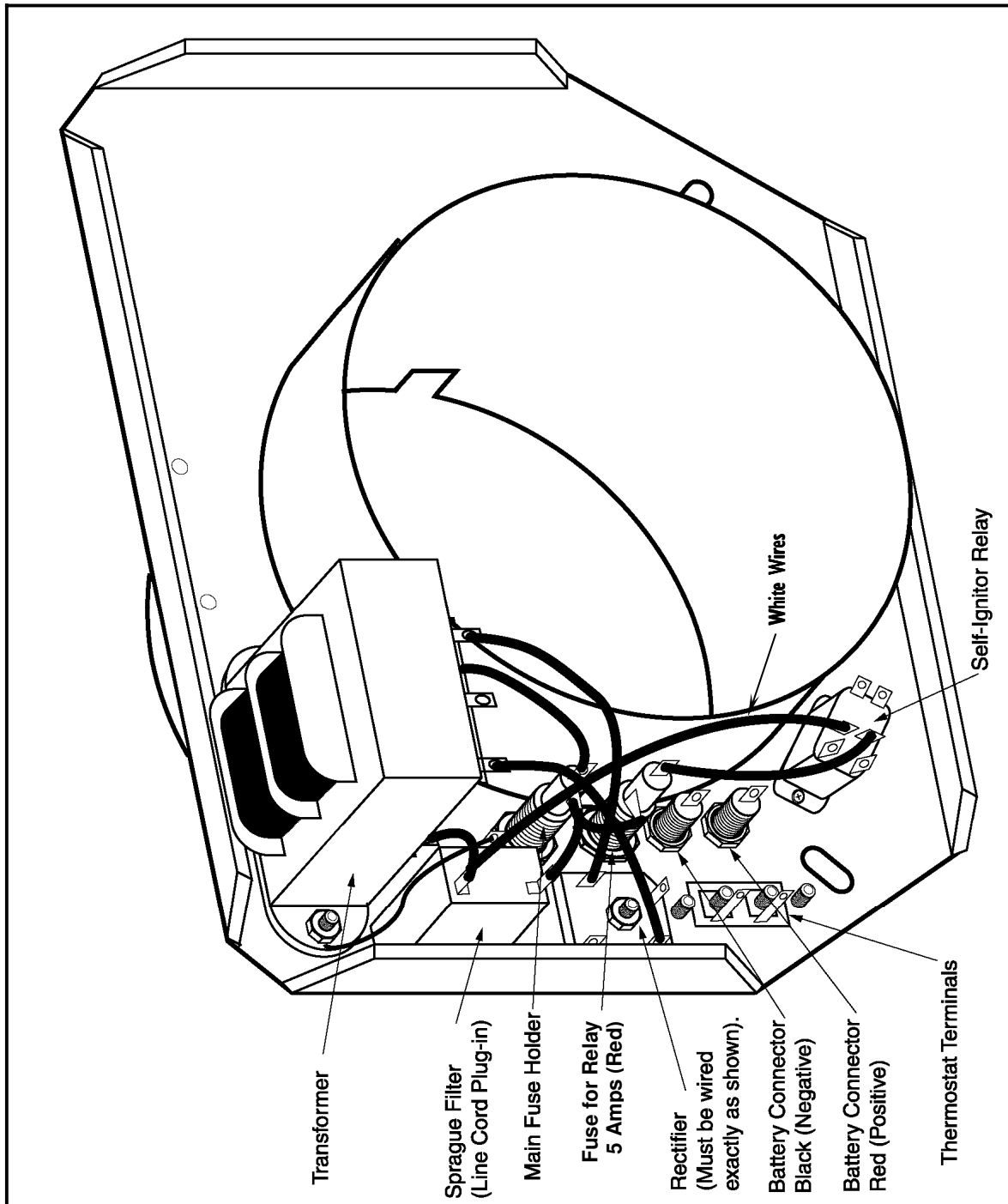
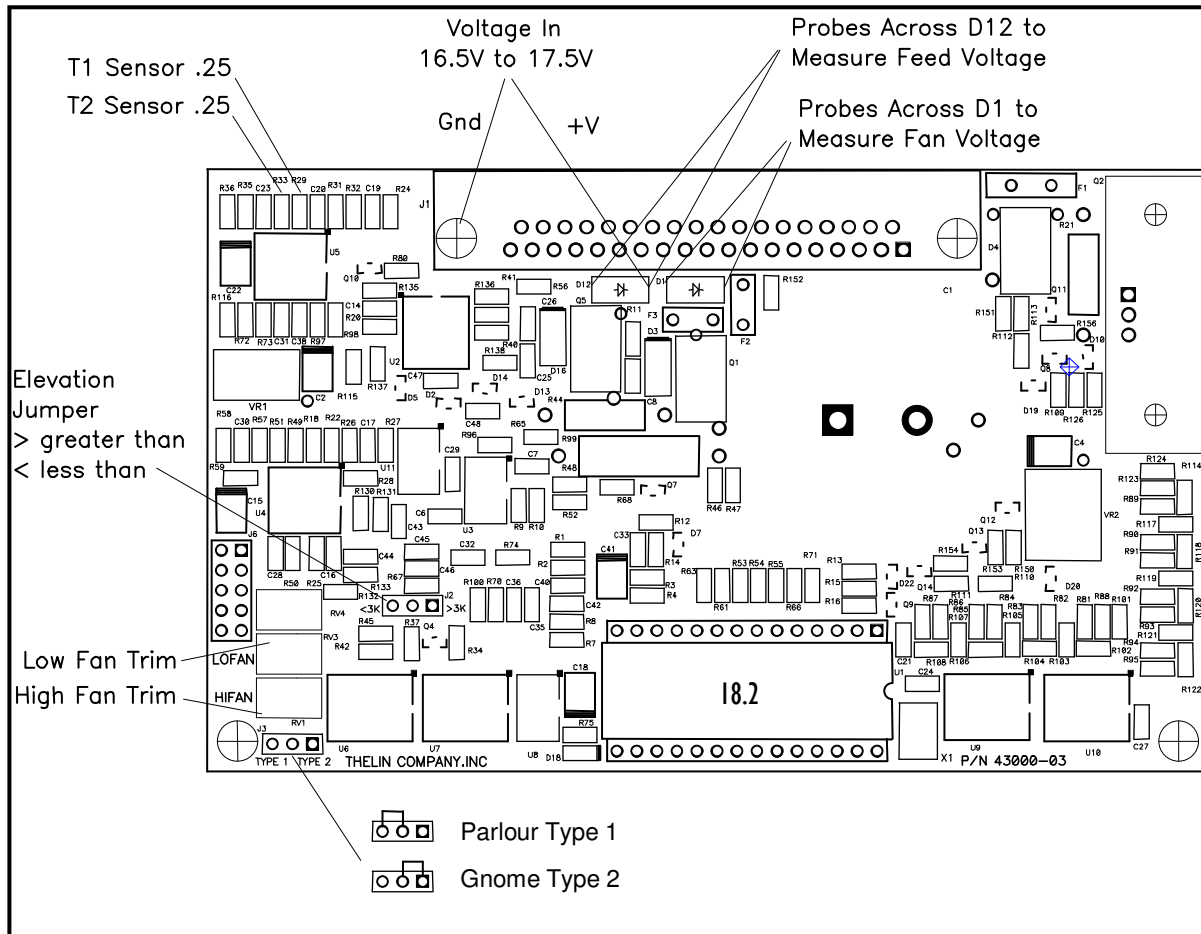


FIGURE 8 – GNOME E.I. TRANSFORMER PLATE BACK VIEW



# THELIN HEARTH PRODUCTS

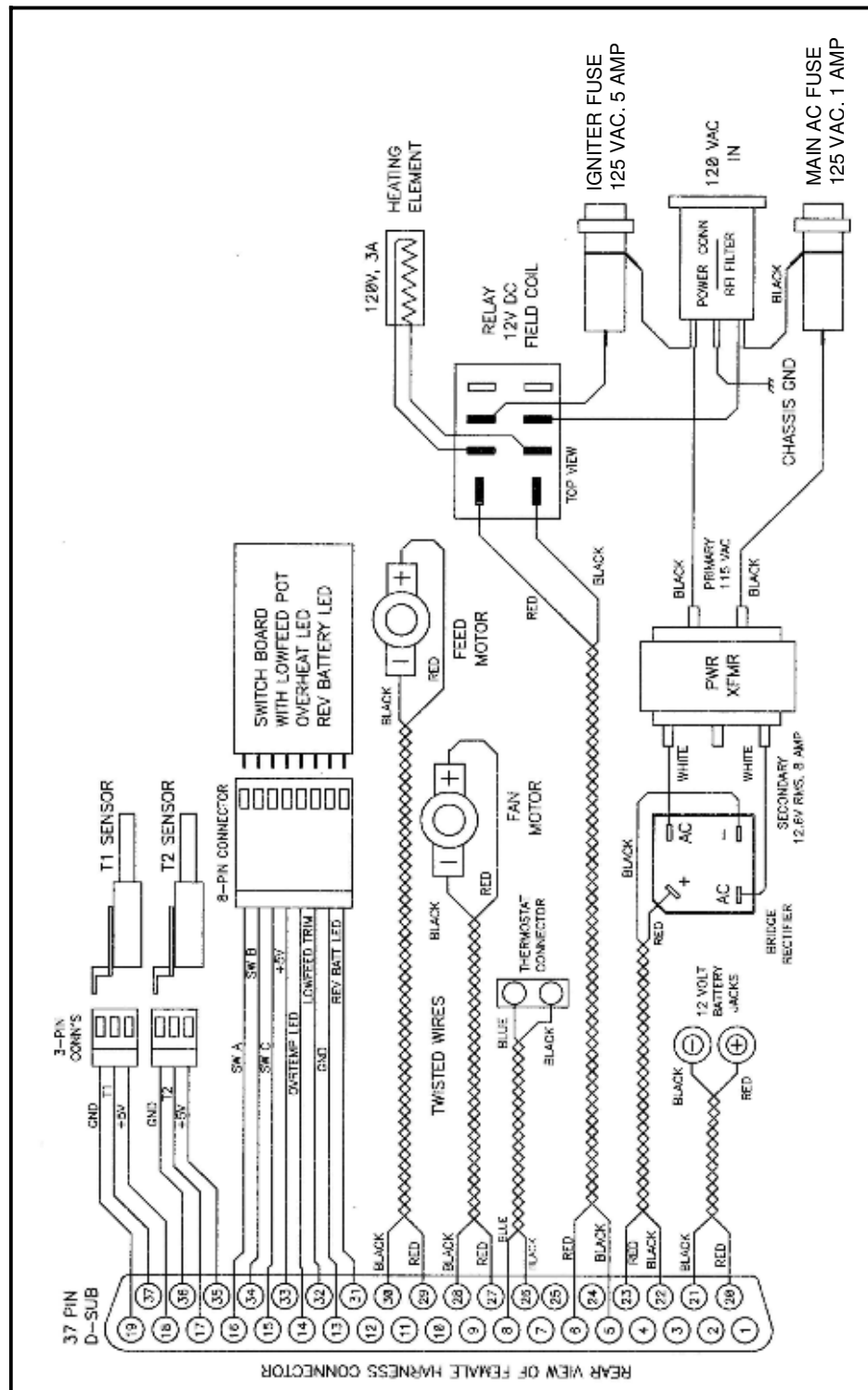
**FIGURE 9 – PARLOUR & GNOME NON-E.I. & E.I. CIRCUIT BOARD DIAGRAM  
(2004 TO PRESENT)**



Call Factory for 18.6 Chip/Thermostat Operation.

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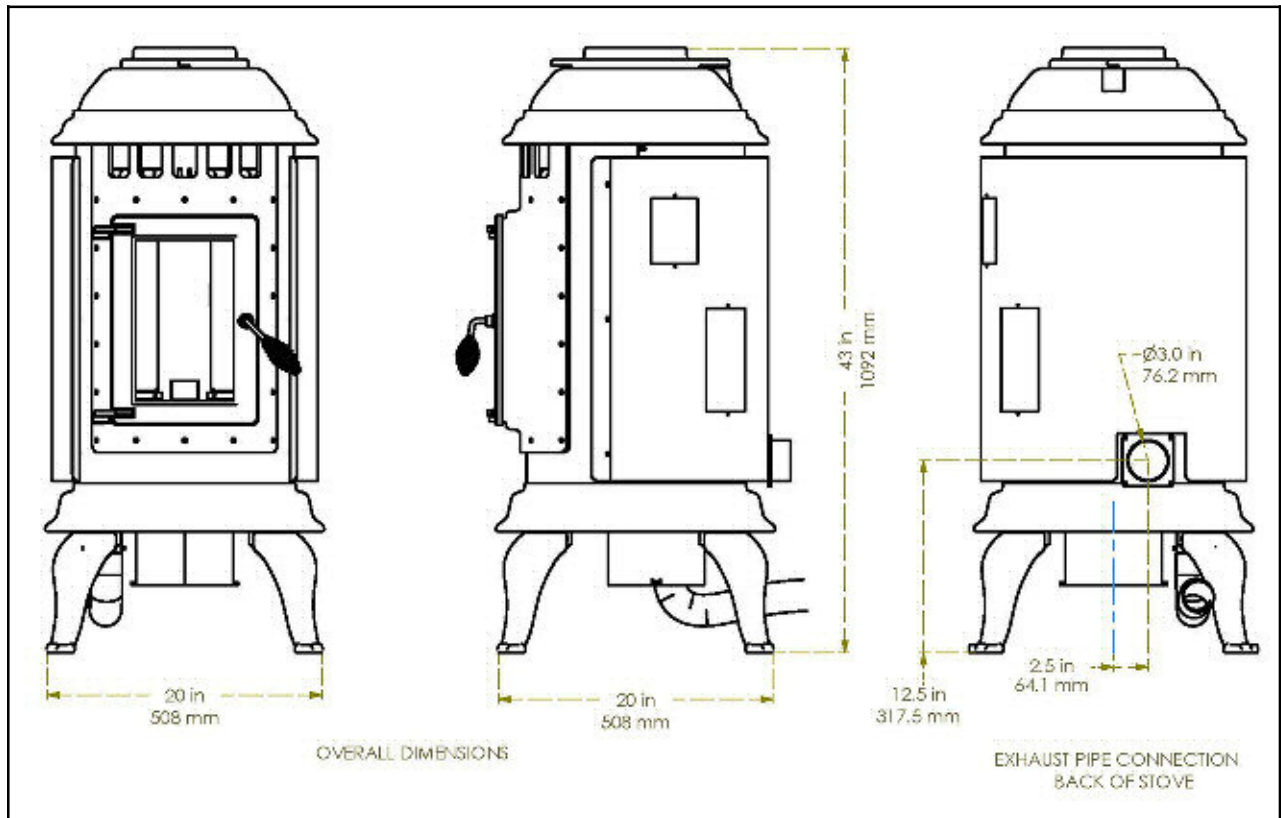
FIGURE 10 – GNOME & PARLOUR E.I. ELECTRICAL SCHEMATIC (2005)



## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

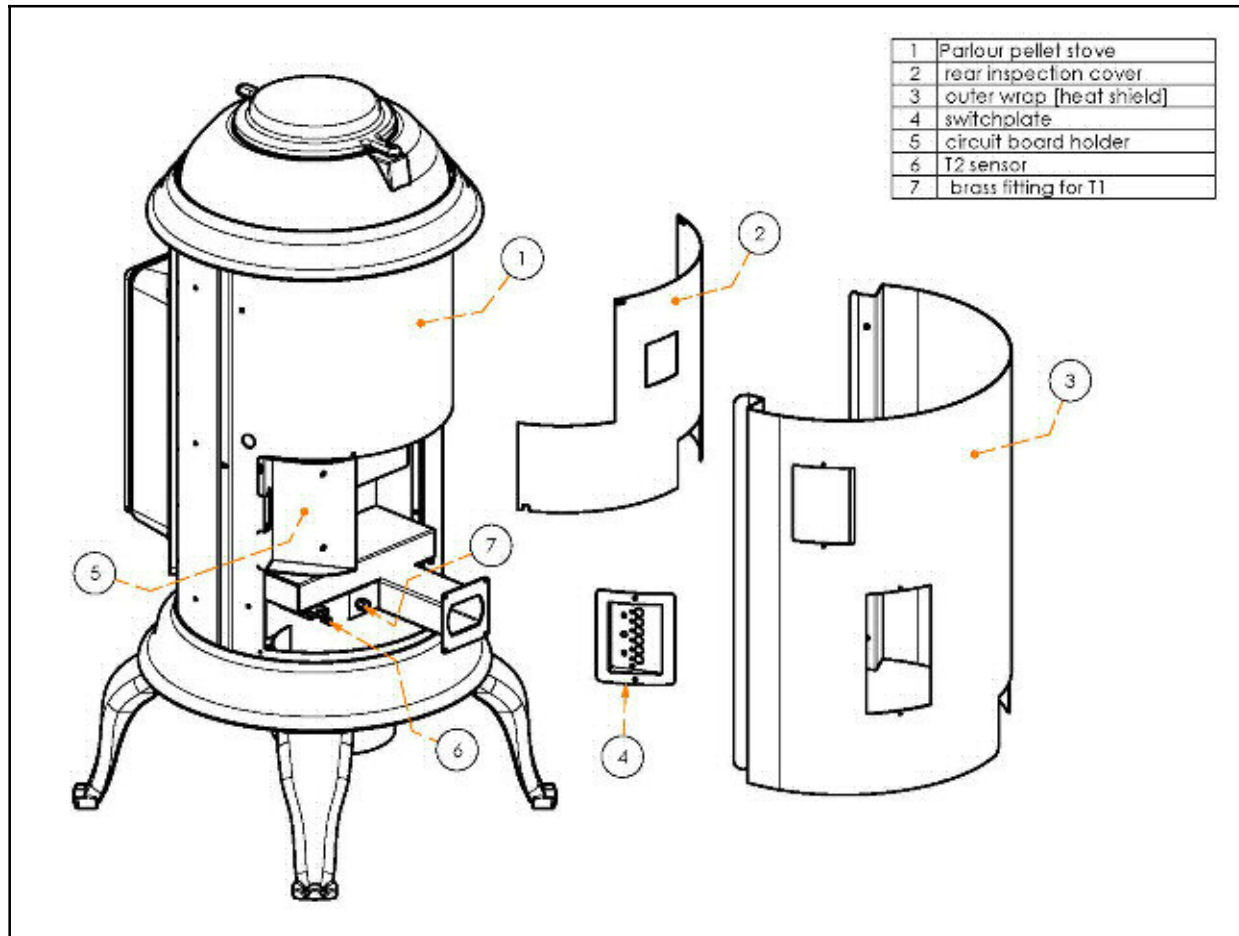
**FIGURE 11 – PARLOUR PELLET EI II VIEWS & DIMENSIONS**



## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

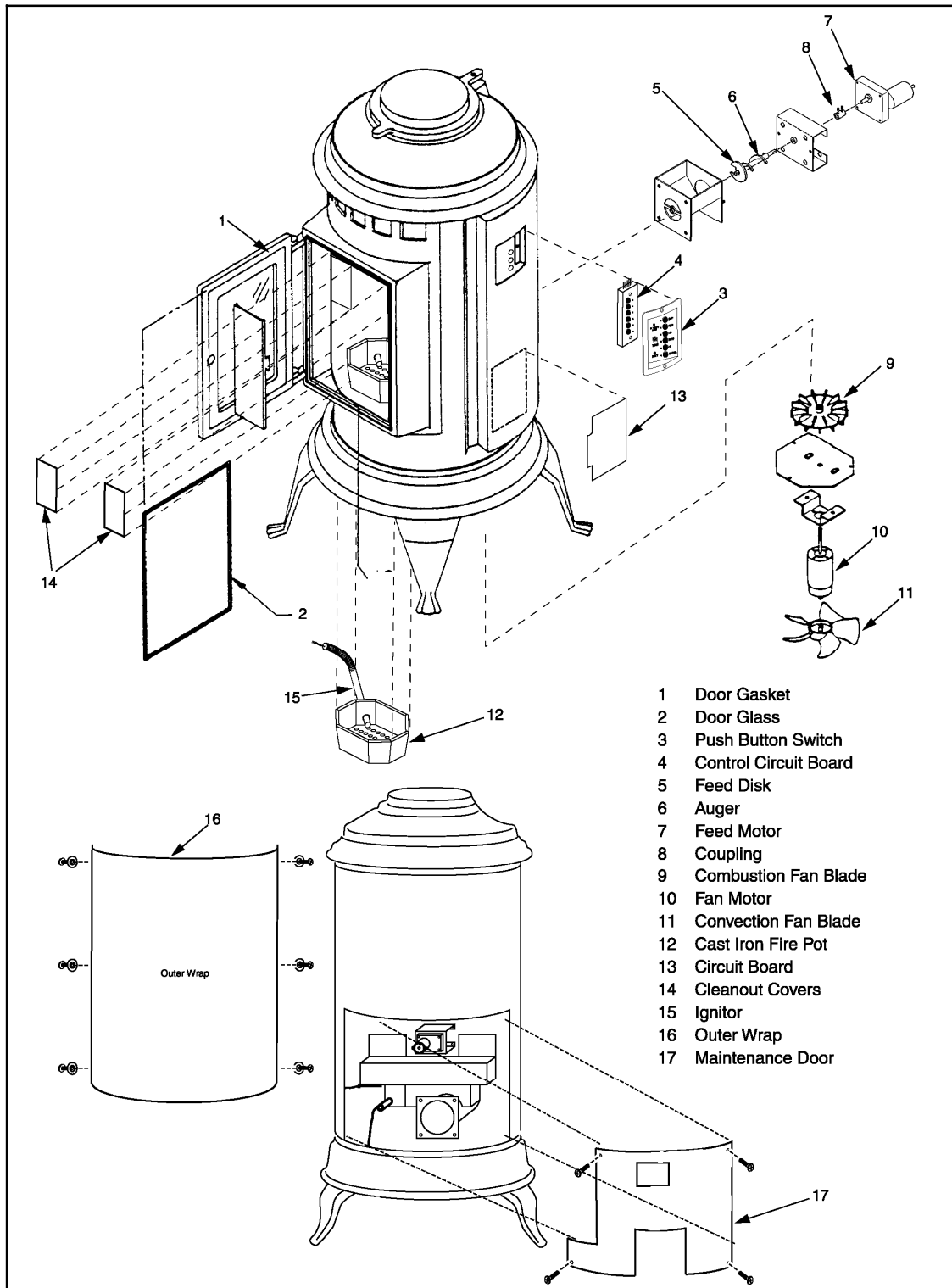
**FIGURE 12 – PARLOUR PELLET EI II COMPONENTS REAR VIEW**



# THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

**FIGURE 13 – PARLOUR PELLET EI II EXPLODED VIEW**

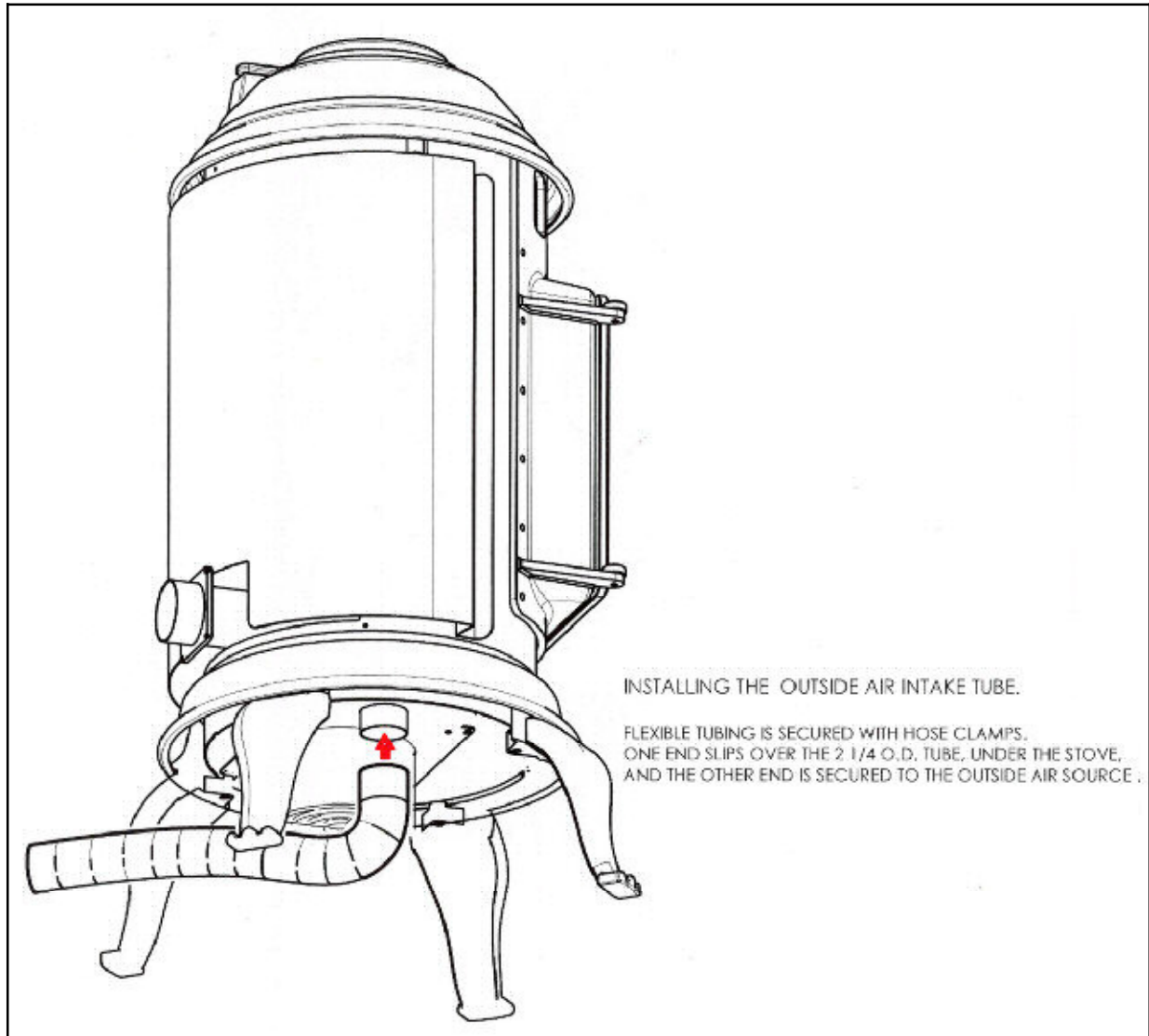


## THELIN HEARTH PRODUCTS

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Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

**FIGURE 14 – PARLOUR PELLET EI II OUTSIDE AIR HOOK-UP**

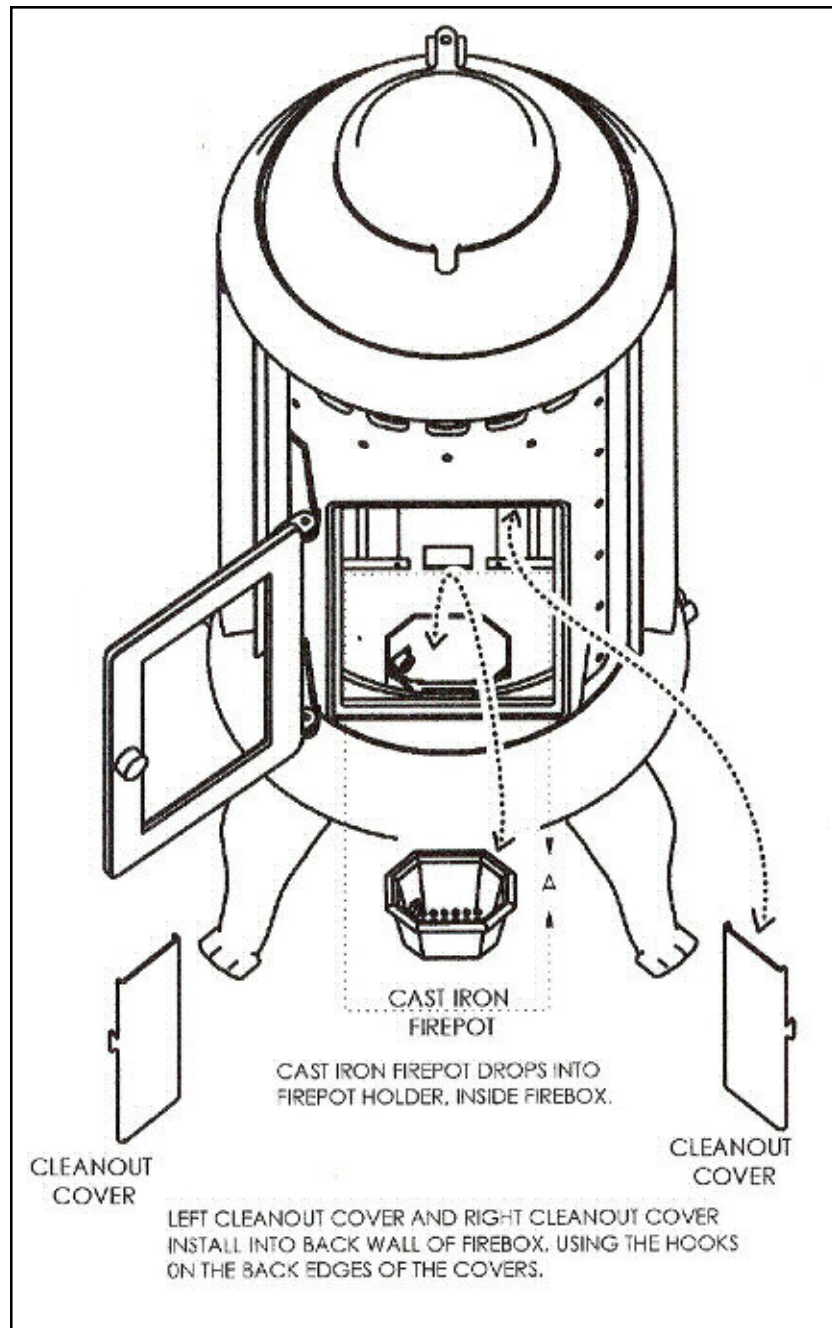




## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

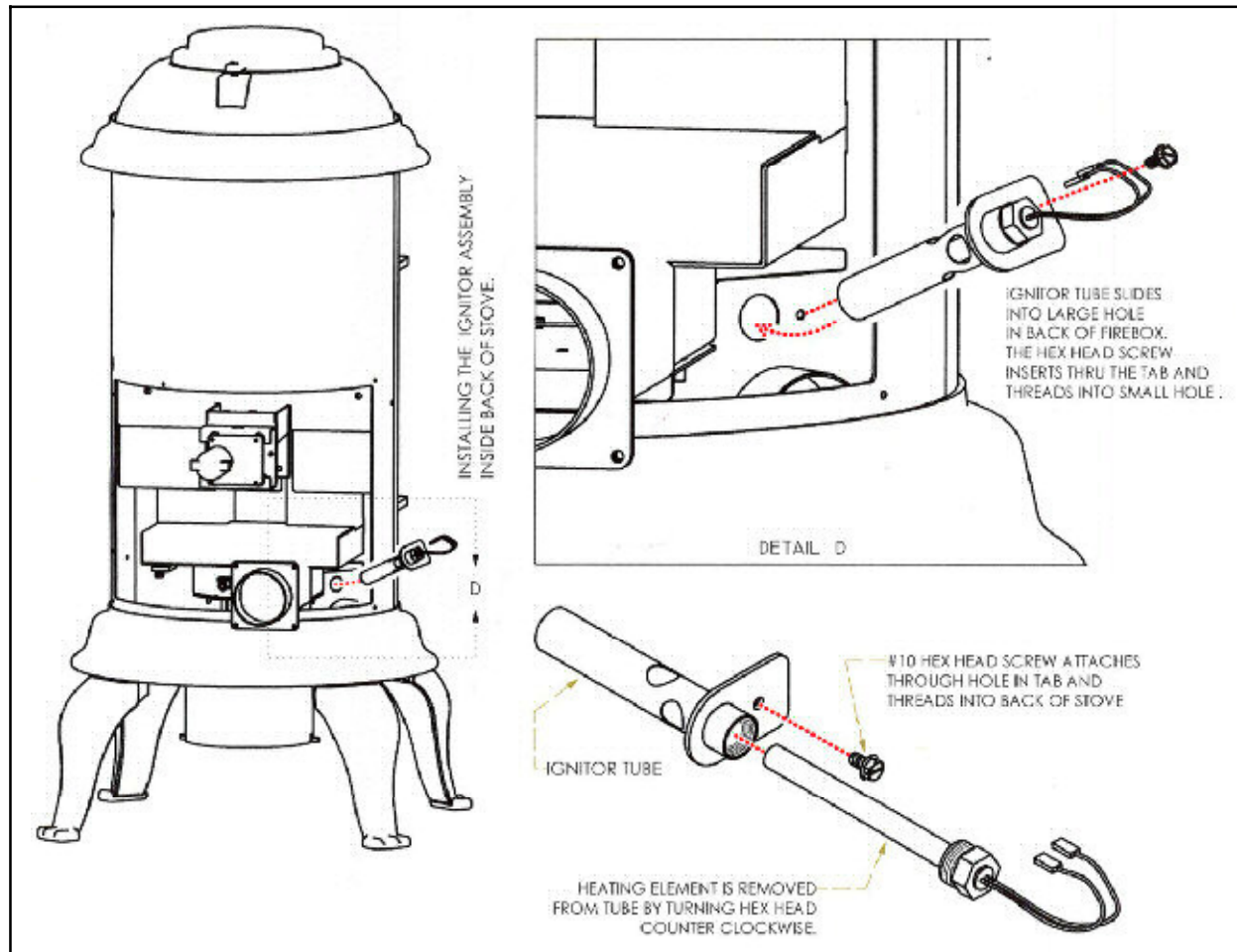
**FIGURE 15 – PARLOUR PELLET EI II FIRE POT PLACEMENT & CLEAN-OUT COVERS**



## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

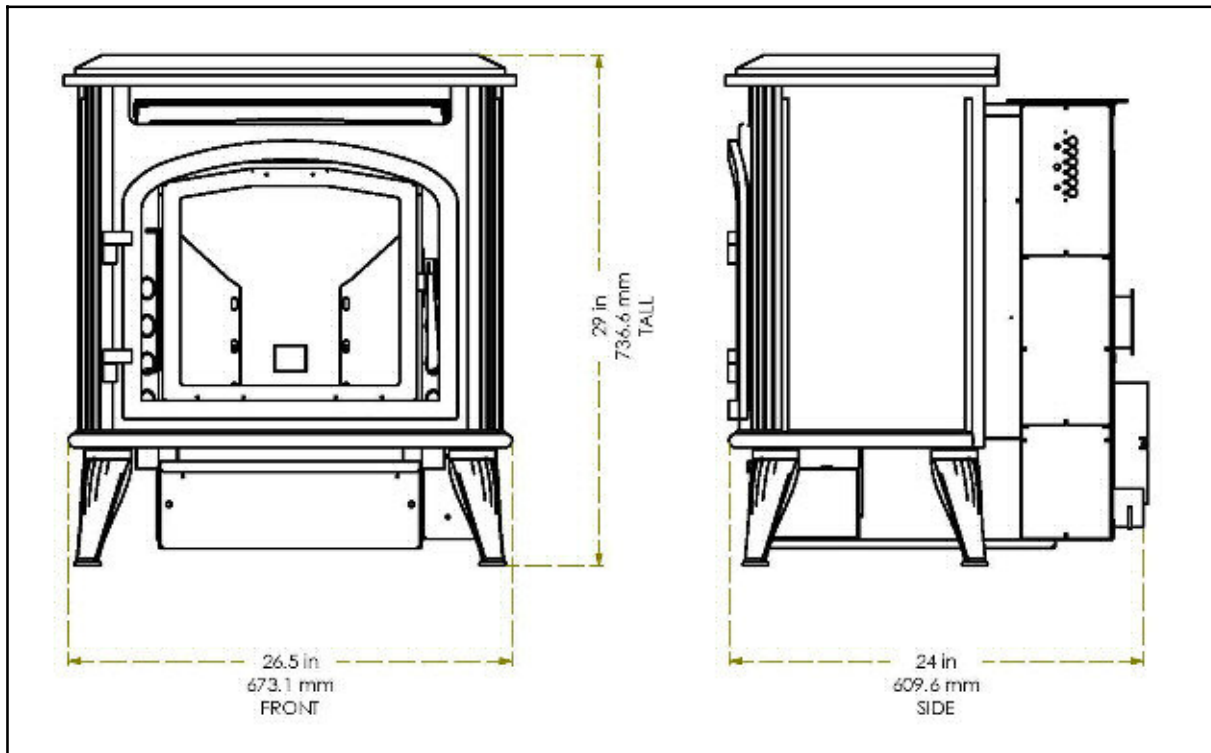
**FIGURE 16 – PARLOUR PELLET EI II IGNITER REMOVAL & REPLACEMENT**



## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

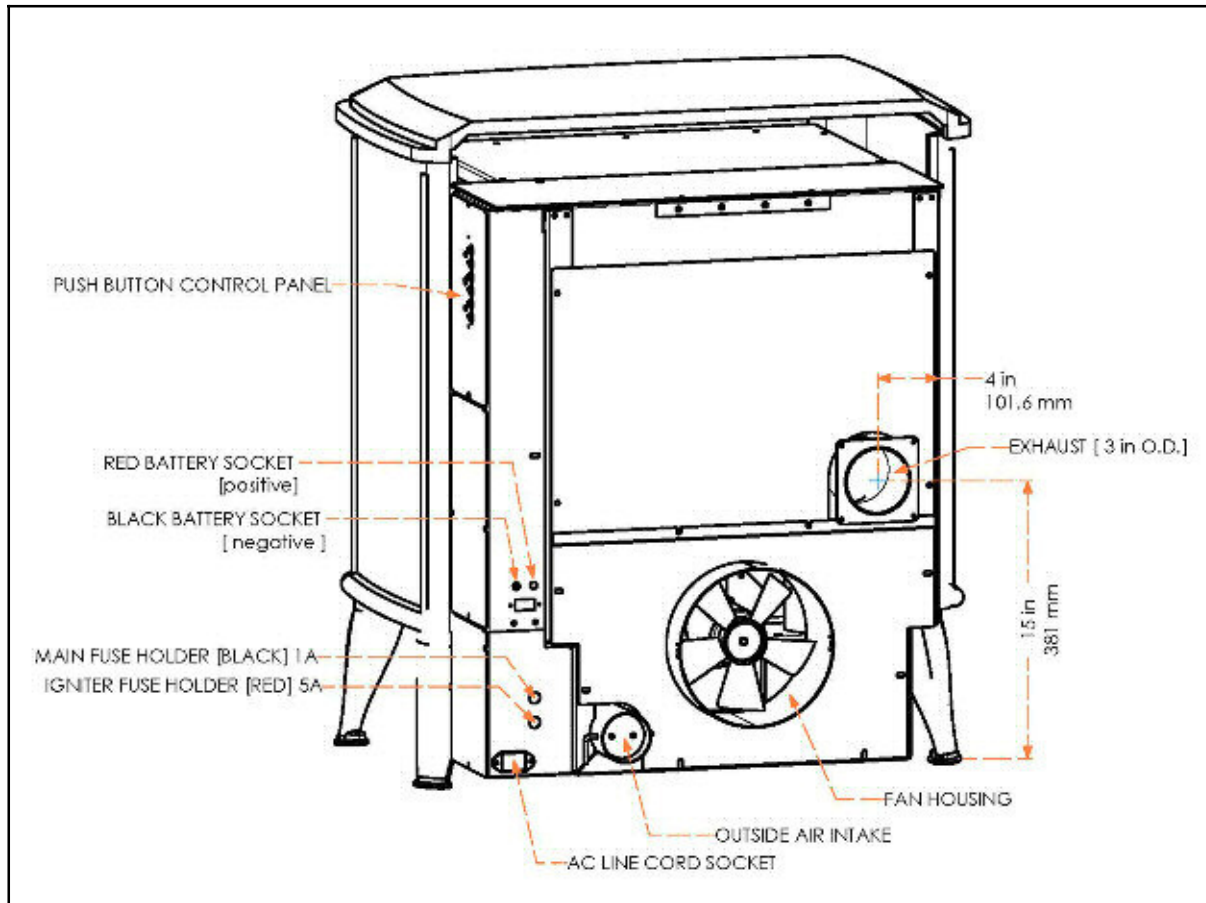
**FIGURE 17 – ECHO PELLET EI II VIEWS & DIMENSIONS**



## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

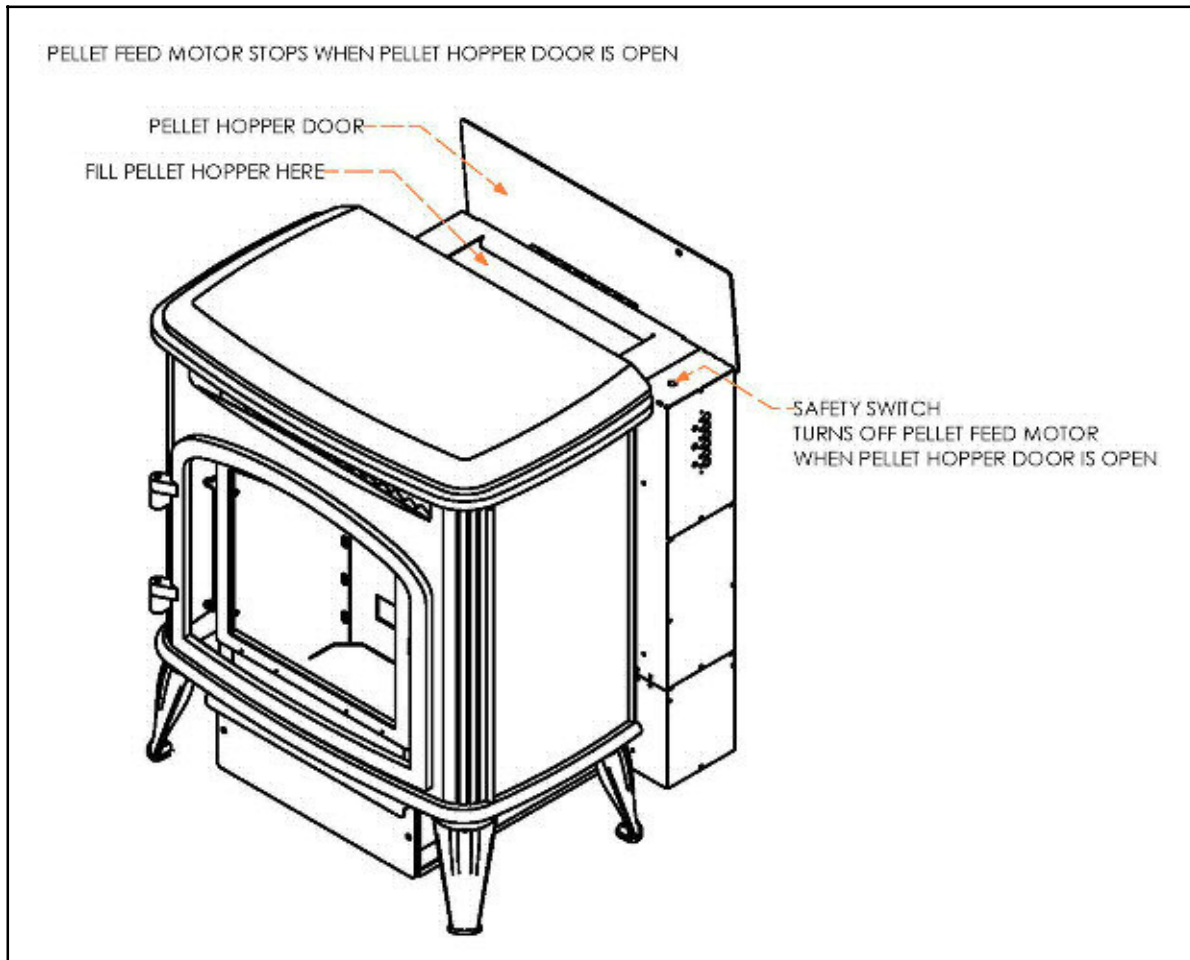
**FIGURE 18 – ECHO PELLET EI II COMPONENT REAR VIEW**



## THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

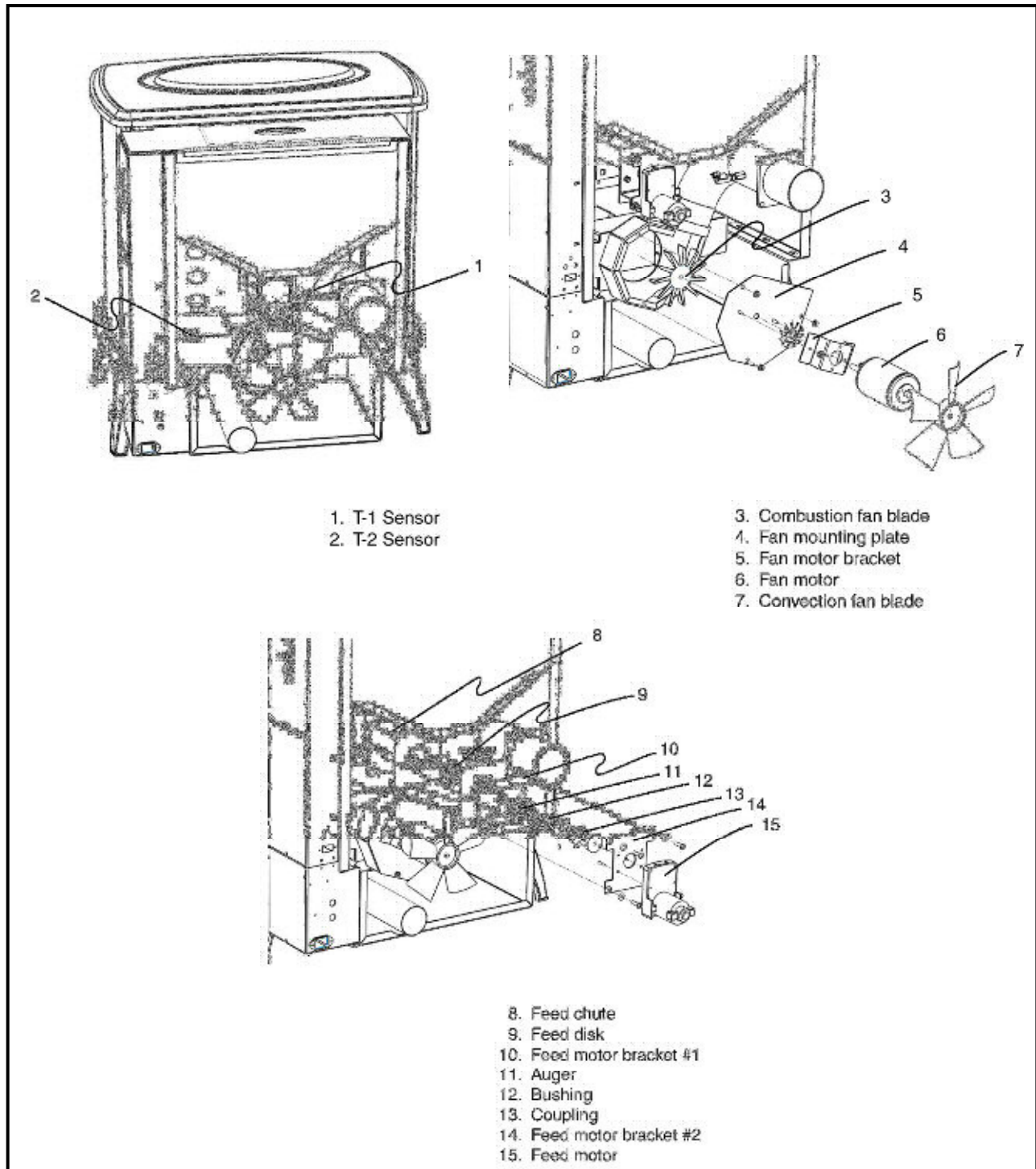
**FIGURE 19 – ECHO PELLET EI II HOPPER LID/SAFETY SHUT OFF**



# THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

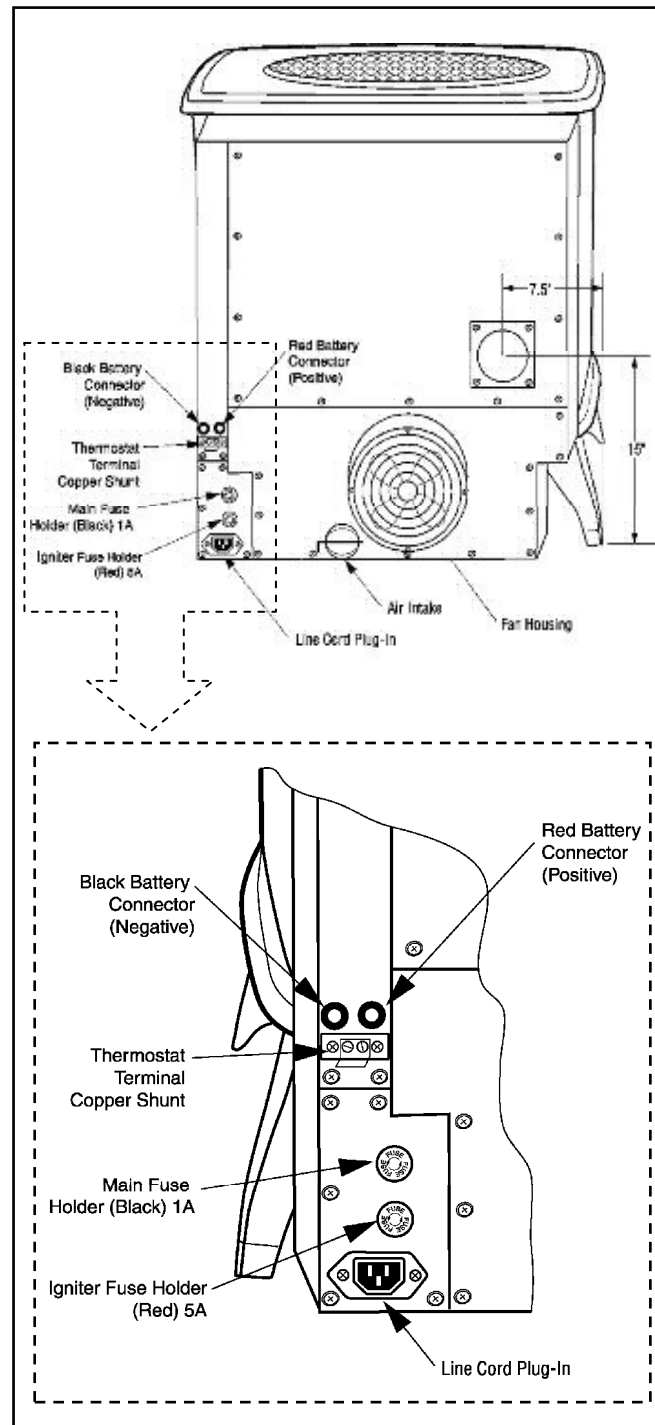
**FIGURE 20 - ECHO PELLET EI II EXPLODED VIEWS**



# THELIN HEARTH PRODUCTS

Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

**FIGURE 21 – ECHO PELLET EI II ELECTRICAL VIEW**

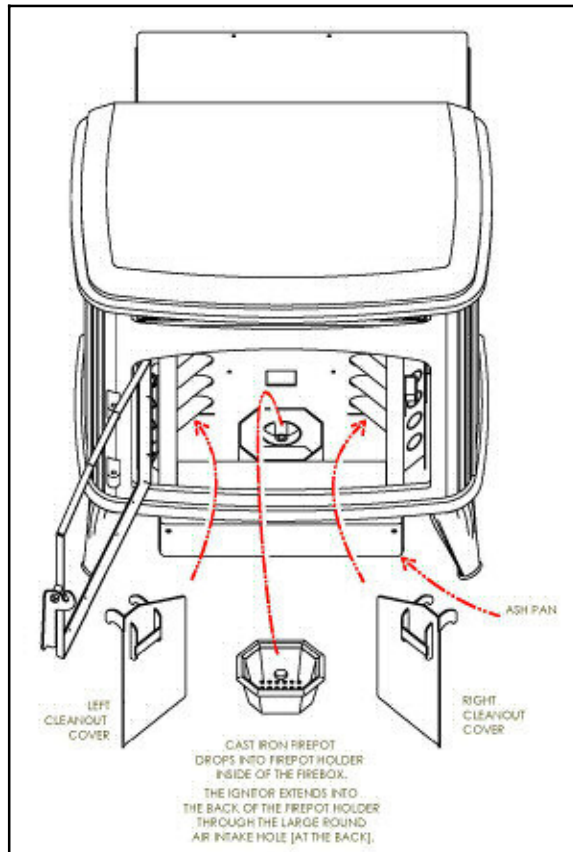




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Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

**FIGURE 22 – ECHO PELLET EI II FIRE POT PLACEMENT & CLEAN OUT**



The following is a step-by-step procedure to clean out and maintain your pellet stove.

1. **Stove must be shut off and completely cold before performing this maintenance.**
2. Open door; remove fire pot and clean-out covers.
3. Vacuum entire inside area, including heat exchanger tubes (both sides), using a pellet vac or shop vac. **Do not use a household vacuum cleaner!**
4. Connect vinyl clean-out tube to pellet vac or shop vac. (An adaptor must be used to connect to a shop vac. These can be purchased at hardware stores or home centers.) Insert the clean-out tube down between the heat exchange tubes, and vacuum up the debris. Repeat the procedure for the other set of tubes on opposite side.
5. Turn control knob to “clean” position for about 45 seconds.
6. Replace clean-out covers and fire pot. The stove is now ready to use.

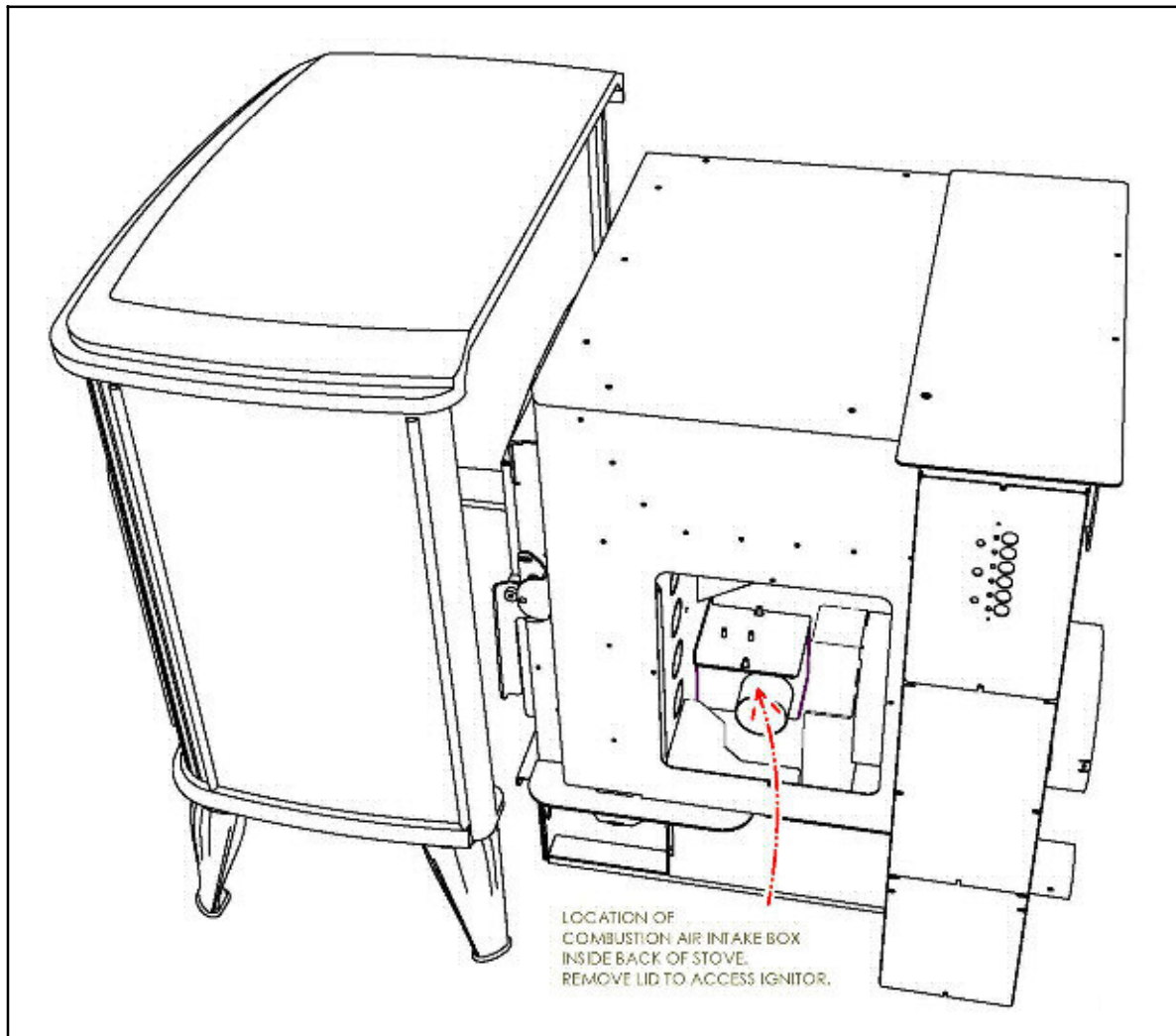


## THELIN HEARTH PRODUCTS

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Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

**FIGURE 23 – ECHO PELLET EI II IGNITER ACCESS**

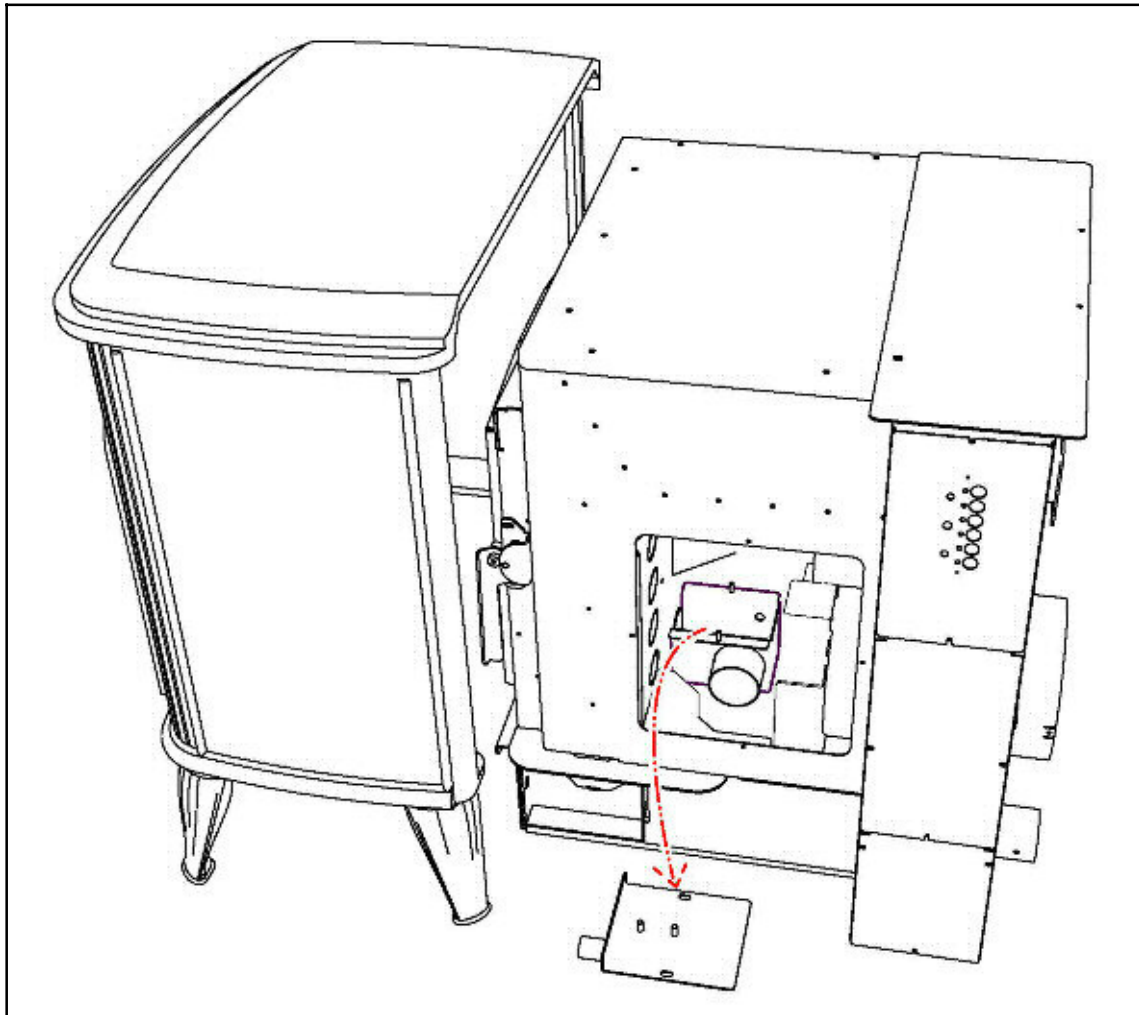


## THELIN HEARTH PRODUCTS

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Parlour II and Echo II Upgrades ~ New Cast Iron Firepot & Igniter

**FIGURE 24 – ECHO PELLET EI II IGNITER REPLACEMENT**



# THELIN HEARTH PRODUCTS

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## Appendix A - Removal and Change Out of Fan Module for Gnome and Parlour Pellet 3000

Following is a step-by-step procedure for changing the fan module in the Parlour/Gnome Pellet stove:

1. Remove stove from pipe and move to an area that will allow you to turn the stove over.
2. Remove top lid, fire pot, and clean-out covers and take the door off by lifting it straight up.
3. Turn the stove over and stand it on its top. With the top lid off it will stand by itself if placed on hard floor or piece of plywood.
4. Remove the four screws that hold the bottom electronic plate to the stove. These screws are marked numbers 1, 2, 3, and 4 on Figure 5 and Figure 7.
5. Gently lift the bottom plate up and stand it against two of the legs. Be careful as there are wires attached to this module. You will now see the white plastic fan that is attached to the fan motor. Remove this fan blade by prying up the locking clip with a small pocket knife blade. When the locking clip is removed, the fan blade will pull off of the motor shaft. Next, remove the wires from the motor. Notice the red wire goes on the red side and the black wire goes on the black side.
6. You will find three screws with nuts holding the fan motor mounting plate to the body of the stove. Remove these screws using an 11/32 socket or wrench. The fan motor will now pull up and out of the stove. Clean the surfaces and place the gasket on the three screws.
7. Place the new motor and mounting plate on the screws and re-install the nuts. Tighten snugly but be careful not to over tighten as you can break off the screws. A good, snug fit will work fine.
8. You must now caulk that section of the mounting plate that has the bend in it where it mates with the exhaust flange. Use a hi-temp **red** silicone that can be purchased at any auto parts store. This is very important as the stove can leak exhaust from this area if it is not sealed with the silicone. Check the entire perimeter of the plate for leaks and caulk where necessary.
9. This completes the fan installation. Now you must put the fan blade and bottom electronic module back on, **being careful to keep the wires free of the fan blade**. When these parts are secure, you can turn the stove back over and put the door on, and replace the clean-out covers and place the fire pot in its holder.

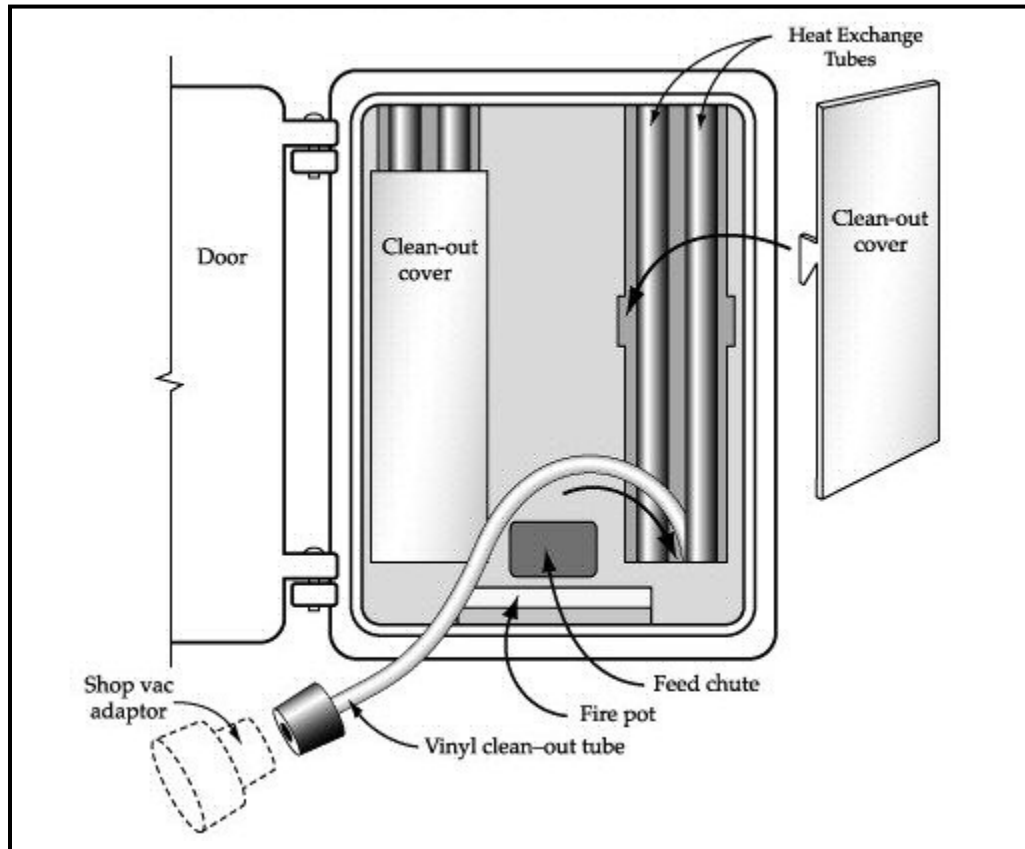
Call the factory if you need help at (800) 949-5048.

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### Appendix B - Routine Stove Clean Out and Maintenance for Gnome and Parlour Pellet 3000



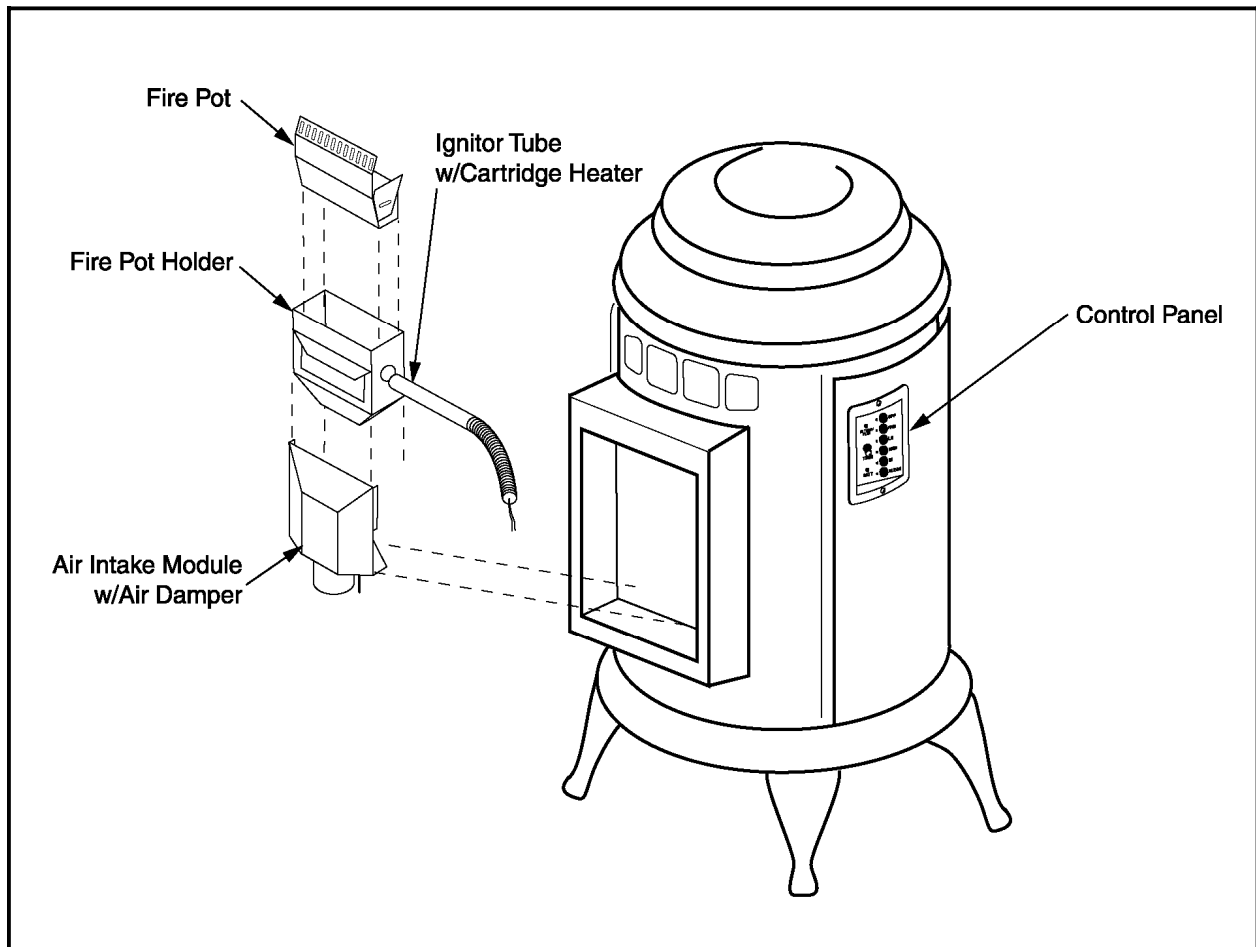
The following is a step-by-step procedure to clean out and maintain your pellet stove.

7. **Stove must be shut off and completely cold before performing this maintenance.**
8. Open door; remove fire pot and clean-out covers.
9. Vacuum entire inside area, including heat exchanger tubes, using a pellet vac or shop vac. **Do not use a household vacuum cleaner!**
10. Connect vinyl clean-out tube to pellet vac or shop vac. (An adaptor must be used to connect to a shop vac. These can be purchased at hardware stores or home centers.) Insert the clean-out tube down between the heat exchange tubes (approx. 4" to 6") as shown in the picture, and vacuum up the debris. Reposition the tube several times to get as much debris as possible. Repeat the procedure at the other set of tubes. **Remove vinyl clean-out tube.**
11. Turn control knob to "clean" position for about 45 seconds.
12. Replace clean-out covers and fire pot. The stove is now ready to use.

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## Appendix C – Firepot Assembly for Gnome and Parlour Pellet E.I.

### E.I. FIREPOT/IGNITER ASSEMBLY



#### Change out of Igniter

To remove and replace igniter you must remove the outer shield and rear maintenance door on the stove (both Parlour and Gnome). Once removed you can access the igniter terminal connection on the relay (see Figure 6 Parlour and Figure 8 Gnome). Unplug the white wires from the igniter to the relay and pull igniter out through front of stove. The wires from the igniter to the relay will have to be removed from the plastic wire harness clips located inside the rear of the stove. Simply trace the white wires back to the relay and release them from the harness clips as necessary. Once removed the igniter can be replaced and re-assembled in the same manner it was removed.

## THELIN HEARTH PRODUCTS

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### Appendix D – Fine Tuning of Stoves for Gnome and Parlour Pellet E.I.

Because of the variability of pellets (i.e., length thickness, density, quality of sawdust), you might have to—from time to time—fine tune your heater to compensate for pellet quality. Following are some suggestions for fine tuning.

There are three (3) fine-tuning adjustment components:

1. The Trim Button located on the control plate (see Figure 4) will allow you to change the feed rate on each setting (i.e., Hi, Med, Low). By turning the trim button clockwise you can increase the feed rate, and by turning the trim counterclockwise you can decrease the feed rate. For example, if the pellet you are using is a hardwood pellet and longer than 1", then the stove could go out on the low setting for lack of fuel. Turn the trim clockwise to increase fuel and thus sustain the fire.
2. The Air Intake Damper control located on the air intake module (see Appendix C) will allow you to regulate the amount of combustion air being fed to the pellet fire pot. If, for example, you have a high vertical run of pipe (over 10') then as the pipe warms up the draw can be intense enough to suck more heat out of the stove than is necessary. To make the stove run efficiently you need to close the damper about 60% and see if the heat output increases. If, on the other hand, you feel the pellets are not getting enough air, then opening the air damper could help. You can also increase combustion air utilizing the procedure in #3.
3. The Fan Trim Pot Adjustment is located on the circuit board (see Figure 9). Please note the two fan trim pots marked on the drawing (lower left hand corner). By using a small slot screwdriver you can adjust fan speeds to compensate for poor pellets or airflow. By turning the trim pots clockwise you can speed up the fan speed on both Hi and Low settings. You will have to experiment with the setting to determine the proper burn. A good, brisk flame that is yellow, not orange, is what indicates a good burn. You can also use the FTM80 Test Module to make precise adjustments.

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