

Service Manual PP60 / PP60-B / PP70 / PP130 / PP130-B / PP150







DIAL CONTROL PELLET STOVES

Table of Contents

SEQUENCE OF OPERATION FOR START UP	
SEQUENCE OF OPERATION FOR SHUT DOWN	
CLEANING THE EXHAUST BLOWER	
CLEANING THE CONVECTION BLOWER FIRE POT CLEANING AND PROPER INSTALLATION	
HOW TO REMOVE AND CLEAN BAFFLES	
AMBIENT PROBE INFORMATION	
IGNITER PLACEMENT	
	PAGE 42

ALARM CODE

1 FLASH: EMPTY HOPPER	PAGE 9
2 FLASHES: EXHAUST PROBE FAILURE	PAGE 12
3 FLASHES: AMBIENT PROBE ALARM	PAGE 13
4 FLASHES: MISSED IGNITION	PAGE 14
8 FLASHES: EXHAUST OVER TEMPERATURE	PAGE 17

SYMPTOM

NOT FEEDING PELLETS	PAGE 19
NOT LIGHTING THE PELLETS	
LAZY OR SOOTY FLAMES	PAGE 25
NO POWER	PAGE 26
CONVECTION BLOWER NOT COMING ON	PAGE 32
EXHAUST BLOWER NOT COMING ON	PAGE 33

COMMON TROUBLESHOOTING

TRIM ADJUSTMENT CLEARING AN AUGER JAM	
TESTING THE IGNITER FOR OHMS	
TESTING THE IGNITER FOR VOLTAGE	
TESTING VOLTAGE TO THE CONVECTION BLOWER	
TESTING THE HOPPER LID SWITCH WITH A MULTIMETER TESTING THE VACUUM SWITCH WITH A MULTIMETER	
CONTROL BOARD VOLTAGE TEST FOR THE FEED MOTOR	
FEED MOTOR VOLTAGE TEST	PAGE 23
SNAP DISK LOCATION AND HOW TO RESET	
FUSE LOCATION AND HOW TO CHECK	
POWER POWER	
TESTING THE SNAP DISK FOR POWER	
CONTROL BOARD POWER TEST	
EXHAUST BLOWER VOLTAGE TEST	
VACUUM SWITCH VOLTAGE TEST	PAGE 35



PELPRO TROUBLESHOOTING MANUAL

INTRODUCTION

The purpose of this troubleshooting guide is to provide step by step procedures for diagnosing issues with the PelPRO PP60, PP60-B, PP70, PP130, PP130-B, PP150. A digital or analog multimeter will be required for many of the troubleshooting steps in this guide.

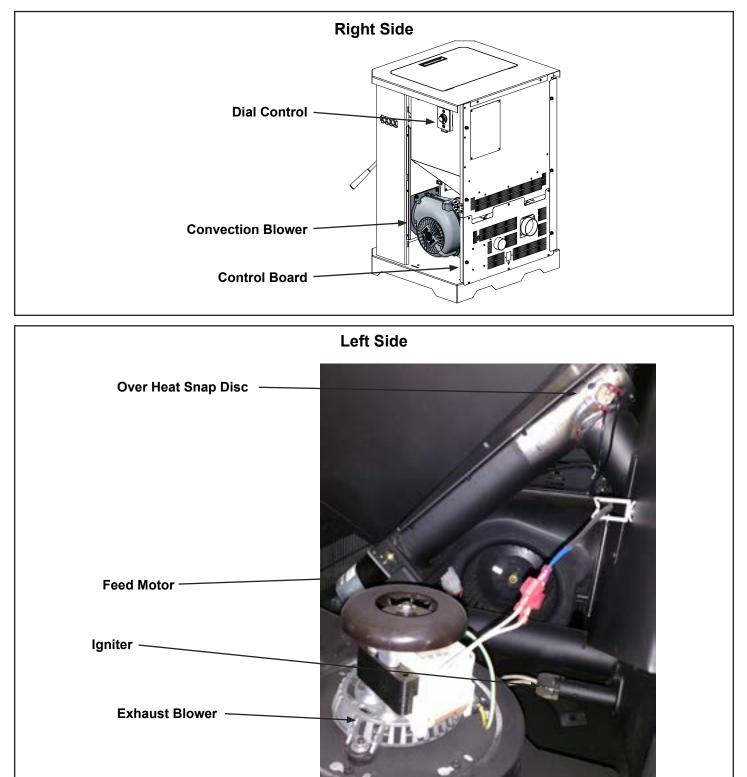
When troubleshooting with the multimeter, it's important to disconnect the appliance from wall power while locating the electrical connections that need to be checked. Connect the multimeter to the test locations detailed in this guide and then plug the appliance back into wall power. Take care to avoid letting any exposed wires or connectors from contacting the metal chassis of the appliance or from touching exposed skin. The appliance is energized with 115VAC power from the wall and there is a risk of shock or electrocution. If you are not familiar or comfortable working with energized electrical circuits, please contact a certified NFI Installer or certified electrician to complete that portion of troubleshooting.

When instructed to check a appliance for power from the control board, the multimeter will need to be set to check Voltage, often displayed as "V" on the meter. If the meter is not auto-sensing, AC voltage will need to be chosen when specified in the instructions. AC voltage is also sometimes shown as ~ V on a multimeter. If instructed to check VDC, DC voltage will have to be chosen on the multimeter. Voltage checks are typically used when motors and blowers are not running and we are attempting to determine if the component is bad or is the control board is not sending power to the component.

Some components can be verified for functionality by checking the resistance of the part. Igniters and fuses are the most common parts that can be verified by resistance checking with a multimeter. Resistance is measured in ohms (Ω) and most multimeters will have that symbol next to the resistance setting. Unlike voltage, resistance is always measured with the appliance completely de-energized from wall power. There is no risk of shock or electrocution when the appliance is unplugged from wall power and components are being verified for resistance. When resistance is being checked, this manual will provide an expected resistance in Ω , however a number slightly above or below the specified value does not indicate a bad component. If the multimeter shows MAX or Out of Range, this indicates infinite resistance, meaning an open circuit and a bad component. A resistance of 0 ohms for a component indicates an electric short circuit and again a bad component.



PART LOCATIONS Note: Other models are in similar location.







ERROR CODE DEFINITIONS



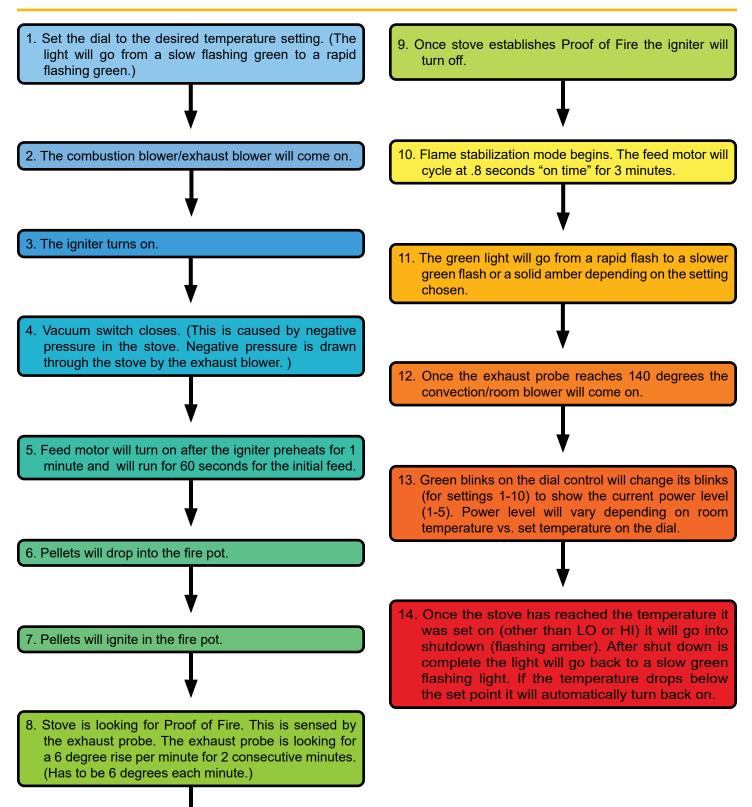
Alarm code will be displayed on the dial control as ______a series of red blinks.



1 Red Blink	Empty Hopper Alarm. Most likely the appliance ran out of fuel or the flames are adjusted too low.
2 Red Blinks	Exhaust Probe Failure. A bad connection on the probe or a broken wire.
3 Red Blinks	Ambient Probe Failure. A bad connection on the probe or a broken wire.
4 Red Blinks	Missed ignition. Appliance failed to light the fuel or read a rise in temperature.
8 Red Blinks	Exhaust temperature over heat alarm. Appliance got too hot. Check the heat exchanger and exhaust system for obstructions.

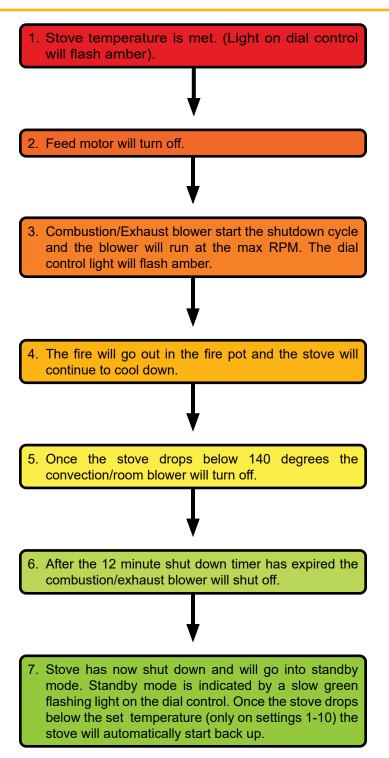


SEQUENCE OF OPERATION FOR STARTUP



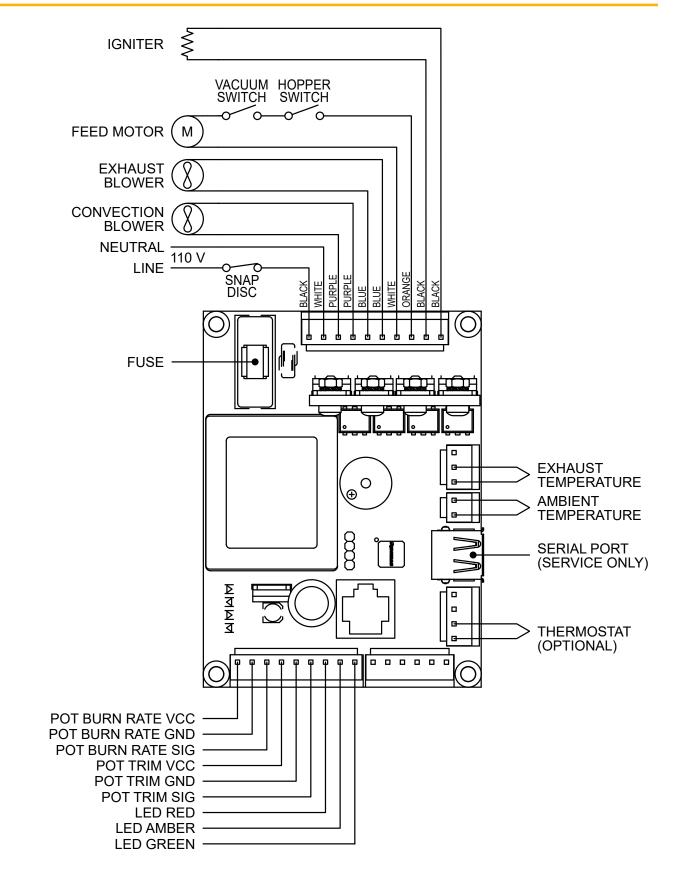


SEQUENCE OF OPERATION FOR SHUTDOWN





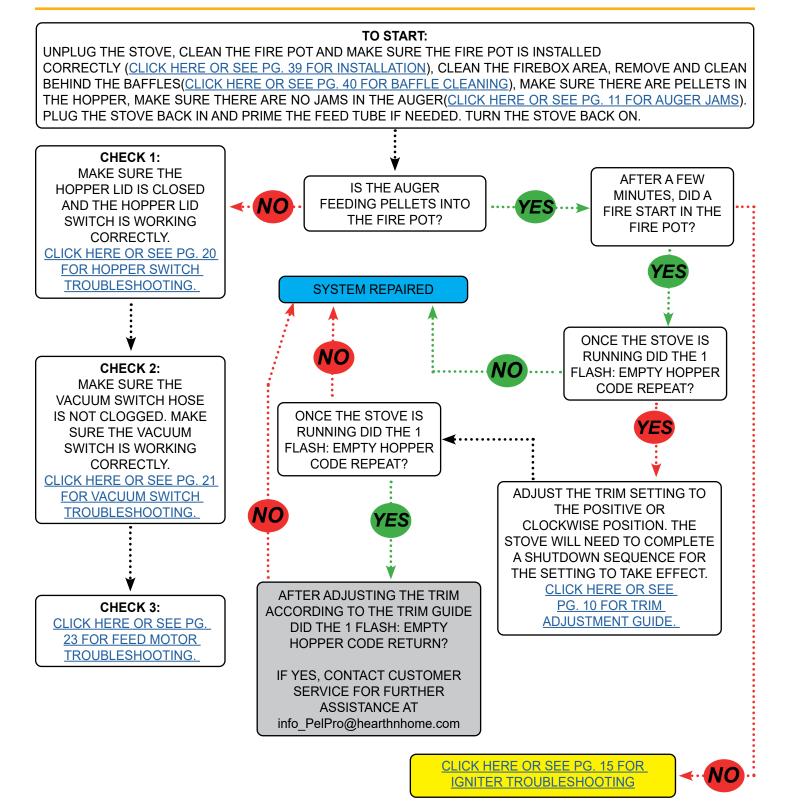
WIRING DIAGRAM



8

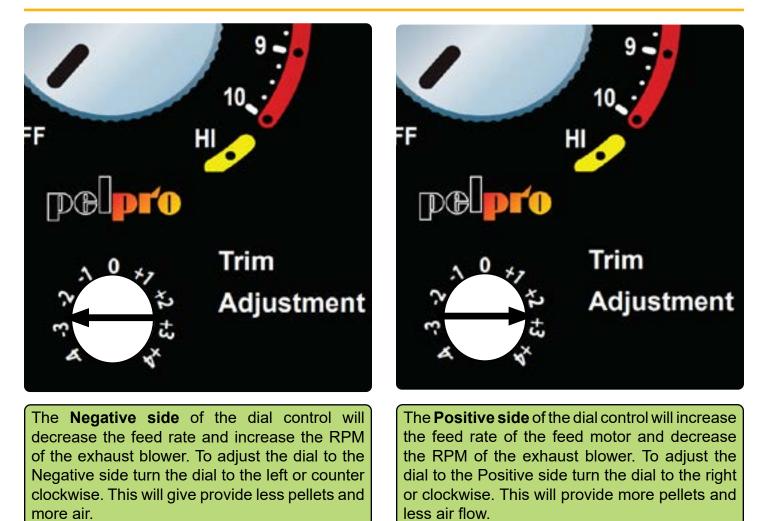


1 FLASH: EMPTY HOPPER





TRIM ADJUSTMENT GUIDE



USES FOR ADJUSTING THE TRIM:

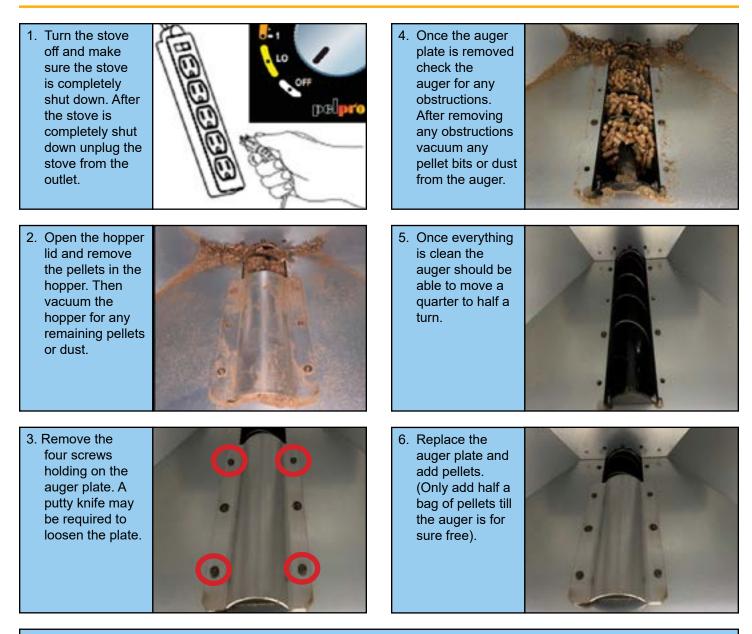
- LAZY FLAMES
- SOOTY FLAME
- EMPTY HOPPER CODE
 - FLAMES LOW
 - FLAMES HIGH
- DROPPING OUT OF TEMPERATURE

NOTE:

THE TRIM SETTING WILL NOT TAKE EFFECT UNTIL THE STOVE HAS COMPLETED A COMPLETE SHUT DOWN SEQUENCE.



CLEARING AN AUGER JAM



 PRIME the stove. This is needed to fill the auger tube back up with pellets. Turn the dial control from OFF to HI to OFF and back to HI leaving it on HI. The green blinking light will turn solid green and the feed motor will run the auger for roughly 2 minutes. If the feed motor/auger does not seem to work refer to the FEED MOTOR TROUBLESHOOTING by clicking <u>HERE</u> or see page 15.



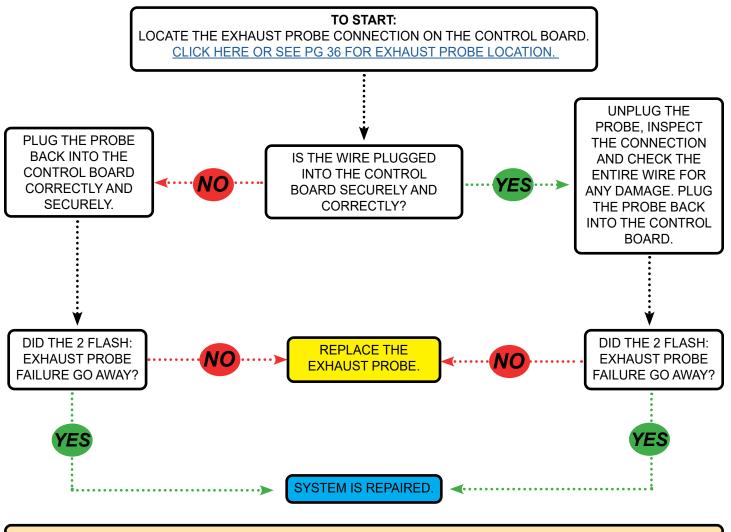








2 FLASHES: EXHAUST PROBE FAILURE

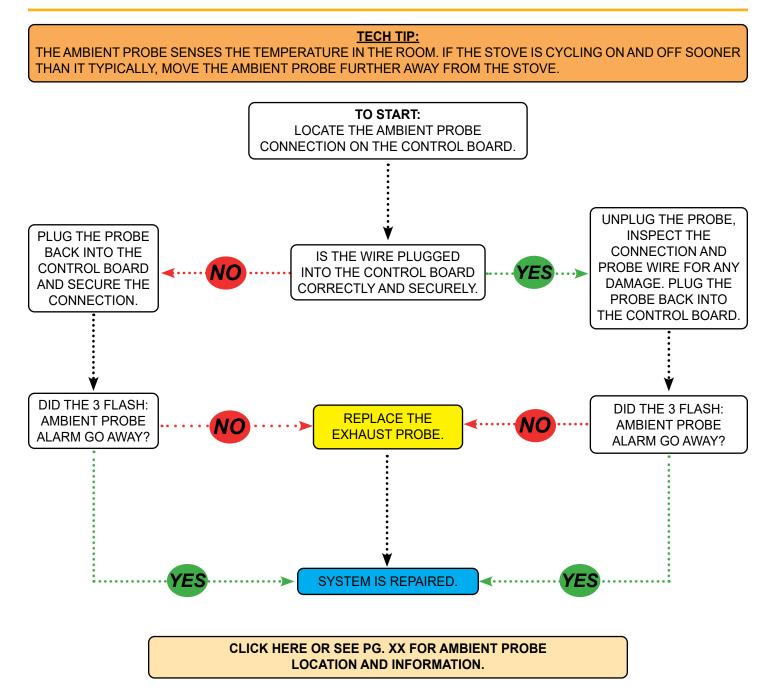


NOTE:

If the exhaust probe has been replaced and the problems still exist the control board may need replaced also. For further assistance please contact customer service at info PelPro@hearthnhome.com

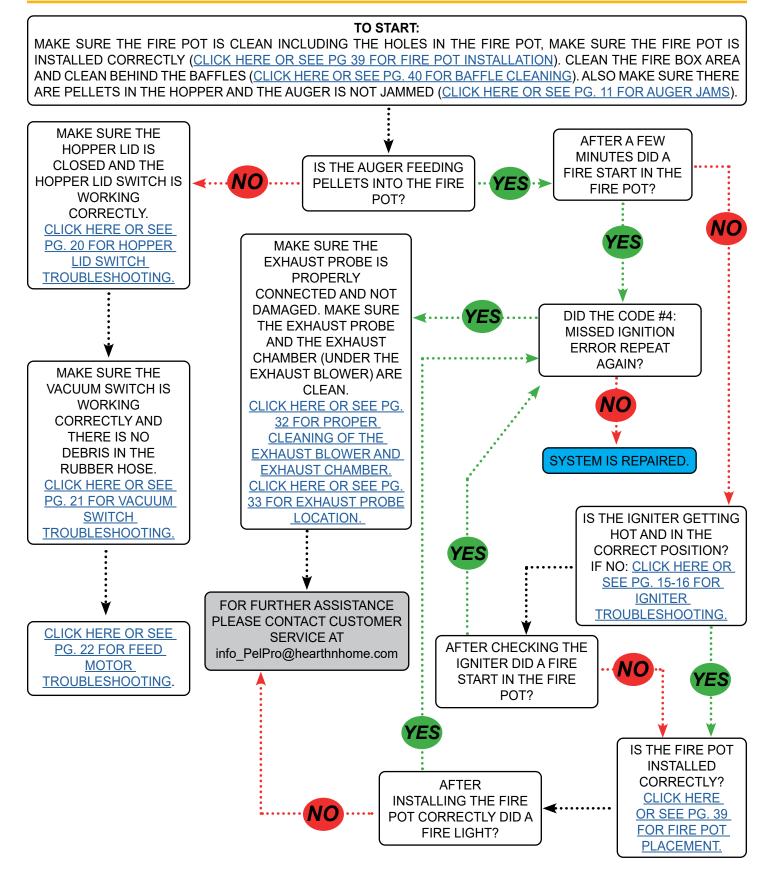


3 FLASHES: AMBIENT PROBE ALARM





4 FLASHES: MISSED IGNITION



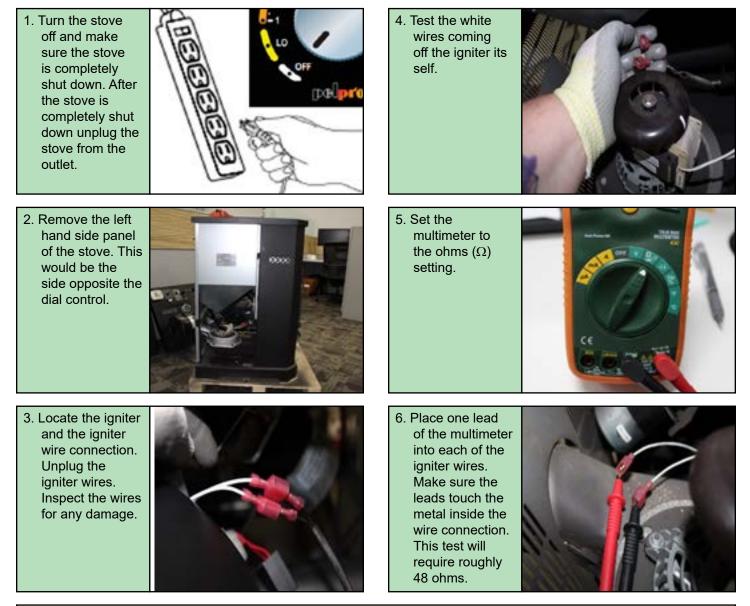


IGNITER TROUBLESHOOTING

<u>Testing for OHMS (Ω)</u>

This test will require a multimeter.

For correct placement of igniter position see pg 38 or click here.



IS THERE ROUGHLY 48 OHMS?

No: replace the igniter

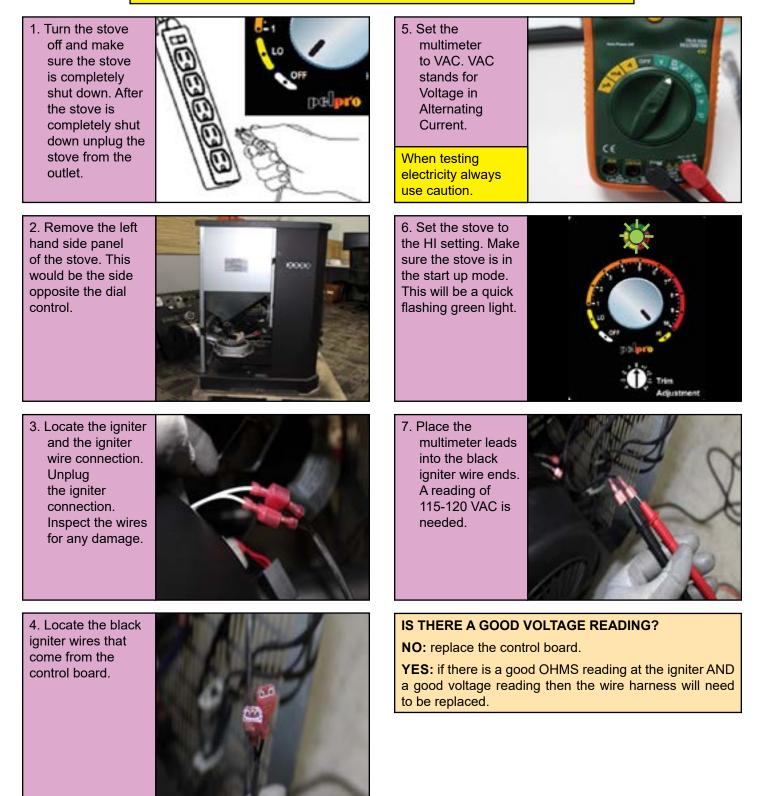
Yes: make sure the control board is sending voltage to the igniter. Click <u>HERE</u> or see page 12 for testing the voltage to the igniter.



TESTING VOLTAGE TO THE IGNITER

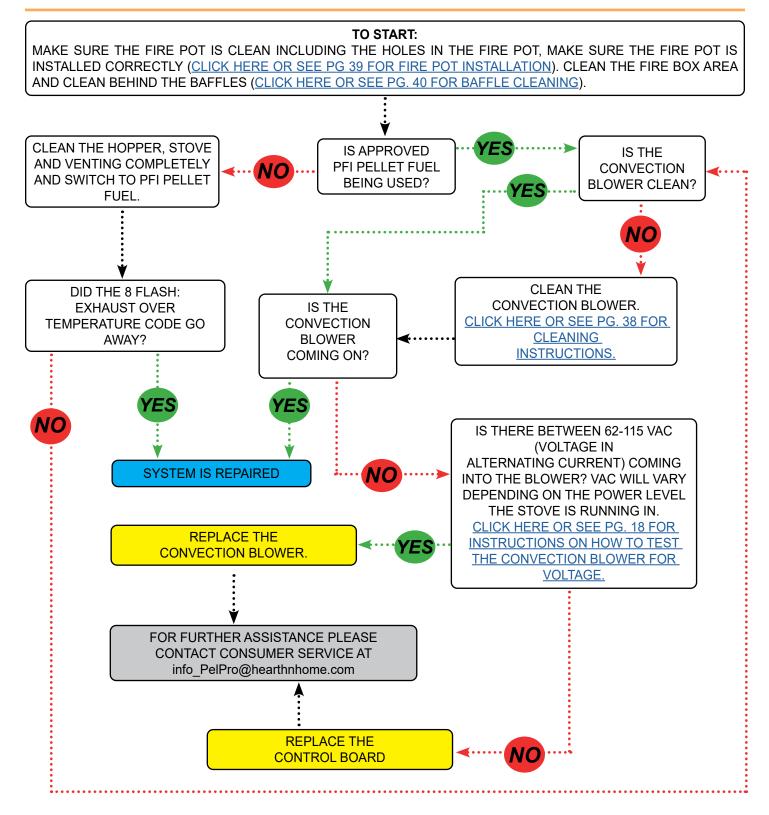
This test will require a multimeter.

WHEN TESTING ELECTRICITY PLEASE USE CAUTION.





8 FLASHES: EXHAUST OVER TEMPERATURE

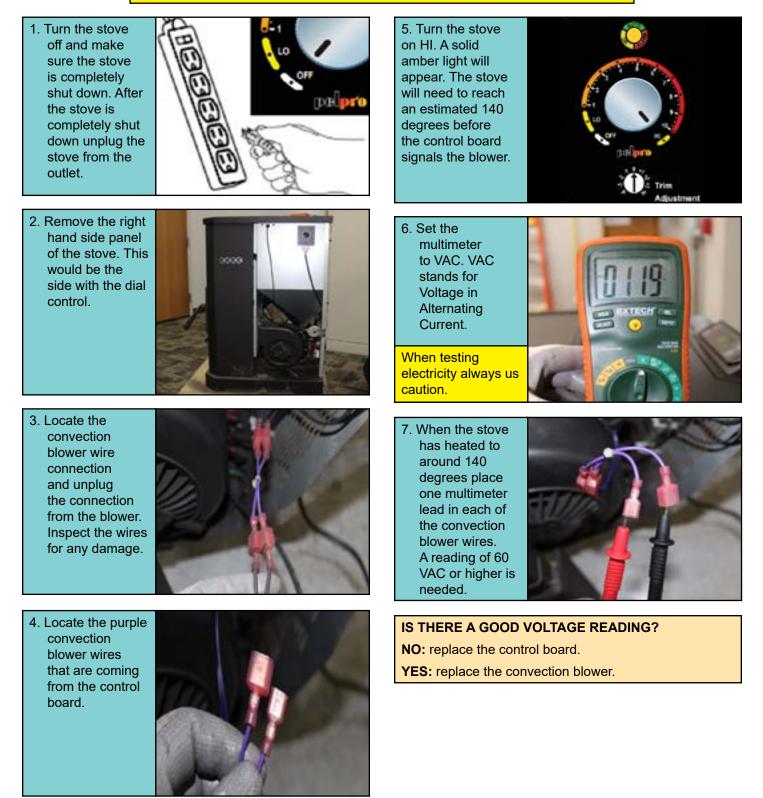




TESTING THE VOLTAGE TO THE CONVECTION BLOWER

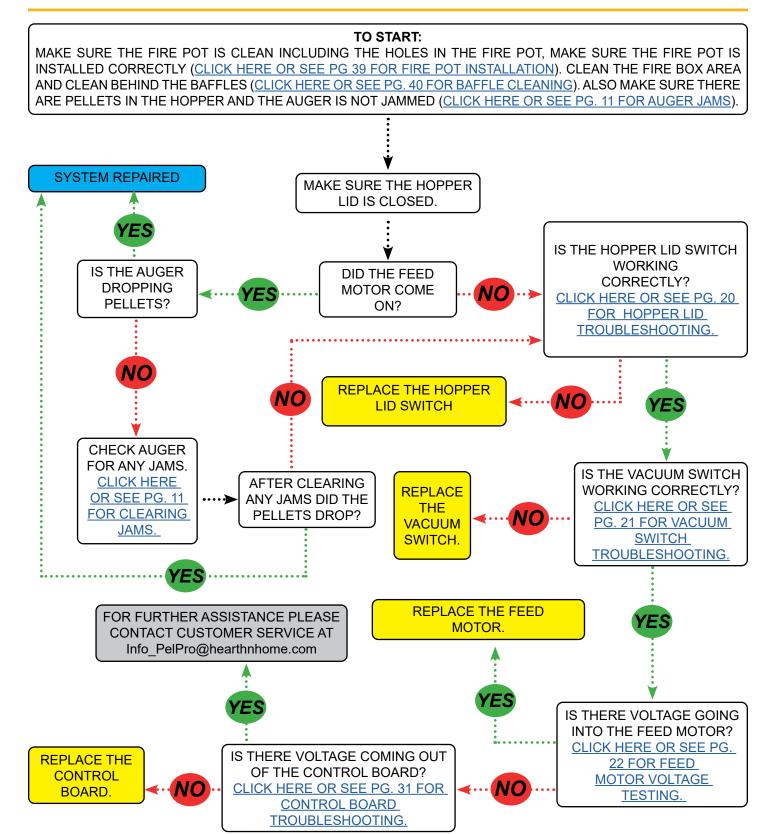
This test will require a multimeter.

WHEN TESTING ELECTRICITY PLEASE USE CAUTION.





NOT FEEDING PELLETS





TESTING THE HOPPER LID SWITCH WITH A MULTIMETER

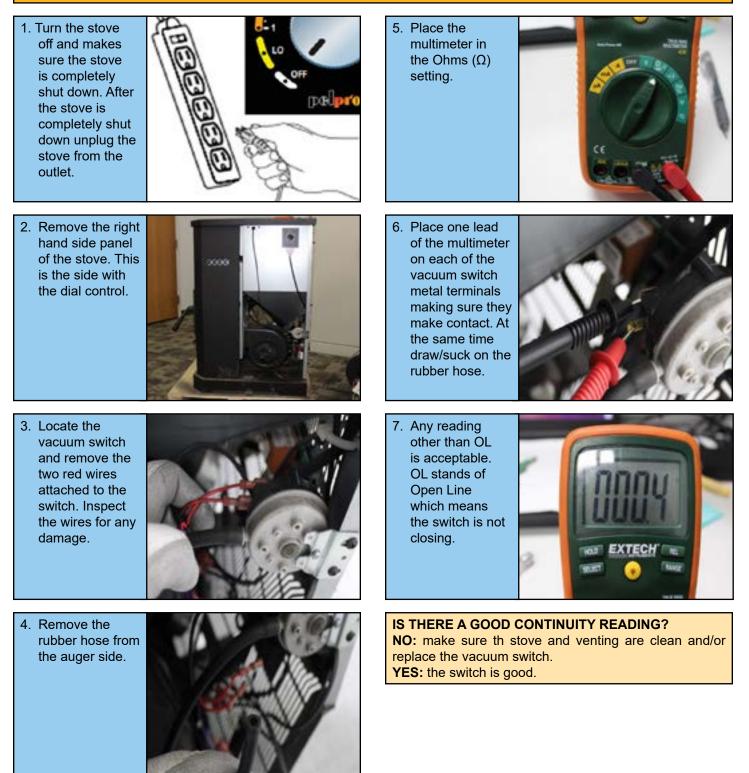
This test will be testing the Continuity shown by the Ohms symbol (Ω).





TESTING THE VACUUM SWITCH WITH A MULTIMETER

This test will be testing the Continuity shown by the Ohms symbol (Ω).

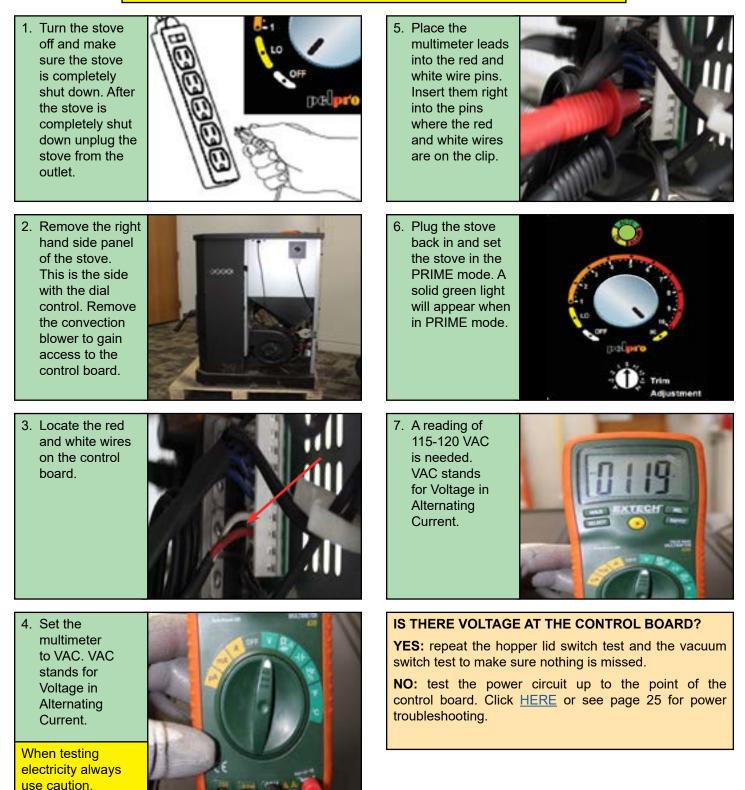




CONTROL BOARD VOLTAGE TEST FOR FEED MOTOR

This test will require a multimeter.

WHEN TESTING ELECTRICITY PLEASE USE CAUTION.

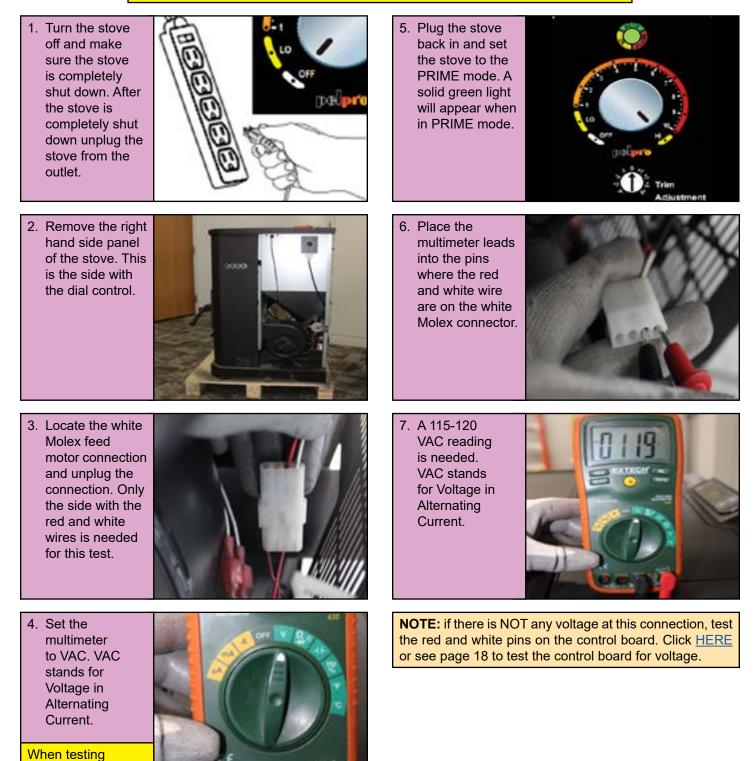




FEED MOTOR VOLTAGE TESTING

This test will require a multimeter.

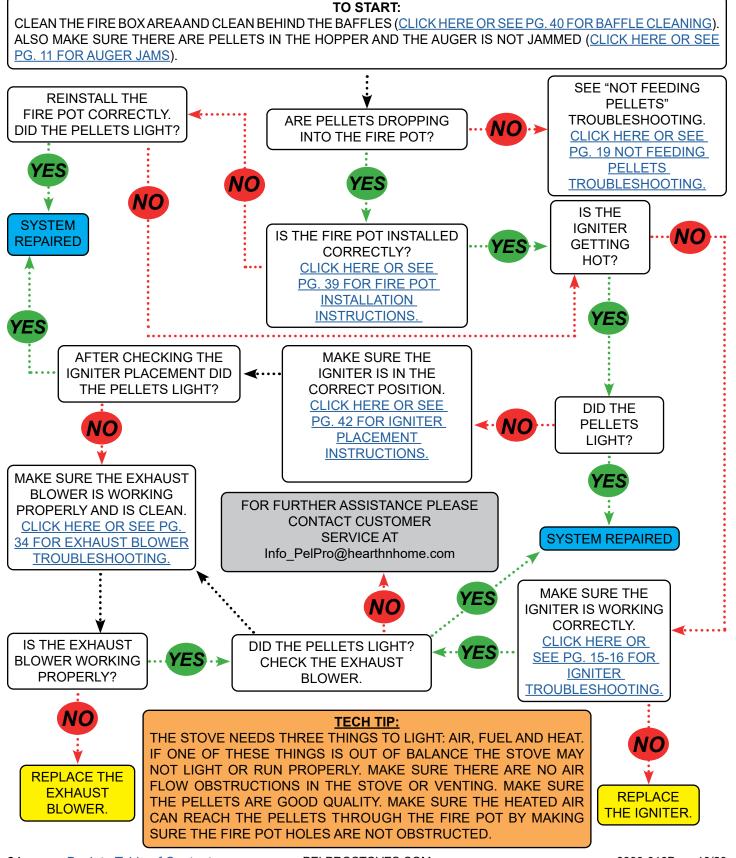
WHEN TESTING ELECTRICITY PLEASE USE CAUTION.



electricity always use caution.

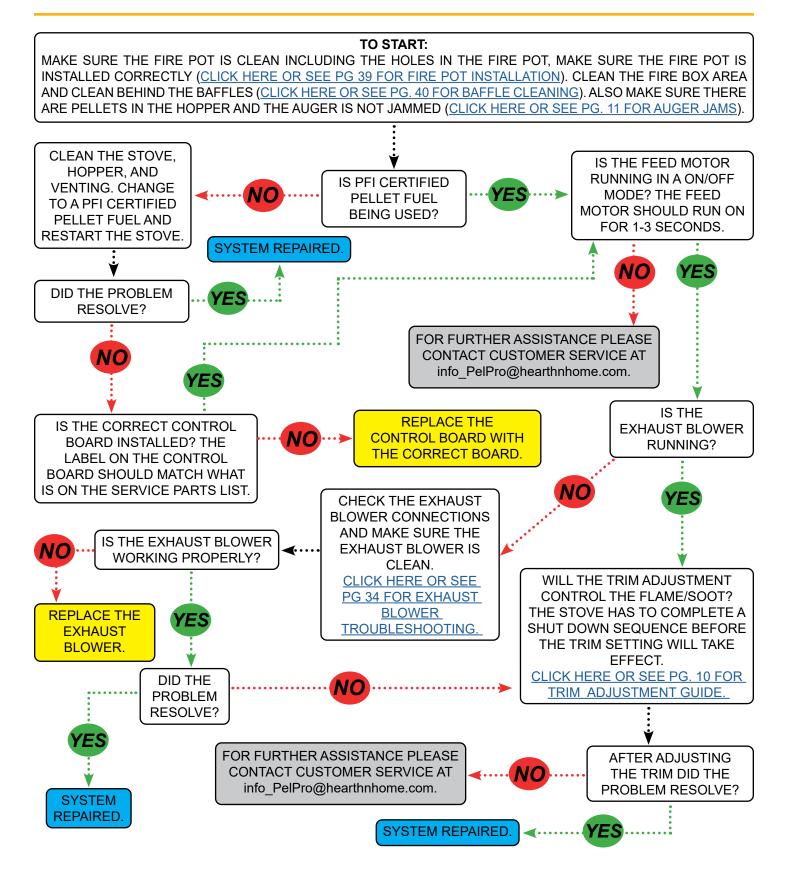


NOT LIGHTING THE PELLETS



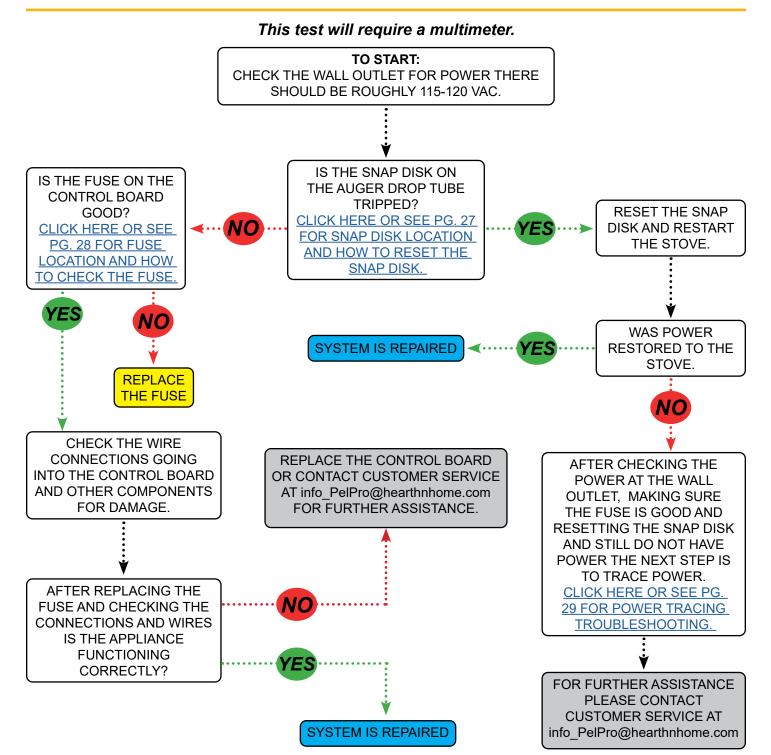


LAZY OR SOOTY FLAMES





NO POWER



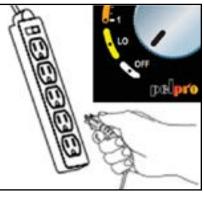


SNAP DISK LOCATION AND HOW TO RESET THE SNAP DISK

THE SNAP DISK IS LOCATED ON THE LEFT SIDE OF THE STOVED IF LOOKING AT THE STOVE. IT IS LOCATED ON THE DROP AUGER TUBE. THE SNAP DISK IS ABOUT THE SIZE OF A DIME AND HAS TWO WIRES THAT CONNECT TO IT. IN BETWEEN THOSE TWO WIRES THERE IS A RESET BUTTON.



1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



4. Locate the reset button between the two snap disk wires. Press the button. This should restore power to the stove.



NOTE:

If the button clicked when pressed then the snap disk needed to be reset and power should be restored to the stove. If the button did not click continue to troubleshoot.

2. Remove the left hand side panel of the stove. This is the side opposite the dial control.



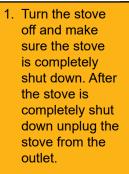
3. Locate the snap disk on the drop auger tube.

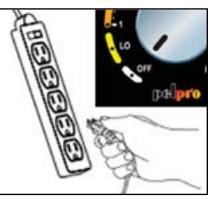




FUSE LOCATION AND HOW TO CHECK THE FUSE

THE FUSE IS LOCATED ON THE CONTROL BOARD. THE CONTROL BOARD IS LOCATED ON THE RIGHT SIDE OF THE STOVE. IT IS MOUNTED ON THE BACK INSIDE PANEL OF THE STOVE. THE FUSE IS HOUSED IN A BLACK RECTANGULAR BOX.





2. Remove the right hand side panel of the stove. This is the side with the dial control.



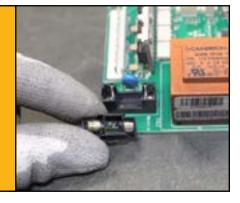
3. Locate the control board on the back of the stove.



4. Locate the black rectangular box on the control board. Shown with the control board unplugged for better reference. Leave the control board in the stove.



5. Remove the top of the black box to access the fuse. Check the fuse for any damage.



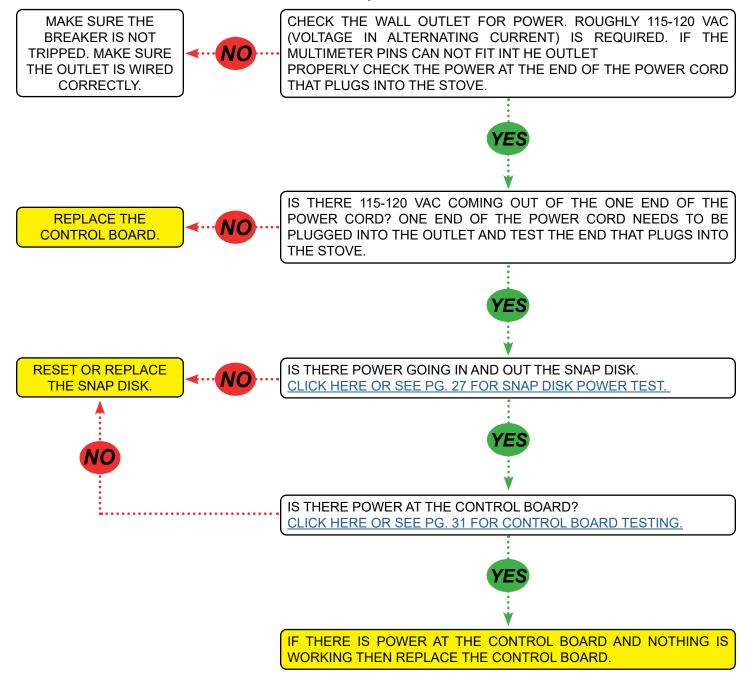
NOTE:

It is recommended to replace the fuse even though it does not look bad. Sometimes there can be hairline damage to the fuse that can not be seen. A new fuse can be purchased at any hardware or auto part store. The fuse is a 5 AMP fuse.



POWER TRACING TROUBLESHOOTING

This test will require a multimeter.

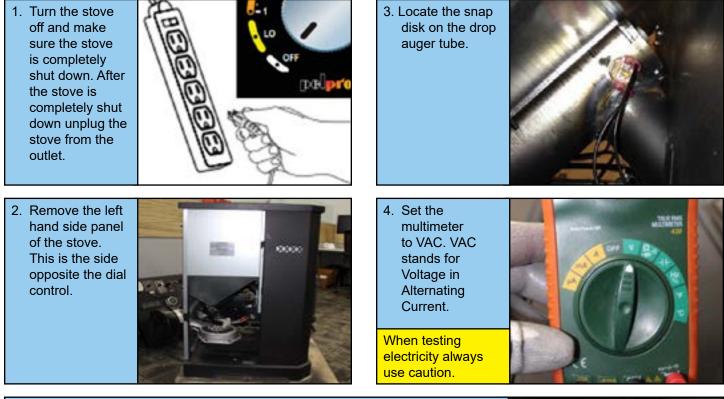




TESTING THE SNAP DISK FOR VOLTAGE

This test will require a multimeter.

WHEN TESTING ELECTRICITY PLEASE USE CAUTION.



5. Select which side of the snap disk to test first. Test both sides individually as one side is power in and one side id power out. Back the snap disk wires off the terminals slightly. Create a gap that will allow the meter leads into and still make a connection with the terminals. Place one of the multimeter leads on one of the snap disk wire terminals and ground the other meter lead to any unpainted part of the stove. A reading of roughly 115-120 VAC is required. Repeat this test for the other side of the snap disk.



NOTE:

If there is power to one side of the snap disk but not the other replace the snap disk.

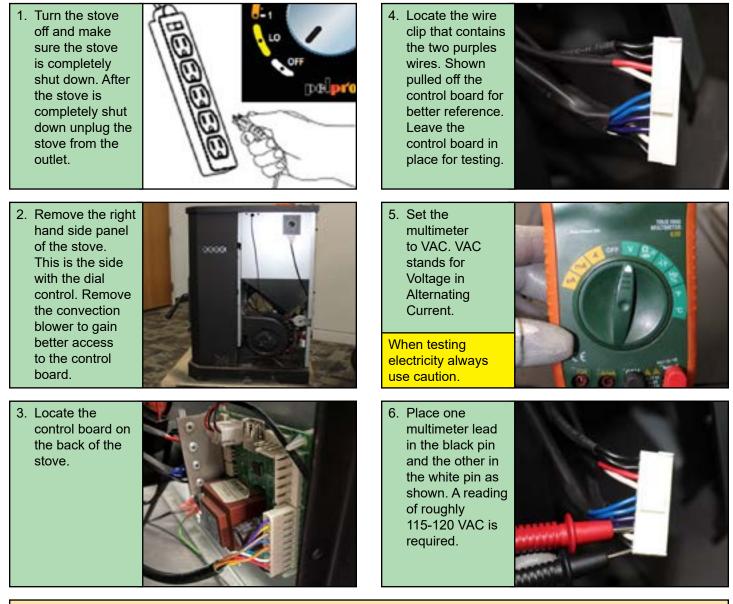
If there is power to both sides of the snap disk then move on to testing the control board. Click <u>HERE</u> or see page 27 for control board testing.



CONTROL BOARD POWER TESTING

This test will require a multimeter.

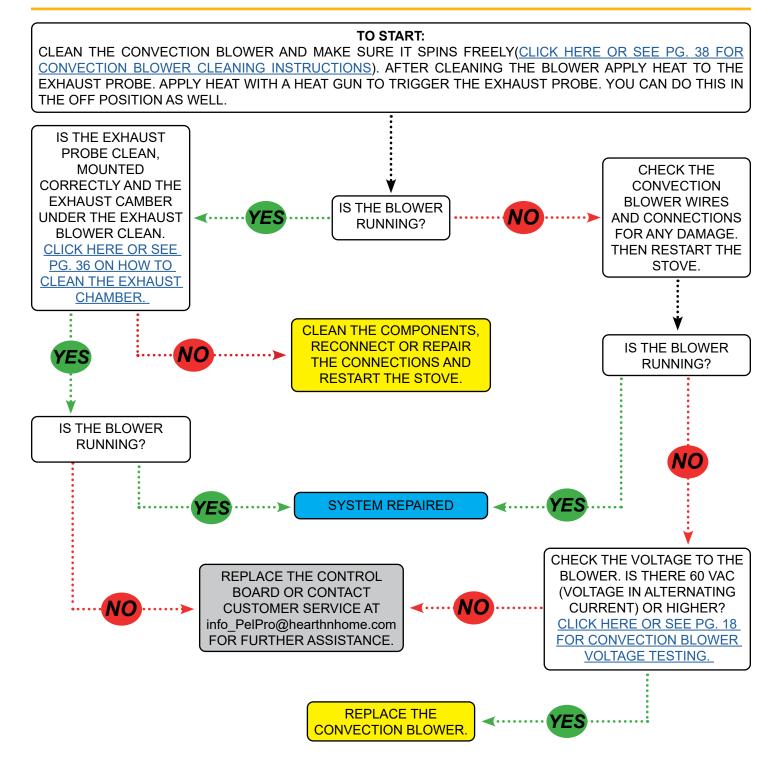
WHEN TESTING ELECTRICITY PLEASE USE CAUTION.



IS THERE VOLTAGE AT THE BLACK AND WHITE PINS? NO: replace the snap disk YES: replace the control board.

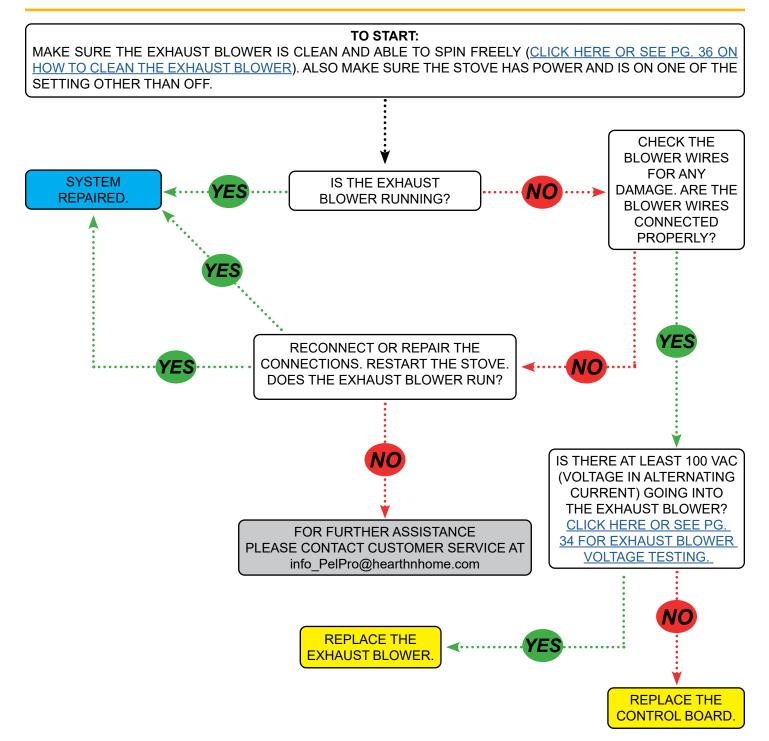


CONVECTION BLOWER NOT COMING ON





EXHAUST BLOWER NOT COMING ON

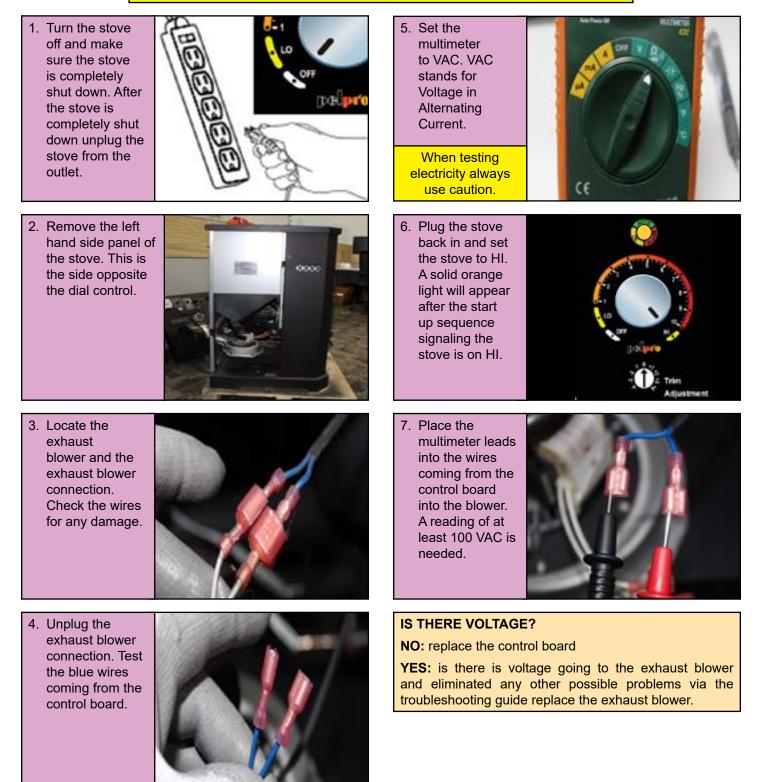




EXHAUST BLOWER VOLTAGE TESTING

This test will require a multimeter.

WHEN TESTING ELECTRICITY PLEASE USE CAUTION.

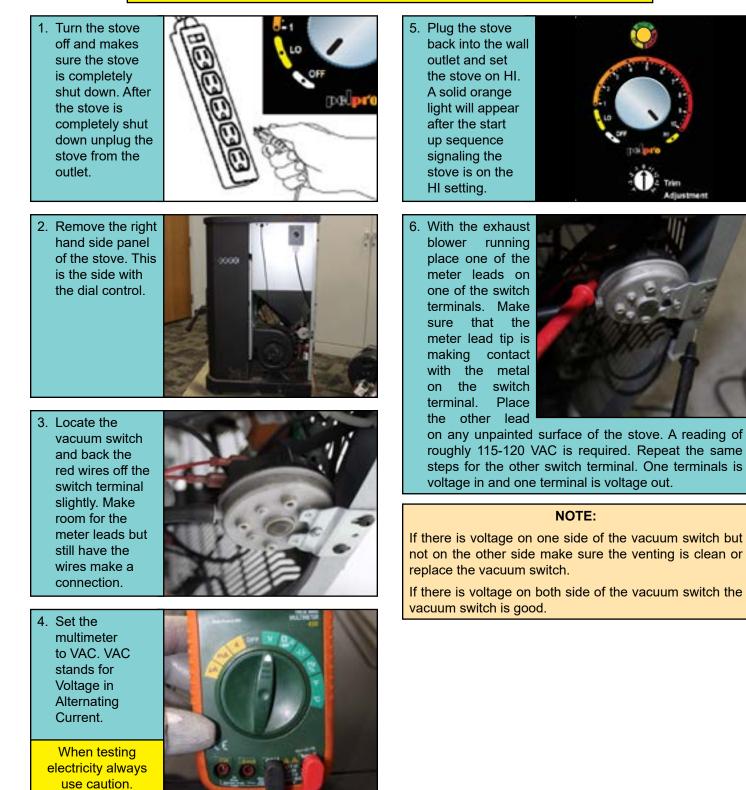




VACUUM SWITCH VOLTAGE TEST

This test will require a multimeter.

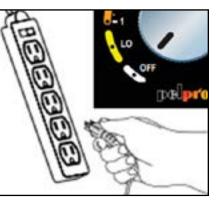
WHEN TESTING ELECTRICITY PLEASE USE CAUTION.





CLEANING THE EXHAUST BLOWER

1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



2. Remove the left hand side panel of the stove. This is the side opposite the dial control.



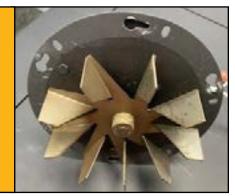
3. Locate the exhaust blower and disconnect the blower connection.



 Loosen the 6 screws holding the blower motor onto the blower housing. You do not need to fully remove the screws. Twist the plate and remove the blower motor.



5. Use a paint brush or compressed air to clean the exhaust blower.



6. Make sure the blades can spin freely and are not catching on any debris. Reinstall the blower by lining up the screws with the bigger hole on the slot then twist to catch the screw in the narrow portion of the slot. Re-tighten the screws.

NOTE:

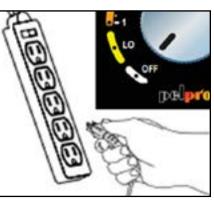
This would also be a good time to check the exhaust venting to the outside for any build up of ash and to do a thorough cleaning of the venting.

Cleaning the blower should be down at least twice a year or whenever the venting is cleaned.



EXHAUST PROBE INFORMATION

1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



2. Remove the left hand side panel of the stove. This is the side opposite the dial control. Locate the exhaust blower.



3. Locate the exhaust probe. Make sure it is mounted securely in the bracket. Check the wires for any damage. Make sure there is no ash on the probe.

Probe location The exhaust probe is located under the backside of the exhaust blower. It is mounted on the exhaust chamber pipe.



NOTE:

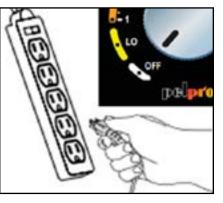
If the probe is loose from the bracket or dirty it can cause the stove to not operate correctly. Also if there is ash build up in the exhaust chamber it could also effect the way the stove operates.

This should be done when ever you clean the exhaust blower.



CLEANING THE CONVECTION BLOWER

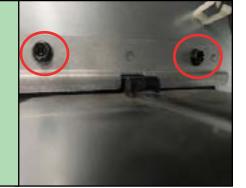
1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



2. Remove the right hand side panel of the stove. This is the side with the dial control. Locate the convection blower and disconnect the wires.



3. Remove the 2 screws holding the blower in place.



4. Lift up on the blower to remove the bottom tab from the slow in the back of the stove. Carefully remove the blower from the stove.



5. Use a paint brush or compressed air to clean the blower. You can not take the blower apart. Make sure the blower can spin freely.



NOTE:

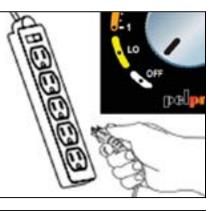
The convection/room blower pulls air from the room. Any dust, debris, and pet hair can be pulled into the blower causing it not to work correctly.

The blower should be cleaned at least twice a year or as needed.



FIRE POT CLEANING AND PROPER INSTALLATION.

1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



4. With the scraper tool scrap out any ash build up on the fire pot. Also make sure the holes in the fire pot a clean and clear.



2. Once the stove is completely cool. Open the front door to access the fire pot area.



5. Reinstall the fire pot. The fire pot is 2 pieces and the removable piece should face the front of the stove. Also make sure the fire pot is seated fully in place.



3. Remove the fire pot. Use an ash vac to remove any ash or debris in the fire pot/box area. This includes the ash over flow areas on the sides of the fire pot.



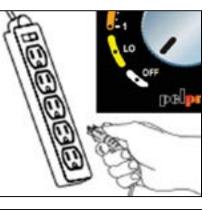
Correct installation of the fire pot.





HOW TO REMOVE AND CLEAN THE BAFFLES

1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



2. Once the stove is completely cool. Open the front door to access the fire pot area.



3. Locate the middle panel and the tab at the top of the panel. Pull up and out on the tab.



- 4. Remove the left and right panels.
 - 5. Use scraper to scrap any ash build up on the back wall and on the panels. Then use a ash vacuum to sweep up any debris.



6. Replace the panels by replacing the left and right panels first and then the middle panel last. Make sure all the panels are correctly aligned or it could cause the stove to not receive proper air flow causing the stove not to work properly.

NOTE:

When replacing the panels make sure they are flush an not crocked as this could cause the stove not to operate correctly.

The left panel has an air chamber behind it which is important to have clean for proper air flow through the stove.

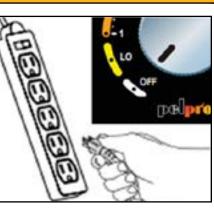
The baffles should be cleaned at least once a week.



AMBIENT PROBE INFORMATION

THE AMBIENT PROBE IS LOCATED ON THE BACK LOWER RIGHT SIDE OF THE STOVE. IT IS A SMALL RUBBER END ON ABOUT A 3' WIRE. IT TELLS THE STOVE WHEN TO KICK ON AND OFF BY SENSING THE TEMPERATURE OF THE ROOM AIR.

1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



2. Remove the right hand side panel of the stove. This is the right side when looking at the stove.



3. Locate the probe on the back panel of the stove. It will be a single black wire leading to a grommet in the back of the stove that holds the end of the probe.



4. Locate the wire/ twist tie securing the ambient probe wire. Remove the tie so you can adjust the probe if needed.



5. Pull the probe carefully through the grommet out of the back of the stove. You will want to place the probe about waist high as far away from the stove as possible.

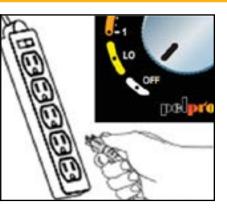
NOTE:

Avoid laying the probe on the floor, taping to the wall or in a drafty area. If you stove seems to be kicking off sooner or later than it should be the probe may need to be adjusted to another area.



IGNITER PLACEMENT

1. Turn the stove off and make sure the stove is completely shut down. After the stove is completely shut down unplug the stove from the outlet.



2. Make sure the stove is completely cool. Clean the fire box and fire pot area.



3. After cleaning the fire box area. Remove the fire pot and find the igniter chamber under the fire pot.



4. Make sure the igniter is sitting centered in the igniter chamber and back about 1/4 inch.



NOTE:

If the igniter is dirty or the fire pot holes are clogged the stove may have trouble lighting. The igniter itself does not light the pellets but the hot air moving around the igniter. If there is no air flow to travel the hot air the stove may not light.