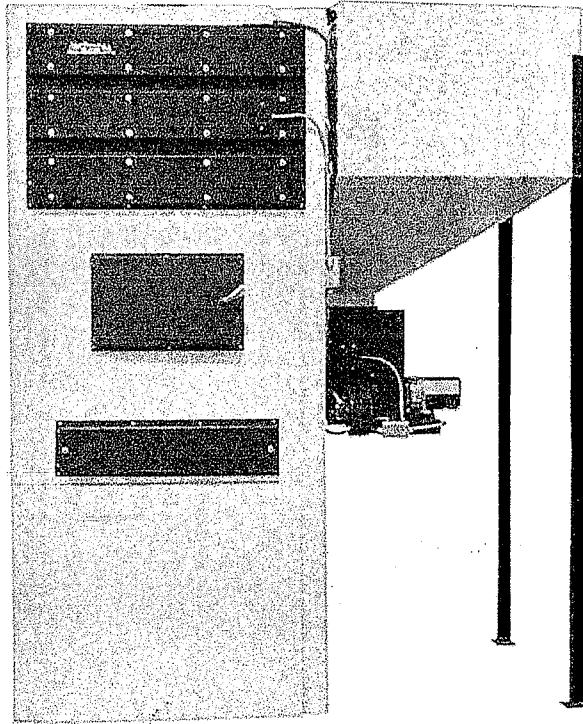


# *Installation/Operator's Manual*



## **GBU400 PELLET/CORN FURNACE**

### **SAFETY NOTICE**

Please read entire manual before installation and use of this pellet fuel-burning boiler. Failure to follow these instructions could result in property damage, bodily injury or even death. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

### **SAVE THESE INSTRUCTIONS**



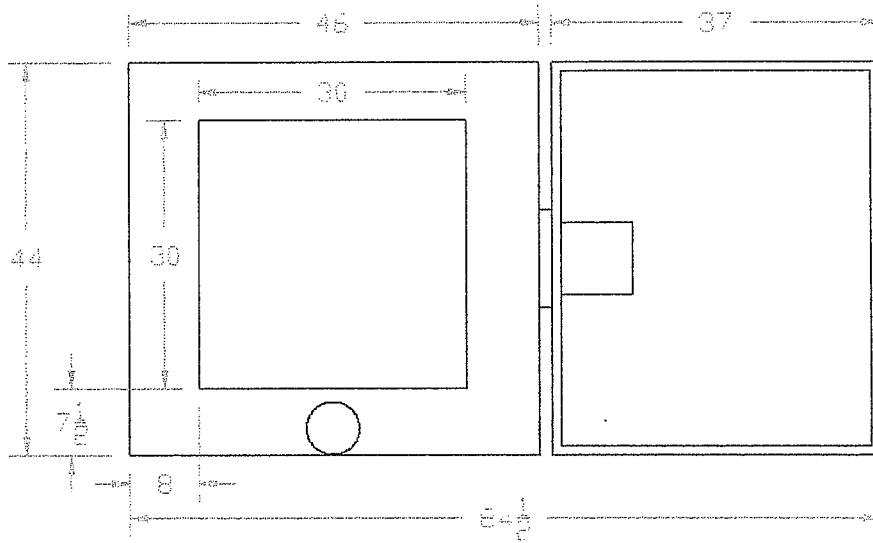
Listed

**PINNACLE STOVE SALES INC.  
1089 HIGHWAY 97 NORTH  
QUESNEL, BC V2J 7C9  
TEL. (250) 992-5050  
FAX. (250) 992-5850  
Website [www.pinnaclestove.com](http://www.pinnaclestove.com)**

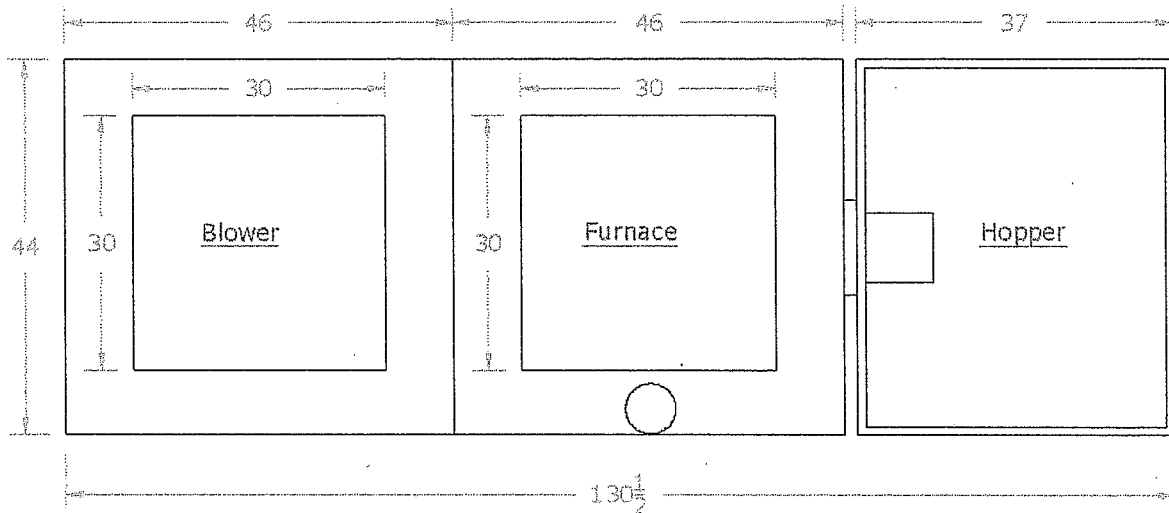
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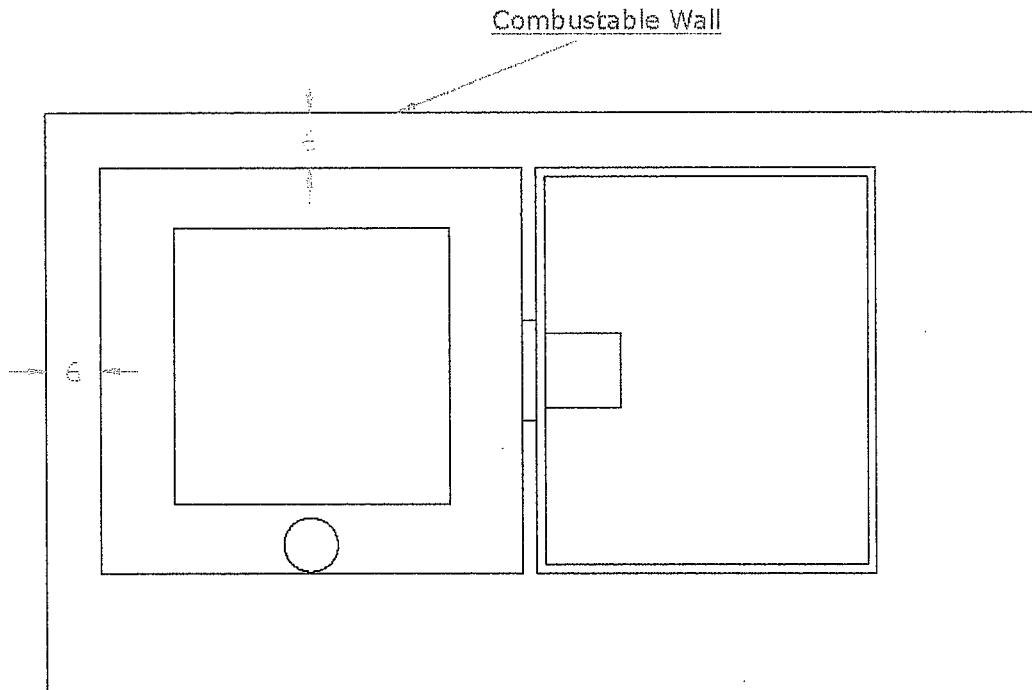

## COMPONENT DIAGRAM – TOP VIEW



## COMPONENT DIAGRAM – LOW BOY



# CLEARANCES TO COMBUSTIBLES



## **WARNING ABOUT CHIMNEY FIRES**

**Failing to maintain your woodstove or fireplace properly can lead to a chimney fire. Chimney fires occur when combustible deposits on the inner walls of the chimney ignite. These combustible deposits, called "creosote," are a natural by-product of wood burning. A fire hazard exists if 1/4 inch of creosote (or more) coats the inner walls of the chimney.**

**Prevention.** Chimney fires do not occur in clean, intact, properly installed chimneys. Have a professional chimney sweep clean and inspect your appliance at least once a year. More frequent cleanings may be required, based on the type of wood burned, the type of appliance, and the frequency of use. In general, an older, uncertified woodstove, or any appliance that is used frequently, will require more than one cleaning per year.

**Detection.** The first indication of a chimney fire is usually the noise—a roaring sound that grows louder as the fire's intensity increases. Clouds of black smoke and sparks will be seen exiting the top of the chimney; in severe fires, flames can extend several feet above the chimney.

**Action.** In case of a chimney fire, follow these steps:

1. Call the fire department immediately.
2. Alert others in the house to evacuate.
3. Close the appliance's dampers and/or the primary air inlet controls, limiting the fire's air supply and reducing its intensity.
4. Open the appliance door just enough to insert the nozzle of a 10 lb. dry chemical fire extinguisher rated for Class ABC fires. Discharge the entire content of the extinguisher into the appliance and shut the door.
5. If possible, wet down the roof and other outside combustibles to prevent fires ignited by shooting sparks and flames.
6. Closely monitor all combustible surfaces near the chimney. During severe chimney fires, these surfaces can become hot enough to ignite.

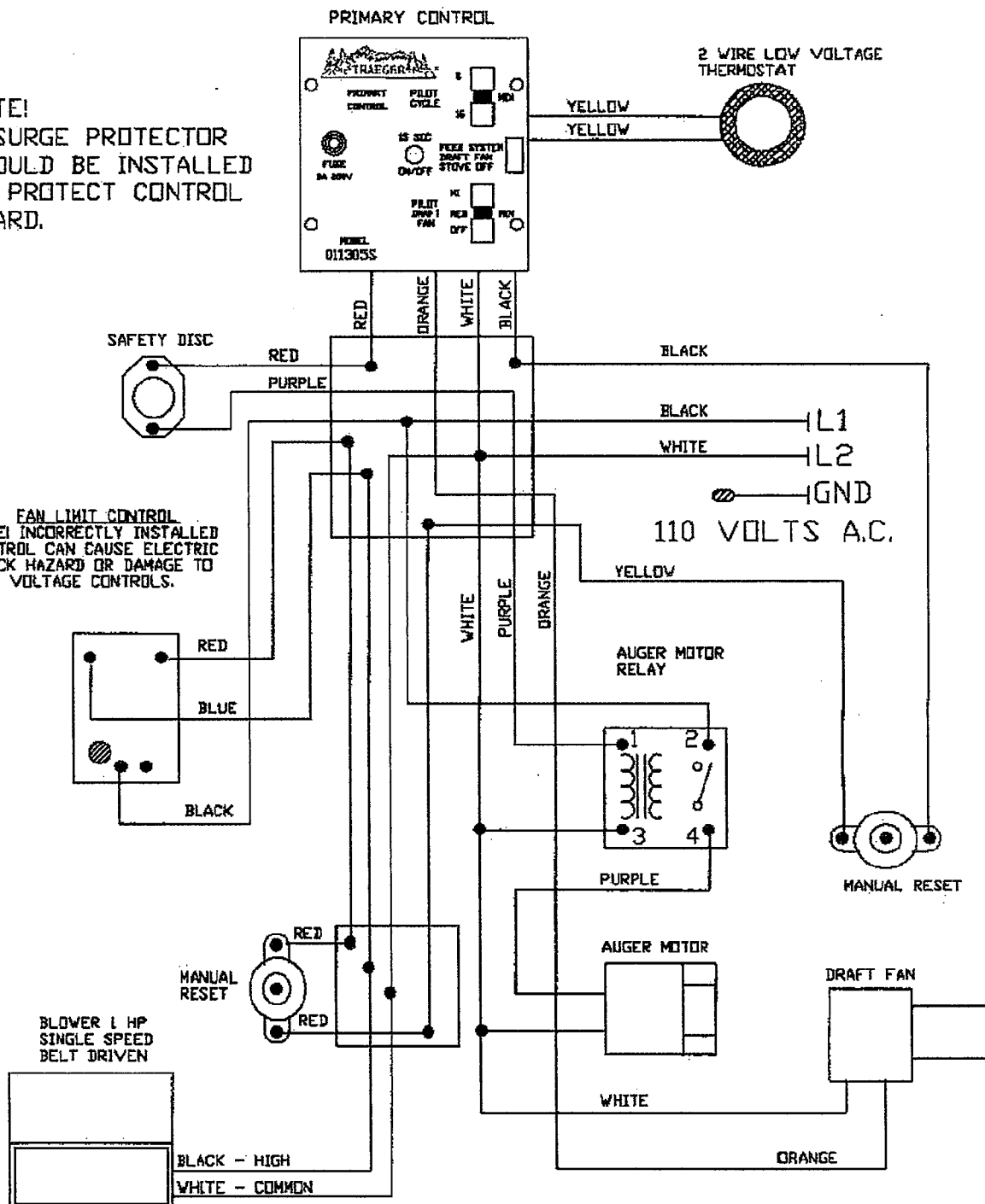
After a chimney fire, have the chimney inspected by a professional chimney sweep or woodstove/fireplace installer; choose a professional who has earned credentials from the National Chimney Sweep Guild at [www.ncsg.org](http://www.ncsg.org), Chimney Safety Institute at [www.csia.org](http://www.csia.org) or the Hearth Education Foundation at [www.hearthed.com](http://www.hearthed.com). Contact your insurance carrier.

### **DO NOT USE THE CHIMNEY UNTIL A PROFESSIONAL HAS INSPECTED IT.**

The excessive heat produced by a chimney fire can crack chimney walls, damage chimney liners, and damage some types of factory-built chimneys. If not repaired, these damages create a greater possibility for any subsequent chimney fire to spread beyond the confines of the flue to the house.

# GBU400 FURNACE WIRING

**NOTE!**  
A SURGE PROTECTOR  
SHOULD BE INSTALLED  
TO PROTECT CONTROL  
BOARD.



## **CONTROL AND COMPONENT FUNCTIONS**

**AUGER** The auger transfers the pellet fuel from the hopper end of the burner tube down and into the firepot.

**AUGER DRIVE MOTOR** The auger drive motor turns the auger.

**BURNER TUBE** The burner tube contains two passageways, one for the auger tube and the other for combustion air. This tube supplies both the fuel and combustion air to the firepot.

**BLOWER** The blower forces return air over the furnace heat exchanger and into the home's duct system. The blower is controlled by the fan limit control.

**CUP** The cup meters the amount of fuel and then delivers it down to the auger. The cup will deliver a set amount of fuel and is termed 1 cup, 2 cup, 3 cup or 4 cup.

**DRAFT INDUCER** The draft inducer takes combustion air, forces it down the burner tube and into the firepot where combustion occurs. The flame can be adjusted by regulating the damper on the draft inducer.

**FAN LIMIT CONTROL** The fan limit control automatically activates the blower on temperature rise, and disengages the blower on temperature fall. Normally this control is set to bring the blower on at 140°F and then turn the blower off at 100°F. The fan limit control also features a 200°F limit, where if the temperature for whatever reason may climb to 200°F this control cuts power to the burner, but keeps the blower running to cool the heat exchanger.

**FIREPOT** The firepot is where combustion occurs. Pellets are delivered into the firepot by the auger. The heat of the fire in the firepot causes gases to oxidize off the pellets, and as the combustion air mixes with these gases, they burn with a flame similar to that of an oil or gas fire.

**HOPPER** The hopper is where the pellets are stored and then funneled down to feed the cup.

**BURNER LIMIT** If the unit should ever burn back into the auger unit, the 200°F limit switch will open the circuit, shutting the entire burner down. The burner will not start until it is manually reset. If this should happen, locate the cause before resetting limit and relighting unit.

**SAFETY DISC** The safety disc interacts with the burner for positive flame protection to guard against misfires and to shut down the burner in the event of the fuel hopper running dry. If the burner loses its flame potential, misfires, or runs out of fuel, the safety disc will drop out, locking out the burner.

## **ELECTRICAL WIRING**

1. Make sure that the power source conforms to the requirements of the furnace. Disconnect the power source before performing any electrical work.
2. Connect the electrical power according to the wiring diagram on page 5.
3. All power leads should be installed with approved nuts, fittings, cable and connectors.
4. Electrical rating is 115 Volt, 60 Hz, less than 12 Amps.

## **THERMOSTAT INSTALLATION**

1. Install the thermostat in a central location. Use only Honeywell model T87F or equivalent low voltage thermostat and install according to manufacturers directions supplied with the thermostat.
2. Run thermostat wire using 18/5 stat wire.
3. Set the heat anticipator at .04 amps.
4. For pellet-electric use 2 thermostats, one for the pellet and one for the backup.
5. The two yellow wires protruding from the control panel are your thermostat leads.



## **FURNACE LOCATION AND COMBUSTION AIR**

Locate the furnace as close as possible to the chimney and in accordance with air distribution system. Consider ease of operation and service accessibility.

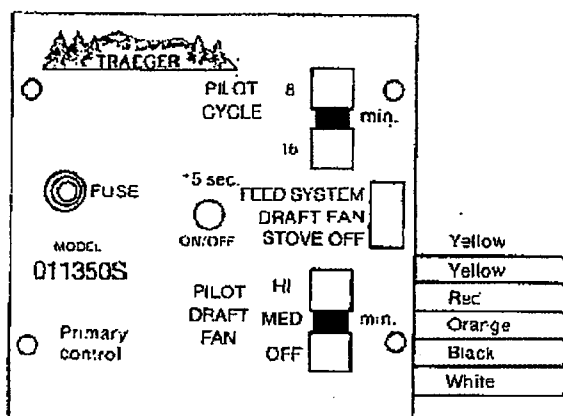
## **DUCT SYSTEM**

1. Connect the air duct systems, both supply and return. Always insure an adequate distribution system for the home which the furnace is intended to heat.  
Recommended supply truck line size: 14" x 30". Plenum connector size on the top of the unit is 30" wide by 30" deep.
2. Plenums mounted on the furnace should be constructed from 26 gauge galvanized metal. For supply and return extensions, metal duct, duct board, thermaflex, and/or insulated metal pipe are all acceptable.
3. This furnace does not come equipped with air filters. Manufacturer recommends the installation of metal filter racks, electronic air cleaner, or remote filter grills on the return air side.

## **GENERAL INSTRUCTIONS**

1. Installation is allowed only by a licensed and bonded heating contractor.
2. Install this furnace in accordance with local mechanical codes and regulations.
3. Consult Manual J of the National Warm Air Heating Association or ARI 230 to estimate heating requirements.
4. Install this furnace with adequate return and supply duct systems.
5. The installer must explain in detail, the operations of this furnace to the owner/operator, including minor service requirements.
6. Never block or restrict any air intake ports. Dangerous overheating can result.
7. Install this furnace with safe clearances to combustible surfaces.
8. Connect this furnace to its own independent class chimney at least 4" in diameter.
9. This is a good furnace, but it cannot make up for a poor or incorrect installation.
10. Repair should be done only by a qualified service person.
11. Never stack or pile combustible materials against the furnace.
12. Never use, store, or dispose of flammable liquids near the furnace.

## PRIMARY CONTROL SEQUENCE OF OPERATION



The Traeger OII350 primary control is a high-tech, state of the art computer. The control performs the function of piloting the system when the thermostat does not call for heat. It conserves fuel consumption.

### **FUSE**

The computer board is protected by a 3-amp fuse. There are many manufacturers of this fuse. Fuses are readily available at your local hardware or auto parts store, i.e. Napa Balkamp #782-1046 AGC 3

### **RED LIGHT INDICATOR 15 SECOND ON/OFF**

When the wall thermostat circuit is closed, and calling for heat, the light indicator will remain dim as long as the circuit is closed. When the thermostat is open (not calling for heat) the light will blink from bright to dim every 15 seconds as part of the counting procedure.

### **ON TIME (2 MINUTES)**

The On Time controls the amount of time the burner stays active (fuel is fed). It operates in conjunction with the cycle time and is pre-set in the control at 2 minutes.

## **CYCLE TIME SWITCH**

The cycle time switch controls the total cycle both on and off 8 or 16 minutes.

## **COMBINATION FUNCTION OF ON TIME AND CYCLE TIME**

The On Time is subtracted by the Cycle Time. IE: with the on time pre-set at 2 minutes and the cycle time set at 16 minutes, the unit would come on (feed pellets) for 2 minutes and not feed pellets for 14 minutes. This gives you a complete cycle time of 16 minutes.

## **WIRING**

The OII350 primary control has 6 lead wires. A wiring color code is provided on back of each control. Black is line power, white is neutral, red is load and feeds the auger motor and cup motor, orange feeds the draft inducer, 2 yellows go to the wall thermostat.

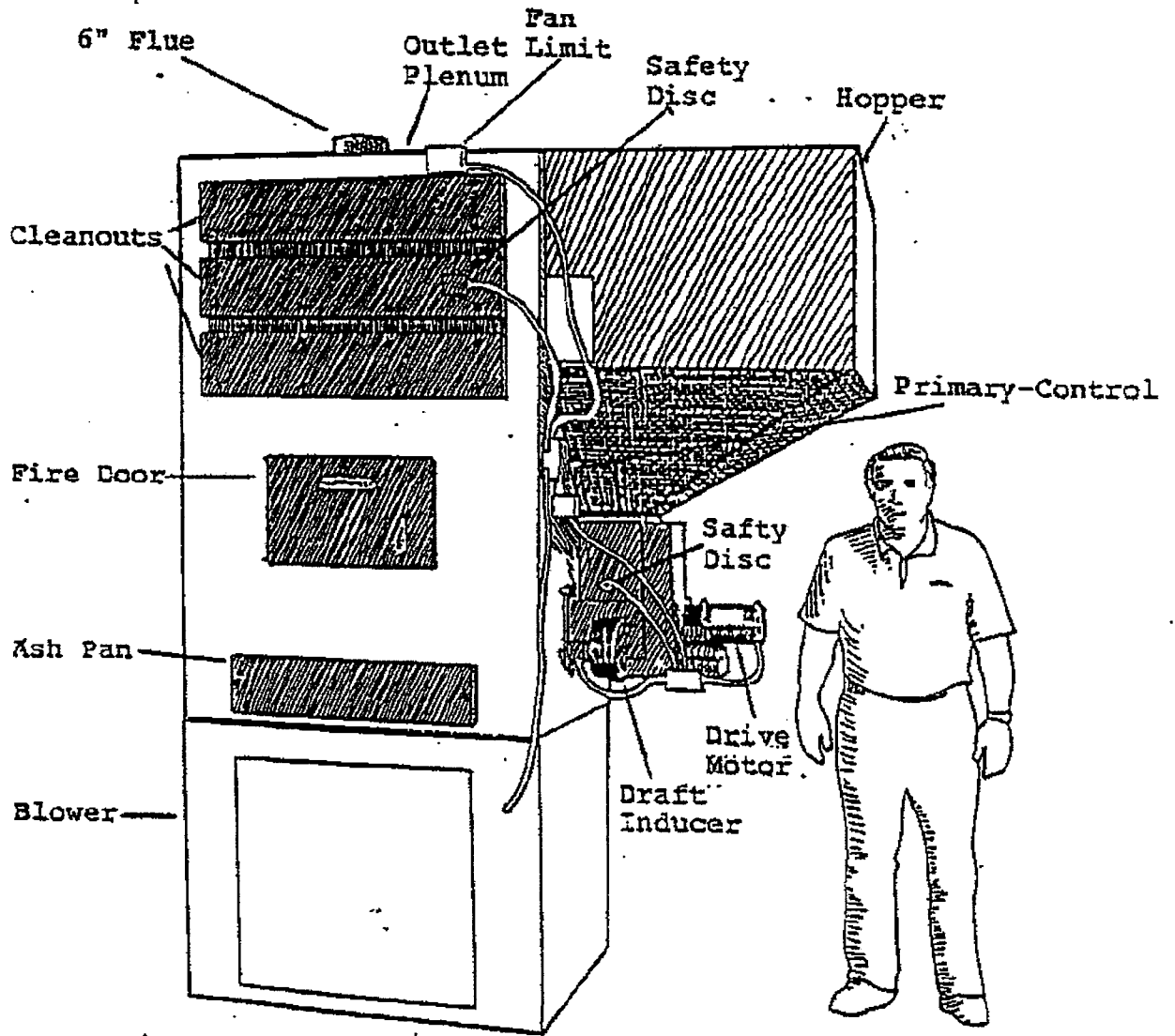
## **BURNER SWITCH**

Cuts power to burner but not blower fan system. Used to shut down stove.

## **PILOT DRAFT SWITCH**

Controls the speed of the draft inducer on pilot or idle mode. Normally set on **Medium**.

# COMPONENT DIAGRAM



## **BURNING CORN IN THE GBU400**

1. The GBU400 will burn most types of clean-shelled corn. It is not necessary to mix the corn with wood pellets, although some people have had good success burning a 50/50 mix. The GBU400 boiler is supplied with a plug in the metering cup. When burning corn leave this plug in to prevent over fuelling the boiler.
2. Typically burning corn requires a bit more combustion air than wood pellets. The shutter on the draft inducer should be set at no less than 50% open, the cycle time at 8 minutes, and the pilot draft switch on the primary control medium.
3. The moisture content of the corn should be 15% or less, and care should be taken to ensure that there are no foreign objects in the corn (i.e. sticks, stalks, cob pieces) which will jam the feed system.
4. We recommend starting a corn fire with wood pellets as corn has a dense shell that can be difficult to start. Note that corn has more BTU's than wood pellets, about 10,000 BTU's per pound. Use gel starter to light unit.

### **WARNING**

**DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.  
DO NOT BURN GARBAGE, GASOLINE, NAPHTHA, ENGINE OIL OR OTHER  
INAPPROPRIATE MATERIALS.**

5. When burning corn, the primary combustion takes place on a fluidized bed at the bottom of the fire pot. The slide plate on the bottom of the pot is removable to allow for cleaning. A white calcium-like deposit will be present in the bottom of the fire pot. This deposit needs to be removed. We recommend shutting off the unit by turning the on/off switch on the primary control to the off position, letting the unit cool, and then pull the slide bottom completely out. You may have to tap the top of the deposit to make it fall into the ash pan. Be very careful not to damage the burn pot when removing the clinker. **THERE IS NO WARRANTY ON BURN POTS.**
6. Place 1" of crushed oyster shell in the bottom of the pot before using. Under heavy usage it may be necessary to remove the clinker daily. A bit of oyster shell will be removed with the clinker. When all oyster shell has been removed, remove pot for a thorough cleaning and replace then add a new layer of crushed oyster shell.

## **INITIAL START UP INSTRUCTIONS FOR GBU400**

1. Turn power on to the furnace.
2. Push in the white summer fan button on the fan limit control starting the fan. Check the fan unit to make sure that it is running freely. Pull the button back out, deactivating the fan.
3. Remove the cover on the fan limit control. Make sure that the fan-off tab is set at 100°F; the fan-on tab at 150°F; and the high limit at 200°F.
4. Turn the thermostat to 90°F. Open the furnace door, place your hand over the firepot and see if the draft inducer is forcing air into the firepot. Turn the thermostat back down to 50°F.
5. Load hopper with fuel.
6. We recommend starting your fire with pellets. Place generous amount of pellets in the bottom of the firepot. Apply non-volatile lighting material such as gel alcohol or other pellet appliance approved lighter. Light fire.
7. Remove the fan limit cover and observe the dial rotation as internal temperature rises. Observe the engaging of the blower.

## OPERATING INSTRUCTIONS GBU400

1. The manufacturer accepts no responsibility for improper installation of this furnace or improper use or negligence of any kind with continued use of the furnace.
2. This unit is approved to burn biomass fuel.
3. If this furnace runs out of fuel, or misfires, it will automatically shut off. If this occurs, you must manually re-light the pellet burner.
4. Do not operate this furnace with the door open.
5. Exterior metal plates and flue of the furnace are hot during operation. Do not touch with bare hands, or allow children to play near the furnace unattended.
6. Do not allow anyone to operate the furnace that is not familiar with its operation.
7. Manually place fuel in the firepot only when starting a fire in a cold stove. **Never** add fuel by hand to a smoldering fire or a hot firepot as dangerous smoking could result.



## **MAINTENANCE**

1. Check the firepot for any residue build up. Clean and dispose of them when completely cooled.
2. Check the ash pan regularly and empty as necessary. Dispose of the ashes in a metal container and when cooled, bury them to prevent any spontaneous fires.
3. Check the upper heat exchanger by removing the heat exchanger plate once per month for any fly ash accumulation. Clean heat exchangers if necessary.
4. Oil the blower motor once a year with 10 drops of SAE non-detergent oil.
5. Oil the drive motors, bearings and draft inducer motor twice during the burning season.
6. Clean the air filters regularly.
7. Inspect the flue pipe and chimney at least once per year.



5 YEAR LIMITED WARRANTY - RESIDENTIAL  
1 YEAR LIMITED WARRANTY - COMMERCIAL  
NON TRANSFERABLE

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

DATE PURCHASED: \_\_\_\_\_ FROM: \_\_\_\_\_

#### Complete Unit Warranty

The complete Traeger Appliance described at the top of this certificate is warranted against defects in material or workmanship under normal use and maintenance (A) for a period of one (1) year from the installation date or (B) for a period of eighteen (18) months from the date of manufacture if the installation date cannot be verified. Pinnacle Stove Sales Inc. will provide a replacement part for any part found to be defective. This warranty does not include service or labour charges connected with determination or replacement of defective parts or freight charges to ship these parts.

#### Extended Parts Warranty

In addition to the above complete unit warranty, one or more of the following extended warranties may apply to your unit.

A five (5) year extended warranty, pro-rated, on the heat exchanger. Electronic controls are limited to warranty provided by the manufacturer.

**Commercial** applications are warranted for a period of three (3) months on electrical components, one (1) year on the heat exchanger. Pinnacle Stoves Sales Inc. reserves the right to determine commercial applications.

#### Exclusions

The forgoing provisions state the exclusive remedy for any breach of warranty or any other claim in respect of the Traeger Appliance described on the top of this certificate. The express warranties contained herein are in lieu of all other warranties. Implied warranties, including warranties of merchantability, are limited to the duration of the complete unit warranty described above. Consequential or incidental damages for breach of any warranty express or implied are excluded.

Some States or Provinces do not allow limitations on how long an implied warranty lasts or the exclusions may not apply to you. This warranty gives you specific legal rights and you also have other rights which vary from state / province to state / province.

This warranty shall be void if:

1. The unit is not installed and operated in accordance with the installation and operation instructions furnished and an installation permit is not obtained.
2. The unit is not installed by a licensed bonded contractor.
3. The unit is not installed in accordance with local building codes and regulations.
4. Components or other accessories not compatible with the unit have been used with or attached to the unit.
5. The user has otherwise abused or failed to maintain the unit.
6. The unit is installed outside of the United States or Canada.
7. The unit is or has been removed from the place it was originally installed.
8. The defect or damage is not caused by the Traeger Appliance.

Retain This Certificate With Your Valuable Documents  
Pinnacle Stove Sales Inc.  
1089 Hwy 97 N.  
Quesnel, British Columbia V2J 2Y3  
Canada



**TROUBLE SHOOTING GUIDE**

Tools Essential for Trouble Shooting

1. Furnace Installation and Operation manual
2. Circuit Tester / Volt Meter
3. Molex pin Extractor
4. Volt Meter

**ATTENTION: Before attempting any trouble shooting:**

1. Check your outlet (for 070) or your wiring to breaker box (130/150/400) to insure proper polarity and grounding.
2. Check flue for any blockage.
3. Take time to clean burn pot and heat exchangers.

**STEP #1**

**CIRCULATING BLOWER CHECK**

NOTE: The factory setting for the blower is to come on at 150°F and off at 100°.

Find the blower limit control; it is a silver part with the Honeywell trade line label. It will have a white button. Pull the switch to the on position.

Should the blower fail to come on the first step is to check the power source. If the power source is OK you will need to make sure that all wire leads are properly connected. If the blower still fails to run, replacement will be necessary.

**STEP #2**

**CONFIRM POWER TO CONTROL BOARD**

Turn Main power switch from the "Stove Off" position to the "Draft Fan" position. If the red indicator light comes on, there is power to the control board. If the light does not come on check the following:

- A. Power Source (See Step #1)
- B. Fuse
- C. Burner Manual Reset – If the fuse is not blown and the reset button has not popped out, inspect the molex connection. Finally, using a voltmeter, check for power at the power switch. If the meter indicates 100v and the light still doesn't come on, replace the control board.

### **STEP 3# CONFIRM DRAFT FAN OPERATION**

Be sure the main power switch is in the "Draft Fan" position. This will cause the draft fan to operate at full power (110v). The draft fan will operate at 70 - 75v when pilot draft switch is set at high. It will receive 60 - 65v in the medium position and zero volts in the off position when furnace is not feeding fuel. You should be able to hear the draft fan come to full speed. You can check movement of air by placing your hand over the fire pot. If movement of air is not obvious, make sure that the shutter is open.

### **STEP #4 INSPECT FUEL METERING CUP FOR BLOCKAGE**

To inspect the metering cup, first you will need to empty the hopper. Reach down through the hopper and rock the cup back and forth. The cup should move  $\frac{1}{4}$  of an inch. If it does not move, something is jamming it. Sometimes the obstruction can be removed by rotating the blade on the cup motor counter clockwise. If this doesn't work you will have to remove the cup motor and cup to remove the blockage.

### **STEP #5 CONFIRM CUP AND AUGER MOTOR OPERATION**

Place a jumper wire between the leads to the safety disc located on the exhaust flange. Set the main power switch to "feed system". Both the cup and auger motor should start now. If the motors run but the fuel metering cup and/or auger do not turn, check the cast iron couplers to make certain that the set screw is tight or that a coupler has not snapped off. NOTE: Anytime you are checking the motors, you should verify the speed at which motors are turning. This can be accomplished by timing the revolution of the coupler. Using the setscrew as a reference the bottom motor (Auger) will make one revolution in 10 seconds. The top motor (cup) will make approximately one revolution every 45 seconds. Remove jumper wire and plug wire leads back to safety disc.

### **STEP #6 RELIGHT THE FURNACE**

Use normal start up procedure to re-fire the furnace.

## **INSTALLATION/ADJUSTMENT RELATED PROBLEMS**

PROBLEM: **Incomplete combustion, unburned fuel.**

SOLUTION: 1. Adjust air shutter to a more open position.  
2. Make sure of correct chimney, is chimney drafting?  
Is the chimney direct vented? Is it a tight basement?  
Outside air may be needed. What is fuel moisture?

PROBLEM: **Burns fuel too quickly and may have difficulty holding a fire on pilot.**

SOLUTION: Adjust air shutter to a more closed position. If that doesn't solve the problem, check for an over drafting chimney by using a draft gauge. To solve over drafting use the following procedures:

**Masonry Chimney:** Cover top with a plate and mount a 4" cap. If that doesn't slow it down, use a barometric damper.

**Pellet Vent:** Install a barometric damper.

PROBLEM: **Smoking**

SOLUTION: Make sure that the chimney is not direct vented on a windy side of the house. Also check gaskets to insure proper sealing. Adjust damper opening, might be too far closed.  
Is heat exchanger clean? Is chimney clean?

PROBLEM: **Auger squeaks**

SOLUTION: Adjust pillow block bearing by loosening screws on each side. Let auger run for one minute. Tighten screws. Auger should realign itself. Possible build up of carbon on end of auger where it enters burn pot.

PROBLEM: **Decrease in heat output**

SOLUTION: Thoroughly clean heat exchanger. Did you start using different fuel? Shutter on draft fan moved?

### **OPERATOR RELATED PROBLEMS**

PROBLEM: **Feed system does not lock in.**

SOLUTION: Repeat start up using more fuel.

PROBLEM: **Furnace will not start up after power outage.**

SOLUTION: Depress blower manual reset.

### **OPERATOR RELATED PROBLEMS cont'd**

PROBLEM: **Furnace will not feed fuel.**

SOLUTION: Check for blockage in metering cup.

Is there fuel in the hopper?

## **FUEL RELATED PROBLEMS**

### **Symptoms of Poor Fuel:**

1. Unburned pellets
2. Fire pot overflows as a result of high moisture content.
3. Lack of heat.
4. Excessive ash build-up.
5. Incorrect size.

## **PROBLEM**

### **NO HEAT**

# 1. Pellet fire has gone out during normal operation.

CHECK CAUSES: 1, 2, 3, 7, 8, 10, 11, 13, 14, 15, 17, 21, 23, 24, 25, 26, 28, 36, 42 or 45.

# 2. Blown fuse or circuit breaker.

CHECK CAUSES: 2, 3, 7, 8, 16, 17, 27, 43, 44 or 45.

# 3. Unit will not lock in on start up.

CHECK CAUSES: 2, 5, 10, 11, 15, 20, 21, 25 or 34.

# 4. Fire has gone out during turned down pilot time.

CHECK CAUSES: 1, 2, 5, 10, 11, 14, 15, 20, 21, 23, 24, 28, 39, 40 or 42.

### **PERFORMANCE DEFICIENCIES:**

# 5. Unit burns with a dirty lazy flame.

CHECK CAUSES: 5, 29, 36, 40, 59 or 60.

# 6. Furnace burns too many pellets.

CHECK CAUSES: 5, 14, 21, 28, 30, 31, 32, 53 or 59.

# 7. Shocked when touching furnace.

CHECK CAUSES: 16, 17, 44 or 45.

# 8. Furnace is up to temperature, but won't run on thermostat.

CHECK CAUSES: 13, 17, 18, 19, 23, 24 or 25.

# 9. Firepot is full of pellets when burning.

CHECK CAUSES: 5, 20, 29, 36, 37, 40, 53, 59 or 60.

#10. The blower cycles on and off too much.

CHECK CAUSES: 9, 12, 22 or 59.

#11. Furnace burns without regard to thermostat, overheats.  
CHECK CAUSES: 4, 8, 13, 14, 18, 30, 31, 33 or 50

#12. Furnace doesn't make as much heat as it used to.  
CHECK CAUSES: 5, 32, 37, 40, 53, 56, 57 or 59.

#13. Circulating blower will not run at all.  
CHECK CAUSES: 9, 12, 17, 22, 45 or 56.

#14. Remote thermostat is not accurate by thermometer.  
CHECK CAUSES: 18, 30, 31, 32, 33, 48 or 54.

#15. The circulating blower runs continually.  
CHECK CAUSES: 9, 12, 38 or 53.

#16. The furnace will not heat the whole house.  
CHECK CAUSES: 30 or 32.

### **UNDESIRABLE BY-PRODUCTS**

#17. Owner smells fumes in home.  
CHECK CAUSES: 5, 6, 14, 20, 21, 29, 35, 36, 37, 40, 46, 49 or 58.

#18. Dust in the room and on the furniture.  
CHECK CAUSES: 4, 6, 35, 41, 49 or 59.

#19. Large amounts of unburned pellets in ash pan.  
CHECK CAUSES: 5, 20, 21, 29, 36, 37, 40, 53 or 57.

#20. Large amount of soft ash and hard clinkers in firepot.  
CHECK CAUSES: 53.

#21. Furnace smokes out vent running on pilot or full burn.  
CHECK CAUSES: 5, 13, 14, 20, 21, 28, 29, 34, 37, 39, 40 or 53.

#22. The Furnace makes too much noise.  
CHECK CAUSES: 8, 22, 28, 36, 47, 51 or 55.

## **CAUSES**

1. The pellets in the hopper have tunnelled out or have bridged over.

Remedy: Check the fines content and or length of the pellets against the manufacturer's specifications.

2. An impurity in the pellets has hung up the cup.

Remedy: The cup is not turning and the motor is very hot. Unplug the stove, empty the hopper, dislodge the foreign object, check the cup operation and refuel.

3. An impurity in the pellets has hung up the auger.

Remedy: The cup is turning but the auger is not. Loosen the coupling on the auger and try to turn free. Do not force it. You may have to remove the auger to clear.

4. Fines and dust are accumulating in the burner compartment area.

Remedy: Check the seal between the hopper and the burner flanges as well as the hopper seam seals. Reseal.

5. The heat exchanger is full of ash.

Remedy: Shut the furnace off, let cool, remove all heat exchanger cover plates and vacuum out. Check vent system while you are at it.

6. The main fire door has been left ajar.

Remedy: Close the door completely and make sure it is secure.

7. Cup motor is defective.

Remedy: Unhook motor from drive coupling, give motor power and check for operation. Replace motor if defective.

8. Auger motor is defective.

Remedy: Unhook motor from drive coupling, give motor power and check for operation. Replace motor if defective.

9. Fan limit control is defective.

Remedy: Replace with new control.

10. Safety disc defective.

Remedy: The safety disc is normally open and closes on temperature rise. It must be up to temperature and lock in to allow the burner to run. If you are sure that it is not reacting to temperature, then you can test its defectiveness by bypassing from one terminal to another. If burner activates after bypassing, then replace safety disc.

11. Safety disc is set wrong.

Remedy: Reset the safety disc according to manufacturers recommended settings.



12. Fan limit control settings are off.

Remedy: The first peg is the fan off setting (at which temperature the blower will turn off), the second peg is the fan on setting (at which temperature the blower will turn on), the third peg is the limit setting (high temperature shut down). All reading left to right. Check the settings as per the manufacturers recommended settings.

13. Primary control is defective.

Remedy: Verify that this control is defective by tracing power during switching. Don't guess! If defective replace.

14. Primary control setting wrong.

Remedy: Check setting according to manufacturer's recommended settings. Remember that On time is amount of time burner will run during pilot burn, and Cycle time is the total cycle both on and off. To find the off time, subtract the on time from the cycle time. Reset and adjust draft setting accordingly.

15. Ash build up behind safety disc.

Remedy: Ash has accumulated behind the safety disc, thereby acting as an insulator on the safety disc sensing area. Clean the heat exchanger, particularly behind the safety disc.

16. Improper stove ground.

Remedy: Check the ground. Check the outlet. Just because there is a three-prong outlet receptacle does not mean that there is a ground wire hooked up to it, and then where does that ground wire go to? This appliance must be properly grounded. Also remember that the primary control grounds itself to the junction box, so never work on the unit with the primary control off the junction box with the power on.

17. Loose wiring connection.

Remedy: Check power location with tester. Trace power in to control function. Look for loose wires, wire nuts, terminals, and tighten. Make sure that the power is off when looking for loose wires.

18. Defective thermostat.

Remedy: Remove the thermostat from the wall, cross the two wires, if this activates the burner then replace the thermostat.

19. Break in thermostat wire.

Remedy: Go back to the wiring connection at the furnace where the thermostat wires tie in to the yellow primary control wires, disconnect the thermostat wires, cross the yellow leads off the primary control for the thermostat, if this activates the burner then either find the break in the thermostat wire line or replace the entire line.

20. Draft rheostat on primary control set too low.

Remedy: Switch draft setting to next highest setting.

21. Draft rheostat on primary control set too high.

Remedy: Switch draft setting to next lowest setting.

22. Defective blower motor.

Remedy: Depress white button on fan limit control to check blower activation. If not activated, pullout white button and connect power directly to blower leads, if not activated by direct power then remove and replace blower.

23. Loose coupling on cup drive assembly.

Remedy: Tighten set screw down onto flat part of shafts with allen wrench. Remember that the motor can be turning and everything looks like it is moving, but actually the couplings are just turning, not the shaft or the cup.

24. Loose coupling on auger drive assembly.

Remedy: Tighten set screw down onto flat part of shafts with allen wrench. See second comment above to note.

25. Burner limit 200-degree manual reset popped.

Remedy: Depress red button in between cup and auger motor. Verify correct operation of the cup, auger, and draft inducer motors. Possible motor failure evident.

26. No voltage to stove.

Remedy: Check power backward, j-box, power cord, outlet, circuit breaker, etc. Also check 3-amp fuse in primary control.

27. Too many appliances on the circuit.

Remedy: The unit should be on a separate circuit.

28. Too much chimney draft.

Remedy: Check draw with a draft gauge. Maximum draft .08 inches. If draw exceeds .08 reduce chimney outlet to accomplish.

29. Too little draft.

Remedy: Check draw of chimney with a draft gauge. Minimum draft .04 inches. May have to add more chimney.

30. Improper thermostat location.

Remedy: Relocate thermostat to location that reflects better overall desired temperature scheme.

31. Thermostat set too high.

Remedy: Turn it down to a more comfortable setting.

32. The heat demand of the house is too great for the BTU output of the furnace.

Remedy: Re-examine the area to be heated and the calculated heat loss. The furnace may be too small for the house. The furnace could be working perfectly but the demand is too great. That's the reason why we build different size furnaces. Remedy, get a larger furnace, or lower the heat loss of the home.

33. Unit is oversized for the area to be heated.

Remedy: Replace with a smaller unit, or provide more air distribution to other rooms.

34. Not enough pellets placed in firepot on start-up to bring the furnace up to lock in temperature on the safety disc.  
Remedy: Stop operation, let the unit cool (never place pellets by hand into a hot firepot), and re-light with more (2-3 cups) pellets in the firepot.
35. Door or glass seal worn or broken.  
Remedy: Replace with new gasket.
36. Draft inducer motor defective.  
Remedy: Remove inducer motor from housing and connect to direct power, if non-functioning, replace with new motor.
37. Flue vent outlet blocked.  
Remedy: Check piping and outlet to verify clear passage.
38. Summer (white) fan button pushed in on fan limit control.  
Remedy: Pull button back out to auto position.
39. Air shutter on draft inducer too far open.  
Remedy: Close down air shutter to 50%.
40. Air shutter on draft inducer too far closed.  
Remedy: Open air shutter up to 50%.
41. Dust present due to carelessness when loading the stove.  
Remedy: Take your time when loading pellets into hopper.
42. Unit has run out of fuel.  
Remedy: Load hopper.
43. Undersized or overloaded service wiring.  
Remedy: Call your electrical contractor.
44. Power surge.  
Remedy: Call your electrical contractor.
45. Power short in unit.  
Remedy: Locate short circuit and correct.
46. Pellets in hopper are giving off an odour.  
Remedy: Change the brand of pellets you are using, some species of wood have unpleasant odours.
47. Mounting bolts on the blower are loose.  
Remedy: Tighten the mounting bolts.
48. Remote thermostat is not level.  
Remedy: Level the thermostat using a water bulb.

49. Ash pan door or other heat exchanger cover plate not on tight.

Remedy: Tighten all nuts and check all gaskets.

50. Thermostat wires are shorting out.

Remedy: Remove thermostat from the base, if burner continues to run, go back to tie in at primary control yellow leads, disconnect and separate, if burner stops, then you have a short in the remote wires. Trace and correct or replace. Look for tacks or nails through wires.

51. A bearing is failing on the blower motor.

Remedy: Replace the blower.

52. Fan limit control is stuck.

Remedy: Make sure that the white button is in the auto position, tap the fan limit control lightly. If this does not shut off the blower then replace the fan limit control.

53. Bad pellets.

Remedy: Are you using approved pellets that meet the manufacturer's specifications? Use of non approved pellets will impair the functioning of your stove and may void your warranty.

54. That's the nature of the Honeywell T87F thermostat.

Remedy: Adjust thermostat to your comfort level not a numbered dial.

55. Normal draft inducer hum anytime the unit is plugged in.

Remedy: Install duro-dyne duct isolator.

56. Blower blades are dirty and full of lint and/or hair.

Remedy: Clean the blades.

57. Draft inducer blades are dirty and full of lint and/or hair.

Remedy: Clean the blades.

58. Furnace venting improperly installed.

Remedy: Check installation manual to verify correct install on unit.

59. Aluminum air filter is dirty.

Remedy: Remove from furnace and wash.

60. Inadequate return air. Too small, restricted, or is pulling unconditioned air.

Remedy: Consult qualified HVAC ducting contractor for proper installation.