

PF100 PELLETT FURNACE

STATUS LIGHT ERROR MESSAGES

1 Blink: Indicates a control board self diagnostic failure. This requires a manual reset.

3 BLINKS: Indicates E.S.P. (exhaust sensing probe) failure. This requires a manual reset.

4 BLINKS: Only occurs in automatic mode. Indicates the wall control has failed or is not installed. If the wall control is then installed the error will automatically reset after the furnace warms up. **Note:** The furnace will not start in auto with this error.

5 BLINKS: Occurs only in auto ignite mode. Indicates the unit has failed to ignite after 4 consecutive 8 minute attempts. To reset, turn mode selector to off then back to automatic.

6 BLINKS: Indicates the control has calculated poor or incomplete combustion occurring for more than 50 minutes.

MANUAL RESET: Manual reset is accomplished by disconnecting the power to the unit for a few seconds then reconnecting.

SYMPTOM	CAUSE	CORRECTION
Power light is not on	Power to the furnace	Verify proper voltage and polarity to the furnace. The furnace should be wired to a dedicated circuit.
	Fuse blown on the circuit board	Replace the fuse / Check for a short circuit
	Faulty wiring	Inspect / Repair furnace wiring
	Faulty circuit board	Replace the circuit board
Combustion blower will not run in test mode	Power to the furnace	Verify proper voltage and polarity to the furnace
	Blower fan blade obstructed	Remove / Clean obstruction from the blower fan blade
	Faulty blower motor	Verify that when the combustion blower light on the control is on there is voltage to the blower motor. If voltage is present and the blower will not run, replace the blower motor.
	Faulty wiring	Inspect / Repair furnace wiring
	Faulty circuit board	After turning the unit to test mode, the combustion blower will run on high for one minute. After the first minute the combustion blower will alternate between high and low every minute. Verify proper control operation. Replace circuit board if needed.
Feed motor will not run in test mode * Feed motor will only run for one minute when the unit is turned to test mode*	Doors open	Verify door and hopper lid are closed
	Low draft	Install draft meter and verify draft readings. The pressure differential switch must at least -.17" W.C. to close and allow power to the feed motor and igniter.
	Faulty differential switch	After verifying the draft readings are correct, jump the pressure differential switch and turn the unit to test. If the feed motor runs, check for an obstruction in the differential switch tube. If no obstruction and the draft readings are correct, replace the differential switch.
	Faulty feed motor	Verify when the feed motor light on the control is lit there is voltage to the feed motor. If voltage is present and the feed motor will not run, replace the feed motor. You can also disconnect the feed motor and connect direct power to the feed motor to test.
	Faulty wiring	Inspect / Repair furnace wiring
	Faulty circuit board	Verify proper operation of the circuit board. Replace the circuit board if needed.
Furnace will not light in auto (Motors run in test mode) continued	Draft problem	Connect a draft meter and verify draft readings. For most installations turning the the draft adjustment screw all the way CCW works best. The draft differential switch must have at least -.17" W.C. to close and allow power to the feed motor and igniter.
	Dirty furnace / Venting	Clean furnace / Venting. Paying particular attention to the burn pot holes and the area where the igniter is located, behind the clean out plate under the burn pot.
	Low voltage	Verify voltage and polarity to the furnace. Low voltage will cause the igniter temperature to be too low.
	Wall control setting	Set the wall control above the room temperature. The furnace will not light unless the wall control is at least two degrees above the room temperature.
	Obstruction in the feeding system	Check for an obstruction in the hopper, feeder and auger tube.
	Faulty wall control	Verify the wall control is installed correctly using the UY connectors provided with furnace. See the installation instructions in the owners manual. Correct installation or replace the wall control.
	Fuel problem	Verify pellets are dry and are in good condition.
	Back draft damper sticking	Verify the back draft damper located in the air inlet moves freely. If outside air is installed check for an obstruction in the pipe.
	Faulty igniter	Check if the igniter is getting hot after trying normal ignition. If the igniter is not hot check to see if there is voltage to the igniter when the igniter light is lit. If voltage is present and the igniter does not get hot, check the resistance of the igniter. Resistance should be between 46 - 49 OHMS. Replace the igniter if needed.

SYMPTOM	CAUSE	CORRECTION
Furnace will not light in auto (Motors run in test mode) continued	Faulty pressure differential switch Faulty ESP probe Faulty wiring Faulty circuit board	The pressure differential switch needs at least $-.17''$ W.C. to close and allow power to the igniter and feed motor. If the draft readings are correct, jump the differential switch. If jumping the differential switch allows the furnace to light check for an obstruction in the differential switch tube. If no obstruction in the differential switch tube, replace the differential switch. Replace the ESP probe Inspect / Repair furnace wiring If the igniter light is on AND there is no voltage to the igniter AND the wiring is correct AND the draft readings are correct AND the differential switch is ok, replace the circuit board.
Erratic operation	Power to the furnace Faulty ESP probe Faulty wall control Faulty wiring Faulty circuit board	Verify proper voltage and polarity to the furnace Replace the ESP probe Verify the wall control is installed correctly. See owners manual. Replace if needed. Inspect / Repair furnace wiring Verify proper control operation. Replace circuit board if not controlling correctly.
Furnace burns properly. Distribution blower does not run.	Power to the furnace Dirty furnace / Venting Obstruction in feed system Fan control switch Three speed fan switch Faulty distribution blower Faulty wiring	Verify proper voltage and polarity to the furnace Clean furnace / Venting Check for an obstruction in the hopper,feeder and auger tube. Verify the fan control switch is installed in the plenum approx. 11 inches above the discharge opening as close to the center as possible. If air conditioning is installed the fan control switch must be installed below the "A" coil. Verify fan limit settings. Good initial settings are 118 off, 150 on, 170 high limit. Verify plenum temperature and operation of the fan control switch. Verify the three speed fan switch is not faulty. Verify the distribution blower spins freely. Check for voltage to the distribution blower through the fan control switch. If voltage is present and the blower will not run, replace the blower motor. Inspect / Repair furnace wiring
Furnace burns properly. Furnace will not shut down when turned to off. *NOTE: Furnace will continue to feed until the ESP probe reaches 230 degrees. The combustion blower continues to run until the ESP probe reaches 90 degrees.*	Power to the furnace Knob out of alignment Faulty ESP probe Faulty wiring Faulty circuit board	Verify proper voltage and polarity to the furnace Verify mode select knob is pointed to the center of the off position halfway between its full travel clockwise and counter clockwise. Reset knob if needed. Replace the ESP probe Inspect / Repair furnace wiring Verify proper control operation. Replace circuit board if not controlling correctly.
Feed motor does not run after ignition. (Feed motor runs in test mode)	Power to the furnace Low draft Obstruction in feed system Faulty ESP probe Faulty circuit board	Verify proper voltage and polarity to the furnace Install draft meter and verify draft readings. The pressure differential switch must have at least $-.17''$ W.C. to close and allow power to the feed motor and igniter. Check for an obstruction in the hopper,feeder and auger tube. Replace the ESP probe Verify proper control operation. Replace circuit board if not controlling correctly.

SYMPTOM	CAUSE	CORRECTION
Furnace does not burn correctly.	Dirty furnace / Venting Venting configuration Fuel problem Feed rate setting Back draft damper sticking Obstruction in feed system Faulty ESP probe Faulty circuit board	Clean furnace / Venting. Install a draft meter and verify draft readings. Verify proper venting configuration. *See owners manual* Verify pellets are dry and are in good condition. Verify feed rate setting. Verify the back draft damper located in the air inlet moves freely. If outside air is installed check for an obstruction in the pipe. Check for an obstruction in the hopper,feeder and auger tube. Replace the ESP probe Verify proper control operation. Replace circuit board if not controlling correctly.
Stove is noisy when feeding.	Slide plate Faulty feed motor Cam bearing Pillow block bearings Auger	Check for an obstruction in the slide plate area. Check for burrs on the slide plate and in the feeder housing. Check for wear on the slide plate. Replace feed motor Verify the cam bearing is traveling properly on the pusher arm. Adjust or replace the cam bearing. Verify the pillow block bearings are seated in their housing. Check that fines and dirt are not built up in the bearings. Check for an obstruction in the auger. Verify the auger bearing retaining bolts are tight and the auger is not angled in the feeder tube. If the noise is coming from the auger bearing, replace the auger.
Draft readings are not normal	Dirty furnace / Venting Back draft damper sticking Baffles Venting configuration Faulty combustion blower Faulty circuit board	Clean furnace / Venting. Install a draft meter and verify draft readings. Verify the back draft damper located in the air inlet moves freely. If outside air is installed check for an obstruction in the pipe. Verify upper and lower baffles are installed correctly. Verify proper venting configuration. *See owners manual* Check for proper operation of combustion blower. Verify fan blade is tight on the shaft. Verify proper control operation. Replace circuit board if not controlling correctly.