

# COMPETITOR TIPS

## OPERATION HINTS FOR COMPETITOR DRYERS

Present Software version is 2.19

### 1. BURNER CYCLING

Keep Low pressure setting as low as possible without shutting down dryer or popping. Approx. 1 to 2 lb.  
Cycle on average 4 times per minute. 3-5 times per minute is acceptable.

### 2. ERRORS

- 01 User switched from continuous flow to batch while dryer was running.
- 02 Grain Temperature Sensor Open. One or both leads are off (Open Circuit.).
- 03 Grain Temperature Sensor Leads are shorted together.
- 04 Plenum Temperature Sensor Open. One or both leads are off (Open Circuit).
- 05 Plenum Temperature Sensor Leads are shorted together.
- 06 Flame Probe Shorted to ground.
- 07 Illegal Flame Sense. Most likely caused by stuck open gas solenoid.  
**Error 7 will not shut down fan until loss of flame is detected by control.** May occur if 1 of the 12 volt DC limits is shorted to AC ground, or to the communication port for the air switch or either temperature sensor is shorted to AC ground.
- 08 No safety circuit voltage.
- 09 I/O board communication failure. I/O board and Master board have lost communication.
- 10 User supplied safety. A safety connected to J7-8 and J1-17.
- 11 Canadian Mercoid sensor. In USA jump J7-8 to J1-16.

### BATCH ERRORS

BRN on the screen means the Burner Switch is turned off or there is a loose wire in its circuit.

FAN on the screen means the Fan Switch is turned off or there is a loose wire in its circuit.

Presently the Load Switch and the Unload Switch are not monitored by the Dryer Controls.

**999 on the screen is not an Error.** It means the board has never had software loaded. This will come up when you turn on the power just after GSI appears. This means the latest software must be down loaded.

### 3. DIP SWITCHS

1. Dip Switch 8 = Air Switch Test Bypass. **WARNING! Bypassing this test will allow burner to come on without the Fan running.**
2. Dip Switch 7 = Emergency Cooling Mode. Fan will run alone for 5 minutes when the Start button is pushed with switch on.
3. Dip Switch 6 = Allows Off/On Burner operation instead of High/Low as is standard.
4. Dip Switch 5 = (In Software Ver. 2.11 and up) Adds Low Temp Timer to and low Temp finish dry like dual temp. Batch Dryer.
5. Dip Switch 4 = (In Software Ver. 2.14 and up) Adds Low Temp finish tripped by Grain Temperature to Batch Mode.

### 4. SHUTDOWNS

If both the **GRAIN** and **PLENUM HIGH TEMPERATURE** warnings appear on the screen at the same time one of the two mechanical temperature sensors are kicked out. **NOTE Emergency Cooling will NOT work if these are kicked out.**  
These temperature limits are in addition to the electronics high limits and are located in the same electrical conduits as the electronic thermister sensors. See page 36 of Dryer Operation and Service Manual PNEG-552 for wiring pattern, and note that J7-01 is the terminal the computer checks for 12 volts.

### 5. SPECIAL KEY USAGE

1. Pushing the **UP arrow key** will gives the Dryers Hour Meter reading. Two successive screens Hours x 100 | Balance of hours.  
In software vers. 2.14 and above it reads in 5 successive screens Total Hours x 100 | Balance of hours | Balance of minutes | Batch Count | Minutes since last shutdown. So 5 | 23 | 12 | 144 | 188 would be Timer = 523 hours 12 minutes, 144 Batches dumped and 3 hours and 8 minutes since the last shutdown.
2. Pushing the **DOWN arrow key while an error is on the screen will tell how long ago the shutdown occurred.**
3. Pushing the **MODE SELECT key** exits any mode back to the main screen.
4. Holding the **STOP button for 4 seconds** or longer causes the Dry, Cool, and Unload timers to be reset to the values programmed by the user. **This also Forces new times.**
5. Holding down the **HOURS key and turning on the power resets** the NOVRAM or does what is called a **HARD BOOT.**
6. Holding **down the DOWN key** while turning on the power restores the factory **default settings.**
7. In software vers. 2.19 and above Holding down the Up Arrow Key while powering up **resets the Total Batch Counter.**

### 6. OPERATION HINTS

1. If you set a new timer setting which is lower then the present setting it becomes effective immediately. If it is longer it takes effect the next cycle.

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## 7. OPTIONAL WIRING POINTS

1. **J7-10, J7-13 and J7-18** are 12 volt ground points for use with a tester.  
The third unused connection on any network connector is also a 12 volt ground.  
There are no 12 volt ground connections on the IO board.
2. **J1-17 - User Supplied Safety.** If 12 volts is interrupted from J7-18 the User Supplied Safety Warning, ERROR 10 results.
3. **J1-16 - Canadian Mercoid Sensor.** If 12 volts is interrupted from J7-18 the Canadian Mercoid Warning, ERROR 11 results.
4. **J1-15 - Discharge Hold Function – First available in Version 2.19** - operates in Batch Mode only.  
If 12 volts is applied to J1-15 before the unload cycle is reached, when it does reach the unload cycle the dryer will turn off the Fan and or the Heater (Only if the switches are in the AUTO position) and not allow the Dryer to unload until the 12 volts is removed from J1-15. When 12 volts is not detected the dryer will resume normal operation and immediately unload the Dryer and continue drying. This function cannot be activated if the unload cycle has already begun.  
  
If you are running Dry and Cool and want the Dryer to continue cooling while in Discharge Hold put the Fan switch in the Manual position. Otherwise both the Fan and Heater Switches should be in the AUTO position.
5. **J7-15, J7-16 and J7-17** are 12 volt Positive source points.

## 8. Temperature Sensor Testing

1. You can find charts with the Resistance readings at various Temperatures in the following manuals  
The Competitors use the Thermister type sensors, the bolt style for the Plenum and the round style for the Grain Temperature.  
Located in **Resource 2003 CD** in the “**Resources – Manuals**” Folder  
PNEG-630 Portable Dryer – Trouble Shooting Feb 1999.pdf **Page 54** (Portable Dryers | Trouble Shooting – Operating Tips)  
PNEG-377 Fan & Heater – Service Manual Feb 2000.pdf **Page 50** (Fans and Heaters | Trouble Shooting Guide)

## 9. TROUBLESHOOTING TIPS

1. **If some 110 volt contactor control devices work and some do not check the fuse on the IO board to see if it has failed.**  
Likely devices that will not work are the Load Auger, Unload Auger and SCR drive.
2. If you have screwed out the BEC Air Switch all the way you can take the front cover off and screw out the brass bushing 2 to 4 additional turns to give more adjustment. This is a somewhat common thing to have to do.