POWDER COATING OVEN START-UP PROCEDURE

1. All Powder-X Coating Systems manufactured equipment requires initial start-up and dialing in by a licensed electrician and a licensed Gas/HVAC professional. The license number of the start-up personnel will be required on the Warranty Validation form. Failure to complete this form and provide complete information on the licensed professionals doing the start-up will void all warranties.
2. Locate the Warranty Validation Form in the Owner's Manual.
3. Make sure the main power is hooked up to the control panel
4. Make sure the separate single phase (for control voltage) is hooked up to the control panel.
5. Make sure power has been pulled from the main control panel to the Plug (recirc) fan.
6. Make sure power has been pulled from the main control panel to the Exhaust Fan.
7. Ensure wiring has been connected from the main control panel to the Burner.
8. Make sure wiring has been connected from the burner to the gas train.
9. Verify that the airflow safety switches are wired in, and the tubes are hooked up (see install manual)
10. Check and record all incoming power on the Warranty Validation Form
11. Push Fan Start and Check the rotation of the Plug Fan and Exhaust Fan.
12. Check and record all amperages on the Warranty Validation Form. Turn Off Fans.
13. Open Control Panel and Start Fans. Set the VFD to 40 Hertz. Turn off the fans and close the control panel.
14. If the incoming gas is Propane, make sure the gas train has been changed to propane. See Owner's Manual.
15. Check the Incoming gas pressure. This is NOT the gas pressure coming into the building. This MUST BE MEASURED on the burner gas train at the Incoming Gas Pressure Port. On the Gas Train Layout in the Owner's Manual, this is Item #14. If gas pressure is less than

10” water column or more than 14” water column, STOP. Start-up cannot proceed until this has been corrected. The oven WILL NOT FIRE until this is set.

16. Set Burner High Limit on front of control panel to 550. Set by pushing the UP arrow. When the setting reaches 550, press ENTER (the far-left button)
17. Set Oven set point in front of the control panel to 375. Set by pushing the UP arrow. When the setting reaches 550, press ENTER (the far-left button)
18. Make sure the High-Temperature Probe has been installed.
19. Make sure the Oven Temperature Probe has been installed and is NOT touching the oven walls.
20. NOTE: High-Temperature Controller, Main Temperature Controller, and VFD are programmed at the Control Panel Certified Building Facility. If these settings ever need to be checked, they are located inside the Owner’s Manual. AVOID MAKING ANY ADJUSTMENTS to these controllers without carefully following the directions.
21. Follow Burner Start-Up steps located in the Owner’s Manual. It looks like this:

Midco INTERNATIONAL

Midco International Inc.
4140 West Victoria Street
Chicago, Illinois 60646
tel 773.604.8700
fax 773.604-4070
www.midcointernational.com

REGISTERED ISO 9001 COMPANY

V Series burner Startup Instructions

V Series burner with Siemens Control

1. Before attempting a burner start up, thoroughly study and familiarize yourself with the exact sequence of operation and all other details on the specific Primary Safety Control System being used. This information can be found in the burner Installation and Service manual as well as technical literature covering all components included in the Owners information envelope.
2. Prewired and installed burner on equipment.
3. To begin burner setup, close the manual ball valve after the Dungs regulator
4. Turn on power.
5. Do not turn on gas at this time.
6. Burner blower motor will ramp up to high fire purge.
7. Burner blower motor will ramp down to low fire.
8. Burner will lockout with no gas flow.
9. Siemens Controller display will read Loc 2, no flame stablished.
10. Remove the 1/8” plug of the Tee downstream of the pilot regulator
11. Install a 1/8’ barb fitting
12. Install a differential manometer on the downstream Tee of the pilot regulator, to read pilot pressure.
13. Turn gas on.
14. Reset Siemens control by pressing info button for < 3 seconds.
15. Burner will go through sequencing and light.
16. Check pilot pressure
17. If pilot is an internal pilot, the pilot pressure should be 3” w.c.
18. If pilot is a side pilot, the pilot pressure should be 1.5” w.c.
19. Open the manual ball valve slowly, pilot should remain on with main at minimum fire on as well.
20. If pilot goes off while opening the manual gas valve slowly then dungs regulator needs to adjusted.
21. Turn the top adjustment screw on the Dungs regulator clockwise until it stops, then counterclockwise 10 turns.
22. Turn the side adjustment screw clockwise until it stops, then back it our counterclockwise 2 turns.
23. Try turning the burner on again
24. If the burner fires and stays lit, then give Dungs regulator top adjustment just ½ a turn more counterclockwise, and put the black cap back on.
25. If burner fails to light, then keep turning the Dungs regulator counterclockwise one turn at a time and retry lighting the burner for every turn until stays on.
26. Once burner remains on, set temperature control to desire temperature setting.
27. Burner should ramp up to high fire and will modulate to meet temperature setting.
28. Check gas inlet pressure on side inlet of first solenoid gas valve.
29. Inlet pressure to side inlet of first 1/8” Tee before the pilot regulator at high fire should be 7” WC.
30. Readjust main gas pressure regulator if required.
31. Consult the burner Installation and Service manual for manifold gas pressure adjustment and pressure chart.

BE SURE TO FOLLOW ALL BURNER MANUALS AND INSTRUCTIONS LOCATED INSIDE THE OWNER'S MANUAL. FAILURE TO DO SO COULD DAMAGE EQUIPMENT, VOID WARRANTY, OR CAUSE INJURY OR POSSIBLY DEATH.

ONCE OVEN IS STARTED, CAREFULLY FAMILIARIZE YOURSELF WITH THE ORDER OF OPERATION.

Order of Operation, Oven,

1. Turn the main disconnect to ON the main control panel
a. All temp controllers will power up
b. Burner control panels (ensure the toggle switch on the burner control panel is in the "ON." position) will power up. The combustion fan will bump on slightly
2. Momentarily press the "Start Fans" button
a. You will hear all oven recirculation fans and exhaust fans ramp up to speed.
b. This will initiate the Main panel purge sequence. This purge time is to ensure all safety air flow switches "make" and are active.
3. Momentarily press the "Start Burner" button
a. If the "Purge Light" is still illuminated on the front of the panel, the "Burner On" light will not illuminate. This "Burner On" light will illuminate AFTER the "Purge" light goes off.
b. Once the "Burner On" light illuminates, this will initiate the Burner Purge sequence. This time is programmed into the burner depending on the size of the oven
c. The Sequence of Operation for the burner is spelled out in the manual for the Burner starting on Pg.18. PLEASE FOLLOW 120V BURNER.
4. During operation, the following safety switches are present
a. Recirculation air proving. This proving switch ensures that the recirculation fan is on and moving air. If this switch isn't made, the burner will shut off, and the "Recirculation Fan Fault" light will illuminate
b. Exhaust air proving. This proving switch ensures that the recirculation fan is on and moving air. If this switch isn't made, the burner will shut off, and the "Exhaust Fan Fault." light will illuminate
c. VFD fault. If ANY VFD in the panel goes into fault, the burner will shut off, and you will have the "VFD Fault" light illuminate.
d. Main Cabin High Temp. If the Temperature in the main cabin (or within a zone if applicable) rises over 30 degrees F of the set point, the burner will shut off and the "Main Cabin High Temp" light will illuminate
e. Burner Over Temp. If the Temperature on the Burner High Limit controller rises above critical temps, the "Burner Overtemp" light will illuminate. This temp is dependent on the size of the oven and the size of the burner.
f. Outside fault. This is an auxiliary fault circuit. If used, the outside fault will cause the burner to shut off, and the "Outsize Fault" light will illuminate.
g. Burner Fault. If the Burner goes into fault, the burner will shut off, and the "Burner Fault" light will illuminate. The exact fault will then be flashing on the burner controller. Refer to Burner manual and documentation.
5. To shut down automatically, turn the switch located below the time to the "Auto" setting. Once the set cycle time has elapsed, the burner shutdown sequence will begin
a. The red "Shutdown Cycle" light will illuminate.
b. The "Cycle Time Complete" light will illuminate.
c. The Buzzer will sound for 30 sec.
d. The burner will shut off and initiate its internal post purge sequence (refer to burner manual".
e. The recirculation fan and the Exhaust fan will run and stay running for approx. 30 mins.
f. After 30 mins., The fans will shut off, and the "Shutdown Complete" Light will illuminate
6. To shut down manually, Press the "Stop Burner" button
a. The burner will shut off
b. Watch the main cabin temperature, and when the main cabin temp drops below 200 to

180 deg. F, Stop the fans by pressing the “Stop Fans” button.
7. Final step is to shut down the main breaker. All lights will shut off, and the VFDs will power down.

SHUT OFF OVEN AND PREPARE FOR AUTO-TUNE

TO AUTOTUNE THE OVEN, MAKE SURE OVEN DOORS ARE CLOSED AND NOTHING IS INSIDE THE OVEN. DOORS MUST REMAIN CLOSED THROUGHOUT THE DURATION OF THE AUTOTUNE. NOTE: Auto-tune Procedure is also located inside the Owner’s Manual.

To Auto-Tune:

- Start Oven with doors closed and nothing inside.
- Let the oven get to at least 180 degrees before beginning the auto-tune process.
- On Main Oven Temperature Controller, Press the ENTER Button (on far-left) one time. DO NOT HOLD.
- Display should show AT and OFF.
- Press the UP arrow, and the display should say AT and ON
- Press ENTER again, which will make the display say AT and ON, but it will be brighter.
- Press ENTER again, and you will go back to the main screen. The AT light on the front of the controller will be blinking. The Auto-Tune process is over once this light quits flashing.