



AeroBarrier Connect Troubleshooting Guide

Component Malfunction

1. MCU and Sealing Stations power

Problem	Source of the problem	Verify source of the problem	Solution
MCU dead	Incoming power	Power plug loose or not connected	Insert and lock plug into receptacle on MCU
		Main power LED ON at MCU?	LED OFF means no power into MCU, check power source or power cable
		Check voltage at 50-amp plug (see diagram in Illustrations Section)	No voltage? Reset breakers; Check output at generator (see diagram at end, 240v single phase)
Sealing station not powering on	Battery not supplying power	Battery level must be 10 to 13 vdc at station's charging port	Charge battery
		Battery level after charging overnight is less than 10 vdc	Check battery charger; are connections and setting correct; will a known good battery charge properly on charger?
			Check for loose wires on station charging port or on battery
			Replace battery



2. Fan Not Running

Problem	Source of the problem	Verify source of problem	Solutions
Fan won't run	Fan itself	Electrical connections	Check cable to fan
	Power source is questionable	Main Power LED OFF	Breakers tripped at power source
			Generator out of gas
			Check output voltage at source (see diagram)
	Fan1 or Fan2 breaker open at MCU	Known good power to MCU but Main Power LED OFF	Reset breakers; if issue returns check for overload on the circuit
	Fan power from MCU	Main Power LED ON but Fan L1 or L2 OFF	Wiring issue inside MCU
		Measure voltage output at plug	See diagram at end
	Fan plug	Voltage good but fan won't run	Re-insert and lock fan male plug into receptacle
Fan power shut down incorrectly	Power button must be in OFF position when powered down	Unplug MCU & wait for red light to go out on fan button. Once off, push button to cycle to OFF. Power back on	
Fan powered up incorrectly	Knob must be OFF when fan powered up	Unplug MCU & wait for red light to go out on fan button. Once off, push button to cycle to OFF, Power back on	
	Software slider bar or control must be at zero when fan powered up	Unplug MCU & wait for red light to go out on fan button. Once off, move software control to zero. Power back on	
Fan won't run with manual knob	Knob	Knob loose or stem stripped	Replace knob



3. Sealant Not Pumping

Problem	Source of the problem	Verify source of problem	Solution
Sealant not moving from sealant jug to tripod	User skipped priming the lines	Air bubbles through out liquid lines	Prime liquid lines
	Sealant pick-up lines	Dirty or clogged	Clean or Replace tubes
		Breather hole in lid blocked	Clean out breather hole
	Pump doesn't turn	Envelope humidity 90% or above, software stops pump	Add heat to enclosure to lower humidity
		Power to pump	Run pump with purge switch (direct power to pump)
		Pump doesn't run by purge switch	Check station voltage, must be above 11 v to run
		Station has charge but pump doesn't run by purge switch	Bad Purge Switch, Pump motor is bad; station needs service
		Humidity at station is too high, approaching 90%	Wait till humidity drops or add heat to enclosure to dry it out
	Liquid tubes	Liquid lines clogged	Blow out with air, pump warm water and Buckeye cleaner through lines
	Leaks in push-to-connect fittings or fitting clogging	connections are allowing air in (visible air bubbles in line) or blocking flow	Reseat or tighten liquid line connections, clean PTC or replace PTC
Y fitting at tripod	Liquid getting through lines but not to nozzle	Remove and clean Y fitting	



4. Sealant Not Spraying Properly

Problem	Source of the problem	Verify source of problem	Solutions
Sealant not spraying (atomizing) or dripping from nozzle	Nozzle tips and connections	Inspect nozzles	Clean nozzles
		Nozzle and tripod mounting bracket	Tighten the nozzles down snug against the rubber seal rings.
	Steel air tubes in nozzle	tubes missing	Replace if needed
		Tubes assembled incorrectly	Properly align air tube to end of nozzle, see picture in Illustration Section
	Low compressed air pressure	Compressor	Is compressor still running?
		Regulator in trailer set below 100 psi	Adjust regulator
		Compressed air pressure at MCU is below 90 psi	Check for leaks or restrictions in hose. Check fitting from trailer to MCU for leaks
		Compressed air pressure at manifold is below 85 psi	Check for leaks or restrictions in hose. Check fitting from MCU to manifold
		Compressed air pressure at nozzle is below 65 psi	Check for leaks or restrictions in tubing. Check nozzles properly seated against the rubber seal rings



5. Communication Laptop to MCU

Problem	Source of the problem	Verify source of problem	Solutions
No DG700 or controller showing up; no connection laptop to MCU	No power to MCU	See Fan Not Running/Power Issues	
	Wireless network communication connection lost	Red message at bottom of SmartSeal software screen says disconnected	Find Aeroseal network from Windows toolbar and connect
		Aeroseal network not showing up in Windows	Look for network using a smart phone under available networks
		Aeroseal network not showing up in Windows but does show up with smart phone	Restart laptop; if issue remains replace laptop (faulty network card in laptop)
		Aeroseal network not showing up in Windows nor with smart phone	Power down MCU and laptop then restart; send in laptop & MCU for repair
		Check for pending Windows updates	Run Windows updates to get latest software drivers
	Hardwired connection via USB cable	Is USB cable securely connected to computer & MCU	Install cable; check connections
		Damaged USB cable	Replace cable



6. Sealing Stations Not Connecting to MCU

Problem	Source of the problem	Verify source of the problem	Solution
Station not showing up in software	Station battery low	Check station voltage, must be above 11 v to run	Charge battery
		Battery level after charging overnight is less than 10 vdc	Check battery charger; are connections and setting correct; will a known good battery charge properly on charger?
			Check for loose wires on station charging port or on battery
			Replace battery
	Xbee board not communicating	Battery good but station not showing up in software	Move station close to MCU and wait for connection
			Possible bad board, antenna issue, loose wiring. Send in for repairs



7. Heaters not working

Problem	Source of the problem	Verify source of the problem	Solution
Heaters not coming on	Power going into MCU	No power to MCU	(go to Section 1 on “MCU power”)
	Power from inside MCU to heater receptacle	Red heater LED lights at MCU are ON (H1, H2, H3)	LED On means relays closed to send power to heater receptacle on MCU
		Heater LED lights are ON but heaters are OFF	Check heater receptacle at MCU for 120 volts (see diagram in Illustration Section) Reset breakers; insert heater power cords securely in receptacle
	Software signal to heater relays	Heater LED lights (H1, H2, H3) are OFF, heater status boxes on sealing screen shaded green and green heater LED (H1, H2, H3 CMD) are ON but heater off	Heater circuit wiring bad; unit needs service
		Heater LED lights are OFF and heater status boxes on sealing screen are shaded red	Check software to make sure it’s calling for the heaters; Red status box means no heaters needed
	Heater Cylinder; All signals are good but no heat coming out	Heaters not physically getting hot	Failed component in heater cylinder; send in for repair



II. Common problems or questions

Problem	Source of the problem	Verify source of the problem	Solution
Seal graph is flatlining or sealing slowly	Sealant	Sealant jug empty	Add more sealant
		Is there a restriction in sealant pick-up line	Check lines & connections
	Big hole in enclosure	Verify prep work & check overspray areas	Correct any problem areas
	Pressure reading tubes (Red & Blue)	Are they dirty or restricted	Clean or replace tubes
	Sealant turns to liquid around enclosure leak point	Ambient temperature much lower than enclosure	Add heat at fan inlet
Insufficient envelope pressure	Prep work	Are all major holes covered	Check windows; doors; attic access;
	Envelope larger than fan capacity		
	Fan flow restricted		Move fan to opening with sufficient air flow
	Pressure reading tube (blue tube)	Check tube and connections to MCU	Replace tube; unkink; splitter bad
			Reseat and tighten tube in bulkheads of MCU & fan
Ring setting	Does ring setting match on software & on the fan	Change setting; is it on the correct size	
Spike in graph	Pressure tube suddenly measuring more leakage	Envelope pressure tube came loose or restricted	Fix bad connection; clean tube; ensure nothing is on tube pinching it
		Prep work blew apart	Fix prep work
		Ring on fan and software settings mismatch	Adjust rings or software ring setting
		Fan outdoors on windy day (affects fan flow)	Adjust fan so no wind blows in the back
		MCU outdoors on windy day, air flow over reference bulkhead	Insert tubing into reference port and place end of tube out of air stream
Enclosure temperature reading incorrectly	Temperature sensor	Temperature reads 0°	Sensor disconnected or wire broken
Enclosure humidity reading incorrectly	Humidity sensors	Sensor is wet	Dry out sensor
		RH% is 0	Sensors disconnected or wires broken
CFM not accurate on 6" ring	Incorrect readings when changing rings due to fan delay in stabilizing	Allow fan to stabilize before restarting seal	Leave seal paused when changing ring setting until fan has had time to ramp up



			or down and stabilize accordingly
--	--	--	-----------------------------------

Problem	Source of the problem	Verify source of the problem	Solution
Compressed air supply leaks	Air leaks at connection points		Pressure regulator (located at filter set) should be set at 100psi (sea level). Higher elevations may have lower pressures at the regulator.
			Check compressed air filter assembly for leaks
			Check for kink in air hose
			Check Pilot valve pressure release position – next to tank gauge

Checking for Air Leaks at Connections: Pressure Building Test

Record the time it takes for the compressor to pump the tank up with air, the cut-out pressure, and the cut-in pressure

1. Completely drain compressor tank. When fully drained, close valve.
2. Close valve on main airline exiting tank (now it’s a closed system)
3. Start compressor, start timing
4. When tank reaches cut-out pressure (should be about 145psi); stop timer & record time and note the cut-out pressure
5. Slowly bleed off pressure from tank and record the pressure when the compressor starts to fill tank again (should be about 115psi)

The pump-up time should be around 2.5 minutes maximum for the Emax compressor. In most cases this time is less. If the pump-up time is over 2.5 minutes, follow the directions below to check the bull whip cable.

If cut in/cut out set points are off, contact Tech Support for assistance.

Adjusting the Bull Whip to Engine Throttle Cable

In some cases, the throttle/bull whip cable may need to be adjusted to maintain full compressor capacity. Follow the instructions below to confirm the proper adjustment.

1. Follow the bull whip cable (gray cable) from the pilot valve around to the engine throttle linkage.
2. Check the stop screw’s position relative to the pivot lever connected to the cable. The lever should be within about 1/16” of screw when the engine is not running.
 - Loosen the adjustment screw
 - Pull the bull whip cable back as far as you can, the pivot lever should git the stop screw.
 - Hold the cable in that position and tighten down the adjustment screw.

Electrical Power Supply

- ALWAYS start any generator with no load (nothing connected, or with generator breakers in the OFF position). Once the generator is warmed-up connect load or engage breakers to activate current to a connected load.



- Rated Max. Power: 10.0 kW
- Rated AC Voltage: 120/240
- Rated Max AC Load
- Current @ 240V: 41.6 Amps
- Current @ 120V: 83.3 Amps
- Rated Frequency: 60 Hz @ 3600 RPM
- Phase: Single Phase
- Rated DC Voltage: 12V
- Battery Type: 10 AH, 12VDC

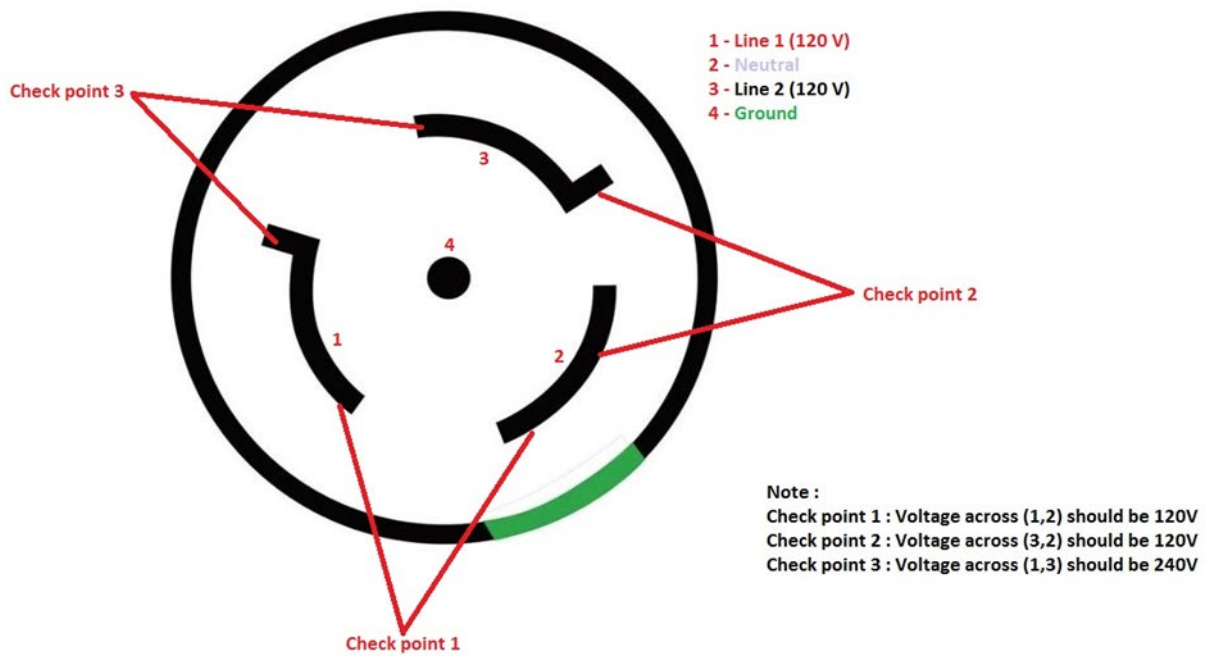
PROBLEM	CAUSE	CORRECTION
Engine is running, but no AC output is available.	<ol style="list-style-type: none"> 1. Circuit breaker is open. 2. Poor connection or defective cord set. 3. Connected device is bad. 4. Fault in generator. 5. GFCI trips the 20 Amp outlet. 	<ol style="list-style-type: none"> 1. Reset circuit breaker. 2. Check and repair. 3. Connect another device that is in good condition. 4. Contact Authorized Service Facility. 5. Repair the "short" and reset the GFCI.
Engine runs well but bogs down when loads are connected.	<ol style="list-style-type: none"> 1. Short circuit in a connected load. 2. Generator is overloaded. 3. Engine speed is too slow. 4. Shorted generator circuit. 	<ol style="list-style-type: none"> 1. Disconnect shorted electrical load. 2. See "Don't Overload the Generator" . 3. Contact Authorized Service Facility. 4. Contact Authorized Service Facility.
Engine will not crank.	<ol style="list-style-type: none"> 1. Battery weak or dead. 	<ol style="list-style-type: none"> 1. Recharge or replace battery (see "No Battery Charger DC output" at bottom of guide).
Engine will not start; or starts and runs rough.	<ol style="list-style-type: none"> 1. Fuel shut-off is OFF. 2. Dirty air filter. 3. Out of gasoline. 4. Stale gasoline. 5. Spark plug wire not connected to spark plug. 6. Bad spark plug. 7. Water in gasoline. 8. Over-choking. 9. Low oil level. 10. Excessive rich fuel mixture. 11. Intake valve stuck open or closed. 12. Engine has lost compression. 	<ol style="list-style-type: none"> 1. Turn Fuel shut-off ON. 2. Clean or replace air filter. 3. Fill fuel tank. 4. Drain fuel tank and fill with fresh fuel. 5. Connect wire to spark plug. 6. Replace spark plug. 7. Drain fuel tank; fill with fresh fuel. 8. Put choke knob to No Choke position. 9. Fill crankcase to proper level. 10. Contact Authorized Service Facility. 11. Contact Authorized Service Facility. 12. Contact Authorized Service Facility.



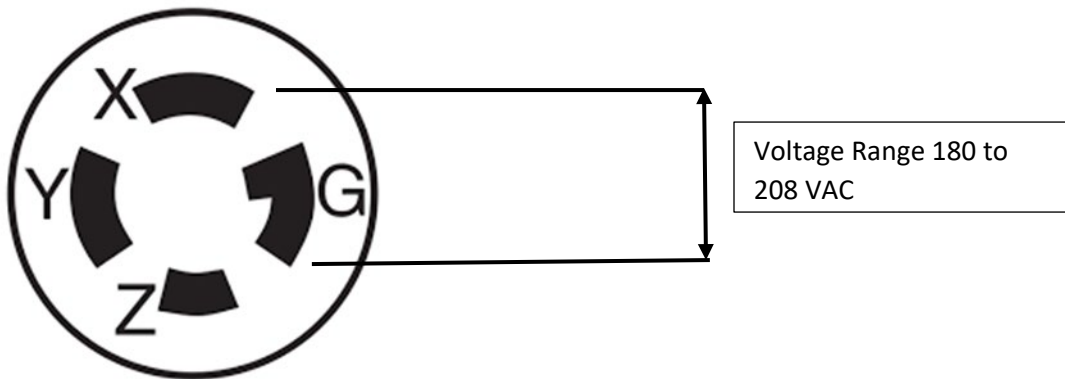
Engine shuts down during operation.	<ol style="list-style-type: none"> 1. Out of gasoline. 2. Low oil level. 3. Fault in engine. 	<ol style="list-style-type: none"> 1. Fill fuel tank. 2. Fill crankcase to proper level. 3. Contact Authorized Service Facility.
Engine lacks power.	<ol style="list-style-type: none"> 1. Load is too high. 2. Dirty air filter. 3. Engine needs to be serviced. 	<ol style="list-style-type: none"> 1. See "Don't Overload the Generator". 2. Replace air filter. 3. Contact Authorized Service Facility.
Engine "hunts" or falters.	<ol style="list-style-type: none"> 1. Choke is opened too soon. 2. Carburetor is running too rich or too lean. 	<ol style="list-style-type: none"> 1. Move choke to halfway position until engine runs smoothly. 2. Contact Authorized Service Facility.
No Battery Charger DC output.	<ol style="list-style-type: none"> 1. Battery posts are corroded. 2. Battery cable is bad. 3. Battery is defective. 4. Receptacle is bad. 5. Battery Charger in-line fuse (1.5A) melted open. 	<ol style="list-style-type: none"> 1. Clean battery posts. 2. Replace cable. 3. Check battery condition; replace if defective. 4. Contact Authorized Service Facility. 5. Replace fuse with identical 1.5A replacement fuse only (located inside control panel).

III. Illustrations

1. How to check the 50-amp 240v-Single Phase power plug voltage.



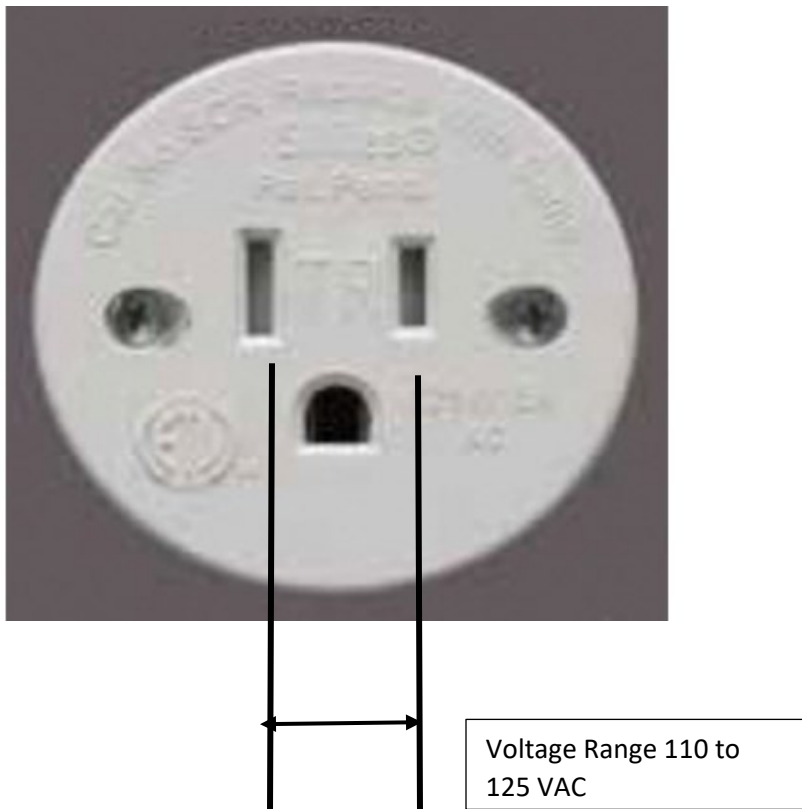
2. How to check the 3 Phase 50-amp power plug for proper voltage.



Measure Voltage from Ground (G) to each Line (X, Y, Z)

Voltage should range from 180 to 208 vac

3. How to check the 120v plug for proper voltage





3. Correct nozzle and air tube position using alignment tool



Air Tube should extend past the end of nozzle by $\frac{3}{64}$ " to $\frac{1}{16}$ "