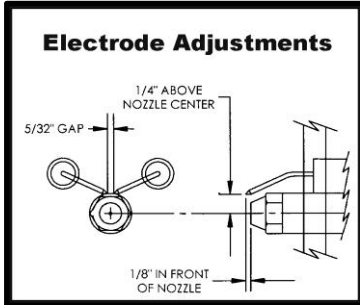


PROBLEM	CAUSE	SOLUTION
Burner lights, then locks out (<i>flashing red light</i>) five seconds after ignition.	» Cad cell dirty	» Clean lens with soft cloth
	» Cad cell defective	» Replace Cad cell
Burner lights, runs but shuts off (<i>no lockout or flashing red light</i>) after a few minutes due to high limit switch (<i>fan does not kick on</i>) .	» Fan switch defective	» Replace fan switch
	» Fan relay (if equipped) defective	» Replace fan relay
	» Fan motor Defective	» Replace fan motor
	» Fan wires may be unhooked or shorted	» Correct or replace as necessary
Burner lights and runs, fan comes on but burner turns off and on occasionally with no lockout indication (<i>no flashing red light</i>).	Heat exchanger is getting hot enough that it is tripping the high limit switch causing the burner to turn on and off.	This is a normal function, however operator should ensure that there are no sharp bends or other restrictions in the ducting.
Accumulation of oil in the combustion chamber	The unit has been reset a number of times without ignition.	Tilt the unit up at the burner end to let the excess oil drain out of the secondary chamber. Allow unit to drain for 15-20 minutes or until all oil is drained out. Turn burner on. When burner lights and starts smoking, temporarily open band and shutter until smoke quits, then close to ½ open, tune burner with smoke tester.
The heater fails to start. (<i>continued</i>)	No power to burner	Check to see that the ON-OFF switch is in the ON position and that there is adequate power (120V 60Hz) to the unit.
	Low fuel available. Either the unit has not been fueled or the fuel feed is blocked.	Check fuel level. Replace fuel filter if clogged. Replace or clean fuel hoses.
	Nozzle assembly mis-aligned.	Check that the electrode assembly and gap are set in accordance with instructions.
	Burner fuse failure.	Replace fuse
	High limit switch failed in the open position	Replace the high limit switch.

	CAUSE	SOLUTION
<i>(continued from preceding page)</i> The heater fails to start.	Wrong grade of diesel for the climate in which the heater is operating. #2 diesel can potentially gel at temps at and below +20° F.	Pump out tank and fill with #1 diesel or treated diesel. Then tune FrostFighters with smoke tester.
Fan motor fails to operate	Failed fan motor	Replace fan motor.
	Fan cycling thermostat failed in the open position.	Replace Thermostat
	(2010 and up models) Fan relay failure	Replace relay
There is power to the burner but the burner will not start.	blown burner fuse	Replace if defective
	Faulty high limit switch	Replace if defective
	Faulty sensor	Replace if defective
Delayed Ignition	Electrodes not set correctly	Check for proper electrode setting. See previous page for electrode setting
	Isolators dirty or cracked	Check the isolators for cracks or for a conducting coat of soot or oil. Cracks sometimes occur under the electrode bracket causing a short circuit. Clean or replace isolators as needed.
	Too much air into combustion chamber.	Check to see that air shutter is not open too far. Close shutter to half its current opening and tune with smoke tester after burner lights.
	Fuel pump pressure set too low.	Check to insure that pump pressure is properly set. Adjust pressure to 140 psi if required.
	Fuel filter dirty.	Check fuel filter - replace if dirty
	Nozzle worn.	Check nozzle - replace if worn
	Wrong grade of diesel for the climate in which the heater is operating. #2 diesel can potentially gel at temps at and below +20° F.	Pump out tank and fill with #1 diesel or treated diesel. Then tune FrostFighters with smoke tester.

PROBLEM	CAUSE	SOLUTION
<p>The heater smokes when firing and/or there is a rapid build-up of soot in the chamber and on the flame detector. As a result the heater may prematurely lock out or <i>(in the worst case)</i> have a fire in the combustion chamber.</p>	Check the burner fan blade	Clean if dirty
	Check combustion chamber for	Replace chamber if damaged
	Check nozzle. If clogged it could produce an off-center fire.	Clean nozzle if clogged
	Check for a loose nozzle	Tighten nozzle
	Incorrect Nozzle size for operating altitude or burners have not been adjusted for operating altitude.	Replace nozzle with correct size for operating altitude and tune burners for operating altitude with a Bacharach Smoke Tester.
	Faulty or fouled nozzle will hamper the efficient burn of the oil and may cause an accumulation of excess fuel in the bottom of the heat exchanger cavity. The oil residue will continue to burn after the heater shuts down and soot will then "burn back" into the controls area.	Replace the Nozzle and tune burner with Bacharach Smoke Tester per instructions in operator's manual.
	Electrodes out of alignment. The electrodes holder has an adjustment screw that is used to center the electrode in the center of the cone. Should the screw loosen and the electrode be off center, the oil, when firing, may strike the side of the blast tube and then accumulate in the bottom of the heater resulting in a "burn back" condition.	<p>Check the alignment of the electrodes in the end cone and adjust as necessary.</p> 
Improper setting of the air band assembly. The air band assembly should be set with approximately ½ of the slot area open; an opening less than that may cause a sooty burn as a result of choking off the required combustion air.	Check the air band adjustment and tighten the retaining screw. Tune burner with Bacharach Smoke Tester per instructions in the operator's manual.	