Heating Burner System–Kerosene or Diesel Fired

Problem	Probable Cause	Remedy
Burner will not fire. **WARNING: High voltage on ignitor can cause electrical shock. Disconnect power before servicing.**	Burner switch not on.	Turn burner switch and thermostat (if equipped) on.
	Low or no fuel.	Fill fuel tank with approved kerosene or diesel.
	Trigger on spray gun not pulled.	Squeeze trigger to fire burner.
	Fuel filter plugged.	Remove and clean fuel filter. Replace fuel filter.
	Spray nozzle plugged.	Remove nozzle from lance and clean spray nozzle.
	Overload on burner motor tripped.	Reset overload, locate and correct source of overload.
	Nozzle not in wand.	Place nozzle in wand pull quick coupler until it clicks.
	Low water pump pressure.	See Pump Troubleshooting.
	Fuel pump or nozzle stopped.	Check fuel pressure, filter, fuel lines. Replace fuel pump and/or nozzle.
	Vacuum, Flow, Pressure or Temperature switch faulty.	Check electrical continuity with pump spraying and burner on.
	Fuel solenoid valve faulty.	Replace fuel valve if it does not open when power is applied.
	Low generator voltage output.	Adjust generator RPM for proper voltage under full load conditions.
	Burner relay faulty (12-V Burner only)	Replace burner relay.
Burner will not fire, plus diesel fumes are emitted from the exhaust port. **WARNING: Replace insulation. Unburned fuel can saturate it and cause a fire.**	Fuel to air ratio out of adjustment.	Set air band and fuel pressure to specs.
	Fuel nozzle partially clogged.	Replace nozzle of proper size.
	Ignition transformer not providing spark to fuel.	Replace ignition transformer, clean and adjust electrodes.
Burner fires and smokes.	Fuel to air ratio out of adjustment.	Set air band and fuel pressure to specs.

	Excessive soot on coils.	Clean soot off to improve air flow.
	Improper voltage at burner	Adjust RPM of generator (if equipped)
Discharge water temperature exceeds recommended operating temperature.	Burner input too high for conditions.	Decrease fuel pump pressure and/or fuel nozzle size.
	Water flow restricted.	Clean or replace nozzle of proper size. Descale coil and clear obstructions.
	High temperature limit switch faulty or set too high.	Replace or reset temperature limit switch.
Burner continues to fire even when trigger on spray gun is released	Faulty Flow, Pressure or Vacuum switch.	Replace switch.
	Faulty fuel solenoid	Replace solenoid
Discharge water temperature not reaching maximum operating temperature.	Burner input too low for conditions	Increase fuel pump pressure and/or fuel nozzle size.
Battery keeps losing voltage. (For 12 volt burner systems)	Battery voltage Low.	Have battery checked and load test, charge if low and replace if necessary. Allow water to cool 2 min. before shutting off engine.
	RPM too low.	Engine RPM should be 3600 RPM w/no load.
	Engine charging system faulty.	Check engine charging system - Must have 16 Amp output.
	Electrodes incorrectly adjusted.	Adjust electrodes to maximum 1/8" gap.
	Fuel pump pressure too high.	Fuel pump pressure should be approximately 100 to 110 PSI.
	Air band open too far.	Adjust for proper burn.
	Burner amp draw too high.	Check amp draw of burner motor - should be 13 amp or less. Check amp draw of transformer should be 4.2 or less.

Heating/Burner System-Natural Gas or Liquid Propane Fired

Problem	Probable Cause	Remedy
Pilot will not light, burner will not fire.	Burner switch not on.	Turn switch on.
	Trigger not pulled.	Pull trigger. Burner should fire only when trigger is pulled.
	Gas valve turned off.	Turn gas valve on.
	No voltage to valve.	Check for 24 VAC between pilot valve(PV) and PV/MV. Valve will operate between 20.5 and 28.5 VAC.
	Pilot orifice plugged.	Remove orifice & clean.
	Defective ignition module.	Check for 24 VAC incoming @ 24v & 24v ground. (If you get voltage to module, but not through module, replace.)
	Defective transformer	Check for 24v output. If no voltage, replace.
	Defective flow switch.	Replace.
	Defective thermostat.	Replace.
	Faulty rocker switch.	Replace.
	Igniter not working.	Test for spark. Test for continuity between ignition wire and ground. WARNING: High voltage ignitor can cause electrical shock.
Pilot lights, but burner will not fire.	Check for 24 VAC between main valve (MV) and PV/MV.	If no VAC @ valve, replace module. If you get voltage, replace valve.
Burner fires, but goes out.	Check for continuity between ignition cable and ground wire.	Assure good ground.
	Faulty ignition module.	Replace module.
	Excess draft.	Protect from windy conditions.
NG or LP odor is present. WARNING: Check all NG / LP connections with soap solution before operation.	Gas leak ahead of valve.	Turn gas off. Call gas supplier.
	Lockout not working.	Replace module.
	Valve stuck.	Turn main gas valve off. Replace valve.
Discharge water temperature to high.	Faulty thermostat.	Replace.
	Water restriction.	Clean or replace spray nozzle, descale

		coil, remove obstructions.
	Incoming gas pressure to high.	Lower gas pressure.
Discharge water temperature not reaching maximum operating temperature.	Worn spray nozzle.	Replace spray nozzle with proper size.
	Gas pressure too low.	Increase gas pressure or install additional jets.
	Draft under burner manifold.	Prevent down draft with installation of down draft diverter. Prevent side draft with nonflammable barrier.
Burner continues to fire even when water is not being sprayed.	Faulty flow switch.	Replace.
	Main gas valve stuck open.	Replace main gas valve.
Valve has had water sprayed on it. Has been submerged in water and does not work.	Flood or accidental spraying.	Replace valve: Do not attempt to repair or clean out.
Ignition module has been subjected to water or moisture.	Flood or accidental spraying.	Replace module: Do not attempt to repair.