

LATTNER BOILER COMPANY

Troubleshooting Guidelines for WLF Boilers

Possible Boiler Problems	Possible Causes
Boiler and pump switch are ON, pump does not run and low water level in boiler.	<ol style="list-style-type: none">1. Circuit breaker is tripped or fuse is blown.2. McDonnell Miller piping is plugged.3. McDonnell Miller float is stuck.4. McDonnell Miller is wired incorrectly.5. Pump or solenoid water valve is wired incorrectly.
Pump runs but does not maintain water level in boiler.	<ol style="list-style-type: none">1. Valve between boiler pump and boiler is closed.2. Bad check valve. Always replace check valves with spring-loaded check valves.3. Bad steam trap(s).4. Feedwater temperature is too high (pump is cavitating).5. Strainer is plugged.6. Pump isolation valve is closed.7. No water supplied to pump.
Pump or solenoid overfills boiler.	<ol style="list-style-type: none">1. Solenoid water valve is not seating properly.2. McDonnell Miller float operating incorrectly (snap switches "sticking").3. McDonnell Miller mercury tube is malfunctioning.4. McDonnell Miller is wired incorrectly.5. Pump is wired incorrectly.
Boiler takes excessive time to reach pressure.	<ol style="list-style-type: none">1. Burner is improperly adjusted.2. Improper gas pressure or insufficient supply of gas to boiler.3. Boiler flue passages need to be cleaned.4. Scale build-up inside boiler.5. Gas valves not operating properly.6. Pump not feeding enough water to the boiler.
Limit switch always shuts down boiler.	<ol style="list-style-type: none">1. Operating pressure switch is set higher than limit switch.2. Scale build-up inside of boiler.



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	<ol style="list-style-type: none"> 3. Operating pressure switch (Honeywell "Controller") is not operating correctly.
Boiler shuts down on auxiliary low water cut-off.	<ol style="list-style-type: none"> 1. Pump switch is turned OFF. 2. Probe wired incorrectly. 3. Probe has scale, dirt, or debris on it. 4. Probe not seated in probe socket properly. 5. Auxiliary level control relay wired incorrectly. 6. Foaming problem in boiler (possible chemical over treatment). 7. Water in boiler is too soft (possible water softener over treatment). 8. McDonnell Miller primary low water cut-off isn't operating properly. 9. Pump is not functioning properly. 10. Malfunctioning check valve. Always replace check valves with spring-loaded check valves. 11. No water supplied to the pump.
Possible Burner Problems	Possible Causes
Burner fails to start.	<ol style="list-style-type: none"> 1. Bad fuse or switch open on incoming power source or motor overload out. 2. Control circuit has an open control such as operating, limit, or low water cut-off. 3. Reset button on motor or flame safeguard programming control open (push reset button). 4. Loose or faulty wiring. Tighten all terminal screws. Check wiring against wiring diagram furnished with burner. 5. Regulator vent plugged.
Burner motor runs but pilot does not light.	<ol style="list-style-type: none"> 1. Be sure gas is turned on at meter and pilot cock is open. 2. Place hand on pilot valve to feel it open. Check gauge at tee in pilot line for gas pressure and prompt opening of pilot valve. 3. Check visually or by sound for spark arcing. 4. Check air switch. Be sure its circuit closes during start. Be sure timing card is inserted into flame safeguard. 5. Bad igniter. 6. Bad pilot solenoid valve. 7. Pilot regulator vent plugged.



Burner motor runs and pilot lights but main gas valve does not open.	<ol style="list-style-type: none">1. Check flame strength signal (digital display module). If low, adjust pilot gas pressure and air settings for improved readings.2. Possible dirty scanner lens.3. Check gas valve circuit, both main valve and proof of closure switch (if so equipped).4. Main valve opening too slow. Adjust bleed on diaphragm valve.5. Shut-off cock or test cock not open.6. Defective main valve.
Occasional lockout for no apparent reason.	<ol style="list-style-type: none">1. Re-check microamp or D.C. voltage readings. If sufficient, check gas pressure and air damper setting. Check electrodes setting. If flame rod pilot, flame rod may have to be re-positioned.2. Check ignition cable and electrode porcelain for damage or breaks which could cause short.3. Check for loose or broken wires.
Burner will not start even though burner has never failed before or has been running on normal cycle without failure.	<ol style="list-style-type: none">1. Operating control circuit open.2. Starting interlock such as proven low fire switch or proof of closure switch open.3. Defective control or loose wiring.4. Limit circuit open.
Flame Safeguard	For information on Honeywell flame safeguard and relay troubleshooting, refer to Honeywell technical literature number 65-0229-1.

