

# BASIC TROUBLESHOOTING

<b>PROBLEMS</b>	<b>POSSIBLE CAUSES</b>	<b>SOLUTIONS</b>
<b>PUMP WILL NOT START</b>	<b>Disconnect switch open</b>	<b>Close disconnect switch</b>
	<b>Fuses blown or thermal overload open</b>	<b>Replace fuses or close thermal overload</b>
	<b>Locked shaft, impeller set incorrectly</b>	<b>Adjust impeller</b>
	<b>Motor windings burned out</b>	<b>Replace motor windings</b>
	<b>Defective starting switch inside motor</b>	<b>Replace switch</b>
	<b>Disconnected or defective wiring</b>	<b>Repair wiring</b>
	<b>PUMP WILL NOT PRIME</b>	<b>No Water in the pump or strainer basket</b>
		<b>Make sure hair &amp; lint basket is empty of debris</b>
		<b>Lubricate and tighten strainer/lid O-ring</b>
		<b>Check that all valves are open.</b>
<b>Damaged Pump</b>		<b>Does the pump sound normal? If it just hums for a few seconds then shuts down, this is an indication of a frozen motor.</b>
		<b>Check for debris clogging the impeller.</b>
		<b>Be sure the impeller hasn't broken.</b>
<b>LOW FLOW &amp; LOW FILTER PRESSURE</b>	<b>Level of water in pool is too low.</b>	<b>Add water to pool so that it is into skimmer baskets.</b>
	<b>Pump basket or skimmer basket is clogged</b>	<b>Clean if necessary</b>
	<b>Air leak in suction line</b>	<b>This can be determined by the recurrence of air in the filter. The leak must be found and repaired. The common cause of this problem is a loose pipe at the pump inlet.</b>
	<b>Clogged or damaged impeller</b>	<b>Inspect the impeller and clean or repair as necessary.</b>
<b>LOW FLOW &amp; HIGH FILTER PRESSURE</b>	<b>Valves are closed</b>	<b>Check and open valves.</b>
	<b>Dirty filter.</b>	<b>Backwash filter or clean filter cartridge.</b>
	<b>Valves are closed</b>	<b>Check and open valves.</b>
	<b>Jets are clogged.</b>	<b>Inspect and clean (debris clogging the jets is frequently debris from</b>

		another part that has deteriorated or broke).
<b>MOTOR CYCLES ON AND OFF</b>	<b>Motor is overheating</b>	<b>Check ventilation around pump. Pump may have lost prime. Or impeller may be rubbing inside case (adjust impeller)</b>
	<b>Improper voltage</b>	<b>Check for proper voltage at the motor.</b>
	<b>Wiring to motor is undersized</b>	<b>Determine and correct.</b>
<b>MOTOR NOT REACHING FULL SPEED</b>	<b>Low voltage</b>	
	<b>Impeller rubbing inside case</b>	<b>Adjust impeller</b>
	<b>Faulty or incorrect electrical connections</b>	<b>Repair as necessary</b>
<b>PUMP DOES NOT OPERATE</b>	<b>Damaged motor</b>	<b>Does the pump sound normal? If it just hums for a few seconds then shuts down, this is an indication of a frozen motor or debris possibly jamming the impeller.</b>
	<b>Power switch is OFF</b>	<b>Be sure all circuit breakers, GFCI's and switches are on.</b>
		<b>Check for power at the motor and trace wires back till the problem is found.</b>
<b>WATER IS LEAKING AROUND THE PUMP AREA</b>	<b>Damaged/worn o-rings, pump housing, shaft seal or loosened plumbing fittings</b>	<b>Determine exact location and cause of leak and repair as necessary.</b>
<b>PUMP HAS BECOME EXCESSIVELY NOISY</b>	<b>Low or no water flow</b>	<b>Determine and correct.</b>
	<b>Bad bearings caused by normal wear or a leaking shaft seal</b>	<b>Replace shaft seal and bearings (it may be better or more economical to replace the whole motor rather than just the bearings).</b>
	<b>Plugged screens in skimmer or pump basket</b>	<b>Clean skimmer baskets and hair and lint basket.</b>
	<b>Suction line partially plugged</b>	<b>Unplug line</b>
<b>AIR IN POOL RETURN</b>	<b>Leakage of air into suction line</b>	<b>Tighten connections or valve stem</b>
	<b>Hair and lint strainer cover not tight</b>	<b>Tighten cover</b>
	<b>Restriction in suction line</b>	
	<b>Low water level in pool</b>	<b>Raise water level</b>
	<b>Air leak around manifold in suction line</b>	<b>Find leak and repair</b>

# BASIC HEATER TROUBLESHOOTING

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
No heat at all	Tripped hi-limit switch.	Locate and reset.
	Open doors on heater cabinet.	Close the doors.
	Pilot light went out (gas heaters)	Relight pilot as per owners manual.
	Pump isn't pumping any or enough water.	Determine pump problem and repair.
Heater cycling on and off continuously.	Dirty filter.	Backwash filter or clean filter cartridge.
	Low water level in pool.	Raise water level.
Takes a long time to heat pool.	Dirty filter	Backwash filter or clean cartridge.
	Daily filtration and heating cycle not running long enough.	Reset time clock.
	Damaged insulating cover.	Repair or replace.
	Bad thermostat.	Replace if necessary.
	Hi-limit switch turning off the heater prematurely.	Replace if necessary.
Pilot goes out.	Weak pilot generator	Replace pilot generator assembly.
	Restricted pilot.	Clean pilot.
Outer jacket very hot (gas Heaters)	Sooting of heat exchanger	Determine cause of sooting, clean and correct (the most common reason for this is too much water flowing through the heater caused by either too large a pump or internal heater parts damaged)
	Improper venting	Follow recommended installation instructions.
	Insects or debris clogging burner intake ports.	Clean burners
Leaking at heater	Improper water chemistry	Determine exact location and cause of leak, replace damaged parts and maintain proper water chemistry.
Harmonics, whining or banging noise	Debris or restriction in system	Locate the restriction and remove.
	Low flow	Determine filter/pump type problem and repair.