



Multi Stage Pump Troubleshooting Guide

Series Pump: MS

Symptoms	Causes	Corrections
Pump fails to prime	Air leaks on suction side of system. Discharge valves open or leaking. Worn packing. Air compressor too small or not performing Suction lift too high. Worn venturi. Air lock.	Check suction hoses for leaks. Close/replace discharge valves. Tighten/replace as necessary. Check air compressor (185 cfm) Check and lower pump if possible. Replace. Loosen vent plugs to purge air.
Pump takes a long time to prime	High suction lift and/or long hose length Air leak on suction side Worn packing.	Reduce if possible. Fix leaks. Tighten/replace as necessary.
Unit shut down	Engine ran out of fuel Clogged fuel filter. Low engine oil pressure or high temperature.	Refill with fuel. Change filter & bleed off air. Check engine. Do not bypass shutdown.
Reduced performance - excessive vacuum	Obstruction in suction hose/footvalve. Suction lift too high.	Check suction hose/footvalve. Check and lower pump if possible.

<p>Reduced performance – low vacuum</p>	<p>Air leaks on suction side of system.</p> <p>Excessive discharge head</p> <p>Worn packing.</p> <p>Speed too low.</p> <p>Pump internals worn.</p>	<p>Correct leaks.</p> <p>Reduce or select larger piping.</p> <p>Tighten/replace as necessary.</p> <p>Increase within recommended limits.</p> <p>Check and adjust/repair as required.</p>
<p>Pump won't rotate</p>	<p>Damaged drive coupling.</p> <p>Obstruction in pump.</p> <p>Rotating parts locked up.</p>	<p>Replace.</p> <p>Remove obstruction.</p> <p>Disassemble and apply rust preventative.</p>
<p>Pump overheating</p>	<p>Footvalve clogged.</p> <p>Cavitation (improper suction design)</p> <p>Discharge head too high</p> <p>Air lock</p>	<p>Clear any obstructions</p> <p>Correct suction problems</p> <p>Lower if possible or select large piping</p> <p>Loosen vent plugs to purge air.</p>
<p>Premature bearing failure</p>	<p>Inadequate lubrication</p> <p>Piping not properly supported</p> <p>Cavitation (improper suction design)</p> <p>Misalignment</p> <p>Water or contaminants entering bearings</p>	<p>Regrease with proper grease</p> <p>Provide suitable bracing and supports</p> <p>Correct suction problems</p> <p>Align all rotating parts</p> <p>Check/replace lip seals as required</p>
<p>Premature drive coupling failure</p>	<p>Piping not properly supported</p> <p>Misalignment</p>	<p>Provide suitable bracing and supports</p> <p>Align all rotating parts</p>
<p>Excessive vibration</p>	<p>Air in fuel line or clogged fuel filter.</p> <p>Misalignment of pump and engine.</p> <p>Suction or discharge pipe not supported.</p> <p>Cavitation (Improper suction design).</p> <p>Worn bearings.</p>	<p>Purge air and replace filter.</p> <p>Align.</p> <p>Correct supports.</p> <p>Correct suction design.</p> <p>Check and replace bearings.</p>