

C1D2 Solar Pump Troubleshooting Guide

Problem	Possible Cause	Action
Pump Not Running	* Battery Low or Dead	<p>CAUTION! BEFORE ANY CHANGES, CONNECTIONS, TESTING... CERTIFY THAT AREA IS FREE OF ANY EXPLOSIVE FUMES, GASES, ETC! ANY CONNECTIONS OR CHANGES MUST BE PERFORMED BY AN ELECTRICIAN CERTIFIED TO WORK IN C1D2 HAZARDOUS AREAS!</p> <ul style="list-style-type: none"> * Check all electrical connections * Test battery and replace if necessary * Insure that solar panel is clean and getting full sunlight * Verify system design is adequate to meet autonomy requirements
	* Speed Set To Zero	* Set speed to point where acceptable volume output is registered on pump setting gauge.
	* Blown fuse	* Check fuse located in battery/control box. Check all connections. Verify that discharge line is not blocked or a valve closed, as this would lock up the pump and blow the fuse. SEE WARNING ABOVE!
	* Loose Connection in Wiring	* Have C1D2 Certified Electrician verify wiring is proper, with no loose connections. SEE WARNING ABOVE!
	* Motor failure	* Replace motor (if above actions do not correct issue) SEE WARNING ABOVE!
Pump Runs, No fluid discharge	* Air in pump chamber	* Open bleed plug (#4H) and purge until steady flow of fluid, then close bleed plug. If ambient temperature is close to vapor point of chemical, mount or situate pump on slight angle down from the tank. 1/4" plunger pumps may require removal of discharge check valve to completely bleed all air from the pump chamber.
	* Fluid flow blocked by plugged line, closed suction valve, extremely high viscosity or lack of fluid supply	* Provide free flow of fluid to pump suction, fluid level in tank must be above level of bleed plug
	* Suction or Discharge check valve leaking	* Put pump setting gauge in test position to determine which valve is leaking. Fluid falling then rising in the gauge indicates suction check valve, fluid level remaining constant in gauge indicates discharge check
	* Chemical filter clogged	* Replace filter element or clean filter
	* Return Spring broken	* Remove front coverplate (#6). Observe pump running. If plunger (#8) not fully engaging or following the cam, stop the pump and check for broken spring or sticking plunger. Replace spring (#9) or lubricate plunger.
	* Plunger Sticking	
* Stroke Limiter set to zero or very short stroke	* With Pump running, adjust stroke limiter (Loosen (2) #6D screws and adjust tab #6B, to allow a longer pump stroke. Always use	
Premature Seal Failure	* Chemical Compatibility	<ul style="list-style-type: none"> * Check the plunger first. If plunger is scored or damaged, replace plunger and seal. * If seal still fails, change to different seal material.
	* Abrasive Material in Chemical	* Install suction filter
	* Bushing (#4C) worn	* Replace bushing part # SE-MT-1-B.
Chemical leakage	* Damaged or leaking suction line, discharge line or seal failure	* Prior to repair:
		<ul style="list-style-type: none"> * Turn the speed control to the "ZERO (0)" or "OFF" position. * Close Isolation ball valve "B" between pump setting gauge and chemical tank (see Diagram 1 on page 2) * Close isolation ball valve "A" between pump and pump setting gauge (see Diagram 1 on page 2)

NOTE: Item numbers referenced in troubleshooting guide are in the Parts Breakdown chart shown in the Installation & Operating Manual and also on the webpage.