

Troubleshooting Guide for the MD70-15 Liquid Transfer Station

PROBLEM	POSSIBLE SOLUTION
<p>The pump is running, but is moving little or no solution. The red LED is blinking and the alarm is sounding.</p>	<p>Y-Strainer screen could be plugged. See Filter Maintenance.</p> <p>Ball valves (see diagram) may have been left closed after last maintenance procedure. See Holding Tank Maintenance.</p> <p>The impeller assembly may be worn or damaged. See Pump Head Maintenance.</p> <p>The pump may have lost its prime. With the system on, twist the Y-Strainer screen cap off until a drip of liquid comes out. This should remove any air locks. Tighten the cap immediately.</p> <p>How many elbows are on the discharge side of the MD70-15 motor? No more than two are recommended.</p> <p>The discharge pipe should be no smaller than 1" and no larger than 2". If the pipe is smaller than 1", a plumber cannot snake the line. If the pipe is larger than 2", too much head pressure is created on the system.</p>
<p>The float switches need to be checked, but the holding tank is not accessible.</p>	<p>The system is probably "hard plumbed". It is recommended that a plumber install flexible plumbing or a quick disconnect. As a temporary solution, try jiggling the holding tank to dislodge debris.</p>
<p>The 9-volt battery needs replacing, but the control box lid cannot be removed.</p>	<p>The system is probably "hard plumbed". It is recommended that a plumber install flexible plumbing or a quick disconnect.</p>
<p>The pump station does not have a green power light.</p>	<p>Has the breaker at the main power panel been thrown? Check and reset if necessary.</p> <p>Has the breaker at the pump station been thrown? Reset the circuit breaker on the control box and check for the reason it blew. The four most common reasons are the red handled ball valves are closed, the check valve is not operating/installed properly, the impeller is damaged or the pipes after the liquid transfer station are blocked.</p> <p>Is there a switch in the lab that controls power to the electrical outlet?</p> <p>Has the GFI circuit breaker at the outlet been checked?</p>
<p>The pump station is overfilling, or appears to be leaking. The red LED is blinking and the alarm is sounding.</p>	<p>The pump may have lost its prime. With the system on, twist the Y-Strainer filter cap off until a drip of liquid comes out. This should remove any air locks. Tighten the cap immediately. Airlocks occur because of the introduction of too much liquid at one time. If this is a continuous problem, the drain hole of the sink may need to be shrunk.</p>
	<p>Y-Strainer filter could be plugged. See Filter Maintenance.</p>
	<p>Is <i>Iron Out</i> being used on a regular basis? It is recommended that one cup of <i>Iron Out</i> be pre-mixed with one gallon of water and poured down the sink. This should be done every other week if the daily roll count is less than 100 and once a week if the daily roll count is higher than 100 rolls.</p>
	<p>The float switches may be dirty, blocked or detached. See Holding Tank Maintenance.</p>
	<p>The ball valves may have been left closed after last maintenance procedure. Make sure they are open.</p>
	<p>Power to the pump station may be connected to a switch and the switch is turned off.</p>
	<p>Breaker at control box or main circuit breaker may be thrown. Reset breaker and investigate the cause.</p>
	<p>The discharge pipe should be no smaller than 1 1/2" and no larger than 2". If the pipe is smaller than 1 1/2", a plumber cannot snake the line. If the pipe is larger than 2", too much head pressure is created on the system.</p>
	<p>Hire a plumber to restrict the size of the drain hole in the sink so that too much liquid cannot be introduced into the pump station at one time.</p>

Filter Maintenance

The Y strainer filter should be cleaned at the minimum on a weekly basis. Heavy algae or other particulate build-up will necessitate more frequent cleaning. Failure to service this filter will result in a reduced pumping rate and could damage the pump head assembly. Service this assembly using the following procedure:

- 1) Disconnect the pump station from the power supply.
- 2) Close the 1" valve from the holding tank to the Y strainer (see diagram) and the 1" valve to the drain.
- 3) Unscrew the filter assembly from its housing.
- 4) Remove the retaining cap at the bottom of the filter assembly (it snaps off) and slide the filter out of the filter assembly. The filter can then be cleaned by rinsing it in a stream of tap water and manually removing any sediment build-up. **DO NOT CLEAN THE FILTER IN THE SINK WITH THE MD-70!!**
- 5) Replace the filter in the assembly and snap the retaining cap in place. This cap **MUST** be present or the filter is useless.
- 6) Screw the filter assembly into the filter housing.
- 7) Reconnect the pump station to the power supply.
- 8) Open the valves that were closed prior to the maintenance procedure and inspect for leaks.

Holding Tank Maintenance

Under certain conditions and particularly after extended use, it will be necessary to clean the holding tank. Service this assembly using the following procedure:

- 1) Disconnect the pump station from the power supply.
- 2) Close the 1" valve from the holding tank to the Y strainer (see diagram) and the 1" valve to the drain.
- 3) Disconnect the pump station from inlet and vent plumbing. This will require the help of a plumber if these connections have been "hard plumbed". The plumber should install flexible tubing or a quick disconnect.
- 4) Remove wing nuts holding the lid to the holding tank and lift the entire lid assembly from the tank. The assembly will still be attached to the pump station via the power cord to the pump. Use care not to damage the exposed float switches.
- 5) Check the operation of the float switches. Clean the switches and the inside of the holding tank. An old toothbrush works well.
- 6) Rinse the holding tank of any accumulated sludge-like material. Use a Wet/Dry Vacuum if necessary to remove sludge.
- 7) Reattach the lid assembly to the holding tank with the wing nuts.
- 8) Reconnect the pump station to the power supply.
- 9) Open the valves that were closed prior to the maintenance procedure and check for leaks.

NOTE: When reassembling the lid, be certain that the float switches are not obstructed by the inlet fitting at the bottom of the holding tank. **They must operate freely!**

Pump Head Maintenance

On certain occasions, it may be necessary to change the liquid end of the MD-70RLT pump. Follow this procedure to minimize the difficulty in accessing the liquid end of the pump. If components are being replaced, it is highly advisable to replace the complete liquid end (LMD70RT) to prolong the life of the other components.

- 1) Disconnect the pump station from the power supply.
- 2) Close the 1" valve from the holding tank to the Y strainer (see diagram) and the 1" valve to the drain.
- 3) Unscrew and remove check valve from the pump.
- 4) Remove screws holding the front casing of the pump.
- 5) Carefully pull the front case away from the pump motor. There is a certain amount of flex in the tubing to the holding tank, which will allow the pump head to be pulled away from the pump motor.
- 6) The impeller, rear case, and O Ring can now be removed and the front case unscrewed from its connection point.
- 7) Replace worn parts and reassemble, making certain to wrap the threaded fitting which attaches to the front case with teflon tape.

