

## **SF-1 SHURFLO PUMP WON'T RUN**

If the pump has power to it (the fan runs), but the pump won't run, the first thing to check is the pressure switch. The pressure switch, p/n EL-FP-PS, is located on the wet end of the pump and has two red wires plugged into it. Jump the two red wires together and see if the pump runs. You can safely run the system with the pressure switch jumped, just keep an eye on the pressure gauge and don't let system pressure exceed 110 psi. Replace the switch when a spare is available. The pressure switch should never open unless there is a problem with the system or it is incorrectly adjusted. Check the accumulator pressure, the operating feed pressure, and the switch cut-out setting - bulletins: Misc-3, Misc-4, and SF-2.

If the pump will not run with the pressure switch jumped then it is most likely a problem with the brushes or overheat protection switch inside the motor. The motor will come completely apart by removing the two screws on the end of the motor. Remove the rear cover and paper insulator. Pull out the plastic brush holder. The thermal switch is located on one of the brush leads. With an ohmmeter, check for continuity through the switch. If it is open, you can make temporary repairs by wiring around it, being careful that your new wiring doesn't chafe on the moving parts, nor resist the springs that push the brushes on to the commutator. The overheat switch is unlikely to fail unless the motor has overheated and shut down. Consider relocating the pump or improving ventilation if the overheat protection has failed.

If any corrosion is apparent the brushes may be sticking. Once apart clean all the carbon dust from all the parts. Clean the commutator with light sand paper. Make sure to clean the small grooves on the commutator with a small sharp tool to remove the carbon in between the segments. Adjust the springs on the brush holders so the brushes slide smoothly in and out. If the bearings are rough and binding, remove the rubber dust cover and clean the best you can, grease them, and work them free by hand. Don't service the bearing unless absolutely necessary. Reassemble in reverse order. You can hold the carbon brushes back with papers clips inserted through the slots in the brush holder so they don't hang up on the bearing during assembly. Make sure the corrugated bearing shim doesn't push out, if it does, push it back into place.

This will at least keep you going until the motor can be replaced.

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