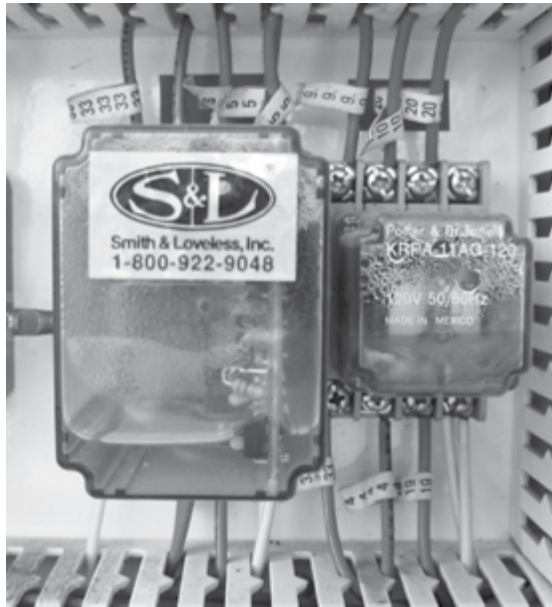




Smith & Loveless'

# Dry-Out Procedure



## FLOODED SMITH & LOVELESS EQUIPMENT REHABILITATION GENERAL PROCEDURE

A flooded Smith & Loveless product can be returned to service in a reasonable amount of time. Please read and understand all of these instructions before starting the procedures.

To minimize the expense of returning a flooded unit to service, the following procedure should be followed:



**DANGER:** Disconnect and lock out power before servicing equipment. Failure to do so could result in serious bodily injury or death.



**WARNING:** Any repairs or rehabilitation performed on electrical equipment must be performed by a qualified electrician.

- 1) Turn off power at main disconnect that serves the unit. Make sure that all power services to the unit are disconnected and locked out.

## S&L's Quick Response

FEMA was very active in the areas visited by S&L's staff. Field Service Engineer Jim Corder described how 30 yard long dumpsters were brought into the Harpeth Valley region to gather the tremendous heaps of trash and debris collected in the aftermath. Parts of houses (including gutted dry-wall from the aftermath cleanup), entire hardwood floors, and massive amounts of furniture piled up several feet high in front yards.

Corder reported that local people were working together to help each other, and the resultant looting or chaos that often comes with post-disaster clean-ups seemed to be nil. For the S&L service staff, their days were long and occasionally affected by the elements, including intermittent rains. Corder said a typical day started at 6 a.m., after lodging typically 25 minutes away, and often didn't end until after 8 p.m. Lunch was often skipped.

Interfacing with FEMA and other district personnel, the S&L response team worked to get Smith & Loveless pump stations back in operation. Many of these stations were submerged under water for a considerable amount of time. Getting the stations online quickly was critical as normal water service was returning to those who could be in their homes. If the pump stations weren't online, then water use would have had to be severely restricted. Nonetheless, by the time Corder had left, all of the S&L stations they were assigned to work on were up and running.



TO ORDER, CALL **1-800-922-9048**



Carl Lancaster, Van Brocklin & Associates (left) and Chuck Miller, Smith & Loveless, Inc. (right) review one of the Smith & Loveless pump station that flooded in Middle Tenn., but was already back up and operational.

2) Pump or drain all the water from unit. Immediately after removing the water from the unit, perform the following steps:

- A) Wash down the base, walls, control panel, pumps, motors and piping with a hose or buckets of clean water.
- B) Open all conduit boxes to drain and dry.
- C) Immediately blow out the conduit with compressed air. A lot of water can end up in the conduit that will need to be removed. If you leave it and it dries, the mud will dry to the electrical wires and become a future problem.
- D) Replace the switches and receptacles (convenient outlets) so that 110 power can be restored to the unit so that you can run vacuum cleaners, heaters and fans.
- E) Install a heater and fans in the unit to start the drying process. If available, use an air compressor and blow water from the components.



**WARNING:** Prior to using any corrosion preventative product, read the Material Safety Data Sheet and the instructions for its proper application. Failure to do so could result in serious bodily injury or death.

- F) Buy a five gallon can of CRC-2-26 and two spray cans of CRC-2-26, or a similar moisture displacing corrosion preventative product from an electrical supply house.

G) Secure a tub or similar container and pour in five gallons of CRC-2-26.

H) Remove all components from the panel, a few at a time and dip in CRC-2-26. Wash lightly with a paintbrush, toothbrush, or cloth, then reinstall. I) Remove pump motors, air compressors, fan motors, blower motors, drive motors, etc. Take to a competent E.A.S.A. electric motor repair shop. For sewage water flooding, have them baked out and replace all bearings. For river water flooding, the motors will need to be cleaned out, rewound, baked out and all bearings replaced.

J) Have the electrician “meg” all circuits before applying power. If the “meg” reading is below 500,000 OHMS on any circuit, check circuit and spray the components with CRC-2-26, or locate “ground” until circuit “megs” 500,000 OHMS or more.

3) **PISTA®** Grit Chamber Installations - Crack the drain plug of the bullgear or secondary gearbox. If you get water or a drip of water then proceed with the following: the **PISTA®** secondary gearbox, or bullgear, will need to be flushed with fresh water. Then flushed with kerosene and then filled with ISO No. 68, EP No.2 hydraulic oil per the Operation and Maintenance manual. If there is no water, change the oil on your regular schedule.



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**WARNING:** Do not start a blower until you have checked it for rotation by hand. If you can not rotate by hand, you will destroy the blower.

If you see rust on the lobes of the blower (rotating mass), even light rust, coat it with vegetable oil while rotating by hand, this softens rust and will remove the rust while turning.

4) **Blowers** – On a positive displacement blower on the end with no pulleys, change the oil if it is contaminated. Run the unit for 15 minutes and change again. On the drive end of a positive displacement blower, grease the bearings (2) and



The control panel of this pump station has been dried out and the pumps put back online after it was submerged in the May 1-2, 2010 flooding that occurred in Middle Tennessee.

- 1) force grease out the vent if it looks contaminated (lithium based grease) if contaminated the grease will turn creamy or milky. Lubricate the bearing until you see uncontaminated grease.
- 2) **Blower** – Air cleaner needs to be checked (usually a paper element) and if it has been submersed it needs to be replaced.
- 3) **All belt driven equipment** – should have the rust removed from the sheaves prior to start-up.
- 4) Before placing the unit back into regular service, test all components to make sure they are in good working condition.

Please contact Smith & Loveless, Inc. if you have any questions or would like any assistance with these procedures.

Please also contact Smith & Loveless, Inc., or your local S&L representative for any parts that you may need. S&L maintains an extensive inventory of O.E.M. parts on hand.

## Pump Failure Alarm

Do you have a low flow pump that creates problems for your SCADA system? The **Pump Failure Alarm** can sense even the lowest flows. With many check valve whisker type limit switches, check valve deflection on low flows of 80 GPM or less present problems - especially with 4" piping - because the check valve movement is very minimal. The Smith & Loveless **Pump Failure Alarm** can detect even the slightest deflection in the check valve. The kits below include everything you'll need to upgrade your current check valve whisker limit switches.

PART #	DESCRIPTION
H87A376	2-Pump Pump Failure Alarm Retrofit Kit for Relay Logic Panels (Includes LH & RH Sensors)
H87A383A	Right-Hand, 1-Pump Pump Failure Alarm Retrofit Kit (RH Sensor Only)
H87A383B	Left-Hand, 1-Pump Pump Failure Alarm Retrofit Kit (LH Sensor Only)
87B397C	Water-Proof - Right-Hand, 1-Pump, Pump Failure Alarm Switch ONLY
87B397D	Water-Proof - Left-Hand, 1-Pump, Pump Failure Alarm Switch ONLY
87B399	Pump Failure Alarm Tester

**No limit switch? Add these parts per switch, per pump if there is no limit switch already installed.**

PART #	DESCRIPTION
4L304A	Time Delay Relay
5L48B	8 Pin socket
4L264	Relay

Swing Check Valves by Others can also use the Smith & Loveless Pump Failure Alarm.

If your check valve arm is 1/2" Wide x 1-1/2" Tall or smaller, the S&L Pump Failure Alarm will work on your valve.



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