



Quality Petroleum Equipment Solutions for Over 20 Years

Date: September 1, 2011

Subject: OFP System Failure Solutions

To Whom It May Concern:

While VMI overfill protection systems are known to last for over a decade, as with all equipment, they will fail at some point. There are some common causes associated with OFP system failure. In order to make the troubleshooting process as simple as possible, VMI has developed a few simple tests to determine which part of the system is failing. Before performing any of these tests, it is important for one to understand the OFP system components and how they function. In normal fueling operations a tank is filled until the fluid level forces up a float in the tank, which in turn activates a pilot valve that closes off the main valve, restricting flow into the tank. The best way to figure out where the problem is occurring is to introduce compressed air to the various components. In the following tests the term "red port" is used to refer to the port on the OFP valve that is directly in line with the inlet. The term "blue port" is used to refer to the upper port on the side of the valve's cylinder. The red and blue ports on the bushing are connected via tubing to the above referenced ports on the valve.

1. **Test of the pilot valve:** With the bushing removed from the tank and the float in the down (vertical) position: Introduce air into the red port, it should return back out of the blue port. Now raise the float into the up (horizontal) position, simulating fuel reaching the shutdown level. With air still being introduced into the red port, it should no longer return back out of the blue port.
2. **Test of the shutdown valve:** Introduce air into the blue port on the side of the valve. Piston should move up.
3. **Test of the full system (incorporating shutdown valve, pilot valve, and tubing paths):** With the system installed in the tank and all tubing and fittings connected, introduce air into the unused red port on the side of the valve. The air pressure should travel through the valve, down through the pilot valve, and back up underneath the piston of the valve, raising the valve into the open position. Since we are using compressed air and not fuel, the valve will usually close back down right after opening up. Performing this air test, the technician should be able to hear the valve cycle open and closed.

After determining which component in the system is causing the failure, proceed with corrective action or replacement of the affected part(s). It is important to note the age of the OFP system in place, as total system replacement may be recommended. If these tests are inconclusive or do not yield an appropriate solution, please contact the factory.

The air tests outlined in this technical bulletin are only helpful in diagnosing an OFP system that will not allow fuel into a tank. To verify the shutdown property of an OFP system, request information on the OFP-FTK Functional Test Kit.

Sincerely,
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ARM-4073

AST-4010
AST-4012

ISM-4080
ISM-4081

LD-2000
LD-2000\E

LD-2200
LD-2200\75

LD-3000
LD-3000\E
LD-3000\FL

LDT-890
LDT-890\AF

OFP-2\1
OFP-2\2

OFP-3\1
OFP-3\2

PLC-5000

SUMP-300

STM-4201