396-3101Y1 QuickStart Card



SureFire PumpRight Hydraulic Pump System with PWM control for JD GreenStar Rate Controller (GRC)
Supplement to 396-001070

The following screenshots show the setup settings that are typically good initial settings. Actual settings on your system may vary from those shown here. Adjust settings as necessary in the field to get the best operation from your system. For more complete system information see the full manual for this system (396-001070) available at www.surefireag.com.



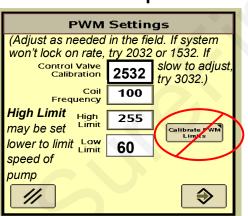
Operator is responsible for the safe operation of this system. Follow all safety precautions for safety with hydraulic equipment.

Setup-Implement Setup-System HYDRAULIC DRIVE DIAPHRAGM PUMPS System System Implement Implement Implement Section Valve 3-Wire **\$** Liquid Fert. Tool **\$** ⇧ PWM Close **\$** Surefire Ag **\$** Туре PWM 1 2 3 Tank Capacity 400 1 2 3 Remove This GRO Setup Flowmeter Pressure 1 2000 Implement Width 30.00 Sections Calibrate Pressure Flowmeter gal 15.00 **\$** Send Status Calibrate Agitator Valve Flowmeter Receive Status 12:06pm 11:56am Agitator Duty Do Not Share Flow Return Cycle **1** = 1 1

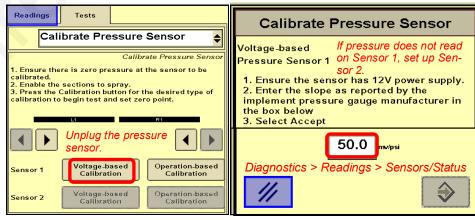
Set up Height Switch as appropriate for this system

Flowmeter Cal—2000 Flowmeter Units—gal For SureFire Electromagnetic Flowmeter

PWM Setup



Calibrate Pressure Sensor



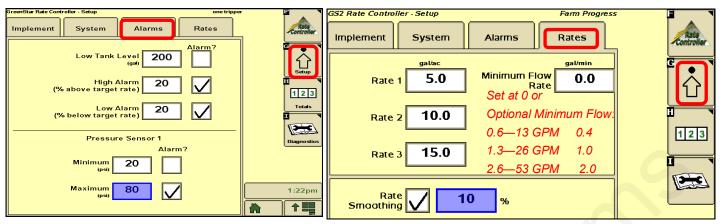
Pre-season Service —See the manual for important pre-season service tips. Troubleshooting Tips-See the manual (Section G) for more troubleshooting tips.

- 1. **To check for proper hydraulic connections and operation:** (See page 48 in manual) Turn hydraulics off. Go to the SureFire hydraulic valve and open the manual override (red knob) on top of the electric coil. Turn the hydraulic on at a low flow rate (since the valve is 100% open in manual override.) Gradually increase hydraulic flow. Pump should turn if hydraulic flow is present and connected correctly.
- 2. **To get pump to Target Rate quicker on startup:** (1) Increase the LOW LIMIT on PWM Settings (to 70 or 80). (Caution: Pump will not slow down below LOW LIMIT. (2) Increase the first 2 digits of Control Valve Calibration (from 20 to 25 or 30). This may cause the pump to overshoot and oscillate on speed or rate changes across the field.



Setup - Alarms

Setup - Rates

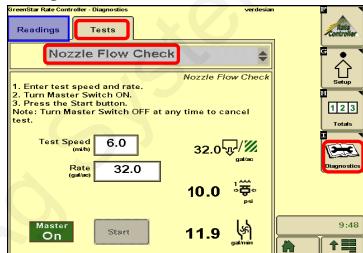


Diagnostics-Tests-Section Test

GS2 Rate Controller - Diagnosti Readings Tests Test Section Test Section Test Select the section outputs to be activated. Turn the Master Switch on. Press the Start Button. Toggle Sections on or off using the checkboxes 1 2 3 Turn Master Switch OFF at any time to cancel test. Press and hold the - or + button to operate the control Solution P Status ↑≣ On Started

Section Test or **Calibrate PWM Limits** can be used for manual operation of the system. It can be used to prime the pump on startup or to rinse the system. It is good for troubleshooting.

Diagnostics-Tests-Nozzle Flow Check



Use **Nozzle Flow Check** to see if system will lock on to a rate at a test speed. Pressure with water will be a lot lower than it will be with a heavier product. Some check valves may not open with low pressure.

Diagnostics—Readings—Delivery System will show details on flowmeter operation and pump speed (PWM Duty Cycle). This can be useful information for troubleshooting.

Flowmeter Troubleshooting and Tap Test

- 1. Unplug flowmeter. With voltmeter, check for 12 volts between Power and Ground (pins 1 & 2 or pins B & C) of flowmeter connector. If no voltage, check at each connection back to Rate Controller. Should have 4-5 volts between Signal and Ground (pins 1 & 3 or pins A & C).
- If 12 volts is present, then conduct a tap test. Have a second person watch Flow Meter (Hz) on the Diagnostics > Readings > Delivery System screen while other person taps repeatedly (use a short piece of wire or a paper clip) between Signal and Ground (pins 1 & 3 or A & C) of flowmeter connector. Taps should register on display.
- 3. If GS2/GS3 responded to the tap test, your wiring to that point is good. If still not fixed, inspect adapter harness and test continuity at each connection per schematic (see Section D of system manual).
- 4. Consider cleaning inside tube of flowmeter with warm soapy water. Replace flowmeter if it is still not working.

Electric Section Valve Problems

- 1. If one valve is not working, switch connections from that valve with a valve that is working to see if the problem is with the valve or with getting power/signal to the valve. If valve indicator light is always green or if position indicator appears out of sync, replace actuator. If valve won't turn, remove actuator and turn valve manually to loosen it.
- 2. All valves should have constant 12V power between pins A & B. When valve is commanded to turn on, there should be 12V between pins B & C. Start checking at the connection closest to the valve and work back to the Rate Controller. (See wiring pinouts in main manual.)
- 3. If using Auto Section Control, be sure the controller doesn't think you are in an area already covered or out of bounds. Use the Section Test to open and close valves. ©2015-2019 SureFire Ag Systems

