

# 396-3100Y1 QuickStart Card



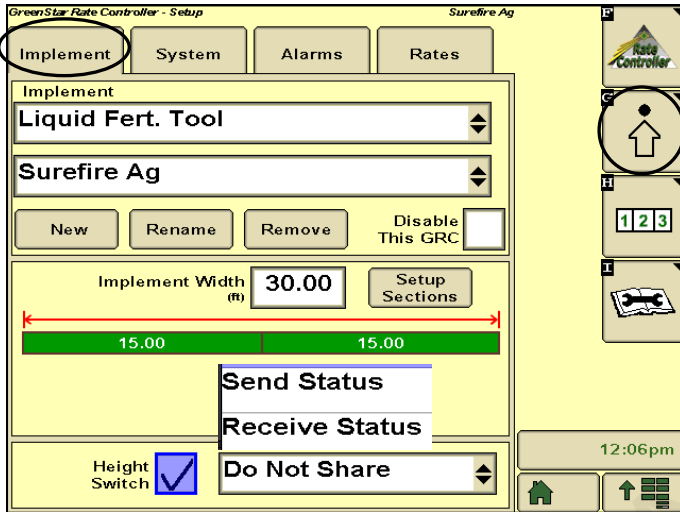
**SureFire Tower Electric Pump System**  
with PWM control for **John Deere GreenStar Rate Controller (GRC)**  
Supplement to 396-001060

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 (396-001060) available at [www.surefireag.com](http://www.surefireag.com).



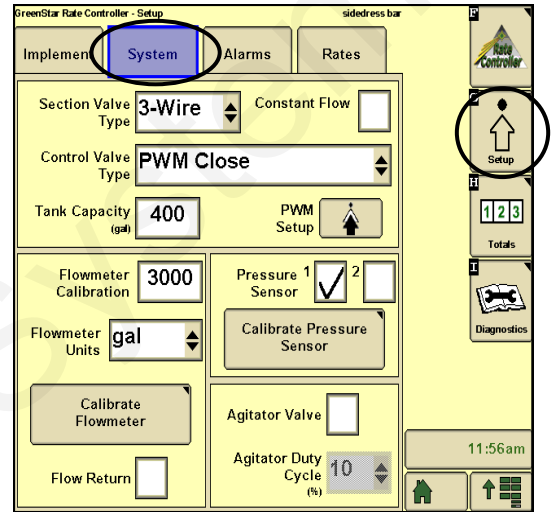
**WARNING** Operator is responsible for the safe operation of this system.

## Setup-Implement



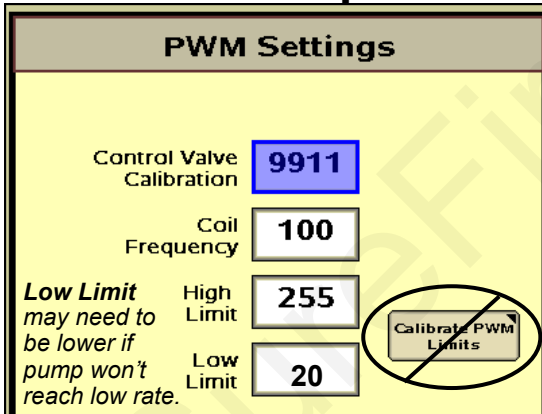
Set up Height Switch as appropriate for this system

## Setup-System

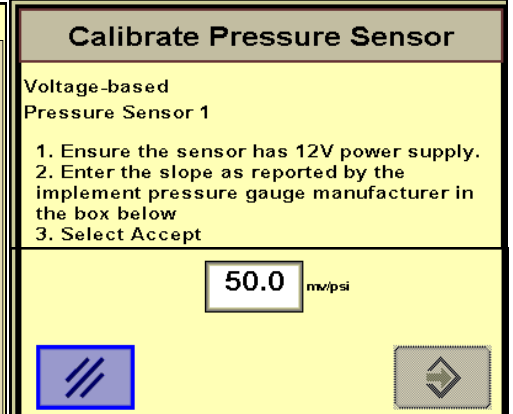
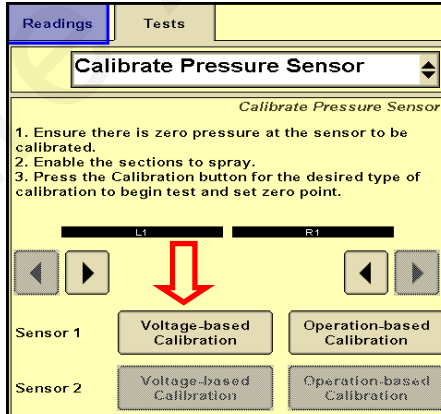


Flowmeter Cal—3000 Flowmeter Units—gal

## 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. The EPD module should have a slow steady flashing light in the center LED when it is plugged into battery power.
2. If the center LED is flashing fast 4 times, followed by a short pause, and then 4 quick flashes, unplug the power from the battery to reset. If problem persists, this is a low voltage problem. Check cables and connections back to battery.
3. When the pumps should be running, the center LED will be steady red. The corner LED should be red to indicate it is receiving PWM signal.
4. Plug pumps directly into power from battery to verify current is there and pumps are working.
5. Run the Section Test to verify that section valves will open and that pumps will run. When + button is held down on Section Test, the PWM voltage to EPD should go up to 12 or 13 volts.

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## Setup - Alarms

GreenStar Rate Controller - Setup

Implement System **Alarms** Rates

Low Tank Level (gal)  Alarm?

High Alarm (% above target rate)

Low Alarm (% below target rate)

Pressure Sensor 1

Minimum (psi)  Alarm?

Maximum (psi)

9:46am

## Setup - Rates

GS2 Rate Controller - Setup

Implement System Alarms **Rates**

Rate 1  gal/ac Minimum Flow Rate  gal/min

Rate 2  Optional Minimum Flow 0.3-5 gpm 0.2

Rate 3  0.13-2.6 gpm 0.1

Rate Smoothing   %

## Diagnostics-Tests-Section Test

GS2 Rate Controller - Diagnostics

Readings **Tests**

Test **Section Test**

1. Select the section outputs to be activated.  
2. Turn the Master Switch on.  
3. Press the Start Button.  
4. Toggle Sections on or off using the checkboxes.  
Note: Turn Master Switch OFF at any time to cancel test.

1  2

Press and hold the - or + button to operate the control valve.

Master **On** Status **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, to rinse the system, or for troubleshooting.

## Diagnostics-Tests-Nozzle Flow Check

GreenStar Rate Controller - Diagnostics

Readings **Tests**

**Nozzle Flow Check**

1. Enter test speed and rate.  
2. Turn Master Switch ON.  
3. Press the Start button.  
Note: Turn Master Switch OFF at any time to cancel test.

Test Speed (mph)  32.0 gal/ac

Rate (gal/ac)  11.9 psi

Master **On**

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, thicker product.

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

## Flowmeter Tap Test

1. Unplug flowmeter. With voltmeter, check for 12 volts power between pins 1 & 2 (black and red wire) of flowmeter connector. Should have 4-5 volts between signal and ground (two outside pins - black and blue). If no voltage, check at each connection back to Rate Controller.
2. If 12 volts is present, then conduct a **tap test**. Go to setup and change the flow cal to 1. Have a second person watch Delivery System (flowmeter Hz) screen while other person taps (use a short piece of wire or a paper clip) between pins 1 & 3 of flowmeter connector.
3. If voltage and tap test are OK, your wiring to that point is good. If still not fixed, inspect adapter harness and test continuity per schematic (see Section D). Try cleaning electrodes in flowmeter center tube with soapy water.
4. Replace flowmeter.

## 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 continually green, replace actuator.
2. All valves should have constant 12V power between pins A & B. When valve is commanded to turn on, there should be 12V signal 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.) Even-numbered and odd-numbered valves have separate power.
3. If using Auto Section Control, be sure the controller doesn't think you are in an area already covered. Use the Section Test to open and close valves.

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