# SETUP GUIDE

# GREENSTAR RATE CONTROLLER

## FAST SHUTOFF - SINGLE LIQUID - SINGLE SWATH

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|---|---|
| DOCUMENT NO. | MAN0024 |
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| REVISION DATE | 19/11/2024 |

# Overview

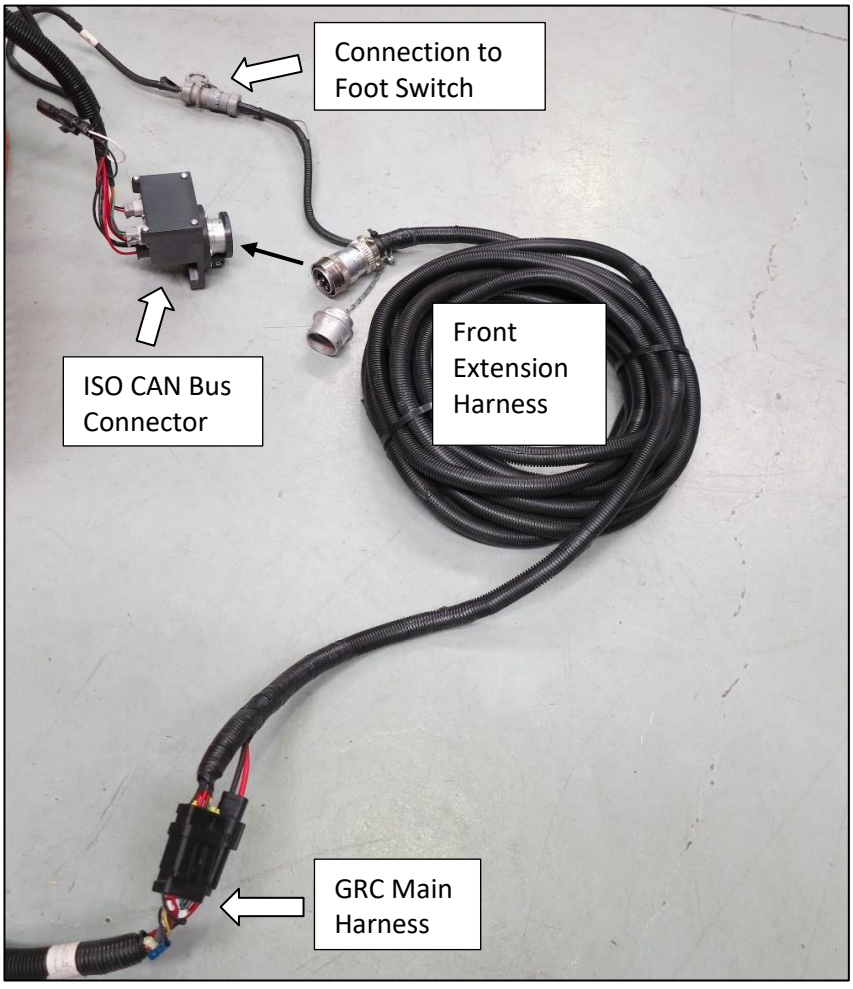
This document provides instructions for setting up a Fast Close Control Valve equipped Liquid Systems (SA) Rate Control Module with John Deere GreenStar Rate Controller (GRC) using a John Deere GreenStar Display. The scenario covers setup of a single liquid system without section control.

This document should be read in conjunction with GreenStar Rate Controller Operator's Manual.

# Configuration Prerequisites

Before the liquid system can be configured in the GreenStar Display (2630 or newer) following steps need to be completed.

- Physical installation of Liquid Systems (SA) Rate Control module including tank plumbing.
- Physical installation of a Stacker distribution system on the tool bar or planter.
- Installation and connection of GRC to the GreenStar Display with Front Extension Harness and Foot Switch – see example photo below.
- Installation of Height Switch on planting equipment if required.
- Product tanks filled with enough water to conduct testing.





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# Physical Connection to Liquid Systems module

Connect Liquid Systems (SA) module to the GRC with wiring looms supplied.

Liquid Systems (SA) looms available for single liquid set up without section control are:

| Part No. | Name | | Description |
|---|---|---|---|
| LL07032 | GRC Single Adapter Loom (37 pin) | | Connects to 37 pin circular connector on GRC Main Harness. |
| LL07072 | Generic Module Loom (5m) | | Connects to individual device connectors on LQS pump module.<br><br>Connects to LL07032 Adapter Loom via 23 pin circular connector. |
| LL07015 (optional)<br><br>or<br><br>LL07020 (optional) | Generic Module Loom Extension (6m)<br><br><br><br>Generic Module Loom Extension (12m) | | Extensions of Generic Module Loom for when additional length is required from LQS pump module to GRC. |


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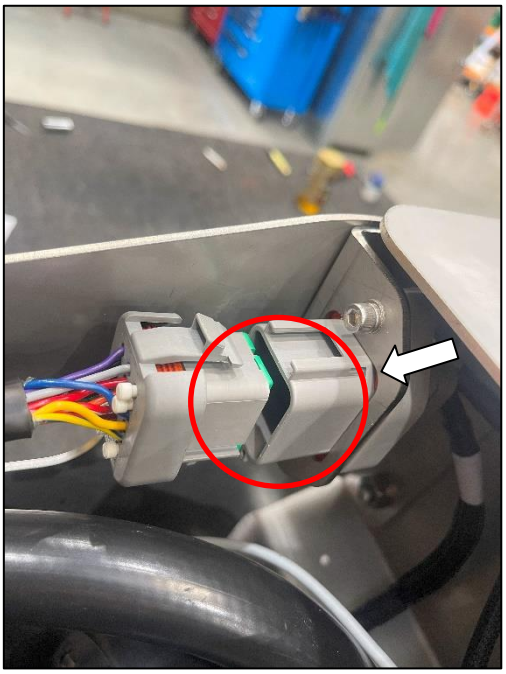
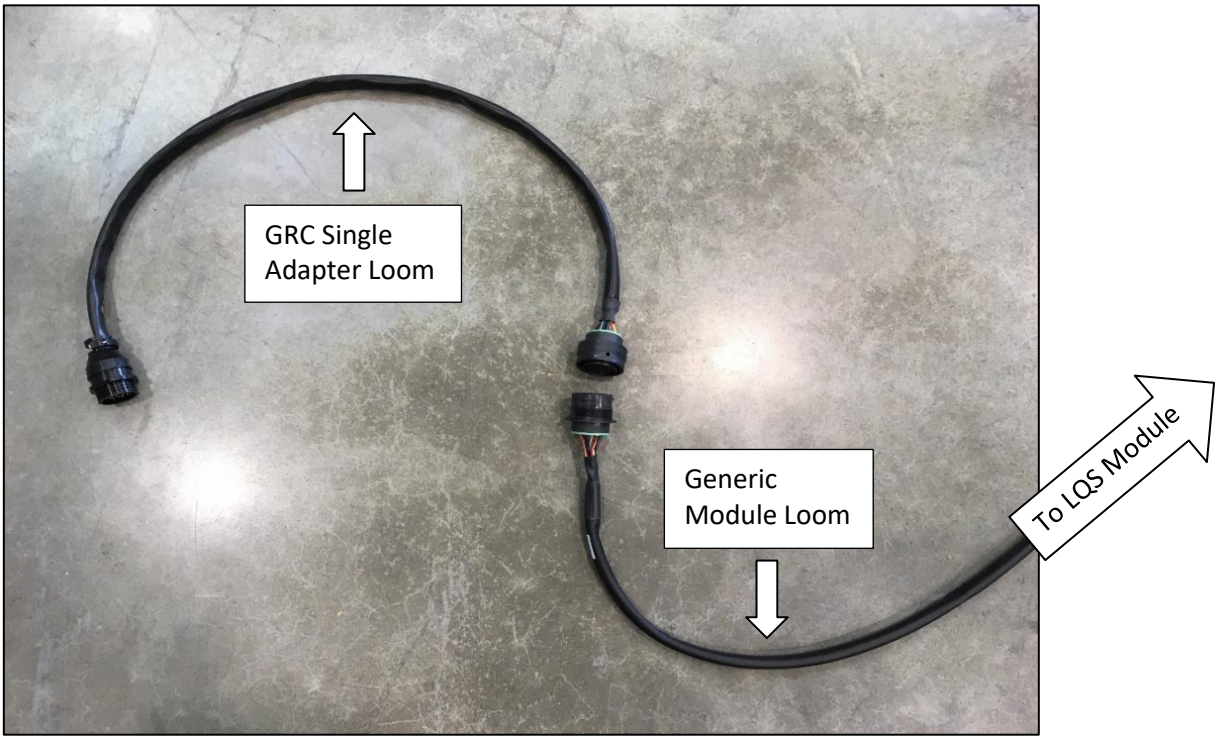
1. Connect Generic Module Loom (LL07072) to device connector on Liquid Systems (SA) module, ensuring connector is clipped in properly.



2. Connect and route Generic Module Extension Loom (LL07015 or LL07020) to reach GRC if additional length is required.
3. Connect Generic Module Loom (or Extension Loom if installed) to GRC Single Adapter Loom (LL07032).




4. Connect GRC Single Adapter Loom to GRC Main Harness.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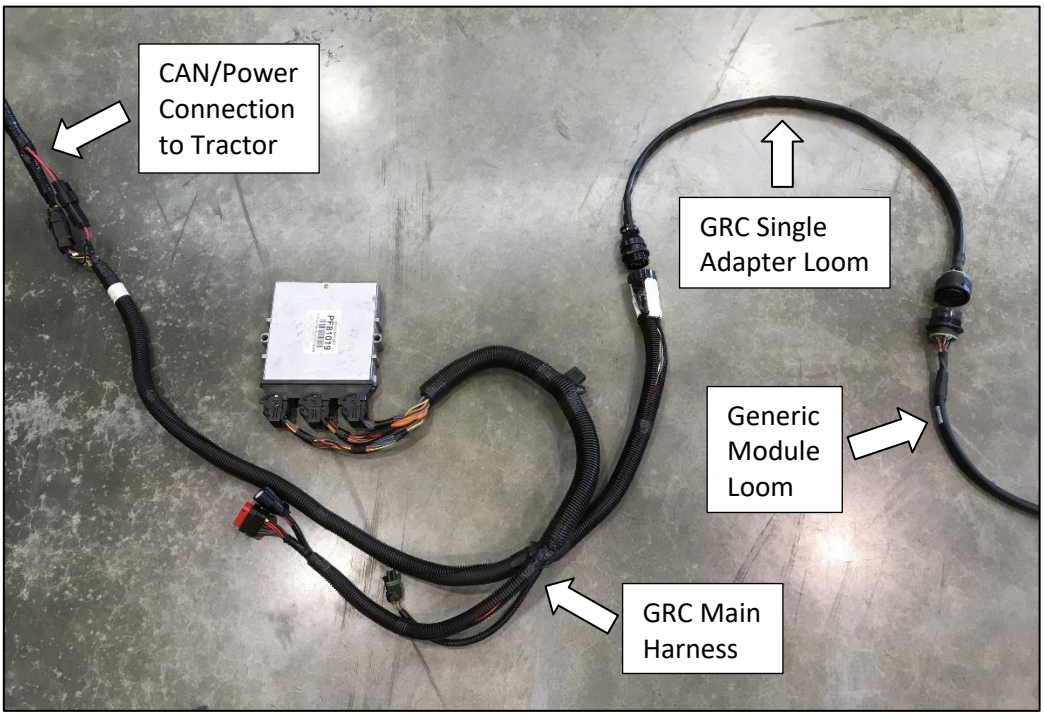



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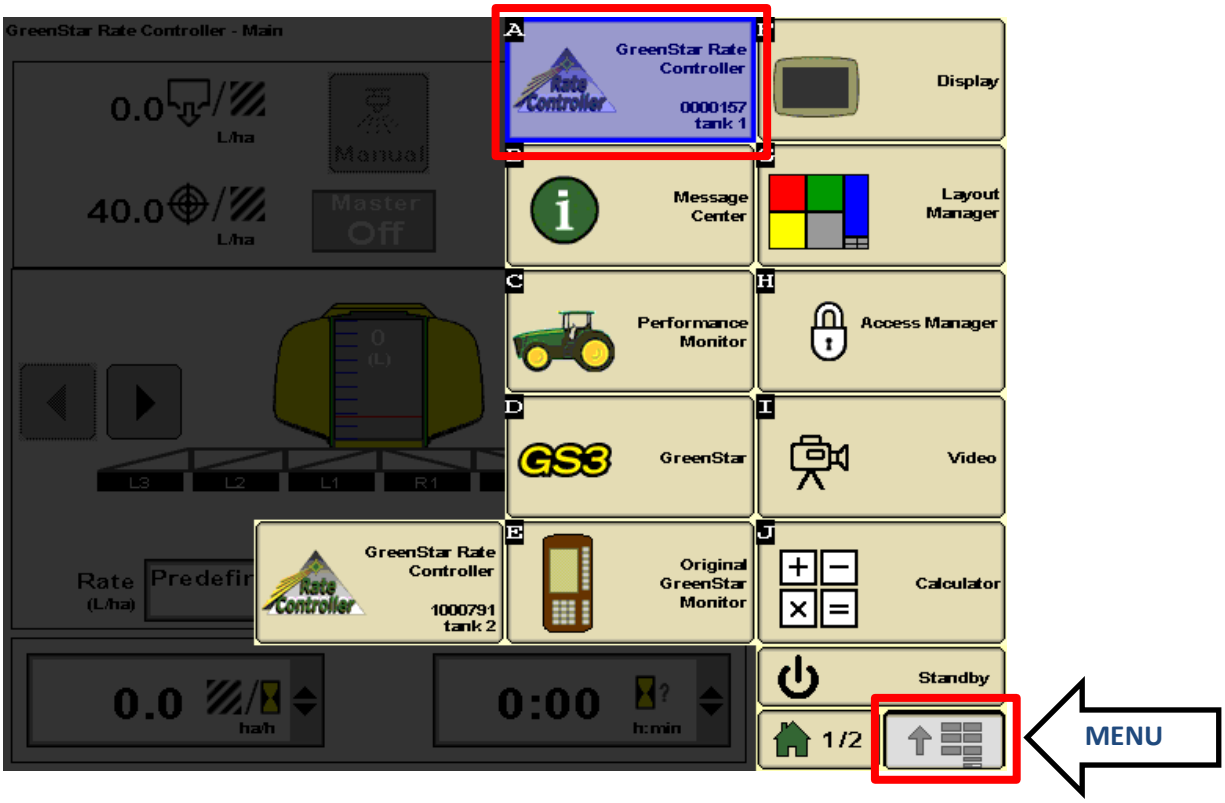
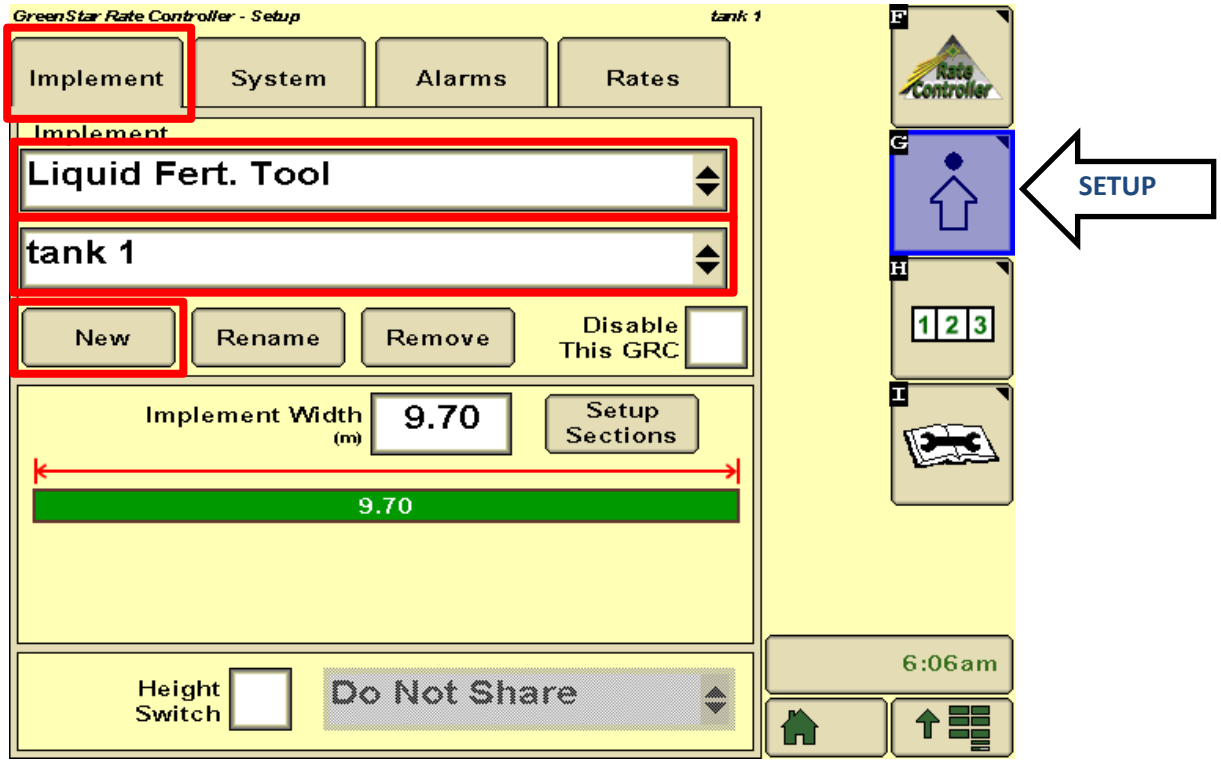
# GreenStar Rate Controller Setup

Press **Menu** button & select **GRC** button (If more than one GRC is installed, verify the serial number displayed on selected GRC button matches that on GRC to be setup).




Select **Setup** button to enter GRC setup. Select **Implement** tab. Select **Liquid Fert. Tool** as implement type. Select **New** to create a new Implement name or select an existing name.





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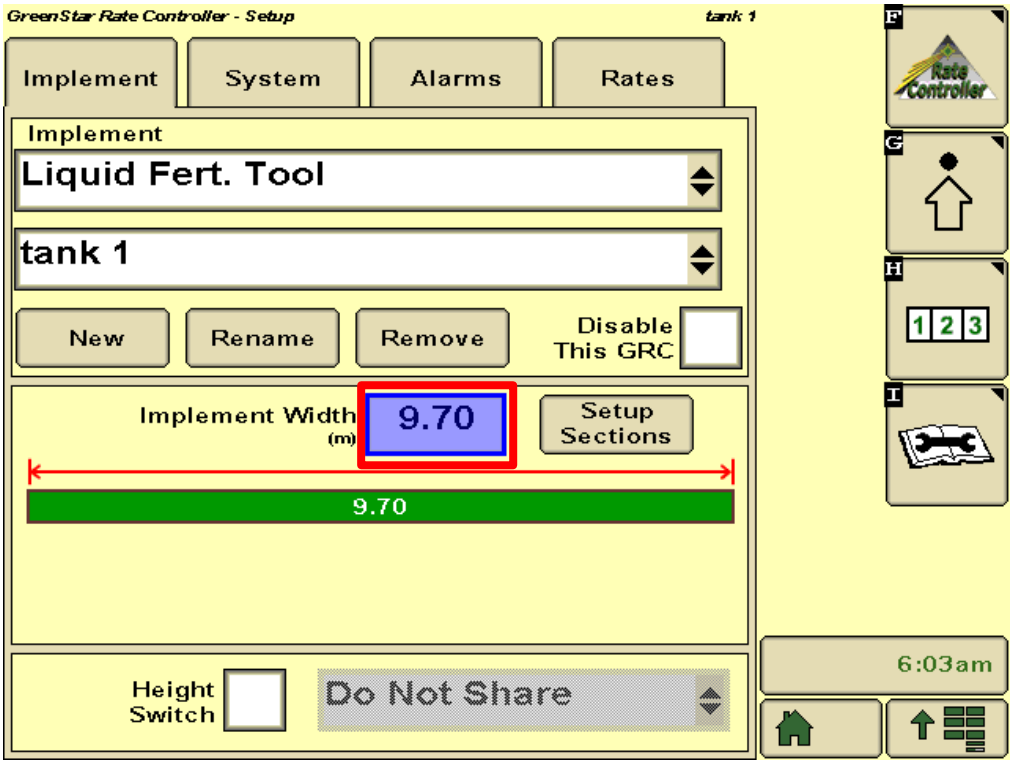
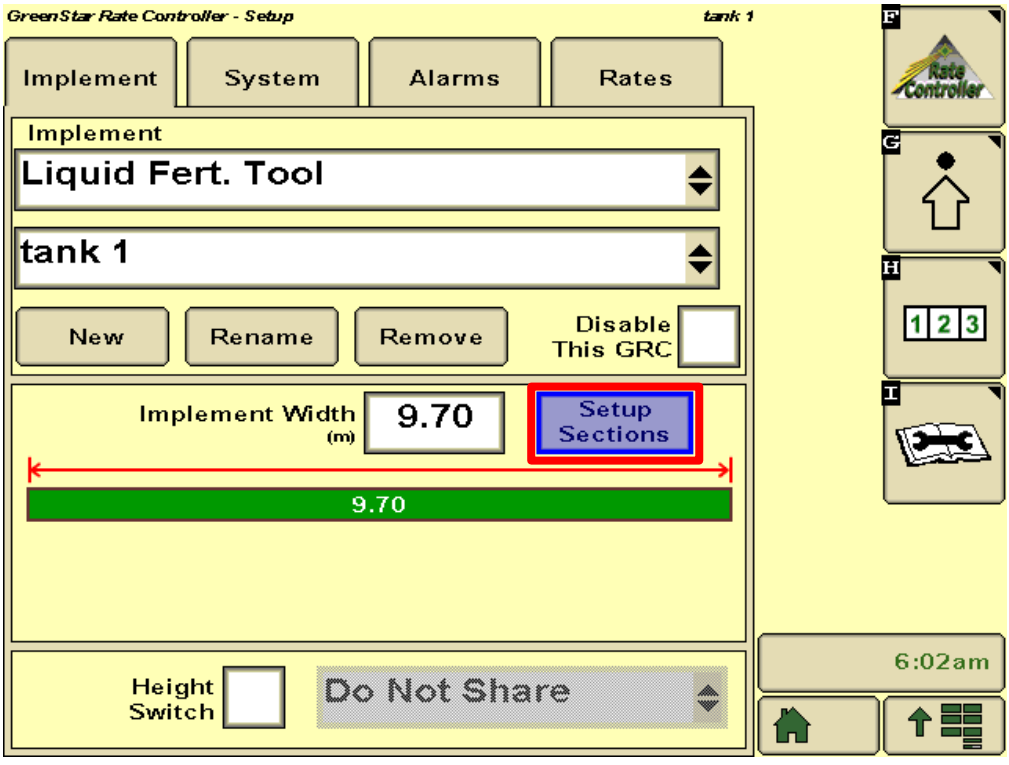
Select **Implement Width** field and enter effective planting width of the implement.




Select **Setup Sections** button.





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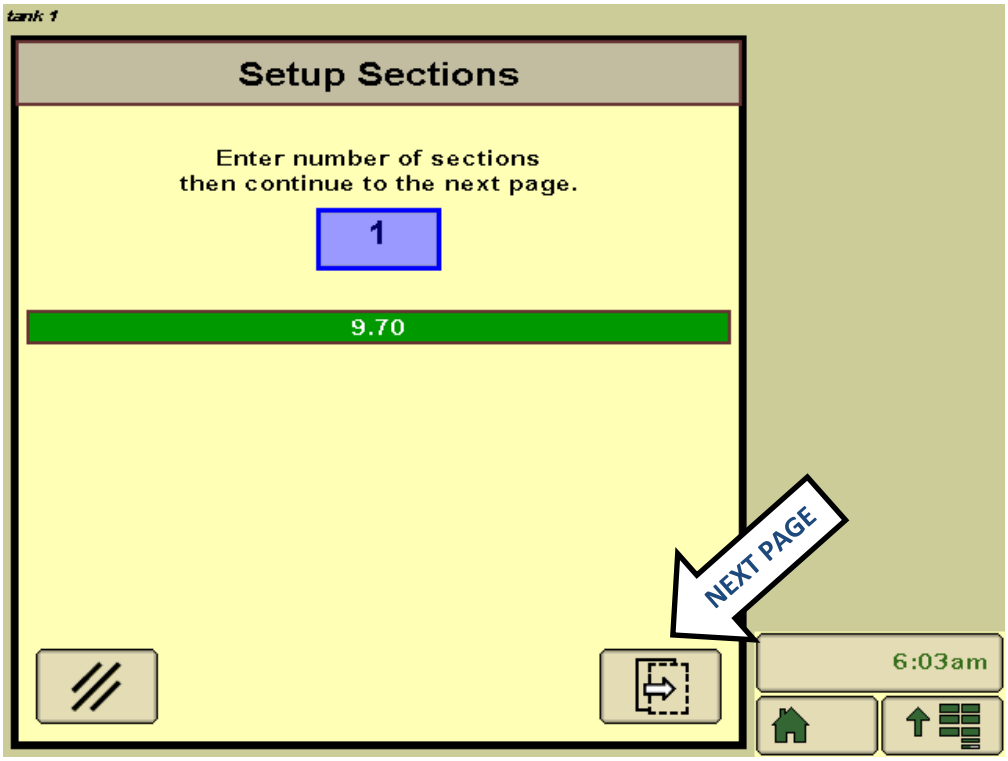
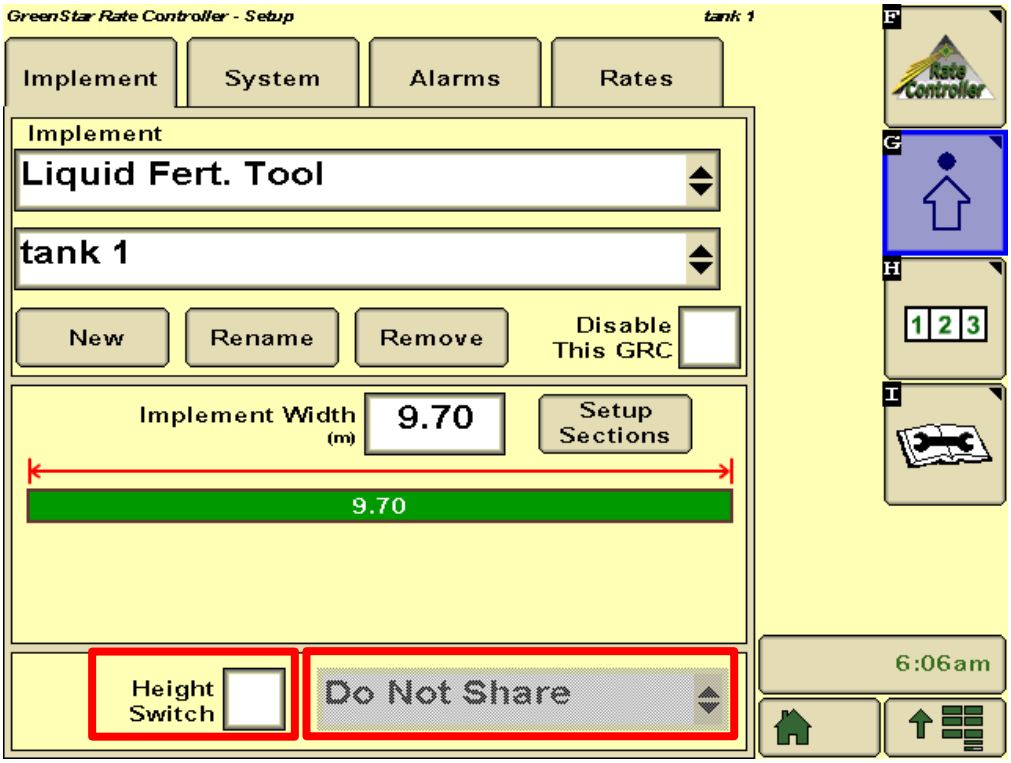
Enter **1** for single section setup and press **Next Page** button (right arrow).




If installed, enable **Height Switch** (by placing a tick in the box) and select appropriate **Messaging** option from drop down menu.





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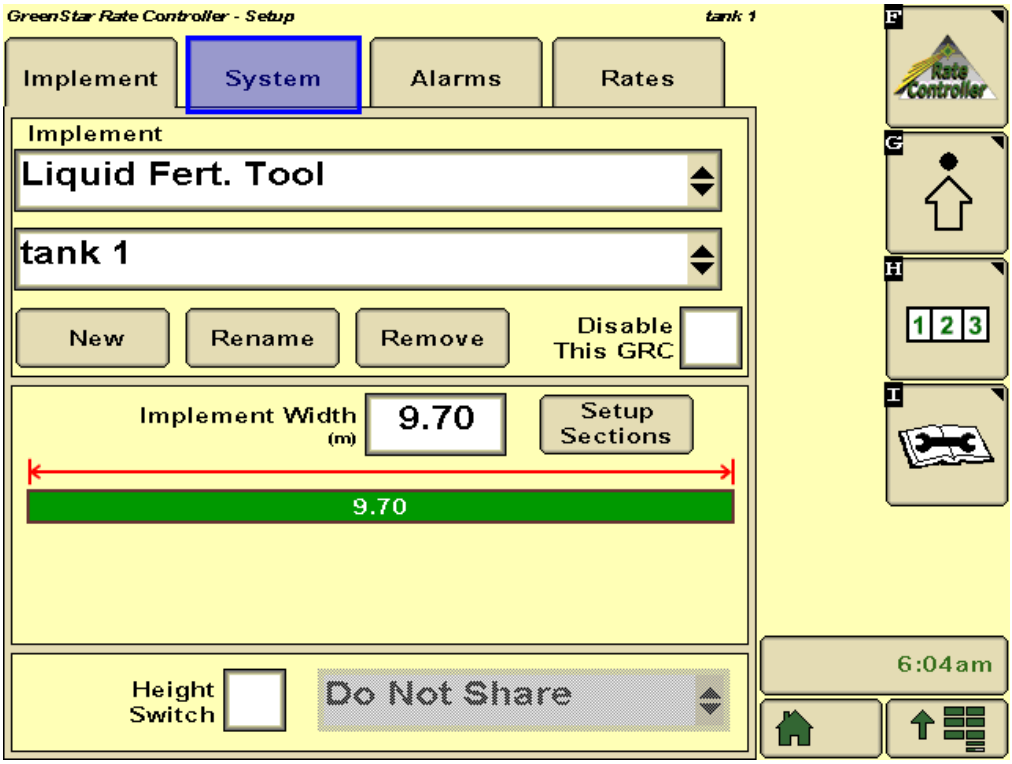
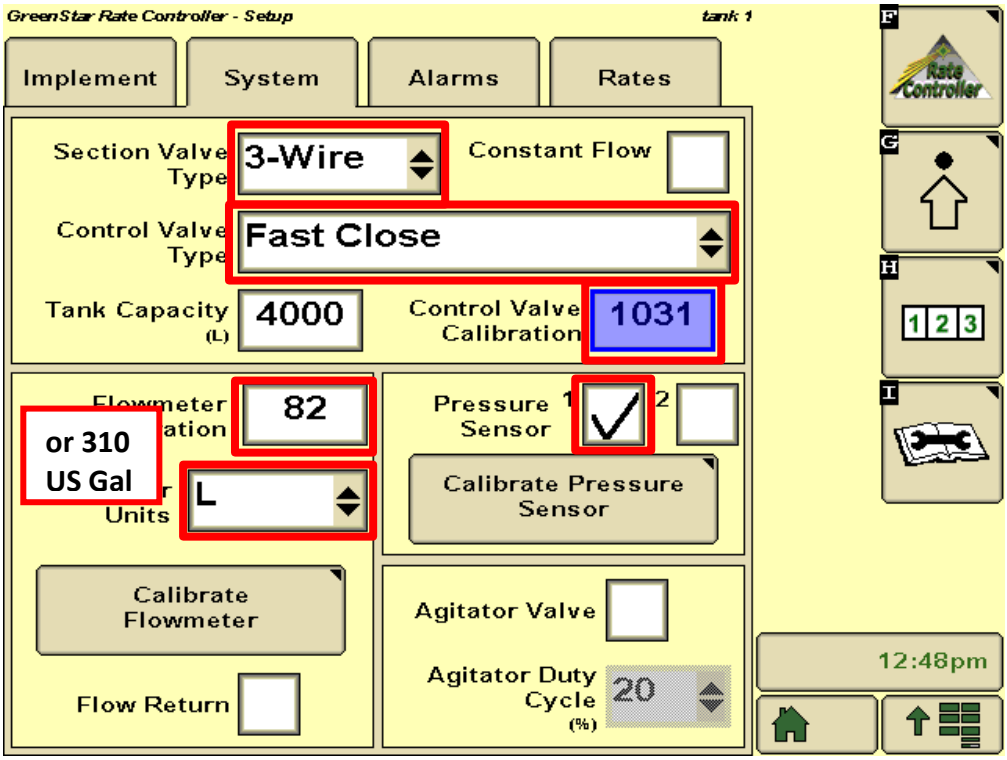
Select **System** tab to enter system setup.




Enter values as follows: **See next page for Valve Calibrations**




**NOTE:** For modules with **ARAG Electromagnetic** flowmeter, check label for calibration number.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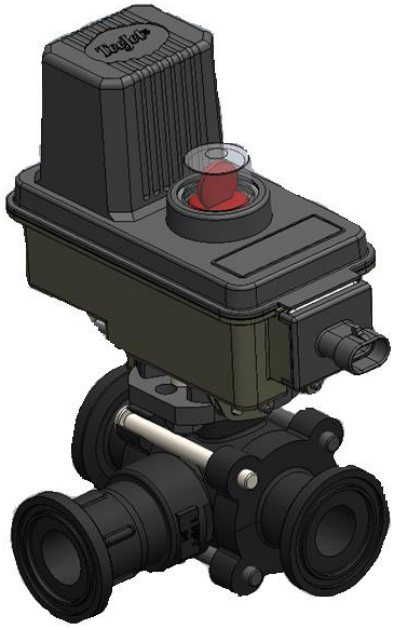
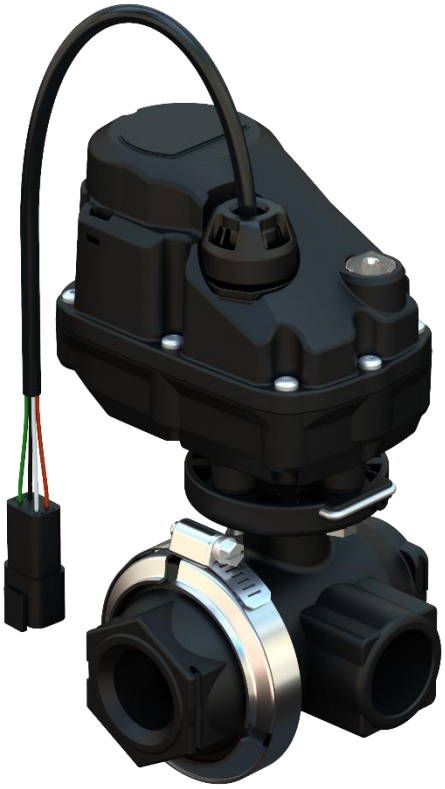
LQS Modules are built with 3 different Fast-Shutoff Valves, the images below show the difference between the 2 KZ Valves and Teejet Valve.

## KZ Valve- L03067

## Teejet Valve



## KZ Valve- L03085



| Valve | Setting |
|---|---|
| L03067 | 1031 |
| L03085 | 2213 |
| Teejet | 3031 |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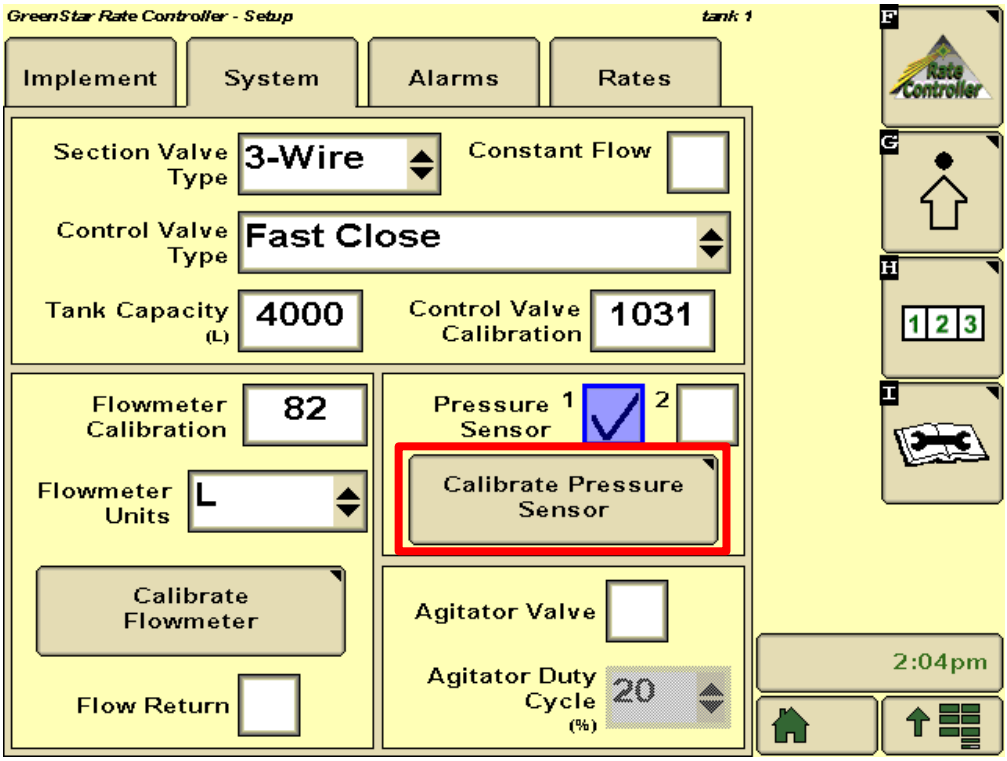
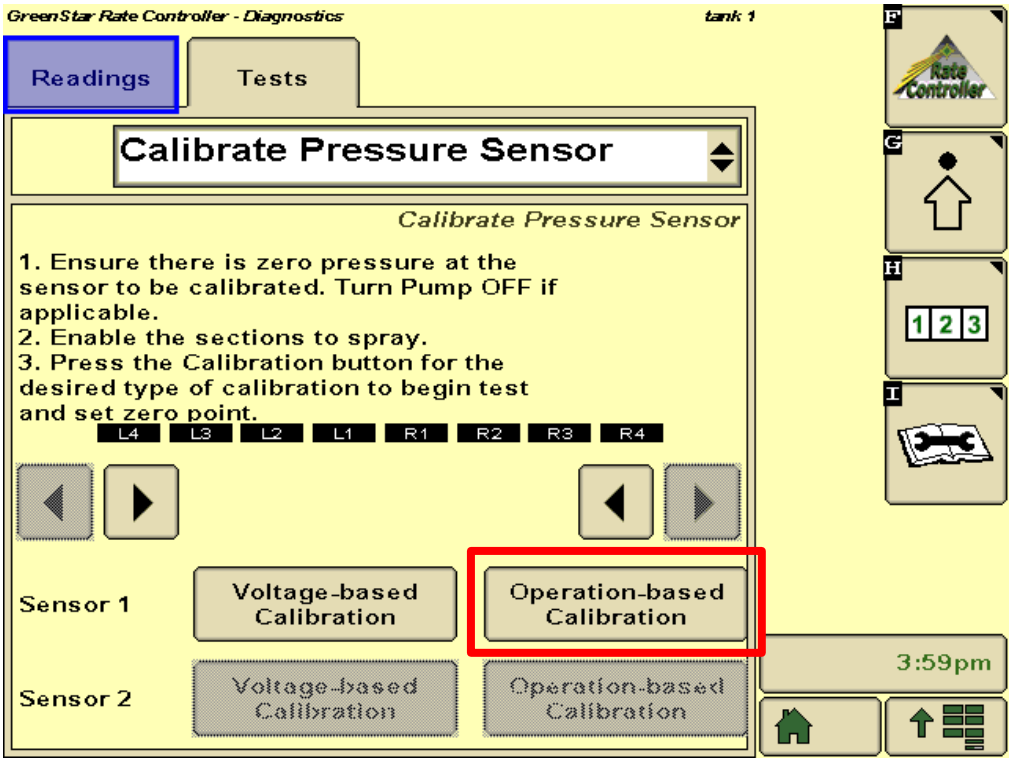
Select **Calibrate Pressure Sensor** button.




**Ensure pump is NOT running** before selecting **Operation-based Calibration** button.





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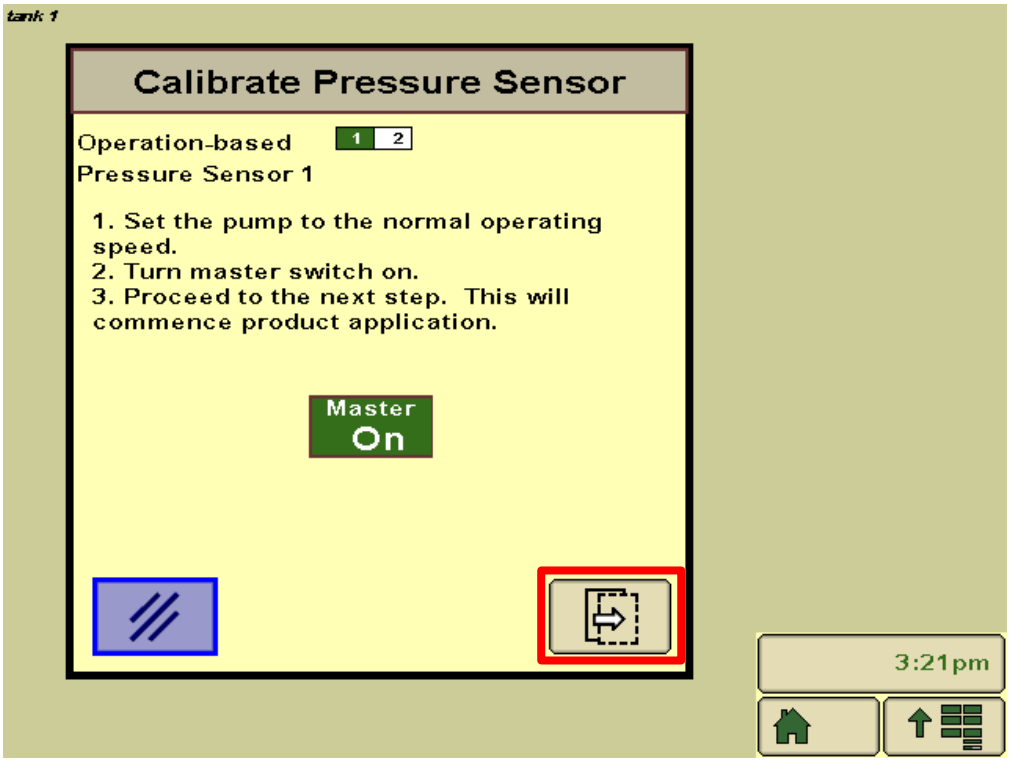
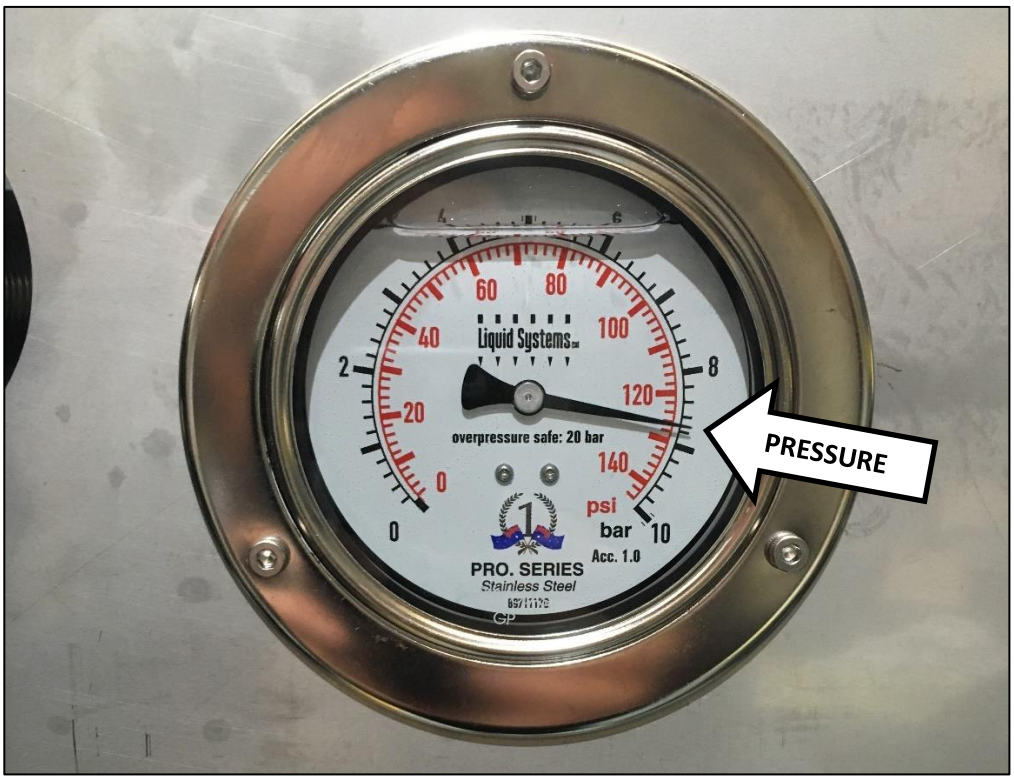
Turn the pump on via tractor hydraulics.
Turn the master switch on and press **Next Page** button.




Observe the pressure on the module pressure gauge.





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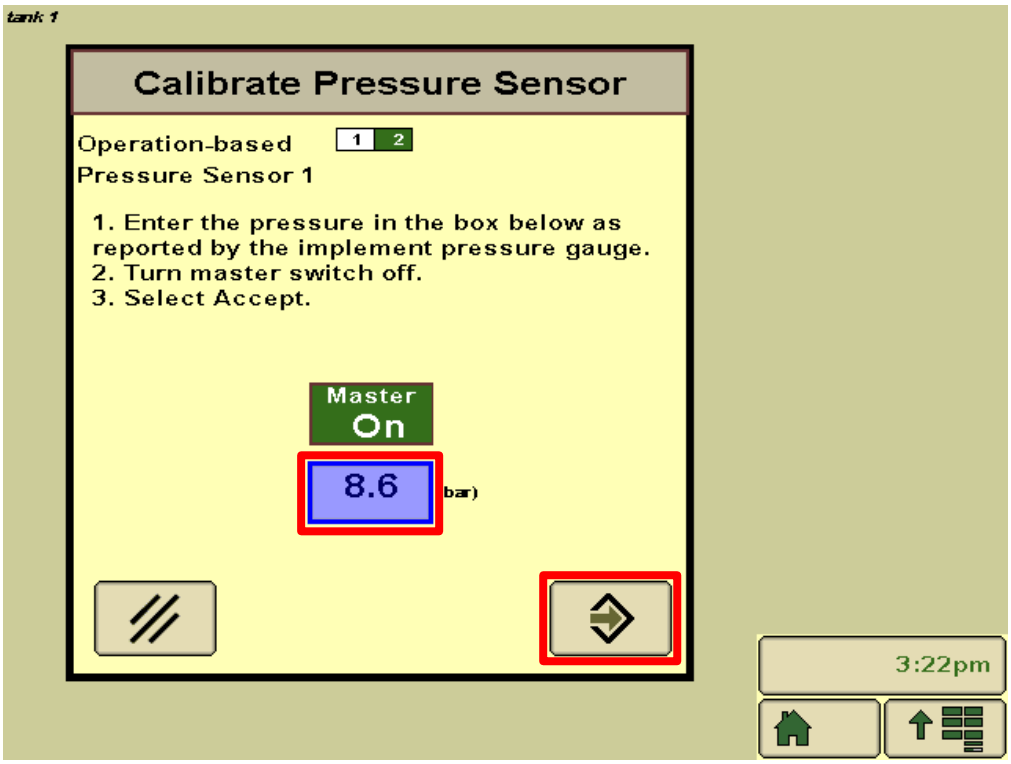
Enter observed pressure into the on-screen field.

Turn the master switch off

Press **Accept** button to complete calibration process





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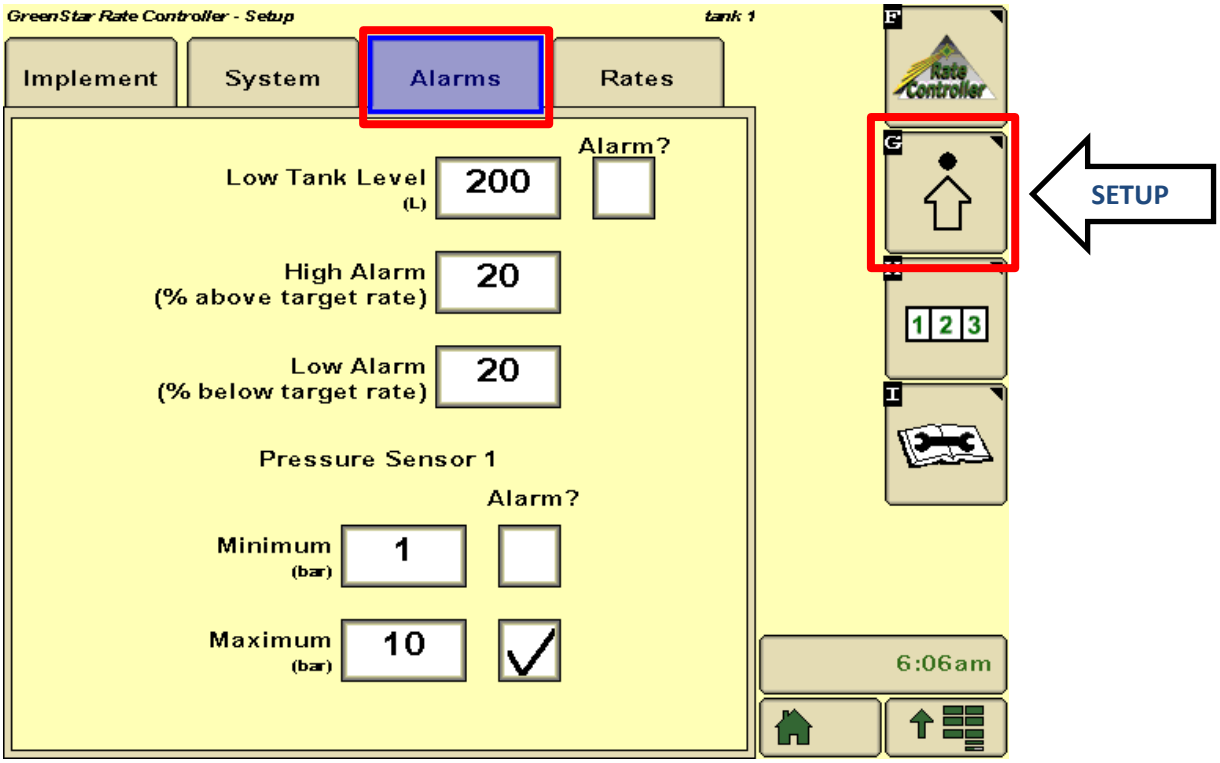
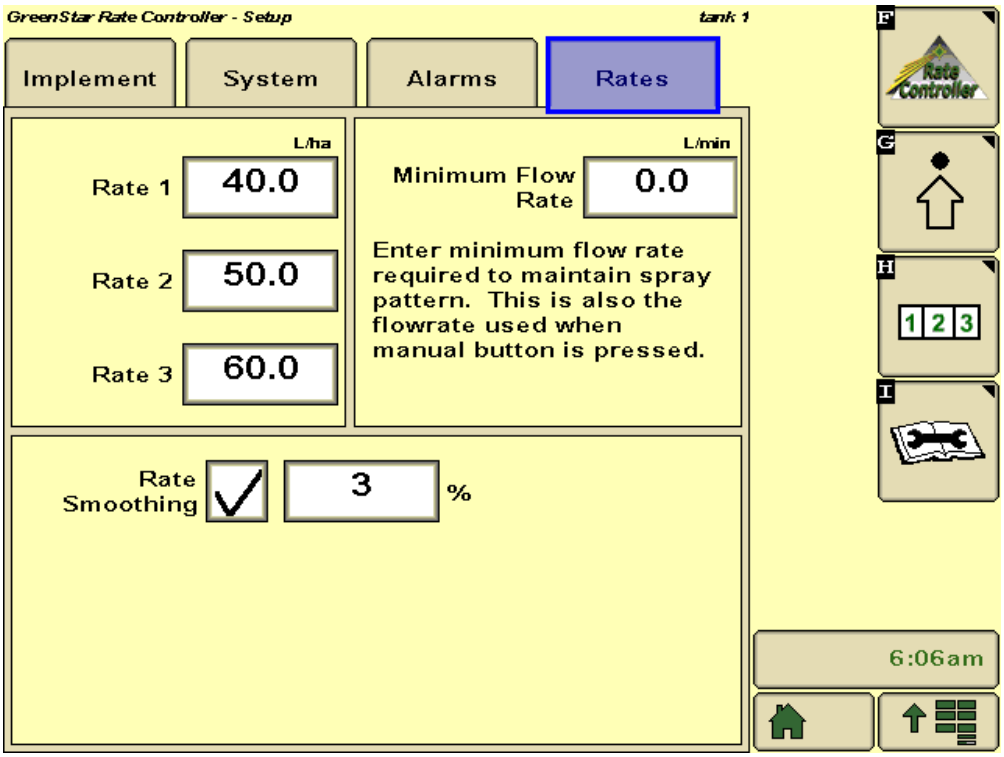
Select **Alarms** tab on the Setup screen and enter alarm limits for **Low Tank Level**, **Off Target Flow Rate** and **Minimum & Maximum Pressure** as required. Tick Alarm boxes for an audible alarm.




Select **Rates** tab and enter 3 x pre-defined target flow rates as required.
Tick **Rate Smoothing** box to enter % setting. (3% is system default setting).





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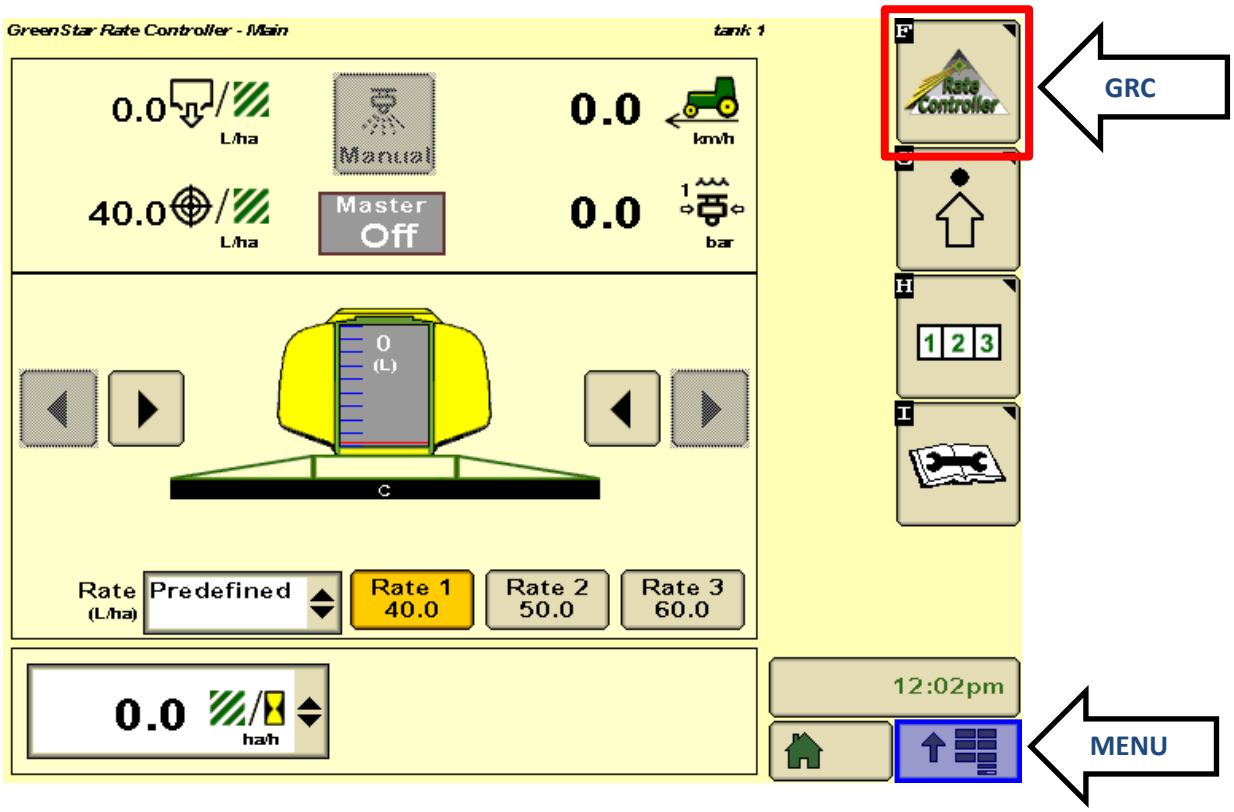
Press **Menu** button & select **GRC** button to return to the Main screen.





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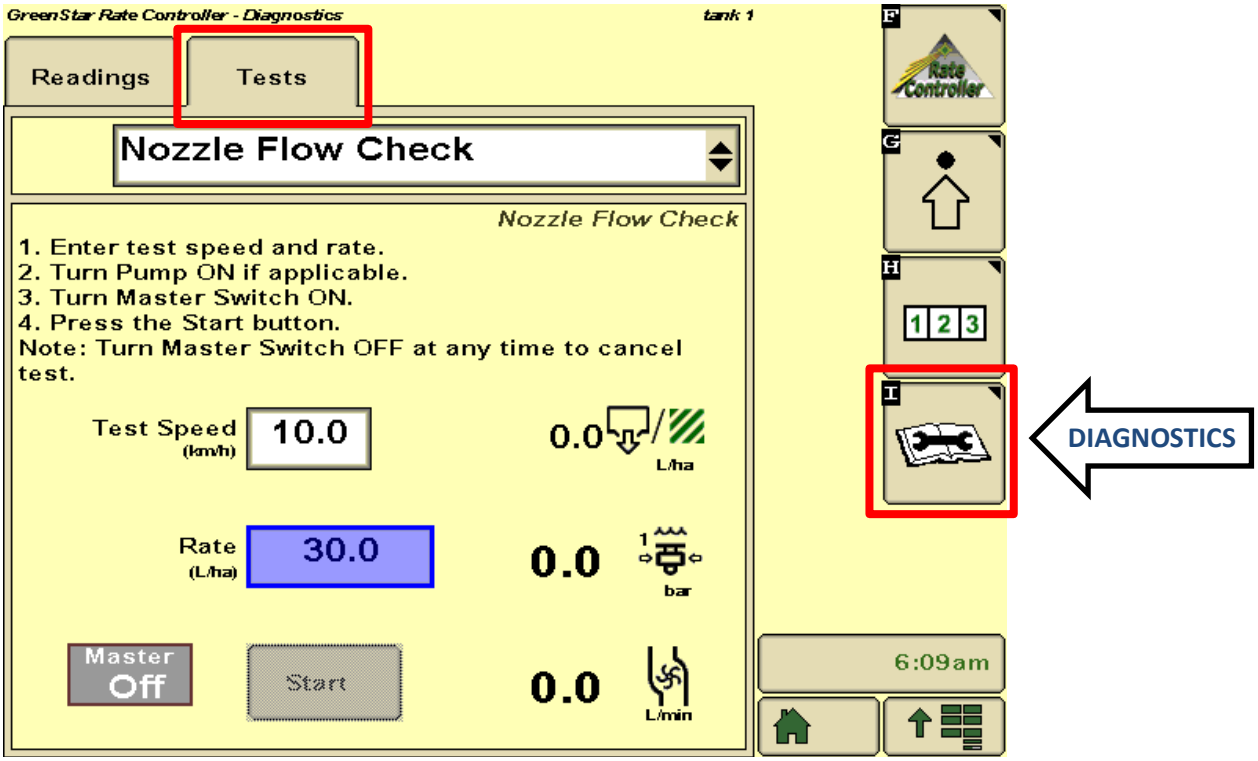
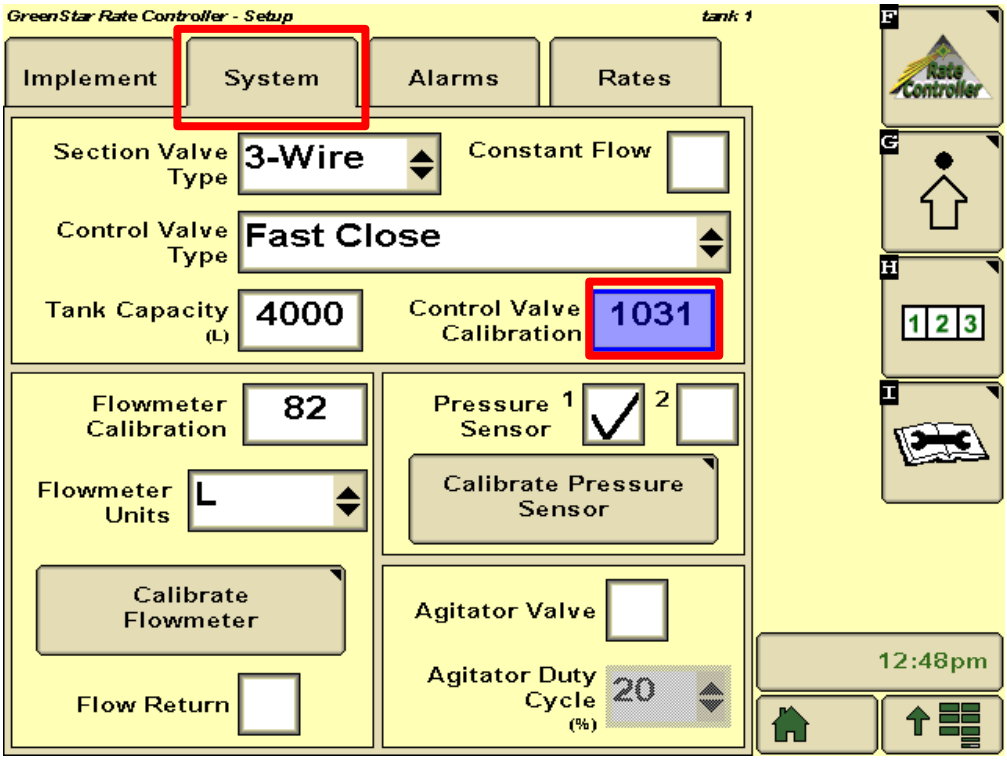
# System Set Up Verification Tests

Enter **Diagnostics** screen and select **Tests** tab. Start the pump and perform **Nozzle Flow Check** using typical speed and application rate to test control. Vary speed and application rate to ensure the control system is performing correctly across the entire setup range. Turn the master switch (foot switch) off to terminate the test.




If rate control is erratic, go to **System Setup** screen and adjust **Control Valve Calibration** values to optimise performance. Increase first 2 digits for faster response, decrease for smoother control. Refer to GreenStar Rate Controller Operator's Manual for more information.





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