



KIBBLE
EQUIPMENT

READY TO SPRAY GUIDE

2630 Monitors



JOHN DEERE

Contents

GPS Receiver Setup	4
GPS Receiver Setup	5
Importing Data	6
Importing Data	7
Display Setup	8
Resources Setup	9
Machine Setup	10
Machine Offsets	11
Implement Setup	12
Section Control Setup	13
Section Control Setup	14
Documentation Setup	15
Documentation Setup	16
Boundary Setup	17
Guidance Setup	18
Guidance Setup	19
Mapping Setup	20
Hydro Handle	21
Armrest Controls	22
Rate Setup	23
Spray System Setup	24
Spray System Setup	25
Spray System Setup	26
BoomTrac Pro	27
ExactApply	28
Nozzle Setup	29
Pulsing Mode	30
A+B Switching	31
ExactApply	32
ExactApply	33
Autotrac Vision	34
Autotrac Vision	35

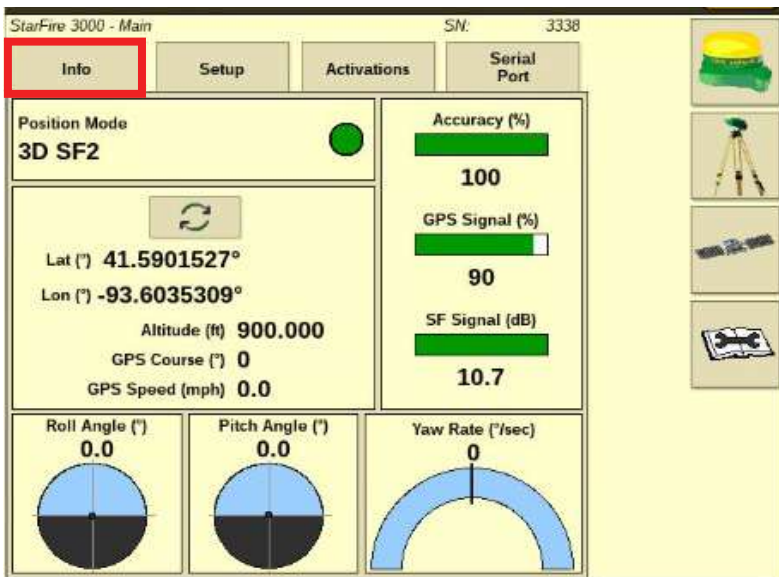
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

GPS Receiver Setup

Select Starfire Receiver from main menu.

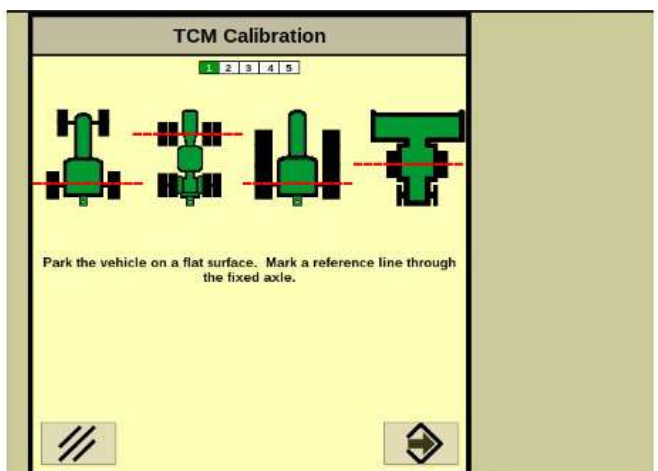
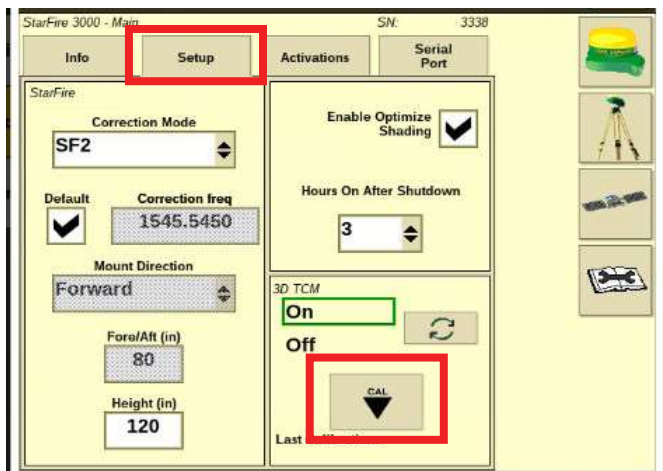


Verify signal is 90% or greater under info tab before starting any fieldwork.



GPS Receiver Setup

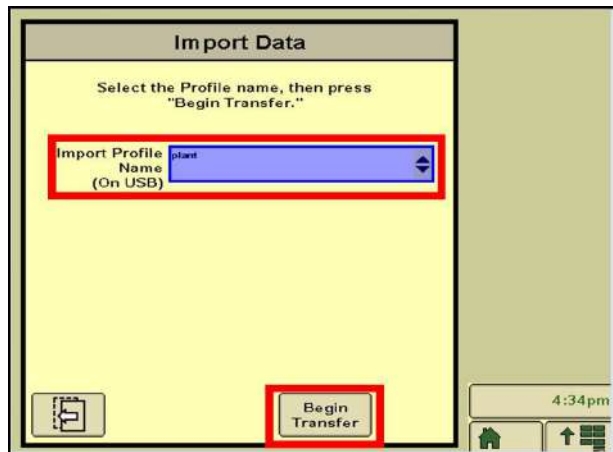
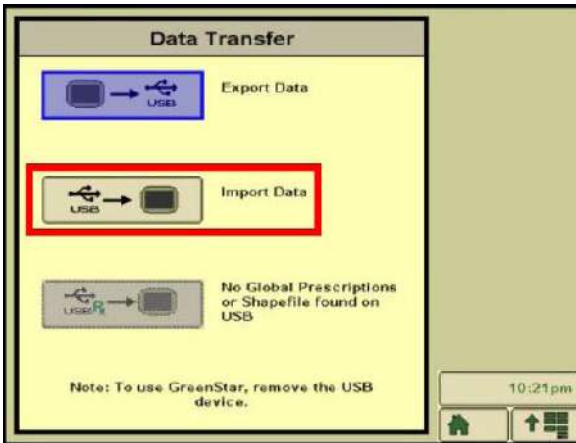
Then navigate to setup tab to calibrate TCM. Follow on screen instructions.



Importing Data

Data Import using a USB Drive

1. Insert USB drive, loaded with your data, into the GS3 2630. Data transfer screen will appear. Select the *Import Data* button.
2. Select the correct *Import Profile Name* then the *Begin Transfer* button.



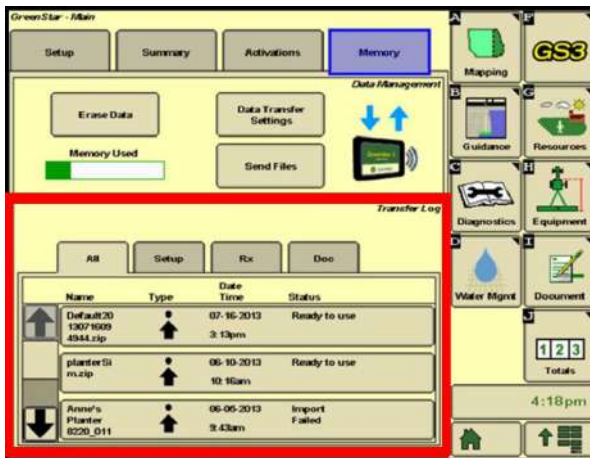
3. Remove the USB drive after the transfer is complete.

Note: Profile name would have been created during the creation of the setup file.

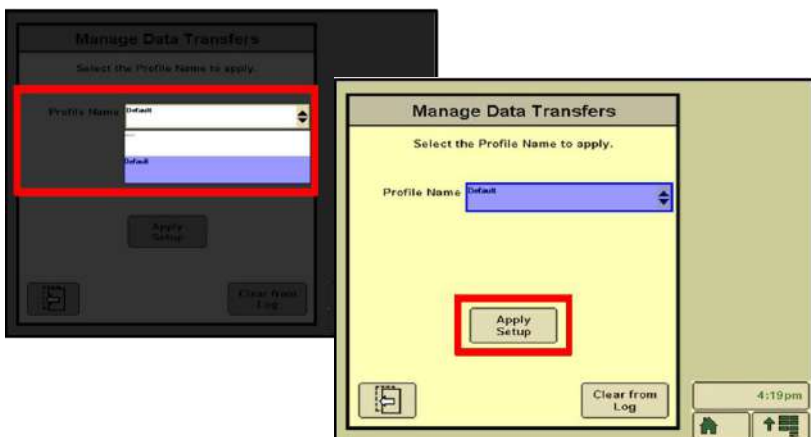
Importing Data

Data Import using Wireless Data Transfer

1. Select *Menu* -> *GS3* - *GS3* -> *Memory* tab. A list of available files in the *Transfer Log* at the bottom of the page should be visible. Select the file to load onto the display.



2. Confirm the name of the file from the drop-down box and select *Apply Setup*.



Display Setup

Display Setup

1. Select the *Menu* button then select the GS3 button.
2. On the Setup tab, ensure there is a check mark next to *Documentation, Guidance, and Section Control*. Next select *Accept*.

The screenshot shows the 'Display Setup' interface. At the top, there are four tabs: 'Setup', 'Summary', 'Activations', and 'Memory'. The 'Setup' tab is selected and highlighted with a red box. To the right of the tabs is a grid of icons labeled A through J. The 'GS3' icon (labeled F) is highlighted with a red box. Below the tabs, the main area is titled 'What settings do you want to change?'. It contains two columns of settings, each with a checkbox and a label. The first column has: 'Resources' (checked), 'Machine' (checked), 'Implement' (checked), 'Documentation' (checked), 'Guidance' (checked), and 'Boundaries' (checked). The second column has: 'iTEC Pro' (unchecked), 'Section Control' (checked with a blue checkmark), 'Implement Guidance' (unchecked), and 'Water Management' (unchecked). At the bottom left, there is a note: 'Select the "C" Softkey to view Diagnostics.' Below this note is an 'Accept' button, which is highlighted with a red box. To the right of the 'Accept' button is a small text label: '*Indicates required field'. On the right side of the screen, there is a vertical toolbar with icons for 'Mapping', 'Guidance', 'Diagnostics', 'Water Mgmt', 'Section', 'Totals', and a home button. The time '6:25pm' is displayed above the home button.

Setting	Checkmark
Resources	✓
Machine	✓
Implement	✓
Documentation	✓
Guidance	✓
Boundaries	✓
iTEC Pro	
Section Control	✓
Implement Guidance	
Water Management	

Select the "C" Softkey to view Diagnostics.

Accept

*Indicates required field

Resources Setup

3. If field boundaries have been loaded, select *Find Field*. If not, manually select the needed *Client, Farm and Field*.

Note: Be sure to also select the appropriate Task and Crop Season (i.e. crop year).

Select the *Next* button.

GreenStar - R/C

Resources

Client: Deere

Farm: Simulator

Field: South 40

Task: Pre-emerge Spraying

Crop Season: 2020

Operator:

Lic #:

0.00 (20)

Field Locator Requires exterior boundary)

Field Locator On/Off ☒

Find Field

Input Client, Farm, and Field. If you would like to use Documentation, select a Task. Note: coverage maps can be created with Documentation Off.

1 / 9

Next

Exit Setup

6:15pm

Machine Setup

4. Select *Machine Name*. Check that *Recording Source* is grayed out to Auto. Make sure the offsets loaded are accurately listed on the screen. If not, correct any errors by selecting *Change Offsets*.

Select the *Next* button to continue.

GreenStar - Equipment

Machine

Input machine type and name. Enter GPS receiver offsets. Select connection type to your implement and select a Recording Source to use Documentation.

2 / 9

Machine Type
Sprayer

Machine Model
4x40

Machine Name
4940

Connection Type
Rear Right 3-pt

Machine Turn Radius
22.0 (ft)

Turning Sensitivity
70

COM Port

Offsets

0.0 (in)
165.0 (in)
86.1 (in)

Change Offsets

Recording Source
AUTO

Machine Offsets

Non-Steering Location: Rear Axle

A: 0.0 (in)
B: 165.0 (in)
C: 86.1 (in)
D: 0.00 (in)

A Lateral distance from center-line of machine to GPS receiver
B In-line distance from non-steering axle to GPS receiver
C In-line distance from non-steering axle to distribution point
B+C = Documentation/Section Control location when in use
D Vertical distance from the GPS receiver to the ground
Note: Only used with SurfaceWater Pro applications

Accept

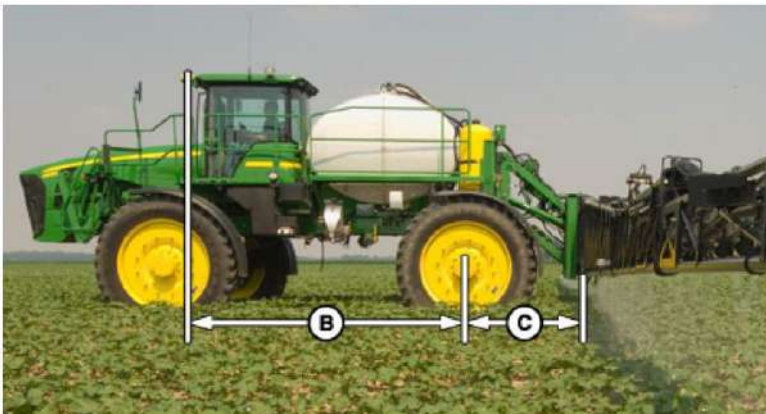
Machine Offsets

A) Center of GPS Receiver to Center line of Machine



B) Center of GPS Receiver to Center of Non-Steering Axle

C) Center of Non-steering axle to spray nozzles
(in operating position)



Implement Width: Width of spray area, may extend outside of spray booms.

Implement Setup

5. Select *Implement Name*. Offsets are entered under the sprayer tab. Enter boom width into track spacing and physical width. Press next.

GreenStar - Equipment

Implement

Implement Type: Boom

Implement Model: [Empty]

Implement Name: 120

Physical Width (ft): 120.000

Implement Width (ft): 120.0

Track Spacing (ft): 120.000

Offsets

Offsets for this platform are entered on the Machine tab.

Widths

Change Widths

3 / 9

Exit Setup

Service

Home

Up Arrow

Down Arrow

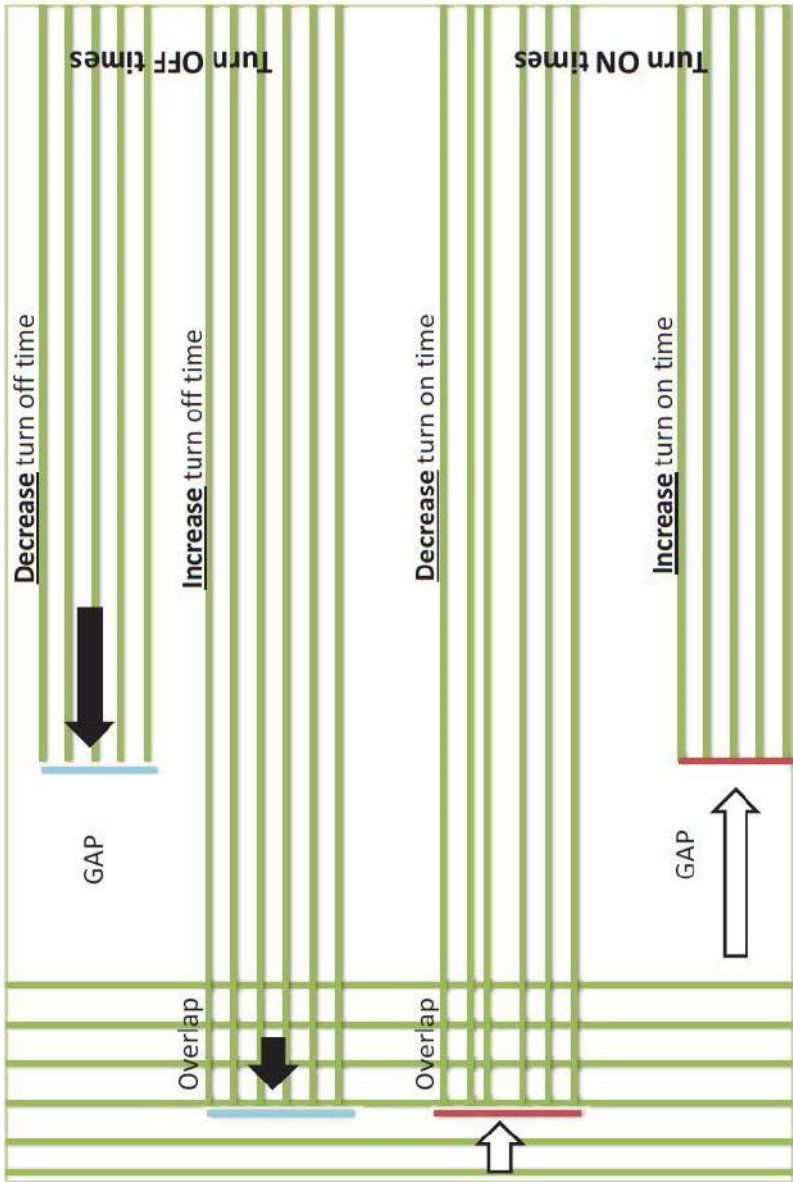
12.3	10.0	13.3	11.7	13.3	8.3	13.3	8.3	10.0	6.7	11.7
------	------	------	------	------	-----	------	-----	------	-----	------

Section Control Setup

6. Section Control setup. Check mark *Section Control Master* to enable. Verify *Overlap Settings* and *Turn On/Off Settings* are accurate. Select the *Next* button.

Note: Default settings - On time = 1.0 sec and Off time to = 0.6 sec. See chart on next page to fine tune.

Section Control Setup



Documentation Setup

7. Select *Product Application Type* (Single or Tank Mix) and click *Add Product*. Enter product info and click accept. Next to continue.

Operation = RoundUp

Product Application Type
Single Product

RoundUp

Prescription Rate 0.0 (gal/ac)

* Target Rate 10.0 (gal/ac)

Actual Rate 0.0 (gal/ac)

Prescription _____

Application Method _____

Height/Depth 0.0 (in)

Disable Operation Advanced Settings Rx

Documentation

Define your current operations by selecting one or more operations and configuring the settings for each operation.

5 / 9

A B C F Exit Setup

Park Brake

Home Up/Down

Product Application

* Product Type Herbicide

* Product Name RoundUp

* Rate Units gal/ac

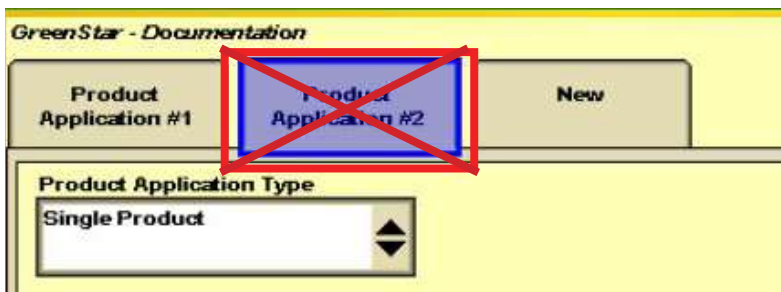
Cancel Accept

Documentation Setup

To create a tank mix enter your carrier type and base solution rate. Select Add Product to add each product type, name, and rate.

The screenshot shows the 'GreenStar - Documentation' software interface. At the top, there are three tabs: 'Product Application #1' (selected), 'Product Application #2', and 'New'. Below the tabs, the 'Product Application Type' is set to 'Tank Mix'. The 'Tank Mix Name' is '<Custom>'. There are two rows of 'Add Product' buttons. The first row has 'RoundUp' (4.00 fl oz/ac) and 'Atrazine' (2.00 fl oz/ac). The second row has three 'Add Product' buttons. The 'Carrier' is set to 'Water' (10.00 gal/ac). The 'Prescription Rate' is 0.0 gal/ac. The 'Prescription' is blank. The 'Target Rate' is 12.0 gal/ac. The 'Actual Rate' is 0.0 gal/ac. The 'Application Method' is blank. The 'Height/Depth' is 0.0 in. There are buttons for 'Disable Operation', 'Advanced Settings', and 'Rx'. On the right side, there is a vertical toolbar with icons for Mapping, GS3, Guidance, Resources, Diagnostics, Equipment, Water Mgmt, Document, Section, Totals, Service, and a home icon.

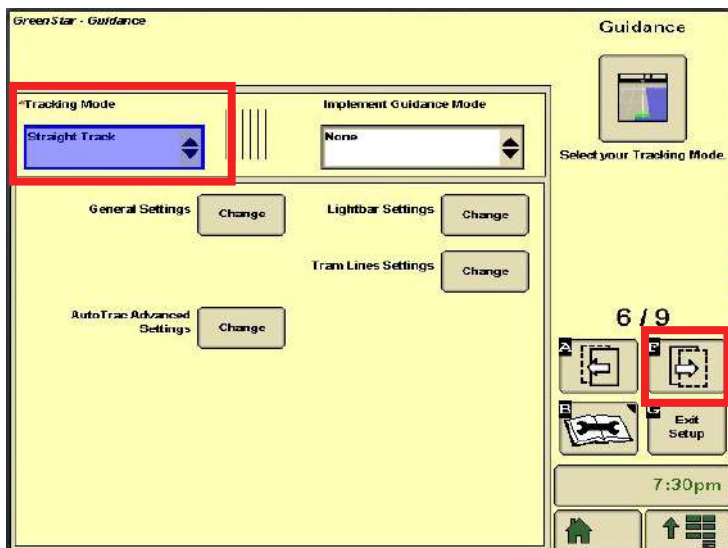
CAUTION: Documentation will not work with two product application tabs. Do not add any additional tabs for any sprayer except for sprayers with direct injection.



To delete unwanted tabs click into the tab and select remove in the bottom lefthand corner.

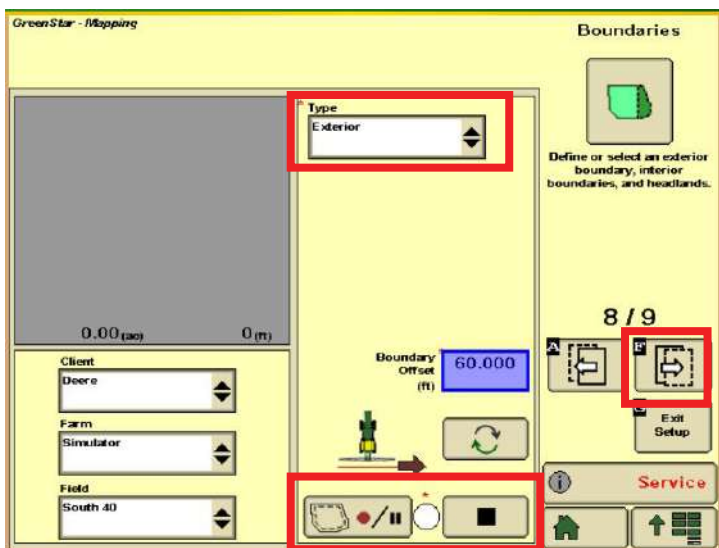
Boundary Setup

8. Select *Tracking Mode* and then *Next* to continue.



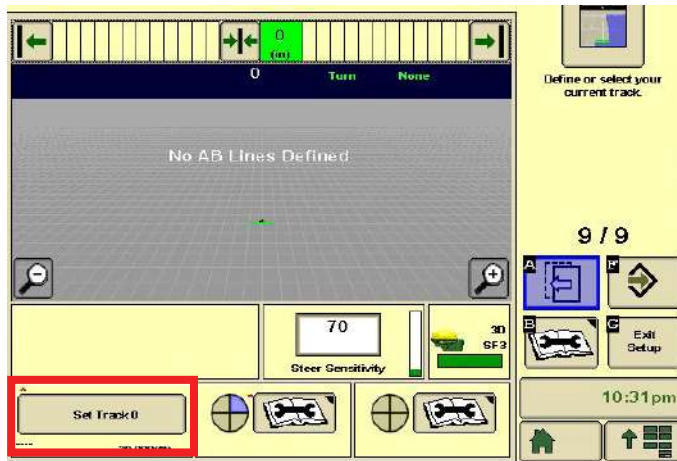
9. Turn on *Small Shifts* and then *Next* to continue.

10. Create boundary or click *Next* to continue.

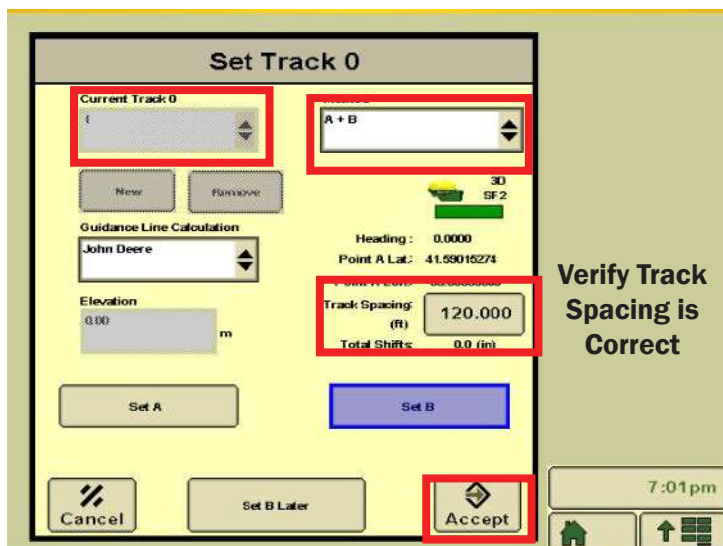


Guidance Setup

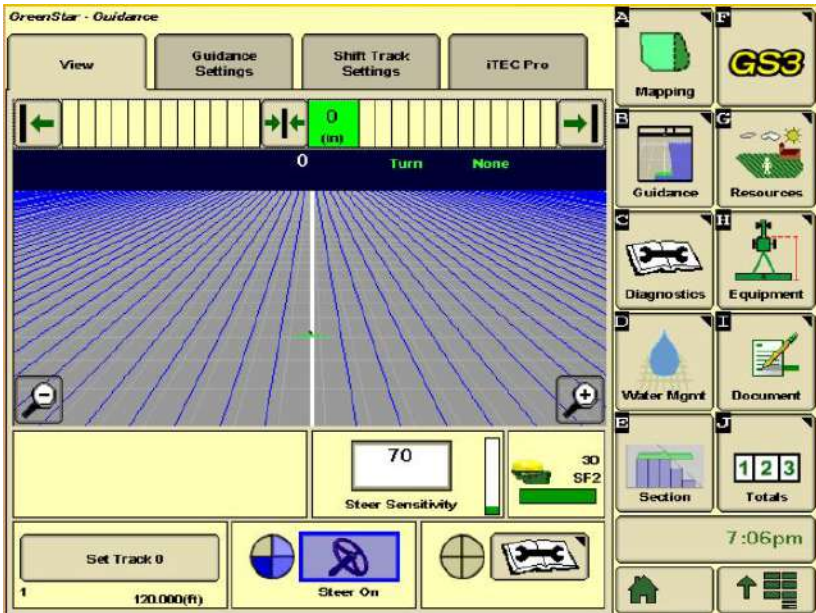
11. Click *Set Track 0*.



12. Choose New -> Create Name -> Choose Method (A+B, A+Heading, etc.) -> Set A -> Set B or enter heading -> Accept to create Track



Guidance Setup



Once track is complete
enable autotrac by pressing
the steer on button (3 pieces
of the pie)

Press resume switch on side
of hydro handle to autotrac.

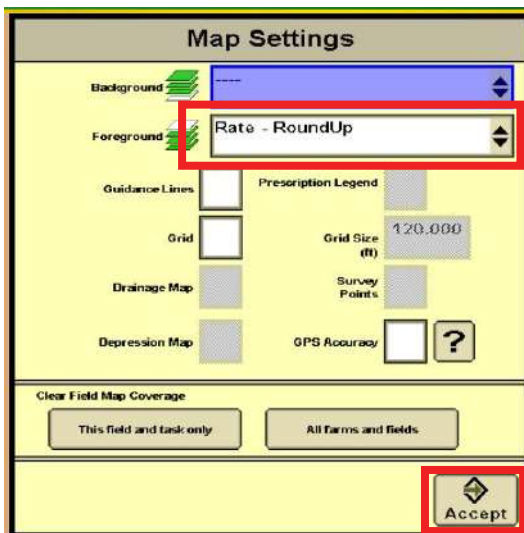
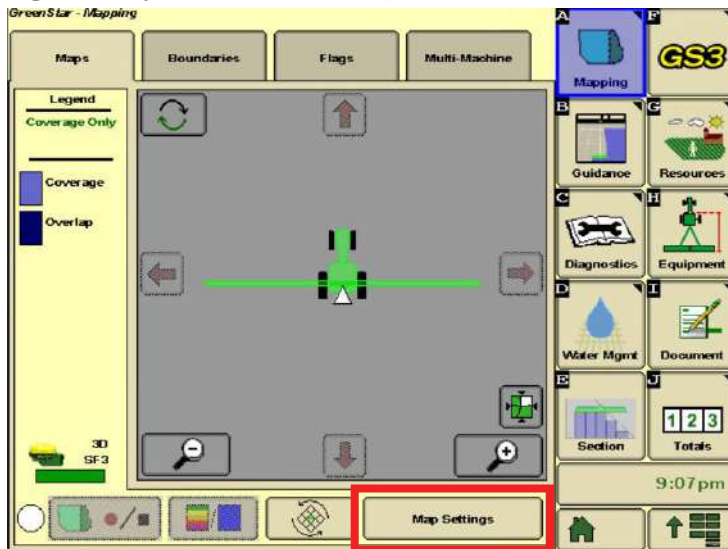
1 = boomtrac resume

2 = autotrac resume

Mapping Setup

Changing coverage map to a Rate Map

Select GS3 then *Mapping*. Click *Map Settings* and for Foreground layer choose *Rate Map*.



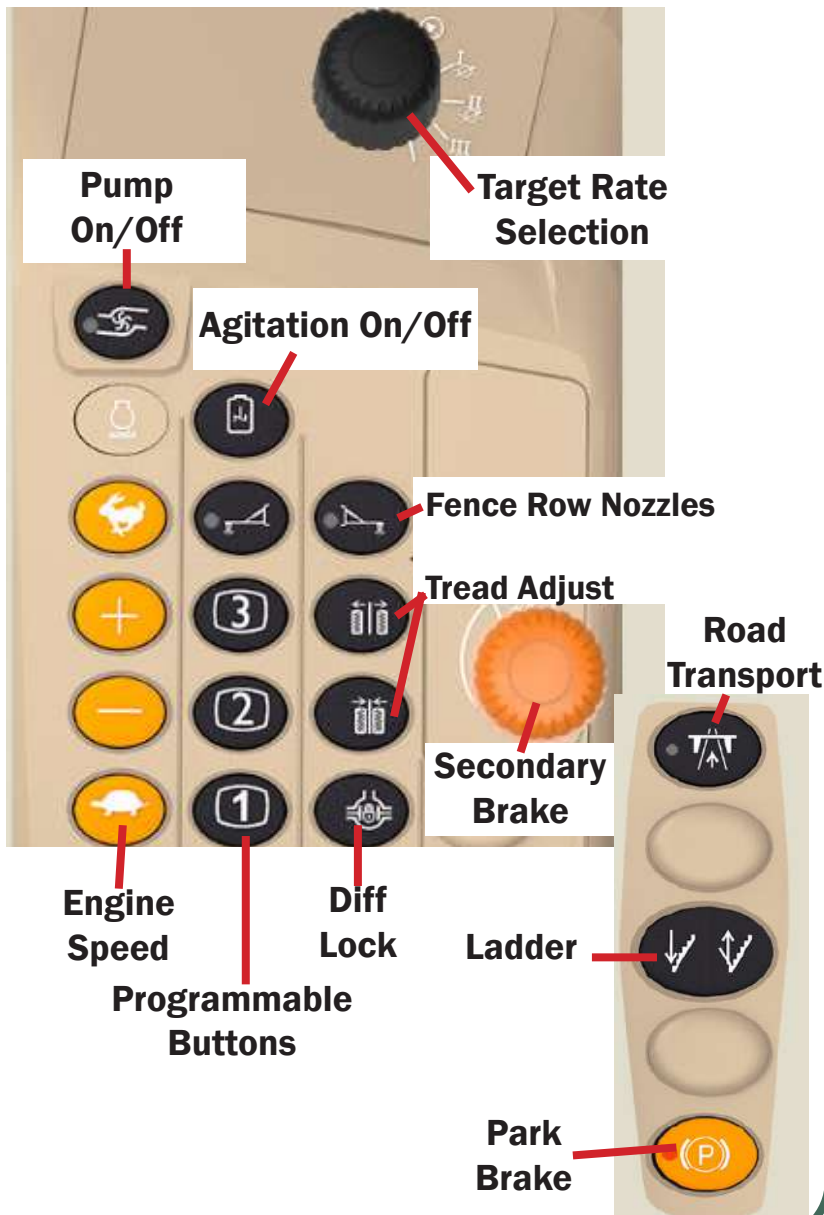
Note: A RX can be loaded to the background.

Hydro Handle

Boom Index Reset - enable all



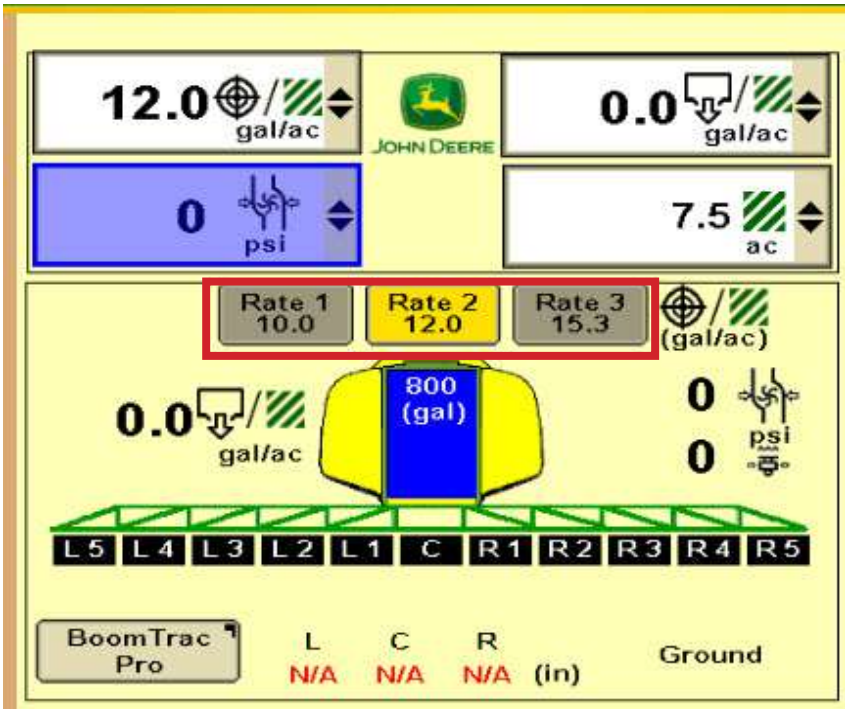
Armrest Controls



Rate Setup

Use the Target Rate Selection dial to choose manual spray mode or target rate 1, 2, or 3. The aux position is for prescriptions.

From sprayer run page choose rate box to edit target rates.










Spray System Setup

From Sprayer Menu choose Setup Button. Select spray setup tab to configure alarms, tank fill, agitation, and minimum spray pressure.

Sprayer - Setup

Spray Setup | Boom Setup | Vehicle Setup






Boom Pressure Relief ☒


Boom Charge Orifice Valve Mode



Spray System MIN MAX

Minimum Spray Pressure (psi)

Spray Off Pressure (psi)

 **Service**





Alarm Setup


Flow Rate Alarm ☒

Section Off Alarm ☒

Low Tank Alarm ☒ (gal)




Tank Volume


 800


Remaining Volume (gal) 800


0

Refill Options Volume (gal)



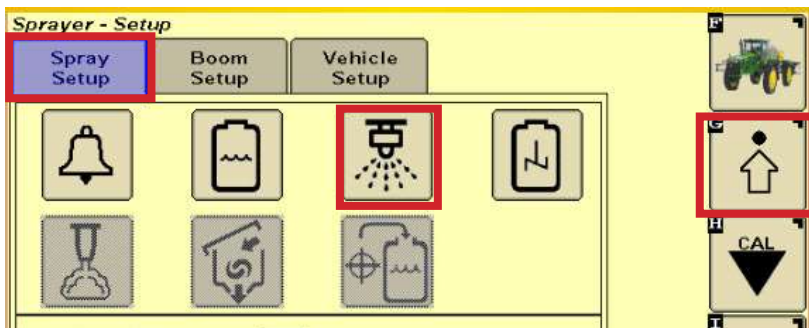






Spray System Setup

From the Spray Setup tab use the Nozzle Calculator to determine best nozzle match for desired rate, speed, and pressure.



Nozzle Calculator

Application Rate (gal/ac)	15.0	Nozzle Spacing (in)	15
Application Speed (mph)	Low	7	Nozzle Pressure (psi)
	High	15	
Specific Gravity	Water - 1.00 SG		

		Recommended Nozzle Sizes	Pressure Low Spd	Pressure High Spd
Best Match		35	23	105
		4	18	80
		5	----	50
		High Speed Tip Flow (gpm)	Total Boom Flow (gpm)	
		0.555	40	

Spray System Setup

From the Boom Setup tab setup Return to Height modes and set position.

Sprayer - Setup

Spray Setup **Boom Setup** Vehicle Setup

Number of Boom Sections Spray Sections

Total Spray Width 120.0 (ft)

Press Here to Enter Boom Fold / Unfold Maintenance

Return to Height Mode

	Left	Right
Current:	76	74
Setpoint:	76	74

From the Vehicle Setup tab setup select speed source. GPS or radar will be most accurate.

Sprayer - Setup

Spray Setup Boom Setup **Vehicle Setup**

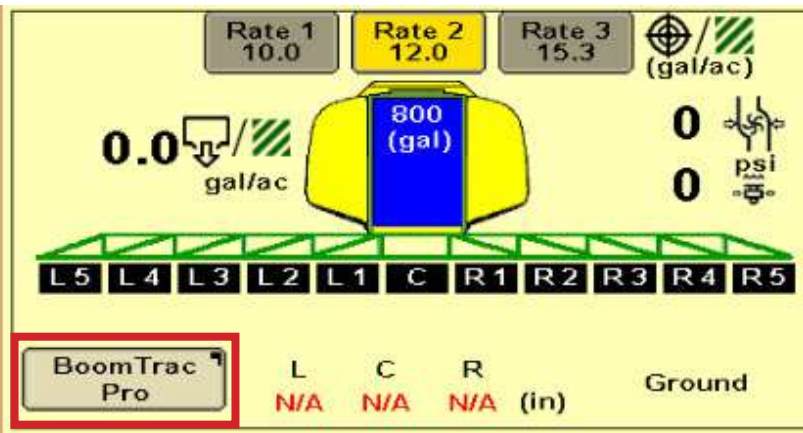
Total Engine Hours 502.2

50 Hour Service 330.2	<input type="button" value="→ 0"/>	250 Hour Service 330.2	<input type="button" value="→ 0"/>
100 Hour Service 330.2	<input type="button" value="→ 0"/>	500 Hour Service 330.2	<input type="button" value="→ 0"/>

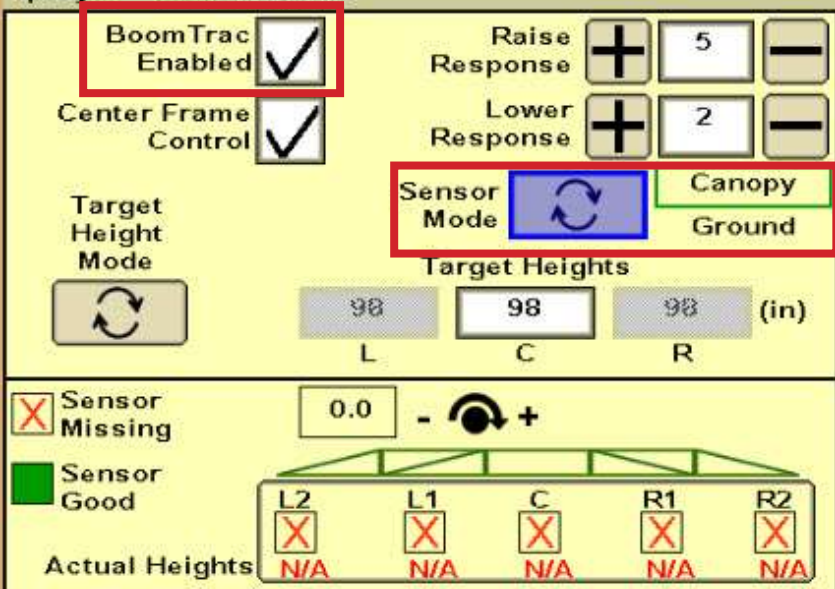
Rate Control / Display Speed

BoomTrac Pro

From Sprayer Run Page select BoomTrac Pro to enable system and select Ground or Canopy mode. Setup Center Frame Control, Heights and Raise and Lower Sensitivity settings.



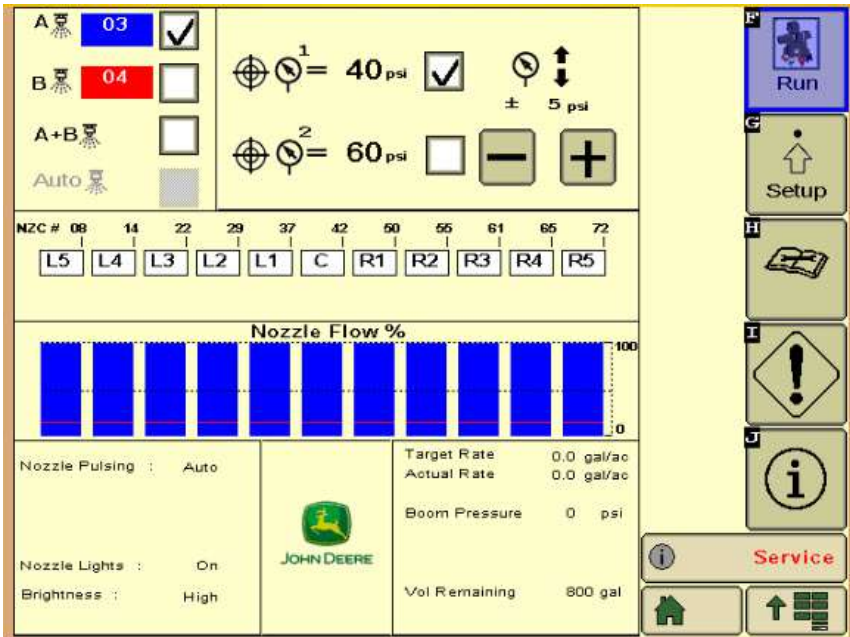
Sprayer - BoomTrac Pro



ExactApply



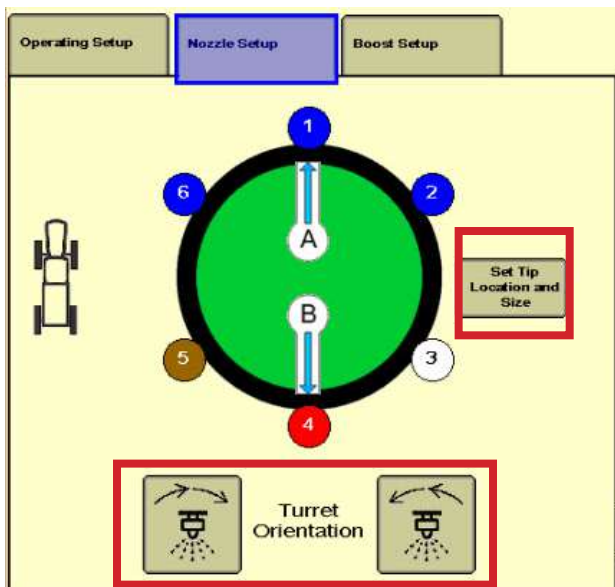
From main menu select Exact Apply. Run Page will show current settings and nozzle percent flow.



Nozzle Setup

Choose Setup button on right hand menu and go to Nozzle Setup Tab.

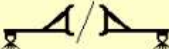

Change your active tips by using the arrow button to rotate your nozzle turrets.



Select "Set Tip Location and Size" to identify Nozzles in positions 1 - 6.

Advanced Nozzle Settings

Position	Size	Description	Air Induction
1	03	---	<input type="checkbox"/>
2	03	---	<input type="checkbox"/>
3	08	---	<input type="checkbox"/>
4	04	---	<input type="checkbox"/>
5	05	---	<input type="checkbox"/>
6	03	---	<input type="checkbox"/>


None


Pulsing Mode

Go to Operating Setup tab. Select Nozzle pulsing - off/fixed/auto. Enable turn compensation.

Select Active Nozzle: A only, B only, A+B

Note: Automatic nozzle switching not available while pulsing is on.

The screenshot displays the 'Operating Setup' tab, which is highlighted with a red box. Below the tab are three sub-sections: 'Active Nozzle Selection', 'Nozzle Pulsing', and 'Turn Compensation'. The 'Active Nozzle Selection' section, also highlighted with a red box, shows 'A' selected with a blue box containing '03' and a checked checkbox, while 'B' is unselected with a red box containing '04' and an unchecked checkbox. 'A + B' and 'Auto Select' are also visible. The 'Nozzle Pulsing' section shows a dropdown menu set to 'Auto', highlighted with a red box. The 'Turn Compensation' section shows a checked checkbox, also highlighted with a red box. Below these are 'Nozzle Flow (%)' set to 0, and two nozzle pressure settings: Nozzle 1 at 40 psi and Nozzle 2 at 60 psi. To the right, there is a 'Specific Gravity' setting at 1.00 and a 'Turn Compensation' pressure setting at 5 psi. At the bottom, 'Nozzle Lights' are set to 'On' and 'Brightness' is set to 'High'.

Tab	Active Nozzle Selection	Nozzle Pulsing	Turn Compensation	Nozzle Flow (%)	Nozzle 1 Pressure (psi)	Nozzle 2 Pressure (psi)	Specific Gravity	Turn Compensation Pressure (psi)	Nozzle Lights	Brightness
Operating Setup	A 03 <input checked="" type="checkbox"/> B 04 <input type="checkbox"/> A + B <input type="checkbox"/> Auto Select <input type="checkbox"/>	Auto	<input checked="" type="checkbox"/>	0	40	60	1.00	5	On	High

A+B Switching

Automatic Nozzle Switching Mode Setup - the following conditions must be met before Auto Mode is available:

1. Valve pulsing set to OFF. (Operating Setup Tab)

The screenshot shows the 'Operating Setup' tab with the following settings:

- Active Nozzle Selection:**
 - A: 03 (blue box)
 - B: 04 (red box)
 - A + B: (empty box)
 - Auto Select: ☒
- Nozzle Pulsing:** Off (dropdown menu)
- Turn Compensation:** ☒
- Nozzle Flow (%):** 0 (text field)

2. Nozzle body turret set with 1,2, or 3 in the front position.
3. Spray tips setup in both front and rear turret positions.
4. Rate based application selected.

Enable your tip and adjust min and max pressures. (bottom box shows tip used at different speeds)

The screenshot shows the 'Auto Select Setup' tab with the following settings:

Current Nozzles	Min (psi)	Max (psi)	Enable
03 (blue)	10	80	<input checked="" type="checkbox"/>
04 (red)	10	80	<input checked="" type="checkbox"/>
03 + 04 (blue + red)	10	50	<input checked="" type="checkbox"/>

Below the table, the 'Rate' is set to 12.0 gal/ac. The 'Auto' mode is enabled, indicated by a checkmark and the text 'Auto Enabled'.

The 'Spray Speeds' section shows the following ranges:

- 03 (blue): 3.7 to 10.4 mph
- 04 (red): 4.9 to 13.7 mph
- 03 + 04 (blue + red): 8.5 to 19.1 mph

ExactApply

	Nozzles 4, 5, 6 in the Front Position	
	Combined A + B Pulsing OFF	Combined A + B Automatic Pulsing
Speed Range	Base	Better
Turn Compensation	Not applicable	Good
Boost	Not applicable	Good
Pressure Selection	Not applicable	Target
Coverage	Best	Best
High Application Rates	Best	Better
Manual Nozzle Selection using the Display or CommandArm	No	No
Notes		a

Notes:

a - One nozzle supplied by two solenoids with alternating pulses

b – One nozzle supplied by one solenoid

c – Supplies two nozzles with one solenoid each with alternating pulses.

d – Different spray tip sizes can be used on both turret positions. Spray tips must be 02 or larger.

ExactApply

	Nozzles 1, 2, or 3 in the Front Position		
	A Only or B Only - Automatic Pulsing	A + B Automatic Pulsing	Automatic Pulsing OFF
Speed Range	Best	Best	Good
Turn Compensation	Best	Best	Not applicable
Boost	Best	Best	Not applicable
Pressure Selection	Target	Target	Target Range
Coverage	Good	Best	Best
High Application Rates	Good	Best	Best
Manual Nozzle Selection using the Display or CommandArm	Yes	Yes	Yes
Notes	b	c, d, e	f, g

Notes:

e – Dual fan pattern possible

f – Uses a small and a large spray tip. The large spray tip cannot be more than double the size of the small spray tip.

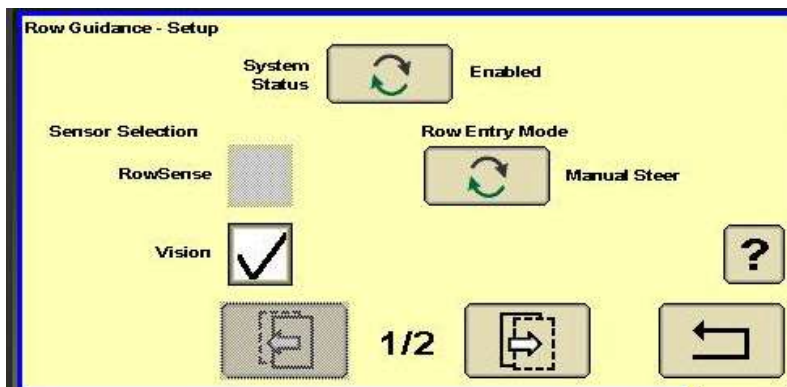
g – Sprays without pulsing, automatically switching between the front, rear, or both nozzles within an operator set pressure range.

Autotrac Vision

Choose Layout Manager from main menu. Select split screen configuration. For top of screen select rowsense, bottom select video input.



Choose RowSense setup button to enable system. Change sensor selection and select row entry mode



System Active operating with both RowSensor and GPS.



No GPS signal. Operating with RowSensor data only.



No RowSensor signal. Operating with GPS only.

Autotrac Vision

For best results, complete accurate TCM calibration for receiver. Use manual steer for row entry mode if not using original AB line from planting. Vision camera may require multiple calibrations due to changing conditions. Select Camera Calibration to start cal.

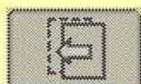
Row Guidance - Camera Calibration

To begin calibration process do the following:

Step 1: Drive the vehicle into crop row where standing crop exists. Bare spots with no crop will not calibrate correctly.

Step 2: Align the vehicle parallel to row crop and be sure to center the wheels in the middle of the row.

Note: Do not back up during calibration.



1/7



Low
Resolution
Image

Be sure to enter correct row spacing. Continue cal process by lining up indicators on crop row and driving down rows until cal is complete.

Row Guidance - Camera Calibration

Step 3: Please enter the height of the camera from the ground to the mounting holes.

Step 4: Please enter the row spacing.

Sprayer

Camera Height 88.0 in

Row Spacing 30.0 in



2/7



Low
Resolution
Image

NEED ASSISTANCE? CONTACT US!

Belle Plaine, MN	952-873-2224
Bird Island, MN	320-365-3445
Blue Earth, MN	507-526-2714
Brookings, SD	605-693-3514
Garretson, SD	605-594-3476
Hollandale, MN	507-889-4221
Huron, SD	605-352-8519
Madison, SD	605-256-4575
Mankato, MN	507-387-8201
Marshall, MN	507-537-1523
Milbank, SD	605-432-5523
Minnesota Lake, MN	507-462-3828
Montevideo, MN	320-269-6466
Northwood, IA	641-324-1154
Osage, IA	641-732-3719
Owatonna, MN	507-451-4054
Redwood Falls, MN	507-644-3571
Sleepy Eye, MN	507-794-5381
Tyler, MN	507-247-5572
Wabasso, MN	507-342-5171
Watertown, SD	605-886-3545
Wheaton, MN	320-563-8112