



7000 with X30 equipped with Granular and NH3/Liquid Auto Section Control (ASC) operational check

The following procedure will help with ensuring that a

New 7000 series air-seeder functions properly.

This operational check should be completed on or before the first day of seeding.

Important note: the following settings are to test the majority of the functions, some of the settings and selections may not be how the customer chooses to operate their 7000 series seeder. You might have to put some of the settings back to the original state.



Ensure all connections are correct as outlined in the operators manual



When you power up the X30 you should get a green warning, this is a good indication that it has found the tank ECU.



If something is not hooked up properly or if an incorrect option is selected you will get orange warnings as to what is incorrect. <

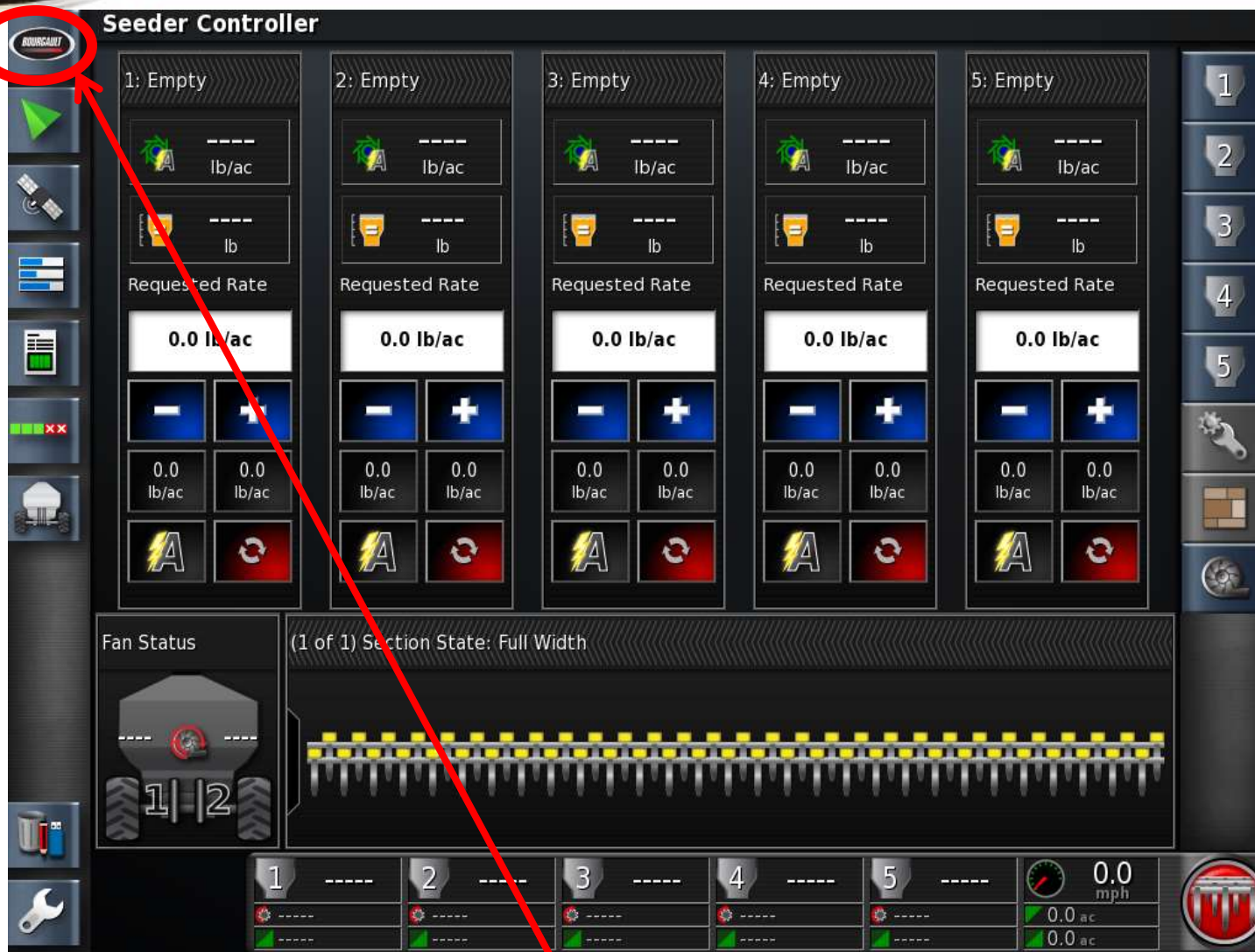
The screenshot displays the 'Seeder Control' software interface. At the top, a red header bar contains the 'Seeder Control' title and a 'Warning!' icon. Below this, a large orange banner with a wrench icon reads 'No ECU Communication - Cabin Switchbox'. The interface is divided into several sections:

- Left Sidebar:** Contains icons for various functions, including a green arrow, a satellite, a list, a house, and a wrench.
- Top Left:** Shows a speedometer reading '2309 rpm' and a 'Guidance' section with a map icon.
- Right Panel:** Displays system information and settings.
 - Receiver Information:**

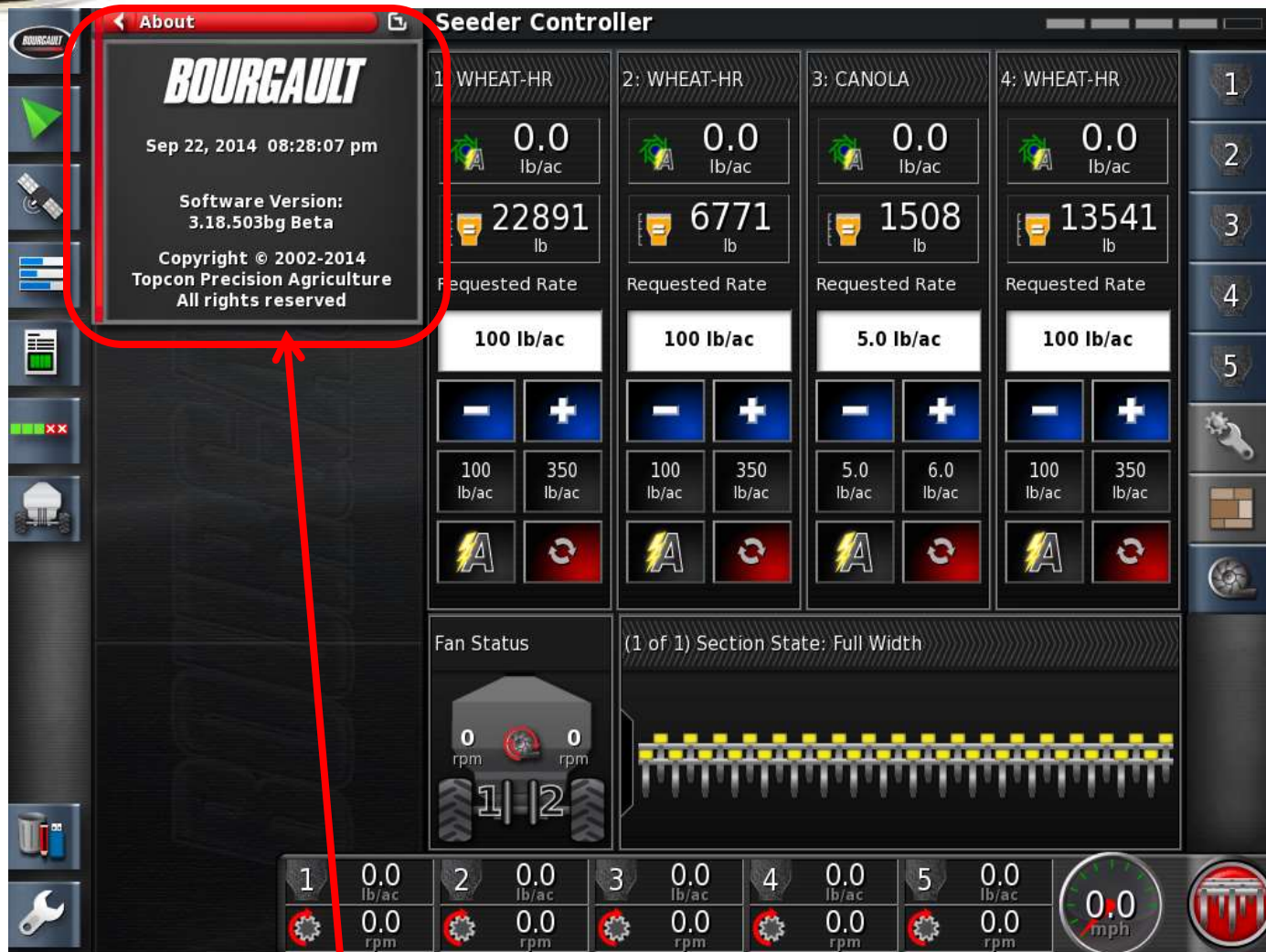
Receiver Type	AGI-3
Receiver Firmware Version	n/a
Receiver Serial Number	n/a
Receiver ID	n/a
 - Steering Controller:**

Steering Controller Type	n/a
Steering Controller Firmware Version	n/a
 - Implement:**

ECU	ECU Name	ECU Type	ECU Firmware Version
1	ISOBRIDGE	ISOBRIDGE	2.00-r07
2	MDECU1	MDECU	3.6.0
3	SECU1	SECU	N/A
- Bottom Status Bar:** Displays various system metrics including fuel flow (0.0 lb/ac), engine speed (0.0 rpm), time (07:21 pm), date (1 Nov), GPS status (No GPS), and speed (0.0 mph).



Touch the Bourgault icon (top left corner).



Swipe the Bourgault mini view to the right



Seeder Controller

1 2 3 ▶

0 rpm 0 rpm

1 2

System Information

GPS Receiver

Receiver Type	Other
Firmware Version	n/a
Serial Number	n/a
ID	n/a

Steering Controller

Steering Controller Type	n/a
Firmware Version	n/a

Implement

ECU	Name	Type	Firmware Version
1	Apollo CM-40 1	Apollo CM-40	2.11-r6,0.0.18
2	Apollo CM-40 2	Apollo CM-40	0.0.18
3	Apollo EM-24 1	Apollo EM-24	0.0.15

Wireless Network

1 0.0 lb/ac 0.0 rpm 2 0.0 lb/ac 0.0 rpm 3 0.0 lb/ac 0.0 rpm 4 0.0 lb/ac 0.0 rpm 5 0.0 lb/ac 0.0 rpm

0.0 mph

Check for X30 software versions and ECU firmware versions.



Seeder Controller

1 2 3 ▶

0 rpm 0 rpm

1 2

System Information

GPS Receiver

Receiver Type	Other
Firmware Version	n/a
Serial Number	n/a
ID	n/a

Steering Controller

Steering Controller Type	n/a
Firmware Version	n/a

Implement

ECU	Name	Type	Firmware Version
1	Apollo CM-40 1	Apollo CM-40	2.11-r6,0.0.18
2	Apollo CM-40 2	Apollo CM-40	0.0.18
3	Apollo EM-24 1	Apollo EM-24	0.0.15

Wireless Network

1 0.0 lb/ac 0.0 rpm 2 0.0 lb/ac 0.0 rpm 3 0.0 lb/ac 0.0 rpm 4 0.0 lb/ac 0.0 rpm 5 0.0 lb/ac 0.0 rpm

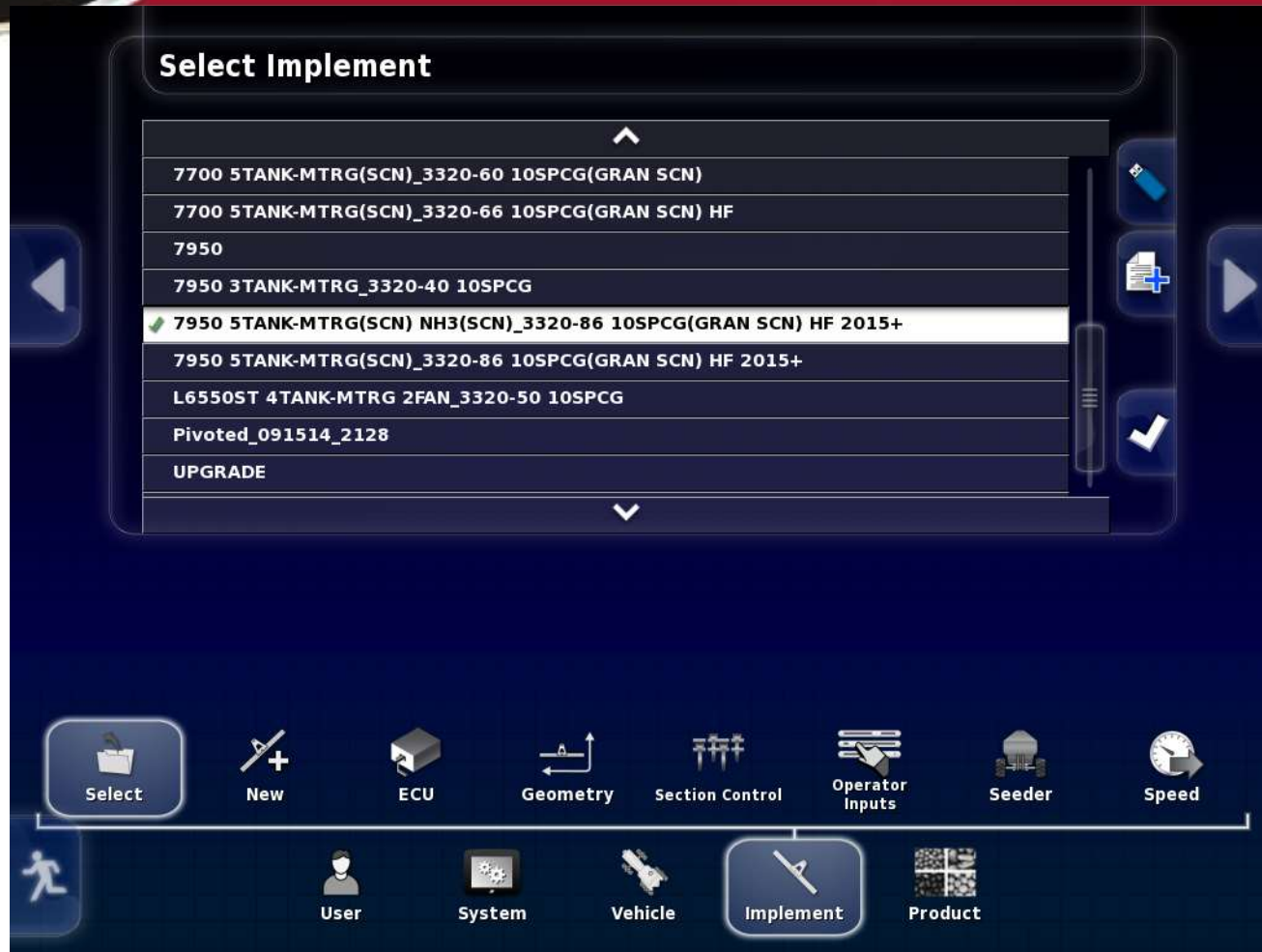
0.0 mph



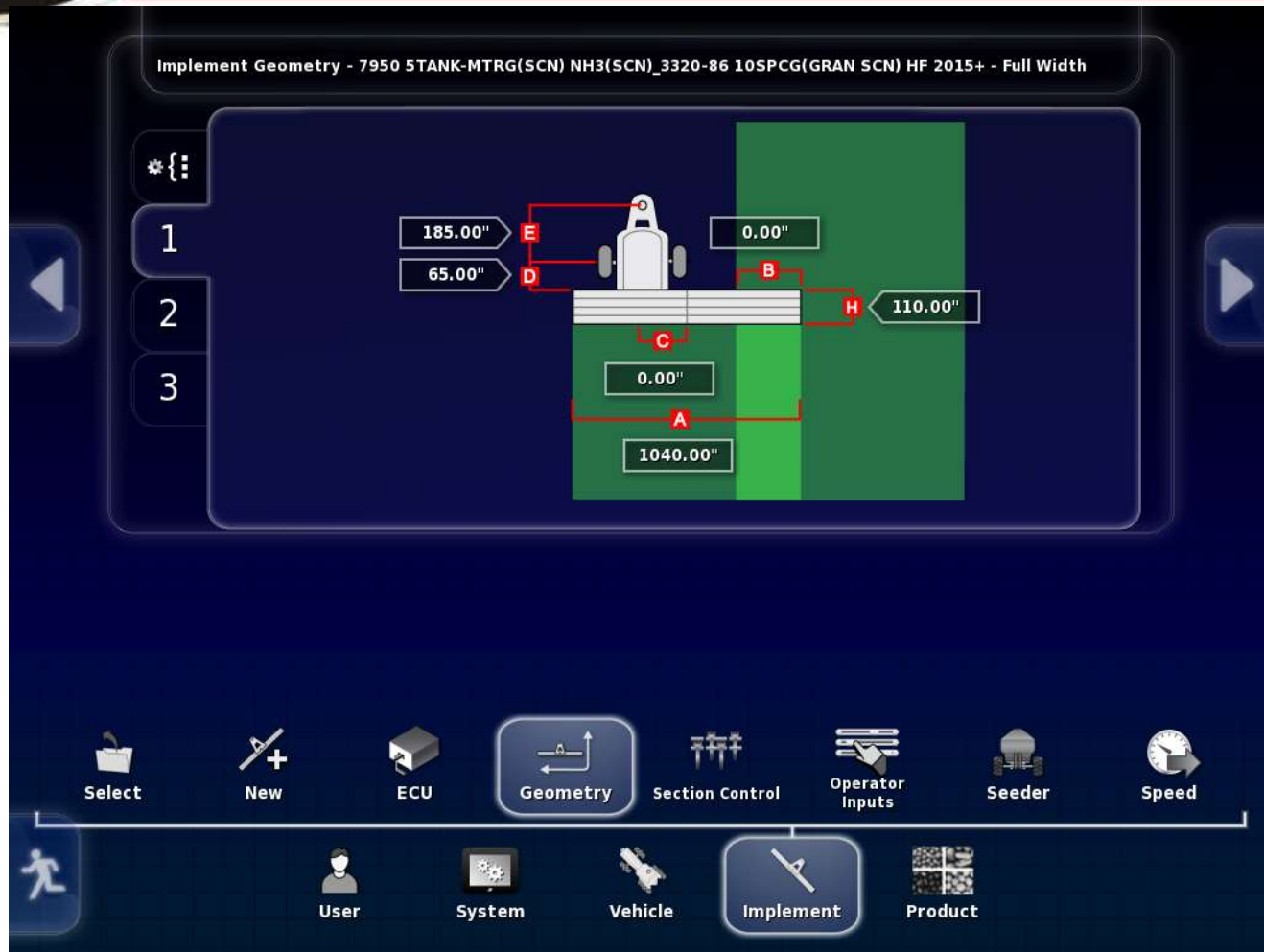
Access the SETUP screen (wrench in bottom left corner)



Once you have entered SETUP go to User/Units and the units should be Imperial(US), the Pressure Units in psi, the Area Units in ac, Dry Product Volume Units in Bushels and the Dry Density Units in Pounds Per Cubic Foot.



Next go to Implement/Select. Verify that the correct profile has been selected, if not follow the implement procedure outlined in the X30 manual.



Next go to Geometry, there should be implement widths in inches for #1 the full width boom, #2 the Granular section boom and #3 the NH3/Liquid section boom. The widths are not entered in the Section Control section.



Section Setup - 7950 5TANK-MTRG(SCN) NH3(SCN)_3320-86 10SPCG(GRAN SCN) HF 2015+ - GRAN

2

SECTIONS
10

3

FIRST SECTION RELAY
1

2 section(s) available.

Section	Width (1040.00")	Select
All	10/10	
1	100.00"	
2	110.00"	
3	100.00"	
4	100.00"	
5	110.00"	
6	110.00"	
7	100.00"	
8	100.00"	
9	110.00"	
10	100.00"	

Sections

Timing

Section Switch

Select

New

ECU

Geometry

Section Control

Operator Inputs

Seeder

Speed

User

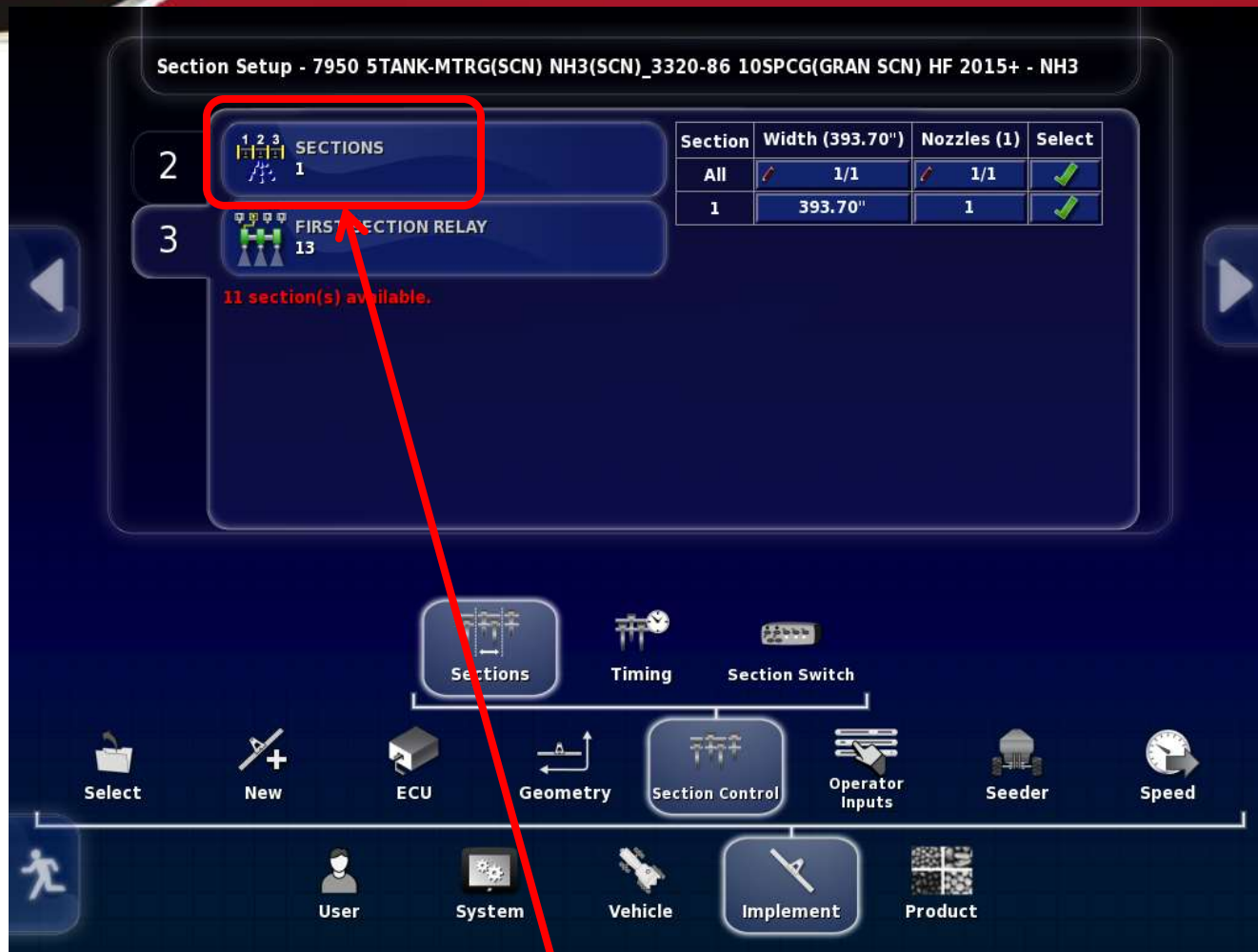
System

Vehicle

Implement

Product

If connected to a Bourgault drill you will not have to enter section widths for the Granular section boom (#2).



If the unit is equipped with NH3 or Liquid section control you will first need to enter the number of sections.



Section Setup - 7950 5TANK-MTRG(SCN) NH3(SCN)_3320-86 10SPCG(GRAN SCN) HF 2015+ - NH3

2

1 2 3
SECTIONS

8

-

+

3

4 5 6 7
FIRST SECTION RELAY

13

X

✓

2 section(s) available.

Section	Width (1333.70")	Nozzles (10)	Select
All	10/10	10/10	✓
1	393.70"	1	✓
2	110.00"	1	✓
3	100.00"	1	✓
4	100.00"	1	✓
5	110.00"	1	✓
6	110.00"	1	✓
7	100.00"	1	✓
8	100.00"	1	✓
9	110.00"	1	✓
10	100.00"	1	✓

Sections

Timing

Section Switch

Select

New

ECU

Geometry

Section Control

Operator Inputs

Seeder

Speed

User

System

Vehicle

Implement

Product

For our demonstration we will set the NH3 up with 8 sections of equal size.



Section Setup - 7950 5TANK-MTRG(SCN) NH3(SCN)_3320-86 10SPCG(GRAN SCN) HF 2015+ - NH3

2

1 2 3
SECTIONS
8

3

FIRST SECTION RELAY
13

4 section(s) available.

Section	Width (1040.00")	Nozzles (8)	Select
All	8/8	8/8	✓
1	130.00"	1	✓
2	130.00"	1	✓
3	130.00"	1	✓
4	130.00"	1	✓
5	130.00"	1	✓
6	130.00"	1	✓
7	130.00"	1	✓
8	130.00"	1	✓

Sections

Timing

Section Switch

Select

New

ECU

Geometry

Section Control

Operator Inputs

Seeder

Speed

User

System

Vehicle

Implement

Product

The section sizes must add up to the implement size, our 8 sections are 130" each for a total of 1040", the same as our Bourgault drill.

Controller Setup - 7950 5TANK-MTRG(SCN) NH3(SCN)_3320-86 10SPCG(GRAN SCN) HF 2015+ - GRAN

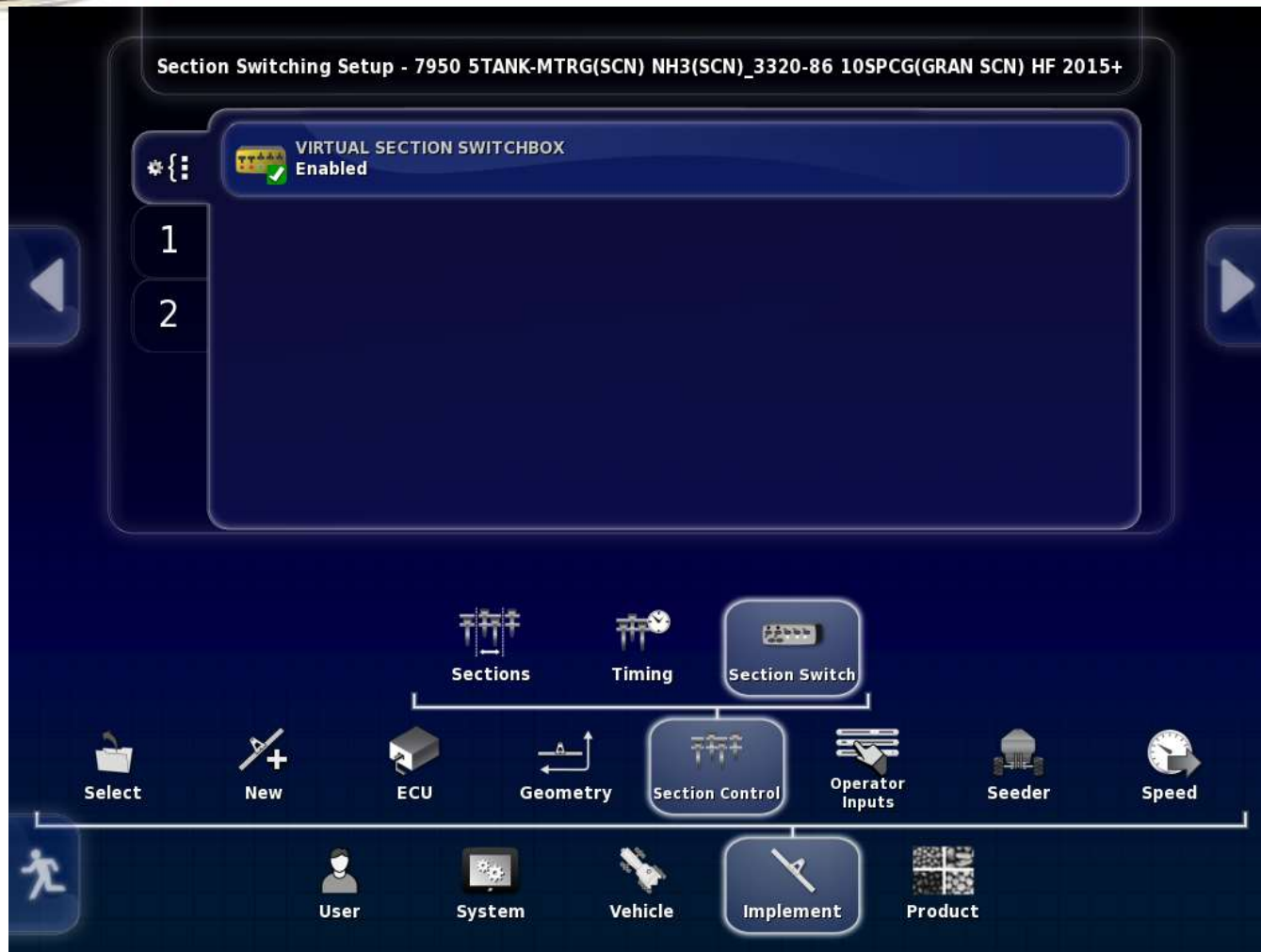
Section	On Time	Off Time	Select
All	10/10	10/10	✓
1	0.1 s	0.1 s	✓
2	0.1 s	0.1 s	✓
3	0.1 s	0.1 s	✓
4	0.1 s	0.1 s	✓
5	0.1 s	0.1 s	✓
6	0.1 s	0.1 s	✓
7	0.1 s	0.1 s	✓
8	0.1 s	0.1 s	✓
9	0.1 s	0.1 s	✓
10	0.1 s	0.1 s	✓

Sections Timing Section Switch

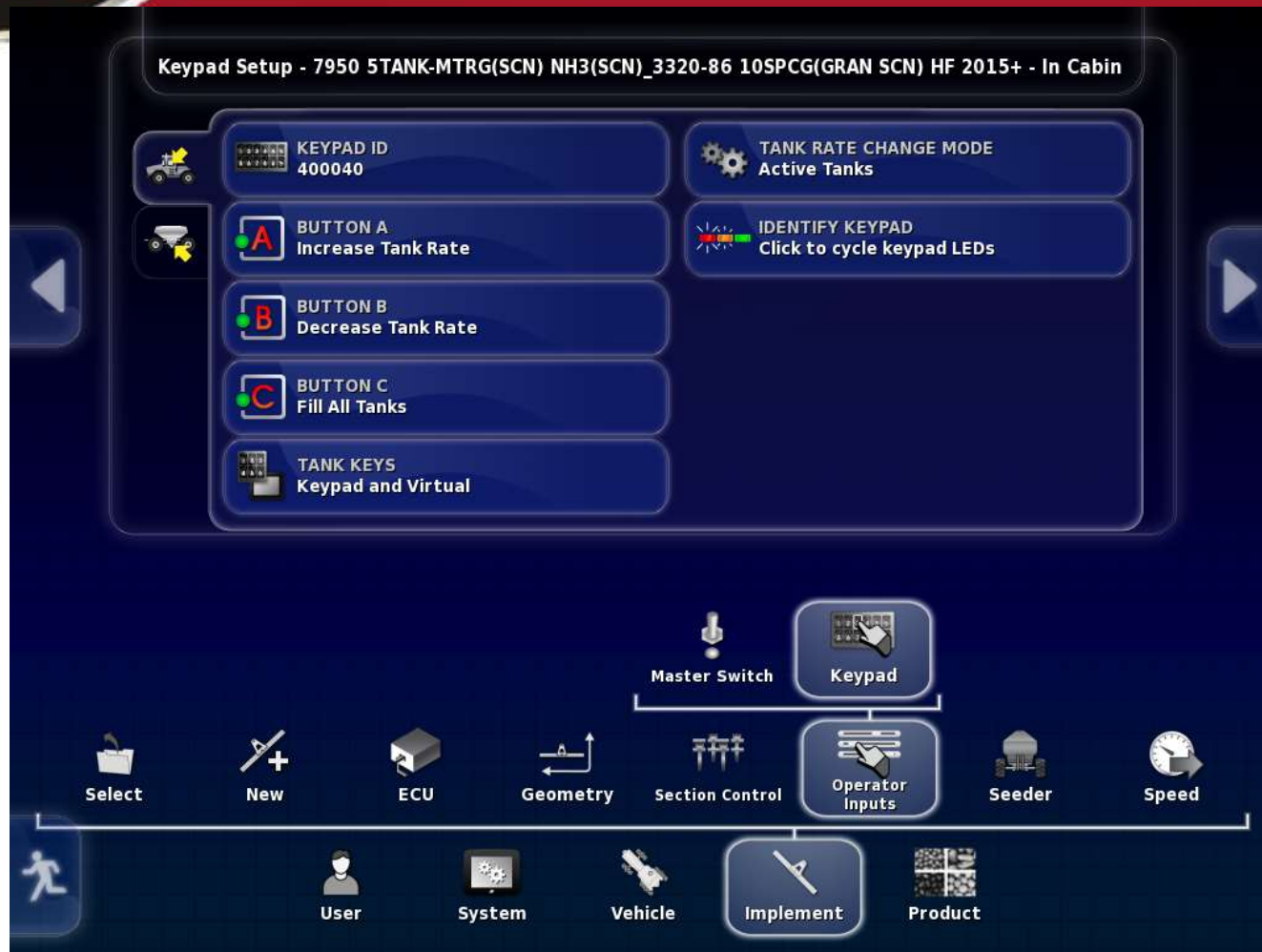
Select New ECU Geometry Section Control Operator Inputs Seeder Speed

User System Vehicle Implement Product

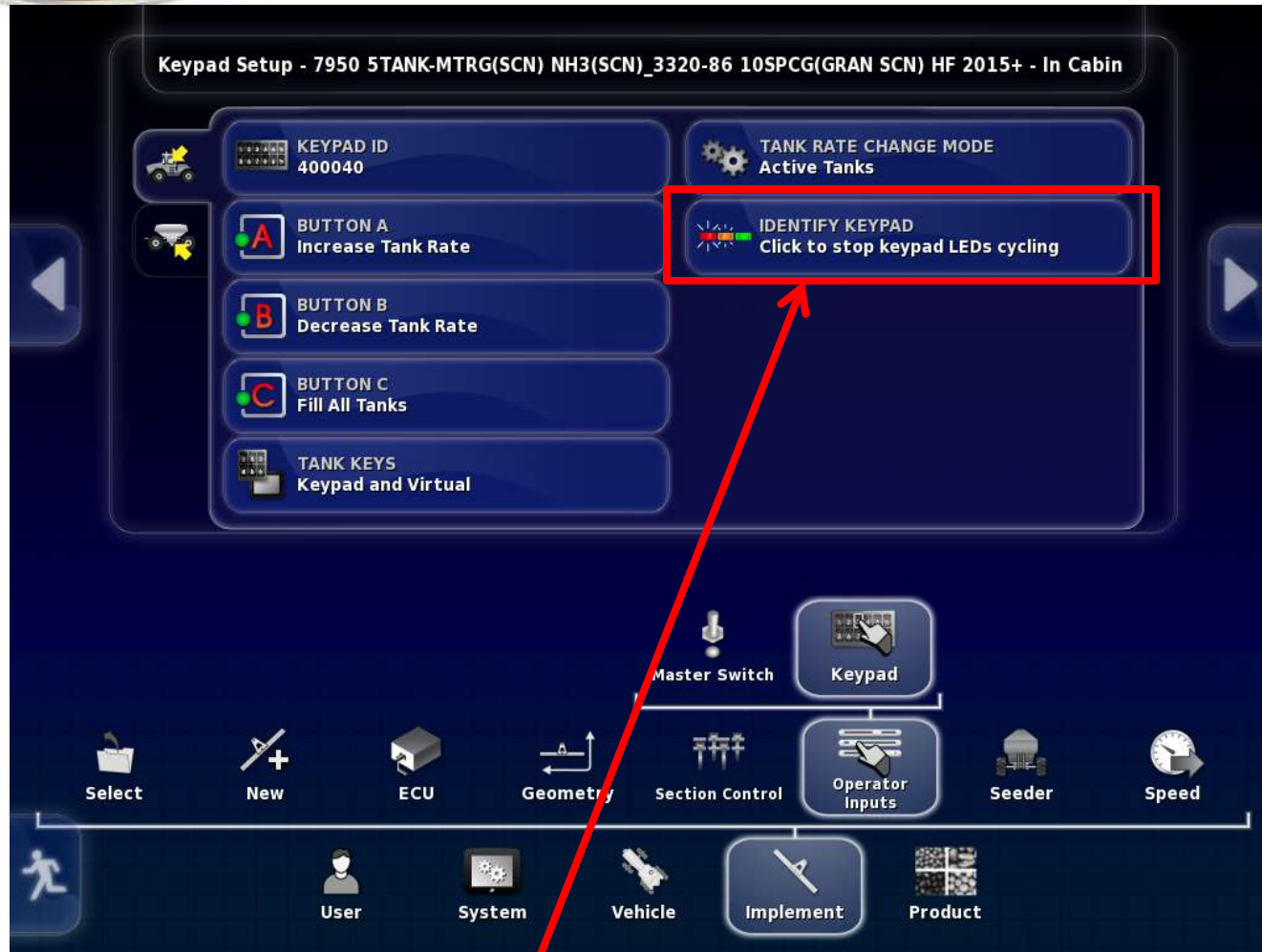
On and Off sequence times **MUST** be entered for each section for both the granular and NH3/Liquid booms. **Go to www.bourgault.com** and enter the Monitor training sections for step by step instructions.



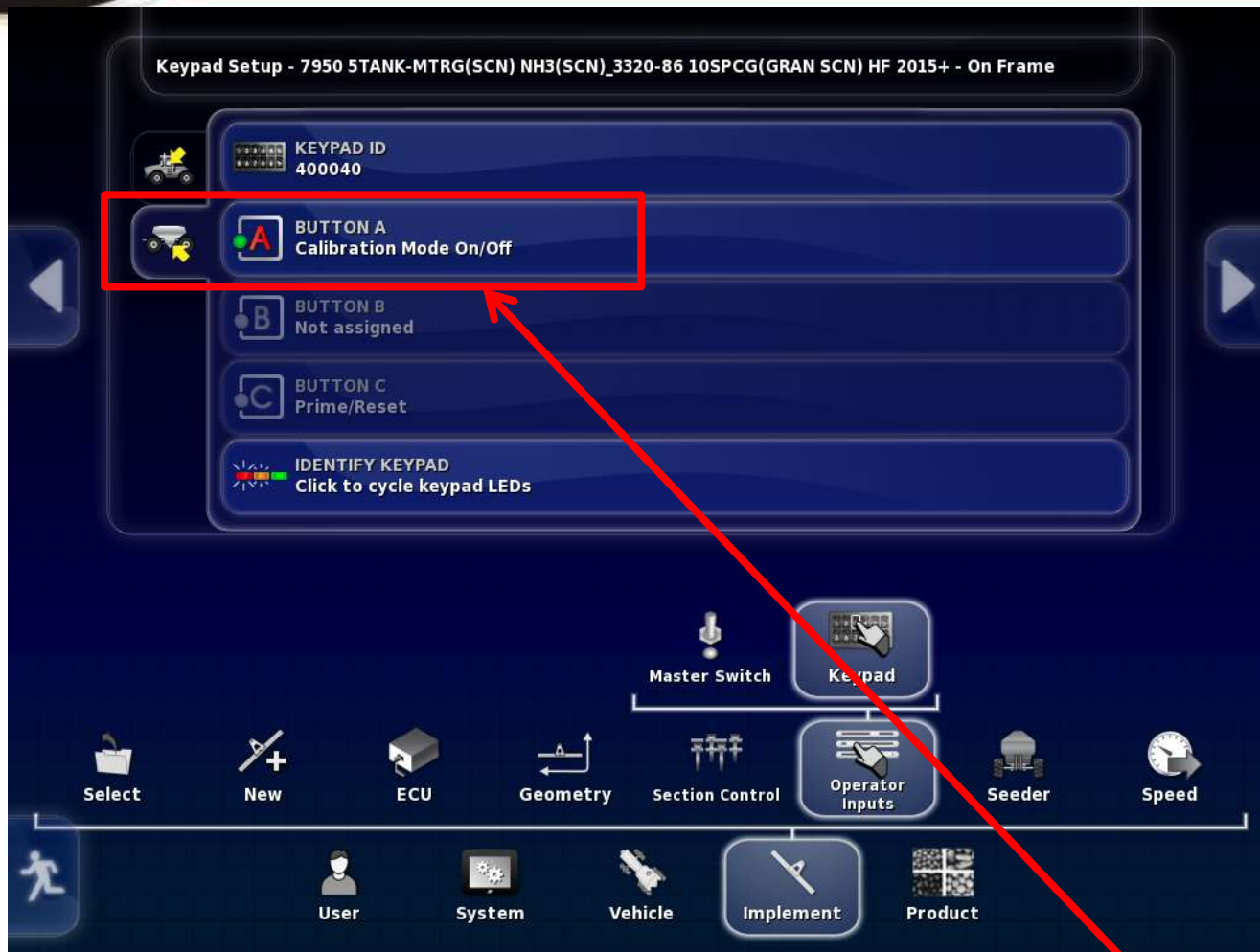
Enable the Virtual Section Switchbox



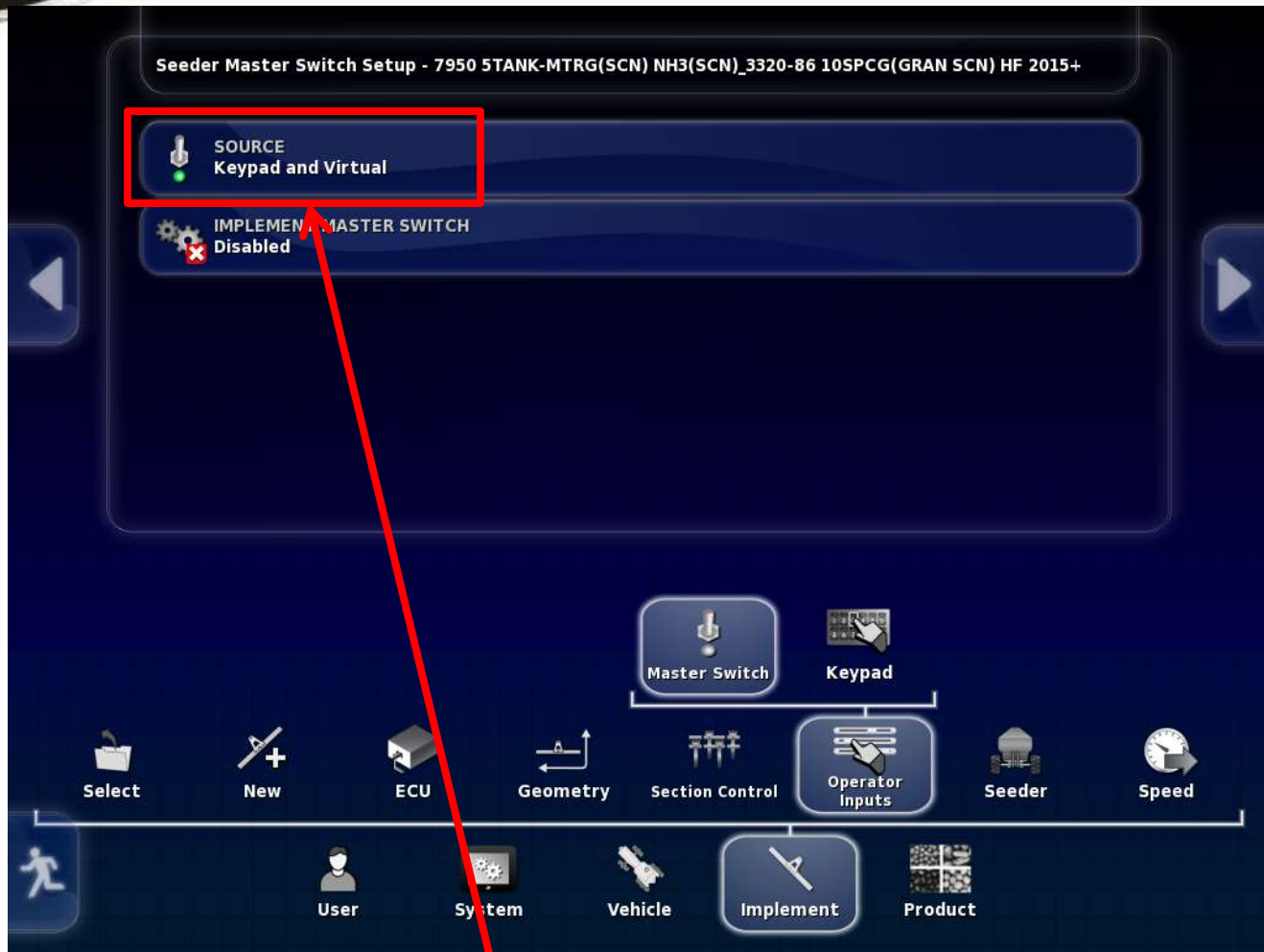
Next go to Implement/Operator Inputs/ Keypad and Customize buttons A, B, C and TANK KEYS as above for the in-cab Switchbox (**function of the customized keys will be tested later**)



Click on the IDENTIFY KEYPAD, the appropriate switchbox LED lights should flash until the button is pressed again.



Next go to Implement/Operator Inputs/ Keypad and Set BUTTON A to Calibration Mode On/Off for the implement Switchbox



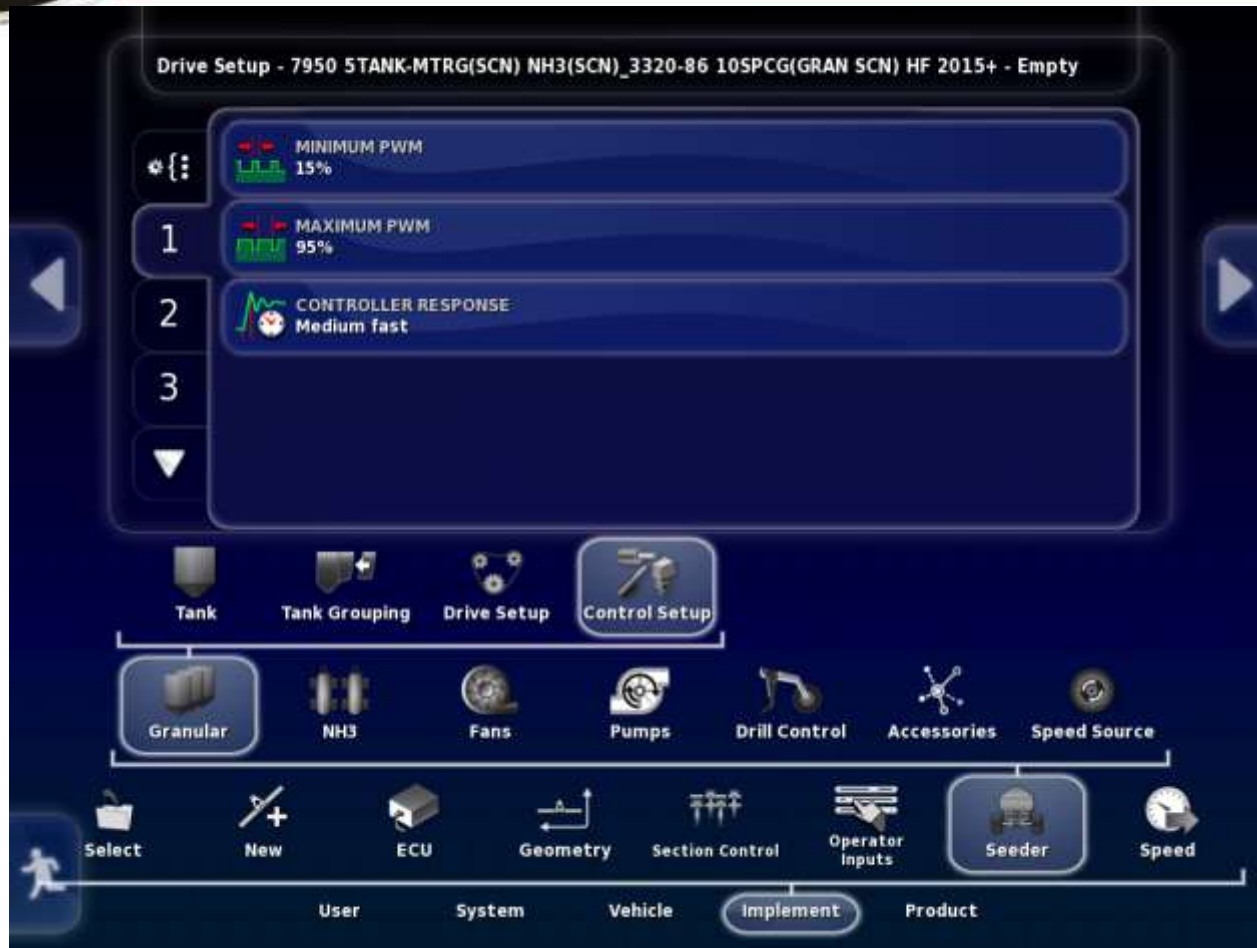
Next go to Implement/Operator Inputs/ Master Switch and select the Source as Keypad and Virtual



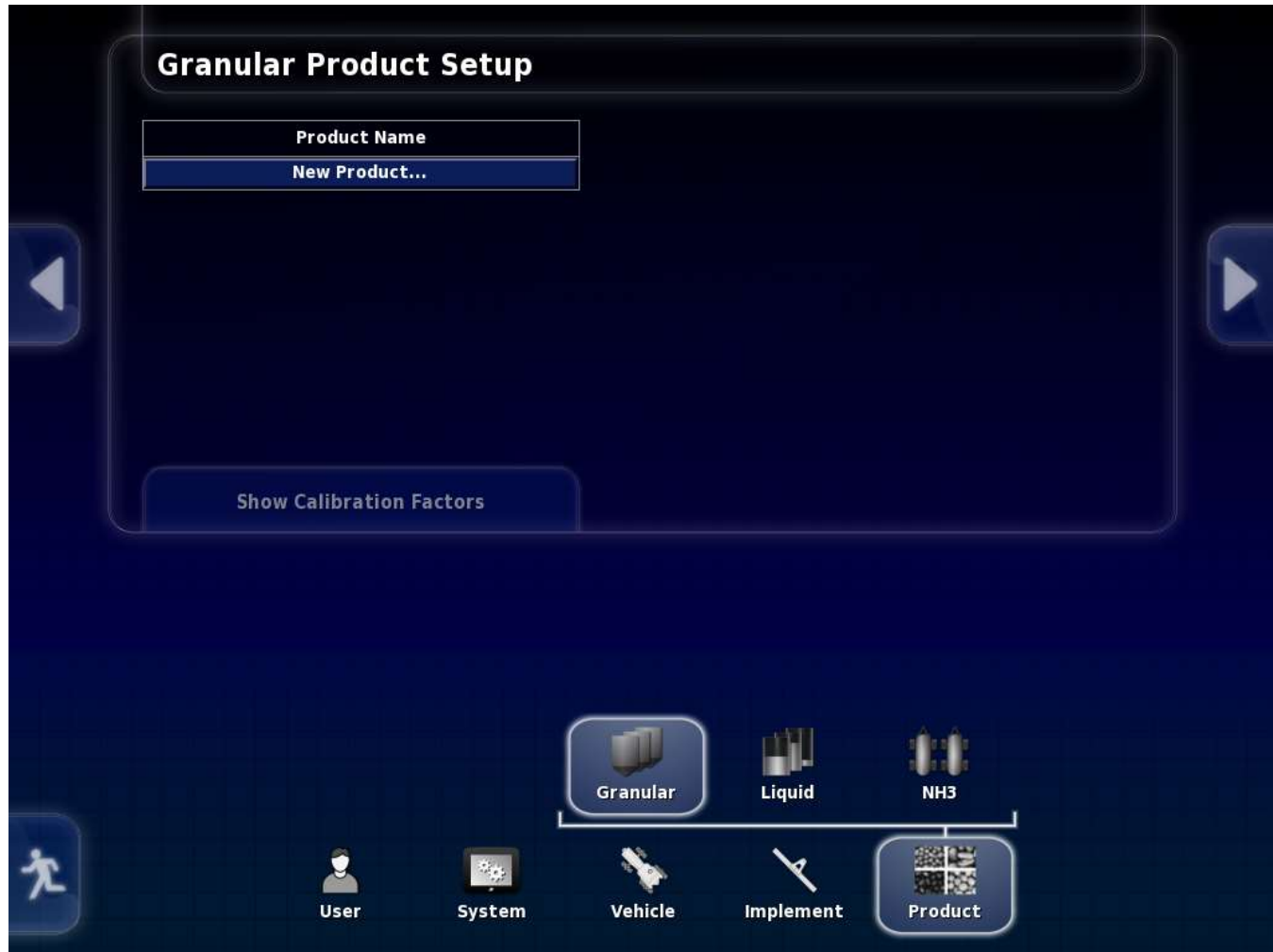
Next go to Seeder/Granular/Tank and enter a Preload time of 5 sec.



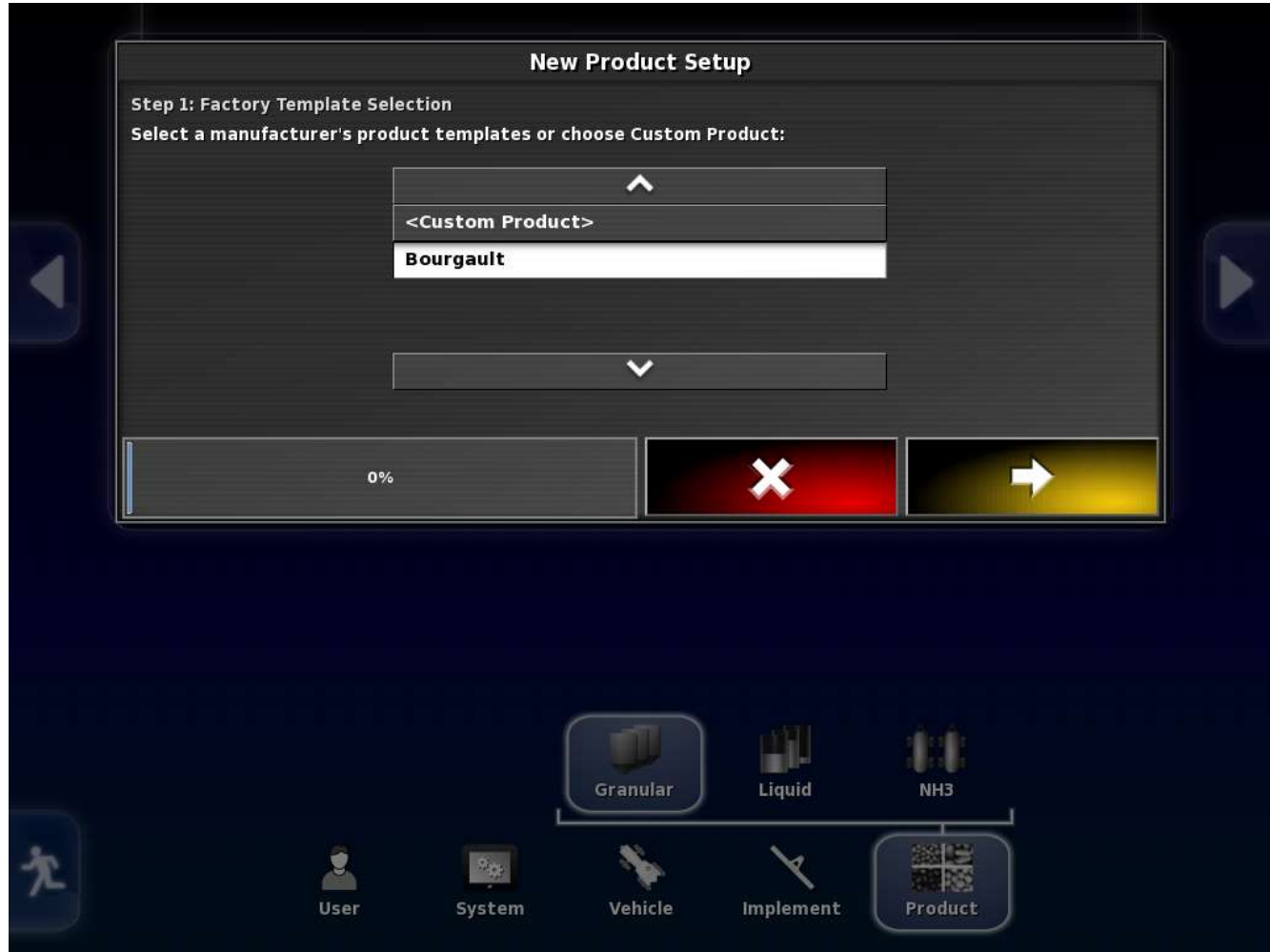
Next go to Seeder/Drive Setup then set up all tanks the same. (these settings are for a 7000 series tank. Drive Type: (Proportional Valve), Encoder Pulses/Revolution: (32), Minimum Shaft RPM: (10), Maximum Shaft RPM: (1000))



Select Seeder/Control Setup (set the same for each tank). Minimum PWM: (15%), Maximum PWM: (95%) and Controller Response: (Medium Fast)



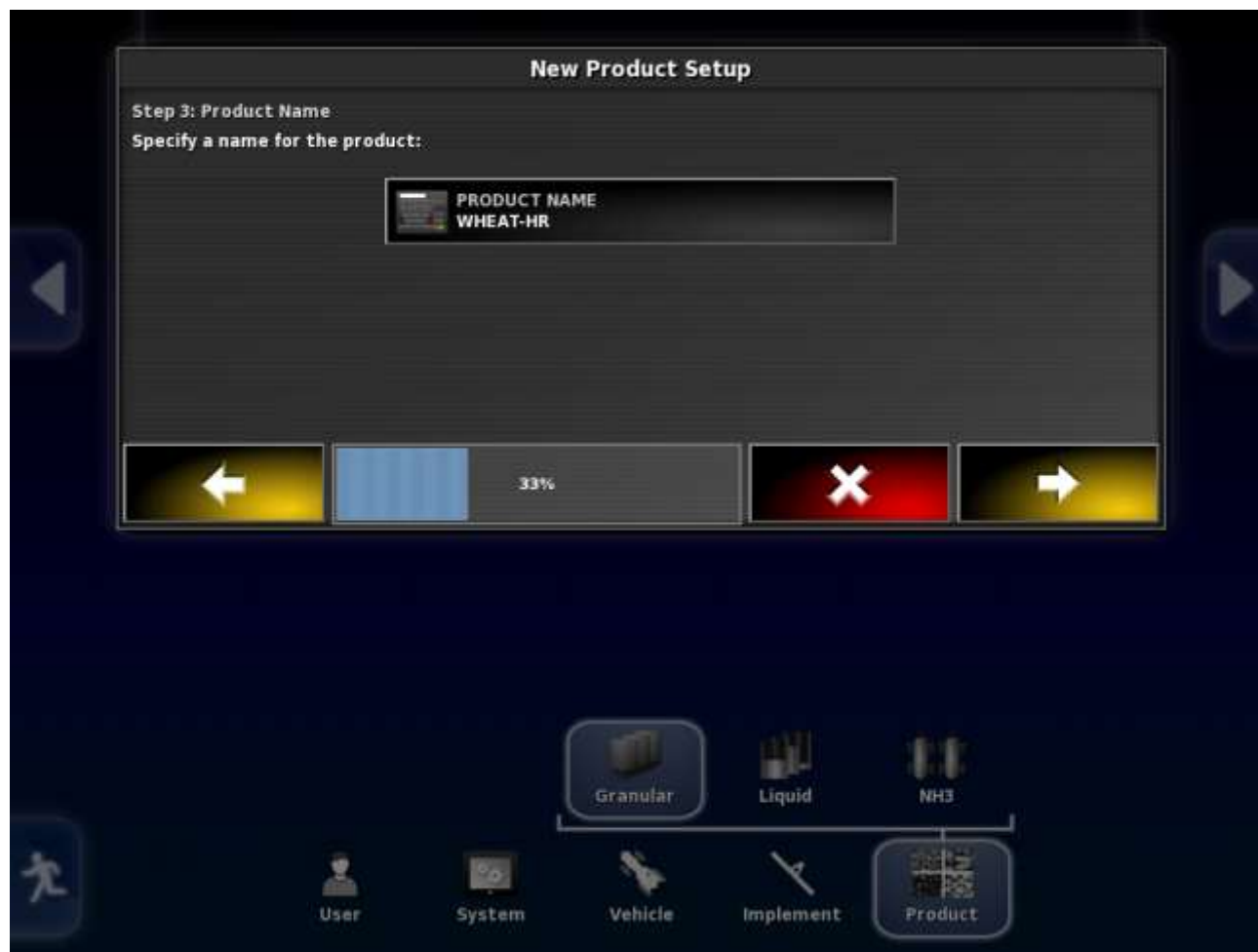
Next go to Products/Granular/New Product



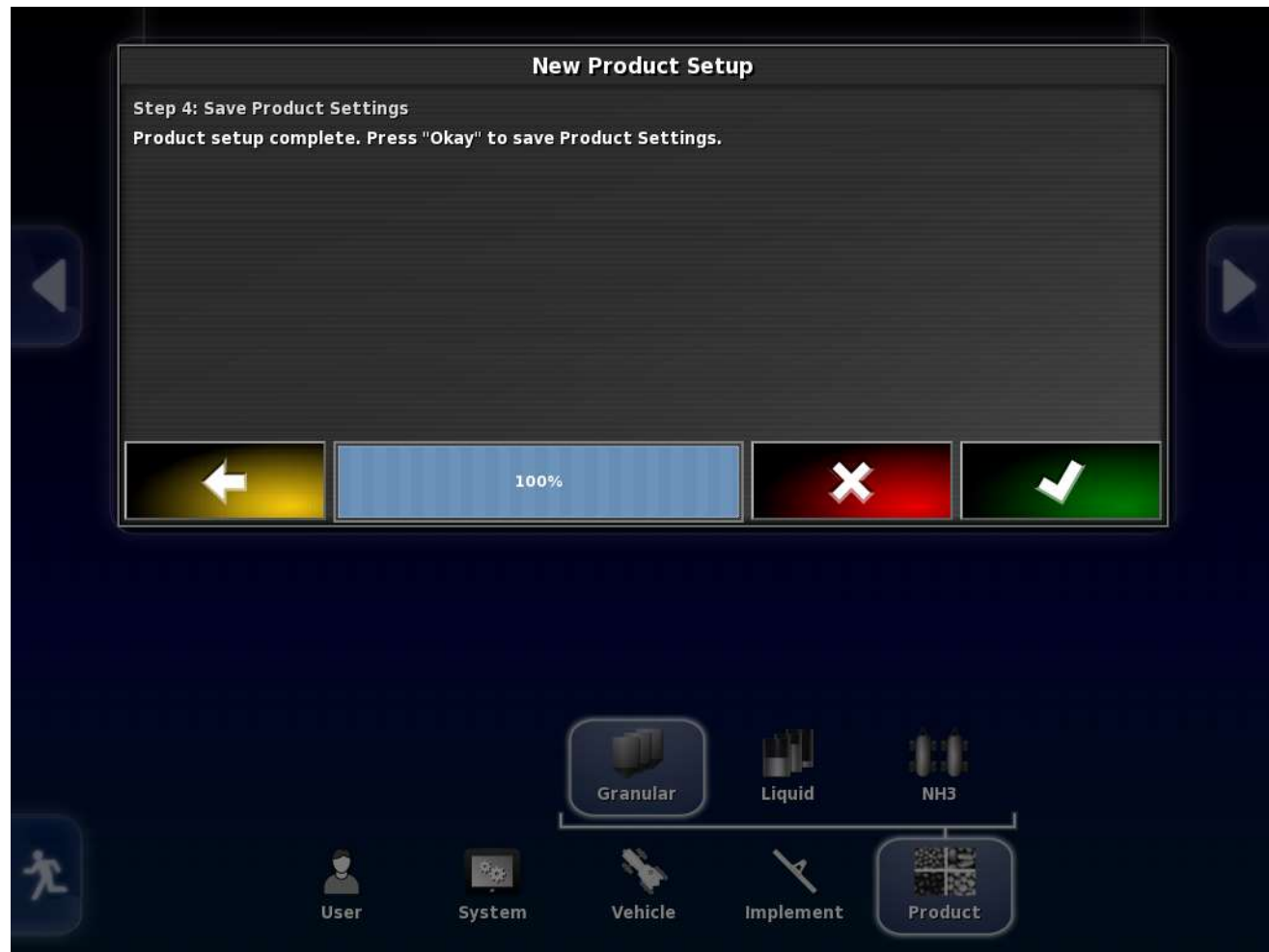
Next Select Bourgault and touch the yellow arrow .



Next Select Wheat-HR and touch the yellow arrow.



Next Verify Wheat-HR and touch the yellow arrow.



Press the green check mark.



Granular Product Setup

Product Name
New Product...
12-51-00
WHEAT-HR

PRODUCT TYPE
Granular

PRODUCT DENSITY
51.82 lb/ft³

PRODUCT RATE INCREMENT
10.00 lb/ac

PRODUCT RATE PRESET 1
120.00 lb/ac

PRODUCT RATE PRESET 2
350.00 lb/ac

Show Calibration Factors

Granular

Liquid

NH3

User

System

Vehicle

Implement

Product

Enter **Product Rate Increment: (10)**, **Product Rate Preset 1 : (normal seeding rate)**, **Product Rate Preset 2 : (secondary seeding rate)** the high rate is to check max shaft rpm later



Next select all of the products that will be seeded to create a list for the seeding year.



Touch the Running Man in the lower left corner to return to the seeder page.



GPS Mini
View Icon



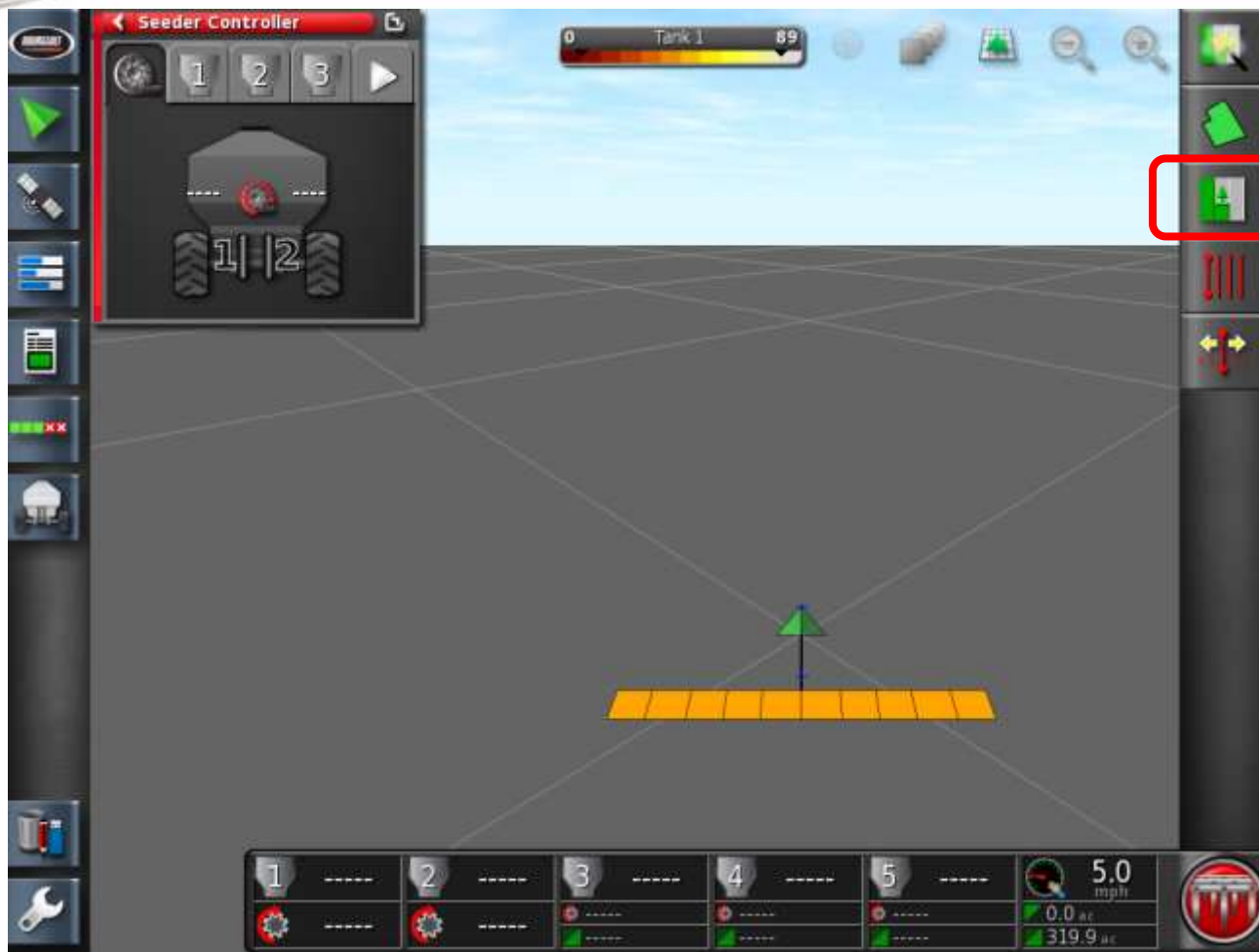
If GPS has been connected to the X30 you will have a position when the GPS Mini View has been selected



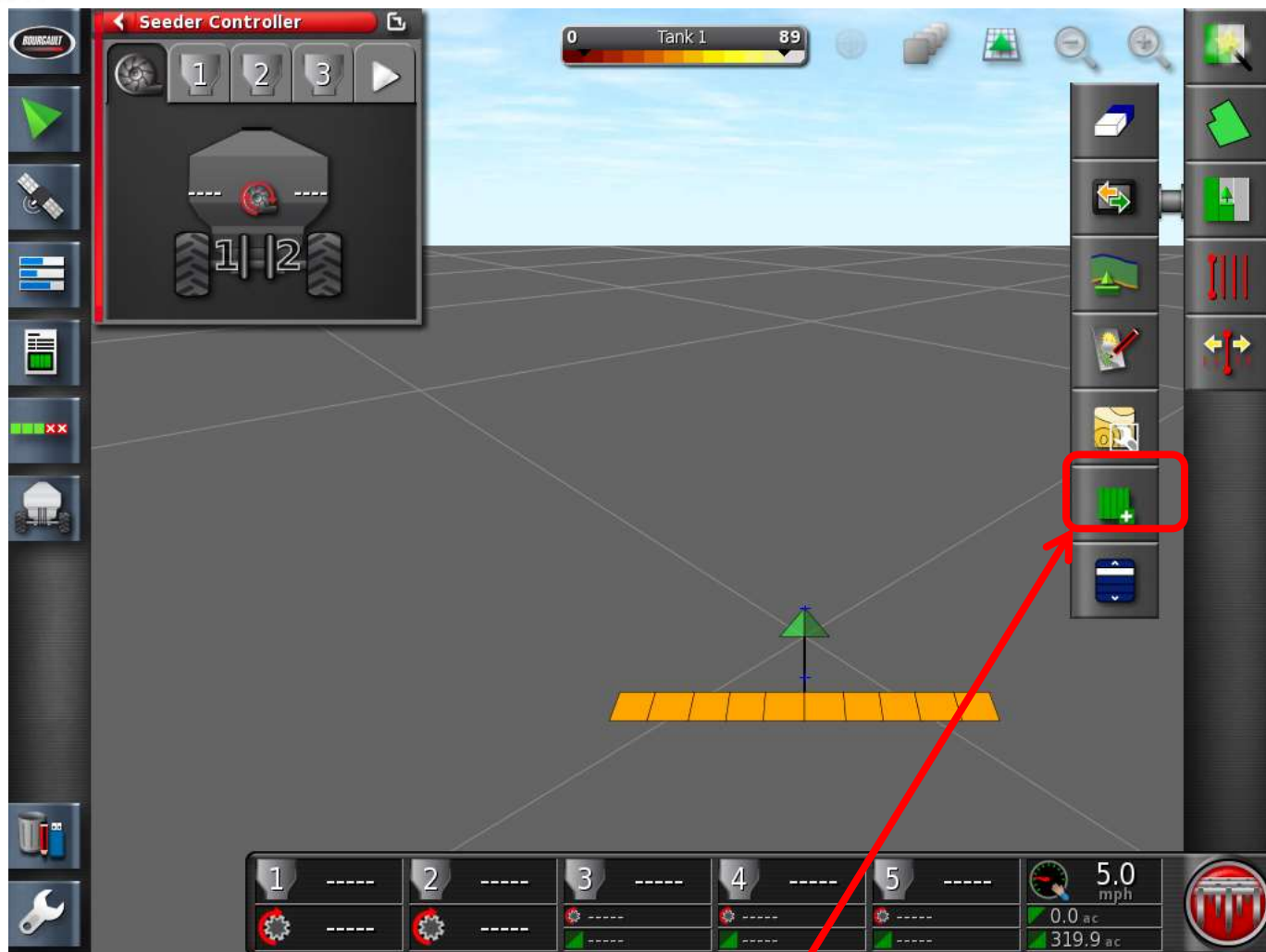
Guidance Mini View Icon



If GPS is connected to the X30 you will be required to start a new JOB, swipe Guidance Mini View to the right



Open JOB menu on the right side of the screen



Select the Add Job Icon



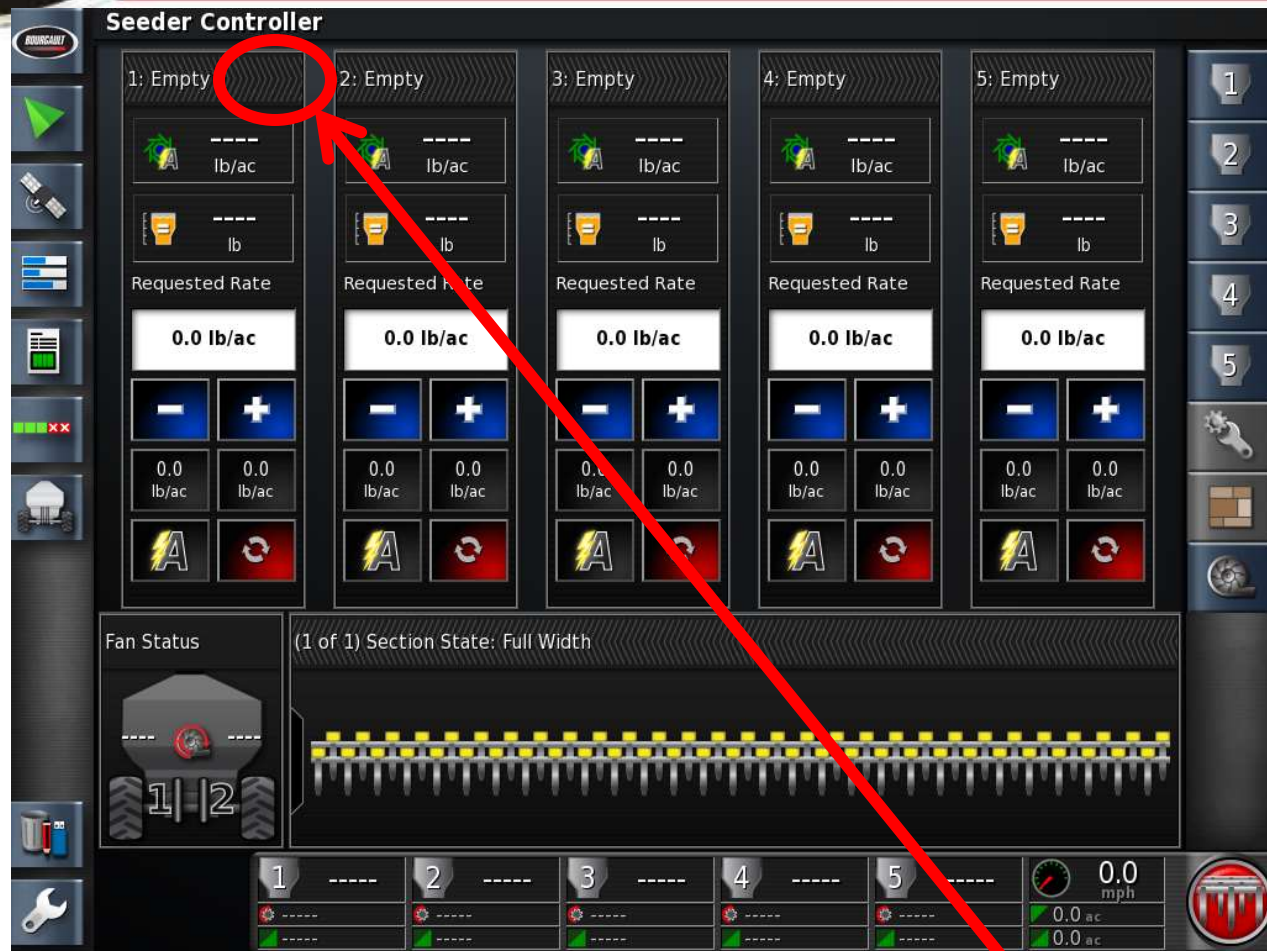
It is a good idea to rename the Job



For our testing we have named this Job FUNCTION TEST



Select all of the tanks on the right side so they may all be tested



To select the product to go in each tank touch the blank area here for each tank.



Next touch here to select new product.



Touch Product Name to select the product to be tested in each tank.



Seeder Controller

1: 18-46-00 2: WHEAT-HR 3: CANOLA 4: WHEAT-HR 5: CANOLA

1: 18-46-00

PRODUCT NAME
18-46-00

RATE INCREMENT
100.00 lb/ac

RATE PRESET1
0.00 lb/ac

RATE PRESET2
0.00 lb/ac

CALIBRATION FACTOR
0.273 lb/rev

DENSITY
54.87 lb/ft³

Range Limits:
Manual Speed 5.0 mph

Range	Min Rate (full)	Max Rate
Low	6.10 lb/ac	101.74 lb/ac

0.0 lb/ac
24242 lb
Requested Rate
0.0 lb/ac

18-46-00
24242 lb
00:00

0.0 lb/ac
0.0 lb/ac
0.0 rpm
0.27 lb/rev
SF

Fan Status
2947 rpm 3032 rpm
1 | 2

(1 of 1) Section State: Full Width

1: 0.0 lb/ac 2: 0.0 lb/ac 3: 0.0 lb/ac 4: 0.0 lb/ac 5: 0.0 lb/ac
0.0 rpm 0.0 rpm 0.0 rpm 0.0 rpm 0.0 rpm
0.0 ac 0.0 ac 0.0 ac 0.0 ac 0.0 ac

Select Wheat HR for testing tanks 1,2 and 4 then Canola for tanks 3 and 5



Seeder Controller

1: 18-46-00 2: WHEAT-HR 3: CANOLA 4: WHEAT-HR 5: CANOLA

1: WHEAT-HR

PRODUCT NAME
WHEAT-HR

RATE INCREMENT
10.00 lb/ac

RATE PRESET1
100.00 lb/ac

RATE PRESET2
350.00 lb/ac

CALIBRATION FACTOR
0.276 lb/rev

DENSITY
51.82 lb/ft³

Range Limits:
Manual Speed 5.0 mph

Range	Min Rate (full)	Max Rate
Low	6.15 lb/ac	102.56 lb/ac

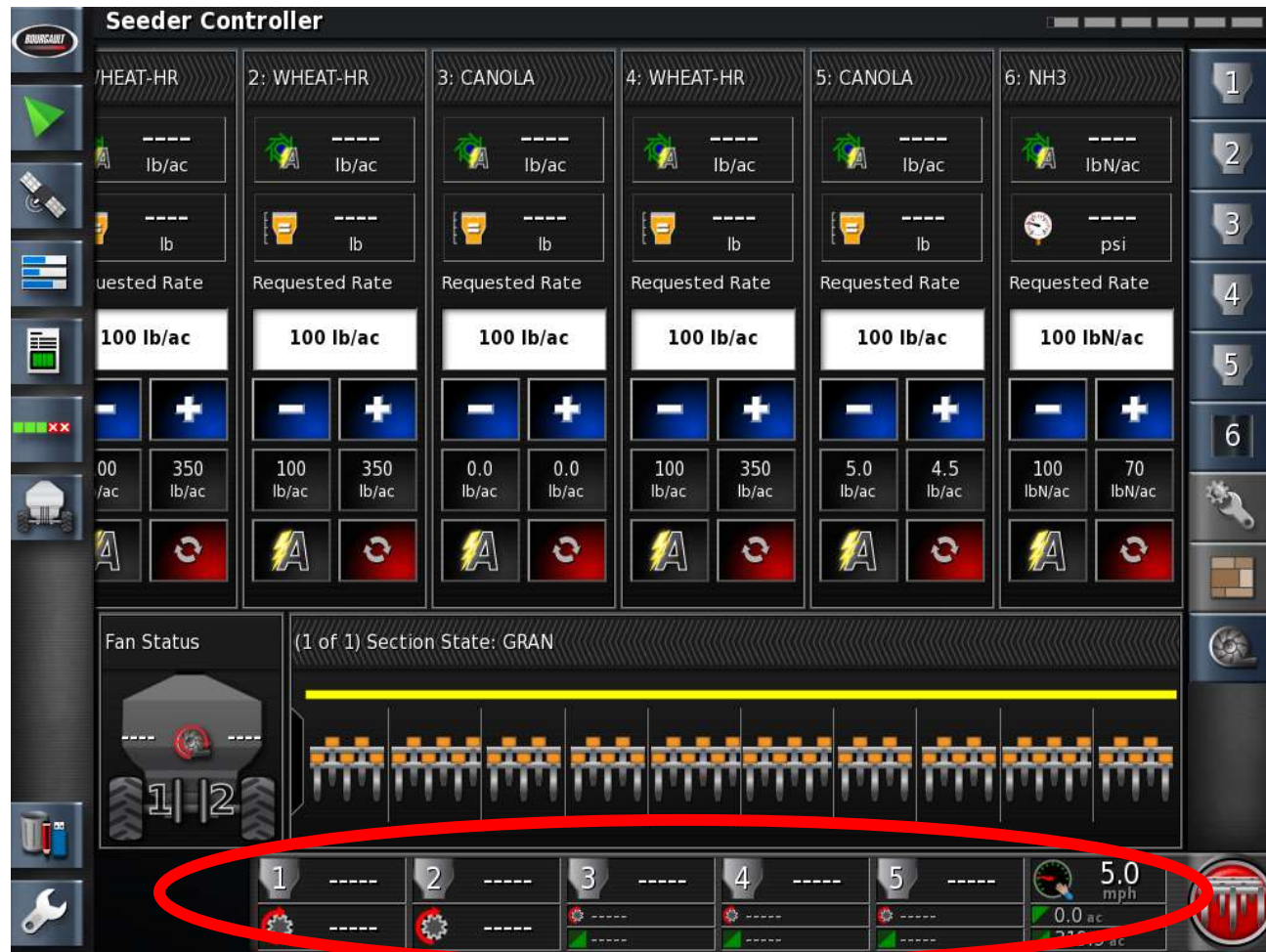
Fan Status: 3000 rpm / 2938 rpm

(1 of 1) Section State: Full Width

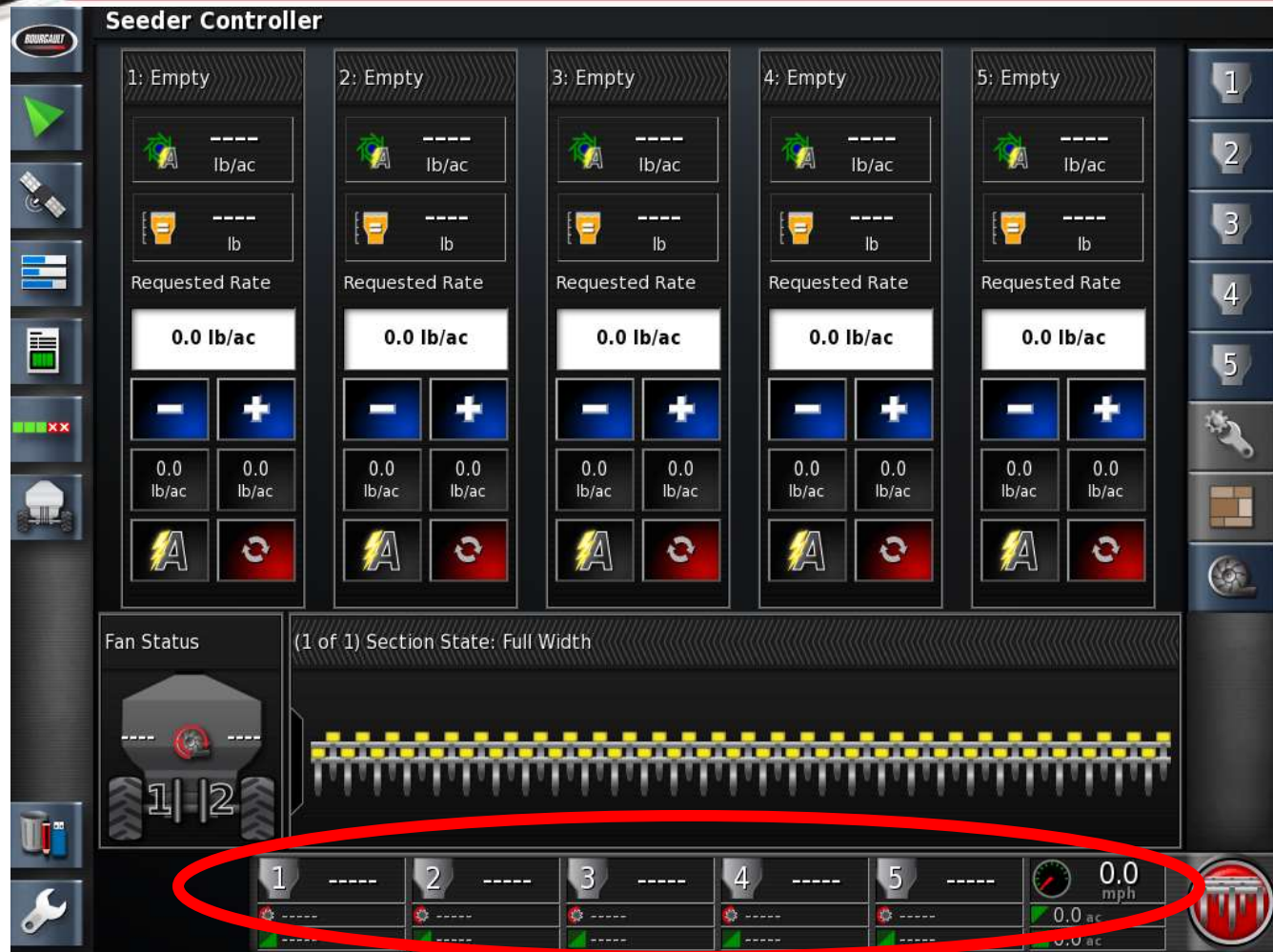
1 0.0 lb/ac 0.0 rpm 2 0.0 lb/ac 0.0 rpm 3 0.0 lb/ac 0.0 rpm 4 0.0 lb/ac 0.0 rpm 5 0.0 lb/ac 0.0 rpm

0.0 ac 0.0 ac 0.0 ac 0.0 ac 0.0 ac

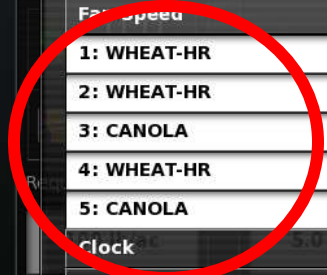
Make sure you have PRESET RATES 1 and 2, RATE INCREMENTS as well as CALIBRATION FACTORS



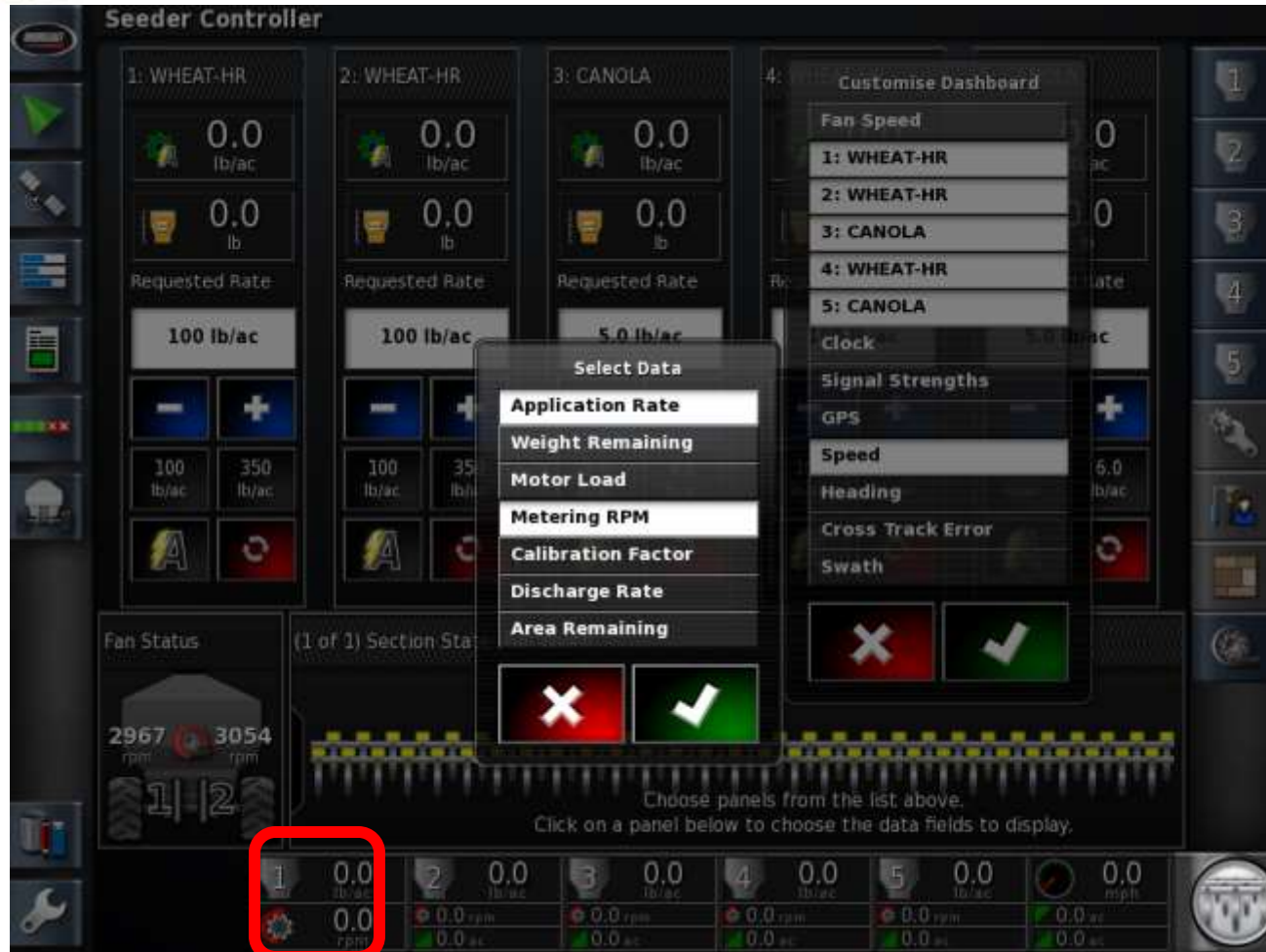
The next pages outline the procedure to customize the dashboard. For testing the dashboard should be set up to display fan speeds and rpm for each metering auger.



Touch anywhere along the dashboard to customize the display



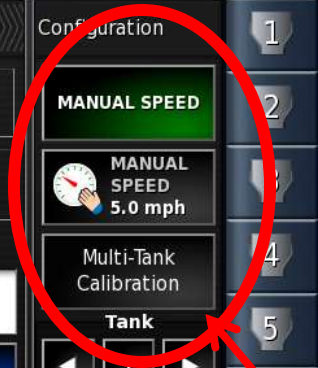
For testing select all of the tanks and speed.



You may touch each tank on the dashboard to further customize each box. For testing select Application Rate and Metering Rate.



Touch on the wrench located on the right side of the screen to enter calibration.



Enter a MANUAL SPEED (use customers average seeding speed) then select MULTI-TANK CALIBRATION



A RED Virtual Master Switch indicates that something is not ready or set up correctly, to see what needs to be corrected press the Master Switch to view items.



The above Master Switch Status indicates that one or more of the tank products do not have an initial calibration factor. The tank will not run until Master Switch indicator is in the Grey ready state or Green on state.



Seeder Controller

WHEAT-HR	2: WHEAT-HR	3: CANOLA	4: WHEAT-HR	5: CANOLA	Configuration
0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	
0.0 lb	0.0 lb	0.0 lb	0.0 lb	0.0 lb	
Requested Rate	Requested Rate	Requested Rate	Requested Rate	Requested Rate	
100 lb/ac	100 lb/ac	5.0 lb/ac	100 lb/ac		
- +	- +	- +	- +		
100 350 lb/ac	100 350 lb/ac	5.0 4.8 lb/ac	100 350 lb/ac		
A ↻	A ↻	A ↻	A ↻		

Calibration Method

- Manual Entry
- Automatic Calibration**
- Tank Optimizer
- Area Test

Fan Status

3025 rpm 3017 rpm

1 2

(1 of 1) Section State: Full Width

1 2 3 4 5 5.0 mph

0.0 lb/ac 0.0 lb/ac 0.0 lb/ac 0.0 lb/ac 0.0 lb/ac

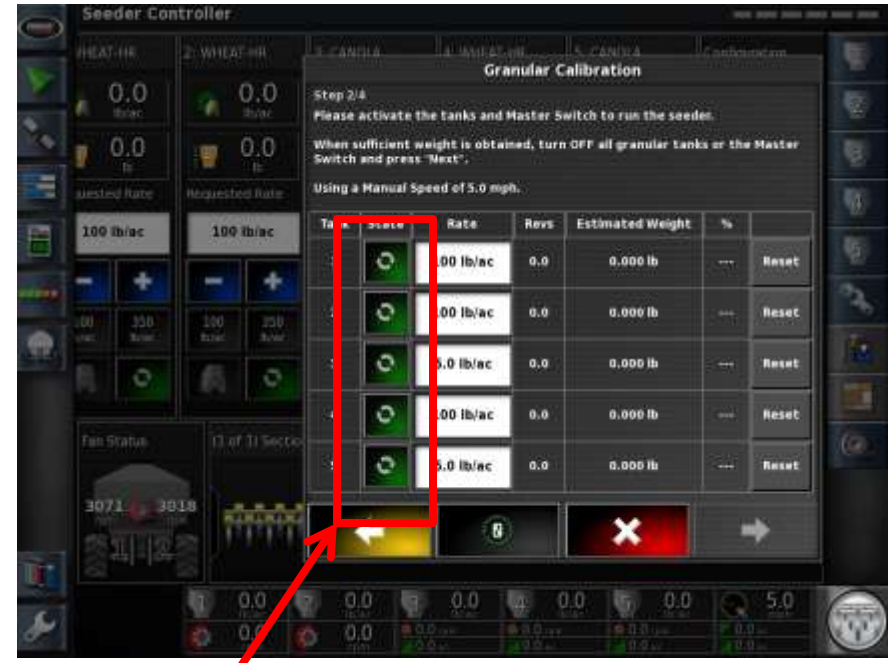
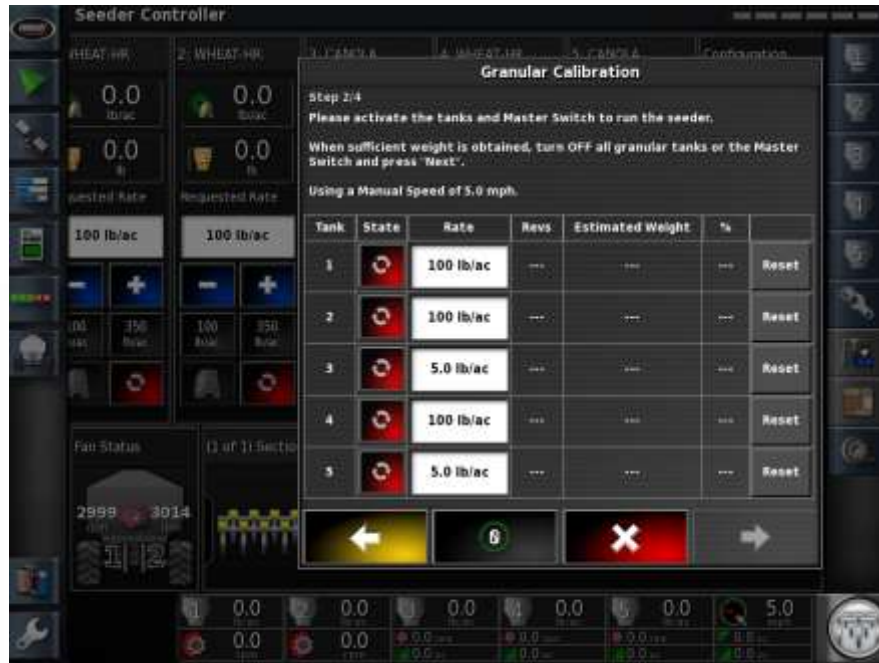
0.0 rpm 0.0 rpm 0.0 rpm 0.0 rpm 0.0 rpm

0.0 ac 0.0 ac 0.0 ac 0.0 ac 0.0 ac

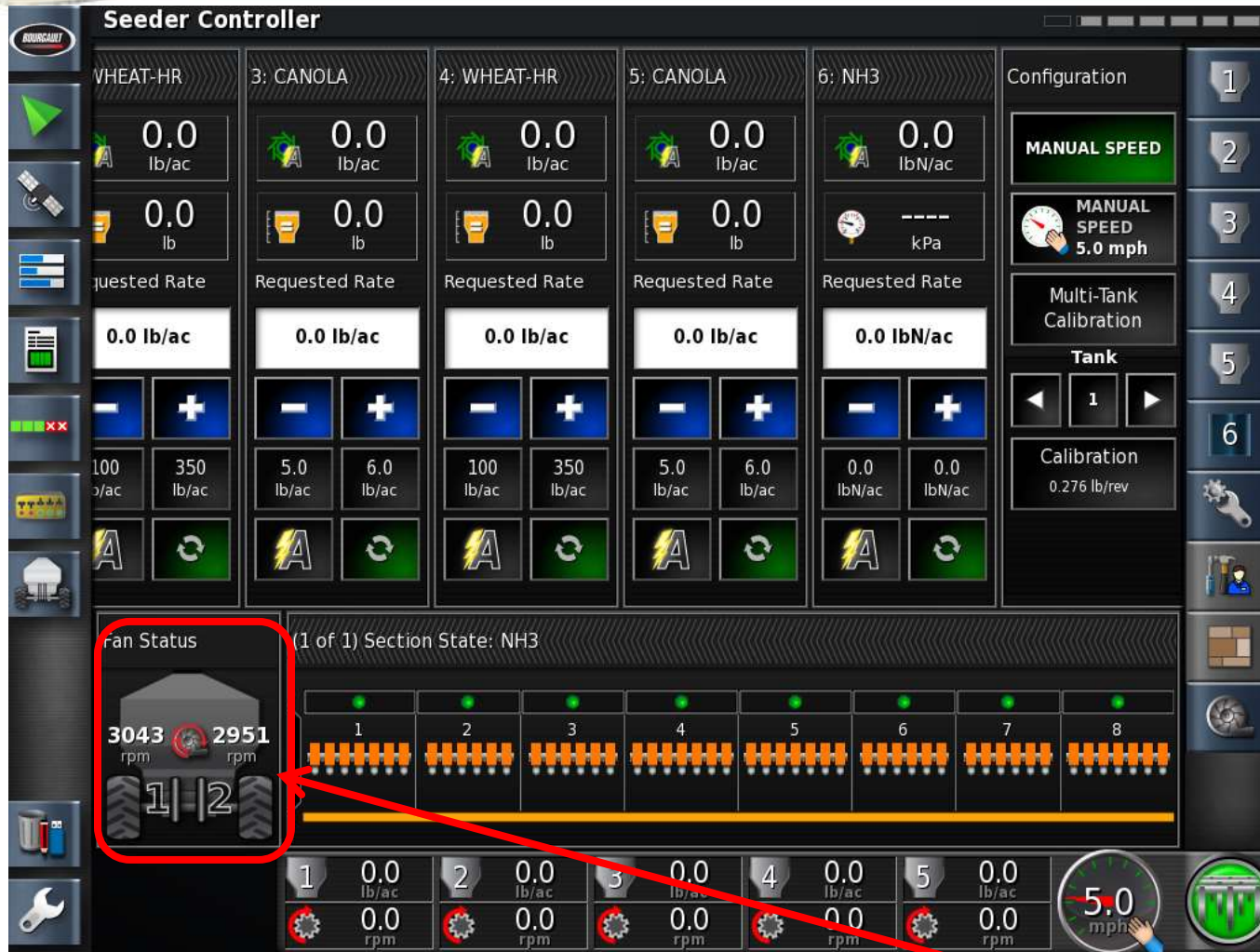
Select Automatic Calibration



Press the Yellow arrow



Turn on Tank clutches to be Calibrated



Engage fan hydraulics with tractor remotes and verify that fan speed is displaying.



Press the Fill/ Fill Cal button twice to divert oil from the fans for calibration using one of the remote controls. You should first hear it go silent with the first push then you should hear oil diverting to the metering circuit with the second push.



On frame switchbox



Turn off the Master Switch on the on-frame calibration switchbox.



On frame switchbox



Press the number for each one of the tanks you would like to test. The light on the tank will change from red to yellow. Then press the Master switch and verify that each auger is turning. Then press the Master switch to stop the augers.



On frame switchbox



Press and hold the RESET button. All accumulated pulses and weight should go to “0” in the X30 calibration screen.



On frame switchbox



Start with all tank switches and Master switch on then turn off the Master switch to ensure all augers stop.



On frame switchbox



Button A was previously customized to enter calibration mode from the on frame switchbox. Exit calibration in the X30 and test the function of button A of the On Frame Switchbox



Press the FAN button on the remote to turn the fans back on.



On frame switchbox



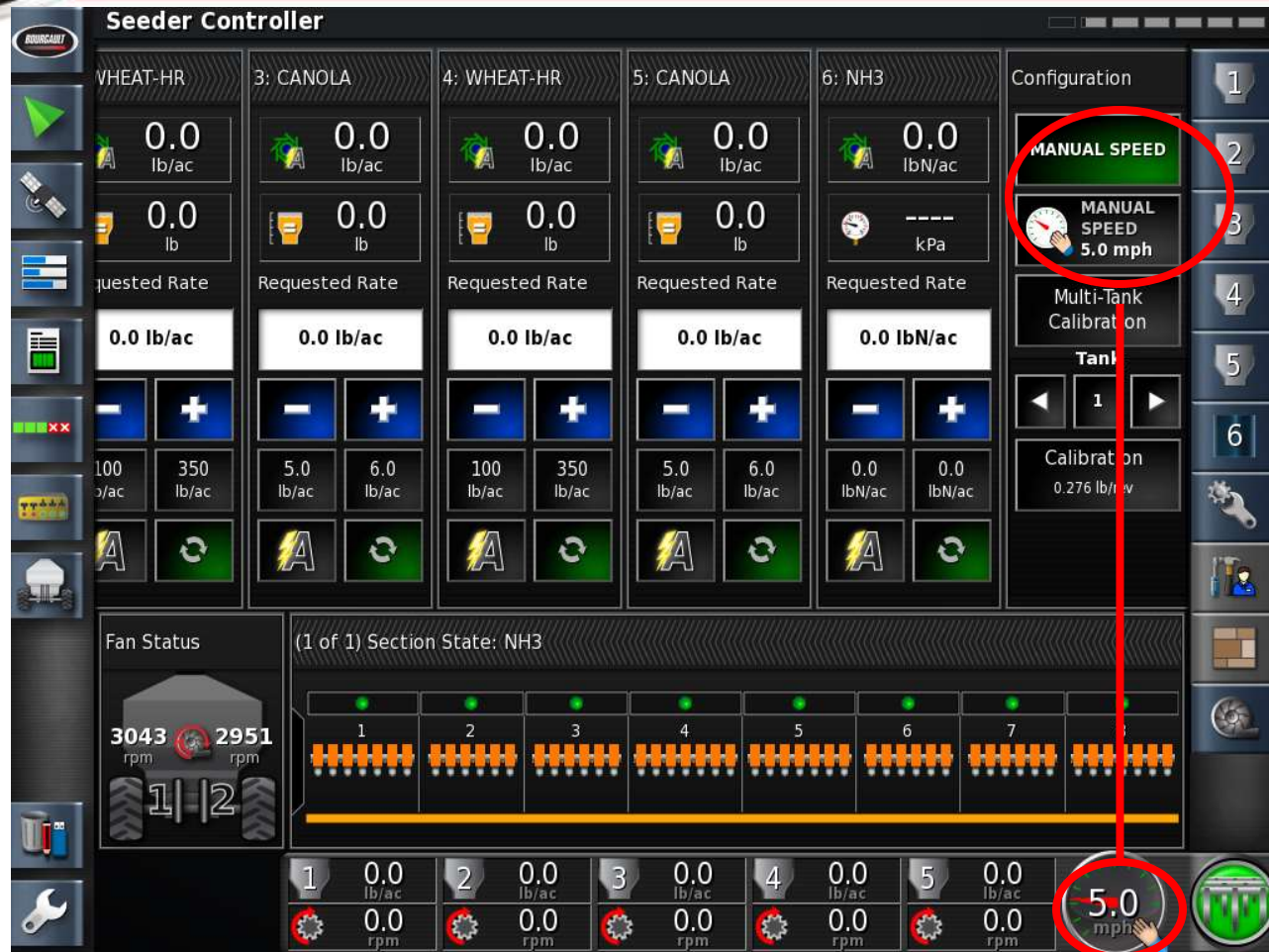
With all tank switches on press and hold the RESET button for 1-2 seconds, all the meters should run for the 5 second preload time that was set up earlier.



On frame switchbox



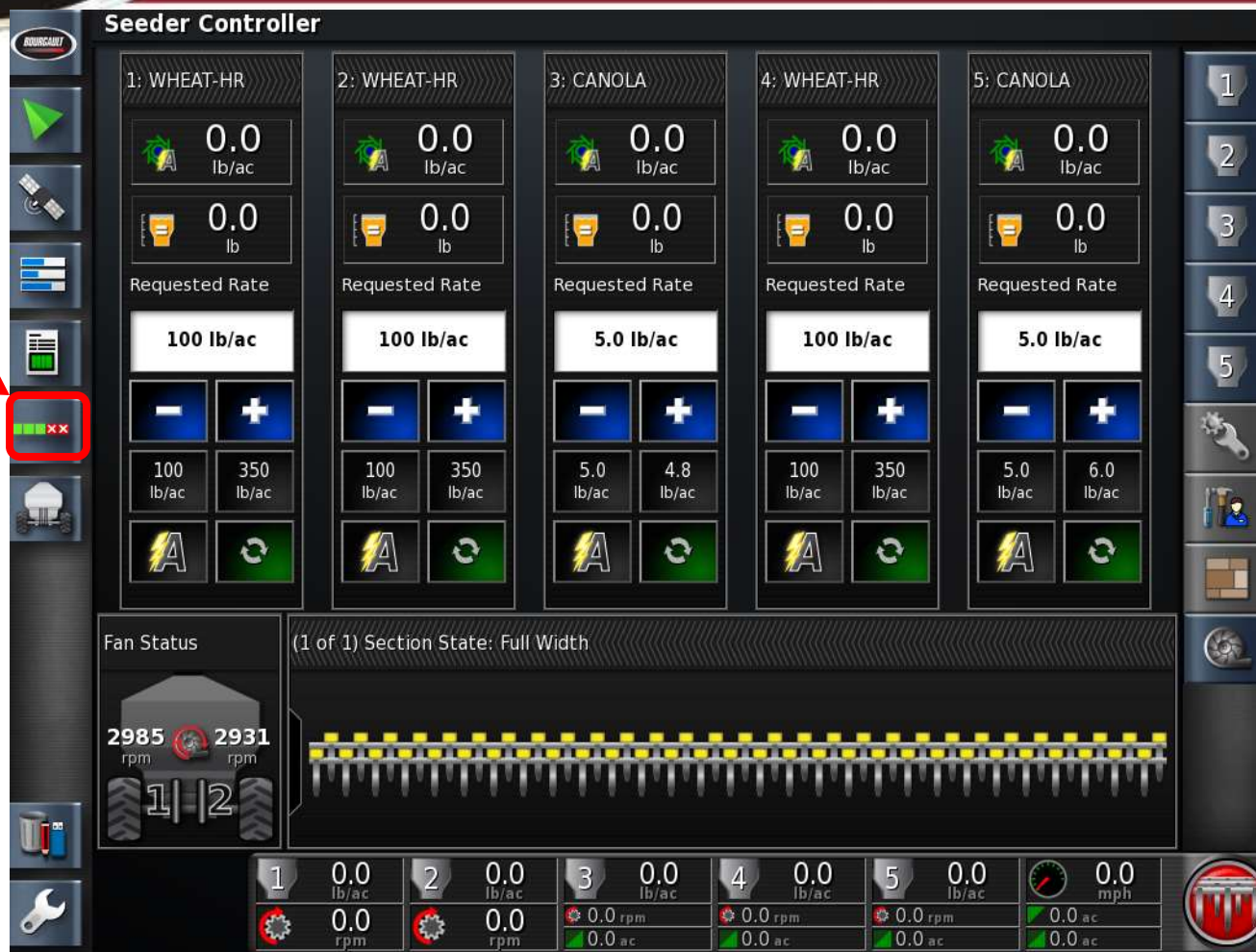
Press and hold the PRIME/RESET button, the meters should turn as long as the button is held.



Ensure that the MANUAL SPEED has been selected, and there is speed on the dashboard



ASC Mini View



A Yellow boom indicator would indicate that the ASC is on. Select the ASC mini view and turn ASC off



Press ASC
Mini View
Icon to
remove it
from the
screen once
it has been
turned off



ASC must be OFF to complete stationary tests



Seeder Controller

WHEAT-HR	3: CANOLA	4: WHEAT-HR	5: CANOLA	6: NH3	Configuration
0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lbN/ac	MANUAL SPEED
0.0 lb	0.0 lb	0.0 lb	0.0 lb	---	MANUAL SPEED 5.0 mph
Requested Rate	Requested Rate	Requested Rate	Requested Rate	Requested Rate	Multi-Tank Calibration
0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lbN/ac	Tank
- +	- +	- +	- +	- +	1
100 350	5.0 6.0	100 350	5.0 6.0	0.0 0.0	Calibration 0.276 lb/rev
100 350	5.0 6.0	100 350	5.0 6.0	0.0 0.0	

Fan Status: 3043 rpm, 2951 rpm

(1 of 1) Section State: NH3

1	2	3	4	5	6	7	8
0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac	0.0 lb/ac
0.0 rpm	0.0 rpm	0.0 rpm	0.0 rpm	0.0 rpm	0.0 rpm	0.0 rpm	0.0 rpm

5.0 mph

Select Virtual Switchbox Mini View



Switch Box

1 2

1 2 3 4
5 6 7 8
9 10

Seeder Controller

HEAT-HR 0.0 lb/ac
-7.3 lb
Requested Rate 100 lb/ac

2: WHEAT-HR 0.0 lb/ac
-4.7 lb
Requested Rate 100 lb/ac

3: CANOLA 0.0 lb/ac
0.0 lb
Requested Rate 5.0 lb/ac

4: WHEAT-HR 0.0 lb/ac
0.0 lb
Requested Rate 100 lb/ac

5: C 0.0 lb/ac
0.0 lb
Requested Rate 100 lb/ac

Fan Status
3031 rpm 3070 rpm
1 2

(1 of 1) Section State: GRAN

1 2 3 4 5 6 7 8 9 10

1 0.0 lb/ac 0.0 rpm
2 0.0 lb/ac 0.0 rpm
3 0.0 lb/ac 0.0 rpm
4 0.0 lb/ac 0.0 rpm
5 0.0 lb/ac 0.0 rpm
5.0 mph
0.0 ac
319.9 ac

Ensure all section switches are on for both booms 1 and 2



Ensure all section switches are on for both booms 1 and 2



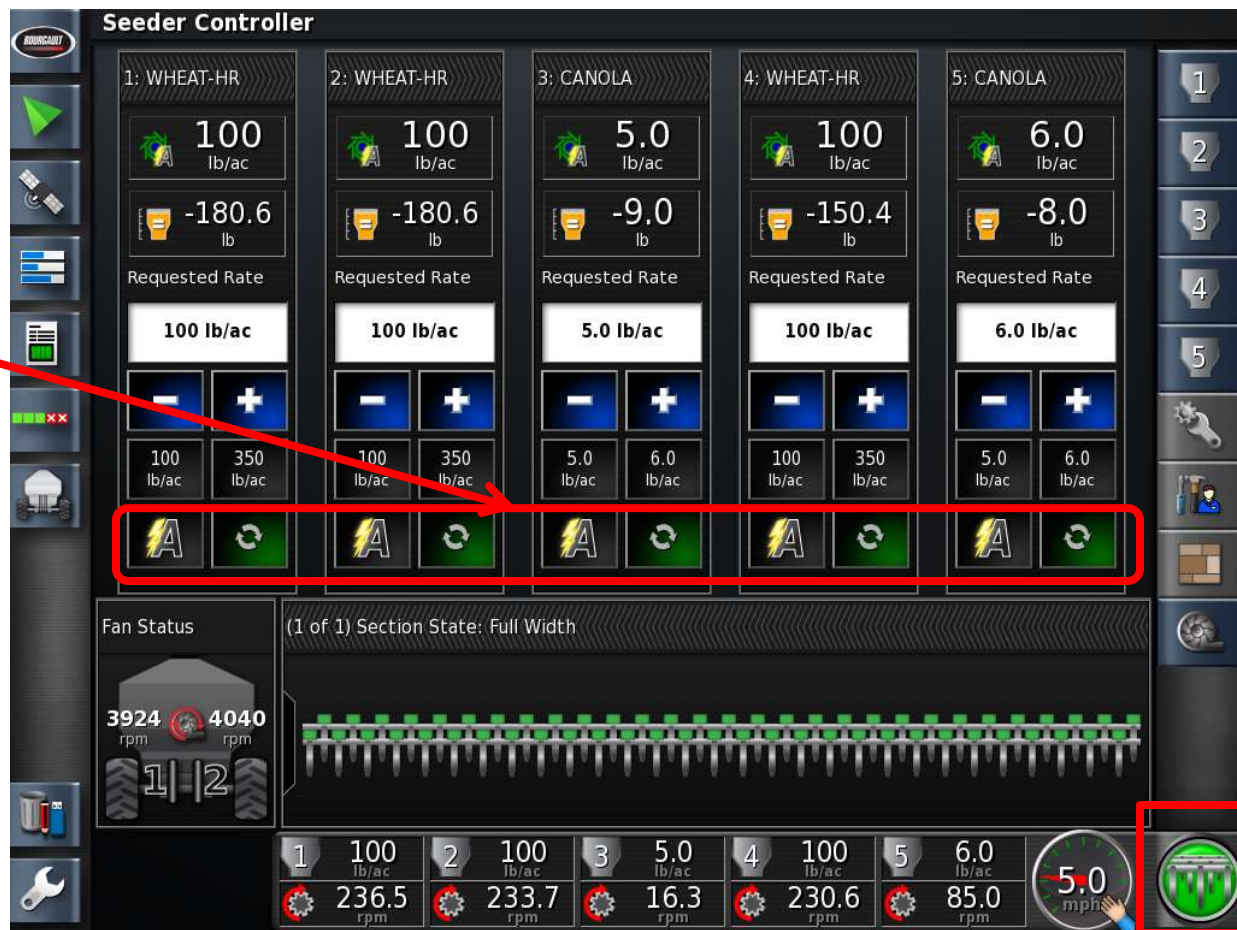
8 channel switchbox



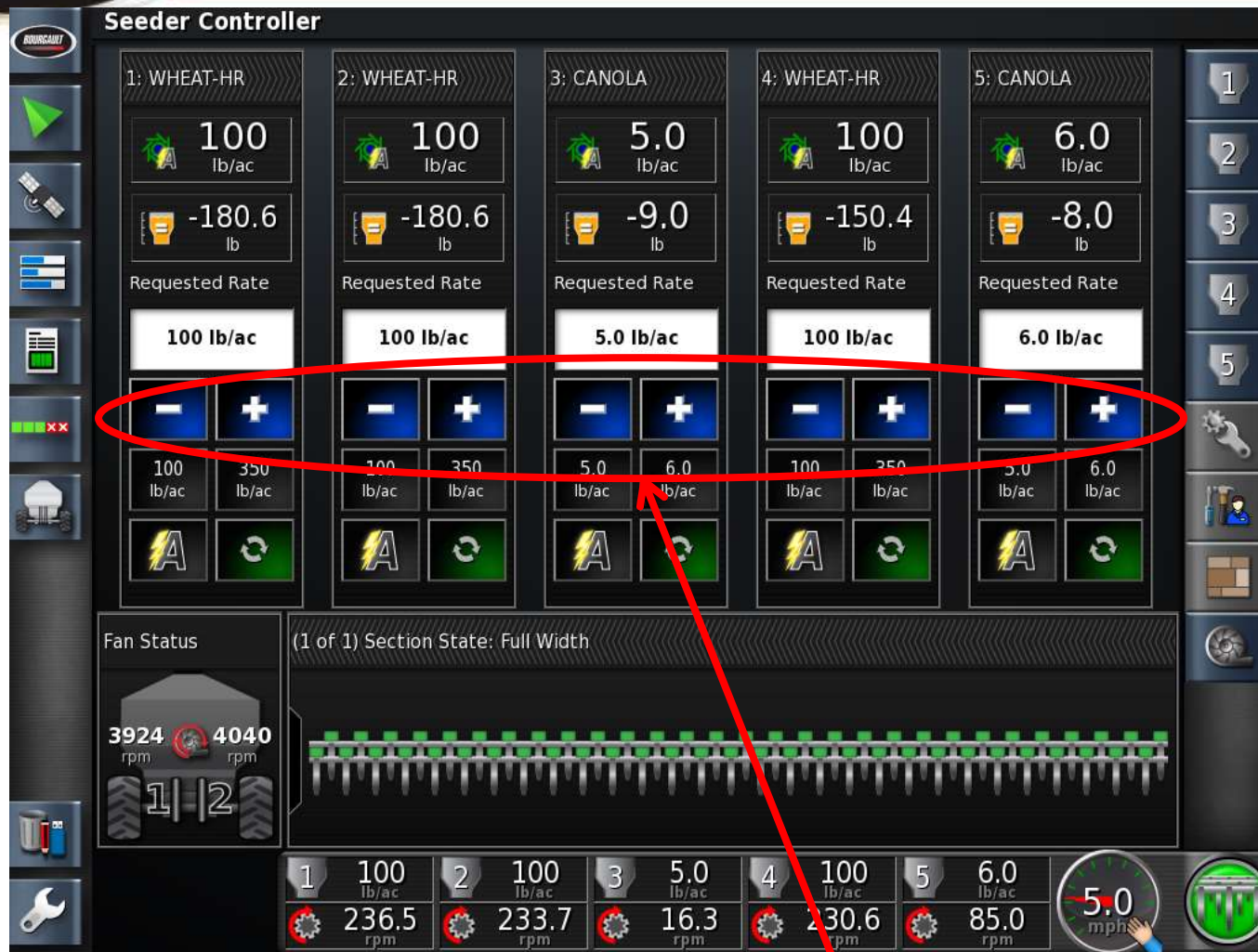
Cycle the Master and Tank switches using cabin 8 channel switchbox **on** and **off** one at a time to verify function.



Virtual Tank
Switches



Cycle the Master and Tank switches Virtual Touch Screen one at a time to verify function. (Green ON and Red OFF)



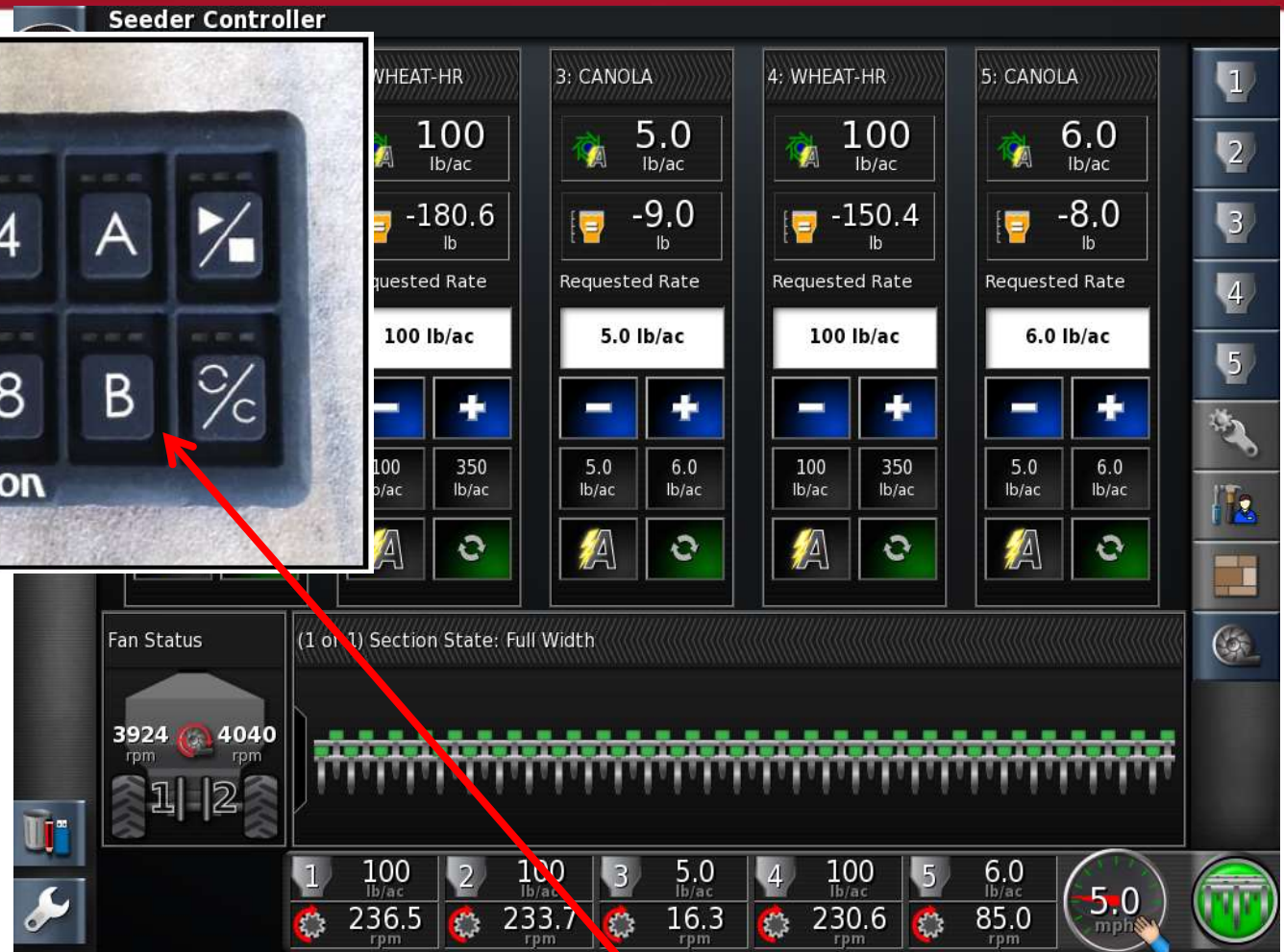
With the Master and tank switches on press the increase and decrease buttons for each tank to verify that they go up and down by the preset lb/acre increment.



Select the secondary seeding rate to test Max RPM of the metering augers, if the augers don't reach 1000 rpm increase rate till they do. This test the Max rpm limit of 1000 rpm



Seeder Controller



With the Master and tank switches on press the A increase and B decrease buttons for each tank to verify that they go up and down by the preset lb/acre increment.



Press Button C to verify that all of the tanks go to full



Turn on each section switch one at a time to verify that it is controlling the correct valve for Granular and NH3/Liquid booms. This can be done with the switches above the dashboard or opening the Virtual Switchbox mini view.



Turn off Fan hydraulics with tank and master switches on to verify a tank shaft alarm comes on for each enabled tank.



Blockage Test

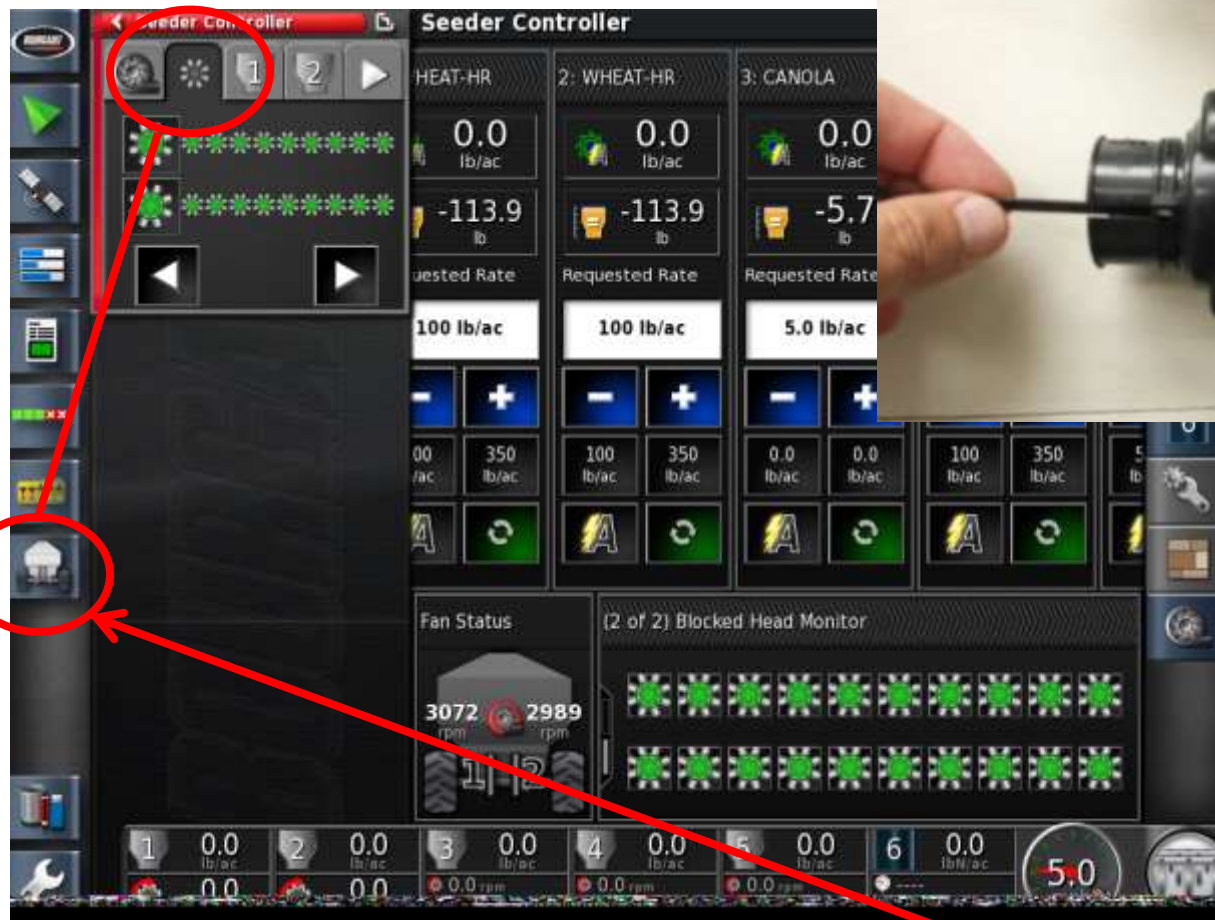


To see the blockage indicators you may change the view above the dashboard by pressing and dragging the screen up from the bottom of the view.



Indicators are;
Green with product flowing and groundspeed.
Yellow with no product or groundspeed.
Red with no product and or groundspeed.

After you have changed the view you simply remove the hose from the sensor on the drill and move an object such as a zip tie or your finger inside the sensor.



Indicators are;
Green with product flowing and groundspeed.
Yellow with no product or groundspeed.
Red with no product and or groundspeed.

You may also view the blockage indicators from the seeder mini view.



Re-engage the remotes for both fans and then switch the Conveyor switch to RUN to enable the conveyor/auger valve. (switch located on LH side of tank)



Press the Fill/ Fill Cal button once to divert oil from the fans for calibration using one of the remote controls



In and open area of the yard test all remote conveyor/auger functions



- If the unit is equipped with NH3 or Liquid please see test procedure in the Service& Parts section of the Bourgault Web site under Frequently asked Questions.
- If the unit is equipped with weight scales follow operators manual to test function and link to remote.
- The Cameras should be hooked up and checked. (see ASA Camera Manual)
- If tank is equipped with Brakes test that brakes are being applied with both the switch and the tractor brake pedal.
- The next thing that should be done is to load the product to be seeded into each tank and Calibrate the unit.
- If the unit is equipped with Blockage monitoring you will be required to be connected to the implement to complete a Detect and Assign Sensors.
- The final thing to verify is that GPS is coming into the X30 from the tractor receiver. (See Service and Parts section of the Bourgault Web Site under Frequently Asked Questions)

<http://www.bourgault.com/ServiceParts/FrequentlyAskedQuestions/FAQsX30SeederController/GPSSignal/tabid/597/language/en-US/Default.aspx>