7000 with X30 and Granular Auto Section Control (ASC) operational check

The following procedure will help with ensuring that a New 7000 series air-seeder functions properly.

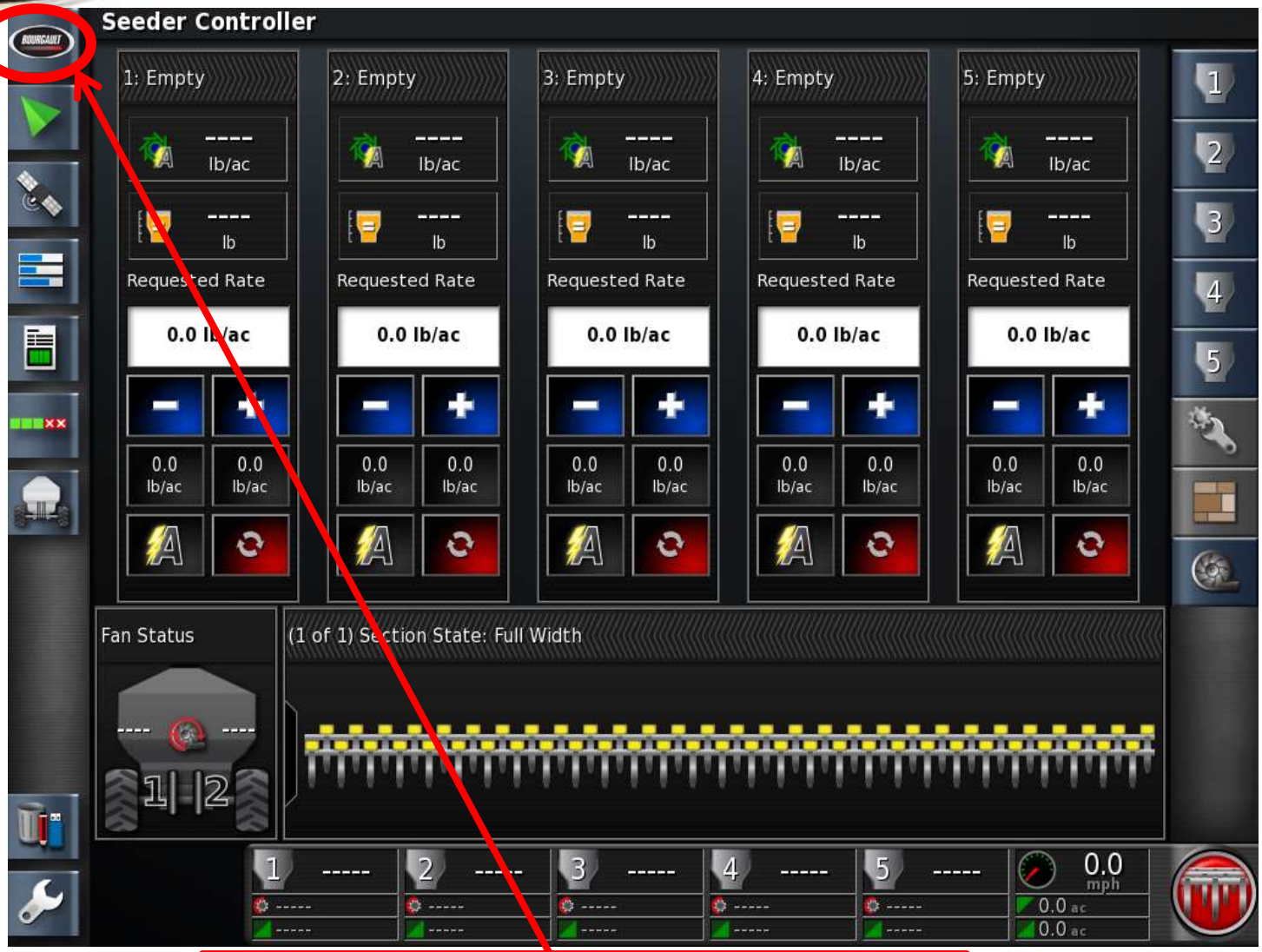
This operational check should be completed on or before the first day of seeding.

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.

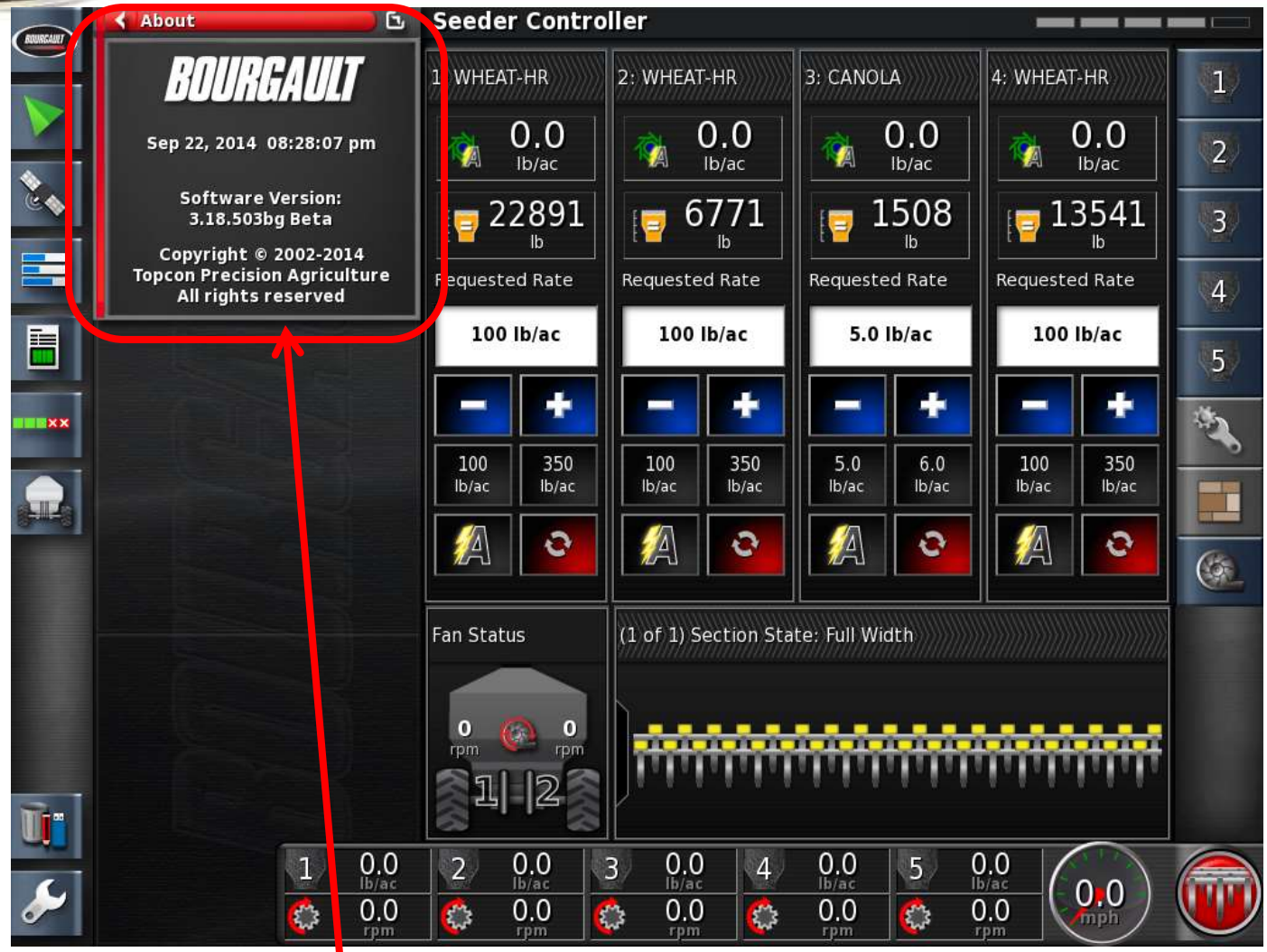
Ensure all connections are correct as outlined in the operators manual

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

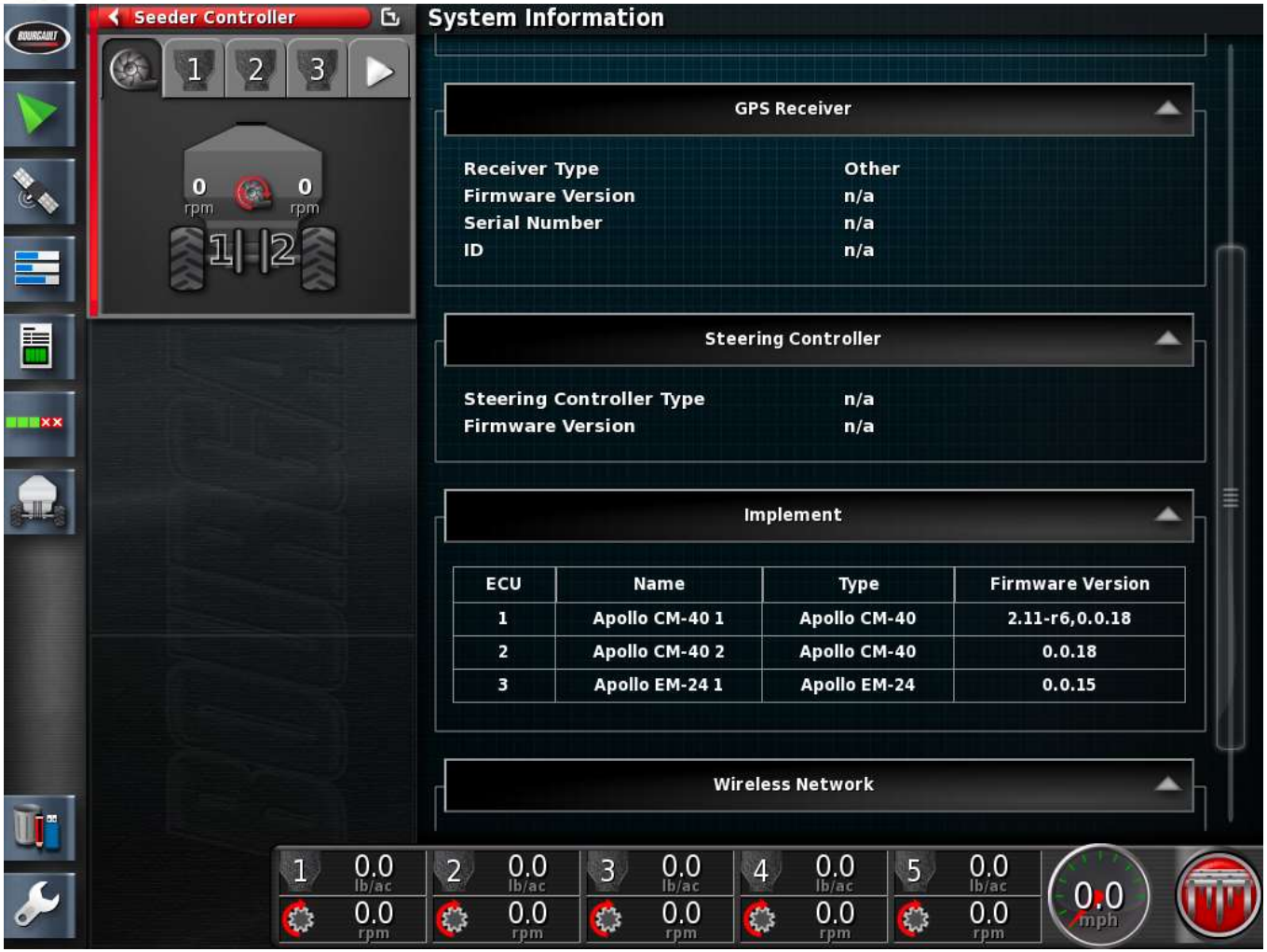
If something is not hooked up properly or if an incorrect option is selected you will get orange warnings as to what is incorrect.



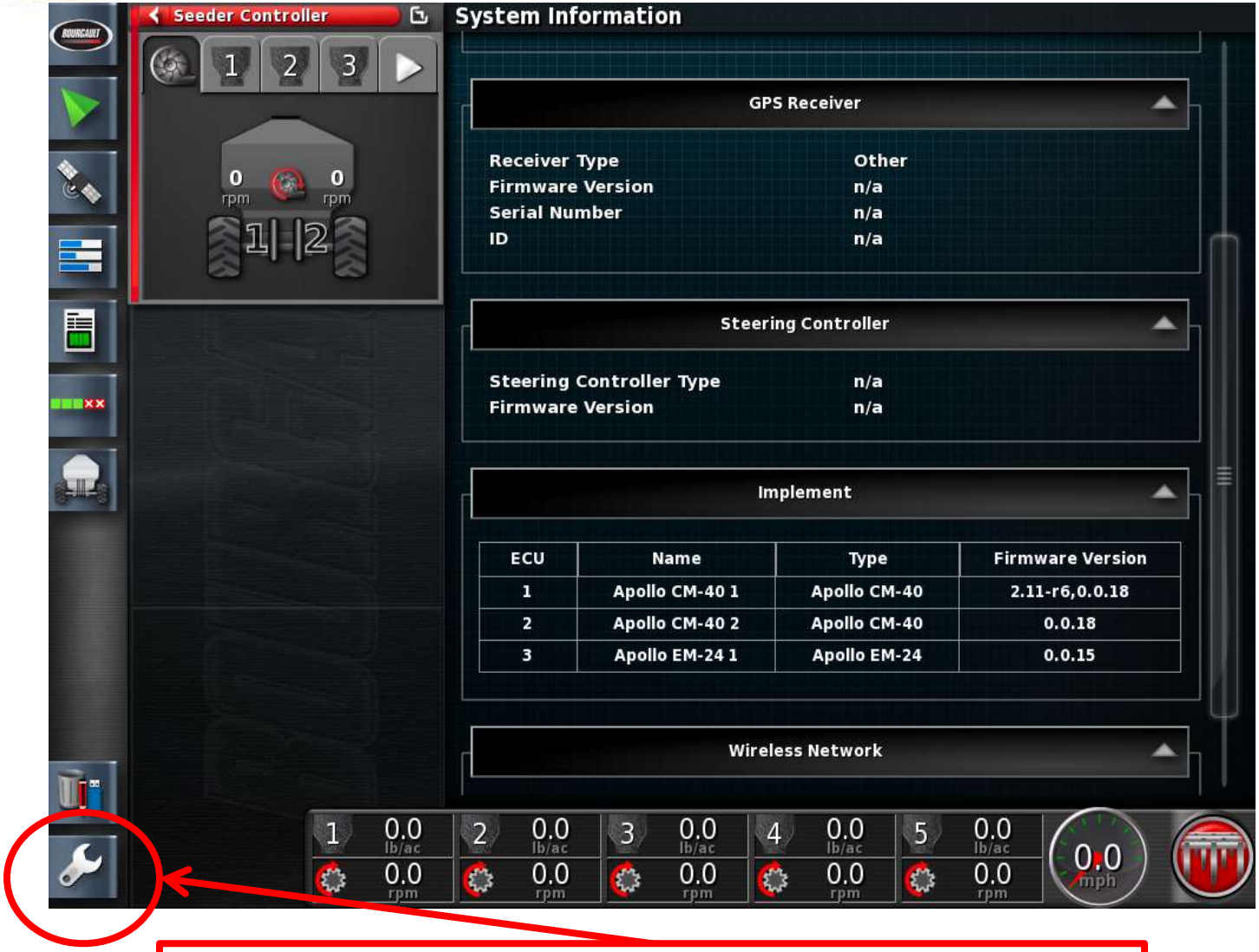
Touch the Bourgault icon (top left corner).



Swipe the Bourgault mini view to the right

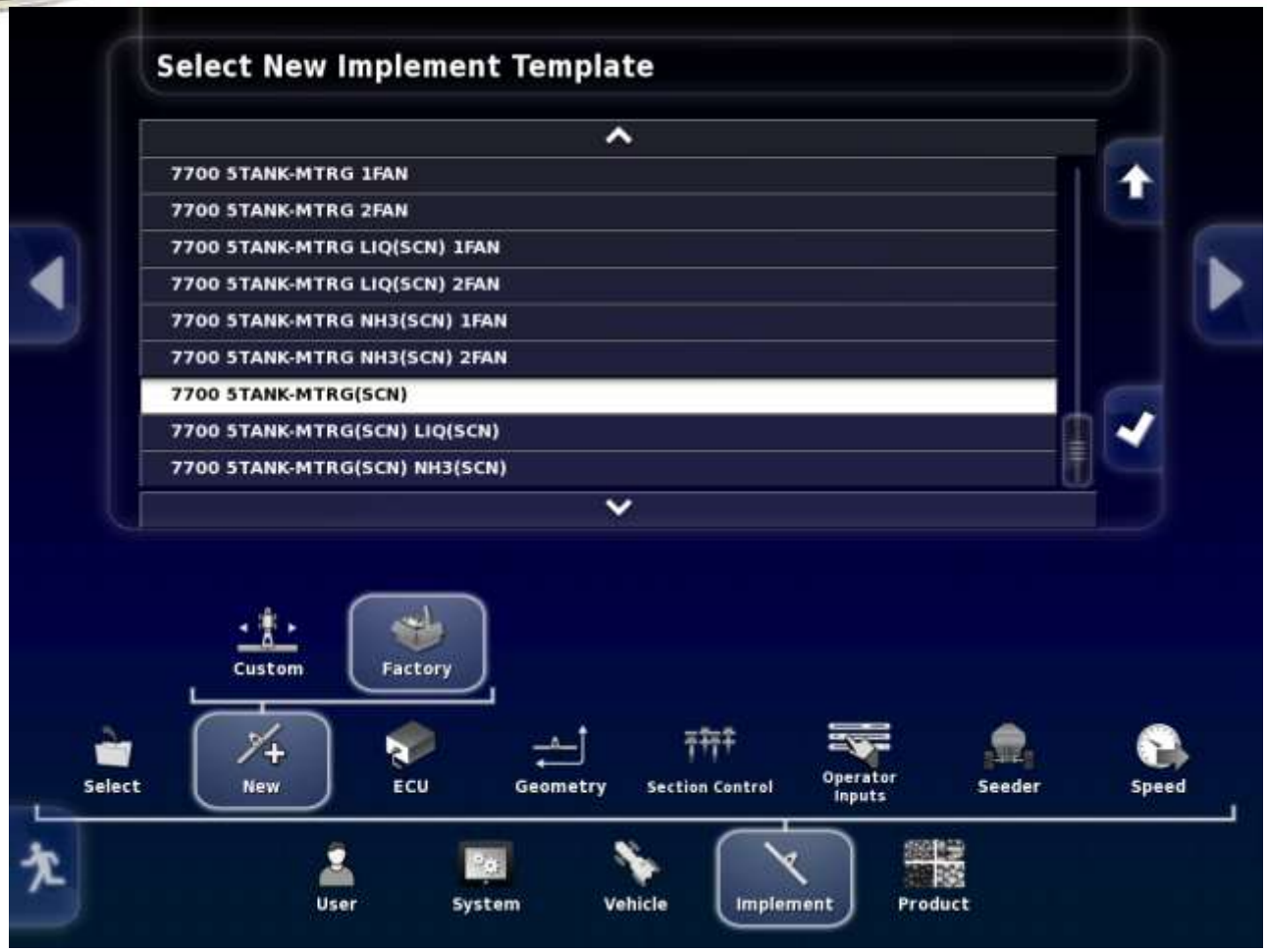


Check for X30 software versions and ECU firmware versions.

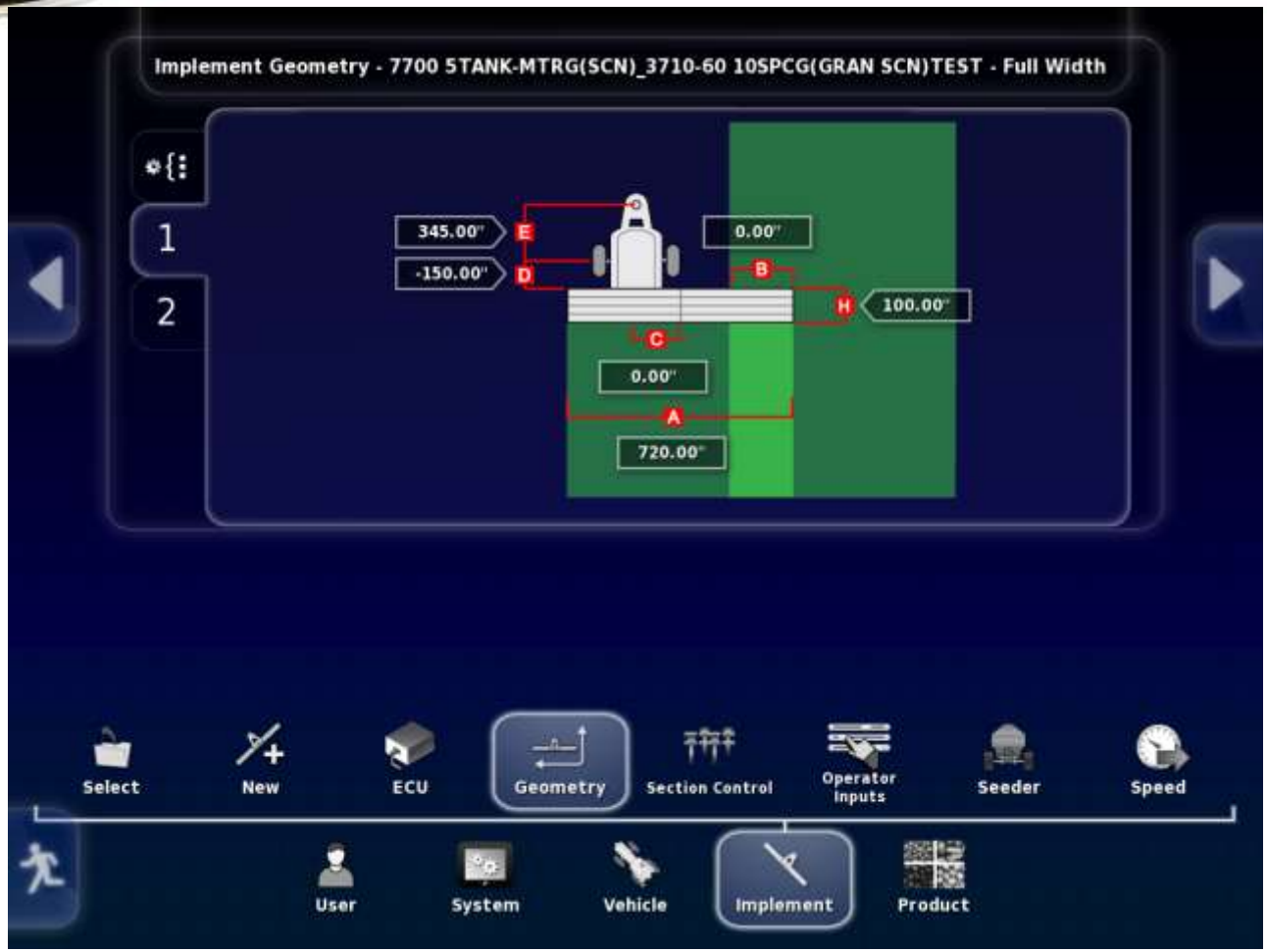


Access the SETUP screen (wrench in bottom left corner)

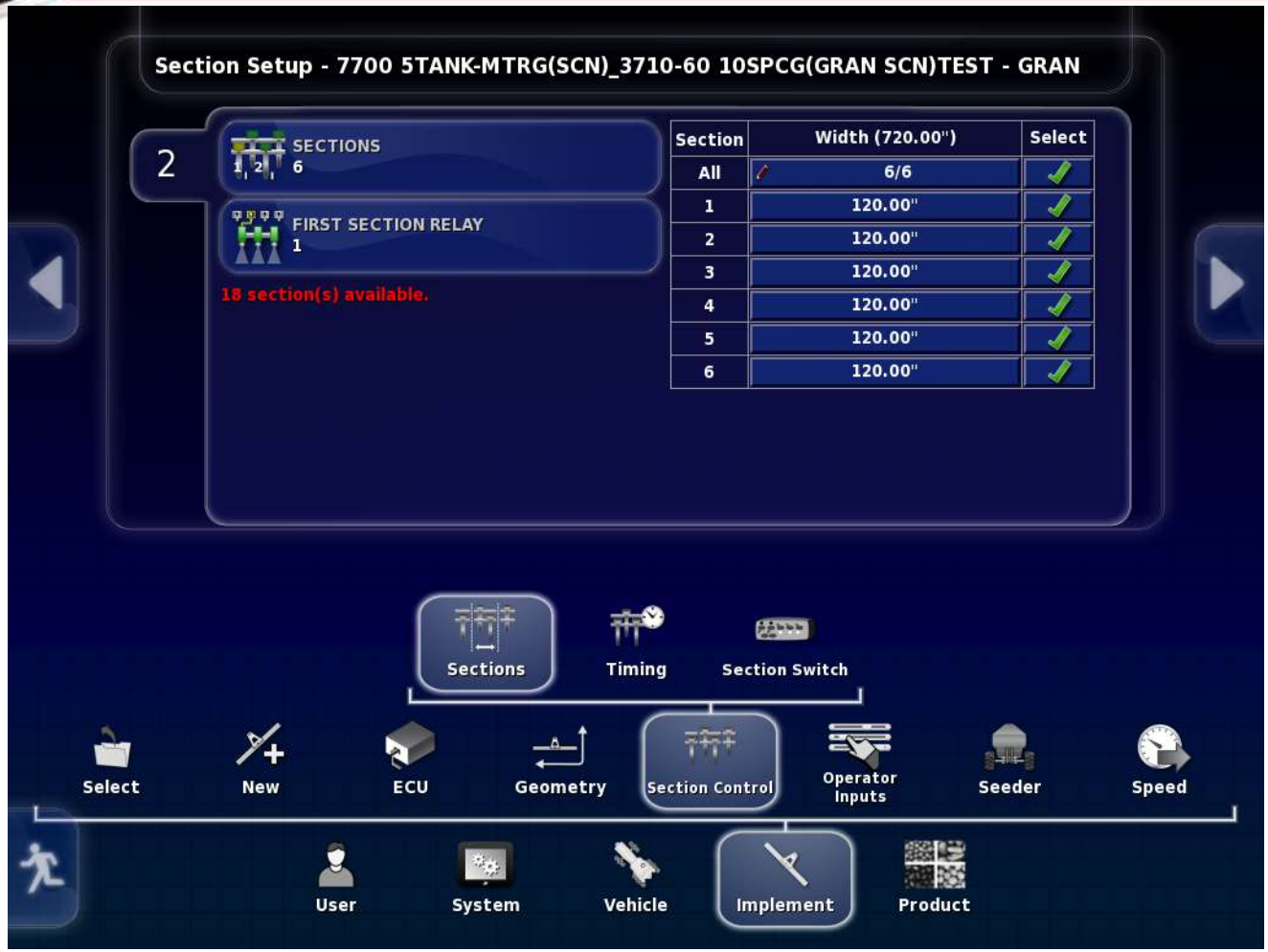
Once you have entered SETUP go to User/Units and the units should be Imperial(US), the Pressure Units in psi, the Area Units in ac, Dry Product Volume Units in Bushels and the Dry Density Units in Pounds Per Cubic Foot.



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

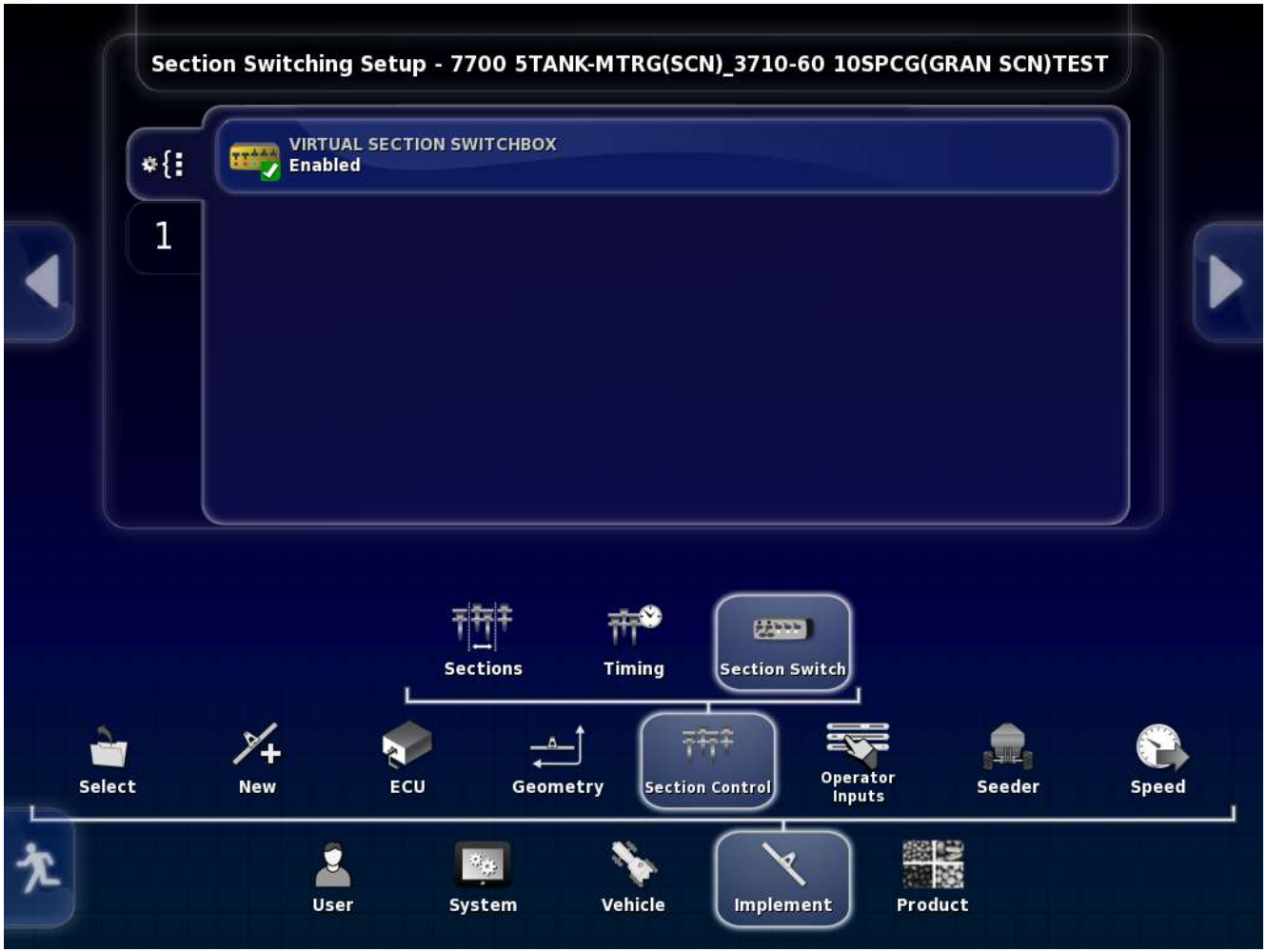


Next go to Geometry, there should be implement widths in inches for #1the full width boom and #2 the Granular section boom The widths are not entered in the Section Control section.



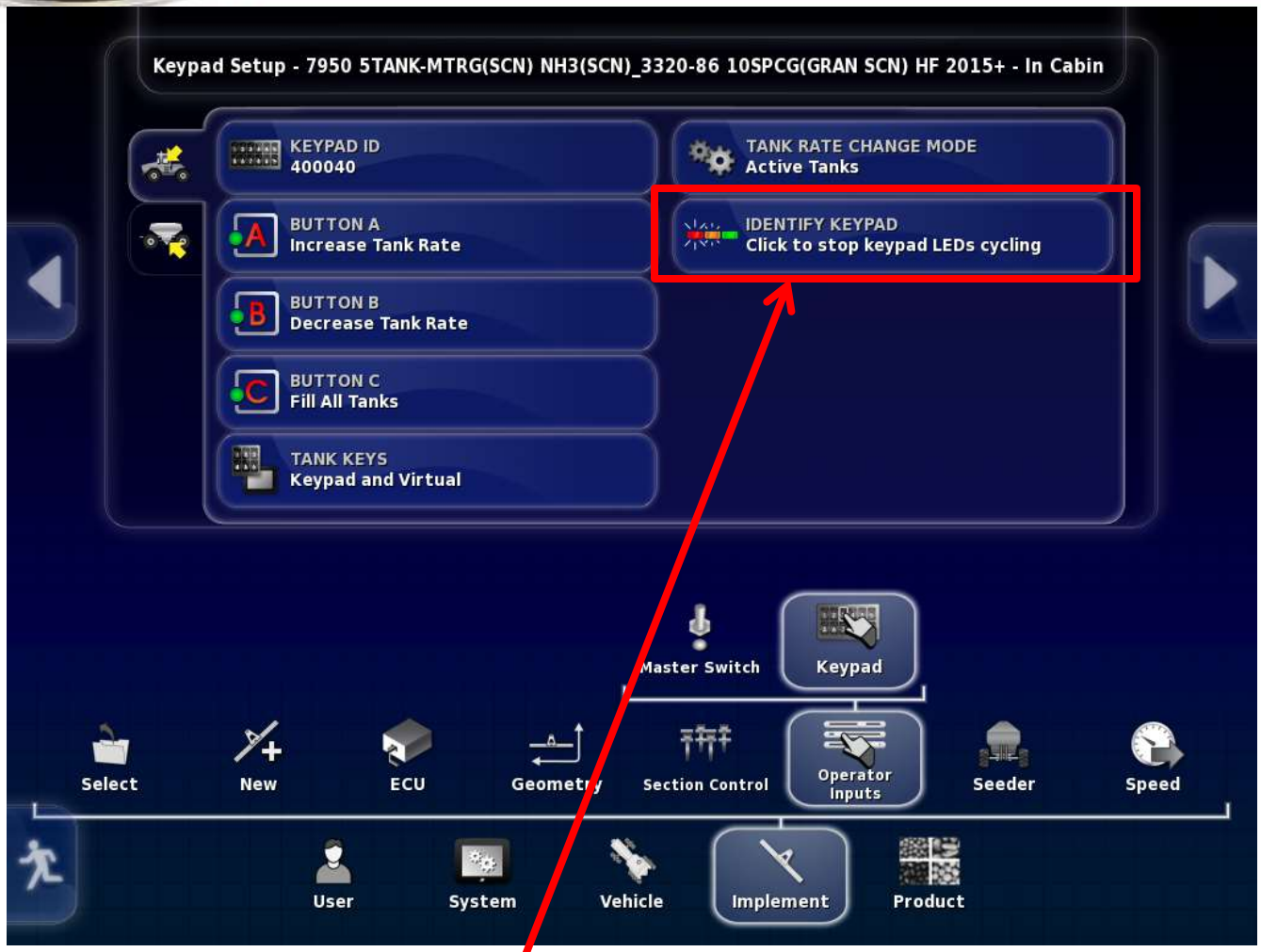
If connected to a Bourgault drill you will not have to enter section widths for the Granular section boom (#2).

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

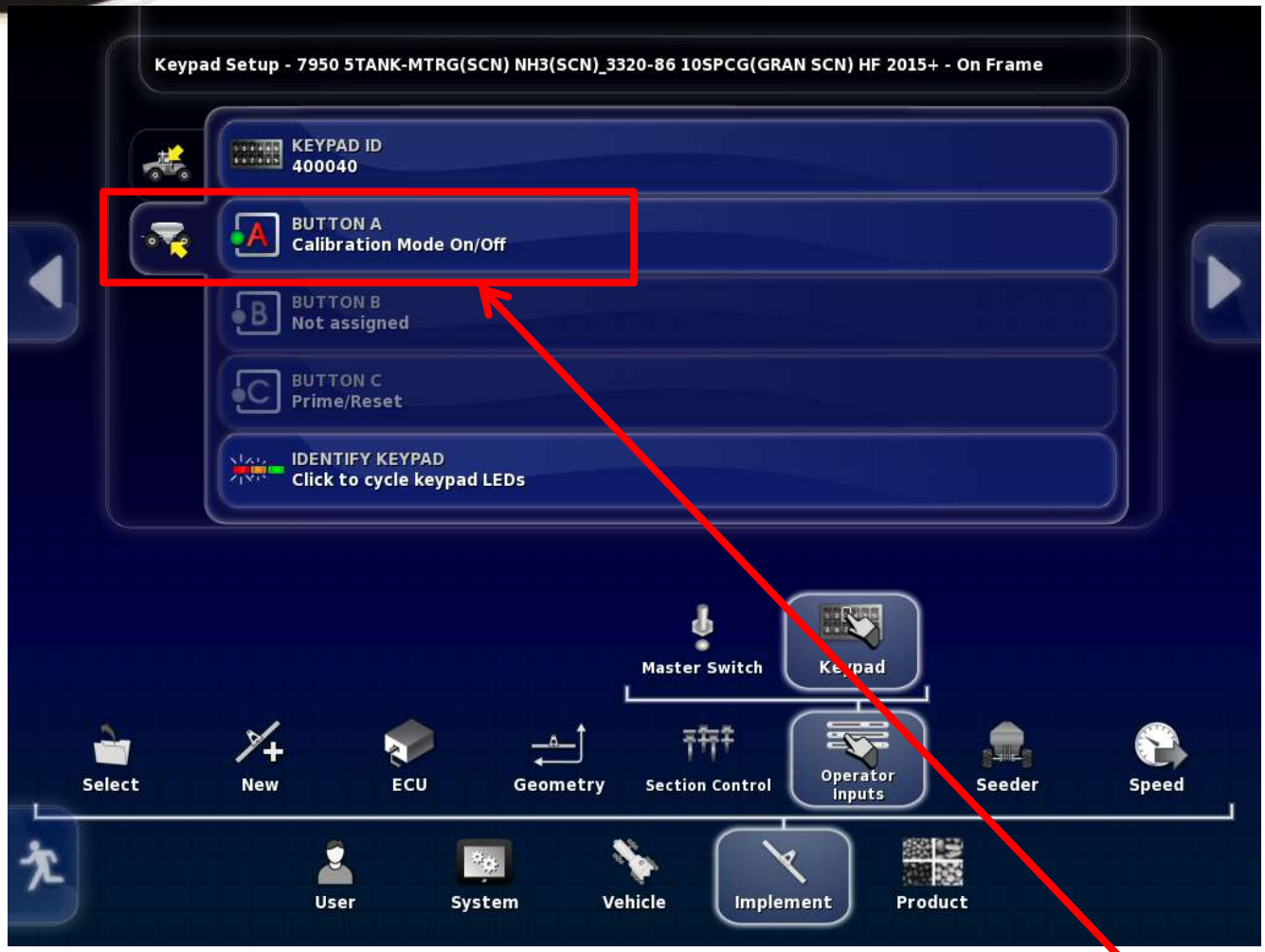


Enable the Virtual Section Switchbox

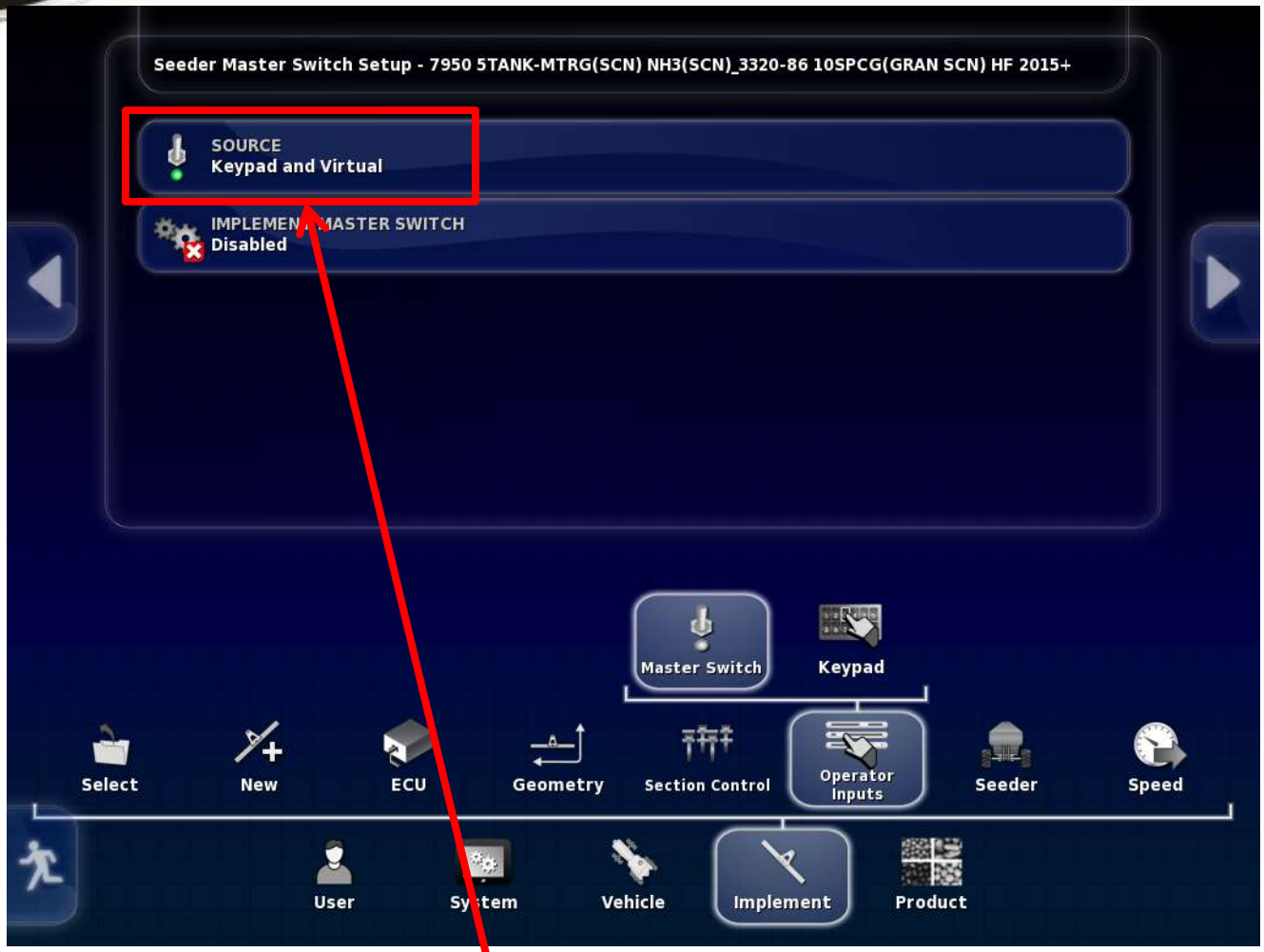
Next go to Implement/Operator Inputs/ Keypad and Customize buttons A, B, C and TANK KEYS as above for the in-cab Switchbox **(function of the customized keys will be tested later)**



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

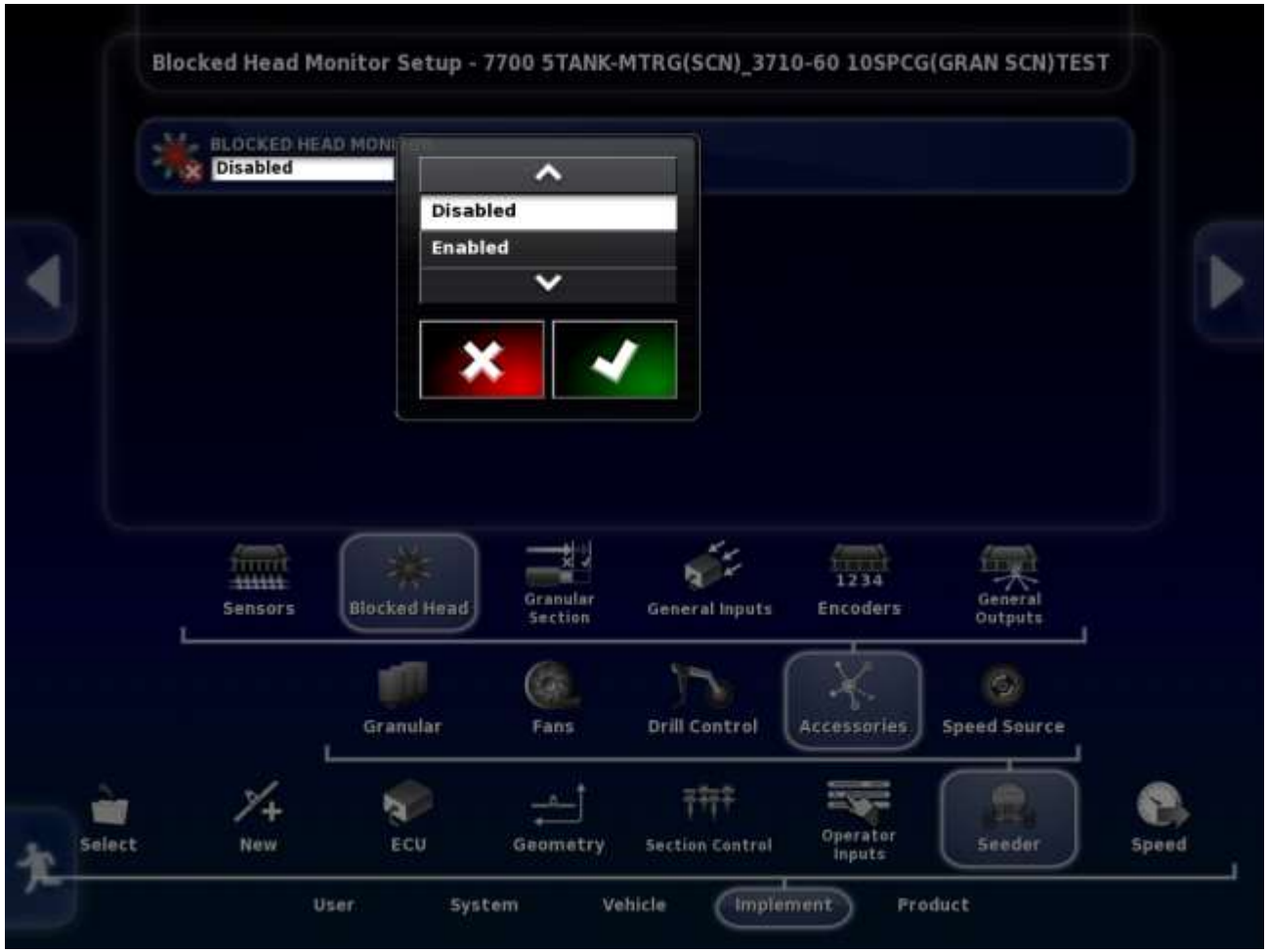


Next go to Implement/Operator Inputs/ Master Switch and select the Source as Keypad and Virtual

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

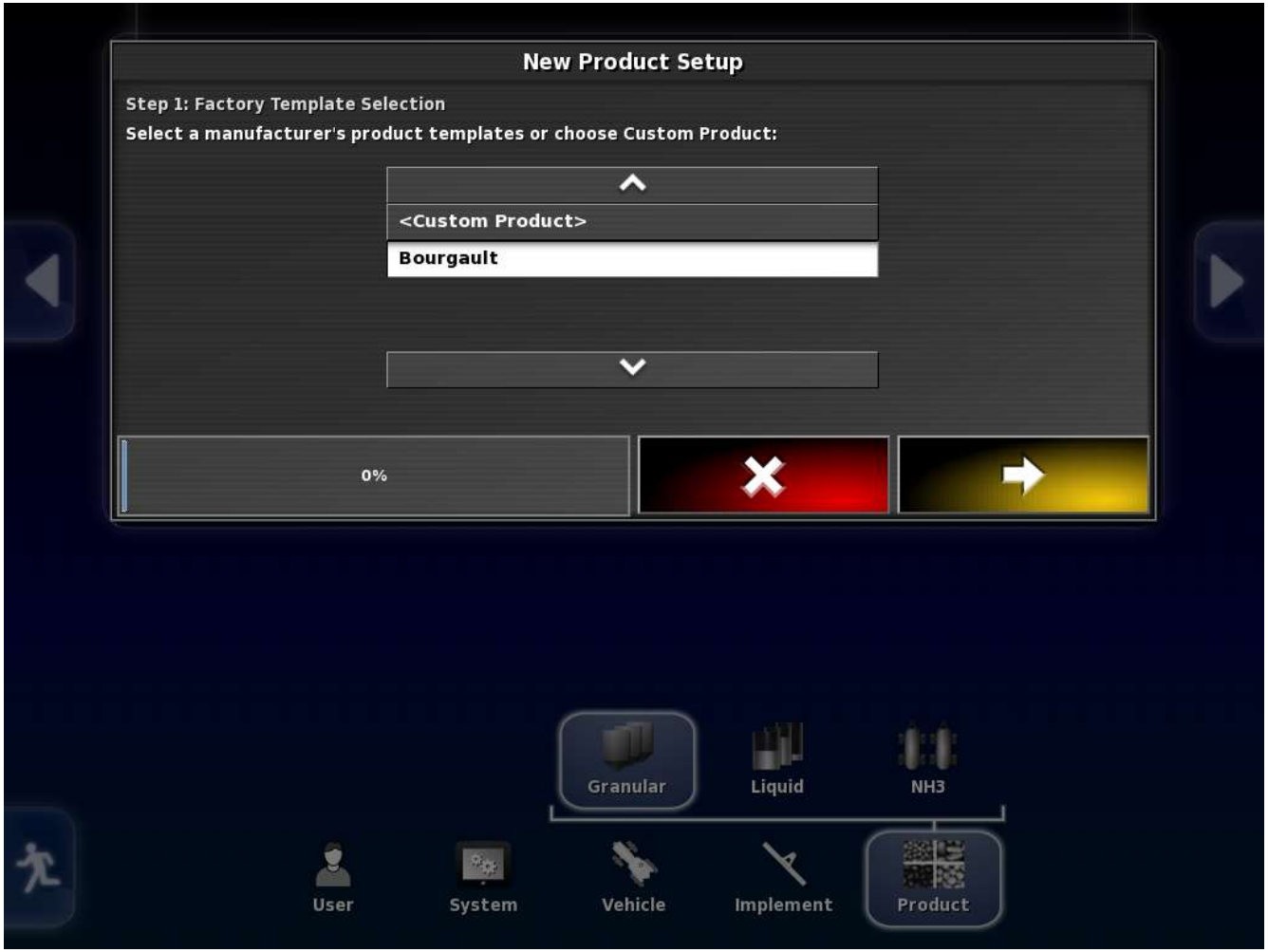
Next go to Seeder/Drive Setup then set up all tanks the same. (these settings are for a 7000 series tank. Drive Type: (Proportional Valve), Encoder Pulses/Revolution: (32), Minimum Shaft RPM: (10), Maximum Shaft RPM: (1000)

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

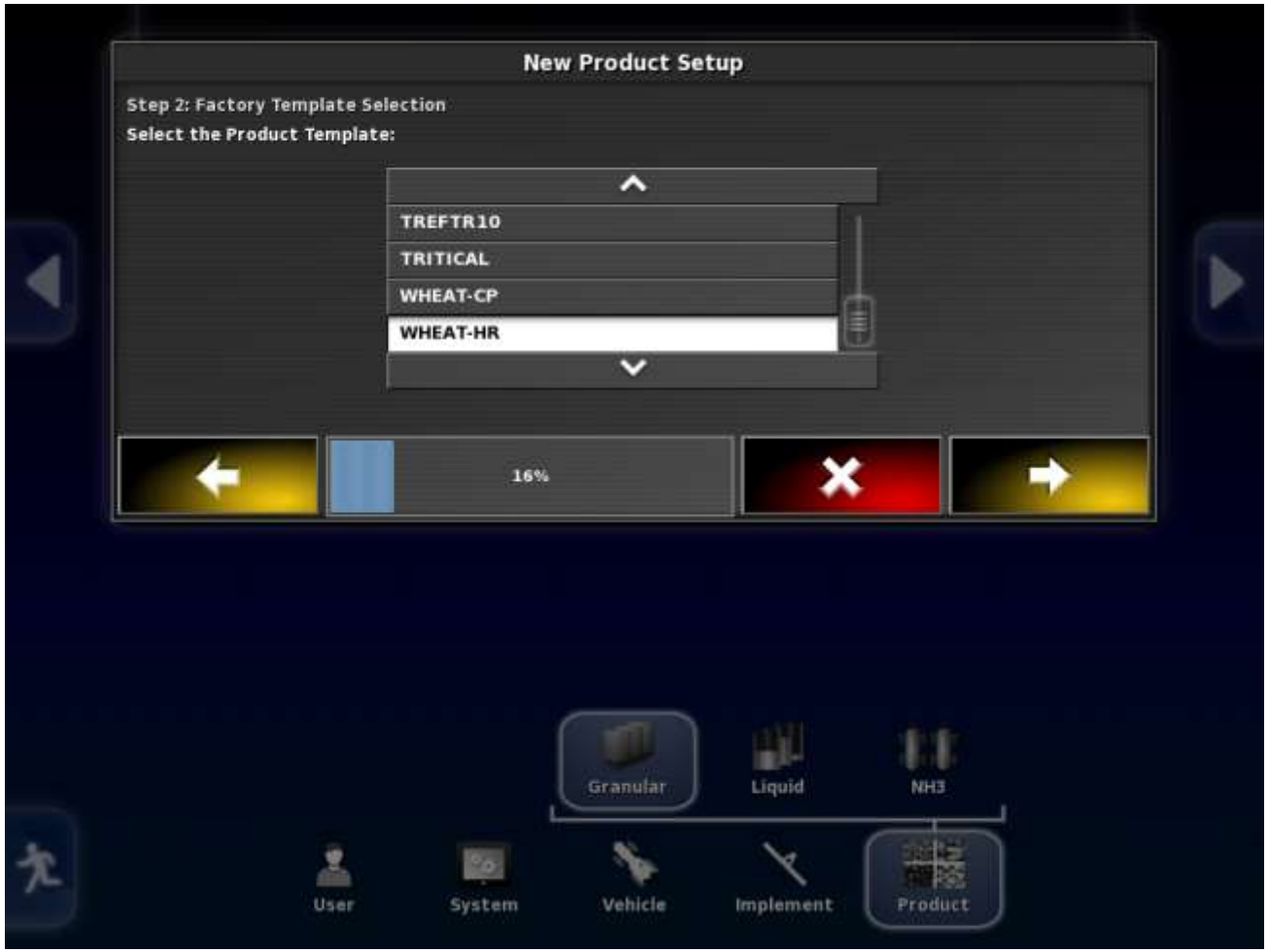


If the unit has Blockage, make sure it is enabled

Next go to Products/Granular/New Product



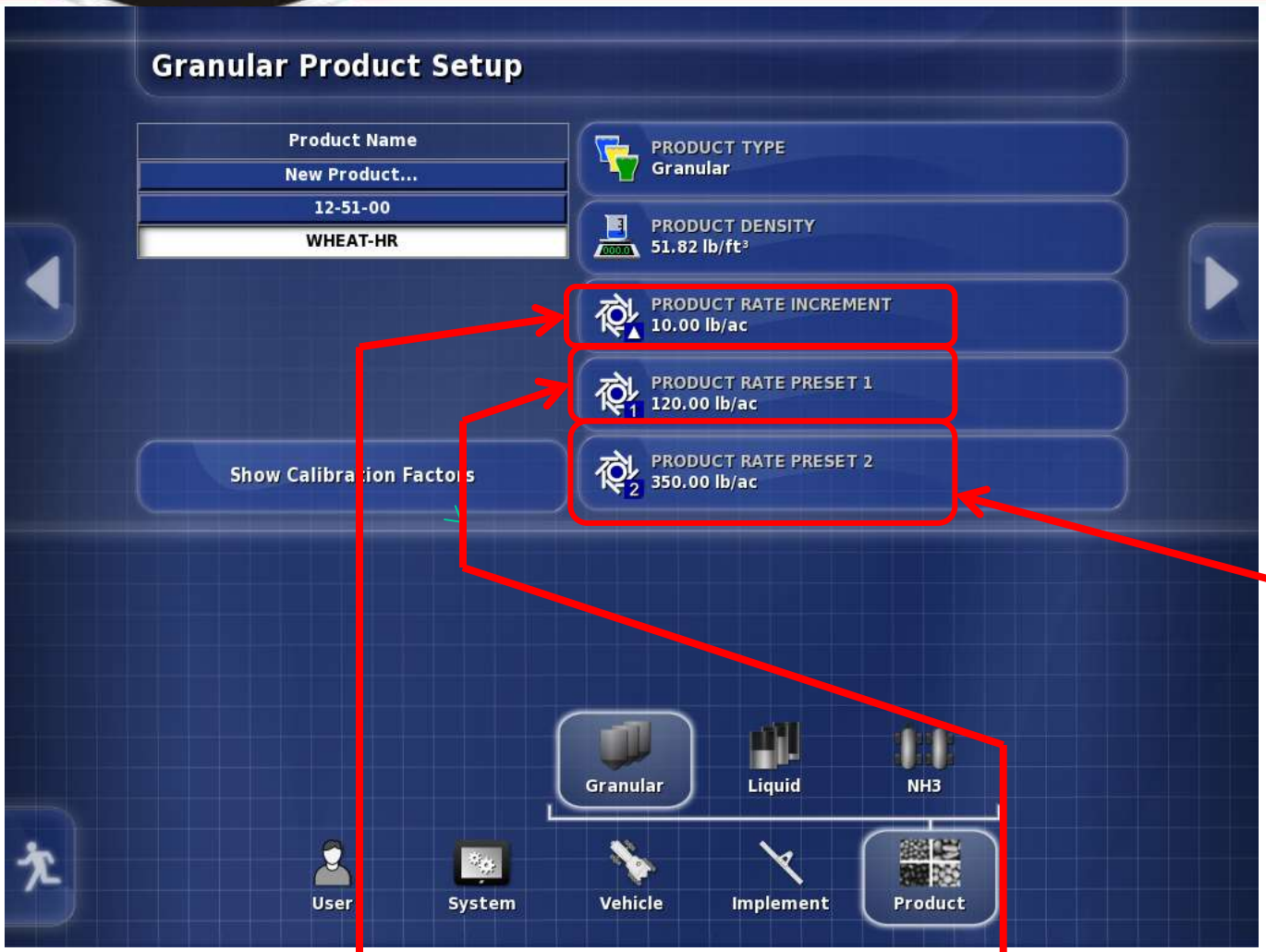
Next Select Bourgault and touch the yellow arrow .



Next Select Wheat-HR and touch the yellow arrow.

Next Verify Wheat-HR and touch the yellow arrow.

Press the green check mark.



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.

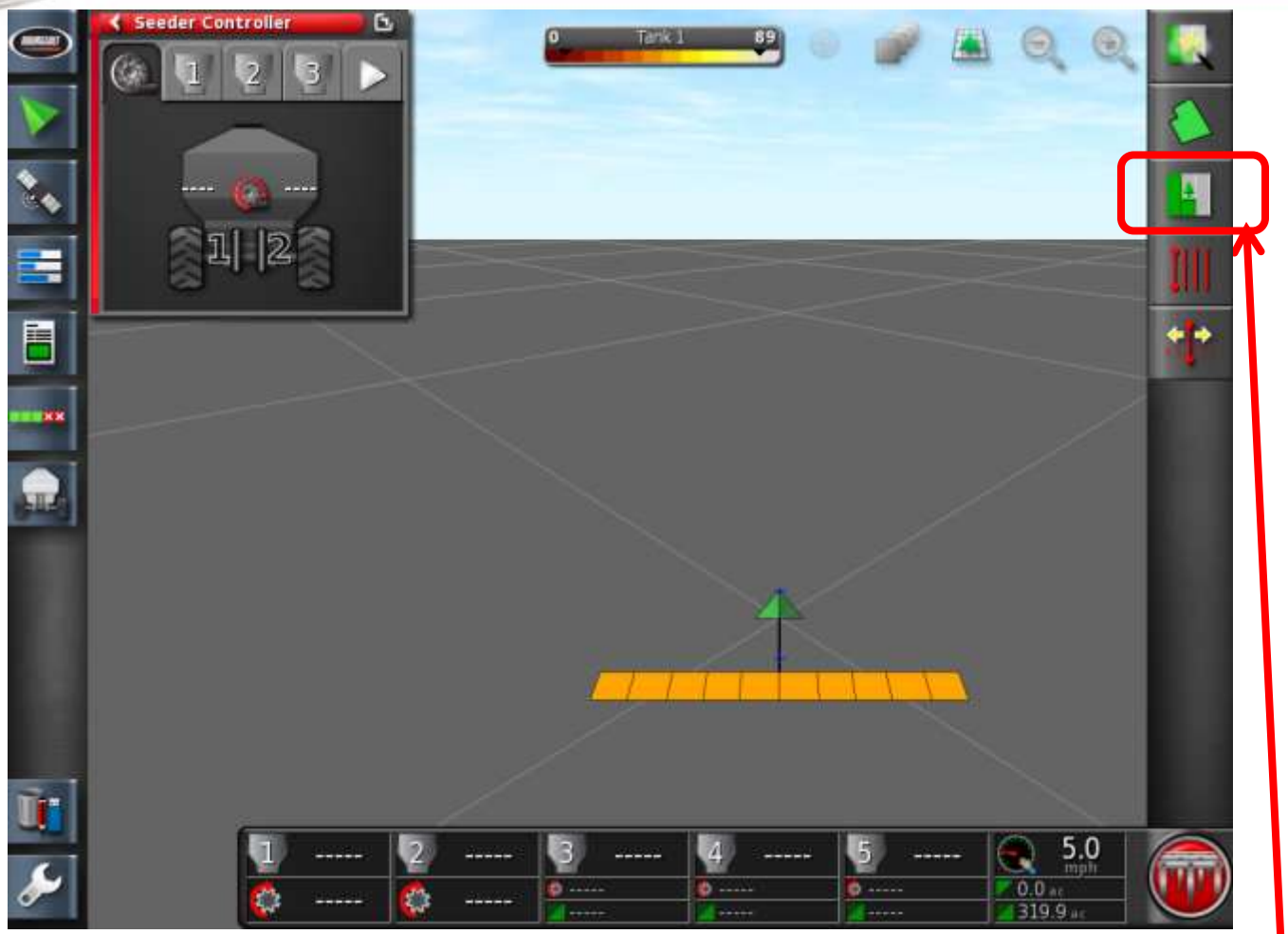
Touch the Running Man in the lower left corner to return to the seeder page.

GPS Mini View Icon

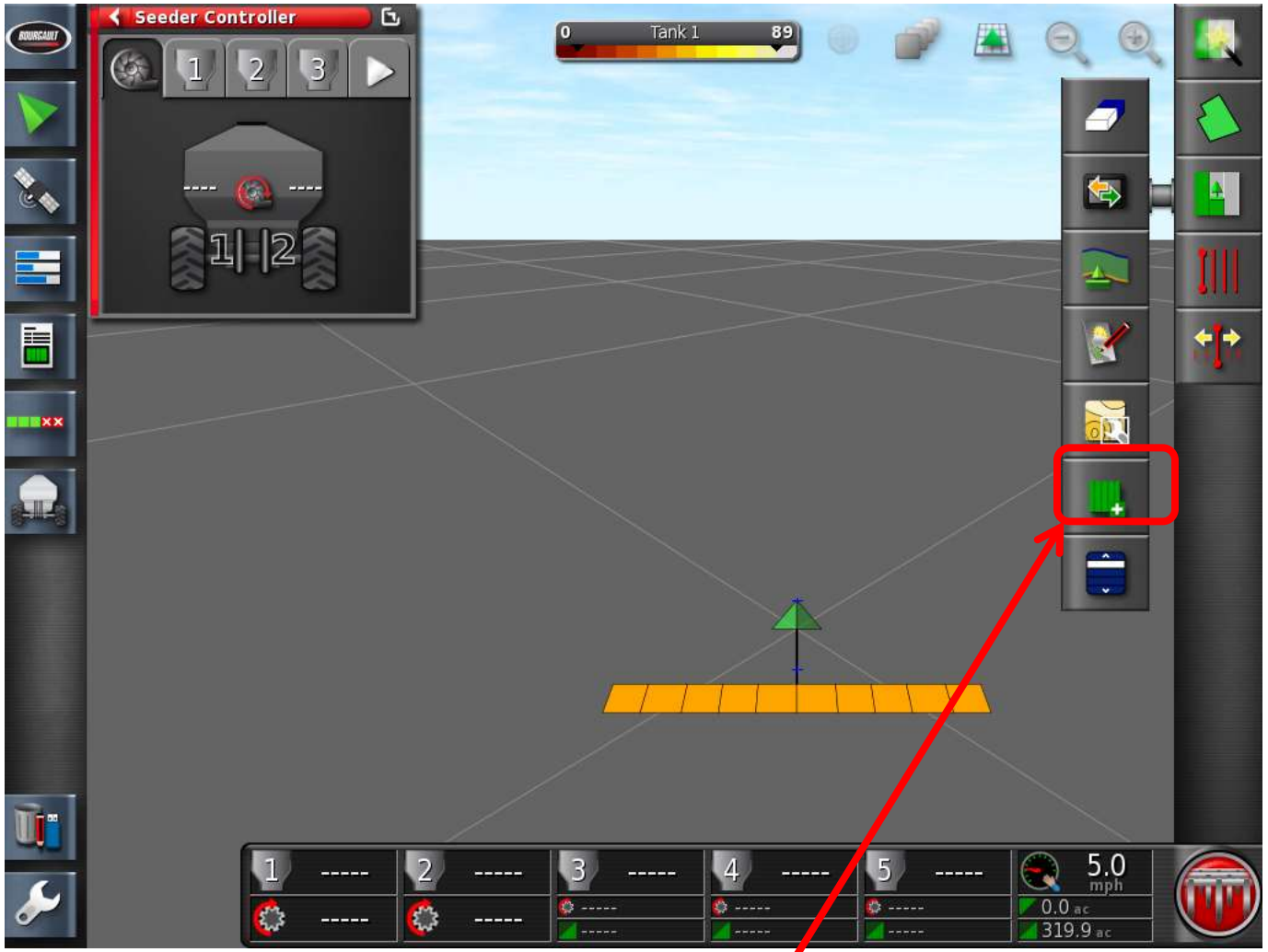
If GPS has been connected to the X30 you will have a position when the GPS Mini View has been selected

Guidance Mini View Icon

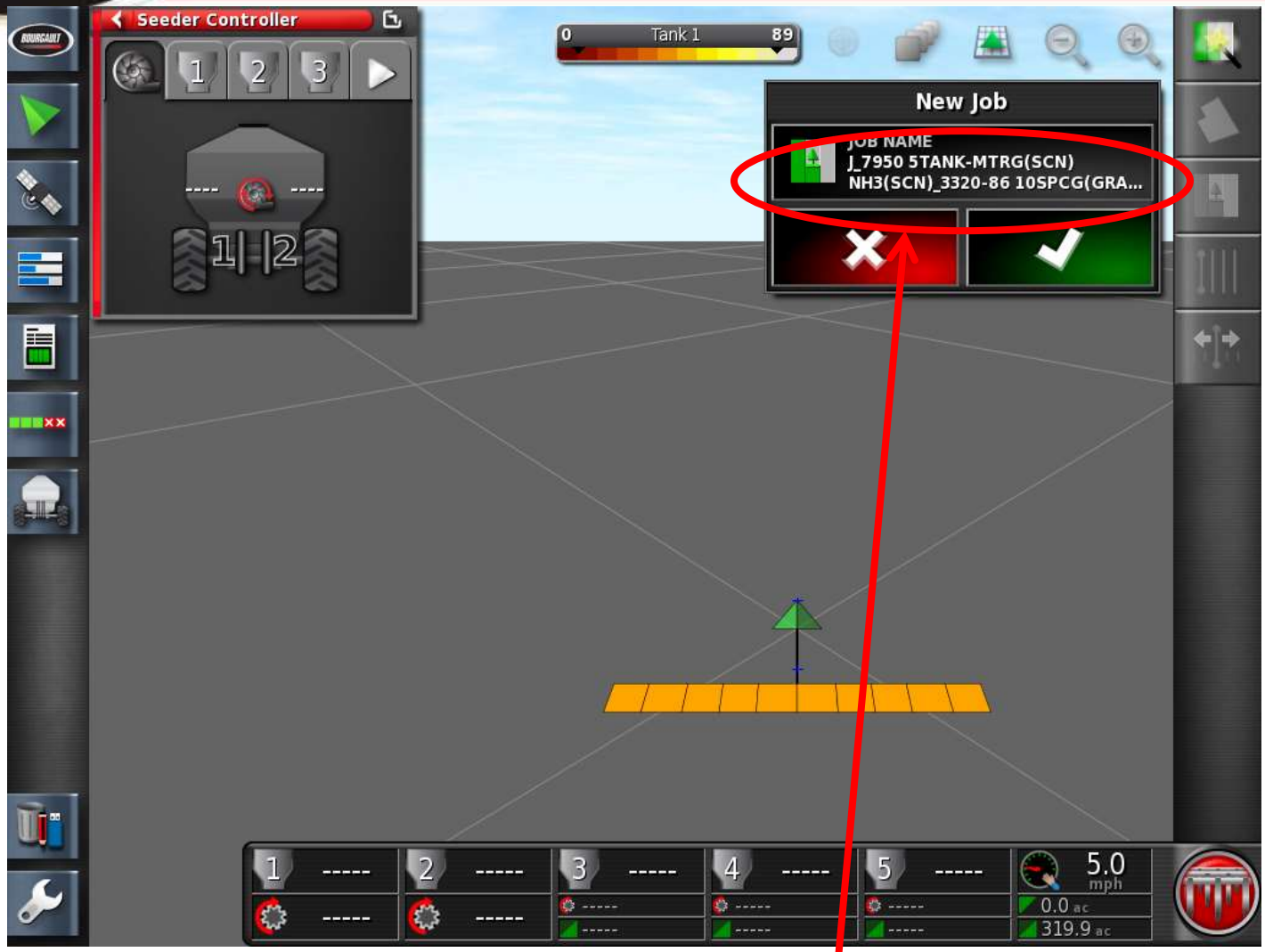
If GPS is connected to the X30 you will be required to start a new JOB, swipe Guidance Mini View to the right



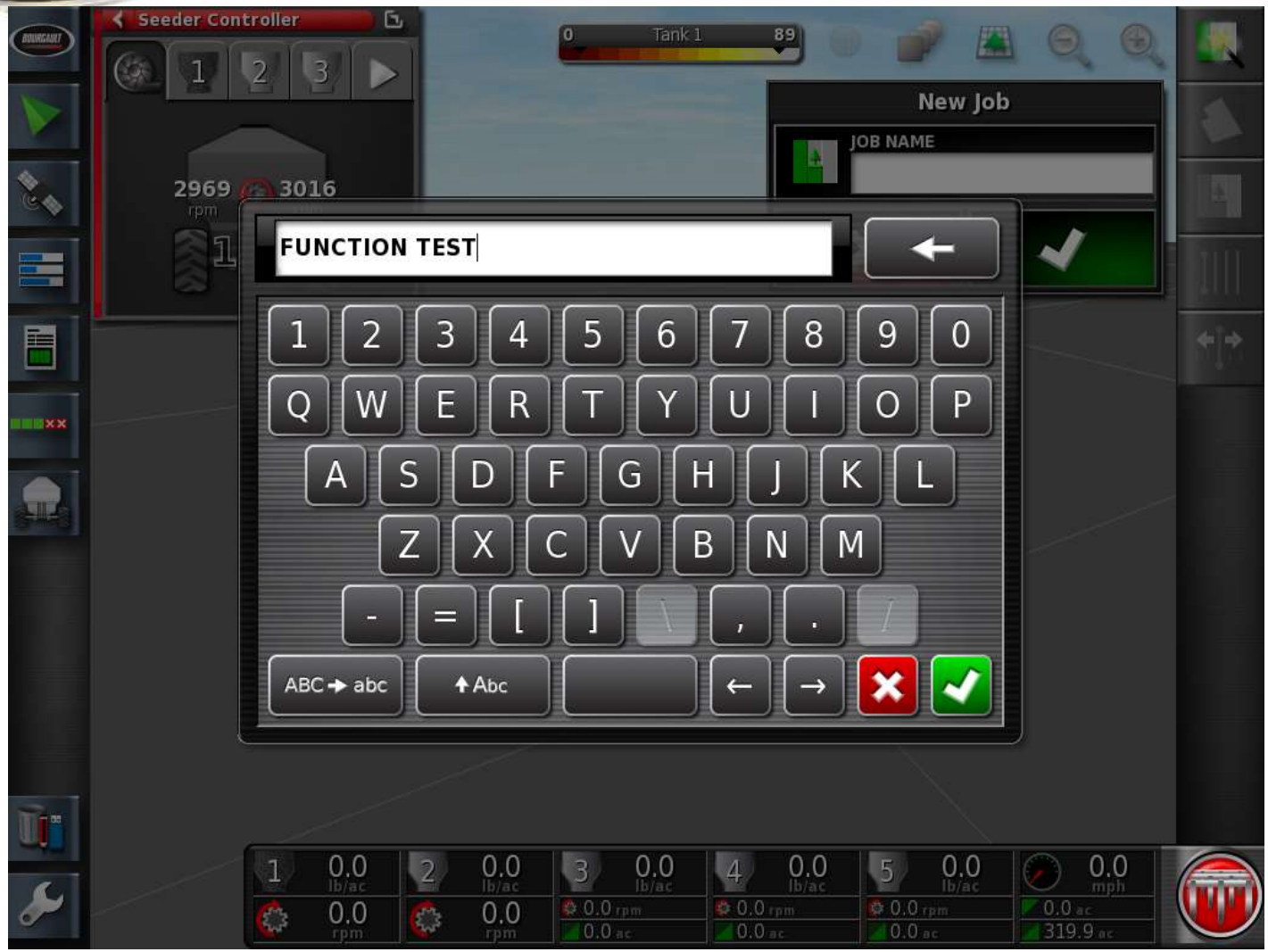
Open JOB menu on the right side of the screen



Select the Add Job Icon

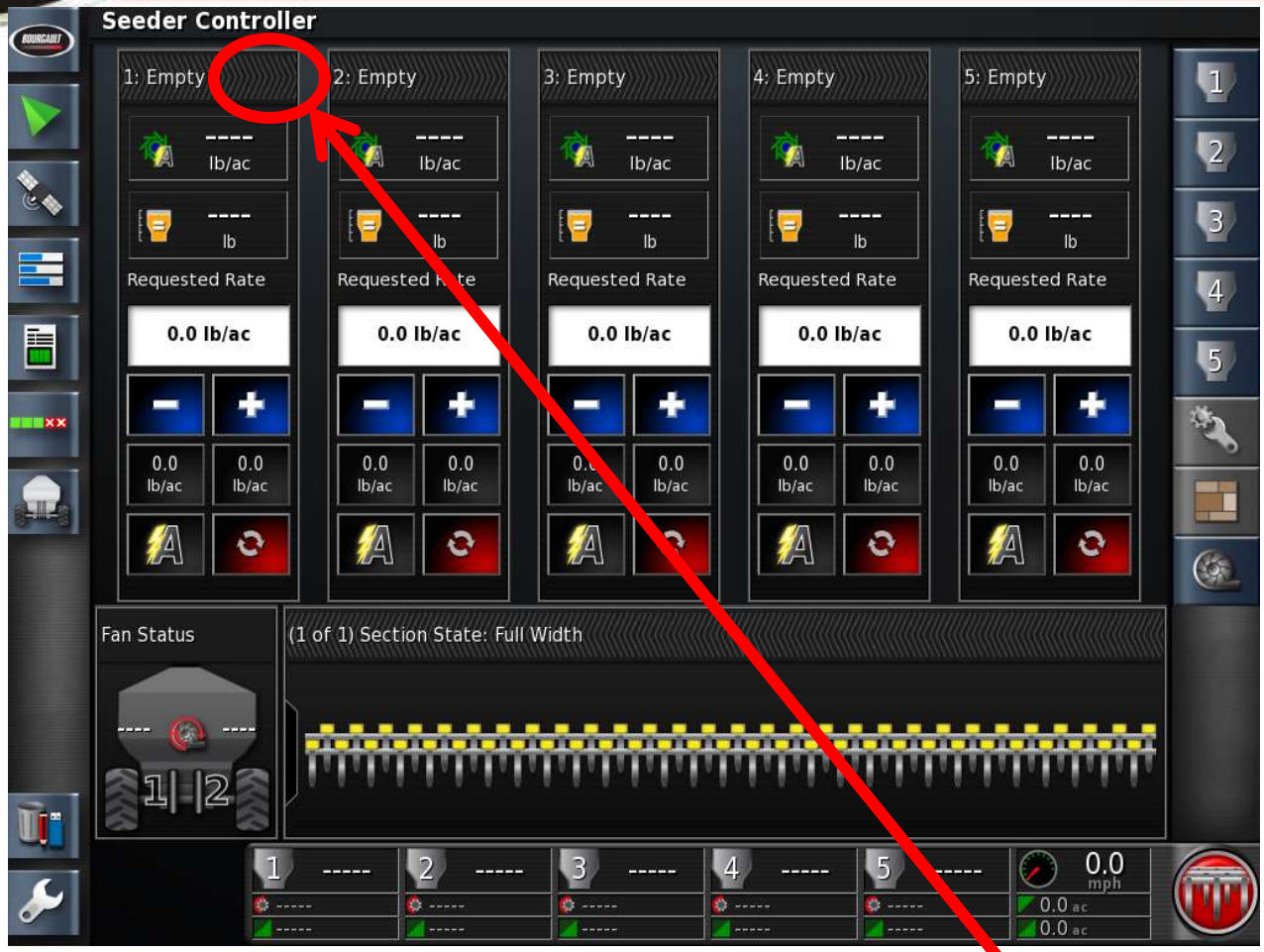


It is a good idea to rename the Job

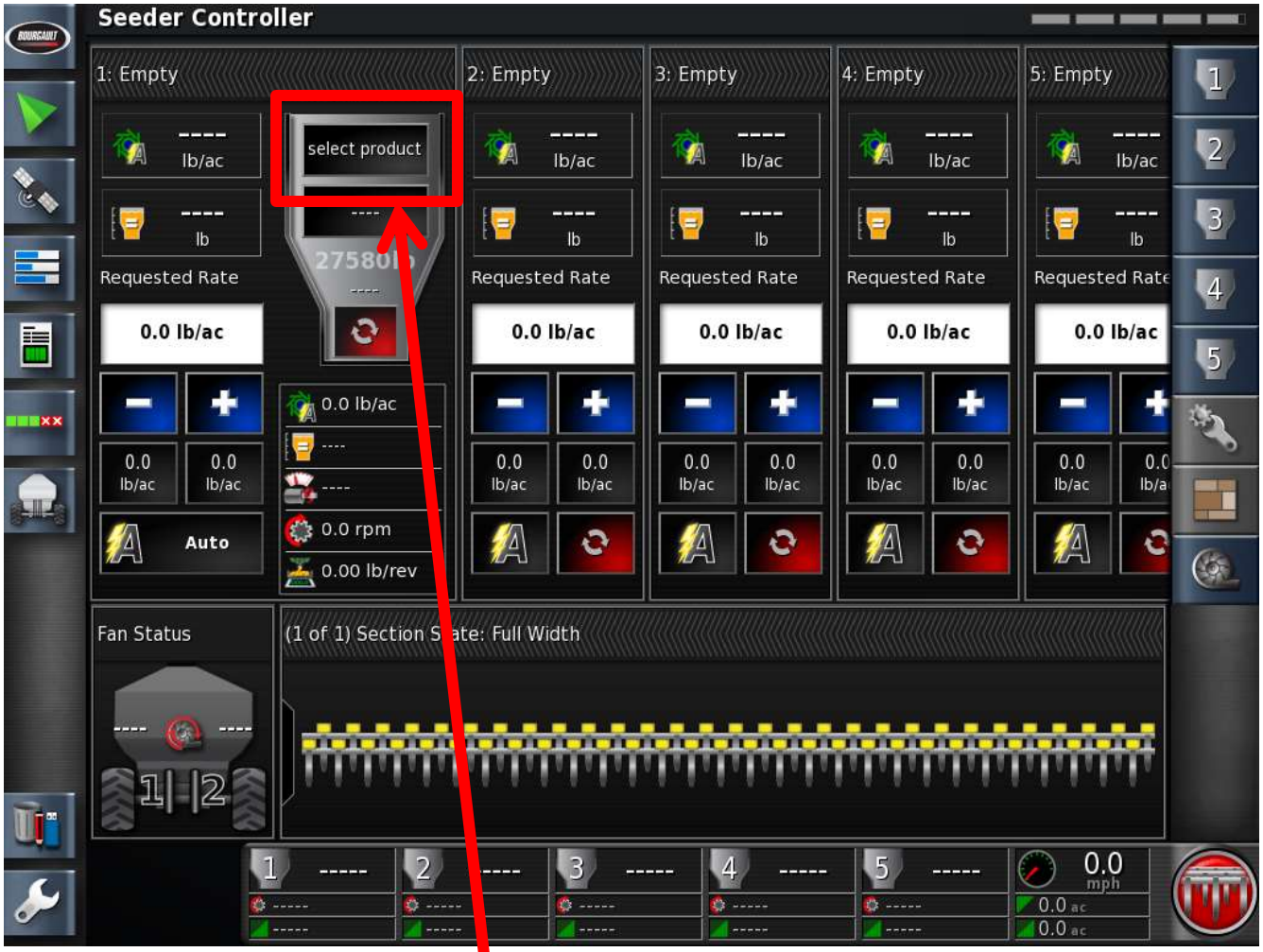


For our testing we have named this Job FUNCTION TEST

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



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


Seeder Controller
1: Empty
2: Empty
3: Empty
4: Empty
5: Empty
lb/ac
lb
Requested Rate
0.0 lb/ac
select product
0.0 lb/ac
0.0 rpm
0.00 lb/rev
Auto
Fan Status
(1 of 1) Section State: Full Width
0.0 mph
Next touch here to select new product.

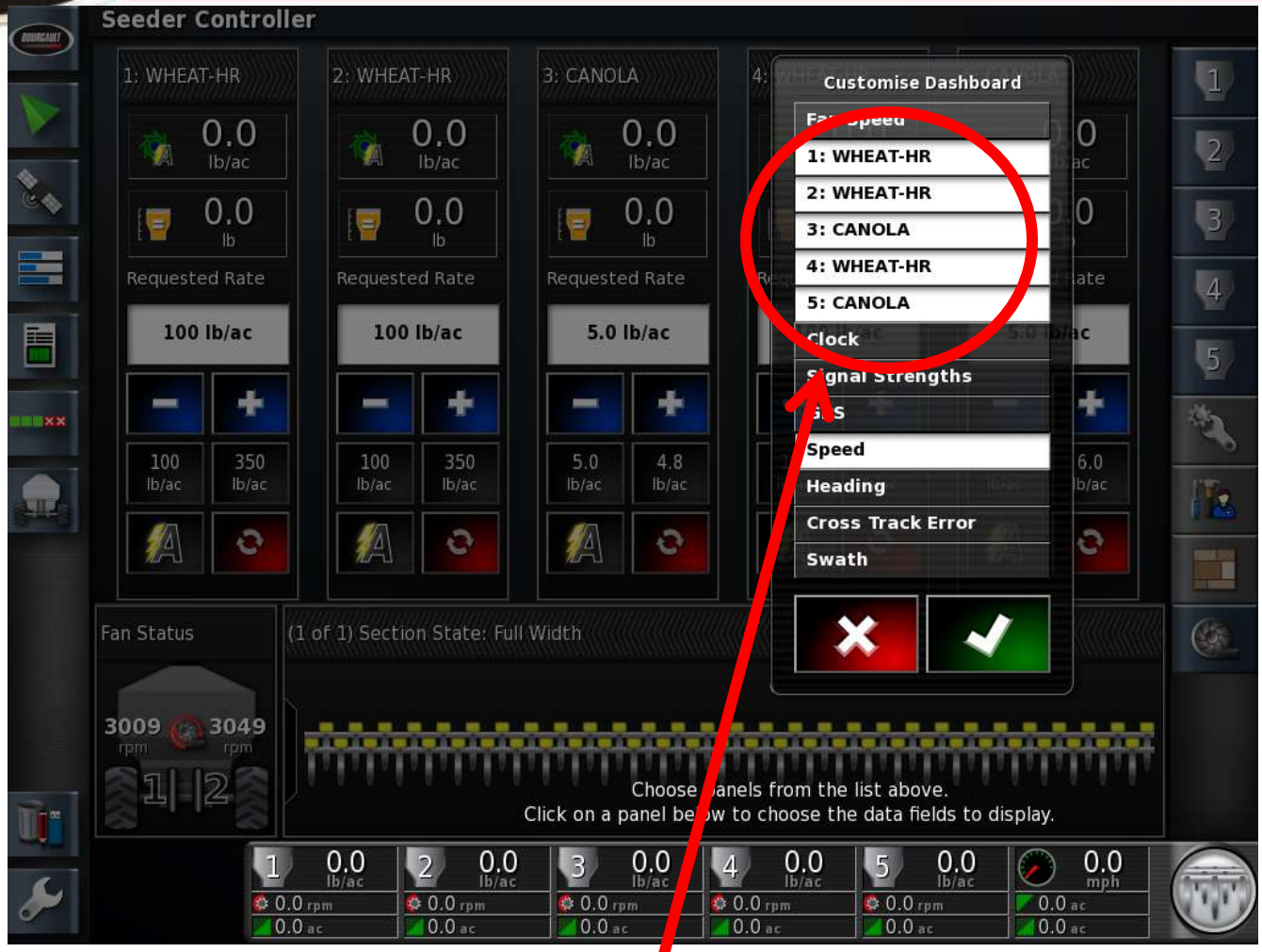
Touch Product Name to select the product to be tested in each tank.

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

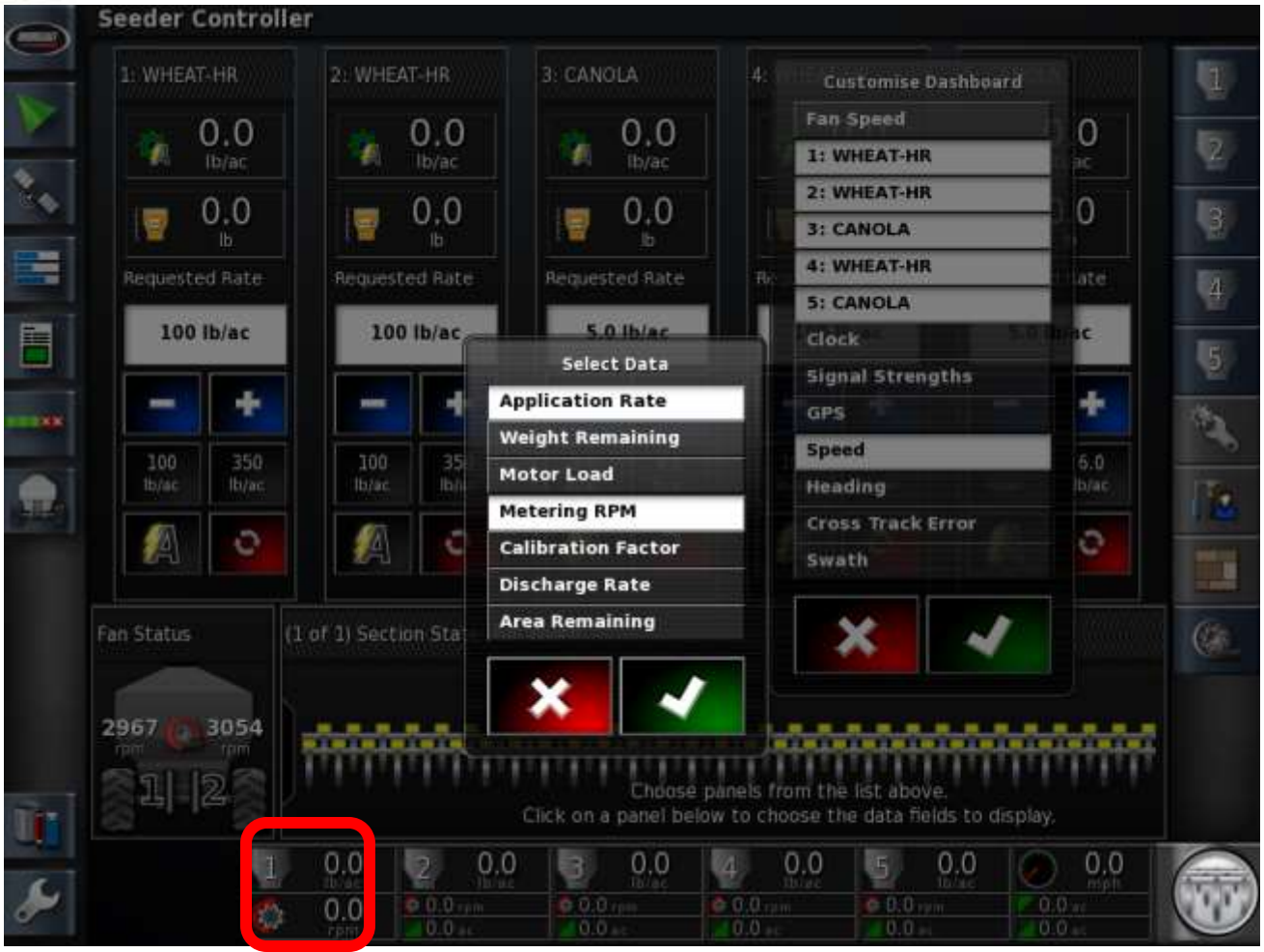
Make sure you have PRESET RATES 1 and 2, RATE INCREMENTS as well as CALIBRATION FACTORS

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

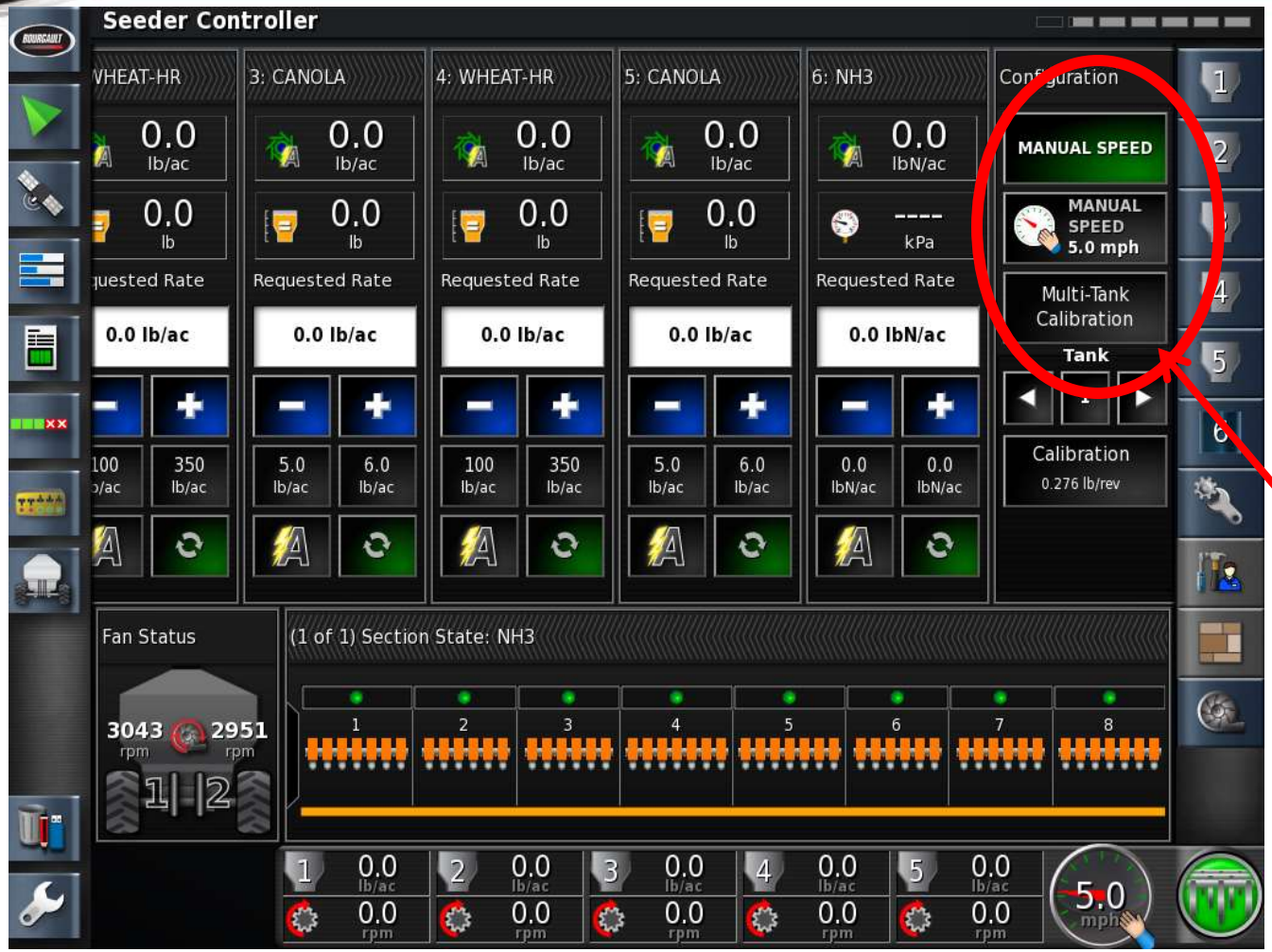


For testing select all of the tanks and speed.



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.



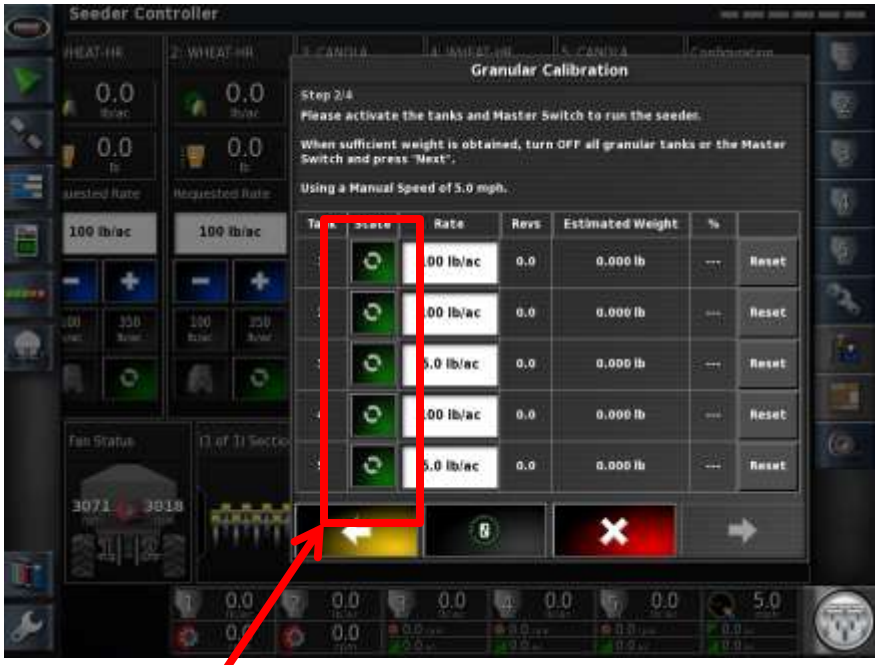
Enter a MANUAL SPEED (use customers average seeding speed) then select MULTI-TANK CALIBRATION

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.

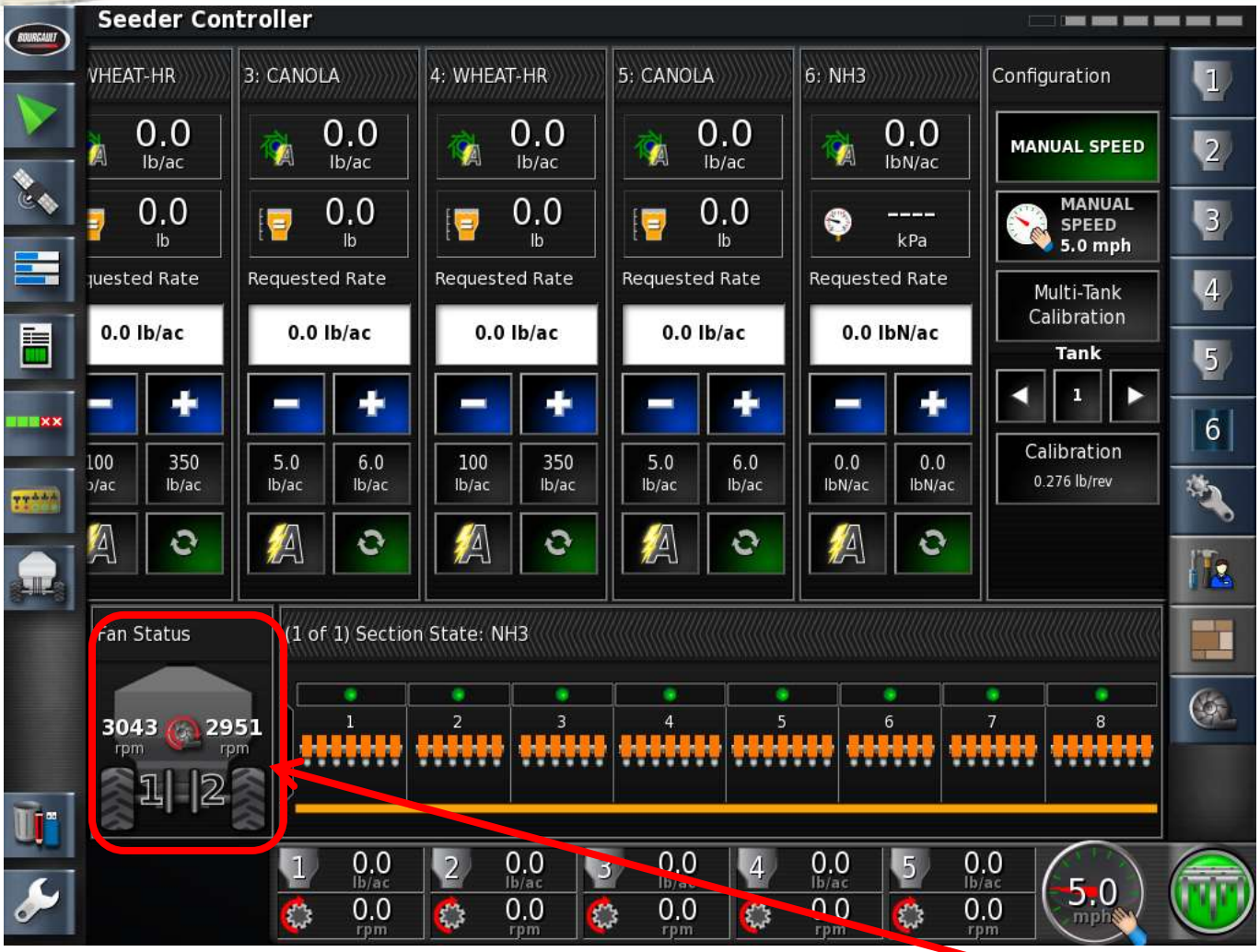
The above Master Switch Status indicates that one or more of the tank products do not have an initial calibration factor. The tank will not run until Master Switch indicator is in the Grey ready state or Green on state.

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

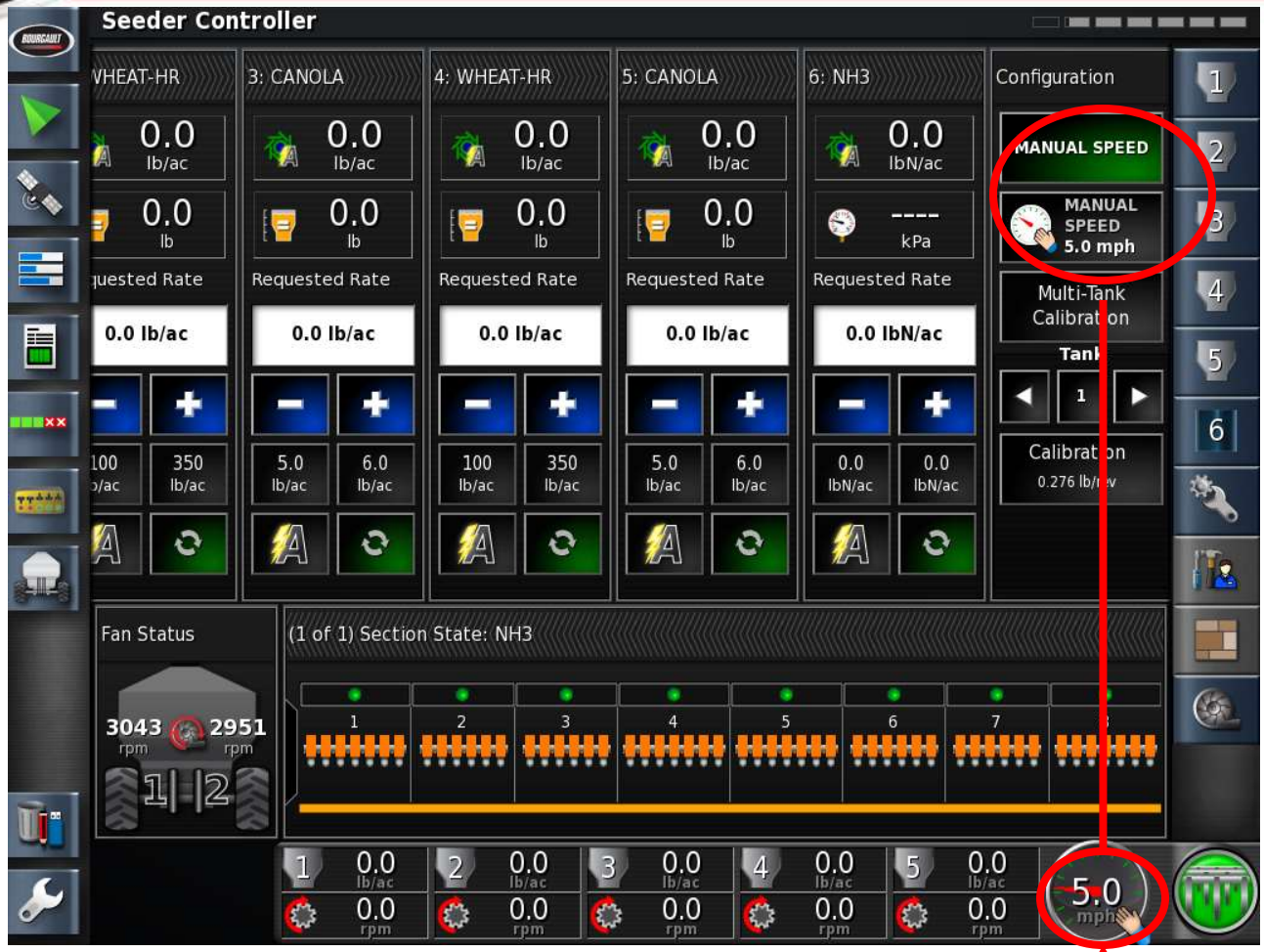
Press the FAN button on the remote to turn the fans back on.

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.



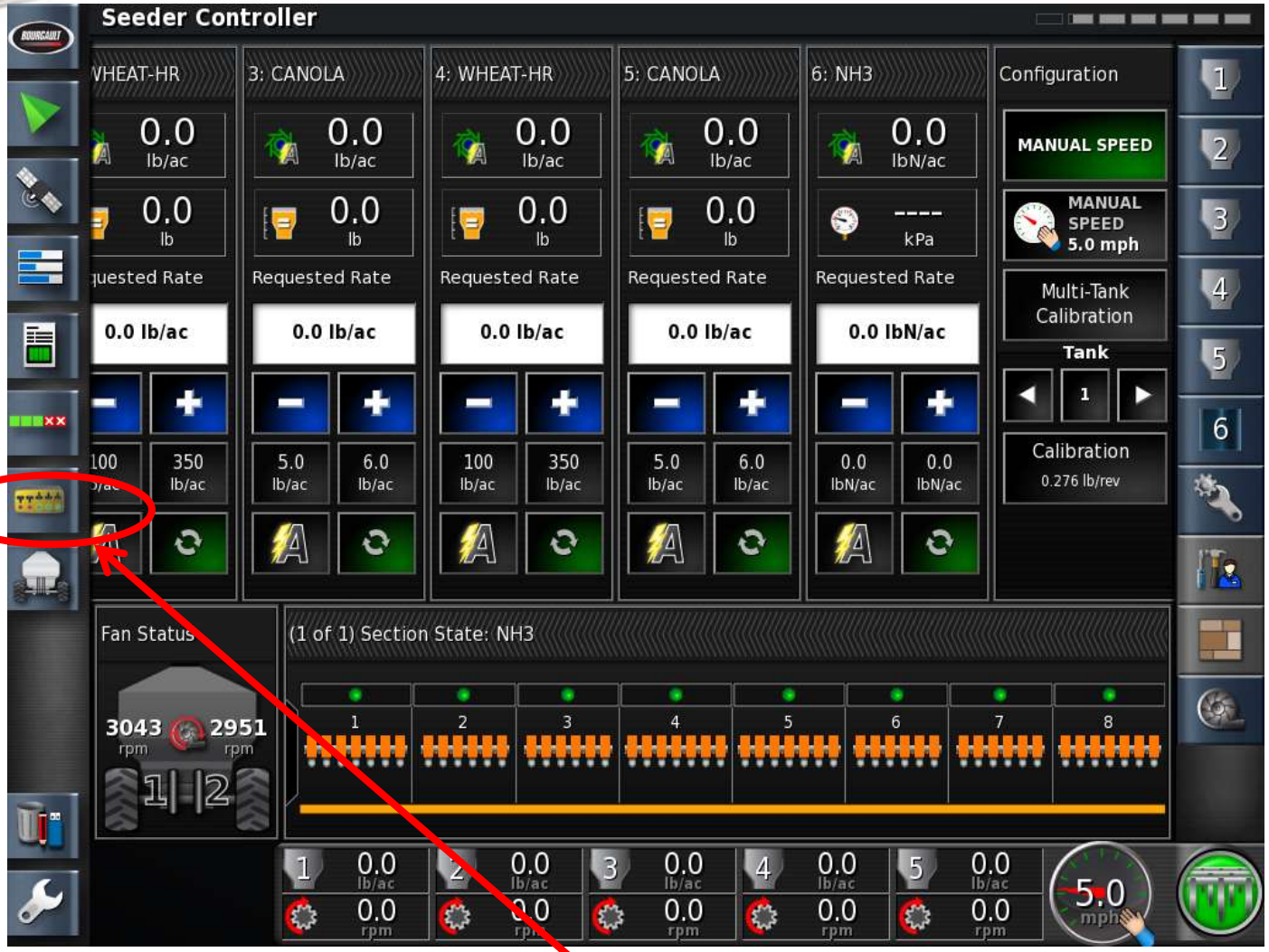
Ensure that the MANUAL SPEED has been selected, and there is speed on the dashboard

ASC Mini View

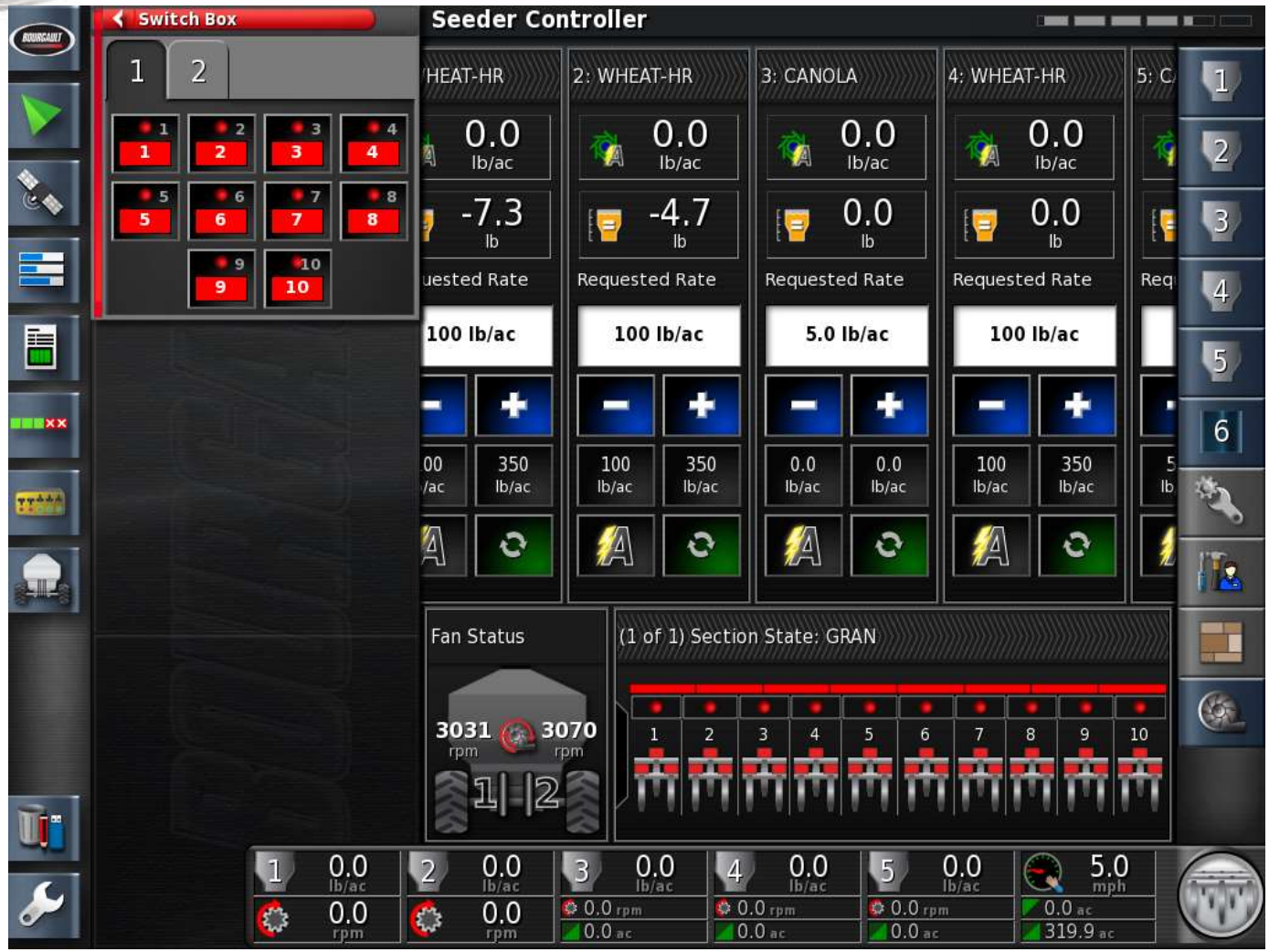
A Yellow boom indicator would indicate that the ASC is on. Select the ASC mini view and turn ASC off

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



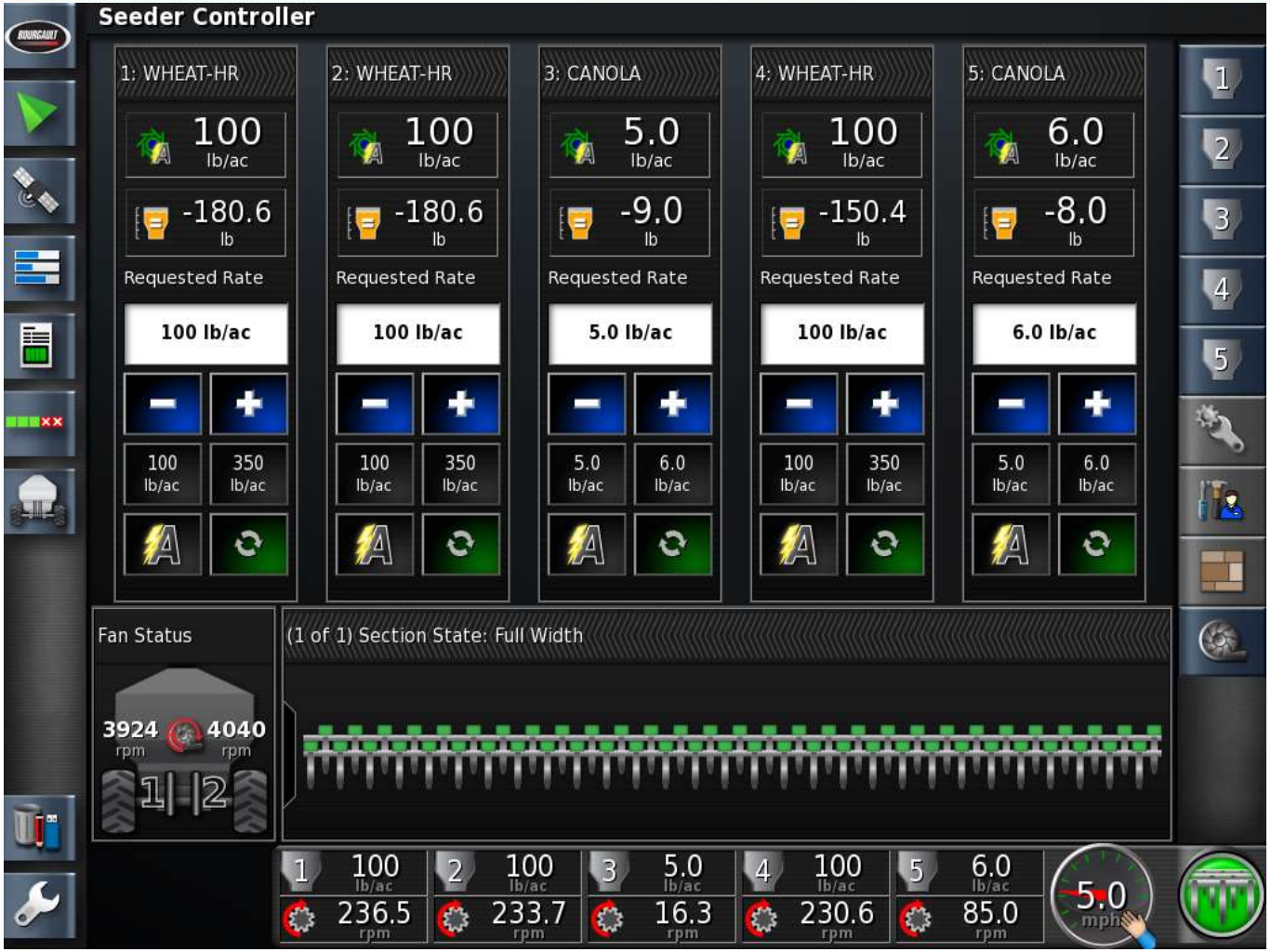
Select Virtual Switchbox Mini View



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

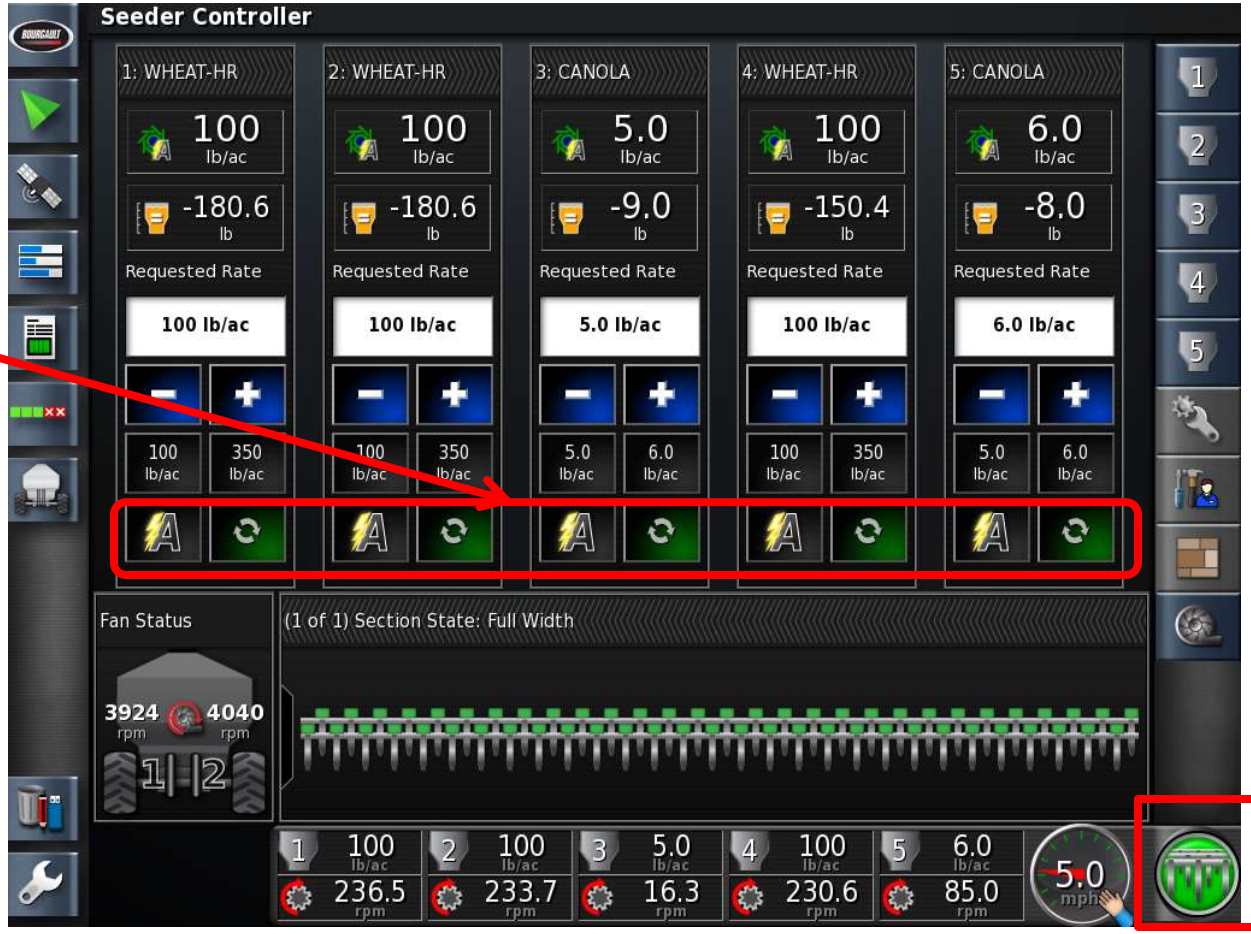
Ensure all section switches are on for both booms 1 and 2

8 channel switchbox



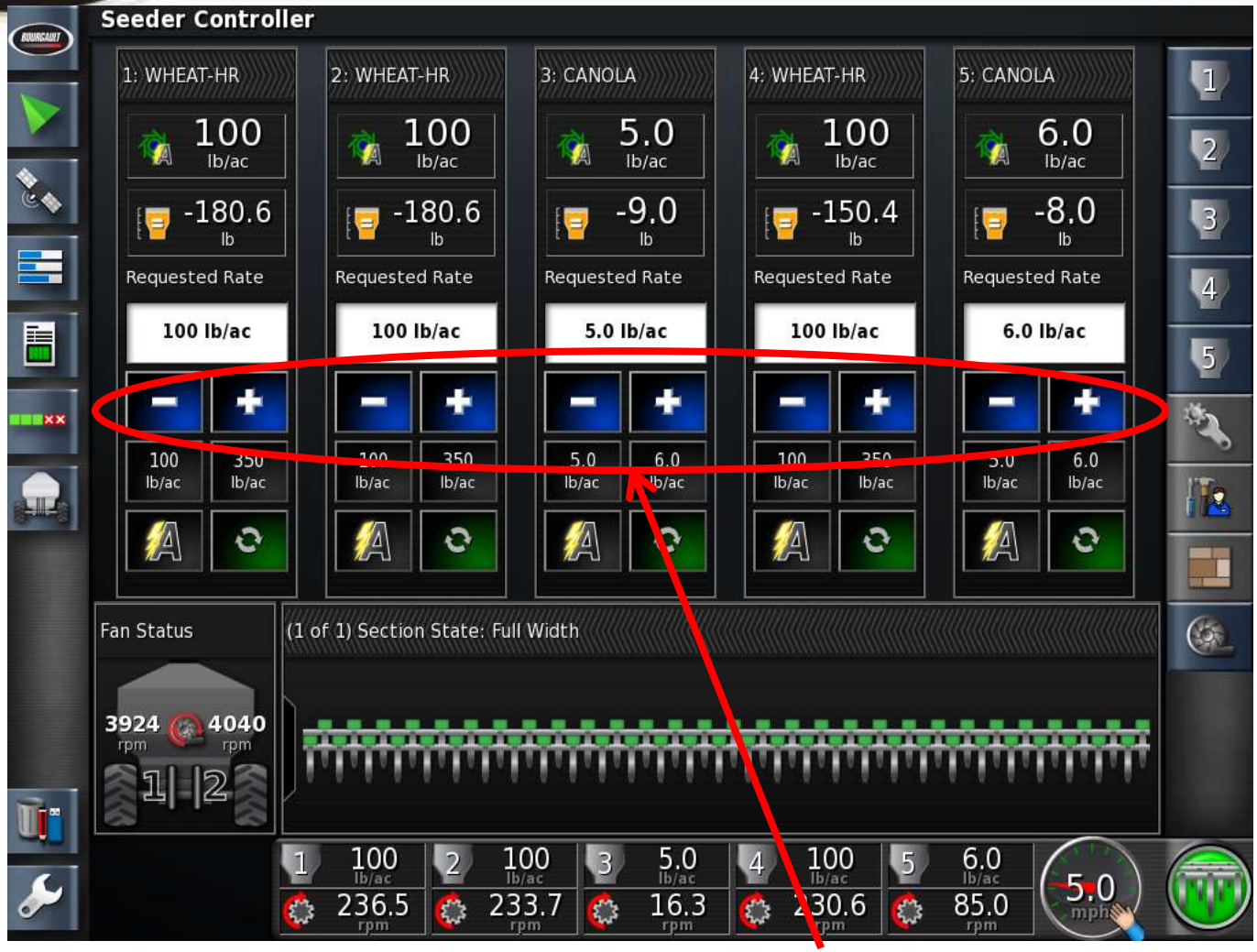
Cycle the Master and Tank switches using cabin 8 channel switchbox **on** and **off** one at a time to verify function.

Virtual Tank Switches



MASTER

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.

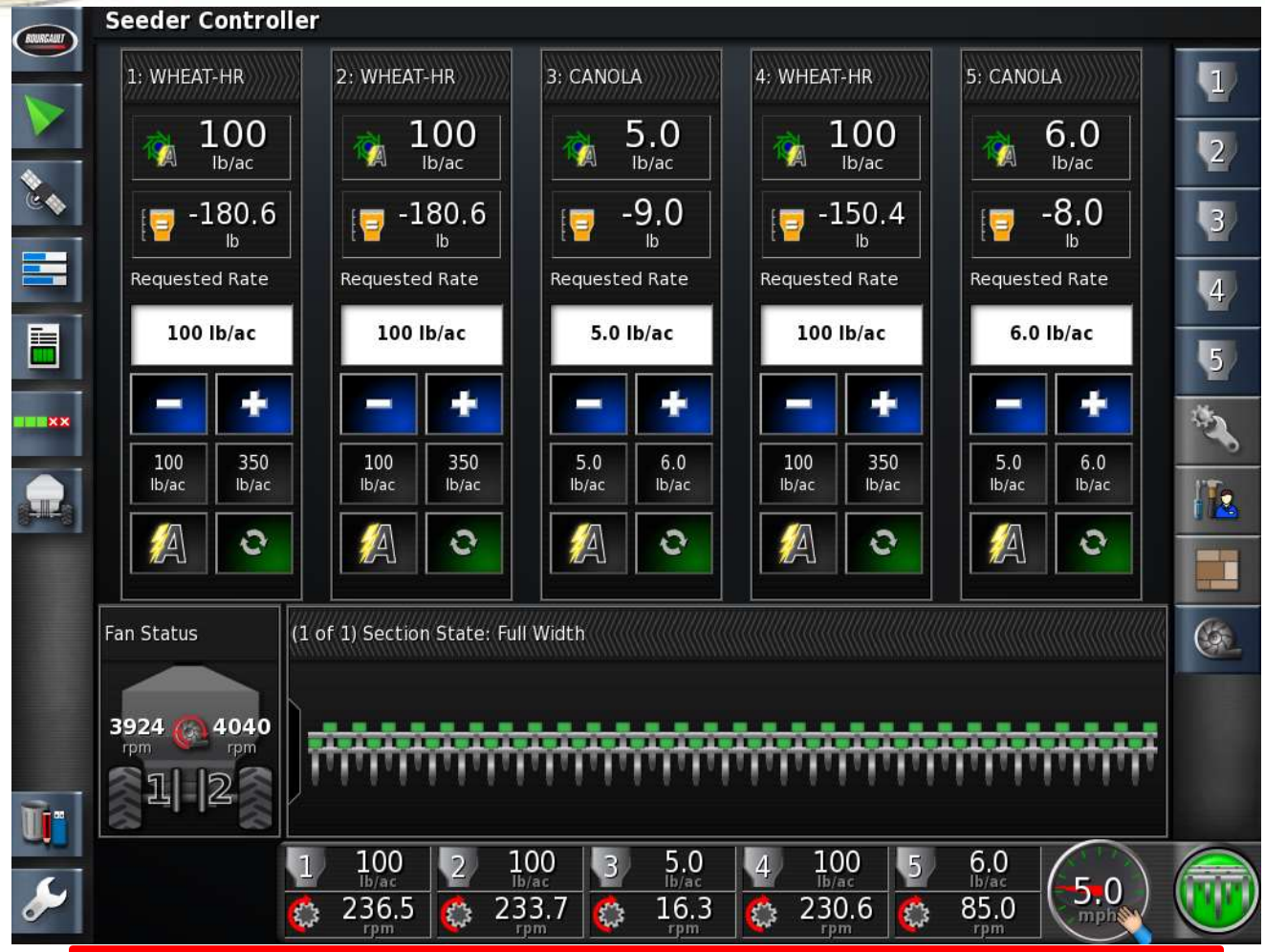
Select the secondary seeding rate to test Max RPM of the metering augers, if the augers don't reach 1000 rpm increase rate till they do. This test the Max rpm limit of 1000 rpm

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.

BOURGAULT

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

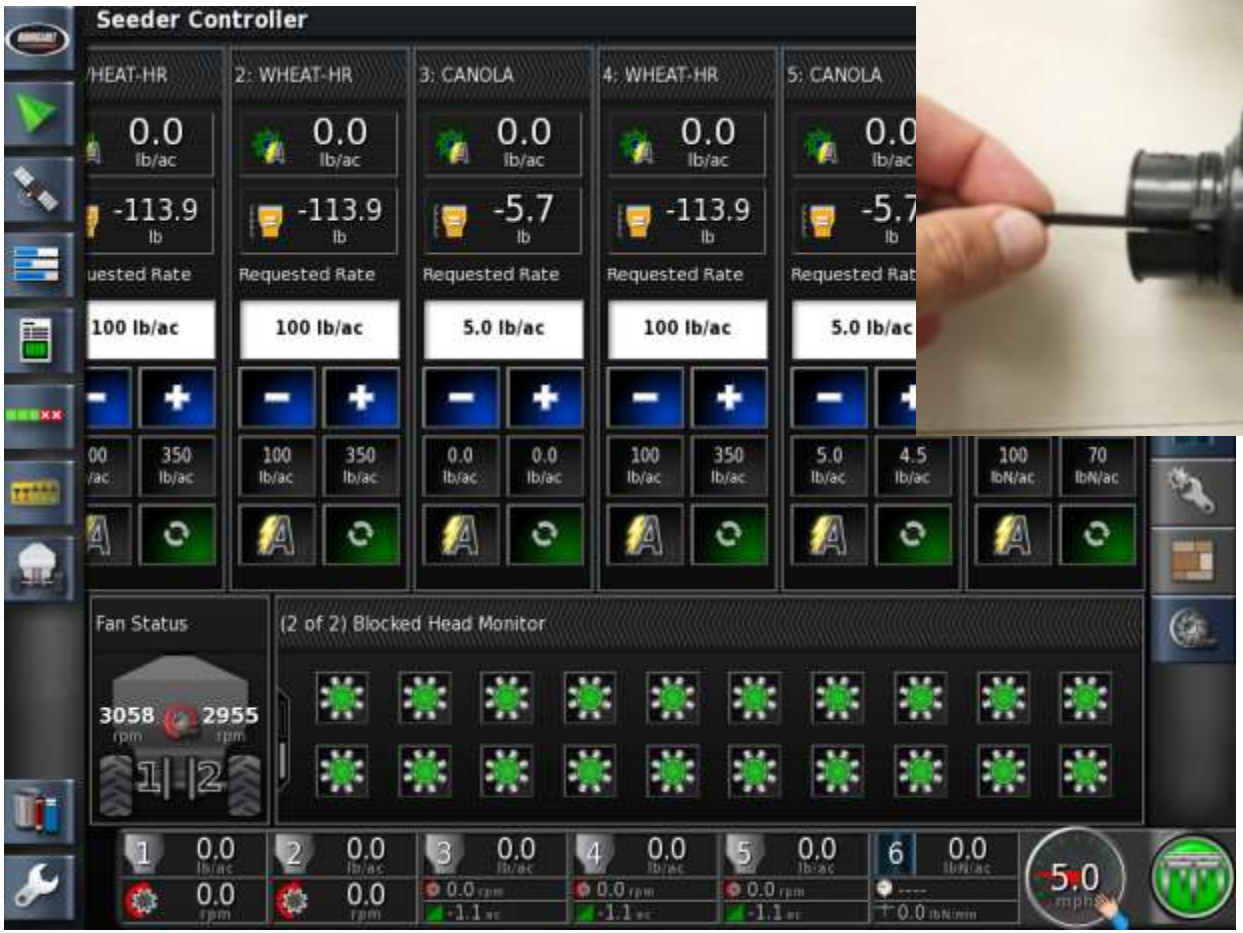
Turn on each section switch one at a time to verify that it is controlling the correct valve for Granular and NH3/Liquid booms. This can be done with the switches above the dashboard or opening the Virtual Switchbox mini view.



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

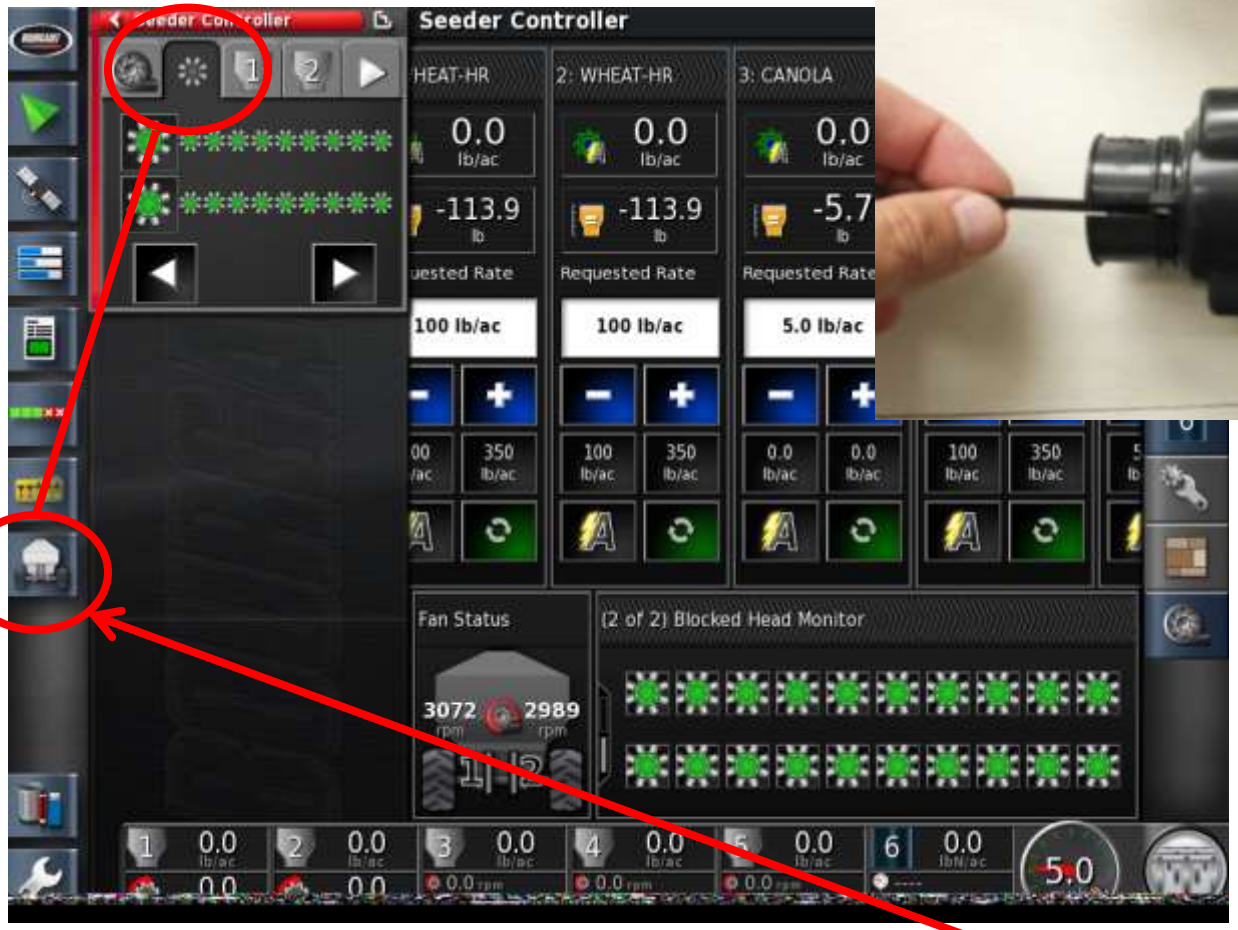
Blockage Test

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