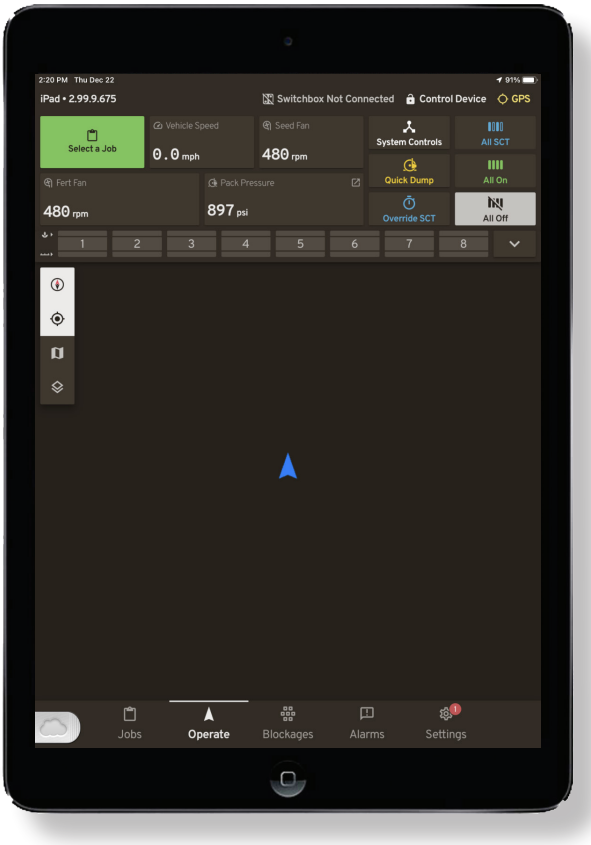
Supplemental Guide iCon Control

iCon Wireless Control System
Serial No. PD00000101-PD00000450



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Supplemental Guide

VÄDERSTAD

Dear Valued Customer

We would like to thank you for purchasing a Väderstad Seeding System.

Your new Seed Hawk Air Drill and Precision Delivery Air Cart includes innovative features like the iCon™ Control System, Electrically Driven Meters, Blockage Monitor, and Individual Compartment Load Cells. We are confident it will take your seeding operation to a new level of precision.

However, our work doesn't end at delivery. If you have questions about your seeder or if you experience any issues, we encourage you to contact your Väderstad dealer first. We provide our dealer network with exceptional support in the areas of after-sales expertise and genuine Väderstad parts, to ensure they provide you with the support you need throughout the seeding season.

For more information, visit our website at www.vaderstad.com/ca-en. Follow us on Twitter @VaderstadCanada, where you can track current news and events in agriculture, stay connected with our company, and follow the work of fellow Väderstad owners around the world.

Once again, from all of us at Väderstad, thank you.

Best Regards,

The Väderstad Family

Table of Contents

1.0 Display 01

1.1 Operate & Alarm Screens 01
1.2 Heads Up Display (HUD) 02
1.3 Blockages Screen 03
1.4 Navigation Bar 04
1.5 Settings Tab 05

2.0 Quick Start Guide 06

2.1 Getting Started 06
2.2 Configure 07
2.3 Calibrate 10
2.4 The Job 11
2.5 Finishing 12
2.6 Syncing with the Cloud 12

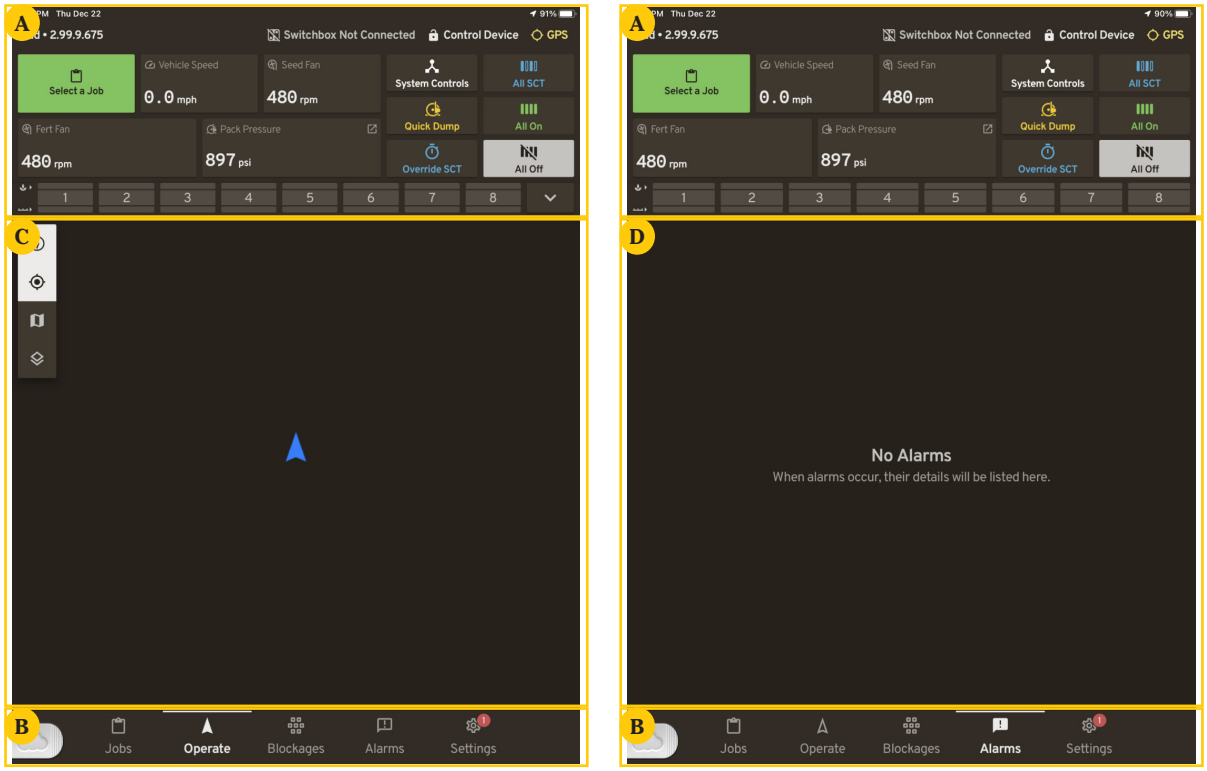
3.0 iCon Control Cheat Sheet 14

4.0 Appendix 15

1.0 Display

1.1 Operate & Alarm Screens

From this screen the user is able to operate their seeding implement and monitor all relevant information on the current job. The Operate screen acts as the home screen for the control system app.



A **Heads Up Display**
This is the main control section of the operate screen. The iCon HUD features all information relevant to the current job.

B **Navigation Bar**
The Navigation bar is featured at the bottom of the control app and features 4 main page tabs as well as access to the Seed Hawk cloud.

C **Field Mapping Window**
Within this section of the app, GPS is used in conjunction with prescription mapping to display a visual representation of the current job. Seeded & unseeded areas are updated in real time.

D **Alarms Window**
By selecting the “Alarms” tab on the navigation bar the user can swap out the Field Mapping Window with the Alarms Window. This window features a list of current alarms and alarm history of the machine.

Diagram 1.1.A *iCon Control App: Operate/Alarms Screens*

1.2 Heads Up Display (HUD)

The HUD, located at the top of the screen, will always be visible during seeding operations. The HUD will display system status for the following items:

Heads Up Display (HUD)

1 No Job Selected HUD
2 Job Selected HUD
A Job Panel
B Vehicle Speed
C Fan Speed (Seed)
D Switchbox Status
E System Controls
F Quick Dump
G Toolbar Status Bar
H Packing Pressure
I Fan Speed (Fertilizer)
J Unseeded Area
K GPS Status
L Override SCT
M Product Profile

A **Job Panel**: Displays the current seeding job in progress.

B **Vehicle Speed**: Displays the current speed.

C **Fan Speeds (Seed)**: Displays current fan speeds.

D **Switchbox Status**: Indicates switchbox connectivity (if equipped).

E **System Controls**: Sub-menu containing quick controls for Toolbar wings, system lights, meter selection and motor speed.

F **Quick Dump**: Reduces packing pressure to the desired amount for a 15 second interval that can be restarted by tapping the quick dump button again.

G **Toolbar Status Bar**: Offers individual section control for the Toolbar. Top row of lights indicates the opener status and the lower lights indicate the meter motor status for that given section. Select the arrow on the right hand side to change the status bar to a vertical orientation. In both cases:
Green = On
Blue = SCT On
None = Off

H **Packing Pressure**: Displays current packing pressure.

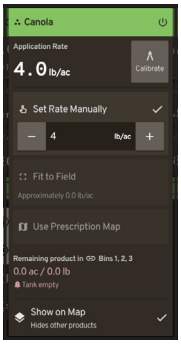
I **Fan Speeds (Fertilizer)**: Displays current fan speeds.

J **Unseeded Area**: Keeps track of remaining unseeded area in current job.

K **GPS Status**: Indicates current system GPS connection.

L **Override SCT**: Overrides system SCT control and allows user to manually control product application.

M **Product Profile**: Displays products included in current job and allows user to toggle product distribution on/off. If job contains multiple products, multiple windows will appear.



Select a product profile to access additional features (Fit to Field, Pause Prescription Map, In-Field Calibration) and to adjust the application rate manually.

Diagram 1.2.A Anatomy of the Heads Up Display

1.3 Blockages Screen

From this screen the user is able to monitor all section blockages in multiple orientations. Similar to the Operate and Alarms screens, the HUD remains at the top of the display when switching to the Blockages screen.

A **Openers View**
This screen displays blockage information for all sections and openers in the opener view orientation.

B **Manifolds View**
This screen displays blockage information for all sections and openers in the tower manifold view orientation. Seed manifolds are located at the top of the window, Fertilizer manifolds are located at the bottom of the window.

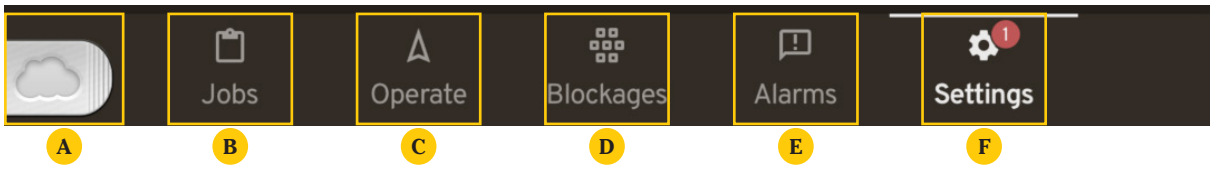
C **Blockages Tab**
This tab grants access to both the manifold and opener view screens.
In both cases:

Red = **Seed**
Green = **Fertilizer**

Diagram 1.3.A iCon Control App: Blockages Screen

1.4 Navigation Bar

Located on the ribbon at the bottom of the screen are tabs that allow the user to navigate the iCon Control App. The HUD will remain at the top of the Operate & Alarms screens.



A **Cloud**: The Cloud allows the user to transfer system generated files (Job Reports) and user generated files (Prescription Maps) to and from the iPad. A Seed Hawk cloud account is required for cloud access. Connect the iPad to an internet WiFi connection and slide the cloud icon from left to right to access the cloud.

B **Jobs**: This screen allows the user to create and save multiple unique job profiles. Each profile may contain information on Field Boundaries/Headlands, Prescription Mapping, and Lookahead timing.

C **Operate**: This screen displays the main HUD and a map of the current working area. All common seeding controls and information is located on this screen.

D **Blockages**: This screen displays blockage information for each opener/drop tube. This information is available in multiple different views (Manifold & Opener)

E **Alarms**: This screen features the same HUD on the top half of the display from the operate screen, but replaces the lower map sections with a list of recent alarms and alarm history.

F **Settings**: This screen features all user preference and machine calibration settings relevant to the seeding operation.

Notification Indicator: Identifies amount of unresolved notifications on a given screen. Also indicates alarms present on Alarms screen.

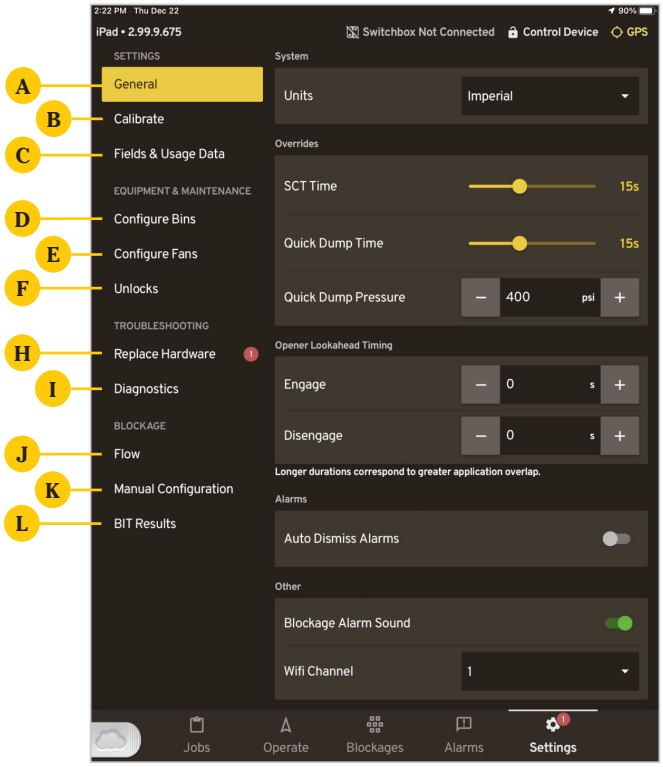
! An alarm and a permanent indicator is activated when a Load cell exceeds its rated weight.

! Bin alarms will only be triggered if a product has been dispensed.

Diagram 1.4.A Anatomy of the Heads Up Display Ribbon

1.5 Settings Tab

The following diagram details the iCon menus by which various functions and settings may be accessed. These menus open various screens where customization of key applications occur.



iCon Screen Basic Navigation Legend

Settings:

- A General
- B Calibrate
- C Fields & Usage Data

Equipment and Maintenance:

- D Configure Bins
- E Configure Fans
- F Unlocks

Troubleshooting:

- G Replace Hardware
- H Diagnostics

Blockage:

- I Flow
- J Manual Configuration
- K BIT Results

Diagram 1.5.A iCon Settings Nav: Basic

2.0 Quick Start Guide

2.1 Getting Started

1. Turn on Aircart gateway. Allow the gateway up to 30 seconds to power on. The gateway will show a green light when it is emitting a Wi-Fi signal. The gateway switch is located on the iCon Powerskid unit.

2. In the iPad settings screen, tap **[Wi-Fi]** to manage networks. Select the network titled (ICONXXXXXX). The X's will be the gateway's serial number. The access password is "seedhawk" (all lowercase).

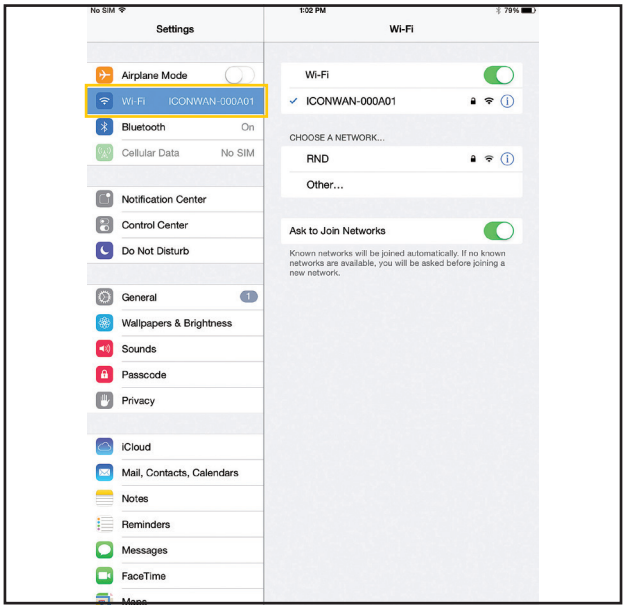


Figure 2.1.A Wi-Fi Network

3. Once connection is established, press the **[Home button]** to return to the main screen and tap the iCon app. The app will indicate that a connection is found and take a moment to boot up.
   - **Changing Wi-Fi frequency channel:** Select **[General]** in the **[Settings]** tab. Channel 11 is recommended, consult nearest dealer or Väderstad Product Manager for steps to select the strongest channel.

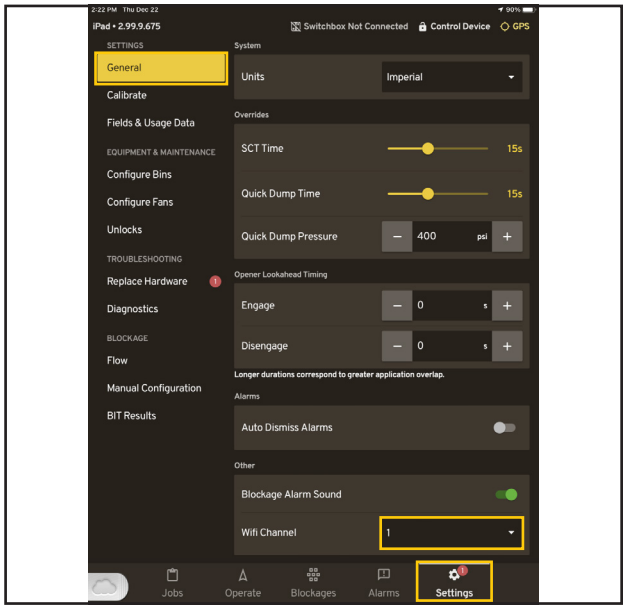


Figure 2.1.B Wi-Fi Frequency (New UI)

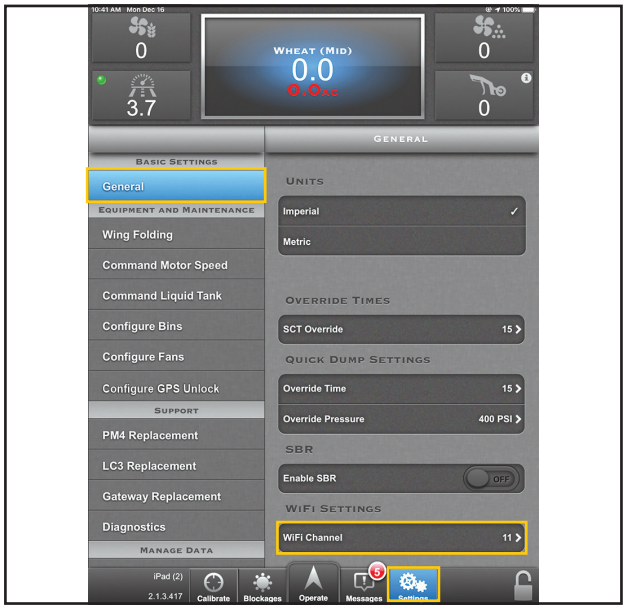


Figure 2.1.C Wi-Fi Frequency (Old UI)

After changing the channel, a Gateway reboot is required.

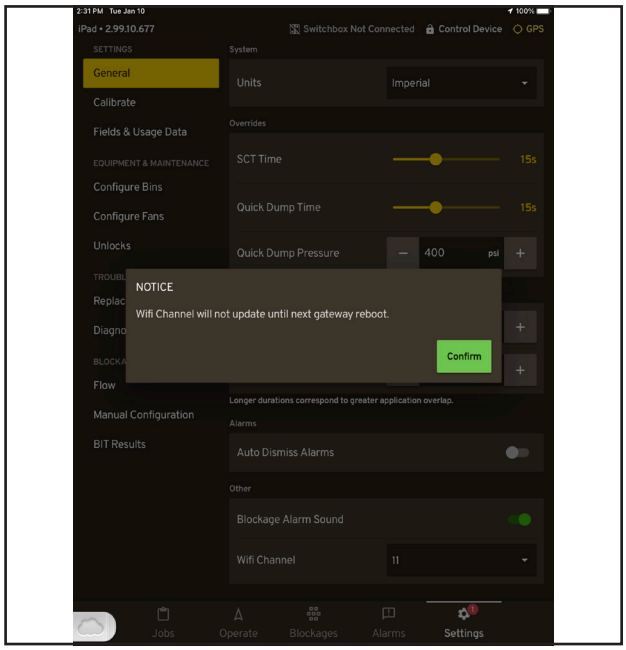


Figure 2.1.D Gateway Reboot (New UI)

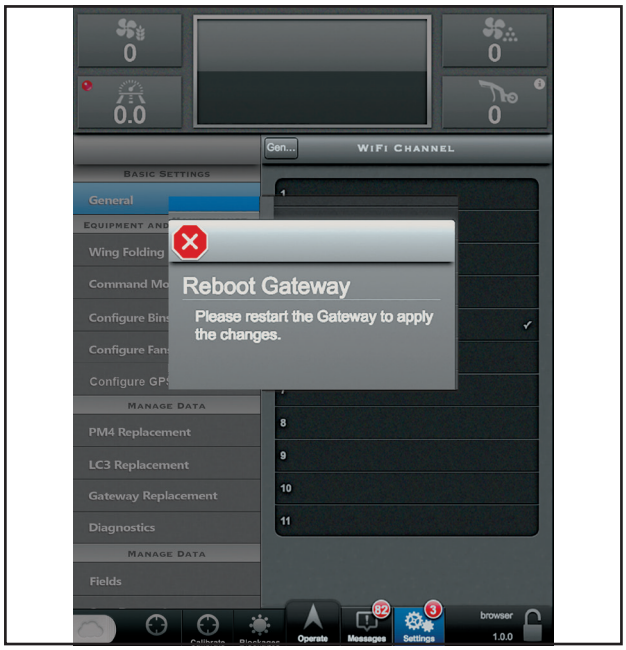


Figure 2.1.E Gateway Reboot (Old UI)

2.2 Configure

1. Navigate to the **[Settings]** tab on the navigation bar. Select **[General]**.
   - Select desired units (Metric or Imperial).
   - Set SCT override and Quick Dump times between 5 - 30 seconds.

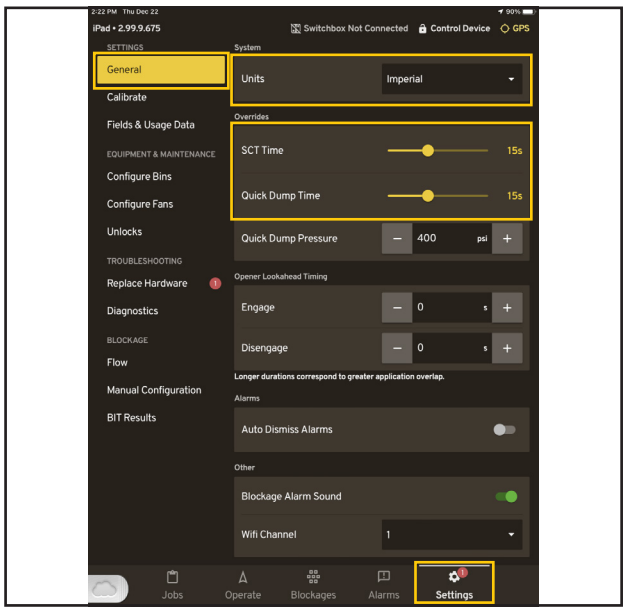


Figure 2.2.A General Settings (New UI)

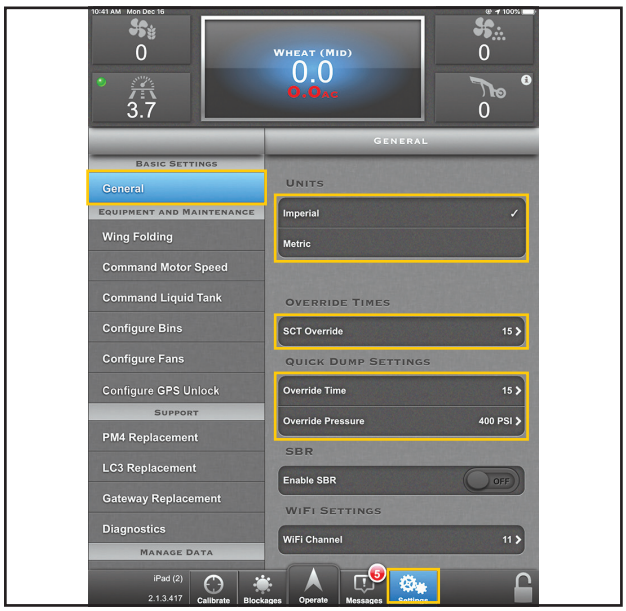


Figure 2.2.B General Settings (Old UI)

2. Select **[Configure Bins]** and choose your desired bin for configuration.
   - Set Lookahead times. *Refer to 2.3 Calibrate on page 10.*
   - Choose desired roller.
   - Use **[Tare Bin]** to reset the current bin weight to 0 lb.

[Tare Bin]: Ensure bin lid is sealed and the fans are engaged. Failure to do so may lead to an inaccurate reading.

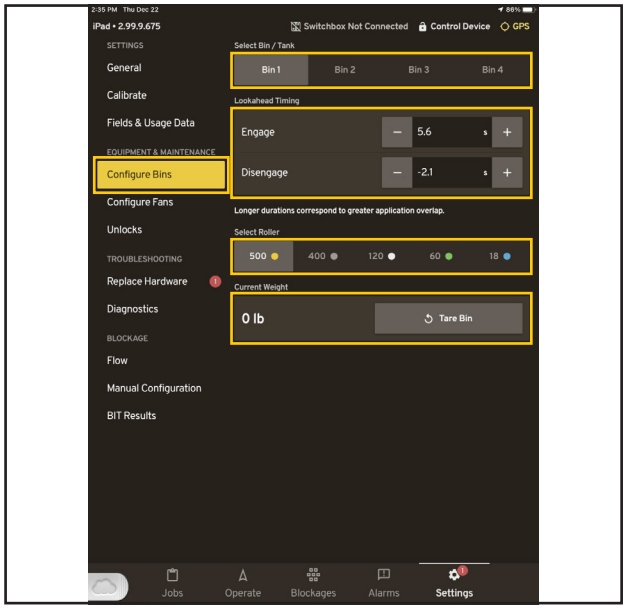


Figure 2.2.C Configure Bins (New UI)

Figure 2.2.D Configure Bins (Old UI)

3. Navigate to the Operate screen and select **[System Controls]**.
   - Use **[Control Motors of Individual Bin or Tank]** to verify meter motor operation on each bin/section.

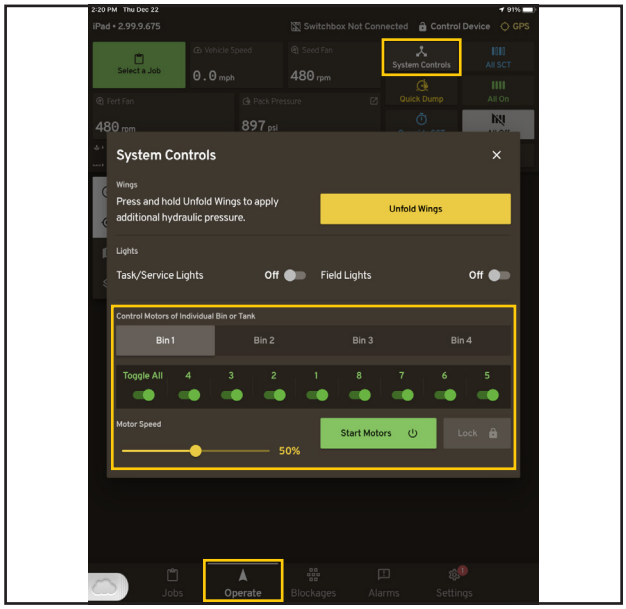


Figure 2.2.E Control Motors (New UI)

Figure 2.2.F Control Motors (Old UI)

4. Navigate back to the **[Settings]** tab and select **[Configure Fans]**.
   - Set the desired high and low limits for both seed and fertilizer fan RPM.

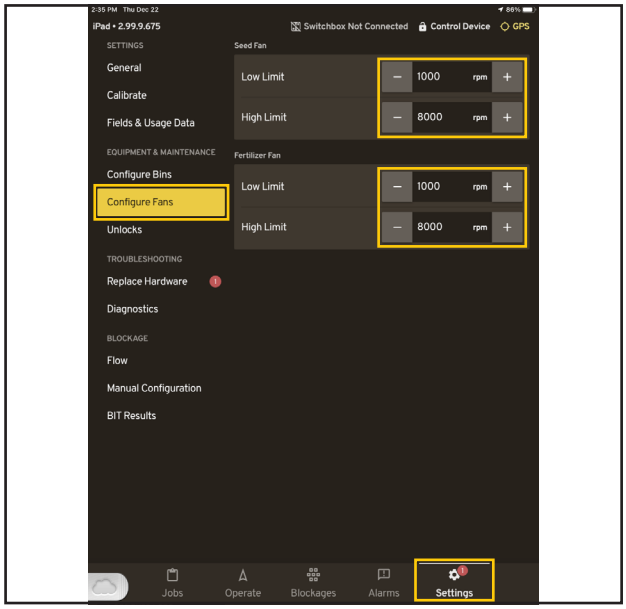


Figure 2.2.G Configure Fans (New UI)

Figure 2.2.H Configure Fans (Old UI)

5. Select **[Flow]**.
   - Select the desired **[Seed Flow Rate]** and **[Fertilizer Flow Rate]** to match product size.

[Flow Rate]: Normal flow rate is ideal for larger granular products, while Low or Very Low flow rates are useful when seeding smaller granular products.

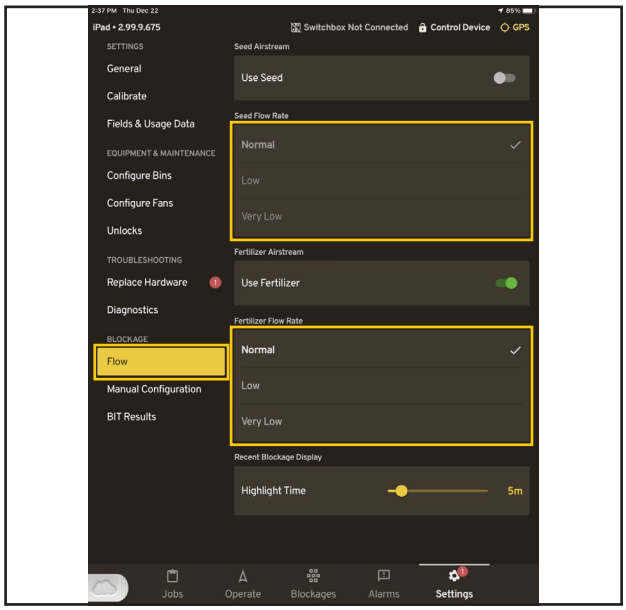


Figure 2.2.I Flow (New UI)

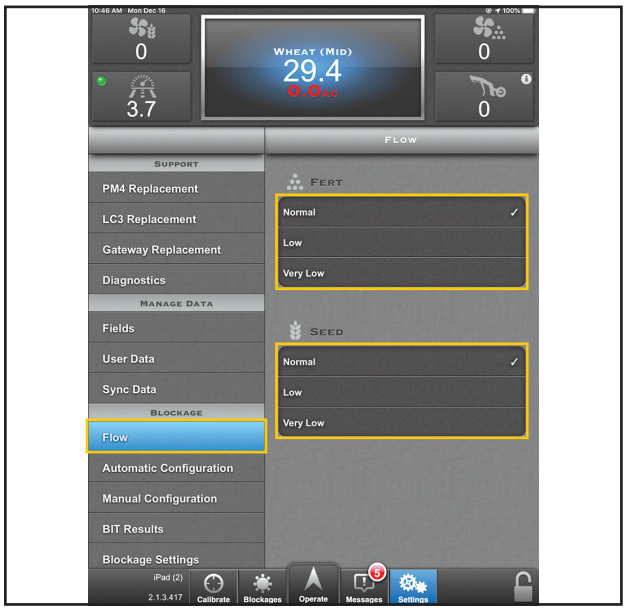


Figure 2.2.J Flow (Old UI)

2.3 Calibrate

Before assigning a product to a Job profile, the user may perform a static calibration to generate a product calibration number that will improve the precision of their application rates. Or a product lookahead calibration to fine tune the systems lookahead engage and disengage times and further increase precision.

1. Navigate to the **[Settings]** tab and select **[Calibrate]**.

2. To perform a static calibration select **[Static Calibration]**.
   - Follow the on-screen steps for performing the calibration. Take note of the calibration number generated upon completing the calibration process.

3. To perform a product lookahead calibration select **[Product Lookahead Calibration]**.
   - Follow the on-screen steps for performing the calibration. Take note of the engage and disengage times generated upon completing the calibration.

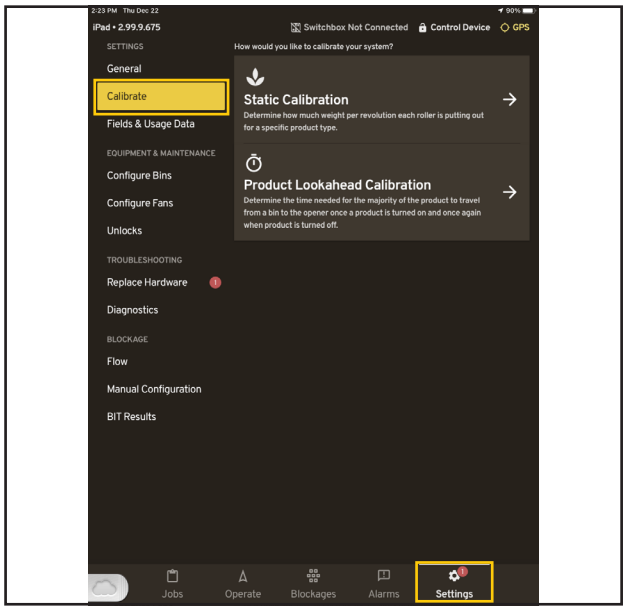


Figure 2.3.A Calibration (New UI)

Figure 2.3.B Calibration (Old UI)

2.4 The Job

1. Navigate to the **[Jobs]** tab, select an existing job profile or select **[Create New Job]**.
   - To create a new job fill out the **[Job Details]** and add the desired products to the job profile. The user may choose to seed the headlands first or last (Select **[Seed headland before field]**). Seeding the headland last allows all product(s) to be seeded after the center of the field is completed.

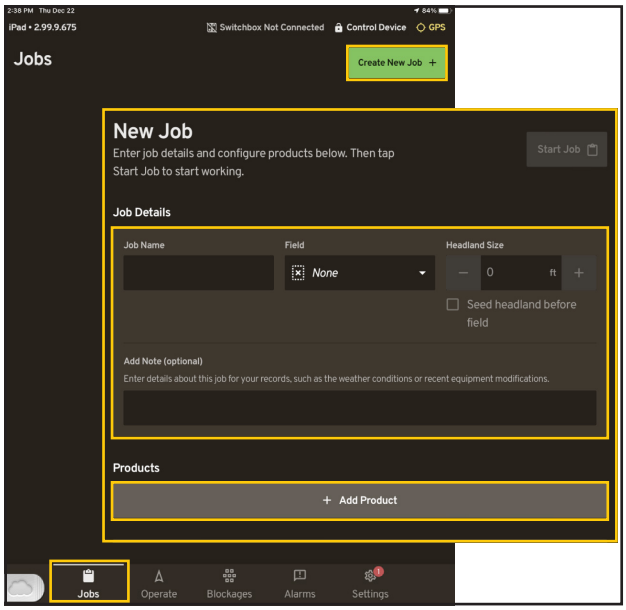


Figure 2.4.A Creating Job (New UI)

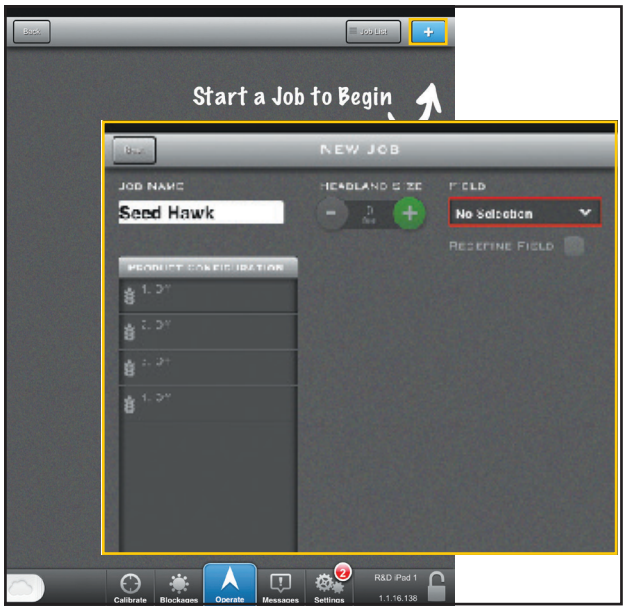


Figure 2.4.B Creating Job (Old UI)

2. When adding products to a job, the user may edit existing job profiles or create new ones. To edit an existing profile select the **[Pencil Icon]** to the right of the profile name. To create a new product profile, scroll to the bottom of the list and select **[Create New Product]**.
   - While editing/creating a product profile, enter the **[Calibration Number]** generated from performing a prior static calibration. *Refer to 2.3 Calibrate on page 10.*
   - Select **[Save Product and Add to Job]** when finished.
   - Select **[Start Job]**.

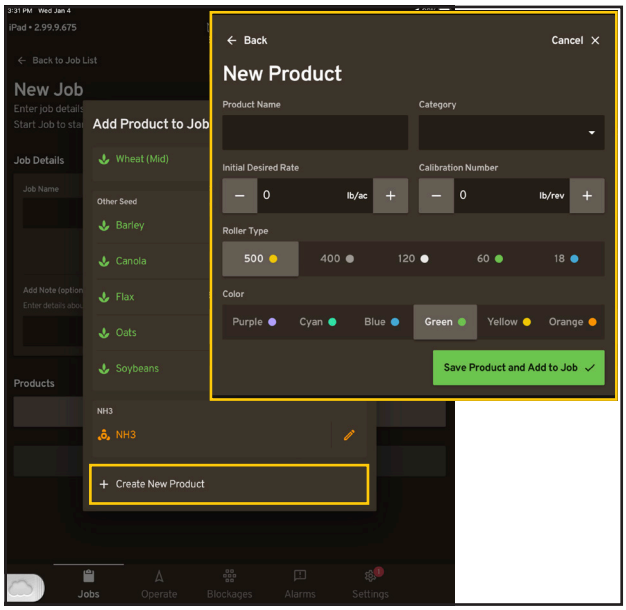


Figure 2.4.C Product Profiles (New UI)

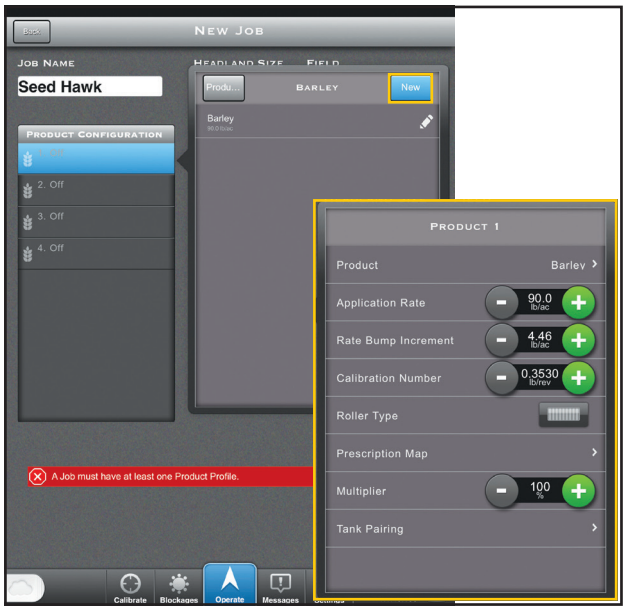


Figure 2.4.D Product Profiles (Old UI)

2.5 Finishing

When a field is complete, the job must be formally ended. Navigate to the **[Job]** tab or select the **[Job Name]** panel in the HUD to return to the jobs statistics screen. Select **[Complete Job]**

- Select **[Complete and Export "Job Name"]** to save the job to the iPad's memory. Sync iPad with the user's Seedhawk cloud account to upload the Job report to the cloud. *Refer to 2.6 Syncing with the Cloud on page 12.*

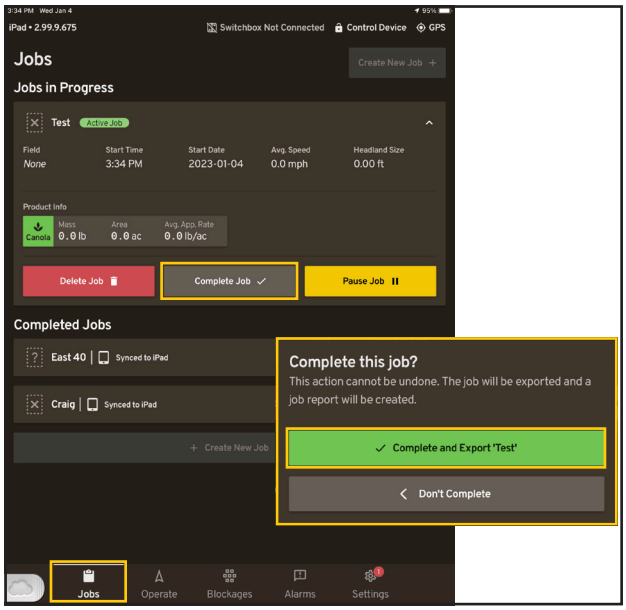


Figure 2.5.A Finishing Job (New UI)

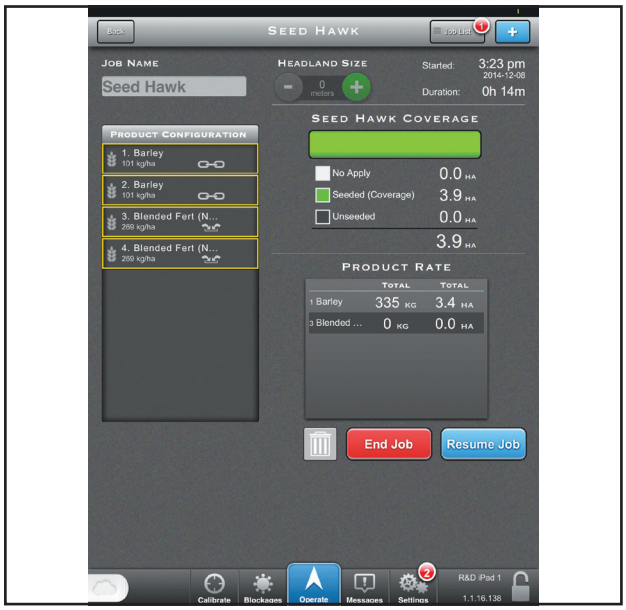


Figure 2.5.B Finishing Job (Old UI)

2.6 Syncing with the Cloud

1. To sync the iPad with the Seedhawk cloud, close the control app and navigate to the iPad settings.
   - Disconnect from the gateway Wi-Fi channel and connect to a Wi-Fi internet connection.
   - Re-open the control app. Slide the cloud icon at the bottom left of the display from left to right.
   - Login to the user's Seedhawk account.

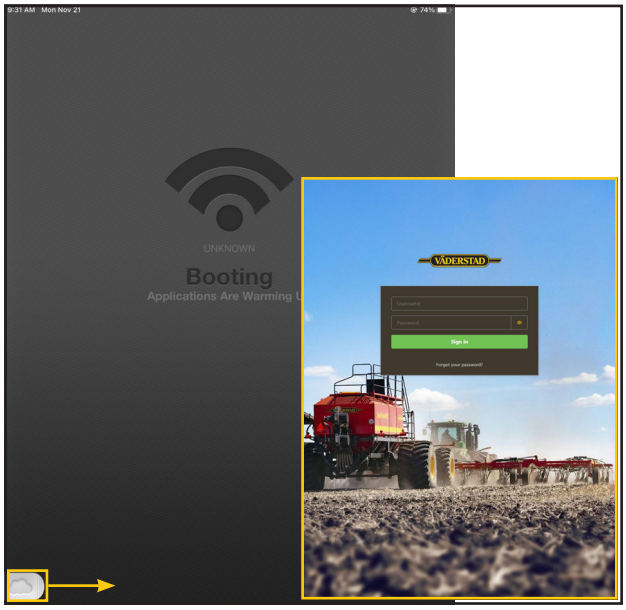


Figure 2.6.A Seedhawk Cloud (New UI)

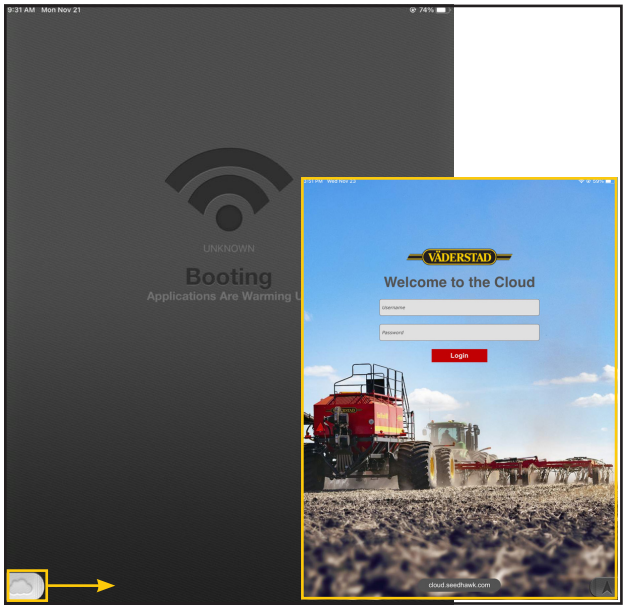


Figure 2.6.B Seedhawk Cloud (Old UI)

2. Once logged in, the iPad should automatically begin syncing all newly completed jobs saved.
   - To verify that a job report has been synced to the cloud select the **[Jobs]** tab on the left of the display to view all previously synced job reports.
   - The user may also access their prescription maps from the seedhawk cloud. Select the **[Prescription Maps]** tab to view and upload prescription maps for use inside the control app.

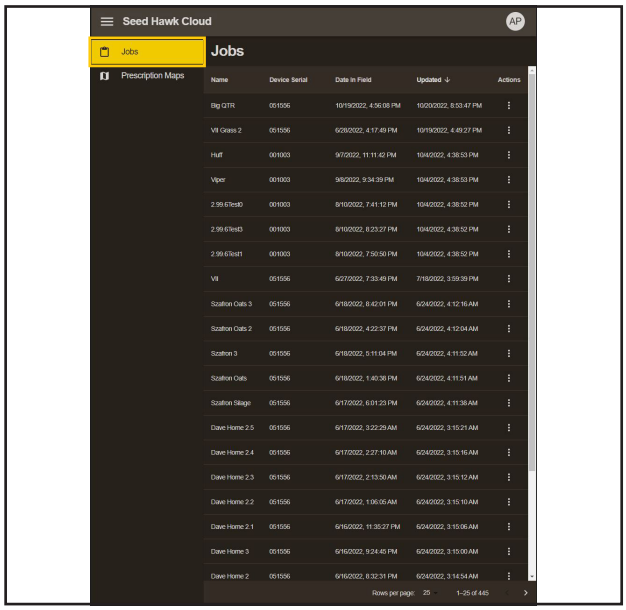


Figure 2.6.C Cloud Syncing (New UI)

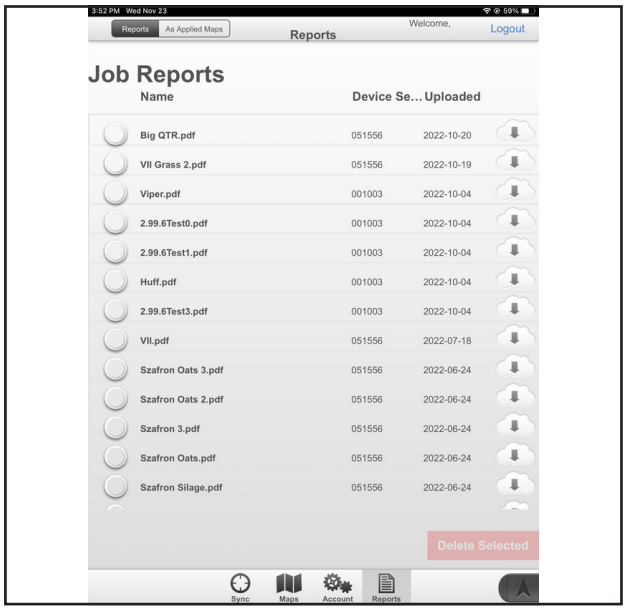


Figure 2.6.D Cloud Syncing (Old UI)

3. Once syncing is completed, return to the iPad settings and disconnect from the Wi-Fi internet connection.
   - Repeat steps to connect to the Wi-Fi Gateway connection.
   - Re-open the control app.

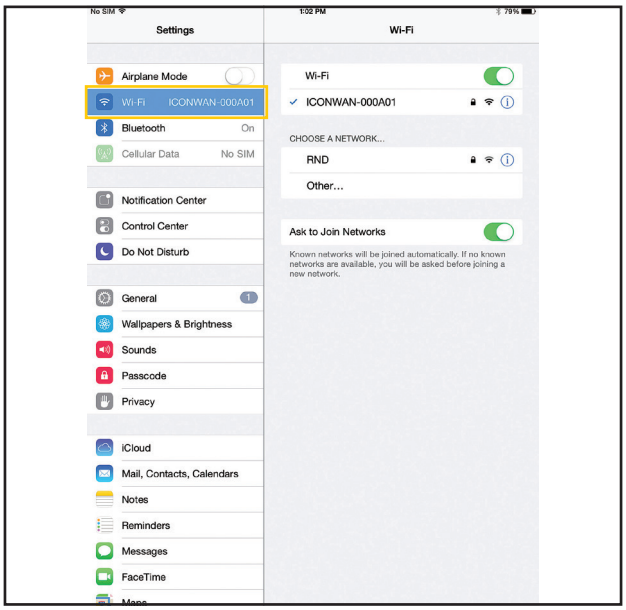


Figure 2.6.E Wi-Fi Network

3.0 iCon Control Cheat Sheet

Getting Started:

1. Connect to your Gateway. Ensure your Control Panel switch on the Aircart is turned on.
2. Wait for the PM4 LED's to remain solid red before connecting the iPad to the gateway.
3. Navigate to the Wi-Fi Settings on the iPad.
4. Select "ICONXXXXXX"
5. Open the iCon Control App. (If using multiple iPads in a master-slave configuration, open the Control App on the desired Master iPad first)

Starting a Job:

1. From the Operate screen, Tap **[Select Job]**.
2. Select **[Create New Job]**.
3. Tap the **[Job Name]** input field to enter the name of the job.
4. Fill in the Job Details.
5. Select **[Add Product]**.
6. Select **[New Product]** or **[Edit/use]** existing product for each bin.
7. Confirm correct rollers and seeding rates for each bin.
8. Confirm or add prescription maps.

Static Calibration:

1. Select **[Settings]**.
2. Select **[Calibrate]**.
3. Select **[Static Calibration]**.
4. Select **[Product to Calibrate]**.
5. Go through 3 steps to calibrate each product being used.

! When finished confirm bulk shut off is open and diverter plates are sending product down the correct run.

Product Lookahead Calibration:

1. Select **[Settings]**.
2. Select **[Calibrate]**.
3. Select **[Product Lookahead Calibration]**.
4. Go through 3 steps to calibrate each product being used.

! **STAIRS LATCHED UP!**

! **FANS ON!**

! **BINS ON AND TOOLBAR IN SCT!**

4.0 Appendix

DIAGRAMS

Diagram 1.1.A iCon Control App: Operate/ Alarms Screens 01
Diagram 1.2.A Anatomy of the Heads Up Display 02
Diagram 1.3.A iCon Control App: Blockages Screen 03
Diagram 1.4.A Anatomy of the Heads Up Display Ribbon 04
Diagram 1.5.A iCon Settings Nav: Basic 05

FIGURE

Figure 2.1.A Wi-Fi Network 06
Figure 2.1.B Wi-Fi Frequency (New UI) 06
Figure 2.1.C Wi-Fi Frequency (Old UI) 06
Figure 2.1.D Gateway Reboot (New UI) 07
Figure 2.1.E Gateway Reboot (Old UI) 07
Figure 2.2.A General Settings (New UI) 07
Figure 2.2.B General Settings (Old UI) 07
Figure 2.2.C Configure Bins (New UI) 08
Figure 2.2.D Configure Bins (Old UI) 08
Figure 2.2.E Control Motors (New UI) 08
Figure 2.2.F Control Motors (Old UI) 08
Figure 2.2.G Configure Fans (New UI) 09
Figure 2.2.H Configure Fans (Old UI) 09
Figure 2.2.I Flow (New UI) 09
Figure 2.2.J Flow (Old UI) 09
Figure 2.3.A Calibration (New UI) 10
Figure 2.3.B Calibration (Old UI) 10
Figure 2.4.A Creating Job (New UI) 11
Figure 2.4.B Creating Job (Old UI) 11
Figure 2.4.C Product Profiles (New UI) 11
Figure 2.4.D Product Profiles (Old UI) 11
Figure 2.5.A Finishing Job (New UI) 12
Figure 2.5.B Finishing Job (Old UI) 12
Figure 2.6.A Seedhawk Cloud (New UI) 12
Figure 2.6.B Seedhawk Cloud (Old UI) 12
Figure 2.6.C Cloud Syncing (New UI) 13
Figure 2.6.D Cloud Syncing (Old UI) 13
Figure 2.6.E Wi-Fi Network 13

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