# Supplemental Guide

# iCon Control

iCon Wireless Control System Serial No. PD00000450-PD00000950



30000655-01 - 01.06.2024 Supplemental Guide



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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<sup>™</sup> 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 <u>www.vaderstad.com/ca-en</u>. Follow us on Twitter <u>@VaderstadNA</u>, 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

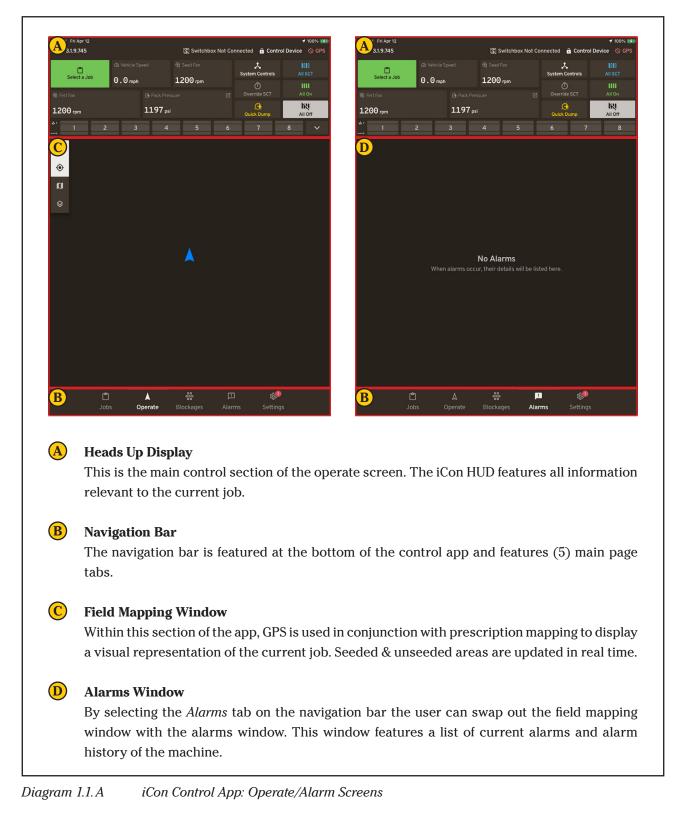
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# 1.0 Display

## 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.



#### 1.2 Heads Up Display

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:

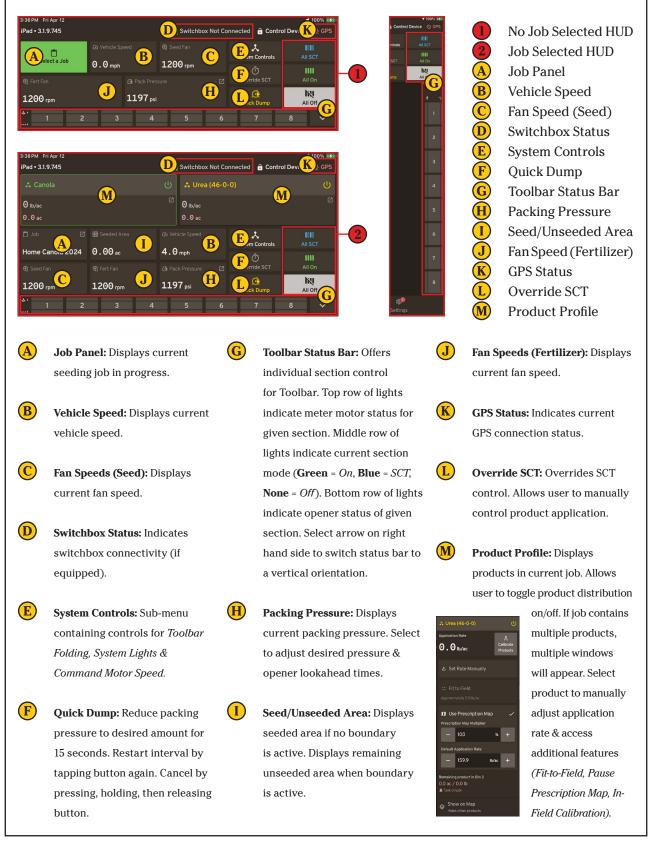


Diagram 1.2. A Anatomy of the Heads Up Display

## 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.

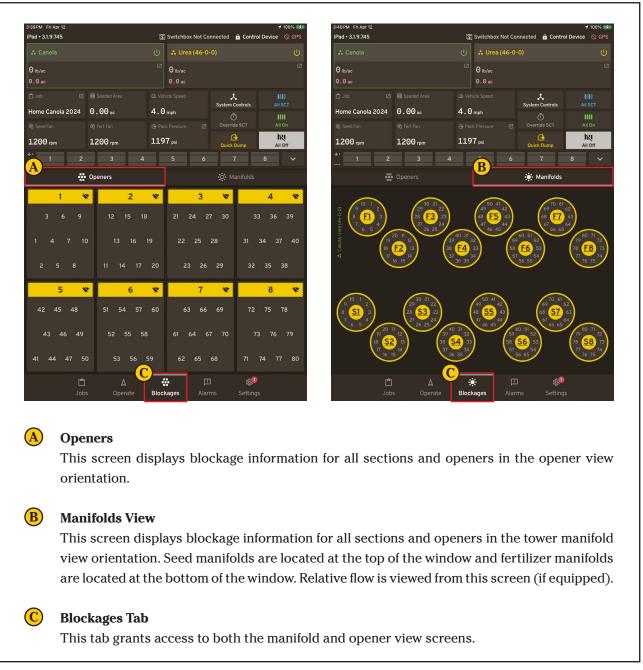
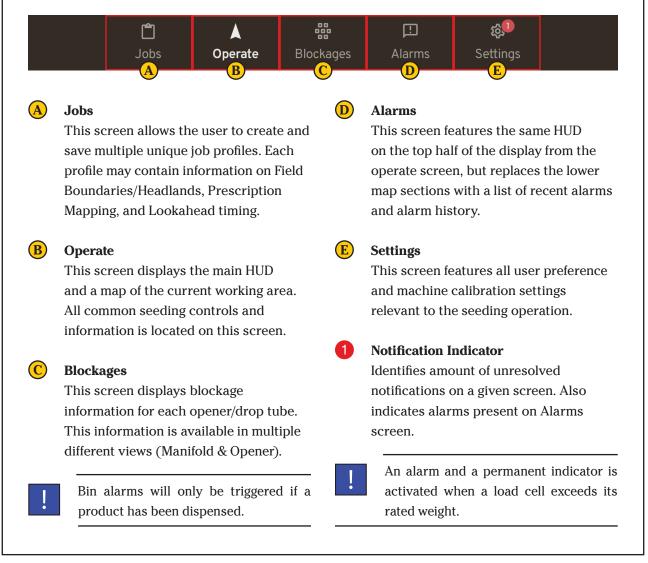


Diagram 1.3.A iCon Control App: Blockages Screen

## 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.



#### Diagram 1.4.A Anatomy of the Navigation Bar

# 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.

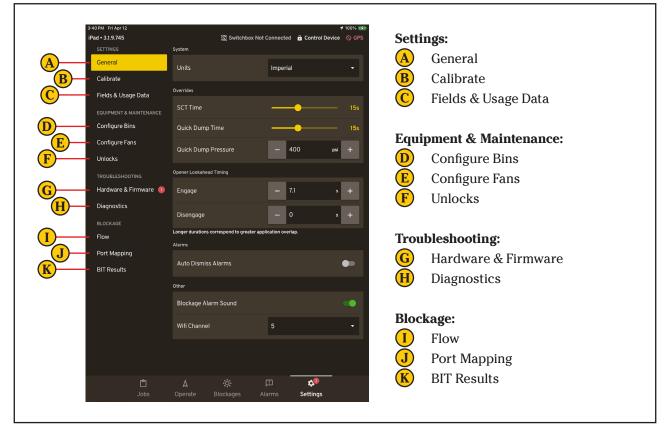


Diagram 1.5.A iCon Settings

1.6	Notes

# 2.0 Quick Start Guide

### 2.1 Getting Started

- 1. Turn on Air Cart 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 (ICONXXXXX). 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, return to the home screen and select the iCon Control 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.

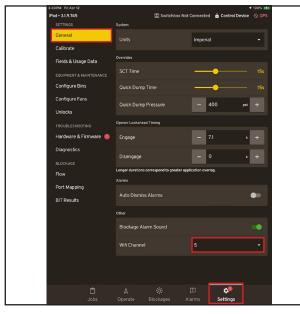
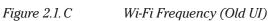


Figure 2.1.B Wi-Fi Frequency (New UI)





4. After changing the channel, a Gateway reboot is required.

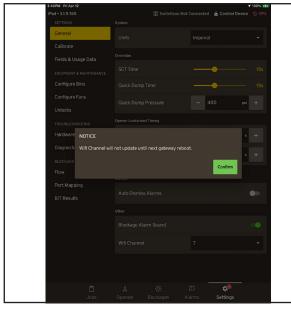


Figure 2.1.D Gateway Reboot (New UI)





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.

3:40 PM Fri Apr 12					100%	
iPad • 3.1.9.745		🕱 Switchbox Not	Connecte	d  🏦 Control De	vice 🔕 GPS	
SETTINGS	System					
General			Imperi	al		
Calibrate						
Fields & Usage Data	Overrides					
EQUIPMENT & MAINTENANCE	SCT Time		-			
Configure Bins	Quick Dump Tin		-			
Configure Fans	Quick Dump Pre	200100		400	psi +	
Unlocks	outer builtp Fie	duck bump r ressure		400		
TROUBLESHOOTING	Opener Lookahead Tir	ming				
Hardware & Firmware  📵	Engage		-		s +	
Diagnostics						
BLOCKAGE	Disengage			0	· +	
Flow	Longer durations corr	espond to greater app	plication ove	riap.		
Port Mapping	Alarms					
	Auto Dismiss Al	arms				
BIT Results						
	Other					
	Blockage Alarm	Sound				
	Wifi Channel		5			
Ċ				\$®		
Jobs				Settings		

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 11.
- Choose desired roller.
- Use **[Tare Bin]** to reset the current bin weight to 0 lbs.

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

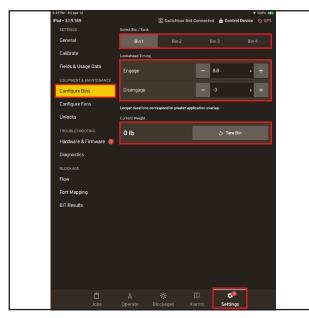




Figure 2.2. C Configure Bins (New UI)

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.

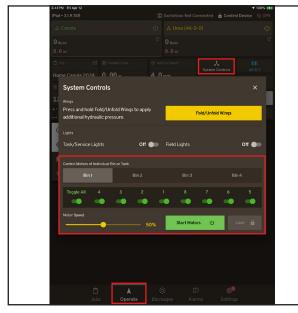


Figure 2.2.E

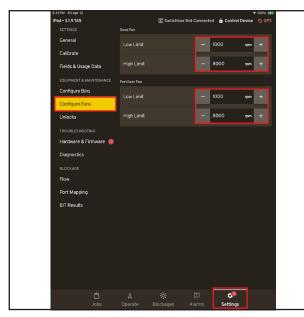
Control Motors (New UI)

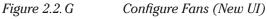


Figure 2.2.F

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.





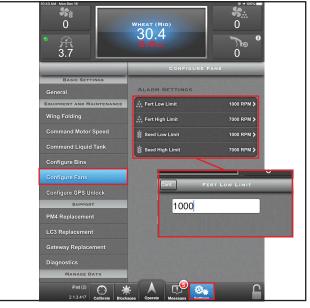


Figure 2.2. H Configure Fans (Old UI)

5. Select [Flow].

• Select the desired **[Seed Flow Rate]** and **[Fertilizer Flow Rate]** to match product size. Select **[Use Flow Noise Calibration]** to apply *High Flow Noise Calibration* results to the iCon system if applicable.

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

0.41014 0-1-1-10	
3:41PM Fri Apr 12 iPad • 3.1.9.745	🕇 100% 🐲 🕅 Switchbox Not Connected 🔒 Control Device 🗞 GPS
SETTINGS	Seed Airstream
General	Use Seed
Calibrate	
Fields & Usage Data	Seed Flow Rate
EQUIPMENT & MAINTENANCE	Normal 🗸
Configure Bins	Low
Configure Fans	Very Low
Unlocks	
TROUBLESHOOTING	Fertilizer Airstream
Hardware & Firmware  🕚	Use Fertilizer
Diagnostics	Fertilizer Flow Rate
BLOCKAGE	Normal
Flow	Numai
Port Mapping	Low
BIT Results	Very Low
	High Flow Noise
	Use Flow Noise Calibration
	Recent Blockage Display
	Highlight Time Off
Ċ.	
Jobs	Operate Blockages Alarms Settings
Figure 2.2.I	Flow (New III)
Figure 2.2.1	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 various calibration procedures that will increase the precision of the iCon system. Static calibration is used to generate a product calibration number that will improve the precision of application rates. Product lookahead calibration is used to fine tune the systems lookahead engage and disengage times and further increase precision. High flow noise calibration is used to fine tune the blockage detection system.

- 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.
- 4. To perform a high flow noise calibration select [High Flow Noise Calibration].
  - Ensure fans are running. Follow the on-screen steps for performing the calibration. Once calibration is complete, navigate to the [Flow] tab and select [Use High Flow Noise Calibration]. *Refer to "Figure 2.2.1 Flow (New UI)" on page 10.*

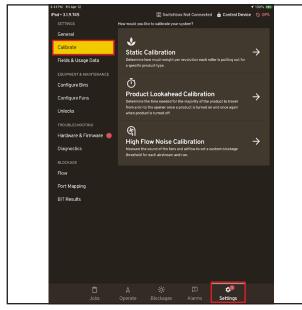


Figure 2.3.A

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.

3:42PM Fri Apr 12 iPad • 3.1.9.745 Jobs			🕅 Switchbo	x Not Connecte	G 🏛 Control Devic			Base		
		New Job Enter job details Job to start wor Job Details	and configure pr	oducts below. <sup>1</sup>	Then tap Start	Start J	lob 📋			Job Set
				Field None		Reserved Headland Size	+			2 2 2 2 2 2 2 2 2 2 2 2 2 2
		Products		+	Add Product					
	<mark>ے</mark> sobs				සු <sup>ල</sup> Settings			0	)	Calibrate

HEADLAND S ZE	P CLD No Selection 💙

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 11.*
  - Select [Save Product and Add to Job] when finished.
  - Select [Start Job].

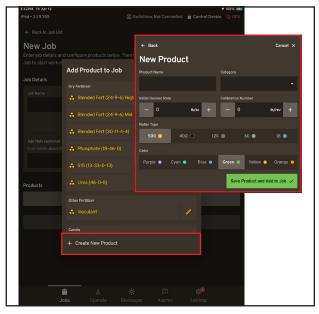


Figure 2.4. C Product Profiles (New UI)

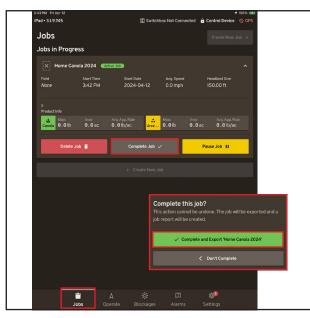
PRODUCT CONFIGURATION	Barley 90.0 Reste	BARLEY New	
<b>š</b> 2. Off <b>š</b> 3. Off	-	Produc	
8 4. Off	-	Product	
8	-	Application Rate	- 90.0
		Rate Bump Increment	- 4.46
		Calibration Number	- 0.3530
		Roller Type	
		Prescription Map	
		Multiplier	- 100 +
X A Job must have at least o	ne Product Profile	Tank Pairing	
A reason at heave at heast of	TO THE REAL POINTS.		

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 cloud account to upload Job reports to the cloud. *Refer to "2.6 Syncing with the Cloud" on page 13.* 





Finishing Job (New UI)

JOB NAME Seed Hawk	HEADLAND SIZE	Started: 3:23 pm 2014-12-08 Duration: 0h 14m
	SEED HAWK C	
PRODUCT CONFIGURATION		
1. Barley 101 kg/ha C+-O		
y 2. Barley ≇ 101 kg/ha G→O	No Apply	0.0 на 3.9 на
🔬 3. Blended Fert (N	Unseeded	0.0 на
		3.9 на
19 200 iyon <u>9.0</u>	PRODUCT TorAL 1 Barley 335 kc 3 Blended 0 kc	
	End Job	Resume Job

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. When connected to an internet Wi-Fi connection, the Seedhawk cloud login page will appear automatically.
  - Login to the user's Seedhawk cloud account.



Figure 2.6.A Seedhawk Cloud (New UI)



Figure 2.6. B

Seedhawk Cloud (Old UI)

- 2. Once logged in, select **[Sync]** in the top right corner of the display.
  - 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 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.
  - Users may also access machine unlock statuses from the Seedhawk cloud.

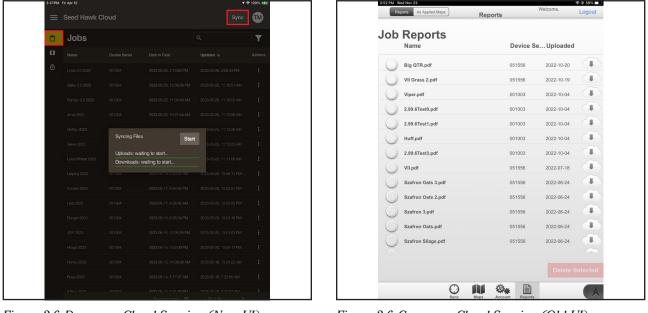


Figure 2.6.D

•

Cloud Syncing (New UI)

Figure 2.6. C

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-F

Wi-Fi Network

# 3.0 iCon Control Cheat Sheet

#### **Getting Started:**

- 1. Connect to your Gateway. Ensure your Control Panel switch on the Air Cart 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"
- 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.



FANS ON!

BINS ON AND TOOLBAR IN SCT!

3.1	Notes

# 4.0 Appendix

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