DirectCommand™ for spinner spreaders is capable of controlling the product conveyor, spinner speed, monitoring bin level, and providing multiple prescription rate control for up to five granular products. The control modules support PWM, motorized servo, Mark IV.2, Mark IV.4, and Mark V hydraulic control valves. DirectCommand granular application system also supports application control of multiple bin spreaders.

**Load Configuration**

Press the Application App from the home screen. This will take you through the steps needed to load a configuration.

**Map View**

Once a configuration has been completed, the Map View screen appears:

- A. Menu button
- B. Total Logged Field Area
- C. Ground Speed
- D. AgFiniti® Status
- E. Diagnostics
- F. GPS Signal Indicator
- G. Display Legend
- H. Product Control toolbox
- I. Vehicle Icon
- J. Event Summary
- K. Map View
- L. Split screen
- M. AutoSwath™
- N. Master Switch Status
- O. Settings
- P. Bin Level
- Q. Spinner Speed

**NOTE!** Pressing the Map View button will cycle between the available Map Screen views, and the appearance of the Map View button changes.

**Product Control Toolbox**

During DirectCommand Run Time operations, the Product Tab(s) are shown in the upper right-hand side of the Map screen. Press the Product Tab(s), and an extended
view shows the Rate butons, Manual Valve Control button, Prescription button, Rate Increase and Decrease arrows, and the Rate Setup button.

A. Product  
B. Target Rate  
C. Actual Rate  
D. Rate 1 button  
E. Rate 2 button  
F. Manual Valve Control  
G. Prescription button  
H. Rate Increase arrow  
I. Rate Decrease arrow  
J. Rate Setup button  
K. Section Status Indicator  
L. Container Level  

Target Rate—The Target Rate is desired application rate.

NOTE!: In some conditions, the Target Rate may increment more quickly than the Actual Rate.

Actual Rate—The Flow Sensor returns the actual rate being applied.

NOTE!: In some conditions, the Actual Rate may increment slower than the Target Rate, or its numeric values may vary before matching the Target Rate.

Container Level—The Container Level shows the amount of product in the container.

Rate 1 and Rate 2 buttons—The Rate 1 and Rate 2 settings represent preset application rates that allow operators to quickly change between desired target rates for each individual product.

Manual Valve Control button—The Manual Valve Control button allows operators to specify the position of the control valve. Operators use this option to prime the system before application or clean out the equipment at the end of the day.

Rate Increase and Decrease Arrows— allow Product Application Rate to be changed according to the Target Rate Increment. In using manual valve control, the increase and decrease buttons allow the position of the control valve to be defined by the operator.

Prescription button—

Rate Setup button—

Rate Control Settings

Adjust the Rate 1 and Rate 2 settings shown at the Product Control Toolbox on the Map screen, as well as import application product prescriptions. To access the Rate Control Settings screen, press the Rate Setup button on the Product Control Toolbox. The Rate Control Settings screen appears.
Rate 1 and Rate 2 — The Rate 1 and Rate 2 settings represent preset application rates that allow operators to quickly change between desired target rates for each individual product. Press \[ \text{Rate} \] to enter the desired amount.

Increment — The Increment button allows operators to specify the increase or decrease amounts for a specified rate by using \[ \uparrow \, \downarrow \] on the Product Control Toolbox. Press \[ \text{Rate} \] to enter the desired increment.

Prescription — To load a map-based prescription file, press the Prescription button. Refer to “Loading Prescriptions” on page 5 for further details.

Minimum Flow — (Used for DirectCommand Liquid Applications only). This setting is used to maintain a consistent spray pattern. The display will not allow flow to drop below the entered setting. Set to flow at the lowest operating pressure for the selected spray tips with all sections on. When spraying with one or more boom sections off, the system automatically reduces the minimum flow setting according to the reduced spray width. To adjust this setting, press \[ \text{Rate} \] and enter the desired numeric value.

Container Level Settings

When filling or emptying container, use the Container Level portion of the Rate Control Settings screen to update the amount of product in the containers.

Tank Fill — The Tank Fill button increases the container level logged in the display to the user-defined maximum volume (specified in the Container Setup Wizard).

Tank Empty — The Tank Empty button decreases the container level logged in the display to zero.

Tank Partial Fill — The Tank Partial Fill button increases the container level logged in the display to specific amount that you specify by pressing calculator icon. Pressing the Partial Fill button summons the Adjust Container Amount screen.
**Adjust Container Amount**

- **Add** — Adds product to the container.
- **Remove** — Removes product from the container.
- **Set** — Sets the product level in the container.

**Tank Alarms**

The Container Alarm button, which appears on the right of the Container Level portion of the Rate screen, displays the capacity of your tank as well as the percentage at which the Low Container Level warning will sound. To adjust these settings, press the button and the Container Alarm screen appears.

If you wish to adjust your container level warnings, use the following buttons on the right-hand side of the Container Alarm screen to make these adjustments.

- The **Percentage (%)** button sets the warning threshold according to the percentage of product left in the tank. In the example above, the threshold is set at 10 percent.
- The **Units of Measurement** icon sets the warning threshold according to the amount of product left in the tank. This icon is named according to the container’s units of measurement you specified during the Controller configuration procedure.
- The **Disable Low Container Level** button, which appears as a bell with a red slash across it, disables the Low Container Level warning.
**Loading Prescriptions**

1. Press the Rate Setup button on the Product Control Toolbox.

2. Press the Load Prescription button.

3. Using an inserted USB or AgFiniti Cloud, search for and highlight the correct .agsetup, .irx, or shape file and press .

4. Select the prescription in the Select Prescription screen, and select the correct controlling product from the Product dropdown box. A preview prescription map is displayed. Press .

5. In the Modify Prescription Screen the prescription scale, minimum to apply, and maximum to apply can be changed. As the three parameters are changed, the adjusted total to apply and average rate will update accordingly.

6. Press the .

7. After returning to the Mapping Screen, the prescription will appear on the map while in a North Oriented view.
Shape File Conversion

What is commonly called a shape file is actually a collection of three different files. All three of the files are required and must be present on the USB drive for the system to use shape file groups for variable rate product application. A single “shape file” can contain recommendation rates for multiple products.

1. Press 📱 on the Product Control Toolbox.
   The Rate Control Settings screen appears.

2. Press the Load Prescription button 📄.

3. The Select File screen appears. Highlight your desired .shp file and press 🎁.
4. **Select Column From Shape File**—Select the column that contains the product recommendation rate. The list on the right side of the dialog shows sample data from the selected column.

5. **Select Units**—Select the controlling units for product application.

6. **Default Rate Setting**—The system assigns a default rate. Use the on-screen keypad to edit the value if desired.

   **NOTE!** Select the product and units that the shape file prescription was made for. Selection of the wrong data column or unit will result in misapplication of product.

   **ATTENTION!** The only time the default rate is used by the system during product application is if the Rate Outside of Field selection is set to "Rx default". This setting is located in the equipment configuration settings portion of configuration setup. If the Rate Outside of Field selection is set to "Rx default", the default target rate will be used when the vehicle exits the area covered in the prescription map.

**Creating Products**

Creating application products including dry fertilizer blends can be completed upon initial setup or from the Product Selection screen of the Field Operation Wizard when starting a field operation.

**Creating Single Products**

To create a single product, to be added to a blend or to be applied by itself, use the on-screen wizard described in the following steps.

1. **Select Product Type**—Use drop-down menu to select Product and press to continue.

2. **Select Product Units**

   When selecting the following fertilizers, use drop-down menu to select the product units:

   - Ag Lime
   - Pell Lime
   - User Defined Lime
   - User Defined N-P-K
   - User Defined Micronutrient
   - Other
     
     Press to continue.

3. **EPA Product Number (Optional)**
   
   Check box if product is a Restricted Use Pesticide

4. **Manufacturer name if applicable**
Manufacturer name can be added to the drop-down menu by pressing .

5. **Enter Product Name**

Default product name appears. Press to enter a new name.

Press to complete product setup or press to return to Configuration Setup screen without making a change.

Created product should appear under the Application heading located on the Product tab of the Configuration Setup screen.

NOTE! Some Fertilizer and Carrier product types are predetermined in the display. These product names cannot be edited. Their Manufacturer and EPA Numbers can be edited after the product is created. Examples are: Fertilizer>DAP or Carrier>30% UAN.

### Creating Dry Fertilizer Blends

Dry fertilizer blends are set up using the on-screen wizard described in the following steps.

1. From the Type drop-down menu select Dry Blend

2. From the Define By drop-down menu select:
   - Total amounts - to define blend by amounts going into the bin
   - Rate/acre - to define blend by the amounts going on an acre

Press to continue.

3. From drop-down menu select base units.

Press to continue.

4. Press to start the process of adding components to the blend.

NOTE! Any liquid herbicides set up within the system can be added to create an impregnated blend product.

5. Select the desired component from the drop-down menu.

NOTE! More than 7 products can be put part of a Mix/Blend but only 7 or fewer can be active at the same time.

- A new product can be set up at this time by pressing and following the Product Setup Wizard.
- Press to add selected product or press to return to Add Mix/Blend screen without adding a product.

6. Press to add an additional component.

7. When all components have been added press .

8. Enter Manufacturer name if applicable.

   - Manufacturer name can be added to the drop-down menu by pressing .
9. Press 📡 to enter a unique name for the blend.

10. Press ✅ to complete the process of setting up the dry blend or press ❌ to return to Configuration Setup screen without adding a mix.

Created blend should appear under the Application heading located on the Product tab of the Configuration Setup screen.

Dry Blend/Product Template indicator.

Configure Product Mix

1. When using a Dry Fertilizer Blend, the mix contents and amounts are defined in the Configure Product Mix screen available in the Event Setup Wizard, or Product button in the main menu.

2. Select product from the drop-down list or press 📡 to create a new one.

More than 7 products can be part of a Mix/Blend but 7 or fewer can be active at the same time.

Press 📡 to continue.
3. Configure Product Mix

Product Blends can be adjusted after they are created by:

A. Activating or de-activating products
B. Changing rate or total amount of a product
C. Changing total amount of the product or overall rate of product application

4. When a Product Blend is setup using rate/area, the Mix Calculator can be used to show how much of each product to put in the tank when the user enters the desired amount to fill.

5. Press the Volume to Calculate button and input the total volume. Table will give the user the amount of each product to put in the tank.

6. Select Region from the drop-down menu or press to name the Region. Verify the Controlling Product for the Product Blend. Press to load the Event to the Map Screen, or press to return to Home screen without setting up an Event.
Create Configuration

A wizard will guide you through the process of selecting or creating a configuration with application settings.

The configuration can be started in two places:

OR

Your Operating Configuration will then be viewable when you start a new Field Operation with the Application Wizard.

You can also use the Manage Equipment button to create or edit specific vehicles and implements.

Container Sequencing

Container Sequencing functionality allows application of the same product (discrete products or blends) sequentially from multiple containers. When product container is low or empty, system automatically advances product application to the next designated container in the sequence.

NOTE! Container Sequencing functionality is only supported in the InCommand™ 1200 display. The InCommand 800 display does not support sequencing functionality.

Container Sequencing Configuration

Complete the following steps to set up container sequencing.

1. Select from Home screen.

2. Select Season, Grower, Farm, Field

Press to accept and continue.

3. Press the Container Sequence button to add container sequencing to current configuration.
4. Press Container icon to select containers to be sequenced.

NOTE!: System defaults container sequence to ascending order during initial setup. User can select starting container when configuration loads to the Map Screen.

5. Use Sequence Trigger drop-down menu to select container advanced trigger method.

- **Manual Advance Only**—Sequence is manually triggered by user pressing container icon on Map screen.
- **Low Container Sensor**—Sequence automatically advances to next container in the sequence when low container level sensor is uncovered.
- **Container Low**—Sequence automatically advances to next container in the sequence when system reaches low container level alarm countdown set point.
- **Container Empty**—Sequence automatically advances to next container in the sequence when container level countdown reaches zero.

Press ✓ to accept and continue and return to the product selection screen.
System displays sequenced containers and defaults sequence direction in ascending order.

6. Use drop-down menu to select existing products or press \( \text{Product Selection} \) to add products to active channels. To create new products see “Creating Products” on page 7.

7. Press \( \text{Event Selection} \) to continue to the Event Selection screen.

8. From the Event Selection screen, Start a new event or select a previous event.

9. Press \( \text{Options} \) to continue to the Options screen. (Event Selection screen will be skipped if a Configuration is being loaded to a field for the first time.)

10. Use the drop-down menu to select controlling units for products to be applied.

11. Press \( \text{Map} \) to accept and continue to Map screen.

**Map Screen**

A. Single Rate control display for all containers in a sequence. Container level indicator displays the combined total for all containers in the sequence.

B. Manage individual container level edits for all containers when using container sequencing. (See below)

C. Container level indicator displays the independent container level for each application channel in the sequence.

D. Automatic Sequence Enable/Disable button must be checked for Automatic container sequencing to function. If Sequence Trigger is set to Manual Advance Only, Automatic checkbox will not be displayed.

E. Moving to the Next Container Warning alerts user when the user defined Automatic Sequencing Trigger condition has been met and system is advancing to next container in the sequence. This warning is not displayed when manually advancing sequence, system will automatically activate the next designated container in the sequence.

F. Press **Settings** to access standard Spreader Control settings including Static and In-Field calibration routines.
**End of Automatic Container Sequence**  
**Warning**—alerts user the last container in the sequence has met the user defined automatic sequence trigger conditions.

Press ⌚ to clear warning dialog.

**NOTE!** Control Channel will remain active and continue applying:
- User must manually reset system to the beginning of the sequence.
- The system disables Automatic sequencing. User is required to re-enable Automatic Sequencing for the appropriate container.

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**Equipment Settings**

![Equipment Settings](image)

**Rate Outside of Field**—This setting will define how product will be controlled when leaving a field boundary.

- **Zero**—This will stop application.
- **Last Good**—This will continue application at the last known rate.
- **Rx Default**—When using a prescription, this will apply at the Default Rate (or outside of boundary rate) as defined by the prescription file.

**Rate Display Smoothing**—Determines how the feedback from the control channel rate sensor will be displayed on the map screen. When de-selected, the system will display raw feedback from the rate sensor. When checked, the system will display target rate when the application rate is within 10% of the target rate setting.

**Rate Change Look-Ahead**—This setting compensates for any latency in the control system when changing between different product flow rates during variable rate application. The typical setting range for this is 0-1 seconds. This setting can be thought of as a “look ahead” value when using a variable rate prescription. The display will send the signal to change rates before hitting a transition line so that the applied rate is correct when crossing into the new management zone.
Auxiliary Input

DirectCommand applications default boom sections to the switchbox in order, starting with switch 1. From the Auxiliary Input screen, the operator can customize the switches to the boom sections, if desired.

1. Press Assign.

2. Highlight the desired switch to assign a function to it.

3. Select appropriate function(s) (bin channels for this operation) to assign to the desired switch. Chain icons within each function will "link" once pressed to indicate they are assigned. If a function has a "broken link" then it is not assigned. If a switch has a "X" then it is not assigned to a function. Press the to save the setup.

NOTE! Even if no specific functions are assigned to the Master switch, the Master switch will still serve as the total system on/off switch.
Controller Settings

Controller Settings screen appears, with each channel's settings shown on its own tab.

The settings shown at this screen vary, depending upon whether your spreader uses a PWM Control Valve or a Servo Control Valve. Use the Control Valve Configuration drop-down menu to choose the appropriate configuration for your machine.

Spinner settings are accessed and adjusted in a dedicated tab. The Spinner Tab appears behind the channel tabs. The Spinner Tab is where Fan Speed settings are shown.

**Spreader Control: PWM Control Valve**

- **PWM Frequency**—The frequency that the PWM control valve is pulsed at. Settings can be found from the manufacturer of the valve. Typical settings range from 100-125 Hz. The default setting is 100.

- **PWM Gain**—Determines how aggressively the control valve responds when making rate adjustments. The higher the value the more aggressive the system response is. The default setting is 100.

- **Zero Flow Offset**—Represents the maximum duty cycle that is sent to the control valve without producing any hydraulic flow from the PWM valve. Using too high of a Zero RPM Offset value can cause the conveyor to not properly shut off. See the PWM valve manufacturer information for recommended settings. The default setting is 30.

- **Allowable Error**—Determines the percent of error that is allowed prior to the product control system making any flow rate changes. 2% - 3% is the normal dead band setting range.
  - Too low of a setting value can cause the product control system to continually hunt for the target application rate.
  - Too high of a setting will cause excessive product application error.

- **Shaft Speed Calibration**—Calibration number representing the pulses that equal one revolution of the rate control metering system.

- **Max Speed**—The Maximum Conveyor Speed Setting determines the maximum RPM of the conveyor that controls product distribution to the application point.
**Spreader Control: Servo Control Valve**

- **Valve Response 1**—Determines the speed of the servo valve when product control error exceeds the Response Threshold setting. Represents the fast speed of the servo valve. Decreasing the value will cause the servo valve to run slower. The default setting is 40%.

- **Valve Response 2**—Determines the speed of the servo valve when product control error is less than the Response Threshold setting. Represents the slow speed of the servo valve. Decreasing the value will cause the servo valve to run slower. The default setting is 8%.

- **Response Threshold**—Determines where the control channel switches between using Valve Response 1 and Valve Response 2 speed setting. Leaving all other valve control settings at the default value and making a small adjustment to this setting is usually all that is required to fine-tune system performance. The default setting is 15.
  - Decreasing this value will have the overall effect of speeding up servo valve response.
  - Increasing this value will have the overall effect of slowing servo valve response.

- **Allowable Error**—Determines the percent of error that is allowed prior to the product control system making any flow rate changes. 2% - 3% is the normal dead band setting range.
  - Too low of a setting value can cause the product control system to continually hunt for the target application rate.
  - Too high of a setting will cause excessive product application error.

- **Shaft Speed Calibration**—Calibration number representing the pulses that equal one revolution of the rate control metering system.

- **Max Speed**—The Maximum Conveyor Speed setting determines the maximum RPM of the conveyor that controls product distribution to the application point.

**Spreader Control: Spinner Tab**

To view Fan Speed Calibration settings, press the Spinner Tab. Operators with Spinner Spreaders that use PWM valves will see additional active settings.

- **Fan Speed Calibration**—The number of pulses that are generated by the sensor during one revolution of the spinner dish. The default setting is 4.

- **PWM Gain**—Determines how aggressively the control valve responds when making spinner speed adjustments. The higher the value the more aggressive the system response is. The default setting is 20.
• **PWM Frequency**—The frequency that the PWM control valve is pulsed at. Settings can be found from the manufacturer of the valve. Typical settings range from 100-125 Hz. The default setting is 100.

• **Zero RPM Offset**—Represents the maximum duty cycle that is sent to the control valve without producing any hydraulic flow from the PWM valve. Using too high of a Zero RPM Offset value can cause the spinner system to not properly shut off. The default setting is 30.

> NOTE!: See the PWM valve manufacturer information for recommended settings.

• **Automatic Control**—Checking this box enables closed loop spinner control.

### Stepper Spreader Control

• **Max Conv. Speed**—The Maximum Conveyor Speed setting determines the maximum RPM of the conveyor that controls product distribution to the application point.

• **Fan Speed Calibration**—The number of pulses that are generated by the sensor during one revolution of the spinner dish. The default setting is 4.

• **PWM Frequency**—The frequency that the PWM control valve is pulsed at. Settings can be found from the manufacturer of the valve. Typical settings range from 100-125 Hz. The default setting is 100.

• **PWM Gain**—Determines how aggressively the control valve responds when making spinner speed adjustments. The higher the value the more aggressive the system response is. The default setting is 20.

• **Zero RPM Offset**—Represents the maximum duty cycle that is sent to the control valve without producing any hydraulic flow from the PWM valve. Using too high of a Zero RPM Offset value can cause the spinner system to not properly shut off. The default setting is 30.

> NOTE!: See the PWM valve manufacturer information for recommended settings.

• **Automatic Control**—Checking this box enables closed loop spinner control.

### Automatic Spinner Control

Turn Spinners on/off by pressing the Spinner Icon located in the Task Bar. After pressing the Spinner Icon, a warning will appear alerting user the spinners will turn on and to remain clear of equipment.

Press ![on] to turn spinners on and clear warning dialogue. Press ![off] to keep spinners from running and clear warning dialog.

### Run Time Operations—Spreader Control

During Run Time Operations, Spinner Spreader operators can press the **Settings** button to open the Spreader Control screen. At this screen, you can adjust Spread Width, Spinner Speed, Product Density and other settings.

• Each of these settings described below must be set for each individual Product Channel (bin).
• Changed settings do not take effect until verified.

• The Spread Width, Spinner Speed, Product Density, Feed Gate 1 Opening and the Conveyor 1 Rate are all stored with each combination of product and control channel.

**Spreader Control screen**

• **Spread Width**—Press to edit the value.

• **Spinner Speed**—The spinner speed required for accurate product placement in relation to the spread width setting.
  
  • The spinner speed is controlled automatically based upon this setting when the system uses an optional PWM spinner speed control valve.

  • To accurately determine Spinner Speed settings you should perform a spread pattern catch test.

• **Product Density**—This density value (shown in pounds per cubic foot, or lb./ft.³), is stored with each product. Press to edit if needed.

**NOTE!:** For proper machine performance and accuracy, Product Density should be measured for every application load.

• **Feed Gate 1 Opening**—Represents the Feed Gate opening for Conveyor 1. Measure the depth of product on the conveyor to ensure accurate feed gate setting value.

• **Conveyor 1 Rate**—This setting represents the volume of product dispensed by one revolution of the conveyor drive shaft (cubic foot per revolution, or ft³/rev.) This number is shown with the assumption that the conveyor shaft has a 1-inch gate opening. (When the display is in Metric units, this number is shown with the assumption that the conveyor shaft has a 2.54 cm gate opening.) This conveyor rate remains constant, regardless of the height of the feed gate opening.

**ATTENTION!:** You must either manually enter conveyor rate value or perform a CFR calibration routine for each product and channel combination, otherwise misapplication will occur.

**Conveyor Rate Look-Up**

A pop-up screen will display a warning when a product is assigned to a container or bin for the first time and has not been calibrated. The warning prompts the operator to review product density and conveyor rate settings.

Conveyor rates for previously applied products can be found by first pressing the **Settings** button which opens the Spreader Control screen.
The Spreader Control screen has a tab for each control channel/product being applied. Select the desired channel and press the **Conveyor Rate** button.

**WARNING!:** For proper machine performance and accuracy, Product Density should be measured for every application load.

The **Conveyor Rate** button opens a setup screen where the conveyor rate can be input, and a table of previously applied products and conveyor rates is shown.

Highlight desired product by pressing it and press **** to input desired conveyor rate.

Press **✓** to accept the new conveyor rate and return to the Spreader Control window.

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**Spreader Control: Routine Operations**

The Spreader Control screen has three buttons, Chain Oiler, Static Calibration and In-Field Calibration, which are described below and on the following pages.

**Spreader Control: Chain Oiler**

If you are using a Chain Oiler, you can automatically perform a chain oiling routine by pressing the Chain Oiler button on the Spreader Control screen and following the steps below.

**NOTE!:** Perform a chain oiling routine daily.

1. **Press Settings button** — To begin, press the Settings button to open the Spreader Control screen. At the Spreader Control screen, press the Chain Oiler button.

2. **Acknowledge the first warning** — Manually disable or shut off the spinner hydraulic circuit.

3. **Enter a Routine Duration** — Enter the routine time that it takes to turn the conveyor one revolution.

4. **Press Start** — Press the Start button, and when the routine is finished press **✓**.
5. **Acknowledge the second warning**—Return the spinner hydraulic control to a field-ready condition.

**Spreader Control: Static Calibration**

You must perform a conveyor discharge calibration for each granular product control channel (bin) for the equipment configuration. This process is outlined below and on the following page. The static calibration procedure is performed before applying in field conditions.

1. To begin, press the **Settings** button on the Map screen. The Spreader Control screen opens.
2. Press the **Static Calibration** button to start the Static Conveyor Rate calibration routine.

3. **Disable Spinner Hydraulic Circuit**—The system will present a warning to disable the spinner hydraulic circuit.
   Press after the hydraulic circuit is disabled.

   **DANGER!** Manually disable or shut off the spinner hydraulic circuit. If the spinner runs unexpectedly, injury could occur.

4. Select **Conveyor** to Calibrate

5. **Enter Dispense Amount**—Enter the desired target amount of product to dispense (the recommended amount is 500 pounds or 250 kilograms). Press to continue.

6. **Start Dispensing Product**—Press the **Start** button to begin dispensing the product. Dispensed product will need to be caught during calibration routine and weighed afterwards.

7. **Product Dispensing**—The conveyor will stop when the system perceives the target amount of product has been dispensed. The **Stop** button can be pressed at any time to manually shut off the conveyor.

8. **Product Dispensing Stops**—On the screen shown after dispensing the display’s target amount, value can be reset and the process started again for a larger sample size, if desired. Press to continue.

9. **Enter Actual Dispense Amount**—Enter the actual weight of the product dispensed. Press to continue.

10. **Finish Calibration**—A screen displays, stating Calibration Complete and underneath is shown the newly-calibrated conveyor rate.
   
   • Press to exit the calibration without saving the value.
   
   • Press **Repeat Calibration** to begin the process again.
   
   • Press to save the value and exit the calibration routine.

   **DANGER!** Make sure the spinner is free of material before restarting the spinner hydraulic circuit.

11. A warning will appear when exiting the calibration wizard, instructing you to return the spinner control hydraulic circuit to a field-ready condition.

**Spreader Control: In-Field Calibration**

The In-Field Conveyor Calibration procedure performs an automated routine to adjust the calibration number for the selected spinner bin. This calibration is performed if there is a difference between the amount of product logged as compared to what was actually applied.
To begin, press the **Settings** button on the Map screen. The Spreader Control screen opens. Press the **In-Field Calibration** button on the Spreader Control screen. The In-Field Conveyor Rate Calibration Wizard appears.

2. **Select Conveyor to Calibrate**—Select the channel to calibrate, and press to continue.

3. **Enter Actual Weight**—The Accumulated Weight is shown in the top portion of the window. Press to enter the Actual Weight, and press to continue.

    NOTE! Start a new Region to reset the Accumulated Weight to 0 lbs.

4. **Calibration Complete**—A message appears, stating that your calibration is complete, and showing the CFR amount in cubic feet per revolution. Press to finish.

### Troubleshooting DirectCommand Granular Applications

**Problem:** Run screen Granular channel(s) green light spreader indicator will not turn on.

**Solution:**

1. Make sure ground speed is registered a value greater than zero on the display.
2. Verify a target rate greater than zero is entered into the display.
3. Check the switch status found on the Run screen under CAN and Auxiliary Input Diagnostics. As the master switch is turned on and off, the Auxiliary Input Diagnostics window should change from black to green (if they do not, then refer to the installation instructions to verify switch connections).
4. Check high current connection into the Granular Control Module.

**Problem:** Master switch will not turn on when the foot pedal is on.

**Solution:** Make sure the Master Source Input is set to “External 2” under the Auxiliary Input settings.

**Problem:** AutoSwath turns on the conveyor or drive too fast or too slow.

**Solution:**

1. Check GPS offsets in the vehicle setup to verify all of the measurements are correct.
2. For pulled implements - Verify implement offsets are appropriate for the spreader.
3. Adjust the turn on look-ahead and turn off look-ahead to fine-tune Automatic Swath Control performance.

**Problem:** AutoSwath feature is not shown.

**Solution:** The display must have the AutoSwath feature password-unlocked before the feature is available to the operator.

**Problem:** Conveyor drive turns on when outside of the boundary.

**Solution:**

1. Make sure the Rate Outside of Field option is set to zero under the active configuration settings.
2. Make sure the Outside Boundary Option is set to Turn Section Off under the Automatic Swath Control options.
3. Make sure there is not a gap between the boundary and the first pass of the headlands.

**Problem:** AutoSwath is checked on, but the spreader will not turn on.

**Solution:**

1. Make sure the ground speed is registering a value greater than zero on the display and not in covered area.
2. Make sure the applicator is inside of the field boundary.
3. Make sure there is a target rate greater then 0.
4. Verify the Master Switch icon is indicating On (green) and Off (red) appropriately.

**Problem:** Conveyor turns off in the middle of the pass.

**Solution:**
1. Check the display firmware and module firmware to see if they are running the latest version.
2. Make sure the ground speed does not go to 0.
3. Make sure the GPS is not losing the differential source.

**Problem:** Total Applied does not match Actual Weight Applied.

**Solution:**
1. Make sure the shaft speed pls/rev are set correctly in the Controller Settings.
2. Make sure the controlling product is set to the correct units.
3. Review Static or In-Field calibration procedures to ensure process was done appropriately.

**Problem:** Rate not responding.

**Solution:**
1. Make sure there is a ground speed registering on the display.
2. Make sure the shaft speed pls/rev are set correctly in the Controller Settings.

**NOTE!** You must make sure to account for sprocket ratios if chain driven.

3. The CFR number may need to be adjusted.
4. Use Manual Valve control to see if the control valve will open or close.

**Troubleshooting Serial Control Applications**

**Problem:** Rate changes on the display, but not on the controlled console.

**Solution:**
1. Verify the current firmware is running on the display and Application Rate module.
2. Check the settings specific to your controlled console.
3. Check cabling and all connections.
4. Disconnect the serial connection and determine if the controller is functioning properly without the display.

**Problem:** The display rate and serial-controlled rate do not match.

**Solution:**
1. Verify the current firmware is running on the display and Application Rate Module.
2. Check to make sure the nominal rate in the display matches the nominal rate in the serial-controlled console.