Great Plains
DrillCommand
Personal User Guide

Step-by-step instructions for easy set-up and operation

Manual No. 160-500M | Published 2016-09-08 | Interactive Content available
Product Support

We at Great Plains thank you for choosing DrillCommand to aid you in having a successful crop. If you have any problems with your software or do not understand any part of this manual, please discuss the matter with your dealership service manager first. If your dealer is unable to resolve the problem or the issue is parts related, please contact:

Great Plains Service Department
1525 E. North St.
P.O. Box 5060
Salina, KS 67402-5060

Or go to www.greatplainsag.com and follow the contact information at the bottom of your screen for our service department.

Supported Languages

DrillCommand has language support for the following languages:

- English
- German
- French
- Ukranian
- Danish
- Czech
- Hungarian
- Bulgarian
- Romanian
- Russian
- Polish
- Spanish
- Finnish
- Swedish
- Estonian
- Lithuanian
- Latvian

Supported Measurements

DrillCommand also has support for the following units of measurement: metric, U.S. customary, and imperial.

Language and measurement controls are accessed through your terminal. See your terminal manual for more information.
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# DrillCommand at a Glance

## What is DrillCommand?
Great Plains’ DrillCommand software is used with all Great Plains drills and their components. DrillCommand regulates, monitors and controls the drill and all its features. You can also troubleshoot any issue with your machine from the comfort of your cab by using DrillCommand’s built-in diagnosis tools.

## Run Your Machine, Your Way
With DrillCommand on your machine, superior performance, consistency, and reliability are at your fingertips. DrillCommand is designed to make your machine start, run, resume, and shut down faster and easier.

DrillCommand also offers extreme flexibility. Need to use your drill for multiple different seeds? No problem. With precise hopper control and many customizable configurations, DrillCommand lets you get more out of your Great Plains drill than ever before.

### 1.1 Overview of This Guide
This guide describes how to use Great Plains’ DrillCommand virtual terminal (VT) software, including a quick start guide and a full listing of all settings and features.

This guide does not include information on hooking up cables from your drill to the tractor or terminal and does not describe any of the physical features of your specific terminal. Refer to the product’s owner manual for further information.

Refer to the quick start guide included at the front of this manual and get your drill running in the field.

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Read through this manual thoroughly before starting up DrillCommand on your machine and making any adjustments to the factory settings and configuration.

### 1.1.1 Software Version
DrillCommand’s software release version is identified by the last two digits of its release number, e.g. 01.xx.xx.35

This release number is located at the top of the diagnostic menu screen. Refer to page 58 for diagnostic settings overview.

### 1.1.2 Maintenance
No regular maintenance is required for this software. However, it is recommended that you have your software checked at least once a year and check our online website for any corresponding changes to this manual.

To install software updates, check with your Great Plains dealer annually to see if updates are needed.
1.1.3 Display Screen

Power

Once your virtual terminal is powered on, DrillCommand will load automatically onto your terminal's display screen. If not, tap 🌐 to bring up the DrillCommand home screen. From the home screen you can tap 🌐 to power on your drill.

For powering up your terminal, please refer to your terminal's user guide. If any errors are detected, an audible alarm and error warning will display.

Navigation

With the use of a virtual terminal (VT), you can enter and retrieve any information you need from your DrillCommand system as well as navigate to additional settings and features. All screens contain navigation icons that you can tap to move to the next screen and most contain a previous screen icon ⬅️ that will take you back to your last screen.

Online versions of this manual come with interactive screens, so you can navigate through the software like you would on an actual terminal. Go to our website and open this guide with any PDF viewer on your computer, smartphone, or tablet and look for the information page inside the cover to get started.

Making Changes

Entering new or changing information is done by tapping a numerical field on your screen and tapping on the screen again with the desired settings. Once the correct setting is entered, tap on your screen's confirmation key, e.g. ‘Enter’ or ‘OK’, to confirm and finish.
2 Quick Start Guide

DrillCommand comes preset from our Great Plains factory for your machine. Most of the settings therefore come preconfigured. However, the following inputs are required to begin operation: seed rate, calibration, and ground speed constant.

2.1 Initial Start Up and Navigation

After you have started your terminal and loaded DrillCommand, you will need to navigate to the machine tools menu and set-up your drill's seed rate, calibration factor, and ground speed. Once you have set-up this initial task profile, you will not need to perform the set-up again unless you make changes to the profile or create a new one.

2.1.1 Home Screen and Machine Settings

Here's how to get started quickly with setup:

In order to navigate to the machine settings menu from the home screen, click on the gear icon towards the bottom of your screen.

After tapping the icon, you will see the machine tools menu screen with icons for further setting options. For this quick start guide, we will only be working with the top three settings: tramline, hopper, and metering. We’ll start with tramline first, so tap on the tramline icon.
2.1.2 Calibrate Speed

Tap the Calibrate Speed soft key icon to start a speed calibration run.

Follow the directions on the screen and mark a distance of 91.5 meters (300 feet). Once the distance is marked, tap to start calibration.

Drive your tractor to the marker previously set. Your terminal will display the number of impulses. Tap to accept the number or to reject and start a new calibration.

The number of impulses shown should range between 5,000 and 15,000. If your results are outside of this range, perform a new calibration run.
2.1.3 Tramlines

**Set Bout Length.** If you have a preset bout you would like to use, enter the reference number in the ‘RhNo’ field. The reference number will automatically fill in length and the left and right tramline rhythms. If you want to use a custom rhythm, enter 999 in the ‘RhNo’ field and manually input the bout length of the machine and the left and right pass count.

**Select Sensor Numbers.** Select which rows on the left-hand and right-hand sides of the machine you want to turn off during tramlining. Turning off more machine rows creates wider tramlines.

2.1.4 Hoppers

**Hopper Control.** Tap the icon to turn individual hoppers ‘on’ or ‘off.’ If a hopper is off, you will see a over the hopper display’s product icon.

**Settings Adjustments**

**Associated Product.** Underneath the hopper you want to assign a product to, tap on the product field underneath ‘Associated Product’ and select the hopper’s product type from the drop-down list.

**Succession Hopper.** If you are using the same product in both hoppers and want one hopper to not run until the first hopper is empty, set a succession hopper. Tap inside the second hopper’s succession hopper field and change ‘None’ to the hopper you want to use after the primary hopper is empty.

If both hoppers are set to ‘None’ then both meters will run simultaneously.

**Associated Shoot.** Set which shoot is selected for each hopper. For single shoot, both will be set to ‘1.’
2.1.5 Metering

Adjustable Meter Settings
Select the field underneath ‘Target Rate’ and enter the rate you are wanting to plant at. The values for your ‘Calibration Factor’ will be found by running a calibration test. Great Plains recommends not entering these values manually.

Meter Calibration. To start your calibration run, from meter settings, enter your desired rate. Tap \( \) to begin the corresponding hopper’s calibration routine.

Make sure that hydraulic flow to the motors is on if using hydraulic motors. Enter your desired travel speed. You can tap \( \) to run one test revolution with the speed selected.
Tap \( \rightarrow \) to run the calibration. If the calibration is in the process of running, you should see the following calibration running screen:

![Calibration Running Screen](image)

This screen will automatically go to the calibration confirmation screen once you have finished running the machine calibration.

Once the terminal is on the calibration running screen, go to the machine and locate the calibration bag and scale. Place the empty bag onto the scale and zero out the scale so that the bag's weight is not included in the calibration. Then mount the calibration bag to the machine's calibration port. Locate the red calibration button. Press and hold this button to begin metering and catching the product. Release the calibration button when a reasonable sample has been collected. Unmount the bag from the machine and weigh it.

Go back to the terminal. Once the calibration button is released on the machine, you should have a new screen appear on the terminal.

![Calibration Confirmation Screen](image)

Enter the weight in the box that appears after the calibration button is released. After this weight is entered, a speed range will appear at the bottom of the screen. If this speed range fully encompasses your desired travel speed, tap \( \checkmark \) to confirm your calibration settings. If the results are not what you need and/or you don't want to enter the values manually, tap \( \times \) to cancel the settings and start a new calibration run.

If the speed range is too low or high, consider changing the gear range found on the side of the meters or the metering drums themselves. After any change, another calibration routine must be performed.

For more information on your machine's calibration process, refer to your operator manual.
2.1.6 Running DrillCommand

Once calibration is complete, return to the home screen by using the icon. When you are on the home screen, go ahead and lower the drill’s hydraulics and turn on the fan. Ensure that the hopper lid is closed. Then tap to turn on the drill.

![Image](image.png)

If you see this screen and all the outputs look correct, your machine is prepared to run.
3 Terminal Operation and Configuration

Normal operation of your Great Plains machine does not require anything more than running through the Quick Start guide. However, a wide variety of controls are available so you can customize your machine's basic operation and applications.

**Loading and Saving Settings**

Your ISO-BUS terminal will display any settings and configuration changes. Before starting your terminal, insert any USB you have settings stored on. Your terminal should load your preferences automatically.

**Changing Monitor and System Settings**

All of DrillCommand's system settings are accessible through your terminal. These settings are broken down into the home screen and three different menus.

- **Home Screen Menu**
  See page 16 for a complete home screen overview.

- **Machine Settings Menu**
  See page 24 for a complete machine settings overview.

- **Machine Configuration Menu**
  See page page 40 for a complete machine configuration overview.

- **Machine Diagnostics Menu**
  See page page 58 for a complete machine diagnostics overview.

From the home screen, you can go to machine settings by tapping on . From the machine settings menu you can access all of DrillCommand's settings for your machine and its software.

Language, time, and date settings and units use the terminal's settings. Refer to your terminal's user guide to alter these settings if necessary.

**Access More Settings**

DrillCommand is factory set to only display the most commonly used machine controls. These basic controls are easy and quick to alter. However, you can access more of your machine's settings by changing the user access level.

To access the user access level from the home screen, go to machine settings -> configuration settings -> passwords and enter the code for the level of access you need.

These changes should not be made without extensive knowledge of the machine and its software as they can cause the machine to become inoperable. Great Plains recommends having a dealer perform any changes to these settings for you.
3.1  Home Screen Menu

Your terminal will automatically load the software from the machine’s ECU. Startup will vary depending on the terminal used: either the program will start immediately or the terminal’s button for an ISOBUS-connected device appears. Tap the start icon or press the ISOBUS button to start the program if necessary.

Operation and navigation of software requires the use of a touchscreen terminal. Terminals that navigate between screens with the use of a dial will not function properly.

You will find all important data on the machine’s operation, settings, etc. presented clear and concise on this screen.

Home Screen

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

Home Screen Overview

When you start DrillCommand, the home screen initially opens. The home screen is your starting point for all settings and features on your drill. It displays machine information and has navigation icons that take you to your machine’s settings, configurations, and diagnostics.

On right-hand side of the screen, the softkey bar will have all of your navigation icons. You can tap machine settings to view even more navigation possibilities and options.

The home screen is the view you will see while seeding. You can see all important information for monitoring the machine from this screen and navigate to settings.
Soft Key Icons

- **Machine Control.** Tap to turn control of your drill on and off. This soft key control is not available on all screens.
- **Results Information.** Tap for trip and season counters. For further information on results information see page 20.
- **Frame Control.** Tap to open the frame control window. This soft key control is not available on all screens.
- **Blockage Settings.** Tap to alter alarm sensitivity levels. For further information on blockage settings see page 22.
- **Machine Tools.** Tap to alter machine settings. For further information on machine tools see page 24.

Information Icons

- **Current Ground Speed.** Located to the right of the icon is current ground speed measured in kilometers per hour.
- **Current Fan Speed.** Located to the right of the icon is current fan speed measured in revolutions per minute.
- **Lift Switch Indicator.** Shows whether the lift is set to raise or lower. If the icon is crossed out and circled in red, then the machine is raised and not ready for planting. When red marker is absent, the machine is lowered and ready to plant.
- **Machine Switch Indicator.** The green on icon indicates the machine is on and currently running. The red off icon indicates the machine is off and not running. Running the machine is controlled through the machine control icon. See page 19 for more information.

Home Screen Controls

- **Meter Rate.** Tap or to adjust meter 1 or 2's rate by entering a value. The amount of seed used is displayed in kilograms per hectare. Each icon controls a unique meter and is distinguishable by the number on the icon's body as well as the material type.

- **Frame Control.** Tap on to open the frame control window. Tapping on the fold/unfold icon will highlight the icon with a . This box indicates the terminal's fold/unfold control is on.

Highlighted green when fold/unfold made active through terminal

To turn off the terminal's control of folding and unfolding, simply tap the fold/unfold icon again. If successful, will disappear from around the fold/unfold icon.
Tramline Bout

If tramlining option is turned on, tap ![tramline icon] to bring up the bout length controls in your soft key bar.

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

You should see a new set of soft keys in your bar for adjusting your machine’s bout length. The home screen will remain the same as shown below.

**Bout On/Off Switch.** Tap ![on/off icon] to turn bout controls on or off.

**Bout Length Controls.** There are four different control buttons for adjusting your bout length:

- ![add bout icon] adds a single bout.
- ![subtract bout icon] subtracts a bout.
- ![suspend tramline icon] suspends tramlining.
- ![tramline settings icon] goes to the tramline settings screen. See page 26 for a complete overview of tramline settings.
Machine Control

Tap \( \text{button} \) to turn control of your drill on and off.

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

**Hopper Display.** Provides a graphical representation of each hopper’s status. Hopper number, type of product, and weight of product present are all shown on the display.

**All Meter Adjustment.** Tapping will add the following adjustment soft keys to the bar.

- **Meter Increase.** Tap to increase the amount of seed by the preconfigured percentage. Go to Metering Settings on page 32 for information on altering the adjustment rate.
- **Meter Decrease.** Tap to decrease the amount of seed by the preconfigured percentage. Go to Metering Settings on page 32 for information on altering the adjustment rate.
- **Meter Reset.** Tap to reset all meters to 100 percent.

**Meter Primer.** Tap \( \text{button} \) to prime the meter for seeding. If not primed, seed will not plant for several feet after configuration. Pressing this will set the meter to run at the correct rate for 5 seconds or until primed.

**Section Control (Option).** If section control is installed, tap \( \text{button} \) underneath your screen’s implement graphic. From the section control window, adjust settings for the selected section of your machine.

If section control is not installed on the machine, the section control icons will be inactive.

Please note that your screen’s sections are oriented left to right when facing the rear of the machine.
3.1.1 Results Information

Results information is viewable by tapping on \(\text{Home Screen}\) from the home screen.

Results Information Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Results Information Overview

The results information screen allows you to record trip and season counters or clear the results of your previous trips and start again from 0. Total results are also recorded and viewable on a separate screen by clicking on the 'Total Results' icon.

Once cleared, you will not be able to retrieve your trip or season information. Record any information you do not want to lose before proceeding with clearing counters. Total results will remain unchanged.
Chapter 3 Terminal Configuration (ISOBUS)

Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the home screen.
- **Clear Trip.** Tap to reset the trip counter. This soft key control is not available on all screens.
- **Clear Season.** Tap to reset the season counter. This soft key control is not available on all screens.
- **Total Results.** Tap to go to the total results screen. This soft key control is not available on all screens.

Meter Counters

Your meter counters track two different counters: trip and season. Results for trip and season counters display the area and distance covered per session or season. Tap on either clear trip or clear season to clear the corresponding counter.

Total Results Screen

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

![Total Results Screen](image)

**Total Results Information.** A combination of your trip and season information is recorded and displayed on this screen. Results of your total time, distance, area, and quantity of product will show. You can also see at the top of this screen the total number of hours your electronics have been turned on.
3.1.2 Blockage Settings

Blockage settings are located by tapping on \( \text{ } \) from the home screen.

Blockage Settings Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Blockage Settings Overview

Adjust sensitivity by scaling the setting for each meter. Increasing the position of the slider on the scale or entering in a value from 1 to 10 will increase the sensitivity of the drill's sensors. You can also turn off the blockage system alarm from this screen by setting the sensitivity level of the alarms to 0.
**Soft Key Icons**

- **Previous Screen.** Tap to return to the previous screen.
- Use this icon multiple times to return to the home screen.

**Sensitivity Setting**

- **Setting Adjustments.** Adjust the value of each sensitivity setting by tapping on the field with the scale's value and entering a value between 1 and 10 or by tapping on the scale. The scale is divided into ten separate levels according to the markers on the bottom edge. The larger end of each scale indicates a higher sensitivity level.
- **Alarm Warnings Off.** To turn off the alarm warnings, set the value of the sensitivity level to 0.

⚠️ If you have difficulty setting the sensitivity level to 0 by tapping on the scale, try tapping to the left of the scale's far-left edge.
3.2 **Machine Settings Menu**

The machine tools menu is found by tapping 🛠️ from the home screen.

**Machine Settings Menu Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Machine Settings Overview**

Change a setting by tapping on any of the appropriate sub menus and pressing a field with a value. You can either select a new value or enter a number from the screen’s popup keypad and confirm your selection.

Your Great Plains drill comes preconfigured with the appropriate settings for your machine. You can also adjust the settings on different features in this menu such as metering, tramlines, blockage systems, etc.
Chapter 3 Terminal Configuration (ISOBUS)

Soft Key Icons

**Previous Screen.** Tap to return to the previous screen.
Use this icon multiple times to return to the home screen.

Sub Menus

**Tramline Settings.** Create different types of tramlining. Input a unique reference number to save and switch between different tramline settings.
See page 26 for a complete overview of tramline settings.

**Hopper Settings.** Select product type and settings for each hopper. Use this setting to turn off individual hoppers.
See page 30 for a complete overview of hopper settings.

**Meter Settings.** Specify target rate per hectare and perform and record results of a calibration run for individual meters.
See page 32 for a complete overview of meter settings.

**Weigh System Settings.** View and input weight in each hopper.
See page 36 for a complete overview of weigh system settings.

**Blockage Settings.** Adjust blockage system sensitivity or set sensitivity to 0 to turn off alarms. Blockage settings can also be reached through the home screen.
See page 22 for a complete overview of blockage settings.

**Results Information.** Displays results of trip and season counters. Also clears counters and displays total results. Results information can also be reached through the home screen.
See page 20 for a complete overview of results information.

**Speed Settings.** Set speed system's sensor calibration factor or select speed input source.
See page 38 for a complete overview of speed settings.

**Configuration Menu.** Displays the configuration sub menu options.
See page 40 for a complete overview of the configuration menu.

**Diagnostics Menu.** Displays the diagnostics sub menu options.
See page 58 for a complete overview of the diagnostics menu.
3.2.1 Tramline Settings

Tramline settings are located by tapping on from the machine tools menu.

Tramline Settings Screen

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

Tramline Settings Overview

Tramlines are produced by closing corresponding solenoid valves in the seed delivery hoses. the tread width of the tractor used for subsequent spraying and fertilizing determines which openers have to be shut off.

Adjust settings by inputting a new reference number and tramline bout lengths and alternation. These settings can either be adjusted with a custom rhythm or by using one of DrillCommand’s preset tramline configurations. Illustrated charts for these preset tramlines are available on page 28. You can also adjust the tramline sensors from this screen.
Chapter 3 Terminal Configuration (ISOBUS)

Soft Key Icons

Previous Screen. Tap to return to the previous screen. Use this icon multiple times to return to the home screen.

Installing Tramline Equipment

In addition to your terminal and DrillCommand software, you must fit your machine with tramline motors that will shut off the flow of seed to the desired openers. You can find more information about these tramline kits in your operator’s manual.

Tramline Settings

Use the tramline settings to create or customize your tramlines. Set a bout length that will suit your needs or use a length from a preset tramline setting. A bout constitutes a number of passes you will make up and down the field as you are planting.

If you are using a custom rhythm setting, tapping in the fields under ‘Left’ and ‘Right’ will allow you to set which pass during the bout will be tramlined. If you are using a preset tramline rhythm, tapping in the ‘Left’ and ‘Right’ fields will open the tramline reference numbers.

Sensor Settings

Total Closed Openers. You can select which sensors are turned off during bouts in the ‘sensors number’ fields. Enter the number of each sensor that you want to close for all tracks formed on that side of your drill.

Track Spacing. In addition to closing openers, you will need to determine how much space to put between each tramline track. This distance should be the width from one inside tire edge on your sprayer/fertilizer applicator to another.

For more information on calculating the total number of openers to close and track spacing, see Tramline Configuration on page 54.

The number of passes per bout that your tramline rhythm needs depends on your sprayer/fertilizer’s working width divided by your drill’s working width. If unsure of how to create tramlines, refer to the tramline charts later on in this section.

Preset Rhythm Settings

You can enter a unique number for preset tramline settings. These rhythms are configured for various drill and applicator lengths for determining the appropriate patterns and bout lengths. To use one of these preset rhythms, tap on the ‘RhNo’ field and scroll through and select the rhythm you wish to use.

To view the rhythms available for your drill and applicator widths, see the tramline charts later on in this section.

Custom Rhythm Settings

Entering the number ‘999’ into the RhNo box field will allow you to create a custom tramline rhythm.
## Symmetrical Tramline Rhythms

<table>
<thead>
<tr>
<th>Rhythm</th>
<th>RhNo</th>
<th>Tramline Bouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td><img src="image1" alt="Tramline Bouts" /></td>
</tr>
<tr>
<td>4</td>
<td>4S</td>
<td><img src="image2" alt="Tramline Bouts" /></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td><img src="image3" alt="Tramline Bouts" /></td>
</tr>
<tr>
<td>6</td>
<td>6S</td>
<td><img src="image4" alt="Tramline Bouts" /></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td><img src="image5" alt="Tramline Bouts" /></td>
</tr>
<tr>
<td>8</td>
<td>8S</td>
<td><img src="image6" alt="Tramline Bouts" /></td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td><img src="image7" alt="Tramline Bouts" /></td>
</tr>
</tbody>
</table>

### RhNo, Lngth, Left, Right:
- **3, 3, 2, 2**
- **4S, 4, 2, 2**
- **5S, 5, 3, 3**
- **6S, 6, 3, 3**
- **7S, 7, 4, 4**
- **8S, 8, 4, 4**
- **9, 9, 5, 5**
### Asymmetrical Tramline Rhythms

<table>
<thead>
<tr>
<th>Rhythm</th>
<th>RhNo</th>
<th>Tramline Rhythms</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>999</td>
<td><img src="image1" alt="Diagram of Rhythm 3" /></td>
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<td>Lngth</td>
<td>Left</td>
</tr>
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<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>999</td>
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<td>Left</td>
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<tr>
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<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
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<td><img src="image3" alt="Diagram of Rhythm 5" /></td>
</tr>
<tr>
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<td>Left</td>
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<td>2</td>
</tr>
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<td>4</td>
</tr>
<tr>
<td>9</td>
<td>999</td>
<td><img src="image7" alt="Diagram of Rhythm 9" /></td>
</tr>
<tr>
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<td>Lngth</td>
<td>Left</td>
</tr>
<tr>
<td>999</td>
<td>9</td>
<td>4</td>
</tr>
</tbody>
</table>
3.2.2 **Hopper Settings**

Hopper settings are found by tapping 🔄 from the machine settings menu.

**Hopper Settings Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Hopper Settings Overview**

Alter hopper settings by adjusting individual hoppers with their meter types, succession hopper and associated shoot. Each hopper can be turned off or on by tapping on their associated hopper control icon.

Use the hopper displays to review information for the associated hopper.
**Soft Key Icons**

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the home screen.
- **Hopper Control.** Tap to turn the corresponding hopper on or off. Hoppers that are turned off will have their hopper display’s number crossed out with a red ‘X’.

**Settings Adjustments**

- **Hopper Display.** If no weigh system is fitted, you can manually enter the weight you added. Here, and on the main display, the weight will go down as you seed based on the calculated product applied. If your machine has a weigh system installed, the amount weighed will be shown here as well.

- **Associated Product.** Tap to give a drop down list of possible product types you can assign to a hopper.

- **Succession Hopper.** If you want one hopper to not put down any seed until your primary hopper is empty, you can set a succession hopper. Tap on the field underneath ‘Succession Hopper’ for the non-primary hopper. If a succession hopper is not yet set, the field will say ‘None.’ Change ‘None’ to the number of the hopper you want to use after the primary hopper is empty.

- **Associated Shoot.** Tap on associated shoot to set which shoot the hopper will use. Multiple hoppers can go to the same shoot. Default settings have seed go in shoot 1 and fertilizer in shoot 2. Before altering any settings, check your machine’s shoot setup and seed hose connection to the cart.
3.2.3 Metering Settings

Meter settings are found by tapping on  from the machine tools menu.

Metering Settings Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Metering Settings Overview

You can use this screen to adjust metering rate and adjustment amounts. Select and enter new values for your target rates and then perform a calibration run. Properly calibrating the meter for each hopper is necessary for operation. We recommend you run a calibration test for each crop you plant at least once per season.

Before you begin calibration, make sure that your tractor is parked and the drill is easily and safely accessible.
Chapter 3 Terminal Configuration (ISOBUS)

Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the **home screen.**
- **Meter Calibration.** Tap to go to the meter calibration screen. Further information on meter calibration is described later on in this section.

Adjustable Meter Settings

From this screen you can tap on the target rate numerical field to enter a rate for your meter. Entering this information is necessary before performing a calibration run for your machine. You can also adjust the calibration factor per revolution and adjust the amount increased per revolution. These adjustments are optional and are not necessary for normal operation.

**Metering Calibration**

You can manually enter a calibration factor, but Great Plains strongly recommends you perform a calibration for each crop or meter roller change. To start your calibration run, from meter settings, enter your desired rate. Tap to begin the corresponding hopper's calibration routine.

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Box Drill Calibration

**No of Rows**

On box drill models, the calibration screen replaces filling meter with a field for entering the number of rows to be collected from. To set this number, count the number of rows that will pour seed into your calibration container and enter that number into the ‘No. of Rows’ field. Number of rows varies between models’ row spacings.
If using hydraulic motors, make sure that hydraulic flow to the motors is on. Enter your desired travel speed. You can tap \( \text{ } \) to run one test revolution with the speed selected.

Tap \( \text{ } \) to run the calibration. If the calibration is in the process of running, you should see the following calibration running screen:

![Calibration Running Screen](image)

Releasing the calibration button on the machine will cause the screen to progress to calibration confirmation. Click the button to progress to the next screen.

Once the terminal is on the calibration running screen, go to the machine and locate the calibration bag and scale. Mount the calibration bag to the machine's calibration port. Locate the red calibration button. Press and hold this button to begin metering and catching the product. Release the calibration button when a reasonable sample has been collected. Unmount the bag from the machine and weigh it.

Go back to the terminal. Once the calibration button is released on the machine, you should have a new screen appear on the terminal.

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.
Enter the weight in the box that appears after the calibration button is released. After this weight is entered, a speed range will appear at the bottom of the screen. If this speed range fully encompasses your desired travel speed, tap ✓ to confirm your calibration settings. If the results are not what you need and/or you don't want to enter the values manually, tap ✗ to cancel the settings and start a new calibration run.

If the speed range is too low or high, consider changing the gear range found on the side of the meters or the metering drums themselves. After any change, another calibration routine must be performed.
3.2.4 **Weigh System Settings**

Weigh system settings are found by tapping on  from the machine tools menu.

**Weigh System Settings Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Weigh System Settings Overview**

If your machine is fitted with weigh cells, you can use this screen to send an alert when you are exceeding a set amount of product. To do this, select a field underneath 'Add Weight' and enter the amount of product you plan to add.

The current hopper weight is shown in the hopper display area.
**Soft Key Icons**

Previous Screen. Tap to return to the previous screen.
Use this icon multiple times to return to the home screen.

**Information and Settings**

Hopper Display. This graphic will show information on individual hoppers and how much weight of a product is detected.

Weight Increase. To have the terminal send out an alert when you’ve added a predetermined amount of product, select one of the fields underneath ‘Add Weight’ and enter the amount of product you plan to add to the corresponding hopper.

After entering and accepting the weight value, ![Check](check.png) will appear. Press this icon to start the system looking for a change in product amount, once the user-defined amount of weight has been reached you can confirm by tapping on ![Check](check.png) in the soft key area or on the alert message.
3.2.5 Speed Settings

Speed settings are located by tapping \( \text{ } \) from the machine tools menu.

**Speed Settings Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Speed Settings Overview**

Use this screen to select the implement speed source from the menu and make adjustments as necessary. If you know the calibration factor for your machine, you can enter it on this screen. Otherwise, you should run a speed calibration test and use the result to determine your machine's calibration factor. Your DrillCommand software comes with a default setting for the calibration factor, but Great Plains does not recommend using the default value.
**Soft Key Icons**

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the home screen.
- **Calibrate Speed.** Tap to go to the speed calibration screen. Further information on calibrating speed is described later on in this section.

**Adjustable Speed Settings**

**Speed Source.** Select your source of speed for the implement to use and determine its ground and meter speed when applying seed. This setting is on ‘Implement’ by default and will cause your machine to use the on board radar.

If the on board radar malfunctions or gives false readings, you can choose a fixed ‘simulated’ ground speed that is not related to the actual machine travel speed.

The third option for speed source is ‘tractor.’ If you are connected to a compatible tractor with an ISOBUS system you can get the ground speed from the tractor’s system.

Getting the ground speed from the tractor should only be done by advanced users.

- **Simulated Speed.** If you are using ‘simulated’ as your speed source, set a simulated speed in this field.
- **Calibration Factor.** Set the number of impulses per 100 meters, or 300 feet, for your calibration.

**Calibrate Speed**

Tap the Calibrate Speed soft key icon to start a speed calibration run.

Follow the directions on the screen and mark a distance of 91.5 meters (300 feet). Once the distance is marked, tap to start calibration.

Drive your tractor to the marker previously set. Your terminal will display the number of impulses. Tap to accept the number or to reject and start a new calibration. The number of impulses shown should range between 5,000 and 15,000. If your results are outside of this range, perform a new calibration run.
3.3 Machine Configuration Menu

The machine tools menu is found by tapping from the machine tools screen.

Machine Configuration Menu Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Machine Configuration Overview

Alter a configuration by tapping on any of the appropriate sub menus and pressing a field with a value and entering in a new numeric value. In some cases, you will have to choose between different options, e.g. 'on' or 'off', 'seed', 'fertilizer', or 'liquid', etc.

After making a selection, you may see an 'ELU Restarts' warning. This is normal and allows the software to load new pages and runs based on your previous selections.
Soft Key Icons

**Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the **home screen**.

Sub Menus

**Implement Configuration.** Configure general implement values. Use this screen to perform radar and other non-ground speed calibrations and view machine dimensions. See page 42 for a complete overview of implement configuration.

**Hopper Configuration.** Change hopper’s associated shoot. See page 44 for a complete overview of hopper configuration.

**Product Configuration.** Assign general product configurations. Use this screen to alter various names and values for things such as name, type, operating speed, target rate, adjustment, etc. See page 46 for a complete overview of product configuration.

**Metering Configuration.** Alter target and maximum allowable speeds for metering. Changing these settings determines when alarms trigger for exceeding maximum and minimum values. See page 48 for a complete overview of metering configuration.

**Sectional Shoots Configuration.** Configure hopper shoot values. Use to enter number of sections and rows and the total working width. See page 50 for a complete overview of sectional shoots configuration.

**Fan Configuration.** Alter individual hopper’s configuration. Use to increase or decrease the minimum and maximum rotational speeds of drill’s fan. See page 52 for a complete overview of fan configuration.

**Tramline Configuration.** Create different types of tramlining. Use this to configure the sensors for the left and right sides’ tramlines. See page 54 for a complete overview of tramline configuration.

**Blockage Configuration.** Create loops for blockage sensors. Use this to create loops for different types of products and assign the number of sensors that are monitored. See page 56 for a complete overview of blockage configuration.

**Passwords.** Change the user access level. Enter different access codes to increase or decrease available user configuration options.
3.3.1 Implement Configuration

Implement configuration is located by tapping on \( \text{Configuration} \) from the configuration menu.

**Implement Configuration Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Implement Configuration Overview**

The implement configuration screen allows you to make changes to the factory preset values. For everyday use, you should only find yourself using this setting to turn tramline system detection on or off. Otherwise, changing these values is only necessary when a large change to the machine is made, such as changing out the blockage system wiring, adding fans, etc.

Great Plains recommends that these settings never change except if performed by a Great Plains dealer or specialist.
**Soft Key Icons**

**Previous Screen.** Tap to return to the previous screen.
Use this icon multiple times to return to the [home screen](#).

**Calibrate Speed.** Tap to go to the calibrate speed screen.
Further information on machine dimensions is described later on in this section.

**Machine Dimensions.** Tap to go to the machine dimensions screen.
Further information on machine dimensions is described later on in this section.

**Adjustable Implement Settings**

**Tramline System.** Tap ‘Tramline System’ to set your machine to have or not have a tramline by selecting either yes or no.

**Blockage System.** Change your drill’s type of blockage system by tapping on the field and selecting the system your machine uses. Use this setting only if the blockage system on your machine has changed.

**Working Position.** Tap and choose for the workswitch to either be ‘ON’ or ‘OFF’ while in the work position.
3.3.2 Hopper Configuration

Hopper configuration is located by tapping on \[ \text{CONFIGURATION} \] from the configuration menu.

Hopper Configuration Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Hopper Configuration Overview

This screen allows you to select a hopper and assign a shoot for that hopper to use. If you do not want to use shoot 1 by default, then you will need to change the default here.

If your machine has multiple hoppers and only one shoot, all of your hoppers will use the same shoot.
Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen.
  Use this icon multiple times to return to the home screen.

- **Next Hopper.** Tap to change to the next hopper’s settings screen.
  Further information on using next hopper is described later on in this section.

Hopper Configuration Display

Tap on the ‘Next Hopper’ soft key to reach the hopper you want to assign a shoot to. You will know which hopper you are on by looking underneath ‘Configuration’ at the top of your screen. We recommend starting with hopper 1 and working your way through all your hoppers to ensure they are all assigned correctly.

Once on the hopper you want, tap on ‘Associated Shoot’ and assign the shoot you want the hopper to use. When finished, go through the rest of your hoppers to check that they all have the correct shoot assigned to them.
3.3.3 🌾 Product Configuration

Product configuration is located by tapping on 🌾 from the configuration menu.

Product Configuration Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Product Configuration Overview

Make changes to the product configuration by tapping on the settings you want to change and alter them to suit your planting needs. Common adjustments include renaming the product and product type as well as setting rate.

Additional settings are available by raising the user access level.
Chapter 3 Terminal Configuration (ISOBUS)

Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen.
  Use this icon multiple times to return to the home screen.

- **Product Database.** Tap to open product data.
  This soft key control is not available on all screens.

- **Next Hopper.** Tap to change to the next hopper’s settings screen.
  This soft key control is not available on all screens.

Adjustable Product Configuration Settings

- **Renaming.** Assigns the name of the product in the active hopper. Tap and select from the available drop down list the name of the product the current hopper is using.

- **Product Type.** Assigns the type of product in the active hopper. Tap and select from the available drop down list the type of product the current hopper is using.

- **Target Rate.** Sets a desired rate for planting seeds in kilograms per hectare. Tap and enter a desired seed rate.

- **Adjustment.** Sets the amount of target rate variance allowed. Tap and enter a percentage value. Your percentage will be the amount above or below the target rate the machine can plant before an alert will trigger.

- **Calibration Factor.** Sets the amount of product per revolution (round) of calibration.
3.3.4 Metering Configuration

Metering configuration is located by tapping on from the configuration menu.

**Metering Configuration Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

You can use this screen to alter the metering configuration settings like target rate, by selecting and entering new values for each hopper's target rate and adjusting any other adjustable settings such as deviation tolerance, minimum and maximum rotational speed, etc.

Additional settings are available by raising the user access level.
Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen.
  Use this icon multiple times to return to the home screen.

- *** Next Hopper.** Tap to change to the next hopper’s settings screen.
  Further information on using next hopper is described later on in this section.

Adjustable Metering Configuration Settings

**Target Rate.** Sets your target seed rate in kilograms per hectare. Tap and enter a value to change. See seed rate charts for ideal target rates based on product and machine dimensions.

**Deviation Tolerance.** Determines how far from the target rate the meter can be before triggering an alert. Tap and enter the maximum and minimum deviation allowed.

**Minimum and Maximum Rotational Speed.** Set the minimum and maximum speed that the meter is allowed to run. After meter calibration, use these numbers to determine the minimum and maximum ground speed as well as alarm if the meter speed is below or above these boundaries.
3.3.5 Sectional Shoots Configuration

Hopper configuration is located by tapping on from the configuration menu.

Sectional Shoots Configuration Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Sectional Shoots Configuration Overview

Use this screen to setup individual shoot configurations. You can cycle through your available shoots and alter each one's total number of sections, working width, and rows. You can also use the working width and half-width calibration soft keys to further adjust your shoots. Additional settings are available by raising the user access level.
Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen.
  Use this icon multiple times to return to the home screen.

- **Section Setup.** Tap to go to the working width screen.
  Further information on working width for applied sensors is described later on in this section.

- **Half-Width Calibration.** Tap to go to the half-width calibration screen.
  Further information on half-width calibration is described later on in this section.

- **Next Shoot.** Tap to change to the next shoot’s settings screen.
  This icon’s meaning varies. Check the top of your screen.

Adjustable Shoot Configuration Settings

- **Number of Sections.** Tap and enter the number of sections on your machine.

- **Total Working Width.** Tap and enter the total span of your machine.

- **Number of Rows.** Tap and enter the number of rows on your machine.

Section Setup

By default, the number of rows on your machine is split evenly among your machine’s sections. With section setup, you can tap on to customize how many rows are assigned to each section instead. Tap and enter the range of rows you want in the ‘Applied Sensors’ fields.

Half-Width Calibration

Tap on to run calibration using actuator. Screen will give a success confirmation once finished. Once finished with calibration, return to the home screen and tap on a section control icon to turn it off and then tap on it again to turn it back on. Do the same for the remaining section controls. Verify that the slide gate travels all the way to each end of the machine. This will ensure that the actuator is properly aligned after calibration.
3.3.6 Fan Configuration

Fan configuration is found by tapping on from the configuration menu.

**Fan Configuration Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Fan Configuration Overview**

Use this screen to adjust the fan configuration. You can either raise or lower the alrm speed of each fan on your machine by tapping and entering in the value you want. If one of the limits is exceeded, an alert will trigger.

Additional settings are available by raising the user access level.
Soft Key Icons

Previous Screen. Tap to return to the previous screen.

Use this icon multiple times to return to the home screen.

Adjustable Fan Configuration Settings

Minimum and Maximum Rotational Speed. Tap on either the minimum or maximum rotational speed to change the allowed value. If the rotational speed exceeds the allowed value, an alert will trigger.
3.3.7 Tramline Configuration

Tramline Configuration is located by tapping on the machine tools menu.

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Tramline Configuration Overview

Use this screen to control the left- and right-side sensors. Choose up to ten sensors to turn off for the passes you have configured in your settings. Under normal conditions, between one to three sensors is enough to produce a track.

Additional settings are available by raising the user access level.
Chapter 3 Terminal Configuration (ISOBUS)

Soft Key Icons

Previous Screen. Tap to return to the previous screen.

Use this icon multiple times to return to the home screen.

Sensor Settings

Total Closed Openers. Select which sensors are turned off during bouts in the ‘Sensors Number’ fields. Enter the number of each sensor that you want to close for all tracks formed on each side of your drill.

How many sensors need to be shut off for tramlining varies. The number of sensors that need to close to form tramline tracks is the value of your fertilizer or sprayer's maximum tire width divided by your drill’s row spacing width, rounded up, and then multiplied by the number of tracks formed.

Use the following equation to find the total number of sensors to close on your machine:

\[
\text{Number of Tracks} = \left( \frac{\text{fertilizer/sprayer's maximum tire width}}{\text{drill row spacing width}} \right)
\]

For example, say you are creating two tracks that are both on the left-hand side of your drill. Your drill has 19.1cm (7.5in) row spacings and you plan to use a sprayer with a maximum tire width of 45.7cm (18in). Dividing the sprayer's maximum tire width by the drill's row spacing width gets you 2.4, which you round up to 3. You then double that result for the number of tracks and get a value of 6. Therefore, you would need a minimum of six row spacings - three for each track - turned off on your machine's left-hand side.

Track Spacing. In addition to closing openers, you will need to determine how much space to put between each tramline track. This distance should be the width from one inside tire edge on your fertilizer/sprayer to the opposite tire.

To determine how far apart each set of row spacings needs to be, go on the back of your sprayer/fertilizer and measure from the center of the machine to the inside of one tire and double that value. Record the result. On your drill, determine an opener you would like to have as the center of one tramline track. Measure out from that opener the result you recorded to the nearest opener. Use that opener for your second tramline track. Widen your tracks by closing additional openers as outlined in the Total Closed Openers instructions.

If you are forming a tramline by making two passes instead of one, do not multiply the measurement you made on your sprayer. Instead, use the base measurement and measure from either the right- or left-side's edge to the nearest opener. Do not measure to a second opener. Widen your tracks by closing additional openers as outlined in the Total Closed Openers instructions.
3.3.8 Blockage Configuration

Blockage configuration is found by tapping on \( \text{Blockage Configuration} \) from the machine tools menu.

**Blockage Configuration Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

**Blockage Configuration Overview**

Use this screen to make changes to the blockage system's product types and the sensors used by the blockage system. Changing the product type will affect what settings are applied to the loop. These settings are controlled through the blockage system settings screen. See page 22 for more information.

Additional settings are available by raising the user access level.
Chapter 3 Terminal Configuration (ISOBUS)

**Soft Key Icons**

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the **home screen.**
- **Next Shoot.** Tap to change to the next shoot’s settings screen. This soft key control is not available on all screens.

**Adjustable Blockage Configuration Settings**

**Loop Number.** Displays what loop number your configuration controls.

Each electronics control unit (ECU) on your Great Plains machine can have up to two loops. If your machine requires more than two loops, it will come pre-installed with additional ECUs. Configure each by progressing through your loops with the **Next Shoot** soft key.

**Loop Type.** Set the product type - seed or fertilizer - associated with the loop. Changes to the product type blockage system settings will affect loops depending on their assignment. Once initially set, this setting will not change.

See page 22 for more information on blockage system settings.

**Number of Sensors.** The number of sensors assigned to a loop. Each loop can contain up to 54 sensors. If a loop would contain more sensors than 54, the ECU’s second loop is used and the sensor count is split evenly among the two loops.

For example, if a drill has 72 sensors for openers, the blockage system would use two loops on one ECU and each loop would have 36 sensors.
3.4 Machine Diagnostics Menu

Diagnostics menu is reached by tapping on 🎽 from the machine tools menu.

Machine Diagnostics Menu Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Machine Diagnostics Overview

This screen gives you a selection of diagnostic tools. View diagnostic reports by tapping on any of the appropriate sub menus. Some sub menus contain additional diagnostic features that you must configure.

The diagnostics menus may change slightly to reflect the equipment installed on your machine.
Soft Key Icons

**Previous Screen.** Tap to return to the previous screen.
Use this icon multiple times to return to the home screen.

Sub Menus

**Implement/Fan Diagnostics.** View implement frame and fan impulses and other settings as well as adjust rear actuator controls.
See page 60 for a complete overview of implement/fan diagnostics.

**Hopper Diagnostics.** View the fill level settings for individual hoppers, pressure and feedback.
See page 62 for a complete overview of hopper diagnostics.

**Metering Diagnostics.** View the metering settings’ feedback values and adjust the increment values.
See page 64 for a complete overview of metering diagnostics.

**Tramline Diagnostics.** View left- and right-hand tramline status and turn each tramline ‘on’ or ‘off’.
See page 66 for a complete overview of tramline diagnostics.

**Blockage Diagnostics.** View blockage information and run blockage diagnostic tests to troubleshoot problems.
See page 68 for a complete overview of blockage diagnostics.

**Section Diagnostics.** View section information and adjust linear actuator to increase or decrease length.
See for a complete overview of section diagnostics.
3.4.1 Implement and Fan Diagnostics

Implement/fan diagnostics is found by tapping on 🤝 from the diagnostics menu.

Implement and Fan Diagnostics Screen

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

Implement and Fan Diagnostics Overview

Read all implement and fan setting values for radar impulses, working position, calibration switch and half-width AD value. This screen also contains a diagnosis for the fan's impulses and RPM.
Chapter 3 Terminal Configuration (ISOBUS)

**Soft Key Icons**

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the home screen.

**Implement Diagnosis**

**Radar Impulses.** Total number of impulses recorded by your drill’s mounted radar. Any movement in front of the radar will generate pulses. More rapid movement will increase the number of pulses recorded.

**Working Position.** The lift switch sensor is triggered by the presence or absence of a metal cover. Whether the working position reports as ‘on’ or ‘off’ depends on your implement configuration settings. See page 40 for more information.

**Calibration Switch.** If your machine’s calibration button is pulled out or depressed, the calibration switch will read ‘on.’ If not, the switch will read ‘off.’

**Fan Diagnosis.** The fan diagnosis sensor reads the three bolt heads on the fan impeller hub. The fan speed is displayed in a raw count of impulses and also revolutions per minute.
3.4.2 **Hopper Diagnostics**

Hopper diagnostics is found by tapping on  from the diagnostics menu.

![Hopper Diagnostics Screen](image)

**Interactive icons are enabled. Click on an icon to go directly to the icon's screen.**

**Hopper Diagnostics Overview**

From the hopper diagnostics screen you can check that the fill level sensor is functioning. You can also ensure that the feedback sensor is giving a correct output in milliamps and the pressure sensor is giving a comparable reading in millibars.

You can also review the hopper displays to ensure that the hoppers are reading properly.
**Soft Key Icons**

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the home screen.

**Hopper Diagnoses**

**Fill Level.** The fill level sensor detects moisture within the hopper to determine whether or not seed is present. If moisture is covering the hopper’s sensor, the fill level sensor will report as ‘on.’ If no moisture is detected, the sensor will report as ‘off.’

**Pressure.** This field displays the pressure sensor’s feedback in the appropriate units.

**Feedback.** This field displays the pressure sensor’s feedback in milliamps. Typical readings for this sensor are between 4 and 20 milliamps with 4 milliamps representing a ‘base’ level reading. If the feedback reading shows 4 milliamps then the pressure reading should show 0 millibars, psi, etc.

**Hopper Display.** Provides a graphical representation of each hopper’s status. Hopper number, type of product, and weight of product present are all shown on the display.
3.4.3 Metering Diagnostics

Metering diagnostics is found by tapping on \[\text{\textbullet}\] from the diagnostics menu.

**Metering Diagnostics Screen**

Interactive icons are enabled. Click on an icon to go directly to the icon’s screen.

**Meter Diagnostics Overview**

Set meter feedback values by incrementing with the +/- icons or entering values into the pulse width modulation fields. Use the diagnostics information to read PWM feedback and use to check that the machine’s meters and hydraulics are functioning.
Soft Key Icons

Previous Screen. Tap to return to the previous screen.

Use this icon multiple times to return to the home screen.

Metering Diagnosis

PWM Feedback. Tap on + to increase or - to decrease PWM (Pulse Width Modulation) by 5% increments or tap on the PWM field to enter a value manually.

Pulse Feedback. To the right of the symbol are the raw pulses per minute and the rotation per minute for the meters.

As you increase the PWM feedback, you should see a change in the raw pulses and RPM. If no change is detected on your terminal, make sure that the hydraulic system is on and that the meter is turning.
3.4.4 Tramline Diagnostics

Tramline diagnostics is found by tapping on the diagnostics menu.

Tramline Diagnostics Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Tramline Diagnostics Overview

Use the tramline diagnostics screen to check that the valves are turning on the left- and right-sides of the machine. Checking the physical valves after they are turned may be required if valves are damaged.

This screen cannot change tramline settings. See page 26 for information on tramline settings.
Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the *home screen.*
- **Tramline Controls.** Tap to turn left and right tramline valves. This soft key control is not available on all screens.

Tramline System Diagnoses

**Tramline Left/Right.** The left- and right-hand tramline fields report whether the openers on the corresponding side are ‘on’ or ‘off.’ On indicates that the openers have turned so they are open and off indicates they have turned so they are shut off.

Tap and hold the tramline controls soft keys for their corresponding sides to turn on/off. You should check whether the tramline valves are opening or closing in the left- and right-hand tramline fields.

Holding down the tramline controls continues turning the motor even if the opener is fully opened or closed. To avoid stress on the motor and potential damage, hold the soft key down for a maximum of three seconds.
3.4.5 Blockage Diagnostics

Blockage diagnostics is located by tapping on \(\text{\textcolor{red}{D}}\) from the diagnostics menu.

Blockage Diagnostics Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Blockage Diagnostics Overview

Use this screen to read the current module and loop numbers and check for any missing sensors. On the soft key bar, you can use the blockage diagnostic tools to test different types of readings from your machine's sensors.
Soft Key Icons

- **Previous Screen.** Tap to return to the previous screen. Use this icon multiple times to return to the home screen.

- **Module/Loop Progression.** Tap to run through loops/modules. This soft key control is not available on all screens.

- **Blockage System Info.** Tap to go to the blockage information screen. This soft key control is not available on all screens.

- **Power Test.** Tap to go to the power test screen. This soft key control is not available on all screens.

- **Communication Test.** Tap to go to the communication test screen. This soft key control is not available on all screens.

- **Sensor Self Test.** Tap to go to the sensor self test screen. This soft key control is not available on all screens.

- **Module Information.** Tap to go to the module information screen. This soft key control is not available on all screens.

Blockage System Information

- **Module Number.** Machine ECU number. If the machine only has one ECU then there will only be a ‘Module No. 1’ displayed when you progress through the modules/loops.

- **Loop Number.** Number of loop that is displayed. The loop number corresponds to the loop cable numbers on the machine.

- **Missing Sensors.** Number of sensors that report an error.

Blockage Diagnostic Tools

By tapping on one of the blockage diagnostic tools your screen will have a diagnostic report of individual sensors.

If a sensor reports without an error, a corresponding green icon will appear. These icons are unique to each type of test.

If the sensor encounters an error, it will be marked with an ❌ icon.

If the sensor is not detected, it will be marked with an ❓ icon.
3.4.6 Section Diagnostics

Section diagnostics is located by tapping on (from the diagnostics menu).

Section Diagnostics Screen

Interactive icons are enabled. Click on an icon to go directly to the icon's screen.

Section Diagnostics Overview

If your machine has a linear actuator or motor, you can either fully open or close the openers in a section or make incremental adjustments to sections.
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Soft Key Icons

Previous Screen. Tap to return to the previous screen.
Use this icon multiple times to return to the home screen.

Section Controls

Choose a Section. Tapping on any of the section control icons will select a section.

Sections on the screen control the corresponding left-to-right sections when facing the back of your drill.

Linear Actuator Controls. Certain drill models will have  and  icons for controlling the linear actuator on the machine. These controls extend or retract the cover on a selected section.
Tapping a control will incrementally adjust the amount of coverage.
Tapping and holding on a control for several seconds and then letting go will cause the coverage to adjust fully so the section is either completely covered or uncovered.

When the section is fully covered or uncovered, the corresponding control will appear depressed on the screen.