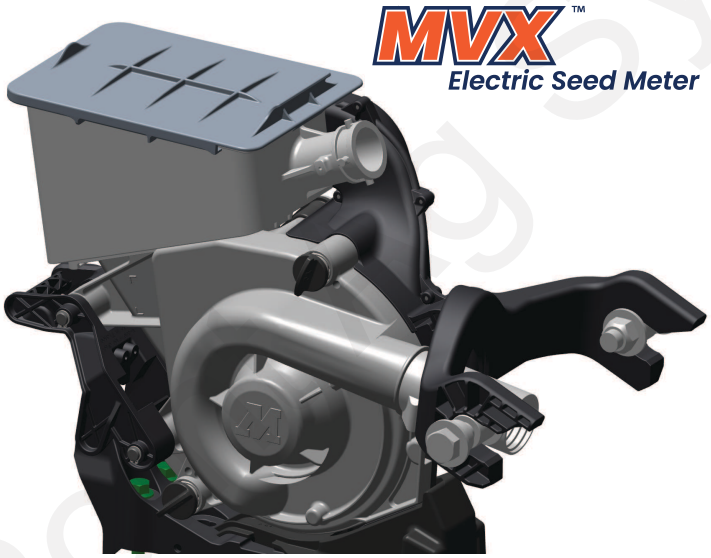
SurePoint™ Ag Systems



MVX Electric Seed Meter

Operator's Manual

V1.0.0
396-01-7390
06Feb2026

SurePoint Ag Systems

Abstract

The MVX Electric Seed Meter Operator's Manual provides comprehensive guidance for the setup, operation, and maintenance of SurePoint Ag Systems' MVX Electric Seed Meter. Designed to optimize planter performance across variable regions and crops, the MVX system integrates stainless steel seed plates, finite crop adjustment, and tool-less maintenance to maximize performance of planting .

Copyright © 2026 SurePoint Ag Systems

SurePoint Ag Systems

Table of Contents

SurePoint Ag Systems

This page is intentionally left blank.

SurePoint Ag Systems

1. Introduction

1.1. End User License Agreement

LICENSE AGREEMENT FOR EMBEDDED SOFTWARE

IMPORTANT -- READ CAREFULLY: THIS LICENSE AGREEMENT IS A LEGAL CONTRACT BETWEEN YOU AND SUREPOINT AG SYSTEMS, INC., A KANSAS CORPORATION, HAVING A PRINCIPAL ADDRESS OF 9904 HWY 25, ATWOOD, KANSAS 67730 (THE "LICENSOR"). THIS LICENSE AGREEMENT GOVERNS YOUR USE OF ANY SOFTWARE AND OTHER MATERIALS (SOFTWARE AND OTHER MATERIALS INDIVIDUALLY OR COLLECTIVELY REFERRED TO AS “LICENSED MATERIALS” OR "LM") THAT IS (1) PROVIDED BY LICENSOR OR ITS AFFILIATES; (2) EMBEDDED OR INSTALLED IN, OR ASSOCIATED WITH, ANY DISPLAY, ENGINE CONTROL UNIT, INVERTER, CONTROLLER, ELECTRONICS MODULE, SENSOR, ACTUATOR, OR COMPUTING UNIT (INDIVIDUALLY OR COLLECTIVELY "LICENSED PRODUCTS" OR "LP") THAT IS MADE A PART OF A SALE OR LEASE TO YOU (“AUTHORIZED EQUIPMENT”); AND (3) NOT OTHERWISE LICENSED BY A SEPARATE WRITTEN AGREEMENT BETWEEN YOU AND LICENSOR OR ITS AFFILIATES, OR (4) NOT OTHERWISE LICENSED BY A THIRD PARTY (OR SUPPLIER).

BY ACTIVATING OR OTHERWISE USING THE LP, YOU ARE ACCEPTING AND AGREEING TO THE TERMS OF THIS LICENSE AGREEMENT WITH RESPECT TO THE LM THAT HAVE BEEN PRE-INSTALLED ON YOUR LP. YOU AGREE THAT THIS LICENSE AGREEMENT, INCLUDING THE WARRANTY DISCLAIMERS, LIMITATIONS OF LIABILITY, TERMINATION, AND ARBITRATION PROVISIONS BELOW, IS BINDING UPON YOU, AND UPON ANY COMPANY ON WHOSE BEHALF YOU USE THE LM AND LP AS WELL AS THE EMPLOYEES OF ANY SUCH COMPANY (COLLECTIVELY REFERRED TO AS "YOU" IN THIS LICENSE AGREEMENT). IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE AGREEMENT, OR IF YOU ARE NOT AUTHORIZED TO ACCEPT THESE TERMS ON BEHALF OF YOUR COMPANY OR ITS EMPLOYEES, DECLINE THESE TERMS AND CONDITIONS AND DO NOT USE THE LP OR THE AUTHORIZED EQUIPMENT. THIS LICENSE AGREEMENT REPRESENTS THE ENTIRE AGREEMENT CONCERNING THE LM BETWEEN YOU AND THE LICENSOR AND IT REPLACES ANY PRIOR PROPOSAL, REPRESENTATION, OR UNDERSTANDING BETWEEN YOU AND THE LICENSOR.

1. **Definitions**
   Licensed Materials ("LM") shall mean any software, data files, documentation, engine calibration tables, proprietary data messages, and controller area network (CAN) data messages that are in or communicated to or from any LP (e.g., to monitor, diagnose, or operate the Authorized Equipment). Data files shall include but not be limited to any data structure that adjusts engine control parameters, such as fuel metering, fuel injection rate, fuel injection timing, fuel pressure, engine speed versus torque relationship, intake boost pressure, fuel-to-air ratio or engine timing.
2. **License**
   Licensor hereby grants to you, and you accept, a nonexclusive license to use the LM in machine-readable, object code form, only as authorized in this License Agreement and the applicable provisions of the Operators' Manuals, which you agree to review carefully prior to using the LM. The LM may be used only on the LP in which it was initially installed and solely in conjunction with the Authorized Equipment in which it was initially installed; or, in the event of the inoperability of that LP, on a replacement LP provided to you by an authorized dealer pursuant to the Limited Warranty of Section 7 unless otherwise mandated under applicable law. You agree that you will not assign, sublicense, transfer, pledge, lease, rent, or share your rights under this License Agreement, except that you may permanently transfer all of your rights under this License Agreement in connection with the sale of the LP or Authorized Equipment. If you sell or otherwise transfer the ownership of the LP or your Authorized Equipment, you agree that you will require such transferee to accept terms no less restrictive than those in this License Agreement.

SurePoint Ag Systems

3. **Licensor's Rights**
   You acknowledge and agree that the LM are proprietary to Licensor, or its affiliates or licensors, and are protected under copyright law, trade secret law, and laws governing confidential information. You shall maintain the confidentiality of the LM, any nonpublic information in the LM and the source code of the software, regardless of whether the LM are labeled or marked with any proprietary legend or notice that indicates its confidential nature. You further acknowledge and agree that all right, title, and interest in and to the software and the LM, including associated intellectual property rights, are and shall remain with Licensor, its affiliates, and their licensors. This License Agreement does not convey to you any title or interest in or to the LM, but only a limited right of use revocable in accordance with the terms of this License Agreement. Licensor, its affiliates and their licensors reserve all worldwide rights not expressly granted under this Agreement.
4. **License Restrictions, Reverse Engineering**
   You may not reproduce, prepare derivative works based on, disclose, publish, distribute, rent, lease, modify, loan, display, or perform the LM or any part thereof. You may not reverse engineer, decompile, translate, adapt, or disassemble the LM, nor shall you attempt to create the source code from the object code for the software. You may not transmit the LM over any network or via a hacking device, although you may use the LM to make transmissions of diagnostic data messages that are authorized by Licensor and you may receive software updates authorized by Licensor. You also agree not to permit any third party acting under your control to do any of the foregoing activities related to reverse engineering of the Licensed Materials. You agree not to remove or obliterate any copyright, trademark or other proprietary rights notices from the LM, except as expressly permitted in writing by Licensor or its licensors or expressly permitted under applicable law notwithstanding these restrictions.
5. **License Restrictions, Circumvention**
   Security measures ("SM") means any of the following: technological measures under the Digital Millennium Copyright Act, copyright protection measures, application enabling mechanisms, passwords, key codes, encryption or other security devices. You agree that you will not: (a) attempt to defeat a SM or defeat a SM that protects the LM and that would constitute a violation under applicable law related to circumvention of technological measures that protect software, copyrighted works, or other intellectual property rights, and (b) traffic in, purchase, manufacture, design, import, offer, sell or distribute any circumvention or hacking device that is designed to circumvent or hack the LM or LP to the extent unlawful under applicable law.
6. **Consideration, License Fees**
   The license fees or other good and valuable consideration paid by you are paid in consideration of the licenses granted under this License Agreement.
7. **Limited Warranty**
   Licensor warrants, for your benefit alone and not for the benefit of any other party, that during the "Warranty Period" defined below, the Software will operate substantially in accordance with the applicable functional specifications ("Specifications") set forth in the Operators' Manuals. If, prior to expiration of the Warranty Period, the software fails to perform substantially in accordance with the Specifications, you may return the LP to the place of purchase for repair or replacement of the non-performing software. As used in this License Agreement, the "Warranty Period" is the lesser of one (1) year from the date you take delivery of the LP or any lesser warranty associated with your purchase of your Authorized Equipment on which the LP is installed or incorporated.
8. **DISCLAIMER OF WARRANTIES**
   YOU HEREBY AGREE THAT THE LIMITED WARRANTY PROVIDED ABOVE (THE "LIMITED WARRANTY") CONSTITUTES YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY PROBLEM WHATSOEVER WITH THE LICENSED MATERIALS. EXCEPT AS PROVIDED IN THE LIMITED WARRANTY, THE LICENSED MATERIALS ARE LICENSED “AS IS,” AND LICENSOR, ITS AFFILIATES, THEIR LICENSORS AND THIRD PARTY

SurePoint Ag Systems

SUPPLIERS EXPRESSLY DISCLAIM AND YOU EXPRESSLY WAIVE, RELEASE AND RENOUNCE ALL WARRANTIES ARISING BY LAW OR OTHERWISE WITH RESPECT TO THE LICENSED MATERIALS, INCLUDING, BUT NOT LIMITED TO: ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE; ANY IMPLIED WARRANTY ARISING FROM COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE; ANY WARRANTY OF TITLE OR NON- INFRINGEMENT; AND, ANY OTHER WARRANTY ARISING UNDER ANY THEORY OF LAW, INCLUDING TORT, NEGLIGENCE, STRICT LIABILITY, CONTRACT OR OTHER LEGAL OR EQUITABLE THEORY. NO REPRESENTATION OR OTHER AFFIRMATION OF FACT INCLUDING, BUT NOT LIMITED TO, STATEMENTS REGARDING SUITABILITY FOR USE, SHALL BE DEEMED TO BE A WARRANTY BY LICENSOR, ANY OF ITS AFFILIATES, THEIR LICENSORS OR THIRD PARTY SUPPLIERS. NEITHER LICENSOR, NOR ITS LICENSORS, WARRANT THAT THE LICENSED MATERIALS, LICENSED PRODUCT AND/OR SOFTWARE IS ERROR-FREE OR WILL OPERATE WITHOUT INTERRUPTION.

9. **LIMITATION OF LIABILITY**

   EXCEPT AS SET FORTH IN THE LIMITED WARRANTY, UNDER NO CIRCUMSTANCES SHALL LICENSOR, ITS AFFILIATES, THEIR LICENSORS OR THEIR THIRD PARTY SUPPLIERS BE LIABLE TO YOU OR TO ANY THIRD PARTIES FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING ANY LOSS OR DAMAGE CAUSED BY THE LICENSED MATERIALS; ANY PARTIAL OR TOTAL FAILURE OF THE LICENSED MATERIALS; PERFORMANCE, NONPERFORMANCE OR DELAYS IN CONNECTION WITH ANY INSTALLATION, MAINTENANCE, WARRANTY OR REPAIRS OF THE LICENSED MATERIALS, DAMAGES FOR CROP LOSS, DAMAGE TO LAND, DAMAGE TO MACHINES, LOST PROFITS, LOSS OF BUSINESS OR LOSS OF GOODWILL, LOSS OF USE OF EQUIPMENT OR SERVICES OR DAMAGES TO BUSINESS OR REPUTATION ARISING FROM THE PERFORMANCE OR NON-PERFORMANCE OF ANY ASPECT OF THE SOFTWARE, LICENSED MATERIALS OR LP, WHETHER IN CONTRACT, TORT OR OTHERWISE AND WHETHER OR NOT LICENSOR, ITS AFFILIATES, THEIR LICENSORS OR THEIR THIRD PARTY SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL LICENSOR'S CUMULATIVE LIABILITY TO YOU OR TO ANY OTHER PARTY FOR ANY LOSSES OR DAMAGES RESULTING FROM ANY CLAIMS, LAWSUITS, DEMANDS, OR ACTIONS ARISING FROM OR RELATING TO USE OF THE LICENSED MATERIALS EXCEED THE LESSER OF YOUR TOTAL PAYMENT OR FAIR MARKET VALUE FOR THE LICENSED PRODUCT OR ITS EQUIVALENT REPLACEMENT.

10. **Software Maintenance**

    Licensor may, at its sole option, offer you maintenance of the Software, even though the Warranty Period has expired. Such maintenance may include providing modifications, corrections or enhancements ("Upgrades") to the Software and/or the applicable Operators' Manuals. Licensor reserves the right, in its sole discretion, to charge you for maintenance (except in cases where corrections are provided under the Limited Warranty). Your acceptance of this License Agreement constitutes your agreement that any Upgrades will be deemed included in the Software as defined in this License Agreement and that they shall be governed by the terms and conditions applicable to the LM under this License Agreement.

11. **Termination of License**

    Licensor may terminate the license granted under this License Agreement upon written notice of termination provided to you if you violate any material term of this License Agreement pertaining to your use of the LM or Licensor's rights, including, without limitation, the provisions of Sections 2 and 3 above.

12. **Compliance with Law**

    You agree that you will use the LM in accordance with United States law and the laws of the country in which you are located, as applicable, including foreign trade control laws and regulations, copyright laws and other intellectual property laws. The LM may be subject to export and other foreign trade controls restricting re- sales and/or transfers to other countries and parties. By accepting the terms of this License Agreement, you acknowledge that you understand that the LM may be so controlled, including, but not limited to, by the Export Administration Regulations

SurePoint Ag Systems

and/or the foreign trade control regulations of the Treasury Department of the United States. The LM remains subject to applicable U.S. laws.

13. **Indemnification**
    You agree to defend, indemnify and hold Licensor, its affiliates, their licensors and third party suppliers, and their officers, directors, employees, agents and representatives (each an "Indemnified Party"), harmless from and against all claims, demands proceedings, injuries, liabilities, losses, or costs and expenses (including reasonable legal fees) brought by any third party against any such persons arising from or in connection with your use of the LM, regardless of whether such losses are caused, wholly or partially, by any negligence, breach of contract or other fault of an Indemnified Party.
14. **Trademark**
    Licensor does not grant you any right, license, or interest to any Licensor trademarks, symbols, marks or names (collectively "Marks') or any trademarks that are confusingly similar to the Marks, and you agree that no such right, license, or interest shall be asserted by you with respect to such Marks.
15. **Costs of Litigation**
    If any claim or action is brought by either party to this License Agreement against the other party regarding the subject matter hereof, the prevailing party shall be entitled to recover, in addition to any other relief granted, reasonable attorney, arbitrators, and dispute resolution center administrative fees and expenses of litigation.
16. **Severability and Waiver**
    Should any term or provision of this License Agreement be declared void or unenforceable by any court of competent jurisdiction, such declaration shall have no effect on the remaining terms and remaining provisions hereof. The failure of either party to enforce any rights granted hereunder or to take action against the other party in the event of any breach hereunder shall not be deemed a waiver by that party as to subsequent enforcement of rights of subsequent actions in the event of future breaches.
17. **Language Clause**
    Unless the laws of the location in which you reside require otherwise, the parties hereby acknowledge that they have required this License Agreement, and all other documents relating hereto, be drawn up in the English language only. There may be a translated version of this License Agreement. If there is an inconsistency or contradiction between the translated version and the English version of this License Agreement, the English version of this License Agreement shall control unless the laws of the location in which you reside require that a different version control. The parties acknowledge and agree that they have required that this agreement be prepared in the English language. Les parties reconnaissent avoir exigé que les présentes soient rédigées en langue anglaise.
18. **Assignment by Licensor**
    Licensor may assign this License Agreement without your prior consent to any company or entity affiliated with Licensor, or by an assignment associated with a corporate restructuring, merger or acquisition.
19. **Governing Law and Forum**
    This License Agreement will be governed by and construed in accordance with the substantive laws in force in the State of Illinois, U.S.A. The respective state and federal courts of Cook County, Illinois and the Northern District of Illinois have exclusive jurisdiction over all disputes relating to this License Agreement. This License Agreement will not be governed by the conflict of law rules of any jurisdiction or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded.

SurePoint Ag Systems

20. **Arbitration**
    IF YOU RESIDE IN A JURISDICTION WHEREIN THE ENFORCEABILITY OF THE TERMS OF SECTION 19 IS DEPENDENT UPON THE PARTIES AGREEING TO SUBMIT TO ARBITRATION, THEN ANY CONTROVERSY OR CLAIM ARISING OUT OF OR RELATING TO THIS LICENSE AGREEMENT SHALL BE DETERMINED BY ARBITRATION IN ACCORDANCE WITH THE INTERNATIONAL ARBITRATION RULES OF THE INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION ("ICDR") IN EFFECT AT THE TIME OF ITS INITIATION. THE ARBITRATION SHALL BE HELD BEFORE ONLY ONE ARBITRATOR APPOINTED BY THE ICDR. THE PLACE OF ARBITRATION SHALL BE CHICAGO, ILLINOIS, USA AND THE LANGUAGE OF THE ARBITRATION SHALL BE ENGLISH.
21. **Representations of Licensee**
    BY ACCEPTING THIS AGREEMENT, YOU: (A) ACKNOWLEDGE THAT YOU HAVE READ AND UNDERSTAND THIS AGREEMENT; (B) REPRESENT THAT YOU HAVE THE AUTHORITY TO ENTER INTO THIS AGREEMENT; (C) AGREE THAT THIS AGREEMENT IS ENFORCEABLE AGAINST YOU AND ANY LEGAL ENTITY THAT OBTAINED THE LICENSED MATERIALS AND ON WHOSE BEHALF IT IS USED; AND, (D) AGREE TO PERFORM THE OBLIGATIONS OF THIS AGREEMENT.
22. **Notices**
    All notices to Licensor shall be sent by certified or registered mail to SurePoint Ag Systems, Inc. 9904 Hwy 25 Atwood, Kansas 67730 U.S.A. All notices to Licensor shall be effective upon receipt. All notices required to be given to you shall, in Licensor's sole discretion, either be sent via certified or registered mail to the address given to Licensor, a dealer, or another distribution partner of Licensor in connection with your purchase of the LP and/or Authorized Equipment. Either method of notification used by Licensor shall be effective upon dispatch. You agree to notify Licensor of any change in your address in the manner set forth above.
23. **Third Party Software Notifications and Licenses**
    The copyrights for certain portions of the software may be owned or licensed by other third parties ("Third Party Software") and used and distributed under license. The Third Party Notices includes the acknowledgements, notices and licenses for the Third Party Software. The Third Party Notices are included with the distribution of this License Agreement on a display, online, or elsewhere. If you are unable to locate these Third Party Notices, please write to us at the address below. The Third Party Software is licensed according to the applicable Third Party Software license notwithstanding anything to the contrary in this Agreement. If the Third Party Software contains copyrighted software that is licensed under the GPL/LGPL or other copyleft licenses, copies of those licenses are included in the Third Party Notices. You may obtain the complete corresponding source code for such Third Party Software from us for a period of three years after our last shipment of the Software by sending a request letter to:
    SurePoint Ag Systems, Inc.
    9904 Hwy 25
    Atwood, Kansas 67730
    USA
    Please include name of the product and the version number of the software in the request letter. This offer is valid to anyone in receipt of this information.

SurePoint Ag Systems

1.2. Warranty - SPA Standard

Warranty Policy

SurePoint Ag Systems, Inc. (hereinafter referred to as “SurePoint”) warrants the whole goods products it sells to be free from defects in material or workmanship for a period of one (1) year from the date of sale of the product(s) to the original user.

SurePoint warrants the parts it sells to be free from defects in material or workmanship for a period of ninety (90) days from the date of delivery of the product(s) to the original user. This shall include replacement parts installed by SurePoint.

Warranty of SurePoint whole goods and/or parts applies only to material and workmanship. Misuse, misapplication, neglect, alteration, accident, normal wear, or acts of God affecting SurePoint products are not eligible for warranty. Warranty shall apply only to the smallest reasonably serviced component (e.g. if a PWM solenoid fails on a hydraulic pump assembly, only the solenoid will be covered under warranty, not the entire pump assembly). In the event that multiple components are replaced, component warranty eligibility will be assessed once the parts are returned to SurePoint for determination of failure (parts determined to still be in working order will be returned to the dealer and warranty will not apply to those components).

1.2.1. Warranty Claims

A warranty claim and request to return defective product(s) must be presented to the SurePoint Support Department, describing the defect in material or workmanship of the product(s). This claim may be made via phone, e-mail, fax, or written request. Claims for warranty of whole goods or parts must also include proof of date of sale of the product(s) to the original user.

The SurePoint Support Department will proceed in making a preliminary decision as to the eligibility of the claim for warranty consideration. After the SurePoint Support Department deems it necessary to proceed with warranty consideration, a determination will be made as to whether or not the original product needs to be returned to SurePoint. In the event a return is deemed necessary, a Return Materials Authorization (RMA) will be generated by the SurePoint Support Department. The defective product(s) in question must be sent, freight prepaid, within fourteen (14) days of the discovery of the product failure and initial warranty claim. Replacement product(s) may be sent to the selling dealer, directly to the customer, or picked up at the SurePoint facility. At the discretion of the SurePoint Support Department, replacement product(s) may be sent prior to, or after, the SurePoint Returns Department receives the defective product(s).

NOTE

Any variation in the above procedure is at the sole discretion of the SurePoint Support Department.

SurePoint agrees to handle all warranty claims in a timely manner and will inform dealers of any revisions or modifications to the SurePoint Warranty Policy. Eligible warranty claims will be processed by SurePoint within sixty (60) days of receiving failed product(s).

If a warranty claim is found to be ineligible for warranty coverage, the SurePoint Support Department will be responsible to inform the dealer or end user in order to determine the course of action to be taken. SurePoint reserves the right to make changes in specification and design without notice and without incurring any obligations to owners of products previously sold.

SurePoint Ag Systems

1.3. Safety - General

Safety alert symbols found throughout this manual are used to call your attention to instructions involving your personal safety and the safety of others. Failure to follow these instructions can result in injury or death.

1.3.1. Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

1.3.2. Signal Words

Note the use of signal words, DANGER, WARNING, CAUTION, and NOTICE with safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER

DANGER indicates imminently hazardous situation that, if not avoided, can result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING

WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION

CAUTION indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

NOTICE is used to address safety practices not related to personal safety.

SurePoint Ag Systems

1.3.3. Personal Protective Equipment (PPE)

Wear clothing and personal protective equipment appropriate for the job. Wear steel-toed shoes when operating. Wear hearing protection when exposed to loud noises. Do not wear additional hearing impairment devices such as radio headphones, etc.

1.3.4. A Word to the Operator

It is your responsibility to read and understand the safety messages in this manual. You are the key to safety. Safety is your responsibility.

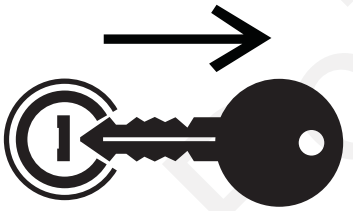
Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.

1.3.5. Chemical Safety

Chemicals used in agricultural applications can be harmful to personal health and/or the environment if not used correctly. Always follow all label directions for effective, safe, and legal use of any chemicals.

1.3.6. Park Machine Safely

Before working on the machine:



- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap
- Display a "DO NOT OPERATE" tag in the operator station.

SurePoint Ag Systems

1.3.7. Follow Safety Instructions

Carefully read all safety messages in this instruction. Read the product operator's manual for operating instructions and safety messages. Do not let anyone operate without instruction.

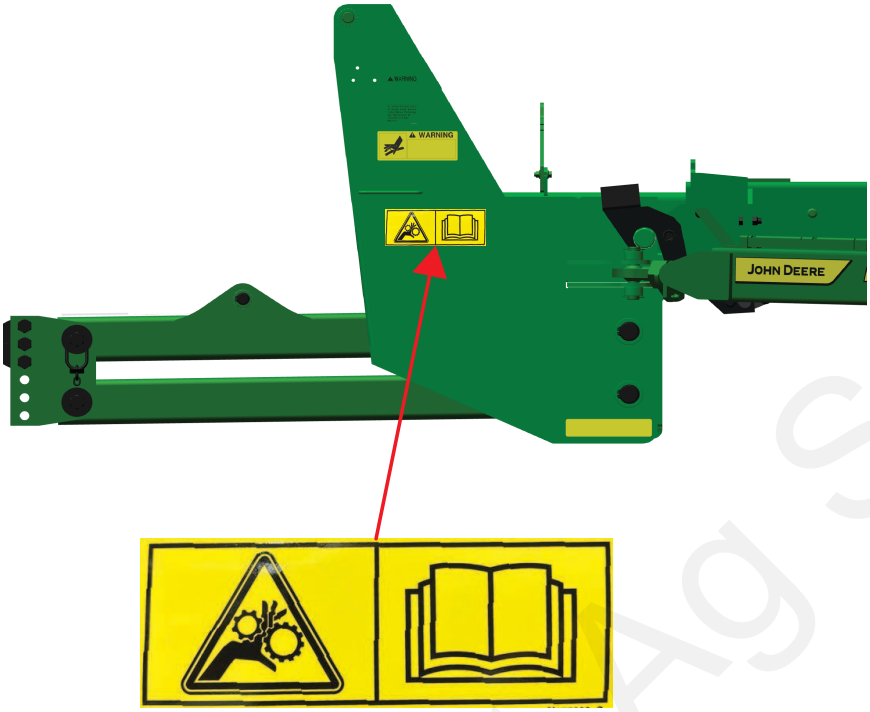
1.3.8. Replace Safety Signs

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.

SurePoint Ag Systems

1.4. Safety Labels - Frame

Figure 1. Meter Safety Decal



Adhere safety decal to planter frame near hitch, ensuring view is not obstructed.

CAUTION

To avoid injury from rotating components:

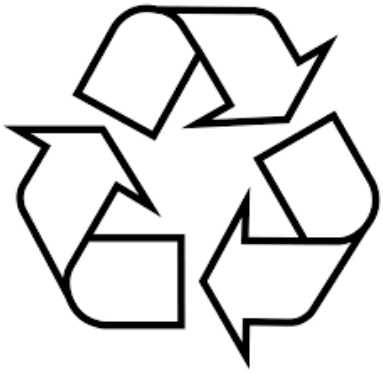
- *Keep all seed meter components in place during operation*
- *Shut off all seed meters and drives before cleaning or inspection*

1. Clean and dry the surface, make sure it is free from dust, dirt, and moisture.
2. Ensure surface temperature is above 15°C (60°F).
3. Smooth out any air pockets to achieve optimal adhesion.

SurePoint Ag Systems

1.5. Decommissioning

Proper Recycling and Disposal of Fluids and Components



Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields, or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by disconnecting battery or electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids, and other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Evaluate recycling options for metal, plastic, rubber, and electronic components which may be recyclable, in part or completely.
- Contact your local environmental or recycling center, or your SurePoint Ag dealer for information on the proper way to recycle or dispose of waste.

SurePoint Ag Systems

This page is intentionally left blank.

SurePoint Ag Systems

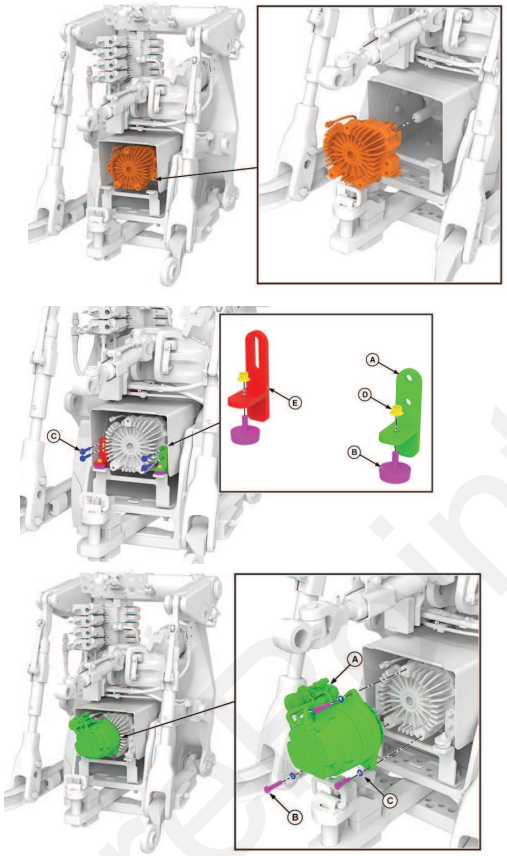
2. System Overview

2.1. 56 Volt System

2.1.1. PTO Power Generation

The MVX meters require 56 Volts to operate. A PTO Power Generation System, or Electric Power Generation (EPG) is included and must be installed on a Type III Power Take Off shaft, along with mounting bracket and hardware for specified tractor frames. Type III PTO is 1000 RPM and 1-3/4" diameter, 20 spline shaft.

Figure 2.

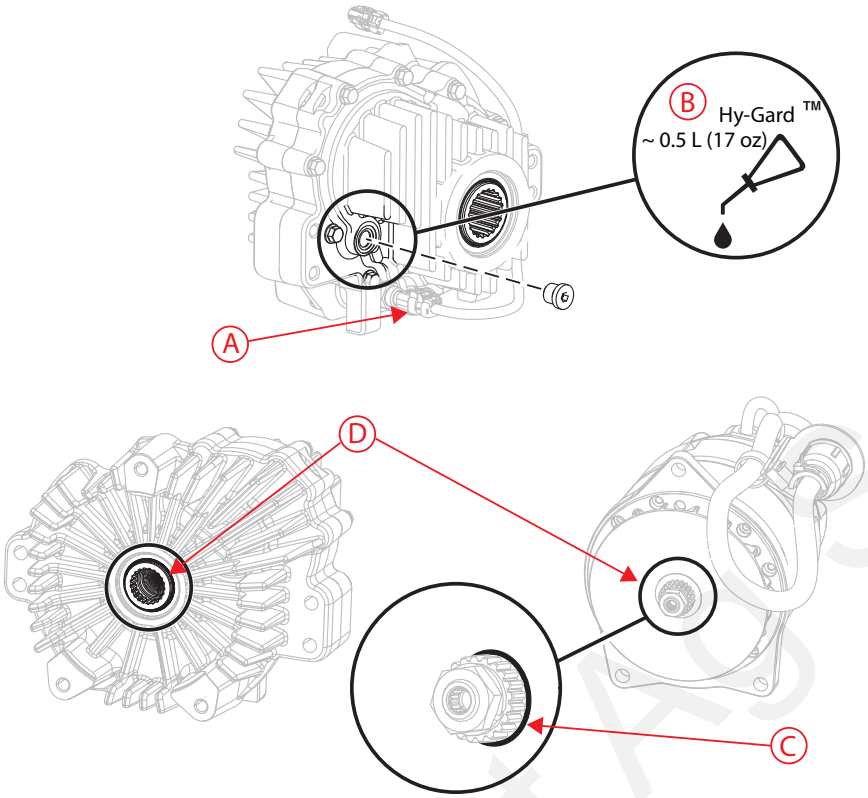


EPTO mounting brackets vary by tractor model.

SurePoint Ag Systems

Lubricate Power Generation System

Figure 3.



The tractor generation gear case is shipped empty of any lubricant.

IMPORTANT
Lubricant must be added prior to assembly or installation of the gearcase and generator.

A. Protect the sensor while positioning the gear case upright.
B. Add **Hy-Gard** oil until level with bottom of the fill hole (approximately 0.5L [17 oz.]).
C. Verify that the O-ring is on the alternator gear.
D. Lubricate the alternator gear and the gear case cavity with **Class GC-LB with 3-5% Molybdenum Disulfide** grease before assembly.
Good practice is to fill the gear case cavity flush with grease.

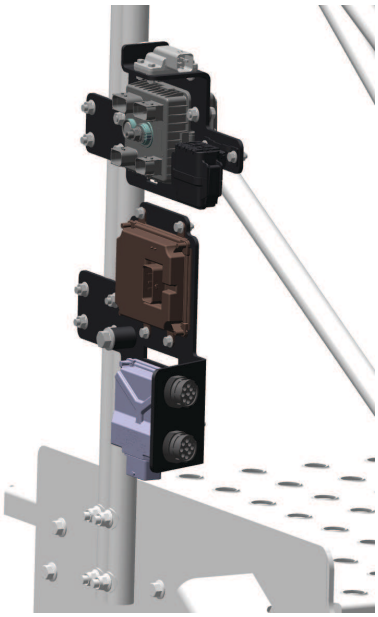
SurePoint Ag Systems

2.2. Installation Overview

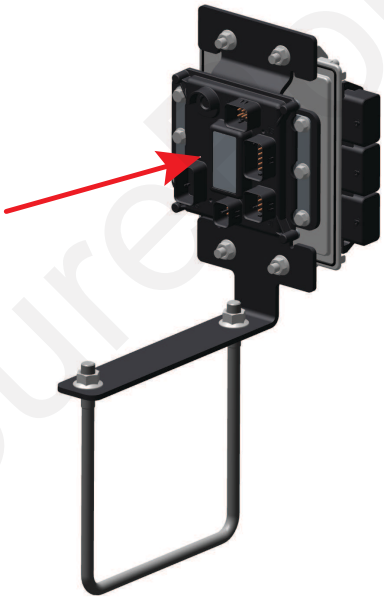
Below is generic steps to install a complete MVX system. For more detailed installation instructions, contact your SurePoint Ag dealer or representative.

Prior to installation, remove all previous seed meter/placement systems and associated wiring. The row unit shank should be free of any meter, seed tube/sensor and anything mounted to the top face.

1. Install Electric Power Generation system and route/ install harnesses from hitch, down the draft arm to the rear of frame.
2. Mount central controllers; EPG Module, SEM Module, Fuse Box, IMU, etc.

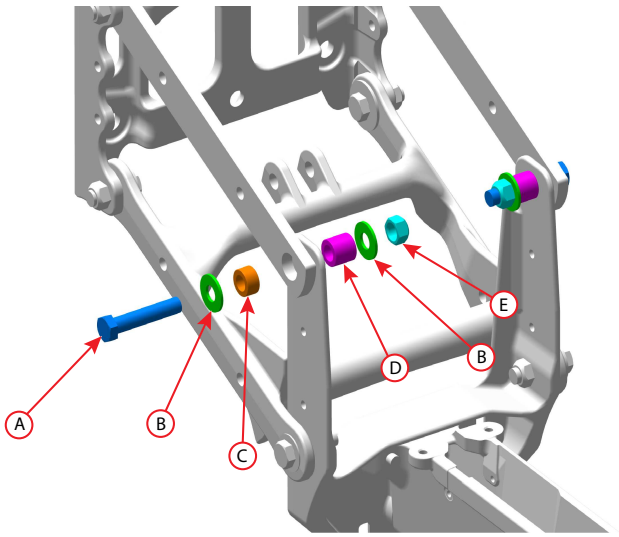


3. Mount RUC brackets on the toolbar and install RUC Modules to brackets. One RUC controls 4 rows.

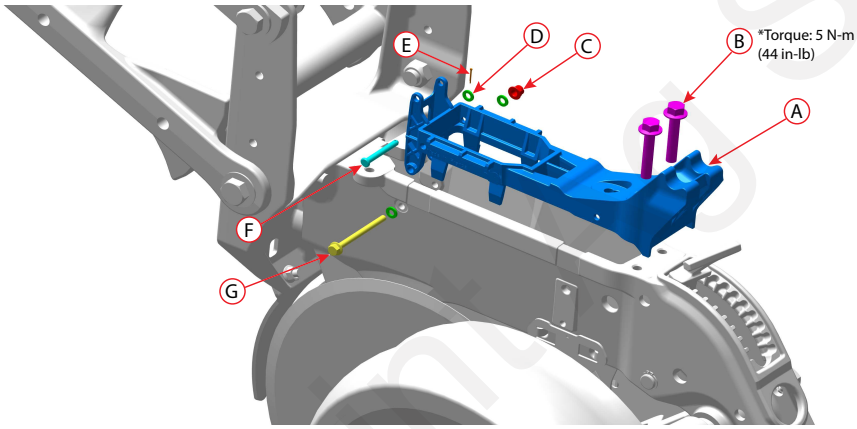


SurePoint Ag Systems

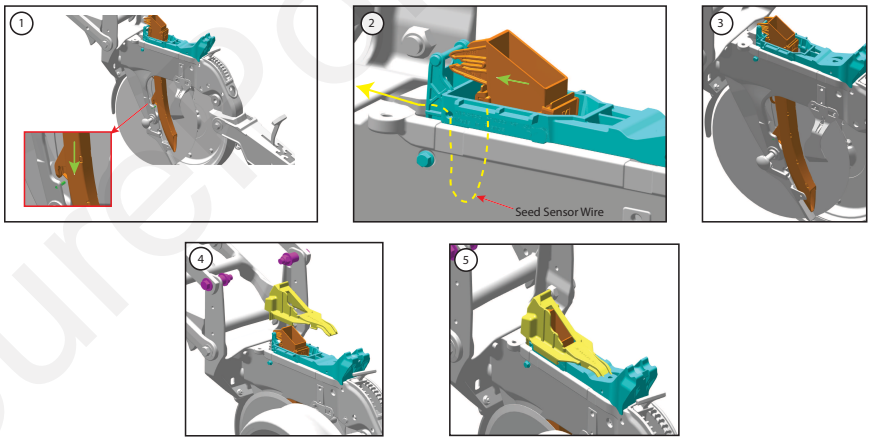
4. Install upper rear parallel hardware with supplied bolts and bushings to accept MVX meter.



5. Install base mounting plate on shank for all rows.

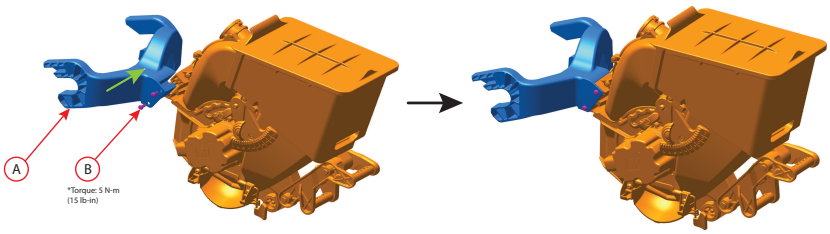


6. Install seed tube and cover on all rows.



SurePoint Ag Systems

7. Assemble mounting fork (A) on meter and install T20 Screws (B).

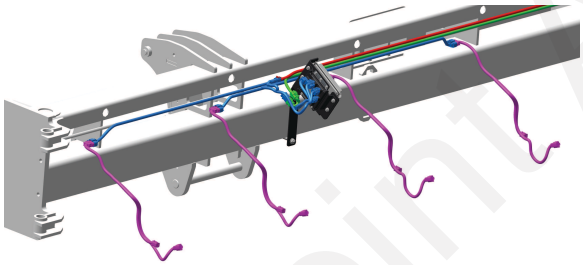


NOTE
Torque Screws to 5 N-m (15 lb-in)

8. Attach meter to row units by pressing mounting fork over spacer bushings on the upper rear parallel arm bolts. Lock meter to base mounting plate using the latch.

NOTE
Adjust Latch arm by rotating on threaded portion to lengthen or shorten the latch throw.

9. Route and connect harnessing.



10. Install vac sensor(s) and connect.

SurePoint Ag Systems

2.3. Seed Disk Settings

Recommended Seed Disk and Meter Settings

Below are recommended settings for starting up your MVX meters. All planters and conditions may vary from this table. Please adjust your planter and meters accordingly for best results.

Table 1. Recommended Seed Disk and Meter Settings

Seed Type		Seed Weight (Seeds/lb)	Disk No.	Vacuum (in/H_2O)	Singulator	Shutter
Corn						
Small	Flat	2025	3240	20 - 24	1	3
	Round	2307	3240	18 - 23.5	2	3
Medium	Flat	1700	3245	18 - 25	1	3
	Round	1767	3245	22 - 27	2	3
Large	Flat	1403	3245	22 - 26	2	3
	Round	952	3245	26 - 30	2	3
Soybeans						
		2400	7245	20 - 29	3	3
		3200	7245	20 - 29	2	3
Sorghum						
		13000	7220	19 - 27	1	3
		17250	7220	16 - 24	1	3
Sugar Beets						
			3220	20 - 27	1.5	2
Sweet Corn						
			3233	24	0.5	3
**Contact SurePoint dealer or representative for recommended meter settings for seed types not listed above.*						

SurePoint Ag Systems

Seed Disks

Table below are all seed disks available and approved for MVX Meters. Contact SurePoint dealer or representative for more information regarding seed disk and meter settings.

Table 2. MVX Seed Disks

SPA Part No.	Disk ID No.	Description
416-7064Y1	3245	Seed Disk, Corn Medium/Large
416-7065Y1	7245	Seed Disk, Soybean
416-7066Y1	3233	Seed Disk, Sweetcorn
416-7067Y1	7240	Seed Disk, Soybean Small
416-7068Y1	7222	Seed Disk, Sorghum Large
416-7069Y1	3230	Seed Disk, Cotton
416-7070Y1	7220	Seed Disk, Sorghum Small
416-7071Y1	3240	Seed Disk, Corn Small
416-7072Y1	10010	Seed Disk, Canola
416-7073Y1	3216	Seed Disk, Cucumber
416-7074Y1	3220	Seed Disk, Sugarbeet
416-7075Y1	3225	Seed Disk, Sunflower
416-7076Y1	3265	Seed Disk, Peanut
416-7077Y1	4050	Seed Disk, Pinto
416-7078Y1	4835	Seed Disk, Navy
416-7079Y1	5625	Seed Disk, Green Bean Small
416-7080Y1	3260	Seed Disk, Bean
416-7081Y1	5640	Seed Disk, Chickpea

SurePoint Ag Systems

2.4. Talc and Graphite Lubricant

CAUTION

Avoid harm to yourself or the environment. Follow chemical manufacturers precautions when handling parts coated with seed treatments. Use proper skin, eye, and respiratory protection.

Talc-graphite lubricant is required for optimum performance of the vacuum meter and CCS™ system. To obtain consistent seed release from the seed disk and improve spacing accuracy, properly lubricate the seed.

Farmer-Applied Seed Treatment

Farmer-applied seed treatments are NOT recommended.

IMPORTANT

Avoid sticky seeds and meter components. It is possible for seeds to become sticky due to chemical reactions between farmer-applied seed treatments and commercially applied treatments. If farmer-applied treatments are used, follow recommendations of chemical manufacturer carefully. Avoid treatments with high oil content. Certain temperature and humidity levels also complicate material compatibility.

IMPORTANT

Talc-graphite mix has to be thoroughly incorporated in tanks and hoppers, so all seeds are evenly coated.

IMPORTANT

Some insecticide-treated seed is coated with commercially applied graphite. It is important to add the recommended amount of talc-graphite mix, in addition to commercially applied graphite.

SurePoint Ag Systems

IMPORTANT
At the beginning of each season, add talc-graphite mix to empty CCS tanks. Also, add 9 mL (0.6 tbsp.) or (0.3 oz.) to each empty row unit mini-hopper.

If farmer-applied treatment is used, apply seed treatment to seed before the lubricant and allow seed treatment to dry before placing seed in tanks. If seed treatment accumulates in the meter while using the following lubricant application rates, contact the treatment manufacturer for assistance.

NOTE
Any additives other than John Deere™ powered talc-graphite mix leave residue on parts that affect planting rates

Mixes of seed and seed treatment must be free of clumps.

Commercially Treated Seed

Some treated seed is coated with commercially applied lubricant. To maintain meter performance, apply the recommended amount of talc-graphite lubricant, in addition to the commercial application. Refer to the following talc-graphite application rate chart for planting commercially treated seeds with no farmer-applied seed treatments. At the beginning of each season, add talc-graphite to empty CCS™ tanks and add 9 mL (0.6 tbsp.) or (0.3 oz.) to each empty row unit hopper.

Table 3. Application Rate of Talc-Graphite Mix for CCS Tanks

CCS Tank Size	Talc-Graphite Mix
1233 L (35 bu.) Bulk Tank	2.6 L (11 cups)
1762 L (50 bu.) Bulk Tank	3.8 L (16 cups)
Per 80,000 kernel seed corn unit	74 mL (5tbsp.) (2.5 oz.)

NOTE
Apply talc-graphite mix to seed as seed enters tank. All seeds must be coated to ensure movement through the CCS system and for proper meter performance. Mix seed and talc as necessary.

Adjust these rates as necessary so all seeds become coated with lubricant, while avoiding an accumulation of lubricant in bottom of tank. Double the talc recommendation when planting small seed, large seed, seeds with heavy treatment, or humid planting conditions. When a combination of sticky seed treatments, large or small seed, and high humidity occurs, add up to 2—3 times the amount of talc-graphite shown in the tables.

IMPORTANT
Avoid the formation of lubricant clumps. Clean buildup of seed treatments and talc lubricant out of hoppers between fills.

If lubricant builds up in bottom of hopper and vacuum tubes require frequent cleanout, reduce lubricant rate. If a coating of seed treatment is found on seed bowls, increase the amount of lubri-

SurePoint Ag Systems

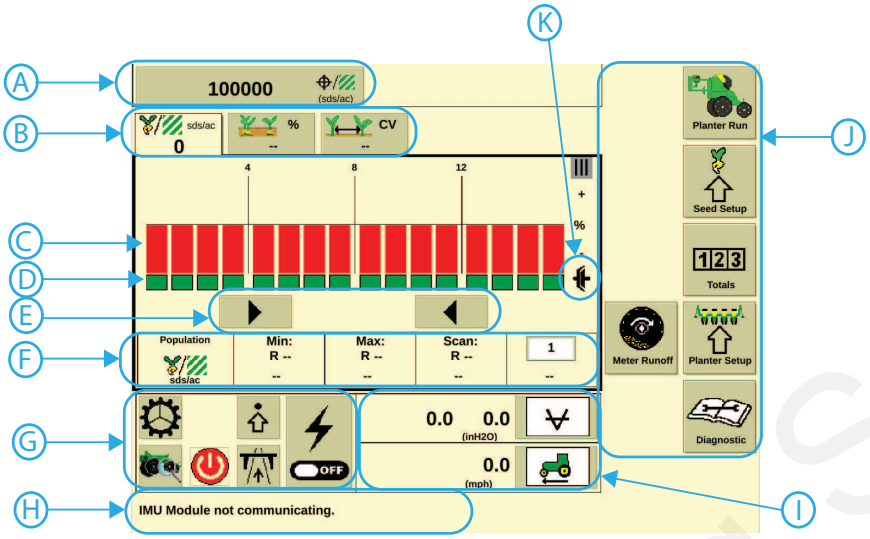
cant.When using seed treatments, clean meters and seed bowls as needed. Clean seed bowls with warm, soapy water. Spray a graphite solution on vacuum seal side of bowl as needed.

NOTE
If talc-graphite mix builds up in bottom of hopper, reduce the quantity.

SurePoint Ag Systems

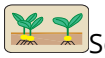
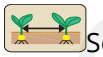
3. MVX Main Screen

Figure 4.



A.  Active Target Rate - Displays target seeds per acre rate entered in Planter Rates Setup. Select this button to toggle between programmed rates including prescriptions (Rate 6).

B. Navigation Tabs - Select which to be displayed on drive status bars.

-  Seed Population - Center line is target population. Bars above line indicate rows planting above target. Bars below line indicate rows planting below target. Bars turn orange when above or below alarm setpoint. Bars turn red when row is not planting near the target rate. Change population alarm setpoint on Alarms and Limits Setup Page.
-  Seed Singulation - Center line is perfect singulation (100%). Bars above line indicate increasing percentage of multiples. Bars below line indicate increasing percentage of skips. Bars turn orange when nearing alarm setpoint. Bars turn red when multiples or skip percentage is above alarm setpoint. Change Singulation alarm setpoint on Alarms and Limits Setup Page.
-  Seed Spacing Coefficient of Variation (CV) - Bottom of graph is perfect seed spacing (CV = 0). Bars increase in height as seed spacing becomes more variable. Bars turn orange when nearing alarm setpoint. Bars turn red when seed spacing CV is above alarm setpoint. Change Seed Spacing CV alarm setpoint on Alarms and Limits Setup Page.

C. Row Status Bars - Color indicator of each row status.

- BLACK bars indicate row is planting normally.
- ORANGE bars indicate row is planting above or below alarm setpoints.
- RED bars indicate row is not planting.

D. Drive Status Bars - Color indicator of each section status.

-  GREEN bars indicate section is active and ready to plant
-  BLACK bars indicate section is deactivated by section control command (when activated).

SurePoint Ag Systems

-  OUTLINED bars indicate section is deactivated manually by operator.
- NO bars visible indicate section is active, but cannot be controlled manually or with section control.

E. Section Control Buttons - Select buttons to turn sections on and off manually.

F. At a Glance - Displays Minimum and Maximum row dependent on which Navigation Tab is selected. Population, Singulation or CV.

G. Quick Buttons
-  Rotate Seed Meters - select to activate meters for manual runoff test.
-  Row Details - Select to navigate to detail of an individual row.
-  Quick Settings - Select to set Fast Start, and Alarms
-  EPG - Switch the 56 Volt Electric Power Generation system on and off.
- Master switch indicator - Shows the current status of the Master Switch connected to the system.

H. Alarm Message Display - Displays active alarm if present.

I. Drop Down Menu - Select which setting to view on the run screen. (Vacuum and Speed shown)

J. Menu Buttons
- Planter Run - Main planter run screen
- Seed Setup - Select to change crop types and rates.
- Totals - Select to view planted area and hours.
- Planter Setup - Select to change planter frame, drives, sensors, and display configuration.
- Diagnostics - Select to view sensor readings and fault codes.
- Meter Runoff - Use to test meter performance while stationary.

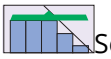
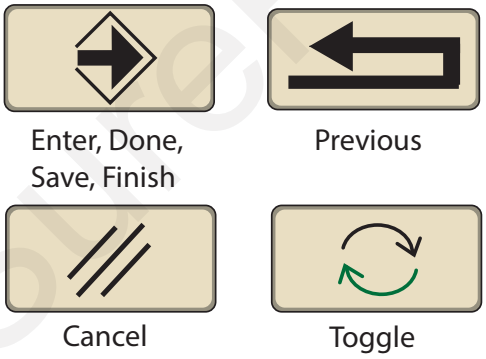
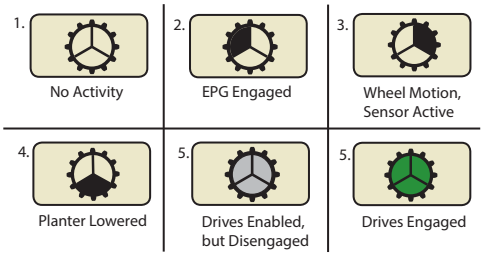
K. Drive Status Icon
-  Clutch - Sections can only be controlled manually by operator.
-  Section - Sections are controlled by Section Control (when activated).

Figure 5. Other Useful Buttons



SurePoint Ag Systems

Figure 6. Drives Status



SurePoint Ag Systems

This page is intentionally left blank.

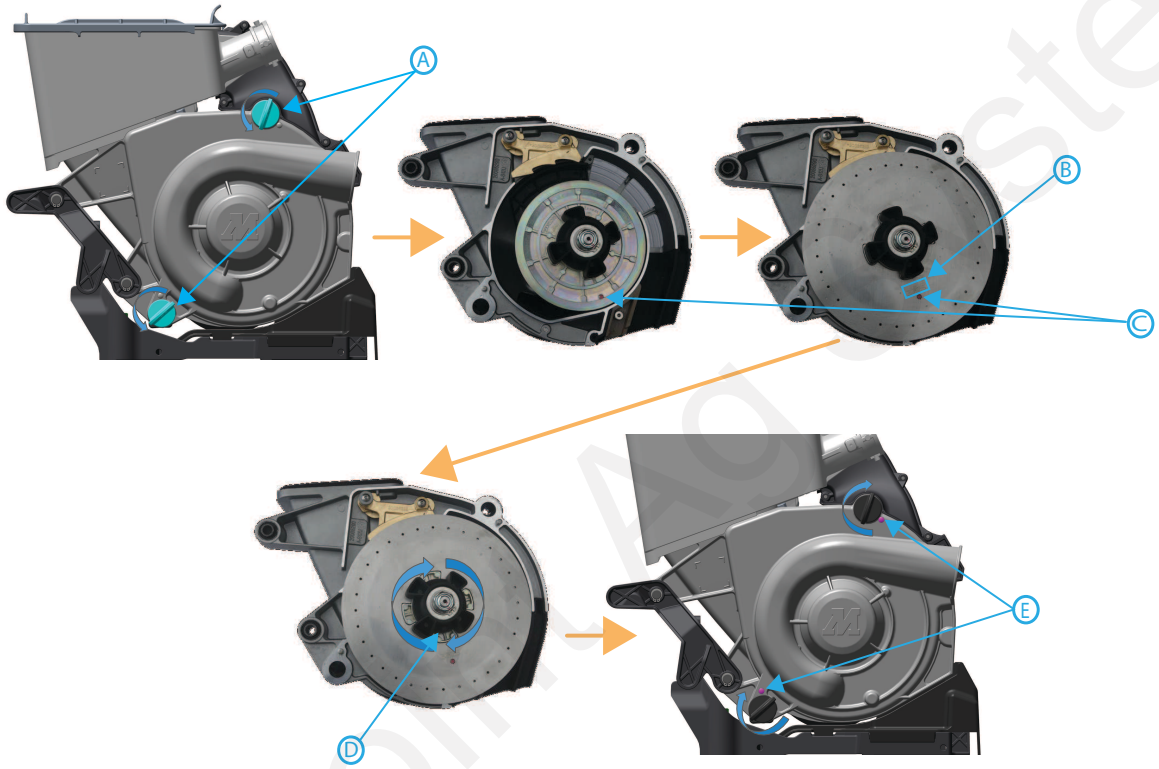
SurePoint Ag Systems

4. Startup & Operation

4.1. Crop Changeover

4.1.1. Install Seed Disk

Figure 7.



1. Remove the meter cover. Locate the 2 latches (A) and rotate 1/4 turn counterclockwise.
2. Orient seed disk so the 4 digit number (B) is facing toward the meter cover.
3. Place disk over handle and ensure locating hole and dowel (C) are aligned.
4. Press disk firmly against back and turn plastic handle (D) 1/8 turn.

> **NOTE**
> Do not turn plastic handle if disk is not seated in place.

5. Reinstall meter cover and ensure locating holes and dowels are aligned (E) and turn latches (A) 1/4 turn clockwise to lock in place.

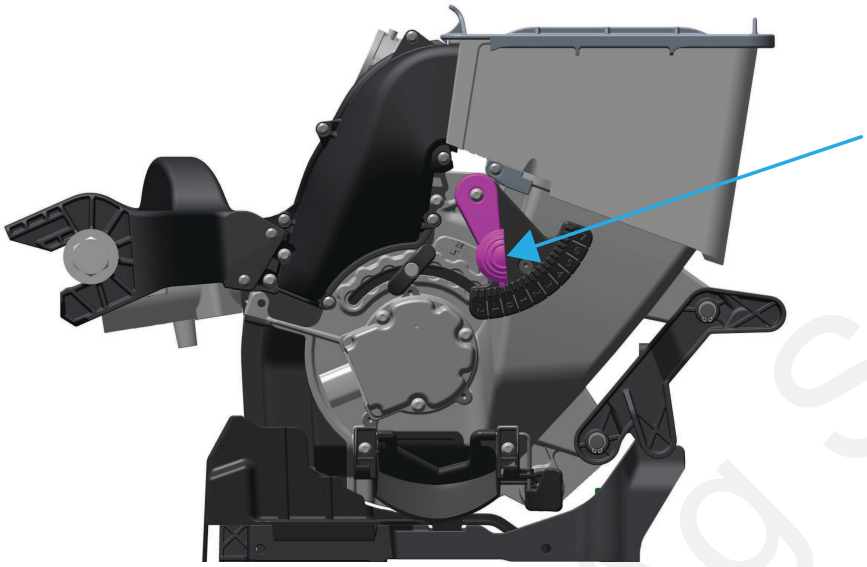
SurePoint Ag Systems

4.1.2. Adjusting the Meter

Seed Singulator

The seed singulator is precisely adjusted to eliminate skips and doubles on the seed disk.

Figure 8. Seed Singulator Adjustment

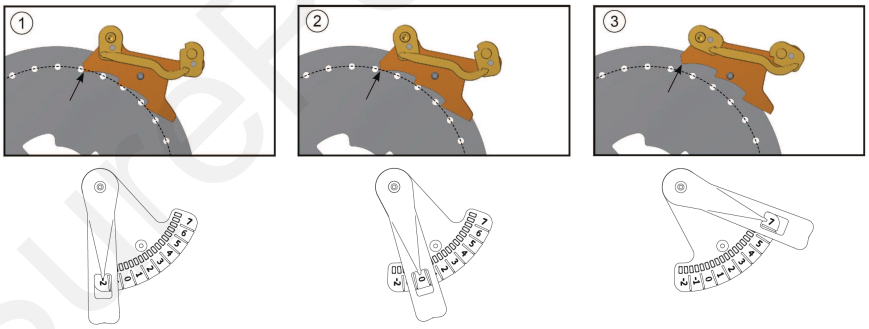


To adjust seed singulator, slightly lift and rotate this handle to the desired setting, (-2 through 7)

TIP

To fine-tune the singulator, adjust negative directing if having doubles, adjust positive direction if having skips.

Figure 9.



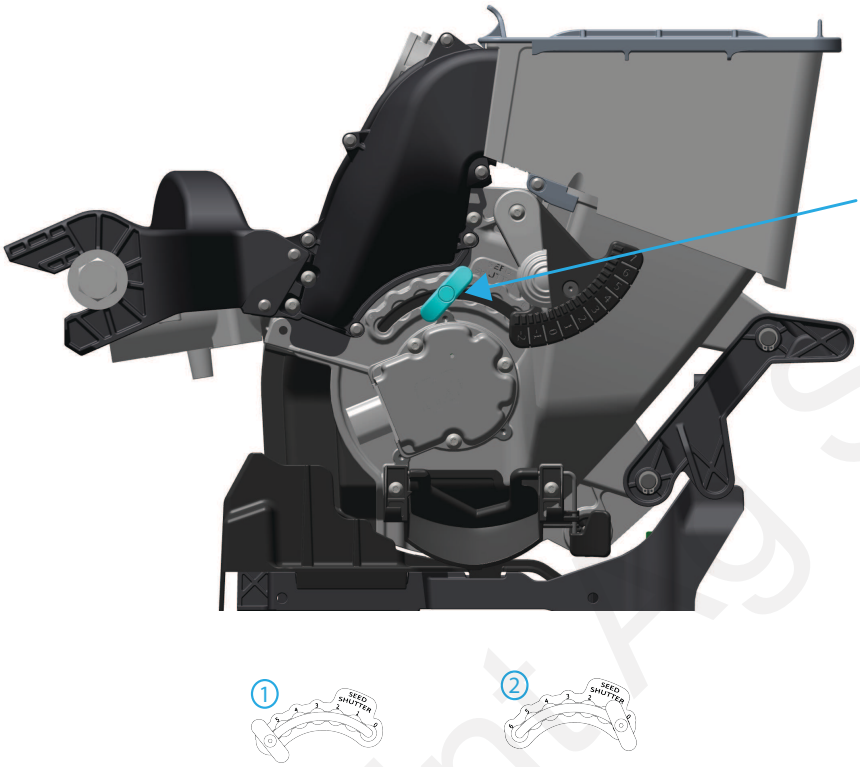
1. Singulator at -2, below the seed centerline
2. Singulator at 0, directly inline with seed centerline
3. Singulator at 7, above the seed centerline

SurePoint Ag Systems

Seed Shutter

The seed shutter adjusts the pool of seed that gathers at the meter from the seed delivery tube. This helps prevent jamming or compacting of the seed. Smaller seeds typically require a smaller seed shutter setting.

Figure 10. Seed Shutter Adjustment



To adjust seed shutter (seed pool), pull the knob, rotate to desired setting and lock knob in place.

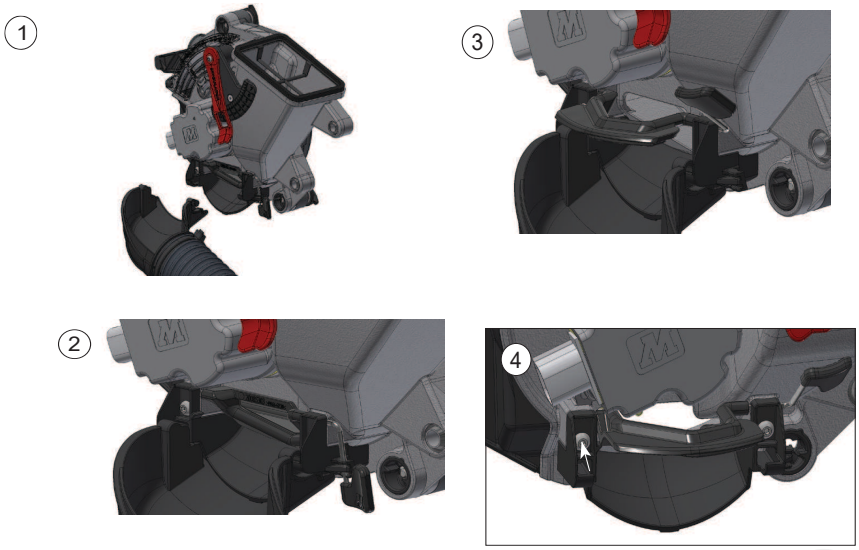
1. Seed shutter at 6, wide open. This will allow full flow of seed from the seed delivery tube to the meter
2. Seed shutter at 0, closed. This will close off the seed from seed delivery tube.

TIP
If getting doubles, consider adjusting seed shutter to a lower setting.

4.1.3. Emptying the Meter

1. Plastic emptying chute for the metering box.
2. Position the chute on the metering box using the guide pins. Place a container under the emptying chute to collect seeds.
3. Open the metering box's emptying shutter by unlocking it using the lever.
4. Keep the shutter open using the small stud on the side.

SurePoint Ag Systems



- Repeat this process for each hopper.

TIP
Set the seed flow shutter to 6 to facilitate emptying.

IMPORTANT
When you close the emptying shutter, make sure you lock it!

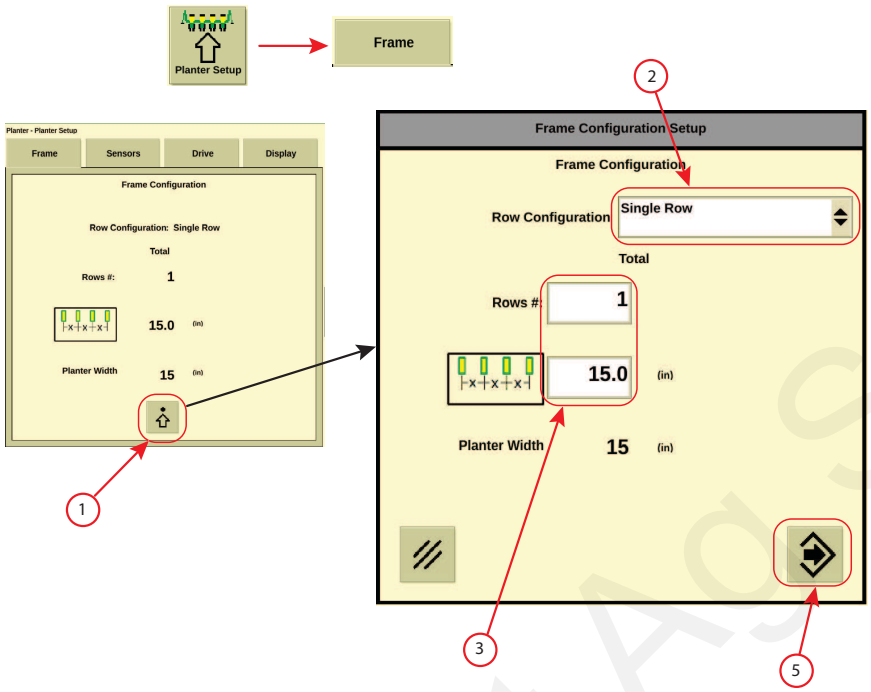
IMPORTANT
Do not forget to adjust the seed flow shutter after emptying!

SurePoint Ag Systems

4.2. Planter Configuration

4.2.1. Frame Configuration

Figure 11.

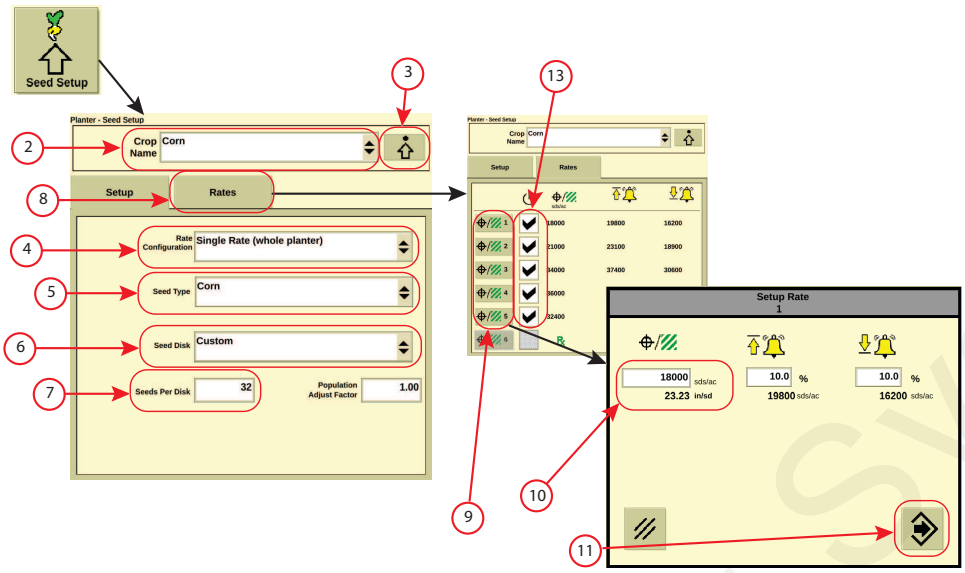


1. Navigate to the Frame tab and press the Setup button.
2. Select Single Row or Split Row from the Row Configuration dropdown
3. Enter number of rows and spacing
4. If split row, it must always remain selected for planters of this design. To toggle between wide and narrow rows when planting perform the following:
   i. Select Seed Setup button
   ii. Select Rows Planting check box to change between split rows and all rows.
   iii. Select Rows input box. Enter total number of rows on machine.
   iv. Select Row Spacing input box. Enter distance between each row unit.
   v. Planter Width is automatically calculated. To enter the width manually, select input box and enter a value.
5. Press Enter, then Save and restart the controller.

SurePoint Ag Systems

4.2.2. Seed Disk & Rate Setup

Figure 12.



1. Navigate to Seed Setup page.
2. Select crop name from the drop-down list. Or press Setup button to create new.
3. Select the Settings button to change crop name(s).

> **NOTE**
> Rate configuration, seed type, disk, and rates are saved to each crop name.

4. Select Rate Configuration drop-down list and select Single Rate, for the same rate across the planter.

> **NOTE**
> You can also select By Mapping Groups and Custom (Seed Corn) for Rate Configuration.

5. Select Seed Type from drop-down list.
6. Select **Custom** for Seed Disk.

> **IMPORTANT**
> Pre-loaded seed disks are not accurate for MVX.

7. Identify the 4 digit number engraved on the seed disk and enter the first two digits in the Seeds Per Disk box. Ex. Soybeans = 72, Corn = 32.
8. Select the Rates tab.
9. Choose Population Rate to Setup (Units = Seeds per Acre).
10. Select the Population button and enter a target population.

SurePoint Ag Systems

NOTE
High and Low (alarm) limits are defaulted to 10%. To adjust, select boxes and input manually.

11. Press Save. Complete the same setup for up to 5 rates.

NOTE
Rate 6 is used for map-based prescription. To enable controller to use prescription, setup Task Control function in the machines display.

12. To see a rate on the Run page as a choice, check the ON/OFF box to enable.

IMPORTANT
Drives are inoperative until at least one target rate has been defined AND turned ON.

4.2.3. Height Switch/Sensor

Most drawn planters use an adjustable wheel frame height sensor to start and stop seeding at chosen points as planter is lowered and raised. MVX system will connect to this sensor with supplied harness. Be sure to choose sensor type for height switch configuration and calibrate the start/stop thresholds.

Some planters use one or more push-button switches mounted on a row unit paralle arm. The switch compresses when the planter is raised, and releases when lowered. This switch controls the CCS fan and prevents operation when raised. Be sure to choose switch type for height switch configuration.

Calibrating Height Sensor

1. Navigate to the Height - Drives page.
2. Select the Calibration button.
3. Completely raise machine frame.
4. Select Next Page button.
5. Completely lower machine frame.
6. Select Next Page button.
7. Select Settings button.

NOTE
A set point less than 20 is not recommended with height sensor.

8. From the fully lowered position, raise machine until the desired start/stop point is achieved and select Start/Stop button. Recommended setting is with openers just above the soil.
9. If setting needs slight adjustment after planting begins, select input box and adjust value in small increments.
10. Select Enter button.

SurePoint Ag Systems

4.2.4. Vacuum Sensor

1. Navigate to the sensor setup tab and choose Vacuum sensor from the dropdown tab.
2. Select the number of vacuum sensors connected to your MVX system; 0, 1, or 2.
3. Set Alarm values desired for your vacuum sensor(s).

NOTE
For diagnostic purposes, navigate to this screen to monitor vacuum sensor(s) voltage.

4.2.5. Rotate and Runoff/Fill

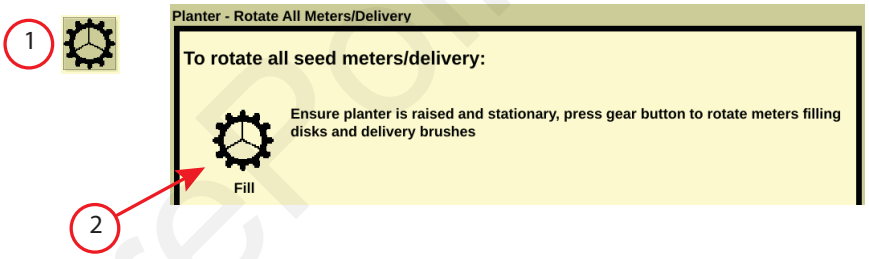
The Rotate Seed Meters feature allows the operator to rotate the seed meter disk by activating the electric motors while machine is stationary. The meters fill with seed as meter disks rotate. Full meters reduce the area traveled before seeds meet the soil when starting from a stop, and also aid in adjusting vacuum settings.

The following must occur for this feature to function:

- Planter must be in raised position.
- Planter must be stationary.
- Electric power generation system must be running.
- Vacuum must be at operating pressure to hold seeds on meter disks.

NOTE
If Fill button is not present, RED error message will appear at bottom.

Figure 13.



1. From the Planter Run screen, select the Drives button.
2. Press Fill button to rotate meters. The drives icon will turn green when meters are ON/turning. Each time the fill button is pressed, the meter disk turns one half a revolution. Select the button at least 2 times to fill seed meter disks completely. If meters fail to move, a warning screen will appear.

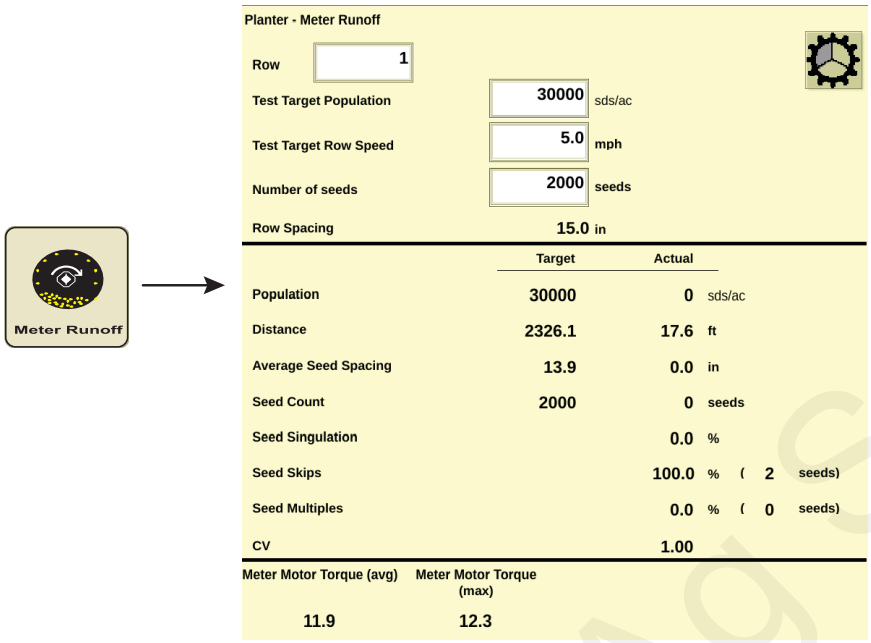
This feature is also used as a diagnostic tool for the drive system.

SurePoint Ag Systems

4.2.6. Meter Runoff

Verify meters performance and diagnose issues before planting season with this feature.

Figure 14.



1. Select meter runoff button from the planter run page.
2. The following must occur for this feature to function.
   - Planter must be in raised position.
   - Planter must be stationary.
   - Electric power generation system must be running.
   - Vacuum must be at operating pressure to hold seeds on meter disks.

> **NOTE**
> If Fill button is not present, RED error message will appear at bottom.

3. Enter row number which is to be operated.
4. Enter target population and target speed.
5. Enter number of seeds for test.
6. Select meter drives button.

Meter runoff runs until the predetermined seed count or distance is reached. When test is complete, average seed data is displayed on the screen for that test. Data is cleared when a new test is started.

SurePoint Ag Systems

This page is intentionally left blank.

SurePoint Ag Systems

5. Maintenance

5.1. Maintenance Intervals

Location	Maintenance Instructions	Intervals
Seed Hopper	Check that the hopper bottom is clean and use suction (or pressurized air) to remove any dust and other residues.	50 hours
Metering Box Cover	• Open the cover to check that it is clean. • Clean the entire cover with pressurized air, focusing on the area around the floating insert. • Check the floating insert for wear, which can be done quickly using the wear indicator. • Check the cover lock ensuring that the metering box is leak-proof.	• 20 hours • 20 hours • 50 hours • 50 hours
Metering Box	• Open the cover to clean the entire box with pressurized air. • Remove the seed disc and clean it. • Clean all parts of the box with pressurized air. • Check the seed selector for wear, which can be done quickly using the wear indicator. • Operate the seed selector lever to check for mobility. • Press the seed selector with your finger to check the spring tension. • Check the ejector for wear, which can be done quickly using the wear indicator. • Press the ejector with your finger to check the spring tension. • Operate the seed flow shutter to check that it is functioning properly.	• 20 hours • 20 hours • 20 hours • Annual • 50 hours • 50 hours • 50 hours • 50 hours • 50 hours
Seed Sensor	• Remove the protective cover and eliminate any dust. • Check that the chute is clear and unobstructed. • Using a cloth, clean the windows on the sensor.	• 20 hours • 50 hours • 20 hours
Drive Motor	• Remove dust from the motor using pressurized air. • Clean the connections using pressurized air. • Turn the motor clockwise by hand to check that it is not jammed. • Only clean with a damp cloth. • Do not spray water directly onto the motor. • Check the electric cable routing.	• 50 hours • Annual • Annual • • • Annual

SurePoint Ag Systems

5.2. 3.31 Storing Seed Discs

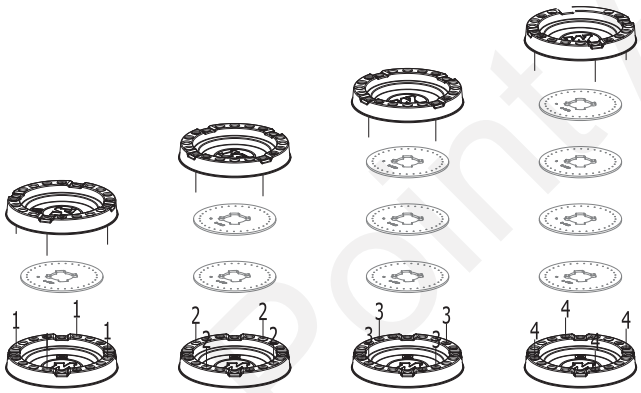
Unused sets of discs need to be stored in a clean and sheltered place. A storage kit is supplied for extra discs.

1. Storage compartment (4 discs can be stored per compartment).
2. Velcro strap to be wrapped around the box.

Assembly:

- Position the pins in the cover in the correct numbers to ensure that the discs are properly stacked.

- The numbers relate to the number of discs in the compartment.



TIP

Each disc should be marked with a number relating to it's metering.

SurePoint Ag Systems

6. Troubleshooting

Table 4. MVX Troubleshooting

Symptom	Problem	Solution
The MVX system is equipped with various self tests, diagnostic screens, diagnostic tests, and Caution and Warning screens to help operators and dealer technicians locate the cause of a potential problem. Familiarize yourself with the warning screens and diagnostics (see Diagnostics or Alarms section in this manual) and perform the basic troubleshooting steps in this section before calling your SurePoint Ag dealer.		
Wrong Population Reading	Dirty seed tube sensors.	Clean sensors. (See seed tube sensors section).
	Row spacing incorrect.	Enter correct row spacing. (See configure frame in MVX Setup Initial System Configuration section).
	Speed reading incorrect.	Change to a speed source other than radar. (See configure frame in MVX Setup Initial System Configuration section).
	Wrong units of measure.	Enter correct units.
	Speed rating too high.	See wrong speed reading above.
Row Failure Warning	Meter not planting.	Seed hopper empty; fill with seed.
		Perform Row Runoff to determine if meter is turning and seeds are being distributed.
	Harness problem.	Inspect harness and conditions.
	Planting in rocky conditions.	Seeds knocked off disk, adjust row unit down force.
	Dirty seed sensors.	Clean sensors.
	CCS System Plugging or Bridging.	Clean plug or bridge. Refer to planter operator's manual. Adjust CCS pressure as required.
	Section Control has turned off for 1 or more rows and planter page is not in view.	Planter page with RowCommand status bar must be in view to avoid row failure warnings while using RowCommand.
Wrong Area Reading	Planter width incorrect.	Enter correct planter width. (See Configure Frame in MVX Setup Initial System Configuration section.)
	Radar problem.	Correct radar calibration or troubleshoot radar.
Seed Singulation Percentage Low.	Meter not adjusted properly.	Confirm correct disk type and vacuum level for speed being used. Confirm meter adjustment. Confirm correct talc using and mixing. Check and adjust singulator setting.
	Excessive Ground Speed.	Increase row unit down forces first. If singulation does not improve, reduce ground speed.
	Excessive row unit dynamics (bounce).	Increase row unit down forces first. If singulation does not improve, reduce ground speed.
	Alarm set point too high.	Reduce alarm set point. Factory default setting is 92 percent. To go to Alarms and Limits Setup Page, use the setting button on the run screen bottom left hand corner. Enter "0" to turn off singulation and alarm.
Seed Spacing Coefficient of Variation (CV) percentage high.	Excessive ground speed.	Increase row unit down forces first. If singulation does not improve, reduce ground speed.
	Excessive row unit dynamics (bounce).	Increase row unit down forces first. If singulation does not improve, reduce ground speed.
	Meter not adjusted properly.	Refer to Rate charts and Settings Manual. Confirm correct disk type and vacuum level for seed being used. Confirm correct talc usage and mixing. Check and adjust singulator.

SurePoint Ag Systems

Symptom	Problem	Solution
	Alarm set point too low.	Increase alarm set point. Factory default setting is 0.35. To go to Alarms and Limits Setup Page, use the setting button on the run screen bottom left hand corner. Enter "0" to turn off Seed Spacing alarm.
Too many Skips	Speed too fast	Reduce the working speed
	Seed shutter not open enough	Increase the seed shutter opening
	Electric Drive Inactive	Check for obstructions and turn meter disk by hand. Perform Row Runoff diagnostic test.
	Insufficient vacuum	Increase the vacuum pressure (hydraulic motor) Check for any leaks in the lines and connectors in the vacuum system Check the leak-tightness between the box and the vacuum interface
	Disk hole diameter too small	Change seed disks
	Trapping in the seed intake opening	Agitate the seeds in the hopper Add a mixture such as talc with the doses recommended by SurePoint
	Singulator too low	Raise the singulator setting.
	Large number of holes blocked on the disc	Change discs as inappropriate Clean the holes to remove any trash using pressurized air
	Emptying hatch open	Shut the emptying hatch
	Box cover not re-positioned	Refit the box cover
	Sticky seeds	Add a dose of talc to the hopper as recommended by SurePoint
	Gasket too worn	Change the gasket seal Change the full kit; gasket + seal
	No seed disk	Install a seed disk
	No seeds in the hopper	Fill the hopper with seeds
	Electric drive inactive	Start up the MVX motor
Too many Duplicates	Vacuum too high	Reduce the vacuum
	Seed hatch open too wide	Reduce seed hatch opening
	Singulator too high	Reduce singulator setting.
	Disk hole diameter too large	Change the seed disk
Incorrect seed placement in the furrow bottom.	Seed tube damaged at seed outlet	Change the seed tube.
	Incorrect seed tube position	Adjust the seed tube position so that it is installed correctly.
	Wrong setting of the planter frame	Adjust the planter with the tractor
	Tip too worn (furrow not clean)	Change tips for a clean furrow
	Seed hitting the tip on chute outlet	Adjust the planter frame with the tractor Change the seed tube as too worn
	Hole diameter incompatible with seed size	Change seed disks
	Seeds ejected to the box too late	Add talc to the seed hopper as recommended by the manufacturer SurePoint
One row is not being planted	No vacuum	Check for leaks in the lines and connectors Check that the turbofan is active.
	No seed disk	Install a seed disk

SurePoint Ag Systems

Symptom	Problem	Solution
	MVX motor inactive	Check the terminal to ensure that all the settings are correct Check the connectors Change motors if out of service
		Perform Row Runoff diagnostic to aide trouble-shooting
	No seeds	Place seeds in the hopper
	Seed shutter closed	Open the seed shutter
	Emptying hatch open	Shut the emptying hatch
	The seed tube is blocked	Unblock the seed tube
	No electric wiring harness	Install the electric wiring harness for unit support
	Dust/Debris present in the RUC Connector	Clean the RUC with pressurized air to remove any dust in the connections
	No speed entry	Check the speed source selected in the software
	Planter position information in the software	Edit the position information
Incorrect spacing between seeds	Disk clogged	Unblock the holes
	Incorrect number of holes entered on the terminal	Enter the correct number of holes on the terminal
	Inaccurate speed information	Check the speed source CAN-GPS: No communication between the planter and GPS antenna Planter speed: Calibrate the radar several times Inaccurate speed source selected (tractor wheel, tractor radar, planter wheel, manual)
	Planter perpendicular alignment not properly adjusted	Adjust the planter level using the tractor
Seed Tube blocked	Planter lowered during a reversing maneuver	Maneuver the lowered planter in forward gear only
	Presence of trash at seed tube outlet	Clean the seed tube outlet
No vacuum	Vacuum sensor showing zero vacuum	Vacuum sensor inlet not drilled
	Faulty Vacuum Sensor	Replace Vacuum Sensor
	Turbofan inactive	Check planter connection and settings
	Vacuum interface not leak tight	Change the vacuum interface

SurePoint Ag Systems

This page is intentionally left blank.

SurePoint Ag Systems