

vSet®

vSet 2 Meter Installation
768317, 768370, 768375
(Speed Tube)

 **Precision Planting®**

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Choice of Law:

Any dispute or claim arising from or related to this Policy, or related to a product governed by this Policy, shall be governed by the laws of the State of Illinois.

Install

2015 Compatibility

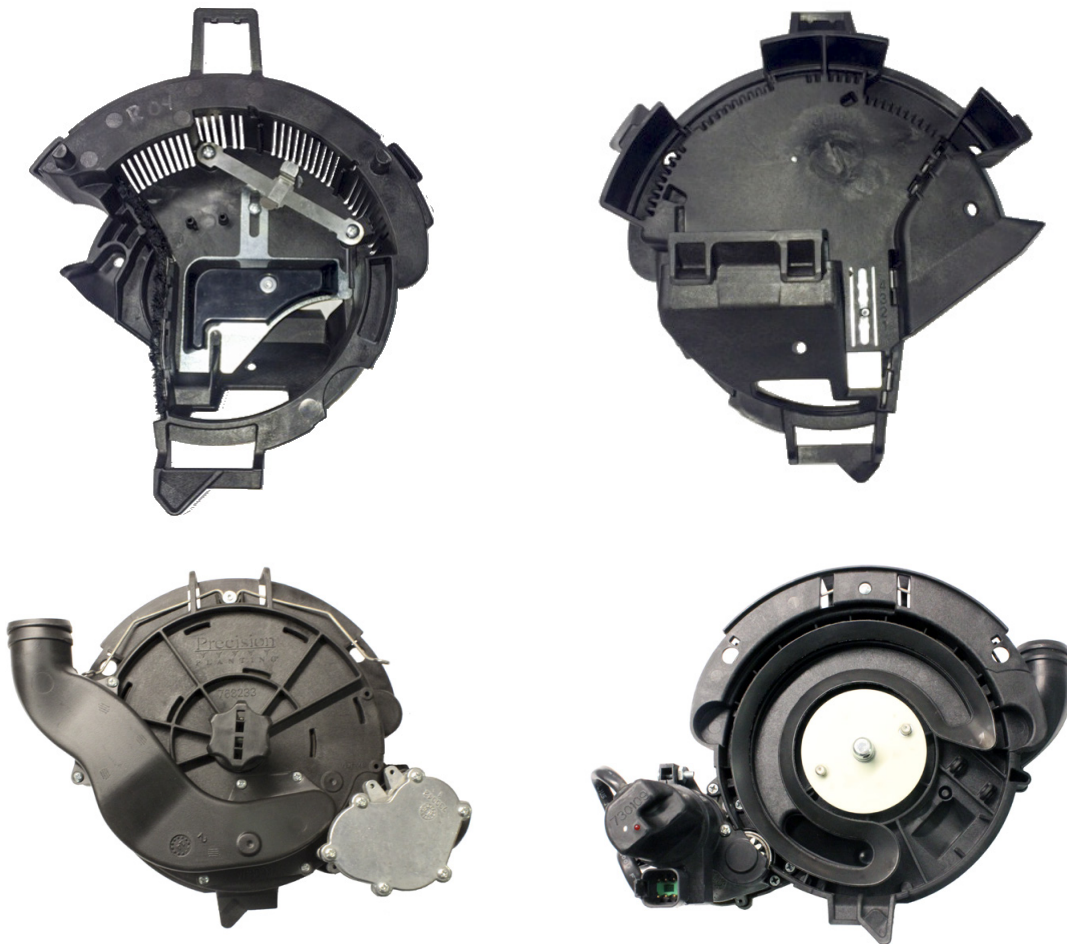
vSet 2 and SpeedTube delivery is compatible with John Deere XP (CCS) and Kinze 3000 (ASD) row units with mini hoppers. These instructions apply to SpeedTube ready meters:

768317 (blank vSet 2 meter), 768370, (corn crop kit assembled into a vSet 2 meter) and 768375 (vSet 2 with corn crop kit and vDrive).

vSet Meter (Seed Tube)

vSet 2 Base Meter (Housing* + Cover)

*vDrive installed (768385)



Installation on current planter:

John Deere XP

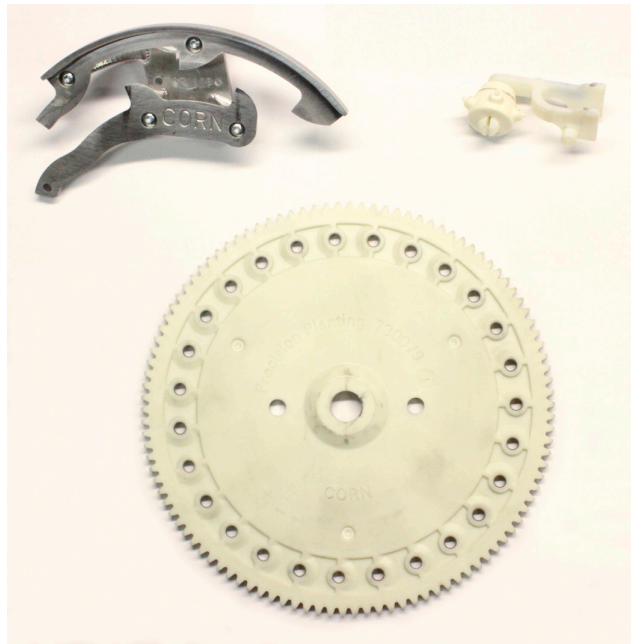
1. Remove current meter and mini hopper.
2. Acquire Precision Planting mini hopper (768280)
3. Remove OEM meter mounting plate and cable drive system.
4. Install vSet 2 mini hopper assembly.

Kinze 3000

1. Remove current meter and mini hopper.
2. Acquire Precision Planting mini hopper.)
3. Remove OEM rear mounting plate.
4. Install vSet 2 mini hopper assembly.

Crop Kit

The 768317 kits are available for order without crop kits. To begin the vSet 2 installation, begin by locating your crop kit. The vSet 2 meter has three components that are designed with a specific crop in mind. The disk, ejector, and singulator. All three items will need to be interchanged whenever you change the crop you are planting. To understand the supported crops refer to the vSet 2 Crop Compatibility Guide available on the Precision Planting cloud. For reference navigate to www.precisionplanting.com and visit vSet on the Support page. Customers that have vSet Classic meters can use their existing meter disks. The vSet Classic singulator and ejector are not compatible with vSet 2.

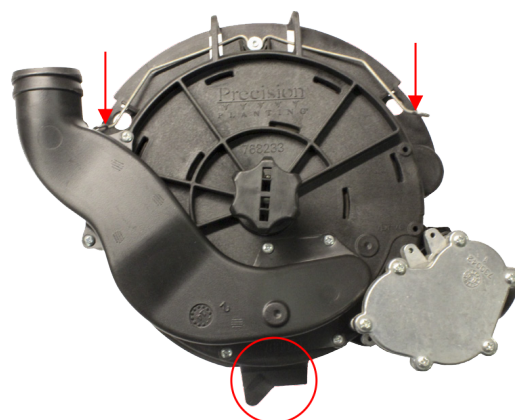


Singulator, Ejector, and Disk

Step 1:

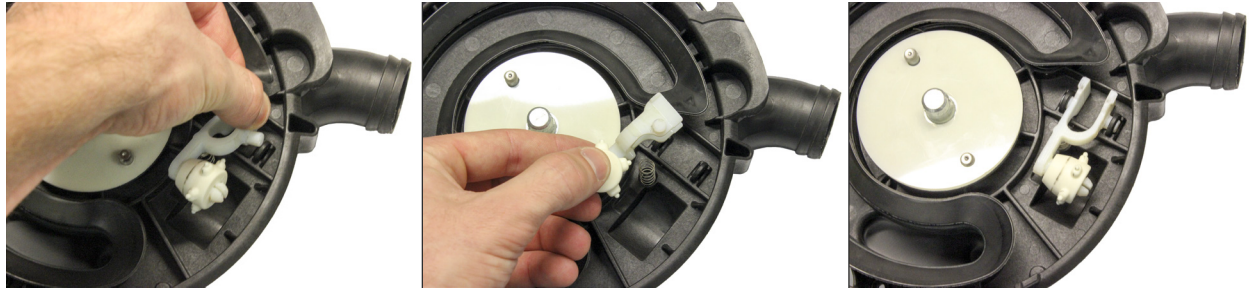
Open the meter by releasing the retention springs and pulling the two halves apart and lifting the cover out of the built in slot and tab constraint.

The core meter housing contains the disk and ejector wheel. The singulator is assembled on the opposite half of the meter also known as the seed containment cover.



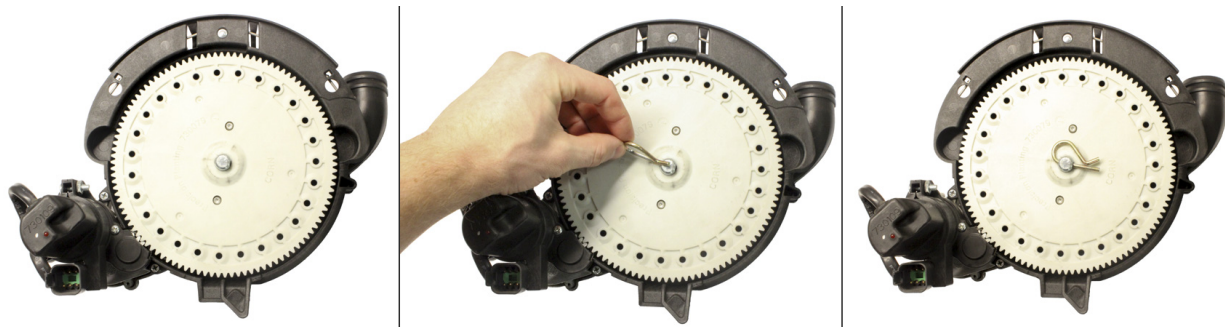
Step 2:

The vSet 2 ejector must be placed first into the housing and behind the meter plate. To start, seat the bottom peg into the spring before bending the plastic into place. The images illustrate how the ejector inserts into place. To remove, simply apply pressure to the end of the bracket which holds it in place.



Step 3:

Align the disk and slide the cotter pin into place. The pin will have the least amount of resistance if inserted vertically. The meter will have shims inserted onto the meter hub. The shimming process is at the end of the manual. When inserting the disk be sure not to pinch or curl the vacuum seal. If there are any cracks or broken seams on the seal replace immediately. To remove the cotter pin, hold the disk in place and pull the cotter pin with it standing vertical similar to the image below. Do not misplace the cotter pin. Also, be sure to leave the disk shims under the disk in place when removing.

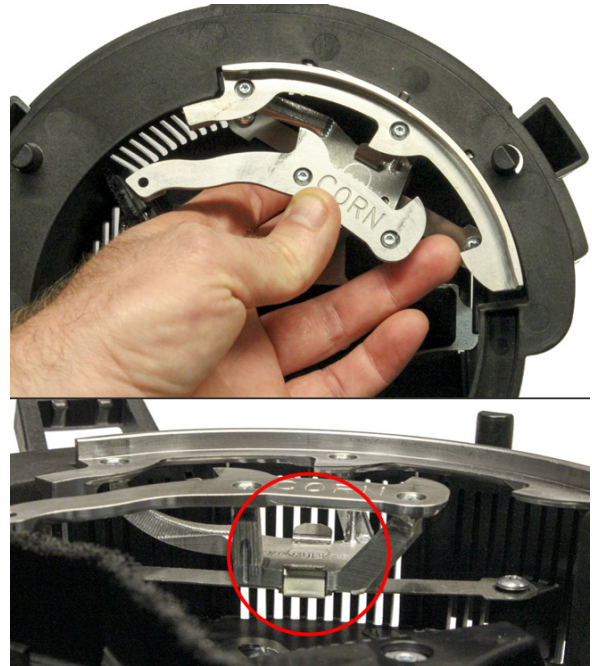


Step 4:

The final step of the crop kit installation is to attach the singulator into the meter cover.

Insert the singulator base into the bottom clip first and press into the top clip. Be sure that both the top and bottom sides of the singulator are flush with the spring tabs. You must ensure that the singulator is fully seated to guarantee proper meter attachment when assembling the cover and housing.

To remove the singulator pull back on the release tab and it will pop out.

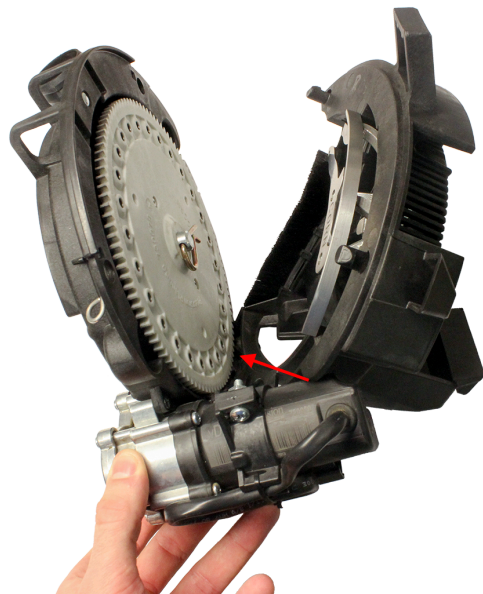


Step 5:

In order to remove the vSet 2 components to service, remove parts the same way that they were installed in Steps 1-4.

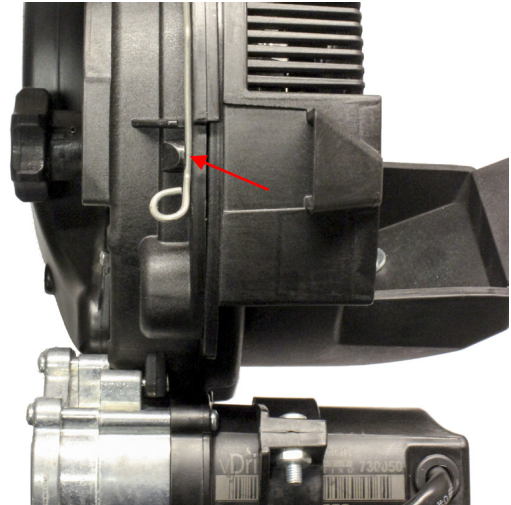
Step 6:

When assembling the two halves of the meter, begin by placing the housing's slot into the seed cover's tab to guarantee proper alignment.



Step 7:

The two halves of the meter are correctly attached when the retention springs are fully engaged with the seed cover retention posts. Be sure to keep the singulator pressed into the seed cover so it engages the seed disk correctly.

**Step 8:**

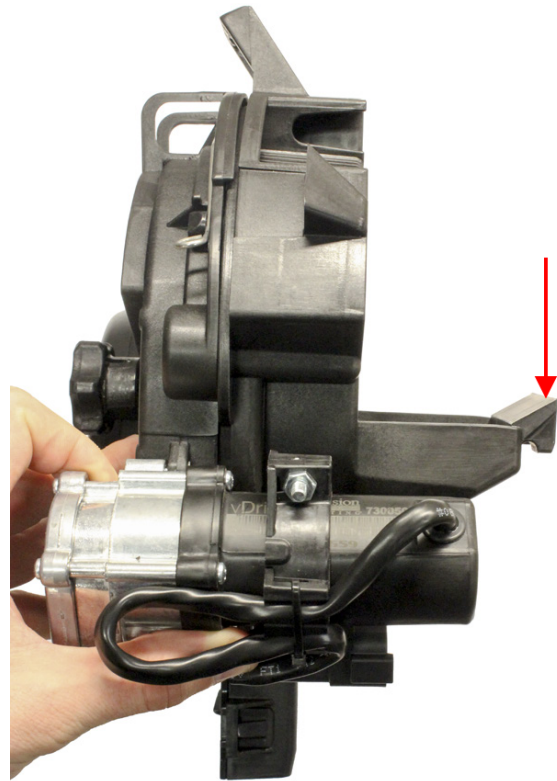
The baffle position may need to be adjusted depending on the crop being planted. Refer to the vSet 2 Crop Setup Guide for various crops. As a rule of thumb, adjust the baffle plate to the lowest position possible but with assurance seed will flow at all times and not bridge in the meter entrance chute.

Hopper Assembly

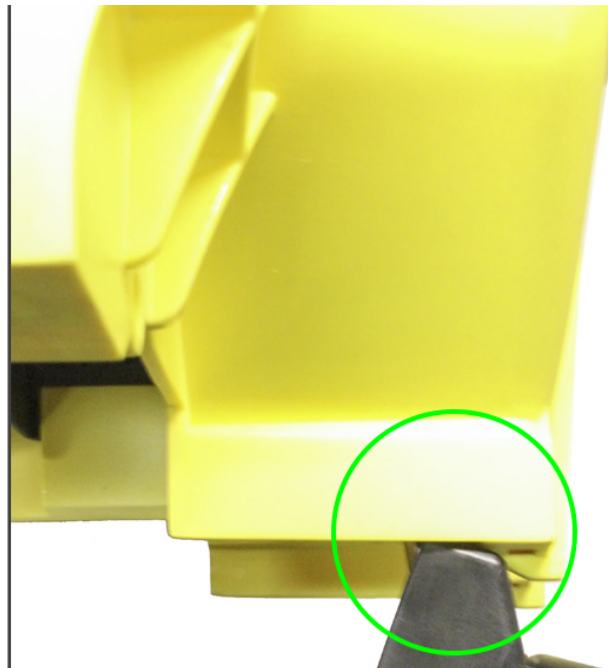
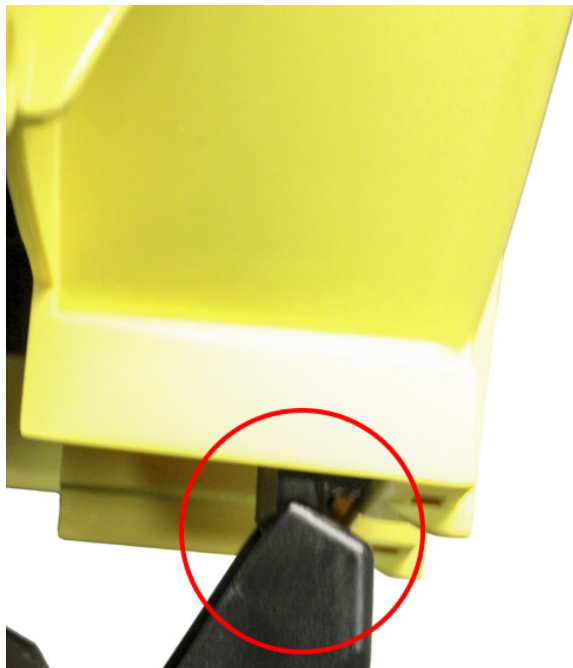
Step 1:

After the meter crop kits have been properly installed, you must attach the meter to the mini hopper.

Align the hooks on the vSet 2 by using a an angle to attach the meter hook interface on the hopper. This will ensure proper attachment. If these hooks do not latch, the meter will not attach to the mini hopper.

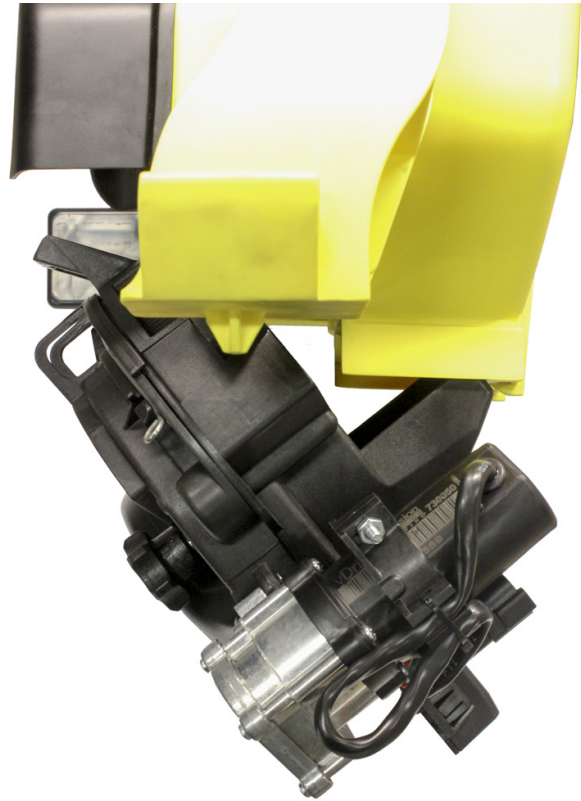


The images below illustrate the incorrect (red circle) and correct (green circle) latching of the vSet 2 meter onto the mini hopper.



Step 2:

Rotate the meter towards the hopper latch of the mini hopper.

**Step 3:**

Latch the meter onto the mini hopper. Apply enough force to bend the latch and the top clip clicks into the secured position. Notice the final position.

To remove the meter, use the vSet 2 meter housing's bracket as leverage to pull the meter while bending the hopper latch in a fluid motion.



Step 4:

To release the meter depress the latch and pull the meter away from the hopper and rotate until the seed entrance hooks are free to slide out of the hopper latches.



Maintenance

Annual Maintenance

1. Check for Singulator wear.
 - Replace when excessive wear occurs. An increase in doubles can indicate excessive wear on this part.
 - A singulator check using the eSet Gauging tool can be used.
2. Check vacuum seal for cracks/wear.
3. Check disk to see if graphite is worn away. (Reapply graphite if gone)
 - Replace disk if holes on disk become excessively deformed or significant scoring occurs on vacuum side of the disk.
4. Check ejector wheel for wear.
 - Replace assembly if excessive wear occurs on arm inside of the ejector wheel.
 - Inspect each pin of the wheel to verify they are intact.
 - Check plastic tension and replace is loose in the mounting location on the meter.
5. Check brushes for excessive wear.
 - Replace when gaps/wear on brush becomes significant enough for seed to pass through.
6. Test meters on MeterMax Ultra Test Stand to ensure maximum performance.
7. Overwinter your meters.
 - Remove crop kit components from the meter housing.
 - Store in a flat and dry environment.
8. vSet2 Vacuum Seal Replacement.
 - Remove current seal by pulling it out from the meter housing.
 - Verify that both the replacement seal and the groove in the meter housing are clean from debris. If needing to be cleaned use warm water and a rag or compressed air.
 - Insert new seal into the housing start on one end. As the seal is set check to make sure the retaining tabs on the opposite surface of the meter are showing. Ensure that the seal is seated firmly and there are no waves and bumps.
 - All retention tabs must be used and the seal must seat into the channeling. The alignment of the retention tabs will help guarantee a proper seal.



Troubleshooting

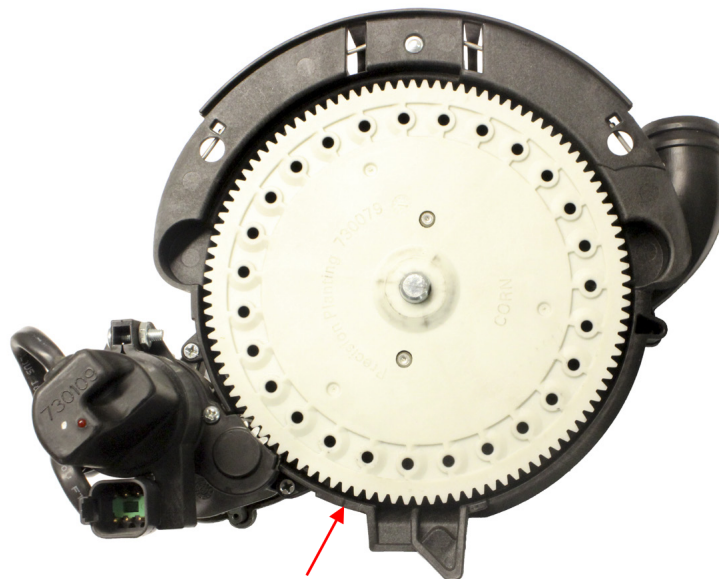
General Troubleshooting Tip:

A good way to troubleshoot issues with specific rows is by process of elimination. Try switching out components from “bad” rows with components from “good” rows until you narrow down the root cause.

Symptom: Meter stops seeding

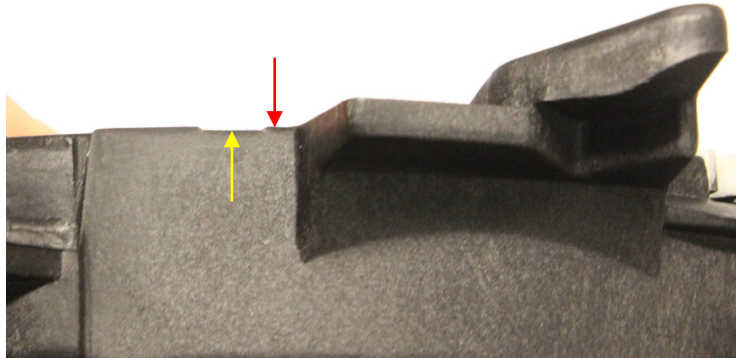
Solution:

- If one meter stops seeding while the others continue to plant and it is not due to a swath event, then it is most likely because that row either ran out of seed, the swath control clutch failed, or the vacuum has been disconnected.
- *If none of these explains the problem check the drive system. One component that should be examined is the shear pin, which connects the drive adapter to the drive shaft. This is simply a 3/32” x 5/8” roll pin designed to shear under higher than allowable torque. Replace the pin by driving in the new one which will simultaneously drive out the old one. Also, look inside the meter to investigate the cause of shearing. The likelihood of something being jammed in the meter is high since the role pin is designed to shear in that situation. (*Mechanical drive only.)
- Seed bridging is another possible cause of the meter failing to plant. If you detect bridging, consider opening up the baffle to a higher position.
- If there are no foreign objects in the meter, look for evidence of seeds milling. If that appears to be the case it may be that the disk is not shimmed properly. Disk shims are set at the factory, but it is possible for them to fall out. On the bottom edge of the meter housing is an alignment gauge for the disk. The arrow points to the gauge. The disk shimming process is different than for the vSet Classic meter largely due to the overall design of the meter. Your vSet 2 meters should arrive with a properly shimmed meter disk.

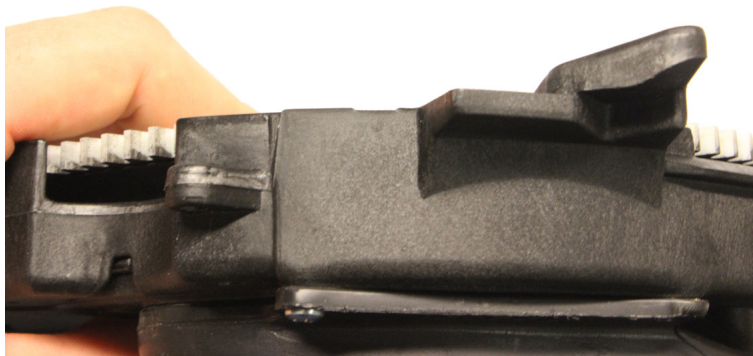


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- The disk should be shimmed between each plane of the housing. View the surface of the disk with respect to the gauge. The disk should land between the lower and upper planes as shown by the arrows below.



- To check hold the disk flat against the center drive plate. The number of shims needed is determined by adding or removing shims for the disk to be within the lower and upper planes. The meter disk need to be checked in at least two positions to determine final shim count. Rotate 180 degrees to verify.



Symptom: Excessive skipping

Solution:

- Make sure the correct singulator, disk, and ejector wheel are installed in the meter. Do not interchange components as performance will be degraded.
- If the meter is skipping consistently, check to make sure there aren't fragments lodged in any of the disk holes.
- When assembling the meter, make sure the singulator is installed properly and the lobes are seated flush against the disk surface.
- Check the exit chute of the meter and the seed tube on the row unit for debris that could be deflecting seeds.
- Check that the disk is shimmed properly as shown above. The disk may struggle to load if the wrong number of shims is used.
- Increase the vacuum until singulation improves. Check for leaks in the vacuum system which could cause certain rows to have less vacuum. In general however, if singulation issues are a result of lack of vacuum pressure, you should see singulation errors across the planter.

Symptom: Excessive Doubling

Solution:

- Make sure the correct singulator, disk, and ejector wheel are installed in the meter. Do not interchange components as performance will be degraded.
- When assembling the meter, make sure the singulator is installed properly and the lobes are seated flush against the disk surface. Make sure the radial spring (which pushes the singulator toward the center of the disk) is installed and acting on the singulator.
- Check the exit chute of the meter and the seed tube on the row unit for debris that could be deflecting seeds.
- Check the singulator for excessive wear.
- Decrease the vacuum. 20" of vacuum is generally appropriate for all seed types, but decrease if necessary. Continue decreasing vacuum until meter singulation improves. If doubles are caused by excessive vacuum pressure, you should see singulation errors across the planter.

Symptom: Poor spacing

Solution:

- Check the exit chute of the meter and the seed tube on the row unit for debris that could be deflecting seeds.
- Check the drive system. Make sure chains are in good condition and well lubricated.
- Try spinning the meter manually. Look, feel, and listen for unusual sights or sounds as it spins. If it turns hard, remove the disk and look for debris that may be jammed in the meter and ensure that it is appropriately shimmed as shown previously.
- If running vDrive, check for seed fragments between disk teeth. Clean, add shims, or continue to vDrive diagnostics.
- Look for evidence of where the seed is making contact with the seed tube and exit chute. Make sure the hopper is position such that the meter drops seeds down the middle of the seed tube.
- Look to verify that the meter is properly aligned.
- Verify that your air vents are allowing free air flow into the meter. The vent is built into the hopper housing.
- Slow down to see if poor spacing is caused by row unit ride.
- Ensure that eFlow is being used and that it is stirred into the seed pool.

Symptom: Wrong population

Solution:

- If you're using hydraulic motors, vDrive, or SpeedTube, double check the motor calibration and configuration. Make sure the "seeds per meter revolution" is correct.