



SEEDER MAINTENANCE

GUIDE

Make sure your seeder is tuned for maximum performance.

Air seeders and drills are incredible machines. From the 10 ft. box drill to the 60 ft. air drill, the work they do is critical to the success of your crop. First, the seed is metered out from the bulk hoppers and then blown through primary and secondary lines to the furrow. This furrow is opened by the drill row unit, allowing seed and fertilizer to be placed, then closed back up by the row unit to give the seed its best chance at germination. This is an impressive feat considering it can do this for over 1 million seeds per acre.

Just like a high-performance car needs to be tuned before every race for maximum performance and to give that driver an edge, your seeder or drill needs to be tuned before every planting season to give you that edge to where you're setting up each field for the maximum possible yield and the best profitability that you've ever had.

We want to give each seed that you place in the ground the best opportunity to win, so we've created a video series as well as this guide to highlight 8 areas where issues can arise that lead to poor seeding.

For more in-depth discussions and demonstrations

Seeder Maintenance Checklist

- General Overview
- Seed Boot
- Opening Disk
- Main Opener Pivot
- Downforce
- Depth Adjustment Components
- Firming & Closing Wheel
- Closing Assembly

1

General Overview



Before going to the field each season, it's important to conduct a general inspection of your seeder.

Frame, Tires & Weights - Check for any breaks at the weld points, and confirm that the frame is in good working order. Ensure that all tires are set at the right pressure and in field-ready condition. If you have any external weights mounted on your frame, make sure they are mounted securely and that there is enough weight for the conditions you are running in.

Seed Delivery - Check the primary and secondary hoses for splits or crimps where they get folded

when the seeder wings fold up. Look for dry rot, especially if the seeder has set out in the sun, as this often leads to dry rot in the hose. If you are running fertilizer through your hoses, look at the tightest radius, especially if you're running potash or ammonium sulfate, which are really abrasive and can erode the corners of the hoses, causing seed or fertilizer loss out of the hoses. Finally, check the length of your hoses. If they aren't long enough, when you push the openers down to maximum depth, sometimes they can fall out.

Airflow - Remove the secondary hose out of the seed tube on both ends of the seeder, as these carry the seed the furthest, requiring the most air. If you turn that tube and point it straight up with the fan blowing at your ideal RPM, you can turn the crank or power the switch to engage the seed flow and blow seed through the system. You should be able to blow seed approximately 24 in high out of both end rows of the drill with the seed tube pointing up. If seed goes much higher than 24 in, bring your fan speed down to prevent accelerated wear on the hoses. If you get less than 24 in, it likely indicates you have blockage issues.

2

Seed Boot



If you've ever noticed any wear on the bottom of the seed boot, you run the risk of seed not being placed in the bottom of the furrow, especially on air seeders. With positive air coming down the tube you run the risk of seed blowing out of the trench with a worn boot.

Unnecessary play is a common wear issue with seed boots. When you grab the rear of the seed boot, it shouldn't pivot up and down. A lot of older drills that have been through a lot of acres incur a huge amount of wear, leading to upwards of an inch in travel, and that's not good for seed placement.

It is also important to check the condition of the seed tab, to make sure that you haven't broken any off.

3

Opening Disk



Furrow creation starts with the opening disk. There are a few different areas to check when examining the opening disk.

Shield & Bearing - If dirt and debris enter the bearing, you run the risk of the disk and the bearing seizing up. Ensure that the bearings are clean and clear of any built-up debris.

Sharpness - The edge of the opening disk is meant to create the seed slot as well as cut residue. If the sharp edge on the disk becomes dull, you will hair-pin residue in the furrow. When residue enters the furrow, moisture will be pulled away from the seed, creating poor seed to soil contact and the opportunity for disease.

Diameter - New disk openers are typically 18 inches. It is recommended to replace the disk openers when they get down to 17 inches. Once they are less than 17 inches, the tapered machined edge disappears, and that cutting edge becomes blunt and rounded, and if you are no-tilling through heavy tough residue or tough soils or a combination of both, the openers don't cut well. It's important to have a good disk blade for proper furrow integrity.

4

Main Opener Pivot



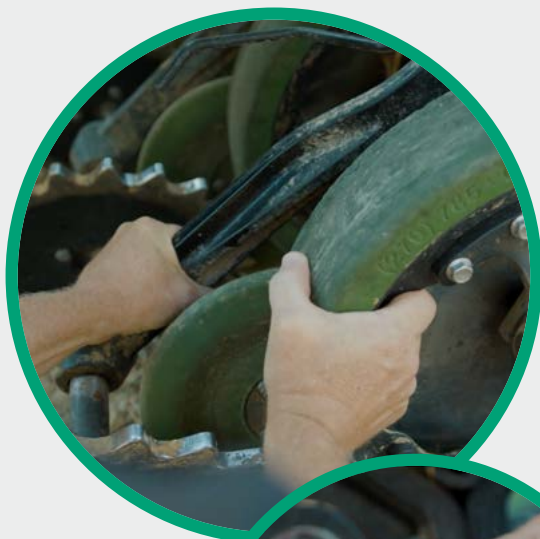
as a result of the additional torque when you plant around a curve.

Be sure to also check for wear and necessary replacement of the inner pins on the main opener pivot assembly as well.

The main opener pivot is where the row unit is connected to the rock shaft. If you find a loose pivot, that's going to affect the side-to-side movement of the entire row unit, throwing off the opening disk angle, which is critical to have at 7 degrees. As the pivot begins to wear, the opening disk angle can narrow, and that will narrow the seed slot. This can also affect your ability to close the furrow.

Test the back of the opening disk to ensure that there's no more than a quarter-inch side-to-side movement. If there is excessive movement, this could indicate too much wear on the pivot pin or bushing.

Pay special attention to the outside units of your drill or air seeder, as those are generally the row units with the quickest and most extensive wear,



5

Downforce



An often overlooked aspect of seeders and drills is the actual weight. When you have a big piece of equipment that carries a lot of weight, you have to manage the upwards and downwards forces as you are going throughout the field. You have the upward forces of the opening disk trying to get to depth and you want enough weight so that you are carrying weight on the gauge wheels at all times to maintain consistent seed depth.

In most field conditions, especially when you are seeding into heavy residue in a no-till environment, you need at least 12 - 100 pound weights placed in the center (based on a 15-row example setup in the video). There might be conditions where you need more weight, but you should consider weight or ballast because there are a lot of environments in which you will need additional ballast above

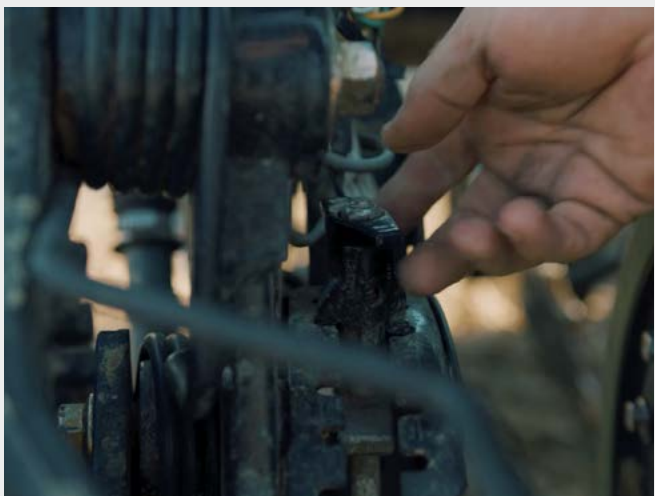
what the drill weighs, especially when it doesn't have a lot of seed in it.

With a box drill, when the hopper is almost full, you have the additional weight of seed. But when the hopper is closer to empty, that's when you need additional weight to transfer it to the openers, to maintain consistent seeding depth.

Consider SeederForce, Precision Planting's technology which senses the downforce on each individual gauge wheel, and sends hydraulic downforce via the hydraulic cylinder so that you are adjusting downforce on a row by row or section basis according to soil types or wheel tracks from compaction, residue levels, and soil densities.

6

Depth Adjustment Components



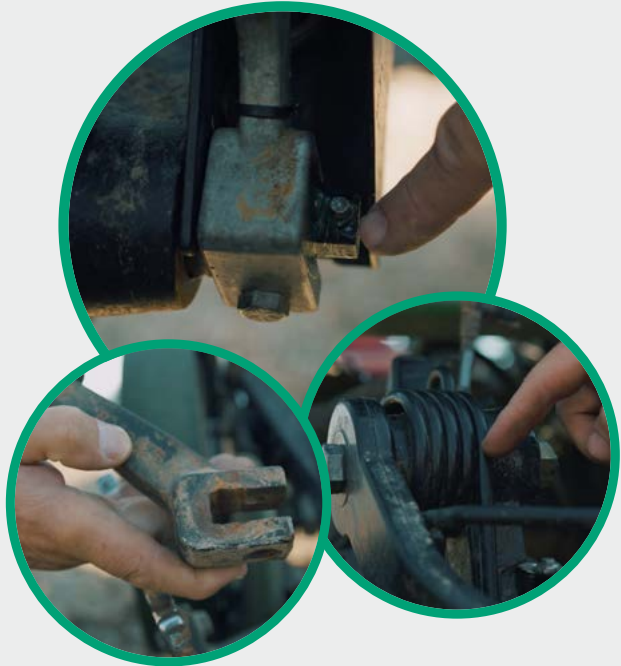
arm would seize and you won't be able to make the proper adjustments.

Jaw -Check for wear on the inside of the jaw. Many times the reason for wear inside this jaw is either inadequate downforce or inadequate ballast or perhaps a combination of the two. When you don't have sufficient downforce on the gauge wheel firmly pressing against the soil surface, the whole mechanism will wear and rattle, causing constant chattering within the gauge wheel linkage assembly.

When checking the depth adjustment components, you will want to start with the depth arm which is where you adjust the in-ground seed depth.

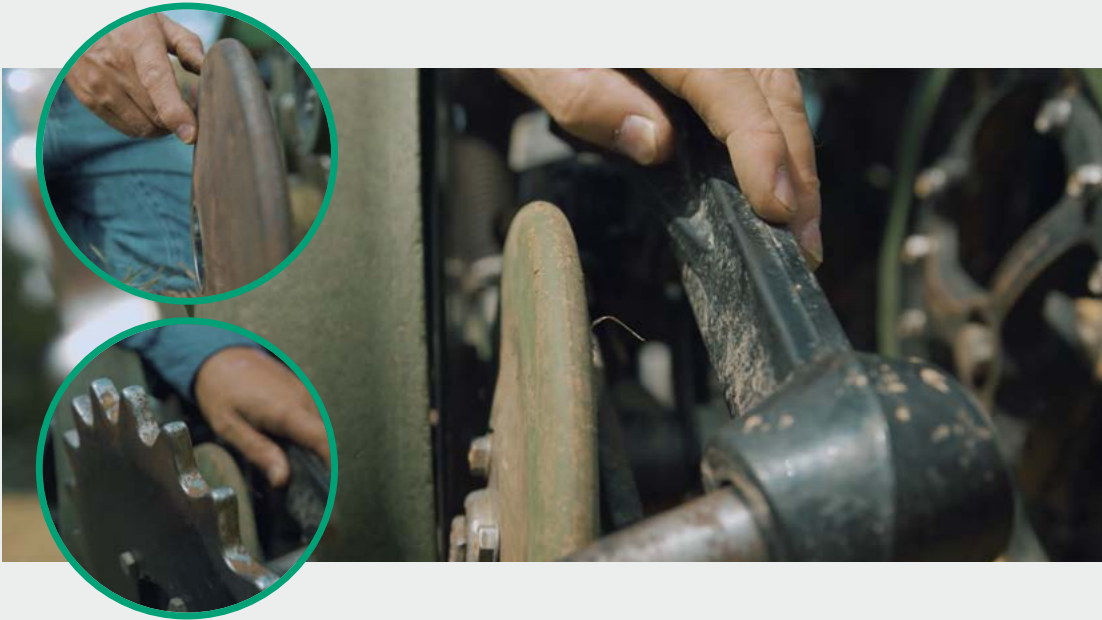
Cover - The indexes can become worn, negatively affecting the accuracy of the depth adjustment.

Spindle - The second thing to check is where the depth arm attaches to the spindle. Wear commonly occurs when those two surfaces meet, which can affect the accuracy of our adjustment. Next, inspect the spindle that runs inside this opening arm. If you get any kind of debris or dust inside that spindle with the grease, you can start to see wear, and eventually, that spindle can seize up inside of the housing. The result of would be the depth



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Firming & Closing Wheel

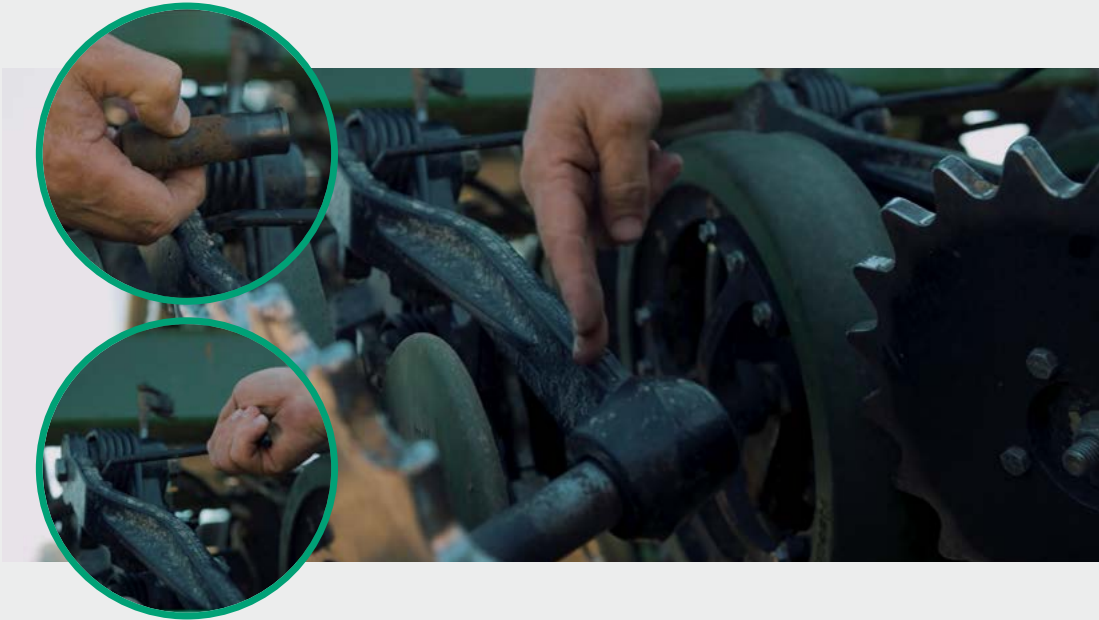


After you've opened the furrow and placed the seed at the bottom with the seed boot, it's time to firm the seed. The firming wheel is used to press the seed to the bottom of the seed slot, ensuring even planting depth, even germination, and even emergence.

There are many options when it comes to closing wheels. On a standard factory wheel, as the wheel becomes rounded, they don't do an effective or consistent job closing the seed slot, as they tend to bounce and smear the slot closed. Any wheel with an interrupted outer profile closes the slot much better in most if not all soil conditions, especially no-till when compared side to side with a smooth cast wheel.

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Closing Assembly



The main area to check on the closing assembly is the closing wheel arm. The upper pivot is a crucial point of wear, which can cause excessive travel at the back of the arm. Movement over a half-inch indicates that the bushings or the pin has extensive wear and needs to be changed.

The next thing to check is the spring. Make sure that there is good tension and that it is not broken or excessively worn at any point. The more wear you have on the pin, the more this translates into wear at the back of the arm. You want a tight arm, not more than a half-inch total side-to-side travel on the arm, otherwise, your closing wheel doesn't run in the correct proximity to the seed slot, and you don't get consistent closing of the seed slot.

Don't let your
seeder hold
you back.



As a Premier Precision Planting Dealer, we are your partner to help you achieve a consistent stand this planting season and steer clear of the regret that comes from avoidable yield loss caused by lack of maintenance.

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