

### Spring Planter Maintenance Checklist

Spring planting is an important time for precision and there's little room for error when it comes to getting your crop off to a good start. Here's a maintenance checklist to consider as you begin preparing to plant:

- 1. Frame:** Inspect frame structure for signs of metal fatigue, such as cracks, bowing or separated welds. This type of wear can be hazardous to the operator and expensive to repair if left too long.
- 2. Hydraulic System:** Inspect cylinders, hoses, and hydraulic lines for leaks.
- 3. Drive Line:** Inspect drive shafts and couplers for twisting or abnormal wear. Replace worn out bearings, sprockets and chains. Chains that are rusty can be freed up by soaking them in diesel fuel or chain lube. All of the chains should be well-lubricated with a lightweight oil or chain lube.

**4. Row Units:** Inspect down pressure spring, parallel linkage and bushings. All broken, twisted or worn parts on the shank of the row unit should be replaced. Some planters have a firming point, shoe, or inside scraper. These need to be replaced on a regular basis, this will depend on your soil type. The inside scraper also functions as a guard for the seed tube, if it is worn too much, your disc openers will wear on the seed tube. Worn seed tubes can cause erratic seed placement in the seed trench. If your seed tubes need replacement, you can now purchase seed tubes with tungsten inserts that can come in contact with the disc opener. These inserts can protect against wear.



**5. Disc Openers:** Any chipped, cracked, or abnormally worn disc blades should be replaced. Measure the blades across the center to determine wear. Most new disc opener blades measure 15 inches. Replace disc blades that show more than ½ inch of wear. The disc opener blades should make contact with one another from 8:00 to 6:00 with about 4 inches of circumference. Heavy duty opener blades will not have as much contact (only about 3 inches), always replace disc openers in pairs. Mismatching new and used opener blades can seriously affect the row unit's ability to penetrate hard ground. Using mismatched blades will also create an abnormally-shaped seed trench, which will negatively affect seed placement.

**6. Scrapers:** If your planter uses flat scrapers, replace the scrapers after ½ inch of wear or if the scrapers no longer firmly contact the disc opener along the entire width of the scraper. If your planter uses rotary scrapers, be sure that the scraper is not worn to the point that the mounting for the scraper contacts the opener blade.

**7. Gauge Wheels:** The row unit gauge wheel should make contact with the disc opener blade and act as a second scraper when the row unit is in the ground. If the gauge wheel is not making proper contact, adjust the shims in the gauge wheel arm. You may have to replace the gauge wheel arm or replace the bushings. Gauge wheel tires also wear out and lose their shape and scraping edge that contacts the disc opener. Replace the tire if necessary.

**8. Closing System:** All planters have some sort of closing system, whether that system is a pair of V wheels, a single press wheel or a combination of closing discs and wheels. Inspecting closing wheels is a lot like inspecting gauge wheels. You want to make sure your bearings are good and that pivot points and axles are not overly worn. The rubber tire on the closing wheel should not be overly worn or want to slip on the rim. Check your down pressure springs for broken or cracked springs and make sure the adjustment to the down pressure spring works freely. Closing discs should be inspected, too. They have very small bearings and blades that can wear out easily.

## **9. Metering Systems:**

**Mechanical finger meters:** Examine wheel for broken fingers or overly stretched springs. Examine carrier plate, if a wear groove has developed along the top of the carrier plate make sure that it has not worn through the dimple in the plate. This hill and valley is important for preventing doubles. If it is worn more than halfway through, it should be replaced. Replace the brush at the top of the carrier plate every 100-150 unit acres. This is a cheap fix to doubles and overplanting in older meters. Check the seed belt for cracks, if the seed belt is becoming hard or brittle, replace it. Hard or brittle belts can make the meter drag and cause doubles. Examine the belt sprocket every other year, if the teeth are becoming hook-shaped, replace them. Hooked teeth can make the seed belt jump and can increase wear on the

seed belt and meter drive parts. When reassembling a finger meter, never overtighten the drive parts. In most cases, finger tight is sufficient. Overtightening will increase wear. The best way to make sure your meters are working properly is to have them tested. Meters should be tested every year. Have your meters tested by a trained professional and make sure his test counts 1,000 seed drops per test. Any test recording less than 1,000 seeds is not accurate enough to properly adjust your meter. If at all possible, provide your dealer with a sample of your seed or at least advise them on what seed size you use and what seed treatments you use. This will ensure that your meters are adjusted to fit your needs.

**Brush Meters:** Check the individual cells on the seed plates to make sure that they are not becoming malformed. Inspect the brushes in the meter and replace the bottom brush if it is missing over 10% of the bristles. A telltale sign of a bad lower brush is severe overplanting. The upper brush is much more sensitive. If the bristles are missing, bent over, or worn off, replace the brush. Brush meters will have a wear band along the inside of the meter housing. This is to prevent seed from wearing into the casting. Replace the wear band when it gets thin.

**Vacuum and air pressure type metering system:** Planters that use air to meter seed require a different level of maintenance than mechanical meters. Inspect all of the air delivery lines for potential and current leaks. Inspect the seed plates for cracks and examine all the dust seals on seed-plated and hose joints. Make sure these items seal properly to prevent dust from getting in the system. Fine dust can quickly damage even new air pumps. Many brands of vacuum meters have “knock off” brushes, little brushes the seed moves against to knock off doubles and seat the seed firmly against the seed plate. These need to be adjusted and replaced. The meters that John Deere uses have a lot of retrofit kits and replacement seed plates and other parts are available from specialty companies. These products have some merit and most back up their claims with sound research.

**Seed Lubricants:** Every planter manufacturer has a seed lubricant that they recommend using in their meter, whether it is mechanical, brush, vacuum or pressure metering. Use the type of lubricant suggested for your brand of planter.



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