THE LEADING EDGE

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A PUBLICATION DEDICATED TO MAXIMIZING YIELD POTENTIAL

Is Your Planter Ready for Spring?

Beat the spring rush—tackle planter maintenance and inspection now

Every year, the behind-the-scenes preparation that goes into planting is critical. Don't let the familiarity of the pre-plant process breed complacency; instead, take advantage of the downtime in the cold winter months to evaluate your process. An important part of this process is the proper maintenance and inspection of the planter.

Planters are called upon to manage residue, create openings for seeds at a consistent depth, facilitate solid seed-to-soil contact, and close the seed trench fully. Paying proper attention to your planter before it's time to put seeds in the ground is just as critical as hybrid selection and planting date. Skimping on planter maintenance or cutting corners prevents the planter and its attachments from performing as intended and hurts yields and profitability.

Step 1: Safety and Maintenance

Because every planter is different, an essential place to start is reading the operator's manual to learn the recommended maintenance and safety procedures for the implement. Then, tackle these maintenance items before the spring rush hits.

A properly maintained planter will help ensure you cruise through spring planting and cover more acres per day.

Safety Tip: Never clean, lubricate, or adjust a machine that is in motion. Always install lockup mechanisms before servicing any equipment.

- Make repairs on an as-needed basis. You cannot afford to operate a planter that is not properly maintained.
- Adhere to the manufacturer's recommendations for tire pressure. Proper inflation keeps the toolbar level to the soil surface and ensures the "drive tires" are turning at the same speed. An under-inflated drive tire will do all the driving and increase the seeding population rate due to a smaller circumference.
- Check planter toolbar operating height. The height is crucial to the travel of the row unit.
- Inspect the entire toolbar. Check that all chains, tensioners, and idler pulleys are in good working condition. Also check that all of the hydraulic hoses are not leaking, and replace any that cannot be fixed.
- Check and clean out all pumps and hoses. Flush out all hoses and liquid pumps to clean out any old, leftover fertilizer. Also, look over all

hoses to make sure that they're all ductile, and be sure to replace any that have dried out.

- Repair or replace rusty planter chains or chain links. Lubricate all chains that are not replaced.
- Adjust finger tension to the manufacturer's recommended value.

Step 2: Row-Unit Inspection

To prevent down-time during the busy spring season, check all parts and replace any that are worn or damaged.

- Rubber seals. All worn seals should be replaced.
- Parallel linkage arms. Worn parts can cause the row unit to operate in an unbalanced manner, affecting seed placement, closing-wheel spring pressure, and row-unit spring pressure.
    - Inspect bushings and bolts and look for elongated holes in the parallel arms.
    - Look for bent, broken, and twisted parallel arms and replace parts as necessary.
- Double disk openers. Worn, cracked, or warped blades will affect seed placement, depth, and spacing.
    - You'll need a business card and chalk. Slide the card, top-down, along the front of the disks until the card stops. Chalk that spot. Then, move the card to the rear side. Slide it forward until it stops and mark again. The distance between the two marks should be between 1 and 1 ½ inches. Any less than that and it's time to reshape or replace the disks. (In general, disks must be more than 14½ inches in diameter for this test to be helpful.)
- Wheels. Worn or improperly adjusted wheels will allow soil to fall into the seed furrow ahead of the seed, causing uneven seed depth.
    - Inspect the tire for wear or cracks. If the lip of the tire is worn away, the tire cannot be properly adjusted and should be replaced.
    - Inspect the bearings. The wheel must maintain continuous contact with the disc blade. If the bearings are loose, they should be replaced.
    - Inspect the depth control arms. The arms must be able to pivot

and should be adjusted so that the wheel makes continuous contact with the disc blade. Remove and clean the gauge wheel arm pivot as necessary.

- Closing wheel alignment. It is important that the seed is covered with soil that is free of air pockets and compaction.
  - Set your planter on concrete and pull ahead about five feet. There should be a mark left behind the planter by the double disk openers. Does it run right down the centerline between the closing wheels? A closing wheel running too close to the mark means you should adjust the closing wheels to re-center these pieces.

Replacement of disc openers is recommended every one to four years. Even when a disk doesn't look bad, it can be much weaker than a new disk.

-Alex Johnson, "Spring Planter Checkup."

- Seed tubes. Worn or broken seed tubes can affect seed depth and spacing.
  - Check the seed tubes for split ends, holes, or cracks.
  - Inspect the seed tube guard for wear. A worn-out guard is the leading cause of seed tube wear.
  - Make sure that the seed tubes are hooked on the row unit to prevent floating tubes and uneven seed depth.
- Seed boxes. A misaligned seed box will cause the meter to drop seed into the seed tube.
  - Check the seed box for holes or cracks.
  - Inspect the seed box for cleanliness. Make sure it is free of foreign objects (e.g., plant residue, paper, string, and buildup of seed treatments), which can obstruct seed flow to the meter.
  - Seed boxes need to be evenly filled for even weight distribution across the planter.

- Seed meter. Make sure meters are free of seed this winter.
  - Inspect all parts for signs of excessive wear like rust and replace if necessary.
  - Calibrate your meter—it can add several bushels per acre to yields.

- Seed conveyor belt.
  - Check the belt and belt drive sprocket teeth for wear and brittleness.
- Back plates.
  - Look for rust buildup or treatment residue.
  - Inspect for worn spots, which will resemble dimples, that can cause double seed drops.

Hitting the field with well-maintained row units will pay off with less planting downtime and higher yields after harvest.

Step 3: In-Field Testing

Consider investing in a device that assists with

You've kept up on your planter maintenance over the winter and a thorough inspection has shown that everything is in good working order. However, when spring finally rolls around, the only way to make sure that a planter is functioning correctly is to test it in the field.

Before hitting the field for a

planter and row-unit leveling, such as the Checker from Yetter Farm Equipment.

test run, take the time to level your planter. This step should be taken every time you move from field to field or within the same field if soil conditions change.

A planter that is not level can lead to a multitude of problems. To learn more about leveling your planter, read Yetter Farm Equipment's Conversation Planting Guide.

Once your planter is level, wait for a day in early spring when there is a dry spot somewhere in the field, but the rest is still not ready for planting. At 100-foot intervals, plant 25-foot strips, on flat land, at your typical planting speed.*i* Traditionally, planting speeds of four to six miles per hour are recommended to ensure uniform seed delivery.

Take at least three samples from your test pass, measuring to test the depth and spacing of each seed while looking for doubles or misses. If you have trouble finding the seed afterwards, try using a ratchet strap to lift the closing wheels. If you notice a consistent problem, recheck the planter.

If you encounter problems during your in-field test, Yetter Farm Equipment offers an in-the-field checklist that may help identify and resolve the issue.

The in-field tests are also a good time to check wheel down-pressure and seed trench closing. Try test planting a run with no seed, then stop to make sure gauge wheels are in firm contact with the soil. Adjust down pressure springs if needed or increase air to air bags. Extra weight may need to be added to achieve proper down pressure in no-till conditions. Also, make sure that the toolbar, units, and parallel arms are all level.

No Substitute for the Right Start

Producers only have one chance to get the crop in the ground the right way.

Don't cut corners—planter maintenance and inspection during the winter keeps the planter and its attachments performing as intended and protects against yield-robbing poor emergence.

i Alex Tiller, "11 Point Checklist for Planter Maintenance," March 20, 2009, accessed on December 28, 2011.

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