TROUBLESHOOTING & PRECISION ADJUSTMENTS ON JOHN DEERE, KINZE, & WHITE PLANTERS

Before working on your planter or drill

DANGER: when storing or working on the planter always install cylinder stops or place the planter on stands to prevent personal injury or damage to the Rebounder. **WARNING:** do not roll back or back up the planter in or on the ground as this can result in damage to the Rebounder.

Troubleshooting & Adjustment Guide

The following will describe the recommended procedures to follow for setting and adjusting your equipment to ensure that it runs like a precision machine.

Precision - Precision - Precision is the challenge! Why is it so important?

At just 5 miles per hour, a planter on 30" rows, planting 30,000 seeds per acre, must meter a kernel of seed corn approximately every 1/13 of a second - from every meter on the planter. That's like bullets coming out of a machine gun. Worn or improper adjusted seed meters can have a devastating effect on seed spacing and seed placement in the seed V. This ultimately affects your bottom line later in the season. In order to avoid this, it is essential that you have your seed meters checked by a reputable dealer or Ag consultant. This will need to be done every year and be sure you replace or repair when necessary.

Precision planter settings are very important and can not be underestimated. This is probably the most important piece of equipment on your farm. Planter, drills, and air seeders have to cut and handle residue, penetrate the soil to the desired seeding depth, establish proper seed to soil contact, and close the seed V properly. These 4 areas of a planter or drill are important to evaluate, to adjust, and change so you can always have a successful planting season.

JOHN DEERE, KINZE, & WHITE PLANTERS CHECKLIST FOR TROUBLESHOOTING AND PRECISION ADJUSTMENTS

Planter Checklist

The following will describe areas of the planter that can be problematic and offer helpful suggestions.

NOTE: Be sure to check your owner's manual or contact your local dealer for exact adjustments.

John Deere, Kinze, & White Series Planter Checklist

Finger Pickup Units

- Check for wear on the carrier plate cam, and replace brush on carrier plate yearly
- Check ashtray for clearance between straightedge and the fingers. If there is no clearance between the ashtray and carrier plate, replace finger assembly.
- Check springs on the finger assembly for fatigue. After snapping all fingers out of the ashtray assembly, keeping the springs attached to the fingers, hold finger and springs up to the light and check for light showing through the spring coils in the relaxed position. Check spring hook to see if extensive wear will let hook straighten.
- Check cam for metal burrs and graphite buildup.
- Check fork of fingers that run on the cam. This can wear to a point. Forks will bend together with time and finger replacement will be required.
- Check seed belts for cracks and breaks.
- Check plastic seed belt wheel for wear. Replace wheel if studs are 1/4 worn into.
- Calibrate all row meters on a meter check stand. This will give an electronic readout of meter accuracy and seed spacing. This will show any worn meter parts as well as set vacuum to seed size and proper disc size.

Reassembly of finger unit:

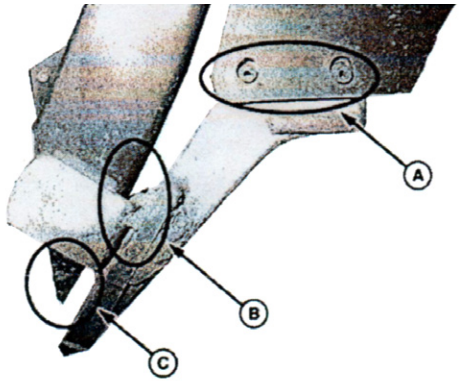
- Adjust clearance between carrier plate and ashtray assembly to .006".
- Inspect corn baffle for wear and replace if needed.
- Clean conveyor-housing area, clean with emery cloth and treat with spray-on slip plate graphite.

Vacuum Seed Meter

- Check seal, wear ring, and brush for wear and replace if needed.
- Wash seed plates with a mild soap and then apply a light coat of spray-on slip plate graphite to backside.
- Do not scrape plate with sharp object as this can damage the plate.

Seed Tubes

To prevent seed tube damage on Max Emerge 2 and Max Emerge Plus Row Units, inspect the following and repair as necessary:



- Worn shank roll pin holes or worn roll pins (A) will cause the guard to contact the seed tube.
- Guard contact to seed tube (B) can cause damage to seed tube. Replace roll pins and guard as needed.
- Worn seed tube guards can cause seed tube wear at seed tube exit (C). Replace roll pins and guard as needed.

Depth Gauge Wheels

- If rubber wheels show wear, replace.
- Shim so rubber just touches disc. Wheel should turn approximately 1-2 revolutions before stopping when you spin them in the run position.
- If gauge wheel shaft has excessive wear, replace with gauge wheel arm kit.
- Check inside rubber width on gauge wheels by removing (older JD tires) and converting to new style IH type, cupped gauge wheel to reduce compaction along true V.

Two Point Hitch Planters

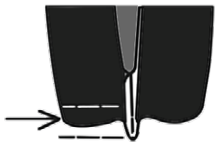
- Always let the 3 point hitch down first before letting the planter cylinders down on the planter. The reason for this is because it prevents the planter from backing up with the hitch down first. Also saves one from plugging dirt between Tru-Vee openers or cutting into the Rebounders or breaking seed firmers.
- If using trash whipers, set to remove trash and minimize soil movement.
- Level tool bar with gauge wheel setting as well as 3rd arm with 3 point mount planters. This is the most important step to proper planting. On older planters, make sure these are free before leaving the shop. Set bar height to book recommendation.

Parallel Arms

- Check bolt and bushings that attach it to the planter frame for wear.
- Set parallel row links so that they run horizontal with the soil, this gives equal play up and down for row movement. They should look like an = sign when gauge wheels are properly set.

Tru-Vee Disc Openers

- With seed box off, check disc clearance to frame on each side. From the rear, check row unit for trueness. If row unit is sprung, replace before making any adjustments to the Tru-Vee discs.



- New disc diameter is 15". Replace discs when they are worn to less than 14.5".
- Disc should touch at 4 o'clock position for 1.5"-2.5".
- Check disc bearings.
- Check seed tubes for wear and cobwebs.
- Check disc scrapers.
- Make sure Tru-Vee discs are cutting trash and no hair pinning is occurring. If this is not happening, either the planter is not set level, Tru-Vee discs are worn, or trash is too wet.
- Check seed tube protector for wear and replace if needed.

Closing Wheels

- Check and replace needed bearings.
- Follow up on emergence, watch for crusting, especially in conventional till and strip till fields. Too much pressure on press wheels can cause too much compaction over the seed V. To fix this problem we recommend adding Furrow V Closers as they will let you run less pressure on the press wheels.

Transmission

- Check idlers, bearings and chains for wear.
- Check cotter pins for wear on the shaft that comes into the transmission.

Planter Attachments

- Set attachments as described in the instructions. If installed correctly, they will work well to increase seed to soil contact as well as apply in-furrow pop up fertilizers. Do not over apply in-furrow fertilizers as salt injury will cause stand loss.

Odds and Ends

- Number seed boxes to the row.
- Check drive wheel bearings.
- Check drive shaft bearings.
- Check tire air pressure (40PSI).
- Check insecticide boxes and wheels for wear.
- Grease all grease points, continue to grease every 20-25 acres.
- Oil chains 1-2 times/day. TIP - convert JD row unit chains to cable drive for longer life, better meter accuracy and no need to oil.
- With ground wheel chain driven planter you should be able to turn all row units. Without meters on - turn with one hand. This shows all bearings are good and chains are good and oiled.

This information was gathered and re-written from various troubleshooting guides, crop consultants, and University studies

TIPS & TROUBLESHOOTING

2 Point, 3 Point, & Pull Type Planters

NOTE: *Photo shows White planter.* ***These suggestions apply to all makes of 2 point, 3 point, and pull type planters.***

PHOTO 1
3 point set so bar is level; Pull type planters set bar level
Full down pressure on press wheels
Planter is running nose down
Press wheels are not closing the seed furrow

PHOTO 2
3rd link adjusted back 2 rounds from level bar; Adjust hitch up on pull type planters
Full down pressure on press wheels
Planter units running more level; bar down a little in back
Press wheels closing the furrow better

PHOTO 3
3rd link adjusted back 4 rounds from level bar
Reduced pressure on press wheels to 2nd notch
Planter units down some in the back
Press wheels closing seed furrow the best

- By nosing planter down in the front, seeds will not be placed properly in the seed V as the seed tube angles out and back too far.
- Worn parallel link bushings on planter units cause planter to run nose down in front, even with the bar set level. An eighth of an inch wear on bushings can equal close to an inch difference on the back of the planter.
- Positioning planter units down in the back makes the seed tubes more straight up and down, while also reducing the amount of pressure needed for the press wheels to close the seed V better.

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