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 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.

CHECK THE FOLLOWING ON YOUR PLANTER OR DRILL:
- ability to cut and handle residue
- ability to penetrate the soil to the desired seeding depth
- ability to establish proper seed to soil contact
- ability to close the seed V properly

EVALUATE, ADJUST, & CHANGE
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

#### 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.
- 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.

#### 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.

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

- 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.

#### Transmission
- 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.

#### 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.

#### Closing Wheels
- 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.

#### Planter Attachments
- 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.

#### Depth Gauge Wheels
- 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. This shows all bearings are good and chains are good and oiled.
### 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.

<table>
<thead>
<tr>
<th>PHOTO 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 point set so bar is level;</td>
</tr>
<tr>
<td>Pull type planters set bar level</td>
</tr>
<tr>
<td>Full down pressure on press wheels</td>
</tr>
<tr>
<td>Planter is running nose down</td>
</tr>
<tr>
<td>Press wheels are not closing the seed furrow</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PHOTO 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd link adjusted back 4 rounds from level bar</td>
</tr>
<tr>
<td>Reduced pressure on press wheels to 2nd notch</td>
</tr>
<tr>
<td>Planter units down some in the back</td>
</tr>
<tr>
<td>Press wheels closing seed furrow the best</td>
</tr>
</tbody>
</table>

- 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.
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.