Read the operator manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

Illustrations may show optional equipment not supplied with standard unit, or may show similar pull-type models and their options.
**Machine Identification**

Record your machine details in the log below. If you replace this manual, be sure to transfer this information to the new manual.

If you or the dealer have added options not originally ordered with the machine, or removed options that were originally ordered, the weights and measurements are no longer accurate for your machine. Update the record by adding the machine weight and measurements with the option(s) weight and measurements.

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**Dealer Contact Information**

| Name: |  |
| Street: |  |
| City/State: |  |
| Telephone: |  |
| Email: |  |
| Dealer’s Customer No.: |  |

⚠️ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov
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Printed in the United States of America
# YP-425, 625, 825, & 1025-A3P

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Important Safety Information

Look for Safety Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Prepare for Emergencies

▲ Be prepared if a fire starts.
▲ Keep a first aid kit and fire extinguisher handy.
▲ Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

Be Familiar with Safety Decals

▲ Read and understand “Safety Decals” on page 6, thoroughly.
▲ Read all instructions noted on the decals.
▲ Keep decals clean. Replace damaged, faded and illegible decals.
Wear Protective Equipment
Great Plains advises use of the following personal safety equipment.

- **Hearing protection, such as earmuffs or earplugs, for making planter adjustments with the hydraulic fan running.** Prolonged exposure to loud noise can cause hearing impairment or loss.

  Avoid wearing entertainment headphones while operating machinery. Operating equipment safely requires the full attention of the operator.

- **Face shield, goggles or full face respirator when handling treated seed, seed lubricants or seed treatment.**

- **Gloves for working near sharp objects, and for handing lubricants or treatments.**

Avoid High Pressure Fluids
Escaping fluid under pressure can penetrate the skin, causing serious injury. This planter requires a Power-Beyond port, which is always under pressure when the tractor is running.

- **Avoid the hazard by relieving pressure at other remotes, and shutting down tractor before connecting, disconnecting or inspecting hydraulic lines.**

- **Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.**

- **Wear protective gloves and safety glasses or goggles when working with hydraulic systems.**

- **If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.**

Keep Riders Off Machinery
Riders obstruct the operator’s view. Riders could be struck by foreign objects or thrown from the machine.

- **Never allow children to operate equipment.**

- **Keep all bystanders away from machine during operation.**

Use Safety Lights and Devices
Slow-moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

- **Use flashing warning lights and turn signals whenever driving on public roads.**

- **Use lights and devices provided with implement.**
Transport Machinery Safely

Maximum transport speed for implement is 20 mph (32 km/h) when driving straight. Do not exceed 13 mph (22 km/h) in turns. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

▲ Do not exceed 20 mph (32 km/h) when driving straight. Do not exceed 13 mph (22 km/h) in turns. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.

▲ Comply with state and local laws.

▲ Do not tow an implement using a tractor with insufficient ballast.

▲ Carry reflectors or flags to mark planter in case of breakdown on the road.

▲ Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under “Specifications and Capacities” on page 100.

▲ Do not fold or unfold the planter while the tractor is moving.
Handle Chemicals Properly

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.

▲ Read and follow chemical supplier instructions.
▲ Wear protective clothing.
▲ Handle all chemicals with care.
▲ Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.
▲ Inhaling smoke from any type of chemical fire is a serious health hazard.
▲ Store or dispose of unused chemicals as specified by the chemical manufacturer.
▲ If chemical is swallowed, carefully follow the chemical manufacturer’s recommendations and consult with a doctor.
▲ If persons are exposed to a chemical in a way that could affect their health, consult a doctor immediately with the chemical label or container in hand. Any delay could cause serious illness or death.
▲ Dispose of empty chemical containers properly. By law rinsing of the used chemical container must be repeated three times. Puncture the container to prevent future use. An alternative is to jet-rinse or pressure rinse the container.
▲ Wash hands and face before eating after working with chemicals. Shower as soon as application is completed for the day.
▲ Apply only with acceptable wind conditions. Wind speed must be below 5 mph (8 km/h). Make sure wind drift of chemicals will not affect any surrounding land, people or animals.
▲ Never wash out a hopper within 100 feet (30 m) of any freshwater source or in a car wash.

Shutdown and Storage

▲ Lower planter, put tractor in park, turn off engine, and remove the key.
▲ Secure planter using blocks and supports provided.
▲ Detach and store planter in an area where children normally do not play.
Tire Safety

Tire changing can be dangerous. Employ trained personnel using correct tools and equipment.

▲ When inflating tires, use a clip-on chuck and extension hose long enough for you to stand to one side—not in front of or over tire assembly. Use a safety cage if available.

▲ When removing and installing wheels, use wheel-handling equipment adequate for weight involved.

Practice Safe Maintenance

▲ Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.

▲ Work in a clean, dry area.

▲ Lower the planter, put tractor in park, turn off engine, and remove key before performing maintenance.

▲ Make sure all moving parts have stopped and all system pressure is relieved.

▲ Allow planter to cool completely.

▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on planter.

▲ Inspect all parts. Make sure parts are in good condition and installed properly.

▲ Remove buildup of grease, oil or debris.

▲ Remove all tools and unused parts from planter before operation.

Safety At All Times

Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

▲ Be familiar with all planter functions.

▲ Operate machinery from the driver’s seat only.

▲ Do not leave planter unattended with tractor engine running.

▲ Do not stand between the tractor and planter during hitching.

▲ Keep hands, feet and clothing away from power-driven parts.

▲ Wear snug-fitting clothing to avoid entanglement with moving parts.

▲ Watch out for wires, trees, etc., when folding and raising planter. Make sure all persons are clear of working area.
Safety Decals

Safety Reflectors and Decals
Your implement comes equipped with all lights, safety reflectors and decals in place. They were designed to help you safely operate your implement.

▲ Read and follow decal directions.
▲ Keep lights in operating condition.
▲ Keep all safety decals clean and legible.
▲ Replace all damaged or missing decals. Order new decals from your Great Plains dealer. Refer to this section for proper decal placement.
▲ When ordering new parts or components, also request corresponding safety decals.

To install new decals:
1. Clean the area on which the decal is to be placed.
2. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.

Slow Moving Vehicle Reflector
818-055C

On the tube supporting meter pressurization manifold; 1 total

On the bracket fastened to rear of hopper mount weldment next to center of machine (rear hopper mount weldment on twin-row planters) 1 total
Red Reflectors

838-266C

On the back end of center seed hoppers, inside of daytime reflectors (rear seed hoppers on twin-row planters):
2 total

On the back of seed hoppers under daytime reflectors (rear seed hoppers on twin-row planters):
4 total

On the back of seed hoppers under daytime reflectors (rear seed hoppers on twin-row planters):
4 total
On backs of the inner marker arms (option), above daytime reflector:
2 total

Daytime Reflectors

838-267C

On the back of end seed hoppers outside of red reflectors (rear seed hoppers on twin-row planters):
2 total

On the back of seed hoppers above red reflectors (rear seed hoppers on twin-row planters):
4 total

(YP3P425A S/N B1016M-) (YP3P625A S/N B1046P-)
(YP3P825A S/N B1312R-) (YP3P1025 S/N C1001U-)

(YP3P625A S/N B1047P - S/N 1050P)
(YP3P825A S/N B1313R - S/N 1382R)
On the back of seed hoppers above red reflectors (rear seed hoppers on twin-row planters):
4 total

On backs of the inner marker arms (option), below red reflector:
2 total

**Amber Reflectors**

**838-265C**

On the front face of the front tool bar, each end, on the outside of the end hopper supports
4 total
Danger: Possible Chemical Hazard
818-323C

On the underside of each hopper lid; 4 to 16 total

Warning: Speed
818-337C

On front of main tool bar to left of hitch; 1 total

Warning: High Pressure Fluid Hazard
818-339C

On right face of 3-point top hitch; 1 total

Warning: Sharp Object (Option)
818-525C

Front face of each row cleaner frame; 4 to 12 total
Warning: Markers (Option)
818-682C

On front face of inner marker arm;  
2 total

Caution: Read Operator’s Manual
818-587C

On right face of 3-point top hitch;  
1 total

Caution: Tire Pressure and Bolt Torque
838-595C

On valve stem side of each wheel;  
2 or 4 total
Introduction

Great Plains welcomes you to its growing family of new product owners. The 4-, 6-, and 8-Row 3-Point Yield-Pro® Air Planter (YP-425, 625, 825, & 1025-A3P) has been designed with care and built by skilled workers using quality materials. Proper setup, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

Description of Unit

The YP4-6-8-1025A3P Planter is a three-point precision planting implement for use in conventional till, minimum-till, or light no-till conditions. The YP4-6-8-1025A3P accepts unit-mounted coulters and/or row cleaners. Coulters make it suitable for light to moderate no-till conditions only. The YP4-6-8-1025A3P includes 25AP Series openers with Air-Pro® meters supporting a wide choice of seed disks.

Intended Usage

Use the YP4-6-8-1025A3P Planter to seed production-agriculture crops only. Do not modify the planter for use with attachments other than Great Plains options and accessories specified for use with the YP4-6-8-1025A3P.

Document Family

- 401-652M Owner’s Manual (this document)
- 401-651B Seed and Fertilizer Rate manual
- 401-652P Parts manual
- 11001-1333 DICKEY-john® PM300 manual

Models Covered

- YP425A3P-0430 4-Row, 30-inch
- YP425A3P-08TR 8-Row (4-Pair), 30-inch Twin-Row
- YP425A3P-0836 8-Row (4-Pair), 36-inch Twin-Row
- YP425A3P-0838 8-Row (4-Pair), 38-inch Twin-Row
- YP425A3P-0840 8-Row (4-Pair), 40-inch Twin-Row
- YP425A3P-0470 4-Row, 70 cm
- YP625A3P-0630 6-Row, 30-inch
- YP625A3P-12TR 12-Row (6-Pair), 30-inch Twin-Row
- YP625A3P-1236 12-Row (6-Pair), 36-inch Twin-Row
- YP625A3P-1238 12-Row (6-Pair), 38-inch Twin-Row
- YP625A3P-1240 12-Row (6-Pair), 40-inch Twin-Row
- YP625A3P-0670 6-Row, 70 cm
- YP825A3P-0830 8-Row, 30-inch
- YP825A3P-16TR 16-Row (8-Pair), 30-inch Twin-Row
- YP825A3P-1636 16-Row (8-Pair), 36-inch Twin-Row
- YP825A3P-1638 16-Row (8-Pair), 38-inch Twin-Row
- YP825A3P-1640 16-Row (8-Pair), 40-inch Twin-Row
- YP825A3P-0870 8-Row, 70 cm
- YP1025A3P-1222 12-Row, 22-inch
- YP1025A3P-1030 10-Row, 30-inch

YP425A, YP625A and YP825A pull-type models have a separate Operator manual (401-651M).
Using This Manual

This manual will familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

The information in this manual is current at printing. Some parts may change to assure top performance.

Definitions

The following terms are used throughout this manual.

NOTICE

A crucial point of information related to the preceding topic. Read and follow the directions to remain safe, avoid serious damage to equipment and ensure desired field results.

Useful information related to the preceding topic.

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated. An orientation rose in some line art illustrations shows the directions of: Up, Back, Left, Down, Front, Right.

Owner Assistance

If you need customer service or repair parts, contact a Great Plains dealer. They have trained personnel, repair parts and equipment specially designed for Great Plains products.

Refer to Figure 1

Your machine’s parts were specially designed and should only be replaced with Great Plains parts. Always use the serial and model number when ordering parts from your Great Plains dealer. The serial-number plate is located on the right end of the rear face of the main tool bar.

Record your YP4-6-8-1025A3P Planter model and serial number here for quick reference:

Model Number: __________________________
Serial Number: _________________________

Figure 1
Serial Number Plate
Further Assistance

Great Plains Manufacturing, Inc. and your Great Plains dealer want you to be satisfied with your new YP4-6-8-1025A3P planter. If for any reason you do not understand any part of this manual or are otherwise dissatisfied, please take the following actions first:

1. Discuss the matter with your dealership service manager. Make sure they are aware of any problems so they can assist you.

2. If you are still unsatisfied, seek out the owner or general manager of the dealership.

If your dealer is unable to resolve the problem or the issue is parts related, please contact:

Great Plains Service Department
1525 E. North St.
P.O. Box 5060
Salina, KS 67402-5060

Or go to www.greatplainsag.com and follow the contact information at the bottom of your screen for our service department.
Preparation and Setup

This section helps you prepare your tractor and YP-425, 625, 825, & 1025-A3P Planter for use, and covers tasks that need to be done seasonally, or when the tractor/planter configuration changes.

Before using the planter in the field, you must hitch it to a suitable tractor, inspect systems and level the planter. Before using the planter for the first time, and periodically thereafter, certain adjustments and calibrations are required.

Initial Setup

See “Appendix B - Pre-Delivery” on page 116 for pre-delivery items (normally completed by dealer), and first-time/infrequent setup tasks, including:

• Install seed monitor console in tractor (page 118).
• Set marker extension (Option, page 119).
• Install any Options not factory- or dealer-installed.

Post-Delivery/Seasonal Setup

On initial delivery, use with a new tractor, and seasonally, check and as necessary, complete these items before continuing to the routine setup items:

• Bleed hydraulic system (page 86).

Pre-Planting Setup

Complete this checklist before routine setup:

☐ Read and understand “Important Safety Information” on page 1.
☐ Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
☐ Check that all grease fittings are in place and lubricated. See “Lubrication” on page 91.
☐ Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. See “Safety Decals” on page 6.
☐ Inflate tires to pressure recommended and tighten wheel bolts as specified. See “Torque Values Chart” on page 108.
Hitching Tractor to Planter

**DANGER**

**Crushing Hazard:**
Do not stand or place any body part between planter and moving tractor. You may be severely injured or killed by being crushed between the tractor and planter. Stop tractor engine and set parking brake before attaching cables and hoses.

1. To prevent soil compaction on rows, set tractor wheels at 60 inches center-to-center. For hillsides and steep slopes, set tractor wheels as wide as possible for maximum stability.
2. Adjust tractor lower links to maximize lifting height.
3. Set tractor sway blocks to minimize side sway. Set tractor hitch lift control to Float.
4. Back tractor up to planter. Align lower links with the lower hitch clevis on planter. Adjust hitch bushings 1 and spacers 2 supplied with planter according to the category of your tractor. Lock pins in place.
5. Attach tractor top link to upper hitch clevis on planter.
   - For Category II tractors, hitch tractor top link to lower hole pair 3 in planter clevis.
   - For Category II quick couplers and Category III tractors, hitch tractor top link to center hole pair in planter clevis.

Electrical Hookup

*Refer to Figure 3*

Your planter is equipped with systems that require separate electrical connections. For future reference, note any optional connectors on this checklist.

- 1 Lighting connector (standard)
- 2 Monitor connector (standard)
- __________________________
- __________________________

Make sure tractor is shut down with accessory power off before making connections.

These connections may be made in any order. The key requirement is that all connections be made prior to planter movement.
Hydraulic Hose Hookup

**WARNING**

*High Pressure Fluid Hazard:*
Shut down tractor before making hydraulic connections. Only trained personnel should work with system hydraulics.

Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

Use paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

**Refer to Figure 4**

Great Plains hydraulic hoses have color coded handle grips to help you hookup hoses to your tractor outlets. Hoses that go to the same remote valve are marked with the same color.

**Current Style Color Coded Hose Handles**

<table>
<thead>
<tr>
<th>Color</th>
<th>Hydraulic Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Marker</td>
</tr>
<tr>
<td>Black</td>
<td>Fan</td>
</tr>
</tbody>
</table>

To distinguish hoses on the same hydraulic circuit, refer to the symbol molded into the handle grip. Hoses with an extended-cylinder symbol feed cylinder base ends. Hoses with a retracted-cylinder symbol feeds cylinder rod ends.

For hydraulic fan and drive motors, connect the hose under the retracted cylinder symbol to the pressure side of the motor. Connect the hose under the extended cylinder symbol to the return side of the motor.

The fan motor further requires hookup of a third line, which returns hydraulic fluid from the fan motor case.

![Color Coded Hose Handles](31733)
Older Style Hoses with Color Ties

Refer to Figure 5 and Figure 6 on page 19

Hydraulic hoses are color coded to help you hookup hoses to your tractor outlets. Hoses that go to the same remote valve are marked with the same color tie.

<table>
<thead>
<tr>
<th>Color</th>
<th>Hydraulic Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>Marker</td>
</tr>
<tr>
<td>White</td>
<td>Fan</td>
</tr>
</tbody>
</table>

To distinguish hoses on the same hydraulic circuit, refer to hose label.

- The fan motor case drain line is a separate hose with no label plate. This hose is always connected first and disconnected last.
- The hose under an extended-cylinder symbol feeds a cylinder base end or motor return line.
- The hose under a retracted-cylinder symbol feeds a cylinder rod end, or motor pressure line.

Secure hoses and cables so that they have sufficient slack for hitch movements, but cannot get caught between moving parts of planter. Failure to safely route and secure hoses and cables could result in damage requiring component repair/replacement, and lost field time.

Make connections in a specific order, described on the next page.

**NOTICE**

**Motor Seal Damage Risk:**
*Case Drain Hose must be attached first, prior to inlet and return hoses being connected.*

*Case Drain Hose must be detached last, to prevent damage to the fan motor.*

**NOTICE**

**Hydraulic Motor Performance Risk:**
*DO NOT hook case drain line to a “power-beyond port”.*
Protect Motor Seals
Applies to planters with serial numbers:
(YP3P425A S/N B1004M-) (YP3P625A S/N B1006P-)
(YP3P825A S/N B1007R-)
1. Connect the fan case drain line ① first, before
making any other connections. Connect this line to a
low pressure drain port.
□ Case drain hose has the smaller 1/4 inch I.D. hose
and small, flat-face, low-seep connector.
2. Connect the fan return ② line second.
□ Fan pressure return hose has a large
(1.06 inch/2.7 cm diameter) quick coupler.
3. Connect the fan motor pressure hose ③ third. If the
tractor has a priority remote, use it for the fan
connection.
4. Make marker (option) connections.

NOTICE
Machine Damage Risk:
DO NOT connect the fan case drain line to a
power-beyond-port. Case Drain Hose must be attached first,
prior to inlet and return hoses being connected. Case Drain
Hose must be detached last, to prevent damage to the fan
motor.

Applies to planters with serial numbers:
(YP3P425A S/N B1005M+) (YP3P625A S/N B1007P+)
(YP3P825A S/N B1008R+) (YP1025A3P S/N+)
For complete instructions see "Fan Circuit Operation
(S/N+)" on page 37.
1. Connect the motor return line ③, to remote circuit
return (Extend port) or to sump.
2. Connect the motor inlet line ④ to a tractor remote
capable of 20 liters per minute. If a priority remote is
available, use it for the fan.
Raise Parking Stands

*Refer to Figure 2*

3. Use tractor hitch circuit to raise planter slightly off parking stands.
4. Remove hairpin and cross-pin ①.
5. Slide stand tube up until lower storage hole ② aligns with bracket hole.
6. Insert cross-pin and secure with hairpin.
7. Repeat for other side of planter.
Leveling Planter

For row units to function correctly, planter must be:

- level from side to side,
- level from front to back, and;
- at correct tool bar height.

Perform this setup on level ground in representative field conditions.

Refer to Figure 9

1. Raise planter so that gauge wheels are just off ground.
2. At each gauge wheel, measure the pre-compressed, no-load length of the yoke spring ▲.

   All axles should be in the same (upper or lower) arm holes. All springs should have this same length. Note this length for step 9.

   See page 52 for factory setting, and adjustments for local conditions.

3. Check tire pressures of gauge wheels. As necessary, inflate to specifications (page 108).

Refer to Figure 10

4. Measure height © from bottom of main tool bar to ground, at each end. If this dimension differs by more than \( \frac{1}{2} \) inch (6.4 mm) at each end, adjust lower links of tractor to level side-to-side.

   Note the current height for step 7, and what lowering would be required to make that 26 inch (66 cm).

5. Check front-to-back level at top of main tool bar. If unlevel, adjust top of tractor three-point to level.

6. Pull forward slowly, and lower the planter to approximately 26 inch (66 cm). Stop the tractor and set the parking brake.

7. Check the tool bar height ©. Adjust the hitch height until it is 26 inch. If available, set a hitch stop control to capture this height.

8. Check that the row units are running level with the ground.

9. Check that the gauge wheels are all in solid ground contact, tires slightly compressed, and that the springs are slightly compressed from the length checked at step 2.

Hitch configuration during planting can vary between tractor models, and due to field conditions. Great Plains recommends starting with the hitch set to Float or Position/Depth Control (and not Load or Draft Control).
Monitor Setup

Refer to Figure 25

The standard DICKEY-john® PM300 system monitors the following elements of a YP4-6-8-1025A3P planter:

- Seeds at each row unit seed tube.
- Ground speed.

See “Seed Monitor Console Installation” on page 118.

Refer to the DICKEY-john® PM300/PM332/PM400 Operator’s Manual for monitor operations.

After installation, and prior to first field use, the monitor must be setup with the row spacing and speed sensor constant, as well as your preferences for information display. Row count is auto-assigned, but any other factory defaults are not likely to be correct for your planter.

Row spacing data may be found in the Appendix.

For speed setup, Great Plains recommends using the 400-foot calibration described in the DICKEY-john® manual, rather than using a theoretical “# of pulses”. Perform the calibration run in representative field conditions, as soil conditions, surface looseness and other tillage practices can cause variations in the effective rolling radius of the ground drive wheel.

Prior to each planting session, set any desired limits for speed and population for the current crop.

Marker Setup (Option)

Prior to first use, check and adjust:

- “Marker Speed Adjustment” on page 119.

Prior to first use, and whenever changing row spacings, set or reset:

- “Marker Extension” on page 119.

Prior to each planting session, check and adjust:

- “Marker Disk Adjustment” on page 49.
Operating Instructions

This section covers general operating procedures. Experience, machine familiarity, and the following information will lead to efficient operation and good working habits. Always operate farm machinery with safety in mind.

Pre-Start Checklist

Perform the following steps before transporting the YP4-6-8-1025A3P planter to the field.

- Carefully read “Important Safety Information” on page 1.
- Install seed disks appropriate for crop. See “Air-Pro® Meter Disk Installation” on page 64.
- Lubricate planter as indicated under “Lubrication” on page 91.
- Check all tires for proper inflation. See “Torque Values Chart” on page 108.
- Check all bolts, pins, and fasteners. Torque as shown in “Torque Values Chart” on page 108.
- Check planter for worn or damaged parts. Repair or replace parts before going to the field.
- Check hydraulic hoses, fittings, and cylinders for leaks. Repair or replace before going to the field.

Raising/Lowering Planter

The planter is raised and lowered using the tractor 3-point hitch.

In field conditions, drive forward while lowering openers into ground. Never back up with openers in ground.

Hitch configuration during planting can vary between tractor models, and due to field conditions. Great Plains recommends starting with the hitch set to Float or Position/Depth Control (and not Load or Draft Control).

High Pressure Fluid Hazard:

Relieve pressure and shut down tractor before connecting, disconnecting or checking hydraulic lines. Use a piece of paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

NOTICE

Machine Damage Risks:

Always fold markers (page 40) before raising or lowering. Always raise the planter for any reverse/backing. Except on pavement, begin forward motion before lowering, as rows move backward slightly as arms swing up.
Transport

**DANGER**

Loss of Control Hazard:
Do not transport with insufficient ballast or with an inadequate tractor.

Check that your tractor has enough ballast for the weight of the drill. A tractor with insufficient ballast has insufficient traction at the front wheels, causing loss of control, leading to a serious road accident, injury or death. Refer to your tractor operator manual for ballast requirements.

Check that tractor is rated for the fully-ballasted load. An inadequate tractor may be damaged by over-loading. It is also at risk for loss of control in turns and braking, leading to a serious road accident, injury or death.

The planter can weigh nearly 11,000 pounds (5000 kg), depending on configuration and seed load. The tractor MUST be rated and ballasted for the load. Do not tow if planter exceeds the load rating of the vehicle. See tables on next page for typical configuration weights.

**Transport Steps**

Transport only with markers stowed (page 40).

1. Check that planter is securely hitched to a sufficient tractor (page 16).
2. Verify correct operation of lights.
3. Fold markers if unfolded (Option, page 40).
4. Raise planter (page 23).

**NOTICE**

Increased Hazards and Wear Risks:
Seed may be loaded prior to travel, but increases stopping distance, increases the need for caution in turns and braking, and increases tire wear.

5. If any seed is in hoppers or delivery hoses, close seed inlet shutters at meters (page 65).
6. Plan the route. Avoid steep hills.
7. Always have lights on for highway operation.
8. Do not exceed 20 mph (32 km/h) when driving straight. Do not exceed 13 mph (22 km/h) in turns.
9. Comply with all national, regional and local laws when traveling on public roads.
10. Remember that the planter may be wider than the tractor. Allow safe clearance.
11. Transport slowly over uneven or rough terrain.
## Typical Planter Weights

### Approximate Weights of Representative Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>YP425A3P-</th>
<th>YP625A3P</th>
<th>YP825A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0470</td>
<td>-0430</td>
<td>-08TR</td>
<td>-0436</td>
</tr>
<tr>
<td>Base Planter</td>
<td>1500 kg</td>
<td>3300 lb</td>
<td>4600 lb</td>
</tr>
<tr>
<td>Typical1 Empty</td>
<td>1600 kg</td>
<td>3500 lb</td>
<td>4900 lb</td>
</tr>
<tr>
<td>Typical1 Full</td>
<td>1700 kg</td>
<td>3800 lb</td>
<td>5500 lb</td>
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<tr>
<td>Maximum2 Empty</td>
<td>1900 kg</td>
<td>4200 lb</td>
<td>5800 lb</td>
</tr>
<tr>
<td>Maximum2 Full</td>
<td>2100 kg</td>
<td>4500 lb</td>
<td>6500 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration</th>
<th>YP425A3P-</th>
<th>YP625A3P</th>
<th>YP825A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0670</td>
<td>-0630</td>
<td>-12TR</td>
<td>-0636</td>
</tr>
<tr>
<td>Base Planter</td>
<td>2000 kg</td>
<td>4300 lb</td>
<td>6200 lb</td>
</tr>
<tr>
<td>Typical1 Empty</td>
<td>2100 kg</td>
<td>4500 lb</td>
<td>6600 lb</td>
</tr>
<tr>
<td>Typical1 Full</td>
<td>2300 kg</td>
<td>5000 lb</td>
<td>7500 lb</td>
</tr>
<tr>
<td>Maximum2 Empty</td>
<td>2500 kg</td>
<td>5400 lb</td>
<td>7800 lb</td>
</tr>
<tr>
<td>Maximum2 Full</td>
<td>2700 kg</td>
<td>5900 lb</td>
<td>8700 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration</th>
<th>YP425A3P-</th>
<th>YP625A3P</th>
<th>YP825A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0870</td>
<td>-0830</td>
<td>-16TR</td>
<td>-0836</td>
</tr>
<tr>
<td>Base Planter</td>
<td>2300 kg</td>
<td>5000 lb</td>
<td>7400 lb</td>
</tr>
<tr>
<td>Typical1 Empty</td>
<td>2300 kg</td>
<td>5300 lb</td>
<td>8100 lb</td>
</tr>
<tr>
<td>Typical1 Full</td>
<td>2600 kg</td>
<td>5900 lb</td>
<td>9300 lb</td>
</tr>
<tr>
<td>Maximum2 Empty</td>
<td>2800 kg</td>
<td>6300 lb</td>
<td>9500 lb</td>
</tr>
<tr>
<td>Maximum2 Full</td>
<td>3100 kg</td>
<td>6900 lb</td>
<td>10700 lb</td>
</tr>
</tbody>
</table>

Center of Gravity is approximately 36 in. aft of hitch.

1 Typical: UM coulters. No Markers or Row Cleaners.
2 Maximum: UMC+RC, Markers.

Note: Weight of a specific planter can vary by hundreds of pounds, depending on installed options and material loaded.
## Typical Planter Weights

<table>
<thead>
<tr>
<th>Approximate Weights of Representative Configurations</th>
<th>YP1025A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1030</td>
</tr>
<tr>
<td>Base Planter</td>
<td>6100 lb</td>
</tr>
<tr>
<td>Typical(^1) Empty</td>
<td>6400 lb</td>
</tr>
<tr>
<td>Typical(^1) Full</td>
<td>8200 lb</td>
</tr>
<tr>
<td>Maximum(^2) Empty</td>
<td>8500 lb</td>
</tr>
<tr>
<td>Maximum(^2) Full</td>
<td>10300 lb</td>
</tr>
</tbody>
</table>

Center of Gravity is approximately 36 in. aft of hitch.  
\(^1\) Typical: UM coulters. No Markers or Row Cleaners.  
\(^2\) Maximum: UMC+RC, Markers.  

Note: Weight of a specific planter can vary by hundreds of pounds, depending on installed options and material loaded.

<table>
<thead>
<tr>
<th>Approximate Weights of Representative Configurations</th>
<th>YP1025A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1222</td>
</tr>
<tr>
<td>Base Planter</td>
<td>6200 lb</td>
</tr>
<tr>
<td>Typical(^1) Empty</td>
<td>6500 lb</td>
</tr>
<tr>
<td>Typical(^1) Full</td>
<td>8600 lb</td>
</tr>
<tr>
<td>Maximum(^2) Empty</td>
<td>8600 lb</td>
</tr>
<tr>
<td>Maximum(^2) Full</td>
<td>10400 lb</td>
</tr>
</tbody>
</table>

Center of Gravity is approximately 36 in. aft of hitch.  
\(^1\) Typical: UM coulters. No Markers or Row Cleaners.  
\(^2\) Maximum: UMC+RC, Markers.  

Note: Weight of a specific planter can vary by hundreds of pounds, depending on installed options and material loaded.
Loading Seed

Machine s/n:
YP425A3P with 3.0 bu Hopper S/N B1015M+
YP425A3P with 1.6 bu Hopper S/N B1016M+
YP625A3P with 3.0 bu Hopper S/N A1040P+
YP625A3P with 1.6 bu Hopper S/N B1042P+
YP825A3P with 3.0 bu Hopper S/N B1267R+
YP825A3P with 1.6 bu Hopper S/N B1269R+
YP1025A3P with 3.0 bu Hopper S/N C1002U+
YP1025A3P with 1.6 bu Hopper S/N C1002U+

Refer to Figure 13
There are two different sizes of hoppers (3.0 bu \(1\) and 1.6 bu \(2\)) used in the serial number range listed above. The instructions for loading both hoppers are the same.

NOTICE

The 3.0 bu hopper cannot be used for twin row applications or for 15 in (8.1 cm) single row spacing applications.

The 1.6 bu hopper can be used for all applications covered in this manual.

Refer to Figure 14

1. Hopper lids \(1\): are held in place by a latch \(2\) and a hinge \(3\).
2. Release the latch and allow the gas spring \(4\) to raise the hopper lid. Leave the lid all the way open to prepare the hopper for loading. Refer to Figure 13
Refer to Figure 14
3. Install correct seed disks (page 64).
4. Check that each hopper is correctly seated and secured:
   ① front and rear mounting bolts secured
   ② hopper discharge opening aligned with
   ③ seed tube
5. Inspect the hopper for leftover seed and debris. Clean out anything other than the seed to be planted. See "Material Clean-Out" on page 81.

![CAUTION](image)
Possible Agricultural Chemical Hazards:
Read and follow all supplier cautions for safe handling of treated seed.

![CAUTION](image)
Irritant and Chronic Exposure Hazards:
Do not mix lubricants into seed with hands or any part of body. Wear protective equipment. Use tools. See page 95.

Refer to Figure 15
6. Pre-mix seed and lubricant.
   For clean seeds other than Milo, cotton, and sunflowers sprinkle 1/4 cup of Ezee Glide Plus per bushel or unit (60 ml per 35 liters) of seed.
   
   For milo, cotton, and sunflowers double the application to 1/2 cup (or more) per bu.or unit (120 ml per 35 liters) of seed.

![NOTICE](image)
Population Risk: The seed must be properly lubricated, starting with the first seed through the meter. If unable to pre-mix prior to loading, pre-mix at least one gallon (4 liters) per hopper, and load this seed first. Fill the hoppers to half full with fresh seed. Add half the lubricant and stir with a tool. Complete filling the hoppers and sprinkle the remaining lubricant on top.

7. Add seed and lubricant to hoppers.
Machine S/N:
YP425A3P S/N B1007M through B1015M
YP625A3P S/N B1009P through B1041P
YP825A3P S/N B1014R through B1268R
YP1025A3P S/N C1001U-

Refer to Figure 16
The capacity of this hopper is 1.6 bu.

Within the serial number range listed above, there are
two different designs of hopper lids. Make sure you
follow the correct instructions for the hopper lids used on
your machine.

Late Production Hopper Lids
1. Late production hopper lids: are held in place by a
   mounting plate and a draw handle.
2. Unlatch the draw handle and lift lid off.
3. Prepare the hopper for loading by setting the lid
   aside.

Early Production Hopper Lids
Refer to Figure 17
1. Early production hopper lids: are held in place by
two spring clips, one at each end. There is a
molded handle at the rear end of the hopper lid
(although the lid is reversible).
2. Grasp the handle and snap lid off.

Refer to Figure 18
3. Prepare the hopper for loading by storing the lid
   lengthwise on the side lip of the hopper, using the
   hooked ends of each spring clip inside the lid.

The seed hoppers themselves are designed to be
removed, but are not removed for routine operations.
Hopper

Refer to Figure 19

1. Install correct seed disks (page 64).
2. Check that each hopper is correctly seated and secured:
   ① front and rear mounting bolts secured
   ② hopper discharge opening aligned with
       seed tube
3. Inspect the hopper for leftover seed and debris. Clean out anything other than the seed to be planted. See "Material Clean-Out" on page 81.

CAUTION

Possible Agricultural Chemical Hazards:
Read and follow all supplier cautions for safe handling of treated seed.

CAUTION

Irritant and Chronic Exposure Hazards:
Do not mix lubricants into seed with hands or any part of body. Wear protective equipment. Use tools. See page 95.

Refer to Figure 20

4. Pre-mix seed and lubricant.

   For clean seeds other than milo, cotton, and sunflowers sprinkle 1/4 cup of Ezee Glide Plus per bushel or unit (60 ml per 35 liters) of seed.

   For milo, cotton, and sunflowers double the application to 1/2 cup (or more) per bu.or unit (120 ml per 35 liters) of seed.

Population Risk: The seed must be properly lubricated, starting with the first seed through the meter. If unable to pre-mix prior to loading, pre-mix at least one gallon (4 liters) per hopper, and load this seed first. Fill the hoppers to half full with fresh seed. Add half the lubricant and stir with a tool. Complete filling the hoppers and sprinkle the remaining lubricant on top.
Add seed and lubricant to hoppers.
Close lids.

   If the lid has a draw handle, position front end of lid over front end lip of hopper. Snap lid firmly in place. Latch the draw handle.

   If the lid does not have a draw handle, center the lid on the opening and push down. Make sure spring clips are all engaged.
Machine S/N:
YP425A3P S/N B1006M-
YP625A3P S/N B1008P-
YP825A3P S/N B1013R-
YP1025A3P N/A

Refer to Figure 21 and Figure 22
The capacity of this hopper is 1.2 bu.

Hopper lids ① have distinct ends:
• the hinge end ② (with two lugs ③) mates with the front end of the hopper.
• the latch end (with a single lug) mates with the rear end of the hopper.
1. Pull the rear of the lid edge to the rear.
2. Swing the lid up at rear.
3. Disengage the lid at the front lugs.
4. Prepare the hopper for loading by storing the lid on the front lip of the hopper, using the hook-plate feature inside the lid. Refer to Figure 23

The seed hoppers themselves are designed to be removed, but are not removed for routine operations.
5. Install correct seed disks (page 64).
6. Close all seed inlet shutters (page 65).
7. Check that each hopper is correctly seated and secured:
   ① pivot hooks engage at front,
   ② latch engaged at rear,
   ③ seed hose secured to
   ④ discharge weldment with
   ⑤ clamp.
8. The hopper slide gate ⑥ may be left open (by pulling back), and doing so slightly increases seed capacity.

If slide gate is open for seed loading, seed inlet shutters must be closed unless the planter is already at the field. Transporting with both gates and shutters open can plug meters.
9. Inspect the hopper for leftover seed and debris. Clean out anything other than the seed to be planted. See "Material Clean-Out" on page 81.

![Figure 23](image1.png)

**CAUTION**

**Possible Agricultural Chemical Hazards:**
Read and follow all supplier cautions for safe handling of treated seed.

**CAUTION**

**Irritant and Chronic Exposure Hazards:**
Do not mix lubricants into seed with hands or any part of body. Wear protective equipment. Use tools. See page 95.

10. Pre-mix seed and lubricant.

For clean seeds other than Milo, cotton, and sunflowers sprinkle 1/4 cup of Ezee Glide Plus per bushel or unit (60 ml per 35 liters) of seed.

For milo, cotton, and sunflowers double the application to 1/2 cup (or more) per bu.or unit (120 ml per 35 liters) of seed.

**NOTICE**

**Population Risk:** The seed must be properly lubricated, starting with the first seed through the meter. If unable to pre-mix prior to loading, pre-mix at least one gallon (4 liters) per hopper, and load this seed first. Fill the hoppers to half full with fresh seed. Add half the lubricant and stir with a tool. Complete filling the hoppers and sprinkle the remaining lubricant on top.

11. Add seed and lubricant to hoppers.

12. Close lids. With lid tilted up at a slight angle, hook the two front hinge lugs under the front hopper lip. Swing down, keeping fingers clear of lug, and latch the single rear lid lug on rear hopper lip.

**NOTICE**

**Equipment Loss Risk:**
Check that lids are closed properly or the lid may come off in transport.
Monitor Operation

Refer to Figure 25

The standard DICKEY-john® PM300 system monitors the following elements of a YP4-6-8-1025A3P planter:

- Seeds at each row unit seed tube:
  
  Medium and larger seeds are individually counted with high accuracy. Small seed sensing may be limited to seed stoppage ("blockage") detection.

- Ground speed:
  
  The standard magnetic pickup at the ground drive allows the monitor to calculate and report population. Once setup for the planter and your display preferences, and configured for the current crop rates/limits, the monitor is typically used in the "OPERATE" mode. Refer to the DICKEY-john® PM300/PM332/PM400 Operator’s Manual for monitor operation details.

Both the DICKEY-john® manual and this manual contain trouble-shooting information for apparent monitor problems. Check both manuals, as the focus and content is not identical.

---

a. An optional radar speed sensor is available, as are Y-cables to accept input from an existing radar on the tractor. The magnetic pickup may be preferred, as both speed and seed flow fall to zero at lift. With radar, the monitor cannot tell that seeding should have stopped. You may experience more nuisance alarms with radar.
Air System Operation

Figure 26
Planter Air System for Air-Pro® Seed Metering

<table>
<thead>
<tr>
<th>Meter Pressurization System Elements (→-→ shows air direction)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hydraulic Fan</td>
<td>7 Seed Hose</td>
</tr>
<tr>
<td>2 Butterfly Valve</td>
<td>8 Air-Pro® Seed Meter</td>
</tr>
<tr>
<td>3 Meter Pressurization Air</td>
<td>9 Seed Inlet Shutter</td>
</tr>
<tr>
<td>4 Row Pressurizing Tube</td>
<td>10 Seed Pool (Figure 27)</td>
</tr>
<tr>
<td>5 Seed Hopper</td>
<td>11 Disk Seed Pocket (Cell)</td>
</tr>
<tr>
<td>6 Slide Gate</td>
<td>12 Seed Hose (Figure 27)</td>
</tr>
</tbody>
</table>
Air and Seeding System Overview

Refer to Figure 26, on page 34, and Figure 27.

The hydraulic fan (1) supplies air exclusively for meter operation. Fan rpm is operator-adjusted (page 38), normally via the tractor circuit’s hydraulic flow control.

A manually-adjusted butterfly valve (2) is provided at the fan outlet. See page 38 for valve adjustment.

The manifold system (3) delivers fan air across the planter. It includes passive internal design features to balance pressure across the planter.

Separate pressurization tubes (4) route manifold air to each row unit.

Seed is delivered from the seed box (5) by gravity through the sliding seed tubes (7), to the inlet of the Air-Pro® seed meter (8).

A manually adjusted inlet shutter (9) controls the size of the seed pool (10) at the base of the meter. The shutter also minimizes air loss back up the seed inlet tube, and is also used during row shut off. See page 62 for shutter adjustments.

At the meter, pressurization air exits the meter through the seed pockets (11) of the disk, and holds seed in the pockets until released above the seed tube (12).

In the seed tube, the seed sensor (13) detects passage of seeds. Medium size and large seeds are counted individually. With smaller seeds, most are detected, allowing the monitor to detect stoppages.

Several rows have a pressure sensor port (14) for the meter pressurization system. A line (15) from each of these rows is connected to a chamber (16) to average the pressures.

The averaged pressure is reported by a Magnehelic® gauge (17) visible to the tractor operator. See page 50 for use of the gauge in making fan adjustments.

A sensor (13) in each seed tube reports seed passage to the seed monitor. Larger seeds are counted individually. For smaller seeds, the system acts as a blockage monitor.

- Use of the special blank disk (page 66), and closing the seed inlet shutter (page 62), are particularly important when a sensor row is shut off.
- On any row, running a normal disk with no seed, or with an open empty inlet, unbalances the air system. Doing either at a sensor row causes the gauge to mis-report as well.
- Do not operate in the ground with the fan shut off, or with insufficient manifold pressure. The meters will completely fill with seed. Meter clean-out may be required to resume normal operation.
Fan Circuit Operation (S/N-)
Applies to planters with serial numbers:
(YP3P425A S/N B1004M-) (YP3P625A S/N B1006P-)
(YP3P825A S/N B1007R-) (YP1025A3P N/A)
See also “Fan and Adjustment” on page 50.

Refer to Figure 28
Three hydraulic hoses serve the fan, and must be properly connected for the fan to operate in the correct direction, at recommended speeds, and without damage. See “Hydraulic Hose Hookup” on page 17.

1. Always connect the case drain line first.

This line protects the outer shaft seal of the hydraulic motor. The case drain is a small line to the hitch, provisioned with a specialized low-seep flat-face case drain Quick Disconnect. Pressure spikes during motor operation, and pressure cycles due to temperature change are bled off by the case drain.

**NOTICE**

**Motor Seal Damage Hazard**
Do not apply pressure to the case drain line. Do not change the special QD connector. A restricted or sealed case drain line will promptly result in motor seal damage.

2. Connect the motor return line second, to sump.

The planter includes a 1 1/16 inch low back-pressure QD coupler set. Install the receptacle on a tractor sump port, and not at a normal remote return port. The unusual size aids in ensuring correct connection, so that the motor return line handles high volume at low back-pressure, ensuring full motor performance.

3. Connect the motor inlet line to a tractor remote capable of 4.5 gallons/minute. If a priority remote is available, use it for the fan.

4. The fan hydraulic circuit includes a check valve, which provides a relief path for oil at motor shutoff. If the fan is connected in reverse, flow through this valve results in low fan rpm, providing strong indication reversed connection.

Correct fan direction is shown at 4. If reversed fan is suspected, observe it during shutoff, as the direction of motion is easier to see at lower rpms as it slows to a stop (initial startup is virtually instantaneous, making observation at start difficult).

Fan speed is controlled by the tractor circuit and butterfly valve (and not the seed monitor).

You may stop the fan by setting the circuit to neutral or float. The check valve slows the blades to a stop by locally recirculating the oil.

Fan speed can change as oil heats to operating temperature. Re-check meter pressurization more often during early operations.

If the fan is connected in reverse, it may not run at all (due to no oil source at the return connection). If oil is present, oil bypass at the check valve prevents the fan from reaching high rpm. A reversed fan may send some air to the meters, but is incapable of providing reliable air flow for planting.
Fan Circuit Operation (S/N+)

Applies to planters with serial numbers:
(YP3P425A S/N B1005M+) (YP3P625A S/N B1007P+)
(YP3P825A S/N B1008R+) (YP1025A3P S/N C1002U+)

See also “Fan and Adjustment” on page 50.

Refer to Figure 29

Operating flow

Shut-off flow (fan coasting to stop)

Two hydraulic hoses serve the fan, and must be properly connected for the fan to operate in the correct direction, and at recommended speeds. See “Hydraulic Hose Hookup” on page 17.

1. Connect the motor return line to remote circuit return (Extend port) or to sump.

   The planter includes a pressure-relief QD coupler for the return line. This prevents motor damage in the event that the return line is not connected, or is connected incorrectly; however, an oil spill results if the return line is not correctly connected.

2. Connect the motor inlet line to a tractor remote capable of 20 liters per minute. If a priority remote is available, use it for the fan.

3. The fan hydraulic circuit includes a check valve, which provides a relief path for oil at motor shutoff. If the fan is connected in reverse, flow through this valve results in low fan rpm, providing strong indication reversed connection.

   Correct fan direction is shown at ①. If reversed fan is suspected, observe it during shutoff, as the direction of motion is easier to see at lower rpms as it slows to a stop (initial startup is virtually instantaneous, making observation at start difficult).

   Fan speed is controlled by the tractor circuit and butterfly valve (and not the seed monitor).

   Fan speed can change as oil heats to operating temperature. Re-check meter pressurization more often during early operations.

   You may stop the fan by setting the circuit to Neutral or Float. The check valve slows the blades to a stop by locally recirculating the oil.
Fan General Operating Information

Adjust the fan to provide the meter pressurization recommended for the seed disk, seed, and seed density. See the tables and charts for recommended values in the Seed Rate Manual.

Normal gauge readings are in the 0.8 inch to 4.0 inch water pressure range, and vary considerably with crop.

Refer to Figure 31

Use tractor remote hydraulic valve flow control to set fan speed and butterfly valve adjustment to make fine adjustments to meter pressurization. Precise technique depends on tractor capabilities:

- The objective is to obtain recommended meter pressurization, and maintain it during end-of-pass marker fold, lift and turn.
- For any setup adjustment, operate the tractor engine at typical field rpms, and not at idle.
- Preset the butterfly valve. Use any setting that you previously developed for the crop/disk/range (see Note at right), otherwise:
  - If the tractor has fine control of remote flow rates, and consistent flow at varying tractor engine rpm, initially set the butterfly valve to 30° or less.
  - If the tractor has only coarse control of flow, initially set the butterfly valve to 45°.
  - Set the fan circuit flow to bring the gauge reading to near the recommended value.
  - Fine tune the meter pressurization with the butterfly valve.
  - If the tractor has marginal flow available, or the list circuit has priority, you may need to experiment with combinations of fan flow and butterfly valve settings.

Always start the fan with a low flow setting.

Gradually bring fan up to the recommended initial meter pressurization.

At excessive rpm, too much air flow can cause:

- oil heating
- slow lift times

If desired pressure cannot be reached, or requires unusually high oil flow at low butterfly valve settings, chances are the fan is running backwards. Reverse the inlet/return lines at the hitch.

Butterfly Valve Operation:

To adjust, loosen bolt ① and rotate the handle ②. Re-tighten bolt.

0° is wide open - maximum air flow.

90° is closed - minimum air flow.

The valve provides the most effect at settings between 20° and 70°.

Starting at 30° reduces the fan workload.

Starting at 45° provides the most adjustment range up or down.

You may find that different crop, seed disk and rate range combinations need different valve settings. If so, make a note of the valve angle on the chart in the Seed Rate manual.

NOTICE

Low Population Risk at Turns:

The fan requires up to 4.5 gpm. This figure does not include oil for lift/lower or oil for marker operation. Aggressive lift/lower operations, and simultaneous lift/marker operations, can reduce fan rpm below that needed to pressurize meter disks. If seed falls out of pockets, low population bands will occur shortly after turns.

Unless the tractor has generous oil flow capacity, raise/fold markers before lift, and lift slowly. Watch meter pressurization and tune operations to keep it at planting levels in turns.
Air-Pro® Meter Operation

Refer to Figure 32

The meter disk is driven, top forward, by a chain drive (not shown) always connected to the section drive shaft. At non-planting rows, use a blank disk (page 66).

Seed is air-delivered to the inlet above the air release screen 1. Seed customarily fills to the top of the screen, blocking further air flow from the seed delivery system, until the seed level falls below the screen.

Seed enters the meter at the seed inlet shutter 2 (if open), and forms a seed pool 3 at the base of the meter. Seed pool size is controlled by the shutter handle 4 setting (which is the only user adjustment at the meter). Initial shutter settings are given in the seed rate charts.

Meter pressurization air enters the meter at 5, and exits the meter primarily at the seed pockets in the seed disk. The pressure differential holds seed in the disk pockets 6 rising from the seed pool. Excess seed at a pocket is picked off by the tickler brushes 7.

The strip and drop brushes block meter pressurization air. Seeds passing the drop brush 8 are free to fall into the seed tube, and are detected by the seed sensor 9.

Meter Operation

1. Install disks for your crop/population range per the Seed and Fertilizer Rate manual and the instructions beginning on page 64 of this manual.
2. Open the shutter at planting rows to the recommended initial setting (from the Seed Rate charts). At unused rows, install a blank disk (page 66) and close shutter.
3. Set sprocket indexing if staggering a twin-row crop (see Seed and Fertilizer Rate manual for details).
4. Operate fan to achieve suggested manifold pressure (Seed and Fertilizer Rate manual, and page 50).
5. Open slide gates to fill meters (page 31).
6. With all rows primed, rotate meters one turn to fill pockets to edge of drop brush. Rotate the drive shaft (top forward) with a 7/8 inch (23 mm) wrench, or raise and rotate ground drive wheel (top forward).
7. Leave fan running (to keep seed in top pockets). Re-install rain covers. Commence planting. Meter operation is automatic from this point on.

See also:
"Seed Pool Troubleshooting" on page 72, "Meter Clean-Out" on page 82, and "Meter Brush Maintenance" on page 83.
Marker Operation (Option) S/N-

THIS PAGE APPLIES ONLY TO MODELS:
(YP425A3P S/N B1004M-)
(YP625A3P S/N B1006P-) (YP825A3P S/N B1007R-)

Before Operating Markers

- Make sure hydraulic cylinders are moving smoothly.
- This section presumes correct marker extension for your pass spacing. If this has not been set, or needs to be changed, see “Marker Extension” on page 119.

Marker Unfold (one side)

1. Move tractor hydraulic control (lever or switch) for the marker circuit (typically to Extend). Hold until marker is completely unfolded. Do not leave tractor control in detent.
2. If the marker side operating is not the desired side, let it unfold part way, and move the tractor’s circuit control to Retract. When the marker is folded, move the circuit control to Extend to activate the other side.

Both Sides Unfolded

With both markers in the upright/tilted positions:
1. Unfold either side, and when completely deployed:
2. Move lever-switch to Retract momentarily, and return to Extend to deploy other side.

Row Marker Operation

To alternate which side is marked:
1. Move the tractor’s circuit control to Retract. Hold until marker is folded.
2. Move the tractor’s circuit control to Extend. Hold until the new side’s marker is fully unfolded.
3. Return tractor control to neutral/off.

Folding The Markers

If your planter has markers, fold them before performing a lift operation.
1. Move the tractor’s circuit control to Retract. Hold until marker is folded.
2. Tilt markers down for transport or storage.
Marker Operation (Option) S/N+

THIS PAGE APPLIES ONLY TO MODELS:
(YP425A3P s/n B1005M+) (YP625A3P s/n B1007P+)
(YP825A3P s/n B1008R+) (YP1025A3P s/n C1002U+)

Before Operating Markers

• Make sure hydraulic cylinders are moving smoothly.
• This section presumes correct marker extension for your pass spacing. If this has not been set, or needs to be changed, see “Marker Extension” on page 119.

Marker Unfold (one side)

1. Move tractor hydraulic control (lever or switch) for the marker circuit (typically to Extend). Hold until marker is completely unfolded. Do not leave tractor control in detent.
2. If the marker side operating is not the desired side, let it unfold part way, and move the tractor’s circuit control to Retract. When the marker is folded, move the circuit control to Extend to activate the other side.

Row Marker Operation

To alternate which side is marked:
1. Move the tractor’s circuit control to Retract. Hold until marker is folded.
2. Move the tractor’s circuit control to Extend. Hold until the new side’s marker is fully unfolded.
3. Return tractor control to neutral/off.

Marker Controls

The marker controls are in circuit with the lift controls. The markers raise and lower with the planter.

When the planter is lowered:
• One side marker will unfold.
• Hold the hydraulic control until marker is fully extended.

When the planter is raised:
• The marker will fold up.
• Hold the hydraulic control until the marker is fully folded.

The next time the planter is lowered the opposite side marker will unfold.

Overhead, Crushing and Sharp Object Hazards:
Do not allow anyone to stand near or beyond the end of the wings during marker operations. There is risk of serious injury or death for anyone in the path of a marker. Marker arms are heavy, are under tremendous hydraulic power, and may move suddenly if the hydraulic system is damaged or if your hydraulic system needs service. Marker discs may be sharp.
# Field Set-Up Checklists

Use the following tables to develop a final checklist for your tractor/planter configuration.

## Mechanical Checklist (Hitching)

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planter hitched</td>
<td>16</td>
</tr>
<tr>
<td>Parking stands raised</td>
<td>20</td>
</tr>
</tbody>
</table>

## Electrical Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verify electrical hookups solid</td>
<td>16</td>
</tr>
<tr>
<td>Check seed monitor terminal and observe any diagnostic messages</td>
<td>a</td>
</tr>
<tr>
<td>Option: Verify that, when planter is lowered, optional radar speed sensor is pointed at ground, at an angle approximately 35° below horizontal.</td>
<td>b</td>
</tr>
</tbody>
</table>

a. Refer to monitor manual.
b. Refer to sensor documentation.

## Hydraulic System Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check tractor hydraulic reservoir full</td>
<td>-</td>
</tr>
<tr>
<td>Fan case drain</td>
<td>19</td>
</tr>
<tr>
<td>Fan return</td>
<td>-</td>
</tr>
<tr>
<td>Fan motor pressure side (retract)</td>
<td></td>
</tr>
<tr>
<td>Inspect connections for leaks</td>
<td>-</td>
</tr>
<tr>
<td>Check fan speed and airflow direction</td>
<td>a</td>
</tr>
</tbody>
</table>

a. Operate fan briefly. Observe rotor blades spinning toward exit port as fan slows to a stop.

## Mechanical Checklist (post-Hitching)

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planter leveled</td>
<td>21</td>
</tr>
<tr>
<td>Marker extension set</td>
<td>119</td>
</tr>
<tr>
<td>Marker disc angle set</td>
<td>49</td>
</tr>
<tr>
<td>Markers folded (unless already at start of first planting row)</td>
<td>40</td>
</tr>
</tbody>
</table>

## Planter Meter Drive Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check chain lubrication and slack</td>
<td>87</td>
</tr>
<tr>
<td>Calibrate speed sensor pulses with planter lowered.</td>
<td>a</td>
</tr>
<tr>
<td>Seeding: Set/check Range and Transmission against rate chart</td>
<td>b</td>
</tr>
</tbody>
</table>

a. Refer to seed monitor manual.
b. Refer to Seed and Fertilizer Rate manual.

Additional or fewer steps may be necessary depending on tractor features, planter options and planting accessories.

## Air System Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan butterfly valve set</td>
<td>38</td>
</tr>
<tr>
<td>Seed loaded. Lids closed.</td>
<td>27</td>
</tr>
<tr>
<td>Meter shutters open to chart value</td>
<td>62</td>
</tr>
<tr>
<td>No air leaks (except from seed hoppers)</td>
<td></td>
</tr>
<tr>
<td>Hoses and tubing - no sags, no pinches</td>
<td></td>
</tr>
<tr>
<td>Check both manifold and sensor lines</td>
<td></td>
</tr>
<tr>
<td>Hoses fully connected to meters</td>
<td></td>
</tr>
</tbody>
</table>

## Row Units Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preset depth handles alike.</td>
<td>59</td>
</tr>
<tr>
<td>Preset down force springs alike, except in tracks.</td>
<td>54</td>
</tr>
<tr>
<td>Option: Set all unit-mounted coulters to 1/4 inch shallower than opener blades.</td>
<td>57</td>
</tr>
<tr>
<td>Check coulter alignment to row</td>
<td>58</td>
</tr>
<tr>
<td>Check closing wheel alignment</td>
<td>69</td>
</tr>
<tr>
<td>Set press wheels alike, except in tracks.</td>
<td>69</td>
</tr>
<tr>
<td>Check action and contact of side depth wheels</td>
<td>60</td>
</tr>
<tr>
<td>Check wheel scraper gaps (if installed)</td>
<td>61</td>
</tr>
<tr>
<td>Slide gates open</td>
<td>31</td>
</tr>
</tbody>
</table>

## Meters Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn? Check timing of meters for twin-row</td>
<td>a</td>
</tr>
<tr>
<td>Check chain tension. Re-connect any loose idler tensioning springs.</td>
<td>-</td>
</tr>
<tr>
<td>Correct disks for seed</td>
<td>a</td>
</tr>
<tr>
<td>Start fan. Operate at field manifold pressure.</td>
<td>36</td>
</tr>
<tr>
<td>Rotate meter drive shafts one turn disks with seed.</td>
<td>39</td>
</tr>
</tbody>
</table>

a. Refer to Seed and Fertilizer Rate manual.
Field Operation

Perform all steps in “Pre-Start Checklist” on page 23 and “Field Set-Up Checklists” on page 42.

<table>
<thead>
<tr>
<th>First Pass Operation Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Slide gates open. Shutters set.</td>
<td>39</td>
</tr>
<tr>
<td>2. Raise planter and line up at start of first planting row.</td>
<td>23</td>
</tr>
<tr>
<td>3. Prime meters with seed. Leave fan running.</td>
<td>39</td>
</tr>
<tr>
<td>4. Unfold marker on next-row side.</td>
<td>40</td>
</tr>
<tr>
<td>5. Pull forward, lower planter, and begin planting for a short distance.</td>
<td>23</td>
</tr>
<tr>
<td>6. Stop. Assess:</td>
<td></td>
</tr>
<tr>
<td>• planting depth</td>
<td>-</td>
</tr>
<tr>
<td>• seed spacing</td>
<td>-</td>
</tr>
<tr>
<td>• press wheel operation</td>
<td>-</td>
</tr>
<tr>
<td>7. Make necessary adjustments</td>
<td>45</td>
</tr>
<tr>
<td>8. Resume planting.</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sharp Field Turns&lt;sup&gt;a&lt;/sup&gt; Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fold marker</td>
<td>40</td>
</tr>
<tr>
<td>2. Raise planter when fold is complete</td>
<td>23</td>
</tr>
<tr>
<td>3. Make turn</td>
<td></td>
</tr>
<tr>
<td>4. Lower planter</td>
<td>23</td>
</tr>
<tr>
<td>5. Unfold marker on next-row side.</td>
<td>40</td>
</tr>
<tr>
<td>6. Resume planting.</td>
<td></td>
</tr>
</tbody>
</table>

   a. Monitor manifold pressure during end-of-pass operations and turns. Adjust operations as needed to maintain meter pressurization.

Consult seed monitor for alarms during planting. Check that reported rates are consistent with your plan.

When reloading seed, check consumption against anticipated use to that point.
Short-Term Parking
1. Fold markers (page 40).
2. Choose a location with level firm ground. Do not unhitch on a steep slope.
3. Raise planter to just off ground.
4. Lower parking stands to ground and pin (page 20).
5. Lower planter.
6. Set hydraulic circuits to neutral.
7. Disconnect hydraulic lines. Secure them so that they do not touch the ground.
8. Disconnect electrical cables, capping where provisioned.

Long-Term Storage
1. Complete Parking steps (page 44). Park the planter indoors if possible.
2. See "Material Clean-Out" on page 81. Clear all seed from seed container, seed delivery system and meters.
3. Close slide gates and latch hopper lids.
4. Remove seed disks from meters (this is primarily to relieve pressure on brushes). Clean disks of residue build-up (see Caution below). Use mild soap, non-abrasive scrubbers, and hot or warm water. If using sealed storage, dry disks prior to storage.

**CAUTION**
Possible Chemical Hazard:
Seed disks will have talc and graphite residue, and may have residues of hazardous seed treatments. Do not wash disks where food is prepared, or where cookware or dinnerware is washed. Wear gloves when washing disks. Avoid spray. Although the disks are dishwasher-safe, do not wash them in an appliance also used for food cookware or dinnerware.

5. Tie or tape a small plastic bag over ends of all seed delivery tubes to prevent insects from entering or nesting.
6. Close seed inlet shutters at meters (to prevent pest entry to seed hoses). Thoroughly clean seed and seed treatment residue from seed meters. See "Seed Meter Clean-Out" on page 72 for more information.
7. Clean planter of mud, dirt, excess oil and grease.
8. Lubricate all points listed in Maintenance.
9. Apply grease to exposed cylinder rods to prevent rust.
10. Inspect planter for worn or damaged parts. Make repairs and service during off season.
11. Use spray paint to cover scratches, chips, and worn areas on the planter to protect the metal.
12. Cover planter with a tarp if stored outside.
To get full performance from your YP-425, 625, 825, & 1025-A3P planter, you need an understanding of all component operations, and many provide adjustments for optimal field results. Some of these have been covered earlier in this manual. Even if your planting conditions rarely change, some of these items need periodic adjustment due to normal wear.

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a. SRM: Seed and Fertilizer Rate manual (401-651B)
b. PM: DICKEY-john® Planter Monitor operator manuals
Setting Material Rates

Full details on rate setting sprocket selection and installation are found in the **Seed Rate Manual** (pub. number 401-651B). This is a summary. Setting the seeding rate requires the following steps:

1. monitor setup
2. seed disk selection,
3. drive speed Range sprockets,
4. transmission sprockets,
5. inlet shutters
6. meter pressurization,
7. checking seeding rate.

All rate adjustments are performed at the left end of the planter. There are no adjustments at the ground drive assembly.

**Planting Rate Details**

1. **Rate: Monitor configuration:**
   The seed monitor must be set up with the
   - correct row count,
   - correct row spacing,
   - speed calibration and;
   - expected population limits, in order to have accurately rate reports and useful alarms.

   See the Seed and Fertilizer Rate manual (401-651B) and the DICKEY-john® Planter Monitor operator (PM) manual.

   If you only plant with the factory configuration of the planter, you never need to update row count and spacing. If any rows are unused, adjust the monitor setup.

   Speed calibration must be done prior to first use, and re-calibration is recommended periodically, particularly if soil conditions change.

2. **Rate: Disk Selection:**
   The Seed and Fertilizer Rate manual (401-651B) has a table of recommended disks. Disks are specific to crops. Some crops have multiple disks available, to cover both seed varieties, and different populations within disk rpm limits. Disks have a high and low rpm limit, which also corresponds to a high and low field speed limit. The charts account for these limits.

   See “Air-Pro® Meter Disk Installation” on page 64.

   If any rows are unused, install special blank disks. See “Row Unit Shut-Off” on page 65.
3. Rate: Range Sprockets
Range sprockets provide coarse control of seed rate.

Refer to Figure 35 and Figure 36
All Seed Rate charts specify a DRIVING and DRIVEN sprocket combination for the Range. Crops with more than one range are noted as "LOW RANGE" or "HIGH RANGE" at the top of the chart.

To change Range:
   a. Loosen the bolt securing the idler plate ③.
      Disengage the idler.
      Remove the chain.
   b. Remove pins from shaft ends at DRIVING and DRIVEN sprockets, as well as at storage shaft ① at left end of frame.
   c. Exchange sprockets so that new DRIVING and DRIVEN sprocket tooth counts (stamped on sprocket face) match chart. Re-pin all shafts.
   d. Remount chain (see page 87). Re-engage idlers for 1/4 inch (6.4 mm) slack in longest chain span.

4. Rate: Transmission Sprockets
Transmission sprockets provide fine control of seed rate. Each chart row provides a rate adjustment of 2 to 3%.

Refer to Figure 36
Each Seed Rate chart row has a unique pairing of DRIVING and DRIVEN Transmission sprocket.

To change Transmission:
   a. Loosen the bolt securing the idler plate ④.
      Disengage the idler.
      Remove the chain.
   b. Remove pins from shaft ends at DRIVING and DRIVEN sprockets, as well as at storage shaft ① at left end of frame.
   c. Exchange sprockets so that new DRIVING and DRIVEN sprocket tooth counts (stamped on sprocket face) match chart. Re-pin all shafts.
   d. Remount chain (see page 87). Re-engage idlers for 1/4 inch (6.4 mm) slack in longest chain span.
5. Rate: Seed Inlet Shutter

A consistent seed results from having a consistent number of seeds (usually one) in each pocket of the seed disk, avoiding "skips" (fewer seeds per pocket) and "doubles" (excess seed per pocket).

Refer to Figure 37

One of the factors that affects seed pickup at the disk is having an optimal seed pool (page 63). The depth of the seed pool is controlled by the seed inlet shutter.

Each Seed Rate chart specifies a suggested initial shutter setting. See "Seed Inlet Shutter Adjustment" on page 62 for setting details, and further adjustment.

At unused rows, set the shutter to zero/closed to prevent loss of meter pressurization air. Install a blank disk. See "Row Unit Shut-Off" on page 65.

6. Rate: Meter Pressurization

Refer to Figure 38

(which depicts a typical reading for some densities of corn)

A major factor that affects seed pickup at the disk is optimal meter pressurization. Fan air holds the seed in the disk pockets until they pass the drop brush (page 39).

The Seed and Fertilizer Rate manual has a section with suggested initial meter pressures, which may be a single value, or a graph based on seed density.

Meter pressure is set by a combination of tractor circuit lever and fan butterfly valve (page 38). See "Air System Operation" on page 34.

7. Rate: Checking

Although the seed monitor reports a computed population based on seeds sensed, only an actual furrow check provides certainty about the actual seeding rate. See the Seed and Fertilizer Rate manual.
Marker Adjustments (Option)

See also:

• "Initial Marker Setup (Option)" on page 118 for marker speed and marker extension
• "Marker Operation (Option) S/N-" on page 40; and,
• "Marker Maintenance (Option)" on page 86 for marker shear bolt.

Marker Disk Adjustment

**CAUTION**

*Sharp Object Hazard:*
Use caution when making adjustments in this area.
Marker disks may be sharp.

**Refer to Figure 39**

1. To change angle of cut, and the width of the mark, loosen 1/2 inch bolts holding the disk assembly.

For a wider mark, increase the angle of the marker with respect to the tube. For a narrower mark, reduce the angle.

> Do not set a marker angle wider than needed to make a useful mark. Excess angle increases wear on all marker components.

2. Tighten bolts.

> Direction of travel tends to drive the disk angle to Wide. If bolts are not tight enough, or loosen over time, disk slips into the Wide mark configuration.

**Refer to Figure 40**

Applies to planters with serial numbers:
(YP425A3P S/N B1005M+) (YP625A3P S/N B1007P+)
(YP825A3P S/N B1008R+) (YP1025A3P S/N C1002U+)

Current markers are equipped with an additional marker disk adjust mount which gives the marker added capability of up/down direction of movement where previously it only performed side to side movement. Additionally, the markers are able to make a wider mark in the field.

**CAUTION**

*Sharp Overhead Object and Pinch/Crush Hazards:*
Never allow anyone near the planter when folding or unfolding the markers. Markers may fall quickly and unexpectedly if the hydraulics fail. Anyone beneath may be injured if hit by an unfolding marker, or caught in a folding marker.
Fan and Adjustment

1. These steps presume that correct seed disks are installed (per *Seed Rate Manual*), and the seed inlet shutters are set for the seed (page 62).
2. With fan off, check meter pressurization reported by the Magnehelic® gauge. Re-zero as needed.
3. Determine the recommended meter pressurization based on your own notes or the published value in the *Seed Rate Manual*.
4. Put tractor in Park and set brakes. Set tractor engine speed to typical field rpm. Lift planter.
5. Start the fan. Gradually increase fan speed using the tractor’s hydraulic flow control for the circuit. Using hydraulic flow and/or the butterfly valve, adjust meter pressurization to the developed or suggested value from step 3.
6. Rotate ground drive wheel to fill meters. Meters are filled when seed begins emerging below two or more openers. With fan running, put the tractor in Park and set the brakes. Walk behind the wings, remove several rain covers, and check for seed in meters by looking through the clear disks.
7. Re-check meter pressurization. With meters and disks filled, air loss through empty disk pockets is reduced, and meter pressurization can change.
8. Begin planting. Troubleshoot any obvious problems or optional seed monitor alarms.
9. During the first pass, take note of the average populations reported on the optional seed monitor.

   If the reported seed monitor population varies from your intentions by a significant amount, it is imperative to perform a furrow check.

   For serious rate variances, for which the source of the problem and the solution are not quickly determined, see “Population Troubleshooting Charts” on page 74.

   If the population is only slightly low, the problem can be skips (periodic empty disk pockets). If slightly high, the problem can be doubles (period pockets with double seed). An adjustment to the meter pressurization may correct either condition (see step 12).

---

a. Magnehelic® is a registered trademark of Dwyer Instruments, Inc.
10. Resume planting.

A small varying population deviation between rows is normal. If a row is consistently running lower or higher than the other rows, it could indicate a meter or seed sensor problem that needs attention. “Population Troubleshooting Charts” on page 74.

11. Continue to monitor meter pressurization.
When oil reaches operating temperature, fan speed can change. Expect to make periodic adjustments to fan circuit or butterfly valve to maintain ideal meter pressurization.

12. Skips:
If all else is correct, and the overall average population is running low (or there are gaps upon furrow check), the cause may be seeds falling out of disk pockets before delivery to the seed tube. Increase meter pressurization to correct this.

13. Doubles:
If all else is correct, and the overall average population is running high (or there are double seeds upon furrow check), the cause may be two seeds in some disk pockets at delivery to the seed tube. Decrease meter pressurization to correct this.

Fine-Tuning Meter Pressurization
After several passes, and you are comfortable with the planter’s operation, you can optimize meter pressurization. Use this method during longer passes, so there are fewer distractions (and see sidebar regarding Milo).

14. Observe the current overall average population reported by the monitor.

15. Adjust the fan speed down, in small steps, waiting 5-10 seconds between adjustments, until skips occur (actual population begins falling below target). Note the pressure at which skips begin.

16. Restore pressure to the initial value at step 14.

17. Adjust the fan speed up, by periodic small increments, until doubles occur (actual population begins rising above target). Note the pressure at which doubles begin.

18. Adjust meter pressurization to a value halfway between the limits established at step 15 and step 17. This is the ideal value for your crop, disk and population, providing equal margin against skips and doubles. Record this value for future use.

Alternate Skip/Double Check
Small seeds, particularly Milo, are less reliably sensed as skips or doubles by the seed tube sensors, and watching monitor population is unlikely to locate the pressure limits. This test can also be quicker for all seeds.

A. After planting a few passes with initial settings, remove the rain covers from several rows (use rows with a variety of seed hose lengths and routes).

B. Make a meter pressurization adjustment. Resume planting for a pass or less.

C. Stop planter motion but leave engine at field rpm and fan running.

D. Inspect the seed disks closely. Look for empty seed cells (skips) and cells with multiple seeds (doubles).

E. Repeat step B-to-step D until limits are established. Record limits. Re-install rain covers. Plant with median settings.
Gauge Wheel Adjustments

The minimum tool bar height is limited by the gauge wheels. In some conditions, such as ridge planting, you may need to use a tool bar height lower than 26 inch.

*Refer to Figure 42*

There are two adjustments for this at the gauge wheels.

- Gauge wheel yoke spring length ①:
  This provides a variable height reduction of up to 2.2 inch (5.6 cm).
- Axle hole change ②:
  This provides a 2 inch (5.1 cm) height reduction.

Making both adjustments provides up to 4.2 inch (10.7 cm) of tool bar height reduction.

Yoke Spring Adjustment

*Refer to Figure 43*

Check the length ③ of all springs before adjusting.

The maximum (and factory set) spring length is:
③ 3.0 inch (7.6 cm)

The minimum spring length is:
③ 2\(\frac{3}{8}\) inch (6.0 cm)

Each \(\frac{1}{8}\) inch of spring compression raises the wheel by approximately 0.44 inch (3.5 mm per mm).

To adjust the spring length:

1. Raise the planter until the gauge wheels are slightly off the ground. Place blocks or jack stands under the frame for safety.

   If there is weight on the wheels, the springs may have additional compression and may not be at a length you can usefully measure.

2. Loosen the jam nut ④.

3. Rotate the adjuster nut ⑤ to set the new spring length.

4. Tighten the jam nut.

Wheel Axle Adjustment

If the target tool bar height cannot be achieved with the spring adjustment, relocate the wheel axles in the arms. This lowers the planter by about 2 inch (5.1 cm).

1. Raise the planter until the gauge wheels are slightly off the ground. Place blocks or jack stands under the frame for safety.

2. Remove bolts ⑥, located in lower holes, securing transport ground tire assembly to unit.

3. Move wheel assembly and secure assembly to upper hole using previously removed bolt.
25AP Series Row Unit Adjustments

Refer to Figure 44 (which depicts a row unit populated with most optional accessories supported for use with the YP425A3P/625A3P/825A3P/YP1025A3P Air Planter)

From front to back, a Great Plains 25 Series Air-Pro® row unit can include the following capabilities (some optional):

1. **Lock-Up Pin Storage Hole** (Hole Standard)
   See “Row Unit Shut-Off” on page 65.

2. **Down-Pressure Cam** (Standard)
   Row units are mounted on parallel arms. This parallel-action mounting allows the row-unit to move up and down while staying horizontal. Springs add an adjustable force, set by the cam, to the row weight. See “Row Unit Down Pressure” on page 54.

3. **Meter Pressurization Air Inlet** (Standard)
   Pressure-regulated air enters the meter here and holds seed in the disk pockets. See “Fan and Adjustment” on page 50.

4. **Seed Delivery Hose Inlet** (Standard)
   When the hopper slide gate (not shown) is open, gravity carries the seed into the meter at the shutter. The hose is easily removed for inspection. There are no adjustments.

5. **Air-Pro® Seed Meter** (Standard, Choice of Disks)
   See “Air-Pro® Meter Disk Installation” on page 64.

6. **Seed Inlet Shutter** (Standard)
   This controls the level of bulk seed at the disk. There are four operating settings, plus fully open (clean-out) and fully closed (shut-off or storage). See “Seed Inlet Shutter Adjustment” on page 62.

7. **Side Gauge Wheel Depth** (Standard)
   The T-handle sets planting depth by controlling the height of the side gauge wheels relative to the opener discs. See “Side Gauge Wheel Adjustment” on page 60.

8. **Press Wheel Force, Angle, Stagger** (Standard)
   The press wheels close the furrow, gently pressing the soil over the seed to ensure good seed to soil contact for even emergence. See “Press Wheel Adjustment” on page 69.

9. **Row Unit Lock-Up Hole** (Hole Standard)
   Pins are standard on some models. With the row unit raised above level, the lock-up pin is inserted here. See “Row Unit Shut-Off” on page 65.

10. **Row Cleaner** (Option)
    Row cleaners clear trash from the row, to a depth set by an adjustment on the arms. See “Unit-Mount Cleaner Adjustments” on page 56.

11. **Unit-Mount Coulter** (Option)
    Coulters cut remaining trash and begin opening the seed furrow. Working depth is set by row depth and a mounting hole selection. See “UMC Coulter Adjustments” on page 57.

12. **Opener Discs** (Standard)
    Row-unit double disc openers create the seedbed furrow. They have adjustments for angle and spacing. See “Row-Unit Opener Disk Adjustments” on page 59.

13. **Seed Tube with Sensor** (Standard)
    Requires no adjustment.

14. **Scrapers** (Optional, not shown)
    Inside scrapers require no adjustment. For gauge wheel scrapers, see “Adjusting Gauge Wheel Scrapers” on page 61.

15. **Seed Firmer** (Seed Flap Standard, not shown)
    An optional seed firmer (Keeton shown) minimizes seed bounce and improves soil contact. It may also deliver fertilizer. See “Seed Firmer Adjustments” on page 68.

16. **Press Wheel Type** (Choice)
    A variety of single and dual press wheel assemblies are available, some region-specific. Consult your Great Plains dealer.

**NOTICE**

Equipment Damage Risk:
Do not back up with row units in the ground. To do so will cause row unit plugging and may result in severe damage.
Row Unit Down Pressure

Refer to Figure 45

The ideal amount of down-force causes the side gauge wheels to compress any loose surface soil, but not press a trench into subsoil.

To assess down-force, operate the planter for a short distance on typical ground (with or without seeding), and stop. Leave the planter lowered (row units in ground).

At several row units, inspect the furrow created by the opener discs, but prior to furrow closing by the press wheels.

Be sure to inspect rows both in and out of tire tracks.

Refer to Figure 46

1. If the side gauge wheels are leaving no tracks, or light tracks, increase down-force.
2. If the wheels are compressing trash and loose soil, and leaving clear tracks right at the top of the subsoil, down-force is probably correct and needs no adjustment.
3. If the wheels are creating a trench into the subsoil, down-force is too high and needs to be reduced.

Adjusting Down-Force

Refer to Figure 47

Row unit springs provide the primary down pressure necessary for row unit disks to open a seed trench. The weight of the row units themselves contributes about 130 pounds (59 kg) of the total force.

The springs allow the row units to float down into depressions and up over obstructions. Springs also provide down force on coulters when using optional row mounted coulters, and provide the primary down force on row cleaners (optional), seed firmers (optional) and press wheels.
An adjuster cam sets down pressure individually for each row unit. This is useful for penetrating hard soil and planting in tire tracks. For best results always adjust tractor tires so they are not ahead of 30 inch rows.

Refer to Figure 49

<table>
<thead>
<tr>
<th>Cam Notch</th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero - Out of Notch</td>
<td>Lock-Up &amp; Maintenance</td>
<td></td>
</tr>
<tr>
<td>one</td>
<td>305</td>
<td>140</td>
</tr>
<tr>
<td>two</td>
<td>330</td>
<td>150</td>
</tr>
<tr>
<td>three</td>
<td>365</td>
<td>165</td>
</tr>
<tr>
<td>four</td>
<td>425</td>
<td>195</td>
</tr>
<tr>
<td>five</td>
<td>485</td>
<td>220</td>
</tr>
<tr>
<td>six</td>
<td>545</td>
<td>250</td>
</tr>
<tr>
<td>tip</td>
<td>Do Not Use</td>
<td></td>
</tr>
</tbody>
</table>

Values are down force with hoppers empty.

Use only enough down pressure to cut the seed trench and maintain proper soil-firming over seed. With a full seed load, the force on each row is up to 120 pounds higher at start of planting.

Excessive row unit spring force will lead to premature wear on row unit components and uneven seed depth. If all rows are set to cam 4, some lighter planter configurations could be lifted out of ground contact.

Refer to Figure 48 (shown at cam setting 2), Figure 49 and Figure 50

To adjust down pressure, use a 1 1/8 inch (29 mm) open end wrench or the tool stored at the left end of the planter.

1. Raise the planter. Although this adjustment can be made with the planter lowered, the springs will be in tension, and will require more effort. The extra force required may also damage tools.
2. Install lift cylinder locks.
3. Put tractor in Park and shut it off.
4. Position wrench on the fixed nut near or slightly forward of vertical.
5. Pull upper spring link back.
6. Move the adjustment cam to the new setting on the spring adjust bar.

Do not set all rows higher than notch four. Using high settings across all rows causes uneven planting. Individual rows may be set higher if running in tire tracks. On twin-row configurations, setting all rows to notch 4 or higher results in a net up force that can exceed the weight of the planter when the hoppers are nearing empty.
Unit-Mount Cleaner Adjustments

Refer to Figure 51 and Figure 52

Optional Martin row cleaners are unit-mounted, using:
UMRC: Unit-Mount Row Cleaner (stand-alone), or
UMC-RC: Unit-Mount Coulter RC (on coulter bracket, with or without a coulter disk present).

There are two adjustments:
1. Wheel placement (forward or aft mounting hole, for more or less aggressive cleaning), and
2. Wheel height, adjusted by a stop. Cleaner arms float. The stop only sets the lowest position.

In UMRC mount, a pinned cross-tube on the mount adjusts the depth. In UMC-RC (coulter) mount, a sliding down-stop block adjusts how close to the ground the row cleaners operate.

The row cleaner needs to be adjusted for your conditions, crop changes, and as coulters and openers wear. Ideally, cleaners contact only the trash, and do not disturb the soil. If allowed to "dig", row cleaners can reduce seed coverage.

Suggested initial depth is tine tips at ground level.

Make the adjustment with the planter raised. Install lift-assist cylinder locks. Also check bolt tightness prior to each planting session, to avoid down-stop slippage.

To adjust the row cleaner:

1. Determine the height adjustment required. Measure from the lowest tine to the ground. Determine the desired new measurement.
2. Support most or all of the weight of the arm to prevent injury and ease the adjustment. Loosen bolts on UMC-RC. Remove bent pin on UMRC.
3. Support arm at desired height.
4. UMRC: Slide adjustment tube until cross-tube contacts arm at target height. Insert bent pin in whichever hole pair is most in alignment.
5. UMC-RC: Slide the down-stop on the arm: - back toward the pivot for shallower cleaning, or - forward toward the tines for deeper cleaning. Tighten the bolts. Each possible hole pairing adjusts the tine height by about 3/4 inch (19 mm).
6. Check the new height measurement.

Refer to Row Cleaner manual 204-085M-A for further information on use, adjustment and maintenance of row cleaners.

CAUTION

Sharp Object Hazard:
Wear hand protection when working in this area. Row cleaner tines, casting edges and coulter blades are sharp.
UMC Coulter Adjustments

Coulters are not factory-installed. Check alignment and depth prior to first use.

UMC Coulter Depth Adjustment

The ideal operating depth for coulters is $\frac{1}{4}$ inch (6 mm) above opener depth. Although they may have originally been set to this depth, coulter (and opener) blades wear with time, and may need adjusting.

Adjusting the coulter depth is accomplished by re-mounting the coulter blade in one of the six mounting holes arranged in a staggered pattern in the coulter bracket.

Refer to Figure 53 and Figure 54

Raise planter and install cylinder locks before working on coulters. Row unit may be fully lowered or locked up. Do not attempt to move blade when the current or new position causes it to contact the ground during the adjustment. Be careful around the front end of row units. Row cleaner tines and coulter blades may be sharp.

To adjust coulter depth:

1. Determine the present opener and coulter depths.
2. Note which bracket hole the coulter is presently using.
3. Determine which new hole will position the coulter closer to the $\frac{1}{4}$ inch-above depth. See the table below.
4. Remove the $\frac{5}{8}$-11 x 4 inch bolt, lock washer and nut (7 in Figure 53).
5. Move the blade to the new position. Insert the bolt, and tighten on the lock washer and nut.
6. Re-adjust row cleaners, if installed.

If a worn coulter cannot be adjusted to satisfactory operating depth, replace coulter.

<table>
<thead>
<tr>
<th>Hole Number</th>
<th>Depth of (new) coulter blade relative to (new) opener blades</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1 inch (25 mm) above</td>
</tr>
<tr>
<td>3</td>
<td>$\frac{5}{8}$ inch (16 mm) above</td>
</tr>
<tr>
<td>5</td>
<td>$\frac{1}{4}$ inch (6 mm) above</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>$\frac{3}{8}$ inch (9.5 mm) below</td>
</tr>
<tr>
<td>6</td>
<td>$\frac{3}{4}$ inch (19 mm) below</td>
</tr>
</tbody>
</table>

Figure 53
25 Series Unit-Mounted Coulter

Figure 54
Coulter Blade Mounting Holes
Coulter Row Alignment

Referring to Figure 55

For unit-mounted coulters, the ideal alignment is for the blade to open a furrow directly ahead of the opener discs.

As a check on coarse alignment, sight along the coulter blade center-line ①, the gap between the opener blades ②, and the center-line between the press wheels ③. If they are clearly out of alignment, either the coulter or the press wheels (or both) may be in need of adjustment.

The exacting test of correct alignment is field results. Operate the planter on some test ground (no seed required), and verify that the opener blades are in the groove opened by the coulter, and that the press wheels are centered over the furrow. See "Press Wheel Adjustment" on page 69 for press wheel alignment.

Refer to Figure 56

To adjust coulter alignment, loosen the four bolts ④ that attach its bracket to the row unit. The holes on the row unit are slotted, side-to-side, and allow the coulter bracket sideways and rotational adjustment. Keep the coulter blade vertical while adjusting.

If the blade cannot be brought into alignment, check that the blade spindle itself is using the same hole location on each side of the bracket.
Row-Unit Opener Disk Adjustments

25 Series openers have three adjustments:
1. planting/seed depth
2. opener disc to disc clearance
3. gauge wheel/opener disk clearance (page 60)

Setting Planting Depth

Refer to Figure 57

The “T” handle ① sets planting depth by limiting the how high the side depth gauge wheels ride relative to the opener disks. The position of the seed tube itself is fixed relative to the disks, and is not adjusted.

To adjust seed depth, pull the “T” handle ① up and back, move it forward or aft, and set it back in a different pair of holes in the scale.

• For shallower planting, move the “T” handle ① forward.
• For deeper planting, move the “T” handle ① back.

Opener Disc Contact Region

Refer to Figure 58 and Figure 59

Opener disc angle and stagger is not adjustable, but disc-to-disc spacing is, and may need attention as discs experience normal wear. Spacers will need to be reset when blades are replaced.

The ideal spacing causes the blades to be in contact for about one inch ④. If you insert two pieces of paper between the blades, they should slide to within zero (touching) to 1.5 inch (3.8 cm) of each other. If zero, the gap between the blades should not be significantly greater than the thickness of two sheets of paper.

If the contact region is significantly larger or there is a large gap, it needs to be adjusted by moving one or more spacer washers.

Adjusting Disc Contact

1. Raise the planter and install lift cylinder locks.
2. Remove the side gauge wheels ⑤ on the row unit in need of adjustment.
3. Remove the bolt ⑥ retaining the opener disc ⑦ on one side. Carefully remove the disc. Do not lose the hub components and spacer washers ⑧, ⑨.
4. To reduce the spacing between the discs (the normal case), move one spacer washer from the inside ⑤ to the outside ⑩ of the disc.
5. Re-assemble and check disk contact.
Side Gauge Wheel Adjustment

Refer to Figure 60 and Figure 61

Disc-to-wheel angle and clearance ideally has the wheel just touching the disk when the wheel is raised to planting depth (is up against the stop set by the “T” handle. The goal is to have both disks and wheels turn freely, but keep soil and trash from getting between them.

These two adjustments interact with each other. Changing one requires at least checking the other.

In addition to changing the disk angle due to changing depth or new field conditions, these two settings may need attention over time as the disk and wheels wear from normal use. This adjustment will also need to be made if any opener components are replaced.

For 2 inch (5.1 cm) planting depth, adjust side gauge wheel angle so wheels contact row unit disks at the bottom of wheel. Check with row units in soil so wheels are held up.

At the same time, keep side gauge wheels close to opener disks so openers do not plug with soil or trash.

Wheels should be out far enough so disks and wheels turn freely.

Refer to Figure 63 on page 61

To adjust side gauge wheels:

1. Raise the planter and install lift cylinder locks.
2. Loosen hex-head bolt. Move wheel and arm out on O-ring bushing.
3. Loosen pivot bolt. Turn hex adjuster so indicator notch is at 5 o’clock to 7 o’clock.
4. Use this as the starting point for adjustment.
5. Move wheel arm in so side gauge wheel contacts row unit disk. Tighten hex-head bolt to clamp arm around bushing and shank.

Refer to Figure 62

5. Check wheel-to-disk contact at 2 inch (5.2 cm) planting depth. Lift wheel 2 inch, check contact and release. When let go, wheel should fall freely.

• If wheel does not contact disk at bottom to area where blade leaves contact with soil, move hex adjuster until wheel is angled for proper contact with disk.
• *If wheel does not fall freely*, loosen hex-head bolt ① and slide wheel arm out just until wheel and arm move freely. Tighten hex-head bolt ① according to grade:
  
  1/2 inch Grade 5 bolt on 25 series:
  75 foot-pounds (102 N•m).

  1/2 inch Grade 8 bolt on 25 series:
  110 foot-pounds (149 N•m).

  Use "Torque Values Chart" on page 108 for reference.

  6. Keep turning hex adjuster and moving wheel arm until the wheel is adjusted properly. When satisfied, tighten pivot bolt ② to 110 foot-pounds (149 N•m).

**Adjusting Gauge Wheel Scrapers**

*Refer to Figure 64*

Scrapers are optional, and may be useful in moist or sticky soils that tend to accumulate on gauge wheels and reduce intended planting depth.

To adjust scrapers:

1. Loosen nut ⑧.

2. Slide scraper ⑥ toward gauge wheel ⑦ until scraper touches tire.

3. Slide scraper ⑥ away from wheel ⑦ leaving a ⅛ inch (3 mm) gap at ⑧.

4. Rotate scraper left and right around bolt, making sure it cannot touch tire if bumped in field. If it can touch tire, back scraper away from wheel until it cannot.

5. Center scraper angle on bolt ⑨ until gap ⑩ is constant.

6. Tighten nut ⑧.
Seed Meter Setup and Adjustment

There are adjustments for seed inlet, and choice of disks. There are no other adjustments, in particular no brush adjustments, at the meter.

Meter Rain Cover

The rain cover keeps side winds from unseating seed in disk pockets. It also keeps precipitation, sunlight and field debris out of the meters.

Refer to Figure 65

To remove the rain cover, peel the flexible snap latches, at top ① and rear ②, away from the meter housing. Pivot the cover forward and down at tab ③ in slot.

When removing a cover, inspect it for damage and missing parts. If a cover does not have both latches, and an intact edge seal under the latches, the cover is apt to be lost during transport or field operations.

To replace a latch, temporarily remove the seal near the latch. Slide the replacement latch onto the cover lugs from the meter side, then snap the other end down over the lugs. Re-install the seal.

Seed Inlet Shutter Adjustment

Refer to Figure 66 (showing the shutter at setting 3)

The seed inlet shutter regulates the volume of bulk seed presented to the seed disk. The operating settings vary with crop, seed size and treatments. The shutter also has settings for row shut-off (completely closed), and clean-out (wide open).

The Seed Rate Charts include suggested initial shutter settings. Refine these settings based on experience, and on inspection of the slope of the seed pool at the bottom of the seed disk.

The shutter is operated by a handle. Lift the handle away from the meter plate. Move the handle to half a setting higher than the new setting, then back to the new setting, and lower the pawl into that slot.

The table at right is a general summary of shutter settings.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Setting Typically Used For</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top (0)</td>
<td>Closed: Row Shut-Off, Meter Re-Fill</td>
</tr>
<tr>
<td></td>
<td>Small seeds, such as Milo, with little or no treatments</td>
</tr>
<tr>
<td></td>
<td>Small treated seeds and edible beans (such as Soybeans)</td>
</tr>
<tr>
<td></td>
<td>Corn, round popcorn</td>
</tr>
<tr>
<td></td>
<td>Large corn, or heavily treated corn</td>
</tr>
<tr>
<td>Bottom (5)</td>
<td>Wide Open: Clean-Out</td>
</tr>
</tbody>
</table>
Optimal Seed Pool Slopes

The optimal seed slope is one that results in the most consistent seeding, with minimal skips and doubles. The column at right has photographs of pool slopes found to be optimal for representative seeds.

If the suggested initial shutter settings do not seem to be working for your seed, adjust the shutter to achieve specific reserve slope targets.

Refer to Figure 67

For medium size and smaller seeds that flow easily, the slope runs from just above the 8:00 (o’clock) position on the housing wall, forward and down to one or two seeds deep at the base of the rear strip brush ①.

Refer to Figure 68 and Figure 69

For medium size and larger, or heavily treated smaller seeds that flow less easily, the slope runs from at or slightly above the 8:30 (o’clock) position on the housing wall, forward and down to 3-to-6 seeds deep at the base of the rear strip brush ①.

In general, the seeds at the base of the strip brush need to be deep enough that no air escapes there, and so that just enough seeds are present to begin populating cells.

Keep the top left/rear end of the pool below the 9:00 o’clock position (meter horizontal center-line).

Meter Re-Fill

Once planting is underway with the seed pools set, it is infrequently possible for bridging at or above the inlet to starve the meter of seed.

An empty meter causes seed monitor “Row Failure” alarm, with a report of the row number. Row numbers are counted from the left wing (outside row is row 1).

Stop, and put the tractor in Park. Leave the fan running. Locate the failed row, remove the rain cover, and verify that the meter is empty. Note the shutter setting. Temporarily open the shutter one of two notches wider. If the problem was inlet bridging, seed should flow into the meter immediately.

If inlet bridging is not the problem, little or no seed flows into the meter with the shutter open wider. In this case, the problem is further up in the seed flow, and may be bridging where the seed hose joins the meter inlet (also check the slide gate). Close the shutter completely for about 15 seconds. This prevents meter pressurization air from opposing seed delivery. Gently tap on the seed inlet. Re-open the shutter and see if seed now fills the meter.

If no obvious foreign object was the cause of the bridging, the shutter setting may have been too small for the seed. Verify that this and other operating rows were at the correct initial shutter setting. If so, re-set the shutters to the next higher opening.

Foreign Object Risk:

After clearing a bridge, or a delivery blockage upstream, check the seed pool at the meter for any debris that might have been the original cause. Remove such debris from the meter before planting. Don’t run the risk of an object lodging in a seed pocket and causing on-going skips.
Air-Pro® Meter Disk Installation

1. Cross-check Seed Rate Chart data against part number/description molded into disks to be used.

**NOTICE**

*Population Risk:*
*Use the same disk in all active rows.*

2. Inspect disks to be installed. Do not install damaged or excessively worn disks. Either can cause irregular seeding. Chips and cracks accelerate brush wear.

3. Remove meter rain cover (page 62).

**Refer to Figure 70 (depicting an empty meter)**

4. Inspect meter (see page 83 for details).

5. Make sure clamp ① is aligned with seat ②.

**Refer to Figure 71**

6. With the seed pocket side facing the meter housing, place the new seed disk on the disk seat.

7. Rotate disk clamp ① clockwise 45° to clamp disk. Clamp seats into detents ③ in disk hub.

   - On a new meter, or with new brushes installed, force the disk into the brushes to allow the disk clamp to rotate. This condition eases as the brush fibers are trained during initial rotations.

   - With slightly used brushes, when a disk is first clamped, it is normal for the disk hub to be flat with the face of the disk seat only on the inlet (rear) side. The disk fully seats as it first turns. This condition eases as the brush fibers receive further use.

**NOTICE**

*Brush Mis-Seating Risk:*
*Rotate disks forward shortly after disk installation. If planting is not anticipated within an hour or two of disk installation, rotate the drive system a few turns to ensure that meter brushes lean in the correct direction. Correct lean improves meter performance and reduces air consumption. This step is particularly important for new brushes.*

Brush seating may be accomplished with or without seed present. With the planter raised, rotate the ground drive wheel, or rotate the meter drive shaft, top forward, with a 7/8 inch (23 mm) open-end wrench.

8. Reset seed inlet shutter ④ to setting recommended by Seed Rate Chart, or to your own developed value.

9. On the seed monitor console, select the new Material, seed disk Cell Count, and target population.

Removing a Seed Disk

Refer to Figure 73

1. Remove rain cover. If seed is present, close shutter ④ to prevent more seed from entering meter. Attach funnel (page 82) or place a tarp under the row to collect seed.

2. Hold seed disk in meter. Rotate disk clamp ① counterclockwise 45° to release disk.

3. Tilting top of disk toward meter, slowly remove disk, allowing seed to collect in funnel or to control flow to tarp. Open shutter to release remaining seed up to wing tube.

4. Clean seed from all brushes. Clean disk seat (② in Figure 70 page 64), so that new disks can seat fully. Inspect brushes for excess wear and damage. See "Meter Brush Maintenance" on page 83.

5. Inspect removed disks for excess wear and damage. Set aside any disks requiring replacement. Clean other removed disks and place in storage. See “Seed Disk Maintenance” on page 85.

6. Re-install the rain cover (page 62).

Row Unit Shut-Off

Skip-row operations, such as planting from every other row when switching from 30 inch twin-row to 30 inch single-row, requires shutting down unused rows. Shutting off seeding at a row involves 4 to 7 steps:

1. Identify the rows to shut off (page 66).
2. Fully close seed inlet shutter (page 66).
3. Replace seed disk with blank disk (page 66).
4. Lock up row unit to reduce wear (optional, page 66).
5. Reset marker extension (Option, page 119).
6. Reset monitor active row pattern and row spacing to avoid nuisance alarms (see Monitor manual).

Meter drive is not disabled on 25AP row units during shut-off.
1. Identify Rows to Shut Off
On twin-row planters, openers are installed with short and long opener mounts. If locking up unused rows of a twin-row planter, shut off the rear (long mount) rows.
On single-row planters with mid-length mounts, any rows may be locked up.
If not locking up rows, any rows may be shut off.

2. Close Seed Shutter
Refer to Figure 74 on page 65
Lift the handle  away from the plate. Move it to the top position, and release the handle into the notch.
Closing the shutter prevents meter pressurization air from leaking into the bulk seed air system, resulting in lower pressures in adjacent rows, with risk of skips.
The shutter also stops seed flow from a row as soon as the meter is empty. Bulk seed flow to the row falls to nil as soon as the seed backs up to the air release vent at the top of the meter.

3. Install Blank Disk
Refer to Figure 75
Clean out meter. See “Meter Clean-Out” on page 82.
Remove seed disk and install blank disk. See “Air-Pro® Meter Disk Installation” on page 64.
Blank disks (part number 817-841C) are essential in row shut-off, both to maintain consistent meter back-pressure to meter pressurization and to prevent wear on seed disks and minimize wear on brushes.
Blank disks are engineered to simulate a seed disk with seed in all pockets. Blanks are particularly important on the rows with sensor lines to the pressure chamber.

4. Lock-Up Row
Alternate twin-row units (the rear units) can be pinned in the up position to accommodate single-row spacing.
Refer to Figure 76
The lock-up pins  are located in a storage hole  in the row unit mount. To lock up a unit, the unit must be raised, and the pin moved to the lock-up hole  in the row unit shank.
Lint Lock-up pins are provided for every other row of twin-row configurations. If you lose a pin, the replacement part number is 805-033C

Irregular Seeding Risk:
Always use a blank disk in a shut-off row. Operating with no disk, or with a seed disk but no seed, destabilizes the regulated airflow, particularly at rows with pressure sensor lines.

Crushing and Sharp Object Hazards:
Do not attempt to lift a row unit by hand. The weight of the unit, plus the force of the springs (even at minimum) is too great (plus, a free hand is needed for pin insertion). Even with multiple people lifting, hand-lifting is unsafe - there are numerous sharp edges, and the row unit snaps down violently if a grip is lost.
1. Raise the planter. Although this adjustment can be made with the planter lowered, the springs will be in tension, and will require more effort. The extra force may also damage tools.

2. Install lift assist cylinder locks. Lower parking stands.

3. Set the down pressure spring cam to zero, per the instructions on page 55.

4. Raise the row unit high enough that the hole for the pin is above the lower parallel arm. This can be done in several ways, including:
   a. use a hoist at the rear of the shank
   b. use a jack under the shank extension

**CAUTION**

**Crushing Hazard:**
Use a jack or hoist. Raising a row unit on a block by lowering the planter is risky. The potential for hydraulic failure creates a safety hazard. Full lowering can damage components.

**Refer to Figure 77**

5. Remove the pin from the storage hole and insert and secure it in the lock-up hole.

6. Lower row unit until lock-up pin rests on lower parallel arm.

**Sprocket Indexing (Stagger)**

Indexed - deliberate pair spacing provides maximum plant separation

Non-Indexed - arbitrary pair spacing

If you are planting:
- twin-row crops,
- at seed interval spacings above 6 1/2 inches (16.5 cm),

you can synchronize each pair of adjacent meters in a twin row so that you achieve the maximum seed-to-seed spacing between the units of the pair.

Refer to the Seed and Fertilizer Rate manual (401-651B) for instructions and charts.
Seed Firmer Adjustments

Series 25 row units include a standard seed flap, and accept one of two optional seed firmers (which may be included in your selected opener bundle).

**CAUTION**

*Row unit disk blades may be sharp. Use caution when making adjustments in this area. To adjust the Keeton Seed Firmer, lower the planter until the disks of the row units are resting on the ground.*

**Keeton Seed Firmer Adjustment**

The optional Keeton Seed Firmer is an engineered polymer shape that slides down the seed trench. It traps seeds as they exit the seed tube and firms them into the bottom of the “V”.

*Refer to Figure 78*

The Firmer is provided with a preset tension which is recommended for using the first year. The tension screw 1 can be tightened in subsequent years according to your needs. Firmers should provide just enough tension to push seeds to the bottom of the trench.

**Seed-Lok® Seed Firmer Lock-Up**

Optional Seed-Lok® firming wheels provide additional seed-to-soil contact. The wheels are spring loaded and do not require adjusting. In some wet and sticky conditions the wheels may accumulate soil. To avoid problems associated with this, you can lock-up the firmers.

*Refer to Figure 79 (which depicts a row unit with discs, side depth wheels/arms and press wheels removed for illustrative purposes - removal is not necessary for lock/unlock)*

To lock up Seed-Lok® wheels:

1. Raise planter. Insert lift assist cylinder locks.
2. Lift Seed-Lok® lock-up handle 1 until lever stop 2 is free to rotate.
4. Push up on Seed-Lok® wheel 4 until wheel arm latches up 5.

To release a locked-up Seed-Lok®:

1. Insert a 1/4 in. tool drive tip in the tool hole 6 of the handle 1. Alternatively, lift up on the wheel 4.
2. Rotate the handle clockwise (handle arm up) until the Seed-Lok® wheel releases at the latch point 5 and falls free.
3. While holding the handle up, rotate the raised portion of the lever stop 2 under both sides 2 of the handle at the arm end. Remove the tool.

Engage the lever stop under the handle 2 when Seed-Lok® is in use. If left disengaged 3, a furrow obstruction could cause unintended lock-up.
Press Wheel Adjustment

The press wheels close the furrow which gently presses the soil over the seed to ensure good seed-to-soil contact for even emergence.

To provide consistent seed firming, the press wheels are free to move downward from their normal operating position. This system maintains closing/pressing action even if the row unit arm is lifted when the disks encounter obstructions.

There are three adjustments available on the press wheel assembly:

Refer to Figure 80
1. Down pressure (shown at maximum)
2. Wheel stagger (shown staggered)
3. Centering (see Figure 82 on page 70)

Press Wheel Down Pressure

Handle 1 sets down pressure, which may need adjustment for different soil types and field conditions.

- Relax the handle forward (in the direction of travel) for decreased down pressure.
- Pull the handle 1 back for increased down pressure.

Higher press wheel down pressures reduce the down force on the main row unit shank components, such as the openers. High press wheel settings may require an increase in overall row unit down force. See page 54.

Press Wheel Stagger

The factory stagger setting has been found optimal for residue flow. If your conditions appear to require even press wheels, you might try one row before re-configuring the entire planter. To change the stagger:

Refer to Figure 81
1. Raise the planter. Secure with blocks or jack stands.
2. Remove the bolt 4, nut 5 and lock-washer 6 for the left press wheel 3.
3. Move the spacer 7 and wheel 8 to the forward of the two mounting holes at 2.
4. Re-install the bolt, lock washer and nut. Tighten.

Higher press wheel down pressures reduce the down force on the main row unit shank components, such as the openers. High press wheel settings may require an increase in overall row unit down force. See page 54.
Press Wheel Centering

If one press wheel is running in the seed trench, or the wheels are not centered over the trench, the angle 1 of the press wheel assembly can be adjusted as follows:

Refer to Figure 82

1. Determine how far, and in which direction, the press wheel assembly needs to move to center the wheels.
2. Raise planter. Secure with blocks or jack stands.
3. Loosen the ½ inch hex-head bolts 2 and 3.
   - Do not loosen the square-head bolts forward of the hex-head bolts.
4. Turn the hex head cam 4 under the forward hex head jam bolt 3, and move the required amount.
5. Tighten both hex head bolts 2 and 3.

If press wheel adjustments do not provide satisfactory furrow closing, your conditions may require alternate press wheels. A variety of wheel assemblies are available. Consult your Great Plains dealer.
## Planting Rate Problems

When starting up with a new planter, a new crop or a new population it is important to physically double check what the monitor is reporting in the cab by digging seeds. This is to verify that you are set up correctly to plant the desired population. Do not rely solely on the population reported by the optional seed monitor.

Also during start up it is common to encounter alarms and readouts on the optional seed monitor that don’t seem to make sense. It is critical to troubleshoot these alarms not only to make sure the planter drive is set properly to hit the target population, but also to fix incorrect entries in the monitor setup to eliminate nuisance alarms.

Before entering the troubleshooting charts to remedy a monitor or population problem, it is helpful to use the following flowchart to get a handle on what may be wrong. The basis for finding what is wrong comes from knowing exactly what the planter is actually doing in the soil. Always dig or observe seed on the ground when checking populations.

### Suggested Furrow Check:

Plant a short distance and dig seeds, or run with the closing wheels wired up to leave an open seed trench. Based on seeds found, determine an average distance between seeds. Compare the distance between seeds to the seed spacing listed in the charts for your population. This is listed as “inches per seed”.

<table>
<thead>
<tr>
<th>1. Is the spacing on the ground correct?</th>
<th>No: Check the ground drive transmission and range sprocket selections, or the population settings on a hydraulic drive unit. See also “Population Too Low” or “Population Too High” in the troubleshooting charts.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes: Go to step 2.</td>
</tr>
<tr>
<td>2. Is the population reported by the optional seed monitor 1/2 the actual or is the reported population too high by a factor of 2?</td>
<td>No: An incorrect row spacing value entered in the seed monitor can cause this. Example: 15 inches instead of 30 inches. Correct the row spacing error on the optional seed monitor console. The system can also be off by a large factor if incorrect range sprockets are installed. Check seed rate charts against range and transmission sprockets on the planter.</td>
</tr>
<tr>
<td></td>
<td>Yes: Go to step 3.</td>
</tr>
<tr>
<td>3. Is the population reported by the optional seed monitor close to the target population?</td>
<td>No: Check seed rate charts against transmission sprockets selected. See “Population Too Low” or “Population Too High” in the troubleshooting charts.</td>
</tr>
<tr>
<td></td>
<td>Yes: If slightly under, see “Population Too Low” if slightly over, see “Population Too High”.</td>
</tr>
</tbody>
</table>
Seed Pool Troubleshooting

Figure 83
Rear Cross-Section of Air-Pro® Meter in Normal and Row-Failed Conditions

<table>
<thead>
<tr>
<th>Normal: Filled</th>
<th>Bridging: Inlet Shutter</th>
<th>Bridging: Seed Hose</th>
<th>Empty Hopper</th>
</tr>
</thead>
</table>
| Inlet is filled to seed box. Seed move slowly down as singulated by meter. | A bridge at the shutter is blocking flow. Causes may include:  
• oversize seed  
• shutter setting too low  
• oversize matter in seed  
• excessive or sticky seed treatment | Oversize matter in seed has caused a bridge at the top of the inlet. Causes may include:  
• oversize seed  
• oversize matter in seed  
• excessive or sticky seed treatment | No seed arriving from box. Causes may include:  
• seed run-out  
• slide gate closed |
| **Actions:** No action required. Continue Planting. | **Actions:**  
1. If shutter was at suggested opening, increase one notch.  
2. Check seed pool for foreign matter.  
3. Resume planting. | **Actions:**  
1. Close shutter.  
2. Tap on hose/tube junction.  
3. Check seed pool for foreign matter.  
4. Resume planting. | **Actions:**  
1. If row is active, add seed or check slide gate.  
2. If row is inactive, close shutter.  
3. Resume planting. |
Magnehelic® Gauge Troubleshooting

If the Magnehelic® gauge does not read zero with the fan off, inspect the gauge, and re-zero as needed.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-zero with fan off</td>
<td>Zero drift</td>
<td>Re-zero per instructions below</td>
</tr>
<tr>
<td>Gauge reading lower than sensor</td>
<td>Relief port plug missing/damaged</td>
<td>Replace plug</td>
</tr>
<tr>
<td></td>
<td>Breather line blocked or kinked</td>
<td>Clear breather line</td>
</tr>
<tr>
<td></td>
<td>Leak in sensing line</td>
<td>Check line to chamber</td>
</tr>
<tr>
<td></td>
<td>Gauge damaged</td>
<td>Check for loose cover, damaged O-ring</td>
</tr>
</tbody>
</table>

Check for chamber and breather line problems before re-zero. Re-zero cannot accurately compensate for leaks and blockages.

Re-zero the Magnehelic® gauge on level ground with the fan off, and if possible, under no-wind conditions. Turn the set screw 1 on the meter face until it reads zero from the tractor driver’s viewing position.

Port ID for Troubleshooting:

1. Over-pressure relief port (with plug in place)
2. Low-pressure port (breather/atmospheric pressure)
3. High-pressure port (from manifold chamber)
4. Alternate high/low ports are plugged.

Winter testing/maintenance advisory:

Gauge readings may be inaccurate or sluggish below 20°F
# Population Troubleshooting Charts

## Population Too Low

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| **Overall Low Population** | Incorrect seed rate | Using Seed Rate Manual, check:  
• seed disk selection,  
• Range/Transmission sprocket setup, and  
• tire size and inflation. |
| Empty pockets on disk (skips) due to insufficient air pressure. |  | Methodically increase the meter pressurization. See “Fan and Adjustment” on page 50. |
| Empty pockets on disk (skips) due to sticky seed treatments not allowing seed to rapidly fill the pockets. |  | Increase seed lubricant. |
| Empty pockets on disk (skips) due to rough field conditions causing seeds to fall from the disks. |  | Decrease field speed or increase the air pressure in the meter. |
| Empty pockets on disk (skips) due to seed pool too low, and seeds are not filling every pocket on the disk. |  | Open shutter one notch. |
| Empty pockets on disk (skips) due to disk speed too high, and pockets are not filling. |  | Decrease field speed or change to a higher cell count disc. |
| Empty pockets on disk (skips) due to singulation (4 tufted) brush too aggressive. |  | Check for matted, stuck together fibers. Wash, scrape clean, or replace as needed. |
| Empty pockets on disk (skips) due to seed too big for pocket. |  | Select the correct disk for the seed size. |
| Seeds are not falling from disk, and get carried past drop zone. Static electricity can cause small, lightweight seeds to cling to the pocket and not fall out. |  | The graphite component of Ezee Glide Plus addresses this issue. Increase the amount of Easy Glide Plus and/or more thoroughly mix the lubricant into the seed. |
| Air pressure too low, as confirmed by gauge. |  | Increase fan speed or reduce butterfly valve setting. |
| Air pressure too low, but gauge reading is within range or reading high. |  | • Inspect the \( \frac{1}{4} \) inch sample lines from the row units up to the sensor chamber for leaks (page 73).  
• Make sure all non-planting rows have blank disks and shutters are closed (page 66).  
• Re-zero the gauge with the fan off (page 73).  
• Check gauge vent line for kinks, pinches or plugging (page 73). |
| Excess field speed |  | Plant within speed ranges recommended in Seed Rate Manual. |
| Incorrect speed sensor constant. |  | Perform speed calibration per seed monitor manual. |
| Incorrect magnetic speed sensor gap. |  | Check and adjust (page 85). |
| (Option) Incorrect radar speed sensor angle. |  | With planter lowered, check radar speed sensor angle per DICKEY-john\textsuperscript{®} recommendations. |
| Pass gaps too large |  | Check marker extension (page 119). For GPS, check planter size programmed. |
| Actual field size is different |  | Population may be correct, and calculations are not. |
| Seed monitor reporting excess area |  | Readings can vary with conditions (wheel slippage, and effective rolling radius in soft soils) and planting patterns. |
## Population Too Low

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Population, Single Row</strong></td>
<td>Shutter opening too narrow - starving meter of seed (low seed pool)</td>
<td>Adjust shutter to higher setting.</td>
</tr>
<tr>
<td></td>
<td>Meter starvation due to bridging at shutter</td>
<td>Re-adjust for shutter bridging (page 63). If seed is treated, increase seed lubricant.</td>
</tr>
<tr>
<td></td>
<td>Meter starvation due to blockage above inlet</td>
<td>Clear blockage (page 63).</td>
</tr>
<tr>
<td></td>
<td>Meter starvation due to bridging above inlet, caused by high levels of seed treatment</td>
<td>Clear bridge (page 63). Increase seed lubricant.</td>
</tr>
<tr>
<td></td>
<td>Incorrect seed disk on one row</td>
<td>Install correct seed disk.</td>
</tr>
<tr>
<td></td>
<td>Chain skipping at row unit.</td>
<td>Check chain, idler and sprocket condition.</td>
</tr>
<tr>
<td></td>
<td>Skips due to low meter pressurization at one or several rows</td>
<td>Check shutter setting. Check for excess wear on seed drop brush. Check for loose or leaking pressure hose.</td>
</tr>
<tr>
<td></td>
<td>Skips due to skipping chain</td>
<td>Check for worn chain, worn idlers, low chain slack (page 87) and failed meter bearing.</td>
</tr>
<tr>
<td></td>
<td>Skips due to debris in disk pockets</td>
<td>Remove rain covers. Inspect and clean out disks.</td>
</tr>
<tr>
<td></td>
<td>Row has blank disk installed</td>
<td>Replace with seeding disk.</td>
</tr>
<tr>
<td></td>
<td>Seed tube plugged</td>
<td>Raise planter, expose bottom of seed tube and clean out.</td>
</tr>
<tr>
<td><strong>Low or Erratic Seed Flow</strong></td>
<td>Seed meter plugged, due to operation with fan shut off, or manifold pressure too low.</td>
<td>Close shutters. Clean-out meters. Set fan for correct manifold pressure. Resume planting.</td>
</tr>
</tbody>
</table>

## Population Too High

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall High Population</strong></td>
<td>Incorrect seed rate</td>
<td>Check seed rate charts</td>
</tr>
<tr>
<td></td>
<td>Two seeds per pocket on the disk (doubles), due to excess meter pressurization</td>
<td>Methodically decrease the meter pressurization. See &quot;Fan and Adjustment&quot; on page 50.</td>
</tr>
<tr>
<td></td>
<td>Two seeds per pocket on the disk (doubles), due to pockets too large for the seed</td>
<td>Select a disk with smaller pockets.</td>
</tr>
<tr>
<td></td>
<td>The meter pressurization is too high, as confirmed by gauge</td>
<td>Reduce fan speed or increase butterfly valve setting.</td>
</tr>
<tr>
<td></td>
<td>Air meter pressure too high due to pressure sensor not zeroed properly.</td>
<td>Re-zero the gauge with the fan off.</td>
</tr>
<tr>
<td></td>
<td>Air pressure too high, but gauge is within range or reading low.</td>
<td>Check:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inspect the (1/4) inch sample lines from the row units up to the sensor chamber for leaks (page 73).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Make sure all non-planting rows have blank disks (page 66).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check that rubber pressure relief plug is seated in gauge (page 73).</td>
</tr>
<tr>
<td></td>
<td>False alarms or actual seed rate errors due to monitor setup with incorrect row count, spacing or active rows</td>
<td>When troubleshooting population issues, always first rule out seed monitor setup. Review planter configuration and monitor setup.</td>
</tr>
<tr>
<td></td>
<td>Incorrect cell count</td>
<td>Replace seed disks with correct disks, or reset rate for current disks (if within range).</td>
</tr>
<tr>
<td></td>
<td>Incorrect speed sensor constant.</td>
<td>Perform speed calibration per seed monitor manual.</td>
</tr>
<tr>
<td></td>
<td>Incorrect magnetic speed sensor gap.</td>
<td>Check and adjust (page 85).</td>
</tr>
</tbody>
</table>
## Population Too High

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Doubles due to incorrect disk for crop or seed size</td>
<td>Use recommended disk for crop and seed size.</td>
</tr>
<tr>
<td></td>
<td>Sticky seeds: excess seed treatment</td>
<td>Increase seed lubricant.</td>
</tr>
<tr>
<td></td>
<td>Incorrect speed sensor constant</td>
<td>Perform speed calibration per DICKEY-john® monitor manual.</td>
</tr>
<tr>
<td></td>
<td>Overlapping passes</td>
<td>Check marker extension (page 119). For GPS, check planter size programmed.</td>
</tr>
<tr>
<td></td>
<td>Actual field size is different</td>
<td>Population may be correct, and calculations are not.</td>
</tr>
<tr>
<td></td>
<td>Seed monitor under-reporting area</td>
<td>Readings can vary with conditions (wheel slippage, and effective rolling radius in soft soils) and planting patterns.</td>
</tr>
<tr>
<td>High Population, Single Row</td>
<td>Excess meter pressurization causing doubles</td>
<td>Check shutter.</td>
</tr>
<tr>
<td></td>
<td>Worn seed-drop brush and/or strip brushes allowing excess seed to pass</td>
<td>Replace worn brushes.</td>
</tr>
<tr>
<td></td>
<td>Worn meter bearing causing seed disk wobble and doubles</td>
<td>Replace meter bearing.</td>
</tr>
<tr>
<td></td>
<td>Incorrect seed disk with higher cell count.</td>
<td>Install correct disk.</td>
</tr>
</tbody>
</table>

## Population Related

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Population Alarms</td>
<td>False alarms or actual rate errors due to monitor setup with incorrect [active] row count or spacing</td>
<td>When troubleshooting population issues, always first rule out seed monitor setup. Review planter configuration and monitor setup.</td>
</tr>
<tr>
<td></td>
<td>Incorrect cell count</td>
<td>Replace seed disks with correct disks, or reset rate for current disks (if within range).</td>
</tr>
<tr>
<td></td>
<td>Improper gap on magnetic speed sensor.</td>
<td>Check speed sensor on planter for a gap to toothed wheel of: $1/32$ inch (0.020-0.040 inch, 0.5-1.0 mm). Improper gap can cause erratic speed signal causing monitor to falsely report improper planting rate.</td>
</tr>
<tr>
<td></td>
<td>Incorrect speed sensor constant</td>
<td>Perform speed calibration per monitor manual.</td>
</tr>
<tr>
<td></td>
<td>(Option) Incorrect radar speed sensor angle.</td>
<td>With planter lowered, check radar speed sensor angle per DICKEY-john® recommendations.</td>
</tr>
<tr>
<td></td>
<td>Seed run-out. Due to unequal outlets per box division, and if planting across slopes, some rows will run out before others.</td>
<td>Re-distribute seed to favor rows that have run out, and plan to re-fill shortly.</td>
</tr>
<tr>
<td>Mismatch Between Reported and Furrow Population</td>
<td>Small seeds (example milo) are not reliably sensed in the seed tube</td>
<td>Run with rain covers in place to minimize ambient light intrusion. Use the population scaling factor in the seed monitor system to compensate for missed seeds. Remember to set this back to 100% for large seeds.</td>
</tr>
<tr>
<td></td>
<td>Seed tube sensor is not counting all seeds</td>
<td>Clean the seed tube of graphite and dust buildup with long narrow seed tube brush. Replace sensors that malfunction.</td>
</tr>
<tr>
<td>Excessive Seed Cracking</td>
<td>Incorrect seed pocket size</td>
<td>Use correct disk for seed.</td>
</tr>
<tr>
<td></td>
<td>Damaged, old or dried-out seed</td>
<td>Use new seed.</td>
</tr>
<tr>
<td></td>
<td>Unclean seed</td>
<td>Use clean seed.</td>
</tr>
</tbody>
</table>
# Population Related

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skips and Bare Spots After Turns</td>
<td>Fan was turned off at turns</td>
<td>Leave fan running; meter pressurization must be maintained during turns, or seed will fall out of disk pockets.</td>
</tr>
</tbody>
</table>
|                                              | Insufficient hydraulic flow to keep fan running at speed required to maintain meter pressurization | Check tractor capability against requirements (page 101). If sufficient:  
  • Fold markers before engaging lift.  
  • Use a less aggressive lift rate.  
  • Monitor meter pressurization during end-of-pass operations. |
| Seed too shallow or scattered on ground from a single row | Bottom of seed tube damaged. | Replace seed tube. Avoid setting planter straight down. Use forward motion when lowering. |
|                                              | Row not penetrating in tire tracks.       | Increase down force on parallel arm springs.                             |
|                                              | Opener depth too shallow.                 | Change side depth wheel setting.                                        |
| Twin Rows were timed but became out of time. | Timing will change when a population change has been made. | Re-time meters from the population based timing chart.                  |
|                                              | Chain has jumped.                         | Check sprockets and chain for excessive wear or rusty stuck links.       |

## General Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Alarms</td>
<td>See “Population Troubleshooting Charts” on page 74.</td>
<td></td>
</tr>
<tr>
<td>Excess Seed Remaining</td>
<td>See “Population Troubleshooting Charts” on page 74.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Field size different.</td>
<td>After ruling out population problems, re-check geography.</td>
</tr>
<tr>
<td>Seed Consumption Too High</td>
<td>See “Population Troubleshooting Charts” on page 74.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Field size different.</td>
<td>After ruling out population problems, re-check geography.</td>
</tr>
<tr>
<td>Rows Not Planted</td>
<td>If not detected by optional seed monitor, check for plugged row-unit seed tube</td>
<td>Lift planter, expose bottom of seed tube and clean out.</td>
</tr>
<tr>
<td>Uneven seed spacing</td>
<td>See “Population Troubleshooting Charts” on page 74.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excessive field speed.</td>
<td>Reduce field speed.</td>
</tr>
<tr>
<td></td>
<td>Unclean seed.</td>
<td>Use clean seed.</td>
</tr>
<tr>
<td></td>
<td>Damaged seed tube</td>
<td>Inspect; repair or replace.</td>
</tr>
<tr>
<td></td>
<td>Seed-Lok® plugging.</td>
<td>Lock up Seed-Lok®, page 68.</td>
</tr>
<tr>
<td></td>
<td>Row-unit discs not turning.</td>
<td>See “Row-unit discs not turning freely” in this Troubleshooting chart.</td>
</tr>
<tr>
<td></td>
<td>Worn/rusted sprockets and/or chain idler or bearings.</td>
<td>Check and replace any worn/rusted sprockets or chain idlers.</td>
</tr>
<tr>
<td></td>
<td>Partially plugged row-unit seed tube.</td>
<td>Lift up planter, expose bottom of seed tube and clean out.</td>
</tr>
<tr>
<td></td>
<td>Lack of proper seed lubrication on seed.</td>
<td>See “Seed Lubricant” on page 96.</td>
</tr>
</tbody>
</table>
## General Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uneven seed depth</strong></td>
<td>Excessive field speed.</td>
<td>Reduce field speed.</td>
</tr>
<tr>
<td></td>
<td>Planting conditions too wet.</td>
<td>Wait until drier weather.</td>
</tr>
<tr>
<td></td>
<td>Incorrect coulter depth setting.</td>
<td>See coulter manual or set unit mounted coulter.</td>
</tr>
<tr>
<td></td>
<td>Excessive or improper row unit down pressure spring setting.</td>
<td>See <strong>&quot;Row Unit Down Pressure&quot;</strong> on page 54.</td>
</tr>
<tr>
<td></td>
<td>Damaged seed tubes.</td>
<td>Check seed tubes for damage.</td>
</tr>
<tr>
<td></td>
<td>Seed-Lok® building up with dirt.</td>
<td>Lock up Seed-Lok®, page 68.</td>
</tr>
<tr>
<td></td>
<td>Row-unit not penetrating low spots.</td>
<td>Adjust row-unit, see instructions beginning on page 54.</td>
</tr>
<tr>
<td></td>
<td>Rough planting conditions.</td>
<td>Rework the field.</td>
</tr>
<tr>
<td></td>
<td>Seed firmer not in place and set to correct tension.</td>
<td>See <strong>&quot;Seed Firmer Adjustments&quot;</strong> on page 68.</td>
</tr>
<tr>
<td><strong>Press wheel or row-units plugging</strong></td>
<td>Planting conditions too wet.</td>
<td>Wait until drier weather.</td>
</tr>
<tr>
<td></td>
<td>Too much pressure on row-units.</td>
<td>Reduce down pressure on row-units.</td>
</tr>
<tr>
<td></td>
<td>Coulters set too deep, bring up excess dirt and moisture.</td>
<td>Check coulter adjustment.</td>
</tr>
<tr>
<td></td>
<td>Planter not set to run level from front to rear.</td>
<td>Check tool bar height page 21</td>
</tr>
<tr>
<td></td>
<td>Backed up with planter in the ground.</td>
<td>Clean out and check for damage.</td>
</tr>
<tr>
<td></td>
<td>Failed disc bearings.</td>
<td>Replace disc bearings.</td>
</tr>
<tr>
<td></td>
<td>Disc blades worn.</td>
<td>Replace disc blades.</td>
</tr>
<tr>
<td></td>
<td>Scraper worn or damaged. Side depth wheels not set correctly.</td>
<td>Adjust side depth wheels page.</td>
</tr>
<tr>
<td><strong>Row-unit discs not turning freely</strong></td>
<td>Row-unit plugged with dirt.</td>
<td>Clean row-unit.</td>
</tr>
<tr>
<td></td>
<td>Planting conditions too wet.</td>
<td>Wait until drier weather.</td>
</tr>
<tr>
<td></td>
<td>Incorrect side depth wheel adjustment</td>
<td>See <strong>&quot;Side Gauge Wheel Adjustment&quot;</strong> on page 60.</td>
</tr>
<tr>
<td></td>
<td>Seed-Lok® is plugging row-unit.</td>
<td>Lock up Seed-Lok®, page 68.</td>
</tr>
<tr>
<td></td>
<td>Failed disc bearings.</td>
<td>Replace disc bearings.</td>
</tr>
<tr>
<td></td>
<td>Bent or twisted row-unit frame.</td>
<td>Replace row-unit frame.</td>
</tr>
<tr>
<td></td>
<td>Partially plugged row-unit seed tube.</td>
<td>Lift up planter, expose bottom of seed tube and clean out.</td>
</tr>
<tr>
<td><strong>Press wheels not compacting the soil as desired.</strong></td>
<td>Incorrect spring handle setting</td>
<td>See <strong>&quot;Press Wheel Adjustment&quot;</strong> on page 69.</td>
</tr>
<tr>
<td></td>
<td>Insufficient row unit down-force</td>
<td>See <strong>&quot;Row Unit Down Pressure&quot;</strong> on page 54.</td>
</tr>
<tr>
<td></td>
<td>Use of incorrectly shaped tire for your conditions.</td>
<td>Wedge shaped wheels work best on narrow spacings and in wet conditions. Round edge wheels work best in wider row spacings and drier conditions.</td>
</tr>
<tr>
<td></td>
<td>Not level front to rear.</td>
<td>Check tongue height and top link adjustment.</td>
</tr>
<tr>
<td></td>
<td>Wheel stagger needs adjustment for conditions</td>
<td>See <strong>&quot;Press Wheel Adjustment&quot;</strong> on page 69.</td>
</tr>
<tr>
<td></td>
<td>Too wet or cloddy</td>
<td>Wait until drier weather or rework ground.</td>
</tr>
</tbody>
</table>
## General Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic marker functioning improperly, or not at all</td>
<td>Marker/Fold switch set to Fold. CFM Switch must be set to &quot;Marker&quot;. Set tractor remote circuit to Neutral or Float before operating switch.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marker/Aux valve set to Aux On a planter with optional Auxiliary Hydraulics, selector valve must be set to Marker for markers to function. Set tractor remote circuit to Neutral or Float before changing valve.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air or oil leaks in hose fittings or connections. Check all hose fittings and connections for air or oil leaks.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low tractor hydraulic oil level. Check tractor hydraulic oil level.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loose or missing bolts or fasteners. Check all bolts and fasteners.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needle valve(s) plugged. Open needle valves, cycle markers slowly and reset needle valves, refer to page 119.</td>
<td></td>
</tr>
<tr>
<td>Marker disk does not mark</td>
<td>Disk angle too straight for soil conditions Reverse marker disk to pull or throw dirt.</td>
<td></td>
</tr>
<tr>
<td>Speed Reading Doesn't Match Tractor</td>
<td>Monitor speed reading, using optional radar, will only match tractor with planter lowered. (Speed reading with magnetic pickup falls to zero when lifted.) If speeds don’t agree during planting (with planter lowered), re-calibrate radar speed sensor with planter lowered.</td>
<td></td>
</tr>
</tbody>
</table>
Maintenance and Lubrication

Maintenance

Proper servicing and maintenance is the key to long implement life. With careful and systematic inspection, you can avoid costly maintenance, downtime, and repair.

Always turn off and remove the tractor key before making any adjustments or performing any maintenance.

**WARNING**

**Crushing Hazard:**
Always have transport locks in place when working on implement. You may be severely injured or killed by being crushed under a falling implement.

**WARNING**

**High Pressure Fluid Hazard:**
Check all hydraulic lines and fittings before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, and wear heavy gloves to check for suspected leaks. Escaping fluid under pressure can have sufficient pressure to penetrate the skin. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

1. After using your planter for several hours, check all bolts to be sure they are tight.
2. Remove excess slack from chains. Clean and use chain lube on all roller chains as needed.
3. Maintain proper air pressure in planter tires.
4. Keep disk scrapers properly adjusted.
5. Clean planter on a regular basis. Regular and thorough cleaning will lengthen equipment life and reduce maintenance and repair.
6. Lubricate areas listed under “Lubrication” on page 91.
7. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Great Plains dealer.
Material Clean-Out

When planting is completed, it is commonly the case that some seed remains. There may be seed in the hoppers, hose lines, and meters.

Refer to Figure 85

The planter includes an 817-811C container for meter clean-out, stored in a spring-loaded holder at the right rear of the air manifold. The container can hold all the seed in the meter and inlet (up to a closed slide gate). The container can be converted into a true funnel for complete system clean-out.

The hoppers are connected to the rows with clamped hose, and are not intended to be routinely unlatched and tipped for clean-out.

Funnel Conversion

Materials and tools needed:

- a length of 1 3/8 inch I.D. hose
- a worm drive clamp with a working diameter of approximately 1 3/8 to 2 1/4 inch
- a hacksaw with fine-toothed blade

Trim the sump from the funnel. Slide the hose fully onto the funnel tip. Secure with clamp (do not over-tighten, the funnel wall be crushed).

The choice of complete system clean-out process depends on whether you are using the 817-811C as a container or funnel.

Seed Clean-Out (Container)

1. Scoop or vacuum as much seed as possible from the top of the hoppers.
2. Perform a meter clean-out per page 82.

Seed Clean-Out (Funnel)

1. Close slide gate at hopper (slide gate only exists on models with serial number B1013R and earlier).
2. Attach funnel as for meter clean-out (page 82), with hose routed to bucket or other larger container.
3. Use slide gate to control seed flow until meter, inlet and hopper are empty (slide gate only on models B1013R-).

Possible Dust and Chemical Residue and Fume Hazards:

Wear a respirator, and any other protective equipment specified by the seed supplier and/or seed treatment supplier. Expect chemical residue, dust and fumes during clean-out.

Figure 85

Convert Container to Funnel

a. The funnel does not fit rows that are to the left of gauge wheels on twin-row planters. Use vacuum or tarp on those rows.
b. The funnel wall is thin ABS. Scissor-type pipe-cutting tools may fracture it. Rotary-type pipe cutting tools may slip off.
Meter Clean-Out

Refer to Figure 87

The 817-811C seed collection accessory (funnel ①) may be attached to the housing of the seed meter, freeing your hands for other tasks during clean-out.

⚠️ The funnel does not fit rows to the left of gauge wheels on twin-row planters. Use vacuum or tarp collection on those rows.

⚠️ It may be necessary to raise a twin-row planter to obtain clearance for the funnel. Secure with blocks or jack stands if the planter is raised.

1. Close the seed inlet shutter on the meter (page 62). This minimizes the seed volume at disk removal.
2. Remove the rain cover (page 62). The funnel cannot be snapped in place with the cover installed.
3. Align the left (rear) end of the funnel lip ⑤ with the top of the lower (rear) cover latch ear. Place the right (front) end of the funnel lip ⑥ between the meter housing and the seed tube.
4. Rotate the funnel forward until the slot at lip center engages a tab on the bottom center of the meter housing.
5. Remove the seed (page 65).
6. Slowly open the seed shutter (page 62) to empty the seed up to the slide gate.
7. If seed remains in the hopper, use the slide gate to control the volume of flow.

Refer to Figure 86

8. Clean seed from all brushes (shop vac recommended).
10. Rotate funnel clockwise, remove and empty.
11. For imminent operations:
    Install next seed wheel or blank disk (page 66) for operations. Set inlet shutter for next seed (page 62).
12. For storage:
    Close seed inlet shutter. Leave disk out.
    Close Y-tube (if any).

At end-of-season clean-out, inspect a few seed meter air release screens. If they require cleaning, consider cleaning all rows.

Alternate Meter Clean-Out

To use a shop vacuum cleaner, with narrow hose nozzle, to clean out a meter:

- Close the seed shutter.
- Release the meter clamp, hold the disk against the meter.
- Tip the top of the disk away from the meter.
- Insert hose nozzle and remove seed.
- Open shutter to allow seeds in inlet and drop hose to flow to vac nozzle.
Meter Brush Maintenance

**CAUTION**

*Possible Chemical Hazard:*
Wear a respirator for brush cleaning. Brushes will have talc and graphite residue, and may have residues of hazardous seed treatments.

*Refer to Figure 88*

A HEPA vacuum cleaner is recommended for brush cleaning. Washing brushes is not recommended and may cause matting. Do not scrape them with sharp instruments.

The first indications of excess brush or damage wear are normally observed on the seed monitor or in the air system operation.

- If the tufted brushes ⑤ are worn/damaged, the seed “double” rate rises, increasing population.

  Finding an occasional cracked seed "hung up" on a tuft fiber is not uncommon, and is not an indicator that brush maintenance is required. Merely remove the seed.

- If the strip brushes ⑥ are worn/damaged, air pressure regulation may become unstable, or require increasing fan speed over time.

  If you find you need to exceed recommended fan rpm ranges, the regulated air system may be taking too much air due to meter leakage.

  In severe cases, seed may leak past the strip brushes, causing spikes in population. If you frequently observe seed in between the strip brushes, one or both may need replacement.

- If the seed drop brush ⑦ is worn/damaged, its anti-static effect may fade, which can result in “skips” due to smaller seeds failing to release, and lower populations.

  If an obvious groove is worn in the drop brush, replace it.

![Figure 88 Brushes](image-url)
Meter Brush Replacement
Consult the Parts manual (401-652P) for current replacement part numbers.

Refer to Figure 89

Tufted Brush Replacement
1. Remove and save both 10-24 hex head cap screws (11) and Nylock nuts (not shown).
2. Remove the tufted brush assembly (12), and replace with new assembly.
3. Re-insert the 10-24 screws, and re-start the Nylock nuts. Carefully tighten each nut just until plate has no play under the screw heads.
4. Add a half turn to the nuts. Do not tighten fasteners to normal 10-24 torque, or the plate may fracture.

Strip Brush Replacement
Do not loosen or remove any of the three 5/16-18 cap screws (13) retaining the brush holder.
1. Insert the flat blade of a large screwdriver into the slots of the brush holder snaps (13). Turn each snap clockwise to release brush holder (14).
2. Prepare to catch drop brush (16) (which will fall loose). Slide brush holder left and up to free front edge from under washer (17). Remove brush holder.
3. Remove used strip brushes from the holder by sliding them downward out of the grooves.

Refer to Figure 90
4. Insert replacement strip brushes into grooves at holder bottom so that notched ends (18) are at the bottom.

Refer to Figure 89
5. Check strip brush positioning with a trial re-insertion of the brush holder. The ends of the long brush must fit snugly into meter housing grooves at top (19) and lower rear (20). The bottom end of the short brush must fit snugly in the lower front housing groove (20). If any significant force is required to re-seat the brush holder, a strip brush is likely too high or too low.
6. Relax the position of the brush holder, re-position the drop brush (see below), and re-seat the brush holder.
7. Starting with the bottom snap, swing snaps (13) back into engagement.
Seed Disk Maintenance

Refer to Figure 91

When removing seed disks, inspect them for wear and damage. If there is any seed dust or treatment build-up in the cell pockets ①, or along the raised wiper ridges ②, clean the disks and re-inspect.

Replace disks for conditions including:

- Chips at circumference ③. These will leak air.
- Chips at edges or in sculpted surfaces of cell pockets ①. These can leak air and/or adversely affect singulation.
- Cracks over 2 inch (5.1 cm) long in the working face ④ of the disk, or any cracks in support webs or to an edge.
- Warping - if any part of the disk does not press firmly on the seed drop brushes (page 64) in operation, replace the disk.
- Wear - if a wiper ridge is worn away, replace the disk. If the seed pockets are worn through, or the air ports ⑤ have enlarged, replace the disk.

Cleaning and Storing Seed Disks

Use warm or hot water, mild soap, and a sponge or soft brush to remove build-up.

If disks are washed, allow them to dry completely prior to storage.

Retain original shipping cartons for disk storage. Otherwise, store them on edge (and not leaning), or stacked horizontally on a spindle, to eliminate any risk of warps. Any seed residue on disks may attract pests. Fully enclose dry disks to prevent rodent damage.

Speed Sensor Gap

Refer to Figure 92

1. Raise planter (page 23). Rotate ground drive wheel until a disk tooth is directly at sensor center-line.

2. Check that wheel teeth are on sensor center-line side-to-side. As needed, loosen collars on either side of disk and adjust.

3. Check that center-line of sensor is pointed at center-line of transfer shaft. As needed, loosen mounting bolts ⑥ and adjust.

4. Check gap ⑦ between top of sensor and toothed wheel for a dimension of: 1/16 inch (1.6 mm)

To adjust, loosen jam nut ⑧. Adjust base nut ⑨ to set gap. Re-tighten jam nut.

Possible Chemical Hazard:

Wear gloves when washing disks. Avoid spray. Do not wash disks where food is prepared, or where cookware or dinnerware is washed. Seed disks will have talc and graphite residue, and may have residues of hazardous seed treatments. Although the disks are dishwasher-safe, do not wash them in an appliance also used for food preparation or food serving items.
Hydraulic Maintenance

As with any hydraulic system, contamination is the most common cause of performance problems and pre-mature wear. Make a special effort to properly clean quick couplers prior to attaching the hoses to tractor, and never let them fall to the ground.

Drive-Line Shear Pin

Refer to Figure 93

The spirol pin ① that connects main transfer shaft collar ② to the transmission shears if an excessive load is put on the shaft.

Infrequent or improper lubrication causes binding of moving parts within the planter. This binding can cause the spirol pin to shear, preventing more serious damage to other planter parts.

NOTICE

Machine Damage / Nuisance Shear Risks:
Do not use arbitrary spirol pins. Replace sheared pins with cotter pins of the same size. Strong pins may fail to shear, causing more serious damage elsewhere. Weaker pins are prone to nuisance shears. Refer to current Parts Manual for correct spirol pin replacement part number.

Marker Maintenance (Option)

See also:
"Initial Marker Setup (Option)" on page 118,
"Marker Operation (Option) S/N-" on page 40, and
"Marker Disk Adjustment" on page 49

Marker Shear Bolt Replacement

Refer to Figure 94

If a marker gets caught or hits an obstruction, it is designed to fail a shear bolt ③ at the fold, pivot on a second bolt (not visible in Figure), and swing back.

The shear bolt is a hex head cap screw, $\frac{5}{16}$-18 x $1\frac{1}{2}$ inch Grade 5, Great Plains part number 802-012C, plus a $\frac{5}{16}$-18 lock nut, Great Plains part number 803-011C.

If an exact replacement is not immediately available, temporarily substitute an M8 x 1.25 Class 8.8 bolt and nut.

Install a replacement shear bolt on the vertical face on the side opposite from the pivot bolt. Do not use a higher grade bolt, or marker hang-ups may result in machine damage. Do not use a lower grade bolt, or you may experience nuisance shears.
Marker Grease Seal Cap

If grease seal cap for marker-disk-hub bearings is damaged or missing, disassemble and clean hub. Repack with grease and install new seal or grease cap.

Chain Maintenance

Inspect and lubricate chains regularly. The slack of new chains tends to increase during the first few hours of operation due to seating.

See also “Chain Routing” on page 112.

Chain Slack

Check slack at fixed idlers within the first 8 hours of operation and tighten idlers as necessary. Check slack at spring-operated idlers seasonally.

Refer to Figure 95, which, for clarity, greatly exaggerates slack, and omits the idlers.

1. Measure the span ① for allowable slack:
   Locate the longest span of each chain (usually the span which does not run through the idlers).

2. Determine the ideal slack:
   Long chains (over 36 inch/91 cm): 1/4 inch per foot
   Vertical short chains: 1/4 inch per foot (2.1 cm/m)
   Horizontal short chains: 1/2 inch per foot (4.2 cm/m).

3. Measure the current slack ②:
   Acting at a right angle to the chain span at the center of the span, deflect the chain in both directions. The slack is the distance of the movement.

4. Adjust the idlers for ideal slack.

Chain Clips

Whenever mounting a chain, make sure the clip at the removable link is oriented to minimize snags.

Refer to Figure 96 (arrow shows chain direction)

Install clip with open end facing away from direction of chain travel (shown by gray or striped arrows in chain routing diagrams).
Meter Drive Chain

Refer to Figure 97 (which depicts planter raised)

When performing periodic lubrication, check chain condition. Replace chain if any frozen kinks are not corrected by lubrication.

When performing seasonal checks, lower planter to put chain at minimum idler spring tension.

Check that idler spring length 3, measured from outside of pin to outside of pin, is not shorter than: 7.0 inch (17.8 cm)

Lift spring off idler assembly 4. Check that idler assembly pivots freely. Re-attach spring.

Check chain clip orientation. Check chain routing at shank idler(s) 5 (see page 115).

Spreader and Scrapers

Applies to all row unit Series.

Refer to Figure 98

1. Remove side gauge wheels from arms to access row-unit disks and scrapers.

2. With the unit raised, check blade spreader 1 for wear. Replace spreader if it is 1/2 inch (13 mm) wide or narrower. To replace, remove disk blades 3, drive out roll pins 2, and install new spreader.

3. When reinstalling disk blades, put two shims 4 between bearing and shank on each blade. Tighten bolts.

4. Check amount of contact between blades, and adjust number of shims as needed. Store extra shims on outside of blade. See “Opener Disc Contact Region” on page 59.

5. Check that outside disk scrapers 5 are formed to disk blades to help remove any mud. Bend/twist scrapers to fit blades as needed. Every 200 acres of operation, check outside scrapers for adjustment and wear. Replace outside scrapers as necessary.

Row-Unit Side Wheels

Refer to Figure 99

- It is normal for the blade spreader to have some looseness in the holder and between the blades. Some looseness is required for proper operation.

- You may need fewer washers under worn disks.
1. **Lift opener side wheel off the ground.** Move tire in and out to check for end play. Check for roughness in bearing by rotating wheel. If bearings are rough, inspect and replace if necessary.

2. Side wheels are preset at the factory. Due to normal wear it may become necessary to make adjustments so the wheel remains close to the disk. To prevent plugging, loosen clamp bolt 1 and slide arm inward to take up gap between side wheel and disk blade. If more adjustment is needed, go to step 3.

3. Remove bolt 2 and wheel 3. Remove shims 4 from the inside of wheel 3 and place them on the outside of wheel. Always place removed shims from the inside to the outside. When installed, wheel should turn freely and not hit the arm at the curve. Do not add any more shims than necessary.

4. Disassemble side gauge wheel arm 5 from unit. Remove bushing 6 from sleeve 7 and check for wear. If necessary, replace bushing.

5. When reinstalling side gauge wheels, align tab on hex adjustment 8 with notch in bushing. Replace bolt and tighten.

6. Adjust side gauge wheels. Refer to see “Side Gauge Wheel Adjustment” on page 60.

---

**Sharp Object Hazard:**

Be careful when working in this area. Disk edges are sharp.
Seed Flap Replacement

Refer to Figure 100

To replace a seed flap ①, use a needle nose pliers or similar tool to grasp “T” top of flap. Pull upward to pull flap up out of metal bracket ②.

Push new seed flap ① down through metal bracket ② until flap snaps into place with “T” top resting on top of bracket.
Lubrication

**Opener Side Wheel Bushing**

<table>
<thead>
<tr>
<th>Multi-purpose spray lubricant</th>
<th>Multi-purpose grease lubricant</th>
<th>Multi-purpose oil lubricant</th>
<th>Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

On both sides of each row-unit (2 per row)
Type of Lubrication: Grease
Quantity: Until grease emerges

**Gauge Wheel Module Forward Pivot**

<table>
<thead>
<tr>
<th>Multi-purpose spray lubricant</th>
<th>Multi-purpose grease lubricant</th>
<th>Multi-purpose oil lubricant</th>
<th>Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>15052</td>
</tr>
</tbody>
</table>

4 modules per planter, one grease fitting per pivot; 4 total
Type of Lubrication: Grease
Quantity: Until grease emerges

**Markers (Option)**

<table>
<thead>
<tr>
<th>Multi-purpose spray lubricant</th>
<th>Multi-purpose grease lubricant</th>
<th>Multi-purpose oil lubricant</th>
<th>Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>25474</td>
</tr>
</tbody>
</table>

4 grease fittings per marker, two markers; 8 total
Type of Lubrication: Grease
Quantity: Until grease emerges
Chain: Contact Drive

1 chain

Type of Lubrication: Chain Lube
Quantity = Coat thoroughly

Lubricate chains any time there is a chance of moisture, and when being stored at the end of the planting season.

Chains: Meter Drive

1 chain each meter

Type of Lubrication: Chain Lube
Quantity = Coat thoroughly

Lubricate chains any time there is a chance of moisture, and when being stored at the end of the planting season.

Chain: Range Drive

1 chain

Type of Lubrication: Chain Lube
Quantity = Coat thoroughly

Lubricate chains any time there is a chance of moisture, and when being stored at the end of the planting season.
Chain: Transmission Drive

<table>
<thead>
<tr>
<th>As Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 chain</td>
</tr>
<tr>
<td>Type of Lubrication: Chain Lube</td>
</tr>
<tr>
<td>Quantity = Coat thoroughly</td>
</tr>
</tbody>
</table>

Lubricate chains any time there is a chance of moisture, and when being stored at the end of the planting season.

Ground Drive Wheel Hub

<table>
<thead>
<tr>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 grease fitting at each bearing casting; 4 total</td>
</tr>
<tr>
<td>Type of Lubrication: Grease</td>
</tr>
<tr>
<td>Quantity: Until grease resistance felt</td>
</tr>
<tr>
<td>Re-pack seasonally.</td>
</tr>
</tbody>
</table>

Row Cleaner Bearings (Option)

<table>
<thead>
<tr>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 grease fitting each wheel, 1 or 2 wheels per row</td>
</tr>
<tr>
<td>Type of lubrication: Grease</td>
</tr>
<tr>
<td>Quantity = Until resistance is felt</td>
</tr>
<tr>
<td>To avoid damaging the seal, do not add grease at high pressure.</td>
</tr>
</tbody>
</table>
Gauge Wheel Hubs

| Seasonal |

1 grease fitting each spindle; 4 total
Type of Lubrication: Grease
Quantity: Until resistance is felt

Markers: Disk Hub

| Seasonal |

4 bearings; 2 races each marker
Type of Lubrication: Grease
Quantity: Re-pack
Seed Lubricants

To maximize performance of Great Plains metering systems, it is imperative to use "Ezee Glide Plus" or Bayer Seed Fluency Agent.

**Ezee Glide Plus Talc+Graphite Mix**

821-069C      bucket, 5 gallon (19 liter)

Ezee Glide Plus Lubricant

"Ezee Glide Plus"is suitable for all seeds, especially treated or inoculated seed, except where talc and graphite mixes are prohibited. *Thorough mixing of seed and added lubricant is required.*

Recommended usage:

For clean seeds other than milo, cotton, and sunflowers sprinkle one cup of Ezee Glide Plus Talc per 4 bushels or units (170 ml per 100 liters) of seed.

For milo, cotton, and sunflowers double the application to one cup (or more) per 2 bushels or units (335 ml per 100 liters) of seed.

For canola or mustard, 1 cup (240 ml) per 30 pound (13.6 kg) bag is a minimum starting value. Mix the seed lubricant early during the seed loading. Use more lubricant in extremely dry conditions.

Adjust this rate as necessary so all seeds become coated while avoiding an accumulation of lubricant in the bottom of the hopper.

For seed with excessive treatment, or for humid planting environments, increase the rate as needed for smooth meter operation.

**CAUTION**

Irritation and Chronic Exposure Hazard:

Wear gloves. DO NOT use hands or any part of your body to mix seed lubricant. Wear a respirator when transferring and mixing. Avoid breathing lubricant dust. Not an acute hazard. May cause mechanical eye or skin irritation in high concentrations. As with all mineral spills, minimize dusting during cleanup. Prolonged inhalation may cause lung injury. Product can become slippery when wet.

**Bayer Seed Fluency Agent**

821-074C      Fluency Powder, case quantity
821-075C      Fluency Powder, single 4.4 pound bucket

This agent is required by regulation for certain crops in certain regions (such as corn and soybean in Canada). It is an alternative to Ezee Glide Plus in other locales, for large seeds. It is not recommended for smaller seeds such as canola and milo.

Refer to the booklet affixed to the bucket for recommended usage. Do not exceed those recommendations, as excess amounts adversely affect accurate metering.

**CAUTION**

Dust and Explosion Hazard:

Avoid exposure to dust when mixing this powder into seed. Avoid creating dust in any confined space with ignition sources present, as specific concentrations can be explosive. Consult the instruction booklet and SDSa for further cautions.

---

a. SDS: Safety Data Sheet, formerly Material Safety Data Sheet (MSDS).
Options

Dual Sequenced Markers
A marker system includes hydraulic cylinder, marker arm and mount for left and right side, plus an automatic sequence valve that controls which side activates, and at what speed. The marker system requires one tractor remote.

The system is factory installed, but ordered as a separate line item.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-30 PT PLTR FLAT FOLD MKR</td>
<td>113-837A</td>
</tr>
<tr>
<td>6-30 PT PLTR FLAT FOLD MKR</td>
<td>113-838A</td>
</tr>
<tr>
<td>8-30 PT PLTR FLAT FOLD MKR</td>
<td>113-839A</td>
</tr>
<tr>
<td>10-30 PT PLTR FLAT FOLD MKR</td>
<td>113-510A</td>
</tr>
<tr>
<td>8-36 PLANTER FLAT FOLD MKR</td>
<td>113-511A</td>
</tr>
</tbody>
</table>

See “Marker Operation (Option) S/N-” on page 40.

Seed Lubricant

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ezee Glide Plus Talc + Graphite Mix (5 gallon / 18.9 liter container)</td>
<td>821-069C</td>
</tr>
</tbody>
</table>

See “Loading Seed” on page 27.
See “Bayer Seed Fluency Agent” on page 95.

Clean-Out Container
One container is provided with the planter. Order the following part for additional or replacement containers.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR METER CLEAN OUT FUNNEL</td>
<td>817-811C</td>
</tr>
</tbody>
</table>

See “Funnel Conversion” on page 81.
See “Meter Clean-Out” on page 82.
Row-Mounted Accessories

Lock-Up Pins

If rows are shut off, you can reduce unnecessary wear on the unused row units by locking them up. Twin-row planters include, as standard, one lock-pin per rear row. For replacement pins, or for other planter models, order one per row unit locked-up.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN HITCH 1 X 6 W/HAIRPIN</td>
<td>805-033C</td>
</tr>
</tbody>
</table>

See “Row Unit Shut-Off” on page 65.

Rigid Row Cleaners

Optional Martin row cleaners are unit-mounted, either:

- “stand-alone”, using a unit-mount assembly ①, or;
- added to a UMC coulter disk mounting bracket ②, (with or without a disk).

Twin-Row planters and narrow row spacings support only single-wheel unit-mounted row cleaners, in alternating left/right cleaner hub orientations.

Coulter-mounted (requires coulter):

<table>
<thead>
<tr>
<th>Coulter-Mount RC Kits</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single, 2 left, 2 right (4 row)</td>
<td>207-223A</td>
</tr>
<tr>
<td>Single, 4 left, 4 right (8 row, 4 twin)</td>
<td>207-205A</td>
</tr>
<tr>
<td>Single, 3 left, 3 right (6 row)</td>
<td>207-227A</td>
</tr>
<tr>
<td>Single, 6 left, 6 right (12 row, 6 twin)</td>
<td>207-228A</td>
</tr>
<tr>
<td>Single, 8 left, 8 right (16 row, 8 twin)</td>
<td>207-212A</td>
</tr>
<tr>
<td>Double, 4 row</td>
<td>207-225A</td>
</tr>
<tr>
<td>Double, 6 row</td>
<td>207-231A</td>
</tr>
<tr>
<td>Double, 8 row</td>
<td>207-233A</td>
</tr>
<tr>
<td>Double, 12 row</td>
<td>207-114A</td>
</tr>
<tr>
<td>Single, 5 left, 5 right (10 row)</td>
<td>207-283A</td>
</tr>
</tbody>
</table>

Stand-alone (includes mount):

<table>
<thead>
<tr>
<th>Stand-Alone RC Kits</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single, 2 left, 2 right (4 row)</td>
<td>207-222A</td>
</tr>
<tr>
<td>Single, 4 left, 4 right (8 row, 4 twin)</td>
<td>207-224A</td>
</tr>
<tr>
<td>Single, 3 left, 3 right (6 row)</td>
<td>207-229A</td>
</tr>
<tr>
<td>Single, 6 left, 6 right (12 row, 6 twin)</td>
<td>207-230A</td>
</tr>
<tr>
<td>Double, 4 row</td>
<td>207-226A</td>
</tr>
<tr>
<td>Double, 6 row</td>
<td>207-232A</td>
</tr>
<tr>
<td>Double, 8 row</td>
<td>207-234A</td>
</tr>
<tr>
<td>Double, 12 row</td>
<td>207-118A</td>
</tr>
<tr>
<td>Single, 5 left, 5 right (10 row)</td>
<td>207-284A</td>
</tr>
</tbody>
</table>

207-21xK and 207-09xS kits do not include a manual.

<table>
<thead>
<tr>
<th>Individual Row Cleaners</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMRC Dual Wheel</td>
<td>207-213K</td>
</tr>
<tr>
<td>UMRC LH Single Wheel</td>
<td>207-215K</td>
</tr>
<tr>
<td>UMRC RH Single Wheel</td>
<td>207-216K</td>
</tr>
<tr>
<td>UMC-RC Dual Wheel</td>
<td>207-098S</td>
</tr>
<tr>
<td>UMC-RC LH Single Wheel</td>
<td>207-092S</td>
</tr>
<tr>
<td>UMC-RC RH Single Wheel</td>
<td>207-093S</td>
</tr>
<tr>
<td>RC Install/Use/Parts Manual</td>
<td>204-085M-A</td>
</tr>
</tbody>
</table>

For operations, see: “Unit-Mount Cleaner Adjustments” on page 56.
Unit-Mounted Disk Coulters
Optional unit-mount disk coulters are available with 15 inch fluted or 15 inch turbo blades. For complete coulters, with unit mount and blade the selection includes:

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 mounts, 15 inch fluted (4 row)</td>
<td>204-171A</td>
</tr>
<tr>
<td>4 mounts, 15 inch turbo (4 row)</td>
<td>204-173A</td>
</tr>
<tr>
<td>6 mounts, 15 inch fluted (6 row)</td>
<td>204-175A</td>
</tr>
<tr>
<td>6 mounts, 15 inch turbo (6 row)</td>
<td>204-176A</td>
</tr>
<tr>
<td>8 mounts, 15 inch fluted (8 row, 4 twin)</td>
<td>204-172A</td>
</tr>
<tr>
<td>8 mounts, 15 inch turbo (8 row, 4 twin)</td>
<td>204-174A</td>
</tr>
<tr>
<td>10 mounts, 15 inch fluted (10 row)</td>
<td>204-766A</td>
</tr>
<tr>
<td>10 mounts, 15 inch turbo (10 row)</td>
<td>204-767A</td>
</tr>
<tr>
<td>12 mounts, 15 inch fluted (6 twin)</td>
<td>204-552A</td>
</tr>
<tr>
<td>12 mounts, 15 inch turbo (8 twin)</td>
<td>204-553A</td>
</tr>
<tr>
<td>16 mounts, 15 inch fluted (8 twin)</td>
<td>204-551A</td>
</tr>
<tr>
<td>16 mounts, 15 inch turbo (8 twin)</td>
<td>204-554A</td>
</tr>
</tbody>
</table>

Coulter Blades
Replacement/alternate blades include (one per row):

<table>
<thead>
<tr>
<th>15 inch Turbo Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluted, 15 inch (50 flutes)</td>
<td>820-331C</td>
</tr>
<tr>
<td>Turbo, 15 inch (20 flutes)</td>
<td>820-327C</td>
</tr>
<tr>
<td>Straight, 14 inch</td>
<td>820-259C</td>
</tr>
</tbody>
</table>

See “UMC Coulter Adjustments” on page 57.
Seed Meter Disks

Air-Pro® Meters accept a variety of seed disks, plus a special blank disk (817-841C) for row shut-off. Choices include:

<table>
<thead>
<tr>
<th>Meter Disks</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canola, 150 Cell</td>
<td>837-148C</td>
</tr>
<tr>
<td>Canola, 250 Cell</td>
<td>817-991C</td>
</tr>
<tr>
<td>Corn, 24 Cell (Large, Flat)</td>
<td>817-836C</td>
</tr>
<tr>
<td>Corn, 24 Cell (Large, Round)</td>
<td>817-794C</td>
</tr>
<tr>
<td>Corn, 24 Cell (Medium)</td>
<td>837-126C</td>
</tr>
<tr>
<td>Corn, 24 Cell (Small, Round or Flat)</td>
<td>817-795C</td>
</tr>
<tr>
<td>Corn, 40 Cell (Large, Flat)</td>
<td>817-838C</td>
</tr>
<tr>
<td>Corn, 40 Cell (Large, Round)</td>
<td>817-796C</td>
</tr>
<tr>
<td>Corn, 40 Cell (Medium)</td>
<td>837-127C</td>
</tr>
<tr>
<td>Corn, 40 Cell (Small, Round or Flat)</td>
<td>817-797C</td>
</tr>
<tr>
<td>Cotton, 60 Cell</td>
<td>817-857C</td>
</tr>
<tr>
<td>Cotton, Hill Drop, 12 Cell</td>
<td>837-186C</td>
</tr>
<tr>
<td>Edible Bean, 56 Cell (Large)</td>
<td>817-967C</td>
</tr>
<tr>
<td>Edible Bean, 60 Cell (Medium)</td>
<td>837-065C</td>
</tr>
<tr>
<td>Industrial Hemp, 5 Cell</td>
<td>837-364C</td>
</tr>
<tr>
<td>Milo, Pelletized Sugar Beet, 30 Cell</td>
<td>837-057C</td>
</tr>
<tr>
<td>Milo, 65 Cell</td>
<td>817-849C</td>
</tr>
<tr>
<td>Milo, 130 Cell</td>
<td>817-800C</td>
</tr>
<tr>
<td>Soybeans, 84 Cell</td>
<td>817-798C</td>
</tr>
<tr>
<td>Soybeans, 168 Cell</td>
<td>403-551D</td>
</tr>
<tr>
<td>Sunflower, 60 Cell (Small)</td>
<td>837-234C</td>
</tr>
<tr>
<td>Sunflower, 60 Cell (Medium)</td>
<td>837-235C</td>
</tr>
<tr>
<td>Sunflower, 24 Cell (Large)</td>
<td>817-851C</td>
</tr>
<tr>
<td>Volumetric No. 1, 84 Cell</td>
<td>817-867C</td>
</tr>
</tbody>
</table>

Inside Disk Scrapers

When planting in moist or sticky soils, these scrapers are useful in preventing build-up that might otherwise impair opener disc performance.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside Scraper</td>
<td>122-278S</td>
</tr>
</tbody>
</table>

This scraper cannot be used with Seed-Lok® seed firmers installed. It is compatible with seed flaps and optional Keeton seed firmers.

See page 121 for scraper installation. The spring-loaded carbide scraper requires no adjustment.
Gauge Wheel Scrapers
When planting in moist or sticky soils, these scrapers are useful in preventing build-up that might otherwise result in shallow planting.
Order one part per wheel (2 per opener).

<table>
<thead>
<tr>
<th>Wheel Scrapers</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 1/2 inch (6.4 cm) scraper</td>
<td>404-194D</td>
</tr>
<tr>
<td>3 inch (7.6 cm) scraper</td>
<td>404-195D</td>
</tr>
<tr>
<td>4 inch (10.2 cm) scraper</td>
<td>404-196D</td>
</tr>
</tbody>
</table>

The scrapers mount on the bottom rear of the depth wheel arm, using existing hardware. The slot in the scraper is long enough to clear the lower grease fitting, and allow adjustment as wheel and scraper wear.
For operations, see: "Adjusting Gauge Wheel Scrapers" on page 61.

Seed Firmers
The base YP-425, 625, 825, & 1025-A3P planter requires a choice of row unit bundles which include one of three firmers: seed flap, Keeton®, or Seed-Lok®. Only one type of seed firmer may be installed at the same time. Order one per row.

Seed-Lok® Seed Firmer

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Series Seed-Lok® kit</td>
<td>404-093K</td>
</tr>
</tbody>
</table>

For operations, see: "Seed Firmer Adjustments" on page 68.

Keeton® Seed Firmer

The Keeton® seed firmer supports low-rate fertilizer delivery. For this use, a user-provisioned liquid fertilizer system must be installed.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keeton seed firmer (per opener)</td>
<td>890-840C</td>
</tr>
</tbody>
</table>

For operations, see: "Seed Firmer Adjustments" on page 68.

Row Unit Press Wheels
The base Yield Pro planter includes a choice of press wheels. Additional wheels are available, and all may be field-installed.
This manual does not list kit part numbers as the available wheels are often region-specific. Consult your Great Plains dealer.
For operations, see: "Press Wheel Adjustment" on page 69.
Appendix A - Ref. Info.

Specifications and Capacities
YP425A3P Single-Row Data

<table>
<thead>
<tr>
<th>Model</th>
<th>YP425A3P -0470</th>
<th>YP425A3P -0430</th>
<th>YP425A3P -0436</th>
<th>YP425A3P -0438</th>
<th>YP425A3P -0440</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row Spacing</td>
<td>70.0 cm</td>
<td>30 inches</td>
<td>36 inches</td>
<td>38 inches</td>
<td>40 inches</td>
</tr>
<tr>
<td>Width, no Markers</td>
<td>306.1 cm</td>
<td>10 ft. 0.5 in.</td>
<td>15 ft. 0.5 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width, with Markers</td>
<td>342.9 cm</td>
<td>11 ft. 3 in.</td>
<td>16 ft. 3 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Span (between end rows)</td>
<td>210.0 cm</td>
<td>90.0 inches</td>
<td>108.0 inches</td>
<td>114.0 inches</td>
<td>120.0 inches</td>
</tr>
<tr>
<td>Swath (Channel Width)</td>
<td>280.0 cm</td>
<td>120.0 inches</td>
<td>144.0 inches</td>
<td>152.0 inches</td>
<td>160.0 inches</td>
</tr>
<tr>
<td>Seed Monitor</td>
<td>Seed Monitor, monitoring*: Seed Tubes (all), Ground Speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed Capacity (3.0 bu Hopper)</td>
<td>423 liters</td>
<td>12.0 Bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed Capacity (1.6 bu Hopper)</td>
<td>226 liters</td>
<td>6.4 Bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed Capacity (1.0 bu Hopper)</td>
<td>169 liters</td>
<td>4.8 Bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>177.8 cm</td>
<td>5 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Height</td>
<td>147.3 cm</td>
<td>4 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Height</td>
<td>6 feet 6 inches (198 cm) (at 14 inches ground clearance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Clearance</td>
<td>Depends on Tractor Hitch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Tractor HP Required(^1)</td>
<td>65 - 70 kW</td>
<td>85 - 90 hp</td>
<td>80 - 90 hp</td>
<td>80 - 90 hp</td>
<td>85 - 90 hp</td>
</tr>
<tr>
<td>Hitch</td>
<td>Three-Point</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic Circuits Required</td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 39 liters/min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (empty, base)(^2)</td>
<td>1500 kg</td>
<td>3300 lb</td>
<td>3000 lb</td>
<td>3000 lb</td>
<td>3600 lb</td>
</tr>
<tr>
<td>Weight (maximum, full)(^3)</td>
<td>2100 kg</td>
<td>4500 lb</td>
<td>4200 lb</td>
<td>4200 lb</td>
<td>4800 lb</td>
</tr>
<tr>
<td>Gauge Wheel Tire Size</td>
<td>8R19.5LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opener Down Pressure</td>
<td>140 to 250 kg</td>
<td>305 to 545 pounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opener Travel (Up-Down)</td>
<td>25.4 cm</td>
<td>10 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opener Depth Range</td>
<td>0 to 8.9 cm</td>
<td>0 to 3.5 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Power Requirements vary significantly with conditions and practices.
\(^2\) No fertilizer, markers, coulters, row cleaners or materials loaded.
\(^3\) Weight can vary by thousands of pounds, depending on options installed. See Transport topic.
* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures.
**YP425A3P Twin-Row Data**

<table>
<thead>
<tr>
<th>Model</th>
<th>YP425A3P-08TR</th>
<th>YP425A3P-0836</th>
<th>YP425A3P-0838</th>
<th>YP425A3P-0840</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Row Count</strong></td>
<td>8 (4 twin)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Row Spacing</strong></td>
<td>30 in.</td>
<td>36 in.</td>
<td>38 in.</td>
<td>40 in.</td>
</tr>
<tr>
<td><strong>Width, no Markers</strong></td>
<td>10 ft. 0.5 in.</td>
<td></td>
<td>15 ft. 0.5 in.</td>
<td></td>
</tr>
<tr>
<td><strong>Width, with Markers</strong></td>
<td>11 ft. 3 in.</td>
<td></td>
<td>16 ft. 3 in.</td>
<td></td>
</tr>
<tr>
<td><strong>Span (between end rows)</strong></td>
<td>90 inches</td>
<td>108 inches</td>
<td>114 inches</td>
<td>120 inches</td>
</tr>
<tr>
<td><strong>Swath (Channel Width)</strong></td>
<td>120.0 inches</td>
<td>144.0 inches</td>
<td>152.0 inches</td>
<td>160.0 inches</td>
</tr>
<tr>
<td><strong>Seed Monitor</strong></td>
<td>Seed Monitor, monitoring*: Seed Tubes (all), Ground Speed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (3.0 bu Hopper)</strong></td>
<td>24.0 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.6 bu Hopper)</strong></td>
<td>12.8 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.2 bu Hopper)</strong></td>
<td>9.6 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>5 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Working Height</strong></td>
<td>4 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Height</strong></td>
<td>6 feet 6 inches (198 cm) (at 14 in. ground clearance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Clearance</strong></td>
<td>Depends on Tractor Hitch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Min. Tractor HP Req.</strong></td>
<td>115 - 125 hp</td>
<td>115 - 125 hp</td>
<td>115 - 125 hp</td>
<td>115 - 125 hp</td>
</tr>
<tr>
<td><strong>Hitch</strong></td>
<td>Three-Point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic Circuits Req.</strong></td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (empty, base)</strong></td>
<td>4600 lbs.</td>
<td>4800 lbs.</td>
<td>4800 lbs.</td>
<td>4800 lbs.</td>
</tr>
<tr>
<td><strong>Weight (maximum, full)</strong></td>
<td>6500 lbs.</td>
<td>6700 lbs.</td>
<td>6700 lbs.</td>
<td>6700 lbs.</td>
</tr>
<tr>
<td><strong>Gauge Wheel Tire Size</strong></td>
<td>8R19.5 LT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Down Pressure</strong></td>
<td>305 to 545 pounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Travel (Up - Down)</strong></td>
<td>10 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Depth Range</strong></td>
<td>0 to 3.5 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1. Power requirements vary significantly with conditions and practices.
2. No fertilizer, markers, coulters, row cleaners or materials loaded.
3. Weight can vary by thousands of pounds depending on options installed. See Transport topic.

* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures
## YP625A3P Single-Row Data

<table>
<thead>
<tr>
<th></th>
<th>YP625A3P -0670</th>
<th>YP625A3P -0630</th>
<th>YP625A3P -0636</th>
<th>YP625A3P -0638</th>
<th>YP625A3P -0640</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Row Count</strong></td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Row Spacing</strong></td>
<td>70.0 cm</td>
<td>30 inches</td>
<td>36 inches</td>
<td>38 inches</td>
<td>40 inches</td>
</tr>
<tr>
<td><strong>Width, no Markers</strong></td>
<td>458.5 cm</td>
<td>15 ft. 0.5 in.</td>
<td>20 ft. 0.5 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Width, with Markers</strong></td>
<td>495.3 cm</td>
<td>16 ft. 3 in.</td>
<td></td>
<td>21 ft. 3 in.</td>
<td></td>
</tr>
<tr>
<td><strong>Span (between end rows)</strong></td>
<td>350.0 cm</td>
<td>150 inches</td>
<td>180 inches</td>
<td>190 inches</td>
<td>200 inches</td>
</tr>
<tr>
<td><strong>Swath (Channel Width)</strong></td>
<td>420.0 cm</td>
<td>180.0 inches</td>
<td>216.0 inches</td>
<td>228.0 inches</td>
<td>240.0 inches</td>
</tr>
<tr>
<td><strong>Seed Monitor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (3.0 bu Hopper)</strong></td>
<td>634 litres</td>
<td></td>
<td>18.0 bushels</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.6 bu Hopper)</strong></td>
<td>338 litres</td>
<td></td>
<td>9.6 bushels</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.2 bu Hopper)</strong></td>
<td>254 litres</td>
<td></td>
<td>7.2 bushels</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>177.8 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Working Height</strong></td>
<td>147.3 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Height</strong></td>
<td></td>
<td>6 feet 6 inches (198 cm) (at 14 in. ground clearance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Clearance</strong></td>
<td>Depends on Tractor Hitch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Min. Tractor HP Req.¹</strong></td>
<td>75 - 85 kW</td>
<td>100 - 110 hp</td>
<td>100 - 110 hp</td>
<td>100 - 110 hp</td>
<td>100 - 110 hp</td>
</tr>
<tr>
<td><strong>Hitch</strong></td>
<td></td>
<td>Three-Point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic Circuits Req.</strong></td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (empty, base)²</strong></td>
<td>2000 kg</td>
<td>4300 lbs.</td>
<td>4200 lbs.</td>
<td>4200 lbs.</td>
<td>4200 lbs.</td>
</tr>
<tr>
<td><strong>Weight (maximum, full)³</strong></td>
<td>2700 kg</td>
<td>5900 lbs.</td>
<td>5800 lbs.</td>
<td>5800 lbs.</td>
<td>5800 lbs.</td>
</tr>
<tr>
<td><strong>Gauge Wheel Tire Size</strong></td>
<td>8R19.5 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Down Pressure</strong></td>
<td>140 to 250 kg</td>
<td></td>
<td>305 to 545 pounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Travel (Up - Down)</strong></td>
<td>25.4 cm</td>
<td></td>
<td>10 inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Depth Range</strong></td>
<td>0 to 8.9 cm</td>
<td></td>
<td>0 to 3.5 inches</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Power requirements vary significantly with conditions and practices.
² No fertilizer, markers, coulters, row cleaners or materials loaded.
³ Weight can vary by thousands of pounds depending on options installed. See Transport topic.

* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures.
## YP625A3P Twin-Row Data

<table>
<thead>
<tr>
<th>Model</th>
<th>YP625A3P -12TR</th>
<th>YP625A3P -1236</th>
<th>YP625A3P -1238</th>
<th>YP625A3P -1240</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Row Count</strong></td>
<td>12 (6 twin)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Row Spacing</strong></td>
<td>30 inches</td>
<td>36 inches</td>
<td>38 inches</td>
<td>40 inches</td>
</tr>
<tr>
<td><strong>Width, no Markers</strong></td>
<td>15 ft. 0.5 in.</td>
<td>20 ft. 0.5 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Width, with Markers</strong></td>
<td>16 ft. 3 in.</td>
<td>21 ft. 3 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Span (between end rows)</strong></td>
<td>150 inches</td>
<td>180 inches</td>
<td>190 inches</td>
<td>200 inches</td>
</tr>
<tr>
<td><strong>Swath (Channel Width)</strong></td>
<td>180.0 inches</td>
<td>216.0 inches</td>
<td>228.0 inches</td>
<td>240.0 inches</td>
</tr>
<tr>
<td><strong>Seed Monitor</strong></td>
<td>Seed Monitor, monitoring*: Seed Tubes (all), Ground Speed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (3.0 bu Hopper)</strong></td>
<td>36.0 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.6 bu Hopper)</strong></td>
<td>19.2 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.2 bu Hopper)</strong></td>
<td>14.4 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>5 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Working Height</strong></td>
<td>4 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Height</strong></td>
<td>6 feet 6 inches (198 cm) (at 14 in. ground clearance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Clearance</strong></td>
<td>Depends on Tractor Hitch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hitch</strong></td>
<td>Three-Point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic Circuits Req.</strong></td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (empty, base)</strong></td>
<td>6200 lbs.</td>
<td>6100 lbs.</td>
<td>6100 lbs.</td>
<td>6100 lbs.</td>
</tr>
<tr>
<td><strong>Weight (maximum, full)</strong></td>
<td>8700 lbs.</td>
<td>8700 lbs.</td>
<td>8700 lbs.</td>
<td>8700 lbs.</td>
</tr>
<tr>
<td><strong>Gauge Wheel Tire Size</strong></td>
<td>8R19.5 LT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Down Pressure</strong></td>
<td>305 to 545 pounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Travel (Up - Down)</strong></td>
<td>10 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Depth Range</strong></td>
<td>0 to 3.5 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Power requirements vary significantly with conditions and practices.
2. No fertilizer, markers, coulters, row cleaners or materials loaded.
3. Weight can vary by thousands of pounds depending on options installed. See Transport topic.

* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures
## YP825A3P Single-Row Data

<table>
<thead>
<tr>
<th></th>
<th>Model</th>
<th>YP825A3P-0870</th>
<th>YP825A3P-0830</th>
<th>YP825A3P-0836</th>
<th>YP825A3P-0838</th>
<th>YP825A3P-0840</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Row Count</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td><strong>Row Spacing</strong></td>
<td></td>
<td>70.0 cm</td>
<td>30 inches</td>
<td>36 inches</td>
<td>38 inches</td>
<td>40 inches</td>
</tr>
<tr>
<td><strong>Width, no Markers</strong></td>
<td></td>
<td>610.9 cm</td>
<td>20 ft. 0.5 in.</td>
<td>25 ft. 10.5 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Width, with Markers</strong></td>
<td></td>
<td>647.7 cm</td>
<td>21 ft. 3 in.</td>
<td>27 ft. 1 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Span (between end rows)</strong></td>
<td></td>
<td>490.0 cm</td>
<td>210 inches</td>
<td>252 inches</td>
<td>266 inches</td>
<td>280 inches</td>
</tr>
<tr>
<td><strong>Swath (Channel Width)</strong></td>
<td></td>
<td>560.0 cm</td>
<td>240.0 inches</td>
<td>288.0 inches</td>
<td>304.0 inches</td>
<td>320.0 inches</td>
</tr>
<tr>
<td><strong>Seed Monitor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Monitor, monitoring</strong>: Seed Tubes (all), Ground Speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (3.0 bu Hopper)</strong></td>
<td></td>
<td>846 litres</td>
<td>24.0 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.6 bu Hopper)</strong></td>
<td></td>
<td>451 litres</td>
<td>12.8 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.2 bu Hopper)</strong></td>
<td></td>
<td>338 litres</td>
<td>9.6 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td></td>
<td>177.8 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Working Height</strong></td>
<td></td>
<td>147.3 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Height</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 feet 6 inches (198 cm) (at 14 in. ground clearance)</td>
</tr>
<tr>
<td><strong>Transport Clearance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Depends on Tractor Hitch</td>
</tr>
<tr>
<td><strong>Min. Tractor HP Req.</strong></td>
<td></td>
<td>85 - 95 kW</td>
<td>115 - 130 hp</td>
<td>120 - 130 hp</td>
<td>120 - 130 hp</td>
<td>120 - 130 hp</td>
</tr>
<tr>
<td><strong>Hitch</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Three-Point</td>
</tr>
<tr>
<td><strong>Hydraulic Circuits Req.</strong></td>
<td></td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (empty, base)</strong></td>
<td></td>
<td>2300 kg</td>
<td>5000 lbs.</td>
<td>5500 lbs.</td>
<td>5500 lbs.</td>
<td>5500 lbs.</td>
</tr>
<tr>
<td><strong>Weight (maximum, full)</strong></td>
<td></td>
<td>3100 kg</td>
<td>6900 lbs.</td>
<td>7500 lbs.</td>
<td>7500 lbs.</td>
<td>7500 lbs.</td>
</tr>
<tr>
<td><strong>Gauge Wheel Tire Size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8R19.5 LT</td>
</tr>
<tr>
<td><strong>Opener Down Pressure</strong></td>
<td></td>
<td>140 to 250 kg</td>
<td>305 to 545 pounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Travel (Up - Down)</strong></td>
<td></td>
<td>25.4 cm</td>
<td>10 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Depth Range</strong></td>
<td></td>
<td>0 to 8.9 cm</td>
<td>0 to 3.5 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Power requirements vary significantly with conditions and practices.
2. No fertilizer, markers, coulters, row cleaners or materials loaded.
3. Weight can vary by thousands of pounds depending on options installed. See Transport topic.

* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures
### YP825A3P Twin-Row Data

<table>
<thead>
<tr>
<th>Model</th>
<th>YP825A3P</th>
<th>YP825A3P</th>
<th>YP825A3P</th>
<th>YP825A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-16TR</td>
<td>-1636</td>
<td>-1638</td>
<td>-1640</td>
</tr>
<tr>
<td><strong>Row Count</strong></td>
<td>16 (8 twin)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Row Spacing</strong></td>
<td>30 inches</td>
<td>36 inches</td>
<td>38 inches</td>
<td>40 inches</td>
</tr>
<tr>
<td><strong>Width, no Markers</strong></td>
<td>20 ft. 0.5 in.</td>
<td>25 ft. 10.5 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Width, with Markers</strong></td>
<td>21 ft. 3 in.</td>
<td>27 ft. 1 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Span (between end rows)</strong></td>
<td>210 inches</td>
<td>252 inches</td>
<td>266 inches</td>
<td>280 inches</td>
</tr>
<tr>
<td><strong>Swath (Channel Width)</strong></td>
<td>240.0 inches</td>
<td>288.0 inches</td>
<td>304.0 inches</td>
<td>320.0 inches</td>
</tr>
<tr>
<td><strong>Seed Monitor</strong></td>
<td>Seed Monitor, monitoring*: Seed Tubes (all), Ground Speed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (3.0 bu Hopper)</strong></td>
<td>48.0 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.6 bu Hopper)</strong></td>
<td>25.6 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seed Capacity (1.2 bu Hopper)</strong></td>
<td>19.2 bushels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>5 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Working Height</strong></td>
<td>4 ft. 10 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Height</strong></td>
<td>6 feet 6 inches (198 cm) (at 14 in. ground clearance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Clearance</strong></td>
<td>Depends on Tractor Hitch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Min. Tractor HP Req.</strong></td>
<td>175 - 190 hp</td>
<td>180 - 195 hp</td>
<td>180 - 195 hp</td>
<td>180 - 195 hp</td>
</tr>
<tr>
<td><strong>Hitch</strong></td>
<td>Three-Point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic Circuits Req.</strong></td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (empty, base)</strong></td>
<td>7400 lbs.</td>
<td>8000 lbs.</td>
<td>8000 lbs.</td>
<td>8000 lbs.</td>
</tr>
<tr>
<td><strong>Weight (maximum, full)</strong></td>
<td>10700 lbs.</td>
<td>11300 lbs.</td>
<td>11300 lbs.</td>
<td>11300 lbs.</td>
</tr>
<tr>
<td><strong>Gauge Wheel Tire Size</strong></td>
<td>8R19.5 LT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Down Pressure</strong></td>
<td>305 to 545 pounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Travel (Up - Down)</strong></td>
<td>10 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opener Depth Range</strong></td>
<td>0 to 3.5 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Power requirements vary significantly with conditions and practices.
2. No fertilizer, markers, coulters, row cleaners or materials loaded.
3. Weight can vary by thousands of pounds depending on options installed. See Transport topic.

* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures.
### YP1025A3P Single-Row Data

<table>
<thead>
<tr>
<th>Model</th>
<th>YP1025A3P</th>
<th>YP1025A3P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row Count</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Row Spacing</td>
<td>30 inches</td>
<td>22 inches</td>
</tr>
<tr>
<td>Width, no Markers</td>
<td>25 ft. 10.5 in.</td>
<td>22 ft. 6.5 in.</td>
</tr>
<tr>
<td>Width, with Markers</td>
<td>27 ft. 1 in.</td>
<td>24 ft. 6.5 in.</td>
</tr>
<tr>
<td>Span (between end rows)</td>
<td>270 inches</td>
<td>242 inches</td>
</tr>
<tr>
<td>Swath (Channel width)</td>
<td>300 inches</td>
<td>264 inches</td>
</tr>
<tr>
<td>Seed Monitor</td>
<td>Seed Monitor, monitoring*: Seed Tubes (all), Ground Speed</td>
<td>Seed Monitor, monitoring*: Seed Tubes (all), Ground Speed</td>
</tr>
<tr>
<td>Seed Capacity (3.0 bu Hopper)</td>
<td>30 bushels</td>
<td>36 bushels</td>
</tr>
<tr>
<td>Length</td>
<td>5 ft. 10 in.</td>
<td>5 ft. 10 in.</td>
</tr>
<tr>
<td>Working Height</td>
<td>4 ft. 10 in.</td>
<td>7 ft. 5 in.</td>
</tr>
<tr>
<td>Transport Height</td>
<td>6 ft. 6 in. (198 cm) (at 14 in. ground clearance)</td>
<td>8 ft. 9 in. (267 cm) (at 14 in. ground clearance)</td>
</tr>
<tr>
<td>Transport Clearance</td>
<td>Depends on Tractor Hitch</td>
<td>Depends on Tractor Hitch</td>
</tr>
<tr>
<td>Min. Tractor HP Required</td>
<td>130 - 160 hp</td>
<td>130 - 160 hp</td>
</tr>
<tr>
<td>Hitch</td>
<td>Three-Point</td>
<td>Three-Point</td>
</tr>
<tr>
<td>Hydraulic Circuits Required</td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
<td>1 or 2 Remotes, Closed-Center, 2250 psi, 10 gal/min (155 bar, 38 liters/min)</td>
</tr>
<tr>
<td>Weight (empty, base)</td>
<td>6,100 lbs.</td>
<td>6,100 lbs.</td>
</tr>
<tr>
<td>Weight (maximum, full)</td>
<td>10,300 lbs.</td>
<td>10,300 lbs.</td>
</tr>
<tr>
<td>Gauge Wheel Tire Size</td>
<td>8R19.5LT</td>
<td>8R19.5LT</td>
</tr>
<tr>
<td>Opener Down Pressure</td>
<td>305 - 545 pounds</td>
<td>305 - 545 pounds</td>
</tr>
<tr>
<td>Opener Travel (Up-Down)</td>
<td>10 inches</td>
<td>10 inches</td>
</tr>
<tr>
<td>Opener Depth Range</td>
<td>0 - 3.5 inches</td>
<td>0 - 3.5 inches</td>
</tr>
</tbody>
</table>

1. Power requirements vary significantly with conditions and practices.
2. No fertilizer, markers, coulters, row cleaners or materials loaded.
3. Weight can vary by thousands of pounds depending on options installed. See Transport topic.
* Planter functions not monitored include: fan rpm, hopper level, implement lift, manifold pressures.
## Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>in-tpia (^a)</td>
<td>Grade 2</td>
</tr>
<tr>
<td></td>
<td>N-m (^b)</td>
</tr>
<tr>
<td>1/4-20</td>
<td>7.4</td>
</tr>
<tr>
<td>1/4-28</td>
<td>8.5</td>
</tr>
<tr>
<td>5/16-18</td>
<td>15</td>
</tr>
<tr>
<td>5/16-24</td>
<td>17</td>
</tr>
<tr>
<td>3/8-16</td>
<td>27</td>
</tr>
<tr>
<td>3/8-24</td>
<td>31</td>
</tr>
<tr>
<td>7/16-14</td>
<td>43</td>
</tr>
<tr>
<td>7/16-20</td>
<td>49</td>
</tr>
<tr>
<td>1/2-13</td>
<td>66</td>
</tr>
<tr>
<td>1/2-20</td>
<td>75</td>
</tr>
<tr>
<td>5/16-12</td>
<td>95</td>
</tr>
<tr>
<td>5/16-18</td>
<td>105</td>
</tr>
<tr>
<td>5/8-11</td>
<td>130</td>
</tr>
<tr>
<td>5/8-18</td>
<td>150</td>
</tr>
<tr>
<td>3/4-10</td>
<td>235</td>
</tr>
<tr>
<td>3/4-16</td>
<td>260</td>
</tr>
<tr>
<td>7/8-9</td>
<td>225</td>
</tr>
<tr>
<td>7/8-14</td>
<td>250</td>
</tr>
<tr>
<td>1-8</td>
<td>340</td>
</tr>
<tr>
<td>1-12</td>
<td>370</td>
</tr>
<tr>
<td>1 1/8-7</td>
<td>480</td>
</tr>
<tr>
<td>1 1/8-12</td>
<td>540</td>
</tr>
<tr>
<td>1 1/4-7</td>
<td>680</td>
</tr>
<tr>
<td>1 1/4-12</td>
<td>750</td>
</tr>
<tr>
<td>1 1/2-6</td>
<td>890</td>
</tr>
<tr>
<td>1 1/2-12</td>
<td>1010</td>
</tr>
<tr>
<td>1 1/2-6</td>
<td>1180</td>
</tr>
<tr>
<td>1 1/2-12</td>
<td>1330</td>
</tr>
</tbody>
</table>

### Tire Information Chart

<table>
<thead>
<tr>
<th>Wheel Transport / Gauge</th>
<th>Tire Size</th>
<th>Inflation</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>8R19.5 LT</td>
<td>110 psi (760 kPa)</td>
<td>120 lb ft (163 N m)</td>
<td></td>
</tr>
</tbody>
</table>

### Tire Warranty Information

All tires are warranted by the original manufacturer of the tire. Tire warranty information is found in the brochures included with your Operator’s and Parts Manuals or online at the manufacturer’s web sites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Web site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firestone</td>
<td><a href="http://www.firestoneag.com">www.firestoneag.com</a></td>
</tr>
<tr>
<td>Goodyear</td>
<td><a href="http://www.goodyearag.com">www.goodyearag.com</a></td>
</tr>
<tr>
<td>Titan</td>
<td><a href="http://www.titan-intl.com">www.titan-intl.com</a></td>
</tr>
<tr>
<td>BKT</td>
<td><a href="http://www.bkt-tires.com/en">www.bkt-tires.com/en</a></td>
</tr>
<tr>
<td>Gleason</td>
<td><a href="http://www.gleasonwheel.com">www.gleasonwheel.com</a></td>
</tr>
</tbody>
</table>

---

Torque Values Chart:

- in-tpia = nominal thread diameter in inches-thread per inch
- N·m = newton-meters
- mm x pitch = nominal thread diameter in mm x thread pitch
- ft-lb = foot pounds

Tire Information Chart:

<table>
<thead>
<tr>
<th>Wheel Transport / Gauge</th>
<th>Tire Size</th>
<th>Inflation</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>8R19.5 LT</td>
<td>110 psi (760 kPa)</td>
<td>120 lb ft (163 N m)</td>
<td></td>
</tr>
</tbody>
</table>

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All tires are warranted by the original manufacturer of the tire. Tire warranty information is found in the brochures included with your Operator’s and Parts Manuals or online at the manufacturer’s web sites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Web site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firestone</td>
<td><a href="http://www.firestoneag.com">www.firestoneag.com</a></td>
</tr>
<tr>
<td>Goodyear</td>
<td><a href="http://www.goodyearag.com">www.goodyearag.com</a></td>
</tr>
<tr>
<td>Titan</td>
<td><a href="http://www.titan-intl.com">www.titan-intl.com</a></td>
</tr>
<tr>
<td>BKT</td>
<td><a href="http://www.bkt-tires.com/en">www.bkt-tires.com/en</a></td>
</tr>
<tr>
<td>Gleason</td>
<td><a href="http://www.gleasonwheel.com">www.gleasonwheel.com</a></td>
</tr>
</tbody>
</table>
Hydraulic Diagrams
Fan Hydraulics (YP3P425A S/N B1004M-) (YP3P625A S/N B1006P-) (YP3P825A S/N B1007R-)
Marker Hydraulics (Option)
Chain Routing
See also “Chain Maintenance” on page 87.

Legend:

- **34T**  
  Sprocket or idler Tooth count

- **56P**  
  Chain Pitch count

- **U**  
  Direction of chain in motion

Ground Drive Arm Chain
Transfer Shaft and Range Chains

Range Sprocket:
18T, 19T, 20T, 2@25T, 30T, 36T
Transmission Chain

Range Sprocket:
18T, 19T, 20T, 2@25T, 30T, 36T

Transmission Sprockets:
17T, 19T, 2@23T, 24T, 25T, 26T, 27T, 28T
25AP Final Meter Drive

Legend:

- **Sprocket or idler Tooth count**
- **Chain Pitch count**
- **Direction of chain in motion**

25P: Meter Drive (Front type)
- No idlers on mount.
- 1. Top chain passes over single idler on shank
- 2. Be sure to reconnect idler spring

25P: Meter Drive (Mid type)
- 2. Be sure to reconnect idler spring
- 3. Top chain passes between 2 idlers at mount
- 4. Top chain passes between 2 idlers at shank

25P: Meter Drive (Rear type)
- 2. Be sure to reconnect idler spring
- 3. Top chain passes between 2 idlers at mount
- 4. Top chain passes between 2 idlers at shank
Appendix B - Pre-Delivery

This Appendix covers setup tasks performed by the dealer prior to delivery. These items need to be completed prior to any items in Appendix C (some of which may also be performed by the Great Plains dealer).

a. Partially deploy ground drive (this page).

b. Install press wheel assemblies (page 117).

c. Engage ground drive spring (page 117).

The planter mainframe includes shipping stands which are returned to Great Plains after the tongue is attached.

Mount Ground Drive Wheel

The ground drive wheel is shipped loose. It must be bolted to the hub.

**CAUTION**

*Sharp Object Hazard:*

*Use a hoist or two people. Wear gloves. The wheel is heavy and the tines are sharp.*

Refer to Figure 101

1. Select one:
   - 407-473D GROUND DRIVE WHEEL
   - and three sets:
     - 802-331C RHSNB 1/2-13X1 3/4 GR5
     - 804-015C WASHER LOCK SPRING 1/2 PLT
     - 803-020C NUT HEX 1/2-13 PLT

2. At the ground drive hub (40), orient the wheel so that at the top, the vertical face of the top tooth is to the rear, and the longer angled face is to the front.

3. Secure the wheel (40) to the hub with bolts (42), lock washers (44) and nuts (43).
Install Press Wheel Assemblies

To meet highway clearance requirements, press wheel arms and wheels may not be factory-installed.

Refer to Figure 102

4. Remove and save the 1/2-13 x 1 inch hex head bolt and washer at the back of an incomplete row unit.

NOTICE

There are four bolts at this location. Remove only the hex head bolts. Do not loosen or remove the square head bolts forward.

5. Remove and save the 1/2-13 x 1 1/2 inch hex head bolt, washer, and eccentric adjuster nut.

6. Align the 1/2 inch holes in the press wheel assembly with the 1/2-13 tapped holes in the row unit, loosely assemble with the 1/2-13 x 1 inch hex head bolt and washer.

7. Loosely screw in the 1/2-13 x 1 1/2 inch hex head bolt, washer, and eccentric adjuster nut. Rotate the adjuster to visually align the press wheel assembly with the row unit, and tighten the adjust and both bolts.

Engage Ground Drive Spring

Refer to Figure 103

8. Select one new:

Refer to Figure 102

25AP Press Wheel Assembly

Refer to Figure 103

31038

Ground Drive Spring Rod
Appendix C - Initial Setup

This Appendix covers setup tasks performed only once, or at infrequent intervals. Routine setup tasks are covered in “Preparation and Setup” on page 15. Perform Appendix B tasks first. Some of these items may already have been done by your Great Plains dealer:

a. Seed monitor console installation (below)
b. Marker setup (Option, page 118)
c. Scrapers (Option, page 121)

Post-Delivery Checklist
1. Read and understand “Important Safety Information” on page 1.
2. Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
3. Check that all grease fittings are in place and lubricated. See “Lubrication” on page 91.
4. Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. See “Safety Decals” on page 6.
5. Inflate tires to pressure recommended and tighten wheel bolts as specified. See “Torque Values Chart” on page 108.

Seed Monitor Console Installation

Refer to Figure 104

The planter’s standard PM300 seed monitor system includes a console ① that needs to be mounted in the cab of the tractor to be used with the planter.

⚠️ CAUTION

Transport and Field Safety Risk:
Mount the module so it is easy to monitor during planting, but does not interfere with safe operation of the tractor in the field or on public roads.

The monitor includes cables for power ②, speed sensor ③ and sensor harness ④. Installation instructions are found in the included DICKEY-john® manual.

Power color code is:
+ positive: red
- negative: black

The included bracket ⑤ requires customer-supplied fasteners.

Initial Marker Setup (Option)

⚠️ CAUTION

Overhead Sharp Object and Crushing Hazards:
Never allow anyone near the planter when folding or unfolding the markers. You may be injured if hit by a folding or unfolding marker. Markers may fall quickly and unexpectedly if the hydraulics fail. Marker discs may be sharp.
Marker Extension

Marker extension needs to be adjusted once for the initial YP-425, 625, 825, & 1025-A3P planter setup, and later only if changing row spacing (including row shut-off for single-row operation on a twin-capable planter).

1. Move the planter to a location where both markers may be safely unfolded. Lower the planter. Pull forward and lower the row units into the ground.

Due to the relatively steep arm angles of short markers, extension measurements are likely to be incorrect if the main tool bar is not at normal operating height (26 inch).

2. Tilt up and unfold one marker.

3. Find the suggested initial marker Extension in the table on this page.

When using altered twin-row spacings, marker extensions are different for each side.

Refer to Figure 105 and Figure 106

4. Measure out the Extension distance from each outside end row unit (whether in use or not). Do not measure to center of row pair.

5. Mark the ground at this point.

6. To adjust marker width, loosen nuts on U-bolts. Move marker disk tube in or out to get the proper adjustment. Tighten nuts.

7. Repeat steps 4 and 6 for the other side.

8. With the planter still lowered, drive forward a few feet for each side.

9. Check the mark locations. Adjust to obtain the table value.
## Marker Extension Table

<table>
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<tr>
<th>Planter Model</th>
<th>Spacing Used</th>
<th>Marker Extension</th>
<th>Planter Model</th>
<th>Spacing Used</th>
<th>Marker Extension</th>
</tr>
</thead>
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<td></td>
<td></td>
<td>Left</td>
<td>Right</td>
<td>YP625A3P</td>
<td>Standard: 38 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0470</td>
<td>Standard: 70 cm Single</td>
<td>175.0 cm</td>
<td></td>
<td>YP625A3P-0638</td>
<td>Standard: Twin 38 in. as: 38 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0430</td>
<td>Standard: 30 in. Single</td>
<td>75.0 in. (190.5 cm)</td>
<td></td>
<td>YP625A3P-1238</td>
<td>as: 40 in. Single</td>
</tr>
<tr>
<td>YP425A3P-08TR</td>
<td>Standard: Twin 30 in. as: 30 in. Single</td>
<td>62.4 in. (158.6 cm) 79.2 in. (201.1 cm)</td>
<td></td>
<td>YP825A3P-0830</td>
<td>Standard: Twin 30 in. as: 30 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0436</td>
<td>Standard: 36 in. Single</td>
<td>90.0 in. (228.6 cm)</td>
<td></td>
<td>YP825A3P-1638</td>
<td>Standard: Twin 36 in. as: 36 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0836</td>
<td>Standard: Twin 36 in. as: 36 in. Single</td>
<td>77.4 in. (196.7 cm) 94.2 in. (239.2 cm)</td>
<td></td>
<td>YP825A3P-0836</td>
<td>Standard: 36 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0438</td>
<td>Standard: 38 in. Single</td>
<td>95.0 in. (241.3 cm)</td>
<td></td>
<td>YP825A3P-1636</td>
<td>Standard: Twin 36 in. as: 36 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0838</td>
<td>Standard: Twin 38 in. as: 38 in. Single</td>
<td>82.4 in. (209.4 cm) 99.2 in. (251.9 cm)</td>
<td></td>
<td>YP825A3P-0838</td>
<td>Standard: 38 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0440</td>
<td>Standard: 40 in. Single</td>
<td>100.0 in. (254.0 cm)</td>
<td></td>
<td>YP825A3P-1638</td>
<td>Standard: Twin 38 in. as: 38 in. Single</td>
</tr>
<tr>
<td>YP425A3P-0840</td>
<td>Standard: Twin 40 in. as: 40 in. Single</td>
<td>95.8 in. (243.4 cm) 104.2 in. (264.6 cm)</td>
<td></td>
<td>YP825A3P-0840</td>
<td>Standard: 40 in. Single</td>
</tr>
<tr>
<td>YP625A3P-0670</td>
<td>Standard: 70 cm Single</td>
<td>245.0 cm</td>
<td></td>
<td>YP825A3P-1640</td>
<td>Standard: Twin 40 in. as: 40 in. Single</td>
</tr>
<tr>
<td>YP625A3P-0630</td>
<td>Standard: 30 in. Single</td>
<td>105.0 in. (266.7 cm)</td>
<td></td>
<td>YP1025A3P-1030</td>
<td>Standard: 30 in. Single</td>
</tr>
<tr>
<td>YP625A3P-12TR</td>
<td>Standard: Twin 30 in. as: 30 in. Single</td>
<td>92.4 in. (234.8 cm) 109.2 in. (277.3 cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YP625A3P-0636</td>
<td>Standard: 36 in. Single</td>
<td>126.0 in. (320.0 cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YP625A3P-1236</td>
<td>Standard: Twin 36 in. as: 36 in. Single</td>
<td>121.8 in. (309.4 cm) 130.2 in. (330.7 cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** As Single - Right (front) rows in use; left (rear) rows locked up. No centerline compensation.
122-278S Scraper Installation

Optional carbide disc scrapers are not factory installed. Start with row 1 (left-most row unit).

- If a Keeton seed firmer is also installed, see the Parts Manual for assembly details.
- This scraper is not compatible with Seed-Lok®.

Refer to Figure 107 and Figure 108

1. Remove one or both opener disc blades to gain safe access to the mount. Note the position of bushings and spacers for correct re-assembly (page 59).

2. Select one each:
   - 85 802-024C HHCS 3/8-16X3 GR5
   - 84 129BXT824 BRACKET FOR 890-929C FIRMER
   - 83 122-177D 10HD25 INSIDE SCRAPER MNT TUBE
   Insert the bolt 85, from the rear, through the lowest hole of the bracket 84. Place the tube 83 over the bolt.

3. Select one scraper set:
   - 89 890-928C 25 SER AIR DESIGN IN SCRAPER
   Place the shoulder washer 89 on bolt 85 with the larger diameter to the rear (toward bolt head). Place the left scraper blade 84 on the washer, followed by the right scraper blade 85.

4. Select one each:
   - 88 804-011C WASHER FLAT 3/8 USS PLT
   - 86 804-013C WASHER LOCK SPRING 3/8 PLT
   - 87 803-014C NUT HEX 3/8-16 PLT
   Place the flat washer 88 on the bolt 85, followed by the lock washer 86 and nut 87. Tighten bolt and nut to 3/8-16 GR5 torque spec. Make sure blades pivot freely.

5. Select the scraper spring 89. Connect the spring between the blades, using the small top holes.

6. Select two sets:
   - 88 802-172C HHCS 5/16-18X2 1/2 GR5
   - 88 803-043C NUT HEX WHIZ 5/16-18 PLT
   Insert the scraper assembly 84 between the middle four lower square holes 8 of the opener frame. Secure with bolts 88 and whiz nuts 88.

7. Re-mount the removed disc blade.
Great Plains (a division of Great Plains Manufacturing, Inc.) warrants to the original purchaser that this Great Plains machine will be free from defects in material and workmanship for a period of one year (Parts & Labor) from the first use date when used as intended for personal use; ninety days for custom/commercial or rental use.

Second year limited warranty covers Parts ONLY (personal usage only, excluding labor and wear items). This warranty is limited to the replacement of any defective part by Great Plains. Great Plains reserves the right to inspect any equipment or part which are claimed to have been defective in material or workmanship.

The following items and/or conditions are NOT COVERED UNDER WARRANTY: Failures resulting from the abuse or misuse of the equipment, failures occurring as a result of accidental damage or Force Majeure, failures resulting from alterations or modifications, failures caused by lack of normal maintenance as outlined in the operator’s manual, repairs made by non-authorized personnel, items replaced or repaired due to normal wear (such as wear items and ground-engaging components including, but not limited to, disc blades, chisel points, tires, bushings, and scrapers), repeat repair due to improper diagnosis or improper repair by the dealer, temporary repairs, service call and/or mileage to and from customer location, overtime premium, or unit hauling expenses. The warranty may be voided if the unit is towed at speeds in excess of 20 miles per hour (32 kilometers per hour), or failures occurring from soils with rocks, stumps, or other obstructions.

Great Plains reserves the right to make changes in materials or design of the product at any time without notice. The warranty shall not be interpreted to render Great Plains liable for damages of any kind, direct or consequential or contingent to property. Furthermore, Great Plains shall not be liable for damages resulting from any cause beyond its control. This warranty does not extend to crop loss, losses caused by planting or harvest delays or any expense or loss of labor, supplies, rental machinery, or for any other reason.

No other warranty of any kind whatsoever expressed or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

This warranty is not valid unless registered by a certified Great Plains dealer.

Effective July 15, 2020
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