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 depict similar models where a topic is identical.
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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2020-08-07
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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

▲ Wear protective clothing and equipment.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.
▲ Because operating equipment safely requires your full attention, avoid wearing entertainment headphones while operating machinery.

Handle Chemicals Properly

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.
▲ Read and follow chemical manufacturer’s instructions.
▲ Wear protective clothing.
▲ Handle all chemicals with care.
▲ Avoid inhaling smoke from any type of chemical fire.
▲ Store or dispose of unused chemicals as specified by chemical manufacturer.

Use A Safety Chain

(Optional hydraulic hitch only. 3-Point has no chain.)
▲ Use a safety chain to help control drawn machinery should it separate from tractor draw-bar.
▲ Use a chain with a strength rating equal to or greater than the gross weight of towed machinery.
▲ Attach chain to tractor draw-bar support or other specified anchor location. Allow only enough slack in chain to permit turning.
▲ Replace chain if any links or end fittings are broken, stretched or damaged.
▲ Do not use safety chain for towing.

Avoid High Pressure Fluids

Escaping fluid under pressure can penetrate the skin, causing serious injury.
▲ Avoid the hazard by relieving pressure before disconnecting 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.
Tire Safety

Tire changing can be dangerous and should be performed by 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.

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

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.
Transport Machinery Safely

Maximum transport speed for implement is 20 mph (32 kph), 13 mph (22 kph) 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. 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 that, when fully loaded, weighs more than 1.5 times the weight of towing vehicle.

▲ 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 145.

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

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.
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.

818-055C

Slow Moving Vehicle Reflector
On the back of the walkboard platform; 1 total

838-266C

Red Reflectors
On rear face of axle, below daytime reflectors; two total
838-267C

Daytime Reflectors
On rear face of axle, above red reflectors; two total

838-265C

Amber Reflectors
On the front of the center section front lower tool bars, on the rear of the wing tool bars, and on the sides of the seed box frame; six total
**848-512C**

**Warning: Read Manual**
On tongue at hitch;  
1 total

**818-590C**

**Danger: Crushing Hazard**
Top center of 3-point hitch;  
one total
(not present with hydraulic tongue option)

**838-599C**

**Danger: Electrocution Hazard**
One each side of marker upright arm, each side;  
four total
818-045C

**WARNING**

**PINCH POINT OR CRUSHING HAZARD**

To prevent serious injury or death from pinching or crushing:
- Stand clear from implement while folding or raising.

**Warning: Pinch/Crush**

On front faces of rockshaft, above gauge wheels,
On inside and outside face, wing caster weldments,
On side face of rear axle weldment;
eight total

818-188C

**WARNING**

**EXCESSIVE SPEED HAZARD**

To prevent serious injury or death:
- Do not exceed 20 mph maximum transport speed. Loss of vehicle control and/or machine can result.

**Warning: Speed**

On side of tongue;
one total
### 818-579C

**Warning: Pinch/Shear Hazard**
Front and rear faces of inner marker arms; four total

### 818-580C

**Warning: Overhead Marker**
Front and rear faces of inner marker arms; four total

### 838-094C

**Warning: High Pressure Fluid**
On side of tongue at hitch; one total
818-351C

**CAUTION**

To Avoid Injury or Machine Damage:
- Transport lock(s) must be engaged.
- During transport.
- When maintenance is being performed.

**Caution: Transport Locks**

Hitch tongue;

one total

818-398C

**CAUTION**

To Avoid Injury from Unsecured Transport Tires:
- Never stand on or use transport lift as a step.
- Tires not in contact with the ground will rotate freely.

**Caution: Tires Not A Step**

One front face each wing gauge wheel,
One each side front center axle,
One each rear face of rear caster arms;

8 total

818-587C

**CAUTION**

- Read all of the operator’s manual.
- Stand clear when folding and unfolding markers.
- Stand clear when raising and lowering machine.
- Keep all safety shields and devices in place.
- Keep hands, feet, and clothing away from moving chains and sprockets.
- Never ride on equipment.
- Always lower or properly support machine BEFORE servicing.
- Escaping hydraulic fluid can cause severe injury.
- Review safety instructions with all operators annually.

**Caution: Read Operator’s Manual**

On center tool bar;

one total
Caution: Pressure and Torque (Skid Steer Tire)
On outside rim each transport tire; 10 total

Caution: Pressure and Torque (Hi Float Tire)
On outside rim each transport tire; 10 total
Introduction

Great Plains welcomes you to its growing family of new product owners. The 40 Foot 3-Section Yield-Pro® Planter (YP40 Planter) 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.

Models Covered

YP4010HDP-4810  10HD Series, 48-Row, 10 in. (25 cm)
YP4010HDP-6075  10HD Series, 60-Row, 7.5 in. (19 cm)
YP4025-1630     25 Series, 16-Row, 30 in. (76 cm)
YP4025-1670     25 Series, 16-Row, 70 cm (27.5 in.)
YP4025-2420     25 Series, 24-Row, 20 in. (51 cm)
YP4025-3115     25 Series, 31-Row, 15 in. (38 cm)
YP4025-3135     25 Series, 31-Row, 35 cm (13.8 in.)
YP4025-3215     25 Series, 32-Row, 15 in. (38 cm)
YP4025-32TR     25 Series, 32-Twin Row, 30 in. pairs
YP4025-32TR70   25 Series, 32-Twin Row, 70 cm pairs
YP4025-32TR75   25 Series, 32-Twin Row, 75 cm pairs
YP4025-4810     25 Series, 48-Row, 10in. (25 cm)
YP4025F-1670a   25 Series, 16-Row, 70cm (27.5 in.)

a. Operation of the seed/fertilizer hopper supplied with this model is covered in a separate manual, 403-362M.

Document Family

401-571M  Owner’s Manual (this document)
401-571B  Seed Rate Charts
401-571P  Parts Manual
403-362M  670/1440 liter seed/fertilizer hopper

DICKEY-john®IntelliAg® manuals:

110011140 10 in. Virtual Terminal Manual
11001-1662 Seed Monitor Manual Level 1
11001-1501A Seed Monitor Manual Level 2 & 3
110011149 York 30 in. and 70 cm Quick-Start guide
110011504 York 10 in. Quick-Start guide
110011532 York 20 in. Quick-Start guide
110011533 York 15 in. and 35 cm Quick-Start guide
110011535 York 7.5 in. Quick-Start guide
110011536 York TR30 in. and TR70 cm QSG
11001-1126 hopper level sensor install

YP4025A models with Air-Pro® seed meters are covered by a different set of manuals.

Description of Unit

The YP40 Planter is a pull-type implement with optional mounted or pull-behind fertilizer capability. The YP40 offers three opener types and a wide variety of singulating and volumetric seed meters. It accepts optional unit mounted and frame-mounted row accessories. The YP40 Planter folds for transport.

10HD Series models support interchangeable seed meters, and offer the narrowest row spacing (7.5 in.), as well as 10 in. The 10HD opener is suitable for conventional till, min. till light no till, and with coulters; moderate no-till conditions.

25 Series support interchangeable seed meters and offer single and twin-row spacings from 10 to 30 in. 25 Series is suitable for conventional till, minimum-till, light no-till conditions, and (with coulters) moderate no-till conditions.
Intended Usage

Use the YP40 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 YP40 Planter.

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 2

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 left end of the seed cart tool bar.

Record your YP4010HD/YP4025/F model and serial number here for quick reference:

Model Number:__________________________
Serial Number: __________________________

Your Great Plains dealer wants you to be satisfied with your new machine. If you do not understand any part of this manual or are not satisfied with the service received, please take the following actions:

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.

Further Assistance

Great Plains Manufacturing, Inc. and your Great Plains dealer want you to be satisfied with your new YP40 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 YP40 planter for use, and covers tasks that need to be done seasonally, or when the tractor/planter configuration changes.

Before using the YP40 planter in the field, you must hitch the planter 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 - Initial and Option Setup” on page 173 for pre-delivery items (normally completed by dealer), and first-time/infrequent setup tasks, including:

• Install seed monitor console in tractor (page 175).

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 100).
• Wing leveling and alignment (page 100).
• Radar calibration (page 176).
• De-grease exposed cylinder rods if so protected at last storage.

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 117.

☑ 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 “Tire Inflation Chart” on page 148.
Hitching Tractor to Planter

⚠️ DANGER

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

⚠️ WARNING

High Pressure Fluid Hazard:
Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting 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. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

If Weight Transfer is Installed

If the optional weight transfer system is not installed, or a PTO pump is installed, continue at “Current Style Color Coded Hose Handles” on page 20.

The weight transfer cylinders must be free to flex during all planter movements where the system is not in active use.

To allow cylinder flex:
- connect at least the fan case drain and fan return lines to suitable receptacles (see page 20), or
- install the shipping links (see page 177).

⚠️ NOTICE

Machine Damage Risk:
Do not move the planter with a hydraulically locked weight transfer system. Relieve the system or install shipping links. If the cylinders are not free to flex, oil loss will result from even minor movement flexing.
Hitching with 3-Point

Refer to Figure 4

1. If the planter is model YP4010HDP-3215 ("Even Row 15 in.") check the configuration of the hitch offset at "YP4010HDP-3215 3-Point Hitch" on page 178.

2. Connect your tractor 3-point to the planter 3-point hitch. If using quick hitch be sure planter locks into hitch securely.

3. Raise tractor 3-point enough to relieve pressure from parking stands.

**NOTICE**

*Load Sway Risk:*
Adjust 3-point hitch arms and sway blocks to minimize any side-to-side sway to assure proper tracking in the field and safe road travel.


6. Swing up and pin up 3-point stands. See “Storing 3-Point Parking Stands” on page 22.

7. Remove and store main tongue parking stand. See “Store Main Parking Stand” on page 22.

Hitching with Hydraulic Tongue (Option)

Refer to Figure 5

1. Move the tractor to near hitching position.

2. Connect the hydraulic hoses for the tongue circuit. This needs to be done before hitching in order to raise and lower the tongue. See “Hydraulic Hose Hookup” on page 19. Allow slack for hitch movements. Close the tongue cylinder bypass valve.

3. Make electrical connections for at least the planter control circuit (necessary to control planter hydraulic systems). See page 21.

4. Check that hitch local bypass valve ① is closed.

Refer to Figure 6

5. Set the cab Clutch Folding Module Lift/Hitch switch ② to Hitch.

6. Retract the Hitch/Lift circuit to set the tongue height to clear the draw-bar. Back the tractor into alignment and pin the draw-bar.

7. Connect safety chain to a suitable anchor point on the tractor.
8. Connect all other hydraulic hoses.


10. Extend the Hitch/Lift circuit to raise the hydraulic tongue just enough to relieve pressure from the parking stand.

11. Remove and store main tongue parking stand. See “Store Main Parking Stand” on page 22.

Raising/Lowering Tongue

In addition to hitching, tongue raising and lowering is required during fold and unfold to engage and disengage the wing locks.

With the standard 3-point hitch, the planter tongue is raised and lowered by raising and lowering the 3-point.

With the optional hydraulic tongue, the planter tongue is raised by extending the hitch cylinder, and lowered by retracting the hitch cylinder.

Hydraulic Hose Hookup

**WARNING**

*High Pressure Fluid Hazard:*
Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting 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. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

Local Float on Hydraulic Tongue

Refer to Figure 26 on page 31

**NOTICE**

The hydraulic tongue must be in Float during planter transport.

If it is necessary to move the planter without first connecting it to a tractor that has a float-capable circuit for the hydraulic tongue, open the bypass valve on the tongue cylinder. This provides local floating capability at the tongue.
**WARNING**

*Only trained personnel should work on system hydraulics!*

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>Wing Fold / Marker Fold / Auxiliary</td>
</tr>
<tr>
<td>Blue</td>
<td>Lift / (and Hitch if hydraulic tongue)</td>
</tr>
<tr>
<td>Black</td>
<td>Fan</td>
</tr>
<tr>
<td>Yellow</td>
<td>Hydraulic Drive Weight Transfer (option)</td>
</tr>
</tbody>
</table>

Refer to Figure 7

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 feed 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) case drain line, which returns lubricating/cooling fluid.

**Older Style Hoses with Color Ties**

Great Plains 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>White</td>
<td>Wing Fold / Marker Fold / Auxiliary</td>
</tr>
<tr>
<td>Blue</td>
<td>Lift / (and Hitch if hydraulic tongue)</td>
</tr>
<tr>
<td>Orange</td>
<td>Fan</td>
</tr>
<tr>
<td>Yellow</td>
<td>Hydraulic Drive</td>
</tr>
</tbody>
</table>

Refer to Figure 8

To distinguish hoses on the same hydraulic circuit, refer to plastic hose label. The hose under an extended-cylinder symbol feeds a cylinder base end. The hose under a retracted-cylinder symbol feeds a cylinder rod end.

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) case drain line, which returns lubricating/cooling fluid.
Protecting Fan Hydraulic Motor Seals

Low Pressure (Case) Drain Connection

**NOTICE**

*Machine 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.

1. Attach case drain hose to low pressure drain connection.

2. Connect low pressure motor return hose to low pressure return connector. It is distinguished by a large (1.06 in./2.7 cm diameter) quick coupler.

**NOTICE**

*Machine Damage Risk:*
*DO NOT connect the case drain line to a power-beyond-port.*

3. Connect hydraulic hoses to tractor remotes.

Electrical Hookup

*Refer to Figure 9*

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

1. Mate lighting connector to tractor outlet.
2. Mate monitor connector to tractor harness.
3. Mate any optional or aftermarket electrical connectors.

Make connections prior to planter movement. Some planter hydraulic circuits are under monitor control.

---

Figure 9
Connector Identification

1. 36051
2. 25237
3. 34694
Parking Stands
Store Main Parking Stand

Refer to Figure 10

1. Raise the tractor hitch slightly to lift parking stands off ground.
2. Remove the lower pin ① and the upper pin ② holding the parking stand ③.
3. Move the stand from under the tongue to an inverted position in the bracket ④ on the left side on the tongue. Pin in place.

Storing 3-Point Parking Stands

Refer to Figure 11 (shown without tractor for clarity)

1. For the standard 3-point hitch, store the two forward stands ⑤ by either of the following methods:
   • Remove the top pin ⑦, swing the stand ⑥ out, up and vertical around the bottom pin ⑧, and re-insert the top pin ⑦, or
   • Remove the bottom pin ⑧, swing the stand inward, to a horizontal positional under the hitch, and insert the removed pin at hole ⑨ under the stand.

Refer to Figure 10

2. Adjust the top link of a 3-point long enough so the ball swivel ⑦ does not bottom out when fully raised.
3. Secure hoses so they do not get caught in ball swivel ⑦. Failure to do so could cause hose to be crushed requiring hose replacement.
Tank Cart Hitching
If using a fertilizer cart, consult the cart manual for:
• hitching cart tongue to planter
• connecting pump control electronics to planter
• connecting fertilizer feed hoses to planter
Complete the tractor-planter hook-up before making any tank cart connections.

**NOTICE**
Open hose and inlet valves when ready to begin planting. Close them when not in use.

Fertilizer Connection Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2-section, planter manifold and pump: Starter inlet only</td>
</tr>
<tr>
<td>3</td>
<td>3-section, cart manifold and pump: Left, Center, Right inlets &amp; Gauge line</td>
</tr>
</tbody>
</table>

Making Fertilizer Connections

PFC2000 tank cart, YP40 planter with Type 2 and Type 3 Manifolds, & Ground Drive Pump

<table>
<thead>
<tr>
<th>Planter Inlet</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>C</td>
</tr>
<tr>
<td>Left Type 3</td>
<td>Center Type 3</td>
</tr>
<tr>
<td>S</td>
<td>G</td>
</tr>
<tr>
<td>Type 2</td>
<td>Gauge Linea</td>
</tr>
</tbody>
</table>

PFC1600 or PFC2000 tank cart, YP40 planter with Type 3 Manifold (only)

<table>
<thead>
<tr>
<th>Planter Inlet</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>C</td>
</tr>
<tr>
<td>Left Type 3</td>
<td>Center Type 3</td>
</tr>
<tr>
<td>R</td>
<td>S</td>
</tr>
<tr>
<td>Right Type 3</td>
<td>Type 2</td>
</tr>
<tr>
<td>G</td>
<td>Gauge Linea</td>
</tr>
</tbody>
</table>

a. Gauge Line is supplied with PFC1600 or PFC2000 tank cart

Heights and Leveling
All frame sections must be at the correct height and level to maintain even planting depth.
Periodic frame-leveling adjustments should not be necessary. If you are having problems with uneven depth, check planter levelness and follow these procedures.

1. Before making any adjustments be sure the lift cylinders are re-phased and operating properly. If not, see “Re-Phasing Lift System” on page 31
2. Complete “Marker Shear Bolt Replacement” on page 100.
3. Unfold the planter fully (page 27).

**Set Tongue Height**
Planter must be unfolded for this procedure.

*Refer to Figure 13*
Set the initial tongue height, using 3-point or hydraulic tongue cylinder. Distance is measured at top of tongue to ground level.

- For standard 3-point hitch:
  Set depth stop to capture this working height.
  If desired height cannot be attained with normal range of hitch, swivel coupler weldment may be relocated in tongue bolt holes.
- Tractor 3-point control must be in Depth Control mode, and not Draft Control mode.

- For hydraulic tongue:
  Note the scale reading on the tongue for this height.
  [Re]set the tongue height to this value when planting.

**Checking Planter Height**
The planter is designed to operate with all sections of the main tool bar nominally 26 in. (66 cm) above the planting surface. The height of the center section is not routinely adjustable. Set planting depth with row unit adjustments.

When lowering the planter for the first time on the planting ground:

1. Completely lower the main tool bar. If necessary, first lift off transport locks, remove and stow locks.
2. Set hitch to planting height.
3. Pull forward a few feet or just over a meter.

**NOTICE**

*Height Mis-adjustment Risk:*
Planter must be fully lowered to field position (with openers into ground) and hitch height must be set before making side-to-side adjustments.

4. Check tool bar height across planter. See page 100 for further detail and adjustment.
Marker Setup

Prior to first use, check and adjust:

- "Appendix C - Option Installation" on page 178.
- Prior to first use, and whenever changing row spacings, set or reset:
- "Set Marker Extension" on page 149.
- Prior to each planting session, check and adjust:
- "Marker Disk Adjustment" on page 65.

Lock Up Fertilizer Drive

YP40 (S/N B1072A+)

**WARNING**

Loss of Control and Sharp Object/Crushing Hazards:
Do not lift or lower wheel by spoke or rim; use handle only. Keep feet out from under wheel. 90 pounds (41 kg.) force is required to lift wheel. If you lose your grip before pinning, or after unpinning, the arm snaps down rapidly. The traction teeth and the force of the wheel impact can inflict serious injury.

The liquid fertilizer option uses a piston pump driven by a ground contact wheel. When not using the fertilizer drive, preserve the pump by locking up the ground wheel. On older models remove the chain.

Do not operate planter pump when not applying material.

Refer to Figure 15

For YP40 planters:

5. Remove clevis pin from storage hole ④.

6. Release the lock arm ⑤, lift handle ⑦ to lift ground wheel up to position it in-between lock arm.

7. Secure with pin clevis ⑥ and cotter pin.
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 YP40 planter to the field.

WARNING

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

- Carefully read “Important Safety Information” on page 1.
- Install seed rate meters appropriate for crop. To change meters, see “Seed Meter Setup and Adjustment” on page 85.
- Install seed wheels appropriate for crop. To change wheels, see “10HD, 25P Meter Wheel Replacement” on page 86. With finger meters, make sure correct 6- or 12-finger units are installed for the intended row spacing.
- Lubricate planter as indicated under “Lubrication” on page 117.
- Check all tires for proper inflation. See “Tire Inflation Chart” on page 148.
- Check all bolts, pins, and fasteners. Torque as shown in “Torque Values Chart” on page 172.
- 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.
Unfolding The YP40 Planter

The distance between the tractor and the seed structure decreases by 12 ft. (3.7 m) during unfolding. Planter, tractor, or both will move during this operation.

**WARNING**

**Crushing, Pinch-Point and Overhead Hazards:**
To prevent serious injury or death:
- **Fold only on hard level ground. Allow ample room.**
- **If it is desired that the tractor not move, make sure tractor is in Park and/or has parking brakes set, otherwise the telescoping movement of the planter is likely to result in tractor movement.**
- **Do not allow anyone to be on or near the planter during unfolding.**
- **Stay clear of the wing sweep arcs. The sweep arcs of the wings have numerous pinch and crush points in the mechanism.** Coulters and row openers are sharp.
- **Allow no one near planter. The seed structure usually moves forward during unfolding.**
- **Do not unfold with planter lowered, or machine damage will result.**
- **Unfold only with markers resting in transport cradles.**

1. Move to level ground.

**Refer to Figure 16**

2. On the Clutch Folding Module (CFM), set the following switches to OFF (down):
   - MASTER switch 1 in the CLUTCH cluster 2, and
   - Fert.Pump 3.
3. If the folded planter is lowered, raise mainframe (see "Raising/Lowering Planter" on page 28).
4. If equipped with hydraulic hitch, the CFM Lift/Hitch switch 5 must be set to Hitch.
5. Raise tractor 3-point hitch or extend (raise) planter hydraulic tongue until tongue wing locks 5 rise and disengage.

**NOTICE**

**Machine Damage Risk:**
If hitch is not raised, wing locks will remain in transport hooks. Wings will not unfold, and machine damage is possible.
6. Set CFM Marker/Fold switch 4 to Fold. LED above switch blinks continuously.
7. Activate (normally Retract) tractor hydraulic circuit to unfold wings.

8. Operation is complete when the tongue lock engages.

Refer to Figure 19

NOTICE

Machine Damage Risk:
Do not operate planter when unfolded unless tongue lock is engaged.

9. When fully unfolded, set Marker/Fold hydraulic circuit to Neutral.

10. For imminent lowered operations, remove lift cylinder locks (see “Lift Cylinder Lock-Up” on page 30).

11. Set hitch height to planting position (“Raising/Lowering Tongue” on page 19).

Raising/Lowering Planter

Refer to Figure 20

Planter raising/lowering relies on the four lift cylinders at the mainframe and wing end gauge wheels.

The planter must be raised for folding and unfolding.

The planter will not lower if transport locks are installed. See “Lift Cylinder Lock-Up” on page 30.

When unfolded, if one or both markers are extended, they may drag or shove if left extended during raise or lower operations. To avoid this, fold markers prior to raise or lower.
NOTICE

Machine Damage Risk (Hydraulic Hitch Only):  
Do not lower planter while folded without using the special procedure on page 31 (this is a hydraulic hitch restriction - planter may be lowered while folded with standard 3-point hitch).

Machine Damage Risk:  
Do not lower while any planter folding operations are underway or partially complete, with either hitch.

Machine Damage Risk:  
Always raise the planter for any reverse/backing operations.

Raising Planter

Refer to Figure 23

1. If the planter has hydraulic hitch, set the Lift/Hitch switch ☞ to LIFT.

   If the planter has the standard 3-point hitch, this switch has no function. The hydraulic circuit is always in Lift (Raise/Lower) mode.

2. Move the cab lever to Extend the circuit for Lift/Hitch.

NOTICE

Machine Damage Risk:  
On tractors with electronic timer controls for hydraulic circuits, lift timers must be set to no more than 2 seconds longer than needed to fully raise planter.

Do Not Set for Continuous Mode.

For transport, maintenance or storage, install lift cylinder locks. See “Lift Cylinder Lock-Up” on page 30.

CAUTION

Pinch/ Crush Risk:  
Keep all personnel clear of center section and seed cart while raising tool bar. The wheels move inward.
Lowering Planter

Refer to Figure 24

1. If lift cylinder locks are installed, first fully raise the planter, and remove the locks. See “Raising Planter” on page 29 and “Lift Cylinder Lock-Up” on page 30.

2. If equipped with hydraulic hitch, set the Lift/Hitch switch ① to LIFT. On 3-point hitch, this switch has no function and the circuit is in Lift mode at all times.

3. Move the cab lever to Retract the circuit for Lift/Hitch. When fully lowered, return lever to neutral.

**NOTICE**

Machine Damage Risk (Hydraulic Hitch Only):
Never lower planter while fully folded, if it is equipped with the hydraulic tongue hitch, or machine damage can occur unless a special procedure is followed (see page 31). A planter with a 3-point hitch may be lowered while folded.

**NOTICE**

Machine Damage Risk:
Never lower planter while partially unfolded (with either hitch). Wing row units can strike main transport wheels.

Lift Cylinder Lock-Up

When moving the raised planter more than a short distance, or over any public road, or when performing adjustments or maintenance, do not rely solely on the lift cylinders to keep the mainframe raised.

Install transport locks.

Refer to Figure 25

1. If planter is folded, confirm hitch is in Float. If planter is unfolded, hitch may be in any configuration.

2. Raise the planter mainframe. See “Raising/Lowering Planter” on page 28.

3. Remove the transport locks from their storage positions ①. Install the transport locks on the cylinder rods ②, securing them with the same pins used for storage.

4. Lower the lift cylinders onto the locks.
Re-Phasing Lift System

In typical use during a single planting operation, it is normal for the lift cylinders to get slightly out of phase, resulting in uneven raising and lowering of the YP40 planter.

Every 8- to 10 passes, or if lifting is uneven, re-phase the cylinders with this procedure:

1. Raise the planter completely, and hold the hydraulic lever or switch in Extend for several seconds after the planter reaches full elevation, or until all cylinders are fully extended.

2. When all cylinders are fully extended, momentarily reverse (Retract) the control to lower the planter \(\frac{1}{2}\) inch (13 mm).

Local Float on Hydraulic Tongue

A hydraulic hitch planter may be raised or lowered while folded using the local float valve.

1. Float hitch circuit before lowering while folded.

2. Set CFM Lift/Hitch switch to Lift for raising/lowering.


**CAUTION**

**Crushing Hazard:**

Tongue or planter components may drop suddenly when circuit is floated. Before raising or lowering, set CFM Lift/Hitch switch to Hitch and set tractor circuit to Float. If tractor is not available, use bypass valve on hitch. **Stand clear and open it slowly.**
Folding the YP40 Planter

Fold the YP40 planter for moves between fields and over public roads, and for storage. The distance between the tractor and the seed structure increases by 12 ft. (3.7 m) during folding. Planter, tractor, or both will move during this operation.

**WARNING**

**Pinch Point and Crushing Hazard.**
To prevent serious injury or death:

▲ Fold only on hard level ground. Allow ample room.

▲ If it is desired that the tractor not move during folding, make sure tractor is in Park and/or has parking brakes set, otherwise the telescoping movement of the planter is likely to result in tractor movement.

▲ Do not allow anyone to be on or near the planter during folding.

▲ Stay clear of the wing sweep arcs. The sweep arcs of the wings have numerous pinch and crush points in the mechanism. Coulters and row openers are sharp.

▲ Allow no one behind the planter. The seed structure moves backward during folding.

▲ Do not fold with planter lowered, or machine damage will result.

▲ Fold only with markers resting in transport cradles.

1. Move to level ground.

Refer to Figure 27

2. On the cab Clutch Folding Module (CFM), set the following switches to OFF (down):
   - MASTER switch  in the CLUTCH cluster  , and
   - Fert.Pump .

3. Raise planter mainframe (see “Raising/Lowering Planter” on page 28). Do not raise (hydraulic) hitch at this point.

4. Install lift cylinder locks (see “Lift Cylinder Lock-Up” on page 30).
Refer to Figure 28

If caster locks are engaged (handle @ in FIELD position), they must be released before folding.

**NOTICE**

**Machine Damage Risk:**
Caster locks must be disengaged for transport.

5. At each wing caster, move the lock control handle @ to the ROAD position.

6. If the indicator end of the lock @ does not immediately snap up from FIELD to ROAD, some pivot tension is holding the pawl end of the lock © in the plate detent ®. Move the planter forward or back a short distance until both locks unlock.

Refer to Figure 27

7. Set CFM Marker/Fold switch ④ to Fold. LED above switch blinks continuously.

8. Activate (normally Extend) tractor Marker/Fold hydraulic circuit to fold wings. Sequence begins with releasing of tongue latch (Refer to Figure 19 on page 28). Before folding completes ...

9. Raise planter tongue (“Raising/Lowering Tongue” on page 19). This must be done before folding completes.

**NOTICE**

**Machine Damage Risk:**
If tongue is not raised prior to folding complete, wing locks will be above transport hooks and unable to secure wings to tongue.

If this happens, partially unfold planter, raise tongue, and refold.

Refer to Figure 28

10. When fully folded, lower tongue so that wing locks ⑤ engage transport hooks ©.

11. Set Marker/Fold circuit lever to Neutral.

12. 3-point: lower hitch completely
   - Hydraulic tongue: Set hitch circuit to Float (not Neutral).

**NOTICE**

**Machine Damage Risk:**
Wing locks must be engaged for safe transport, and planter tongue must be lowered to keep wings locked.

Hydraulic tongue, if installed, must be in Float.
Re-phasing Fold System

In typical use during a single planting operation, it is normal for the fold cylinders to get slightly out of phase, resulting in uneven folding and unfolding of the YP40.

Every few planting days, re-phase the cylinders with this procedure:

1. Raise, unfold and fold the planter completely, and hold the fold hydraulic lever or switch in Extend for several seconds after the planter reaches full folding, or until all cylinders are fully extended.
2. When all cylinders are fully extended, reverse (Retract) the control to unfold and return to planting.
Transferring the Planter

**DANGER**

**Loss of Control Hazard:**
Ensure that the towing vehicle is adequate for the task. Using an inadequate tow vehicle is extremely unsafe, and can result in loss of control, serious injury and death.

The planter can weigh up to 45000 pounds (20400 kg), depending on configuration and seed load. A tank cart hitched to the planter (“in train”) adds another 5000 pounds (2268 kg) empty. The tractor unit MUST be rated for the load. If the tractor is not rated for at least 45000 pounds, calculate or obtain a scale weight of the planter and cart. Do not tow if planter exceeds the load rating of the vehicle.

**DANGER**

**Loss of Control Hazard:**
A PFC tank cart in train must be EMPTY. A full tank cart weighs nearly 30000 pounds (13608 kg), and, when hitched to the planter, represents an unsafe highway load regardless of the rating of the towing vehicle. If a PFC cart must be transported loaded, tow it separately. **Check Bridge Loads:** A loaded planter, or a planter with cart in tow, can exceed the load ratings of bridges you must cross.

**WARNING**

**Loss of Control Hazard:**
The CFM switch must be set to Hitch, and the hydraulic circuit must be in FLOAT during transport. Failure to do this may result in hydraulic system damage, transport hooks unlatching, and major planter/tractor damage.

The figures in the table below represent a limited number of configurations. The weight of your planter can vary by thousands of pounds, even if it is the same base model, due to installed options and/or aftermarket equipment. If your tractor weight or capability is near its limits, take your empty planter to a scale and get a precise weight.

**NOTICE**

**Reduction of Control Risk:**
Seed may be loaded prior to travel, but increases stopping distance, increases the need for caution in turns and braking, and increases tire wear.
Typical YP40 Planter Weights

<table>
<thead>
<tr>
<th>All configurations include: Markers, UMCs (Unit-Mounted Coulters), and a Hopper (bu varies)</th>
<th>YP4025-16TR 82bu Hopper</th>
<th>YP4025-16TR Single RC, 82bu, 400gal Fertilizer</th>
<th>YP4025-4810 Single RC, 150bu Hopper</th>
<th>YP4025-1630 82bu Hopper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Model, Empty</td>
<td>28500 lbs 12900 kg</td>
<td>30300 lbs 13700 kg</td>
<td>34000 lbs 15400 kg</td>
<td>24500 lbs 11100 kg</td>
</tr>
<tr>
<td>Base Model + Material Load</td>
<td>33500 lbs 15200 kg</td>
<td>40000 lbs 18100 kg</td>
<td>43000 lbs 19500 kg</td>
<td>29500 lbs 13400 kg</td>
</tr>
<tr>
<td>Add for PFC2000, Empty</td>
<td>5000 lbs 2300 kg</td>
<td>5000 lbs 2300 kg</td>
<td>5000 lbs 2300 kg</td>
<td>5000 lbs 2300 kg</td>
</tr>
</tbody>
</table>

**Planner with Cart**

| Planter and Cart Empty | 33500 lbs 15200 kg | 35300 lbs 16000 kg | 39000 lbs 17700 kg | 29500 lbs 13400 kg |
| Planter and Cart, Full* | 62500 lbs 28300 kg | 69000 lbs 31300 kg | 72000 lbs 32600 kg | 58500 lbs 26500 kg |

* Figures included only to emphasize the hazard. Never tow a loaded tank cart hitched to a planter.

Transport Checklist

- Plan the route. If towing a cart hitched to the planter, plan the route so that no reverse movements will be necessary. Avoid steep hills. Keep Clearances in mind. Folded, your YP40 planter may be nearly 15 ft. (4.6 m) wide and 13 ft. (4 m) high.

- Hitch.
  - Make both electrical and hydraulic connections. See “Hitching Tractor to Planter” on page 17.

- If markers are unfolded, fold them. See “Folding the Markers” on page 41.

- Raise planter.
  - See “Raising/Lowering Planter” on page 28

- Install lock-up channels on lift cylinders.
  - See “Lift Cylinder Lock-Up” on page 30.

- Disengage caster locks. See page 33.

- Fold and latch lower ladder section. See page 45.

- If planter wings are unfolded, fold them.
  - See “Folding the YP40 Planter” on page 32. Make sure wing locks are engaged.

- 3-point hitch:
  - Lower hitch fully to ensure wings remain locked.
  - Hydraulic hitch:
    - Confirm CFM set to Hitch and hitch circuit in Float.

**CAUTION**

*Breaking and Loss of Control Hazard:*

Do not exceed 20 mph when driving straight.

**CAUTION**

*Loss of Control Hazard:*

Do not exceed 13 mph in turns.

**Steering**

Never exceed 13 mph (22 kph) in turns. The YP40 planter is extremely heavy, and can cause “over-steer” with most tractors. The rear-most transport wheels and tank cart lead wheel fully caster, and provide no resistance to side sway by the planter or cart.

**NOTICE**

Never exceed 3 mph (5 kph) in reverse.

**NOTICE**

Never back up with the planter lowered or with a fertilizer tank hitched to the planter.
Always have lights on for highway operation.
- Comply with all federal, state and local safety laws when traveling on public roads.
- Travel with caution.

**Caster Locks - Field Operations**

For planting in conditions ranging from flat ground to moderate slopes, the caster locks may be left in the ROAD position, allowing the casters to pivot freely, and simplifying fold/unfold operations.

For planting across extreme hillsides, where side drift might occur, lock the casters after unfolding:

1. Move the lock handle ① from ROAD to FIELD at each caster.

The lock arm ② will automatically capture and hold the pivot plate detent ③ when the planter next moves.

See page 33 for unlocking steps.

**CAUTION**

Field Set-Up Checklist

Use the following tables to develop a final checklist for your tractor/planter configuration. Additional or fewer steps may be necessary depending on tractor features, planter options and planting accessories.

<table>
<thead>
<tr>
<th>Mechanical Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tongue height preset on 3-point</td>
<td>24</td>
</tr>
<tr>
<td>Planter unfolded</td>
<td>27</td>
</tr>
<tr>
<td>Tongue front latch hook engaged</td>
<td>28</td>
</tr>
<tr>
<td>Transport locks moved to storage</td>
<td>30</td>
</tr>
<tr>
<td>Caster locks set to FIELD (extreme hillsides only)</td>
<td>37</td>
</tr>
<tr>
<td>Side-to-side level at gauge wheels</td>
<td>100</td>
</tr>
<tr>
<td>Marker initial length set</td>
<td>149</td>
</tr>
<tr>
<td>Marker disc angle set</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verify electrical hookups solid</td>
<td>21</td>
</tr>
<tr>
<td>Check seed monitor terminal and observe any diagnostic messages</td>
<td>a</td>
</tr>
<tr>
<td>With hydraulic circuits in Neutral, check switches and indicator lights on Clutch Folding Module switch panel. Confirm Master OFF.</td>
<td>-</td>
</tr>
<tr>
<td>Verify that, when planter is lowered, radar speed sensor is pointed at ground, at an angle approximately 35° below horizontal.</td>
<td>b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Refer to monitor manual</td>
<td></td>
</tr>
<tr>
<td>b. Refer to sensor documentation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air System Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold to seed box or hopper seal</td>
<td>-</td>
</tr>
<tr>
<td>Add 1 cup of seed lubricant to each air box, prior to first use, and prior to loading seed</td>
<td>128</td>
</tr>
<tr>
<td>Seed loaded</td>
<td>48</td>
</tr>
<tr>
<td>Tube gates turned on to correct rows</td>
<td>42</td>
</tr>
<tr>
<td>No air leaks (except from seed box)</td>
<td>-</td>
</tr>
<tr>
<td>Hose routings - no sags, no pinches (check wing-folded &amp; field positions)</td>
<td>-</td>
</tr>
<tr>
<td>Hoses fully connected to meters and locked</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frame Mounted Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row cleaner depth setting</td>
<td>79</td>
</tr>
<tr>
<td>Coulter depth and alignment</td>
<td>75</td>
</tr>
<tr>
<td>Row Units Checklist</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Preset depth handles alike</td>
<td>73</td>
</tr>
<tr>
<td>Preset down force springs alike, except in tracks.</td>
<td>75</td>
</tr>
<tr>
<td>Set all unit-mounted coulters to 1/4 inch shallower than opener blades</td>
<td>80</td>
</tr>
<tr>
<td>Check coulter alignment to row</td>
<td>81</td>
</tr>
<tr>
<td>Check closing wheel alignment</td>
<td>94</td>
</tr>
<tr>
<td>Set press wheels alike.</td>
<td>93</td>
</tr>
<tr>
<td>Engage meter coupling for all desired rows</td>
<td>85</td>
</tr>
<tr>
<td>Check action and contact of side depth wheels (25P only)</td>
<td>82</td>
</tr>
<tr>
<td>Check wheel scraper gaps (if installed)</td>
<td>84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydraulic Planter Drive Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check chain lubrication and slack</td>
<td>122</td>
</tr>
<tr>
<td>Input initial values for desired slack</td>
<td>a</td>
</tr>
<tr>
<td>Pre-run system using manual ground speed mode on seed monitor. Reset to digital frequency source after test running.</td>
<td>a</td>
</tr>
<tr>
<td>Calibrate radar speed sensor pulses with planter lowered.</td>
<td>b</td>
</tr>
<tr>
<td>Lubricate slider joints on drive shafts</td>
<td>126</td>
</tr>
<tr>
<td>Check clutch operation</td>
<td>42</td>
</tr>
</tbody>
</table>

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

b. Refer to seed monitor manual.

c. Refer to Seed Rate manual.

<table>
<thead>
<tr>
<th>Treatments (Options) Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm Clutch Folding Module “Fert.Pump” switch OFF</td>
<td>55</td>
</tr>
<tr>
<td>Check tractor-mounted components</td>
<td>a</td>
</tr>
<tr>
<td>Ground drive wheel, chain</td>
<td>a</td>
</tr>
<tr>
<td>PFC2000 or PFC1600: Execute Tank Cart Checklist</td>
<td>b</td>
</tr>
<tr>
<td>Check for correct orifice plates</td>
<td>c</td>
</tr>
<tr>
<td>Fill system with 100 gallons of water, and check for leaks</td>
<td>-</td>
</tr>
<tr>
<td>Check all row unit lines connected, free of kinks, and discharge tube/nozzles clear</td>
<td>-</td>
</tr>
<tr>
<td>Inlet and hose valves open</td>
<td></td>
</tr>
<tr>
<td>SmartBox system loaded, powered up</td>
<td></td>
</tr>
</tbody>
</table>

c. Check Seed Rate manual, and manual for fertilizer pump system.

<table>
<thead>
<tr>
<th>Meters Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct meters for seed</td>
<td>a</td>
</tr>
<tr>
<td>Correct wheels for seed</td>
<td>a</td>
</tr>
<tr>
<td>Correct finger meters for seed:</td>
<td>a</td>
</tr>
<tr>
<td>6-finger for twin-row,</td>
<td>a</td>
</tr>
<tr>
<td>12-finger for single-row and some high-speed or high population twin row)</td>
<td>a</td>
</tr>
<tr>
<td>Close clean-out doors</td>
<td>103</td>
</tr>
<tr>
<td>Corn?</td>
<td>a</td>
</tr>
<tr>
<td>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>Check meter assemblies secured</td>
<td>88</td>
</tr>
<tr>
<td>Engage drive couplers</td>
<td>88</td>
</tr>
</tbody>
</table>

a. Refer to Seed Rate manual.

<table>
<thead>
<tr>
<th>Hydraulic System Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check tractor hydraulic reservoir full</td>
<td>-</td>
</tr>
<tr>
<td>Inspect connections for leaks</td>
<td>-</td>
</tr>
<tr>
<td>Perform a raise and lower operation</td>
<td>28</td>
</tr>
<tr>
<td>Check fan speed and airflow direction</td>
<td>a</td>
</tr>
<tr>
<td>If equipped with hydraulic drive, confirm Clutch Folding Module Master switch off, and check hydraulic planter drive rotation</td>
<td>42</td>
</tr>
<tr>
<td>Set Clutch Folding Module switch “Marker/Fold” to “Marker”</td>
<td>39</td>
</tr>
</tbody>
</table>

a. Operate fan briefly and observe rotor blades spinning toward exit port. Check rpm on seed monitor.
Field Operation

Perform all steps in “Pre-Start Checklist” on page 26 and “Trailer Operations” on page 55.

<table>
<thead>
<tr>
<th>First Pass Operation Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Set tractor 3-point hitch to “depth control” operation (and not load control)</td>
<td>-</td>
</tr>
<tr>
<td>2. Unfold marker on next-row side.</td>
<td>40</td>
</tr>
<tr>
<td>3. Set fan hydraulic circuit to low flow, engage circuit. Gradually adjust fan hydraulic flow to obtain 3800 rpm.</td>
<td>44</td>
</tr>
<tr>
<td>4. Engage hydraulic seed drive via seed monitor. Refer to seed monitor manual.</td>
<td>-</td>
</tr>
<tr>
<td>5. If planter has a fertilizer system integrated with the DICKEY-john® seed monitor, set the “Fert.Pump” switch on the Clutch Folding Module to ON.</td>
<td>55</td>
</tr>
<tr>
<td>6. In the CLUTCH cluster of the Clutch Folding Module, set all switches, including Master, to ON.</td>
<td>42</td>
</tr>
<tr>
<td>7. Pull forward, lower planter, and begin planting for a short distance.</td>
<td></td>
</tr>
</tbody>
</table>
| 8. Stop. Assess:  
  • planting depth  
  • seed spacing  
  • press wheel operation  
  • fertilizer application (if in use) | |
| 9. Make necessary adjustments | 62 |

<table>
<thead>
<tr>
<th>Sharp Field Turns Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fold marker</td>
<td>41</td>
</tr>
<tr>
<td>2. Raise planter</td>
<td>28</td>
</tr>
<tr>
<td>3. Make turn</td>
<td></td>
</tr>
<tr>
<td>4. Lower planter</td>
<td>28</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>

<table>
<thead>
<tr>
<th>Suspending Planting Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stop tractor</td>
<td></td>
</tr>
<tr>
<td>2. Fan hydraulic circuit to Float or Neutral</td>
<td>44</td>
</tr>
<tr>
<td>3. Fold Marker</td>
<td>41</td>
</tr>
<tr>
<td>4. Raise planter</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ending Planting Checklist</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Suspend operations as above, then</td>
<td></td>
</tr>
<tr>
<td>2. Install lift locks</td>
<td>30</td>
</tr>
<tr>
<td>3. Set caster locks to ROAD</td>
<td>33</td>
</tr>
<tr>
<td>4. Fold planter</td>
<td>32</td>
</tr>
<tr>
<td>5. Lights ON</td>
<td>-</td>
</tr>
<tr>
<td>6. Transport</td>
<td>35</td>
</tr>
</tbody>
</table>
Marker Unfolding

Electrocution Hazard:
Beware of overhead electrical lines. If the markers contact lines, the tractor, raised planter and any cart can become “hot” with no indication. A person standing on the ground and touching equipment can complete the circuit. Serious injury or death is likely. At higher voltages electrocution can occur without direct contact.

If your YP40 planter has markers, unfolding of the markers is performed only after unfolding the wings. The Marker/Aux valve on the left wing must be set to “Marker”. See “Auxiliary Hydraulics” on page 52.

This section presumes correct marker length for your pass spacing. If this has not been set, or needs to be changed, see “Set Marker Extension” on page 149.

Dual markers are equipped with an automatic sequence valve that controls which side activates, as well as marker deployment.

Marker Unfold (one side)

Refer to Figure 33 and Figure 34

1. If the Auxiliary Hydraulic circuit has been used recently, confirm that the manual Marker/Aux valve on the left wing is set to “Marker”.

2. On the DICKEY-john® Clutch Folding Module (CFM), set “Marker/Fold” switch 1 to Marker (up). The LED above the switch illuminates steadily for normal operation.

3. Move tractor hydraulic control (lever or switch) for the marker circuit to Extend. Hold until marker is completely unfolded. Do not leave tractor control in detent.

4. 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.

On the CFM, leave the “Marker/Fold” switch in “Marker” during normal field operations.

Overhead Hazard:
To prevent serious injury or death, do not allow anyone to stand near or beyond the end of the wings during marker operations. Marker arms are heavy and marker discs may be sharp.
Row Marker Operation
To alternate which side is marked:
1. Move the tractor’s circuit control to fold marker. Hold until marker is folded.
2. Reverse the tractor’s circuit control. Hold until the new side’s marker is fully unfolded.
3. Return tractor control to neutral.

Folding the Markers
If your planter has markers, they must be folded and secured before folding the wings.
1. Move the tractor’s circuit control to Retract. Hold until marker is folded.
2. Set circuit control to neutral.

Unusual Marker Operations
Both Sides Unfolded
With both markers in their cradles:
1. Unfold either side, and when completely deployed...
2. Move lever/switch to Retract momentarily, and return to Extend to deploy other side.

Planting
When all checklist items are complete, a planting pass normally consists of a few simple steps):
1. Lower planter mainframe
2. Extend a marker
3. Drive forward
5. Raise marker
6. Raise planter mainframe
7. Turn
8. Extend marker as needed for next pass
9. Subsequent Passes resume at step 1.

Monitor Operation
Monitor operation is described in a separate manual supplied with your YP40 planter.
Operations covered in that manual (and therefore not in this manual) include:
• hydraulic drive control (option)
• seed rate calibration
• planting rate
• fertilizer rate
• ground speed
• setting rate limits and detecting out-of-limits
• GPS integration
• fan rpm
• low hopper alarm

Figure 35
Planting
Electric Clutch Operation

The YP40 planter has three clutches in the seed meter drive system. A clutch enables or disables groups of row units. The information in the table below is normally preset at the factory for your planter configuration.

The switches Left (2) / Center (3) / Right (4) correspond to the left wing row units, center section row units and right wing row units respectively.

The Master (1) switch controls all row units, regardless of drive type. For all switches, “OFF” (down) removes power from the clutch, disengaging that set of row units. When any switch (plus Master) is ON, the LED for that switch illuminates steadily.

Y-Tubes

Refer to Figure 37

Y-tube gates can be shut off, for example:

- to plant 30 in. corn on a 15 in. planter, or
- to feed only one row for single-row planting on a twin-row machine.

In the photograph, both meter tubes are open.

You can also shut off the Y-tube gates to clean out the air system and meters. See “Cleaning Out Air System” on page 104.
Electric Clutch Lock-Up

In case of electric clutch failure, an electric clutch can be mechanically engaged.

Refer to Figure 38 and Figure 39

1. Remove the rubber plugs (1) from the oil shield disc (2) to allow access to the lock-up holes. Plugs simply push out away from the clutch side.
2. Align the cutouts (3) with the holes (4).
3. Insert the M8-1.25 x 14 mm long metric bolts (5).

   If you observe half the hole obstructed by a metal disc (6), you are not at a cutout.

   If the entire hole is obstructed by a metal disc (6), you are not at a cutout.

   When at a cutout, the bolt will screw in with minimal resistance until the bolt head reaches the clutch face.
4. Re-install the plugs so they are not lost.

 chú Use only the provided 14 mm length bolts. Longer bolts will damage the clutch. Shorter bolts may not effect a lock-up.
Airbox Operation

Refer to Figure 40

The function of the airbox ① is to mix seed with turbulent air from the hydraulic fan ②, which then exits through a manifold (not shown) to the seed tubes which serve the row unit meters.

Fan Operation

All three (3) fan hydraulic lines must be properly connected. "Hydraulic Hose Hookup" on page 19.

Use tractor remote hydraulic valve flow control to set fan ② speed. Start with a very low speed and verify that fan impeller is spinning in the correct direction (toward air exit port). Air moves toward the air box in either direction of fan rotation, but reverse spinning airflow is too low to operate the air box.

Start with flow on low setting. 8-12 gpm (30-45 liters/min) is average flow.

Recommended butterfly valve setting is 0°.

Recommended fan speed depends on planter configuration:

<table>
<thead>
<tr>
<th>Fan Speed</th>
<th>Hopper Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>82 bu.</td>
<td>3800 rpm</td>
</tr>
<tr>
<td>150 bu.</td>
<td>3500 rpm</td>
</tr>
<tr>
<td>670/1440 liter seed/fertilizer hopper a</td>
<td>3000-4500 rpm</td>
</tr>
<tr>
<td>Bulk seed boxes</td>
<td>3000-4500 rpm</td>
</tr>
</tbody>
</table>

Do not run the fan at speeds over 4500 rpm or speeds under 3000 rpm. A fan speed too high creates too much air flow causing seed to plug up the meter box. Fans operating too slowly do not create enough air flow to push the seed to the meter, causing the seed tube to plug or meters to run empty. If air system does not operate suitably with fan speeds between 3000-4500 rpm, refer to the troubleshooting chart, and then adjust the fan butterfly valve. See “Fan Adjustments” on page 65.

Watch monitor and adjust fan speed by increasing or decreasing hydraulic flow from tractor.

When starting empty you must blow seed out to the meters for two to four minutes to fill meters.

The monitor has a level sensor below the hopper or seed box to warn when seed box is empty. There are three to four acres of seed in the system when the sensor first indicates box empty, depending on seeding rate.

- Do not apply pressure to the return line or operate with restricted return line, or motor seals will be damaged.
- Before the first planting each season, or when using new meters or meter wheels for the first time, or at the start of each season, before filling with seed, add 1/3 cup (80 ml) graphite to bottom of airbox.
Walkboard and Ladder

Walkboard pin and pivot operation is covered on page 50.

Refer to Figure 41

The bottom two steps (1) of the walkboard ladder is a swing-down section. To release it, pull the spring-loaded pin (2) forward and pull the top of the free end of the ladder back.

To re-stow the steps, merely swing them up and forward. The spring-load pin automatically engages.

NOTICE

Machine Damage Risk:
Ladder steps must be locked up before lowering planter or machine damage will occur.

Refer to Figure 41

A tool (3) is pinned to the bottom of the walkboard. It is easier to remove and replace this tool with the planter lowered.

The tool is useful on 10HD and 25P openers. The wrench end fits the nut weldment of the spring force cam (page 76). The pry end fits the hub groove of green seed wheels (page 87).

Refer to Figure 43

As necessary for auger clearance, open walkboard top railing. At each side, pull cross-pins (1) out and make \( \frac{1}{4} \) turn. Release pin into shallow detents. Swing railing toward hopper.
Loading Materials (YP4025F only)
The YP4025F-1630 or YP4025F-1670 Planter is a dry fertilizer/seeder version of the YP4025. The standard seed-only hopper or bulk-box capability is replaced by a dual-function hopper.

Seed and fertilizer may be loaded manually or via auger. Before ascending the ladder for loading or auger outlet control:

• Check that the walkboard is closed and latched. Although the YP40F walkboard has a side extension, the latching is identical to the standard walkboard.

• Swing down and latch the lower ladder section.

Refer to Figure 44 (depicting the side railing closed, and rear railing open)

If loading via auger, the side and rear top railings may be swung down for clearance.

• Shut off hydraulic fan. Both hopper bins are pressurized when the fan is running.

![CAUTION](image)

Blowing Debris and Possible Chemical Hazards: Do not open hopper lids with fan running. Hopper contents may blow into your face, possibly causing eye injury, and exposing you to dust and possible chemical hazards.

Dust and Possible Chemical Hazards:
Seed may present a dust inhalation hazard. Treated seed may present a chemical exposure hazard. Wear eye protection. Wear a dust mask or respirator. Wear other protective equipment specified by the seed and treatment suppliers.

Loading Seed
The seed hopper is the smaller rear hopper.

1. Close the slide gate at the base of the seed hopper.

Refer to Figure 45

2. To open the lid, lift up on the handle (1). The handle is also a spring-loaded latch, and tilts up to release.

3. Inspect the hopper for leftover seed and debris. Clean out anything other than the seed to be planted.

4. At first use, and seasonally, add seed lubricant to the empty hopper, and then add a seed/lubricant mix to the empty hopper per the Operator manual. Mix lubricant with remaining seed per Operator manual.

5. See Caution at right. Load seed and seed lubricant no higher than the top cap of the vent structure.
6. Close lid. Check that the latch snaps to horizontal and is holding lid closed.

**Loading Fertilizer**

Check that calibration and clean-out doors are closed at meter (page 61).

**Refer to Figure 46**

1. Lift the handle \( \circ \) until the hook \( \bigcirc \) releases from the U-bolt shackle \( \bigcirc \).
2. Inspect the strainer basket \( \bigcirc \) for debris. Remove and clean as necessary.

![Figure 46](image)

**CAUTION**

**Confined Space Hazards:**

*Leave strainer in place for all routine operations. Do not enter hopper for routine operations. Risk of entrapment and rapid suffocation.***

3. Inspect the hopper for leftover fertilizer and debris. Clean out anything other than the fertilizer to be applied. See YP4025F Supplement Manual (403-362M) for further information.
4. Re-install strainer.
5. Inspect the seal under the lid. It must make air-tight seal against the hopper top plate \( \bigcirc \) when the lid is closed and latched. Replace seal if crushed, worn or missing.
6. Load fertilizer through strainer.

![Figure 46](image)

**CAUTION**

**Dust and Possible Chemical Hazards:**

*Dry fertilizer may present a dust inhalation hazard and may present a chemical exposure hazard. Wear eye protection. Wear a dust mask or respirator. Wear any other protective equipment specified by the material supplier.***

8. Swing up and latch railing if lowered for auger operations.

Close lid handle for operations or short-term parking. For long-term storage, do not engage hook or latch handle, to avoid deforming the seal.

For storage, particularly unlatched, a padlock through both U-bolts deters unauthorized entry by persons unaware of possible confined space risks, and prevents entry of pests, debris and precipitation.
82 Bu. Hopper Operation

**CAUTION**

**Tipping Hazard:**
Load an 82 bu. hopper only when mounted on the cart. A full hopper can weigh over 5500 lbs (2500 kg), which is above the lifting and balance capability of most tractors and farm forklifts.

- Fork lift height capability required is:
  - Planter lowered: 4 ft. 2\(\frac{5}{8}\) in. (129 cm)
  - Planter raised: 6 ft. 5\(\frac{7}{8}\) in. (198 cm)

- The hopper includes a level sensor which is not factory-installed. If you desire to use the sensor, install it prior to first use of the hopper. See page 176.

**Adding Seed to 82 bu. Hopper**

1. When using new meters for the first time, or at the start of each season, measure out approximately 4 gallons (15 liters) of seed into a pail. Add \(\frac{1}{2}\) cup (120 ml) of lubricant to the pail. Mix and pour into air box before mounting hopper.


3. Turn off seed box fan.

4. If the 82bu hopper is not yet on the planter, dismount any box or hopper present, and mount the empty 82bu hopper. See “Changing the Seed Box or Hopper” on page 50.

5. Open slide gate at base of hopper. Open lid.

6. Measure the lubricant required, and if loading seed by bag, determine the amount of lubricant per bag.

   - If loading with a hydraulic auger, see “Auxiliary Hydraulics” on page 52. Lower walkboard railing as necessary.

- Auger height capability required is:
  - PROBOX®, planter lowered: 8 ft. 9\(\frac{1}{2}\) in. (2.68 m)
  - PROBOX®, planter raised: 11 ft. 3\(\frac{3}{4}\) in. (3.37 m)
  - 82 bu. hopper, planter lowered: 9 ft. 1\(\frac{4}{8}\) in. (2.75 m)
  - 82 bu. hopper, planter raised: 11 ft. 3\(\frac{1}{2}\) in. (3.44 m)

7. Add seed, mixing in lubricant continuously or per bag.

---

**Figure 47**

Approximate capacity of 82 bu. bulk seed hopper, in bushels, at 10 in. increments.

---

**NOTICE**

**Entanglement, Chemical and Falling Risks:**
Observe all safety precautions for use of loading equipment, particularly augers.

**NOTICE**

**System Plugging Risk:**
Do not use liquid seed treatments.
150 Bu. Hopper Operation

**CAUTION**

**Tipping Hazard:**
Load a 150 bu. hopper only when mounted on the cart. A full hopper can weigh over 10000 lbs (4500 kg), which is above the lifting and balance capability of most tractors and farm forklifts.

The 150 bu. hopper is incompatible with the optional cart-mounted liquid fertilizer system. The sides of the hopper extend into the space occupied by the tank system.

Fork lift height capability required is:
- Planter lowered: 4 ft. 2 7/8 in. (129 cm)
- Planter raised: 6 ft. 5 7/8 in. (198 cm)

The hopper includes a level sensor which is not factory-installed. If you desire to use the sensor, install it prior to first use of the hopper. See page 176.

**Adding Seed to 150 bu. Hopper**

1. When using new meters for the first time, or at the start of each season, measure out approximately 8 gallons (30 liters) of seed into a pail. Add 1 cup (240 ml) of lubricant to the pail. Mix and pour into air box before mounting hopper.
3. Turn off seed box fan.
4. If the 150 bu. hopper is not yet on the planter, dismount any box or hopper present, and mount the empty 150 bu. hopper. See “Changing the Seed Box or Hopper” on page 50.
5. Open slide gates at base of hoppers. Open lids.
6. Measure the lubricant required, and if loading seed by bag, determine the amount of lubricant per bag.
   
   If loading with a hydraulic auger, see “Auxiliary Hydraulics” on page 52. Lower walkboard railing as necessary.

Auger height capability required is:
- PROBOX®, planter lowered: 8 ft. 9 1/2 in. (2.68 m)
- PROBOX®, planter raised: 11 ft. 3 3/4 in. (3.37 m)
- 150 bu hopper, planter lowered: 9 ft. 6 3/4 in. (2.9 m)
- 150 bu hopper, planter raised: 11 ft. 9 1/2 in. (3.59 m)
7. Add seed, mixing in lubricant continuously or per bag.
Changing the Seed Box or Hopper

The YP40\textsuperscript{a} planter accepts the Great Plains 82 bu. hopper, 150 bu.\textsuperscript{b} hopper, or bulk seed boxes that meet the Pioneer\textsuperscript{c} PROBOX\textsuperscript{®} specification.

\textbf{CAUTION}

\textbf{Tipping Hazard:}
Place or remove a hopper only when empty. A full hopper can weigh between 5000 and 10000 lbs (2700-4500 kg), which is above the lifting and balance capability of most tractors and farm forklifts.

1. Move the planter to an area of level ground and sufficient room to maneuver a tractor or fork-loader.
2. Unhitch tank cart if present.

\textit{Refer to Figure 49}

3. Disconnect hopper level sensor (if installed).
4. Remove the pin (2) securing the left end of the walkboard to the ladder assembly.
5. Swing the walkboard open, and secure it at full open with the keeper (3).
6. Raise the planter. This causes the rear transport wheels to move forward, providing closer access for the lifter.
7. Back up the planter about three feet (1m). This causes the rear transport wheels to caster forward, further reducing the reach required for lifting.
8. Turn off the seed box fan.

10. Close the slide gate at the base of the hopper or seed box.

\textit{Refer to Figure 50}

11. Remove the two pins (1), at opposite corners, used to retain the seed box or hopper. Remove these pins even if no container is presently mounted.

\textit{Refer to Figure 51}

12. Align the lifting forks with the slots in the rear of the seed box or hopper. Slowly drive forward until the forks are completely under the container.
13. Slowly lift the seed container above the bracket, and back away from the planter.
14. Lower the container to the ground for exchange with the next seed container.

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a. Only the model YP4025F-1670 supports the 403-289K seed/fertilizer hopper, which is standard on that model.
b. The 150 bu. hopper is incompatible with on-board fertilizer tanks.
c. PROBOX\textsuperscript{®} is a registered trademark of Pioneer Hi-Bred International, Inc.
15. If mounting a seed box for the first time in a season, open the new seed box and measure out approximately 3 gallons (11 liters) of seed into a pail. Add \( \frac{1}{3} \) cup (80 ml) of lubricant. Mix and pour into air box before mounting new seed box.

**NOTICE**

**Plugging and Inconsistent Population Risks:**

Ezee Glide Plus talc+graphite seed lubricant blend is mandatory for all seed, especially treated or inoculated seed when using precision meters.

For finger pickup meters, use pure graphite or Ezee Glide Plus. See “Seed Lubricants” on page 128.

16. If mounting a seed box, add lubricant to the seed box at this time. It may be easier to add it while the box is still at ground level.

**Refer to Figure 52**

17. Approach the hopper or seed box from the back (the side with the slide gate).

18. If mounting a seed hopper, confirm that the hopper is the correct version for that side. The left hopper has the lid hinge on the left. The right hopper has the lid hinge on the right.

19. Slowly lift the full seed box or empty hopper, and place it in the planter air box frame.

20. Install the box retaining pins in frame corners.

21. If the hopper has a level sensor, connect that lead to the “HOPPER 2” lead of the planter harness, located below the hydraulic drive in the center section.

22. Close and pin walkboard.

23. It may be necessary to make a one-time adjustment to the seal on the top of the air box, to obtain full contact between air box and seed box/hopper.

24. If installing an empty hopper for planting, load seed (and lubricant).

25. Open the slide gate.

**Checking Planting Rate**

Although your seed monitor will report useful full pass results, cautious practice includes manually checking the seed rate early in the first pass.

The Seed Rate Chart book for this planter (manual part number 401-571B) contains sampling instructions.

**CAUTION**

**Tipping Hazard:**

A full seed box can weigh over 2500 lbs (1134 kg). Make sure your tractor or fork lift is rated for and configured to lift this weight. Do not let anyone stand under or in front of the elevated seed box.

**NOTICE**

It is possible to lift the hopper or seed box from any side, but it will only function properly if the seed gate is to the rear of the planter.
Auxiliary Hydraulics

Refer to Figure 53, Figure 54 and Figure 55

The YP40 planter includes, as standard equipment, an auxiliary hydraulic circuit, intended to power a seed auger for loading bulk hoppers.

The Aux quick-disconnect ports ① are on the frame. This circuit is shared with the markers (if installed).

If markers are not installed, the Aux/Marker circuit is always in Aux mode.

Operating Auxiliary Hydraulics

The planter needs to be unfolded for convenient access to the manual hydraulic valve.

1. Fold any extended markers and set the tractor lever for the marker/aux circuit to Neutral.
2. If no markers were unfolded, set the Clutch Folding Module Marker/Fold switch ② to “Marker”.
3. If the machine has markers, at the left wing tool bar, move the lever on the manual valve ③ from Marker ③ (lever pointing forward) to Aux ④ (lever pointing back).
4. Connect the implement requiring hydraulic power.
5. Briefly Extend the tractor lever for the Marker circuit, engage local valve/switch on implement, and confirm proper implement operation (auger rotation in the correct direction).
6. Set tractor circuit lever to Extend, and operate implement with local controls.
7. When operation is complete, set tractor circuit to Float or Neutral.
8. Set wing valve ⑤ back to Marker ③.

WARNING

Unexpected Marker Movement:
Do not move Marker/Aux valve unless tractor circuit is in Float, Neutral, or shut down. If circuit is pressurized, markers begin moving immediately when valve is set to Marker.
Weight Transfer Operation (Option)

This option provides a control valve 1, plumbed into the hydraulic drive circuit, and a cylinder 2 for each wing. Up to 1000 pounds (450 kg) of mainframe weight may be transferred to each wing when oil is being supplied to the hydraulic drive circuit.

Once set, the circuit usually requires little adjustment in normal field operations. To set the circuit:

1. Unfold and lower the planter in field conditions.
2. Supply oil to the hydraulic drive circuit (or operate the PTO at field rpm if using a PTO pump that supplies the hydraulic drive). The hydraulic drive motor itself does not need to be operated.
3. Loosen the lock disc 3 at the valve block. Adjust the knob 4 until the gauge 5 reads approximately 1000 psi. Tighten the lock disc.
4. Lower the planter. Engage the hydraulic drive (with seeding disabled) Pull forward at normal field speed for a short distance. Stop.
5. Check that the wings are level.
   - If the wings ends are lower than the center, decrease the pressure at the valve 5.
   - If the wing ends are higher than the center, increase the pressure.
   - A relief valve in the valve block prevents any damage from over-pressure.

See page 17 and page 177 for important information about movements without a suitable tractor. See page 129 for ordering information.
Fertilizer Tanks (Option)

⚠️ DANGER

Agricultural Chemical Hazard:
Some chemicals will cause serious burns, lung damage and death. Avoid contact with skin or eyes. Wear proper protective equipment as required by chemical manufacturer. Avoid prolonged breathing of chemical fumes. Wear respirator as required by chemical manufacturer. Seek medical assistance immediately if accident occurs. Know what to do in case of an accident.

Filling Tanks
Refer to Figure 57
1. Connect nurse-tank hose to quick-fill coupler (1) located at rear tool bar. Lock hose in place with cam-lock levers.
2. Close valve (not shown) going to the in-line filter located just before the pump.
3. Open valves (2) at each tank and at quick-fill coupler.
4. Fill tanks, then close valve at quick-fill coupler, and disconnect the nurse tank hose.

Always close valve at filter when filling or storing any liquid in tanks. Failure to do so may allow material to run out of manifold outlets causing contamination from spillage.

Always fill fertilizer tanks to equal levels. If one tank fills more quickly, shut that tank valve off to raise the level in the other tank.

Ground Drive Pump
The liquid fertilizer option uses a ground drive pump which engages whenever the planter is lowered and in forward motion. For pump operation and pump maintenance, refer to the pump manual, supplied in the liquid fertilizer option package. For fertilizer settings, see the Seed Rate manual.

NOTICE

Plugging Risk:
Do not allow fertilizer to remain in the tanks for extended periods or settling of material and system plugging will occur.
Trailer Operations

PFC Cart Operation

The YP40 planter optionally includes a trailing pintle hitch, intended for use with Great Plains PFC1600 or PFC2000 fertilizer tank carts. Hitching/hook-up and operating instructions are found in the tank cart Operator’s Manual.

Uncontrollable Load Hazard:
DO NOT EVER transport the tank cart while hitched to the planter (in train) over roads if there is any liquid in either tank. Tank(s) must be empty for transport, or the tank must be towed separately.

Loss of Control Hazard:
Do not attempt reverse operations with a PFC tank hitched to the planter. Trailer direction is extremely difficult to control.

The leading gauge wheels, rear-most transport wheels, PFC tank cart lead wheel and SML tank cart trailing wheels fully caster, and provide no resistance to side sway by the planter or cart.

The PFC1600 and PFC2000 tanks include a ground-driven pump with an electric clutch. The clutch circuit is controlled by the “Fert.Pump” switch 1 on the Clutch Folding Module. Also, as the pump is ground-driven, it automatically starts and stops with planter movement.
Trailer Operations

SML Cart Operations

A 510 or 735 gallon semi-mounted liquid fertilizer cart (SML-500 or SML-735) is available for the YP4010HD/YP4025/F as an accessory. The cart requires either the Great Plains hydraulic fertilizer pump option, or a user-provisioned pump.

Checklists in this manual include steps for an SML configuration. Also consult the SML Operator manual (407-451M).

⚠️ WARNING

Loss of Control and Braking Hazards:
Do not transport with more than 50 gallons in the tank. Cart wheels and trailing planter wheels fully caster, providing no resistance to side sway in turns. Severe under-steer may result. A full SML-735 cart weighs over 12,000 pounds (5400 kg), and may cause the tractor’s braking capacity to be exceeded. An accident could result in serious injury or death, and certain major equipment damage.

Reverse operations may be performed with care with an SML cart hitched.

Other Cart Operations

The YP4010HD/YP4025/F planter optionally includes a trailing pintle hitch, intended for use with user-provisioned fertilizer tank carts. Hitching/hook-up and operating instructions are found in the tank cart documentation.

⚠️ WARNING

Uncontrollable Load Hazard:
DO NOT EVER transport a pintle-hitched nurse tank cart while hitched to the planter (in train) over roads if there is any liquid in either tank. Tank(s) must be empty for transport, or the tank must be towed separately.

⚠️ CAUTION

Machine Damage Hazard:
Do not attempt reverse operations with a pull-type trailer hitched to the planter. Trailer direction is extremely difficult to control.
SML Cart Pump System Diagram

Figure 60
Cart Pump Fertilizer System
SML Cart Tank Fertilizer System Elements

1. Liquid fertilizer system callouts are consistent across this entire manual. No single system includes all elements.

2. Tank Lid
   Tank lids are vented and may be kept tight. Lids have a removable center section for easier hose fill.

3. Cart Tank
   Cart tanks is 500 or 735 gallons (1900 or 2800 liters) each. A sight gauge at one end shows current fill level against a scale.

4. Tank Discharge Shutoff Valve
   This valve is normally left open.

5. Quick-Fill Inlet and Plug
   This 2 inch fitting secures either the plug or the fitting of an external hose using cam locks. Always close the valve before removing the plug.

6. Quick-Fill Shutoff Valve
   This valve is opened for filling tanks from a pressurized supply source.

7. Quick-Fill Inlet Strainer
   This fitting contains an element to trap coarse debris in the material. Reverse flow through this strainer is not recommended.

8. Pump
   The centrifugal pump is powered by a hydraulic motor controlled by a proportional valve (not shown). The valve is controlled by the seed monitor.

9. Pump Outlet
   The pump normally operates at a flow rate higher than required for the booms. The pump output is split into a boom flow, and a recirculation/bleed flow.

10. Air Bleed Line
    This small line provides pump priming and recirculation of excess material afield.

11. Pump Drain Plug
    Remove this plug to drain or flush the bleed line or pump.

12. Pump Recirculation Valve
    This valve is normally open. It may be closed for reduced bypass at very high application rates.

13. Recirculation Lines to Tank(s)
    This line provides pump priming and recirculation of excess material afield.

14. Tank Recirculation Valve(s)
    This valve is normally open. It might be closed for maintenance.

15. Pressure Relief Valve
    This valve protects the system from damage in the event of overpressure due to blockage or valve misconfiguration. Above approximately 65 psi, excess material is returned to both the pump and the tanks.

16. Overpressure Dump Line
    This line returns the majority of any overpressure excess material to the tanks.

17. Pump Outlet Selector Valve
    This valve sets the boom flow side of the pump outlet to boom, off or off-load. A decal on the mount indicates handle positions.

18. Boom Supply Strainer
    A filter element in the canister traps large particles that might clog boom orifice plates. See the Seed Rate manual for maintenance and alternate element screen sizes.

19. Strainer Shut-Off Valve
    Normally open, this valve isolates the boom side of the strainer for servicing.

20. Cart Outlet Valve
    This valve is open for field application and normally closed at all other times.

21. Planter Inlet Valve
    This valve is open for field application and normally closed at all other times.

22. Flow Sensor
    This fitting measures material flow to the boom. Readings from this sensor are used by the seed monitor to adjust the pump rate.

23. Boom Shutoff Valve
    This valve is normally open. It might be closed for maintenance.

24. Passive Manifold
    There are separate boom sections for the planter center section and each wing.

25. Boom
    There are separate boom sections for the planter center section and each wing.

26. Boom Clamp
    Boom taps are provided for at least the number of rows present.

27. Nozzle Body
    The standard fitting on an active row is a nozzle body that accepts various size orifice plates.

28. Nozzle Gasket
    The orifice plate sits inside this rubber seal.

29. Orifice Plate
    These stainless steel plates have precisely sized center holes that provide flow resistance for optimum boom pressure. They do not regulate flow rate, but must be sized to the flow rate. Standard booms include sizes 24, 34 and 48.

30. VeriFlow Nozzle
    These optional nozzles are an alternative to changing orifice plates. They are spring loaded to maintain a constant back-pressure over a wide range of rates.

31. Shutoff Cap
    Any unused boom clamps are provisioned with caps instead of nozzles. Caps may also be used to shut off rows when changing row spacing.

32. End Cap
    Each boom section has at least one end cap. These are removed for flushing booms, such as for winterizing.

33. Nozzle Drop Line
    Each active nozzle is connected to the row applicator via tubing.

34. Row Applicator Tube
    All standard 25 Series row units include an applicator tube which can deliver material in-furrow just ahead of the seed tube. Optional Keeton® seed firmers (shown) have a delivery tube for applying material behind the seed tube.
Short-Term Parking

1. Fold markers. See “Folding the Markers” on page 41.
2. Choose a location with level firm ground. Do not unhitch on a slope.
3. Raise the planter. See “Raising Planter” on page 29.
4. Fold the planter (optional). See “Folding the YP40 Planter” on page 32.
5. Block tires.
6. Re-install the parking stand (“Hitching Tractor to Planter” on page 17).

Refer to Figure 61 (shown without tractor for clarity)

7. For the standard 3-point hitch, deploy the two forward stands ⑤. Remove the inner pin ④, swing the stand ⑤ out, down and vertical around the bottom pin ⑥, and re-insert the pin at ⑦.

For hydraulic hitch planters, adjust hitch cylinder to relieve weight from draw-bar.
8. Insert transport locks on all lift cylinders.
9. Disconnect hydraulic lines. Secure them so that they do not touch the ground.
10. Disconnect electrical cables, capping where provisioned.
Long-Term Storage

Complete Parking steps first.

1. Park the YP40 planter indoors if possible, per the steps above. Great Plains recommends parking/storing in the raised configuration, folded, on the parking stands and with all lift cylinder locks installed.

2. If no hoppers or seed boxes are mounted, cap the air boxes.

3. If empty seed boxes or hoppers are mounted, close the seed gates and the lids.

4. If partially-loaded seed boxes are mounted, close seed gates, and remove seed boxes. If partially loaded hoppers are present, unload seed via clean-out doors on air box. Store planter only without seed.


6. Close airbox clean-out doors. Using planter fan, blow seed to meters, cleaning out the lines.

7. Open meter clean-outs. Clean out residual seed.

8. Close all clean-out doors and ports. Shut off all Y-tubes.

9. If seed meters are removed, tie or tape a small plastic bag over ends of all seed delivery tubes, to prevent insects from entering or nesting.

10. Apply grease to exposed cylinder rods to prevent rust.

11. Flush fertilizer lines (if present). Flush system with RV anti-freeze if there is any chance of freezing prior to next implement use.

12. Empty and clean fertilizer strainers.

13. Lubricate all points listed in Maintenance to prevent rust.

14. Clean planter of mud, dirt, excess oil, and grease.
Fertilizer System Clean-Out

**NOTICE**

**Equipment Damage Risk:**
Do not leave fertilizer in the hopper for extended periods. Fertilizer is generally corrosive, and will attack exposed metal surfaces.

1. When planting is completed, raise the planter, but leave the fan running for 30 seconds to empty the base of the meter, delivery hoses, and applicators.
2. Unless a tarp will be used to collect the remaining fertilizer, move the planter to an area with a flat clear surface. Comply with fertilizer supplier instructions for suitable areas at which to cover fertilizer.
3. Install transport locks on the raised planter. Shut off the tractor. Mount a collection tarp if only a small amount of fertilizer remains.

Refer to Figure 63

4. Open the calibration door (rear door). If the air system is empty, no material may fall.
5. Open the clean-out door (forward door). Expect material to flow in significant volume until the hopper is empty.
6. Turn the ground drive wheel several revolutions to empty the meter flutes.
   
   If a second person is available, open the hopper lid and inspect the meter flutes while turning the wheel.
7. Recover the fertilizer.
8. With the clean-out and calibration doors open, power-wash the fertilizer hopper from above. Rotate the ground drive to expose all meter flutes to the water. Wipe doors, seals and meter flanges.
9. Use a wire to tie the doors partly open during drying and storage. This allows condensation to drain while preventing pest entry. See page 47 for lid operations prior to storage.

Problem Fertilizer Clean-Outs

For normal unloading of residual materials at completion of planting, see “Long-Term Storage” on page 60.

If, however, parking and storage recommendations have not been followed, it is possible to have hard-to-remove material present.

If the material fails to pass through the fertilizer meter clean-out door, take the following steps to remove it. Do not consider entering the hopper until first completing these tasks.

Open the clean-out door (page 61).
Remove the strainer (page 47) and evaluate the problem.

For small amounts of residual materials, poking with a long pole may suffice to push it through the clean-out. If poking doesn’t produce satisfactory results, and you intend to try wash-out, at least poke one hole down to the meter clean-out, so that water can flow out.

For example:

- If the problem is a single moveable large object, such as a dead animal, fishing out from above may be the solution.
- If the problem is congealed materials, scoop out a sample from above and see if the mass dissolves in water. If so, and there is a small amount of the material involved, rinsing, or rinsing and pumping the hopper from above may be the solution.

If wash-out is contemplated, start by introducing a small amount of water, and make sure that it appears at the clean-out within 15 minutes. If not, you will just be adding water to the problem. The hopper is not designed to hold water at full capacity. Add no more water, remove meter box instead, and clean out from below.
To get full performance from your YP40 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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<td>Monitor Adjustments</td>
<td>-</td>
<td>Refer to Seed Monitor manual</td>
</tr>
</tbody>
</table>
Height Switch Adjustment
(S/N B1058A+)

Refer to Figure 64

The YP40 planter includes a sensing switch ① that signals the seed monitor (and activates the optional hydraulic meter drive), when the planter is lowered for planting. The switch is located at the rear cross tube on the planter’s left side.

Although factory-preset for typical planting conditions, Great Plains recommends adjusting this switch for your exact field conditions and planting depth.

⚠️ DANGER

Crushing Hazard:
Exercise extreme caution when adjusting the switch.

1. Lower the planter to the height at which seed delivery is to begin.
2. Loosen bolt ② holding switch bracket ③ to plate ④.
3. Move bracket forward or rearward so that switch toggle arm ⑤ makes contact with rear cross tube ⑥.
4. Tighten nuts.

Switch is in "Neutral" position when planting. Switch is "Activated" when raised.
Height Switch Adjustment
(S/N B1057A-)

Refer to Figure 65
Planter is shown in raised position for clarity of height switch. The YP40 planter includes a sensing switch that signals the seed monitor (and activates the optional hydraulic meter drive), when the planter is lowered for planting. The switch is located at the front of the right link connecting the rockshaft and rear axle.

Although factory-preset for typical planting conditions, Great Plains recommends adjusting this switch for your exact field conditions and planting depth.

⚠️ DANGER

Crush Hazard: ***Exercise extreme caution when adjusting the switch.***

1. Lower the planter to the height at which seed delivery is to begin.
2. Loosen U-bolt holding switch bracket to link.
3. Move bracket forward or rearward so that switch toggle arm makes contact with tool bar.
4. Tighten nuts.

Switch is in “Neutral” position when planting. Switch is “Activated” when raised.

Marker Adjustments
There are six adjustments for markers, only one of which is routine:

- **Disk Angle (covered in this section)**
  Even if your row spacing rarely changes, you may need to adjust disk angle for soil conditions and planting speed.

- **Shear Bolt Replacement (Maintenance, page 100)**
  If a marker hangs up on an obstruction, a bolt at the fold is designed to fail.

- **Once set for a specific row spacing, this only needs periodic checking to ensure the clamp is secure.**

- **Marker Extension (Initial Setup, page 149)**
  Once set for a specific row spacing, this only needs periodic checking to ensure the clamp is secure.

⚠️ CAUTION

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

**CAUTION**

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

**Refer to Figure 66**

1. To change angle of cut, and the width of the mark, loosen \( \frac{1}{2} \) 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.

   The direction of travel tends to drive the disk angle to Wide. If bolts are not tight enough, or loosen over time, the disk will slip into the Wide mark configuration.

Fan Adjustments

**Refer to Figure 67**

There is one butterfly valve at the fan outlet:

The recommended butterfly valve setting is 0.

Recommended fan speed depends on planter configuration:

- 82 bu. hopper
- 3800 rpm
- 150 bu. hopper
- 670/1440 liter seed/fertilizer hopper
- 3500 rpm
- bulk seed boxes
  - a. See manual 403-362M for operation with this hopper.

Adjust the basic fan rate with the tractor hydraulic system and the fan rpm display of the seed monitor. Do not run the fan at speeds over 4500 rpm or speeds under 3000 rpm.

A fan operating at too high a speed creates too much air flow causing seed to plug up the meter box, and meters to run empty. A fan operating too slowly does not create enough air flow to push the seed to the meter, causing meters to run empty. If air system does not operate suitably with fan speeds between 3000-4500 rpm, refer to the troubleshooting chart, and then adjust the fan butterfly valve only as needed.

Normally, each seed meter will be full of seed, up to the top of the bypass screen at the base of the inlet neck. If the meter has less seed, check for blockage upstream. If there is no blockage, check for insufficient fan airflow: low rpm and/or butterfly valve at too high an angle.

A fan operating at too high a speed creates too much air flow causing seed to plug up the meter box, and meters to run empty. A fan operating too slowly does not create enough air flow to push the seed to the meter, causing meters to run empty. If air system does not operate suitably with fan speeds between 3000-4500 rpm, refer to the troubleshooting chart, and then adjust the fan butterfly valve only as needed.

Normally, each seed meter will be full of seed, up to the top of the bypass screen at the base of the inlet neck. If the meter has less seed, check for blockage upstream. If there is no blockage, check for insufficient fan airflow: low rpm and/or butterfly valve at too high an angle.
Liquid Fertilizer Setup

For dry fertilizer operations, see manual 403-362M, which covers the dry fertilizer/seed hopper and air delivery system operation.

Liquid fertilizer distribution systems are optional on the YP40 planter and are optimized for use with the optional on-board 2x200 gallon tanks and/or the Great Plains PFC1600 or PFC2000 tank carts.

If installed, there are several points of fertilizer setup and/or adjustment:

1. Pump setting dial or sprockets
   Basic pumping rate is adjusted at pumps.
   For the cart-mounted pump and center section ground-drive pump, a dial on the pump sets rate.
   Refer to the Seed Rate manual and the tank cart Operator's manual.
2. Row orifice setup
   Orifice plate sizes are chosen to assure consistent pressure at all nozzles. Refer to the Seed Rate manual.
3. Relief valve setting
   See “Fertilizer Relief Valve” on page 68.
4. Inlets
   Both Type 2 (2-section, single inlet) and Type 3 (3-section, 3-inlet) systems have quick-connect inlets and shutoff valves at the back of the planter. See page 23 for hook-up details.
5. Strainer setup
   The optional ground drive pump includes a strainer.
   The mesh screen size must be compatible with the orifice plates in the distribution system. Refer to the Seed Rate manual.

Great Plains recommends checking with your local agronomist as soil conditions vary. Soil conditions in your area may need less or more fertilizer than represented in these charts. In furrow, do not exceed 12 gallons per acre in any case.

The liquid fertilizer system is designed to operate (ideally) between 15 and 40 psi, but in no case more than 65 psi. Several system elements affect system pressure, and need initial setup, periodic maintenance, and adjustment when changing fertilizer rates.

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a. Type 2, Type 3, or both, with or without planter-mounted ground drive pumps for Type 2. See page 23 for details.
Ground Drive Pump

Refer to Figure 68

With a Type 2 fertilizer system, the pump 1 is driven by a ground contact wheel 2. Fertilizer rate is independent of seed rate. Fertilizer coarse rate is set by a driving sprocket 3 on the ground drive assembly, and fine rate is adjusted at the setting hub (dial) 4 on the pump.

NOTICE

Equipment Damage/Material Loss Risks:
The ground drive contact wheel and chain system will operate whenever the planter is lowered and in motion. If planting without fertilizing, the pump must not be allowed to run dry. Disconnect the chain or remove a sprocket.

When a Type 3 fertilizer system is installed, the pump is mounted at the source (not on the planter), usually on a tank cart.

For sprocket and dial settings, refer to the Seed Rate manual.

Liquid Fertilizer Strainer(s)
The optional ground drive fertilizer pump systems include a strainer at the pump. The Type 3 system relies on strainers at the source, usually on a tank cart.

The strainer(s) are delivered with a mesh screen. You need to check that each screen is an appropriate size for the orifice plates you plan to use.

If changing screen sizes, keep in mind the following:

- Generally, select a mesh screen the same or slightly smaller than the orifice size.
- A substantially smaller mesh (e.g. 100) will reduce manifold orifice plates plugging so often, but the strainer screen will have to be cleaned more often.
- A much larger mesh (e.g. 50 or 30) will pass more material but should only be considered when using large manifold orifice plates.
- A plugged or partially plugged screen starves the pump and results in a reduced application rate. Monitor the pressure gauge for a reduction in pressure that indicates a plugged strainer screen.
Fertilizer Relief Valve

Refer to Figure 70

When a “Type 2” fertilizer system is installed, a relief valve 1 and pressure gauge 2 are mounted at each ground drive pump. The relief valve protects the manifold, lines and fittings from excessive pressure. Any product that dumps over the relief valve will discharge from the dump line 5 in relative safety.

To set relief valve:
1. Unlock plastic jam nut 6 from relief valve knob.
2. Unscrew knob 7 clockwise (looking down) until it loses contact with internal spring.
3. Screw knob 7 counterclockwise two turns. Start at this setting.
4. Observe manifold gauge 2 and watch for relief valve dump line 5 discharge while operating in the field.
5. If valve is dumping product and gauge reads under 65 psi, stop tractor and turn knob 7 clockwise \( \frac{1}{4} \) turn. Continue operating at normal field speed. Repeat this step as needed until no product is discharged from relief valve dump line 5.
6. If the pressure gauge reads above 65 psi, change to a larger orifice. Go to step 2 and repeat.

Fertilizer Orifice Plates

Refer to Figure 71

In general, the orifice 1 needs to be small enough to create at least 15 psi of pressure in the manifold but large enough to prevent the manifold pressure from exceeding 65 psi.

The minimum pressure is required to even out the flow of fertilizer between rows. To reduce orifice plugging and pump wear, use the largest orifice practical for your fertilizer application rate. Alternate orifice plates are listed in the Seed Rate manual.

The best pressure range to maintain is 20-40 psi to ensure optimum distribution while minimizing leakage. Built-in check valves at the row units prevent flow below 15 psi.

The Seed Rate Chart book for this planter (manual part number 401-571B) contains a table of orifice sizes in gallons per acre.

**NOTICE**

Orifice plates do not set fertilizer rate. Rate is set at the pump.

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**DANGER**

High Pressure Fluid Hazard:
Wear protective gloves when changing orifice plates.
Frame-Mounted Row Accessories

Terra-Tine™ Adjustments

Refer to Figure 72 through Figure 74

All adjustments must be made with the planter in the fully raised position.

**NOTICE**

**Equipment Damage Risk:**
Be sure to check that the Terra-Tine Row Cleaner tines DO NOT touch the coulter blade or any other attachments. Such contacts will cause excess wear to all parts involved. At least 1/2 in (13mm) clearance is recommended.

1. When the blade is out of the soil, adjust the Terra-Tine lock collar height to set the height of tine fingers flush with the bottom of coulter blade.
2. For side-to-side alignment, rotate the shank mount around the vertical shaft and tighten the square head set screw (set screws not visible in twin-row illustration).
3. If tines are found to be rolling over, rather than moving trash, spring tension can be increased. See the Terra-Tine manual for details.

Using Terra-Tines with Coulters

Refer to Figure 72 and Figure 73

Tines may be set ahead of, behind, and to the right or left of frame-mounted coulters.
4. Fore-to-aft adjustment is accomplished by adding or removing the extension arm to place the Terra-Tine Row Cleaner to either side of the coulter hub depending on the desired position or clearance between other attachments. Testing has shown better performance behind the hub, but available space may dictate the mounting position.
Frame-Mounted Coulter Adjustments

Refer to Figure 74

Frame-mounted coulters may be run on-row or between rows.

On-Row

If run on-row, or within 2 in. (5.1 cm) of the furrow, adjust the shaft ① to set the coulter depth ② to be the planting depth or 1/4 inch (6 mm) shallower.

Between Row (or Off-Row at least 2 in)

At the shaft ①, adjust the coulter depth for a running depth ② of 4 to 4 1/2 inches (10.1 to 11.4 cm) below ground level ③. Refer to the Vantage I manual (204-376M) for further adjustments.

Do not adjust the spring ④ tension. It is factory pre-set.

Vantage I Fertilizer Adjustments

Refer to Figure 75

At the back plate ①, adjust the tine height for a running depth ② of 1 inch (2.5 cm) below ground level ③. Refer to the Vantage I manual (204-376M) for further adjustments.
10HD Series Row Adjustments

Refer to Figure 76
(which depicts a row unit fully populated with all optional accessories supported for use on at least one 10HDP model - some models may not support some accessories)

From front to back, a Great Plains 10HD Series row unit can include the following capabilities (some optional):

1. UMC Row Cleaner: optional
   Row cleaners clear debris ahead of the furrow. See page 79 for adjustments.

2. Unit-Mounted Coulter (UMC): optional
   UMCs cut residue and prepare the soil ahead of the seed furrow. See 80 for adjustments.

3. Dual Down Pressure Springs: standard
   Each row unit is mounted on the YP40 planter via parallel arms which allow the row unit to independently move up and down while remaining parallel to the ground. The adjustable spring provides the force to get the row unit and attachments into the soil. See 74 for adjustments.

4. Row Unit Spring Cam: standard
   Adjustment sets the down-force used by the row unit. See “10HDP Series Down-Pressure” on page 74.

5. Row-Unit Lock-Up: holes standard, pins optional
   If rows are shut off with seed tube plugs, row unit wear can be reduced by locking them up. See “Row Unit Shut Off” on page 78.

6. Disc Blades: standard, 2 per row unit
   Double disc blades open a furrow, creating the seed bed. Spacers adjust the blades for a clean furrow. See “Row-Unit Opener Disk Adjustments” on page 81.

7. Seed Meter (standard - choice of models)
   A precision or finger pickup meter is standard, with a choice of wheels or finger sets. See 85 for changing meters and wheels. See 89 for finger meter adjustments.

8. Drive Coupler
   Disengage unused rows during calibration or when using alternate row spacings. See 78.

9. Scrapers: (spreader shown)
   A lower separator/scaper is standard. An upper rear carbide scraper is optional. See 114.

10. Seed delivery tube: standard
    No adjustments are necessary. See 78 for seed tube shutoff above meter. Standard tubes include a seed sensor for the optional seed monitor.

11. Seed firmer:
    Reduces seed bounce and aids emergence by pressing seed gently into the furrow.

    A seed flap (not shown) is standard. See 115 for replacement.

    Keeton® seed firmer (not shown)
    Improves seed-soil contact, and provides a stable arm for a low-rate liquid fertilizer delivery tube. See “Keeton® Seed Firmer Adjustment” on page 91.

    Seed-Lok® firming wheel (shown)
    Improves seed-soil contact. See “Seed-Lok® Seed Firmer Lock-Up” on page 92.

12. Press wheels: standard (choice of types)
    These close the seed trench. The wheels also support the free end of the row unit, and provide the primary control over seeding depth. See “10HDP Opener Depth” on page 73.

**NOTICE**

Machine Damage Hazard:
Do not back up with row units in the ground. To do so will cause severe damage and row unit plugging.

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25 Series Row Unit Adjustments

Refer to Figure 77 (which depicts a row unit fully populated with all optional accessories supported for use with the YP4010HD/YP4025/F planter)

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

1. Dual Down Pressure Springs: standard
   Each row unit is mounted on the planter with parallel arms which allow each row unit to independently move up and down while staying horizontal. Adjustable springs provide the force to get the row unit and attachments into the soil. See “Refer to Figure 81” on page 75.

2. Row cleaners: optional
   Row cleaners clear trash from the row. Twin-row planters support single-arm cleaners. Single-row planters support single- or double-arm cleaners. See “Unit-Mount Cleaner Adjustments” on page 79.

3. Disk Coulter: optional, choice of blades
   Coulters cut any remaining trash, and create a groove for light no-till planting. The down force needed to cut and widen the coulter groove is supplied by the row unit. The depth relative to the opener is set by a choice of hub mounting holes. See “Unit-Mounted Coulter Adjustments” on page 80.

4. Disc Blades: standard, 2 per row unit
   Double disc blades widen the coulter groove, creating the seed bed. Setup controls depth and width. See “Row-Unit Opener Disk Adjustments” on page 81.

5. Depth Side Gauge Wheels: standard
   The depth gauge wheels have adjustments for spacing and angle. See “Side Gauge Wheel Adjustment” on page 82.

6. Seed meter: required, choice of models/features
   Meters deliver singulated or volumetric seed. See “Seed Meter Setup and Adjustment” on page 85.

7. Seed delivery tube: standard (not shown)
   No adjustments are necessary.

8. Seed firmer (optional):
   Keeton® seed firmer (shown mounted)
   Improves seed-soil contact, and provides a stable arm for a low-rate liquid fertilizer delivery tube. See “Keeton® Seed Firmer Adjustment” on page 91.

   Seed-Lok® firming wheel (shown in inset)
   Improves seed-soil contact. See “Seed-Lok® Seed Firmer Lock-Up” on page 92.

9. Gauge Wheel Scraper: optional
   The depth gauge wheels also accept an optional scraper. See “Gauge Wheel Scraper Adjustments” on page 84.

10. Press wheels: standard (choice of types)
    These close the seed trench. See “Press Wheel Adjustment” on page 93.

**NOTICE**

Machine Damage Hazard:
Do not back up with row units in the ground. To do so will cause severe damage and row unit plugging.
Opener Depth

10HDP Opener Depth

Seeding depth on 10HDP Series is set by frame-mounted coulter depth (if installed) and row unit depth. Set frame height (page 24) before making row unit depth adjustments.

10HD Series press wheel height is a stop adjustment and not a spring adjustment. It establishes a fixed relationship between opener depth and the closed-furrow surface at the press wheel.

Refer to Figure 78

Set opener seeding depth by adjusting press-wheel height ①. To adjust, first raise openers slightly, then lift and slide T handles ② on top of openers. Initially adjust all press wheels to the same height. Individual rows running in tire tracks may need to be set deeper a.

- For more shallow seeding, slide T handles forward ② toward YP40 planter.
- For deeper seeding, slide T handles backward ② away from YP40 planter.

If press wheels are lifting off ground, check front-to-back level, and increase row unit spring down force.

If press wheels are digging into ground, reduce spring down force at the row units.

25P Opener Depth

Refer to Figure 79

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.

With the planter raised, lift both side depth wheels against the stop and measure the depth of exposed opener disk below it. Do not lift just one wheel, as the 25 Series T handle sets the average depth of both wheels. Alternatively, check the actual furrow depth with openers lowered and pulled forward in field conditions.

To adjust seed depth, pull the “T” handle 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 forward.
- For deeper planting, move the “T” handle back.

Check opener down-pressure and press wheel(s) after adjusting depth. See “25P Series Down-Pressure” on page 76, and “Press Wheel Adjustment” on page 93.

---
a. If frame-mounted coulters are installed, adjust them for tire tracks before adjust T-handles. The coulter depth adjustment may be all that’s required to compensate for tracks.
Row Unit Down Pressure
10HDP Series Down-Pressure

Refer to Figure 80

An adjuster cam sets row unit spring down pressure individually for each row unit. This is useful for penetrating hard soil and planting in tire tracks.

The notes in the left table below are based on a planter without coulters. About 120 pounds (54 kg) of the down-force is the weight of the row unit itself. The additional force is due to the springs lifting against the mass of the planter.

Test, without seeding, in your conditions, to determine optimal down-force settings.

To adjust down pressure, use an adjustable or open-end 15/8 inch (29 mm) wrench.

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. Put tractor in Park and shut it off.
3. Position wrench on hex nut weldment.
4. Pull upper spring link back.
5. Move the adjustment cam to the new setting on the spring adjust bar.

To change 10HD springs, a Spring Changing Tool Kit is available, order Great Plains part number 398-589A.

2-Spring 10HD Cam Down-Force Settings
These settings apply to 2009+ planters, or updated older planters, that have two parallel arm springs per row.

<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>125</td>
<td>55</td>
</tr>
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<td>two</td>
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<td>six</td>
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<td>110</td>
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<tr>
<td>tip</td>
<td>Do Not Use</td>
<td></td>
</tr>
</tbody>
</table>

4-Spring 10HD Cam Down-Force Settings
These settings apply to older planters, not yet updated\(^a\), that have four parallel arm springs per row.

<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>
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<tr>
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<tr>
<td>six</td>
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<td>220</td>
</tr>
<tr>
<td>tip</td>
<td>Do Not Use</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) With 4-spring rows, do not set all rows so high that planting becomes uneven or gauge wheels lift off ground.

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\(^a\) Contact your Great Plains dealer for update kit information.
Refer to Figure 81

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

To assess down-force, operate the YP40 planter for a short distance on typical ground (with or without seeding), and stop. Leave the YP40 planter lowered (row units in ground).

At several row units, inspect the furrow created by the opener discs and closed by the press wheels.

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

Refer to Figure 82

1. If the press 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 Row Unit Down Force

The springs allow the row units to float down into depressions and up over obstructions.

With Frame-Mounted Coulters

With frame-mounted coulters, the seed trench is primarily opened by the coulters. Row unit springs provide only additional assistance needed to make a furrow "V" shaped and ensure furrow closure by the press wheels.

Often, the rows may be run at the minimum spring setting, other than in tire tracks, which commonly need some adjustment.

If trench depth is not being achieved across all rows, adjust the force and/or depth of the coulters before making row unit spring adjustments.

With Unit-Mounted Coulters (or no coulters)

Without frame-mounted coulters, the row unit springs provide the primary down force for cutting through residue and opening the seed trench.
25P Series Down-Pressure

Refer to Figure 83

Row unit springs ① provide the primary down pressure necessary for row unit disks to open a seed trench. The weight of the row units themselves contributes about 145 pounds (66 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 ② 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 in. or 70 cm rows.

Refer to Figure 85

<table>
<thead>
<tr>
<th>Cam Notch</th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>249</td>
</tr>
<tr>
<td>tip</td>
<td></td>
<td>Do Not Use</td>
</tr>
</tbody>
</table>

Use only enough down pressure to cut the seed trench and maintain proper soil-firming over seed. Excessive row unit down force will lead to premature wear on row unit components, uneven seed depth and gauge wheel slippage.

Refer to Figure 84 (shown at cam setting 1), Figure 85 and Figure 86

To adjust down pressure, use a 1 1/8 in. (29 mm) open end wrench or the tool ③ stored under the walkboard.

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 ④ 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 4. Using high settings across all rows causes uneven planting. Individual rows may be set higher if running in tire tracks.]

Refer to Figure 87

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 88

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.
Row Unit Shut Off

10HD and 25P Series row units are designed to permit alternate row spacing, which requires disabling the rows not used. This involves three steps:
1. Shut off seed flow to the row.
2. Lock up the row to reduce opener wear.
3. Disengage the meter drive to reduce meter wear.

Seed Shut Off

*Refer to Figure 90*

At the Y-tube\(^8\) above the row, turn the valve serving that row until the handle 1 is perpendicular to the tubing.

Row Unit Lock-Up

15 in splitter rows can be pinned in the up position to accommodate 30 in. row spacing.

*Refer to Figure 90*

The lock-up pins 2 for each rear row unit are located in a storage hole 3 in the row unit mount. To lock up a unit, the unit must be raised, and the pin moved to the lock-up hole 4 in the row unit shank. Lock-up pins are not standard on all row spacings. Refer to page 139 for additional or replacement lock-up pins.

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 cylinder locks.
3. Set the down pressure springs to the minimum setting, per the instructions on page 74 or page 76.
4. Raise the row unit high enough that the hole for the pin is above the lower parallel arm:
   a. use a hoist at the rear of the shank 5, or
   b. use a jack under the shank extension 6

*Refer to Figure 91*

5. Remove the pin from the storage hole 3 and insert and secure it in the lock-up hole 4.
6. Lower row unit. Parallel arm rests on lock-up pin.

---

*a. If the row is not served by a Y-tube, loosen the clamp, remove (and secure) the hose. Block the tube fitting with an 817-622C cap.*

---

**CAUTION**

Loss of Control and Sharp Object Hazards:
Do not lift a row unit by hand. The weight of the unit, plus the spring force (even at minimum) is too great (plus, a free hand is needed for pinning). Even with multiple
Disengage Meter  
*Refer to Figure 92*

7. Uncouple meter drives for the locked-up rows. Pull shaft out and park pin in shallow detents.

**NOTICE**

*Equipment Damage Risk:*
*Do not disable meters by removing them or chain drive damage will occur.*

8. Shut off Y-tube port for the current row unit.
9. Repeat for all rows needing lock-up.
10. Reset marker extension (page 149).
11. Reset monitor active row pattern and row spacing to avoid nuisance alarms.

**NOTICE**

*Equipment Damage Risk:*
*Do not pin the row unit while it is in the lowered position. If the pin is inserted below the parallel arm, unit damage will occur when planting begins.*

Unit-Mount Cleaner Adjustments  
*Refer to Figure 93 and Figure 94*

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 ③ on the mount adjusts the depth. In UMC-RC (coulter) mount, a sliding down-stop block ⑥ 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 ⑤ tightness prior to each planting session, to avoid down-stop slippage.

**CAUTION**

*Sharp Object Hazard:*
*Row cleaner tines, casting edges and coulter blades are sharp. Wear hand protection when working in this area.*
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 $\frac{3}{4}$ in. (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.

Unit-Mounted Coulter Adjustments

- Applies only to 10HDP and 25P Series.
- Unit-Mount Coulters are not factory-installed. Check alignment and depth prior to first use.
- For frame-mounted coulter adjustments, see “Frame-Mounted Coulter Adjustments” on page 70.

Coulter Depth Adjustment

The ideal operating depth for unit-mounted coulters is $\frac{1}{4}$ in. 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 95 and Figure 96

Raise YP40 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. 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 $\frac{1}{4}$ in. above depth. See the table below.
4. Remove the $\frac{5}{8}$-11×4 in. bolt, lock washer and nut (7 in Figure 95).
5. Move the blade to the new position. Insert the bolt, and tighten on the lock washer and nut.

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

**Coulter Row Alignment**

Refer to Figure 97

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

As a check on coarse alignment, sight along the coulter blade centerline ①, the gap between the opener blades ②, and the centerline 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.

**Adjust UMC Alignment**

To adjust unit-mounted 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.

**Adjust FMC Alignment**

To adjust frame-mounted coulters, loosen the same bolts used to make vertical adjustments.

**Row-Unit Opener Disk Adjustments**

Applies to all Series openers.
Opener Disc Contact Region

Refer to Figure 98

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 ①. If you insert two pieces of paper between the blades, they should slide to within zero (touching) to 1.5 in. (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

Refer to Figure 98 and Figure 99

1. Raise the planter and install lift cylinder locks.
2. For 25P Series, remove the side gauge wheels ② on the row unit in need of adjustment.
3. Remove the bolt ③ retaining the opener disc ④ on one side. Carefully remove the disc. Do not lose the hub components and spacer washers ⑤, ⑥. Make note of how many spacer washers ⑤ are between the disk and the nut bar ⑦.
   When the bolt is fully removed from the disk, a dust cap ⑧ will be loose.
4. To reduce the spacing between the discs (the normal case), move one spacer washer from the inside ⑤ to the outside ⑧ of the disc. Do not discard any spacers. They will be moved to the inside upon eventual replacement of a completely worn out blade.
5. Re-assemble and check disk contact.

Side Gauge Wheel Adjustment

Refer to Figure 100

- Applies to 25P Series openers only.

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.
Refer to Figure 101

For 2 in. (5.1 cm) planting depth, adjust side gauge wheel angle so wheels contact row unit disks at the bottom of wheel. Check with rows 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 103

To adjust side gauge wheels:

1. Raise the planter and install lift cylinder locks.
2. Loosen hex-head bolt ①. Move wheel and arm out on O-ring bushing.
3. Loosen pivot bolt ②. Turn hex adjuster ③ so indicator notch ④ is at 5 o’clock to 7 o’clock.
   - Use this as the starting point for adjustment.
4. Move wheel arm in so side gauge wheel contacts row unit disk. Tighten hex-head bolt ① to clamp arm around bushing and shank.
5. Check wheel-to-disk contact at 2 in. (5.2 cm) planting depth, as shown in Figure 102. Lift wheel 2 in., check contact and release. 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.
   - Use “Torque Values Chart” on page 172 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 ft-lbs (149 N-m).

Gauge Wheel Scraper Adjustments

- Applies only to 25P Series openers.

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

25 Series Side Gauge Wheel Scrapers

Refer to Figure 104

To adjust scrapers:

1. Loosen nut ①.
2. Slide scraper ② toward gauge wheel ③ until scraper touches tire.
3. Slide scraper away from wheel leaving a 1/8 in. (3 mm) gap at ④.
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 ① until gap ④ is constant.
6. Tighten nut ①.
Seed Meter Setup and Adjustment
Your YP40 planter was originally supplied with a specific seed meter type and internal components optimized for a particular crop. Depending on the meter type and configuration, there may be adjustments available.

On 10HD and 25P Series openers, you can also entirely change the meter as your crop mix changes.

All YP40 models support:

- Great Plains Singulator Plus™ meters
  
  10HD and 25P instructions begin on this page.

The YP4010HD and YP4025 further support:

- Finger pick-up meters (page 89).

The YP40 does not support feeder cups. Use a Singulator Plus™ meter with specific wheels for volumetric applications.

10HD, 25P Meter Removal

⚠️ Applies only to 10HD and 25P Series openers.


Refer to Figure 105

2. Slide the retaining ring up on the seed hose, and remove the seed hose.

Refer to Figure 106

3. Release the lower latch.

Refer to Figure 107

4. Release the upper latch and swing the drive mount away from the meter.
Refer to Figure 108
5. Lift up, then back, and remove the meter.

Refer to Figure 109
6. While the meter is removed, take time to inspect the meter drive chain ①, idlers ② and drive sprocket ③, and perhaps perform the periodic chain lubrication.

Meter drive chain idlers are spring-loaded, and require no adjustment for chain slack.

10HD, 25P Meter Wheel Replacement
Choose the correct seed meter wheel for the type of seed you will be using. Be sure to use the same wheel type on all meters.

NOTICE
 Meter Wheels Not Interchangeable: Seed meter wheels for the 10HD and 25P Series row units are made of a green color material and are not interchangeable with the other Great Plains seed meter wheels, such as Black for 20P Series. Use only green wheels in 10HD and 25P Series row units.

1. Clean out meter. For more information, see “10HD, 25P Meter Removal” on page 85.

Refer to Figure 110
2. Push in spring-loaded wheel retainer and make ¼ turn. Pull off wheel retainer and spring.
Refer to Figure 111

3. Pry the seed meter wheel out about 1/4 inch (6 mm) using the tool stored under the walkboard, and spin backward to clean out seeds from top pockets.

If wheel is not free of all seed, wheel removal is much more difficult, as pocketed seeds will shear against meter parts.

Refer to Figure 112

4. Remove seed meter wheel.

Refer to Figure 113

With the seed meter wheel removed, you may want to check the meter for internal damage or trash.

Some wear on top edge of slide  is normal. Excess wear is cause for replacement.

5. When changing crops be sure to clean out air system before installing new meters or wheels. See “Cleaning Out Air System” on page 104.

6. Place new wheel on meter wheel shaft. Tilt it slightly forward to engage and push back on the slide. Seat wheel fully on cross-pin.

7. Replace spring-loaded wheel retainer. Make 1/4 turn to seat cross-pin in shallow groove of retainer.
Meter Installation

Appplies only to 10HD and 25P Series openers.
Installation is the reverse of the removal process, with two steps omitted.

Refer to Figure 114

1. Insert the meter.
   ① Insert the top meter tab (with the hook).
   ② Align the meter base with the latch plate ears.
   ③ Insert the bottom meter tab.
   Mind the lower latch, as it tends to swing under the meter base and block mating with the latch plate.

Refer to Figure 106 on page 85

2. Engage the upper latch, and swing the mounting plate into engagement with the meter.

Refer to Figure 107 on page 85

3. Engage the lower latch.

Refer to Figure 108 on page 86

4. Slide the seed hose over the meter inlet tube, and then slide the retaining ring down the seed hose.
10HD, 25P Finger Meter Adjustments

- Applies only to 10HD and 25P Series openers.

The finger pick-up meter has an adjustable brush, and alternate inserts are available for the backing plate. The brush has been pre-set to the optimum setting for most seed sizes. The factory-installed insert is the “A” insert.

Optimum planting speed is $4\frac{1}{2}$ to $5$ miles per hour (7.2-8 kph). Excess speed causes poor spacing performance due to seed tube bounce, and may also cause improper depth control due to row unit bounce.

Always pay attention to your planter monitor. Compare actual seed usage to your estimates.

Fine-tune your planter by thoroughly checking all key components including: seed tubes, chains, sprockets, tire pressure, seed monitor, double disk openers, gauge wheels, seed firmer, closing wheels, parallel arms, and the row unit itself.

**Finger Meter Brush Adjustment**

The brush reduces or eliminates “doubles” (delivering two seeds per finger), but if set too aggressively can cause “skips” (delivering no seed on some fingers). As needed, adjust for minimal doubles and skips.

- These instructions describe the current finger pickup meter shipped with new Great Plains planters, which has an integrated adjustment lever for the brush. If you have added pre-existing finger meters after purchase, there is some chance that you may have the previous model meter, adjusted by screwdriver rather than lever. If so, rely on counting detents to determine the setting. Not all have 9 detents.

Refer to Figure 115

![Figure 115 Finger Meter Brush Lever](25276)

<table>
<thead>
<tr>
<th>Bag Weight (80,000 seeds)</th>
<th>Seeds Per Pound</th>
<th>Brush Setting</th>
<th>Seeds Per Kilogram</th>
<th>Bag Weight (80,000 seeds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 lbs</td>
<td>1230 or less</td>
<td>1</td>
<td>2710 or less</td>
<td>29.5 kg</td>
</tr>
<tr>
<td>65 to 55 lbs</td>
<td>1230 to 1450</td>
<td>2</td>
<td>2710 to 3195</td>
<td>29.5 to 24.9 kg</td>
</tr>
<tr>
<td>55 to 45 lbs</td>
<td>1450 to 1780</td>
<td>3</td>
<td>3195 to 3925</td>
<td>24.9 to 20.4 kg</td>
</tr>
<tr>
<td>45 to 35 lbs</td>
<td>1780 to 2300</td>
<td>4</td>
<td>3925 to 5070</td>
<td>20.4 to 15.9 kg</td>
</tr>
<tr>
<td>35 lbs</td>
<td>2300 or more</td>
<td>5</td>
<td>5070 or more</td>
<td>15.9 kg</td>
</tr>
<tr>
<td>Flats</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 lbs</td>
<td>1780 or less</td>
<td>1</td>
<td>3925 or less</td>
<td>20.4 kg</td>
</tr>
<tr>
<td>45 to 35 lbs</td>
<td>1780 to 2300</td>
<td>2</td>
<td>3925 to 5070</td>
<td>20.4 to 15.9 kg</td>
</tr>
<tr>
<td>35 lbs</td>
<td>2300 or more</td>
<td>3</td>
<td>5070 or more</td>
<td>15.9 kg</td>
</tr>
</tbody>
</table>

The adjustable brush provides additional flexibility to accommodate a wide range of seed sizes. Use lever 1 to gently rotate the brush into position.

The settings range from 1 to 5 with detents at each half step, for a total of 9 detents. The factory default setting is $2\frac{1}{2}$. Although the numbers are molded into the meter housing, only “1” and “5” may be visible. To ensure consistency, rotate the lever fully counter-clockwise (1), and count detents as you advance it to the desired setting.

Use the general guidelines in the table below to adjust the brush position to your seed size and shape. The numbers listed correspond to the numbers printed on the outer housing of your meter. If there is a decal on your meter, its units are seed size in pounds per 80,000 seed bag.
Finger Meter Inserts

Refer to Figure 116

The backing plate is equipped with an “A” insert ② for Corn, and a “C” insert for Sunflower. In tests, these inserts provide the best performance in most seed sizes. However, there are alternate inserts that can be used. Before changing to a different insert, please consult with a Great Plains service representative for a recommendation.

The insert type is molded into the back. Changing inserts requires meter disassembly.

Notice

Meter Reliability Risk:
Be cautious in using seed treatments, additives, and other chemicals when possible. They can cause meter performance problems and premature wear. If graphite is used, use Precision Planting® planting graphite or Great Plains graphite, which is less abrasive. Generally, seeds treated with Maxi, Captain, and similar coatings benefit from graphite. Always store meters in a dry, secure place. Moisture, temperature, nest-building insects and rodents can create problems. Always pay attention to your seed monitor and operating manual. Monitor the amount of seed you are planting compared to expectations. Investigate abnormalities!

Sunflower Meter Configurations

Review the finger pickup meter configuration, based on the seed size. See chart below. See “Exchanging Finger Sets” on page 110 for component removal and installation instructions.

The standard Sunflower configuration is suitable for #4 and #3 seed sizes. Larger seeds may require the Corn meter configuration. Using a finger pickup meter for Confection seeds is not recommended.

<table>
<thead>
<tr>
<th>Finger Pickup Configurations for Sunflower</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meter Component</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>① Finger Set</td>
</tr>
<tr>
<td>② Backing Plate</td>
</tr>
<tr>
<td>③ Brush Block</td>
</tr>
</tbody>
</table>

c. These components are included in the standard 890-856C Corn meter.
s. These components are included in the standard 890-912C Sunflower meter, and the 403-659A Conversion Kit.
Sprocket Indexing (Stagger)

If you are planting:
• finger-metered,
• twin-row crops,
• at seed interval spacings above $6\frac{1}{2}$ 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.

Seed Firmer Adjustments

Applies to all row units.

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**

*Sharp Object Hazard:*
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 117*

The firmer has 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 furrow.
Seed-Lok® Seed Firmer Lock-Up

Optional Seed-Lok® firming wheels provide additional seed-to-soil contact. The wheels are spring loaded and require no adjustment. In some wet and sticky conditions the wheels may accumulate soil. To avoid problems associated with this, you can lock-up the firmer.

*Refer to Figure 118 (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 inch tool drive tip in the tool hole 6 of the handle 1. Alternatively, lift up on the wheel 5.
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 3 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.
Seed-Lok® Seed Firmer Lock-Up (older style)

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 119

To lock up Seed-Lok® wheels:
1. Raise planter. Insert lift assist cylinder locks.
2. Rotate Seed-Lok® lock-up handle 90 degrees down on top of row unit body.
3. Push up on Seed-Lok® wheel until wheel arm latches 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. On 10HD Series openers, the press wheel height also controls seed depth.

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.

25P Series Press Wheel Adjustment

25 Series press wheels have three adjustments:

Refer to Figure 120

a. Down pressure (shown at maximum)
b. Wheel stagger (shown staggered)
c. Centering (see Figure 122 on page 94)

Press Wheel Down Pressure

Handle 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 back for increased down pressure.

Press wheel adjustments available depend on the row unit Series:
10HDP Series: page 73
25P Series: page 93

On 25P Series, 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 75.
Press Wheel Stagger
The factory stagger setting has been found optimal for residue flow. If your conditions, such as wet soil or shallow planting, appear to require even press wheels, you might try one row before re-configuring the entire planter. To change the stagger:

Refer to Figure 121
1. Raise the planter and install the lift assist cylinder locks. See “Lift Cylinder Lock-Up” on page 30.
2. Remove the bolt ①, nut ② and lock-washer ③ for the left press wheel ④.
3. Move the spacer ⑤ and wheel ④ to the forward of the two mounting holes at ⑥.
4. Re-install the bolt, lock washer and nut. Tighten.

Press Wheel Centering
If one press wheel is running in the seed trench, or the wheels are not centered over the trench, the angle ⑦ of the press wheel assembly can be adjusted as follows:

Refer to Figure 122
1. Determine how far, and in which direction, the press wheel assembly needs to move to center the wheels.
3. Loosen the1/2 in. hex-head bolts ⑧ and ⑨.
4. Turn the hex head cam ⑤ under the forward hex head jam bolt ⑥, and move the required amount.
5. Tighten both hex-head bolts ⑧ and ⑨.

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.

Do not loosen the square-head bolts forward of the hex-head bolts.
## Troubleshooting

### General Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planting too little</strong></td>
<td>Incorrect seed size for meter wheel can cause skips</td>
<td>Replace meter wheels to match seed</td>
</tr>
<tr>
<td></td>
<td>Meter drive not engaged</td>
<td>Engage drive coupler, page 79</td>
</tr>
<tr>
<td></td>
<td>Worn meter components</td>
<td>Replace worn components</td>
</tr>
<tr>
<td></td>
<td>Incorrect seed rate.</td>
<td>Check seed rate information.</td>
</tr>
<tr>
<td></td>
<td>Excessive field speed.</td>
<td>Reduce field speed.</td>
</tr>
<tr>
<td></td>
<td>Seed size and weight may vary.</td>
<td>Finger meter brush may need adjustment, page 89.</td>
</tr>
<tr>
<td></td>
<td>Brush too tight on finger meter</td>
<td>Adjust brush, page 89</td>
</tr>
<tr>
<td></td>
<td>Incorrect fan air flow</td>
<td>Adjust fan speed and/or fan baffle. See page 65</td>
</tr>
<tr>
<td></td>
<td>Excessive gaps between planter passes.</td>
<td>Adjust marker, page 64</td>
</tr>
<tr>
<td></td>
<td>Plugged row-unit seed tube.</td>
<td>Raise planter, expose bottom of seed tube and clean out.</td>
</tr>
<tr>
<td></td>
<td>Thrown or worn drive chains</td>
<td>Check drive chains</td>
</tr>
<tr>
<td></td>
<td>Worn/rusted sprockets, chains and/or chain idlers</td>
<td>Replace sprockets, chains and/or chain idlers.</td>
</tr>
<tr>
<td></td>
<td>Loose finger assemblies in finger meters</td>
<td>Have dealer service meters.</td>
</tr>
<tr>
<td></td>
<td>Speed sensor calibration</td>
<td>Perform calibration per DICKEY-john® documentation with planter lowered.</td>
</tr>
<tr>
<td></td>
<td>Speed sensor angle.</td>
<td>With planter lowered, check radar speed sensor angle per DICKEY-john® recommendations.</td>
</tr>
<tr>
<td></td>
<td>Meter wheel or finger pickup has fewer cells than indicated on seed rate chart.</td>
<td>Charts are based on either 6 finger or 12 finger meters or various wheel cell counts.</td>
</tr>
<tr>
<td><strong>Planting too much</strong></td>
<td>Incorrect seed size for meter wheel can cause doubles</td>
<td>Replace meter wheels to match seed</td>
</tr>
<tr>
<td></td>
<td>Worn meter components</td>
<td>Replace worn components</td>
</tr>
<tr>
<td></td>
<td>Meter clean-out door left open</td>
<td>Close door</td>
</tr>
<tr>
<td></td>
<td>Incorrect seed rate.</td>
<td>Check seed rate information in the seed monitor manual.</td>
</tr>
<tr>
<td></td>
<td>Actual field size is different.</td>
<td>Verify field size.</td>
</tr>
<tr>
<td></td>
<td>Excessive overlap.</td>
<td>Adjust marker, page 64</td>
</tr>
<tr>
<td></td>
<td>Irregular shaped field</td>
<td>Perform calibration per DICKEY-john® documentation with planter lowered.</td>
</tr>
<tr>
<td></td>
<td>Speed sensor calibration</td>
<td>With planter lowered, check radar speed sensor angle per DICKEY-john® recommendations.</td>
</tr>
<tr>
<td></td>
<td>Speed sensor angle.</td>
<td>Adjust brush, page 89</td>
</tr>
<tr>
<td></td>
<td>Meter wheel or finger pickup has more cells than indicated on seed rate chart.</td>
<td>Charts are based on either 6 finger or 12 finger meters or various wheel cell counts.</td>
</tr>
<tr>
<td>Problem</td>
<td>Cause</td>
<td>Solution</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Uneven seed spacing     | Hydraulic meter drive motor rpm too low for reliable control by proportional valve. | 1. Increase field speed.  
                          |                                                                                             | 2. Use a seed wheel with lower cell count.  
                          |                                                                                             | Switch from 12 finger meters to 6 finger meters.  
<pre><code>                      |                                                                                             | 3. Install a low speed kit (page 130). |
</code></pre>
<p>|                         | Excessive field speed.                                               | Reduce field speed.                                                                             |
|                         | Unclean seed.                                                        | Use clean seed.                                                                                 |
|                         | Seed-Lok® plugging.                                                 | Lock up Seed-Lok®, page 92.                                                                     |
|                         | Row-unit disks not turning.                                          | See “Row-unit disks not turning freely.” in this Troubleshooting chart.                         |
|                         | Plugged row-unit seed tube.                                          | Raise planter, expose bottom of seed tube and clean out.                                        |
|                         | Worn/rusted sprockets, chains and/or chain idler.                    | Check and replace any worn/rusted sprockets, chains or chain idlers.                           |
|                         | Partially plugged row-unit seed tube.                                | Lift up planter, expose bottom of seed tube and clean out.                                     |
|                         | Lack of proper seed lubrication on seed.                             | See “Seed Lubricants” on page 128.                                                               |
|                         | Use of excessively sticky or wet seed treatment.                     | Check your treatment.                                                                           |
| Uneven seed depth       | Excessive field speed.                                               | Reduce field speed.                                                                             |
|                         | Planting conditions too wet.                                         | Wait until drier weather.                                                                       |
|                         | Incorrect coulter depth setting.                                     | See coulter manual.                                                                             |
|                         | Excessive or improper row unit down pressure spring setting.         | See “Refer to Figure 81” on page 75.                                                           |
|                         | Damaged seed tubes.                                                 | Check seed tubes for damage.                                                                    |
|                         | Seed-Lok® building up with dirt.                                     | Lock up Seed-Lok®, page 92.                                                                      |
|                         | Row-unit not penetrating low spots.                                   | See “Refer to Figure 81” on page 75.                                                           |
|                         | Rough planting conditions.                                           | Rework the field.                                                                               |
|                         | Seed firmer not in place and set to correct tension.                 | See “Seed Firmer Adjustments” on page 91.                                                       |
| Population Alarms       | False alarms or actual seed rate errors due to monitor setup with incorrect row count and/or spacing. | Review planter configuration and monitor setup.                                                  |
| Row-unit disks not turning freely. | Row-unit plugged with dirt.                                      | Clean row-unit.                                                                                  |
|                         | Planting conditions too wet.                                         | Wait until drier weather.                                                                       |
|                         | Incorrect side depth wheel adjustment                               | See “Side Gauge Wheel Adjustment” on page 82.                                                    |
|                         | Seed-Lok® is plugging row-unit.                                      | Lock up Seed-Lok®, page 92.                                                                      |
|                         | Failed disk bearings.                                               | Replace disk bearings.                                                                          |
|                         | Bent or twisted row-unit frame.                                      | Replace row-unit frame.                                                                         |
|                         | Partially plugged row-unit seed tube.                                | Raise planter, expose bottom of seed tube and clean out.                                        |
| Excessive seed cracking. | Incorrect seed meter wheel                                           | Replace wheels with those matching seed                                                         |
|                         | Unclean seed.                                                        | Use clean seed.                                                                                 |
|                         | Damaged, old or dry seed.                                            | Use clean, new seed.                                                                            |
| Press wheels not compacting the soil as desired. | Incorrect spring handle setting                                      | See “Press Wheel Adjustment” on page 93.                                                        |
|                         | Wheel stagger needs adjustment for conditions.                       | See “Press Wheel Adjustment” on page 93.                                                        |
|                         | Insufficient row unit down force                                     | See “Refer to Figure 81” on page 75.                                                            |
|                         | Too wet or cloddy.                                                  | Wait until drier weather or rework ground.                                                      |
|                         | Use of incorrectly shaped tire for your conditions.                 | Wedge shaped wheels work best on narrow spacings and in wet conditions. Round edge wheels work best in wider row spacings and drier conditions. |
|                         | Incorrect press wheel depth.                                         | Reset press wheel depth, page 93.                                                               |</p>
<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press wheel or row-units plugging</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>Backed up with planter in the ground.</td>
<td>Clean out and check for damage.</td>
</tr>
<tr>
<td></td>
<td>Failed disk bearings.</td>
<td>Replace disk bearings.</td>
</tr>
<tr>
<td></td>
<td>Disk blades worn.</td>
<td>Replace disk blades.</td>
</tr>
<tr>
<td></td>
<td>Scraper worn or damaged.</td>
<td>Replace scraper.</td>
</tr>
<tr>
<td>Air lines plugging between air box and Y splitters</td>
<td>Improper air hose routing.</td>
<td>With planter unfolded, hoses should form a gentle horizontal “S” shape through the holders with no big sags.</td>
</tr>
<tr>
<td></td>
<td>Air leaks between manifold and splitters</td>
<td>Check for leaks and correct as needed.</td>
</tr>
<tr>
<td></td>
<td>Fan air flow too low.</td>
<td>Speed up fan. If already at 3800 rpm, increase airflow by reducing butterfly valve angle, before increasing rpm.</td>
</tr>
<tr>
<td>Seed blowing out of Pro-Box door area</td>
<td>Fan air flow too high.</td>
<td>Slow down fan. If already at or below 3000 rpm, set fan at 3800 rpm and use fan butterfly valve to reduce airflow.</td>
</tr>
<tr>
<td></td>
<td>Seal on top of airbox damaged or out of adjustment.</td>
<td>Seal should be compressed approximately $\frac{1}{2}$ inch when hopper or box is installed.</td>
</tr>
<tr>
<td>Hydraulic marker functioning improperly</td>
<td>Marker circuit set to Aux</td>
<td>Set Marker/Aux valve on wing to Marker. See page 52.</td>
</tr>
<tr>
<td></td>
<td>Leaks in hose fittings or connections.</td>
<td>Check all hose fittings and connections for air or oil leaks.</td>
</tr>
<tr>
<td></td>
<td>Low tractor hydraulic oil level.</td>
<td>Check tractor hydraulic oil level.</td>
</tr>
<tr>
<td></td>
<td>Loose or missing bolts or fasteners.</td>
<td>Check all bolts and fasteners.</td>
</tr>
<tr>
<td></td>
<td>Wing Fold Switch ON</td>
<td>Turn Wing Fold switch OFF</td>
</tr>
<tr>
<td>Marker disk does not mark</td>
<td>Marker disc needs adjustment</td>
<td>Increase disc angle. If still no mark, reverse marker disk to pull or throw dirt.</td>
</tr>
<tr>
<td>Hydraulic Hitch Won’t Stay Raised</td>
<td>Bypass valve is open at hitch</td>
<td>Close valve.</td>
</tr>
<tr>
<td>Speed Reading Doesn’t Match Tractor</td>
<td>Monitor speed reading will only match tractor with planter lowered.</td>
<td>If speeds don’t agree during planting (with planter lowered), re-calibrate radar speed sensor with planter lowered.</td>
</tr>
</tbody>
</table>
# Airbox Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Fix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single row doesn’t fill or keep up with other rows.</td>
<td>Y tube is bent/angled off feed pipe.</td>
<td>Loosen and rotate pipe so the bend is straight down and Y-tube is not pointing to front or rear of air pipe.</td>
</tr>
<tr>
<td></td>
<td>Excess fan speed.</td>
<td>Reduce fan speed.</td>
</tr>
<tr>
<td>Both rows on one meter outlet low or not keeping up with other rows.</td>
<td>Blockage in air slot in top of airbox.</td>
<td>Clear by using a long slim tool and taking hose off hose outlet or clean-out door. (\text{ Italics }) May be necessary to take top off airbox to clear debris from slot, or use side access doors.</td>
</tr>
<tr>
<td></td>
<td>Bad hose routing between delivery hose and airbox on wing.</td>
<td>Correct hose routing.</td>
</tr>
<tr>
<td>Multiple rows fail for lack of seed.</td>
<td>Fan speed too high/too low.</td>
<td>Check/adjust fan speed, butterfly valve.</td>
</tr>
<tr>
<td></td>
<td>Out of seed.</td>
<td>Add seed.</td>
</tr>
<tr>
<td>Single or multiple hoses plugging just ahead of airbox.</td>
<td>Fan speed too high/too low.</td>
<td>Check/adjust fan speed, butterfly valve.</td>
</tr>
<tr>
<td></td>
<td>Possible air leak.</td>
<td>Check for air leak downstream between box and top of meter.</td>
</tr>
<tr>
<td>All rows fail.</td>
<td>Lack of seed.</td>
<td>Add seed.</td>
</tr>
<tr>
<td>1, 2, 3, or more outlets fail.</td>
<td>Fan speed too high.</td>
<td>Adjust fan speed or butterfly valve. Extremely high populations may require slightly reduced field speed.</td>
</tr>
<tr>
<td>(\text{ Italics }) Outlets can be side-by-side or random. Plugging may also move from one outlet to another.</td>
<td>Foreign matter in seed chamber in bottom of airbox.</td>
<td>Clean out seed chamber.</td>
</tr>
<tr>
<td>Little or no seed to many rows, with heavily treated seed.</td>
<td>Seed treatment sticky.</td>
<td>(\text{ Italics }) Do not use liquid seed treatments. Add talc to seed to dry out seed treatment.</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 and Overhead Hazards:
You may be severely injured or killed by being crushed under the falling implement. Always have transport locks in place and frame sufficiently blocked up when working on implement.

**WARNING**

High Pressure Fluid Hazard:
Escaping fluid under pressure can have sufficient pressure to penetrate the skin. 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. 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 117.
7. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Great Plains dealer.
Marker Shear Bolt Replacement

Refer to Figure 123

If a marker gets caught or hits an obstruction, it is designed to fail a shear bolt at the fold, pivot on a pin, and swing back.

The shear bolt is a hex head cap screw, $\frac{1}{2}-13 \times 2\frac{1}{2}$ in. Grade 5, Great Plains part number 802-130C, plus a $\frac{1}{2}-13$ lock nut, Great Plains part number 803-019C.

Install a replacement shear bolt on the vertical faces 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.

Wing Leveling

Center Section Level Check

Vertical height and side-to-side level of the center section cannot be adjusted, but needs to be verified before checking/adjusting the wings. Soil accumulation on the wheels, for example, can cause the center section to tilt.

Refer to Figure 14 on page 100 (which depicts planter on a paved surface - actual measurement must be with rows pulled forward in soil)

1. Measure the elevation of both left and right sides of the planter center section, at the ends of the center section tool bar.

Wing Leveling

Wing leveling check/adjustment is required prior to first use of the YP40 planter, and periodically thereafter, for example, if soil conditions change dramatically.

Refer to Figure 124 (which depicts planter on a paved surface - actual measurement must be with rows pulled forward in soil)

2. Measure the outside ends of each wing section. This should be the same as measured at step 1 above.

See page 100 for adjustments.
Wing Leveling, Inboard End

Wing leveling check/adjustment is required prior to first use of the YP40 planter, and periodically thereafter, for example, if soil conditions change dramatically.

Before performing this operation:

- Lower unfolded planter in soil. Pull forward until gauge and caster wheels are in normal planting position.
- Row unit coulter/planting depths, and row unit down-pressures must all be equal.
- Check center section height and level (page 23).

Refer to Figure 125

1. Measure the height of the inboard end of each wing, directly under the wing flex pivot.
2. Compare this height to that of the center section obtained at step 1 on page 100.
3. If the heights differ by more than 1 inch (2.5 cm), check them again after leveling the wing ends. If they still differ, the thrust washers in the wing pivots may be worn and in need of replacement.

Any unevenness in ground that tilts the wings or center section causes the inner wing ends to move up or down slightly with respect to the center frame.

Wing Leveling, Outboard End

Refer to Figure 124 on page 100 and Figure 126

1. Measure from the bottom of the wing tool bar to the ground at the outer end of each wing.
2. Compare to the measurement at the outer end of the center tool bar, at the wing pivot location. All measurements should be identical, and close to 26 inches (66 cm).
3. If measurements do not match, loosen upper gauge wheel jam nut ①, and adjust eyebolt link length with adjuster nut ②.
4. If adjustments are needed on either side, re-check the other side after each adjustment, and re-adjust it as needed.
5. Once level, tighten the lock nut ①.
Wing Alignment

To check and adjust wing alignment:

1. Unfold planter. See “Unfolding The YP40 Planter” on page 27.

Refer to Figure 127 and Figure 128

3. Select a common reference point that is easy to access at the wing-end and center section end row units, such as the back of the press wheel assembly ⑤. On a twin-row planter, align using only the rear units.
4. Check for proper alignment by running a string line across back of planter toward outer ends of wings. For proper alignment, outside ends of wings ⑥ should be 0-to-\(\frac{1}{4}\) inch (0-to-6 mm) ahead of inside ends of wings at center section ⑦.
5. To adjust wing alignment, shorten or lengthen eye bolts ⑥ to change the length of the wing pull bar. Adjust eye bolts in or out until dimension ⑤ is 0 to \(\frac{1}{4}\) inch (6.4 mm) greater than dimension ⑦.
6. Be sure both wings are adjusted equally or the planter will tend to pull sideways behind the tractor.

Measure length of both pull bars, pin to pin, and set the same.
Cleaning Out Meters

10HD/25P Precision Meter Clean-Out

Refer to Figure 129 (finger meter shown, but step is identical)

1. Place a bucket or pan under meter to catch any seed during clean-out.
2. Slide the retaining ring up and remove the seed hose.

Refer to Figure 130

3. Pull clean-out door away from the opening and allow seed to fall.
4. Remove the seed meter wheel for thorough cleaning. See “10HD, 25P Meter Removal” on page 85 for more information.

10HD/25P Finger Meter Clean-Out

Refer to Figure 129

1. Place a bucket or pan under meter to catch any seed during clean-out.
2. Slide the retaining ring up and remove the seed hose.

Refer to Figure 131

3. Pull clean-out door away from the opening and allow seed to fall.
Cleaning Out Air System

1. Shut off sliding door at bottom of seed boxes or bulk hoppers.
2. Place a pan or tarp under the manifold to catch the seed.
3. Open manifold door to empty seed from the manifold.
4. Shut doors under manifolds.
5. Turn on the fan and let it run.

Refer to Figure 132

- 30in single-row planters do not have Y-tubes. Go meter to meter, open clean-out door and blow out seed.
- Shut off the gates at all of the Y-tubes.
- Start at one end of planter and open the meter clean out door for the end row-unit. Place a bucket under the meter to catch the seed.
- Open the Y-tube gate feeding that meter. Let the air blow seed out of the meter. Keep the meter open for a couple of minutes after the seed stops blowing out.
- Close the Y-tube gate feeding that meter. Close the meter clean out door.
- Repeat procedure on the next meter in line. Continue with this procedure until you have reached the opposite end of the planter.

Figure 132
Y-Tube Shut-Off
Air Box Residue Clean-Out

Planting in extremely dusty conditions, particularly dusty and humid conditions, or otherwise sticky soils, can lead to air residue build-up inside the airbox. This residue can cause seed delivery blockages.

Refer to Figure 133 and Figure 134 (Figure 133 depicts a partially and a completely plugged agitation port, and build-up in the RH plenum chamber)

Whenever opening the airbox clean-out door 1, inspect the agitation ports 2. If any are partially or completely blocked, follow the clean-out instructions on this page.

Seasonally, remove the inspection ports on each of the airbox, and inspect plenum chambers 1 (LH) and 16 (RH). If any build-up is observed, follow the more comprehensive inspection steps and clean-out instructions on this page.

1. Spot the planter at a suitable location for clean-out and follow the parking instructions (page 56).
2. If seed is loaded, close the slide gate for the hopper or bulk seed box (page 99).
3. Set out a tarp for recovery of any expected seed still in the airbox. Open the airbox clean-out door 1.
4. Remove the inspection port covers from each end of the airbox (not shown in figures).
5. Use an indelible marker to identify the hoses on seed hose ports 1 through 16. Disconnect the clamps and hoses.

Further disassembly of the airbox is not recommended, as joints are sealed with silicone adhesive, and would need to be cleaned and resealed.

6. Inspect the agitation ports 2. Break up any build-up. Use a hooked tool or wire to pull smaller fragments down through the ports. For larger fragments, reach in through the inspection ports or vacuum them out via those ports.
7. Inspect the entire plenum area 3 for build-up. Break up any deposits. Vacuum them out through the inspection ports.
8. From the seed hose ports 4, inspect the seed air ports 5. Break up any deposits. Vacuum out from clean-out door.
9. With all ports and doors still open, operate the planter fan to blow up any remaining loose residues.
10. Reconnect the seed hoses. Reinstall the inspection port doors. Close the clean-out door.

Flushing the airbox with water is not recommended. If done, operate the fan for an extended period to completely remove any moisture prior to storage or field operations.
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 157.

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 135, 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 in./91 cm): $\frac{1}{4}$ in. per foot
   Vertical short chains: $\frac{1}{4}$ in. per foot (2.1 cm/m)
   Horizontal short chains: $\frac{1}{2}$ in. 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 136 (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

Apply to 10HD and 25P Series rows only.

Refer to Figure 137

Remove the seed meter and check the chain and sprocket for wear. See “10HD, 25P Meter Removal” on page 85 for more information.
Meter Maintenance

Finger Pickup Meter Maintenance

Finger Set Inspection
Finger sets should be inspected on an annual basis. After cleaning, carefully inspect the fingers and springs for wear or other abnormalities that may develop. Excessive wear may disrupt singulation performance.

Great Plains recommends having the meter service performed by a recognized professional repair facility, such as a certified MeterMax® representative. If you choose to service them yourself, follow these procedures when installing the finger sets.

See page 85 for meter removal.

Agricultural Chemical Hazard:
Follow material supplier recommendations carefully. Handle the meter as if it were treated seed. Use supplier-recommended cleaning agents. Any seed treatment build-up inside a meter is likely to be at a higher concentration than on the actual seed.

Finger Meter Re-Assembly Steps
Refer to Figure 138

1. Be sure the belt ① is oriented as shown in Figure 138.
2. Slide the finger set ② over the shaft ③ and rotate clockwise until it sits against the backing plate ④.
3. One click will sound when the holder engages the roll pin and a second click will sound when the cam engages the bearing housing.
4. Firmly press the finger set ⑥ against the backing plate ⑤ while tightening the nut ⑦.
5. Tighten the nut ⑤ until contact is made between the nut and the finger set ⑥. Turn 1/4 to 1/2 flat (1/24 to 1/12 of a turn) (a flat is one of the six sides of the nut) after contact is made. See page 112 for details. This equals about 0.45 N-m (4 inch-pounds) of torque on the nut.
6. Place the slotted nut cover ⑧ on and carefully align the slotted nut cover with the shaft hole. Insert the cotter pin ⑨.
7. Rotate the finger set clockwise and make sure the fingers open and close properly. Rotate the meter and make sure the meter turns freely and that there is no air gap between the outer rim of the ashtray and the backing plate. Fingers should be closed at the 8:00 to 2:00 position (exit hole) and open at the 2:00 to 8:00 position.

Precautions
Visually check that there is no visible air gap between the holder and backing plate.

---

a. MeterMax® is a registered trademark of Precision Planting®, Inc.
Make sure the finger set is properly torqued against the backing plate. Improperly torqued finger sets may disrupt seed singulation.

**Population Max™ Annual Maintenance.**

Population Max™ insert should be inspected annually. Inspect plate for wear or other abnormalities that may develop. The action site area might also eventually show some wear. When signs of wear appear, simply replace insert.

Make sure transition between the Population Max™ backing plate and the insert is smooth. A slight incline from backing plate to insert (clockwise motion) may cause seeds to catch. Readjust insert if necessary.

Be cautious in using seed treatments, additives, and other chemicals. They can cause meter performance problems, premature wear to meter parts, and may cause undesired chemical reaction or deterioration to the Population Max™ material. When using seed treatments always use graphite.

If Population Max™ plates are not installed in meter, store in a vertical position on a cylindrical rod or face to face.

**Population Max™ Installation**

Refer to Figure 139

1. Remove brush screws  and brush. Gently pull insert  out.
2. Select appropriate insert and carefully slide into the window. Insert may catch on a finger or two. It may be necessary to lift the fingers up with a small screwdriver or rotate the fingers backward while sliding insert in. Insert will slide in without any unnecessary force.
3. Make sure insert slides in all the way and firmly locks in place.
4. Secure insert to backing plate by fastening the two screws  through the insert.
5. Reinstall brush and screws . Be careful! Do not tighten brush too tightly or plastic lip may crack.

---

*Population Max™ is a trademark of Precision Planting, Inc.*
Skip Stop™ Annual Maintenance

Skip Stop™ should be inspected on an annual basis. Inspect cushion for wear, pockets, or other abnormalities that may develop. Excessive wear or pocket formation may cause seeds to become trapped and disrupt singulation performance. As a general rule, if there is a pocket that is large enough to hold one or more seeds after the belt has passed by, Skip Stop™ Cushion should be replaced.

Skip Stop™ Installation

Refer to Figure 140

1. Remove back metal cover § by removing five bolts. Four bolts attach cover to metal housing ① and one bolt ② holds idler wheel ④ and bushing ③.

2. Align new Skip Stop™ metal cover § over housing ①.

Skip Stop™ metal cover has a hole cut out for Skip Stop™ Cushion ⑦. Make sure idler wheel ④ and bushing ③ remain properly aligned and insert 1/4" x 2 inch bolt ②. Secure bolt loosely.

3. Insert remaining three 1/4" x 1/2 inch bolts to fasten metal cover to housing. Tighten all bolts securely.

4. Tighten bolt ② that secures idler wheel and turn belt via the bearing shaft by hand to verify that belt is centered between housing. If necessary, loosen bolt and slide cover to adjust and re-center belt.

5. Place Skip Stop™ Cushion ⑦ over the opening. Insert two 1/4" x 3/4 inch bolts to secure Skip Stop™ Cushion ⑦ to housing.

**NOTICE**

Meter Performance Risk:

*Make sure Skip Stop™ Cushion ⑦ is secured tightly to back metal cover and cannot turn or rotate. Make sure Skip Stop™ Cushion ⑦ does not interfere with belt ⑤ rotation in any manner. A loose Skip Stop™ Cushion ⑦ may result in seed leakage, poor meter performance,*

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a. Skip Stop™ is a trademark of Precision Planting, Inc.
Exchanging Finger Sets
Although time-consuming, corn meters may be, with care, converted to sunflower meters, and vice-versa. Starting with factory-supplied corn meters, order quantity 16 of:
403-659A SUNFLOWER 12 FINGER CONV KIT
Refer to Figure 141
This kit contains a sunflower finger set ①, Insert C ② and brushless block ③.

Meter conversion is available only for finger pickup meters that were originally corn meters. Factory-supplied sunflower meters cannot be converted to corn meters, as they lack a brush adjustment decal, which requires a factory alignment fixture.

Remove Meter Cover
1. Remove the finger pickup meters from the rows (page 85).
2. Remove three sets of bolts and nuts securing the cover to the meter.

Remove Adjustment Lever
Refer to Figure 142
3. Remove the E-clip ③ closer to the brush block ⑦.
4. Withdraw the adjustment lever ⑦. Store the removed e-clip on it.

Sunflower meters use a brushless block (installed at step 13). The brushless block cannot be installed with the adjustment lever present.

Remove Brush Block
5. Remove the two screws ③ that secure the brush block ⑦, then remove the brush block.

---

a. Larger sunflower sizes plant with the standard Corn configuration. See "Sunflower Meter Configurations" on page 90.
Remove Corn Finger Set

Refer to Figure 143

6. Straighten and remove the cotter pin ①.
7. Remove the nut cover ②.
8. Remove the nut ③.
9. Remove the corn finger set ④.

Remove Insert “A”

Refer to Figure 144

10. Remove the two screws ⑤ that secure the Insert ⑥ to the backing plate.
11. Lift the insert out of the backing plate.

Install Insert “C”

12. Select a meter insert from the conversion kit. Inspect the back for a legend identifying it as “C”. Install it in the backing plate. Secure with screws ⑦.

Install Brushless Block

13. Select a brushless block ⑦ from the conversion kit. This block, in addition to having no brushes, also has a single mounting screw hole (the removed brush block has two holes).

   Install the block as shown, using one screw through the center outer hole ⑧ in the backing plate.

   Do not reinstall the adjustment lever. It is not used with sunflower meters.
Install Sunflower Finger Set

Refer to Figure 146

14. Select the finger set ① from the conversion kit. Sunflower fingers have short square “flags” at the ends of the fingers, compared to corn finger sets, which have longer rounded flags.

Place the finger set on the meter shaft. Rotating the finger set and shaft as needed, seat the finger set fully against the back plate. There should be no air gap between the hub rim and the backing plate.

The shaft cross-pin ② seats in deep detents ③ in the finger set hub. The bearing housing has a rectangular notch ④ that engages a rectangular tab projection ⑤ in the finger set.

If the finger set does not seat fully, this is usually because the notch and projection are not mated. Rotate the finger set clockwise until you feel two clicks. The fingers should dip into the seed drop exit port, then lift, without catching on the backing plate.

15. Select the nut from step 8. Spin it onto the shaft. Do not tighten at this step.

Set Finger Set Torque

Refer to Figure 147

16. Loosen the nut ⑥.

Press the finger set hub firmly against the back plate, checking that it is fully seated and has no wobble.

Turn the nut until it contacts the finger set hub (this is the nut position shown as a dashed hexagon in the upper right illustration).

Tighten the nut by \( \frac{1}{2} \) to \( \frac{3}{4} \) of a nut “flat” (this is the nut position shown as a solid hexagon). This equals about 0.45 N-m (4 inch-pounds) of torque on the nut.

Refer to Figure 146

17. Place the nut cover ⑦ on the shaft, making sure to align it so that the shaft pin hole is not obscured by a castellation.

18. Insert the cotter pin ⑧, but do not secure it.

19. Verify that the finger set turns with a slight amount of resistance, and that the fingers operate correctly. Every finger flag must be closed between 8:00 and 2:00 o’clock, and open between 2:00 and 8:00.

20. Secure the cotter pin.

21. Reinstall the meter cover. Reinstall the meter (page 88).

Field Results and Equipment Damage Risks:
Set the nut torque only as specified. If the nut is too loose, doubles result during seeding. If the nut is too tight, it creates excess drag on the drive system, and the finger set hub wears out prematurely.

NOTICE

Set Torque

Figure 146
Install Sunflower Finger Set

Figure 147
Set Torque
Reinstall Corn Finger Set
These instructions presume that the sunflower meter was originally a corn meter.

Dismount Meter
1. Remove the finger pickup meters from the rows (page 85).
2. Remove three sets of bolts and nuts securing the cover to the meter.

Remove Brushless Block
Refer to Figure 145 on page 111
3. Remove the screw that secures the brush block, then remove the brush block.

Remove Sunflower Finger Set
Refer to Figure 146 on page 112
4. Straighten and remove the cotter pin.
5. Remove the nut cover.
6. Remove the nut.
7. Remove the corn finger set.

Remove Insert “C”
Refer to Figure 144 on page 111
8. Remove the two screws that secure the Insert to the backing plate.
9. Lift the insert out of the backing plate.

Install Insert “A”
10. Select a saved meter insert “A”. Inspect the back for a legend identifying it as “A”. Install it in the backing plate. Secure with screws.

Install Brush Block
Refer to Figure 142 on page 110
11. Select a saved brush block and second mounting screw. This block, in addition to having brushes, also has a two mounting screw holes (the removed brushless block has one hole).

Install the block as shown, using two screws through the inner holes in the backing plate.

Install Adjustment Lever
Refer to Figure 142 on page 110
12. Select a saved adjustment lever with two E-clips. Remove the clip nearest the tip. Insert the lever through the rim of the belt housing and fully seat it the tip in the brush block. Secure with E-clip.

Install Corn Finger Set
Refer to Figure 146 on page 112
13. Select a saved corn finger set. Corn fingers have longer rounded flags.

Place the finger set on the meter shaft. Rotating the finger set and shaft as needed, seat the finger set fully against the back plate. There should be no air gap between the hub rim and the backing plate.

The shaft cross-pin seats in deep detents in the finger set hub. The bearing housing has a rectangular notch that engages a rectangular tab projection in the finger set.

If the finger set does not seat fully, this is usually because the notch and projection are not mated. Rotate the finger set clockwise until you feel two clicks. The fingers should dip into the seed drop exit port, then lift, without catching on the backing plate.

14. Spin the nut onto the shaft. Do not tighten.

Set Finger Set Torque
Refer to Figure 147 on page 112
15. Loosen the nut.

Press the finger set hub firmly against the back plate, checking that it is fully seated and has no wobble.

Turn the nut until it contacts the finger set hub (this is the nut position shown as a dashed hexagon in the upper right illustration).

Tighten the nut by 1/2 to 3/4 of a nut “flat” (this is the nut position shown as a solid hexagon).

Install the meter (page 88).
Spreaders and Scrapers

Applies to all row unit Series.

Refer to Figure 148

1. Remove side gauge wheels from arms to access row-unit disks and scrapers.
2. With the unit raised, check blade spreader for wear. Replace spreader if it is \( \frac{1}{2} \) in. (13 mm) wide or narrower. To replace, remove disk blades, drive out roll pins, and install new spreader.
3. When reinstalling disk blades, put two shims 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 82.
5. Check that outside disk scrapers 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.

25P Row-Unit Side Wheels

Refer to Figure 149

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 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 and wheel. Remove shims from the inside of wheel 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 from unit. Remove bushing from sleeve and check for wear. If necessary, replace bushing.
5. When reinstalling side gauge wheels, align tab on hex adjustment with notch in bushing. Replace bolt and tighten.
6. Adjust side gauge wheels. Refer to see “Side Gauge Wheel Adjustment” on page 82.

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.

Sharp Object Hazard:
Disk edges are sharp. Be careful when working in this area.

CAUTION
Seed Flap Replacement (S/N B1025A+)

Refer to Figure 150

To replace an 816-302C seed flap use a needle nose pliers or similar tool to grasp “T” top of flap. Pull upward to pull flap up out of metal bracket.

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

---

Seed Flap Replacement (S/N B1024A-)

Refer to Figure 151

To replace a seed flap use a needle nose pliers or similar tool and squeeze the tabs together. Pull plastic seed flap down out of metal bracket.

If replacing with 817-349C:
Push new seed flap up through metal bracket until tabs on seed flap snap in place.

If replacing with 816-302C:
See seed flap replacement instructions above.
Fertilizer System Maintenance

1. Flush entire system with clean water.
2. Remove end caps from booms and flush booms out with water. Drain and replace end caps.
3. Remove strainer and drain it out. Drain all lines and tanks completely to prevent freezing. If freezing is possible prior to next use, flush with RV anti-freeze.
4. Drain pump, then turn by hand to clear. Fill pump with winter grade windshield washer fluid and cap off.

Liquid Fertilizer Strainer

**WARNING**

Possible Chemical Hazard:
Some chemicals will cause serious burns, lung damage, and death. Avoid contact with skin or eyes. Wear proper protective equipment as required by chemical manufacturer. Avoid prolonged breathing of chemical fumes. Wear respirator as required by chemical manufacturer. Seek medical assistance immediately if accident occurs. Know what to do in case of an accident.

Refer to Figure 152

1. Shut off valve at in-line filter.
2. Unscrew filter canister. Flush filter cartridge with water or replace with new cartridge if necessary.
3. Reinstall canister and turn on valve.
Lubrication

Wing Casters: Parallel Arms

One grease fitting each end of each arm, each wing; 8 total
Type of Lubrication: Grease
Quantity: Until Grease emerges

Wing Casters: Lift Cylinder Ends

One grease fitting at rod end of each cylinder, each wing; 2 total
Type of Lubrication: Grease
Quantity: Until Grease emerges

Wing Caster Wing Pivot

One grease fitting each of 2 casters; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

Grease fitting is located on the left side of the pivot tube on both wings. This is to the outside on the left (shown with caster assembly dismounted), and to the inside on the right.
Wing Frames

Two grease fittings; one each wing at wing-frame to tool bar joint
Type of Lubrication: Grease
Quantity: Until grease emerges

Rockshaft to Main Frame

One grease fitting each side; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

Rockshaft to Axle Link Arm

Two grease fittings; pin outside end, each link
Type of Lubrication: Grease
Quantity: Until grease emerges
Lift Cylinders: Rod End

Two grease fittings, one each inside end of pins, each side
Type of Lubrication: Grease
Quantity: Until grease emerges

Level Link, Front End

One grease fitting each link; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

Mainframe to Rear Sub-Frame

One grease fitting each side; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges
Rear Sub-Frame to Rear Axle

One grease fitting each side; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

Axle Link: Aft End

One grease fitting each link; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

Level Link, Aft End

One grease fitting each link; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges
Rear Caster Wheel Pivot

One grease fitting each of 2 casters; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

25P Series Side Wheel Bushing

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

Marker Joints

Two grease fittings each marker, each wing; 4 total
Type of Lubrication: Grease
Quantity: Until Grease emerges
Ground Drive Fertilizer Pump (optional)

<table>
<thead>
<tr>
<th>As Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four chains, 2 each side</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.

Hydraulic Drive Chains

<table>
<thead>
<tr>
<th>As Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four chains in mainframe center section</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.

To avoid clutch slippage, prevent chain lube from getting on electric clutches.
Over-Link Jackshaft Drive (10 in. rows only)

These jackshafts, sprockets and chains are only present on spacings where row units are directly under link arms.

4 chains in center section

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.
- To avoid clutch slippage, prevent chain lube from getting on electric clutches.

Wing Drives

One chain each wing

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.
- To avoid clutch slippage, prevent chain lube from getting on electric clutches.
Meter Drive Chains

As Required

One 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.

Frame-Mounted Coulter (optional) Hub

Type of Lubrication: Grease
Quantity = Until grease emerges

Unit-mount coulter bearings are sealed, and require no lubrication or re-pack.

Frame-Mounted Coulter (optional) Pivot

One grease fitting each swivel mount casting
Type of Lubrication: Grease
Quantity = Until grease emerges
Wing Caster Wheel Pivot

One grease fitting each of 2 casters; 2 total
Type of Lubrication: Grease
Quantity: Until grease emerges

It may be necessary to unfold the planter, place the wing caster locks in FIELD configuration, and move the planter a short distance to engage the lock, and move the indicator arm down enough to provide access to the grease fitting.

Hitch Parallel Arms

(Hydraulic Tongue only)
Four grease fittings, 1 each end of each arm
Type of Lubrication: Grease
Quantity: Until grease emerges

Tongue Latch

Type of Lubrication: Spray lube
Quantity: Coat working surfaces

Tongue Slide Roller

One grease fitting; roller end
Type of Lubrication: Grease
Quantity: Until grease emerges
Wing Transfer Drive Shafts

Eight grease fittings, 4 each side:
2 two each outer shaft sleeve
2 one each of 2 universal joints
Type of lubrication: Grease
Quantity = Until grease emerges (joints)
Quantity = 6 pumps (shafts)

Row Cleaner Bearings

One grease fitting each wheel, 1 or 2 wheels per row
Type of lubrication: Grease
Quantity = Until resistance is felt
To avoid damaging the seal, do not add grease at high pressure.

Wing Casters: Wheel Hubs

Four bearings; 2 each wing
Type of Lubrication: Grease
Quantity: Re-pack
## Markers: Disk Hub

<table>
<thead>
<tr>
<th>Seasonal</th>
</tr>
</thead>
</table>

Four bearings; 2 each marker  
Type of Lubrication: Grease  
Quantity: Re-pack

## Transport Wheels: Wheel Hubs

<table>
<thead>
<tr>
<th>Seasonal</th>
</tr>
</thead>
</table>

Eight bearings; 2 each of 4 wheels  
Type of Lubrication: Grease  
Quantity: Re-pack

## Gauge Wheel Bearings

<table>
<thead>
<tr>
<th>Seasonal</th>
</tr>
</thead>
</table>

Four bearings, 2 each side  
Type of Lubrication: Grease  
Quantity: Re-pack

## Gearbox Oil

<table>
<thead>
<tr>
<th>Seasonal</th>
</tr>
</thead>
</table>

One port per gearbox; 2 total  
Type of Lubrication: High Quality SAE 5W-30 oil  
Quantity: 6.5 pints (3.1 liters)
Seed Lubricants

Singulator Plus Meters (all seeds)
Ezee Glide Plus Talc-Graphite Mix
821-069C bucket, 5 gallon (19 liter)

Ezee Glide Plus Lubricant
To maximize performance of Great Plains metering systems, it is imperative to use only “Ezee Glide Plus” lubricant. “Ezee Glide Plus” Talc-Graphite lubricant is mandatory for all seeds, especially treated or inoculated seed. **Thorough mixing of seed and added lubricant is required.**

Recommended usage:
For clean seeds other than milo and cotton sprinkle one cup of Ezee Glide Plus Talc per 4 bushels or units (170 ml per 100 liters) of seed.
For milo and cotton double the application to one cup (or more) per 2 bu. or units (335 ml per 100 liters) of seed.
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 clean-up. **Prolonged inhalation may cause lung injury.**

Finger Pickup Meters
EZ-Slide Graphite Powder
821-042C bottle, 1 pound (450 grams)
821-060C jug, 5 pound (2.3 kg)

For Finger Pick Up Meters Only
Use only approved Graphite Powder available from Great Plains Mfg. Inc. or Precision Planting to ensure proper lubrication of finger pickup corn seed meters.

Recommended usage:
For finger pickup meters, add one tablespoon (15 ml) of graphite for each unit of seed corn (80000 kernels).
In high humidity conditions, or seeds with heavy seed treatments, increase the application to two tbsp. (30 ml).
If delivery of seed from the hopper to the finger meter is an issue, add “Ezee Glide Plus” talc and graphite blend at a rate of one cup (237 ml) per 4 units of seed. Adjust until issue is resolved.

**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 clean-up. **Prolonged inhalation may cause lung injury.**
Options

Hydraulic Tongue
A 3-point hitch is standard on the YP40, but a hydraulic tongue may be substituted.

This option is compatible with the YP4025F.

<table>
<thead>
<tr>
<th>Option Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory-Installed</td>
<td>401-482A</td>
</tr>
<tr>
<td>Field-Installed</td>
<td>401-483A</td>
</tr>
</tbody>
</table>

Weight Transfer System
This option provides two cylinders and a control valve that transfer up to 1000 pounds (450 kg) of mainframe weight to each wing.

This option is factory-installed if ordered with the planter (feature code 70). See page 53 for operation.

<table>
<thead>
<tr>
<th>Option Package</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP40/44 WEIGHT TRANSFER</td>
<td>411-172A</td>
</tr>
</tbody>
</table>

PTO Pump Kits
For tractors lacking a sufficient number of remotes with adequate continuous oil flow capability, kits are available to operate the fan(s) optionally the hydraulic seed drive motor, via mechanical Power Take-Off (PTO).

A 1000 rpm PTO is required with either:
- $1\frac{3}{4}$ inch (44.5 mm) 20-spline shaft, or
- $1\frac{7}{16}$ inch (35 mm) 21-spline shaft.

Order one kit and one coupler.

<table>
<thead>
<tr>
<th>Kits and Couplers</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP40 PTO KIT</td>
<td>401-945A</td>
</tr>
<tr>
<td>For model YP40</td>
<td></td>
</tr>
<tr>
<td>1 3/4-20 PTO COUPLER</td>
<td>826-777C</td>
</tr>
<tr>
<td>1 3/8-21 PTO COUPLER</td>
<td>826-778C</td>
</tr>
</tbody>
</table>

Operation and installation of the PTO kits is described in manual 411-015M, included with each kit.
Low Speed Kit

Combinations of narrow row spacings, high cell count or fingers per revolution, low populations and/or low field speed can result in the hydraulic seed meter motor operating at an rpm too low for consistent control by the proportional valve.

If the remedies in the Troubleshooting chart (page 96) are not available, order a low speed kit to replace the standard motor output sprocket with one having fewer teeth that increases motor speed by 160%.

See “Low Speed Kit Installation (402-520A)” on page 179.

Markers

Markers are a standard factory-installed feature on the YP40 planter, but may be optionally deleted (line item 401-569A), for example, if all planting is done via GPS navigation.

If any possible future planting (or re-sale considerations) might require markers, do not delete them from the initial YP40 planter order.

This option is compatible with the YP4025F.

Trailer Hitch Weldment

This accessory provides a 20 ton pintle hook intended for use with either the PFC1600 or PFC2000 tank carts.

This option is compatible with the YP4025F.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailer Hitch Weldment</td>
<td>401-467A</td>
</tr>
</tbody>
</table>

This kit applies to multiple implements, and includes a step section that is not used on the YP40.
Fertilizer Systems
The YP40 supports several supply and distribution systems for fertilizer application of one or two materials:

- on-board 400 gallon tanks (2x200 gal./1500 liters total), relying on a planter-mounted ground-drive pump and Type 2 manifold.
- 1600 gallon (6050 liter) pull-behind cart and cart pump, relying on Type 3 manifold,
- second 400 gallon tank on the cart, using planter pump and Type 2 manifold, or as extra capacity for the 1600 gallon tank,
- 670/1440 liter seed/dry fertilizer hopper, which includes its own manifold and air delivery system, relying on the existing planter fan. See separate manual 403-362M.

Liquid Fertilizer Systems
Boom (manifold) systems are factory-installed. All booms have the same number of outlets. Unused outlets are capped on wider row spacings.

The Type 3 boom is separately plumbed for each of the 3 planter sections, and relies on an off-planter pump and supply manifold (which are standard on the PFC1600 and PFC2000 tank carts).

Liquid System Configurations
Order one each (except where noted) of the parts listed for your configuration.

<table>
<thead>
<tr>
<th>Great Plains Material Supply System</th>
<th>YP40 planter 2x200 Gal.</th>
<th>YP44 2x200 &amp; PFC1600</th>
<th>PFC1600 Cart Only</th>
<th>PFC2000 Cart Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>407-213A Pump</td>
<td></td>
<td>401-467A Hitch</td>
<td>401-467A Hitch</td>
</tr>
<tr>
<td></td>
<td>407-244A Tanks</td>
<td></td>
<td>PFC1600 Cart</td>
<td>PFC1600 Cart</td>
</tr>
<tr>
<td></td>
<td>407-244A Tanks</td>
<td>407-244A Tanks</td>
<td>PFC1600 Cart</td>
<td>407-243A Inlet Kit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SML-500/-735 Cart</td>
</tr>
</tbody>
</table>

a. This presupposes switching between cart tanks with same material (a standard PFC cart capability).
Liquid Fertilizer Tanks
This option includes the tanks plumbing subsystems, and requires a separate manifold and pump.

This option is incompatible with the YP4025F.

<table>
<thead>
<tr>
<th>Option Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP40 Tank Kit</td>
<td>407-244A</td>
</tr>
</tbody>
</table>

For operations, see: “Fertilizer Tanks (Option)” on page 54.

Fertilizer Carts
These tank carts were designed for use with the YP40 Type 3 Fertilizer manifold. The cart’s pump is controlled by the DICKEY-john® seed monitor on the planter. The PFC2000 is for use with both Type 2 and Type 3 manifolds.

This option is not recommended for the YP4025F.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600 gal (6057 liter) Tank and Pump</td>
<td>PFC1600</td>
</tr>
<tr>
<td>1600 gal (6057 liter) Tank &amp; Pump w/400 gal (1514 liter) Tank</td>
<td>PFC2000</td>
</tr>
</tbody>
</table>

Use of either tank with the YP40 requires the Trailer Hitch Weldment and at least one Fertilizer Manifold system. The 400 gal tank does not include a pump, and relies on the Ground Drive Fertilizer pump.

Semi Mounted Tank
The SML-750 and SML-500 carts are semi-mounted trailing tank carts compatible with the YP4025A. These carts are intended for pre-mixed liquid fertilizers.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>735 gal. (2800 liters)</td>
<td>SML-750</td>
</tr>
<tr>
<td>510 gal. (1900 liters)</td>
<td>SML-500</td>
</tr>
</tbody>
</table>

For operator information see the Semi-Mounted Fertilizer Carts Operator manual 407-451M.
Ground Drive Fertilizer Pump

One pump kit integrates with the Type 2 fertilizer manifold system. The pump mounts on a wing tool bar, and requires a planter with a 35 cm (13.8 in.) or greater single-row spacing, or a twin-row spacing. This pump is incompatible with 10 in., 8 in. and 7.5 in. row spacings. This option is not recommended for the YP4025F.

This is the pump for use with the 400 gallon tank on the PFC2000 tank cart or either SML cart. Point-row operations are not supported. The pump operates whenever the row units are lowered and in motion. For operations, see the Seed Rate manual.

Type 2 Fertilizer Manifold

The Type 2 system includes all plumbing from the rows, through the planter-mounted ground drive pump, and to the on-board 2x200 gallon tanks.

The 407-243A kit extends the inlet to the rear hitch for use with a cart, rather than with on-board tanks.

The wing boom systems are separate for each wing

<table>
<thead>
<tr>
<th>Description</th>
<th>Initial Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 Fertilizer Manifold Kit</td>
<td>407-239A</td>
</tr>
<tr>
<td>Type 2 Boom Cart Hookup</td>
<td>407-243A</td>
</tr>
</tbody>
</table>

The system does not include, and requires:

- a pump (order the 407-213A Ground Drive pump, page 133).
- a tank system, such as the 407-244A on-board 2x200 gallon tanks (page 132), or the single 400 gallon tank of the PFC2000 cart (page 132).
- a trailer hitch weldment, 401-467A (page 130), if a cart is used.
Type 3 Fertilizer Manifold

The Type 3 system includes all plumbing from the rows to the triple bulkhead at the hitch weldment. The boom system has separate connections and sections for each planter section (left, center, right), and is compatible with point-row operation.

<table>
<thead>
<tr>
<th>Description</th>
<th>Initial Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 3 Fertilizer Manifold Kit</td>
<td>407-240A</td>
</tr>
</tbody>
</table>

The system does not include, and requires:
- pump, usually provided by the tank cart
- 401-467A trailer hitch weldment (page 130)
- tank (PFC1600 and PFC2000, page 132, both include a Type 3-capable pump).

Fertilizer Orifice Plates

The manifold systems include size 28, 34 and 48 plates. To order alternate plates, use the following part numbers. Order one per row unit.

<table>
<thead>
<tr>
<th>Orifice Size</th>
<th>Great Plains Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>832-052C</td>
</tr>
<tr>
<td>28</td>
<td>832-056C</td>
</tr>
<tr>
<td>34</td>
<td>832-053C</td>
</tr>
<tr>
<td>48</td>
<td>832-054C</td>
</tr>
<tr>
<td>59</td>
<td>832-057C</td>
</tr>
<tr>
<td>80</td>
<td>832-055C</td>
</tr>
<tr>
<td>98</td>
<td>832-059C</td>
</tr>
</tbody>
</table>

High-Rate Dribblers

For use only with 25P Series openers.

Dribblers apply liquid fertilizer slightly to the side of the closed furrow behind the press wheel. Dribblers are available in left and right hand offsets, for use on twin rows. Order one dribbler per row.

This option is not recommended for the YP4025F.

<table>
<thead>
<tr>
<th>Option Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer Dribbler Assembly, RH</td>
<td>204-131A</td>
</tr>
<tr>
<td>Fertilizer Dribbler Assembly, LH</td>
<td>204-132A</td>
</tr>
</tbody>
</table>
82 or 150 Bu. Seed Hopper

The 82 bu. (2890 liter) hopper may be purchased with the YP40 or added later.

- The 150 bu. (5286 liter) hopper is incompatible with the liquid fertilizer tank system, as it occupies the space used for the tanks.

- The 82 or 150 bu. option is not compatible with the YP4025F.

<table>
<thead>
<tr>
<th>Option Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>82 bu. (2890 l.) Bulk Hopper (shown)</td>
<td>403-143K</td>
</tr>
<tr>
<td>150 bu. (5286 l.) Bulk Hopper</td>
<td>403-174K</td>
</tr>
</tbody>
</table>

The hoppers have no prerequisites on the planter, but you will need a means of top-loading seed when the hopper is mounted on the seed box, such as an auger connected to the standard auxiliary hydraulic ports. These hoppers are usually too heavy to be safely fork-lifted onto the planter if already pre-loaded with seed.

For operations, see:
- "82 Bu. Hopper Operation" on page 48 and
- "150 Bu. Hopper Operation" on page 49.

Refuge Hopper

The 10 bu. (350 liter) refuge hopper may be purchased with the YP40 planter or added later.

<table>
<thead>
<tr>
<th>Option Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield-Pro® Refuge Hopper Kit</td>
<td>403-287A</td>
</tr>
</tbody>
</table>

You will need a means of top-loading seed when the hopper is mounted on the seed box, such as an auger connected to the standard auxiliary hydraulic ports.

- If added later see installation manual 403-287M included with kit order.

Used with any YP Planter with 82 bushel hopper:

- YP1225/1625
- YP1225A/1625A
- YP2425
- YP2425A
- YP4025
- YP4020P
- YP4025
- YP4010HD
- 3PYP
- 3PYPA
- 3PYPA

One kit updates one planter hopper.
Seed Lubricants
This option is compatible with all models including the YP4025F.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite (1 lb/0.45 kg bottle)</td>
<td>821-042C</td>
</tr>
<tr>
<td>Graphite (5 lb/2.3 kg jug)</td>
<td>821-060C</td>
</tr>
<tr>
<td>Ezee Glide Plus Talc-Graphite Mix (5 gallon/18.9 liter container)</td>
<td>821-069C</td>
</tr>
</tbody>
</table>

For use, see “Seed Lubricants” on page 128.

USB-CANbus Adaptor
This kit allows a personal computer (computer not included) to perform a monitor system (WSMT) software update (DICKEY-john® update software is provided separately on CD).
Before ordering, see if your dealer already has one.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DJ INTELLIAG USB REPROGRAM ASM</td>
<td>823-364C</td>
</tr>
</tbody>
</table>

Situations that call for this kit include:
- DICKEY-john® 10 inch monitor console not available
- Non-standard CANbus console in use
The kit includes a USB to CANbus adaptor, adaptor-to CANbus harness, and 32-bit Windows® drivers for the USB adaptor.

Frame-Mounted Row Options
Frame-mounted row options are incompatible with the YP4025F.

Terra-Tines
These row cleaners are available as frame-mounted, either attached to frame-mounted Vantage-I coulters or stand-alone. Each part number outfits an entire planter:

<table>
<thead>
<tr>
<th>Coulter-Mounted Terra-Tine Packages</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-1630</td>
<td>204-168A</td>
</tr>
<tr>
<td>YP4025-3115, YP4025-3215</td>
<td>204-168A</td>
</tr>
<tr>
<td>YP4025-32TR</td>
<td>204-168A</td>
</tr>
</tbody>
</table>

For operations, see “Terra-Tine™ Adjustments” on page 69.
Frame-Mounted (Zone) Coulters

Vantage I Coulters

These frame-mounted coulters may be used ahead of or between row-unit coulters, with or without the Vantage I fertilizer applicator. Use with Vantage I requires one or both Fertilizer Manifolds. Each part number outfits an entire planter.

### Frame-Mounted Coulter Only

<table>
<thead>
<tr>
<th>Part No.</th>
<th>15in Fluted Blade Packages</th>
<th>15in Turbo Blade Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-1630</td>
<td>204-165A</td>
<td>YP4025-1630</td>
</tr>
<tr>
<td>YP4025-2420</td>
<td>204-165A</td>
<td>YP4025-2420</td>
</tr>
<tr>
<td>YP4025-3115, on every row</td>
<td>204-164A</td>
<td>YP4025-3115, on every row</td>
</tr>
<tr>
<td>YP4025-3215, on 30 in rows</td>
<td>204-170A</td>
<td>YP4025-3215, on 30 in rows</td>
</tr>
<tr>
<td>YP4025-32TR30, YP4025-32TR70</td>
<td>204-167A</td>
<td>YP4025-32TR30, YP4025-32TR70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>YP4025-32TR75</td>
</tr>
<tr>
<td>YP4025-4810</td>
<td>204-163A</td>
<td>YP4025-4810</td>
</tr>
<tr>
<td>YP4025-6075</td>
<td>204-162A</td>
<td></td>
</tr>
</tbody>
</table>

### Smart Box Mounting Kit

These kits support the mounting of AMVAC Smartbox® containers and meters above row units. Smartbox is a delivery system for low-rate pelletized seed/row treatments.

<table>
<thead>
<tr>
<th>Planter Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-1630 (30 in. single)</td>
<td>403-353A</td>
</tr>
<tr>
<td>YP4025-2420 (20 in. single)</td>
<td>403-354A</td>
</tr>
<tr>
<td>YP4025-3115,YP4025-3215 (15 in. single)</td>
<td>403-353A</td>
</tr>
<tr>
<td>YP4025-32TR (30 in. twin)</td>
<td>403-355A</td>
</tr>
</tbody>
</table>

Mounting kits include brackets only. SmartBoxes, with additional mounting hardware specific to the YP4010HD/YP4025/F, must be ordered from AMVAC. SmartBoxes are field-installed.
Unit-Mounted Row Options

Swath Command

Swath Command™ replaces the electric 3-section clutches with electro-pneumatic clutches at each row (at each row pair for twin row and spacings under 20 in.). The basic Swath Command™ package includes all implement hardware, all implement electronics (except GPS), and cabling to integrate with monitor CAN bus.

The row clutches are intended for automatic operation by an optional or user-provisioned controller relying on an optional or user-provisioned DGPS® receiver. Great Plains offers two models of Trimble GPS receiver.

Presently, the implement hardware and harness components are only available factory installed (initial planter order feature code 57), and are not field-installable. Swath controller, DGPS receiver, and interface cables (below) may be purchased at any time.

Swath Command™ is available only on Model YP4025 (25 Series openers), excepting single-row spacings below 15 in. (38.1 cm).

Swath Command™ Controller

This DICKEY-john® A5 console supplements the standard DICKEY-john® IntelliAg® console, as well as some models of customer-provisioned monitors. It accepts the GPS coordinate feeda, performs field mapping/data logging functions, and provides 8 channels (typically 6 sections) of clutch control. Data import/export is via SD card or USB.

The console includes a mounting bracket, but does not include a cable harness. Order one of the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DICKEY-john® console</td>
<td></td>
</tr>
<tr>
<td>A5 HARNESS INTELLIAG SYSTEMS</td>
<td>467980458</td>
</tr>
<tr>
<td>John Deere Greenstar™ 2 (order all)</td>
<td></td>
</tr>
<tr>
<td>DJ INTELLIAG GS2 ADAPTER</td>
<td>467980336</td>
</tr>
<tr>
<td>A5 HARNESS FOR NON INTELLIAG</td>
<td>467980337</td>
</tr>
<tr>
<td>John Deere Starfire GPS</td>
<td></td>
</tr>
<tr>
<td>DJ HARNS STARFIRE GPS INTERFAC</td>
<td>467980460</td>
</tr>
<tr>
<td>AGCO GTA Console II</td>
<td></td>
</tr>
<tr>
<td>A5 HARNESS FOR NON INTELLIAG</td>
<td>467980337</td>
</tr>
</tbody>
</table>

a. The GPS receiver must update at 5Hz or faster. Augmented precision needs to be below one row space, and may need to be below 1 in. (2.5 cm) depending on requirements to precisely align passes for auto-steer, Swath Command™ or with other operations, such as treatments, irrigation and harvesting.

b. A customer-provisioned GPS receiver must provide an NMEA 0183 RS-232 connection, or an ISO 11783 (CAN bus) connection.
Lock-Up Pins

If rows are shut off, you can reduce unnecessary wear on the unused row units by locking them up. Order one per row unit locked-up.

Not recommended for model YP4025F.

<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 78.

Row Cleaners

Not recommended for model YP4025F.

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.

Row cleaners are not recommended for row spacings of 10 in. (25.4 cm) or less.

<table>
<thead>
<tr>
<th>Single-Wheel, Coulter-Mount</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-32TR, on every row</td>
<td>207-107A</td>
</tr>
<tr>
<td>YP4025-32TR70, on every row</td>
<td>207-107A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Double-Wheel, Coulter-Mount</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-1630, on every row</td>
<td>207-113A</td>
</tr>
<tr>
<td>YP4025-1670, on every row</td>
<td>207-113A</td>
</tr>
<tr>
<td>YP4025F-1670, on every row</td>
<td>207-113A</td>
</tr>
<tr>
<td>YP4025-2420, on every row</td>
<td>207-119A</td>
</tr>
<tr>
<td>YP4025-3115 on 30 in. rows</td>
<td>207-113A</td>
</tr>
<tr>
<td>YP4025-3215 on 30 in. rows</td>
<td>207-113A</td>
</tr>
<tr>
<td>YP4025-3135 on 70 cm rows</td>
<td>207-113A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single-Wheel, Stand-Alone</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-32TR, on every row</td>
<td>207-111A</td>
</tr>
<tr>
<td>YP4025-32TR70, on every row</td>
<td>207-111A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Double-Wheel, Stand-Alone</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4025-1630, on every row</td>
<td>207-129A</td>
</tr>
<tr>
<td>YP4025-1670, on every row</td>
<td>207-129A</td>
</tr>
<tr>
<td>YP4025F-1670, on every row</td>
<td>207-129A</td>
</tr>
<tr>
<td>YP4025-2420, on every row</td>
<td>207-123A</td>
</tr>
<tr>
<td>YP4025-3115 on 30 in. rows</td>
<td>207-117A</td>
</tr>
<tr>
<td>YP4025-3215 on 30 in. rows</td>
<td>207-117A</td>
</tr>
<tr>
<td>YP4025-3135 on 70 cm rows</td>
<td>207-117A</td>
</tr>
</tbody>
</table>

Unit-Mounted Disk Coulters

Optional unit-mount disk coulters are available with 15 in. (38.1 cm) fluted blades or 15 in. turbo blades. If you need complete coulters, with unit mount and blade, the selection includes:

Not compatible with model YP4025F.
### Coulter Blades

Replacement and alternate coulter blades include (qty. 1 per row unit):

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

For operations, see: "Unit-Mounted Coulter Adjustments" on page 80.
Gauge Wheel Scrapers

Applies to 25P Series openers only.

This option is also compatible with the YP4025F.

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>25P 2(\frac{1}{2}) in. (6.4 cm) scraper</td>
<td>404-194D</td>
</tr>
<tr>
<td>25P 3 in. (7.6 cm) scraper</td>
<td>404-195D</td>
</tr>
<tr>
<td>25P 4 in. (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 the existing bolt and lock washer. 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: "Gauge Wheel Scraper Adjustments" on page 84.
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.

This option is compatible with the YP4025F.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10HD and 25 Series 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 180 for 10HD/25P scraper installation. The spring-loaded carbide scraper requires no adjustment.

Seed Meters

Applies only to 10HD and 25P Series openers.

Also compatible with YP4025F.

Seed meters are not standard in the base YP40 planter configuration. Normally, one or more sets are ordered with the original planter. One set is factory-installed.

Meters are simple to change. Available models include (part numbers are for a single row unit; each Singulator Plus includes one seed wheel):

<table>
<thead>
<tr>
<th>Meters</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singulator Plus</td>
<td>403-156K</td>
</tr>
<tr>
<td>12FP 12-Finger Pick-Up (30 in.)</td>
<td>403-158K</td>
</tr>
<tr>
<td>12FP 12-Finger Pick-Up (sunflower)</td>
<td>403-203K</td>
</tr>
<tr>
<td>6FP 6-Finger Pick-Up (Twin/20 in.)</td>
<td>403-169K</td>
</tr>
</tbody>
</table>

For operations, see: “Seed Meter Setup and Adjustment” on page 85.

Seed Meter Wheels

Seed wheels are interchangeable on all opener Series with Singulator Plus meters installed.

Also compatible for model YP4025F.

NOTICE

10HD and 25P Series use green wheels.
20P Series use black wheels.

Singulator Plus meters accept a variety of seed wheels, each optimized for specific seeds. Wheels are simple to change. Choices include:

<table>
<thead>
<tr>
<th>Singulating Meter Wheels</th>
<th>10HD/25P Green</th>
<th>20P Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybean (1700-2000 seeds/lb, 3748-4409 seeds/kg)</td>
<td>403-122D</td>
<td>403-071D</td>
</tr>
<tr>
<td>Soybean (2000-2700 seeds/lb 4409-5952 seeds/kg)</td>
<td>403-123D</td>
<td>403-070D</td>
</tr>
</tbody>
</table>
Seed Firmers

The base YP40 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.

This option is also compatible with model YP4025F.

Seed-Lok® Seed Firmer

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10HD and 25 Series Seed-Lok® kit</td>
<td>404-093K</td>
</tr>
</tbody>
</table>

For operations, see:
“Seed Firmer Adjustments” on page 91.
Keeton® Seed Firmer

The Keeton® seed firmer supports low-rate fertilizer delivery. For this use, an optional liquid fertilizer system (page 131) must also 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 91.

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 option is also compatible with model YP4025F.

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 93.
## Specifications and Capacities

### YP4010HD Specifications and Capacities

<table>
<thead>
<tr>
<th></th>
<th>YP4010HD-4810</th>
<th>YP4010HDP-6075</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Openers</strong></td>
<td>48</td>
<td>60</td>
</tr>
<tr>
<td><strong>Row Spacing</strong></td>
<td>10 in. (25.4 cm)</td>
<td>7.5 in. (19.05 cm)</td>
</tr>
<tr>
<td><strong>Hitch Load</strong></td>
<td>1200 lbs (544 kg)</td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic Circuits</strong></td>
<td>4 closed center circuits, 2250 psi, 44.63 gal/min</td>
<td></td>
</tr>
<tr>
<td><strong>Hitch</strong></td>
<td>Pull-Type, 3-point or Hydraulic Tongue</td>
<td></td>
</tr>
<tr>
<td><strong>Transport Width</strong></td>
<td>14 ft. 10 in. (4.52 m) or less</td>
<td></td>
</tr>
<tr>
<td><strong>Unfolded Width</strong></td>
<td>39 ft. 7 in. (12.1 m)</td>
<td></td>
</tr>
<tr>
<td><strong>Swath</strong></td>
<td>480 in. (1219 cm)</td>
<td>450 in. (1143 cm)</td>
</tr>
<tr>
<td><strong>Hitch to Opener Distance</strong></td>
<td>241 in. (612 cm)</td>
<td></td>
</tr>
<tr>
<td><strong>Transport Length</strong></td>
<td>42 ft. (12.8 m), w/o trailer hitch</td>
<td></td>
</tr>
<tr>
<td><strong>Unfolded Length</strong></td>
<td>34 ft. 2 in. (10.4 m)</td>
<td></td>
</tr>
<tr>
<td><strong>Transport Clearance</strong></td>
<td>21 in. (53 cm)</td>
<td></td>
</tr>
<tr>
<td><strong>Working Height</strong></td>
<td>10 ft. 3 in. (3.12 m) with 150 bu. hopper</td>
<td>9 ft. 8 in. (2.84 m) with 82 bu. hopper</td>
</tr>
<tr>
<td><strong>Transport Height</strong></td>
<td>12 ft. 4 in. (3.76 m) with 150 bu. hopper</td>
<td>11 ft. 9 in. (3.58 m) with 82 bu. hopper</td>
</tr>
<tr>
<td><strong>Seed Box Heights</strong></td>
<td>Min. forklift: 4 ft. 2(\frac{5}{8}) in. (129 cm) lowered, 6 ft. 57(\frac{7}{8}) in. (198 cm) raised</td>
<td>82 bu Hopper Fill: 9 ft. 1(\frac{1}{4}) in. (2.75 m) lowered, 11 ft. 31(\frac{2}{3}) in. (3.44 m) raised</td>
</tr>
<tr>
<td></td>
<td>PROBOX\textsuperscript{®} refill: 8 ft. 9(\frac{1}{2}) in. (2.68 m) lowered, 11 ft. 3(\frac{3}{4}) in. (3.37 m) raised</td>
<td>150 bu Hopper Fill: 9 ft. 6(\frac{1}{4}) in. (2.9 m) lowered, 11 ft. 9(\frac{1}{2}) in. (3.59 m) raised</td>
</tr>
<tr>
<td><strong>Empty Weight (Approx.)</strong></td>
<td>27500 to 31600 lbs (12500 to 14400 kg)</td>
<td>31,220 - 32,600 lbs (14161 to 14787 kg)</td>
</tr>
<tr>
<td><strong>Seed Hopper Capacity</strong></td>
<td>82 bu. hopper, 150 bu. hopper or PROBOX\textsuperscript{®}</td>
<td></td>
</tr>
<tr>
<td><strong>Skid Steer Tire</strong></td>
<td>395/55B16.5</td>
<td>380/70R19.5</td>
</tr>
<tr>
<td><strong>Hi Float Tire</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wing Flex</strong></td>
<td>20 degrees up and down</td>
<td></td>
</tr>
<tr>
<td><strong>Opener Travel</strong></td>
<td>10 in. (25.4 cm)</td>
<td></td>
</tr>
<tr>
<td><strong>Opener Depth Range</strong></td>
<td>0 to 4 in. (0 to 10.2 cm)</td>
<td></td>
</tr>
<tr>
<td><strong>Opener Down Pressure</strong></td>
<td>250 to 490 lb (113 to 222 kg) per row</td>
<td></td>
</tr>
<tr>
<td><strong>HP Requirements</strong>\textsuperscript{b}</td>
<td>300 hp (224 kW), estimated minimum</td>
<td>360 hp (268 kW), estimated minimum</td>
</tr>
</tbody>
</table>

\textsuperscript{a} For GPS: assumes 3-point hitch

\textsuperscript{b} Power requirements vary significantly with conditions and practices. Add 50 hp (37 kW) for PFC2000 cart.
YP4025 Domestic Specifications and Capacities

<table>
<thead>
<tr>
<th></th>
<th>YP4025-1630</th>
<th>YP4025-2420</th>
<th>YP4025-3115</th>
<th>YP4025-3215</th>
<th>YP4025-32TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Openers</td>
<td>16</td>
<td>24</td>
<td>31</td>
<td>32</td>
<td>32 (16 Twin)</td>
</tr>
<tr>
<td>Row Spacing</td>
<td>30 in. (76.2 cm)</td>
<td>20 in. (50.8 cm)</td>
<td>15 in. (38.1 cm)</td>
<td>15 in. (38.1 cm)</td>
<td>8 in. pairs on 30 in. spacing</td>
</tr>
<tr>
<td>Hitch Load</td>
<td>1200 lbs (544 kg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic Circuits</td>
<td>4 closed center circuits, 2250 psi, 44.63 gal/min</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hitch</td>
<td>Pull-Type, 3-point or Hydraulic Tongue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Width</td>
<td>14 ft. 10 in. (4.52 m) or less</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfolded Width</td>
<td>39 ft. 7 in. (12.1 m)</td>
<td>39 ft. 7 in. (12.1 m)</td>
<td>39 ft. 7 in. (12.1 m)</td>
<td>40 ft. 3 in. (12.3 m)</td>
<td>39 ft. 7 in. (12.1 m)</td>
</tr>
<tr>
<td>Swath</td>
<td>480 in. (1219 cm)</td>
<td>480 in. (1219 cm)</td>
<td>465 in. (1181 cm)</td>
<td>480 in. (1219 cm)</td>
<td>480 in. (1219 cm)</td>
</tr>
<tr>
<td>Hitch to Opener Distance</td>
<td>241 in. (612 cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Length</td>
<td>42 ft. (12.8 m), w/o trailer hitch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfolded Length</td>
<td>34 ft. 2 in. (10.4 m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Clearance</td>
<td>21 in. (53 cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Height</td>
<td>10 ft. 3 in. (3.12 m) with 150 bu. hopper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 ft. 8 in. (2.84 m) with 82 bu. hopper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Height</td>
<td>12 ft. 4 in. (3.76 m) with 150 bu. hopper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 ft. 9 in. (3.58 m) with 82 bu. hopper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed Box Heights</td>
<td>Min. forklift: 4 ft. 2 5/8 in. (129 cm) lowered, 6 ft. 5 7/8 in. (198 cm) raised</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PROBOX® refill: 8 ft. 9 1/2 in. (2.68 m) lowered, 11 ft. 3 1/4 in. (3.37 m) raised</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>82 bu. Hopper Fill: 9 ft. 1/4 in. (2.75 m) lowered, 11 ft. 3 1/2 in. (3.44 m) raised</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>150 bu. Hopper Fill: 9 ft. 6 1/4 in. (2.9 m) lowered, 11 ft. 9 1/2 in. (3.59 m) raised</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empty Weight (Approx.)</td>
<td>23900-26200 lbs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10800-11900 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed Hopper Capacity</td>
<td>82 bu. hopper, 150 bu. hopper or PROBOX®</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skid Steer Tire</td>
<td>395/55B16.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi Float Tire</td>
<td>380/70R19.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wing Flex</td>
<td>20 degrees up and down</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opener Travel</td>
<td>10 in. (25.4 cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opener Depth Range</td>
<td>0 to 4 in. (0 to 10.2 cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opener Down Pressure</td>
<td>345 to 550 lb (156 to 249 kg) per row</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP Requirementsb</td>
<td>160-180 hp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>119-134 kW</td>
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<td></td>
<td>240-270 hp</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>179-201 kW</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>275-310 hp</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>205-231 kW</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>275-320 hp</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>205-239 kW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>275-320 hp</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>205-239 kW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* a. For GPS: assumes 3-point hitch
* b. Power requirements vary significantly with conditions and practices. Add 50 hp (37 kW) for PFC2000 cart.

YP4025 Export Specifications and Capacities

<table>
<thead>
<tr>
<th></th>
<th>YP4025-1670</th>
<th>YP4025-3135</th>
<th>YP4025-32TR70</th>
<th>YP4025-32TR75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Openers</td>
<td>16</td>
<td>31</td>
<td>32 (16 Twin)</td>
<td>32 (16 Twin)</td>
</tr>
<tr>
<td>Row Spacing</td>
<td>70 cm (27.6 in.)</td>
<td>35 cm (13.8 in.)</td>
<td>20.3 cm pairs on 70 cm spacing</td>
<td>20.3 cm pairs on 75 cm spacing</td>
</tr>
<tr>
<td></td>
<td>YP4025-1670</td>
<td>YP4025-3135</td>
<td>YP4025-32TR70</td>
<td>YP4025-32TR75</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Hitch Load</td>
<td>544 kg (1200 lbs)</td>
<td>544 kg (1200 lbs)</td>
<td>544 kg (1200 lbs)</td>
<td>544 kg (1200 lbs)</td>
</tr>
<tr>
<td>Hydraulic Circuits</td>
<td>4 closed center circuits, 155.13 bar, 168.94 liters/min</td>
<td>4 closed center circuits, 155.13 bar, 168.94 liters/min</td>
<td>4 closed center circuits, 155.13 bar, 168.94 liters/min</td>
<td>4 closed center circuits, 155.13 bar, 168.94 liters/min</td>
</tr>
<tr>
<td>Hitch</td>
<td>Pull-Type, 3-point or Hydraulic Tongue</td>
<td>Pull-Type, 3-point or Hydraulic Tongue</td>
<td>Pull-Type, 3-point or Hydraulic Tongue</td>
<td>Pull-Type, 3-point or Hydraulic Tongue</td>
</tr>
<tr>
<td>Transport Width</td>
<td>14 ft. 10 in. (4.52 m)</td>
<td>14 ft. 10 in. (4.52 m)</td>
<td>14 ft. 10 in. (4.52 m)</td>
<td>14 ft. 10 in. (4.52 m)</td>
</tr>
<tr>
<td>Unfolded Width</td>
<td>39 ft. 7 in. (12.1 m)</td>
<td>39 ft. 7 in. (12.1 m)</td>
<td>39 ft. 7 in. (12.1 m)</td>
<td>39 ft. 7 in. (12.1 m)</td>
</tr>
<tr>
<td>Swath</td>
<td>1120 cm (441 in.)</td>
<td>1085 cm (427 in.)</td>
<td>2240 cm (882 in.)</td>
<td>2400 cm (945 in.)</td>
</tr>
<tr>
<td>Hitch to Opener Distance(^a)</td>
<td>241 in. (612 cm)</td>
<td>241 in. (612 cm)</td>
<td>241 in. (612 cm)</td>
<td>241 in. (612 cm)</td>
</tr>
<tr>
<td>Transport Length</td>
<td>42 ft. (12.8 m), w/o trailer hitch</td>
<td>42 ft. (12.8 m), w/o trailer hitch</td>
<td>42 ft. (12.8 m), w/o trailer hitch</td>
<td>42 ft. (12.8 m), w/o trailer hitch</td>
</tr>
<tr>
<td>Unfolded Length</td>
<td>34 ft. 2 in. (10.4 m)</td>
<td>34 ft. 2 in. (10.4 m)</td>
<td>34 ft. 2 in. (10.4 m)</td>
<td>34 ft. 2 in. (10.4 m)</td>
</tr>
<tr>
<td>Transport Clearance</td>
<td>21 in. (53 cm)</td>
<td>21 in. (53 cm)</td>
<td>21 in. (53 cm)</td>
<td>21 in. (53 cm)</td>
</tr>
<tr>
<td>Working Height</td>
<td>3.12 m (10 ft. 3 in.) with 150 bu. hopper, 2.84 m (9 ft. 8 in.) with 82 bu. hopper</td>
<td>3.12 m (10 ft. 3 in.) with 150 bu. hopper, 2.84 m (9 ft. 8 in.) with 82 bu. hopper</td>
<td>3.12 m (10 ft. 3 in.) with 150 bu. hopper, 2.84 m (9 ft. 8 in.) with 82 bu. hopper</td>
<td>3.12 m (10 ft. 3 in.) with 150 bu. hopper, 2.84 m (9 ft. 8 in.) with 82 bu. hopper</td>
</tr>
<tr>
<td>Transport Height</td>
<td>3.76 m (12 ft. 4 in.) with 150 bu. hopper; 3.58 m (11 ft. 9 in.) with 82 bu. hopper</td>
<td>3.76 m (12 ft. 4 in.) with 150 bu. hopper; 3.58 m (11 ft. 9 in.) with 82 bu. hopper</td>
<td>3.76 m (12 ft. 4 in.) with 150 bu. hopper; 3.58 m (11 ft. 9 in.) with 82 bu. hopper</td>
<td>3.76 m (12 ft. 4 in.) with 150 bu. hopper; 3.58 m (11 ft. 9 in.) with 82 bu. hopper</td>
</tr>
<tr>
<td>Seed Box Heights</td>
<td>Same as Domestic YP40, page 146</td>
<td>Same as Domestic YP40, page 146</td>
<td>Same as Domestic YP40, page 146</td>
<td>Same as Domestic YP40, page 146</td>
</tr>
<tr>
<td>Empty Weight (Approx.)</td>
<td>10,800 to 11,900 kg (23,900 to 26,200 lbs)</td>
<td>12,300 to 13,700 kg (27,000 to 30,200 lbs)</td>
<td>12,400 to 13,800 kg (27,300 to 30,500 lbs)</td>
<td>12,400 to 13,800 kg (27,300 to 30,500 lbs)</td>
</tr>
<tr>
<td>Seed Hopper Capacity</td>
<td>82 bu. hopper, 150 bu. hopper or PROBOX(^b)</td>
<td>82 bu. hopper, 150 bu. hopper or PROBOX(^b)</td>
<td>82 bu. hopper, 150 bu. hopper or PROBOX(^b)</td>
<td>82 bu. hopper, 150 bu. hopper or PROBOX(^b)</td>
</tr>
<tr>
<td>Hi Float Tire</td>
<td>380/70R19.5</td>
<td>380/70R19.5</td>
<td>380/70R19.5</td>
<td>380/70R19.5</td>
</tr>
<tr>
<td>Wing Flex</td>
<td>20 degrees up and down</td>
<td>20 degrees up and down</td>
<td>20 degrees up and down</td>
<td>20 degrees up and down</td>
</tr>
<tr>
<td>Opener Travel</td>
<td>10 in. (25.4 cm)</td>
<td>10 in. (25.4 cm)</td>
<td>10 in. (25.4 cm)</td>
<td>10 in. (25.4 cm)</td>
</tr>
<tr>
<td>Opener Depth Range</td>
<td>0 to 10.2 cm (0 to 4 in.)</td>
<td>0 to 10.2 cm (0 to 4 in.)</td>
<td>0 to 10.2 cm (0 to 4 in.)</td>
<td>0 to 10.2 cm (0 to 4 in.)</td>
</tr>
<tr>
<td>Opener Down Pressure</td>
<td>156 to 249 kg (345 to 550 lb) per row</td>
<td>156 to 249 kg (345 to 550 lb) per row</td>
<td>156 to 249 kg (345 to 550 lb) per row</td>
<td>156 to 249 kg (345 to 550 lb) per row</td>
</tr>
<tr>
<td>HP Requirements(^b)</td>
<td>119-134 kW (160-180 hp)</td>
<td>205-231 kW (275-310 hp)</td>
<td>209-239 kW (280-320 hp)</td>
<td>209-239 kW (280-320 hp)</td>
</tr>
</tbody>
</table>

\(^a\) For GPS: assumes 3-point hitch

\(^b\) Power requirements vary significantly with conditions and practices. Add 50 hp (37 kW) for PFC2000 cart.
## Tire Inflation Chart

<table>
<thead>
<tr>
<th>Wheel</th>
<th>Tire Size</th>
<th>Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport/Caster</td>
<td>395/55B16.5 NHS Skid Steer</td>
<td>60 psi (414 kPa)</td>
</tr>
<tr>
<td>Transport/Caster</td>
<td>15-19.5 NAS 12 ply</td>
<td>60 psi (414 kPa)</td>
</tr>
<tr>
<td>Transport/Caster</td>
<td>FS24 380/70R19.5</td>
<td>73 psi (503 kPa)</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.

- **Manufacturer**
  - Firestone [www.firestoneag.com](http://www.firestoneag.com)
  - Goodyear [www.goodyearag.com](http://www.goodyearag.com)
  - Titan [www.titan-intl.com](http://www.titan-intl.com)
  - Gleason [www.gleasonwheel.com](http://www.gleasonwheel.com)
Marker Extension

Set Marker Extension

Prior to first use, and if row spacing is changed (including locking up row units for single-row operation on a twin-capable planter), set and check where the mark is made on each side relative to the outside row units (whether in use or not).

1. Move the planter to a location where both markers may be safely unfolded. Unfold the planter. Lower the planter. Unfold one marker.

2. Find the suggested initial marker Extension © in the tables.

Refer to Figure 153 and Figure 154

3. Measure out the Extension © distance from the center-line of each outside end row unit. Do not measure to center of row pair.

4. Mark the ground at this point.

5. To adjust marker width, loosen nuts ① on U-bolts ②. Move marker disk tube ③ in or out to get the proper adjustment. Tighten nuts ①.

6. Repeat step 3 through step 5 for the other side.

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

8. Check mark locations. Adjust to obtain table value.

<table>
<thead>
<tr>
<th>Planter Model</th>
<th>Spacing Used</th>
<th>Left Extension</th>
<th>Right Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP4010HDP-4810</td>
<td>10 inches (25.4 cm)</td>
<td>245 inches (622 cm)</td>
<td>245 inches (622 cm)</td>
</tr>
<tr>
<td>YP4010HDP-6075</td>
<td>7.5 inches (19.05 cm)</td>
<td>243.8 inches (619 cm)</td>
<td>243.8 inches (619 cm)</td>
</tr>
<tr>
<td>YP4025-1630</td>
<td>30 inches (76.2 cm)</td>
<td>255 inches (648 cm)</td>
<td>255 inches (648 cm)</td>
</tr>
<tr>
<td>YP4025F-1670</td>
<td>70 cm (27.6 inches)</td>
<td>595 cm (234.6 inches)</td>
<td>595 cm (234.6 inches)</td>
</tr>
<tr>
<td>YP4025-1670</td>
<td>70 cm (27.6 inches)</td>
<td>595 cm (234.6 inches)</td>
<td>595 cm (234.6 inches)</td>
</tr>
<tr>
<td>YP4025-2420</td>
<td>20 inches (50.8 cm)</td>
<td>250 inches (635 cm)</td>
<td>250 inches (635 cm)</td>
</tr>
<tr>
<td>YP4025-3115</td>
<td>15 inches (38.1 cm)</td>
<td>240 inches (610 cm)</td>
<td>240 inches (610 cm)</td>
</tr>
<tr>
<td>YP4025-3115*</td>
<td>30 inches (76.2 cm)</td>
<td>255 inches (648 cm)</td>
<td>255 inches (648 cm)</td>
</tr>
<tr>
<td>YP4025-3135</td>
<td>35 cm (13.8 inches)</td>
<td>560 cm (220.8 inches)</td>
<td>560 cm (220.8 inches)</td>
</tr>
<tr>
<td>YP4025-3135*</td>
<td>70 cm (27.6 inches)</td>
<td>595 cm (234.6 inches)</td>
<td>595 cm (234.6 inches)</td>
</tr>
<tr>
<td>YP4025-3215*</td>
<td>15 inches (38.1 cm)</td>
<td>247.5 inches (629 cm)</td>
<td>247.5 inches (629 cm)</td>
</tr>
<tr>
<td>YP4025-3215*</td>
<td>30 inches (76.2 cm)</td>
<td>255 inches (648 cm)</td>
<td>255 inches (648 cm)</td>
</tr>
<tr>
<td>YP4025-32TR</td>
<td>Twin 30 inches (76.2 cm)</td>
<td>251 inches (638 cm)</td>
<td>251 inches (638 cm)</td>
</tr>
<tr>
<td>YP4025-32TR70</td>
<td>Twin 70 cm (27.6 inches)</td>
<td>585 cm (230.3 inches)</td>
<td>585 cm (230.3 inches)</td>
</tr>
<tr>
<td>YP4025-32TR75</td>
<td>Twin 75 cm (29.5 inches)</td>
<td>627 cm (247 inches)</td>
<td>627 cm (247 inches)</td>
</tr>
<tr>
<td>YP4025-4810</td>
<td>10 inches (25.4 cm)</td>
<td>245 inches (622 cm)</td>
<td>245 inches (622 cm)</td>
</tr>
</tbody>
</table>

* equipped with offset hitch (see Appendix B)
Hydraulic Diagrams
Fold, Marker, and Auxiliary Hydraulics (S/N B1009A-)

![Hydraulic Diagram]

29810
Fold, Marker, and Auxiliary Hydraulics (S/N B1010A+)
Auxiliary Hydraulics (with Markers deleted)
Fan Hydraulics (Standard)
Hydraulic Drive (Standard)
Hydraulic Tongue (Option)
Lift Hydraulics (Standard)
Chain Routing

Hydraulic Drive Chain Routing

Legend:
- **34T**: Sprocket or idler Tooth count
- **56P**: Chain Pitch count
- **Direction of chain in motion**

![Hydraulic Drive Chain Routing Diagram]
Over-Link Chain Routing

Present only where row units are directly under link arms, presently only on 10 in. row spacings.
Wing Drive Chain Routing
Chain Routing YP4025F

Legend:

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

Ground Drive Arm Chain (Option) YP4025F

- 34T
- 56P

- 140
- 25T
- 29T
- 25T

- U
- D
- F
- B
- R

Legend:

- Sprocket or idler Tooth count
- Chain Pitch count
- Direction of chain in motion
10HD Series Meter Drive Chain

10HD: Meter Drive (Front type)
① No idlers on mount.
② Top chain passes under single idler on shank

10HD: Meter Drive (Mid type)
① Be sure to reconnect idler spring
② Top chain passes between 2 idlers at mount
③ Top chain passes between 2 idlers at shank

10HD: Meter Drive (Rear type)
① Be sure to reconnect idler spring
② Top chain passes between 2 idlers at mount
③ Top chain passes between 2 idlers at shank
25 Series Final Meter Drive

25P: Meter Drive (Front type)
① No idlers on mount.
② top chain passes over single idler on shank
③ 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
Fertilizer Pump Ground Drive Chain Routing
(optional)

JohnBlue Pump Ground Drive
Lower Drive Chain

JohnBlue Pump Ground Drive
Upper Drive Chain
Seed Hose Routing
Mechanical Routing, Left Side

Connections, 16-Port Air Box, Left, 1 of 3
Facing forward/left, with planter folded.
16 Row: YP4025-1670, YP4025F-1670, YP4025-1630

Connections, 16-Port Air Box, Right, 1 of 3
Facing forward/right, with planter folded.
16-Row: YP4025-1670, YP4025F-1670, YP4025-1630

<table>
<thead>
<tr>
<th>Section</th>
<th>Air Box</th>
<th>P09</th>
<th>P10</th>
<th>P11</th>
<th>P12</th>
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<th>P16</th>
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</thead>
<tbody>
<tr>
<td>Ctr Guide</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C5</td>
<td>C4</td>
<td>C3</td>
<td>C2</td>
<td>C1</td>
<td></td>
</tr>
<tr>
<td>Wing Guide</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>W5</td>
<td>W4</td>
<td>W3</td>
<td>W2</td>
<td>W1</td>
<td></td>
</tr>
<tr>
<td>Rack Tube</td>
<td>T8</td>
<td>T7</td>
<td>T6</td>
<td>T5</td>
<td>T4</td>
<td>T3</td>
<td>T2</td>
<td>T1</td>
<td></td>
</tr>
<tr>
<td>Row Unit</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
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<td>15</td>
<td>16</td>
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24-Row: YP4025-2420

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<th>P16</th>
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<tbody>
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<td>C1</td>
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<td>-</td>
<td>-</td>
<td>W5</td>
<td>W4</td>
<td>W3</td>
<td>W2</td>
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<td>Rack Tube</td>
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<td>T5</td>
<td>T4</td>
<td>T3</td>
<td>T2</td>
<td>T1</td>
<td></td>
</tr>
<tr>
<td>Y-Tube</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>Row Unit</td>
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<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
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Connections, 16-Port Air Box, Left, 2 of 3

Facing forward/left, with planter folded.
### 31-Row: YP4025-3135, YP4025-3115

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Air Box</td>
<td>P01 P02 P03 P04 P05 P06 P07 P08</td>
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<tr>
<td>Ctr Guide</td>
<td>C1 C2 C3 C4 C5 - - -</td>
</tr>
<tr>
<td>Wing Guide</td>
<td>W1 W2 W3 W4 W5 - - -</td>
</tr>
<tr>
<td>Rack Tube</td>
<td>T1 T2 T3 T4 T5 T6 T7 T8</td>
</tr>
<tr>
<td>Y-Tube</td>
<td>∙ ∙ ∙ ∙ ∙ ∙ ∙ ∙</td>
</tr>
<tr>
<td>Row Unit</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</td>
</tr>
</tbody>
</table>

### 32-Row: YP4025-3215E, YP4025-32TR, YP4025-32TR70, YP4025-32TR75

<table>
<thead>
<tr>
<th>Section</th>
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</thead>
<tbody>
<tr>
<td>Air Box</td>
<td>P01 P02 P03 P04 P05 P06 P07 P08</td>
</tr>
<tr>
<td>Ctr Guide</td>
<td>C1 C2 C3 C4 C5 - - -</td>
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<tr>
<td>Wing Guide</td>
<td>W1 W2 W3 W4 W5 - - -</td>
</tr>
<tr>
<td>Rack Tube</td>
<td>T1 T2 T3 T4 T5 T6 T7 T8</td>
</tr>
<tr>
<td>Y-Tube</td>
<td>∙ ∙ ∙ ∙ ∙ ∙ ∙ ∙</td>
</tr>
<tr>
<td>Row Unit</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</td>
</tr>
</tbody>
</table>

**Connections, 16-Port Air Box, Right, 2 of 3**

Facing forward/right, with planter folded.
### 31-Row: YP4025-3135, YP4025-3115

#### Section

<table>
<thead>
<tr>
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<th>Right Center</th>
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<tbody>
<tr>
<td>Air Box</td>
<td>P09 P10 P11 P12 P13 P14 P15 P16</td>
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<td>Ctr Guide</td>
<td>- - C5 C4 C3 C2 C1</td>
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<tr>
<td>Wing Guide</td>
<td>- - W5 W4 W3 W2 W1</td>
</tr>
<tr>
<td>Rack Tube</td>
<td>T8 T7 T6 T5 T4 T3 T2 T1</td>
</tr>
<tr>
<td>Y-Tube</td>
<td>Y Y Y Y Y Y Y Y</td>
</tr>
<tr>
<td>Row Unit cap</td>
<td>17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</td>
</tr>
</tbody>
</table>

### 32-Row: YP4025-3215E, YP4025-32TR, YP4025-32TR70, YP4025-32TR75

#### Section

<table>
<thead>
<tr>
<th>Section</th>
<th>Left Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Box</td>
<td>P09 P10 P11 P12 P13 P14 P15 P16</td>
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<tr>
<td>Ctr Guide</td>
<td>- - C5 C4 C3 C2 C1</td>
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<tr>
<td>Wing Guide</td>
<td>- - W5 W4 W3 W2 W1</td>
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<tr>
<td>Rack Tube</td>
<td>T8 T7 T6 T5 T4 T3 T2 T1</td>
</tr>
<tr>
<td>Y-Tube</td>
<td>Y Y Y Y Y Y Y Y</td>
</tr>
<tr>
<td>Row Unit cap</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</td>
</tr>
</tbody>
</table>

### Connections, 16-Port Air Box, Left, 3 of 3

Facing forward/left, with planter folded.
48-Row: YP4010HDP-4810, YP4025-4810

Connections, 16-Port Air Box, Right, 3 of 3

Facing forward/right, with planter folded.

48-Row: YP4010HDP-4810, YP4025-4810

Connections, 32-Port Air Box, Left

Facing forward/left, with planter folded.
60-Row: YP4010HDP-6075

Connections, 32-Port Air Box, Right
Facing forward/right, with planter folded.

2020-08-07
## Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
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<tbody>
<tr>
<td>Grade 2</td>
<td>Grade 5</td>
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<tr>
<td>in-tpia&lt;sup&gt;a&lt;/sup&gt;</td>
<td>N·m&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>1/4-20</td>
<td>7.4 5.6 11 8 16 12</td>
</tr>
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<td>1/4-28</td>
<td>8.5 6.0 13 10 18 14</td>
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<td>5/16-18</td>
<td>15 11 24 17 33 25</td>
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<tr>
<td>5/16-24</td>
<td>17 13 26 19 37 27</td>
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<tr>
<td>3/8-16</td>
<td>27 20 42 31 59 44</td>
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<td>3/8-24</td>
<td>31 22 47 35 67 49</td>
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<td>1/2-14</td>
<td>43 32 67 49 95 70</td>
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<td>1/2-20</td>
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<td>95 70 150 110 210 155</td>
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<td>3/16-16</td>
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<td>3/16-9</td>
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<td>5/16-14</td>
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<td>480 355 1080 795 1750 1290</td>
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<td>1-12</td>
<td>540 395 1210 890 1960 1440</td>
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<td>1-12</td>
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<table>
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<th>Bolt Size</th>
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<td>M 8 X 1.25</td>
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<td>M 8 X 1</td>
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<td>M10 X 1.5</td>
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<td>M10 X 0.75</td>
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<td>M12 X 1.75</td>
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<tr>
<td>M12 X 1.5</td>
<td>60 44 95 70 130 97</td>
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<tr>
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<td>90 66 105 77 145 105</td>
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<tr>
<td>M14 X 2</td>
<td>92 68 145 105 200 150</td>
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<tr>
<td>M14 X 1.5</td>
<td>99 73 155 115 215 160</td>
</tr>
<tr>
<td>M16 X 2</td>
<td>145 105 225 165 315 230</td>
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<tr>
<td>M16 X 1.5</td>
<td>155 115 240 180 335 245</td>
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<tr>
<td>M18 X 2.5</td>
<td>195 145 310 230 405 300</td>
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<td>M18 X 1.5</td>
<td>220 165 350 260 485 355</td>
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<tr>
<td>M20 X 2.5</td>
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<td>M20 X 1.5</td>
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<td>M24 X 2</td>
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<td>M30 X 3.5</td>
<td>960 705 1510 1120 2100 1550</td>
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<tr>
<td>M36 X 2</td>
<td>1880 1380 2960 2190 4100 3220</td>
</tr>
</tbody>
</table>

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

---

<sup>a</sup> in-tpi = nominal thread diameter in inches-threads per inch
<sup>b</sup> N·m = newton-meters
<sup>c</sup> mm x pitch = nominal thread diameter in mm x thread pitch
<sup>d</sup> ft-lb = foot pounds
Appendix B - Initial and Option Setup

Pre-Delivery
Pre-Delivery items are normally completed by the Great Plains dealer prior to releasing the implement to the customer.

Install Upper Marker Components
The marker disks and end tubes are removed for shipping.

Refer to Figure 155
The end tube ① may be inserted into the outer marker arm ② in any of four orientations. Great Plains recommends that the spindle adjustment allow the disk to pivot back, away from the direction of travel ①.

If the markers are extended for this work, also set the initial marker extension based on the row spacing.

Refer to Figure 156
1. At each marker, select one each:
   - ① marker disk and tube assembly
     - 51 806-110C U-BOLT 5/8-11 X 3 1/32 X 4 1/2
   - and two sets:
     - 49 803-021C NUT HEX 5/8-11 PLT
     - 50 804-022C WASHER LOCK SPRING 5/8 PLT
2. Insert the end tube ① into the outer marker arm ②. Insert to initial marker extension value, or about halfway if extension is not known. Secure with U-bolt ③, lock washers ④ and nuts ⑤.

Callout, Part & Description cross-references are drawn from a Reference Page.
Install Press Wheels

To meet highway clearance requirements, press wheel arms and wheels on wing rows are not factory-installed.

10HD Series Press Wheels

Refer to Figure 157

Start with the left end of the left wing.

3. Select one each:
   ① Arm and press wheel assembly (exact part number varies, depending on planter row option)
   ⑪ 198-137D PRESS WHEEL PIVOT TUBE
   and two:
   ⑭ 817-084C PARALLEL ARM PIVOT BUSHING

   Insert the bushings ⑪ in each side of the arm pivot. Insert the pivot tube ⑭ in the bushings.

4. Select one each:
   ⑪ 802-421C HFS 1/2-13X3 3/4 GR5 SPTHD
   ⑮ 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

   Align the press wheel assembly ① with the pivot hole in the opener frame. Secure with bolt ⑫ and lock nut ⑬.

5. Repeat step 3 and step 4 for each wing row.

20 Series Press Wheels

Refer to Figure 158

1. For each row, locate a press wheel assembly ⑪ and a spring ⑫.

2. Connect one end of the spring ⑫ to the hole ⑬ in the adjustment handle ⑭.

3. At each press wheel assembly, remove and save two sets (one each side)
   ⑯ 1/16-14 hex head bolt,
   ⑰ lock washer,
   ⑱ flat washer,
   ⑲ bushing,
   ⑳ pivot spacer tube, and
   ⑳ lock nut.

4. Place a lock washer ⑱, then a flat washer ⑲, and a bushing ⑲ on each bolt ⑯.

5. Insert the spacer tubes ⑰ from the inside of the press wheel lugs. Align the lugs of the press wheel assembly ⑪ with the hole ⑳ in the opener frame. Insert bolt assembly.

6. Secure both bolts with lock nuts ⑳ @.

7. Move adjustment handle fully forward. Connect spring to upper hole ⑳ in opener frame lug ⑳.
25 Series Press Wheels

Refer to Figure 159

1. Remove and save the \(\frac{1}{2}\text{-}13\times1\text{ in.} \) hex head bolt and washer at the back of one of the center row units.

**NOTICE**

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

2. Remove and save the \(\frac{1}{2}\text{-}13\times1\frac{1}{2}\text{ in.} \) hex head bolt, washer, and eccentric adjuster nut.

3. Align the \(\frac{1}{2}\text{ in.} \) holes in the press wheel assembly with the \(\frac{5}{8}\text{-}13\text{ tapped holes} \) in the row unit, loosely assemble with the \(\frac{1}{2}\text{-}13\times1\text{ in.} \) hex head bolt and washer.

4. Loosely screw in the \(\frac{1}{2}\text{-}13\times1\frac{1}{2}\text{ in.} \) 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.

**Initial Setup**

**Seed Monitoring System Console Installation**

The planter’s standard seed monitoring system includes a console and switch panel that must be mounted in the tractor cab. As supplied by DICKEY-john®, the kit includes a flat bracket for the modules, and a ball swivel for mounting the bracket in the tractor.

**NOTICE**

Mount the modules so that they are easy to monitor during planting, but do not interfere with safe operation of the tractor in the field or on public roads.

The ball swivel includes four 10-32 screws. You or your dealer must provide the mounting holes for the screws. Your dealer may have alternate suction cup or clamping brackets available if you prefer to avoid drilling holes.

Refer to the included DICKEY-john® manual for harness connections.
Hopper Level Sensor Installation

Regardless of hopper/seed box used, the YP40 planter includes a factory-installed seed level sensor in the airbox.

If a 403-143K 82 bu. or 403-174K 150 bu. hopper was ordered with the planter, it includes an 833-235C hopper level sensor which is not factory-installed. This sensor can provide a second, earlier, low seed level alarm.

Use of this sensor is optional, and level placement is at your discretion. To install:

1. Perform the installation before first use of the hopper. The sensor body is mounted inside the hopper. It can be dangerous to enter a hopper if it contains any seed, or has ever been used with treated seed.
2. Refer to Figure 47 on page 48, or Figure 48 on page 49 for placement elevations based on remaining hopper capacity. Great Plains suggests mounting the sensor on the lower front wall of the hopper.
3. Follow the steps in DICKEY-john® instruction sheet 11001-1126 to install the sensor.
4. Use silicone to seal the cable at the grommet, and around the grommet, to prevent air leaks which can interfere with consistent seed delivery.

After the hopper is mounted on the planter, the leads connect to the “HOPPER 2” harness lead located below the hydraulic drive in the planter center section.

Radar Calibration

At the first opportunity to operate the planter in the field (with or without planting), the radar component of the seed monitor needs to be calibrated. The seed monitor manual describes the procedure.

- The planter must be in the lowered/field position for this calibration. The angle of the sensor changes when the planter is raised, and readings during planting will be incorrect if calibrated in the raised configuration.
- Due to this angle change, seed monitor speed readings will not match tractor speedometer reading during transport.
Weight Transfer Shipping Links

If optional weight transfer is not installed, continue at “Appendix C - Option Installation” on page 178.

When a planter is on customer premises, and further movements will only be done with a tractor or towing vehicle having hydraulic motor return and case drain remote ports, remove the weight transfer shipping links.

1. Use a hoist or a second worker to support the weight of the outboard end of a weight transfer cylinder ①.

2. Remove both cotter pins and clevis pins:
   - ② 805-058C PIN COTTER 3/16 X 2
   - ③ 805-396C PIN CLVS 1.0X3.13 USBL
   from each end of a shipping link:
   - ① 411-175H WT SHIP LINK
   Remove the link.

3. Swing the cylinder down. Align the clevis with the wing lug ②. Secure with one of the clevis pins and cotters.

4. Store the other clevis pin and cotter in the clevis end of the link. Store the link for future use.

5. Repeat step 1 through step 4 for the other wing.

To install a link, complete step 4 through step 1 in reverse order.

See page 53 for initial weight transfer setup.
Appendix C - Option Installation

YP4010HDP-3215 3-Point Hitch

The “3215E” planter, when used in the standard 15 in. row spacing does not represent a symmetrical row spacing. This model planter includes an offset hitch adaptor to correct this.

For standard 15 in. planting, make sure the offset adaptor is installed. For 30 in. planting with only rear rows, remove offset adaptor.

Refer to Figure 164

1. Connect your tractor 3-point to the standard planter 3-point hitch. If using quick hitch be sure planter locks into hitch securely.
2. Raise tractor 3-point just enough to install tongue parking stand (not shown, see page 60).
3. Swing down and pin down the 3-point stands ①. See “Storing 3-Point Parking Stands” on page 22.
4. Remove and save one each:
   - 401-524D SPACER TUBE FOR PLANTER HITCH
5. Pull the tractor away from the planter by about 3 ft. (1 m). Shut off tractor and remove key.
6. Select one:
   - 401-598H HITCH OFFSET WLDMT 32R15 3PT
   - two:
     - 406-076C U-BOLT 3/4-10 X 6 1/32 X 9
7. With the mount plate ② of the offset weldment ④2 to the left of the 3-point mount plate, secure the weldment to the back of the 3-point hitch main cross tube, using U-bolts ④9, lock washers ④5 and nuts ④4.
8. Back up the tractor to align the offset mount plate holes with the ball swivel ②.
9. Insert the saved spacers ④9. Secure them with the inner pivot tube ④0, bolt ④2, top flat washer ④8, lower lock washer ④7 and nut ④5.
10. Use tractor to raise hitch slightly. Store or deploy all parking stands based on next planned use of planter.
Low Speed Kit Installation (402-520A)

See “Low Speed Kit” on page 130 for the purpose of this kit.

1. Shut off any hydraulic source that powers the hydraulic seed meter drives (dedicated remotes or PTO).

Refer to Figure 165

2. At the hydraulic drive motor, loosen the idler nut ①. Slide the idler out of engagement with the existing chain ⑤. Remove and save the existing chain: ③ 136-247D CHAIN RL #60 41 PITCHES

3. Loosen the set screws securing the existing 16T sprocket ④. Remove and save the sprocket: ④ 808-388C SPKT 60B16 X 1 BORE W/KWAY, SS Leave the woodruff key ③ in place.

4. Select one new 10T sprocket: ⑤ 808-479C SPKT 60B10 X 1 BORE W/KWAY 2SS Install it on the motor shaft. Secure it with the woodruff key and two set screws provided.

5. Select one new: ⑥ 136-285D CHAIN RL #60 38 PITCHES Consult page 106 and the directional arrows shown on the page for proper chain clip orientation. Install the new chain on the new sprocket and existing driven sprocket.

Engage the idler for ¼ inch (2.1 cm/m) slack. Secure the idler nut ③.

Field Results Risk:
Do not change the sprocket ratios in the DICKEY-john® IntelliAg® hydraulic drive setup.
Scraper Installation (122-278S)

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 166 and Figure 167

1. Remove one or both opener disc blades to gain safe access to the mount 1. Note the position of bushings and spacers for correct re-assembly (page 82).

2. Select one each:
   - 02-024C HHCS 3/8-16X3 GR5
   - 129BXT824 BRACKET FOR 890-929C FIRMER
   - 122-177D 10HD25 INSIDE SCRAPER MNT TUBE
   Insert the bolt 33, from the rear, through the lowest hole of the bracket 32. Place the tube 31 over the bolt.

3. Select one scraper set:
   - 890-928C 25 SER AIR DESIGN IN SCRAPER
   Place the shoulder washer 3 on bolt 33 with the larger diameter to the rear (toward bolt head). Place the left scraper blade 3 on the washer, followed by the right scraper blade 4.

4. Select one each:
   - 04-011C WASHER FLAT 3/8 USS PLT
   - 04-013C WASHER LOCK SPRING 3/8 PLT
   - 03-014C NUT HEX 3/8-16 PLT
   Place the flat washer 37 on the bolt 33, followed by the lock washer 28 and nut 25. Tighten bolt and nut to 3/8-16 GR5 torque spec. Make sure blades pivot freely.

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

6. Select two sets:
   - 02-172C HHCS 5/16-18X2 1/2 GR5
   - 03-043C NUT HEX WHIZ 5/16-18 PLT
   Insert the scraper assembly 6 between the middle four lower square holes 7 of the opener frame. Secure with bolts 34 and whiz nuts 36.

7. Re-mount the removed disc blade.

Callout, Part & Description cross-references are drawn from a Reference Page.
Appendix R - Row-Pro™

Preparation and Setup

Row-Pro™ Setup (Option)

The factory default setting for down-force is likely to differ from that required by your next field conditions.

Before modifying the monitor setting for down-force, determine what actual down force is ideal for the initial use of the planter. One method of determining an initial setting involves operating in the field (without seeding).

1. Set planting depth at T-handles (page 73).
2. Review unit-mount coulter depth relative to opener disc. Adjust as needed (page 70).
3. Start with the row unit down pressure springs in the lowest, or second-lowest notch (page 76).

Adjustment to the spring pressure may need to be made if the depth is reset or the closing wheel down pressure is adjusted.

4. Operate in the field for a short distance.
5. Evaluate the seed trench (page 77).
6. Adjust the springs until depth and closure are ideal. If the ideal setting seems to be in between two notch values, use the higher setting. Rows in wheel tracks may be higher still.
7. Engage the Row-Pro™ system. Set the initial target weight at 80 pounds.
8. Operate in the field. Evaluate furrow and closing. Adjust Row-Pro™ force setting for optimal results.
9. When verifying the final setting, and when planting, watch for Unable to Control alarms, which may indicate that the cams are a notch or more too high or too low.

If the IntelliAg® alarm indicates a value too high, reduce spring pressure. If the IntelliAg® alarm indicates a value too low, increase spring pressure.

The actual target rate is going to be different depending on the field conditions, soil type and other factors. The best way to gauge where you want the setting is to operate the system for a short time then go behind the planter and check the furrow.

a. Optionally operate the Row-Pro™ system in Monitor Only mode, and note the forces reported.
Operating Instructions

*Refer to Figure 168*

Row-Pro™ is a factory installed option for implements with 25-series openers that are equipped with DICKEY-john® IntelliAg®. It helps the spring down force system to maintain a user-determined, ideal weight for the side depth gauge wheels. Once the springs are set, Row-Pro™ pneumatically increases/decreases pressure on the openers.

*The row units are already getting their down pressure from the springs on the parallel arms. Row-Pro only acts to vary that pressure as needed to maintain consistency in different soil conditions.*

There is one cylinder ① for each row located between the parallel arms. Based on loading on the side depth wheels, Row-Pro™ adjusts air pressure in the air cylinders.

*Refer to Figure 169*

There is one valve set per opener section, located in the center of the section. It allows each section to be controlled independently.

*For twin row there are two valve sets ② per section: one for the front openers and one for the rear openers.*
Row-Pro™ Components

Refer to Figure 170 and Figure 171

The main systems of Row-Pro™ consist of:

1. **An air compressor system:** one 12VDC air compressor with air tank, two extension cables, and one fuse assembly.

2. **A load sensing system:** DPLCM (Down Pressure Load Cell Module) and the load cells.

3. **An adjusting system:** valves and air cylinders.

Load Cell, DPLCM and Valves

The DPLCM and valves are mounted together on a plate and are connected to the DICKEY-john® Row-Pro™ wiring harness.

Two leads on the Row-Pro™ harness each connect to a load cell which is located in the opener body (see fig.162). Four leads connect to the valve sets. There is one pair (one air intake, one exhaust) for each valve.

- For single row planters:
  - There is one load cell and one valve set per each opener section located at mid section.

- For twin row planters:
  - There are two load cells and two valve sets per each opener section located on the long and short center row unit of the section.

The Row-Pro™ harness connects to the planter's CANbus at connector ends.

The load cell provides feedback so the system can maintain the target pressures.

The DPLCM uses the readings from the load cell to regulate the air valves in order to increase or decrease pressure in the air cylinders.
Row-Pro™ Air Compressor System

Row-Pro™ Air Compressor

Refer to Figure 172

The 12VDC compressor requires both an electrical connection and a mounting location. It should be mounted in a location on the tractor or planter where most convenient. Mount where cool clean air can get to it. The battery connection is equipped with one large 60 amp spade fuse (automotive type).

If your tractor has an on-board engine driven compressor capable of 150 psi, it can be used instead of the one supplied with the planter. Hook the on-board compressor to the air tank with lines provided.

The 12VDC compressor pressurizes the air tank reservoir.

Row-Pro™ Air Tank

Refer to Figure 173

An air tank is provided and mounted on the wing. Open the air tank petcock once daily to drain water accumulation.

The air tank is used in conjunction with the air valves to maintain a set pressure value for the air cylinders.

Air valves are used to increase or decrease the amount of air provided to the air cylinders.

Row-Pro™ Air Tank Lines

Refer to Figure 173

The air tank has two lines. A 3/8 inch line attaches the compressor to the air tank. A 1/4 inch line splits at a T-junction and goes to the valves while the remaining end attaches to the compressor plate where it activates the pressure switches.

If an on-board compressor is used, plug/bypass the pressure switch branch.

Row-Pro™ Air Pressure Gauge

Refer to Figure 174

Row-Pro™ is designed to run at 150 psi. When the psi drops to 135 the compressor engages and builds back up to 150 psi. Duty cycle varies based on air usage.

Check for Air Leaks

Before going to the field check for air leaks.

1. Turn the compressor on to pressure up the primary system until it automatically shuts off. If the system loses pressure, check for leaks.
2. Use the Leak Test mode to cycle through the sections and check for leaks.
Row-Pro™ Adjustments

Refer to Figure 175

Load Cell Reading

These readings are displayed and adjusted from the IntelliAg® seed monitor console.

**Control Mode:** Auto is the normal running mode. Manual is used to control the valves only when the operator touches the increase or decrease icon on the work screen.

**Monitor Only:** This screen disables control, but still reports sensor feedback. From there, press the Down Pressure Diagnostic key and then press the Float Mode ON button to release all of the air from the system. Next, press the Float Mode OFF button. Stay on the Diagnostic screen and make a planting pass. Note the pressure displayed on the Diagnostic screen and then evaluate the seed trench. If the seed trench results are acceptable, use the displayed pressure as your target rate.

**Front-Rear Linked:** “Enabled” links the front and rear row units so that the same amount of pressure increase/decrease set at the screen is applied to front/rear row units. When “Disabled” - front/rear row units are not linked. Two sets of buttons appear on the screen that allow for adjustments of front and rear rates independently.

**Target Rate:** This is the desired down pressure on the side depth wheels. The target rate to be entered is the set rate (pounds) of the down force to determine how much pressure is applied. The system monitors and adjusts pressure to meet the defined rate set at this screen.

Pressure displayed on screen and target pressure both refer to the amount of weight carried by the side depth gauge wheels, and not overall row unit down pressure.

**Inc/Dec:** Sets the amount that the Target Rate is changed with each key press during planting operations.
Sensitivity Adjust: Determines how responsive the Controller is to input from the DPLCM. The range is from -10 to +10. Zero (0) is the average setting. Going below 0 decreases the reaction time. Going above 0 increases the reaction time.

Disable Down Pressure Modules: Modules interfacing with feedback sensors can be independently disabled so that down pressure to rear and/or front row units are not monitored or controlled. Modules that have been disabled are ignored by the system and will not report down pressure data or react to soil conditions.

(The IntelliAg® screen shows both row modules enabled ◯. An unchecked box indicates disabled.)

If a section fails, that individual section can be turned on and off to locate the problem.

Refer to Figure 178

Reset Offset Value: Resetting Offset Values clears previous down pressure readings and resets values to zero.

1. At Main WORK SCRN press NEXT PAGE button.
2. Press MODULE CFG button.
3. At Module Configuration screen, press DPRESS SET.
4. At the Down Pressure Setting screen press OK to clear values.

IMPORTANT: The implement must be lifted and the implement lift switch in the up state before the OK button appears and values can be cleared.

Make sure side depth wheels are all in the lowered position so there is no tension on the load cell. Values other than OFF or 1-6 mV may indicate stuck side depth wheels. If the reading is 0 mV, there may be a problem with load cell grounding. See “Row-Pro™ Troubleshooting”, page 178.

Initial Setup: Zero out the load cell reading.
## Row-Pro™ Troubleshooting

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<th>Cause</th>
<th>Solution</th>
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<td><strong>Compressor won't turn on</strong></td>
<td>Switch turned “off”.</td>
<td>Turn switch “on”.</td>
</tr>
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<td></td>
<td>Poor electrical connection.</td>
<td>Clean connections and reassemble.</td>
</tr>
<tr>
<td></td>
<td>Fuse blown.</td>
<td>Replace fuse (60A).</td>
</tr>
<tr>
<td><strong>Compressor won't turn off (runs continuously)</strong></td>
<td>Section opener valves are installed in reverse.</td>
<td>Install opener valves correctly.</td>
</tr>
<tr>
<td></td>
<td>Stuck pressure switch(es).</td>
<td>Replace pressure switch(es).</td>
</tr>
<tr>
<td><strong>Compressor cycles more than normal</strong></td>
<td>Water build-up in air tank.</td>
<td>Drain tank to keep reserve volume at proper size.</td>
</tr>
<tr>
<td><strong>Erratic down pressure reading</strong></td>
<td>Poor electrical connection to load cell.</td>
<td>Clean connection and reassemble.</td>
</tr>
<tr>
<td></td>
<td>Load cell malfunction.</td>
<td>Replace load cell.</td>
</tr>
<tr>
<td><strong>Persistent “high” alarm</strong></td>
<td>Row unit spring tension too high.</td>
<td>Lower spring tension.</td>
</tr>
<tr>
<td></td>
<td>Air leak preventing cylinders from holding pressure.</td>
<td>Fix leak.</td>
</tr>
<tr>
<td><strong>Persistent “low” alarm</strong></td>
<td>Row unit spring tension too low.</td>
<td>Raise spring tension.</td>
</tr>
<tr>
<td></td>
<td>Air leak preventing cylinders from holding pressure.</td>
<td>Fix leak.</td>
</tr>
<tr>
<td><strong>System won't hold air pressure</strong></td>
<td>Pinched/torn hose.</td>
<td>Replace hose.</td>
</tr>
<tr>
<td></td>
<td>Hose not pushed into quick connect fitting far enough.</td>
<td>Push hose in until fully seated.</td>
</tr>
<tr>
<td><strong>Voltage reads “0” on monitor, or is unaffected by load on load cell</strong></td>
<td>Signal wire grounded to frame.</td>
<td>Inspect for pinched or broken wiring harness between the load cell and DPLCM. Replace damaged wiring.</td>
</tr>
</tbody>
</table>

## Row-Pro™ Maintenance

Check the tractor cab air filter as per manufacturer recommendation.
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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**YP4010HD, YP4025, and YP4025F**

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