Read the operator’s 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!

Great Plains

Cover illustration may show optional equipment not supplied with standard unit.
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Models ADI334 and ADI345 Air Drill Implement 160-195M  

Great Plains Mfg., Inc.  5/11/05
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. The signal words are:

⚠️ 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.

For Your Protection
⚠️ Thoroughly read and understand Safety Labels, page 4,
⚠️ Read all instructions noted on the labels.

Keep Riders Off Machinery
⚠️ Riders obstruct the operator’s view. They could be struck by foreign objects or thrown from the machine.
⚠️ Never allow children to operate equipment.

Handle Chemicals Properly
⚠️ Wear protective clothing.
⚠️ Handle all chemicals with care.
⚠️ Follow instructions on container label.
⚠️ Use agricultural chemicals properly. Improper use can seriously injure persons, animals, plants, soil and property.
⚠️ Do not inhale smoke from any type of chemical fire. This is a serious health hazard.
⚠️ Store or dispose of unused chemicals as specified by the chemical manufacturer.

Shutdown and Storage
⚠️ Lower machine to ground, put tractor in park, turn off engine, and remove the key.
⚠️ Detach and store implements in an area where children normally do not play. Secure implement by using blocks and supports.
Use Safety Lights and Devices

▲ Slow moving tractors, self-propelled equipment and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
▲ Flashing warning lights and turn signals are recommended whenever driving on public roads. Use lights and devices provided with implement.

Use A Safety Chain

▲ Use a safety chain to help control drawn machinery should it separate from the tractor drawbar.
▲ Use a chain with the strength rating equal to or greater than the total weight of the towed machinery.
▲ Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
▲ Do not use safety chain for towing.

Transport Machinery Safely

▲ Comply with state and local laws.
▲ Maximum transport speed for implement is 20 mph. DO NOT EXCEED. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed.
▲ Do not transport implement unless it is attached to an air drill cart.
▲ Keep clear of overhead power lines when folding, unfolding or transporting.
▲ Transport with channel locks in place.
▲ Sudden braking can cause a towed load to swerve and upset. Reduce speed if towed load is not equipped with brakes.
▲ Use the following ratios as a maximum-speed guide.
  20 mph when towed weight is less than or equal to tractor weight.
  10 mph when towed weight is double tractor weight.
IMPORTANT: Do not tow a load that is more than double tractor weight.

Practice Safe Maintenance

▲ Understand procedure before doing work. Use proper tools and equipment. Refer to “Maintenance and Lubrication,” page 25, for additional information.
▲ Work in a clean, dry area.
▲ Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.
▲ Install all transport locks as explained under Lifting the Drill, “Operating Instructions,” page 16, before working underneath the raised drill.
▲ Do not grease or oil implement while it is in operation.
▲ Disk edges are sharp. Be careful when working in this area.
▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
▲ 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 implement before operation.
Important Safety Information

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.

Wear Protective Equipment
▲ Wear protective clothing and equipment.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Wear suitable hearing protection such as earmuffs or earplugs. Prolonged exposure to loud noise can cause hearing impairment or loss.
▲ Avoid wearing radio headphones while operating machinery. Operating equipment safely requires full attention.

Avoid High Pressure Fluids Hazard
▲ Relieve hydraulic pressure before disconnecting lines. Escaping fluid under pressure can penetrate the skin, causing serious injury.
▲ 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, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

Safety at All Times
Thoroughly read and understand the instructions given in this manual before operation. Refer to Safety Labels, page 4. Read all instructions noted on the labels.
▲ Operator should be familiar with all implement functions.
▲ Operate implement from the driver's seat only.
▲ Do not leave tractor or implement unattended with engine running.
▲ Do not dismount a moving tractor. Dismounting a moving tractor could cause serious injury or death.
▲ Do not stand between the air drill cart and implement while hitching.
▲ Keep hands, feet and clothing away from power-driven parts.
▲ Wear snug-fitting clothing to avoid entanglement with moving parts.
▲ Watch out for overhead power lines, trees, etc., when raising, folding, unfolding and transporting the implement.
▲ Make sure all persons are clear of working area.
▲ Do not turn tractor too tight, causing implement to ride up on wheels. This could result in injury or equipment damage.
▲ Keep away and keep others away when folding or unfolding implement.

Tire Safety
▲ Tire changing can be dangerous and should be performed by trained personnel using the correct tools and equipment.
▲ When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side—NOT in front of or over the tire assembly. Use a safety cage if available.
▲ When removing and installing wheels, use wheel-handling equipment adequate for the weight involved.
**Safety Labels**

Your implement comes equipped with all safety labels in place. They were designed to help you safely operate your implement.

1. Read and follow label directions.
2. Keep all safety labels clean and legible.
3. Replace all damaged or missing labels. Order new labels from your Great Plains dealer. Refer to this section for proper label placement.

4. When ordering new parts or components, also request corresponding safety labels.

5. To install new labels:
   a. Clean the area on which the label is to be placed.
   b. Peel backing from label. Press firmly on surface, being careful not to cause air bubbles under label.

---

**818-055C**
Slow Moving Vehicle Label

**838-265C**
Amber Reflector (Two labels—one each side of frame)

**838-265C**
Amber Reflector (Both rear castor wheels)
Important Safety Information

383-266C
Red Reflector (Two labels—one on each dual, center gauge wheels)

383-266C
Red Reflector (Both rear castor wheels)

**WARNING**
High Pressure Fluid Hazard
To Prevent Surface Injury or Burns:
- Induce pressure on system before servicing, adjusting, or disconnecting.
- Wear proper head and eye protection when servicing the leaks. Use vented or exhaust hood of leaks.
- Keep all components in good repair.

818-339C
High Pressure

818-339C
High Pressure
Important Safety Information

**WARNING**
High Pressure Fluid Hazard
To Prevent Serious Injury or Fatal
-Always pressure on system before testing, adjusting, or disassembling.
-Do not open head or use protective shoe, unless the head or upstream inlets are locked.
-Keep all components in place.

818-339C
High Pressure

**DANGER**
Overhead Crushing Hazard
-Always test before entering.
-Always test before entering.
-Always test before entering.

818-046C
Charge Fold Cylinder

818-046C
Charge Fold Cylinder

818-046C
Charge Fold Cylinder
Important Safety Information

Electrocution Auger

818-627C

To prevent serious injury or death from electrocution:
- Keep away from overhead power lines during transport, installation, or operating all drill components.
- Use only low voltage power lines that are separately energized. Insulate is not grounded. Electrocuton can occur without direct contact.
Introduction

Great Plains welcomes you to its growing family of new product owners. This implement has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance and safe operating practices will help you get years of satisfactory use from this machine.

Description of Unit

The three-rank, air-drill implement is a towed seeding implement used with a Great Plains air-drill cart. Seed is delivered by a pressurized air stream to the floating-hoe openers via primary seed hoses, distribution towers and secondary seed hoses.

The implement has a working width of 34 or 45 feet. The implement has three ranks of staggered openers for easy residue flow. Opener depth is controlled by adjusting a hydraulic stop and the press wheels. Press wheels follow the openers to firm and close the seedbed. An electric-clutch drive with an adjustable height switch turns seeding off automatically for headland turns.

Openers and press wheels are spaced over four frame sections on the 34-foot or six sections on the 45-foot implement. Floating arms link the cart to the implement for increased front-to-rear flexibility.

The implement folds to a transport height of 15 feet, eight inches (45-foot drill) or 13 feet, two inches (35-foot drill). Rear castor wheels are used for transport and field turns and are lifted for seeding.

Intended Usage

This machine is to be used primarily for seeding small grains and legumes in conventional tillage. It can also be used for seeding other crops in reduced-tillage applications.

Using This Manual

This manual is designed to help familiarize you with safety, set-up, operation, adjustment, troubleshooting and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

Fill out the warranty sheet with your dealer at the time of purchase. Give your dealer the completed white copy and send the pink copy to Great Plains. Keep your yellow copy in the manual for use when corresponding with your dealer.

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

Definitions

Right and left as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated.

NOTE: Useful information related to the preceding topic.

Owner Assistance

If customer service or repair parts are needed, contact your Great Plains dealer. They have trained personnel, parts and service equipment specially designed for Great Plains products.

Your machine’s parts were specially designed and should be replaced with Great Plains parts only. Always use the serial and model number when ordering parts from your Great Plains dealer. The serial number plate is located as shown in Figure A.

IMPORTANT: A crucial point of information related to the preceding topic. For safe and correct operation, read and follow the directions provided before continuing.

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 dealer service manager. Make sure they are aware of any problems so they can assist you.
2. If you are still not satisfied, seek out the dealership owner or general manager.
3. For further assistance, write to:

Product Support

Great Plains Mfg. Inc., Service Department
P.O. Box 5060
Salina, KS 67402-5060
Section 1 Preparation and Setup

This section covers implement preparation and setup. Before using the implement in the field, you must:
- hitch the cart to your tractor,
- hitch the cart to the implement,
- check that the hydraulics have been bled of air, and
- check that the implement frame is level.

For instructions on hitching the cart to the tractor, refer to your air drill cart operator’s manual.

Hitching Cart to Implement

⚠️ DANGER!
You may be severely injured or killed by being crushed between the cart and the implement. Do not stand or place any part of your body between the cart and implement whilehooking up the air drill.

1. With cart links tied up, slowly back cart toward the center of the implement.
2. Refer to Figure 1-1. When cart links (1) are aligned with lower hitch plates on cart (2), drive link pins (3) in place. Secure with roll pins.

Refer to Figure 1-2.

3. Make sure the cart sling (1) is connected to the cylinder lift arm (2), then align the top hole with the support plates (3) on the back of the cart frame.
4. Install the cart sling pin (4) and secure it with the 1/4 x 2-inch cotter pins (5). Be sure cotter pins are spread.

5. Connect the primary seed hoses to the cart meter box. Connect the hoses left-to-right in the same order towers are installed on the implement. Route the hoses above the cart-axle tube. Allow only enough slack for implement to be fully raised and lowered without binding. Use cable ties to secure hoses in a safe loca-
Section 1 Preparation and Setup

1. Connect hydraulic hoses to rear of cart. Refer to Figure 1-4. Working from left to right, connect hoses in the following order.

   a. Connect fold hoses to outlets on the far right (outlets A and B).
   b. Connect lift hoses to the next set of outlets (outlets C and D).

2. Check the hydraulic fluid level in the tractor reservoir and fill to the proper level. Add fluid to the system as needed while cycling new cylinders. About 8 3/4 gallons of oil will be used to fill new cylinders. A low oil level may draw air into the system, causing jerky or uneven cylinder movement.

3. Jack up and support the front member of each frame section at a point close to each gauge wheel.

4. With the frame blocked and supported, unpin the rod end of the gauge-wheel cylinders. Pivot the cylinders up. Wire or otherwise safely support the rod-end port higher than the base-end port.

WARNING! 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, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.

5. Bleeding the Hydraulics
   To function properly, the hydraulics must be free of air. If the hydraulics have not been bled, the implement will fold in jerky, uneven motions or some frame sections will run higher than others.

   The hydraulics should be bled during initial implement assembly. If the hydraulics were not bled, or if you replace a part in the hydraulic system during the life of the drill, complete the following procedures.

6. Bleeding the Lift System
   The implement lift system is equipped with rephasing hydraulic cylinders that require a special procedure for bleeding air from the circuit. The rephasing cylinders will function improperly with air in the circuit, causing uneven seeding depth across the implement.

WARNING! You may be severely injured or killed by being crushed from a falling implement. Always have the frame sufficiently blocked up when working on implement.

WARNING! 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, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.

7. When all connections have been made, carefully check all lines to make sure none will be damaged when implement is operated. Reroute lines or use cable ties to keep them in a safe place. Check warning lights for correct operation.

Figure 1-3
Clamp Positioning

Figure 1-4
Hydraulic Hose Connections

NOTE: The SAE O-ring and JIC 37° flare-type hose connections do not require sealant for reconnecting. They do not require high torque for a good seal.
4. With the tractor engine at an idle speed, engage the remote lever for the lifting circuit. When the outside cylinders on both sides of the implement have completely extended, hold the remote lever on for one minute.

5. Retract the cylinder rods. Extend the rods again and hold the remote lever on for one more minute. Repeat this step two more times to completely bleed the system.

6. Recheck the tractor reservoir and fill to the proper level.

Bleeding the Fold System

**WARNING!** 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, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.

1. Check the hydraulic fluid in the tractor reservoir and fill to the proper level. Add fluid to the system as needed. A low oil level may draw air back into the system, causing jerky or uneven cylinder movement.

2. Unpin the rod end of the fold cylinders. Wire or otherwise safely support the cylinders so when the rod is fully extended it does not contact anything. See Figure 1-6.

3. Cycle the cylinders completely in and out at least three times to purge the air from the fold system.

**NOTE:** On the 45-foot implement, if the fold cylinders on one side of the drill will not move after the other side has completely extended or retracted, release the remote lever momentarily, reverse the lever, then try again.

4. Fully extend the cylinders and repin the rod ends.

**CAUTION!** Do not fold implement unless gauge-wheel transport locks are installed.

5. Recheck the tractor reservoir and fill to the proper level.
Side-to-Side Frame Leveling
All frame sections must be level to maintain even seeding depth. Before using the implement in the field, follow these steps to make sure the implement is level side-to-side.

Periodic frame-leveling adjustments should not be necessary, but if you are having problems with uneven depth, check drill levelness and follow these procedures.

NOTE: For front-to-back leveling, see Setting the Seeding Depth, “Adjustments,” page 20.

45-Foot Drill
Since the dual gauge wheels on frame sections three and four are not adjustable, make all adjustments with these as a reference.

WARNING!
You may be severely injured or killed by being crushed by a falling implement. Always have the frame sufficiently blocked up when working on implement.

1. Check that the lift circuit is free of air and full of oil. Refer to Bleeding the Hydraulics, page 12.
2. Hydraulically lower the entire implement frame. Fully retract all gauge-wheel cylinders. Block up or otherwise safely support the implement frame.
3. Take a reference measurement off one dual gauge-wheel as shown in Figure 1-7. Lay a straight edge across at least two tubes of frame section three or four. Extend the straight edge out over the axle. Measure the distance from the bottom of the straight edge to the center of the dual gauge-wheel axle.

4. Move the straight edge out to the first frame section. Lay the straight edge across at least two frame tubes. Extend the straight edge over the non-castored, gauge-wheel axle. Measure the distance from the bottom of the straight edge to the center of the axle. If the dimension is the same as the reference measurement, no adjustment is necessary. Proceed to step 7.
5. If the wing measurement differs from the reference measurement, unpin the gauge-wheel arm. Position and support the arm to a height that matches the reference measurement.
6. Swing the cylinder down and adjust the eye-bolt until the pin holes line up. Secure the eye bolt with the jam nut and repin the cylinder to the gauge-wheel arm. See Figure 1-8.

7. Move the straight edge so it lies over the castored gauge-wheel axle. Adjust the eye bolt at the base of the cylinder (see Figure 1-9) until the center of the axle is about 1/2-inch higher than the reference measurement. Secure eye-bolt by tightening the jam nuts.
8. Repeat steps 5, 6 and 7 for sixth frame section.

9. Make sure all cylinders are securely pinned.

10. With the drill on level ground, note where the frame sections three and four hinge. If the sections bow at their hinge point, adjust the cart sling so the center of the machine is level during field operation. To adjust:
   a. Lower implement until all weight is on openers.
   b. Unpin the sling from the cart. Loosen the jam nut shown in Figure 1-10.
      • To raise center of frame, turn threaded link clockwise.
      • To lower the center, turn threaded link counterclockwise.
   c. Tighten jam nut. Repin sling to cart. Recheck levelness and re-adjust as necessary.

34-Foot Drill
Since the dual gauge wheels on frame sections three and four are not adjustable, make all adjustments with these as a reference.

**WARNING!**
You may be severely injured or killed by being crushed from a falling implement. Always have the frame sufficiently blocked up when working on implement.

1. Check that the lift circuit is free of air and full of oil. Refer to *Bleeding the Hydraulics*, page 12.

2. Hydraulically lower the entire implement frame. Fully retract all gauge-wheel cylinders. Block up or otherwise support the implement frame.

3. Take a reference measurement from the top of the implement frame to the center of one dual gauge-wheel axle as show in Figure 1-7, page 14. Lay a straight edge across at least two tubes of frame section three or four. Extend the straight edge out over the axle. Measure the distance from the bottom of the straight edge to the center of the axle.

4. Move the straight edge out to the first frame section. Lay the straight edge across at least two frame tubes. Extend the straight edge out over the non-castored, gauge-wheel axle. Measure the distance from the bottom of the straight edge to the center of the axle. If the dimension is the same as the reference measurement, no adjustment is necessary. Proceed to step 7.

5. If the wing measurement differs from the reference measurement, unpin the gauge-wheel arm. Position and support the arm at a height that matches the reference measurement.

6. Swing the cylinder down and adjust the eye-bolt (Figure 1-8, page 14) until the pin holes line up. Secure the eye bolt with the jam nut and repin the cylinder to the gauge-wheel arm.

7. Repeat steps 5 and 6 for implement section four.

8. Make sure that all cylinders are securely pinned.

9. With the drill on level ground, note where the frame sections three and four hinge. If the sections bow at their hinge point, adjust the cart sling so the center of the machine is level during field operation. To adjust:
   a. Lower the implement until all weight is resting on the openers.
   b. Unpin the sling from the cart.
   c. Loosen the jam nut shown in Figure 1-10.
      • To raise the center of the implement frame, turn the threaded link clockwise.
      • To lower the center, turn the threaded link counterclockwise.
   d. Tighten jam nut. Repin sling to cart. Recheck levelness and re-adjust as necessary.
Section 2 Operating Instructions

This section covers general operating procedures. Experience, machine familiarity and the following information will lead to efficient operation and good working habits. Carefully read the operator’s manual for the air-drill cart you will be using with the implement. Always operate farm machinery with safety in mind.

General Description
The seed-metering mechanism of this drill is powered by the cart tire and is driven at a rate proportional to distance driven. This ensures the rate applied in pounds per acre remains constant as ground speed varies. The metering device is driven through an electro-magnetic clutch which will not engage unless the fan motor is running at operating speed and the implement is lowered past an adjustable height switch. This prevents the primary seed hoses from being plugged by seed being metered into them without the fan running. It also allows the seed to be shut off automatically when the drill is lifted on headlands. The metered seed is carried by air through the five primary hoses to the distribution towers on the implement. These towers then divide the air and seed into individual rows.

Prestart Checklist
- Lubricate the drill as indicated under Lubrication, “Maintenance and Lubrication,” page 25.
- Check the tires for proper inflation as listed on the Tire Inflation Chart, “Appendix,” page 31.
- Perform all beginning-of-season and daily service items discussed under “Maintenance and Lubrication,” page 25.
- Check the drill for worn or damaged parts and repair or replace them before going to the field.
- Check all nuts, bolts and screws. Refer to the Torque Values Chart, “Appendix,” page 31.

Lifting the Drill
The implement lifting system is equipped with rephasing hydraulic cylinders in a master-slave configuration. They must be bled free of air using the procedures listed under Bleeding the Hydraulics, “Preparation and Setup,” page 12.

Rephasing Lift System
After a period of normal use, the cylinders may get out of phase. This will cause some implement sections to run higher than others. To rephase the cylinders:
1. Raise the implement completely and hold the hydraulic remote lever on for several seconds until all cylinders are fully extended. Do this every time you raise the implement out of the ground.
2. When all cylinders are fully extended, momentarily reverse the hydraulic remote lever to retract the system 1/2 inch. This will help maintain levelness.

Lift Cylinder Channel Locks
The lift system has channel locks for the dual gauge wheels on the center section. See Figure 2-1. Use these locks every time you raise the drill for maintenance, lubrication, folding or transport. To install the locks, place the lock channels over the extended cylinder rods and pin in place.

Figure 2-1
Channel Lock in Place

Folding the Drill
1. Fold the drill on level ground only. Be aware of the clearance required to fold the drill.

**DANGER!**
Overhead crushing hazard - to prevent serious injury or death:
- Always use transport locks when implement is folded.
- Fold implement only if fold cylinders and hoses are bled free of air and fully charged with hydraulic oil.
- Stay away from frame sections when they are being raised and lowered or are in the raised position.
- Stay off of cart walkboard while folding.
- Keep others away.

**DANGER!**
Electrocution hazard. Machine is not grounded. Electrocution can occur without direct contact. To prevent serious injury or death from electrocution:
- Keep clear of overhead power lines when transporting, folding, unfolding, or operating all air drill components.
- Stay away from overhead power lines when positioning auger. Fully raise the implement.
2. Install the lift cylinder channel locks. Refer to Lift Cylinder Channel Locks, page 16.

**IMPORTANT:** Never attempt to fold the drill without first raising it and installing the channel locks or serious equipment damage will occur.

3. Remove folding lock pins and store until folded.
4. Set tractor at low idle speed.
5. Engage the fold hydraulics and slowly fold the implement.

**NOTE:** On 45-foot drills, the outer wing sections will fold before the inner wing sections.

6. When folding is complete, insert the folding lock pins prevent the wings from falling. See Figure 2-2.

**Figure 2-2**
Folding Lock Pins

7. Do not remove the channel locks from a folded drill.

**Unfolding the Drill**
Unfold the drill on level ground only. Be aware of the clearance required to unfold the drill.

**DANGER!**
Overhead crushing hazard - to prevent serious injury or death:

- Always use transport locks when implement is folded.
- Fold implement only if fold cylinders and hoses are bled free of air and fully charged with hydraulic oil.
- Stay away from frame sections when they are being raised/lowered or are in the raised position.
- Keep others away.

**DANGER!**
Electrocution hazard. Machine is not grounded. Electrocution can occur without direct contact. To prevent serious injury or death from electrocution:

- Keep clear of overhead power lines when transporting, folding, unfolding, or operating all air drill components.
- Stay away from overhead power lines when positioning auger.

1. Remove folding lock pins shown in Figure 2-2. Place them in the storage rings.
2. Set tractor at low idle speed.
3. Slowly unfold the implement.

**IMPORTANT:** 45-foot drills are equipped with a sequence valve so one wing will unfold before the other. When both sections of one wing have completely unfolded, release and momentarily reverse the lever. Then re-engage lever to unfold other wing.

4. When the sections are unfolded, hold the lever until the cylinders extend fully.

**Field Operations**
To operate seed metering, the in-cab rocker switch must be on. You do not need to turn the switch on and off while seeding. A height switch on the implement rockshaft will automatically turn seed metering off and on as you raise and lower the drill for field turns.

For normal seeding operations:

1. Check that the in-cab rocker switch is on. The switch should be lit.
2. Energize tractor hydraulics for fan. Lock hydraulic lever in place for continuous operation. Refer to your tractor operator’s manual for instructions on operating hydraulic motor.

**IMPORTANT:** Always engage the fan with the tractor at a low engine speed. Engaging the fan when the tractor is at high speed may cause fan damage.

3. Run fan for at least 15 minutes before seeding. Hydraulic fluid must be warm before fan will operate properly.
4. Watch the air drill monitor and adjust fan speed by increasing or decreasing hydraulic flow from the tractor. Use the following guidelines and the fan-speed chart to properly adjust fan speed.

- Higher fan speeds improve seed distribution, but high fan speeds also increase the chance of seed damage and bounce.
Section 2 Operating Instructions

• At first, adjust fan speed to the high end of the range suggested in the chart below. Watch for excessive seed cracking and seed bounce from the furrow, then reduce fan speed if necessary.

• Follow the fan speed chart on page 18 as a guide. Actual fan speeds will vary with seeding rates, implement width, row spacing, seed weights and seed size. Increase fan speed for narrower row spacings and heavier seeds and seeding rates. Reduce fan speed for wider row spacings, lighter seeding rates and seed more prone to cracking.

Fan Speed Chart

<table>
<thead>
<tr>
<th>Seeds</th>
<th>Fan RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunflowers</td>
<td>2,250 - 3,000</td>
</tr>
<tr>
<td>Wheat</td>
<td>3,250 - 4,000</td>
</tr>
<tr>
<td>Soybeans</td>
<td>2,750 - 3,500</td>
</tr>
<tr>
<td>Milo</td>
<td>3,250 - 4,000</td>
</tr>
</tbody>
</table>

5. Pull forward, lower drill and begin seeding. If the metering system does not turn off and on as the implement is raised and lowered, refer to Electric Clutch Height Switch, “Adjustments,” page 22.

6. When finished seeding, turn the in-cab switch off before transporting.

Opener Operation
• Never back up or turn sharply with openers in the ground. Doing so may plug or damage equipment.

• Be aware of a five- to 10-foot delay needed for the seed to reach the openers. If you stop in the middle of the field, lift the drill and back up 10 feet before proceeding.

• Check periodically for plugged openers and hoses. With the fan running, hand crank the metering system. Look below each opener for seed or fertilizer. Do not crawl among the openers unless transport locks are installed, the implement is securely blocked, and the tractor key is turned off and removed.

• The floating-hoe openers give when they encounter obstructions. If spring-reset hoe does not fully return to position, lift the drill out of the ground and allow the spring to pull opener back down.

To reset shear-bolt openers, replace broken bolts with 5/16 x 3-inch, grade 5 bolts only (Great Plains part number 802-131C).

• See Setting Seeding Depth, “Adjustments,” page 20, for information on setting seed depth and making opener adjustments.

Transporting

⚠️ DANGER! ⚠️
Electrocution hazard. To prevent serious injury or death from electric shock, keep clear of overhead power lines when transporting, folding, unfolding or operating all air drill components. Machine is not grounded. Electrocution can occur without direct contact.

⚠️ WARNING! ⚠️
Towing the drill at high speeds or with a vehicle that is not heavy enough can lead to loss of vehicle control. Loss of vehicle control can lead to serious road accidents, injury and death. To reduce the hazard:

• Do not exceed 20 mph.
• Do not tow a drill that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.

⚠️ WARNING! ⚠️
The implement is designed to hitch to the air drill cart only.
Hitching the implement to any vehicle other than a Great Plains air drill cart will create an unstable towing load and can lead to road accidents, injury and death. To avoid the hazard, do not transport the implement unless hitched to an air drill cart.

Before transporting the implement, check and practice the following items.

**Minimum Towing Vehicle Weight**
- ADI345 hitched to ADC2220: 23,800 pounds
- ADI334 hitched to ADC2220: 21,150 pounds
- ADI345 hitched to ADC1150: 19,900 pounds
- ADI334 hitched to ADC1150: 17,250 pounds

**Rocker Switch Off.** Check that the in-cab rocker switch is turned off while transporting.

**Stopping Distance.** Keep the combined weight of the implement and cart in mind. Allow sufficient stopping distance at all times. Reduce speed prior to making any turns or other maneuvers.

**Clearance.** Know the maximum dimensions of the drill in transport position. Follow a route that provides adequate clearance from all obstructions, including overhead lines. Refer to “Specifications and Capacities,” page 30.

**Channel Locks.** Be sure channel locks are pinned securely over dual gauge-wheel cylinders.

IMPORTANT: Do not remove channel locks from a folded implement or cart damage may occur due to settling.

**Tire Pressure.** Be certain that all tires are properly inflated as listed in the Tire Inflation Chart, “Appendix,” page 31.

**Road Rules.** Comply with all federal, state and local laws when transporting on public roads.

**Bystanders.** Check that no one is in the way before moving. Do not allow anyone to ride on the air drill.

**Warning Lights.** To use the implement warning lights, your tractor must be equipped with a seven-pin electrical connector. Always use implement warning lights when transporting the air drill.

**Watch Traffic.** Remember that the air-drill cart and folded implement wings can obstruct your view. Be prepared for sudden maneuvers from following vehicles.

**Parking**
Take the following steps when parking the drill. Refer to Storage, “Maintenance and Lubrication,” page 25 for information on long-term storage.

1. Raise and install channel locks. Refer to Lift Cylinder Channel Locks, page 16.
2. Place the drill on a firm, level area.
3. Remove jack from storage position and pin securely to lifting stob on outside of tongue.
4. If ground is soft, place a wide block or plate under the jack to increase the contact area.
5. Securely block the drill tires to prevent rolling.
6. Extend the jack until the weight is off of the tractor drawbar.
7. Unhook electrical lines and install plugs as provided.
8. Release pressure on hydraulic system, then disconnect hydraulic lines and pull all lines back onto the drill tongue. Be sure the ends do not rest on the ground.
9. Remove the drawbar pin and disconnect the safety chain.
Setting the Seeding Depth
For equal seeding depth across all openers, the drill must be level from front-to-rear and side-to-side. The gauge wheels set depth for the front of the drill. The press wheels level the drill from front-to-rear. Side-to-side leveling is done when the drill is assembled and should not require re-adjustment.

Before adjusting seeding depth, make sure that the lift cylinders are in phase as explained under Lifting the Drill, “Operating Instructions,” page 16. Make sure the fold cylinders are fully extended.

To set the seeding depth and level the drill:
1. Find the depth-control stop and plunger valve on one of the lift cylinders directly behind the cart frame. Loosen the bolt and slide the stop all the way down as shown in Figure 3-1.

2. Raise or lower the drill so that the front rank of openers is at the desired depth.

3. Slide the depth-stop clamp up the cylinder rod as far as possible, making sure it fully depresses the plunger rod. See Figure 3-2.

4. Check the depth of the rear rank of openers. If they are not the same as the front rank, adjust the press wheels to level the drill.

   To adjust the press wheels, refer to Figure 3-3. Remove the handle lock pin and slide the handle back.
   • To raise the rear rank of openers, turn the rod counterclockwise, when viewed from above, so the distance from the handle to the press wheels increases.
   • To lower the rear rank of openers, turn the rod clockwise, when viewed from above, so the distance from the handle to the press wheels decreases.
Individual Opener Adjustments
You can adjust the depth and down pressure on individual openers. This is useful for openers that run in tire tracks or particularly hard ground. Before adjusting any openers, be sure the drill is level side-to-side and front-to-rear. Refer to Side-to-Side Frame Leveling, “Preparation and Setup,” page 14 and Setting Seeding Depth, page 20.

Opener Depth
To adjust the planting depth of individual openers, remove the lower spring-rod-keeping bolt. Reinstall the bolt in a different hole. See Figure 3-4.
- For deeper seeding, move the retaining bolt ahead, toward the drill.
- For shallower seeding, move the bolt back, away from the drill.

**IMPORTANT:** If you adjust opener depth, check the angle of the hoe tip. Refer Hoe-Tip Angle, this page.

Opener Spring Down Pressure
To adjust the down pressure of individual openers, move the W clip to a different hole in the spring rod. Refer to Figure 3-5.
- For greater down pressure, move the clip to a higher hole.
- For less down pressure, move the clip to a lower hole.

**Hoe-Tip Angle**
For maximum hoe-tip life, the tip angle should be set so the point of the tip runs 1/8-inch lower than the heel as shown in Figure 3-6.
Section 3 Adjustments

To adjust the hoe-tip angle:

- **Shear-bolt openers.** Move the shear bolt to a higher or lower hole. Use only 5/16 x 3-inch, grade 5 bolts. Refer to Figure 3-7.

  ![Figure 3-7](image1)

  **Figure 3-7**
  Tip Angle Adjustment, Shear Bolt

- **Spring reset openers.** Turn the trunnion bolt until the tip angle is correct. See Figure 3-8.

  ![Figure 3-8](image2)

  **Figure 3-8**
  Tip Angle Adjustment, Spring Reset

**Electric Clutch Height Switch**

**WARNING!**

*Do not place any part of body under implement while making adjustments.*

A height switch turns seed metering off when the implement is raised. The switch is on the left-hand, dual gauge-wheel-arm pivot tube. Seed will be metered if the switch is extended (off cam). Metering will stop when the switch is compressed (on cam). To adjust the height at which seed metering is turned off, follow these steps.

1. Lower the implement until it is at a height where you want seeding to start (usually just above the ground).
2. Turn off the tractor and remove the key.
3. Loosen the cam clamp on the pivot tube and turn until the roller is just starting to make contact with the ramp surface. See Figure 3-9.

  ![Figure 3-9](image3)

  **Figure 3-9**
  Height Switch Adjustment

4. Tighten the clamp securely.
5. Raise the implement fully and check that the switch is compressed as shown in Figure 3-10.

  ![Figure 3-10](image4)

  **Figure 3-10**
  Metering Off Position
### Section 4 Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Erratic seeding pattern or emergence</strong></td>
<td>Check all hoses and towers for air leaks.</td>
</tr>
<tr>
<td></td>
<td>Check seed distribution hoses for plugging. Stop and raise the drill with the fan running. Hand crank the meter to see if any hoses are plugged.</td>
</tr>
<tr>
<td></td>
<td>Reduce ground speed.</td>
</tr>
<tr>
<td></td>
<td>Check that openers and press wheels are aligned.</td>
</tr>
<tr>
<td></td>
<td>Check for debris in tower blocking the hoses.</td>
</tr>
<tr>
<td></td>
<td>Check for plugged seed tubes.</td>
</tr>
<tr>
<td><strong>Secondary, one-inch hoses are plugging.</strong></td>
<td>Check if hoses have too much slack. Leave only enough slack for the drill wing flexing.</td>
</tr>
<tr>
<td></td>
<td>Increase fan speed.</td>
</tr>
<tr>
<td></td>
<td>Check seed hoses for damage. Replace if necessary.</td>
</tr>
<tr>
<td></td>
<td>Check for debris in seed that is too large for hose.</td>
</tr>
<tr>
<td><strong>Openers are plugging with dirt.</strong></td>
<td>Consider soil conditions; may be too damp.</td>
</tr>
<tr>
<td></td>
<td>Do not turn too sharply which could cause inside openers to plug.</td>
</tr>
<tr>
<td></td>
<td>Never back up with openers lowered.</td>
</tr>
<tr>
<td><strong>Primary, 2 1/2-inch hoses are plugging.</strong></td>
<td>Check if hoses are routed with too sharp of bends.</td>
</tr>
<tr>
<td></td>
<td>Increase fan speed.</td>
</tr>
<tr>
<td></td>
<td>Check if meter is shutting off when the fan is off. If not, fan hydraulic-pressure switch (part number 823-083C) may be faulty or improperly adjusted. Refer to cart parts manual for pressure-switch location.</td>
</tr>
<tr>
<td><strong>Front and rear openers are not at the same depth.</strong></td>
<td>Adjust press wheels. Refer to <em>Setting the Seeding Depth</em>, &quot;Adjustments,&quot; page 20.</td>
</tr>
<tr>
<td><strong>Sections are not operating at the same depth.</strong></td>
<td>Rephase gauge-wheel cylinders. Refer to <em>Lifting the Drill</em>, &quot;Operating Instructions,&quot; page 16.</td>
</tr>
<tr>
<td></td>
<td>Bleed air from lift circuit. Refer to <em>Bleeding the Hydraulics</em>, &quot;Preparation and Setup,&quot; page 12.</td>
</tr>
<tr>
<td></td>
<td>Check that implement frame is level side-to-side. Refer to <em>Side-to-Side Frame Leveling</em>, &quot;Preparation and Setup,&quot; page 14.</td>
</tr>
<tr>
<td></td>
<td>Check that wing fold cylinders are fully extended.</td>
</tr>
</tbody>
</table>
## Section 4 Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sections are creeping up or down in the field.</td>
<td>Bleed air from lift circuit. Refer to <em>Bleeding the Hydraulics, “Preparation and Setup,”</em> page 12.</td>
</tr>
<tr>
<td></td>
<td>Check for a leaky gauge-wheel cylinder. If a cylinder leaks internally, it will retract while all cylinders outside of it will extend. Install a new seal kit.</td>
</tr>
<tr>
<td>All drill sections settle lower in the field.</td>
<td>Check if the plunger O-ring on the depth-stop valve is leaking; replace O-ring.</td>
</tr>
<tr>
<td>Excessive seed cracking</td>
<td>Reduce fan speed.</td>
</tr>
<tr>
<td></td>
<td>Check if a divider is missing from the tower assembly.</td>
</tr>
<tr>
<td>Acremeter is not accurate</td>
<td>Check tires for correct pressure. Refer to <em>Tire Inflation Chart, “Appendix,”</em> page 31.</td>
</tr>
<tr>
<td></td>
<td>Check for excessive overlap or skips in planting.</td>
</tr>
<tr>
<td></td>
<td>Consider soil conditions; loose soil may cause variation in acres registered.</td>
</tr>
<tr>
<td></td>
<td>Be sure the correct clutch sprocket is installed. The 45-foot implement uses a 29-tooth sprocket, and the 34-foot uses a 38-tooth sprocket.</td>
</tr>
<tr>
<td>Seed emerging to the side of the press-wheel track.</td>
<td>Check that press wheels and openers are aligned. If whole gang is off, move press wheels.</td>
</tr>
<tr>
<td></td>
<td>Do not turn sharply with the openers in the ground.</td>
</tr>
<tr>
<td>No seed being metered.</td>
<td>Check power to the electric-clutch circuit.</td>
</tr>
<tr>
<td></td>
<td>Check the clutch-switch adjustment. Refer to <em>Electric Clutch Height Switch, “Adjustments,”</em> page 22.</td>
</tr>
<tr>
<td></td>
<td>Check that gearbox-clutch handle is engaged.</td>
</tr>
<tr>
<td></td>
<td>Check that clutch sprocket is secured to shaft.</td>
</tr>
<tr>
<td></td>
<td>Check if fan pressure switch is not closing. Switch should close at 800 psi and higher.</td>
</tr>
<tr>
<td>Seed being scattered on the ground behind the drill.</td>
<td>Increase seeding depth. Refer to <em>Setting the Seeding Rate, “Adjustments,”</em> page 20. Seeding depth too shallow.</td>
</tr>
<tr>
<td></td>
<td>Reduce fan speed.</td>
</tr>
<tr>
<td></td>
<td>Reduce ground speed.</td>
</tr>
<tr>
<td></td>
<td>Check if openers are partially plugged with dirt.</td>
</tr>
</tbody>
</table>
Section 5 Maintenance and Lubrication

Maintenance
Proper servicing and adjustment is the key to the long life of any farm equipment. With careful, regular inspection and lubrication, you can avoid many costly repairs and downtime.

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

⚠️ WARNING!
You may be severely injured or killed by being crushed from a falling implement. Always have transport locks in place and frame sufficiently blocked up when working on implement.

⚠️ WARNING!
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 injured, seek medical assistance from a doctor that is familiar with this type of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.

⚠️ WARNING!
Read and obey all safety labels on the implement.

1. After initially running the drill for several hours, check all bolts to be sure they are tight. Do not over tighten the bolts holding the distribution tower assembly together. Refer to Torque Values Chart, “Appendix,” page 31.
2. Clean or replace any fittings which will not take grease.
3. Lubricate as noted under Lubrication, this page.

Lubrication

<table>
<thead>
<tr>
<th>Lubrication Legend</th>
<th>Multipurpose spray lube</th>
<th>Multipurpose grease lube</th>
<th>Multipurpose oil lube</th>
<th>Intervals at which lubrication is required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Wheel Pivots</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot
Section 5 Maintenance and Lubrication

Great Plains Mfg., Inc.

Lift Assist Pivots

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot

Castor Wheel Shafts

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot tube

Press Wheel Gang Bearings

Type of Lubrication: Grease
Quantity = Until resistance is felt

Press Wheel Pivot Bearings

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot
Great Plains Mfg., Inc.

Section 5 Maintenance and Lubrication

Cart Pull Link Pivots

Type of Lubrication: Grease
Quantity = Until grease is visible

Implement Hinge Pivots

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot tube

Parallel Arm Pivots
45-Foot Only

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot tubes

Press Wheel Screw Adjustments

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of tube
Section 5 Maintenance and Lubrication

Floating Hoe Opener Pivots

Type of Lubrication: Grease
Quantity = Until grease is visible at ends of pivot

Wheel or Axle Bearings

Type of Lubrication: Wheel bearing grease
Quantity = Pack full
### Rock Guards and Scrapers

Optional rock guards keep stones from lodging between the press wheels. Scrapers mount over the press wheels to clean mud and trash from the wheels as they turn.

To order either option or both guards and scrapers, contact your Great Plains dealer. Refer to the chart below for the correct part number for your drill.

<table>
<thead>
<tr>
<th>Drill Size</th>
<th>Rock Guards</th>
<th>Scrapers</th>
<th>Guards &amp; Scrapers</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 ft, 7-in rows</td>
<td>162-257A</td>
<td>162-479A</td>
<td>162-480A</td>
</tr>
<tr>
<td>34 ft, 10-in rows</td>
<td>162-258A</td>
<td>162-462A</td>
<td>162-463A</td>
</tr>
<tr>
<td>34 ft, 12-in rows</td>
<td>162-470A</td>
<td>162-471A</td>
<td>162-472A</td>
</tr>
<tr>
<td>45 ft, 7-in rows</td>
<td>162-053A</td>
<td>162-100A</td>
<td>162-101A</td>
</tr>
<tr>
<td>45 ft, 10-in rows</td>
<td>162-433A</td>
<td>162-434A</td>
<td>162-435A</td>
</tr>
<tr>
<td>45 ft, 12-in rows</td>
<td>162-056A</td>
<td>162-098A</td>
<td>162-103A</td>
</tr>
</tbody>
</table>
### Specifications and Capacities

#### Width
- 34 or 45 ft

#### Number of openers
- ADI345
- ADI334

<table>
<thead>
<tr>
<th>Row Spacing</th>
<th>Opener Style</th>
<th>ADI345</th>
<th>ADI334</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 in</td>
<td>Shear Bolt Hoe</td>
<td>14945 lbs</td>
<td>11292 lbs</td>
</tr>
<tr>
<td>7 in</td>
<td>Spring Reset Hoe</td>
<td>16250 lbs</td>
<td>12278 lbs</td>
</tr>
<tr>
<td>10 in</td>
<td>Shear Bolt Hoe</td>
<td>13500 lbs</td>
<td>10200 lbs</td>
</tr>
<tr>
<td>10 in</td>
<td>Spring Reset Hoe</td>
<td>14440 lbs</td>
<td>10910 lbs</td>
</tr>
<tr>
<td>12 in</td>
<td>Shear Bolt Hoe</td>
<td>12875 lbs</td>
<td>9728 lbs</td>
</tr>
<tr>
<td>12 in</td>
<td>Spring Reset Hoe</td>
<td>14000 lbs</td>
<td>10321 lbs</td>
</tr>
</tbody>
</table>

#### Implement Weight

<table>
<thead>
<tr>
<th>Row Spacing</th>
<th>Opener Style</th>
<th>ADI345</th>
<th>ADI334</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 in</td>
<td>Shear Bolt Hoe</td>
<td>14945 lbs</td>
<td>11292 lbs</td>
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</tr>
<tr>
<td>12 in</td>
<td>Spring Reset Hoe</td>
<td>14000 lbs</td>
<td>10321 lbs</td>
</tr>
</tbody>
</table>

#### Overall Transport Height
- ADI334: 13 ft, 2 in
- ADI345: 15 ft, 8 in

#### Overall Transport Width
- 20 ft

#### Overall Road Clearance
- 8 1/2 in

#### Distance Between Ranks
- 28 in

#### Seed Hose
- Primary: 2 1/2-in inner dimension
- Secondary: 1-in inner dimension

#### Tires
- 9.5L x 15 6-ply tires on 15-in rims

#### Tractor Horsepower Requirements
- 34-foot implement - 180 horsepower
- 45-foot implement - 240 horsepower (Horsepower requirements will vary with soil type, terrain and tillage practices.)

#### Tractor Hydraulic Requirements
- Three sets of hydraulic outlets
- Load-sensitive or closed-center hydraulics
- Capacity 15 to 30 gallons per minute at 2000 pounds per square inch

---

**Specification Drawing**

![Specification Drawing](16556)
### Appendix

#### Tire Inflation Chart

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Inflation PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.5L x 16.1” 10-Ply</td>
<td>36</td>
</tr>
<tr>
<td>9.5L x 15” 6-Ply</td>
<td>32</td>
</tr>
<tr>
<td>7.5L x 15” 8-Ply</td>
<td>44</td>
</tr>
<tr>
<td>7.5L x 15” 12-Ply</td>
<td>60</td>
</tr>
</tbody>
</table>

**NOTE:** All tires are warranted by the original manufacturer of the tire. Tire warranty information can be found in the brochure's included with your Operator’s and Parts Manuals or online at the manufacturer’s websites. For service assistance or information, contact your nearest Authorized Farm Tire Retailer.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titan</td>
<td><a href="http://www.titan-intl.com">www.titan-intl.com</a></td>
</tr>
<tr>
<td>Goodyear</td>
<td><a href="http://www.goodyearag.com">www.goodyearag.com</a></td>
</tr>
<tr>
<td>Firestone</td>
<td><a href="http://www.firestoneag.com">www.firestoneag.com</a></td>
</tr>
</tbody>
</table>

---

### Torque Values Chart for Common Bolt Sizes

<table>
<thead>
<tr>
<th>Bolt Size (Inches)</th>
<th>Bolt Size (Metric)</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>in-tpi</td>
<td>mm x pitch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N · m</td>
<td>ft-lb</td>
</tr>
<tr>
<td></td>
<td>N · m</td>
<td>ft-lb</td>
</tr>
<tr>
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**NOTE:** All in-tpi = nominal thread dia. in inches-threads per inch

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### Torque Tolerance

1. Class 5.8
   - +0%, -15% of torquing values
2. Class 8.8
   - +0%, -5% of torquing values
3. Class 10.9
   - +0%, -2% of torquing values

---

**NOTE:** For service assistance or information, contact your nearest Authorized Farm Tire Retailer.

#### Great Plains Mfg., Inc.

**Tire Inflation Chart**

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**NOTE:** All tires are warranted by the original manufacturer of the tire. Tire warranty information can be found in the brochure's included with your Operator's and Parts Manuals or online at the manufacturer's websites. For service assistance or information, contact your nearest Authorized Farm Tire Retailer.

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**Manufacturer**

- Titan www.titan-intl.com
- Goodyear www.goodyearag.com
- Firestone www.firestoneag.com
Hydraulic Schematics–45-Foot Drill

45-Foot Lifting Hydraulics

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
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<th>Length</th>
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45-Foot Folding Hydraulics

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Hydraulic Schematics–34-Foot Drill

34-Foot Lifting Hydraulics

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Great Plains Mfg., Inc.

Appendix

34-Foot Folding Hydraulics

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Warranty

Great Plains Manufacturing, Incorporated warrants to the original purchaser that this seeding equipment will be free from defects in material and workmanship for a period of one year from the date of original purchase when used as intended and under normal service and conditions for personal use; 90 days for commercial or rental purposes. This Warranty is limited to the replacement of any defective part by Great Plains Manufacturing, Incorporated and the installation by the dealer of any such replacement part. Great Plains reserves the right to inspect any equipment or part which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Great Plains’ judgement shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. This Warranty shall not apply if the product is towed at a speed in excess of 20 miles per hour.

Claims under this Warranty must be made to the dealer which originally sold the product and all warranty adjustments must be made through such dealer. Great Plains reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Great Plains liable for damages of any kind, direct, consequential, or contingent, to property. Furthermore, Great Plains shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, losses caused by harvest delays or any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express 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 with Great Plains Manufacturing, Incorporated within 10 days from the date of original purchase.