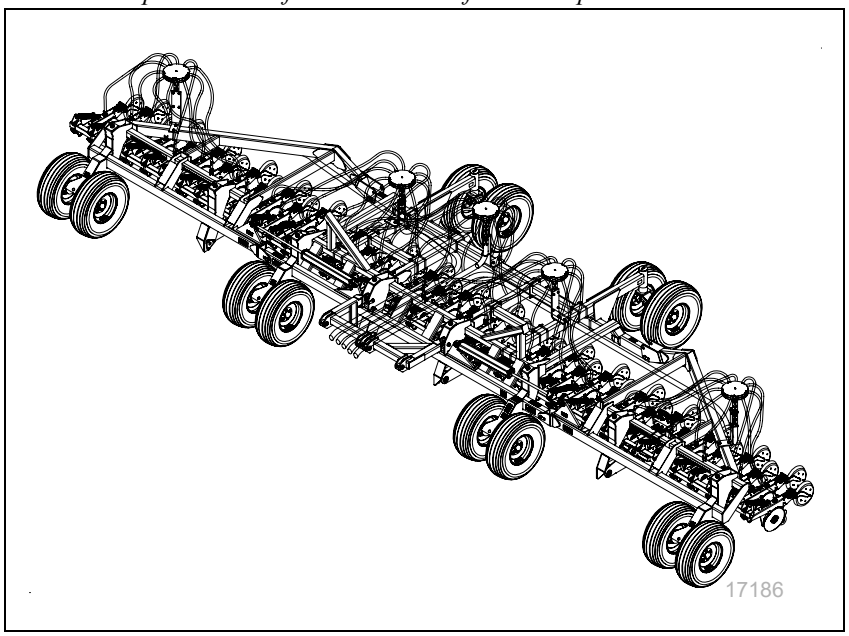
Operator Manual

CTA4000
Air Drill Implement
2007+

Great Plains
Manufacturing, Inc.
www.greatplainsmfg.com

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.

ORIGINAL INSTRUCTIONS

EN

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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.

Model Number	
Serial Number	
Machine Height	
Machine Length	
Machine Width	
Machine Weight	
Year of Construction	
Delivery Date	
First Operation	
Accessories	

Dealer Contact Information

Name: _____

Street: _____

City/State: _____

Telephone: _____

Email: _____

Dealer's Customer No.: _____

⚠WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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Printed in the United States of America

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.

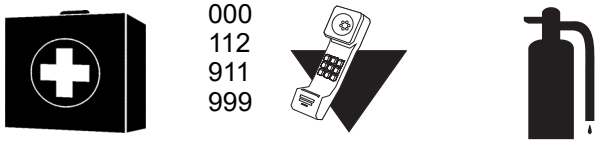
DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

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.

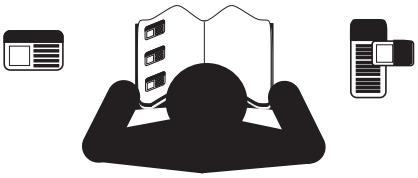
Prepare for Emergencies

- *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.*

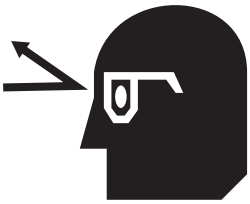


Be Familiar with Safety Decals

- *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.*



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 attention from a physician familiar with this type of injury.*

Wear Protective Equipment

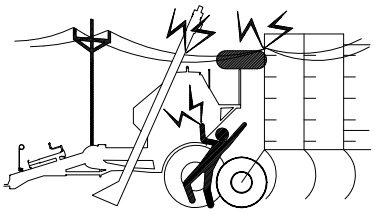
- ▲ *Wear protective clothing and equipment.*
- ▲ *Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.*
- ▲ *Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.*
- ▲ *Because 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.

- ▲ *Do not use liquid treatments with implement.*
- ▲ *Read and follow chemical manufacturer's instructions.*
- ▲ *Wear protective clothing.*
- ▲ *Handle all chemicals with care.*
- ▲ *Avoid inhaling smoke from any type of chemical fire.*
- ▲ *Never drain, rinse or wash dispensers within 100 feet (30m) of a freshwater source, nor at a car wash.*
- ▲ *Store or dispose of unused chemicals as specified by chemical manufacturer.*
- ▲ *Dispose of empty chemical containers properly. Laws generally require power rinsing or rinsing three times, followed by perforation of the container to prevent re-use.*

Check for Overhead Lines



Seed auger or implement markers contacting overhead electrical lines can introduce lethal voltage levels on implement, cart and tractor frames. A person touching almost any metal part can complete the circuit to ground, resulting in serious injury or death. At higher voltages, electrocution can occur without direct contact.

- ▲ *Avoid overhead lines during seed loading/unloading and marker operations.*

Use Safety Lights and Devices

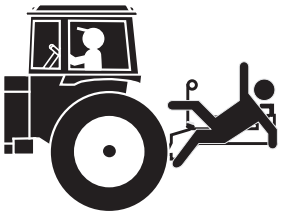
Slow-moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

- *Use flashing warning lights and turn signals whenever driving on public roads.*
- *Use lights and devices provided with implement and cart.*

Keep Riders Off Machinery

Riders obstruct the operator's view. Riders could be struck by foreign objects or thrown from the machine.

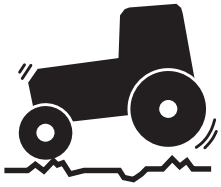
- *Never allow children to operate equipment.*
- *Keep all bystanders away from machine when folding/unfolding, raising/lowering markers, raising/lowering openers, and transporting.*



Transport Machinery Safely

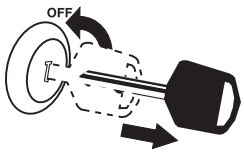
Maximum transport speed for implement is 20 mph (32 kph). Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

- *Do not exceed 20 mph (32 kph). 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 national, regional and local laws.*
- *Follow your tractor manual recommendations for maximum hitch loads. Insufficient weight on tractor steering wheels will result in loss of control.*
- *Carry reflectors or flags to mark implement and cart 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 54.*



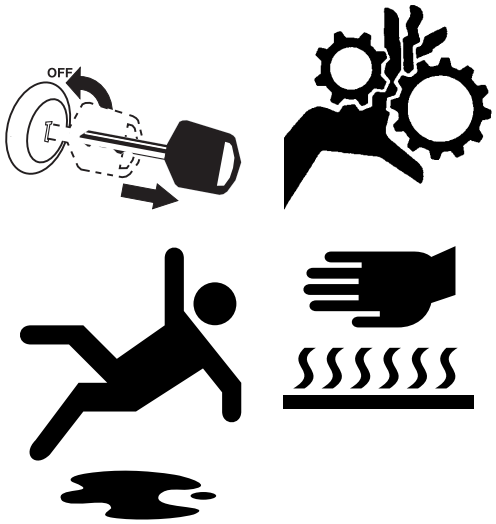
Shutdown and Storage

- *Clean out and safely store or dispose of residual chemicals.*
- *Secure implement using blocks and transport locks. Lower openers if not locked up.*
- *Store 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.*
- *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.*
- *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.*



Tire Safety

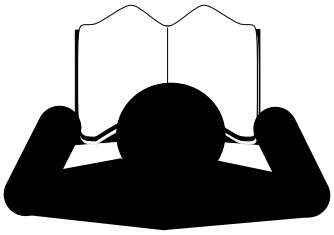
Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.

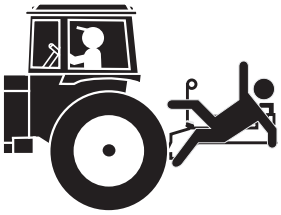
- *When inflating tires, use a clip-on chuck and extension hose long enough for you to stand to one side–not in front of or over tire assembly. Use a safety cage if available.*
- *When removing and installing wheels, use wheel-handling equipment adequate for weight involved.*

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 cart and implement functions.*
- *Operate machinery from the driver's seat only.*
- *Do not leave implement unattended with tractor engine running.*
- *Do not dismount a moving tractor. Dismounting a moving tractor could cause serious injury or death.*
- *Do not stand between the tractor and implement during hitching.*
- *Keep hands, feet and clothing away from power-driven parts.*
- *Wear snug-fitting clothing to avoid entanglement with moving parts.*





Safety Decals

Safety Reflectors and Decals

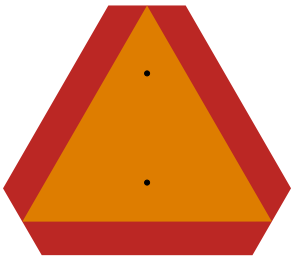
Your implement comes equipped with all lights, safety reflectors and decals in place. They were designed to help you safely operate your implement.

- ▲ *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:

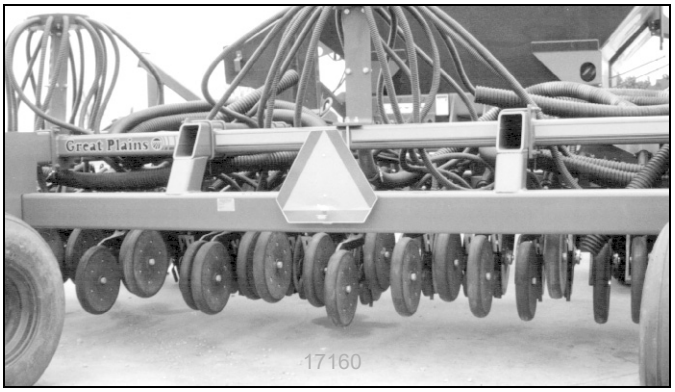
1. Clean the area on which the decal is to be placed.
2. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.

818-055C



Slow Moving Vehicle Reflector

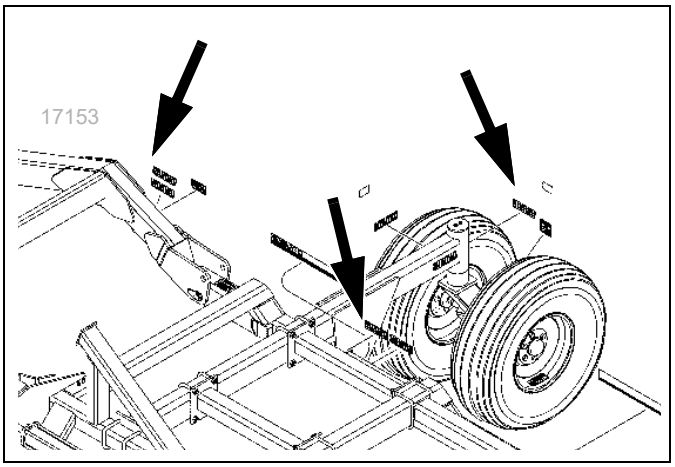
Center of rear frame tube; 1 total



838-266C

Red Reflectors

On each of two spindle tubes of the rear casters, on rear face of each wing near pivot, on rear face of rear lift-assist side braces; 6 total



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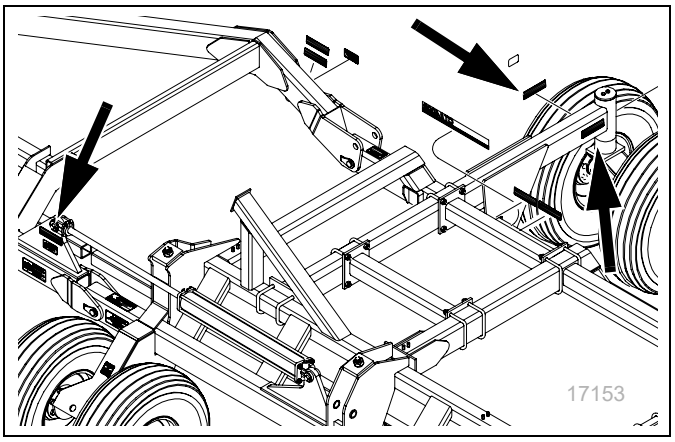
Amber Reflectors

Outside each of two rear lift assist arms, on front of each wing cylinder lug; 6 total.



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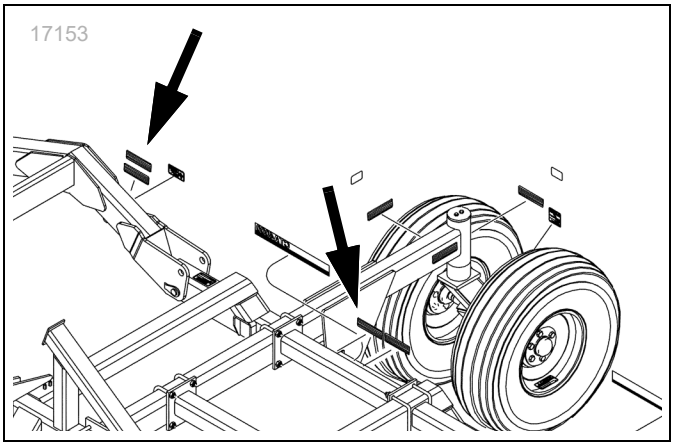
Daytime Reflectors

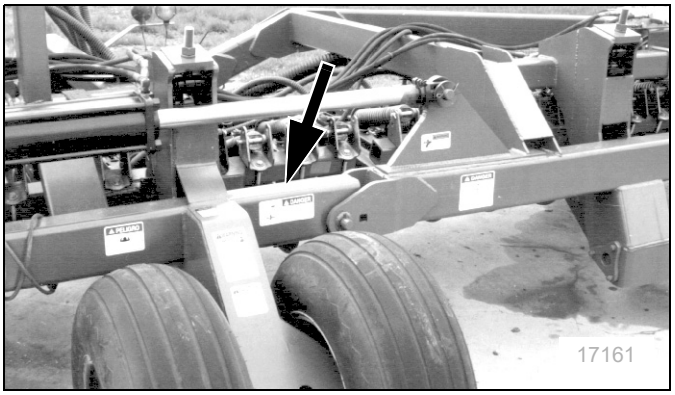
On rear face of each wing near pivot, on rear face of rear lift-assist side braces; 4 total



818-046C

Danger: Overhead Crush Hazard

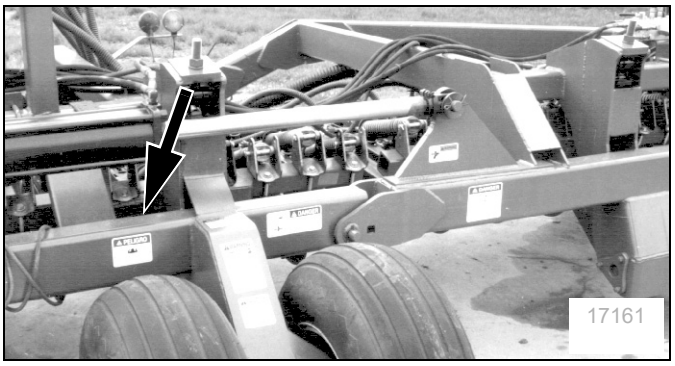
On the front center frame tube, each end; 2 total



848-512C

Danger: Read Manual

On tongue at hitch; 1 total



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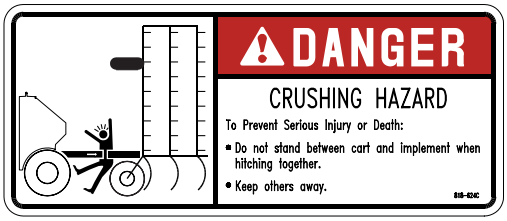
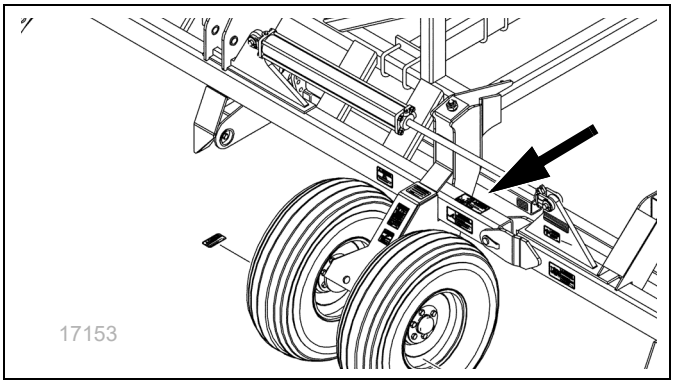


Danger: Hitch Crushing Hazard

On top each end of front center frame; 2 total



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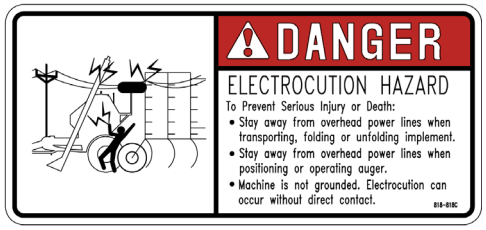
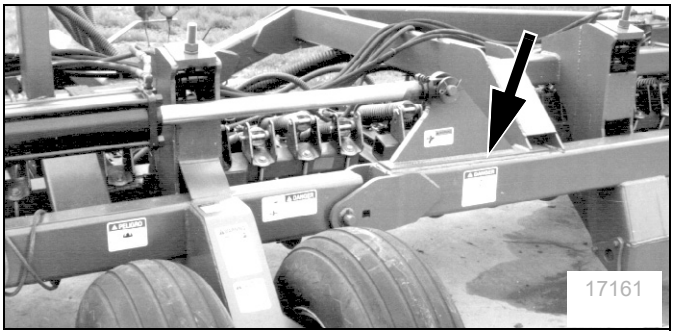


Danger: Electrocution Hazard

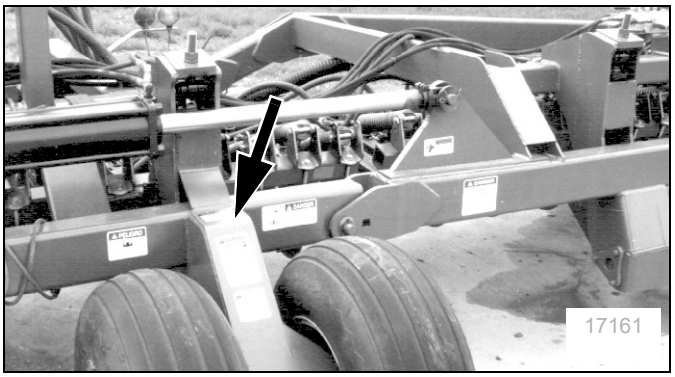
One each wing section near fold; 2 total



818-339C

Warning: High Pressure Fluid

On gauge wheel near hydraulics; 1 total



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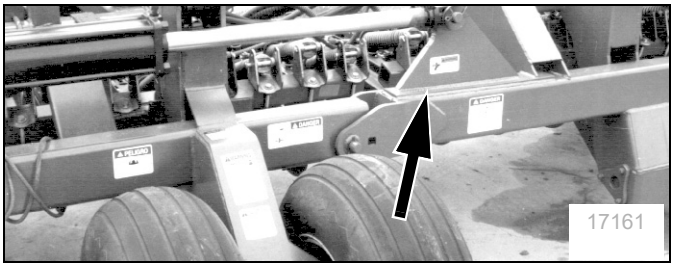
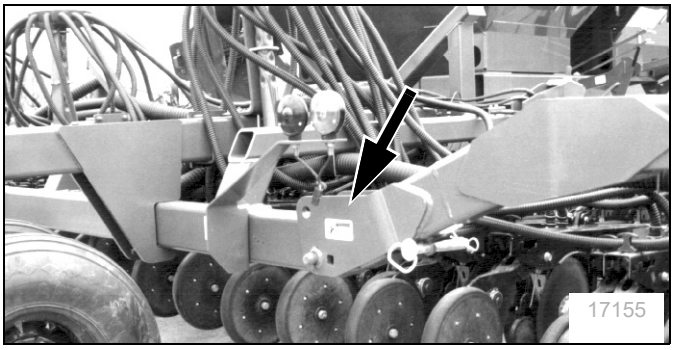
Warning: Pinch Point Hazard

Fold cylinder mounts, both sides, front and back; 4 total





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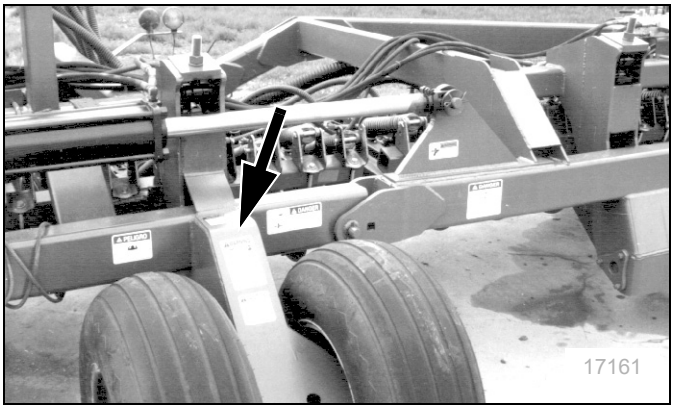
Caution: Tires Not A Step

On each gauge wheel; 6 total



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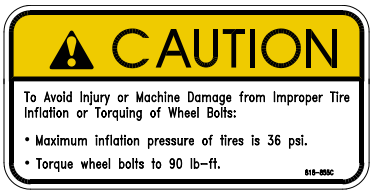
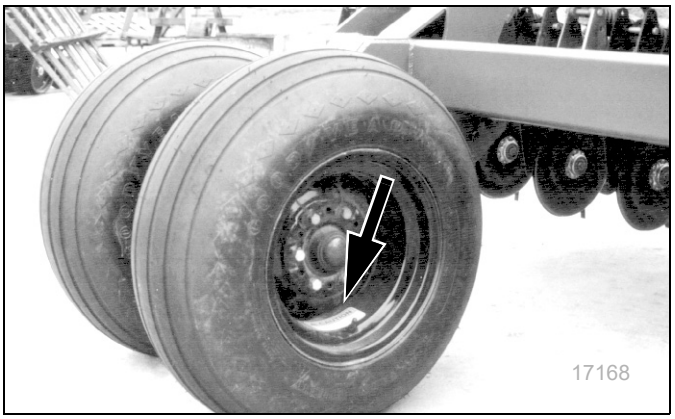


Caution: Tire Pressure

On outside rim of each wheel pair; 6 total



Introduction

Great Plains welcomes you to its growing family of new product owners. Your Air Drill Implement 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.

Document Family

160-269M-A	Owner's Manual (this document)
167-085B	Seed Rate Charts
160-269P	Parts Manual
167-085M	Air Cart Operators Manual

Models Covered by this Manual

CTA4000-5010	40 foot, 50 row, 10 inch spacing
CTA4000-6575	40 foot, 65 row, 7.5 inch spacing
CTA4000-8006	40 foot, 80 row, 6 inch spacing

For CTA4000HD, see manual 160-037M.

Description of Unit

The CTA4000 is a pull-type implement for volumetric seeding. A fan on a companion air cart creates an airflow to supply seed and dry granular treatments to the implement.

The 2007+ CTA4000 Air Drill Implement is usable with the 2352 Great Plains air cart as well as older 2350 models.

Carts introduced after the release of this manual may also be compatible. Consult your Great Plains dealer.

For use of the 2006- CTA4000 implement with ADC1150 or ADC2220 air carts, refer to manual: 160-269M Owner's Manual (pre-2007).

Intended Usage

Use the implement and implement to seed production-agriculture crops only. Do not modify the implement for use with attachments other than Great Plains options and accessories specified for use with the implement.

Definitions

The following terms are used throughout this manual.

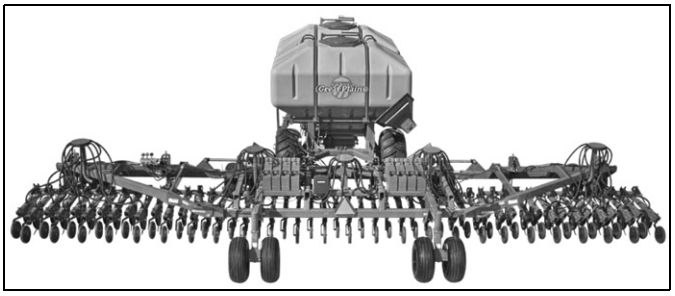


Figure 1 28228
Air Cart Leading Implement

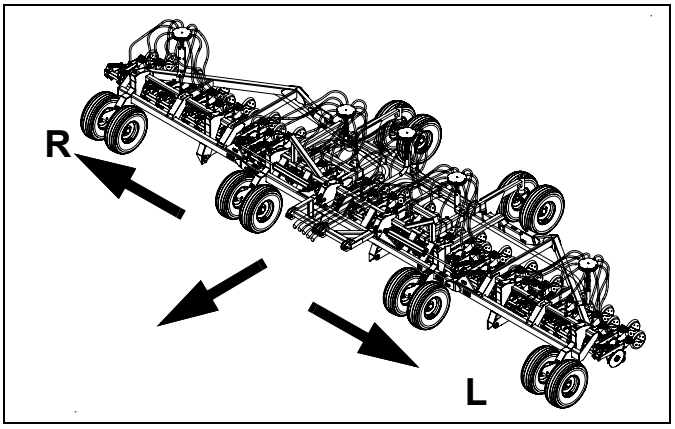


Figure 2 26254
Left/Right Notation

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.

NOTICE

Paragraphs in this format present a crucial point of information related to the current topic.

Read and follow the directions to:
- remain safe,
- avoid serious damage to equipment and
- ensure desired field results.

📖 Paragraphs in this format provide useful information related to the current topic.

Parts Manual QRC

The QR Code to the left will take you to this machine's parts manual. Use your smart phone or tablet to scan and start viewing.

Product Manuals QRC

The QR Code to the left will take you to Great Plains' catalog of product manuals. Use your smart phone or tablet to scan and start viewing.

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.

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 3

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 side of the cart frame below the front hopper.

Record your implement model and serial number here for quick reference:

Model Number:_____

Serial Number: _____

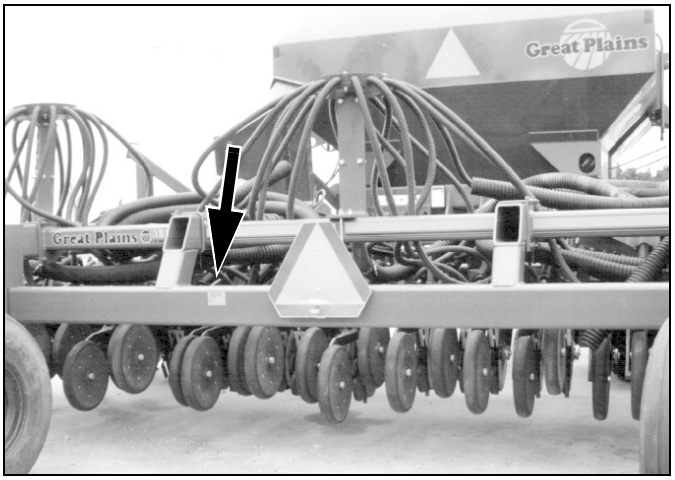


Figure 3 17160
Serial Number Plate

Further Assistance

Great Plains Manufacturing, Inc. and your Great Plains dealer want you to be satisfied with your new 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.

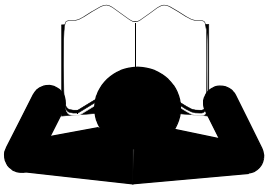
If your dealer is unable to resolve the problem or the issue is parts related, please contact:

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, cart and implement for use. Before using the implement in the field, you must hitch the implement to a suitable tractor, compatible cart, and also setup the implement.



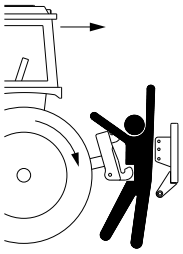
Pre-Setup Checklist

1. Read and understand "**Important Safety Information**" on page 1.
2. Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
3. Check that all grease fittings are in place and lubricated. See "**Lubrication**" on page 50.
4. Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. See "**Safety Decals**" on page 6.
5. Inflate tires to pressure recommended and tighten wheel bolts as specified. "**Appendix**" on page 54.

Hitching

DANGER

Crushing Hazard:
You may be severely injured or killed by being crushed between the tractor, cart and implement. Do not stand or place any part of your body between machines being hitched. Stop tractor engine and set park brake before installing hitch pins.



When ready for planting, the implement is part of an assembly that includes the tractor, the cart, and the implement.

When hitching for the first time, hitch the leading cart to the tractor first.

Once the cart is hitched to the implement, it is usually left connected, unless parking or storage considerations require separation.

This manual includes full details only for the implement's hitch. Consult the cart manual for cart-to-tractor hitching.

Figure 4 26360
Complete Assembly

NOTICE

*If the tractor has a load-sensing or constant-flow hydraulic system, the implement must be equipped with an optional bypass valve to avoid tractor damage. See "**Hydraulic Bypass Kit**" on page 52 for ordering. .*

Hitch Link

Refer to Figure 5, which, for clarity, depicts the air cart without the rear hopper

1. Use a line (not shown), from the cart walkboard, to tie the cart links ① up to the height of the lug holes ⑤.
2. Remove the pins ② near the ball swivel links ③ of the arms, allowing the arms to telescope. Do not remove the stop bolts ④.
3. Drive the roll pins ⑥ out of the lug pins ⑦ and remove the lug pins.
4. Have a tractor slowly guide the cart backwards until the link arm ball swivels are within two feet of the lug holes ⑤ in the implement. Set tractor brake.
5. Manually extend each arm's ball swivel ③ into alignment with the implement pivot holes ⑤. Insert and secure the lug pins ⑦ on the implement.
6. Slowly back the tractor up until the arm pins may ② be reinserted. Secure them with clips.
7. Set tractor parking brake and shut off tractor.

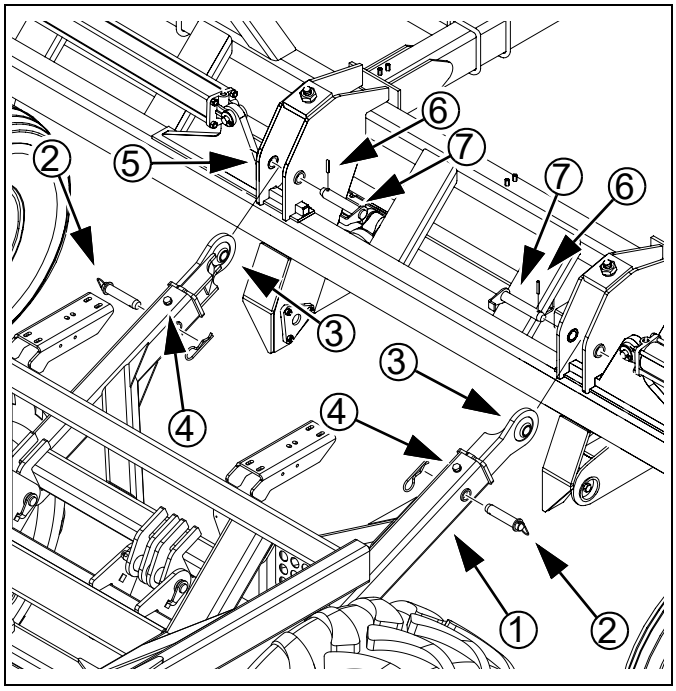


Figure 5 26431
Hitching Cart to Implement

Make Seed Hose Connections

Refer to Figure 6

Connect primary seed hoses (tower feed hoses) from the implement to their respective outlets on the rear cart meter box, in left to right order, skipping any capped outlets.

Leave enough slack so that implement can be fully raised, lowered, folded and unfolded.

Secure hoses to meter box using screw clamps provided. Orient outer clamps so that they do not interfere with the door latches on the meter.

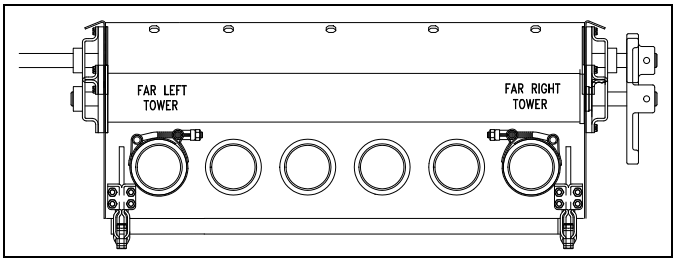


Figure 6 26302
Cart Seed Hose Outlets

Make Electrical Connections

Refer to Figure 7

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

1. Connect the lighting plug ① to the outlet connector on the cart.
2. Connect the implement lift switch plug ② to the outlet connector on the cart.
3. Connect the seed monitor plug ③ to the outlet connector on the cart.
4. Secure cables so they are clear of moving parts at the hitch.

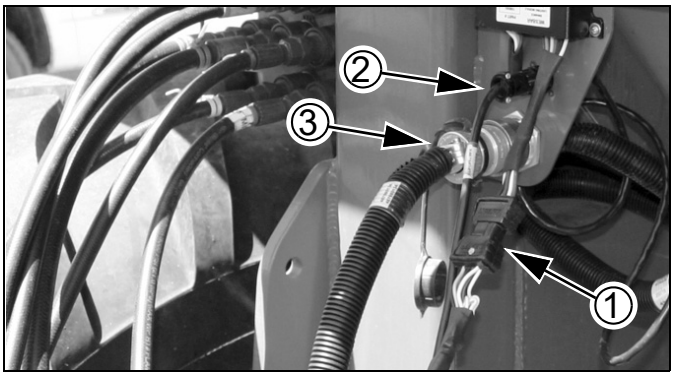


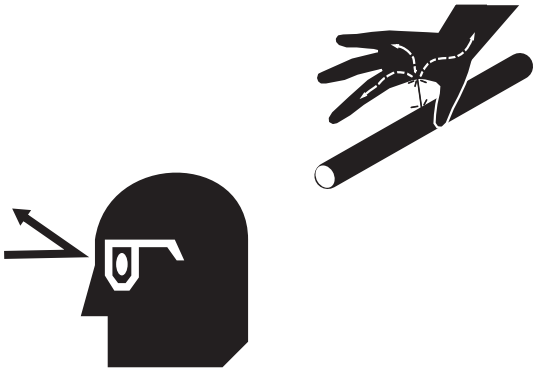
Figure 7 26439
Lift & Monitor

Make Hydraulic Connections

WARNING

High Pressure Fluid Hazard:
Only trained personnel should work on system hydraulics!

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 attention from a physician familiar with this type of injury.



Hydraulic Circuit Connections

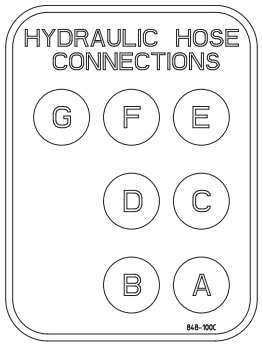
The implement has one or two hydraulic circuits (with a low pressure sump return line). The standard circuit powers lift, fold and weight-transfer functions, controlled by a valve block on the left front of the implement. An optional circuit operates the markers.

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

NOTICE

*If the tractor has a load-sensing or constant-flow hydraulic system, the implement must be equipped with an optional bypass valve to avoid tractor damage. See "**Hydraulic Bypass Kit**" on page 52 for ordering.*

1. Shut down tractor hydraulics.
2. If optional markers are already installed, connect marker hoses to receptacles Ⓐ and Ⓑ per instructions supplied with markers.
3. Connect the Retract hose of the (blue) Lift/Fold pair to receptacle Ⓒ. Connect the Extend hose of the (blue) Lower/Unfold pair to receptacle Ⓓ
4. Skip receptacles Ⓔ and Ⓕ, not used by this implement.
5. Connect the sump hose to receptacle Ⓖ.
6. Check hose routing to ensure adequate slack for link arm movement, and clearance from pinching or abrading cart/implement components.



Color	Cart Ports	Hydraulic Function
Green	Ⓐ, Ⓑ	Markers (also used for auger on cart)
Blue	Ⓒ Ⓓ	Lift, Fold and Weight Transfer Lower, Unfold (not used on cart)
Black	Ⓔ, Ⓕ	Not Used by implement (used for fan on cart)
No Color	Ⓖ	Sump return

Current Style Color Coded Hose Handles

Refer to Figure 8

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.

Color	Hydraulic Function
Gray	Marker (also used for auger on cart)
Blue	Lift, Fold and Weight Transfer Lower, Unfold (not used on cart)
Black	Not Used by Implement (used for fan on cart)
Yellow	Sump return

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.

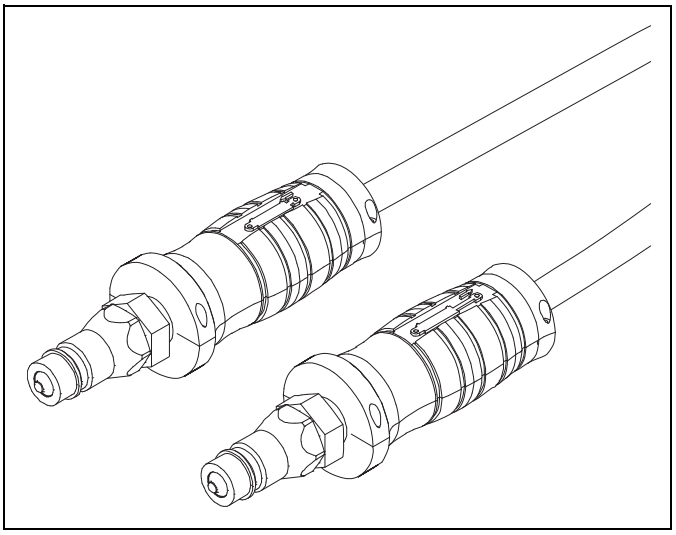


Figure 8
Color Coded Hose Handles
31733

Older Style Hoses with Color Ties

Refer to Figure 9

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.

Color	Hydraulic Function
Orange	Marker (also used for auger on cart)
Blue	Lift, Fold and Weight Transfer Lower, Unfold (not used on cart)
Yellow	Not Used by Implement (used for fan on cart)
No Color	Sump return

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.

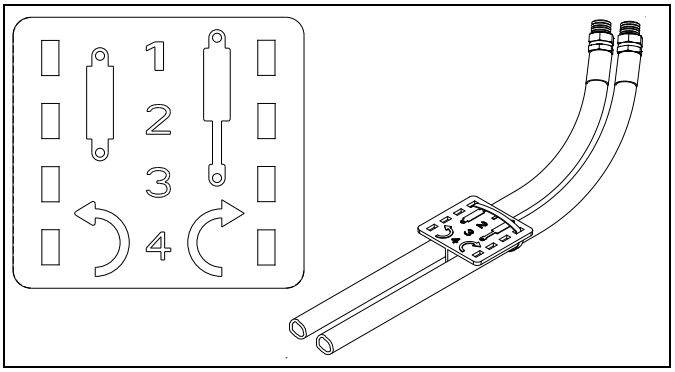


Figure 9
Older Style Hoses
817-348c
17641

NOTICE

DO NOT connect the return line to a power-beyond-port.

Load Sensing Setup

To operate the CTA4000, some tractors with load-sensing or constant-flow hydraulics need a bypass valve. See "**Hydraulic Bypass Kit**" on page 52 for ordering information. Contact your Great Plains dealer to order the valve.

NOTICE

Failure to install the bypass valve may cause major tractor damage. Contact your tractor dealer to verify if the bypass valve is needed.

Refer to Figure 10

1. After installing the bypass valve ①, adjust as follows:
2. Loosen lock-ring ② and completely close off bypass cross-flow by turning knob ③ fully clockwise.

Refer to Figure 11

3. Set valve levers for Field operation.
4. On tractor, adjust circuit flow-control valve so openers raise and lower at a reasonable speed.

📖 The faster openers raise and lower, the greater potential for oil heating, premature wear or tractor damage.

5. Engage tractor hydraulics for fan and opener-lift-and-fold circuits. Lock hydraulic levers for continuous oil flow. Make sure cart fan is operating at normal speed (about 3600 rpm).

Refer to Figure 12 and Figure 10

6. Adjust wing and center down-pressure-control valves ④, ⑤ on implement so gauges ⑥, ⑦ read 1200 psi.

NOTICE

Do not adjust weight-transfer valve ⑧ at this time. To avoid implement damage, never set weight-transfer valve above 800 psi ⑨.

7. While watching opener gauges, slowly adjust bypass valve knob ③ just until needles on gauges ⑥, ⑦ move down from 1200 psi. Lock bypass valve ring ② at this setting.
8. Adjust pressure-control valves ④, ⑤ to desired opener down pressure. See "**Sub-Frame Down-Force**" on page 36.

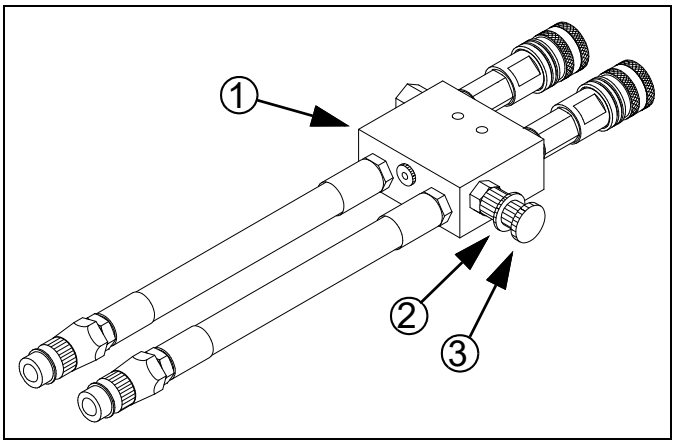


Figure 10 17987
Optional Bypass Valve

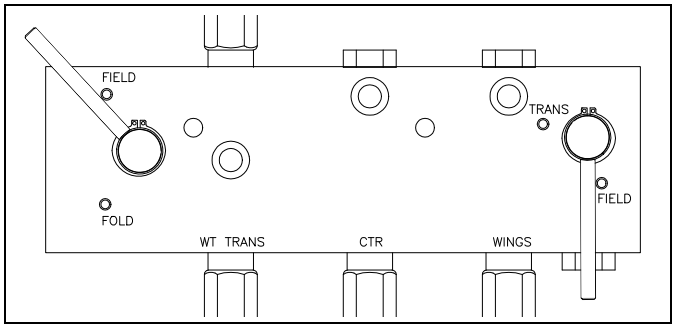


Figure 11 26372
Levers for Bypass Setup

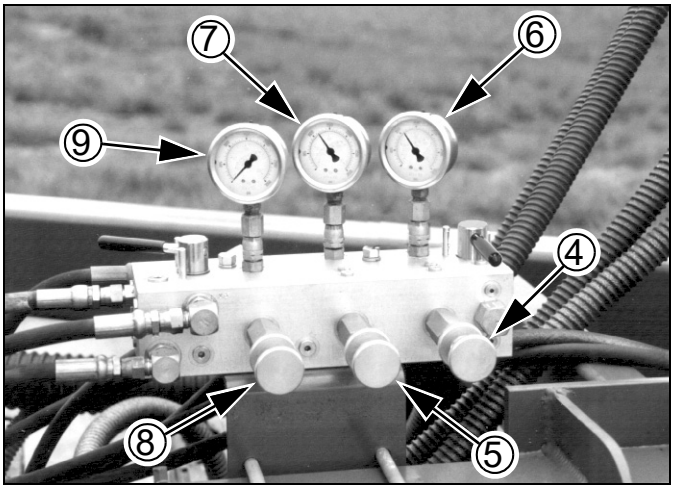


Figure 12 26380
Pre-Adjusting for Bypass

Eyebolt Adjustment

Refer to Figure 13

Before using the implement, check that the opener frames are level across the implement. When fully raised, the top of the opener mounts ① should clear the bottom of the top frame tube ② by at least ½ inch (13mm).

Adjust opener frames so all openers have the same clearance. To raise or lower an opener frame, loosen jam nut ③ on opener-lift cylinder and turn adjustment nut ④. When openers are at correct height, tighten jam nut. Repeat for each opener frame if necessary.

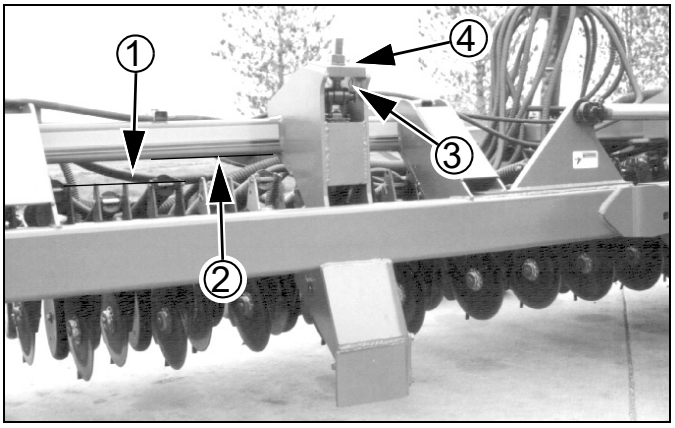
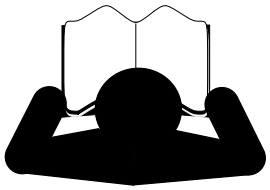


Figure 13 17159
Opener Height Eyebolt

Operating Instructions

This section covers general operating procedures. It assumes that setup items have been completed for both cart and implement.

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



General Description

Implement hydraulic functions (except markers) are routed through a valve block mounted on the left wing. Once set up, routine implement operations (switching between folding and lift) require setting valve handles on this block.

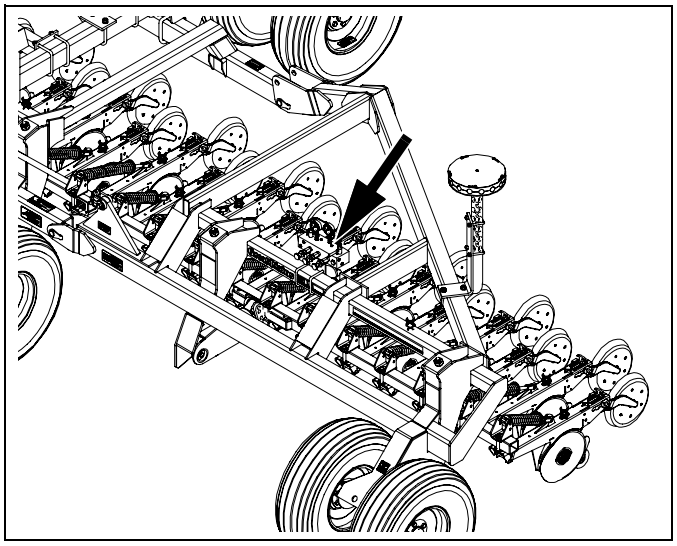


Figure 14 26377
Valve Block Location

Planting Operation

Via an adjustable implement lift switch on the implement, the CTA4000 controls the meter drive clutch on the air cart, turning it on and off as the implement is lowered and raised.

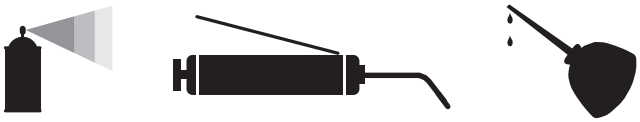
Seed is delivered to the row units by air, powered by the fan on the air cart. Seed rate is determined by air cart setup, and the cart meter rate self-adjusts for changes in ground speed. Seeding stops when motion stops or the implement is raised.

The metered seed is carried by air through the hoses to the distribution towers on the implement. These towers then divide the air and seed into individual rows.

Seeding depth and furrow coverage are controlled by implement down pressure and row unit setup.

Pre-Start Checklist

- q Lubricate the implement as indicated under Lubrication, “**Maintenance and Lubrication**” on page 48.
- q Check the tires for proper inflation according to “**Tire Inflation Chart**” on page 54.
- q Check for worn or damaged parts and repair or replace before going to the field.
- q Check all nuts, bolts and screws. Tighten bolts as specified on “**Torque Values Chart**” on page 55
- q Check implement lift switch on implement
- q Complete all pre-start checklist items on the air cart.



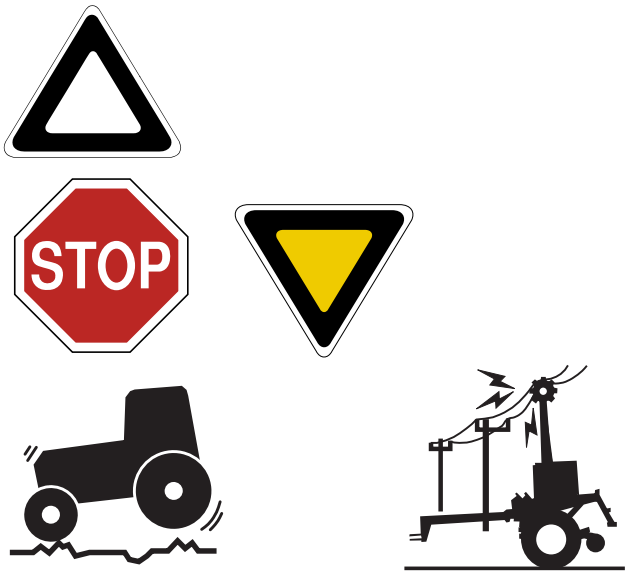
Transport

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 implement components. Machine is not grounded. At higher voltages, electrocution can occur without direct contact.

Great Plains recommends transporting the assembly with cart empty. Although designed for highway movement when loaded, the additional weight of seed may cause the implement assembly to exceed the rated ability of the tractor, makes the assembly more difficult to control and stop, and increases wear on cart tires and wheel bearings.

Use a tractor that weighs at least 2/3 (67%) of the implement plus cart assembly weight (see table below).



WARNING

Loss of Control Hazard:
Towing the implement 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 (32 kph).*
- *Do not tow an assembly that weighs more than 1.5 times the weight of the towing vehicle. (See table below)*

WARNING

The implement is designed to hitch to a Great Plains air cart only. Hitching the implement to any vehicle other than a Great Plains air cart will create an unstable towing load and can lead to road accidents, injury and death. To avoid the hazard, transport hitched to a Great Plains air cart.

CTA4000	No Extra Weights			One Weight Kit			Two Weight Kits		
Rows	6 in (15.2 cm)	7.5 in (18.9 cm)	10 in (24.8 cm)	6 in (15.2 cm)	7.5 in (18.9 cm)	10 in (24.8 cm)	6 in (15.2 cm)	7.5 in (18.9 cm)	10 in (24.8 cm)
ADC2350 Empty	21773 lbs 9876 kg	20700 lbs 9389 kg	19748 lbs 8958 kg	23173 lbs 10511 kg	22100 lbs 10024 kg	21148 lbs 9593 kg	24573 lbs 11146 kg	23500 lbs 10659 kg	22548 lbs 10228 kg
ADC2350 Full	44173 lbs 20037 kg	43100 lbs 19550 kg	42148 lbs 19118 kg	45573 lbs 20672 kg	44500 lbs 20185 kg	43548 lbs 19753 kg	46973 lbs 21307 kg	45900 lbs 20820 kg	44948 lbs 20388 kg

* Figures do not include markers. If near limit, use Appendix data to calculate actual weight of your cart and drill configuration.

Pre-Transport Checklist

Before transporting the cart, check and observe the following items.

- q Make sure the weight of the tractor equals or exceeds the value specified for your air implement assembly.
- q **Air Cart Checklist Complete**
  Including: cart drive chain locked-out, auger latched, hopper lids secured, ladders latched up.
- q Marker Checklist Complete
  Markers must be folded or retracted, and may have transport locks or other transport considerations.
- q **Implement Raised and Locked**
  Wings locked.
  Transport/Field valve handle set to TRANS.
- q **Tires**
  Check that all tires are properly inflated as listed on “**Tire Inflation Chart**” on page 54.
- q **Bystanders**
  Check that no one is in the way before moving. Do not allow any one to ride on the cart or implement.
- q **Warning Lights**
  Always use tractor, cart and implement warning lights when transporting the air implement.
- q **Clearance**
  Know the maximum dimensions of the cart and implement in transport position and follow a route that provides adequate clearance from all obstructions, including overhead lines.
  See “**Specifications and Capacities**” on page 54.
- q **Stopping Distance**
  Allow sufficient stopping distance and reduce speed prior to any turns or maneuvers. If the cart is transported full, allow extra stopping distance.
- q **Road Rules**
  Comply with all national, regional and local laws when transporting on public roads.
- q **Watch Traffic**
  The hoppers and implement wings obstruct a portion of your rear view. Be prepared for sudden maneuvers from following vehicles.

Figure 15 26360
Review Transport Checklist

Folding and Unfolding

Fold and unfold implement on level ground. Be aware of clearance required to fold implement. See “**Specifications and Capacities**” on page 54.

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 implement components. Machine is not grounded. At higher voltages, electrocution can occur without direct contact.

Folding the Implement

Refer to Figure 16

1. If installed, fold the markers[a].
2. Set tractor circuits to neutral.
3. Set both valve handles to FIELD.
4. Activate the tractor circuit to raise the openers, and then set the circuit control to neutral (not float).

Refer to Figure 17

5. Set the Field/Transport valve handle to TRANS. This hydraulically locks the openers in the raised configuration.

Refer to Figure 18

6. Turn the Field/Folding valve handle to FOLD.
7. Set tractor at low idle speed.
8. Engage tractor hydraulics and fold implement wings.

DANGER

Overhead Crushing Hazard:

To prevent serious injury or death:

- *Always use lock pins when implement is folded.*
- *Fold implement only if fold hydraulics have smooth movements.*
- *Keep away and keep others away when folding or unfolding implement.*

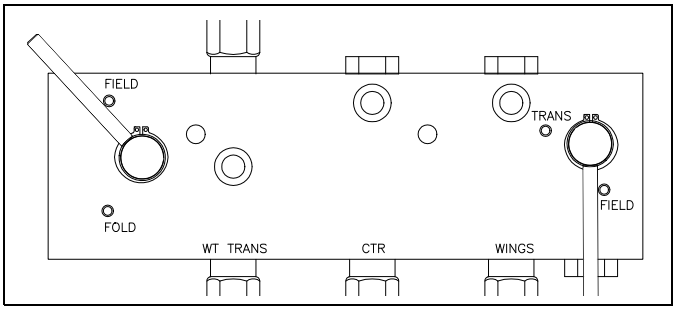


Figure 16 26372
Handles for Pre-Fold Lift

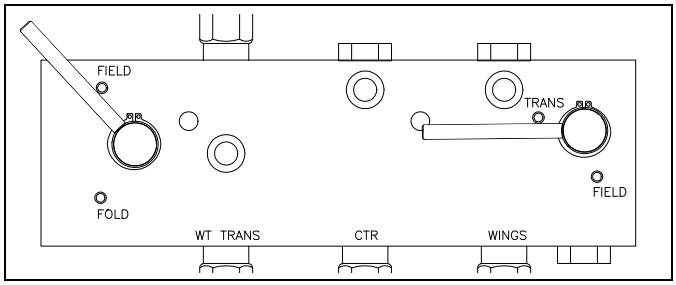


Figure 17 26373
Handles for Pre-Fold Lift-Lock

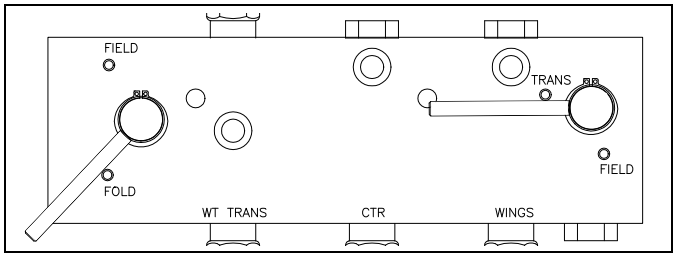


Figure 18 26373
Handles for Fold

a. Great Plains does not presently offer markers for the CTA4000. If installed, consult the documentation provided by the marker supplier.

Refer to Figure 19

9. Remove the wing lock pin from its storage location just outboard of the wing hinge point.

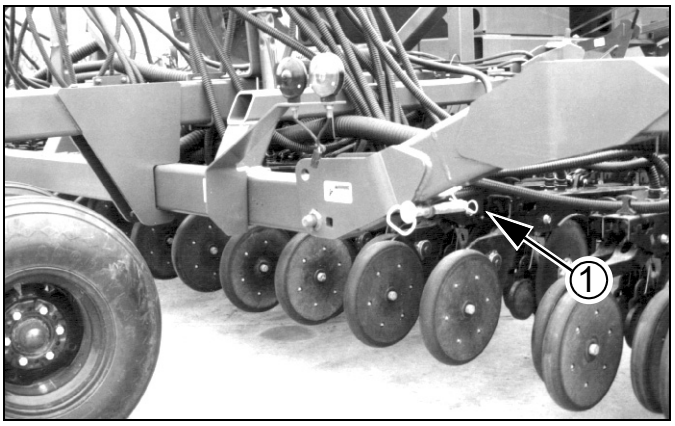


Figure 19 17155
Wing Lock Pin Stored

Refer to Figure 20

10. Install wing lock pins under hinge points to secure folded wings for transport or parking.

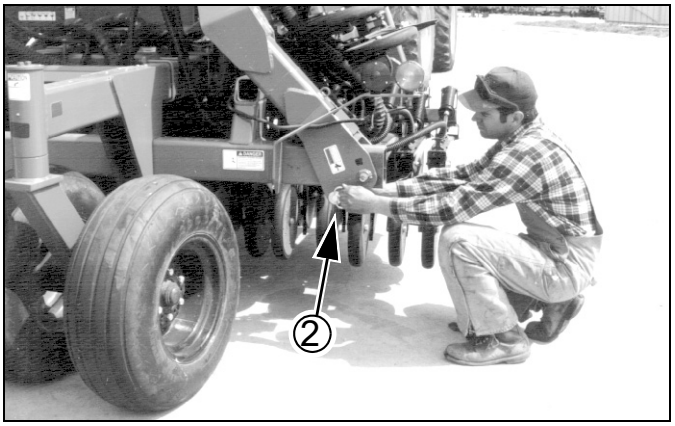


Figure 20 17171
Wing Locked Up With Pin

Unfolding the Implement

Refer to Figure 21

1. Check that the Transport/Field handle is still set to TRANS, to keep the opener position locked and prevent unexpected movement during unfold.

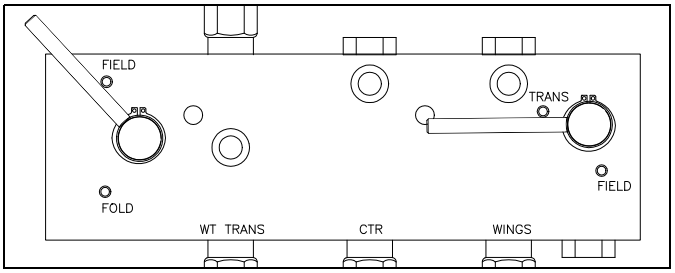


Figure 21 26373
Unfold: Check Lift-Lock

Refer to Figure 22

2. Remove wing lock pins under hinge points.

Refer to Figure 19 on page 22.

3. Store pins in storage locations under wing.

Figure 22 17171
Unfold: Remove Lock-Up Pins

Refer to Figure 23

4. Set the Field/Fold valve handle to FOLD.
5. Set tractor at low idle speed.
6. Energize tractor hydraulics and slowly unfold implement.
7. Continue to unfold implement only until each wing gauge wheel rests on ground, then return hydraulic lever to neutral.

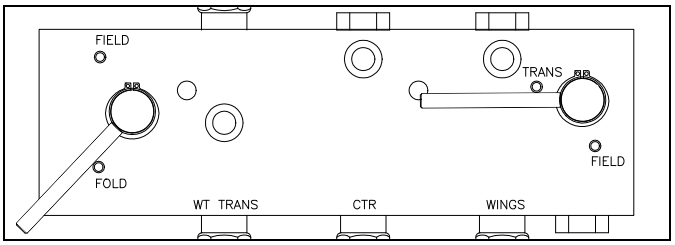


Figure 23 26373
Unfold: Activate Circuit

Refer to Figure 23

8. When sections are unfolded, move Field/Fold valve handle to FIELD, and move Transport/Field handle to FIELD.

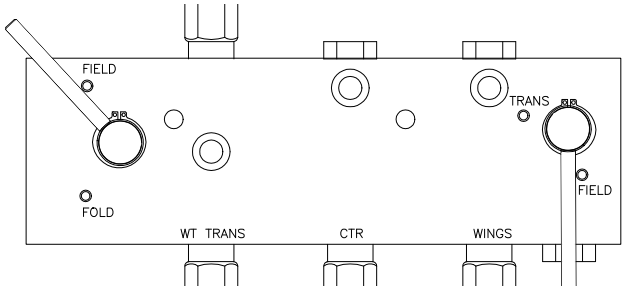


Figure 24 26372
Unfold: Completed

Opener Operation

The hydraulic system places down pressure on the openers for consistent soil penetration across the implement–even in uneven ground.

Refer to Figure 25

1. Check implement valve handles. Both valve handles need to be in FIELD position for the hydraulic down-pressure and weight-transfer to function.
2. Engage tractor hydraulics for the implement's lift/fold circuit. Lock hydraulic lever forward during field operation for constant hydraulic flow to openers.

Tractor-Specific Circuit Operation

John Deere® tractors with Sound-Gard™ Body

Use lever lock clip, John Deere part number R52667, to lock lever forward. See your tractor dealer for clip purchase and installation.

John Deere® 7000 Series tractors

Rotate valve detent selector to motor position to lock lever in forward position.

John Deere® 8000 Series tractors

Set timer to continuous. Push lever forward until detent clicks.

Case-IH Magnum™ tractors

Lock lever forward in detent position. You may need to turn up detent pressure to its maximum setting. Do not tie hydraulic lever past detent position with a strap. See your tractor dealer for hydraulic-system details.

Other Tractors

Lock lever forward in detent position. You may need to turn up detent pressure to maximum or use a mechanical detent holder to hold lever forward. See your tractor dealer for proper means of providing constant flow to openers.

Initial Frame Down-Pressure

Refer to Figure 26

3. Set opener down pressure. There is one pressure-control valve for wing sections ① and one for center section ②.

   Initially set down pressure at 800 psi, as indicated on the gauges ③, ④. Then adjust as field condition warrant.

   For more information on adjusting opener hydraulic down force, refer to See "**Sub-Frame Down-Force**" on page 36.

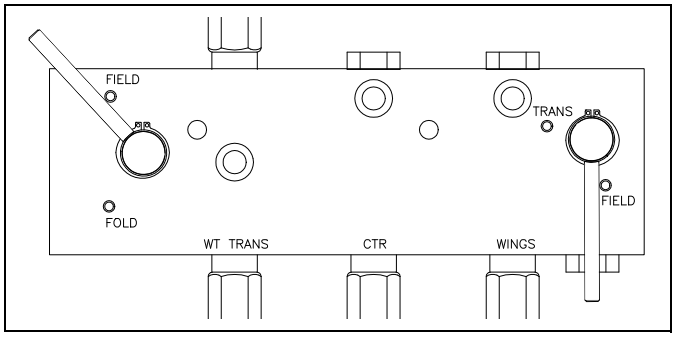


Figure 25 26372
Planting: Valve Handles

NOTICE

Machine Damage Risk:

*If the tractor has a load-sensing or constant-flow hydraulic system, the implement must be equipped with an optional bypass valve to avoid tractor damage. See "**Hydraulic Bypass Kit**" on page 52 for ordering.*

NOTICE

Machine Damage Risk:

*After first initial operation of the drill, inspect the opener mounting bolt and nut for proper torque. This check should be repeated before each drilling season. See "**Opener Mounting Bolt**" on page 51 for additional information on torque and maintenance.*

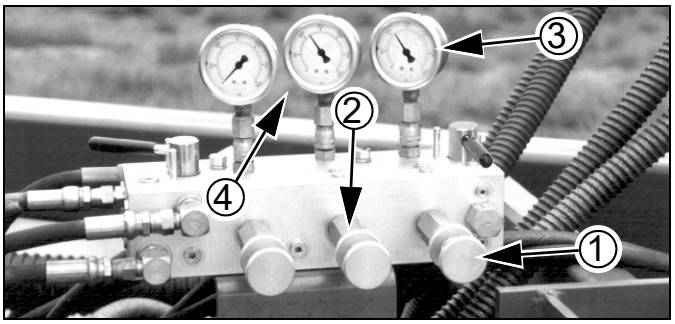


Figure 26 26380
Set Opener Down-Pressure

Initial Seeding Depth

Refer to Figure 27

4. 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 Adjust all press wheels to the same height.
   - For more shallow seeding, slide T handles forward Ⓕ toward implement.
   - For deeper seeding, slide T handles backward Ⓑ away from implement.
5. While seeding, remember:
   - Raise openers before turning. Never back up or turn sharply with openers in the ground. Doing so will plug openers and may damage equipment.
   - Be aware of the 5- to 10-foot (1.5-3m) delay needed for seed to reach openers. If you stop in middle of field, lift implement and back up 10 feet before proceeding.
   - Check periodically for plugged openers and hoses. With fan running and implement raised, hand crank metering system. Look below each opener for seed or fertilizer.

You can adjust the opener height at which seed metering beings. See “**Implement Lift Switch Adjustment S/N EE1266-**” on page 32.

For information on opener adjustments, see “**Row Unit Adjustments**” on page 39. For information on troubleshooting opener problems, see “**Troubleshooting**” on page 44.

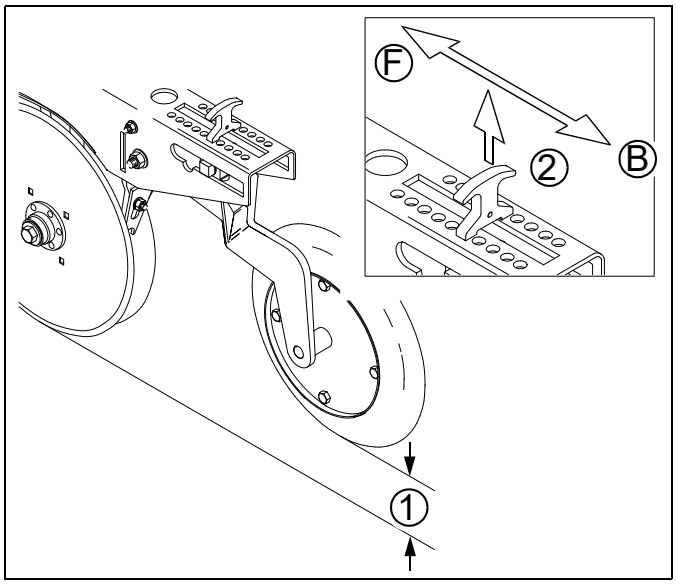


Figure 27 15659
Initial Opener Depth

Fan Speed

This information is repeated from the air cart Operator's manual, which has additional guidance.

Fan speed is monitored and reported by the seed monitor, but is manually controlled. The optimum rate depends on the seed type and treatments. See "**Fan Speed Adjustment**" in the cart Operator's Manual for further information.Recommended Fan Speeds

Seeds	Fan RPM
Sunflowers	2,250 - 3,000
Wheat	3,250 - 4,000
Soybeans	2,750 - 3,500
Milo	3,250 - 4,000

Refer to Figure 28

Open fan shutoff valve for fan operations.

NOTICE

Machine Damage Risk:
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.

Do not reverse hydraulic flow with the fan running.

NOTICE

Population Risk:
The proper reading for the magnehelic air pressure gauge is 12 to 25 inches of water. A sudden drop in pressure is a sign of a possible leak which can adversely affect seeding.

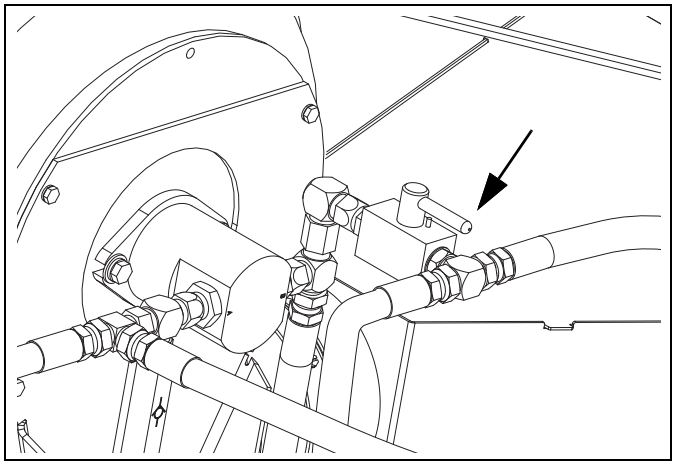


Figure 28 26418
Fan Shutoff Valve Open

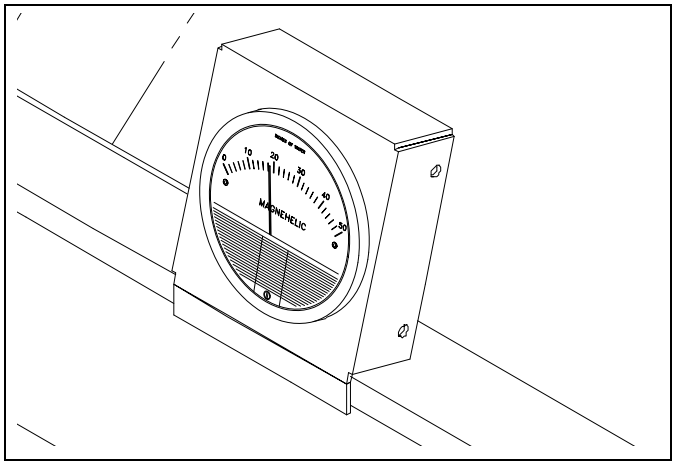


Figure 29 26425
Fan Air Pressure

Weight Transfer

While seeding, weight is hydraulically transferred from the center section to the wings so all frame sections run at the same depth.

This transfer happens automatically whenever the valve block is set to FIELD operations, and the WT TRANS valve has been set to any pressure above zero.

If insufficient weight is transferred, the wings will run higher than the center section. If excess weight is transferred, the center runs higher. To make adjustments, see "**Adjusting Weight Transfer**" on page 35.

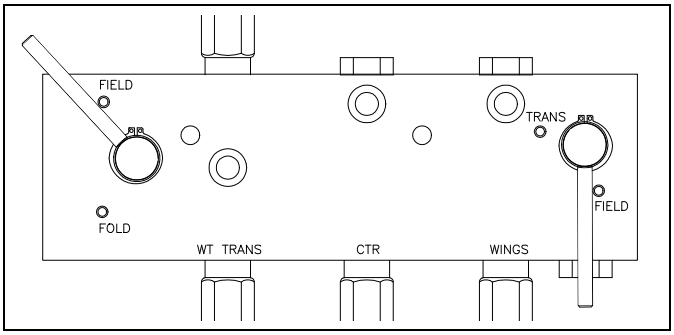


Figure 30 26372
Handles for Weight Transfer

Two-Position Selector Valve

Great Plains does not manufacture markers for this model implement. If you purchased markers, the marker manufacturer has supplied operating instructions. Carefully read marker manufacturer's instructions for safe installation, operation and adjustment. You may also need the following additional information.

Any markers are on a separate hydraulic circuit on the implement. The leading air cart has provisions for this circuit, but also shares the circuit for a cart function.

Markers use hydraulic receptacles Ⓐ and Ⓑ on the air cart.

Refer to Figure 31

Markers (optional, third-party) share a circuit with the air cart's auger, controlled by a two-position selector valve located at the front right corner of the front bulk hopper ① on the cart. Handle settings: ② Back: implement marker circuit enabled; ③ Forward: cart auger circuit enabled At the implement, markers are typically controlled by a local automatic sequence valve or solenoid valve (from a cab switch).

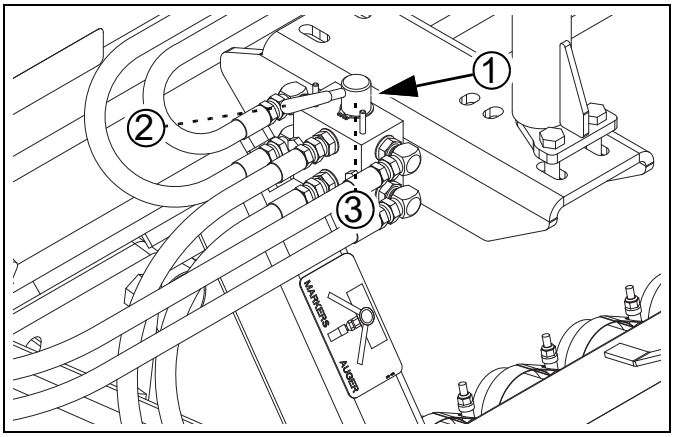


Figure 31 26417
Cart Selector Valve

Field Operations

This section presumes that all pre-operation check have been made on both cart and implement, and cart is loaded with seed and any treatments.

Final Field Checklist

- q Set seed meters per chart or calibration.
- q Check cart fan valve set On for fan.
  Check cart selector valve set to markers.
- q Set fan to speed suitable for seed. Watch fan at start-up to ensure correct direction of rotation.
- q Run fan for at least 15 minutes before planting.
- q Check fan air pressure gauge for 12-25 inches of water pressure.
- q Check all seed hoses secure.
- q Check for air leaks at lids and meter box seals.
- q Implement unfolded.
- q Implement valve handles set to FIELD.

Planting Sequence

1. Lower implement 5 to10 feet (1.5-3m) before initial seeding point.
2. Pull forward and begin planting.
3. Raise implement for turns (meters stop automatically).

Planting

Be aware of the 5 to 10 feet (1.5-3m) of implement-lowered operating distance required for seed to reach the row units.

If you stop in the middle of a pass, raise the implement and back up 10 feet (3m) before resumption of seeding.

Seed Monitor

The seed monitor, included with the air cart, performs the following functions:

On the implement:

- Implement lift switch monitoring
- Seed flow blockage (optional)
- On the Air Cart:
- Fan Speed monitoring
- Hopper material level monitoring
- Hopper air pressure monitoring
- Meter rate monitoring
- Ground speed monitoring

Consult the DICKEY-john manual for how to configure reporting and alerts.

Parking

Following these steps when parking the implement for periods of less than 36 hours. For longer periods, see *Storage*, the next topic.

1. Spot the implement on firm, level ground.
2. Raise the implement. Fold as necessary for the parking space available.
3. Set the Transport/Field valve handle to TRANS.
4. Perform the air cart parking checklist.
5. Securely block cart tires to prevent rolling.

Storage

If possible, leave the cart and implement connected for extended storage.

Store the cart and implement where children do not play. If possible, store them inside for longer life.

1. Perform the cart Storage checklist.
2. Perform the implement Parking checklist.
3. Lubricate the implement at all points listed under “**Lubrication**” on page 50.
4. Check all bolts, pins, fittings and hoses. Tighten, repair or replace parts as needed.
5. Check all moving parts for wear or damage. Make notes of any parts needing repair before the next season.
6. Plug or cap seed delivery tubes to prevent pest entry.
7. If the cart is disconnected from the implement for storage, plug all $2\frac{1}{2}$-inch (64mm) openings to prevent pests from entering and nesting.
8. Use touch-up paint to cover scratches, chips and worn areas to prevent rust.

Adjustments

To get full performance from your implement, you need an understanding of all component operations, and many provide adjustments for optimal field results.

The CTA4000 has double-disk openers with depth-controlling press wheels mounted on floating opener frames. This system provides accurate depth control and seed placement over uneven terrain. The following is an introduction to the basic seeding components and how they work.

Each opener is mounted on a floating opener frame. Opener bodies are staggered for easy soil flow. All openers pivot on a common axis to maintain consistent depth as the opener frames follow contours. A spring provides the down pressure necessary for opener double disks to open a seed furrow. The spring allows openers to float down into depressions and up over obstructions. Individual openers can be adjusted to account for tire tracks.

Even if your planting conditions rarely change, some of these adjustment items need periodic attention due to normal wear.

Planting Depth

Setting nominal planting depth, and achieving it consistently, is affected by multiple adjustable implement functions, from greatest to least effect they are:

- Opener Depth (Press Wheel Height),
- Sub-Frame Down-Force,
- Row Unit Down Pressure (Spring),
- Opener Height,
- Opener-Subframe Adjustment,
- Frame Weight (at higher pressures), and;
- Disk Blade Adjustments (as blades wear).

Adjustment	Page	The Adjustment Affects
Frame Level	31	Section-to-section planting consistency
Implement Lift Switch Adjustment S/N EE1266-	32	Avoiding wasted and unplanted seed
Sub-Frame Down-Force	36	Consistent seeding depth
Opener-Subframe Adjustment	38	Level row unit running in desired pressure range
Frame Weight	34	Achieving higher down-force settings
Adjusting Weight Transfer	35	Equal seeding depth under wings and center section
Row Unit Adjustments	39	
Opener Height	40	Seeding depth in tire tracks
Row Unit Down Pressure (Spring)	40	Level row unit; consistent seeding depth in tire tracks
Disk Blade Adjustments	41	Consistent seeding depth
Disk Scraper Adjustments	41	Consistent furrow
Seed Firmer Adjustments	42	Consistent seed placement and coverage
Opener Depth (Press Wheel Height)	43	Seeding depth
Fan Speed	26[a]	Consistent seed population and minimum seed damage

a. See air cart operator's manual for complete fan information.

Frame Level

Other than “**Eyebolt Adjustment**” on page 17, there is no specific setup adjustment for leveling the wings to the center section. When beginning planting, check frame level with row units in level ground.

If one or both wings are angled up or down, check and adjust the following items:

- opener sub-frame adjustment: all gauge wheel trunnions in same frame pivot holes - see “**Opener-Subframe Adjustment**” on page 38
- weight transfer setting - see “**Adjusting Weight Transfer**” on page 35
- opener pivot height: all openers pivoting in same hole at their mounts (possibly excepting rows in tire tracks) - see page 40
- opener press wheel height: all row units set the same - see page 43
- opener spring down-force: all row units set the same (possibly excepting rows in tire tracks) See page 40.
-

Implement Lift Switch Adjustment S/N EE1266-

Refer to Figure 32
(which, for clarity, depicts the switch region without openers or gauge wheel)

An implement lift switch on the implement turns the seed metering off when the implement is raised. To adjust the height at which seed metering is turned off, follow these steps:

1. 1. Do not place any part of body under implement while making adjustments.
2. 2. Locate the implement lift switch ① on the front center of the mainframe.
3. 3. Raise openers completely and lock them up by setting Transport/Field valve handle to TRANS.
4. 4. Loosen switch mount bolts ② and slide switch up or down until actuator ③ makes contact with the opener subframe arm ④ and switch is reliably toggled on (up).
5. 5. Tighten bolts.

📖 Note: Do not set the switch to come on too low. The lift arm can ride up and down over irregular ground, and an early switch could result in patches of no seeding.

If eyebolt adjustment is changed (see page 20), re-check implement lift switch.

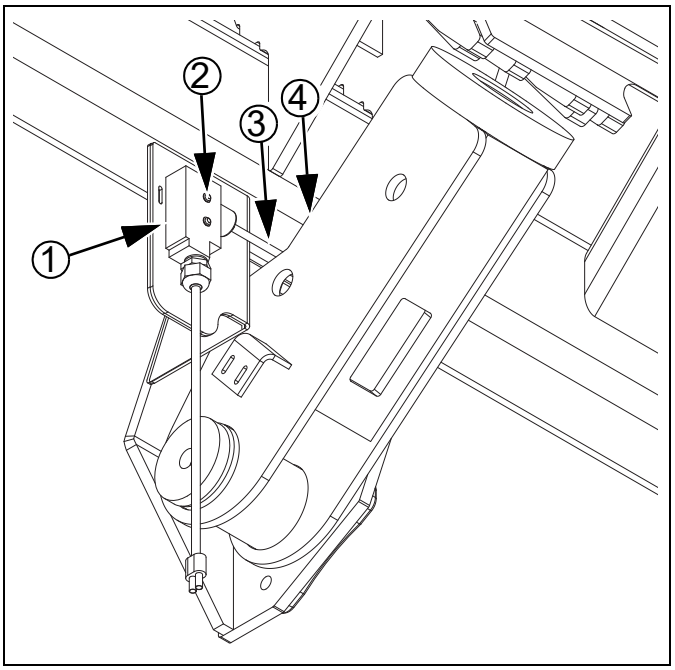


Figure 32 26394
ADC2350 Implement Lift Switch

📖 NOTE: For reference, the ADC2350 lift switch wiring is:
Black (switch COM) to black (extension)
Red (switch N.C.) to red
Green (switch N.O.) not connected
Circuit open when drill is raised

Implement Lift Switch Adjustment S/N EE1267+

The implement lift switch is a proximity type switch. The lift switch turns seed metering on and off as the implement is lowered and raised. The lift switch is actuated by the upper lift arm.

To adjust the height at which the seed metering is turned on, do the following.

DANGER

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

1. Park the tractor, implement, and, if equipped, the seed cart on a solid, level surface.
2. Unfold the drill.
3. Lower the implement to the height where seeding should start (usually just above ground). Raise the openers an additional 1/2 in (12 mm). Set the lift circuit to neutral.

📖 Do not set the lift switch to come on too low. The openers can ride up and down over irregular ground, and an early switch could result in patches of no seeding.

4. Stop the tractor engine and apply the tractor parking brake. Turn the key to the ON position to provide power to the lift switch.

DANGER

Have another person set in the tractor seat during the adjustment procedure. Have the person make sure the hydraulics are not engaged and the tractor is not started during the adjustment procedure.

5. Locate the lift switch ①. Check the distance between the face ② of the lift switch and the opener subframe arm ③. The distance must be $^{5}/_{16}$ in (8 mm) or less. If the distance is not correct, adjust the nuts on the lift switch as necessary.
6. Loosen the outer nut ④ on the lift switch just enough so the lift switch can move in the adjustment slot.
7. Slide the lift switch up or down in the slot until the yellow lamp in lift switch goes from on to off.
8. Tighten the outer nut on the lift switch without moving the lift switch.
9. Start the tractor engine and lower the implement all the way.
10. Stop the tractor engine. Remove the key and take the key with you.

📖 NOTE: If eyebolt (opener frame height) adjustment is changed (see page 17), adjust the implement lift switch.

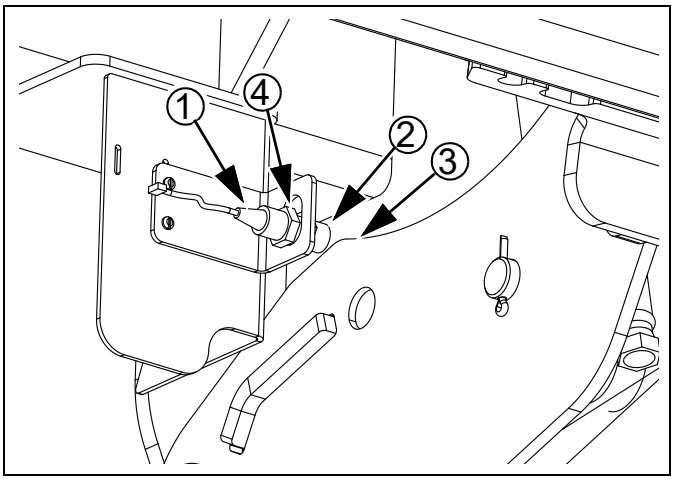


Figure 33 68492
ADC2350 Implement Lift Switch

Frame Weight

The standard CTA4000 includes no additional weights. Weight kits, consisting of one pair of 700 pound (318kg) weights (1400 lbs, 635kg, total) are available. The weights are placed on the center frame. A maximum of 2 pairs (4 weights, 2800 lbs, 1270kg, additional) may be added.

Extra weights are necessary for opener down-force settings which, when summed for all rows, are near or above the total weight of the implement. See "**Weight Kits**" on page 53.

In unusually soft soil conditions, remove weights to reduce weight on the tires.

The weights are held in place by gravity, and are easily removed with a hoist rated for at least 700 pounds (318kg).

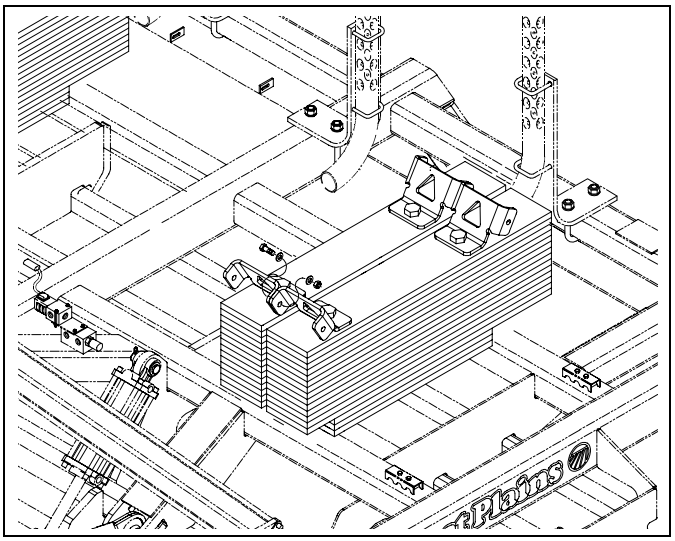


Figure 34 16953
Frame Weights

DANGER

Crushing and Machine Damage Hazard: *Never add weights to the wings. The weights will tip over during folding. Even if secured to the frame, machine damage is likely. Wing weights are also unnecessary. The hydraulic weight transfer system is capable of transferring the entire weight of the implement to the wings.*

	Implement Model and Row Spacing		
	CTA4000-8006 6 in (15.2 cm)	CTA4000-6575 7.5 in (18.9 cm)	CTA4000-5010 10 in (24.8 cm)
0: Implement without weights	13673 lbs (6202kg)	12660 lbs (5742kg)	11648 lbs (8283kg)
0: Maximum Down Force Per Row	171 lbs (78kg)	195 lbs (88kg)	233 lbs (106kg)
2: Implement with 1 Weight Kit	15073 lbs (6837kg)	14060 lbs (6378kg)	13048 (5918kg)
2: Maximum Down Force Per Row	188 lbs (85kg)	216 lbs (98kg)	261 lbs (118kg)
4: Implement with 2 Weight Kits	16473 lbs (7472kg)	15460 lbs (7013kg)	14448 lbs (6554kg)
4: Maximum Down Force Per Row	206 lbs (93kg)	238 lbs (108kg)	289 lbs (131kg)

Adjusting Weight Transfer

Before making adjustments, observe the results of planting at the initial settings suggested in “**Weight Transfer**” on page 26.

Refer to Figure 35

The amount of weight transferred to the wings is set by the “WT TRANS” valve on the implement’s valve block. To make adjustments:

1. Check that both selector valve handles are set to FIELD position.
2. Lower openers to ground and leave hydraulics active and implement circuit engaged as for planting.
3. Release lock ring ① on WT TRANS control knob.
4. Watch pressure gauge ② while turning pressure-control valve knob ③. When facing the valve, turn knob clockwise to increase weight on wing sections, and counterclockwise to decrease weight on wings sections.

📖 Note: Typical pressures on gauge ② should be 200 to 600 psi.

5. When satisfied with planting depth, wing level and gauge reading, raise openers while watching pressure gauge. Gauge reading should drop as the openers are raised.
6. Secure lock ring ① on WT TRANS control knob.

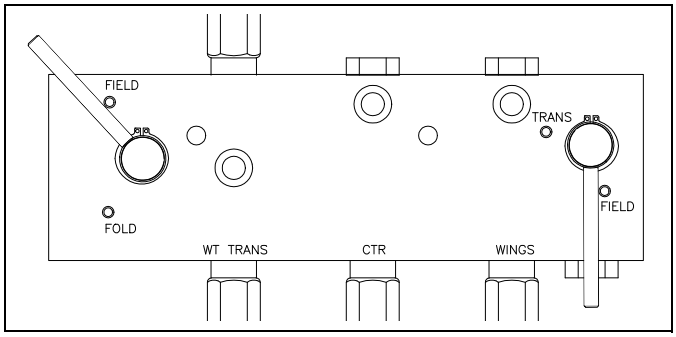


Figure 35 26372
Enable Transfer Adjust

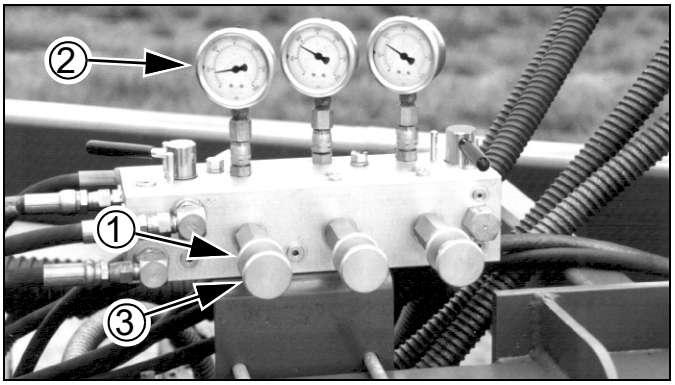


Figure 36 26437
Adjusting Weight Transfer

Sub-Frame Down-Force

Opener down pressure controls opener penetration and press-wheel soil firming. Use only enough down pressure to cut the furrow and maintain proper soil-firming over seed. Excessive opener down force will lead to premature wear on opener components.

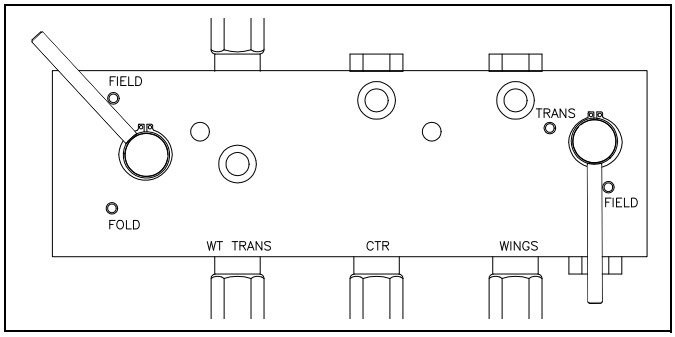


Figure 37 26372
Down Force Valves

NOTICE

*Some tractors with load-sensing or constant-flow hydraulics need a bypass valve with the CTA4000. "**Hydraulic Bypass Kit**" on page 52. Hydraulic Down Pressure*

Refer to Figure 37 and Figure 38

Both valve block handles must be set for FIELD for down force adjustments.

There is one pressure-control valve for wing sections ① and one for center section ②.

With hydraulic power to the implement, release the lock-rings, and rotate the knobs to adjust pressure, while watching the readings on the gauges. Rotating the knob clockwise increases pressure.

Set opener down pressure to 800 psi as a general starting point. For most field conditions, adjust the hydraulic down pressure between 200 and 1200 psi.

For pressures at and above 1200 psi, make sure implement has enough weight available per opener. see "**Frame Weight**" on page 34.

For pressures above 1200 psi, see "**Opener-Subframe Adjustment**" on page 38.

Do not set opener down pressure above 1600 psi.

Refer to the chart on the next page for approximate force at the openers for a given control-valve setting.

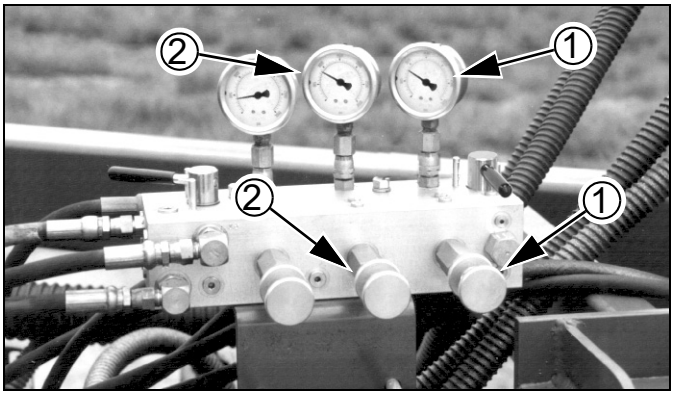


Figure 38 26437
Adjusting Frame Down Force

🕮 You can set center section pressure slightly higher than wing pressure, to account for soil compaction from tractor, cart and implement.

Opener Down Force

Valve	CTA4000 Row Spacings		
	6 in (15.2 cm)	7.5 in (18.9 cm)	10 in (24.8 cm)
200 psi	87 lbs (39 kg)	92 lbs (42 kg)	99 lbs (45 kg
300 psi	96 lbs (44 kg)	103 lbs (47 kg)	113 lbs (51 kg)
400 psi	105 lbs (48 kg)	113 lbs (51 kg)	128 lbs (58 kg)
500 psi	113 lbs (51 kg)	124 lbs (56 kg)	142 lbs (64 kg)
600 psi	122 lbs (55 kg	135 lbs (61 kg)	157 lbs (71 kg)
700 psi	131 lbs (59 kg)	146 lbs (66 kg)	171 lbs (78 kg)
800 psi	140 lbs (64 kg)	157 lbs (71 kg)	186 lbs (84 kg)
900 psi	148 lbs (67 kg)	168 lbs (76 kg)	200 lbs (91 kg)
1000 psi	157 lbs (71 kg)	178 lbs (81 kg)	214 lbs (97 kg)
1100 psi	165 lbs (75 kg)	189 lbs (86 kg)	229 lbs (104 kg)
1200 psi	174 lbs ① (79 kg)	200 lbs ① (91 kg)	243 lbs ① (110 kg)
Down-force settings above 1200 PSI require an adjustment to the opener-subframe arms. See next page.			
1300 psi	179 lbs ① (81 kg)	205 lbs ① (93 kg)	250 lbs ① (113 kg)
1400 psi	185 lbs ① (84 kg)	213 lbs ① (97 kg)	258 lbs ① (117 kg)
1500 psi	189 lbs ② (86 kg)	217 lbs ② (98 kg)	264 lbs ② (120 kg)
1600 psi	195 lbs ② (88 kg)	224 lbs ② (102 kg)	273 lbs ② (124 kg)
1700 psi	Not Recommended - likely to lift gauge wheels off ground		
1800 psi			

Noted row unit down force figures require additional weight, unless markers are installed.

① One weight kit required.

② Two weight kits required.

Opener-Subframe Adjustment

At higher down-pressures (above 1200 psi), the row units can tend to tip forward. An adjustment to the mainframe/subframe pivot corrects this.

Refer to Figure 39 and Figure 40

The opener tool bar ① is supported entirely by eight arms ② at the lift cylinders (not shown). The trunnion ③ at the arm end is connected to the tool bar by a lower pivot bolt ④ which is never moved.

The arm-tool bar angle is controlled by an upper adjustment bolt ⑤, which occupies one of two positions.

- For low-to-1200 psi down pressures, the adjustment bolt occupies the middle hole ⑤ of the frame mount and trunnion.
- Above 1200, the adjustment bolt occupies the top hole ⑥ of the frame mount and trunnion.

Set all arms the same.

To change the bolts (to high pressure):

1. Have a jack at hand.
2. Loosen the nuts on all the top bolts ⑤.
3. Lower the opener sub-frames.
4. Leave the valve handles set to FIELD.
5. Put the tractor hydraulic circuit in float.
6. Place jack under an opener tool bar at an arm ①.
7. Lift the tool bar until the bolt is free.
8. Remove the bolt.
9. Repeat step 6 through step 8 the other arm of the subframe.
10. Raise the jack until the top holes are aligned.
11. Insert the bolt in the top hole ⑥ and spin on a nut.
12. Repeat step 6 through step 11 for each sub-frame.
13. Tighten all nuts.

Changing from high to low is similar, except lower the jack at step 7 and reverse the bolt movement.

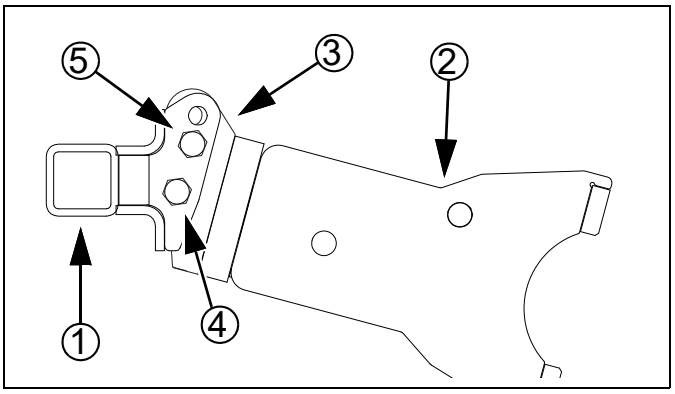


Figure 39
Standard Down Force
(below 1200 psi)
26383

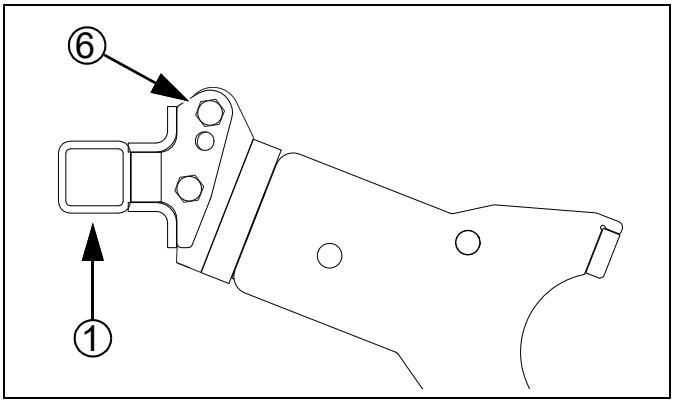


Figure 40
High Down Force
(above 1200 psi)
26384

Row Unit Adjustments

Refer to Figure 41 (which depicts a row unit fully populated with all optional accessories supported for use with the CTA4000 implement)

From front to back, a Great Plains 00 Series row unit can include the following capabilities (some optional):

1. Opener height adjustment: standard
   If a few rows need to run deeper, such as in tire tracks, the arm's pivot point may be lowered. See "**Opener Height**" on page 40.
2. Single Down Pressure Spring: standard
   Each row unit is mounted on the implement as a pivoting arm which allows the row unit to independently move up and down. The adjustable spring provides the force to get the row unit and attachments into the soil. See "**Row Unit Down Pressure (Spring)**" on page 40.
3. 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 "**Disk Blade Adjustments**" on page 41.
4. Seed delivery tube: standard
   No adjustments are necessary.
5. Disk Scraper: standard
   In sticky soils, a scraper helps keep the opener disks operating freely. See "**Disk Scraper Adjustments**" on page 41.
6. Seed firmer: seed flap (not shown) standard:

   Keeton seed firmer (not shown)
   Improves seed-soil contact, and provides a stable arm for a low-rate liquid fertilizer delivery tube. See See "**Keeton Seed Firmer Adjustment**" on page 42.

   Seed-Lok™ firming wheel (shown)
   Improves seed-soil contact. See "**Seed-Lok™ Seed Firmer Lock-Up**" on page 42.
7. Fertilizer delivery tube: optional
   The tube may be reversed to drop fertilizer with the main seed, or just ahead of the press wheels.
8. 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 "**Opener Depth (Press Wheel Height)**" on page 43.

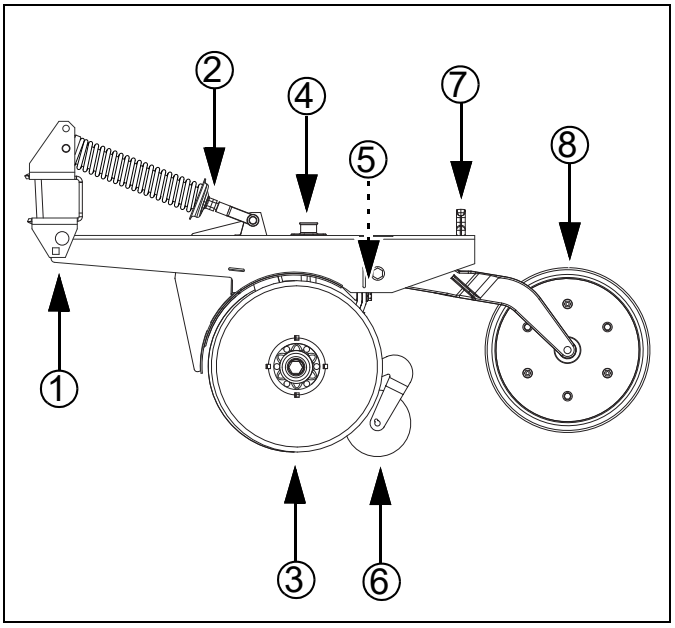


Figure 41 26382
00 Series Row Unit

NOTICE

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

Opener Height

The depth to which the opener disk blades penetrate the soil is controlled in front by the tool bar and pivot (opener height), and in the back by the press wheel height.

If the actual ground level is lower for some rows, such as those in tire tracks, you can lower that row unit by lowering the pivot point.

Refer to Figure 42

1. Raise the implement just enough to relieve tension in the down-pressure spring.
2. Remove the bolt from the upper hole ①.
3. Re-position the arm at the lower hole ②, and secure with bolt.

🕮 NOTE: No spring tension or position adjustment is required. The pivot holes are designed for neutral effect on spring tension. The bolt at the top end of the spring uses a hole that depends on spring length, and not opener height.

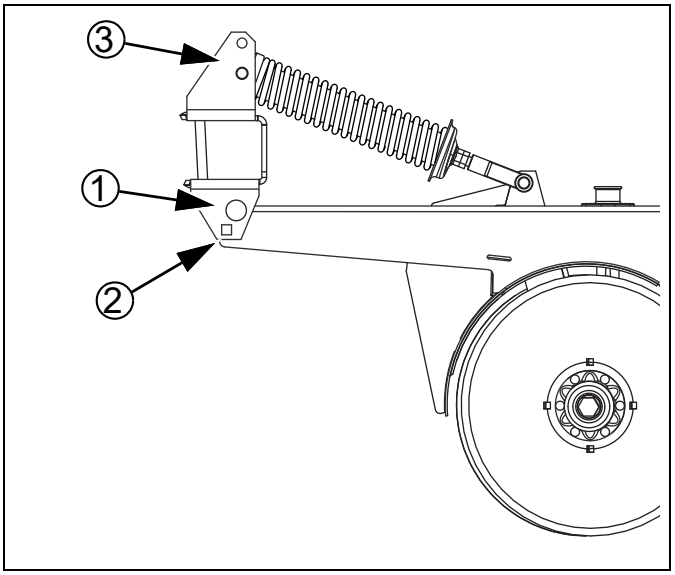


Figure 42 26382
Pivot Point Bolt Holes

Row Unit Down Pressure (Spring)

For planting in tire tracks, and no-till conditions, you can increase spring pressure on individual or on all openers. Adjust the spring in conjunction with the subframe down-force, and opener height, to keep the top of the row unit parallel to the ground.

Refer to Figure 43 and Figure 44

To increase spring pressure:

1. Loosen jam nut ① at lower end of opener spring.
2. Tighten flange against spring tension.

🕮 NOTE: Each $^{1}/_{4}$ inch adjustment adds about 13 pounds of force at opener disk (approximately 9 kg per cm). Do not tighten nut more than one inch (2.5 cm).

3. After adjusting, lock flange nut in place with jam nut.

The length ② of the spring is factory-set to: $13^{5}/_{16}$in (33.8cm). The reference points for this length are the center of the upper/front clevis pin ③ and the base of the lower/rear spring stop cup ④.

The factory preset length is recommended for conventional till and min-till conditions. Shorten it for rows in tire tracks or more difficult min-till conditions. The minimum recommended length is: $12^{5}/_{16}$in (31.3cm).

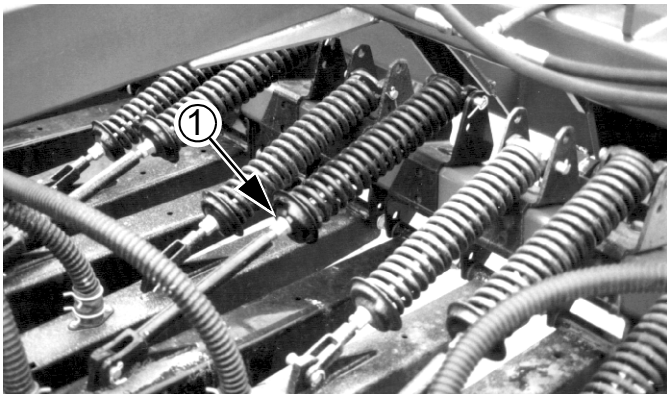


Figure 43 17158
Row Unit Spring Tension

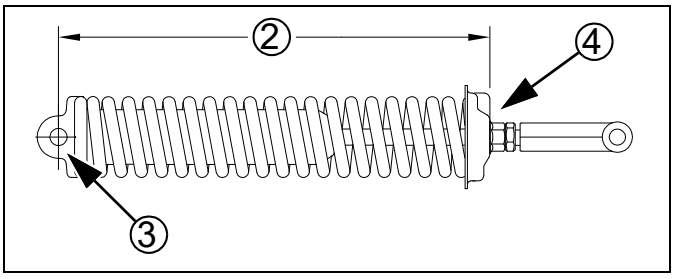


Figure 44 26454
00 Series Spring Length

Disk Blade Adjustments

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.

Refer to Figure 45

The ideal spacing causes the blades to be in contact for about one inch. If you insert two pieces of paper between the blades, the gap between them should be 0 to 1.75 in (0-4.4 cm).

If the contact region is significantly larger or smaller (or there is no contact at all), it needs to be adjusted by moving one or more spacer washers. If the contact region varies with blade rotation, one or both blades is likely bent and in need of replacement.

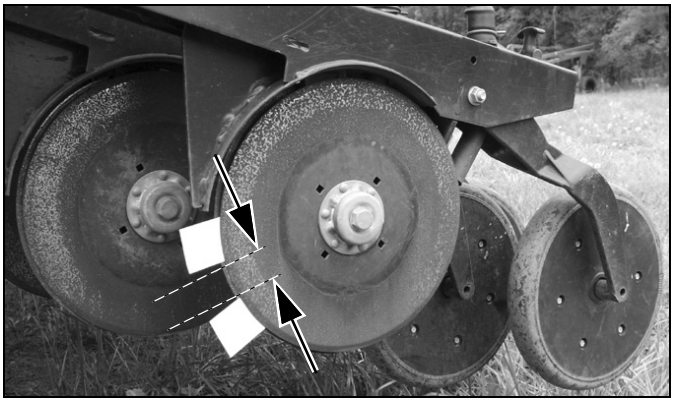


Figure 45 26451
Checking Disk Contact

Adjusting Disc Contact

CAUTION

Sharp Object Hazard:
Row unit disk blades may be sharp. Use caution when making adjustments in this area.

Refer to Figure 46

1. Raise the implement and lock it up by moving the Transport/Field handle to TRANS.
2. Remove the bolt retaining the opener disc on one side. Carefully remove the disc, noting how many spacers are outside the disk and inside the disk. Do not lose the hub components and spacer washers.
3. To reduce the spacing between the discs (the normal case), move one spacer washer from the inside to the outside of the disc.
4. Re-assemble and check disc contact.

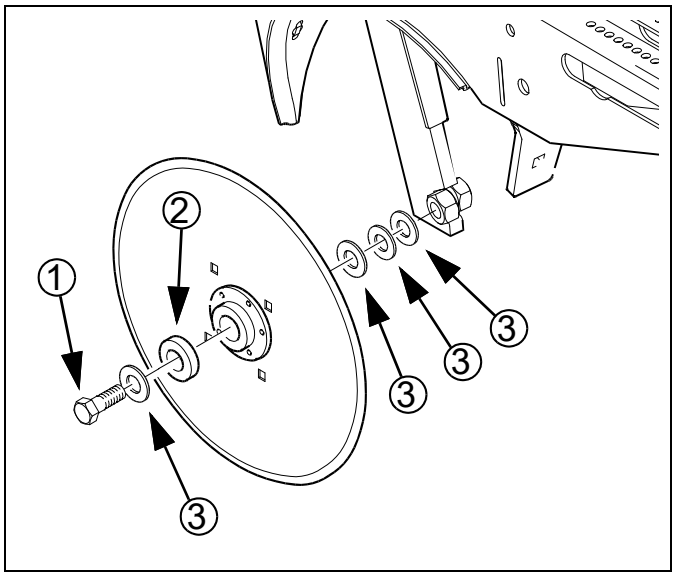


Figure 46 26385
Adjusting Disk Spacers

Disk Scraper Adjustments

To keep opener disks turning freely, dirt scrapers are mounted between disks to clean as disks rotate. Standard 00 Series row units include a double-disk slotted scraper.

Refer to Figure 47

As field conditions vary, scrapers may need to be adjusted. In damp conditions, lower scrapers. If openers are not turning freely, raise scrapers. To adjust, loosen bolt and move scraper as needed.

CAUTION

Sharp Object Hazard:
Row unit disk blades may be sharp. Use caution when making adjustments in this area.

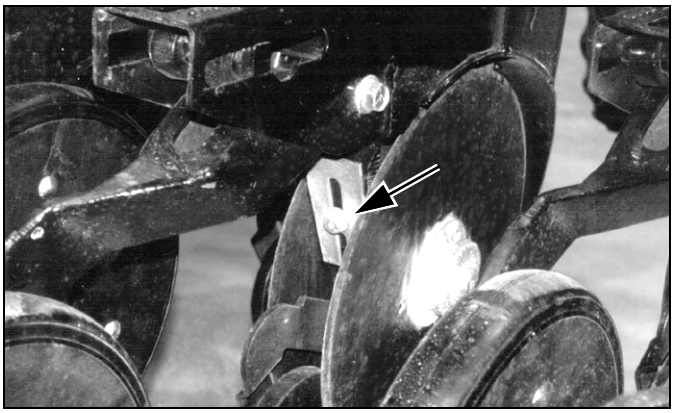


Figure 47 16163
Opener Disk Scraper

Seed Firmer Adjustments

00 Series row units include a seed flap, and accept one of two optional seed firmers.

The seed flap requires no adjustment, but may need to be replaced if worn, and may need to be shortened if an optional seed firmer is added after initial delivery.

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 implement 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 48

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

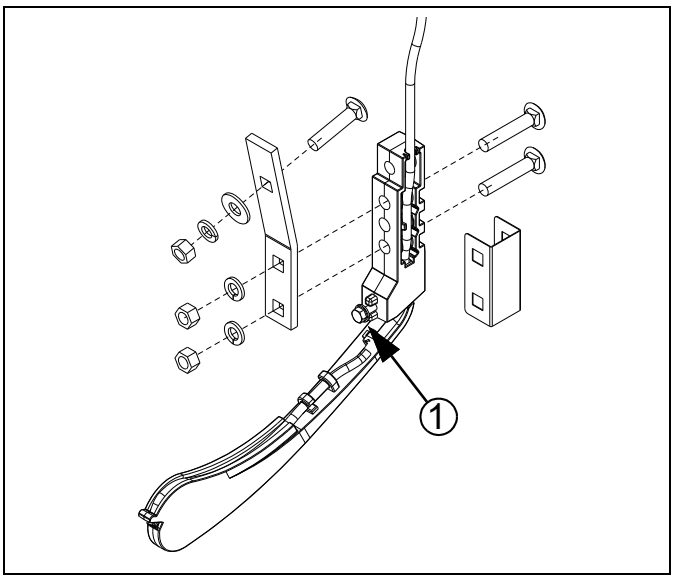


Figure 48 26390
Keeton Seed Firmer

Seed-Lok™ Seed Firmer Lock-Up

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

Refer to Figure 49 (shown with an opener disk removed for clarity - this task can be performed with disks mounted)

To lock up Seed-Lock wheels:

1. Pull catch wire aside ①.
2. Pull firming-wheel arm ② up and release wire to catch arm.

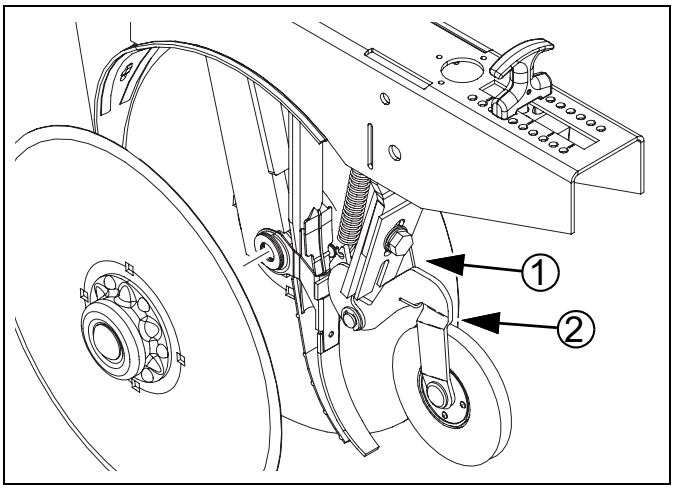


Figure 49 27122
Seed-Lok™ Lock-Up

Opener Depth (Press Wheel Height)

Refer to Figure 50

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 Adjust all press wheels to the same height.

- For more shallow seeding, slide T handles forward Ⓕ toward implement.
- For deeper seeding, slide T handles backward Ⓑ away from implement.

If press wheels are lifting off ground, increase hydraulic down pressure.

If press wheels are digging into ground, reduce hydraulic down pressure.

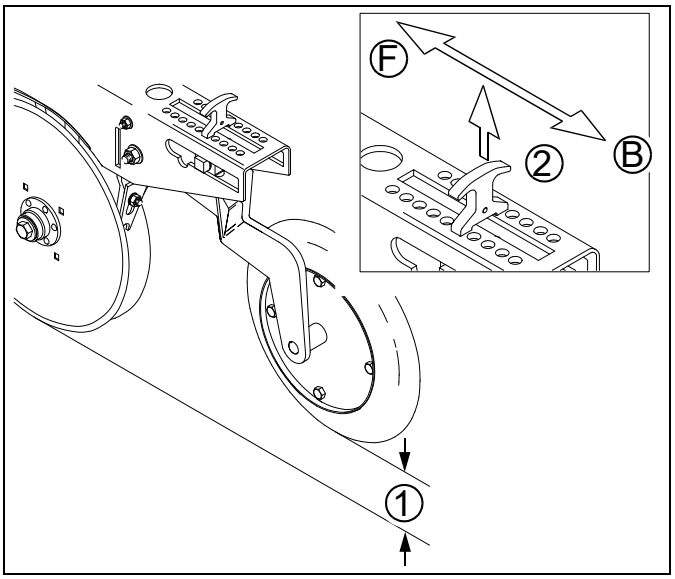


Figure 50 15659
Adjusting Opener Depth

Troubleshooting

This chart primarily covers problems arising from implement issues, although it does include a few cart items.

Also consult the Troubleshooting chart for the cart.

Problem	Cause	Solution
Planting too little	Air leaks	Check hopper lids, meter seals, manifold caps and seed hose connections. Adjust latch and/or replace seals as needed.
	Fan speed too low	See “**Fan speed is monitored and reported by the seed monitor, but is manually controlled. The optimum rate depends on the seed type and treatments. See “Fan Speed Adjustment” in the cart Operator’s Manual for further information.Recommended Fan Speeds**” on page 26.
	Implement lift switch engaging too high	See “**Implement Lift Switch Adjustment S/N EE1266-**” on page 32.
	Excessive field speed	Reduce speed
	Excessive gaps between implement passes	Adjust markers.
	Actual field size is different	Verify field size.
	Plugged seed hose	Clean out seed tube hose.
		Remove excess slack in hoses.
		Re-route hoses to avoid sharp bends.
		Check that metering is actually stopping when implement is raised. Adjust or replace implement lift switch.
	Plugged opener seed tube	Lift up implement, expose bottom of seed tube and clean out.
	Obstruction in meter or seed tubes (foreign material or uncleaned seed)	Clean meter and seed tube.
Planting too much	Meter setting too high	Re-check against chart & calibration.
	Actual field size is different	Verify field size.
	Excessive overlap or irregular shaped field	Adjust marker.
Seed visible on ground behind implement	Seed depth too shallow	Check and reset press wheel depth, then down-forces.
	Down force too low	Check settings and hydraulics.
	Fan speed too high	Check rpm on seed monitor.
	Ground speed too high	Reduce ground speed.
	Openers plugging	Check disk spacing and scrapers.
	Seed hose disconnected or leaking seed.	Reconnect or make repairs.
	Meter door open on air cart	Clean seals and close door. Check latches for proper operation.
Seed flow doesn’t stop during turns	Implement lift switch out of adjustment or failed	Check implement lift switch engagement.

Problem	Cause	Solution
No Seed Flow	Implement lift switch out of adjustment or failed.	Check, adjust or replace implement lift switch.
	Cart clutch failed	Replace clutch. On an emergency basis, use the clutch lock-up procedure in the cart Operator's Manual.
	Cart clutch circuit failed	Replace failed component or cable. On an emergency basis, use the clutch lock-up procedure in the cart Operator's Manual.
	Seed rate set to zero	Check seed rate indicator at cart meter(s).
Uneven seed spacing or uneven stand	Excessive field speed	Reduce speed.
	Opener disks slowing	Check that disks turn freely. Check scrapers.
	Insufficient down force for low spots	Increase down force
	Frame not following terrain	Hydraulic circuit not locked on.
	Air leaks	Check hopper lids, meter seals, manifold caps and seed hose connections. Adjust latch and/or replace seals as needed.
	Erratic meter clutch	Check for damaged cables and loose connections.
	Tower blockage	Check towers for obstructions and plugging. Blockages sometimes move from port to port in towers.
	Seed hose plugged	Stop and raise implement with fan running. Hand-crank meter and check for rows not delivering seed.
	Unclean seed	Use clean seed.
	Seed sticking to firmer	Lock-up firmer or wait for drier conditions.
Uneven seed depth	Excessive field speed	Slow down. Check Seeding Rate Chart for correct maximum field speed.
	Insufficient down force for low spots	Increase down force
	Openers "diving" during no-till operations	Opener frame adjustment incorrect for down force range. See "**Opener-Subframe Adjustment**" on page 38.
	Implement not level	Check: "**Eyebolt Adjustment**" on page 17 and "**Frame Level**" on page 31.
	Planting conditions too wet	Wait until drier weather.
Uneven depth across implement	Implement not level	See "**Frame Level**" on page 31.
	Weight transfer to wings too high or too low.	See "**Adjusting Weight Transfer**" on page 35.
	Press wheel heights not all the same	Set T-handles the same.
	Opener heights not all the same	See page 40.
Implement height changing or creeping	Worn lift components.	If a cylinder is leaking oil past a seal, consult the Parts Manual and replace the seal.
	Tractor hydraulic malfunction	Confirm by using a different circuit for lift.

Problem	Cause	Solution
Seeding pattern skipping rows	Plugged openers	Check that disks turn freely. Check scrapers.
	Seed hose plugged	Stop and raise implement with fan running. Hand-crank meter and check for rows not delivering seed.
	Hose disconnected or leaking	Check hose path from front cart meter to row unit. Check for leaks in hoses.
	Seed tube plugged	Check for debris and pest nests in tube.
Primary seed hoses are plugging	Fan speed too low	Increase hydraulic flow to circuit.
	Erratic fan speed	Observe rpm reported by monitor, then check for oil flow surging by tractor.
	Flow not stopping when raised	Have observer verify that meter gear rotation ceases when implement is moving while raised.
	Damaged hoses	Inspect and repair as needed.
	Sharp bends or too much slack in hoses	Re-route hoses for minimum necessary slack and no sharp bends.
Secondary seed hoses plugging	Fan speed too low	Increase hydraulic flow to circuit.
	Damaged hoses	Inspect and repair as needed.
	Debris in seed or hoses	Disconnect, inspect and clear.
	Sharp bends or too much slack in hoses	Re-route hoses for minimum necessary slack and no sharp bends.
Openers plugging	Disks need adjustment	See page 41.
	Scrapers need adjustment	See page 41.
	Conditions too damp	Wait for drier weather.
Opener disks not turning freely	Trash or caked mud at hub	Inspect and clear. Adjust scraper as needed.
	Down force too high or too low	Adjust down force and re-check.
	Depth too shallow	Adjust T-handles after checking down-force.
	Failed bearing	Replace bearing.
Furrow not fully or consistently closed	Down force too low or too high for depth setting	Adjust down-force and re-try.
	Depth too shallow	Adjust T-handles on several rows and re-try.
	Press wheels not turning freely	See that topic above.
	Mud building and releasing from press wheels	Adjust scrapers. Conditions may be too wet for planting.
Press wheels pressing too deep	Down force too high	Adjust down-force and re-try.
	Press wheels not turning	Check for trash. Check for dried mud at hub. Check for failed bearing.
Excessive seed cracking	Excessive field speed	Slow down. Check Seeding Rate Chart for correct maximum field speed.
	Fan speed too high	Check fan speed against recommendations on page 26.
	Dividers missing or damaged in towers	Check and replace as needed,
	Unclean seed	Use clean seed.
	Damaged, old or dry seed	Use clean, new seed.

Problem	Cause	Solution
Gauges reading zero with implement lowered and circuit locked on	Hydraulic hoses mis-routed	Re-check hose connections from tractor, through cart, to implement.
Gauge readings increase when circuit is set to neutral	Normal	No action required.
Openers raise, but provide no down-pressure	Hose mis-connection	Re-check hose connections from tractor, through cart, to implement.

Maintenance and Lubrication

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

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

WARNING

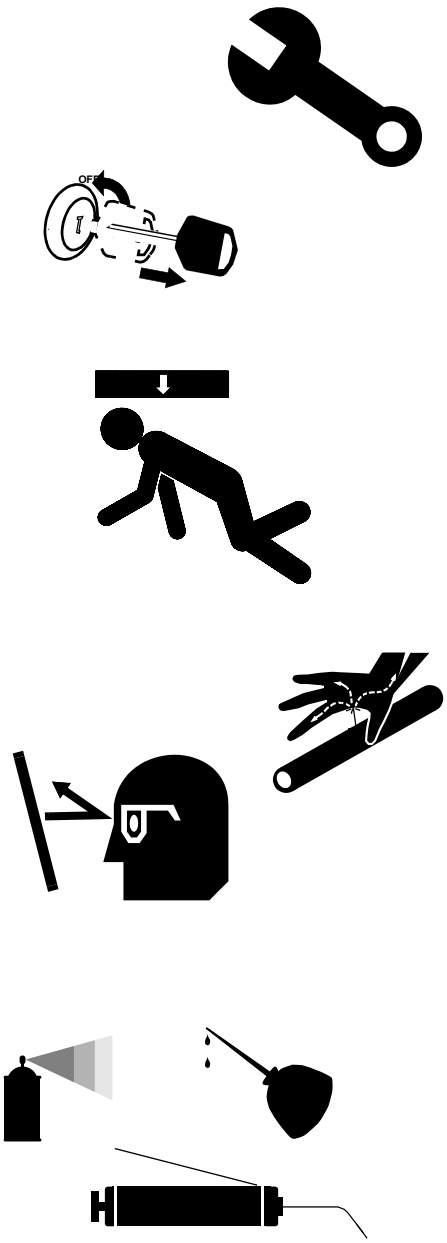
Crushing Hazard:
You may be severely injured or killed by being crushed under a falling implement. Always have frame sufficiently blocked up when working on, and particularly under implement.

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 attention from a physician familiar with this type of injury.

After using implement for several hours, check all bolts to be sure they are tight.

1. Securely block implement before working on it.
2. Lubricate areas listed under “**Lubrication**” on page 50.
3. Clean any fittings that do not take grease.
4. Inflate tires as specified on “**Tire Inflation Chart**” on page 54.
5. Inspect hydraulic hoses for cuts, cracks and aging. Check fittings for evidence of leaks.
6. Inspect cart link pins for wear or loosening.
7. Replace any worn, damaged or illegible safety decals. Order new decals from your Great Plains dealer. “**Safety Decals**” on page 6.



Seed Flap Replacement (s/n EE1170+)

Refer to Figure 51

To replace an 816-302C seed flap ① use a needle nose pliers or similar tool to grasp “T” top of flap. Pull upward to pull flap up out of metal bracket ②.

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

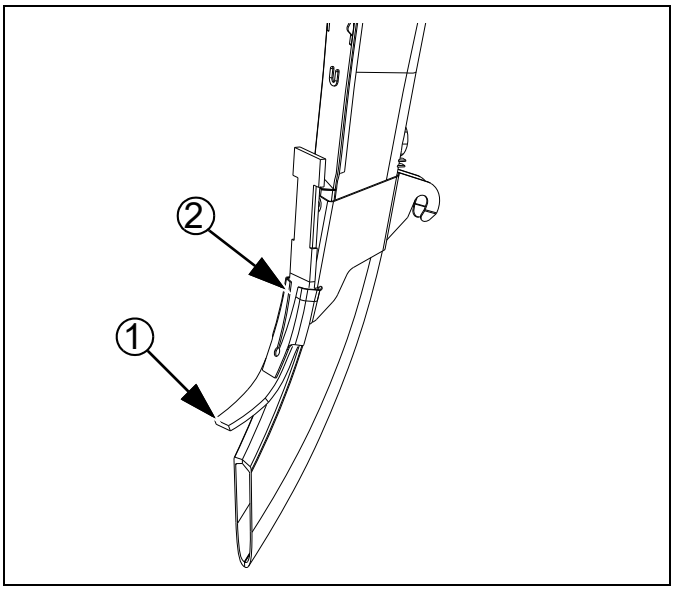


Figure 51 31047
fig:816-302C:Seed Tube Flap

Seed Flap Replacement (s/n EE1169-)

Refer to Figure 52

To replace a seed flap ① use a needle nose or similar tool and squeeze the tabs ② together. Pull plastic seed flap ① down out of metal bracket ③.

If replacing with 817-349C: Push new seed flap ① up through metal bracket ③ until tabs ② on seed flap snap in place.

If replacing with 816-302C: See seed flap replacement instructions below.

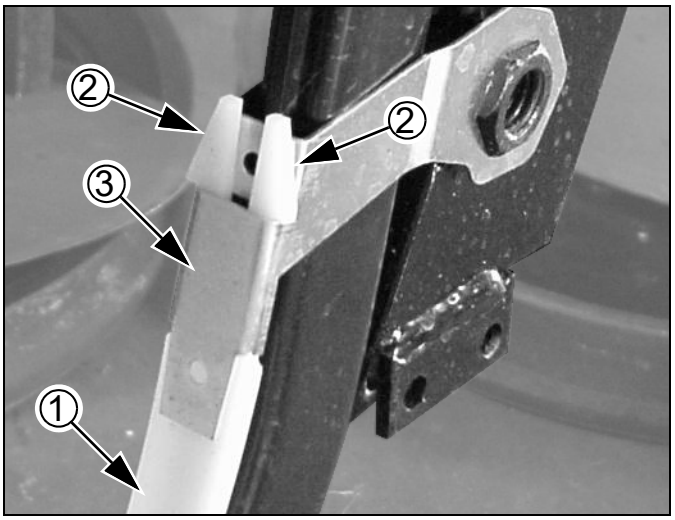
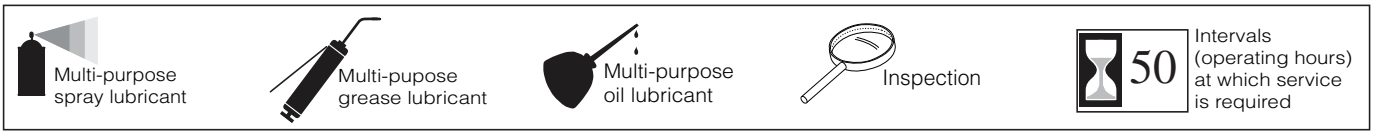
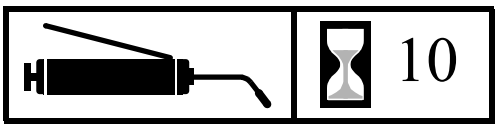


Figure 52 19398
817-349C Seed Tube Flap

Lubrication

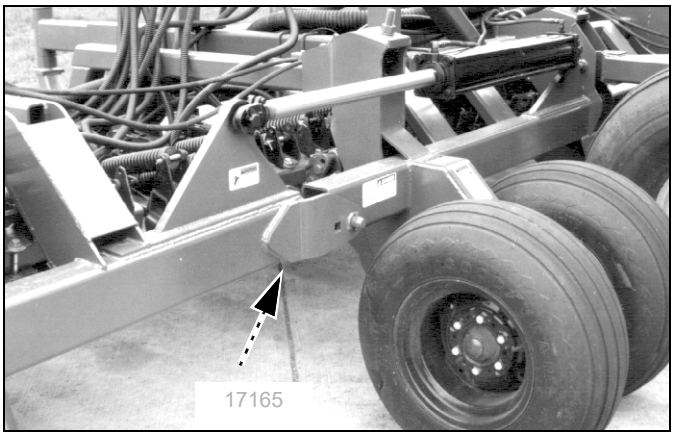


Fold Pivots

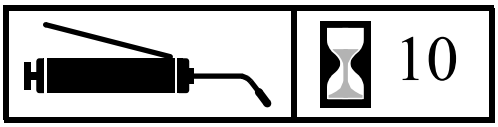


1 zerk each of 2 pivots; 2 total

Type of Lubrication: Grease
Quantity: Until grease emerges at pivot ends

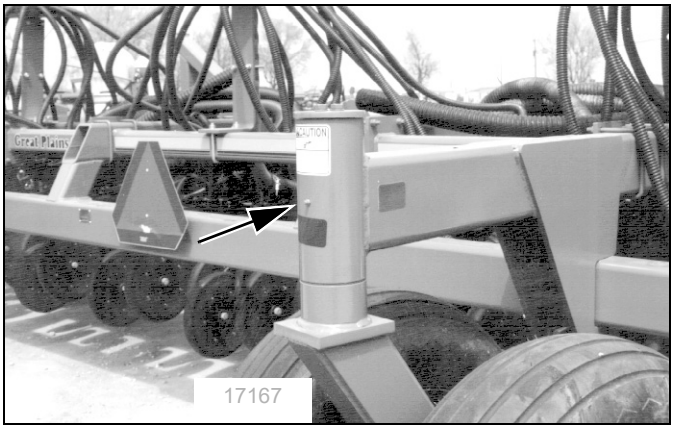


Rear Wheel Casters

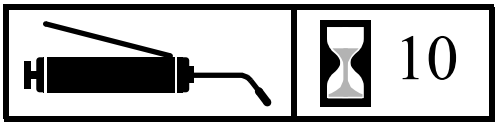


1 zerk each of 2 casters; 2 total

Type of Lubrication: Grease
Quantity: Until grease emerges at top and bottom

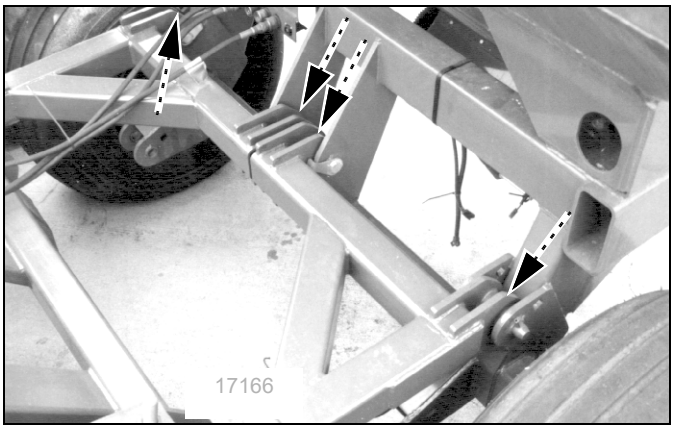


Cart Links

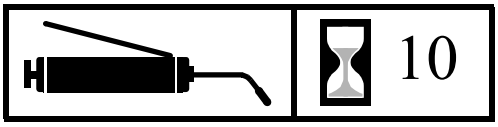


1 zerk each outside pin, 2 zerks center pin; 4 total

Type of Lubrication: Grease
Quantity: Until grease emerges

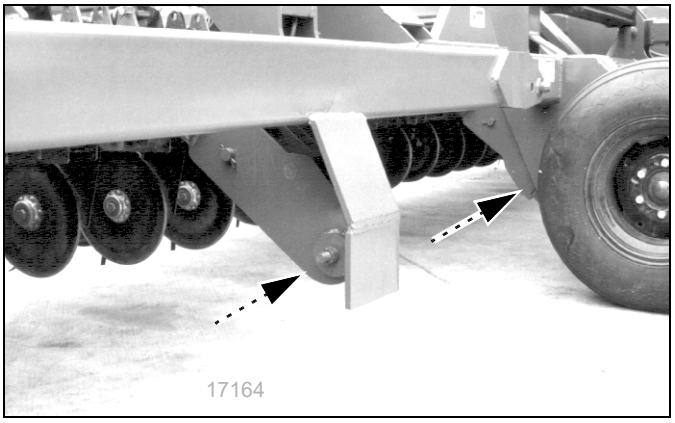


Opener Frame Arm Pivots

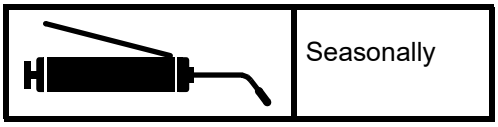


1 zerk each of 8 pivots;8 total

Type of Lubrication: Grease
Quantity: Until grease emerges

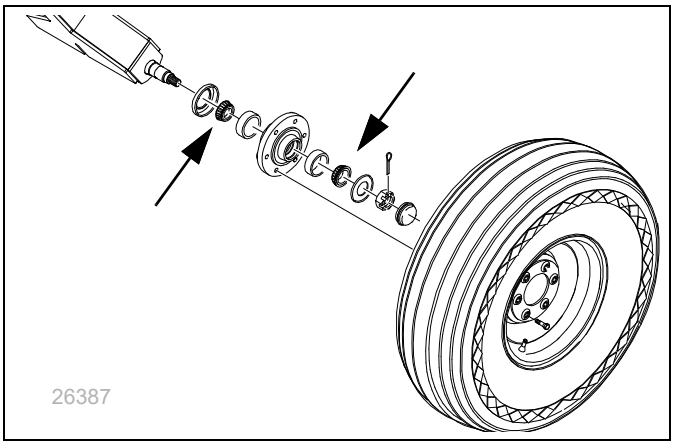


Wheel Bearings

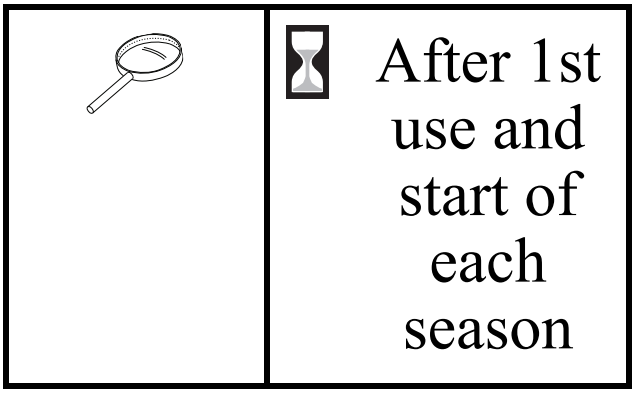


2 races each of 10 wheels; 20 total

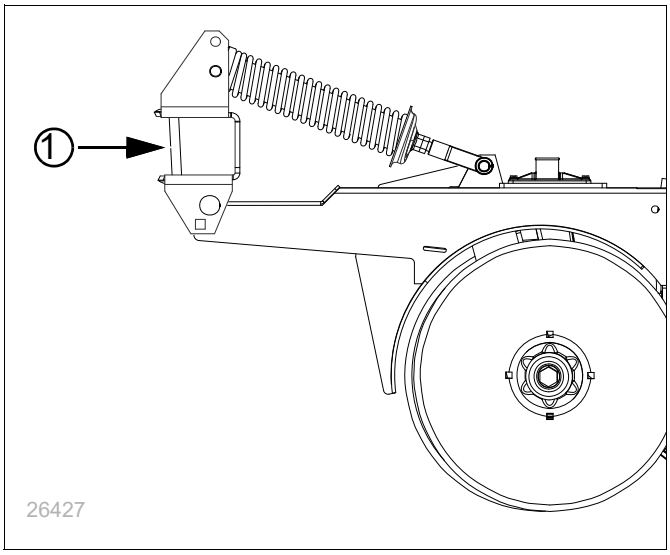
Type of Lubrication: Grease
Quantity: Repack



Opener Mounting Bolt

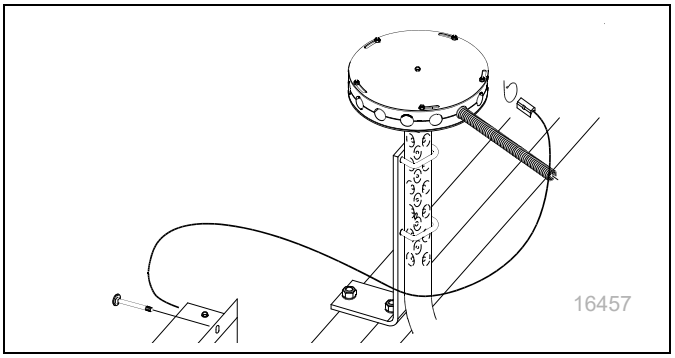


After first initial operation of the drill, inspect the opener mounting bolt and nut (1) for proper torque. This check should be repeated before each drilling season. This nut should be torqued to 85 ft./lbs +5/-0. If replacing this nut, it should be Great Plains part number 803-549c.



Options

Blockage Detector



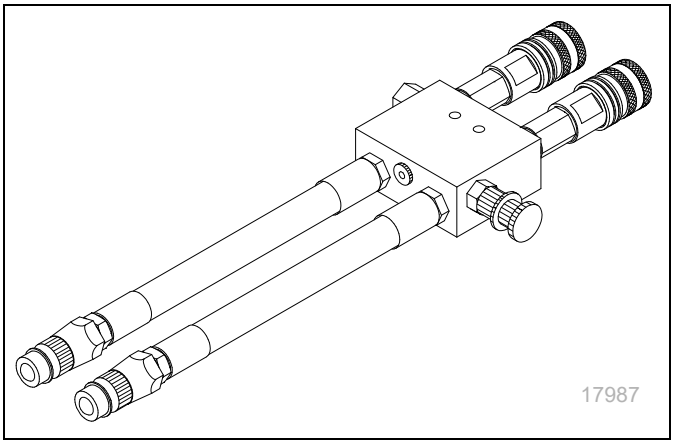
The seed monitor supports sensors that monitor for plugging in the one-inch, secondary hoses. The package includes programmable blockage modules for each tower and flow sensors for each secondary seed hose. The blockage modules signal the monitor when flow stops at a sensor. The monitor then sounds an alarm and identifies the problem hose.

To order blockage sensors, contact your Great Plains dealer.

Implement, Row Spacing	Part Numbers
CTA4000-8006, 6 in (15.2 cm)	168-408A
CTA4000-6575, 7.5 in (18.8 cm)	168-409A
CTA4000-5010, 10 in (24.8 cm)	168-410A

Hydraulic Bypass Kit

Description	Part Number
Tractor Hydraulic Bypass Kit	810-400C



To operate the CTA4000, some tractors with load-sensing closed-center, or constant-flow hydraulics need a bypass valve.

Consult your tractor dealer for advice about your specific tractor model.

Markers

Markers for this implement model are not provide by Great Plains, but are available from at least one third-party supplier. Consult your Great Plains dealer for a current recommendation of brand and model.

Press Wheels

A variety of single and dual press wheels are available, as bundle options at the time of initial implement order. Kits are not presently available to convert these in the field. Parts may be ordered to do so.

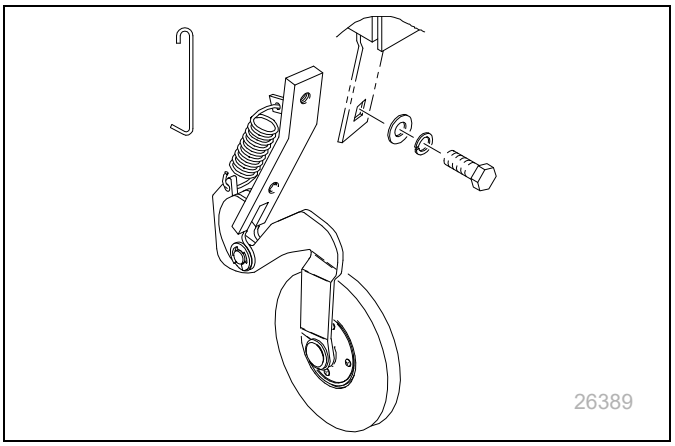
Seed Firmers

The standard CTA4000 includes seed flaps. A choice of firmers is an option in the product bundles, or may be field-installed as kits. Only one type of seed firmer may be installed at the same time.

Seed-Lok® Seed Firmer

Description	Part Number
Seed-Lok® kit (shown) (per opener)	122-193K

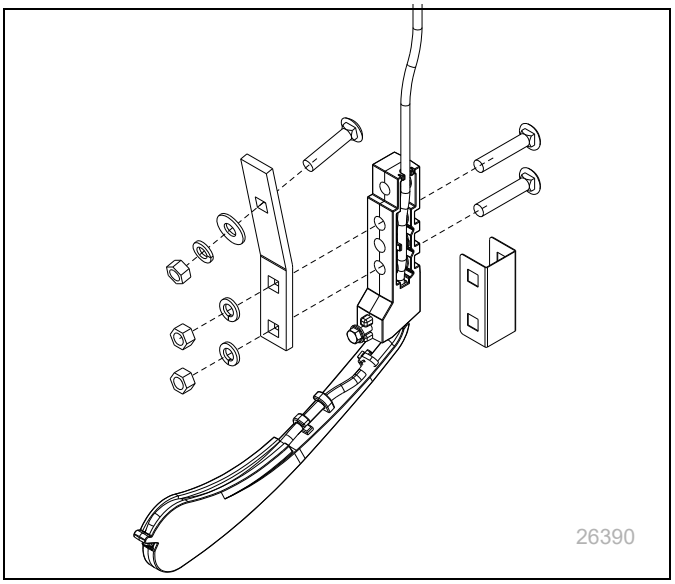
For operations, see "**Seed Firmer Adjustments**" on page 42.



Keeton Seed Firmer

Description	Part Number
Keeton seed firmer (per opener)	890-810C

For operations, see "**Seed Firmer Adjustments**" on page 42.



Weight Kits

The standard CTA4000 implement includes no additional weights.

Weight kits are available, each with one pair of 700 pound weights (1400 pounds per kit). These are set on the center frame. The weight transfer hydraulics distribute this weight to the wings.

The CTA4000 supports a maximum of two weight kits (2800 additional pounds), for a total maximum of four 700 pound weights.

Description	Part Number
Weight Kit (1 pair)	160-233A

See "**Frame Weight**" on page 34 for a table of total and per-row weight combinations available.

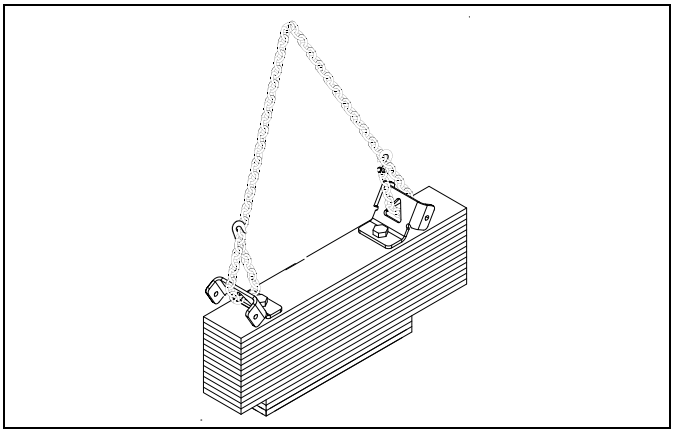


Figure 53
Optional Frame Weight

Appendix

Specifications and Capacities

	CTA4000-8006	CTA4000-6575	CTA4000-5010
Tractor Requirements	300 hp		
Weight (without weight kits)	13,673 lbs (6202 kg)	12,600 lbs (5715kg)	11,648 lbs (5283kg)
Hydraulic Circuits	3 circuits required, load-sensitive or closed-center 15 to 30 gpm at 2000 psi		
Hitch	dedicated dual-link from leading ADC3250 air cart		
Transport Width	18 ft (5.5m)		
Operating Width	40 ft (12.2m)		
Swath	486.5 in (12.357 m)	487.1 in (12.372 m)	487.5 in (12.383 m)
Row Count	80	65	50
Opener Travel	11in (27.9cm)		
Number of Towers	5 (16 ports per tower)	5 (13 ports per tower)	5 (10 ports per tower)
Nominal Row Spacing	6 in (15.2 cm)	7.5 in (18.9 cm)	10 in (24.8 cm)
Averaged Row Spacing	6.08 in (15.45 cm)	7.49 in (19.0 cm)	9.75 in (24.77 cm)
Transport Height	14 ft (4.3m)		
Operating Height	(vertical operating clearance is determined by air cart)		
Length	13 ft 9 in (4.2m)		
Overall Length w/ADC2350 Cart	30 ft 6 in (9.3m)		
Tire Sizes	11L-15 8-Ply		

Tire Inflation Chart	
Tire Size	Inflation
11L-15 8- PLY	36 psi 248 kPa

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. ManufacturerWeb site Firestonewww.firestoneag.com Goodyear www.goodyearag.com BKTwww.bkt-tires.com Titanwww.titan-intl.com Gleasonwww.gleasonwheel.com

Torque Values Chart

Bolt Size	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8	
in-tpi[a]	N-m[b]	ft-lb[d]	N-m	ft-lb	N-m	ft-lb
1/4-20	7.4	5.6	11	8	16	12
1/4-28	8.5	6	13	10	18	14
5/16-18	15	11	24	17	33	25
5/16-24	17	13	26	19	37	27
3/8-16	27	20	42	31	59	44
3/8-24	31	22	47	35	67	49
7/16-14	43	32	67	49	95	70
7/16-20	49	36	75	55	105	78
1/2-13	66	49	105	76	145	105
1/2-20	75	55	115	85	165	120
9/16-12	95	70	150	110	210	155
9/16-18	105	79	165	120	235	170
5/8-11	130	97	205	150	285	210
5/8-18	150	110	230	170	325	240
3/4-10	235	170	360	265	510	375
3/4-16	260	190	405	295	570	420
7/8-9	225	165	585	430	820	605
7/8-14	250	185	640	475	905	670
1-8	340	250	875	645	1230	910
1-12	370	275	955	705	1350	995
1 1/8-7	480	355	1080	795	1750	1290
1 1/8-12	540	395	1210	890	1960	1440
1 1/4-7	680	500	1520	1120	2460	1820
1 1/4-12	750	555	1680	1240	2730	2010
1 3/8-6	890	655	1990	1470	3230	2380
1 3/8-12	1010	745	2270	1670	3680	2710
1 1/2-6	1180	870	2640	1950	4290	3160
1 1/2-12	1330	980	2970	2190	4820	3560

Bolt Size	Bolt Head Identification					
	 Class 5.8		 Class 8.8		 Class 10.9	
mm x pitch[c]	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

a. in-tpi = nominal thread diameter in inches-threads per inch

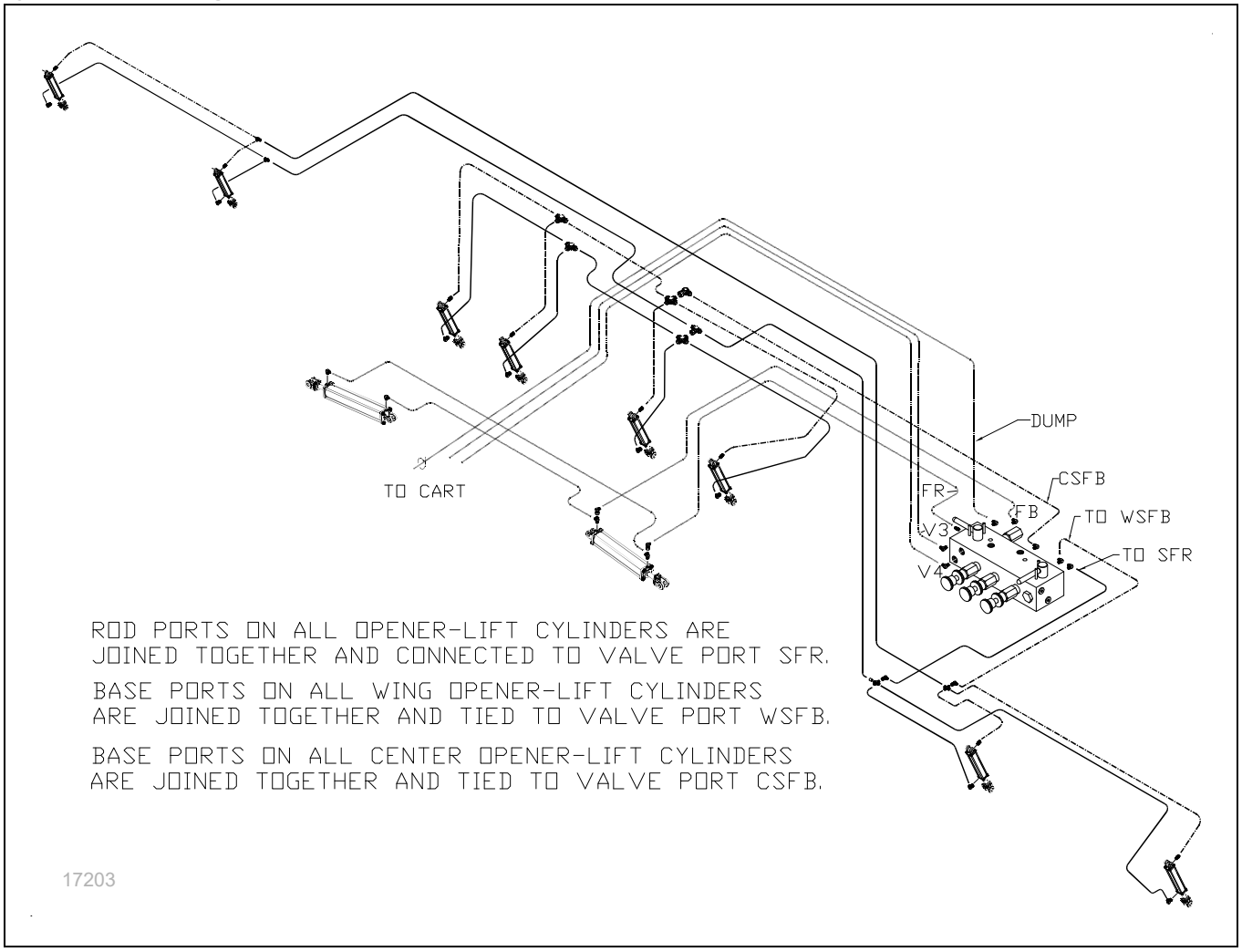
b. N· m = newton-meters

c. mm x pitch = nominal thread diameter in mm x thread pitch

d. ft-lb = foot pounds

Torque tolerance + 0%, -15% of torquingvalues. Unless otherwise specified use torquevalues listed above. 25199

Hydraulic Diagram



CTA4000 Hydraulic Circuit Assignments

Used With	Blue	Orange	Yellow	Black
ADC2350 Cart CTA4000 Implement	Not Used Ⓒ Lift /Fold Ⓓ Lower /Unfold	Auger Ⓐ Marker Ⓑ Marker	Fan Ⓔ Not Used Ⓕ Not Used	Fan Sump Return Ⓖ Sump Return

WARRANTY

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 includiing, 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 intepreted 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 partciular 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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