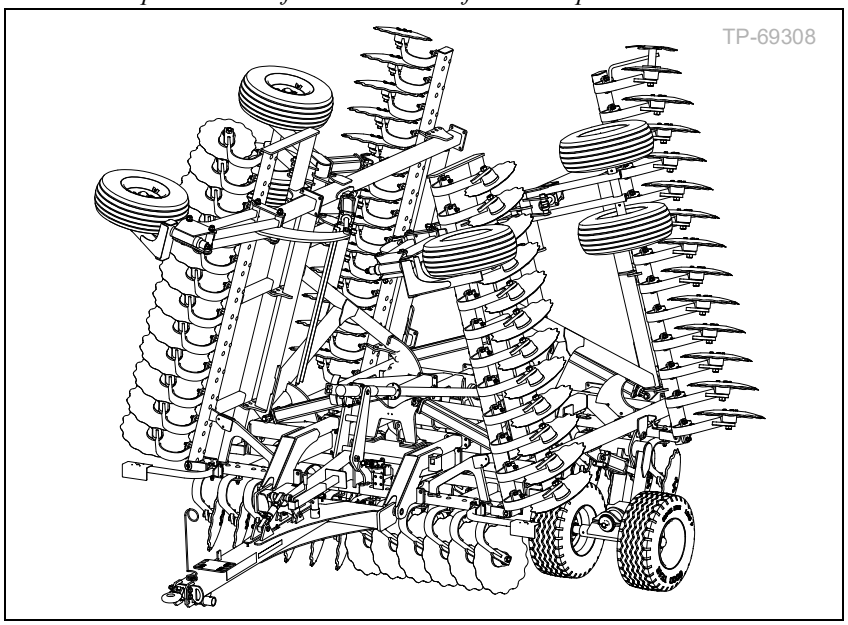
Operator Manual

UD2200, UD2600, UD3000, and UD3300
22, 26, 30, and 33 Foot Ultra Disk™

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 or may depict similar tillage models where a topic is identical.

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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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.

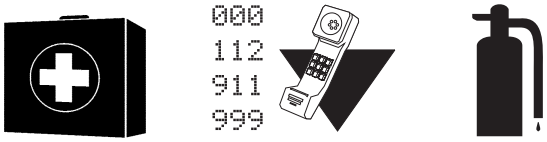
DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

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.

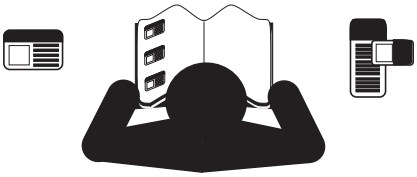
Prepare for Emergencies

- *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 5, thoroughly.*
- *Read all instructions noted on the decals.*
- *Keep decals clean. Replace damaged, faded and illegible decals.*



Wear Protective Equipment

- *Wear clothing and equipment appropriate for the job.*
- *Prolonged exposure to loud noise can cause hearing impairment or loss. Wear suitable hearing protection such as earmuffs or earplugs.*
- *Avoid wearing entertainment headphones while operating machinery. Operating equipment safely requires the full attention of the operator.*

Avoid High Pressure Fluids

Escaping fluid under pressure can penetrate the skin, causing serious injury.

- ▲ *Avoid the hazard by relieving pressure before disconnecting hydraulic lines.*
- ▲ *Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.*
- ▲ *Wear protective gloves and safety glasses or goggles when working with hydraulic systems.*
- ▲ *If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.*

Use Safety Lights and Devices

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

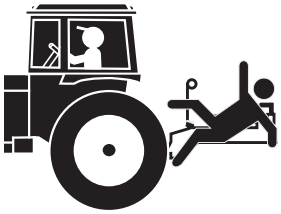
- ▲ *Use flashing warning lights and turn signals whenever driving on public roads.*

Use lights and devices provided with implement.

Keep Riders Off Machinery

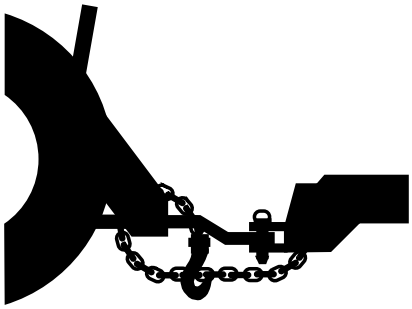
Riders obstruct the operator's view. Riders could be struck by foreign objects or thrown from the machine.

- ▲ *Never allow children to operate equipment.*
- ▲ *Keep all bystanders away from machine during operation.*



Use Safety Chains

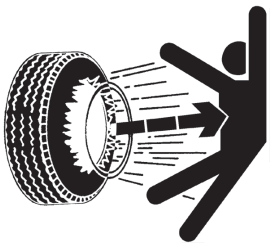
- ▲ *Use safety chains to help control drawn machinery should it separate from tractor draw-bar or trailing nurse tank hitch.*
- ▲ *Use chain with a strength rating equal to or greater than the gross weight of towed machinery.*
- ▲ *Attach implement chain to tractor draw-bar support or specified anchor location. Allow only enough slack in chain for turns.*
- ▲ *Replace chain if any links or end fittings are broken, stretched or damaged.*
- ▲ *Do not use safety chain for towing.*



Tire Safety

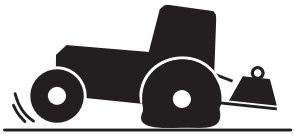
Tire changing can be dangerous. Employ trained personnel using correct tools and equipment.

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



Transport Machinery Safely

Maximum transport speed for the Ultra Disk™ is 20 mph (32 *km/h*). Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.



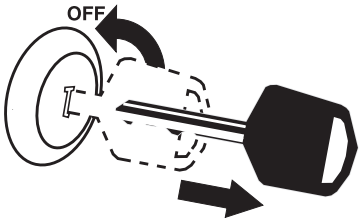
- ▲ *Do not exceed 20 mph (32 km/h). Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.*
- ▲ *Comply with state and local laws.*
- ▲ *Do not tow a Ultra Disk™ unless the towing vehicle is rated for, and ballasted for, the weight of the Ultra Disk™.*
- ▲ *Carry reflectors or flags to mark Ultra Disk™ in case of breakdown on the road.*
- ▲ *Do not fold or unfold the Ultra Disk™ while the tractor is moving.*

Check for Overhead Lines

The Ultra Disk™ requires at least 14 feet (4.3 m) for UD2600 Models and 15 feet (4.6m) for UD3000 and UD3300 Models of vertical clearance in transport. Contacting overhead electrical lines can introduce lethal voltage levels on Ultra Disk™ 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 line or body contact.

- ▲ *Avoid overhead lines during folding, unfolding, transport and parking.*

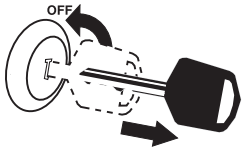
Shutdown and Storage

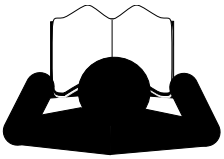


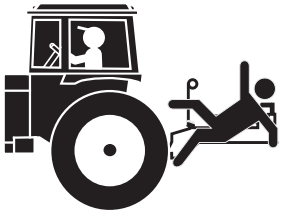
- ▲ *Lower Ultra Disk™, put tractor in park, turn off engine, and remove the key.*
- ▲ *Secure Ultra Disk™ using blocks and supports provided.*
- ▲ *Detach and store Ultra Disk™ in an area where children normally do not play.*

Practice Safe Maintenance

- *Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.*
- *Work in a clean, dry area.*
- *Lower the Ultra Disk™ onto support stands, put tractor in park, turn off engine, and remove key before performing maintenance.*
- *Make sure all system pressure is relieved.*
- *Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on Ultra Disk™.*
- *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 Ultra Disk™ before operation.*







Safety At All Times

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

- *Be familiar with all Ultra Disk™ functions.*
- *Operate machinery from the driver's seat only.*
- *Do not leave Ultra Disk™ 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 Ultra Disk™ during hitching.*
- *Keep hands, feet and clothing away from moving parts.*
- *Watch out for wires, trees, etc., when folding and raising Ultra Disk™. Make sure all persons are clear of working area.*

Safety Decals

Safety Reflectors and Decals

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

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

Installing new decals

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

Transport Decals

Slow Moving Vehicle Reflector

818-055C

On center of mainframe;
1 total

Red Reflectors

838-614C

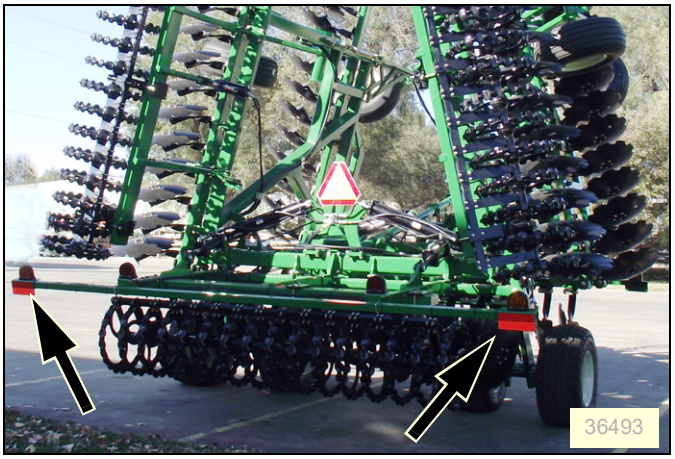
On rear face of light bracket mount tube (top);
2 total

Daytime Reflectors

Orange Reflectors

838-603C

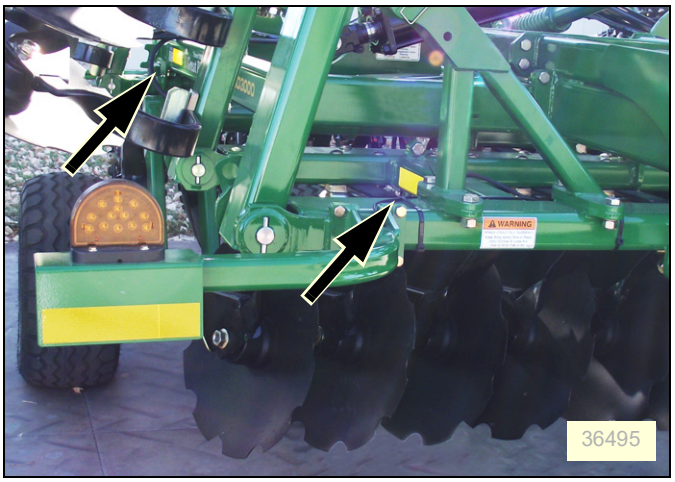
On rear face of light bracket mount tube (bottom);
2 total



Amber Reflectors

838-615C

On front face of light bracket light tube;
On center frame side face (front and rear) both right and left frame tubes;
6 total



Danger Decals

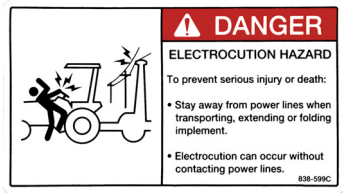
Danger: Overhead Crushing Hazard

818-046C

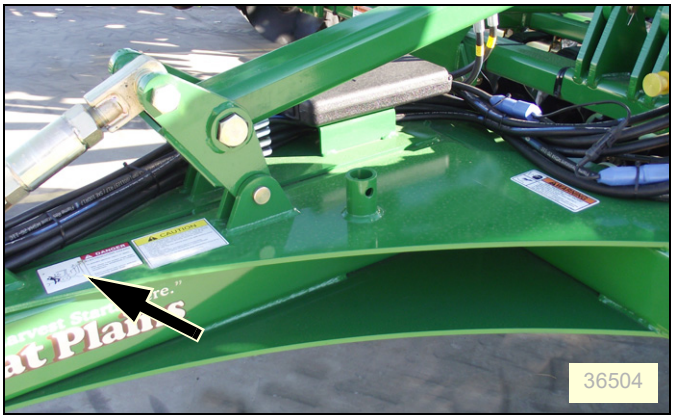
On lift hydraulic cylinder (right and left side);
2 total

Danger: Electrocution

838-599C

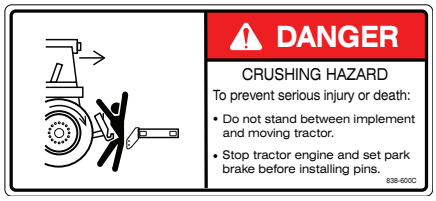


On top face of tongue (at the middle);
1 total

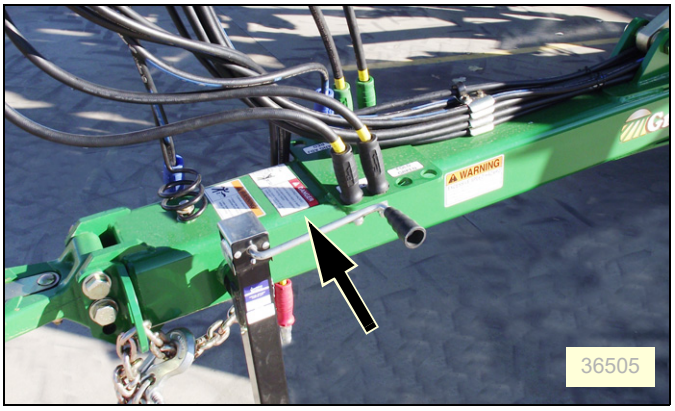


Danger: Crushing Hazard

838-600C



On top face of tongue (front);
1 total

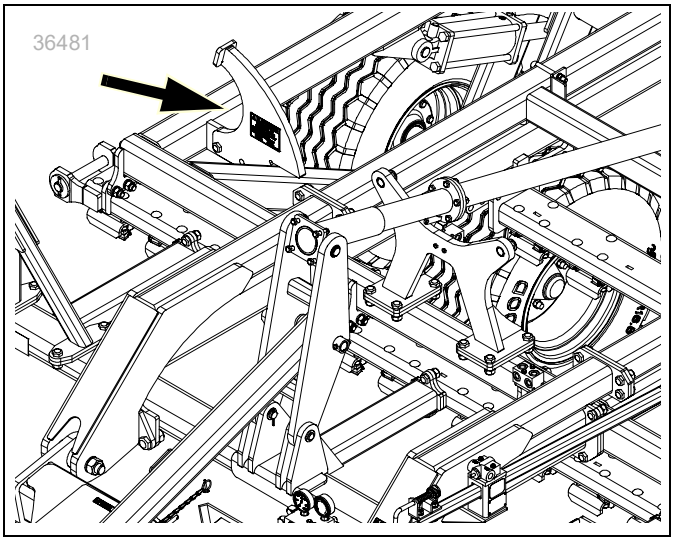


Warning Decals

Warning: Pinch Point or Crushing Hazard

818-045C

On each left and right side wing rests, facing forward on front rests and backward on rear rests;
4 total



On outside face right and left wing wheel axles and center axle;
4 total

Warning: Excessive Speed Hazard

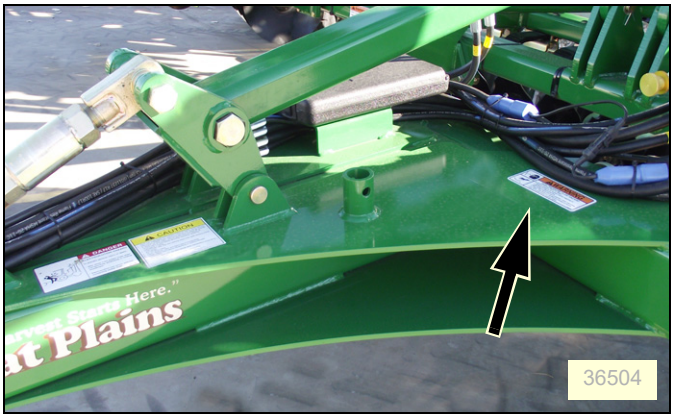
818-188C

On front of tongue left face;
1 total

Warning: High Pressure Fluid Hazard

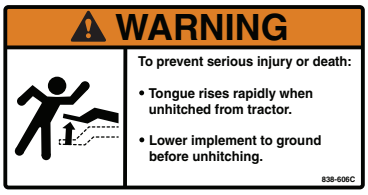
838-094C

On top face of tongue frame (left rear);
1 total

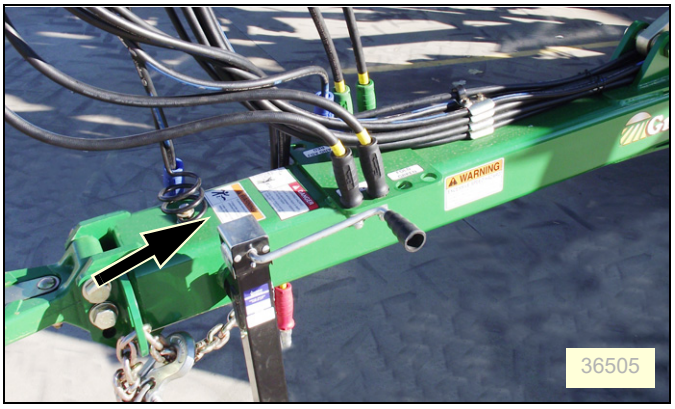


Warning: Negative Tongue Weight

838-606C



On top face, front of tongue;
1 total



Caution Decals

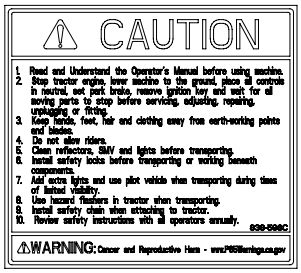
Caution: Tires Not A Step

818-398

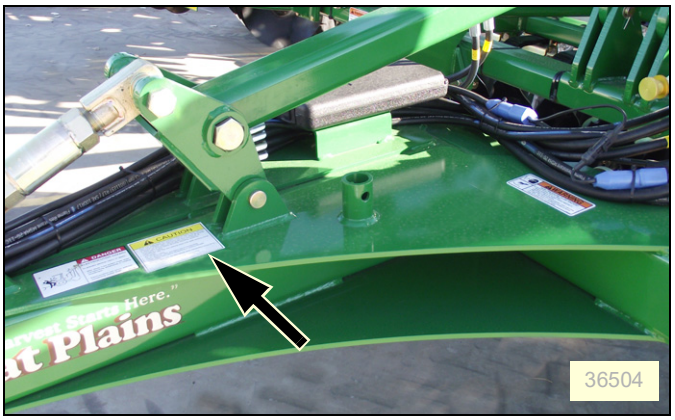
One on each transport axle leg of wing wheels and transport wheels;
4 total

Caution: General Instructions

838-598C



On top face of tongue frame (at middle);
1 total



General Safety Decals

Notice: Transport Lock

838-613C

Outside of center frame rear (both sides);
2 total

Introduction

Great Plains welcomes you to its growing family of new product owners. The 26-, 30-, and 33-Foot Ultra Disk™ has been designed with care and built by skilled workers using quality materials. Proper setup, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

Description of Unit

The Ultra Disk™ is a three section primary and secondary tillage tool. Working width ranges from 26 to 33 feet. The implement is designed to cut out and bury roots and crop residue. Kill weeds and dry out the soil, level ridges and ruts and for seedbed preparation. Various finishing attachments are also available to further smooth, redistribute residue, kill weeds, break clods, and consolidate the soil.

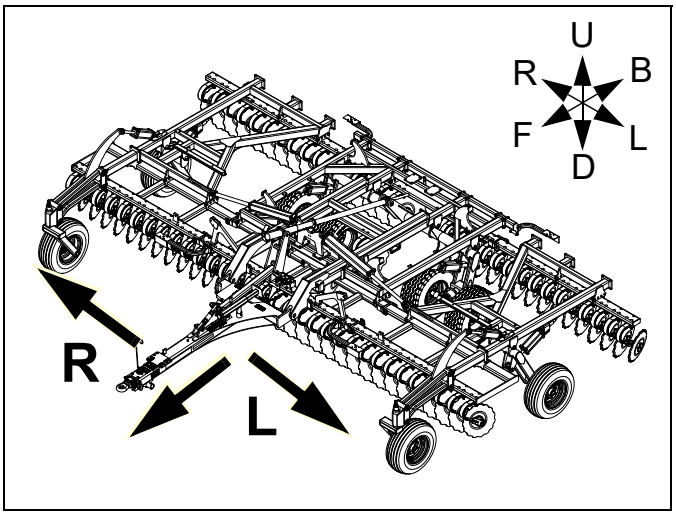


Figure 1 36416
Ultra Disk™

Intended Usage

Use the Ultra Disk™ for primary and secondary tillage. Do not modify the Ultra Disk™ for use with attachments other than Great Plains options and accessories specified for use with the Ultra Disk implement.

Models Covered

UD2600	26-Foot, 3-Section
UD3000	30-Foot, 3-Section
UD3300	33-Foot, 3-Section

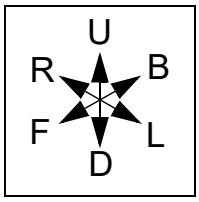
Document Family

559-460M	Owner's Manual (this document)
559-460P	Parts Manual
559-460Q	Pre-Delivery Manual

Definitions

The following terms are used throughout this manual.

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



NOTICE

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.

📖 Useful information related to the proceeding topic.

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 2

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

Record your Ultra Disk™ model and serial number here for quick reference:

Model Number:_____

Serial Number: _____

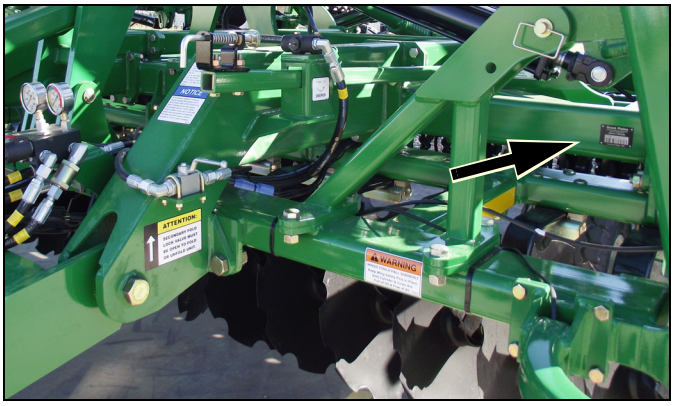


Figure 2 36444
Serial Number Plate

Further Assistance

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

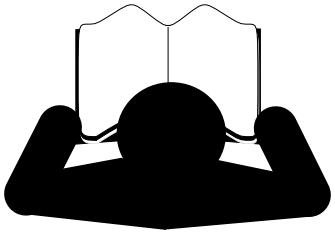
1. Discuss the matter with your dealership service manager. Make sure they are aware of any problems so they can assist you.
2. If you are still unsatisfied, seek out the owner or general manager of the dealership.

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

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

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

Preparation and Setup



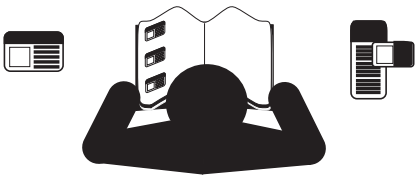
This section helps you prepare your tractor and Ultra Disk™ for use, and covers tasks that need to be done seasonally, or when the tractor/Ultra Disk™ configuration changes.

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

Pre-Hitching Setup

Complete this checklist before routine setup:

- ❑ Read and understand “**Important Safety Information**” on page 1.
- ❑ Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
- ❑ Make sure your tractor horsepower matches the implement you are pulling. This is important to ensure desired field results and avoid damage due to excess tractor power. See “**Specifications and Capacities**” on page 48.
- ❑ Check that all grease fittings are in place and lubricated. Disk hubs are permanently lubricated. Wheel hubs are factory-lubricated and need attention at intervals specified in “**Lubrication**” on page 45.
- ❑ Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. See “**Safety Decals**” on page 5.
- ❑ Inflate tires to pressure recommended and tighten wheel bolts. See “**Tire Inflation**” on page 49.



Hitch Setup

The Ultra Disk™ is ordered with one of two hitch options (Refer to page 46), a configurable Category III or IV hitch, or a Category V hitch.

Category III Clevis Hitch

Refer to Figure 3

The base hitch must be upright (with the recessed notch on the bottom) for this configuration. This places the tongue weight on the base hitch, and not the clevis. ⑬.

3. Select one each:
   ⑬ :;2/9;:E"JKVEJ"ENGXKU
   ⑪ :24/6:9E"JJEU"516/32Z8"IT:
   ⑫ :25/589E"PWV"JGZ"VQR"NQEM"516/32RNV
4. With the square-shouldered end of the clevis ⑬ up, fully seat the clevis in the upright base hitch ⑱. Insert the Grade 8 bolt ⑪ from below. Secure with lock nut ⑫.

⚠ CAUTION

Hitch Failure Hazard:
Install the hitch base and assemble the clevis parts as shown. Incorrect installation or assembly may result in failure of the clevis bolt, leading to hitch failure. This could result in a serious highway accident or severe machine damage.

Category III Hitch

The base hitch ⑱ must be inverted (with the recessed notch on the top) for this configuration. Set the V-block ⑭ to allow some vertical articulation of the draw bar pin. Always use at least one cushion ⑮.

5. Select one of each
   ⑯ RRK/524X"VQR"RNCVG"/"ECV"5
   ⑭ RRK/425XT"X/DNQEM
   ⑩ :24/5:5E"JJEU"516/32Z5"IT7
   and two:
   ⑮ RRK/427J"EWUJKQP
6. Set the cushions ⑮ inside the hitch recess, just forward of the vertical bolt hole. Position the V-block ⑭ forward of the cushions and check the size of the resulting pinning hole. Remove a cushion ⑮ if needed.
7. Add the top plate ⑯. Secure from below with Grade 5 bolt ⑩.

Category IV Hitch

Use only the base hitch casting. See “**Hitch Setup**” on page 14.

Category V Hitch

This option includes a specific Category V casting and three Grade 8 bolts.

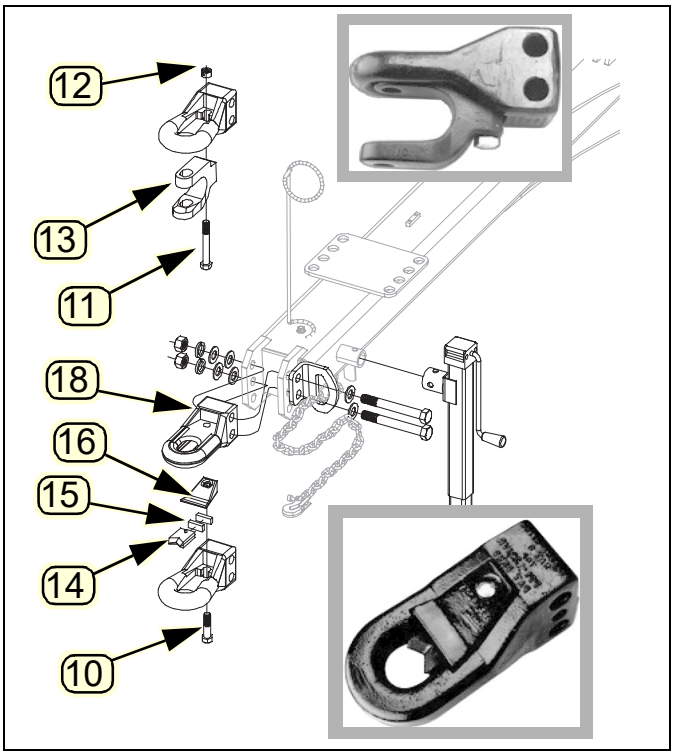
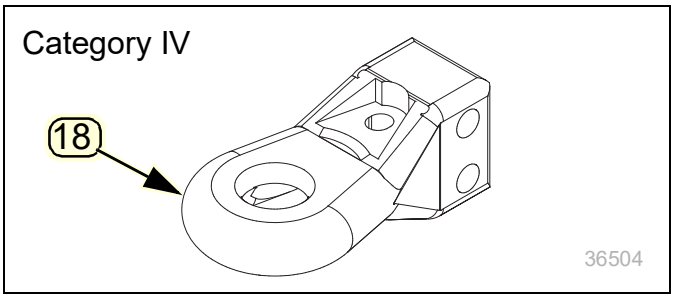
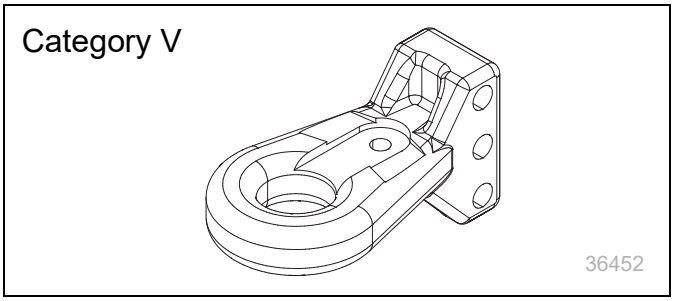


Figure 3
Configure Hitch

31740
42245
31741





Hitching Ultra Disk™ to Tractor

Hitch to a tractor for highway transport or field operations. Hitch to a leading implement only for field operations. Do not transport behind another implement.

Before hitching, check the compatibility and capability of the towing tractor or implement.

- The Ultra Disk™ is a pull-type implement. Hitch choices include Category III, IV or V using optional accessory parts.

For hillsides and steep slopes, set tractor wheels as wide as possible for maximum stability.

1. Raise tractor three-point arms (if equipped) to maximum height in order to clear the Ultra Disk™.
2. For TWO-WHEEL DRIVE and MFWD tractors, pin draw bar in fixed center position for field and transport. Pin in center position for transport to maintain maximum steering control.

Refer to Figure 4

3. Use the parking stand jack ① to raise and lower Ultra Disk™ tongue.
4. Back the tractor draw bar into alignment with hitch.
5. Secure with a locking hitch pin.

⚠ CAUTION

Negative Tongue Weight Hazard:
Make certain the Ultra Disk™ is securely hitched to the tractor or leading implement before unfolding. An unhitched Ultra Disk™ can tip over backwards during folding and unfolding if the tongue is not secured.

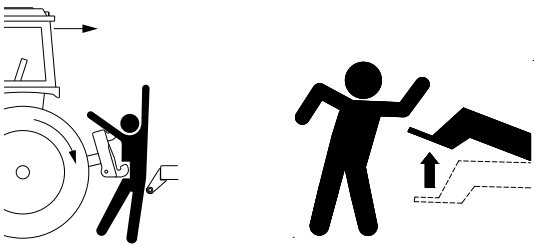
6. Secure safety chains to suitable anchor points on the tractor.

Refer to Figure 5

7. Retract the jack foot.
8. Remove the jack from the tongue side stub and secure it on the storage stub ② at the top rear of the tongue.

⚠ CAUTION

Load Sway Hazard:
Lock draw bar swing to center position to minimize any side-to-side sway to assure proper tracking in the field and safe travel.



⚠ DANGER

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

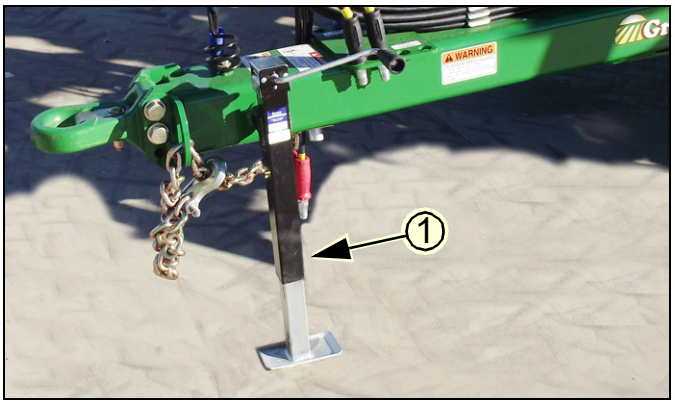


Figure 4 36452
Jack & Hitch Clevis

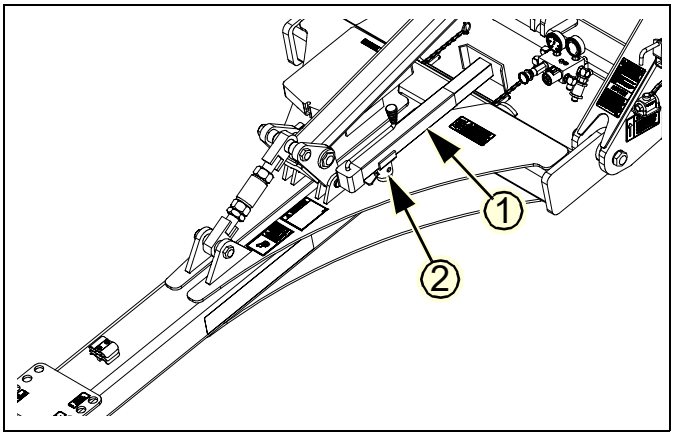


Figure 5 36481
Jack in Storage

Electrical Hookup

Refer to Figure 6

Plug Ultra Disk™ electrical lead into tractor seven-pin receptacle. If your tractor is not equipped with a seven-pin connector, contact your dealer for installation.

Test the lights and signaling prior to highway movement.

📖 The electrical harness must be connected for field operations, but lights do not need to be on. Power provided by the lighting connector is also used for solenoid valves.

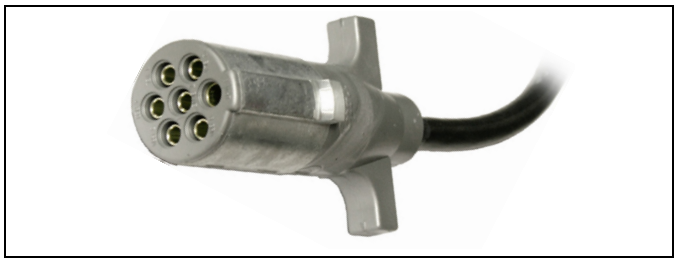


Figure 6 36051
J560b Electrical Connector

Hydraulic Hose Hookup

⚠ WARNING

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

Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury.

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.

Refer to Figure 7

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. Refer to the table at right for the color code.

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.

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

1. Set tractor remote circuit levers to Float for all remotes in use.
2. Clean all hydraulic couplings.
3. Plug hoses into assigned remote ports.

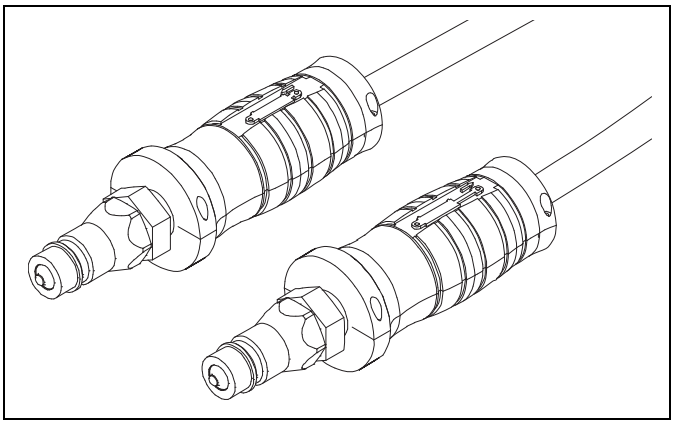


Figure 7 31733
Color Coded Hose Handles

Color Coded Hose Handles

Color	Hydraulic Function
Black	Lift (2 hoses)
Green	Fold (2 hoses)
Red	Machine Level (2 hoses)
Blue	Roller (2 hoses, Option)

Transport/Storage Locks

Refer to Figure 8 (depicting a folded implement, from left)

There are three locking systems used on the Ultra Disk™ for transport or raised folded storage. These locks are removed or disabled for field operations.

1. two wing lock pins; front of center frame
2. one wing fold lock valve; and, front of center frame
3. two lift cylinder lock channels.

The following two pages describe lock operation. For exact lock operating sequences for fold/unfold,
see "**Pre-Leveling of Machine**" on page 20
and "**Unfolding the Wings**" on page 25.

🕮 The lift cylinder lock channels are inconvenient to reach when the Ultra Disk™ is unfolded. These lock channels need to be removed prior to unfolding and installed after folding and engaging fold locks.

Figure 8 36528
Lock Locations

Wing Fold Lock Pins

These pins secure the folded wings in cradles. They are the primary means of preventing wing motion in transport or folded storage. Do not rely exclusively on hydraulic lock-up.

Refer to Figure 9 (depicting right wing, from front)

Prior to Folding

A. Verify that each pin ① is not in a lock hole ④. It may be removed or in a storage hole ⑤.

B. After folding, verify that the wing is fully resting in the cradle, and move each pin to its lock hole. The pin should insert easily if the wing is correctly folded.

Prior to Unfolding

A. Verify that fold lock valve is closed (page 18).

B. Check that each lock pin ① is loose.

🕮 If one or both pins cannot move, due to a resting or pushing wing, refer to steps a-z at right.

⚠ CAUTION

Pinch/Crush Sharp Object Hazards:
Do not remove resistant pins. First eliminate the source of the binding. If a pin is under shear tension, the wing will move suddenly if the pin is forcibly removed. This could result in pinching or crushing near the cradle, or lacerations from moving disks.

C. If both pins are loose, remove each and secure it in the storage hole ⑤.

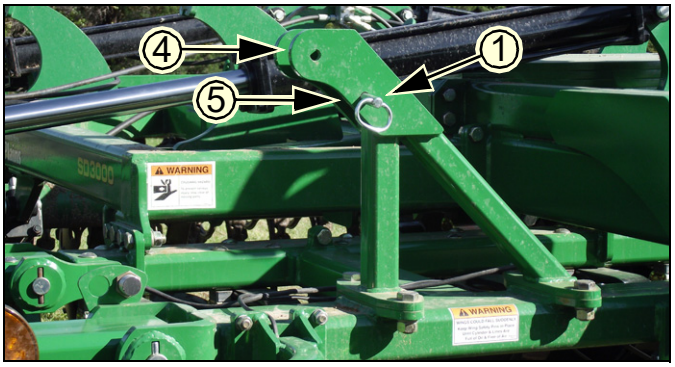


Figure 9 36456
Wing Fold Lock Pin

Binding Wing Lock Pin

a. Leave both wings pinned until the stuck pin is free.

b. Open the wing fold lock valve (page 18).

c. Retract fold circuit to fold wings fully.

d. Close the lock valve and continue at step C at left.

e. Carefully Extend or Retract the tractor circuit for fold until the pin is loose. Once loose, close the lock valve and continue at step C at left.

Wing Fold Lock Valve

Refer to Figure 10 (showing the valve closed)

The wing fold lock valve ② is located near the center of the machine, close to the depth control valve. It helps prevent wing movement during transport and maintenance. Always also use wing lock pins (page 17) to secure wings in fold.

⚠ CAUTION

Pinch/Crush and Overhead Crushing Hazards:

Do not rely exclusively on the lock valves to prevent wing motion. Always use lock pins. The lock valve cannot prevent motion if hoses or cylinders contain air, are damaged or fittings are loose or disconnected. With a hydraulic system problem, an unpinned wing can unfold from partial fold, or from full fold on a hillside. A falling wing can result in serious crushing injury or death. A nearly folded wing can fully fold, resulting in severe pinching or crushing at the cradles.

To Hydraulically Unlock the Wings

1. If the tractor is not shut off, set the tractor remote for fold to Neutral to hold the current position.
2. If the Ultra Disk™ is folded, clear everyone from under the wings.
3. Move the valve handle ⑥ from the 90° position to in-line with the valve body.

To Hydraulically Lock the Wings

1. If folding, verify that the wings are fully folded.
2. Move the lock valve handle ⑥ from in-line to the 90° position.
3. Set the remote circuit for Fold to Neutral.

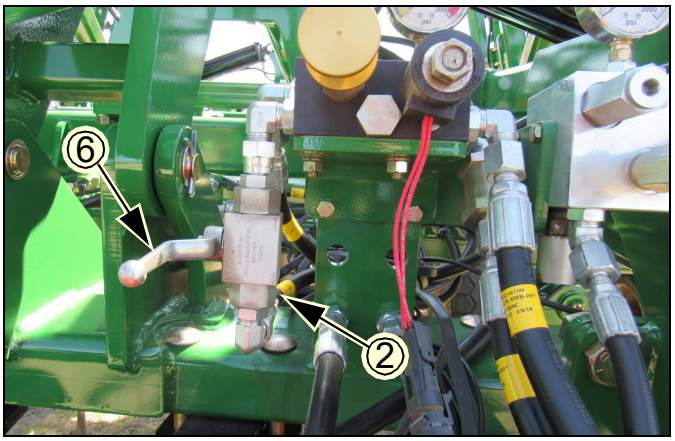


Figure 10 TP-69315
Wing Lock Valve

NOTICE

Equipment Damage Risk:

Do not close (lock) the fold lock valve when the wings are in any position other than fully folded. In particular, field operations with the wings hydraulically locked at wings-level can result in severe machine damage.

Lift Cylinder (Transport) Locks

Refer to Figure 11 and Figure 12

Two lock channels ③ can hold the implement at raised for transport, storage and maintenance.

📖 The lift cylinders are inconvenient to access when the Ultra Disk™ is unfolded. Great Plains recommends performing lift cylinder lock steps with the implement folded and with wings locked.

To Install Lift Lock Channels

1. Raise the Ultra Disk™ and fold the wings (page 20). Leave the lift circuit at Neutral to hold at lift.
2. Secure the wings with lock pins (page 17) and the lock valve (page 18).
3. Remove the lock channels ③ from their storage locations ⑧.
4. With the pin ⑦ removed, place each lock channel over a lift cylinder rod. Secure with pin.
5. Slowly move the remote lever to Float to settle the implement onto the channel.
6. Set the lift circuit to Neutral after settling on lock channels.

To Remove Lift Lock Channels

A tractor or suitable hydraulic power source must be connected for these steps.

1. If the implement is unfolded and/or lowered, raise and fold it (page 20).
2. Secure the wings with lock pins (page 17) and lock valve (page 18).
3. Extend the lift circuit to raise the implement completely. Set the circuit to Neutral to hold at full lift.
4. Remove the pin ⑦ from each lock channel ③. Remove the channel.
5. Transfer to the storage tube weldment ⑧ just behind the axle arm. Secure with pin.

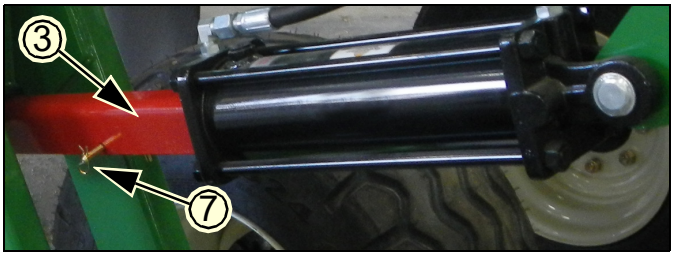


Figure 11 36513
Lift Lock Channel Installed

Figure 12 36447
Transport Lock Storage

Pre-Leveling of Machine

Prior to first use, and then seasonally (or if leveling problems are suspected), check the factory settings for:

- level bar spring (page 44), and
- lift cylinder eyebolts (page 35).

Pre-leveling of machine should be done on a solid level surface (preferably concrete). Machine must be unfolded before leveling. Insure all tires are inflated to recommended pressure. Raise machine and hold lever to insure that the air has been purged from the lift system.

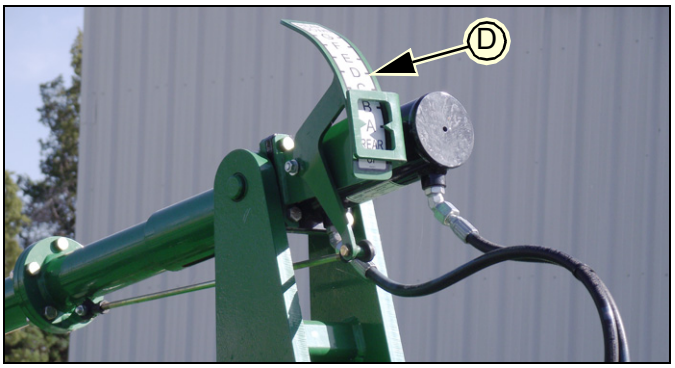


Figure 13 36449
Hydraulic Level Bar

Hydraulic Level Bar Pre-Level

Refer to Figure 13

1. Install lift transport locks (page 19). Check the tire pressures for proper inflation and check the tightness of lug bolts.
2. Raise machine fully. Set lift circuit to Neutral to hold at lift. Remove lift lock channels.
3. The hydraulic level bar, needs the hydraulic fore and aft adjustment bar set to “D”. Lower machine until the blades are just off the ground.

Gauge Wheel Pre-Level

Refer to Figure 14

Gauge wheels need to be temporarily raised to avoid interference with wing leveling.

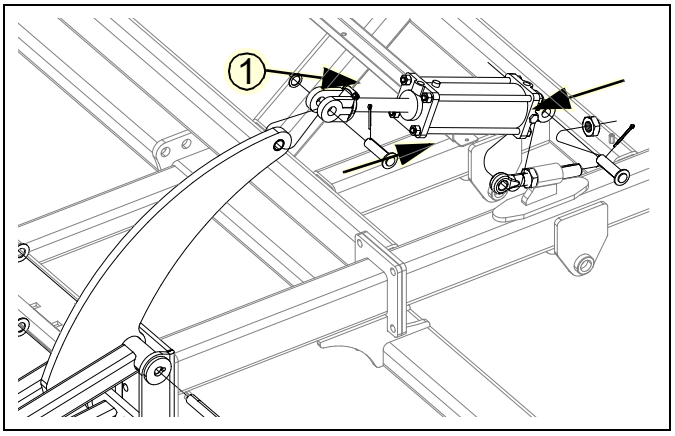


Figure 14 TP-69268
Gauge Wheel Hydraulics

Use the hydraulics to adjust the wheels so they are $^{1}/_{2}$ inch above the desired working depth from the ground. Refer to page 29.

Hydraulic Attachments

Set the circuit to fully Retracted (raises) and Neutral to eliminate leveling interference from the rollers.

Front to Rear Leveling

Refer to Figure 15

Factory preset length for hitch turnbuckle is:
16.25 inches (413 mm) center-to-center at the eyebolts.
It may be adjusted as required to obtain desired leveling.

1. Lower the machine so disks are 1-to-2 inches above ground. Loosen jam nut ① with the turnbuckle wrench (not shown, stored on rear pegs of hitch). Adjust the turnbuckle ② at the front of machine to level it front to back. (Shorten to bring front down, extend to bring front up).
2. When the front disks are the same distance off ground as rear disks, tighten jam nut.

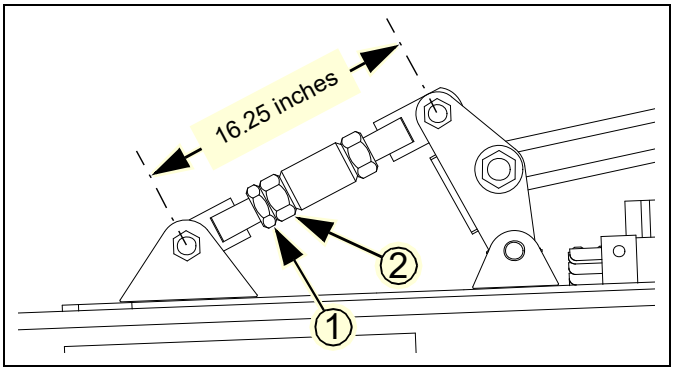


Figure 15 36535
Hitch Turnbuckle Adjustment

Side to Side Level

Refer to Figure 16 (shown without a tire for clarity)

1. At a side tube, measure the height of the center frame to the ground.
2. At the outside tube of each wing, measure the height ③ to the ground.
3. If adjustment is needed to match wing height to center section height, loosen the rear eyebolt nut ④. Use the front eyebolt nut ⑤ to adjust the wing height. Secure the eyebolt with the rear nut.
4. In field conditions, with gauge wheels (if present) still elevated, lower the unfolded implement, set wing down pressure (if used) to field pressure, pull forward and assess wing level.

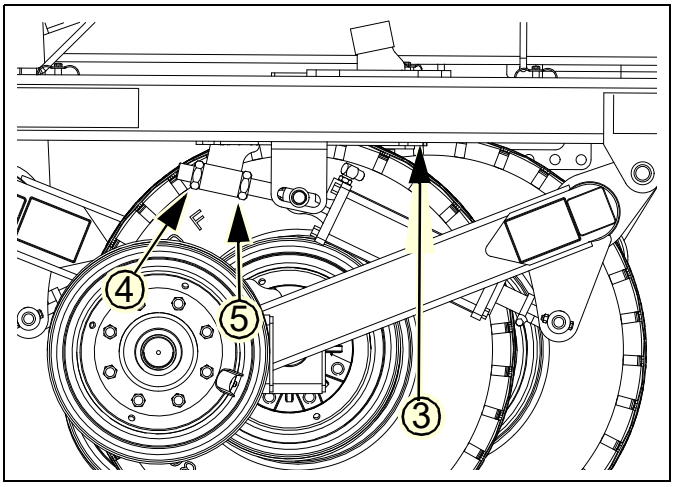


Figure 16 TP-69243
Wing Lift Cylinder Eyebolt

Operating Instructions

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

Pre-Start Checklist

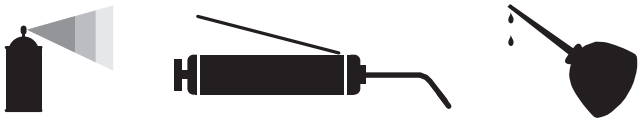
Perform the following steps before transporting the Ultra Disk™ to the field.

- ❑ Carefully read "**Important Safety Information**" on page 1.
- ❑ Lubricate Ultra Disk™ per "**Lubrication**" on page 45.
- ❑ Check all tires for proper inflation. See "**Tire Inflation**" on page 49.
- ❑ Check all bolts, pins, and fasteners. Torque as specified at "**Torque Values Chart**" on page 50.
- ❑ Check Ultra Disk™ for worn or damaged parts. Repair or replace parts before going to the field.
- ❑ Check hydraulic hoses, fittings, and cylinders for leaks. Repair or replace before going to the field.
- ❑ Perform all beginning-of-season and daily service items under "**Maintenance**" on page 42.

WARNING

High Pressure Fluid Hazard:

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



Raising / Lowering

Raising When Unfolded

No particular steps are required for raising while unfolded.

When raising in the field, hold at full lift for 2-to-3 seconds to re-phase the lift circuit.

At first field lift of the day, raise and lower several times to purge any air from the system.

Raising When Folded

If folded, the implement may be raised at any time. Extend the lift circuit until the implement is fully raised. Hold the lever at Extend for an extra 2-to-3 seconds to re-phase the lift cylinders.

Set the lift circuit to Neutral to hold at lift, such as for removal of lock channels.

Lowering When Unfolded

No particular steps are required for lowering while unfolded.

Retract the lift circuit until the depth control system arrests vertical motion. Set the circuit to Neutral.

Lowering When Folded (with Locks)

Great Plains recommends lowering the implement onto the lock channels for transport and storage, rather than having it held above the locks by hydraulics.

These steps presume the lock channels are already in place (page 19).

1. Slowly Float the lift circuit to lower the implement onto the locks.
2. Set the circuit to Neutral.

Fully Lowering When Folded

Great Plains does not recommend resting the folded implement on the center section disk blades. Fully lowering a folded implement onto supports or stands might be necessary for maintenance.

For lowering, the transport lock channels need to be removed if in place.

1. If an optional hydraulic finishing attachment is installed, Retract that circuit to fully raise it. Set the circuit to Neutral to hold at raised.
2. If transport locks are installed, Extend the lift cylinder circuit to fully raise the implement. Set the circuit to Neutral to hold at lift. Turn off the tractor. Remove the key. Remove and store the transport lock channels (page 19).
3. Start the tractor. Slowly Retract the lift circuit until the frames rest on the support stands. Set the lift circuit to Float. Any optional hydraulic finishing attachment needs to be lowered on to support stands and that circuit placed in Float.

Folding the Wings

Fold the Ultra Disk™ for movements on public roads and between fields with narrow clearances. These steps presume that the Ultra Disk™ is unfolded and lowered on flat ground, such as at the end of field operations.

1. Hitch tractor (page 15). Put tractor in Park with parking brake engaged.
2. Be aware of vertical clearance required for folding.
3. Set wing fold circuit to Neutral.
4. If the optional hydraulic level system is installed, set the circuit to Neutral to prevent unexpected movement.
5. If an optional hydraulic finishing attachment is installed, Retract that circuit to raise the attachment. Set the circuit to Neutral to hold at lift.
6. Verify that the wing lock pins are out or in the storage holes (page 17).
7. Verify or set the wing lock valve to Open (page 18).
8. Clear all persons from around the implement.
9. Extend the tractor lift circuit to fully raise the implement. Set the circuit to Neutral to hold at lift.
10. Slowly move fold circuit lever to Retract. Observe the fold operation.

📖 Watch for leaks and make sure hoses do not get pinched during the initial unfolding process.

11. Wait for both wings to reach the fully folded position. Set tractor remote to Neutral to hold at folded.
12. Set the fold circuit to Neutral to hold at fold.
13. Shut down the tractor.
14. Close the wing fold lock valve (page 18).
15. Install the wing lock pins (page 17).
16. Install the lift cylinder lock channels (page 19).
17. Start the tractor. Slowly Retract the lift circuit to settle the machine on the locks, then move circuit to Float to relieve any pressure, then Neutral.

DANGER

Electrocution Hazard:

Avoid overhead lines when folding and transporting. When folded and lifted, the Ultra Disk™ requires clearance of at least 14 feet (4.3m) for UD2600 and 15 feet (4.6m) for UD3000 and UD3300, which is high enough to contact low hanging lines. Touching the Ultra Disk™ or tractor completes a circuit to ground, and can result in serious injury or death. At higher voltages, shock can occur without direct contact.

WARNING

Crushing Hazard:

Bystanders could be crushed between the folding Ultra Disk™ wings and the Ultra Disk™ center frame, or caught in the folding mechanism. To avoid serious injury or death, keep all bystanders well away during Ultra Disk™ operations.

NOTICE

Equipment Damage Risk:

Do not fold on hillsides. Fold only on level ground. On a hillside, step 12 could allow the downhill wing to unfold, resulting in machine damage.

Unfolding the Wings

Unfold the Ultra Disk™ for adjustments, field operations, maintenance, parking and storage. These steps presume that the Ultra Disk™ is folded and locked at fold, with the tractor hitched. The implement may be raised or lowered.

1. Unless the Ultra Disk was folded, with the currently hitched tractor, only a short time ago, check for evidence of oil leaks. Check the ground at hitch connections, hose fittings and under cylinders.
2. Hitch tractor (page 15). Put tractor in Park with parking brake engaged.
3. Clear all persons from on or near the Ultra Disk.
4. Set the hydraulic level cylinder, retract the cylinders and set that circuit to Neutral to prevent motion during unfold.
5. If an optional hydraulically soil conditioner is installed, set that circuit to Neutral to prevent motion during unfold.
6. Be aware of vertical and horizontal clearances needed to unfold the Ultra Disk.
7. If the implement was lowered, or was raised with transport lock channels installed, Extend the lift circuit to fully raise the implement. Set the circuit to Neutral to hold at lift.
8. Shut down the tractor and remove the key.
9. Verify that wing fold lock pins are installed, and the lock valve closed. Move the transport (lift) lock channels to storage if installed (page 19).
10. Remove the wing lock pins (page 17). Secure in storage holes.
11. Set the wing fold lock valve handle to open (page 18).
12. Clear all persons from around the implement.
13. Slowly Extend the fold circuit to unfold the wings. When wing wheel are in ground contact, set the fold circuit to active down pressure or Float.

📖 Watch for leaks and make sure hoses do not get pinched during the initial unfolding process.

14. Once the machine is unfolded, raise and lower the machine several times to purge air from the lift.

⚠ WARNING

Overhead Sharp Object and Crushing Hazards:

Clear all persons from around the implement during unfold. A lowering wing could cause severe lacerations at disk edges, as well as crushing resulting in serious injury or death.

Transporting the Ultra Disk™

Transport Checklist

Know your implement weight. If tractor capabilities are marginal, check actual weight of implement at a scale.

Ultra Disk™ Weight Range

Configuration	Weight
UD2200, Minimum	17,340 pounds (7665 kg)
UD2200, Maximum	18,840 pounds (8545 kg)
UD2600, Minimum	17,500 pounds (7100 kg)
UD2600, Maximum	23,800 pounds (10,800 kg)
UD3000, Minimum	19,300 pounds (7,300 kg)
UD3000, Maximum	24,400 pounds (11,100 kg)
UD3300, Minimum	20,600 pounds (8900 kg)
UD3300, Maximum	28,300, pounds (12,900 kg)

Before transporting the Ultra Disk™ check the following items.

1. Match hitch category to tractor (page 14).
2. Check that implement is securely hitched to a sufficient tractor (page 15).
3. Always use a locking-style hitch pin sized to match holes in hitch and draw-bar, and rated for the load.
4. Attach safety chain to tractor with enough slack to permit turning (page 15).
5. Verify correct operation of lights.
6. Check that tires are properly inflated (page 49).
7. If Ultra Disk™ is unfolded, fold (see "**Folding the Wings**" on page 24).
8. Fully raise Ultra Disk™.
9. Check that all transport locks are engaged.
10. Lower unit on lift transport locks.
11. Plan the route. Avoid steep hills.
12. Always have lights on for highway operation.
13. Do not exceed 20 mph (32 km/h). Comply with all national, regional and local laws when traveling on public roads.
14. Remember that the implement may be wider than the towing vehicle. Allow safe clearance.

DANGER

Loss of Control Hazard:

Do not tow the Ultra Disk behind another implement on public roads. Tow the Ultra Disk to the field with a separate vehicle. The leading implement may not provide sufficient lateral control of a trailing implement at transport speeds. The total weight of the train can also exceed the steering and/or braking capability of the tractor. The resulting accident could cause serious injury or death.

DANGER

Loss of Control Hazard:

Use an adequate towing vehicle. Never tow an implement that weighs more than 150% of the towing vehicle (transport vehicle must weigh at least 67% of implement). Ensure that the towing vehicle is adequate for the task. Using an inadequate tow vehicle is extremely unsafe, and can result in loss of control, serious injury and death.

CAUTION

Braking and Loss of Control Hazard:

Do not exceed 20 mph (32 km/h) when driving straight. Slow down on rough roads.

Do not exceed 13 mph (21 km/h) in turns. The weight of the Ultra Disk can cause under-steer, and the height of the Ultra Disk is a tipping hazard.

Hydraulic Depth Control

Disk operating depth machine-wide is controlled primarily by the hydraulic depth control system, which limits the retraction of the lift cylinders.

Refer to Figure 17

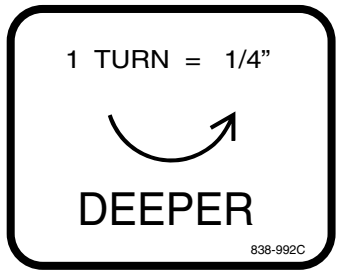
During Retract of the lift cylinders (lowering the implement), a mechanical linkage ① operates a poppet valve ② shutting off oil flow at the lift cylinders. The point at which the valve is activated is controlled by an adjustable handle ③.

1. Perform this adjustment in field conditions. The adjustment may be made with the implement folded or unfolded.
2. Fully lower the implement and pull forward a short distance. Shut off the tractor. Remove the key.
3. Assess the operating depth of the disks. Determine the change in depth required to operate at your desired depth.
4. Rotate the depth stop handle to change the depth. The change in depth is approximately $^1/_4$ inch (6.4 mm) per full turn of the handle. For example, two turns would change the depth by $^1/_2$ inch (13 mm).

   Rotate the handle *clockwise* to decrease working depth.

   Rotate the handle *counter-clockwise* to increase working depth.

📖 Slight tire to ground pressure should be maintained to prevent cylinder pin and clevis wear. If after setting the depth stop, the detent on the tractor kicks out before the stop contacts the button on the poppet valve, slow the hydraulic flow speed down. If this problem exists, contact the factory service representative for other possible adjustments. On tractors with a timed detent setting, set the detent so when you raise the machine, the pump will run for one-half to one full second after full raise. If it runs longer than this, damage to the seals of the lift cylinders may result.



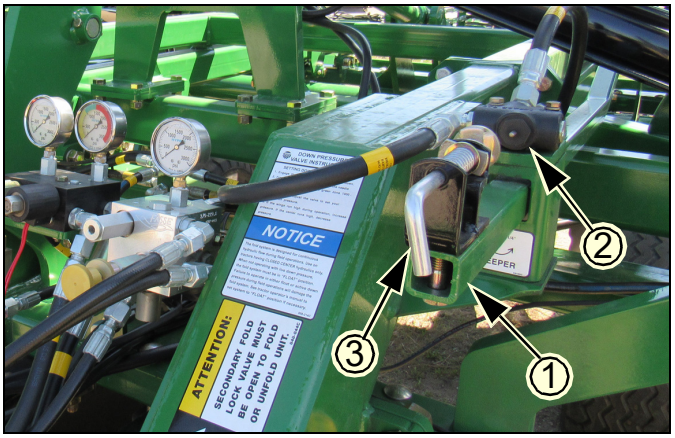


Figure 17 TP-69337
Hydraulic Depth Control

NOTICE

Equipment Damage Risks:
Do not set a depth that lifts tires off the ground. Tires out of ground contact causes uneven tillage and may over-stress machine components. Add one or two weight kits to improve penetration.

NOTICE

Equipment Damage Risks:
Avoid operations deeper than 6 inches. Excessive depth causes excess wear and stress on ground engaging components, and excess stress on frame components.

Wing Hydraulic Down Pressure

Wings may be operated with active hydraulic down-pressure, which transfers mainframe weight to the wings, or the wings may be operated in Float (page 29).

⚠ WARNING

Pinch/Crush and High Pressure Fluid Hazards:
Wear protective equipment including goggles and gloves. Clear all non-essential persons from the area for this adjustment. Set the tractor parking brake and put the transmission in Park. This adjustment must be made with live hydraulics, and wings may be expected to move slightly.

Refer to Figure 18

🕮 This setup procedure is for tractors with Closed Center[a] hydraulic systems.

The down-pressure system is not compatible with Open Center tractor hydraulics. Use only wing Float (page 29) with an OC tractor.

🕮 The steps for setting down-pressure are also listed on a machine decal ①, located on front of left truss.

1. Engage the hydraulics (continuous flow) down. Set tractor throttle above idle, or settings will not be accurate.
2. From cab, adjust flow so needle on the bypass gauge ② is in the green zone 1000 to 1500 PSI.
3. At the valve, release the lock disk, and adjust the knob ③ to set your initial down pressure ④ (usually 200-to-300 PSI). Do not exceed 800 PSI.
4. If the wings run high during operation, increase pressure. If the center runs high, decrease pressure. If no pressure is needed, move tractor remote for fold to “Float” position.

NOTICE

Certain Machine Damage:
When not operating with live down pressure the fold system must be in “FLOAT” position. Failure to operate in either Float or active down pressure will damage the fold system. Refer to your tractor operator’s manual to set system to “FLOAT” position if necessary.

NOTICE

Certain Machine Damage:
This machine is designed for continuous hydraulic flow to the wing fold cylinders during field operations. It is for use on tractors having CLOSED CENTER hydraulics only.

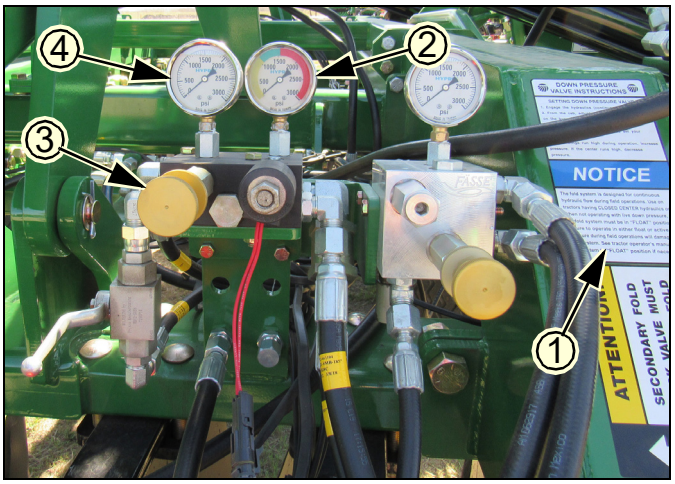
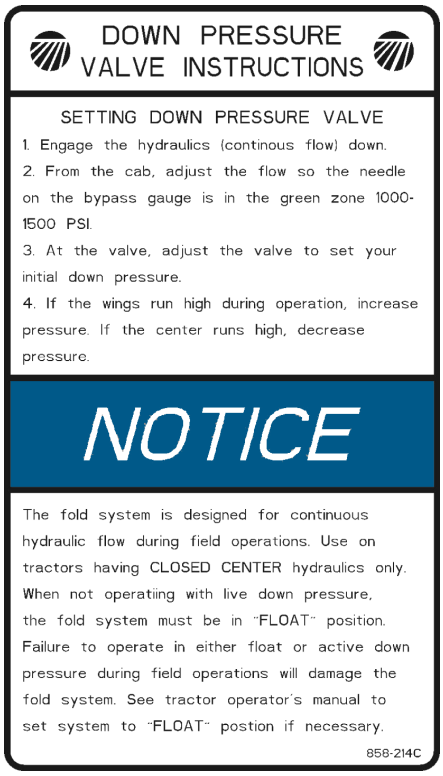


Figure 18
Down Pressure

TP-69317


DOWN PRESSURE VALVE INSTRUCTIONS

SETTING DOWN PRESSURE VALVE

1. Engage the hydraulics (continous flow) down.
2. From the cab, adjust the flow so the needle on the bypass gauge is in the green zone 1000-1500 PSI.
3. At the valve, adjust the valve to set your initial down pressure.
4. If the wings run high during operation, increase pressure. If the center runs high, decrease pressure.

NOTICE

The fold system is designed for continuous hydraulic flow during field operations. Use on tractors having CLOSED CENTER hydraulics only. When not operatiing with live down pressure, the fold system must be in “FLOAT” position. Failure to operate in either float or active down pressure during field operations will damage the fold system. See tractor operator’s manual to set system to “FLOAT” postion if necessary.

858-214C

a. LS (load sensing) or PC (pressure compensated) closed center systems only.

Wing Float Operation

In certain conditions, or with an Open Center tractor, active wing down-pressure is not used.

In these cases, the wing fold circuit must be set to Float.

NOTICE

Equipment Damage Risk:
The wing fold circuit must be operated in active down-pressure or Float. Operating in Neutral will result in damage to the hydraulic system.

Wing Depth Adjustment in Float

Refer to Figure 19

1. In field conditions, set the operating depth for the center section. See "**Hydraulic Depth Control**" on page 27.
2. Assess the depth of the wing disks, and how much they need to be raised or lowered.
3. If wings are running to high, shorten the distance between eyebolt on the wing lift cylinder. If the wings are running too low, lengthen the distance to the eyebolt on the wing lift cylinder.

📖 Be sure optional gauge wheels are not contacting the ground and biasing the wing out of the ground while trying to level the wings side to side.

4. Verify the wing operating depth at intended field speed.

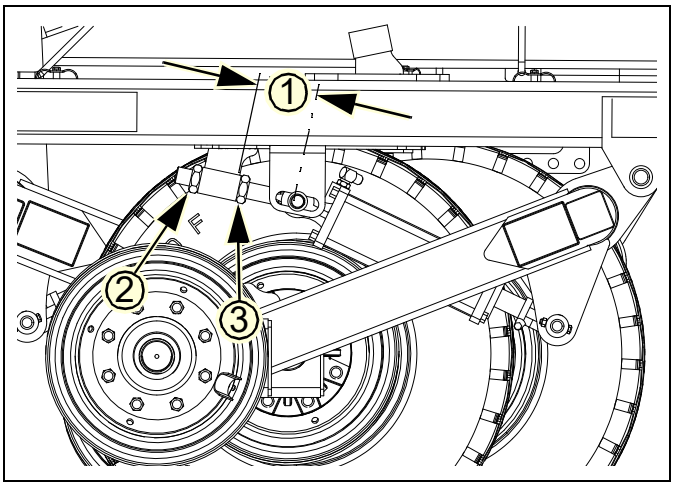


Figure 19
Wing Eyebolt
TP-69243

NOTICE

Equipment Damage Risk:
Do not conduct field operations with any wheels out of ground contact, including the gauge wheels. Operating with tires off the ground causes inconsistent results and can cause excess loads on implement components, leading to premature wear or failures.

Tractor Detents (Lift Circuit)

After the hydraulic depth stop is set, in order to preserve the life of the cylinders, it is important to properly set the detent on the tractor. The Ultra Disk™ is equipped with re-phasing lift cylinders. These cylinders have a re-phasing port at the rod end of the cylinder (end stroke). If the tractor flow rates and detents are not set properly, extreme oil flow through these ports can destroy cylinder seals causing internal leakage.

Tractors with timed detents (electric over hydraulic)

1. Set the flow on the tractor so the Ultra Disk™ raises from field position to full lift in approximately 3 to 5 seconds which is about 10 gallons per minute (not 10 on the tractor indicator).
2. Once the flow has been set, set the timed detent so that it is $^1/_2$ to 1 second longer than it takes to fully lift the unit.

NOTICE

Field Results and Machine Damage Risks:
If the timed detent is set it shorter than $^1/_2$-1 extra seconds, lifting does not properly rephase the cylinders. The implement can get out of level from side to side, and produce inconsistent field results. If set longer than $^1/_2$-1 extra seconds, cylinder seal damage may results.

Tractors with Pressure Detents

1. Set the flow control so the machine raises completely in approximately 3 to 5 seconds.

   Detent should kick out automatically at the end of stroke. If detent kicks out prematurely, slow the flow on the tractor.

   If the flow has to be slowed to the point that the unit does raise in an acceptable time frame, the detent pressure[a] on the tractor may need to be increased.

🕮 Tractors with pressure detents do not allow the system to “automatically” re-phase at the top of the lift cycle. This must be done manually. It is recommended that after every few passes, pull the raise lever back and hold there 1 to 2 seconds after the machine is fully raised. This purges any air that has been ingested into the system.

a. Contact your dealer for information on how to do this. If this problem still persists, contact the factory service representative for other possible adjustments. Do not try to adjust the valves on the Ultra Disk™ without first contacting a factory service representative.

Field Operation

These steps presume that the Ultra Disk™ is:

- adjusted for desired operating depth (page 27),
- wing depth is adjusted (page 28), and
- attachments are adjusted.

1. Line up the tractor and implement for the first pass.
2. Raise the Ultra Disk™ completely (page 23). Set all remotes to Neutral. Shut off the tractor. Remove the key.
3. Remove and store the transport locks (page 19), wing locks (page 17), and open the wing fold lock valve (page 18).
4. Restart the tractor. Unfold the wings to level with the mainframe. Set fold circuit to active down pressure or Float.
5. Retract the lift circuit to lower the implement until the depth stop system engages to lock the lift system. Set the circuit to Neutral.
6. Set any hydraulically operated finishing attachment to recommended or developed position.
7. Pull forward at intended field speed for a short distance. Assess machine level, operating depth and field results

   Certain field conditions can cause the Ultra Disk™ to vary from center to wings and front to rear when being pulled through the ground. A final adjustment may need to be made to the Ultra Disk™.

   If the center is running deeper because of it following the tractor in soft soil, the wings may need to be set in slightly deeper (with the wing down pressure) and then the entire machine set slightly shallower (with the depth stop).

This implement is designed to be pulled in the lowered field position (including wide turns). Lifting for short distances to clear residue clogs is acceptable. Lifting for tight turns or reverse moves is required.

Roller Check (Option)

If optional cast rollers are installed, check the angle indicator periodically. The system includes a relief valve. Any ground conditions that cause a back-pressure spike may trip the valve. Re-phase the cylinders and reset to the desired indication.

Tractor Speed

The ideal working speed for the Ultra Disk™ is 6 to 7 mph (9.6 to 11.2 km/h).

Working too slow may cause plugging, poor incorporation or mixing of crop residue and reduced weed kill. Running too fast may cause streaks in chemical incorporation, ridging and power hopping.

Working Depth

The ideal primary working depth for the Ultra Disk™ is 3 to 5 inches (80 to 130 mm).

Working too shallow in a primary pass may not achieve complete cut out and mixing of residue. Working too deep in a primary pass may cause plugging and unnecessarily increased fuel consumption per acre. The ideal working depth is just deep enough to cut out root balls and incorporate residue.

NOTICE

Equipment Damage Risk:
The wing fold circuit must be operated in active down-pressure or Float. Operating in Neutral will result in damage to the hydraulic system.

Pass Alignment

For primary passes, Great Plains recommends operating at a slight angle to the rows. For secondary passes, operate at a slight angle to the previous passes. These techniques improve trash flow and provide more consistent level.

NOTICE

Equipment Damage Risk:
Lift for tight turns and reverse moves. Tight turns can result in a section moving backward. Never back up with disks in the ground. If the inside tire stops or rolls backward, the turn is tight and requires lift.

Field Checklists

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

Mechanical Checklist		Page
❑	Ultra Disk™ hitched with correct category hitch	15
❑	Hitch pin locked	-
❑	Safety chains secured to tractor or leading implement	15
❑	Parking jack stowed	15
❑	Check all tire pressures	49
❑	Transport locks (fold and lift) remove and stowed.	17
❑	Wing fold lock valve open	18

Electrical Checklist		Page
❑	Verify electrical hookup solid.	16

Hydraulic System Checklist		Page
❑	Check tractor hydraulic reservoir within operating limits	-
❑	Make hydraulic connections	16
❑	Inspect connections for leaks	-
❑	Unfold Implement	25

First Pass Operation Checklist		Page
❑	Implement unfolded and aligned for first pass.	31
❑	Pull forward, lower Ultra Disk™.	23
❑	Set fold circuit to active down-pressure or Float.	28 29
❑	Begin tilling for a short distance.	-
❑	Stop. Assess: • disk depth • finishing attachment operation	-
❑	Make necessary adjustments	33

Sharp Field Turns Checklist		Page
1.	Raise Ultra Disk™	-
2.	Make turn	-
3.	Lower Ultra Disk™	-
4.	Resume tilling.	-

NOTICE

Equipment Damage Risk:
Do not make short radius turns with the implement in the ground.

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

Ending Tilling Checklist		Page
1.	Suspend operations as above	-
2.	Lift implement	-
3.	Set tractor for fold	24
4.	Fold wings	17
5.	Place locking valves in transport position	17
6.	Place transport locks in transport position	17
7.	Lower implement on to transport locks	-
8.	Lights ON for transport	-
9.	Travel with caution	26

Adjustments

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

The table below provides a summary of all available adjustments, including some that are not routine.

Working Depth

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

- hydraulic depth control (machine-wide),
- front-to-back level,
- hydraulic down-pressure (wings vs. center),
- gauge wheel height (Wings), and
- finishing attachments (Option, machine wide).

Adjustment	Page	The Adjustment Affects
Hydraulic Depth Control	27	Primary control for disk operating depth
Tractor Detents	30	Sustain side-to-side level via automatic re-phasing
Hydraulic Down Pressure	28	Maintain level wings and consistent wing depth
Leveling		
Hitch Turnbuckle	34	Front-to-back level
Hydraulic Level Bar (Option)	34	Adjust front-to-back level for varying field conditions
Level Bar Spring	44	Restore factory setting for front-to-back level
Wing Eyebolt	35	Wings level in Float and pre-level of wings prior to active down-pressure
Gauge Wheel Turnbuckle	29	Set/adjust wing level in wing Float operations - set/adjust to reduce power hop and increase flotation.
Wing Fold Proximity Sensor	44	During unfold, activates a bypass valve to avoid the flow restrictions of the down-pressure setting
Attachment Adjustments		
Packing Rollers (Option)	36	Sizing clods, seedbed conditioning and consolidation
Rolling Basket (Option)	37	Seedbed conditioning/consolidation and sizing clods.
Single Spike Tine (Option)	37	Residue distribution and ridge leveling in sandy soil.

Hydraulic Leveling

Fore/aft leveling in the field should be done with the hydraulic level.

Refer to Figure 20

With hitch turnbuckle set, the fore and aft can be adjusted hydraulically to correct operation in differing field conditions.

- If a mound is left in the center of the machine pass, then the rear gangs are running too deep. Move the fore/aft gauge toward “A” until mound goes away.
- If a valley is left in the center of the machine pass, then the front gangs are running too deep. Move the fore/aft gauge toward “G” until the valley goes away.
- If fore/aft hydraulic cylinder limits out and mound or valley is still present, hitch turnbuckle is not adjusted correctly, see “**Hitch Turnbuckle**” on page 34 for correctly adjusting.

🕮 Reduce the hydraulic flow for ease of adjustment.

Figure 20 36462
Hydraulic Level Indicator

Hitch Turnbuckle

🕮 If possible have someone observe the machine during the initial operation for levelness, both front to rear and center to wings. Adjust each as needed.

Refer to Figure 21

10. Set the hydraulic leveling fore/aft gauge to aspect “D”.

For front to rear level, either extend or shorten the tongue turnbuckle.

11. Loosen the jam nut ① with the provided turnbuckle wrench (stored on rear pegs of hitch). Adjust turnbuckle at either adjust nut ② until level front to back. Tighten jam nut after machine is level.

Looking at the worked ground, if a mound is left in the center of the machine, then the machine is running too deep in the rear. The hitch turnbuckle needs shortened to raise the rear gangs.

If a valley is left in the center of the machine, then the machine is running too deep in the front. The turnbuckle needs to be lengthened to raise the front gang.

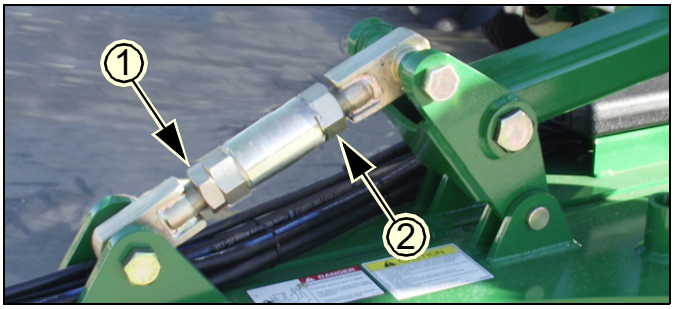


Figure 21 36518
Hitch Turnbuckle Adjustment

Wing Lift Cylinder Eyebolts

If not using hydraulic down pressure, and optional wing gauge wheels are not installed, wing lift cylinder eyebolts are the main method of assuring wings-level (once center section operating depth is set).

Refer to Figure 22

The factory preset ① for wing lift cylinder eyebolts is:

$4^{5}/_{8}$ inches (177.5 mm)

measure from the eyebolt center-line to the front face of the frame tube. These adjustments should be checked periodically. Overall operating depth is set with the hydraulic depth stop (page 27).

To adjust eyebolt reveal (lower tire):

1. Raise and unfold the implement, setting the fold circuit to Float, and the lift circuit to Neutral to hold at raised.
2. Loosen the rear jam ② nut several turns.
3. Use the front nut ③ to drive the eyebolt forward to the required setting.
4. Tighten the rear jam nut.

To reduce eyebolt reveal:

1. Raise, unfold, and lower the implement in field conditions.
2. Loosen the front jam nut ③ several turns.
3. Use the rear nut ③ to drive the eyebolt rearward to the required setting.

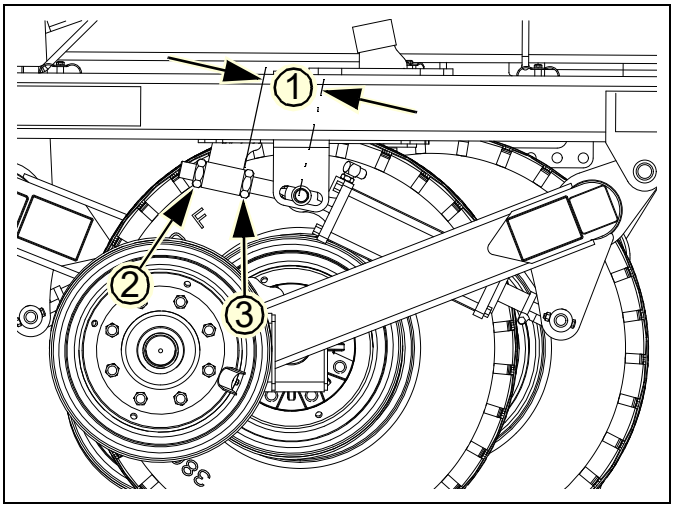


Figure 22
Wing Eyebolt

TP-69243

Attachment Adjustments

Attachment Bar (Option)

Refer to Figure 23

The optional attachment bars are offered for attaching finishing tools other than those provide by Great Plains. The standard bars have no adjustments.

When selected equipment to connect to attachment bars, note that the bars are:
4 x 3 inch (102 x 76 mm),
and the weight of the attached equipment must not exceed:
2900 pounds (1314 kg).

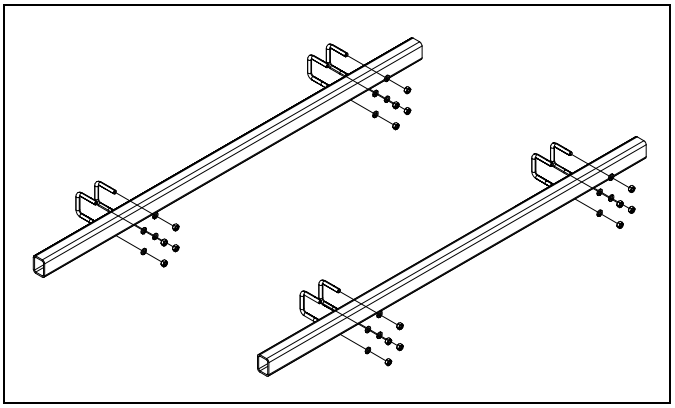


Figure 23
Attachment Bar

TP-69318

Packing Rollers (Option)

Refer to Figure 24

The roller attachment is designed to size clods and consolidate the soil profile. It can be hydraulically adjusted.

Extending the roller cylinder lowers the rollers.

Retracting the roller cylinders raises the rollers.

📖 For transport, fully raise the roller (retract roller cylinders). Set the circuit to Neutral to hold at raised. Do not have roller in Float while folding.

For Field

Make all other leveling and depth adjustments first. When initially setting the machine level and depths, set the roller circuit to Float. The roller can limit fore/aft adjustment if not in Float.

Once the rest of the machine is adjusted to run correctly, set roller height as desired for conditions.

Setting the Roller

1. Reduce the flow to the roller hydraulic circuit to allow for ease of adjustment.
2. Rephase roller cylinders. Fully raise and hold at raised for a 2 to 3 seconds.
3. Lower the roller (extend the roller cylinders) past the rephase port.

Setting Roller Ground Pressure

4. Set circuit to Float.
5. While making a tillage pass, set roller circuit to neutral, locking the position of the roller.
6. The Float reference is the baseline. Retracting the hydraulic cylinders reduces pressure between roller and soil. Extending the hydraulic cylinders increases pressure between roller and soil.
7. If wheel tracks or power hopping occur, increase the roller pressure.

📖 The roller is capable of lifting the rear gang out of the soil and disturbing the fore/aft setting. When increasing roller pressure from baseline watch the machine to be sure not to raise the rear of the machine.

8. Slightly increase roller ground pressure desired without raising rear of machine.

📖 The roller circuit has a relief valve in the system. If the hydraulic system relieves pressure, adjust roller gauge back to desired reference.

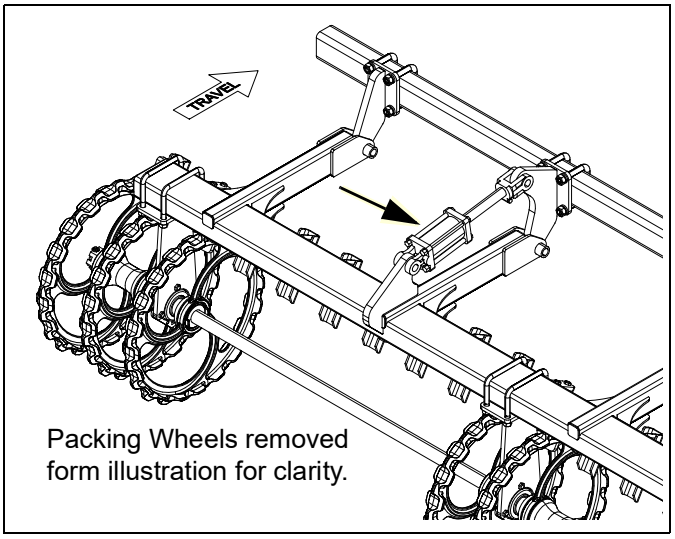


Figure 24 36563
Hydraulic Roller Raised

Rolling Basket (Option)

Refer to Figure 25

The seedbed conditioner basket ① is designed to firm/consolidate the soil profile. It is not recommended for working in wet conditions, as the baskets can fill with muddy clods.

The mounts are controlled by hydraulic cylinders ②, and can be raised and lowered from the tractor.

If wheel tracks or power hopping occur, apply more downs pressure to the reel baskets.

If the baskets are holding the rear of the machine too high, reduce the downs pressure.

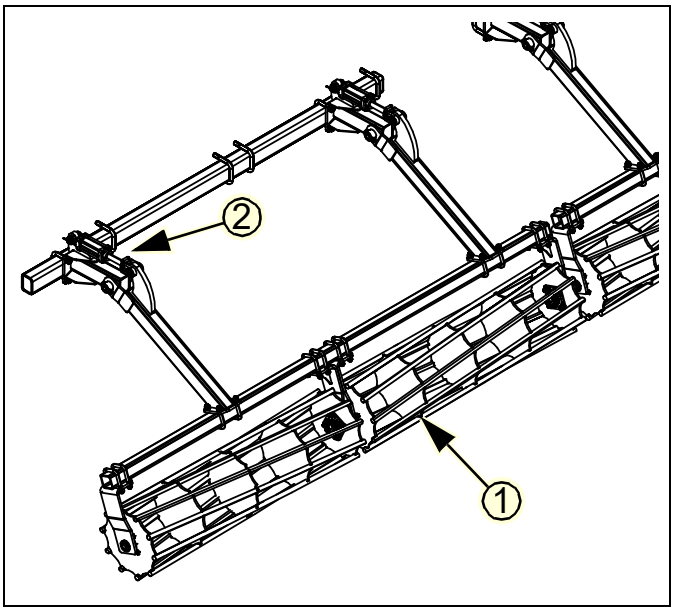


Figure 25 36566
Rolling Basket Spring

NOTICE

Machine Damage Risk:
Do not fold with any basket linkage pins in either of the two upper holes. Baskets pinned high can come into contact with each other during fold, resulting in machine damage.

2 Row Coiltine (Option)

9. To adjust down pressure loosen the jam nut ⑤, and screw the spring bolt ⑥, in to put more down pressure on the drag, or adjust the bolt out to have less down pressure. Retighten the jam nut ⑤, to secure your adjustments. The spring will be pre-set to 3 - $3^{1}/_{2}$" of bolt left to adjust.
10. To change angle of coil tine, rotate the locking pin ③ and move the adjustment lever ④ forward or backwards. Moving the lever forwards towards the front of the machine will allow residue to flow through the drag easier. Moving the lever backwards away from machine makes the drag more aggressive.The adjustment lever has 4 positions and will change the coil tines several degrees.
11. Rotate the locking pin ③, back to its engaged position when the desired angle is set.

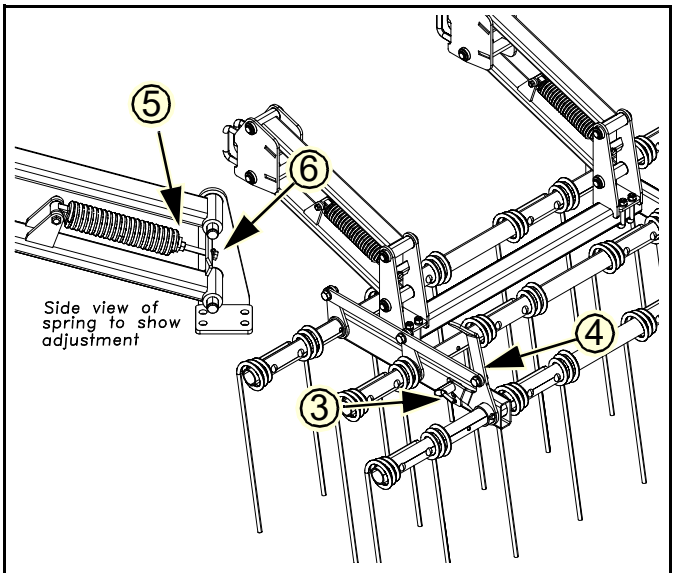


Figure 26 43422
Coiltine Adjustment Lever

Troubleshooting

Field Operations Troubleshooting

Problem	Cause	Solution
Rear leaving groove/valley in machine center	Front gangs running deeper than rear	Raise front gangs with fore/aft leveling (page 34).
	Rear finishing attachment biasing rear out of ground	Reduce rear attachment loading, basket attachment increase spring length, cast roller move reference gauge toward indicator aspect “E”.
Rear leaving mound/hill	Rear gang running deeper than front	Raise rear gang with fore/aft leveling (page 34).
	Front gauge wheels set to deep	Shorten turnbuckle to raise gauge wheels up (page 34)
Leaving ridges on outside	Wings not level	Adjust wing down pressure (page 28). If not running down pressure, adjust eyebolt at rear of wing cylinders to level wings (page 35).
	Lift cylinders out of phase	Rephase lift cylinders
	Leaking wing lift cylinder	Repair or replace leaky cylinder.
	Operating machine too fast	Slow down 6 to 8 mph (10 to 13 km/h).
Wings not Penetrating	Wings not level	Adjust wing down pressure (page 28). Increase pressure to transfer weight to the wings. If not running down pressure, adjust eyebolt at rear of wing cylinders to level wings (page 35).
One wing running deeper than the other	Wings not level	Adjust wing down pressure (page 28). Increase pressure to transfer weight to the wings. If not running down pressure, adjust eyebolt at rear of wing cylinders to level wings (page 35).
	Leaking Wing lift cylinder	Repair or replace leaky cylinder.
	Wing cylinder out of phase	Rephase lift cylinders.
	Improper tire pressure	Set tire pressure (page 49).
Both wings running deeper than center	Wings not level	Adjust wing down pressure (page 28). Decrease pressure to transfer weight to the center. If not running down pressure, adjust eyebolt at rear of wing cylinders to level wings (page 35).
	Improper tire pressure	Set tire pressure (page 49).
Whole Machine runs deeper with time	Leaking depth stop cartridge	Replace cartridge.
	Leaking master lift cylinder	Repair or replace leaky cylinder.
	Too much machine weight	Remove weights (page 55).
	Lift system hoses crossed	Check lift system for correct hose routing.
Center and one wing run deeper	Leaking master lift cylinder	Repair or replace leaky cylinder.
Overheating Hydraulic System	Lift, fore/aft level, or roller system set to continuous flow	Disengage continuous flow.
	Wing weight transfer system flow set to high	Re-adjust wing down-pressure (page 28).

Field Operations Troubleshooting

Problem	Cause	Solution
Uneven working depth	Lift cylinders out of phase	Rephase lift cylinders.
	Timed detent not set correctly	Set flow for 0.5 seconds after machine raised (page 30).
	Timed detent not allowing depth stop valve to engage	Adjust detent timer to allow for depth stop to engage (page 30).
	Gauge wheels not set correctly or not set the same	Check and adjust gauge wheel height (page 20).
Machine bouncing	Operating speed too fast	Slow down 6 to 8 mph (10 to 13 km/h)
	Not enough weight transferred to finishing attachment	Increase rear attachment loading, basket attachment decrease spring length, cast roller move reference gauge toward “A” without raising rear gang out of ground
	Fore/aft leveling spring cushion set incorrectly	Restore factory setting (page 44).
	Increase contact pressure on gauge wheels	Increase gauge wheel turnbuckle to equal lengths (page 20).
Machine plugging	Too much residue in the rows	Run at a slight angle to the rows
	Disk not cutting residue	Check for sharpness.
	Running too slow	Speed up 6 to 8 mph (10 to 13 km/h).
	Running too deep for conditions	Reduce working depth to reduce plugging.
	Ground too wet	Wait for drier conditions.
Machine will not penetrate	Blades dull	Sharpen or replace blades.
	Not enough weight per blade	Add accessory weights (page 55).
Wings do not flex	Fold remote in neutral	Set remote to constant flow or float.
	Detent timer set	Set detent to constant/infinite time.
	Transport lock valve closed	Open transport lock valve (page 18).
Twisted disk spring	Turning with machine in ground	Raise machine out of ground while turning.
	Backing up with machine in ground	Raise machine out of the ground while backing up.

Transport Troubleshooting

Problem	Cause	Solution
Wings fail to unfold	Wing fold lock valve closed	Open valve (page 18).
	Wing lock pins installed	Move pins to storage (page 17).
	Hydraulic hose disconnected	Connect hydraulic hose to remote.
	Failed hydraulic hose tip	Replace tip.
	7 pin connector not plugged into tractor	Plug in 7 pin connector to tractor to provide power to solenoid valves.
	Proximity sensor not working	Check proximity adjustment (page 44). Check wiring. Replace sensor.
	Bypass valve failed	Check wiring, replace bypass valve. 📖 Wings can be unfolded without bypass valve active. Increase wing down pressure to unfold wings. Once the wings are unfolded reduce wing down pressure to desired pressure for working condition.
Wings fail to fold	Wing fold lock valve closed	Open valve (page 18).
	Wing lock pins installed	Move pins to storage (page 17).
	Hydraulic hose disconnected	Connect hydraulic hose to remote
	Failed hydraulic hose tip	Replace tip
	Low hydraulic pressure	Increase pressure to above 1500 psi.
Wing folds/unfolds too slow	Failed hydraulic hose tip	Replace tip.
Wing folds/unfolds too fast	Cylinder orifices removed	Replace orifices in cylinder ports.
Lift circuit immobilized	Rebound valve locked	Consult your Great Plains dealer.
Lift will not go down	Transport lock channels installed	Move locks to storage (page 19).
	Depth stop engaging	Readjust depth stop (page 27).
	Failed poppet valve in depth stop	Replace poppet valve in depth stop valve.
	Depth stop failing due to hose routing	Check routing with hydraulic layout.
Lift will not go up	Lift system hose routing crossed	Check routing with hydraulic layout.
Machine bouncing during transport	Excessive transport speed	Slow down. Maximum speed is 20 mph (32 km/h).

Attachments Troubleshooting

Problem	Cause	Solution
Rollers uneven across machine	Roller hydraulic cylinders out of phase	Re-phase roller hydraulic cylinders by retracting cylinders and holding for a few seconds.
Roller gangs bouncing in relation to the machine	Roller hydraulic circuit has air in the system	Rephase roller hydraulic cylinders by retracting cylinders and holding for a few seconds. Cycle the cylinders until air is removed from the system.
Roller gauge no long set at preferred reference	Pressure relief valve tripped	Adjust roller back to desired reference on gauge.
Roller moves to fast	Cylinder orifices removed	Replace orifices in cylinder ports.
Roller moves to slow	Failed hydraulic hose tip	Replace tip.
Basket plugging with mud	Working conditions too wet	Wait for drier conditions.
Coil tine plugging	Coil tine set too aggressive	Reduce angle of coil tine to allow high residue flow (page 37).

Maintenance and Lubrication

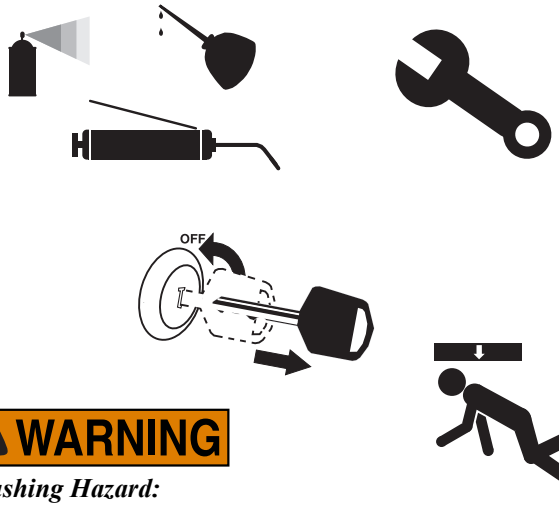
Maintenance

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

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

1. After using your Ultra Disk™ for several hours, check all bolts to be sure they are tight.
2. Clean Ultra Disk™ on a regular basis. Regular and thorough cleaning will lengthen equipment life and reduce maintenance and repair.
3. Lubricate areas listed under "**Lubrication**" on page 45.
4. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Great Plains dealer.
5. Always use the manual U-channel transport locks when working on or doing maintenance to the Ultra Disk™. Read and understand all safety decals on your equipment.
6. During the first season of operation, and periodically after that, check your bolts for tightness. Check disk hub bolts for loose blades/hubs. Tighten as needed.
7. Replace or rotate worn parts as needed -- hinge bolts, clevis pins, bearings, blades, etc. Some Boron disk blades cannot be rolled to sharpen, they must be ground. Cracks and breakage will occur if rolled.
8. Check and tighten any hydraulic leaks. Check hoses for any leaks replace any leaking hoses. It is important that there are no leaks on the equipment.
9. Check attachment bolts for looseness or excessive wear. Your attachment is an important part of the tillage operation.

By following and maintaining a routine service and lubrication program, your tillage equipment will give you many years of service.



WARNING

Crushing Hazard:

Always have transport locks in place and frame sufficiently blocked up when working on implement. You may be severely injured or killed by being crushed under the falling implement.

WARNING

High Pressure Fluid Hazard:

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

Beginning of Season

1. Hitch the tractor to the Ultra Disk™ and connect the hydraulic hoses.
2. Check fold and lift cylinders for leaks that could have caused air to enter cylinders. If leaks are noticed repair cylinders and fully purge air from cylinders by unpinning cylinder, block up and fully cycle cylinders back and forth several times.

DANGER

Crushing Hazard:
Unfolding machine with air in cylinders may cause death or major machine damage.

3. Slowly raise the machine a couple of times to its full height and hold lever for 10 to 15 seconds to purge air from lift cylinders.
4. If machine was not serviced and greased at end of last season, perform step 1 through step 8 from "**End of Season**" section.
5. Make sure all moving parts move freely and do not bind.
6. Take the time to read the operators manual and refresh yourself with the safety information and operating instructions.
7. It is the owner's responsibility to see that all operators of the Ultra Disk™ know the safety and operating information found in this manual.

End of Season

1. Clean machine as much as possible. Remove all dirt from rust prone parts like disk blades and bolt threads.
2. Check over the machine for damaged or worn parts. Replace or rotate worn parts as needed: hinge pins, clevis pins, bearings, blades, etc.
3. Check all bolts for tightness. Tighten as needed.
4. Check for hydraulic leaks. Tighten connections or replaced worn/damaged fittings or hoses.
5. The wheel bearings should be cleaned and repacked annually or every 2500 acres.
6. Check disk hub nut torque (600 ft-lbs). Clean out any dirt on flange nut, threads and mounting surfaces of hub and spring.
7. Use Anti-Seize on the roller bolt threads before tightening castle nut.
8. Grease the Ultra Disk™ in all locations shown in the lubricating section.
9. If stored outside, place a protective coating of grease or "plow paint" on all earth working parts to prevent rusting.
10. If storing outside, unfold Ultra Disk™ to prevent water pooling on wing blade assemblies.
11. If you are storing Ultra Disk™ unfolded, remove fold cylinder clevis pins, block up cylinder and fully retract cylinder rods. This will extend the life of the cylinder seals and reduce internal leaks.
12. Place boards under the disk gangs and lower the Ultra Disk™ to the ground retracting the lift cylinders. Check to remove transport locks before lowering Ultra Disk™.

Level Bar Spring Setting

Refer to Figure 27

With the implement raised, the factory preset for the level bar spring assembly ① is:

$12^1/_2$ inches (317.5 mm)

between the backside of spring guide ② and back side of the pivot casting ③. This setting should be checked periodically, and restored to the factory setting as required.

1. To adjust the level bar spring assembly to the preset position of $12^1/_2$ inches, loosen the $1^1/_2$ inch jam nuts ④ with the turnbuckle wrench (stored on rear pegs of hitch).
2. Adjust the other $1^1/_2$ inch nut until the $12^1/_2$ inch dimension is reached
3. Tighten the $1^1/_2$ inch jam nut ④ to secure.

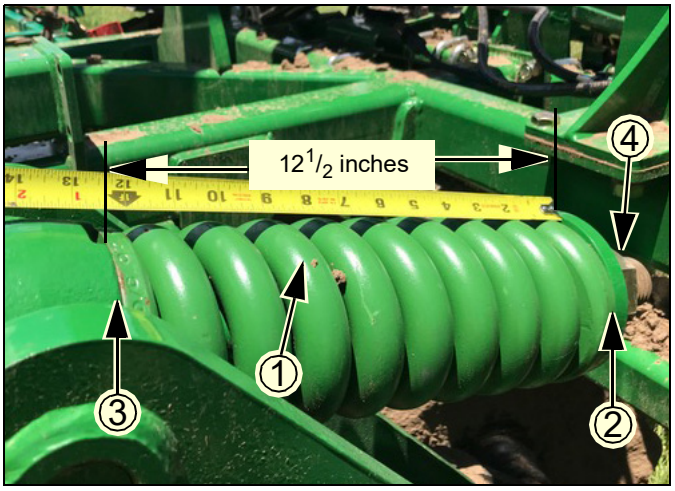


Figure 27 36529
Level Bar Spring

Wing Fold Proximity Sensor

A proximity sensor ① on each wing enables faster wing unfold by operating a solenoid valve to bypass the down-force valve. Oil flow is not reduced (restricted by the down-pressure valve) until the wings are nearly level. Wing fold is always at full oil flow.

📖 Wings need to be folded up when adjusting the proximity sensor, to correctly measure the gap, and to prevent damage to sensor and bracket. Be sure and adjust proximity sensors before unfolding. Be sure wing safety lock pins are installed and fold lock valve is locked.

Proximity Sensor Adjustment

Refer to Figure 28

1. Check the gap ② between the face of the sensor ① and the wing tube. The correct gaps is:
   $^1/_8$ inch to $^1/_4$ inch (3.2 to 6.4 mm)
2. To adjust the gap, loosen nuts ③ (one on each side of the sensor bracket). Rotate nuts to achieve correct gap.
3. Tighten nuts to secure proximity sensor.

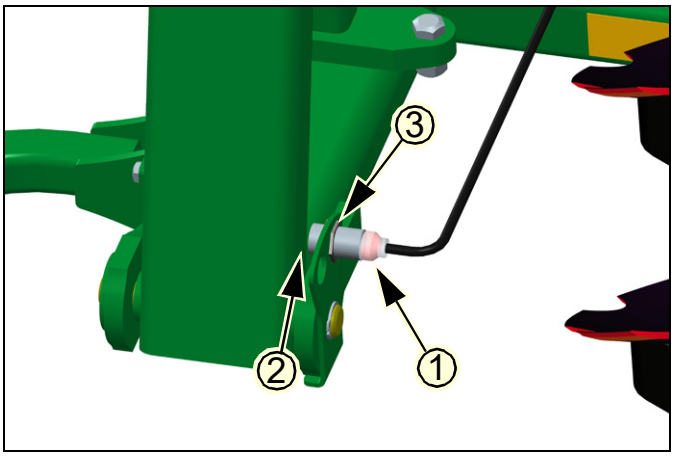
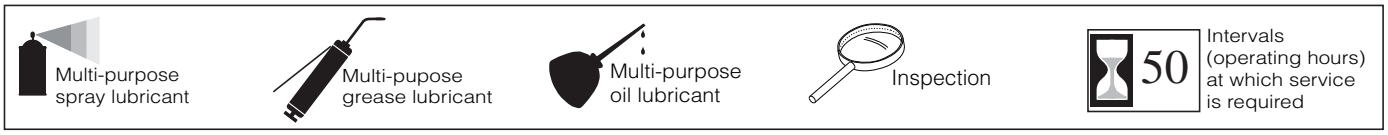


Figure 28 36541
Proximity Sensor

Lubrication



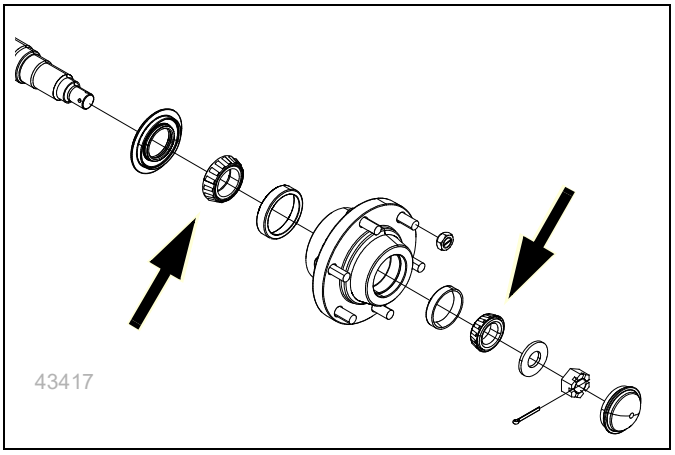
Wheel Bearing Hubs

10 wheels per implement,
2 bearings per wheel;
20 bearing total

Type of lubrication: Wheel grease
Quantity: repack

Inspect bearings for end play Annually. If excessive endplay exists, Great Plains recommends disassembly, cleaning and repacking of the wheel bearings.

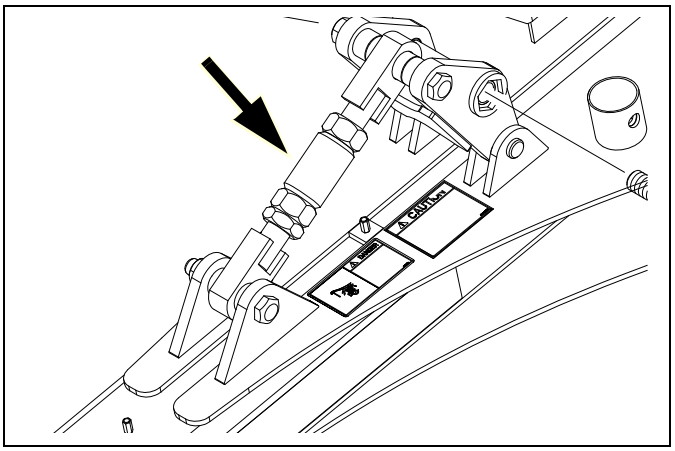
For machines stored outdoors or operating in extreme conditions bearings should be checked more often.



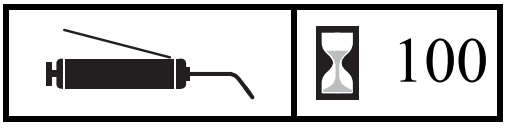
Turnbuckles

1 per implement

Type of Lubrication: Multipurpose Spray Lubricant
Quantity: Coat thoroughly.

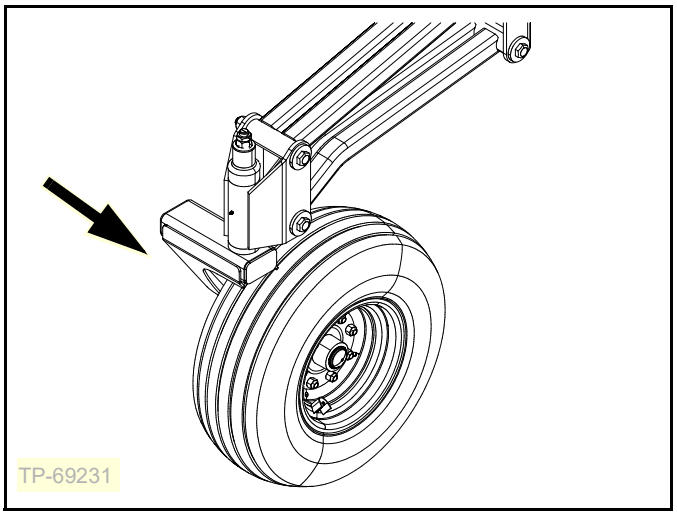


Gauge Wheel



One on each gauge wheel

Type of Lubrication: Grease
Quantity: Sparingly

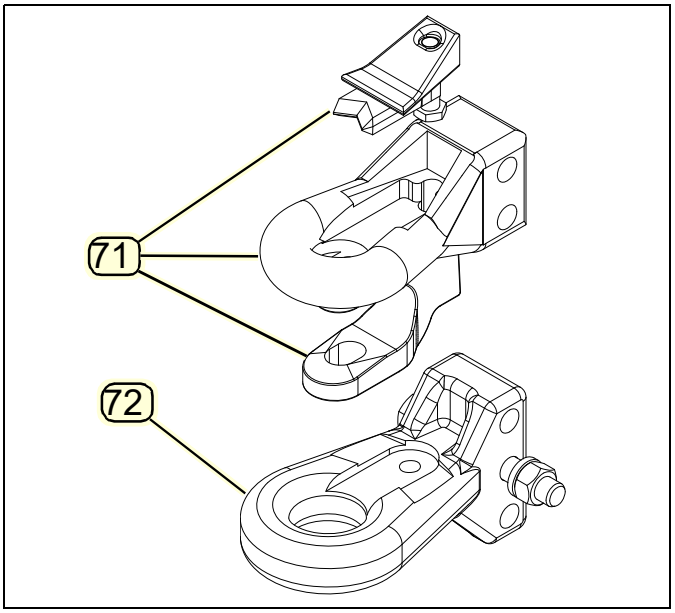


Options

Hitch Options

Description	Option	Kit
Category III/IV	71	589-432A
Category V	72	589-433A

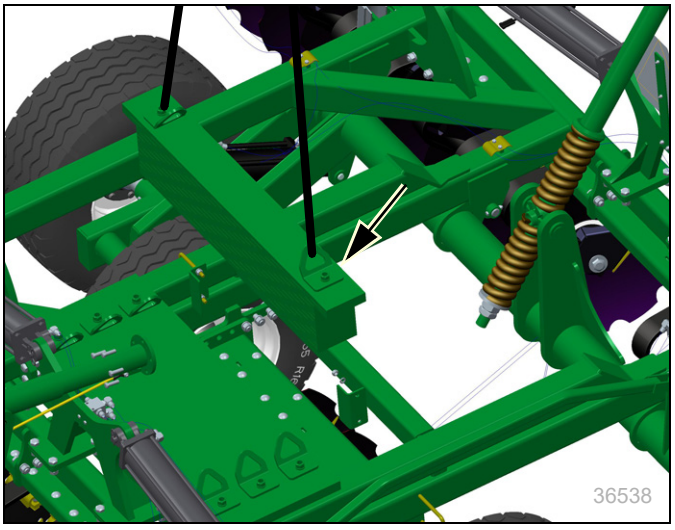
See “**Hitch Setup**” on page 14 for setup and operation.



Weight Kits

Center section machine weight may be increased by 3000 pounds (1350 kg) by adding one to four stacks of 750 pound weights. Each kit contains two weights.

Description	Option	Kit
Weight Kit	-	589-047A



Finishing Options

Rolling Basket with 2Row Coiltine

Order no more than one finishing option.

Description	Option	Kit
UD2200 2 Row Tine & Crumbler	41	559-639A
UD2600 2 Row Tine & Crumbler	41	559-464A
UD3000 2 Row Tine & Crumbler	41	559-463A
UD3300 2 Row Tine & Crumbler	41	599-542A

See “**Rolling Basket (Option)**” on page 37 and “**2 Row Coiltine (Option)**” on page 37 adjustment.

Rolling Basket only

Order no more than one finishing option.

Description	Option	Kit
UD2200 Crumbler	45	559-640A
UD2600 Crumbler	45	559-466A
UD3000 Crumbler	45	559-465A
UD3300 Crumbler	45	559-543A

See “**Rolling Basket (Option)**” on page 37 for adjustment.

Cast Rollers

Order no more than one finishing option.

Description	Option	Kit
UD2200 Cast Roller	47	559-641A
UD2600 Cast Roller	47	559-468A
UD3000 Cast Roller	47	559-467A
UD3300 Cast Roller	47	559-544A

“**Packing Rollers (Option)**” on page 36 for adjustment.

Attachment Bar

This bar is for mounting finishing equipment other than supplied by Great Plains. Order no other finishing option with an Attachment Bar.

Description	Option	Kit
UD2200 Attachment Bar	48	559-642A
UD2600 Attachment Bar	48	559-470A
UD3000 Attachment Bar	48	559-469A
UD3300 Attachment Bar	48	559-545A

See “**Packing Rollers (Option)**” on page 36 for further information.

Appendix A - Reference Information

Specifications and Capacities

Model	UD2200	UD2600	UD3000	UD3300
Tillage Width (Swath)	22ft (6.7m)	26ft 8in (8.1m)	30ft (9.1m)	33ft 4in (10.15m)
Blade Count	54	66	74	82
Blade Spacing	10in (25.4cm)			
Gang Tubes	3 x 6 x 3/8in (76 x 152 x 9.5mm)			
Gang Spacing	88in (2.24mm)			
Gang Toe Angle	18° Front, 16° Rear			
Disk Specification	20 in diameter x 1/4 in thick (508 x 6.4 mm) Concave Boron Steel 22 in diameter x 1/4 in thick (559 x 6.4 mm) Concave Boron Steel 24 in diameter x 1/4 in thick (610 x 6.4 mm) Concave Boron Steel			
Disk Operating Depth	0 to 7 inches (0 to 178 mm)			
Wing Flex	12° Down, Unlimited Up			
Total Implement Weight	17,340 to 18,840lbs (7,865 to 8,545kg)	17,500 to 23,800lbs (7,950 to 12,950kg)	19,300 to 24,400lbs (8,750 to 11,050kg)	20,600 to 28,300 lbs (9,350 to 12,850kg)
Hitch	Pull-Type Category III/IV or V			
Tractor Requirements	240 to 275hp (178 to 205kW)	280 to 400hp (210 to 300kW)	330 to 450hp (250 to 335kW)	360 to 500hp (270 to 370kW)
Hydraulic Circuits Required	Closed Center - 2, 3, or 4 Remotes			
Hydraulic Capability Required	2250 psi, 10 gal/min (155 bar, 38 liters/min)			
Frame Width (Unfolded)	24ft 4in (7.44m)	29ft 8in (9.1m)	32ft 3in (9.8m)	35ft 11in (10.9m)
Transport Width	15ft 7in (4.7m)	15ft 2in (4.6m)	15ft 2in (4.6m)	18ft 6in (5.6m)
Length	21ft to 26ft (6.4m to 7.9m)			
Field Height, Maximum	7 ft 6in (229 cm)			8ft 2in (249 cm)
Maximum Transport Height	11ft 6in (3.4m)	13ft 4in (4.1m)	15ft (4.5m)	15ft (4.5m)
Clearance (Transport)	14 in (36cm)			
Transport Tires	380/55R16.5 Load Rating F			440/55 R18 Load Rating 159A8/B
Wing Tires	12.5L x 15 SL 12 Ply Straight Rib			
Gauge Wheel Tire	12.5L x 15 SL 12 Ply Straight Rib			

1) Rigid level, Category III/IV hitch, no weights, no finishing attachment, no gauge wheels

2) Hydraulic level, Category V hitch, two weight kits, cast rollers, gauge wheels

Tire Inflation

Tire Inflation Chart		
Location	Tire Size	Inflation
UD2200, UD2600 UD3000 Center	380/55 R 16.5	73 psi (503 kPa)
UD3300 Center	440/55 R 18	73 psi (503 kPa)
Wings & Gauge Wheels	12.5L x 15 12ply	52 psi (368 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.

Manufacturer	Web site
Firestone	www.firestoneag.com
Gleason	www.gleasonwheel.com
Titan	www.titan-intl.com
Galaxy	www.atgtire.com
BKT	www.bkt-tire.com

Hydraulic Connectors and Torque

Refer to Figure 29 (a hypothetical fitting)

Leave any protective caps in place until immediately prior to making a connection.

NPT - National Pipe Thread
Note tapered threads, no cone/flare, and no O-ring.
① Apply liquid pipe sealant for hydraulic applications.
Do not use tape sealant, which can clog a filter and/or plug an orifice.

JIC - Joint Industry Conference (SAE J514)
② Note straight threads ④ and the 37· cone ⑤ on "M" fittings (or 37· flare on "F" fittings).
Use no sealants (tape or liquid) on JIC fittings.

ORB - O-Ring Boss (SAE J514)
Note straight threads ⑤ and elastomer O-Ring ⑦.
Prior to installation, to prevent abrasion during tightening, lubricate O-Ring with clean hydraulic fluid.
③ Use no sealants (tape or liquid) on ORB fittings.
ORB fittings that need orientation, such as the ell depicted, also have a washer ⑧ and jam nut ⑨ ("adjustable thread port stud"). Back jam nut away from washer. Thread fitting into receptacle until O-Ring contacts seat. Unscrew fitting to desired orientation. Tighten jam nut to torque specification.

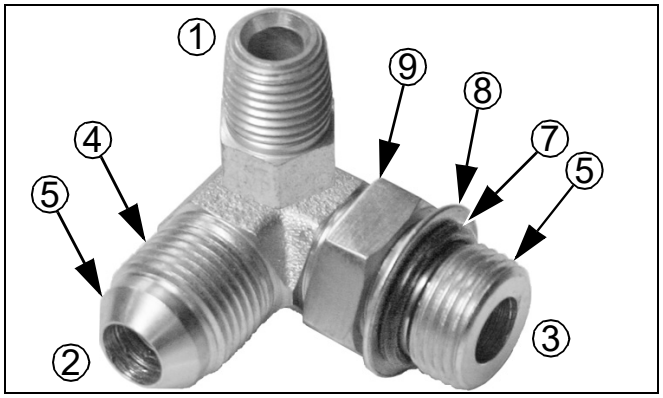


Figure 29
Hydraulic Connector ID
31282

Fittings Torque Values			
Dash Size	Fitting	N-m	Ft-Lbs
-4	1/4-18 NPT	1.5-3.0 turns past finger tight	
-5	1/2-20 JIC	19-20	14-15
-5	1/2-20 ORB w/jam nut	12-16	9-12
-5	1/2 -20 ORB straight	19-26	14-19
-6	9/16-18 JIC	24-27	18-20
-6	9/16-18 ORB w/jam nut	16-22	12-16
-6	9/16-18 ORB straight	24-33	18-24
-8	3/4 -16 JIC	37-53	27-39
-8	3/4 -16 ORB w/jam nut	27-41	20-30
-8	3/4-16 ORB straight	37-58	27-43

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

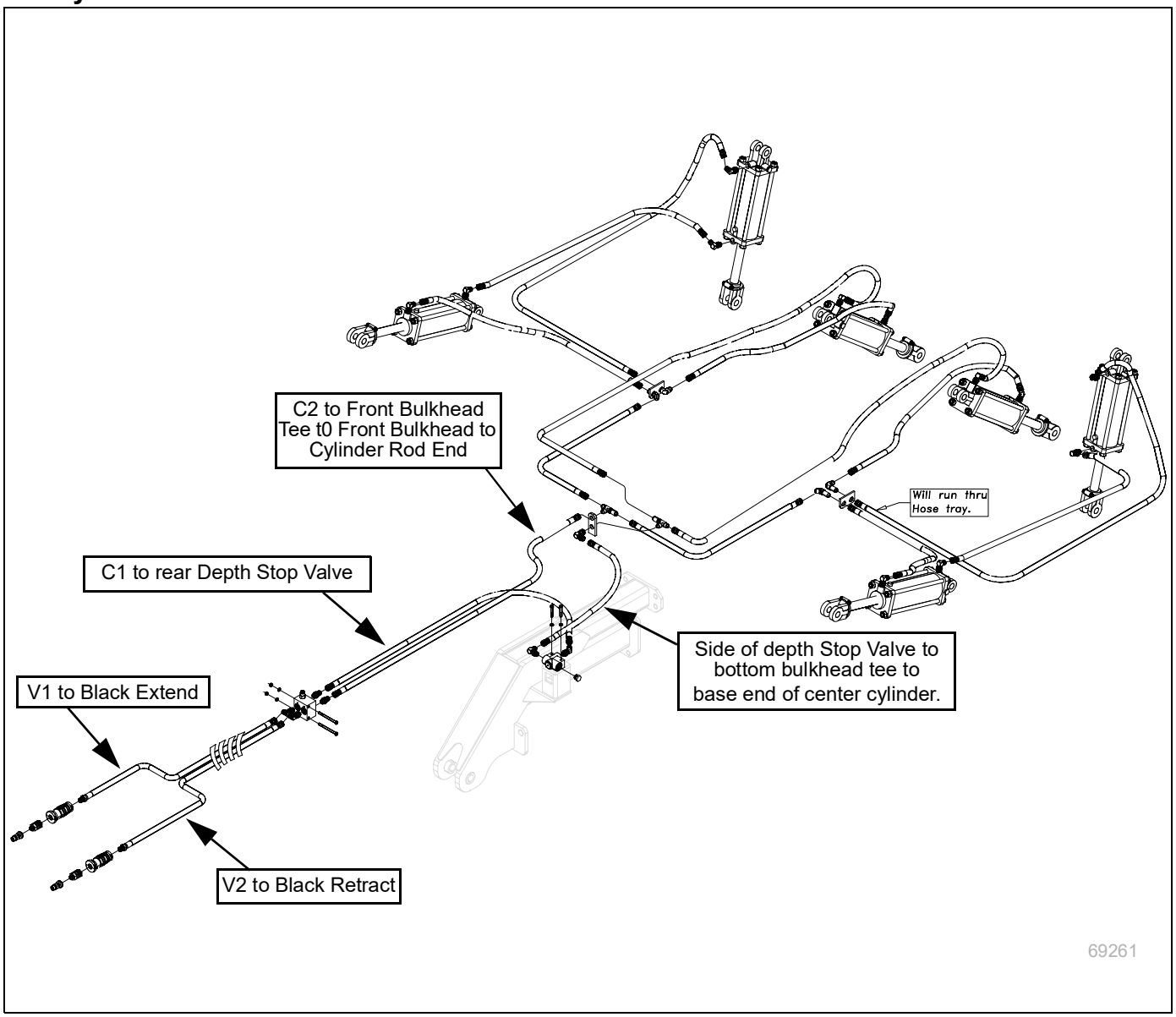
d. ft-lb = foot pounds

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

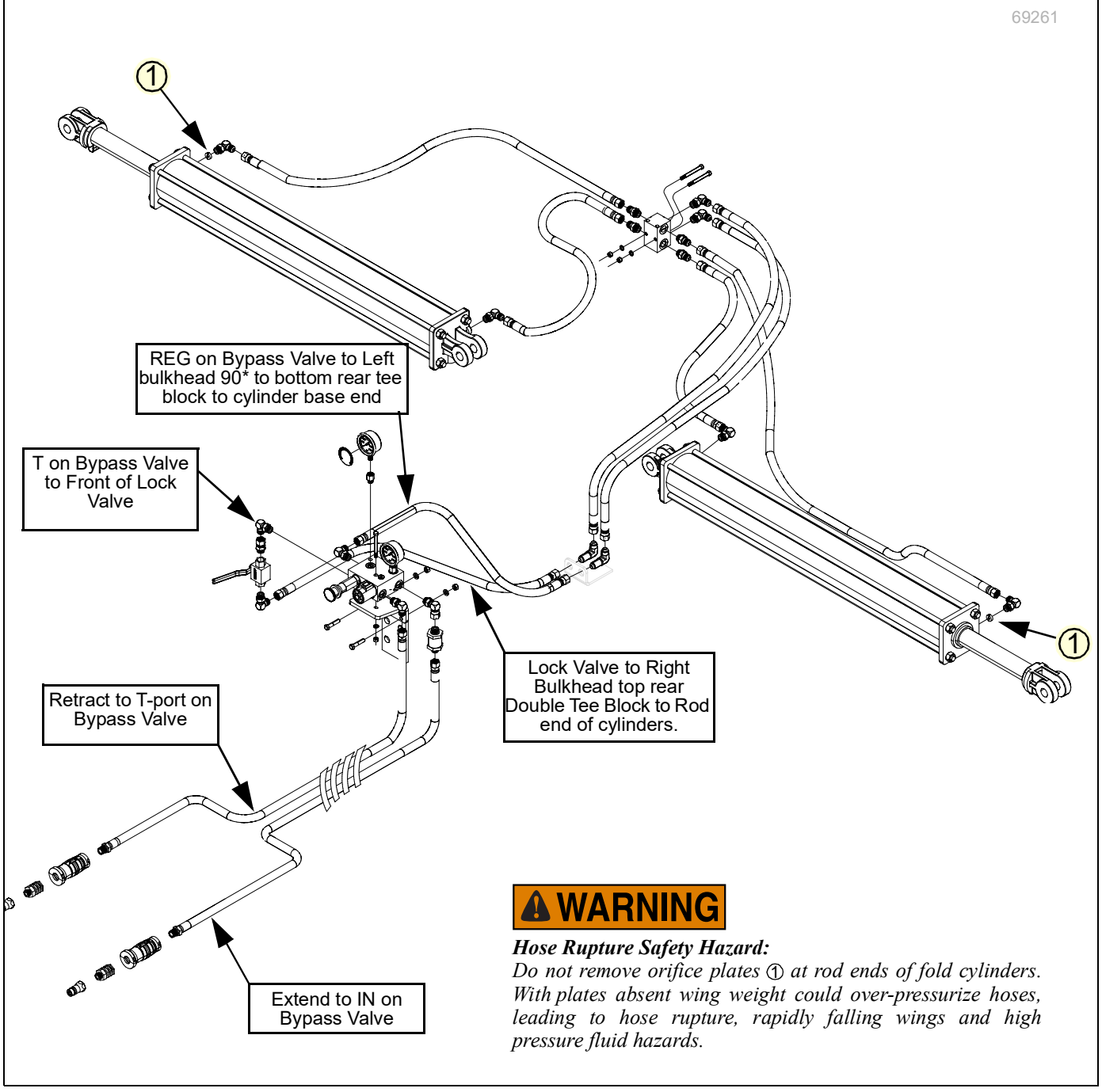
Disk and Wheel Bolt Torque Values Chart	
Disk Hub Torque	1-8: 600 foot-pounds (813 N-m)
Wheel Bolt Torque	1/2-20: 75 to 85 foot-pounds (102 to 115 N-m)
Wheel Bolt Torque	9/16-18: 80 to 90 foot-pounds (108 to 122 N-m)
Wheel Bolt Torque	5/8-18: 85 to 100 foot-pounds (115 to 136 N-m)
Wheel Bolt Torque	3/4 Flange Nut 295 foot-pounds (400 N-m)

Hydraulic Diagrams

Lift Hydraulics



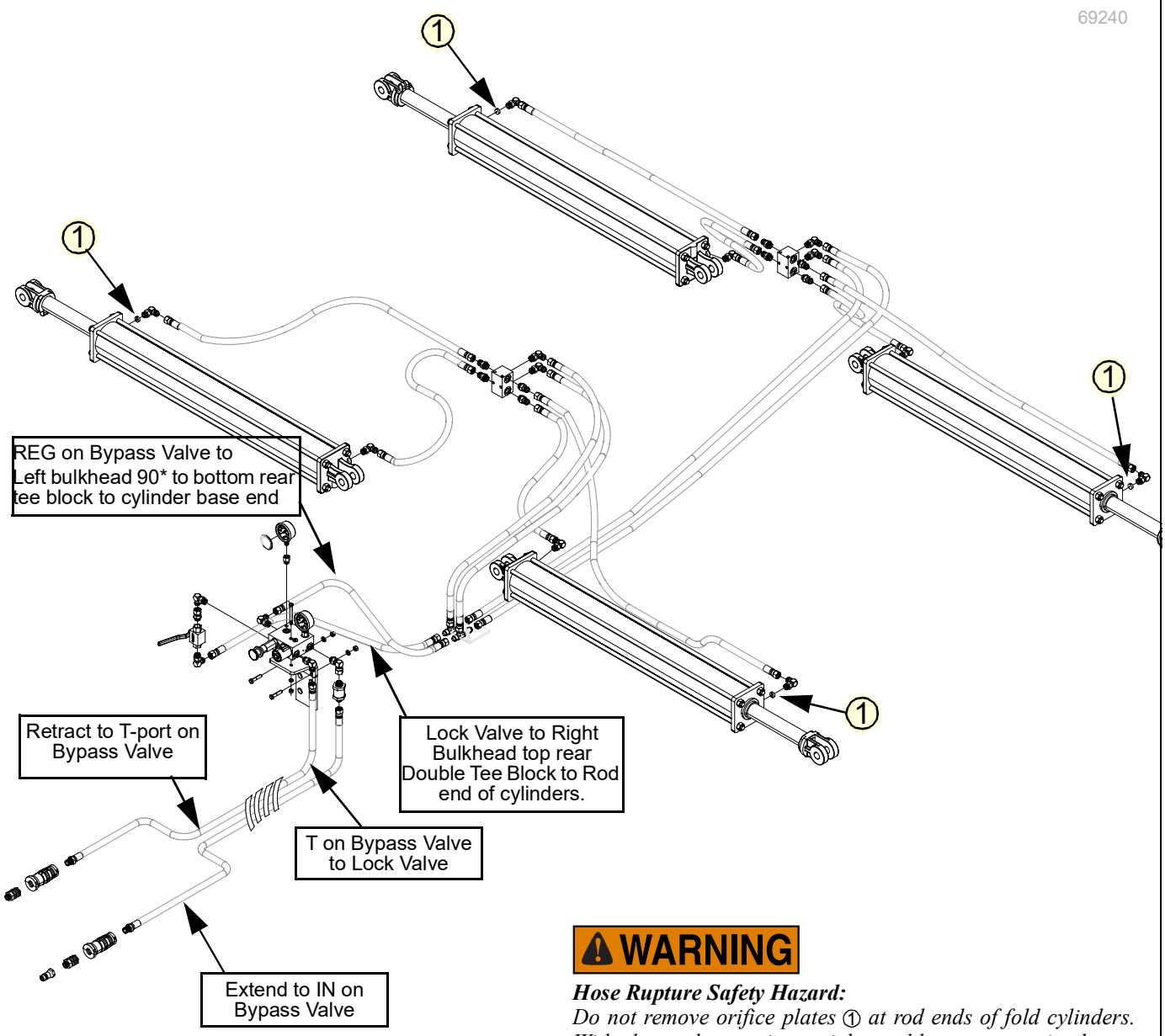
UD2600 Fold Hydraulics



WARNING

Hose Rupture Safety Hazard:
Do not remove orifice plates ① at rod ends of fold cylinders. With plates absent wing weight could over-pressurize hoses, leading to hose rupture, rapidly falling wings and high pressure fluid hazards.

UD3000, UD3300 Fold Hydraulics

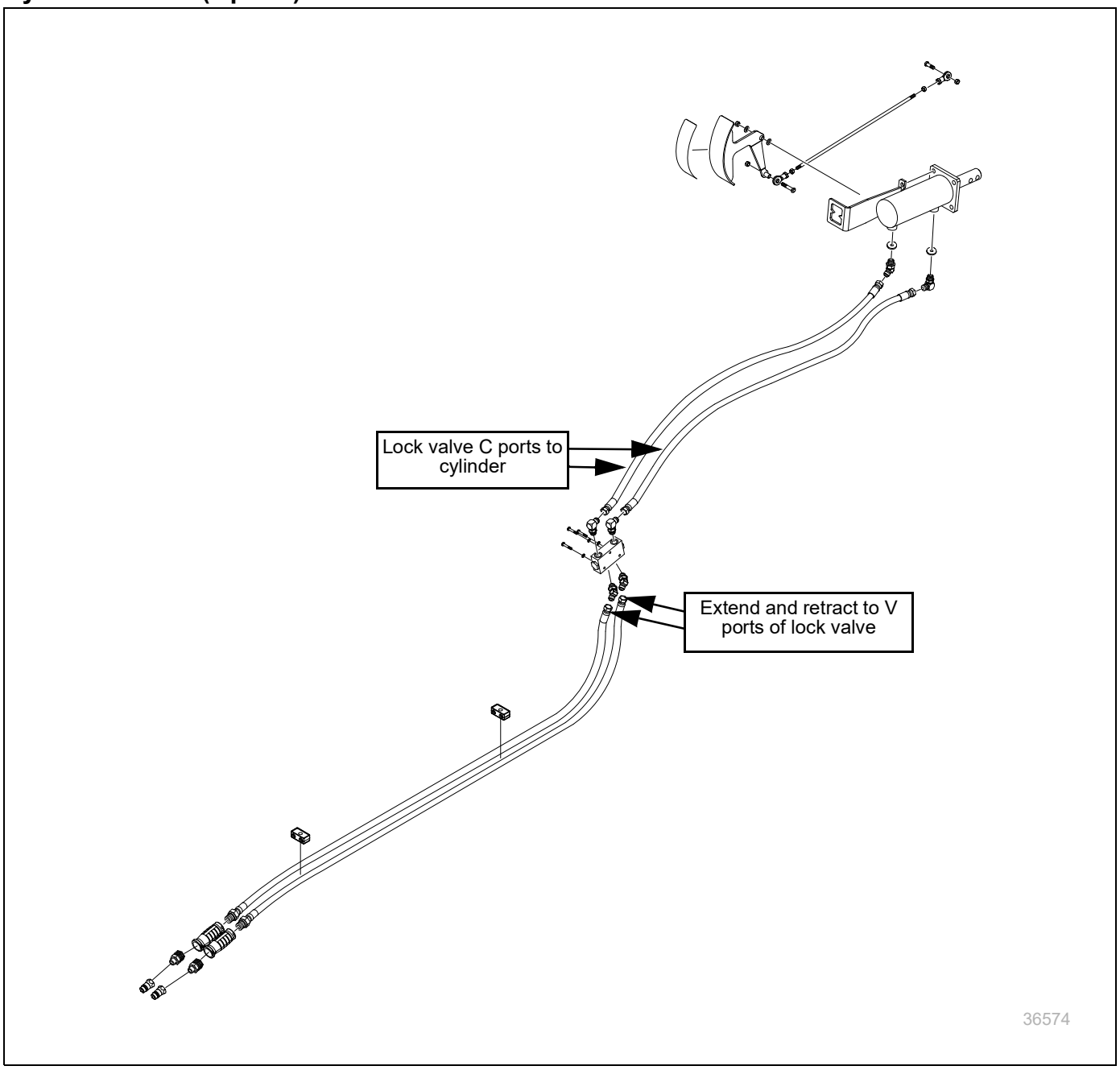


WARNING

Hose Rupture Safety Hazard:

Do not remove orifice plates ① at rod ends of fold cylinders. With plates absent wing weight could over-pressurize hoses, leading to hose rupture, rapidly falling wings and high pressure fluid hazards.

Hydraulic Level (Option)



Appendix C: Option Installation

Weight Package Installation

Optional weight sets increase the down force available to tools, and increase the weight available for transfer to wings. Each set weighs 1500 pounds (680 kg) and consists of two 750 pound (340 kg) stacks. Refer to page 46 for ordering information.

⚠ WARNING

Heavy Overhead Object and Crushing Hazards:
A slipped, swinging or falling weight can cause serious injury or death.
Use a lifter rated for at least 750 pounds.
Use separate lines for each lift point.
DO NOT USE a single looped line.
Use anchor points rated for at least 750 pounds each.
Use lines rated for at least 750 pounds each.
Secure each line a separate weight attachment point.
Use only the lifter to coarsely position the stacks.
Keep everyone clear while lifting and positioning.
Keep hands above stacks at all times.
Place weights from front to back.
Slide each into final position before lifting the next.

Refer to Figure 30

📖 Use up to 2 sets of 2 weights (4 weight stacks total) in positions shown.

1. Unfold implement. Lower implement to ground. Float fold circuit. Float lift circuit.
2. Adjust fore/aft to take pressure off leveling link. Once pressure is off leveling link proceed.
3. Remove the $^{1}/_{2}$-13 x $1^{3}/_{4}$ inch Grade 5 bolts ① from the level bar assembly.
4. Pivot the level bar ② up for clearance.
5. Securely attach two separate lines, each rated for at least 750 pounds (340 kg), to a similarly rated anchor point on the lifter, and to a stack lifting lug. Do not use a single looped line - it can slip or fail.
6. Carefully lower each weight assembly ③ into center frame trusses ④.
7. Slide weights ⑤ as far forward as possible and install weight box stops ⑥ on inside of trusses as close to weights as possible, secure with $^{1}/_{2}$ x $4^{1}/_{32}$ x $5^{1}/_{4}$ U-bolt, $^{1}/_{2}$ inch lock washers and $^{1}/_{2}$ inch nuts.
8. Torque U-bolts to 85 foot-pounds.
9. Pivot level bar and the level bar spring assembly until holes in plates are aligned.
10. Install $^{1}/_{2}$-13 x $1^{3}/_{4}$ Grade 5 bolts ①, secure with $^{1}/_{2}$ inch lock washers and $^{1}/_{2}$ inch nuts.

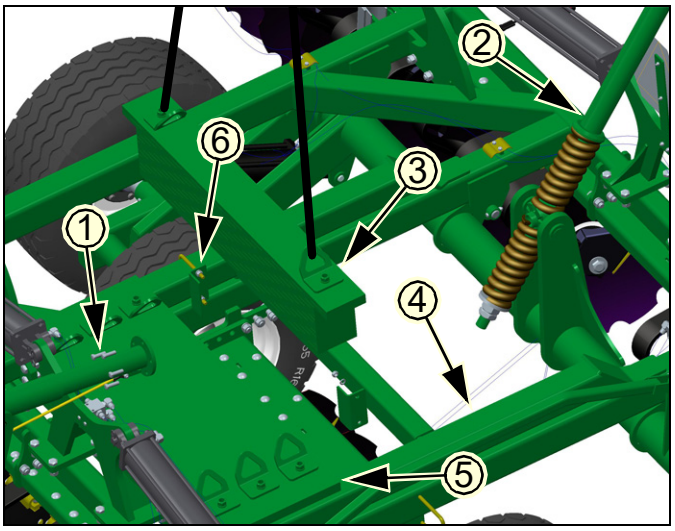


Figure 30 36538
Weight Package

11. Torque $^{1}/_{2}$-13 x $1^{3}/_{4}$ Grade 5 bolts ① to 76 foot-pounds (103 N-m) to be sure bolts do not work loose and cause damage to machine.

⚠ CAUTION

Possible Transport Hazard:
Do not transport the updated Ultra Disk™ before verifying that the vehicle used for highway transport is still adequate for the new weight. If the towing vehicle was previously just over requirements, it may be inadequate now, increasing the risk of a serious highway accident. Your total implement weight has increased by as much as 19% (increased up to 3000 pounds or 1340 kg).

"Harvest Starts Here."

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 including, but not limited to, disc blades, chisel points, tires, bushings, and scrapers), repeat repair due to improper diagnosis or improper repair by the dealer, temporary repairs, service calls and/or mileage to and from customer location, overtime premium, or unit hauling expenses. The warranty may be voided if the unit is towed at speeds in excess of 20 miles per hour (32 kilometers per hour), or failures occurring from soils with rocks, stumps, or other obstructions.

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

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

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

Effective July 15, 2020

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