Read the operator’s manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!
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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.
Be Familiar with Safety Decals
▲ Read and understand “Safety Decals,” page 7, thoroughly.
▲ Read all instructions noted on the decals.

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.

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

Use Safety Lights and Devices
Slow-moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
▲ Use flashing warning lights and turn signals whenever driving on public roads.
▲ Use lights and devices provided with implement.
**Transport Machinery Safely**

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

▲ Do not exceed 20 mph. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.

▲ Comply with state and local laws.

▲ Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of towing vehicle.

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

▲ Keep clear of overhead power lines and other obstructions when transporting.

**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, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.
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 implement, put tractor in park, turn off engine, and remove key before performing maintenance.
▲ Make sure all moving parts have stopped and all system pressure is relieved.
▲ Allow implement to cool completely.
▲ Disconnect battery ground cable (−) before servicing or adjusting electrical systems or before welding on implement.
▲ Inspect all parts. Make sure parts are in good condition and installed properly.
▲ Remove buildup of grease, oil or debris.
▲ Remove all tools and unused parts from implement before operation.

Prepare for Emergencies

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

Wear Protective Equipment

▲ Wear protective clothing and equipment.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.
▲ Because operating equipment safely requires your full attention, avoid wearing radio headphones while operating machinery.
Handle Chemicals Properly
Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.

▲ Read and follow chemical manufacturer's instructions.
▲ Wear protective clothing.
▲ Handle all chemicals with care.
▲ Avoid inhaling smoke from any type of chemical fire.
▲ Store or dispose of unused chemicals as specified by chemical manufacturer.

Use A Safety Chain
▲ Use a safety chain to help control drawn machinery should it separate from tractor drawbar.

▲ Use a chain with a strength rating equal to or greater than the gross weight of towed machinery.

▲ Attach chain to tractor drawbar support or other specified anchor location. Allow only enough slack in chain to permit turning.

▲ Replace chain if any links or end fittings are broken, stretched or damaged.
▲ Do not use safety chain for towing.

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

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

▲ When removing and installing wheels, use wheel-handling equipment adequate for weight involved.
Safety at All Times
Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

▲ Be familiar with all implement functions.
▲ Operate machinery from the driver’s seat only.
▲ Do not leave implement unattended with tractor engine running.
▲ Do not dismount a moving tractor. Dismounting a moving tractor could cause serious injury or death.
▲ Do not stand between the tractor and implement during hitching.
▲ Keep hands, feet and clothing away from power-driven parts.
▲ Wear snug-fitting clothing to avoid entanglement with moving parts.
▲ Watch out for wires, trees, etc., raising implement. Make sure all persons are clear of working area.
▲ Do not turn tractor too tightly, causing implement to ride up on wheels. This could cause personal injury or equipment damage.
Safety Decals
Your implement comes equipped with all safety decals in place. They were designed to help you safely operate your implement.

▲ Read and follow decal directions.
▲ Keep all safety decals clean and legible.
▲ Replace all damaged or missing decals. Order new decals from your Great Plains dealer. Refer to this section for proper decal placement.

▲ When ordering new parts or components, also request corresponding safety decals.
▲ To install new decals:
1. Clean the area on which the decal is to be placed.
2. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.

818-055C
Slow Moving Vehicle Label

838-265C
Amber Reflectors
Reflector located on outside edges front and rear, outside edges on front frame, left of center on front frame; 6 reflectors total
838-266C
Red Reflectors
Reflector located on both ends and center left and right on rear; 4 reflectors total

838-267C
Daytime Reflectors
Reflector located on both ends and center left and right on rear; 4 reflectors total

818-339C
Warning, High Pressure Fluid Hazard
One decal located on tongue
**818-590C**
Danger, Crushing Hazard
One decal located on tongue

**818-587C**
Caution, Operational Machine
One decal located on tongue

**818-188C**
Warning, Excessive Speed Hazard
One decal located on tongue
818-557C
Danger, Cannot Read English
One decal located on tongue

838-259C
Caution, Tire Pressure
Decal located on all wheels; 4 decals total

838-112C
Danger, Pinching Hazard
Decal located on both sides of the frame; 2 decals total
Introduction

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

Description of Unit
The Verti-Till Ripper is designed to cut and size residue, till soil for faster seedbed warming, break up soil crust on hard dried fields while eliminating compaction layers.

Models Covered
VT 5300, VT 7225, VT 7300 and VT 9225 Verti-Till Rippers.

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

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

Definitions
The following terms are used throughout this manual.

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.

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

NOTE: Useful information related to the preceding topic.
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.

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.

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

Model Number: ____________________________
Serial Number: ____________________________

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

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

   Product Support
   Great Plains Mfg. Inc., Service Department
   PO Box 5060
   Salina, KS 67402-5060
Preparation and Setup

This section will help you prepare your tractor and implement for use. Before going to the field, you must hitch a tractor to the implement, hook up hydraulics and check that hydraulics have been bled.

Prestart Checklist
1. Read and understand “Important Safety Information,” page 1.
2. Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
3. Check that all grease fittings are in place and lubricated. Refer to “Lubrication,” page 33.
4. Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. See “Safety Decals,” page 7.
5. Inflate tires to pressure recommended and tighten wheel bolts as specified. See “Appendix,” page 35.

Hitching Tractor to Implement

⚠️ DANGER
You may be severely injured or killed by being crushed between the tractor and implement. Do not stand or place any part of your body between implement and moving tractor. Stop tractor engine and set park brake before installing the hitch pin.

Hitch Height
For proper operation, the main frame of the Verti-Till should be level in the field. A turnbuckle between the tongue and level linkage is used to level the Verti-Till.

Refer to Figure 1
1. For most hitch heights the hitch should be installed inverted using the middle two bolts holes. If the tractor hitch height is extremely high or low, and the turnbuckle will not allow the frame to be leveled, the hitch can be moved up or down in the holes provided. The hitch can also be flipped over for more adjustment.
**Hitching to Tractor**

1. Back tractor to implement. Use the screw jack to adjust the hitch up or down as needed.

2. Finish backing the tractor until the hitch pin holes align. Place the tractor in park and pin the implement to the tractor using the tractor’s original equipment hitch pin as outlined in the tractor’s operator manual.

3. Securely attach the implement’s safety chain to the tractor as outlined in the tractor’s operator manual.

4. Connect the light harness and plug in the hydraulic hoses. (See *Hydraulic Hose Hookup* below).

*Refer to Figure 2*

5. Lower the jack until the full weight of the implement is on the tractor drawbar. Remove the jack from the side of the tongue and store it on the storage stob located on the top left-hand side of the coulter frame.

**Hydraulic Hose Hookup**

*Refer to Figure 3*

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

<table>
<thead>
<tr>
<th>Color</th>
<th>Hydraulic Function</th>
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<tr>
<td>Black</td>
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<td>Red</td>
<td>Coulter Cylinders</td>
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<tr>
<td>Yellow</td>
<td>Seedbed Conditioner</td>
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One plastic grip in each color shows a retracting cylinder and the other shows an extending cylinder.
Bleeding Hydraulics

**WARNING**

Escaping fluid under pressure can have sufficient pressure to penetrate the skin. Check all hydraulic lines and fittings before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, and wear heavy gloves to check for suspected leaks. If injured, seek medical assistance from a doctor that is familiar with this type of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.

If the implement is being hooked to a tractor for the first time, the hydraulic system may have to be purged of air.

1. Check the hydraulic fluid in the tractor reservoir and fill to proper level.

**Bleeding Transport Cylinders**

2. Back the paddle away from the hydraulic depth control valve on the implement.

3. With the transport locks installed on the transport cylinders, see “Transporting,” page 30, crack open the JIC fittings on the rod ends. Engage the hydraulics to “lower” the implement until fluid escapes from the loose fittings. Tighten these two fittings.

4. Raise the implement and remove the transport locks. Lower the implement completely.

5. Crack open the JIC fittings on the base end of the transport cylinders. Engage the hydraulics to “raise” the implement until fluid escapes from the loose fittings. Tighten these fittings.

6. Raise and lower the implement several times to ensure smooth operation. If the unit raises unevenly or is not smooth, you may have to repeat the bleeding procedure.

**Bleeding Coulter Cylinders**

1. Start with the implement fully raised to allow for a full range of coulter frame movement.

2. Lower the coulter frame. Crack the fittings on the base end of the coulter cylinders. Engage the hydraulics to “raise” the coulters until fluid escapes from the loose fittings. Tighten these fittings.

3. Raise the coulter frame and block it in place so it cannot lower. Crack the fittings on the rod end of the coulter cylinders. Engage the hydraulics to “lower” the coulters until fluid escapes from the loose fittings. Tighten these fittings.
Mounting Wheels

Refer to Figure 4

1. Mount the outside wheels (1) to the wheel arms (2) by inserting the spindle pin in the rear mounting bracket.

2. Secure pin in place with a 5/16" x 4" bolt and 5/16" lock nut.
Mounting Coulter Gangframe

Refer to Figure 5

1. Slide the coulter gangframe (1) under the front end of the Verti-Till Ripper. Make sure the coulters angle towards the back of the ripper.

2. Position the coulter gangframe (1) so the four lifting brackets are directly below the four brackets on the front and rear coulter gangframe rockshaft.

3. Using the hydraulics of the implement, raise or lower the coulter and/or transport cylinders. Align the holes in the coulter frame with the coulter lift arms.

4. Insert pins (2) aligning holes in the ends of the pins with the holes in the brackets. Secure pins with 3/8" x 2 1/2" bolts and 3/8" lock nuts.
Mounting Wings

Refer to Figure 6

1. Attach the right-hand (1) and left-hand (2) wings to the main frame using 5/8" x 2 1/4" bolts, 5/8" lock washers and 5/8" nuts.
Shank Mounting

Straight and Parabolic Shanks

Refer to Figure 7

1. Attach the straight shank (shown) (1) to the auto reset shank mount (shown) (2) using 3/4” x 6” GRD8 bolts (3), 3/4” hardened flat washers (4), 3/4” lock washers (5) and 3/4” nuts (6).

2. Place two flat washers (4) against the head of the bolt (3) and one flat washer (4) next to the lock washer (5).

NOTE: Extra hardened washers allows use of longer bolt to keep threads out of the shear area.

3. Torque bolts (3) to 400 FT LBS.

IMPORTANT: Torque bolts (3) to 400 FT LBS.

Note: The parabolic shank and the rigid shank mount will use same hardware and instructions.
Shank Mounting

No-Till Shanks

Refer to Figure 8

1. Attach the no-till shank (shown) (1) to the auto re-set shank mount (shown) (2) using 3/4” x 6” GRD8 bolts (3), 3/4” hardened flat washers (4), 3/4” lock washers (5) and 3/4” nuts (6).

2. Place two flat washers (4) against the head of the bolt (3) and one flat washer (4) next to the lock washer (5).

NOTE: Extra hardened washers allows use of longer bolt to keep threads out of the shear area.

3. Torque bolts (3) to 400 FT LBS.

**IMPORTANT:** Torque bolts (3) to 400 FT LBS.

Note: Mounting to the rigid shank mount will use same hardware and instructions.
Installing Shins and Tips
Straight and Parabolic Shanks

Refer to Figure 9

1. Attach straight shin retainer (shown) (1) to the straight shank using 1/2 x 2 1/2” bolts and 1/2” lock nuts.

2. Slide one end of the straight shin (shown) (2) under the shin retainer (1). Hold the lower end in place by installing a tip (1 1/4” x 2” with fin shown) (3). Use 1/2” x 2 1/2” bolts and 1/2” flange lock nuts to secure tip.

Note: The retainers and shins for the parabolic shank and rigid shank mount use the same hardware.

Figure 9
Shims and Tips
Installing Shins and Tips
No-Till Shanks

Refer to Figure 10

1. Attach the no-till shin retainer (1) to the no-till shank using 1/2" x 1 3/4" bolts, 1/2" lock washers and 1/2" nuts.

2. Remove the 1/2" x 1 3/4" roll pin (2) and save for later use.

3. Slide one end of the no-till shin (3) under the no-till shin retainer (1). Hold the lower end in place by installing a no-till tip (4). Secure the no-till tip in place with the roll pin (2) removed in step 2.

4. Insert larger roll pin (5) through second hole in the no-till tip (4) to help secure tip.
Machine Adjustments

Auto Reset Shanks
Refer to Figure 11

1. The dual spring package should be preloaded so both top and bottom springs are loaded evenly and measure 20.75 inches (for machines with S/N 1054mm-) and 23.8 inches (for machines with S/N 1055mm+) from end of coil to end of coil. The bottom of the shank arm will just touch the down stop on the shank mount when the springs are at the correct preload.

Coulter Gang Springs
Refer to Figure 12

2. The coulter gangs are cushioned with a preloaded coil spring. The nut near the bottom trunnion should be adjusted so the spring assembly measures 14 1/2” from inside of upper washer to inside of lower washer.
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.

Prestart Checklist

⚠️ WARNING
Escaping fluid under pressure can have sufficient pressure to penetrate the skin. Check all hydraulic lines and fittings before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, and wear heavy gloves to check for suspected leaks. If injured, seek medical assistance from a doctor that is familiar with this type of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.

2. Lubricate implement as indicated under “Lubrication,” page 33.
3. Check all tires for proper inflation. See “Appendix,” page 35.
4. Check all bolts, pins and fasteners. Torque as shown in “Appendix,” page 35.
5. Check implement for worn or damaged parts. Repair or replace parts before going to the field.
6. Check hydraulic hoses, fittings and cylinders for leaks. Repair or replace before going to the field.
Field Operation

DANGER
You may be severely injured or killed by being crushed between the tractor and implement. Do not stand or place any part of your body between implement and moving tractor. Stop tractor engine and set park brake before installing hitch pin.

The leveling links and depth indicator linkages for both the tillage depth and coulter depth are interactive. Each step in these field adjustments relies on the previous step being done correctly. Complete the following steps in the order listed.

Leveling the Implement
1. While pulling forward in a level field, lower the Verti-Till to a depth of around 8” to 10”. The depth you choose is not critical at this point. Refer to Figure 13
2. Stop the tractor with the Verti-Till in the ground and check the frame for level. The two main frame tubes running the length of the unit should be parallel to the ground.
   a. If the frame is high in front, loosen the jam nut and shorten the turnbuckle on the tongue. Secure the jam nut.
   b. If the frame is low in front, loosen the jam nut and lengthen the turnbuckle on the tongue. Secure the jam nut.
Note: Repeat step 2 as needed until implement is level.

Setting the Tillage Depth Indicator Gage
1. Pull the Verti-Till forward in the field and fully lower the unit (16”). In hard conditions you may have to till a small area twice to be able to pull the unit at full depth. Refer to Figure 14
2. Stop the tractor and from the tractor seat observe where the tillage depth pointer is pointing. With the unit fully lowered the depth indicator should read 16.
Refer to Figure 15

3. To adjust this reading, loosen the two bolts joining the tip depth link and lengthen or shorten as needed. Retighten and check the setting from the tractor seat.

Note: The tip depth link has two notches that can be aligned with each other and used as a starting point when adjusting the length of this link. Once set, the tip depth indicator will show actual tip depth and is very accurate through a range of 6" to 16".

Before moving on to the next step, the unit can be raised from the full 16" depth. The depth you chose in not critical, but should be at least 6" deep.

Setting the Coulter Depth Indicator Gage
1. Adjust the cutting depth of the coulters to about 2" or 3" while traveling through the field. Stop the tractor and dig to find the bottom of several coulters. Measure or estimate an average cutting depth.

Refer to Figure 16

2. Observe from the tractor seat the coulter depth pointer. Adjust the coulter depth linkage until the indicator reads the same depth you averaged in step 1 above.

Refer to Figure 17

3. To adjust the coulter depth pointer, loosen the two bolts joining the coulter depth link and lengthen or shorten as needed. Retighten and check the setting from the tractor seat.

Note: The coulter depth link has two notches that can be aligned with each other and used as a starting point when adjusting the length of this link. Once set, the coulter depth indicator will show actual coulter depth and is very accurate through a range of 1" to 4".

Note: As the coulter blades wear you will not be cutting the same depth as with a new 20" blade. The coulter depth linkage can be adjusted periodically as the blade wears so it will continue to report an accurate cutting depth.
Normal Field Operations
For drills with S/N: 1025MM and below.

Refer to Figure 18

1. Lower the frame to a desired tillage depth. The depth control paddle can be pushed up against the depth control valve stem and locked with the knob. The unit will automatically stop at this depth each time the unit is lowered.

For drills with S/N: 1026MM and above.

Refer to Figure 19

1. Raise the implement fully and install the cylinder locks, see “Lock Cylinders,” page 28. Pull the spring loaded pin (1) and slide the moveable depth stop (2) to achieve desired tillage height and re-engage pin. The top hole allows for a 16” tilling depth and the lower hole allows for a 6” tilling depth. Repeat for opposite wheel arm.

NOTE: Be sure the lock pins are set in the same holes on both wheel arms.

2. Adjust the coulters up or down to achieve different tilling, cutting and mixing results. A pilot operated check valve in the coulter lift circuit will lock the coulters at the depth you choose.

3. Always lift the unit out of the ground when turning at field ends and other short radius turns to avoid damage and premature wear to the shanks and coulter gangs.

4. Both the Auto reset and Rigid shank mounts are protected by shear bolts for extreme overloads. If the shank bolt shears replace the lower bolt with the correct shear bolt, use GP part number 802-060C. (HHCS 5/8-11 x 4 Gr5)

Note: For your convenience a series of holes in 4 gussets on the rear of the machine have been provided for spare shear bolt storage.
Transporting

**WARNING**

Towing the implement at high speeds or with a vehicle that is not heavy enough could lead to loss of vehicle control. Loss of vehicle control could lead to serious road accidents, injury and death. To reduce the hazard, do not exceed 20 mph. Check that your tractor has enough ballast to handle the weight of the implement. Refer to your tractor operator’s manual for ballast requirements.

**CAUTION**

Failure of hydraulic cylinders during transport will cause implement to drop suddenly, which could lead to serious road accidents, injury or death. To prevent an accident, always install cylinder locks before transporting implement.

Before transporting the implement, follow and check these items:

Refer to Figure 20

**Lock Cylinders.** Cylinder locks are supplied for both hydraulic transport cylinders. With implement fully raised, position lock channel over rod of cylinder and secure into place with the pin and spring clip.

NOTE: The cylinder locks can only be installed or removed after the implement is fully raised.

When cylinder locks are not being used they can be stored on the storage tubes located on the underside of the main frame directly above each wheel.

**Clearance.** Remember that the implement is wider than the tractor. Allow safe clearance.

**Road rules.** Comply with all federal, state and local safety laws when traveling on public roads.
Parking
Perform the following steps when parking the implement. Refer to “Storage”, page 32, to prepare for long-term storage.

1. Park implement on a level, solid area.
2. Lower implement until the weight is resting on the transport lock channels or remove and store the transport lock channels then lower the implement until the shanks are resting on the ground.
3. Securely block tires to prevent rolling.
4. Remove tongue jack from storage stob. Pin jack on side of tongue. If ground is soft, place a board or plate under jack.
5. Extend jack until tongue weight is off tractor drawbar.
6. Unplug hydraulic hoses and wiring harness from tractor. Do not allow hose ends or harness ends to rest on the ground.
7. Remove hitch bolt and safety chain from tractor drawbar.
## Troubleshooting

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<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
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<td>Tip depth changes</td>
<td>Leaking hydraulic cylinders (external or internal).</td>
<td>Install seal kit or replace cylinder.</td>
</tr>
<tr>
<td></td>
<td>Failing depth stop valve.</td>
<td>Install seal kit or replace depth stop valve.</td>
</tr>
<tr>
<td></td>
<td>Leaking hydraulic fittings.</td>
<td>Check fittings for leaks, see page 15 for safety message, tighten or replace.</td>
</tr>
<tr>
<td>Coulter depth changes</td>
<td>Leaking hydraulic cylinders (external or internal).</td>
<td>Install seal kit or replace cylinder.</td>
</tr>
<tr>
<td></td>
<td>Failing P.O. check valve.</td>
<td>Install seal kit or replace check valve.</td>
</tr>
<tr>
<td>Coulter gangs uneven</td>
<td>Check/adjust preload on gang springs.</td>
<td>Check/adjust preload on gang springs.</td>
</tr>
<tr>
<td></td>
<td>Re-level the implement.</td>
<td>Re-level the implement.</td>
</tr>
<tr>
<td>Ripper point depths uneven</td>
<td>Check/adjust preload on auto reset shank.</td>
<td>Check/adjust preload on auto reset shank.</td>
</tr>
<tr>
<td></td>
<td>Re-level the implement.</td>
<td>Re-level the implement.</td>
</tr>
<tr>
<td></td>
<td>Check tire pressure.</td>
<td>Check tire pressure.</td>
</tr>
<tr>
<td></td>
<td>Check depth stops for even.</td>
<td>Check depth stops for even.</td>
</tr>
<tr>
<td>Shear bolts shear too often</td>
<td>Order the auto reset shank mount in rocky conditions.</td>
<td>Order the auto reset shank mount in rocky conditions.</td>
</tr>
<tr>
<td>Depth pointers not accurate</td>
<td>Level unit and re-zero pointers.</td>
<td>Level unit and re-zero pointers.</td>
</tr>
<tr>
<td></td>
<td>Check shank spring preload.</td>
<td>Check shank spring preload.</td>
</tr>
<tr>
<td></td>
<td>Check coulter blade wear.</td>
<td>Check coulter blade wear.</td>
</tr>
</tbody>
</table>
Maintenance

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

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

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

⚠️ WARNING
Escaping fluid under pressure can have sufficient pressure to penetrate the skin. Check all hydraulic lines and fittings before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, and wear heavy gloves to check for suspected leaks. If injured, seek medical assistance from a doctor that is familiar with this type of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.

Refer to Figure 21

1. After using the implement for several hours, check all bolts to be sure they are tight.
2. After one hour and again after five hours re-torque the grade 8 bolts (1) to 400 FT LBS. Re-torque periodically.
3. After one hour and again after five hours re-torque the grade 8 clamp bolts (2) to 400 FT LBS. Re-torque periodically.
4. Lubricate areas listed under “Lubrication”, page 33.
5. Inflate tires as specified on “Tire Inflation Chart”, page 35.

7. To increase seal and bearing life, the taper roller bearings in all 4 transport wheels should be checked for play at least once a season. Lower the unit so the shanks contact the ground. Retract the transport cylinders until the transport wheels are off the ground. Rock each wheel side to side to check for play. Remove the dust cap and remove play with the slotted nut as needed.

8. To increase seal and bearing life, the taper roller bearings in the walking tandems should be checked in a similar manner. Each walking tandem has a slotted nut which can be used to remove play. There is no dust cap to remove. The nut is visible from the outside.

Storage
Store implement where children do not play. If possible, store the drill inside for longer life.

1. Remove any dirt and debris that can hold moisture and cause corrosion.

2. Lubricate areas noted under “Lubrication”, page 33.

3. Inspect implement for worn or damaged parts. Make repairs and service during the off season.

4. Use spray paint to cover scratches, chips and worn areas on the implement to protect the metal.

5. Retract the hydraulic cylinders so the plated rod is inside the barrel to minimize rust.
Lubrication

Shank Pivot Arms

Type of Lubrication: Grease
Quantity = Until grease emerges

Wheel Bearings

Type of Lubrication: Grease
Quantity = Repack

Rockshaft Pivot

Type of Lubrication: Grease
Quantity = Until grease emerges
5, 7, & 9 Shank

Gang Bearings

Type of Lubrication: Grease
Quantity = Until grease emerges

Lift Link Bearings

Type of Lubrication: Grease
Quantity = Until grease emerges

Walking Tandem Bearings

Type of Lubrication: Grease
Quantity = Repack
## Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size (Inches)</th>
<th>5.8</th>
<th>8.8</th>
<th>10.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 2 in-tpi 1</td>
<td>N·m ft-lb</td>
<td>N·m ft-lb</td>
<td>N·m ft-lb</td>
</tr>
<tr>
<td>1/4&quot; - 20</td>
<td>7.4 5.6</td>
<td>11 8</td>
<td>16 12</td>
</tr>
<tr>
<td>1/4&quot; - 28</td>
<td>8.5 6</td>
<td>13 10</td>
<td>18 14</td>
</tr>
<tr>
<td>5/16 - 18</td>
<td>15 11</td>
<td>24 17</td>
<td>33 25</td>
</tr>
<tr>
<td>5/16&quot; - 24</td>
<td>17 13</td>
<td>26 19</td>
<td>37 27</td>
</tr>
<tr>
<td>3/8&quot; - 16</td>
<td>27 20</td>
<td>42 31</td>
<td>59 44</td>
</tr>
<tr>
<td>3/8&quot; - 24</td>
<td>31 22</td>
<td>47 35</td>
<td>67 49</td>
</tr>
<tr>
<td>7/16&quot; - 12</td>
<td>43 32</td>
<td>67 49</td>
<td>95 70</td>
</tr>
<tr>
<td>7/16&quot; - 20</td>
<td>49 36</td>
<td>75 55</td>
<td>105 78</td>
</tr>
<tr>
<td>1/2&quot; - 12</td>
<td>66 49</td>
<td>105 76</td>
<td>145 105</td>
</tr>
<tr>
<td>1/2&quot; - 20</td>
<td>75 55</td>
<td>115 85</td>
<td>165 120</td>
</tr>
<tr>
<td>9/16&quot; - 12</td>
<td>95 70</td>
<td>150 110</td>
<td>210 155</td>
</tr>
<tr>
<td>9/16&quot; - 18</td>
<td>105 79</td>
<td>165 120</td>
<td>235 170</td>
</tr>
<tr>
<td>5/8&quot; - 11</td>
<td>130 97</td>
<td>205 150</td>
<td>285 210</td>
</tr>
<tr>
<td>5/8&quot; - 18</td>
<td>150 110</td>
<td>230 170</td>
<td>325 240</td>
</tr>
<tr>
<td>3/4&quot; - 10</td>
<td>235 170</td>
<td>360 265</td>
<td>510 375</td>
</tr>
<tr>
<td>3/4&quot; - 16</td>
<td>260 190</td>
<td>405 295</td>
<td>570 420</td>
</tr>
<tr>
<td>7/8&quot; - 11</td>
<td>225 165</td>
<td>585 430</td>
<td>820 605</td>
</tr>
<tr>
<td>7/8&quot; - 14</td>
<td>250 185</td>
<td>640 475</td>
<td>905 670</td>
</tr>
<tr>
<td>1&quot; - 8</td>
<td>340 250</td>
<td>875 645</td>
<td>1230 910</td>
</tr>
<tr>
<td>1&quot; - 12</td>
<td>370 275</td>
<td>955 705</td>
<td>1350 995</td>
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<tr>
<td>1-1/8&quot; - 7</td>
<td>480 355</td>
<td>1080 795</td>
<td>1750 1290</td>
</tr>
<tr>
<td>1-1/8&quot; - 12</td>
<td>540 395</td>
<td>1210 890</td>
<td>1960 1440</td>
</tr>
<tr>
<td>1-1/4&quot; - 7</td>
<td>680 500</td>
<td>1520 1120</td>
<td>2460 1820</td>
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<td>1-1/4&quot; - 12</td>
<td>750 555</td>
<td>1680 1240</td>
<td>2730 2010</td>
</tr>
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<td>1-3/8&quot; - 6</td>
<td>890 655</td>
<td>1990 1470</td>
<td>3230 2380</td>
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<tr>
<td>1-3/8&quot; - 12</td>
<td>1010 745</td>
<td>2270 1670</td>
<td>3680 2710</td>
</tr>
<tr>
<td>1-1/2&quot; - 6</td>
<td>1180 870</td>
<td>2640 1950</td>
<td>4290 3160</td>
</tr>
<tr>
<td>1-1/2&quot; - 12</td>
<td>1330 980</td>
<td>2970 2190</td>
<td>4820 3560</td>
</tr>
</tbody>
</table>

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

1 in-tpi = nominal thread diameter in inches-threads per inch
2 N·m = newton-meters
3 ft-lb= foot pounds
4 mm x pitch = nominal thread diameter in millimeters x thread pitch

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

## Tire Inflation Chart

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Inflation PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5L x 15&quot; Load Range F. HYW Serv.</td>
<td>90</td>
</tr>
</tbody>
</table>

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

### Manufacturer Website
- **Titan** [www.titan-inlt.com](http://www.titan-inlt.com)
- **Goodyear** [www.goodyearag.com](http://www.goodyearag.com)
- **Firestone** [www.firestoneag.com](http://www.firestoneag.com)
## Specifications and Capacities

<table>
<thead>
<tr>
<th></th>
<th>5300</th>
<th>7225</th>
<th>7300</th>
<th>9225</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Height</strong></td>
<td>78” (6.5')</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall Length (no rear attachments)</strong></td>
<td>314.25” (26.2')</td>
<td>352.50” (29.4')</td>
<td>314.25” (26.2')</td>
<td>352.50” (29.4')</td>
</tr>
<tr>
<td><strong>Overall Width</strong></td>
<td>155.75” (12.98')</td>
<td></td>
<td>215.76” (17.98')</td>
<td></td>
</tr>
<tr>
<td><strong>Working Width</strong></td>
<td>12.5’</td>
<td></td>
<td>17.5’</td>
<td></td>
</tr>
<tr>
<td><strong>Shank Count and Spacing</strong></td>
<td>5 on 30” centers</td>
<td>7 on 22.5” centers</td>
<td>7 on 30” centers</td>
<td>9 on 22.5” centers</td>
</tr>
<tr>
<td><strong>Till Depth</strong></td>
<td>6” to 16”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tires</strong></td>
<td>12.5L 15 Load Range F on 8 bolt 10” rim</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Coulters</strong></td>
<td>2” Turbo on 15” spacing (7.5” cutting width) 2 gangs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hydraulic Schematics (for S/N: 1025MM and below)
Hydraulic Schematics (for S/N: 1026MM and above)
Warranty

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

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

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

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

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

This Warranty is not valid unless registered with Great Plains Manufacturing, Incorporated within 10 days from the date of original purchase.