

Operator Manual

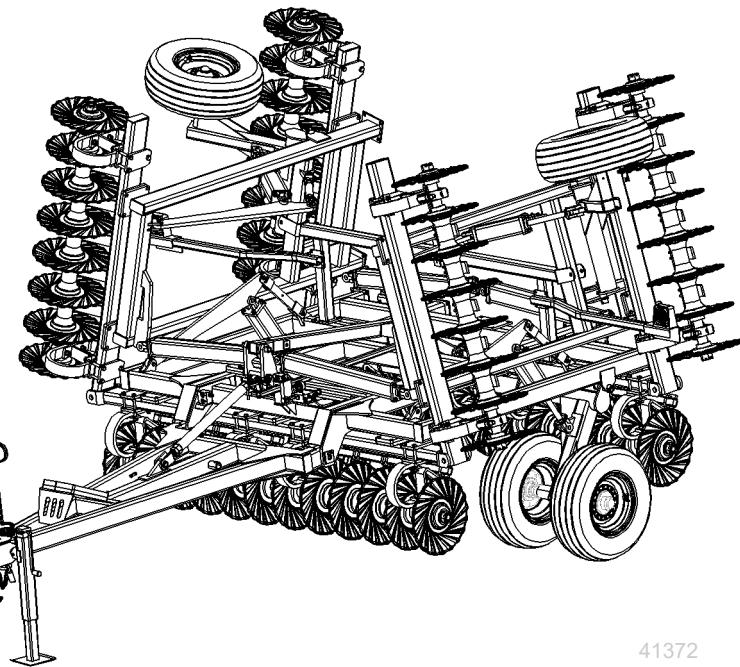
Series II, 1200TT - 4000TT
(S/N GP2759NN+) Turbo-Till

TURBO-TILL®
SERIES II

 **Great Plains**
Manufacturing, Inc.
www.greatplainsmfg.com



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!



Illustrations may show optional equipment not supplied with standard unit.

ORIGINAL INSTRUCTIONS

EN

© Copyright 2021

Printed 2021-02-01

586-201M

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



Table of Contents

Important Safety Information	1	Final Checklist.....	19
Safety Decals	5	Transport Locks	20
Introduction.....	11	Wing Fold	20
Models Covered	11	Pre-Leveling of Machine	20
Description of Unit	11	Front to Rear Leveling.....	20
Document Family	11	Wing Adjustment (3-Section Wings)	21
Using This Manual.....	11	Coulter Spring Adjustment	21
Definitions.....	11	Detracker Height Adjustment (Optional)	21
Owner Assistance.....	12	General Operation and In-Field Adjustments	22
Further Assistance.....	12	Depth Stop	22
Preparation and Setup	13	Spike Drag	23
Prior to Going to the Field Checklist.....	13	Reel.....	23
Hitching Turbo-Till to Tractor	14	Setting the Rolling Harrow and Reel	24
Electrical Hookup	15	Bypass Valve Adjustments	24
Hydraulic Hose Hookup.....	15	1800-3000 Hydraulic Down Pressure	24
Hydraulic Hose Hookup.....	15	4000 Hydraulic Down Pressure.....	25
Clevis Hitch	16		
Category III Hitch.....	16		
Operating Instructions	17	Maintenance and Lubrication	27
Pre-Start Checklist.....	17	Maintenance	27
Transport	18	Lubrication	27
Transport Steps.....	18		
Field Operation	19	Appendix	30
Field Set-Up Checklists	19	TT Series II Specifications and Capacities	30
		Tire Inflation & Warranty.....	31
		Hydraulic Connectors and Torque.....	32
		Torque Values Chart	33

© Copyright 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021 All rights Reserved

Great Plains Manufacturing, Inc. provides this publication "as is" without warranty of any kind, either expressed or implied. While every precaution has been taken in the preparation of this manual, Great Plains Manufacturing, Inc. assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Great Plains Manufacturing, Inc. reserves the right to revise and improve its products as it sees fit. This publication describes the state of this product at the time of its publication, and may not reflect the product in the future.

Trademarks of Great Plains Manufacturing, Inc. include: AccuShot, Max-Chisel, Row-Pro,
Singulator Plus, Short Disk, Swath Command, Terra-Tine, Ultra-Chisel, and X-Press.

Registered Trademarks of Great Plains Manufacturing, Inc. include: Air-Pro, Clear-Shot, Discovator, Great Plains, Land Pride, MeterCone,
Nutri-Pro, Seed-Lok, Solid Stand, Terra-Guard, Turbo-Chisel, Turbo-Chopper, Turbo-Max, Turbo-Till, Ultra-Till, Whirlfilter, and Yield-Pro.
Brand and Product Names that appear and are owned by others are trademarks of their respective owners.

Printed in the United States of America



Important Safety Information

Look for Safety Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.



Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.



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



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Prepare for Emergencies

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



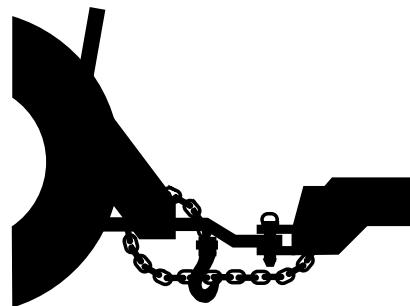
Be Familiar with Safety Decals

- ▲ Read and understand “Safety Decals” on page 5, thoroughly.
- ▲ Read all instructions noted on the decals.
- ▲ Keep decals clean. Replace damaged, faded and illegible decals.



Use Safety Chains

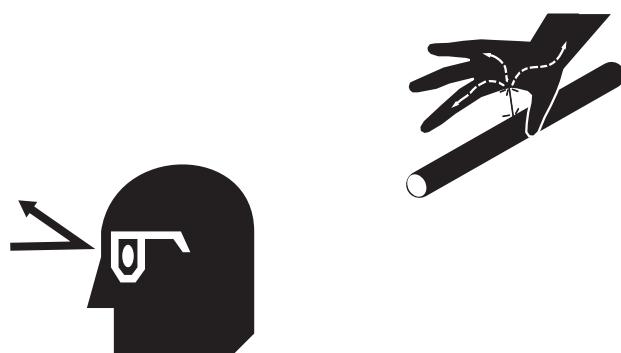
- ▲ Use safety chains to help control drawn machinery should it separate from tractor draw-bar or trailing nurse tank hitch.
- ▲ Use chain with a strength rating equal to or greater than the gross weight of towed machinery.
- ▲ Attach implement chain to tractor draw-bar support or specified anchor location. 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.



Avoid High Pressure Fluids

Escaping fluid under pressure can penetrate the skin, causing serious injury. This Turbo-Till requires a Power-Beyond port, which is always under pressure when the tractor is running.

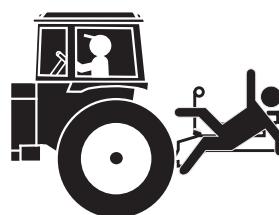
- ▲ Avoid the hazard by relieving pressure at other remote, and shutting down tractor before connecting, disconnecting or inspecting hydraulic lines.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working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



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 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

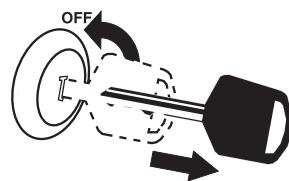
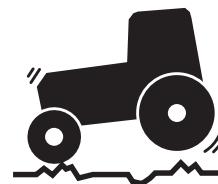
Maximum transport speed for implement is 20 mph (32 kph), 13 mph (22 kph) in turns. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

- ▲ *Do not tow an implement or nurse tank that weighs more than 1.5 times the weight of towing vehicle.*
- ▲ *Carry reflectors or flags to mark Turbo-Till in case of breakdown on the road.*
- ▲ *Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under "TT Series II Specifications and Capacities" on page 30.*
- ▲ *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.*
- ▲ *Reduce speed on rough roads.*
- ▲ *Comply with national, regional and local laws.*
- ▲ *Do not fold or unfold the Turbo-Till while the tractor is moving.*



Shutdown and Storage

- ▲ *Lower Turbo-Till, put tractor in park, turn off engine, and remove the key.*
- ▲ *Secure Turbo-Till using parking jack provided.*
- ▲ *Detach and store Turbo-Till in an area where children normally do not play.*



Tire Safety

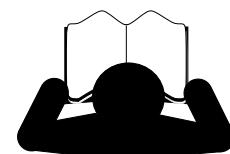
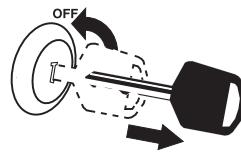
Tire changing can be dangerous. Employ trained personnel using correct tools and equipment.

- ▲ *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.*



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 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.
- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on Turbo-Till.
- ▲ 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.



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 Turbo-Till functions.
- ▲ Operate machinery from the driver's seat only.
- ▲ Do not leave Turbo-Till unattended with tractor engine running.
- ▲ Do not stand between tractor and implement, or implement and nurse tank, during hitching.
- ▲ Keep hands, feet and clothing away from power-driven parts.
- ▲ Wear snug-fitting clothing to avoid entanglement with moving parts.
- ▲ Watch out for wires, trees, etc., when folding and raising Turbo-Till. Make sure all persons are clear of working

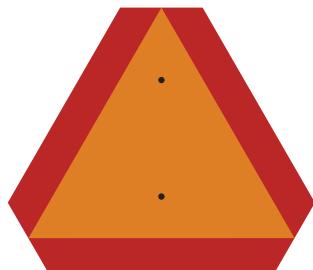


Safety Decals

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.

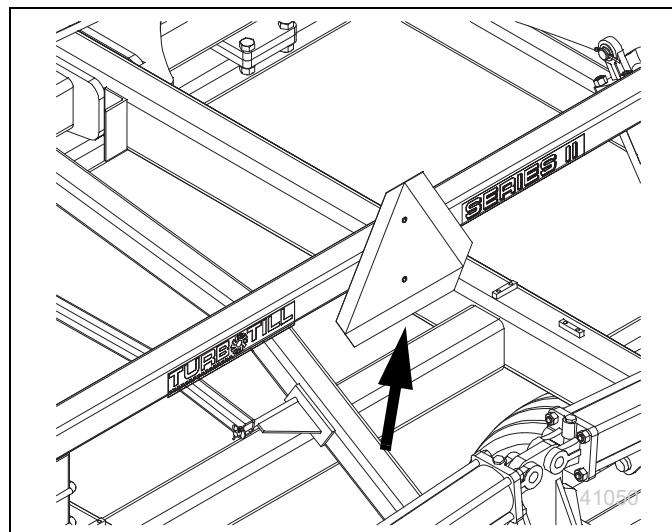


818-055C Slow Moving Vehicle Reflector

On the back of smv bracket;
1 total

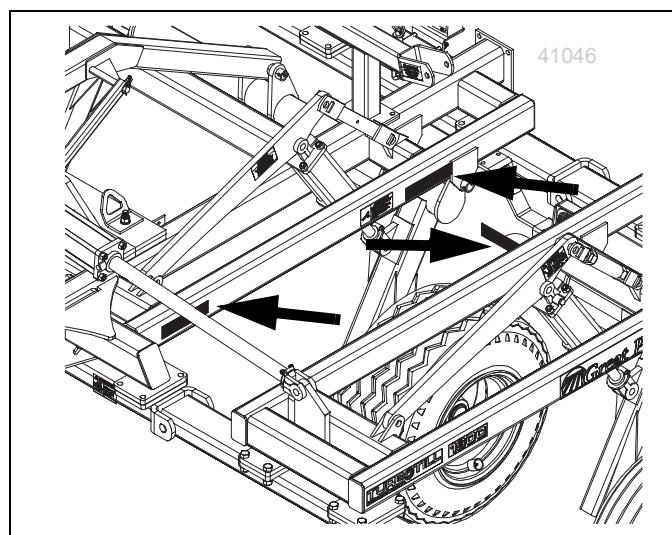
To install new decals:

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.



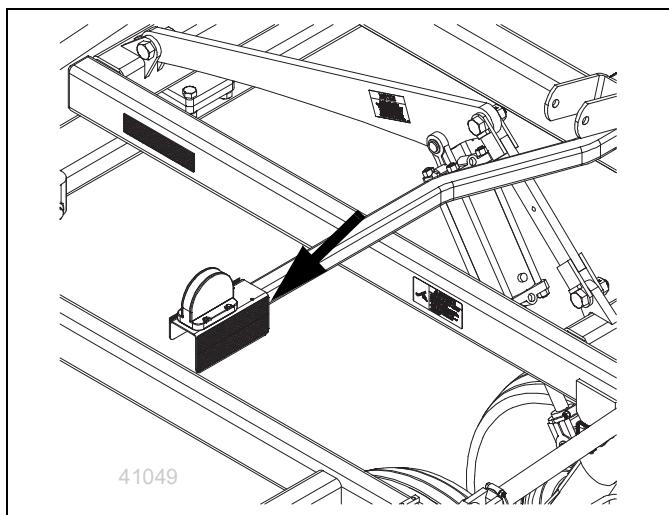
838-615C Amber Reflectors

Two on front of light brackets. Two on outside of center frame (both sides). (Two on front of rear wing gang hanger, instead of front of light bracket, Model 1200 only, not shown). Two on rear of finishing attachment (not shown), visible from side while folded for transport; 8 total



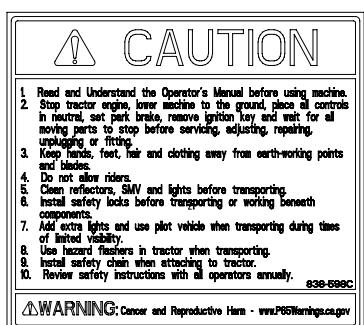
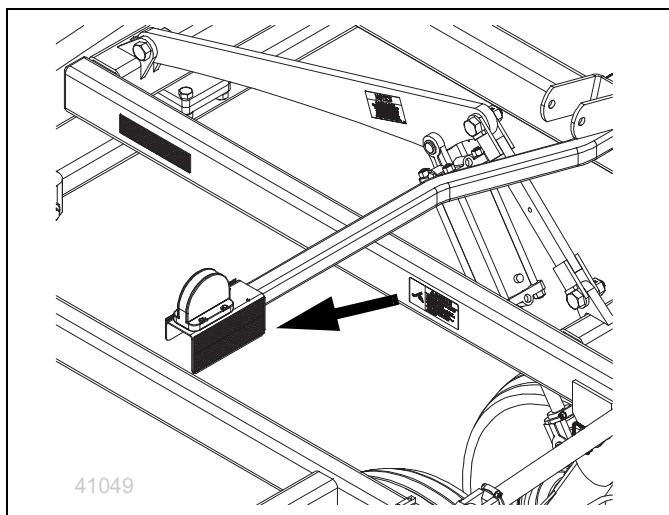
838-614C Red Reflectors

On rear of light brackets (top);
2 total



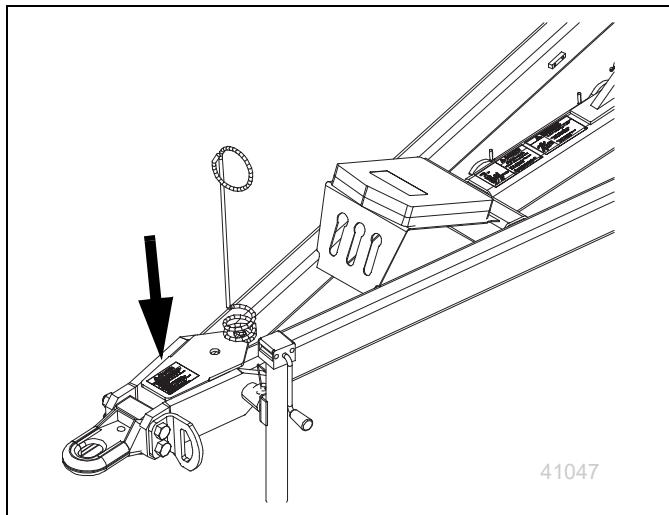
838-603C Orange Reflectors

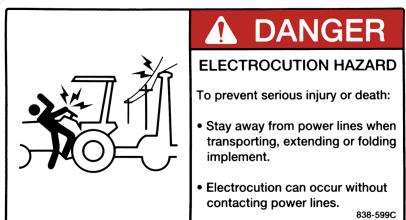
On rear of light brackets (bottom);
2 total



838-598C Caution: Read Operator's Manual

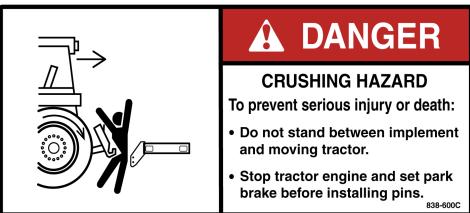
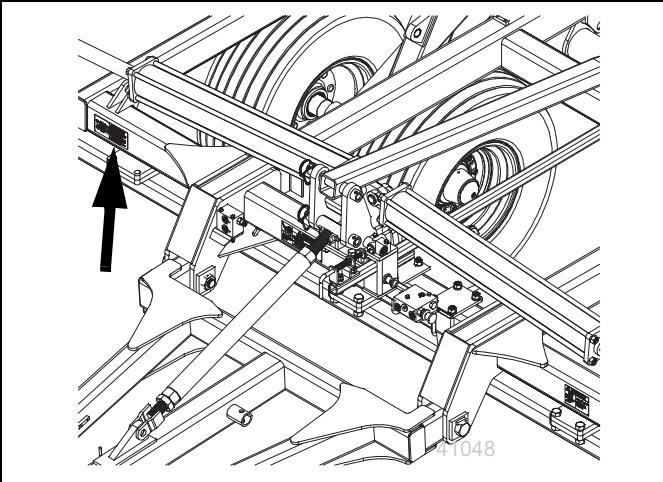
On front of hitch;
1 total





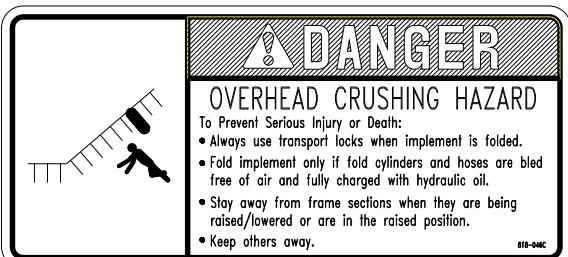
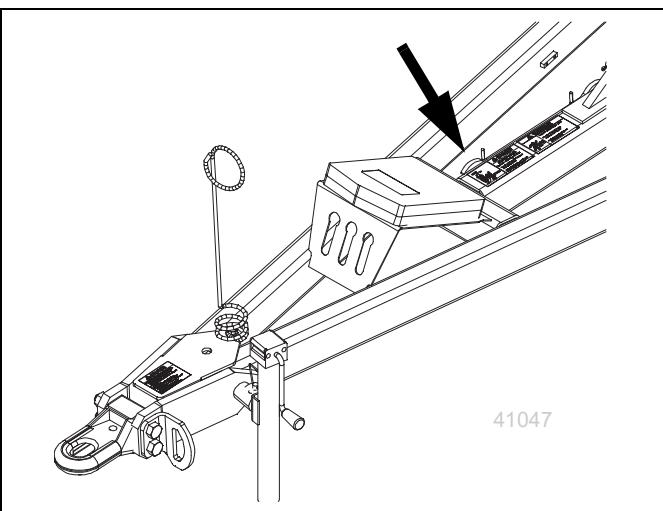
838-599C Danger: Electrocution Hazard

Front side of center frame (right side);
1 total



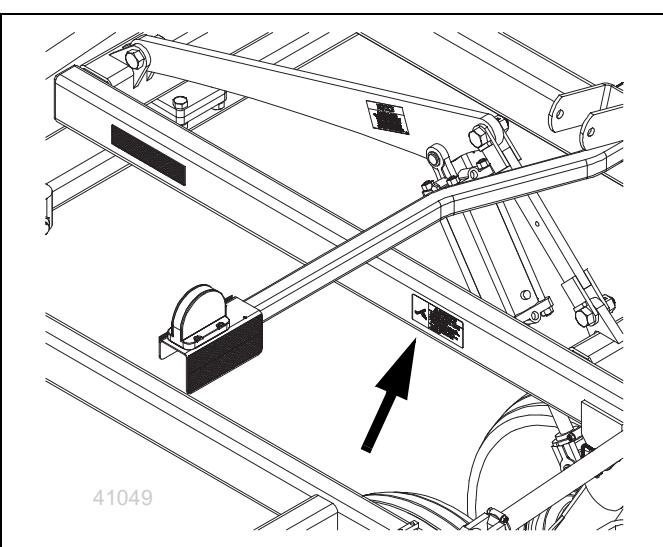
838-600C Danger: Crushing Hazard

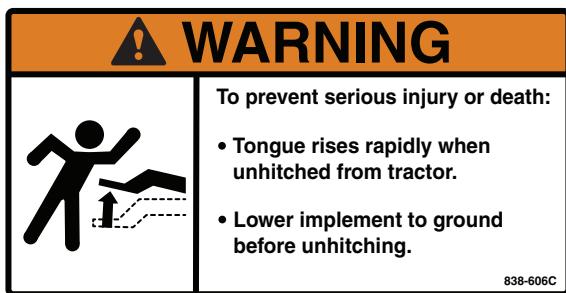
Center tube of hitch (front);
1 total



818-046C Danger: Overhead Crushing Hazard

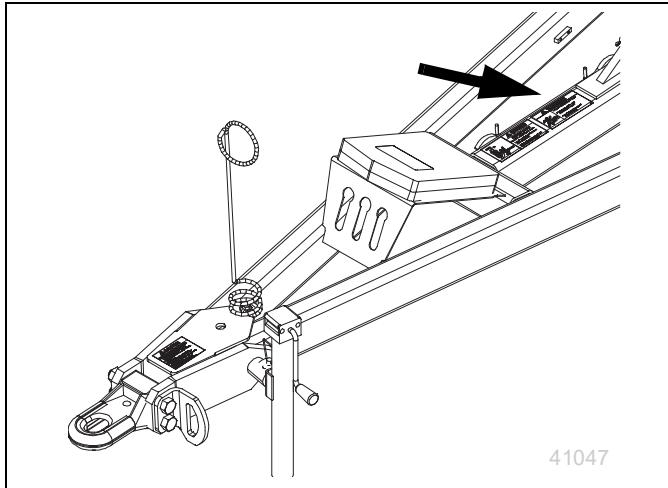
Outside, center of center frame (both sides);
2 total





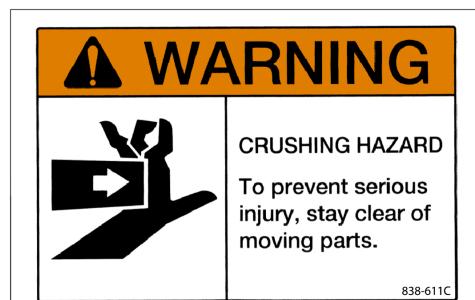
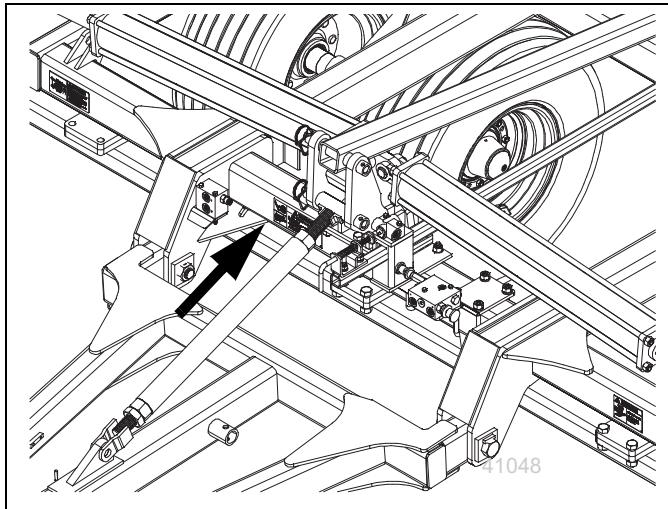
838-606C Warning: Tongue Rising

Front of hitch (rear);
1 total



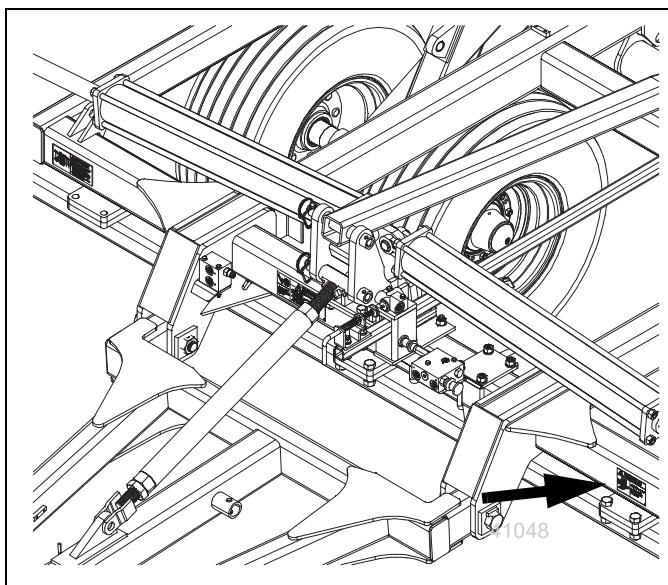
838-094C Warning: High Pressure Fluid

Front of center frame (middle);
1 total



838-611C Warning: Hand Crushing

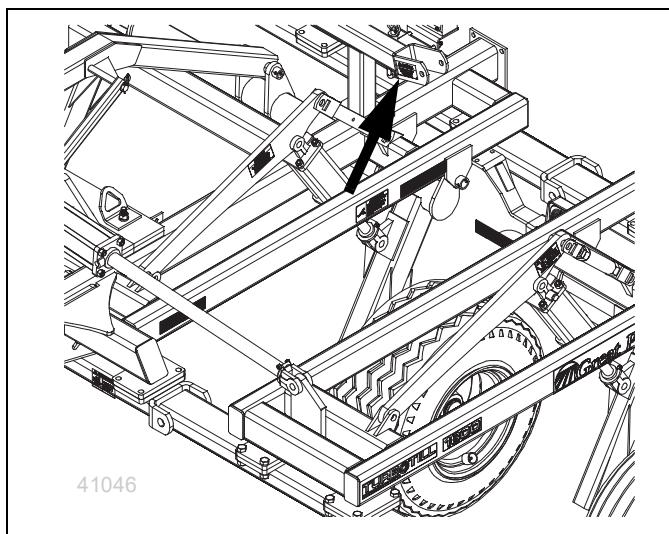
Front side of center frame (left);
1 total





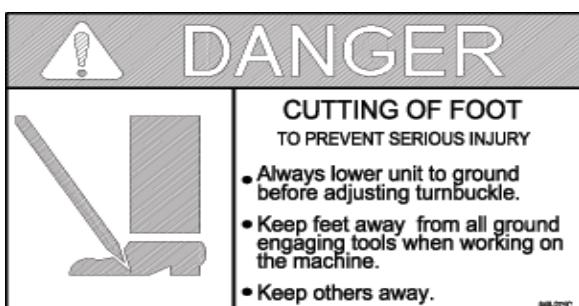
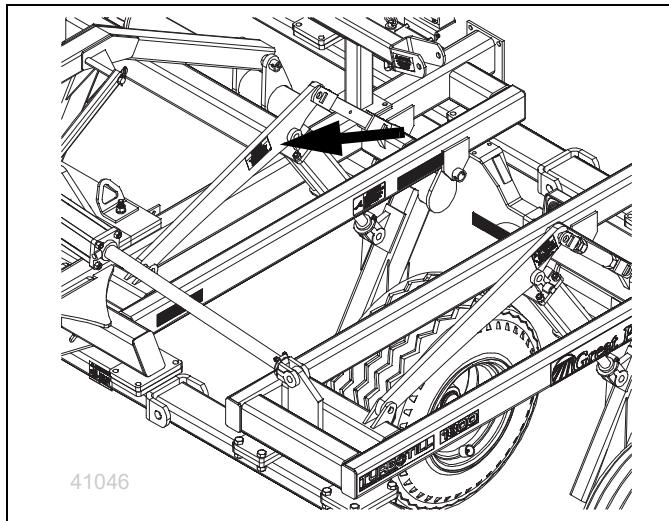
838-612C Warning: Wings Could Fall

Outside of wing stop (both sides);
2 total



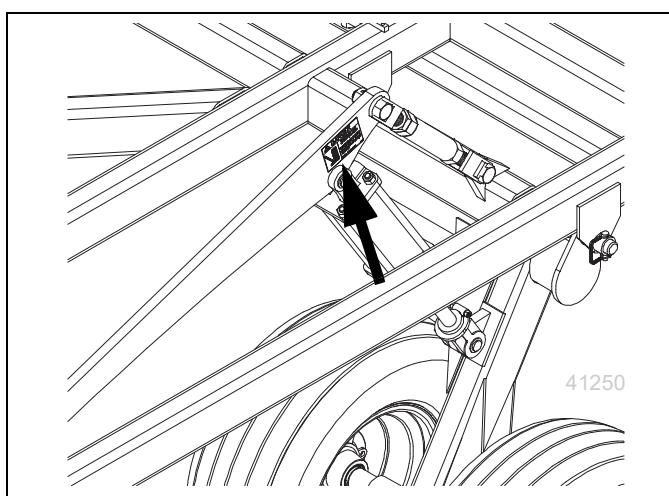
838-613C Notice: Transport Lock

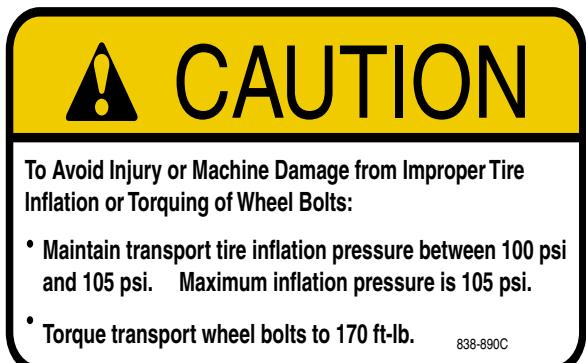
Outside of cylinder mount bar (both sides);
2 total



848-271C Danger: Cutting Of Foot

Outside of wing cylinder mount bar (both sides);
2 total Models 1800-4000

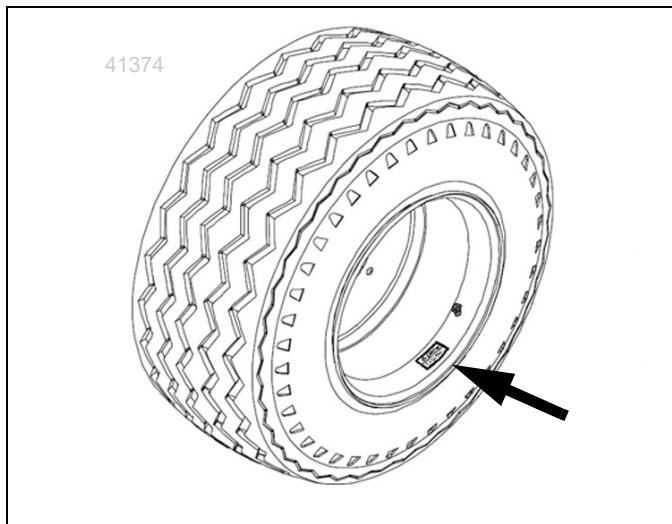




838-890C

Caution: Tire Pressure

On outside of truss (both sides);
2 total



Introduction

Great Plains welcomes you to our growing family of new product owners. The Turbo-Till 1200-4000TT have been designed with care and built by skilled workers using quality materials. Proper setup, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

Models Covered

1200TT	12' (10in) spacing
1500TT	15' (10in) spacing
1800TT	18' (10in) spacing
2400TT	24' (10in) spacing
3000TT	30' (10in) spacing
4000TT	40' (10in) spacing

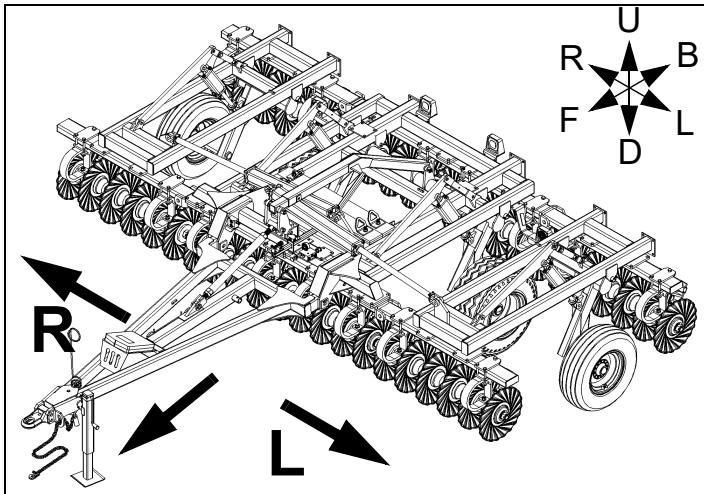


Figure 1
1800TT Turbo-Till

41478

Description of Unit

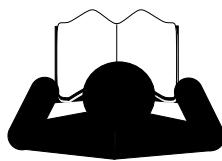
The Series II 1200TT-4000TT Turbo-Till is a one, three or five section "vertical" tillage tool. Working width ranges from 12 to 40 feet. The implement is designed to cut and size residue, till soil for faster seedbed warming, break up soil crust on hard dried fields while eliminating compaction layers. Various finishing attachments are also available to further smooth, redistribute residue, kill weeds, and break clods

Document Family

586-201Q	Pre-Delivery Manual
586-201M	Operator Manual (this document)
586-201P	Parts Manual

Using This Manual

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



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

Definitions

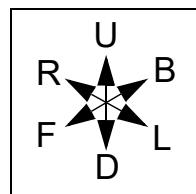
The following terms are used throughout this manual.

NOTICE

A crucial point of information related to the preceding topic. Read and follow the directions to remain safe, avoid serious damage to equipment and ensure desired field results.

Useful information related to the preceding topic.

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



Owner Assistance

If you need customer service or repair parts, contact a Great Plains dealer. They have trained personnel, repair parts and equipment specially designed for Great Plains products.

Refer to Figure 2

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

Record your 1200-4000TT Turbo-Till model and serial number here for quick reference:

Model Number: _____

Serial Number: _____

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

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

Further Assistance

Great Plains Manufacturing, Inc. wants you to be satisfied with your new Turbo-Till. If for any reason you do not understand any part of this manual or are otherwise dissatisfied with the product 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.

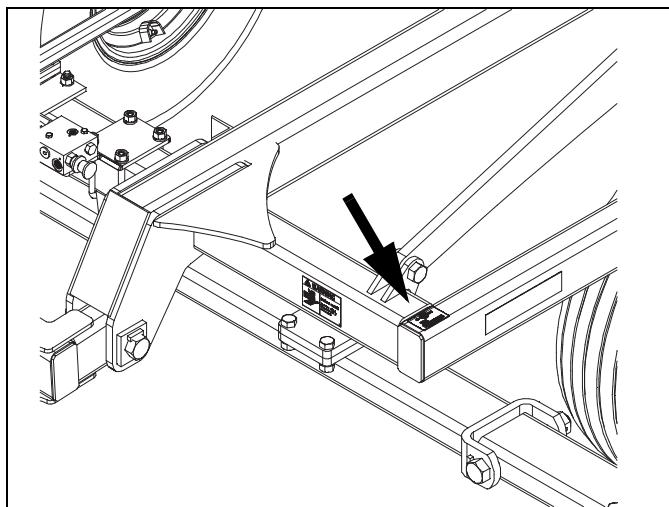


Figure 2
Serial Number Plate

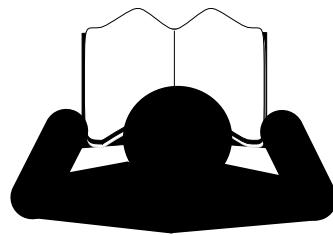
41145



Preparation and Setup

This section helps you prepare your tractor and 1200-4000TT Turbo-Till for use, and covers tasks that need to be done seasonally, or when the tractor/Turbo-Till configuration changes.

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



Prior to Going to the Field Checklist

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 so the implement can do the best possible job.
- Clean all hydraulic couplings and connect to tractor as shown on page 14-16.
- If machine is folded, remove the transport pins from wing stops. (DO NOT remove pins if the wing is leaning against the pins or putting pressure on the pins. Use the hydraulics to pull the wings in completely before unpinning them.) Once the pins are removed, slowly untold the unit. Make sure no one is under the wings during the unfolding process.
- Check again for hydraulic leaks and watch that hoses do not get pinched in hinges, wing stops, etc.

- After the machine is completely unfolded, raise and lower the Turbo-Till several times to purge air from the hydraulic system. Again check for hydraulic leaks and tighten or replace if necessary.
- Check safety chain hookup. Make sure all warning lights are hooked up and functioning correctly.
- Check that all grease fittings are in place and lubricated. See “**Lubrication**” on page 27. The hubs will come pre-greased and will not need greased at this time.
- 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 as specified. See “**Tire Inflation & Warranty**” on page 31.
- Put transport locks in place and refold the machine slowly. Put wing stop pins in place. Always use the transport pins when moving from field to field. You are now ready to go to the field.

Hitching Turbo-Till 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 1200-4000TT Turbo-Till is a pull-type implement equipped with a standard Category IV single tang hitch. It may be converted to a Category III or clevis hitch using supplied accessory parts, see “**Clevis Hitch**” on page 16.

To prevent soil compaction on rows, set tractor wheels between rows. For hillsides and steep slopes, set tractor wheels as wide as possible for maximum stability.

- Raise tractor three-point arms (if equipped) clear up to clear Turbo-Till.
- For TWO-WHEEL DRIVE and MFWD tractors, pin drawbar in fixed center position for field and transport. For FOUR-WHEEL DRIVE and TRAC-DRIVE tractors, leave one hole clearance on each side of drawbar for field position, hitch damage may occur if pinned solid. Pin in center position for transport to maintain maximum steering control.

Refer to Figure 3

- Use jack ① to raise and lower turbo-till tongue.
- Back tractor draw bar into alignment with hitch ②.
- Secure with a locking hitch pin.

CAUTION

Negative Tongue Weight Hazard:

Make certain that turbo-till is securely hitched to the tractor or leading implement before unfolding. An unhitched turbo-till can tip over backwards during folding and unfolding if the tongue is not secured.

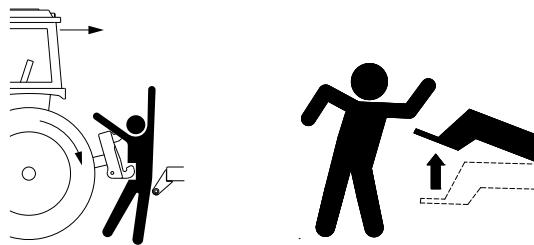
- Secure safety chain to an anchor on the tractor.

Refer to Figure 4

- Retract jack foot. Re-orient jack to storage position.
- After hitching tractor to turbo-till, store jack on storage stob ③ on Turbo-Till tongue.

Load Sway Hazard:

- Lock drawbar swing to center position to minimize any side-to-side sway to assure proper tracking in the field, and safe road travel. See “**Transport**” on page 18, for safe transporting.



DANGER

Crushing Hazard:

Do not stand or place any body part between turbo-till and moving tractor. You may be severely injured or killed by being crushed between the tractor and turbo-till. Stop tractor engine and set parking brake before attaching cables and hoses.

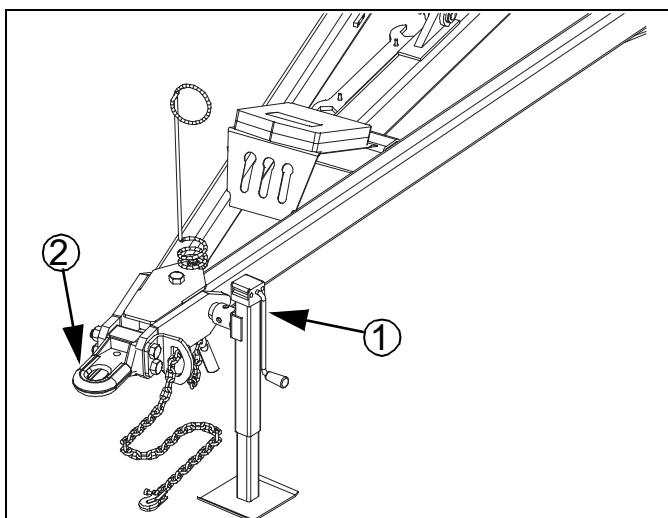


Figure 3
Jack & Hitch Clevis

42058

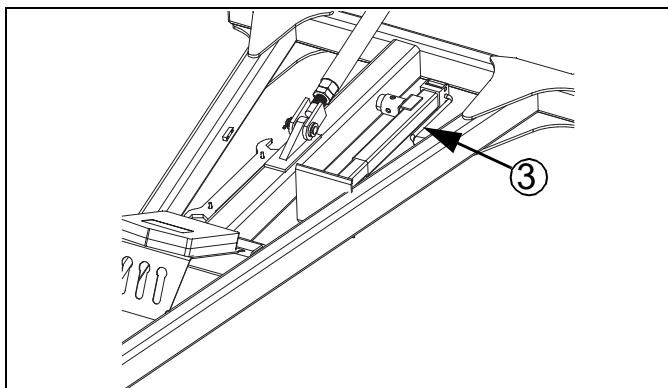


Figure 4
Jack in Storage

42059

Electrical Hookup

Refer to Figure 5

Your Turbo-Till is equipped with North American Lights.

Plug the lighting connector into the tractor outlet.

Test the lights and signaling prior to highway movement.

Hydraulic Hose Hookup

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

Color	Hydraulic Function
Black	Lift (2 hoses)
Green	Fold (2 hoses)



Figure 5
North American Connector

25236

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. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

Use paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

Refer to Figure 6

To distinguish hoses on the same hydraulic circuit, refer to hose label.

- The hose with an extended-cylinder symbol feeds a cylinder base end.
- The hose with a retracted-cylinder symbol feeds a cylinder rod end.

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

To distinguish hoses on the same hydraulic circuit, refer to, **“Hydraulic Hose Hookup”** on page 15. Clean all hydraulic couplings and hook hoses to tractor.

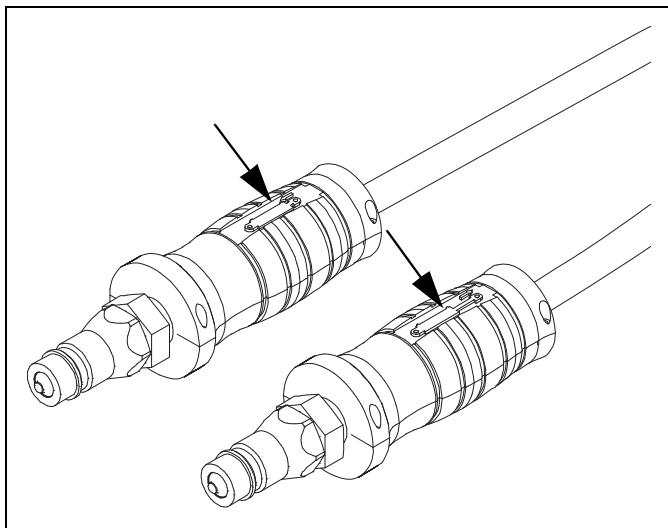


Figure 6
Hose Handles

31733

Clevis Hitch

Refer to Figure 7

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.

1. Select one each:
⑧ 890-798C HITCH CLEVIS
④ 802-487C HHCS 3/4-10X6 GR8
⑥ 803-367C NUT HEX TOP LOCK 3/4-10 PLT
2. With the square-shouldered end of the clevis ⑧ up, fully seat the clevis in the upright base hitch ③. Insert the Grade 8 bolt ④ from below. Secure with lock nut ⑥.

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 must be inverted (with the recessed notch on the top) for this configuration. Set the V-block ⑦ to allow some vertical articulation of the draw bar pin. Always use at least one cushion ⑧.

1. Select one each:
⑨ PPI-302V TOP PLATE - CAT 3
⑦ PPI-203VR V-BLOCK
④ 802-383C HHCS 3/4-10X3 GR5
 and two:
⑧ PPI-205H CUSHION
2. Set the cushions inside the hitch recess ⑧, just forward of the vertical bolt hole. Position the V-block ⑦ forward of the cushions and check the size of the resulting pinning hole. Remove a cushion if needed.
3. Add the top plate ⑨. Secure from below with Grade 5 bolt ④.

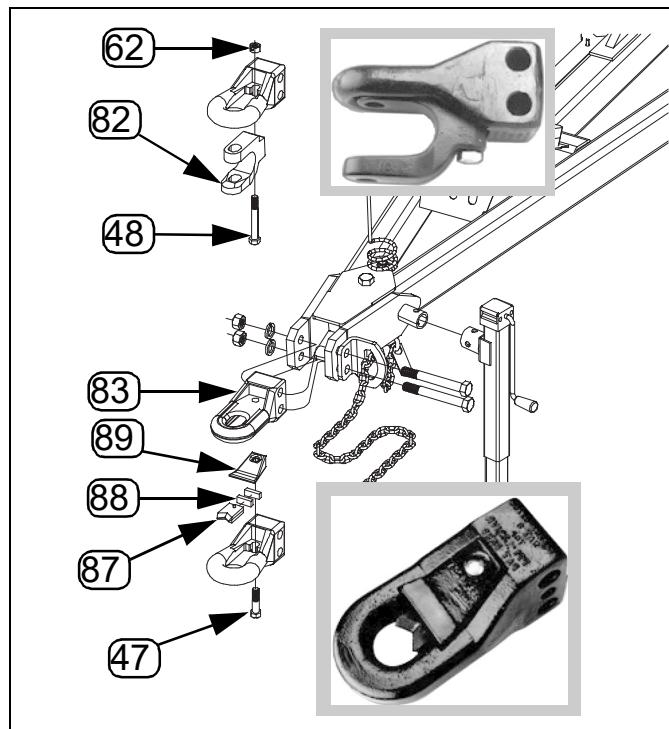


Figure 7
Configure Hitch

31740
42060
31741



Operating Instructions

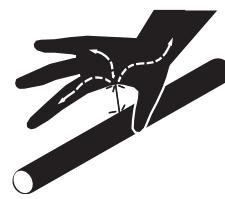
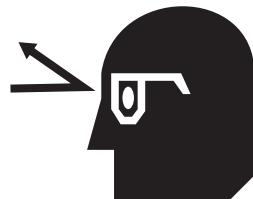
This section covers general operating procedures. Experience, machine familiarity, and the following information will lead to efficient operation and good working habits. Always operate farm machinery with safety in mind.

Pre-Start Checklist

Perform the following steps before transporting the 1200-4000TT Turbo-Till to the field.

- Carefully read “**Important Safety Information**” on page 1.
- Lubricate Turbo-Till as indicated under “**Lubrication**” on page 27.
- Check all tires for proper inflation, “**Tire Inflation & Warranty**” on page 31.
- Check all bolts, pins, and fasteners. Torque as shown in “**Torque Values Chart**” on page 33.
- Check Turbo-Till for worn or damaged parts. Repair or replace parts before going to the field.

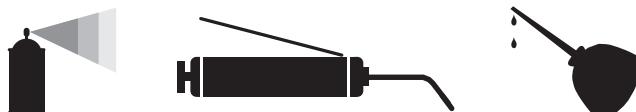
Check hydraulic hoses, fittings, and cylinders for leaks. Repair or replace before going to the field.



WARNING

High Pressure Fluid Hazard:

Relieve pressure and shut down tractor before connecting, disconnecting or checking 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.



Transport

DANGER

Loss of Control Hazard:

Do not tow the turbo-till behind another implement on public roads. Tow the turbo-till to the field with a separate vehicle. The leading implement may not provide sufficient lateral control of a trailing implement at highway 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.

See tables below for harrow transport weights.

DANGER

Braking and Loss of Control Hazard:

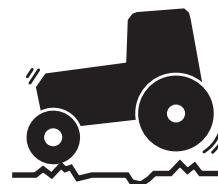
Do not exceed 20 mph (32 kph). Slow down on rough roads.

Transport Steps

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

1. Check that implement is securely hitched to a sufficient tractor (page 14).
2. Always use a locking-style hitch pin sized to match holes in hitch and draw-bar, and rated for the load.
3. Attach safety chain to tractor with enough slack to permit turning (page 14).
4. Verify correct operation of lights.

5. Instal transport locks (page 20).
6. Check that tires are properly inflated (page 31).
7. Plan the route. Avoid steep hills.
8. Always have lights on for highway operation.
9. Do not exceed 32 kph (20 mph). Comply with all national, regional and local laws when traveling on public roads.
10. Remember that the implement may be wider than the towing vehicle. Allow safe clearance.



Field Operation

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

NOTICE

Equipment Damage Risk:

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

Field Set-Up Checklists

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

Final Checklist

Mechanical Checklist	Page
q Turbo-Till hitched	14
q Hitch pin locked	-
q Safety chain secured to tractor or leading implement	14
q Parking jack stowed	14
q Check all tire pressures	31
q Transport locks and locking valves are in the field position	20

Null4.aac:

Hydraulic System Checklist	Page
q Check tractor hydraulic reservoir full	-
q Make hydraulic connections	15
q Inspect connections for leaks	-
q Unfold Implement	-

Electrical Checklist	Page
q Verify electrical hookups solid, or connector securely stowed if not using lights in field.	15

Perform all steps in “**Pre-Start Checklist**” on page 17 and “**Final Checklist**” on page 19.

First Pass Operation Checklist	Page
1. Implement unfolded and aligned for first pass.	-
2. Pull forward, lower Turbo-Till, and begin tilling for a short distance.	-
3. Stop. Assess:	-
• coulter depth	
• finishing attachment operation	
4. Make necessary adjustments	22

Sharp Field Turns Checklist	Page
1. Raise Turbo-Till	-
2. Make turn	-
3. Lower Turbo-Till	-
4. Resume tilling.	-

NOTICE

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' before resumption of tilling.

Ending Tilling Checklist	Page
1. Suspend operations as above	-
2. Lift implement	-
3. Set tractor for fold	20
4. Fold wings	-
5. Place transport locks in transport position	20
6. Lower implement on to transport locks	-
7. Lights ON for transport	-

Transport Locks

Refer to Figure 8

11. Once the cylinders are connected, raise the unit completely. If the transport locks ① are in place, remove them at this time.
12. Store the transport locks ② in hole of the lift mechanism link.



Figure 8
Transport Locks

42066

Wing Fold

Refer to Figure 9

13. If wing stop pins ① are installed remove pins from wing stop clevis ②.
14. Install pin in storage tube ③ on wing stop.
15. Once the transport locks and wing stop pins are removed, unfold the wings (if folding unit).
16. Make sure no one is under the wings during the unfolding process. Watch for leaks and make sure hoses do not get pinched during the initial unfolding process.
17. Once the machine is unfolded, raise and lower the machine several times to purge air from the lift system. Again, watch for any leaks and tighten if necessary.



Figure 9
Wing Fold Pins

42067

Pre-Leveling of Machine

- 18. Pre-leveling of machine should be done on a good level surface.

Front to Rear Leveling

Refer to Figure 10

19. Lower machine so front coulters gangs are 1-2" off of ground. Loosen jam nut ① with turnbuckle wrench ② (stored on center tube pegs of hitch). Adjust the turnbuckle ③ at the front of machine to level it front to back. (Shorten to bring front down, extend to bring front up).
20. When the front coulter gangs are the same distance off ground as rear coulter gangs retighten jam nut ①.

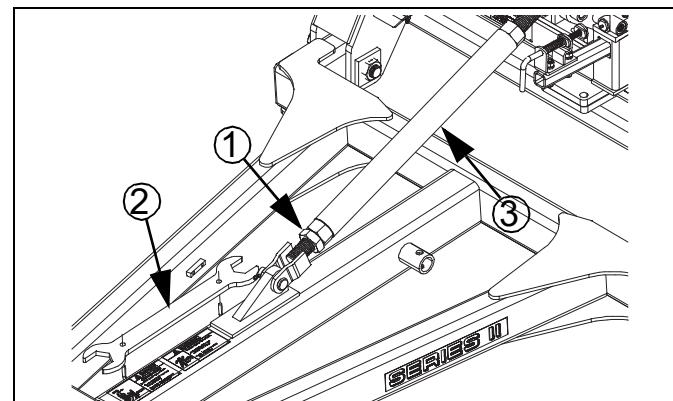


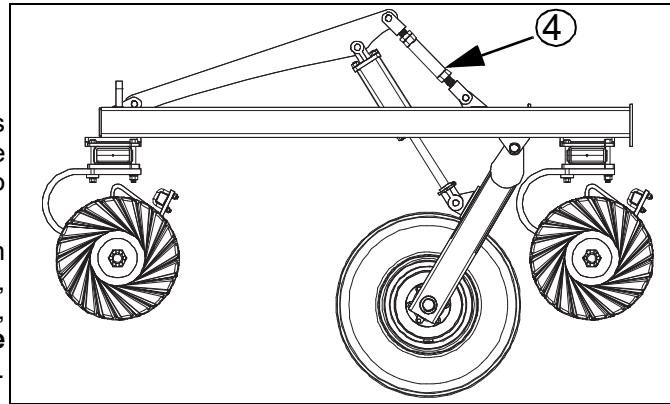
Figure 10
Hitch Turnbuckle Adjustment

42069

Wing Adjustment (3-Section Wings)

Refer to Figure 11

19. Once the machine is level fore to aft, the wings may be leveled. Start by unfolding the wings.
20. Set the wings to match the depth of the center. This is done by adjusting the wing lift turnbuckles ④ in same manner as the hitch turnbuckle (Shorten turnbuckle to run shallower, lengthen the turnbuckle to run deeper).
-  Wing pressure can be affected by the hydraulic down down pressure feature. If wings are running too high, increase hydraulic down pressure setting, too low, decrease down pressure setting. See "**Bypass Valve Adjustments**" on page 24 for initial setup and operation.



Coulter Spring Adjustment

Refer to Figure 12

21. Coulter springs are preset at 10 inches, giving the coulters an initial operating force of 400 pounds. This setting is adequate for many no-till conditions. For lighter no-till conditions where rocks or other obstructions are a problem, you can lengthen the springs to protect the coulters from impact.

Spring Length	Force
10.25" (26.04cm)	300lbs (136kg)
10" (25.4cm)	400lbs (181kg)
9.75" (24.77cm)	525lbs (238kg)

-  Setting the coulter spring ① length shorter than 9.75" may contribute to premature failure of parts and voids the warranty. If additional force is needed, add weights to the implement

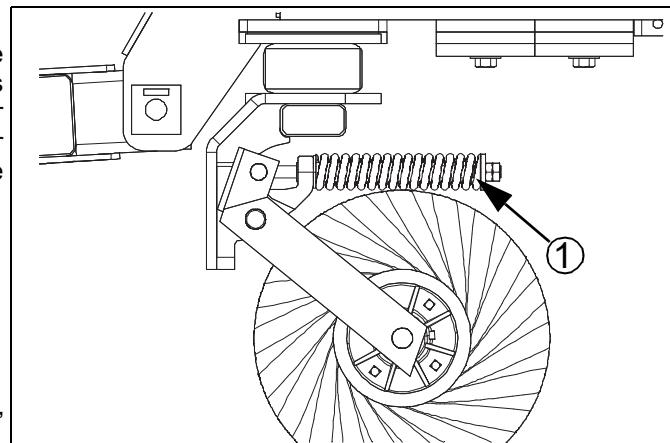


Figure 12
Coulter Spring

Detracker Height Adjustment (Optional)

Refer to Figure 13

-  Adjust detracker coulter springs ① like shown above, See "**Coulter Spring Adjustment**" on page 21.
- 22. The initial height of the detracker coulter assemblies is 1 1/2" - 2" deeper than the machine gangs. To adjust the height, loosen the set screws ② on the clamp shanks ③ and slide the shank up or down to the desired height, then re-tighten set screws.
-  May need to adjust coulter height for different field conditions.
- 23. Be sure all bolts are tightened to specs, See "**Torque Values Chart**" on page 33.

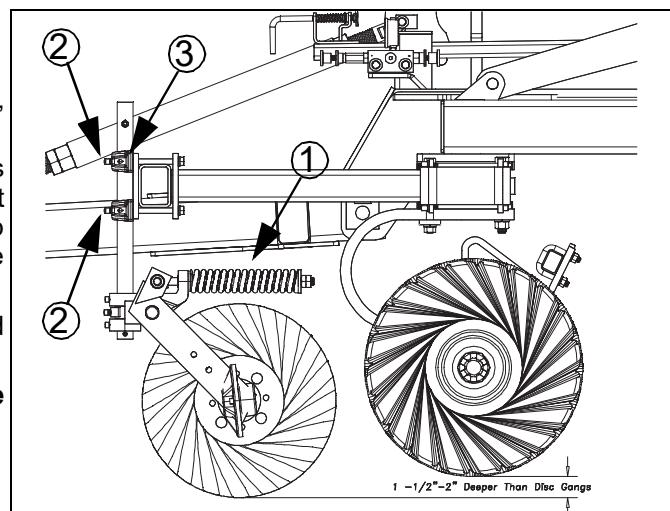


Figure 13
Detracker Adjustment

General Operation and In-Field Adjustments

24. Remove the transport pins, see “**Transport Locks**” on page 20 and unfold machine. Make sure the fold cylinders are fully extended to allow the wings to fully flex in the field.
25. Set the hydraulic down pressure using the instructions, see “**Bypass Valve Adjustments**” on page 24.

CAUTION

Never leave tractor valve centered when unfolded with machine in motion. Machine damage may occur when wings flex. The hydraulic down pressure cylinders have no wing flex capability and oil flow is required when the wings flex up or down. You must have the tractor fold hydraulic lever in continuous downward flow or “float” position before the wings can flex over terrain in the raised or lower lift position.

26. If possible have someone observe the machine during first time operation for levelness—front to rear and wings to center frame. Adjust each as needed. For front to rear, either extend or shorten the length of the turnbuckle on the self-leveling system. Never run the machine with the back lower (deeper) than the front. To adjust the machine from side to side, use the lift turnbuckle on each wing
27. For best results, if at all possible, run the machine at a slight angle to the rows. This will improve trash flow and help spread the residue more evenly throughout the field.

Depth Stop

Refer to Figure 14

28. When you have machine level and set to the desired working depth, set the depth stop ① on the depth stop tube ②. This is located at the front of the machine. This will maintain a constant depth each time after raising and lowering machine. One full turn of the handle ③ will change the depth approximately 1/4”.
- NOTE:** 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 ④ on the depth stop, 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 1/2 to 1 full second after full raise. If it runs longer than this, damage to the seals of the lift cylinders may result.

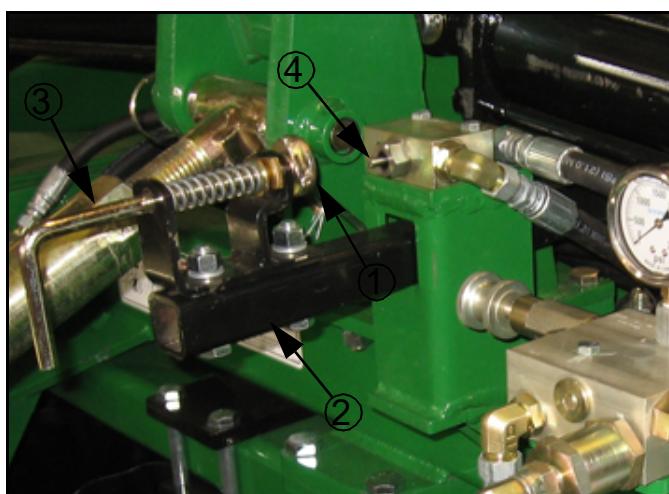


Figure 14
Depth Stop Adjustment

42070

Spike Drag

Refer to Figure 15

29. Adjust the drag to leave the desired results while maintaining the trash flow through the drag.
30. On the spike drag, start with 5 links hanging from the chain in drag arm bottom slot. (This is the starting point for worst conditions.) The cleaner the ground, the shorter the pull chain may be pulled up. On the spike drag, one of the links in the first row of angles is turned over. This allows the trash to start flowing through the drag easier by changing the angle of the first row of teeth. Always make sure that the drag is never pulling off the hang chains. If so, shorten pull chains.

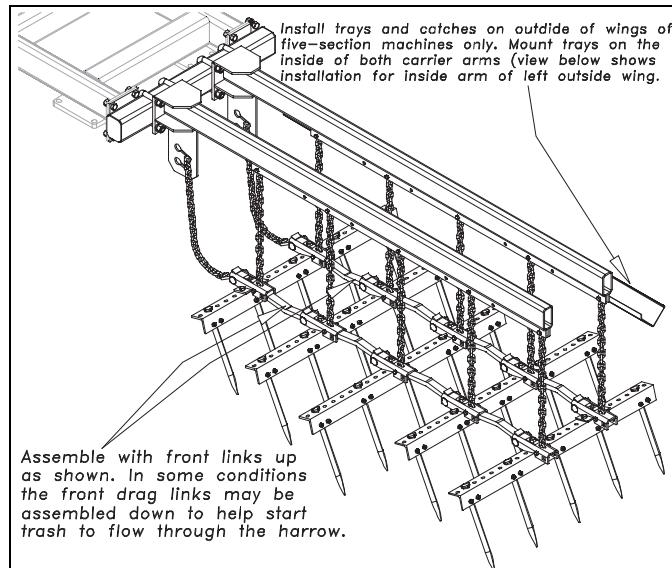


Figure 15
Spike Drag Adjustment

41235

Reel

Refer to Figure 16

WARNING

Be sure reels are installed with twisted bars oriented forward as shown. Mounting backward can damage reel in rocky soil

31. For an initial starting point, set the pre-load on the reel arm assembly so that 1/8" of thread is showing on the end of spring bolt ①.
32. Set the pre-load on the eye bolt ② to 3" from the pin of the eyebolt to the top of the 3/4" jam nut, ③ this is also just an initial starting point.
33. You may need to adjust the eyebolt ② to change the down pressure. Extend the eyebolt to increase the down pressure. Retract the eyebolt to decrease the pressure. If the eyebolt is extended to an extreme it will reduce the road clearance of the reel. To fix this, tighten the lock nut ④ on the end of the spring bolt. This will raise the reel during transport. After any adjustments be sure the eyebolt pin is horizontal to the machine frame and that the jam nuts are properly tightened.
34. The bars on the reels are angled forward ⑤ and should be installed as such on machine. In some conditions in which a firming of the soil is more desirable than breaking up clods then these reels can be mounted in reverse ⑥. This does however increase the chance of causing damage to the bars in rocky soil.

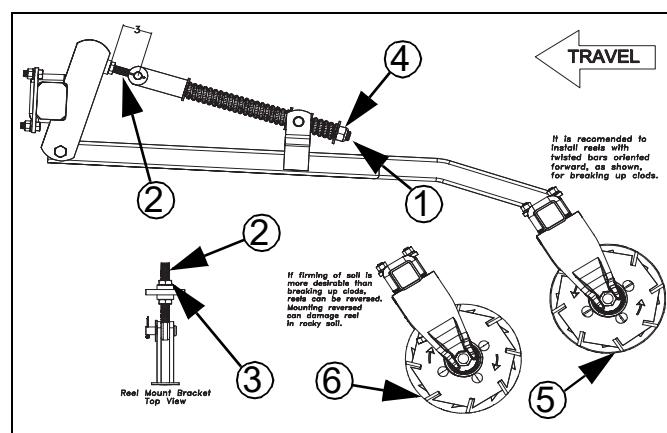


Figure 16
Reel Adjustment & Direction

43296

Setting the Rolling Harrow and Reel

Refer to Figure 16

35. The rolling harrow ① and reel attachment ② is a very versatile leveling attachment and requires very little adjustment. The rolling harrow sections come preset at 22 degrees and should not need to be modified. In some severe conditions at high speeds, some windrowing may occur and the gang angle may need to be reduced slightly. When adjusting this, be careful to maintain adequate clearance between sections in the field position as to not cause damage to the units.



Figure 17
Reel Adjustment

42254

36. The reel down pressure may be adjusted by loosening the jam nut ③ and then either increasing or decreasing the spring pressure ④. When the desired amount of spring pressure is set, re-tighten the jam nut ③. Note: It is recommended to run little or no down pressure in wet or sticky field conditions.

Refer to Figure 18

37. The bars on the reels are angled forward ⑤ and should be installed as such on the machine. In some conditions in which a firming of the soil is more desirable than breaking up clods then these reels can be mounted in reverse ⑥. This does however increase the chance of causing damage to the bars in rocky soil.

WARNING

Be sure reels are installed with twisted bars oriented forward ⑤ as shown. Mounting in reverse ⑥ can damage reel in rocky soil.

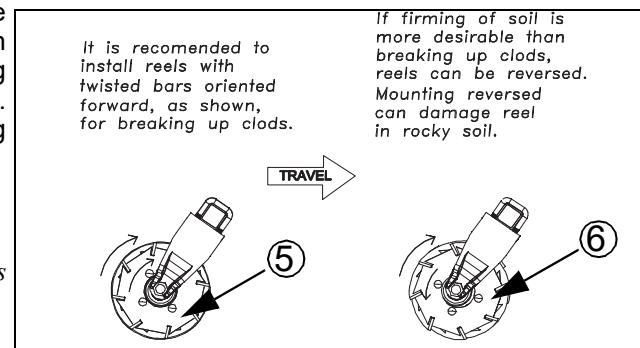


Figure 18
Reel Direction

42284

Bypass Valve Adjustments

1800-3000 Hydraulic Down Pressure

Refer to Figure 19

Note: This setup procedure is for tractors with closed-center or pressure compensated flow hydraulic systems. Open center hydraulics not supported. Adjust down pressure valve as shown on decal ③ (located on front of left side of center frame) *Refer to Figure 20.*

CAUTION

Never leave tractor valve centered when unfolded with machine in motion. Machine damage may occur when wings flex up or down

CAUTION

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. If your tractor has an OPEN CENTER hydraulics, please consult your dealer for operating instructions.

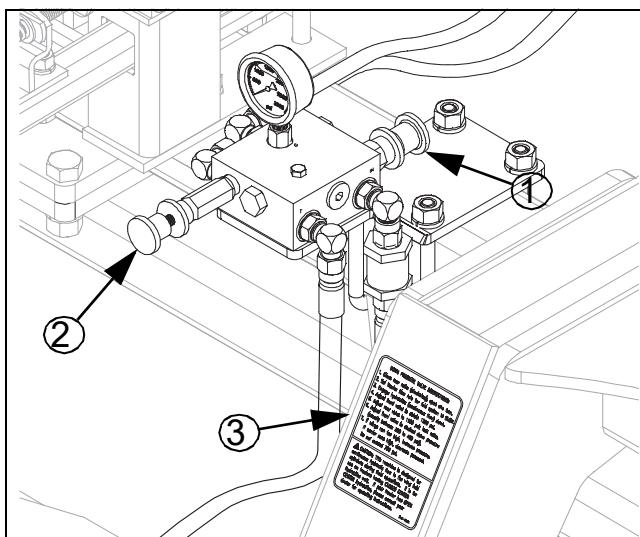


Figure 19
1800-3000 Down Pressure

41068

38. Adjust the bypass/pressure reducing valve by turning knob ①, clockwise all the way in and then backing out 1 full turn.
39. On tractor, adjust flow-control valve to low side of flow rate.
- ⚠** The faster the flow of oil through the system the greater potential for oil heating, premature wear or tractor damage.
40. Lock the fold hydraulic lever for continuous downward oil flow.
41. Adjust bypass/pressure reducing valve knob ② on implement so the pressure gauge reads 1200 psi. Never exceed 1400 psi.
42. While watching pressure gauge, slowly open valve knob ① until gauge reads 1100 psi. Pressure might rise and then fall off as knob is opened. If pressure exceeds 1400 psi during this step, the tractor flow is too high, reduce tractor flow. Lock valve knob ① at 1100 psi.
43. Finally adjust valve ② to the desired wing down pressure setting of 300 to 400 psi. Never exceed 700 psi.
44. In field operation, Lock the fold hydraulic lever for continuous downward oil flow. If wings are running too high, increase pressure setting, knob ②, to level machine. If center is too high, decrease pressure setting with knob ② on valve. Never leave tractor valve centered when unfolded with machine in motion. Machine damage may occur when wings flex up or down.

4000 Hydraulic Down Pressure

Refer to Figure 21

- ⚠** This setup procedure is for tractors with closed-center or pressure compensated flow hydraulic systems. Open center hydraulics not supported. Adjust down pressure valve as shown on decal ④ (located on front of left side of center frame) **Refer to Figure 22**

⚠ CAUTION

Never leave tractor valve centered when unfolded with machine in motion. Machine damage may occur when wings flex up or down

⚠ CAUTION

This machine is designed for continuos hydraulic flow to the wing fold cylinders during field operations. It is for use on tractors having CLOSED CENTER hydraulics only. If your tractor has an OPEN CENTER hydraulics, please consult your dealer for operating instructions.

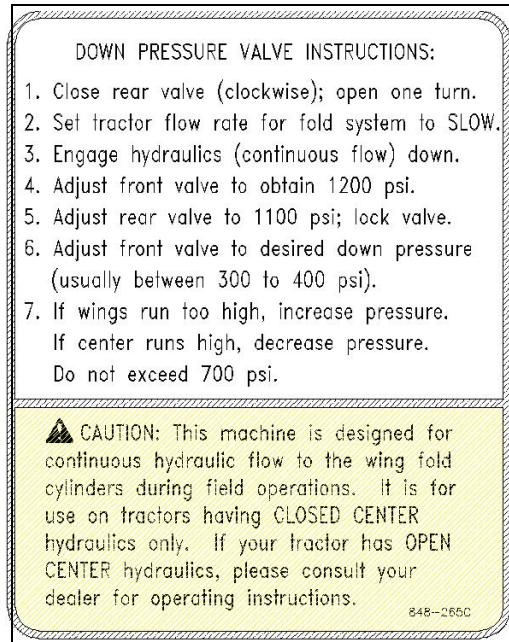


Figure 20
1800-3000 Down Pressure Decal

848-265C

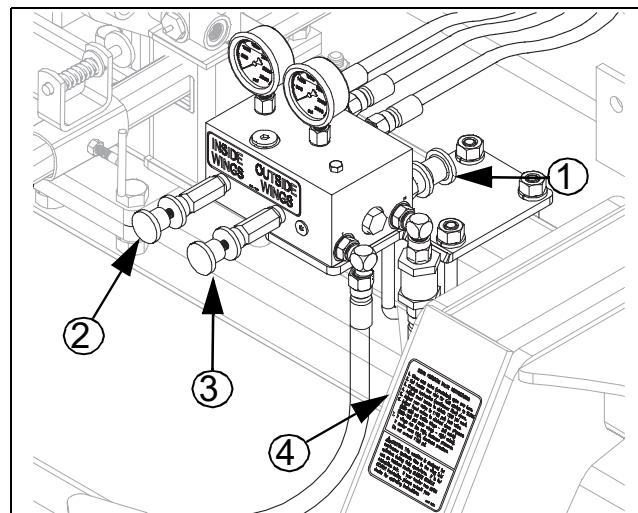


Figure 21
4000 Down Pressure

41069
848-266C

45. Adjust the bypass valve by turning knob ① clockwise all the way in and then backing out 1 full turn.
46. On tractor, adjust flow-control valve to low side of flow rate.
47. The faster the flow of oil through the system the greater potential for oil heating, premature wear or tractor damage.
48. Lock the fold hydraulic lever for continuous downward oil flow.
49. Adjust pressure reducing valves knob ② and ③ on implement so the pressure gauges reads 1200 psi each. Never exceed 1400 psi.
50. While watching pressure gauges, slowly open bypass valve, knob ① until gauges read around 1100 psi. Pressure might rise and then fall off as knob is opened. If pressure exceeds 1400 psi during this step, the tractor flow is too high, reduce tractor flow. Lock bypass valve knob ① at 1100 psi.
51. Finally adjust valve knob ② to 650-900 psi pressure setting, never exceeding 1100 psi. Adjust valve knob (3) to 650-750 psi. pressure setting, never exceeding 1000 psi.
51. *In field operation*, Lock the fold hydraulic lever for continuous downward oil flow. If wings are running too high, increase pressure setting to the appropriate valve, ② and ③, to level machine. If center is too high, decrease pressure setting with knob ② on Inside wing valve.

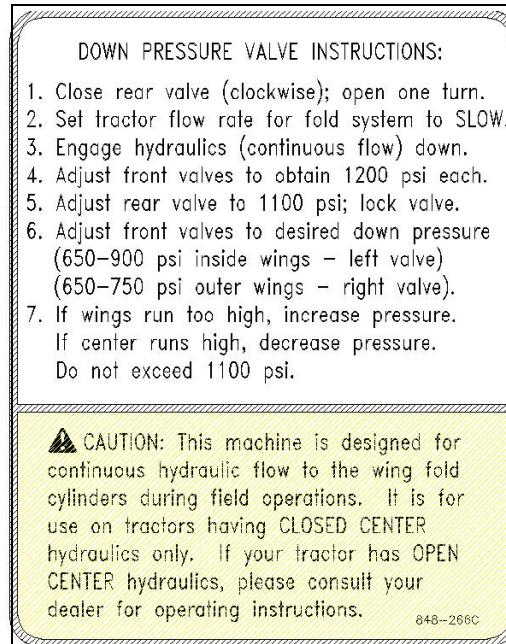


Figure 22
4000 Down Pressure Decal

848-266C

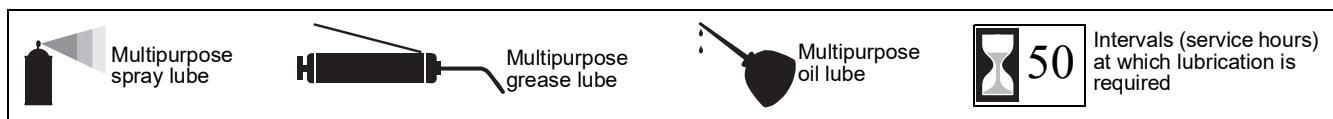


Maintenance and Lubrication

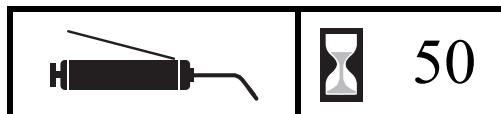
Maintenance

1. Always use the transport lock when working on or doing maintenance to the Turbo-Till. If folded, be sure your wing stop pins are in place. Read and understand all safety decals on your equipment.
2. During the first season of operation, and periodically after that, check your bolts for tightness. Check shank pivot bolts for tightness. Check shank pivot bolts on the spring-loaded shank, these must remain tight to prevent excessive wear on the shank assembly.
3. Replace or rotate worn parts as needed -- hinge bolts, clevis pins, bearings, coulters, etc.
4. Check and tighten or replace any hydraulic leaks. Check hoses for any leaks. It is important that there are no leaks on the equipment.
5. Grease wheel bearings and walking beams sparingly. Over greasing may cause damage to seals and reduce the life of the bearing. Grease hinge points periodically.
6. Check drag bolts for looseness or excessive wear. Replace broken or bent teeth. Your drag is an important part of the tillage operation.
7. If machine is stored outdoors over the winter months, it is a good idea to fold the machine then set

Lubrication



Wheel Bearing Hub



1 zerk on each hub;

Type of Lubrication: Grease

Quantity: Sparingly, Do Not Over Grease, may cause damage to seal.

Rearrange wheel bearings annually or every 2500 acres.

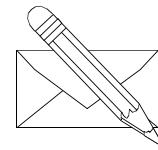
it down on the ground so all the cylinders are retracted to protect the cylinder rods. This will extend the life of the cylinder seals and reduce internal and external leaks.

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

For the most current manual information, visit Great Plains website listed below. For more information on operating, adjusting or maintaining your Great Plains Discovator, assistance is available. Contact:

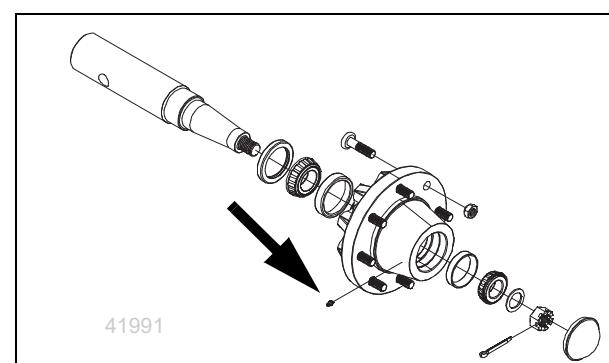
Product Support

Great Plains Mfg. Inc., Service Department
PO Box 5060
Salina, KS 67402-5060



gp_web_cs@greatplainsmfg.com

(800)255-9215



Wing Hinge

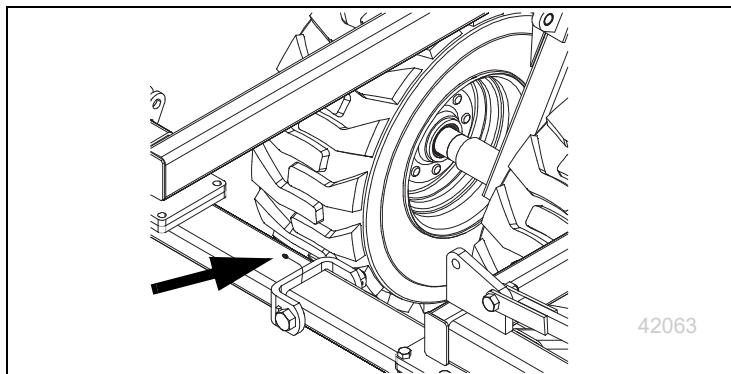


10

One on each wing hinge (3-Section)

Type of Lubrication: Grease

Quantity: Sparingly or 2 pumps



42063

4000 Outer Wing Hinge

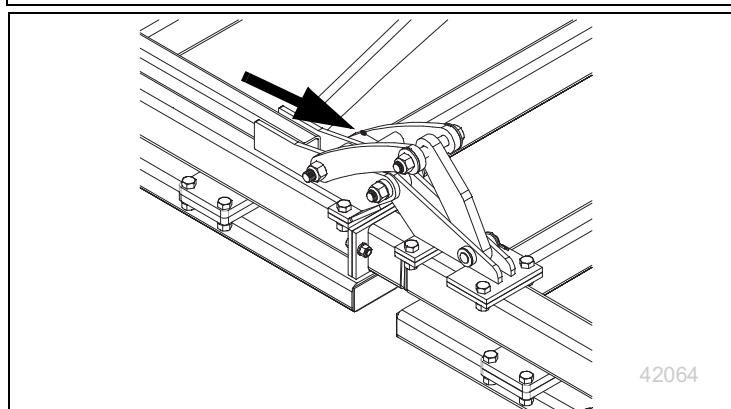


10

One on each outer wing hinge (5-Section)

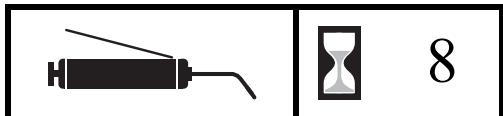
Type of Lubrication: Grease

Quantity: Sparingly or 2 pumps



42064

Rock Gang Coulter Swing Arm Pivot

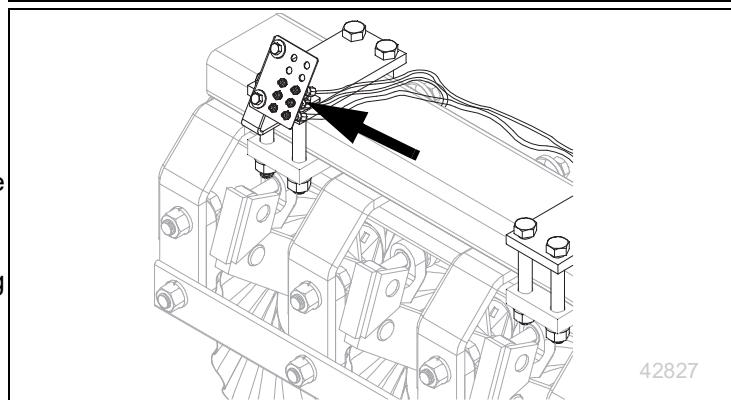


8

Zerks are on grease bank plate on each gang of the rock gang assemblies, grease each zerk

Type of Lubrication: Grease

Quantity: Until grease emerges on each coulter swing arm pivot



42827

Detracker Coulter Swing Arm Pivot

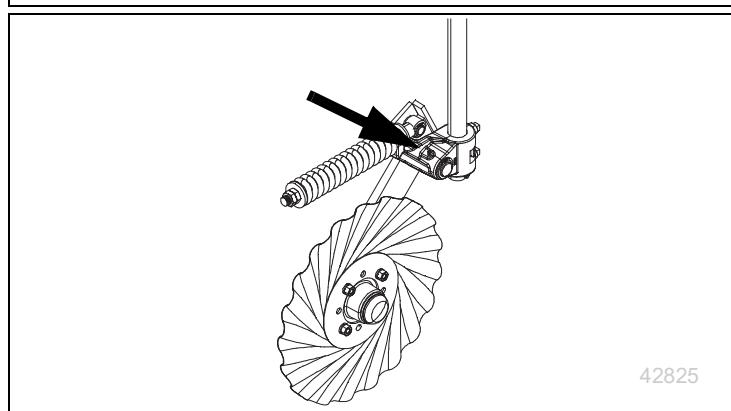


8

Zerk on each detracker coulter assembly

Type of Lubrication: Grease

Quantity: Until grease emerges



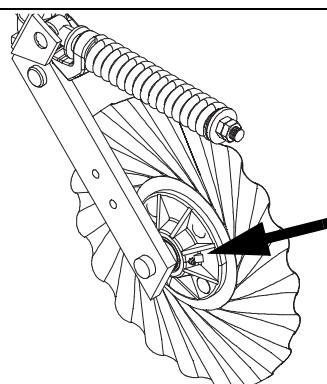
42825

Detracker & Rock Gang Coulter Hub**Seasonally**

Zerk on each coulter hub

Type of Lubrication: Grease

Quantity: Force grease into tapered roller bearings; do not pressurize cavity enough to blow out seal or hub cap



42826



Appendix

TT Series II Specifications and Capacities

Model No.	1200TT	1500TT	1800TT
Tillage Width	12' (3.66 m)	15' (4.60 m)	18' (5.49 m)
Center Section	12' (3.66 m)	15' (4.60 m)	8' (2.43 m)
Wing (Inner)	N/A	N/A	5' (1.52 m)
Wing (Outer)	N/A	N/A	N/A
Number of Coulters	29	37	43
Blade Spacing	10" (.25 m)	10" (.25 m)	10" (.25 m)
Weight (base machine)	5,600 lbs. (2540 kg)	7,420 lbs. (3366 kg)	9,240 lbs. (4191 kg)
Transport Width	12' 3" (3.73 m)	15' 6" (4.72 m)	12' 3" (3.73 m)
Transport Height	N/A	N/A	8' 9" (2.67 m)
Length (w/o attachment)	17' 9" (5.41 m)	17' 9" (5.41 m)	17' 9" (5.41 m)
Tire Size (Center)	11L x 15 F-ply	11L x 15 F-ply	380/55R 16.5 F-ply
Tire Size (Wing)	N/A	N/A	11L x 15 12-ply
Horsepower (PTO)	115-140	140-180	180-230
Kilowatt	86-104	104-135	135-172

Model No.	2400TT	3000TT	4000TT
Tillage Width	24' (7.32 m)	30' (9.14 m)	40' (12.19 m)
Center Section	10' (3.05 m)	10' (3.05 m)	12' (3.66 m)
Wing (Inner)	6' 6" (1.98 m)	10' (3.05 m)	10' (3.05 m)
Wing (Outer)	N/A	N/A	4' (1.22 m)
Number of Coulters	57	73	97
Blade Spacing	10" (.25 m)	10" (.25 m)	10" (.25 m)
Weight (base machine)	11,240 lbs. (5098 kg)	12,900 lbs. (5851 kg)	16,500 lbs. (7484 kg)
Transport Width	15' 6" (4.72 m)	15' 6" (4.72 m)	17, 6" (5.33 m)
Transport Height	10' 3" (3.12 m)	13' 6" (4.11 m)	14' 3" (4.34 m)
Length (w/o attachment)	17' 9" (5.41 m)	17' 9" (5.41 m)	17' 9" (5.41 m)
Tire Size (Center)	11L x 15 F-ply	12.5L x 15 F-ply	380/55R 16.5 F-ply
Tire Size (Wing)	11L x 15 12-ply	11L x 15 12-ply	12.5L x 15 F-ply
Horsepower (PTO)	230-285	285-340	380-450
Kilowatt	172-213	213-254	283-336

With a continued commitment to constantly improving our products, these specifications are subject to change without notice.

Tire Inflation & Warranty

Tire Inflation Chart		
Wheel	Tire Size	Inflation
Wing	11L x 15 8-Ply RI	36 psi (248 kPa)
Wing	11L x 15 12-Ply RI	52 psi (360 kPa)
Transport & Wing	11L x 15 F-Ply RI	90 psi (620 kPa)
Wing	12L x 15 F-Ply RI	90 psi (620 kPa)
Transport & Wing	12L x 15 12-Ply RI	52 psi (360 kPa)
Transport	12.5L x 16.5 Load G Galaxy	105 psi (725 kPa)
Transport	33 x 15.5 x 16.5 14- Ply Skid Steer	70 psi (480 kPa)
Transport	32-1505 x 16.5 Load G Galaxy	105 psi (725 kPa)
Transport	380/55R x 16.5 Load F RI	73 psi (503 kPa)

Tire Warranty Information	
All tires are warranted by the original manufacturer of the tire. Tire warranty information is found in the brochures included with your Operator's and Parts Manuals or online at the manufacturer's web sites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.	

ManufacturerWeb site

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 23 (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 ⑥ 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.

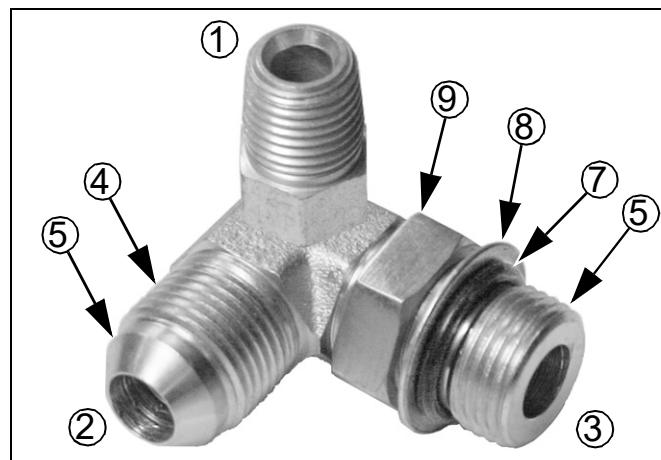


Figure 23
Hydraulic Connector ID

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	5/16-18 JIC	24-27	18-20
-6	5/16-18 ORB w/jam nut	16-22	12-16
-6	5/16-18 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

Torque Values Chart

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

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 torquing values. Unless otherwise specified use torque values listed above.

25199

Gang Bolt Torque 1 3/4"-5**850 Foot-pounds (165 lbs on 5' cheater).****Rolling Harrow Spike Bolt 1 1/2"-650****750 Foot-pounds (175 lbs on 4' cheater).****Wheel Bolt Torque Values****1/2"-20 (75-85 ft-lbs) 9/16"-18 (80-90 ft-lbs) 5/8"-18 (85-100 ft-lbs).**



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

©Great Plains Manufacturing Inc., 2204-GPSV



Index

A	
address, Great Plains	12, 27
amber reflectors	5
B	
bearings	27
bolts	27
C	
Category III	14, 16
Category IV	14
Caution	
Read Operator's Manual	6
CAUTION, defined	1
chain	14
checklists	
electrical	19
ending tilling	19
field	19
field turns	19
first pass	19
hydraulic system	19
mechanical	19
pre-setup	13
pre-start	17
children	2
clevis hitch	16
color code, hose	15
contact Great Plains	27
Coulter Spring Adjustment	21
covered models	11
cushion	16
customer service	12
cylinder symbols	15
D	
Danger	
Crushing Hazard	7
DANGER, defined	1
decal replacement	5
decals	
caution	
read manual	6
tire pressure	10
danger	
crushing	7
cutting of foot	9
electrocution	7
notice	
transport lock	9
overhead crushing hazard	7
pic	
not a step	10
speed	
30km per hr	9, 10
warning	
hand crushing	8
high pressure fluid	8
tongue rising	8
wings could fall	9
decal, safety	5
definitions	11
depth stop	22
directions	11
drag bolts	27
E	
email, Great Plains	27
F	
fire	1
H	
handles, hose	15
high pressure fluid	15
high pressure fluids	2
hills	14, 18
hitch pin	18
hitch turnbuckle adjustment	20
hitching	14
hose handles	15
hoses, hydraulic	15
hydraulic connectors	32
hydraulic hoses	15
hydraulic safety	2
I	
inflation	31
J	
jack	14
JIC	32
Joint Industry Conference	32
J514	32
L	
leaks	2, 27
left-hand, defined	11
lights	2
lubrication	27
M	
Maintenance	27
maintenance safety	4
medical assistance	2, 15, 17
model number	12
N	
National Pipe Thread	32
negative tongue weight	14
Note, defined	11
Notice, defined	11
NPT	32
NTA907HD-3610	11
NTA907HD-4875	11
O	
orange reflector	6
ORB	32
orientation rose	11
O-Ring Boss	32
outside wing hinge	28
owner assistance	12
P	
parts	27
phone number, GP	13
pin, hitch	18
PPI-203VR, block	16
PPI-205H, cushion	16
PPI-302V, plate	16
R	
red reflectors	6
reel	23, 24
reflectors	
amber	5
orange	6
red	6
SMV	5
reflectors, safety	5
repair parts	12
reverse	19
riders	2
right-hand, defined	11
rose, orientation	11
S	
SAE J514	32
safety chain	2, 14
safety decal	5
safety information	1
safety symbol	1
scale	18
serial number	12
setup	13
shutdown	3
slopes	14
SMV (Slow Moving Vehicle)	5
Spanish	6, 7
Specifications and Capacities	30
speed limit	
forward	18
transport	18
Spike Drag	23
storage	3
storing machine	27
support	27
symbol, safety	1
T	
tables	

coulter spring	21	838-615C, reflector	5
document family	11	848-271C, decal	9
fittings torque	32	890-798C, clevis	16
hose color code	15		
models covered	11		
tire inflation	31		
torque values	33		
tilling, ending	19		
tire inflation	31		
tires	3		
towing	18		
towing vehicle capability	18		
transport	18		
transport lock	27		
transport locks	20		
transport locks storage	20		
transport speed	3		
transporting	17		
turns	19		
V			
V-block	16		
W			
WARNING, defined	1		
warranty	31		
weight	18		
weight, implement	18		
welding	4		
Wheel Bearing Hub	27		
Wing Depth Adjustment	21		
www	31		
Numerics			
12.5Lx15 SL	31		
13 mph	3		
20 mph	3 , 18		
22 kph	3		
30x8.8x15	31		
32 kph	3		
586-201M, manual	11		
586-201P, manual	11		
586-201Q, manual	11		
802-383C, bolt	16		
802-487C, bolt	16		
803-367C, nut	16		
818-046C, decal	7		
818-055C, reflector	5		
838-094C, decal	8		
838-362C, decal	10		
838-598C, decal	6		
838-599C, decal	7		
838-600C, decal	7		
838-603C, reflector	6		
838-606C, decal	8		
838-611C, decal	8		
838-612C, decal	9		
838-613C, decal	9		
838-614C, reflector	6		



Great Plains, Mfg.
1525 E. North St.
P.O. Box 5060
Salina, KS 67402