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.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Serial Number</th>
<th>Machine Height</th>
<th>Machine Length</th>
<th>Machine Width</th>
<th>Machine Weight</th>
<th>Year of Construction</th>
<th>Delivery Date</th>
<th>First Operation</th>
<th>Accessories</th>
</tr>
</thead>
</table>

Dealer Contact Information

Name: 
Street: 
City/State: 
Telephone: 
Email: 
Dealer's Customer No.: 

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

Congratulations on the purchase of your Great Plains product. Great Plains welcomes you to its growing family of new product owners. Your product has been designed and built by skilled workers using quality materials.

Your dealer has performed the necessary pre-delivery service to your machine, and will advise you of the proper maintenance and operating practices that will give you long, satisfactory use of your machine. Do not hesitate to contact your dealer when you have a question related to your machine.

Your machine has been designed to run efficiently in most operating conditions, and will perform relative to the service it receives. If you need customer service or repair parts, contact your dealer who has trained personnel, repair parts, and equipment specially designed for Great Plains products.

Read this manual carefully before using the machine. It will familiarize you with safety, operation, adjustments, and maintenance of your new equipment. This manual must always be kept with your machine.

Great Plains wants you to be satisfied with your product. If for any reason you do not understand any part of this manual or are otherwise dissatisfied, please take the following actions first:

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

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

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

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Great Plains reserves the right to revise and improve its products at any time. This publication describes the state of this product at the time of its publication, and may not reflect the product in the future. The content of this publication may be changed without notice.
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Introduction

Great Plains’ Turbo-Max is a pull-type unit designed for tilling and working soil. Every Turbo-Max we build is designed and built with care using only quality materials. For the best user experience, read this manual and follow all instructions carefully. These pages will guide you through the operation and contain tips for easier adjustment and maintenance.

■ Intended Use Statement

The 6.0 & 8.0M Turbo Max with standard equipment and/or authorized attachments and options is intended to be used as a “vertical” tillage tool when operated according to instruction and safety precautions in this manual, machine decals and other information provided with the machine.

Use this tillage tool to cut and size residue, till soil for faster seedbed warming break up soil crust and hard dried fields while eliminating compaction layers.

The front and rear gangs may be adjusted from 0-6 degree angels, depending on the aggressiveness desired.

Right-hand and left-hand side are determined by facing the direction of forward travel.

Prohibited Use

Do not use this machine for any purpose or in any way other than what is described in this manual, machine decals, or any other information provided with the machine. These materials define the intended use of the machine.

Unauthorized modifications to the machine will relieve the manufacture of all liability for any resulting injury or damage.

■ Machine Serial Number

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 dealer. The ID plate is on the front face of the center frame on the left hand side.

Turbo-Max Models Covered

<table>
<thead>
<tr>
<th>Model</th>
<th>Row Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0 Meter Turbo-Max</td>
<td>19cm</td>
</tr>
<tr>
<td>8.0 Meter Turbo-Max</td>
<td>19cm</td>
</tr>
</tbody>
</table>

Document Family

<table>
<thead>
<tr>
<th>Document Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>588-015M</td>
<td>Operator Manual (this document)</td>
</tr>
<tr>
<td>588-015Q</td>
<td>Pre-Delivery Manual</td>
</tr>
<tr>
<td>588-015P</td>
<td>Parts Manual</td>
</tr>
</tbody>
</table>

See “Specifications and Capacities” on page 85 for precise swath information.
Safety Information

The safety symbol indicates a potential safety hazard to persons operating or near the machine and advises on how to avoid it.

The notice symbol indicates a potential for machine or property damage from operator error and advises on how to avoid misuse.

The information symbol indicates useful - but not crucial - information for machine operation, assembly, or adjustment.

Before Getting Started

1. Read this manual in its entirety before attempting to start and operate the machine.
2. Only use operators that are thoroughly trained by the owner or trained by someone with the owner’s consent. The operator must be familiar with all functions of the tractor and attachments, and be able to handle emergencies quickly.
3. Maintain attention on operation at all times. Do not operate if using a smart phone, tablet, or similar electronic device, and never operate machine while impaired by alcohol, medication, any controlled substance, or while fatigued.
4. Do not ever allow passengers to ride the machine at any time, for any reason.
5. Before operation, make sure that all tractor cab levers are in their neutral positions and that the parking brake is engaged.
6. Check brakes, link pins, and other mechanical parts for wear before using machine.
7. Never wear loose or bulky clothing around machine. Use additional safety equipment, such as hard hats, eye and ear protection, safety boots, etc., as needed.
8. Do not modify the machine. Unauthorized modification can result in unsafe conditions that lead to machine damage or personal injury.

Operation

1. Always stop the tractor, put in Park and turn off engine before leaving the cab. Dismounting from a moving tractor can cause serious injury or death.
2. Consider turning radius of tractor and implement in the field. Turning tractor too tight can cause hitched implement to ride up on wheels which can result in injury or equipment damage.
3. Pull machine only from the hitch at the end of the tongue. Never pull from jack stand, safety chain, or any point other than the hitch.
4. Never leave the tractor cab unattended while the implement is running. Remove key and turn off tractor before exiting the tractor cab.
5. Watch your surroundings at all times. Do not operate with bystanders nearby, and avoid contacting overhead obstructions.
6. Check that all guards and shields are undamaged, installed, and secure before operating implement.
7. Keep children out of the work area. Do not operate or turn on machine while children are in the area.
8. Do not operate near ditches, holes, steep slopes, embankments, or other surfaces which may collapse under the machine’s weight or tip the machine over.
9. Never stand between tractor and implement unless parking brake is applied.
Handling and Disposing of Chemicals

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.

1. Read chemical manufacturer’s instructions carefully, and then take appropriate precautions before use.
2. Wear protective clothing.
3. Wash hands and face before eating after working with chemicals. Shower as soon as application is completed for the day.
4. Apply only with acceptable wind conditions. Make sure wind drift of chemicals will not affect any surrounding land, people or animals.
5. Dispose of unused chemicals and chemical waste as specified by the manufacturer. Observe all the local ordinances and regulations in your area.

Operation Noise Hazard

1. Use proper ear protection like headphones or earplugs while working.

PTO

1. Wait until all moving components have completely stopped before adjusting, cleaning, or servicing any PTO driven equipment.
2. Before installing or using PTO driven equipment, read the tractor manual and review the safety labels attached to the equipment.
3. When operating stationary PTO driven equipment, always apply the parking brake and place chocks behind wheels.
4. Stay clear of and never step over any rotating parts.

Maintenance

1. Understand procedure before doing work. Use proper tools and equipment.
2. Work in a clean, dry area.
3. Lower the implement. Put tractor in Park, turn off engine. To prevent unauthorized starting, remove key before performing maintenance or service work.
4. If work must be performed with wings raised, set the wing tilt locks to the road position.
5. Make sure all moving parts have stopped and all system pressure is relieved.
6. Relieve hydraulic pressure before disconnecting hydraulic lines or performing any work on the system.
7. Do not work underneath any hydraulically supported components. Hydraulics can settle, leak, or be accidentally lowered. If working underneath hydraulically supported components is necessary, secure implement with stands or suitable blocking beforehand.
8. Disconnect electronic monitor and lighting harness from the tractor before servicing or adjusting electrical systems.
10. Remove buildup of grease, oil, or debris.
11. Check and replace worn brake lines as needed.
12. Remove all tools and unused parts from implement before operation.

Tire Safety

1. Check tires for cuts, bulges, and correct pressure. Replace worn or damaged tires.
2. Tire changing can be hazardous and must be performed by trained personnel using correct tools and equipment.
3. Tire explosion and/or serious injury can result from over inflation. Do not exceed tire inflation pressures.
4. When removing and installing wheels, use wheel-handling equipment adequate for weight involved.
5. Tighten wheel bolts only to the specified torque.
High Pressure Fluids

1. Escaping fluid from holes in hydraulic lines is difficult to spot. Do not use your hands or bare skin to search for suspected leaks; instead, use a piece of cardboard or wood. If injured by escaping hydraulic fluid, see a medical professional immediately. Exposure can result in gangrene or severe allergic reaction.

2. Check that hydraulic fittings are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.

3. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

Transporting

1. As with transporting any piece of heavy machinery, comply with all local laws and regulations before and during transport process.

2. Transport only at recommended transport speed for implement. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

3. Before towing implement on roads, make sure to empty out all material from the hoppers or boxes.

4. Know transport height and width of implement.

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

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

7. Do not fold or unfold the implement while the tractor is moving.

8. Reduce speed when turning, and make as wide a turn as possible. Turning tractor too tight can cause implement to tip over.

9. When towing on a trailer, secure implement with tie downs and chains.

10. When towing on a trailer, sudden braking can cause a trailer to swerve and upset. Reduce speed if trailer is not equipped with brakes.

Safety Chain

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

2. Replace chain if any links or end fittings are broken, stretched or damaged.

3. Do not use safety chain for towing.

Safety Lights and Devices

1. Always use safety lighting. Slow-moving tractors and towed machinery can create a hazard when driven on public roads. They are difficult to see, especially at night.

2. If equipped, use flashing warning lights and turn signals whenever driving on public roads.

3. Use safety devices provided with implement.

4. Keep safety lights and signs clean and visible from front and rear of machine.

5. Keep lights in operating condition.

Shutdown and Storage

1. Park the tractor and implement on a solid, level surface where children normally do not play.

2. Fold and tilt wings.

3. Put tractor in park or set the parking brake. Turn off engine and remove switch key to prevent unauthorized starting.

4. Wait for all components to come to a complete stop before leaving the operator’s seat.

5. Turn lockout valve and wing lock levers to locked position to prevent the wings from lowering.

6. Detach the tractor. Secure the implement using blocks.

Proper Waste Disposal

1. Dispose of waste properly to avoid threatening the environment and ecology. Potential harmful waste includes oil, fuel, filters, and batteries.

2. Use a leak-proof container for draining fluids. Do not use a food or beverage container that may be mistaken for a consumable product.

3. Do not drain or pour waste onto the ground, down a drain, or into any water source.

4. Contact your local environmental or recycling center for the proper way to recycle or dispose of waste.
Safety Decals

Your implement comes equipped with safety reflectors and decals in place.

Read and follow decal directions. Keep all safety decals clean and legible. Replace all damaged, faded, 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:
- Clean the area on which the decal is to be placed.
- Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.

Reflectors - Red Triangle
833-399C

Two red triangles at rear of unit.

833-398C

Two panels at front and two panels at rear of unit.
**848-513C**
Do not stand between tractor and implement while tractor is moving.

One decal on the hitch.

---

**848-516C**
Do not drive machine underneath low power wires.

One decal on the hitch.

---

**848-507C**
Use ladder, not tires, to climb on machine.

Four decals one located near each tire location.

---

**844-066C**
Avoid standing in front of tongue while unhitching.

One decal on the hitch.
844-067C
Lower machine to the ground before adjusting turnbuckle and keep feet away from ground tools while working.

Four decals on each side of center frame & wings, above disc blades.

858-634C
Do not place hands between folding parts.

Four decals one the front and rear on each frame.

858-633C
Avoid crushing hazard by wings by not standing under wings during operation.

Four decals, one on each side of the outside of the center frame & the wing frames.

848-512C
Read & follow general instructions prior to machine operation.

One on the rear right side of the hitch.
858-636C
Do not preform any procedure that loosens hardware, take appropriate precautions outlined in this manual, carefully read all instructions for machine use, do not move tractor with someone on hitch.

One decal on the front fold bracket.
Preparation and Setup

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

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

Pre-Operation 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, see “Hydraulic Hose Hookup” on page 12.
- If machine is folded, unlock wings and open wing lock valve then slowly unfold 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 Max 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. “Lubrication” on page 18. 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 Chart” on page 19.

Refold the machine slowly, then lock wings and close wing lock valve. Always place wing locks in locked position when moving from field to field. Put transport locks into place. You are now ready to go to the field.

Hitching Turbo Max to Tractor

Hitch to a tractor for highway transport or field operations.

DANGER: Crushing Hazard

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

1. Raise tractor three-point arms (if equipped) clear up to clear Turbo-Max.
2. 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.
3. Use jack (1) to raise and lower turbo max tongue. Back tractor draw bar into alignment with hitch (2). Secure with a locking hitch pin. Secure safety chain (3) to an anchor on the tractor.
4. Retract jack foot (1). Re-orient jack to storage position. After hitching tractor to turbo max, store jack on storage stub (4) on Turbo-Max tongue.

**Electrical Hookup**

1. Make sure tractor is shut down with accessory power off before making connections.
2. Connect lighting connector and any options or after-market electronics to tractor outlets.
3. Tie up excess cable, allowing enough slack for the unit to make turns.

**Make Electrical Connections**

Make connections prior to machine movement.

**Lock Drawbar**

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 14, for safe transporting.
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.

<table>
<thead>
<tr>
<th>Color</th>
<th>Hydraulic Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Lift (2 hoses)</td>
</tr>
<tr>
<td>Green</td>
<td>Fold (2 hoses)</td>
</tr>
<tr>
<td>Red</td>
<td>Gang Adjustment (2 hoses)</td>
</tr>
</tbody>
</table>

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.

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 max or hitch. Failure to safely route and secure hoses and cables could result in damage requiring component repair/ replacement, and lost field time.

Clean all hydraulic couplings and hook hoses to tractor.

Transport Locks
1. Once the cylinders are connected, raise the unit completely. If the transport locks (1) are in place on cylinders (2), remove them at this time.
2. Store the transport locks (1) on the sides of the center frame. Stick pin (3) through tube on the sides of the center frame between the frame and carrier tire.
■ Wing Folding/Unfolding

Unfolding
1. If the wing lock levers are in the locked position, turn handle (1) until set securely into the unlock position.
2. Turn down pressure valve (2) so handle is facing the outside of the machine.
3. Once the transport and wing locks are raised and wing fold valve is in the open position (as shown), unfold the wings from the tractor terminal.

Operating Wing Lock Valve
The wing locking valve (2) is located on the bypass/down pressure valve (6). To close the locking valve, turn handle (5) 90 degrees, to keep wings from unfolding.

4. 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.

■ Front to Rear Leveling

Level Machine On Flat Surface
Pre-leveling of machine should be done on a good level surface.

1. If your machine is equipped with the turnbuckle option use the following steps to level your machine. Lower machine so front coulter gangs are 2.5 - 5cm off of ground. Loosen jam nut (1) with turnbuckle wrench (2) (stored on rear 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).
2. When the front coulter gangs are the same distance off ground as rear coulter gangs re-tighten jam nut (1).

■ Level Bar Spring Adjustment

1. To adjust the level bar spring assembly to the preset position of 49cm, loosen jam nut (1) with turnbuckle wrench (stored on rear pegs of hitch).
2. Adjust nut (3) until the 49cm dimension is reached between backside of spring guide (4) and front side of level bar spring rod plate (5).
3. Re-tighten the jam nut (2) to secure.
- **Wing Adjustment**

1. Once the machine is level fore to aft, the wings may be leveled. Start by unfolding the wings. Lower the lift cylinders down until center coulter gangs are 2.5 - 5 cm off of ground.
2. Set the wings to match the depth of the center. Start by loosening jam nut (1) with turnbuckle wrench (stored on rear pegs of hitch). Turn the turnbuckle (2) to adjust (shorten turnbuckle to run shallower and lengthen to run deeper).
3. Run machine in field with wings unfolded and down pressure applied. If wings are not making contact or running too deep into the soil, make additional adjustments to turnbuckle.

- **Gang Cylinders**

  **Check Gang Angle**

  Check gang angle adjustment annually. Always adjust the front gangs first and then the rear.

1. With front gang cylinders (1) in the full retract position, the gang bar (2) should be 7.5cm from tubes (3). If gang bar is not 7.5cm from tubes, loosen allen screw (4) on clevis on rod end of cylinder and shorten cylinder rod (6) by turning cylinder rod. Re-tighten allen screw.
2. After the center is set, adjust the wings the same way.
3. When the front gang adjusting cylinders - see “Front Gang Angle Adjustment” on page 13 - have been adjusted and are in the full retract position the rear gang bar (6) should be parallel to back frame tube.
Weight Package Installation
1. Remove cotter pin (1) and remove the depth-stop bar (2) from the rear of the level bar (3). Pull depth-stop bar (4) out from the front of the machine and set aside.
2. Unbolt wing rest (5), remove, and set aside.
3. Remove bolts from level bar assembly (6). Pivot level bar up so there will be clearance to set the weight assemblies into place. Pivot level bar spring assembly forward.
4. Remove bolts from leveling strap assemblies (7) near the front of the machine. Pivot leveling straps up to allow clearance for weight assemblies.
5. Carefully lower the 340kg weight assemblies (8) onto center frame trusses using hoist and straps.
6. Pivot level bar (6) down and the level bar spring assembly (3) until holes in plates are aligned. Re-install bolts (1). Secure with lock washers and nuts.
7. Reinstall remaining hardware including leveling straps (7), wing rest (5), and depth-stop bar (4).

Brake Connections

Braking Hazards
To avoid damaging the machine, make sure the operator understands when brakes are engaged and when they are released.

An air controlled braking (trailer braking) system is installed on this machine. Your tractor’s trailer brake system operates the air brakes. See your tractor’s operator manual for more information.

Braking Hazards
Do not use the machine with a “single-line” air brake system. Transport speeds require an air brake system to be dual-line.

Air Brake Connections
1. Locate the button for the shunt valve on the tongue of the machine. Make sure the button is pulled all the way out.
2. Inspect yellow and red gladhands before connecting. Clean elastomer seal surfaces and inlet ports.
3. Connect the yellow gladhand.
4. Once yellow coded brake line is attached, connect the red gladhand.
5. Pull the ring on the bottom of the air reservoir to open drain valve. Drain any water from air reservoir. Release the ring to close the drain valve.
Operation

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

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.

Perform the following steps before transporting the Turbo-Max Turbo-Max to the field.

- Carefully read “Important Safety Information” on page 1.
- Lubricate Turbo-Max as indicated under “Lubrication” on page 18.
- Check all tires for proper inflation, “Tire Inflation Chart” on page 19.
- Check all bolts, pins, and fasteners. Torque as shown in “Torque Values Chart” on page 23.
- Check Turbo-Max 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.

Transport

Loss of Control Hazard:
Do not tow the turbo max behind another implement on public roads. Tow the turbo max 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.

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.

Braking and Loss of Control Hazard:
Do not exceed 20 mph (30 kph). Slow down on rough roads.

Field Operation

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

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-Max configuration. Additional or fewer steps may be necessary depending on tractor features, Turbo-Max options and accessories.
Final Checklist

- Turbo Max hitched
- Hitch pin locked
- Implement jack stowed
- Check all tire pressures
- Transport locks are removed and lock valve is in the field position (open)
- Wings locks are in the unlocked position

Hydraulic System Checklist

- Check tractor hydraulic reservoir full
- Make hydraulic connections
- Inspect connections for leaks
- Unfold Implement

First Pass Operation Checklist

- Implement unfolded and aligned for first pass.
- Pull forward, lower Turbo-Max, and begin tilling for a short distance.
- Stop. Assess:
  - coulter depth
  - finishing attachment operation
- Make necessary adjustments

Sharp Field Turns Checklist

- Raise Turbo-Max
- Make turn
- Lower Turbo-Max
- Resume tilling.

Ending Tilling Checklist

- Suspend operations as above
- Lift implement
- Set tractor for fold and fold wings
- Secure wings with wing locks
- Place locking valve and transport locks in transport positions
- Lower implement on to transport locks
- Lights ON for transport

General Operation and In-Field Adjustments

When operating the Turbo Max with the blades running at an angle, it is generally unnecessary to operate with hydraulic down pressure to the wings. Only in very hard ground will down pressure be needed. If down pressure is needed, see “Hydraulic Down Pressure” on page 18 for initial setup. If no down pressure is needed, set the fold hydraulic system to the “FLOAT” position at this time.

Set Tractor Valve Properly

Never leave tractor valve centered when unfolded with machine in motion. 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.

Angle Rows

In a first time operation, it is generally best to operate the unit at a slight angle to the rows. If the unit is used as a secondary pass it is recommended to operate the unit at a slight angle to the previous tillage pass. This will improve trash flow and increase the leveling capability.
Hydraulic Down Pressure

1. Engage the hydraulics (continuous flow) down.
2. From the cab, adjust the flow so the needle on the bypass gauge is in the green zone (1000 - 1500 PSI).
3. At the valve (1), adjust the valve to set your initial down pressure (usually 300-400 PSI). Do not exceed 800 PSI.
4. If the wings run high during operation, increase pressure. If the center runs high, decrease pressure. If pressure is unneeded, move valve in tractor to “FLOAT”.

Tillage Gang Controls

Your Turbo-Max’s gang angles are hydraulically adjustable from within a tractor cab. Simply determine the desired angle and apply hydraulics until satisfied with the result. Angling your machine’s tillage gangs can help breakup and level difficult-to-work soil and root systems. For softer soil and final passes when planting, set gangs to a vertical (non-angled) position.

Setting Gang Angles

Setting the gang angles to a more severe angle allows disks to breakdown and circulate more crop residue to the soil surface with fewer passes.

When gangs are angled, operating speed should be lowered to between 9-12 kph to reduce machine stress and chance of disk breakage. After returning the gangs to a vertical position, you can resume normal operating speeds.
CAUTION: Field Hazard
Down pressure applied to wings while gangs are angled causes overly aggressive and uneven tilling of soil.

Depth Stop Adjustment
Once the machine is level and set to the desired depth, set the depth stop (1) at the front of the machine to ensure that the unit will operate at a consistent depth every pass. After setting the stop, if a change of depth is desired, 1 full turn of the handle (2) either in or out will change the depth approximately 1/4” up or down respectively.

Maintain Tire-To-Ground Pressure
Slight tire to ground pressure should be maintained to prevent cylinder pin and clevis wear. If after setting the depth stop detent on the tractor kicks out before the stop contacts the button (3) on the depth stop, slow the hydraulic flow speed down. If this problem persists, contact the factory service representative for other possible adjustments.

Reduce Gang Angle At High Speeds
In some severe conditions at high speeds, some windrowing may occur and the gang angle may need to be reduced slightly from the preset 22 degrees. When adjusting, maintain adequate clearance between sections in the field position.

- The reel down pressure may be adjusted by removing the pin (6) and then either pushing the handle (8) forward to increase the spring pressure or by pulling the handle backwards to decrease the spring pressure (7). When the desired amount of spring pressure is set, re-insert the pin (6).

Avoid Down Pressure In Wet Conditions
It is recommended to run little or no down pressure in wet or sticky field conditions.

- The bars on the reels are angled forward (6) 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 (7). This does however increase the chance of causing damage to the bars in rocky soil.

Rolling Harrow and Reel (Option)
The rolling harrow (4) and reel attachment (5) is a versatile leveling attachment and requires very little adjustment. Some adjustment, however, may be required for maximum effectiveness.
Rough Terrain Hazard

Be sure reels are installed with twisted bars oriented forward (6) as shown. Mounting in reverse (7) can damage reel in rocky soil.

Parking

Follow these steps when parking the implement for periods of less than 36 hours. For longer periods, see “Storage”.

1. Position the implement on firm, level ground. Raise, fold and lock implement (page 10 and 11).

Negative Tongue Weight Hazard

If rear tow hitch is installed it is possible that the Turbo Max can tip over backwards during hitching and unhitching resulting in severe injury or death.

2. Remove jack from storage position and pin securely to lifting stub on outside of implement tongue. See “Hitching Turbo Max to Tractor” on page 8.

Avoid Soft Ground

If ground is soft, place a wide block or plate under the jack to increase contact area.

3. Unhook electrical lines and protect with any plugs or caps provided.

4. Release pressure on hydraulic system, then disconnect hydraulic lines and pull all lines back onto implement tongue. Store hose ends in keyholes of hose holder bracket.

5. Disconnect the safety chain.

6. Unhitch from tractor.

Storage

If you intend to store your machine for an extended period of time, follow the procedures outlined below. These procedures will ensure that the machine is ready to operate with minimum preparation when it is removed from storage.

Placing Machine Into Storage

Keep Stored Away From Children

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

7. Raise, fold and lock implement (page 10 and 11).

8. Clean Turbo-Max of mud, dirt, excess oil and grease.

9. Perform “Parking” checklist (see above).

10. Check all bolts, pins, fittings and hoses for wear or damage. Tighten, repair or replace parts as needed.

11. Use touch-up paint to cover scratches, chips and worn areas to prevent rust.

Removing Machine From Storage

1. Check tire pressure and inflate tires as necessary. See “Tire Inflation Chart” on page 19 for recommended PSI levels.

2. Perform any necessary repairs to the machine before performing any adjustments or operation.

3. Check that wings are securely raised and locked.

Winter Storage Removal

If machine is stored outdoors over the winter months, it is a good idea to fold the machine then set 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.
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine will not unfold: (Green Handgrips)</td>
<td>Make sure hoses are connected properly to the tractor’s remote. Make sure the wing lock levers are unlocked. Make sure the hydraulic lock valve is open for field operation, close down pressure valve completely for full pressure. *If closing the down pressure valve allows to unfold be sure to open for field use. Switch fold hoses to another remote on tractor. Trace hydraulic plumbing to confirm proper routing. Replace hydraulic tips on fold hoses.</td>
</tr>
<tr>
<td>Machine will not fold</td>
<td>Make sure hoses are connected properly to the tractor’s remote. Make sure the hydraulic lock valve is open for field operation. Switch fold hoses to another remote on tractor. Trace hydraulic plumbing to confirm proper routing. Replace hydraulic tips on fold hoses.</td>
</tr>
<tr>
<td>Machine will not lower: (Black Handgrips)</td>
<td>Make sure both transport locks are removed. Make sure hoses are connected properly to the tractor’s remote. Make sure the hydraulic depth stop valve is in operating condition, and not damaged. Switch lift hoses to another remote on tractor. Trace hydraulic plumbing to confirm proper routing. Replace hydraulic tips on lift hoses.</td>
</tr>
<tr>
<td>Machine will not lift</td>
<td>Make sure hoses are connected properly to the tractor’s remote. Make sure the hydraulic depth stop valve is in operating condition, and not damaged. Switch lift hoses to another remote on tractor. Trace hydraulic plumbing to confirm proper routing. Replace hydraulic tips on lift hoses.</td>
</tr>
<tr>
<td>Problem</td>
<td>Solutions</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Machine will not lift evenly: (Black Handgrips)</td>
<td>Possible faulty center lift cylinder</td>
</tr>
<tr>
<td></td>
<td>Damaged center axle – Contact GP representative.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative for cylinder diagnostics.</td>
</tr>
<tr>
<td>Wing cylinder will not retract during fold operation</td>
<td>Check that the whisker switch for correct operation and active.</td>
</tr>
<tr>
<td></td>
<td>Check 7 pin light connector for a secure connection.</td>
</tr>
<tr>
<td></td>
<td>Check voltage on pins #2 and #3 (pin #2 12VDC+, Pin 3 Ground)</td>
</tr>
<tr>
<td></td>
<td><em>European Models Only</em></td>
</tr>
<tr>
<td></td>
<td>Check that there is power to the solenoids</td>
</tr>
<tr>
<td></td>
<td>Check 10amp fuse in solenoid harness</td>
</tr>
<tr>
<td></td>
<td>Inspect solenoid harness for damage.</td>
</tr>
<tr>
<td></td>
<td>Double check hydraulic routing for proper configuration.</td>
</tr>
<tr>
<td>Machine will only retract one side of wing cylinders</td>
<td>Check the Dual solenoid, the left solenoid controls the left wing, the right solenoid controls the right wing. The wing with the issue is the solenoid that is malfunctioning.</td>
</tr>
<tr>
<td></td>
<td>Inspect harness and solenoid connections for damage.</td>
</tr>
<tr>
<td></td>
<td>Reverse harness connections at the solenoid if same problem presents that side’s solenoid is damaged, if problem switches the harness is damaged.</td>
</tr>
<tr>
<td>Cannot adjust gang angle of machine: (Red Handgrips)</td>
<td>Make sure hoses are connected properly to tractor’s remote.</td>
</tr>
<tr>
<td></td>
<td>Try another remote on tractor.</td>
</tr>
<tr>
<td></td>
<td>Replace hydraulic tips on gang hoses.</td>
</tr>
<tr>
<td></td>
<td>Bypass the lock valve, if problem corrects replace the lock valve.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative to further diagnose if needed.</td>
</tr>
<tr>
<td>Cannot adjust weight transfer: (Green Handgrips)</td>
<td>Reset flow on tractor and readjust weight transfer, per operating manual.</td>
</tr>
<tr>
<td></td>
<td>If valve is opened completely and lower pressure to wings is desired reduce tractor flow rate further.</td>
</tr>
<tr>
<td></td>
<td>If tractors flow is still too high to adjust weight transfer be sure to set flow so it is running no more than 1500lbs, 1000lbs is preferred.</td>
</tr>
<tr>
<td></td>
<td>Turn the weight transfer knob while running active hydraulics. The audible tone should change with every turn of the knob. If not the bypass valve is faulty.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative to further diagnose if needed.</td>
</tr>
<tr>
<td>Problem</td>
<td>Solutions</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Machine lights are not working:</td>
<td>Check 7-pin light connection to tractor.</td>
</tr>
<tr>
<td></td>
<td>Check wire harness for damage and individual light connections.</td>
</tr>
<tr>
<td></td>
<td>Check voltage, should be 12VDC+. See pin layout on page 11</td>
</tr>
<tr>
<td>Entire machine runs to shallow (Black &amp; Green Handgrips)</td>
<td>Make sure depth stop valve is set to correct depth.</td>
</tr>
<tr>
<td></td>
<td>Increase gang angle to help penetrate the ground and increase depth.</td>
</tr>
<tr>
<td></td>
<td>It may be necessary to add weight packs</td>
</tr>
<tr>
<td>Entire Machine runs to deep (Black &amp; Green Handgrips)</td>
<td>Make sure depth stop valve is set to correct depth and working correctly.</td>
</tr>
<tr>
<td></td>
<td>A center cylinder may be damaged and or leaking.</td>
</tr>
<tr>
<td></td>
<td>If necessary the weight packs may need removed.</td>
</tr>
<tr>
<td>Wings running deeper than Center</td>
<td>Reduce down pressure or put in float</td>
</tr>
<tr>
<td></td>
<td>Adjust wing tires, see Operator manual page 14</td>
</tr>
<tr>
<td>Wing running shallower than center</td>
<td>Increase down pressure.</td>
</tr>
<tr>
<td></td>
<td>Adjust wing tires, see Operator manual page 14</td>
</tr>
<tr>
<td>Machine is side drafting</td>
<td>Re-phase gang cylinders, be sure to completely extend and retract both cylinders when doing this.</td>
</tr>
<tr>
<td></td>
<td>Check wing tire adjustment is equal.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative to further diagnose if needed.</td>
</tr>
<tr>
<td>Parking brake troubleshooting</td>
<td>Make sure the brake cables are not damaged.</td>
</tr>
<tr>
<td></td>
<td>Make sure the hand brake adjuster is operating correctly.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative to further diagnose if needed.</td>
</tr>
<tr>
<td>Problem</td>
<td>Solutions</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Air brake troubleshooting</td>
<td>Check gladhand seals to make sure you are getting a good connection.</td>
</tr>
<tr>
<td></td>
<td>Make sure the yellow gladhand is connected first, then the red.</td>
</tr>
<tr>
<td></td>
<td>Check air lines of the machine looking for leaks and pinched lines.</td>
</tr>
<tr>
<td></td>
<td>Make sure the shunt valve on the hitch is pulled all the way out.</td>
</tr>
<tr>
<td></td>
<td>Make sure the tank drain valve is properly closed.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative to further diagnose if needed.</td>
</tr>
<tr>
<td>Hydraulic brake troubleshooting: (Single Hose)</td>
<td>Make sure hoses are connected properly to the tractor hydraulic brake system</td>
</tr>
<tr>
<td></td>
<td>Emergency valve positioned correctly for operation.</td>
</tr>
<tr>
<td></td>
<td>Check hydraulic hoses for leaks, or pinched lines.</td>
</tr>
<tr>
<td></td>
<td>Call your GP representative to further diagnose if needed.</td>
</tr>
</tbody>
</table>
Hydraulic Fold & Re-track Layout

This hose will route to the Wing Lift Cylinders.

These 2 hoses will route thru the frame tube.

Left cable ties to secure to top of Hyd Cyls to keep clear when folding.
Hydraulic Fold Layout

---

Hose to Wing Lift
Connected to wing lift at bulkhead. Part of hydraulic lift layout on p. 22.

Top of Double Solenoid

Bottom of Double Solenoid

Hose to Wing Lift
Connected to wing lift at bulkhead. Part of hydraulic lift layout on p. 22.

Hydraulic Fold Connections
Hydraulic Lift Layout

- Hose to Retract Valve
  Located underneath the level bar
  Part of hydraulic fold layout.

- Top Bulkhead
- Bottom Bulkhead
- Rod Ends

Hydraulic Lift Connections

- Rod End
- Bottom Bulkhead
- Rod End
Hydraulic Gang Layout
■ Lighting Wire Layout
Maintenance

1. Always use the transport lock when working on or doing maintenance to the Turbo-Max. If folded, ensure you have secured wing locks and closed the wing fold valve. 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.
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 sparingly. Over greasing may cause damage to seals and reduce the life of the bearing. Coulters, Finishing Reel and Heavy Reel bearings are all maintenance free and do not require greasing.
6. Check drag bolts for looseness or excessive wear. Your drag is an important part of the tillage operation.

<table>
<thead>
<tr>
<th>Tire Inflation Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wheel</strong></td>
</tr>
<tr>
<td>Transport/Wings</td>
</tr>
<tr>
<td>Transport/Center</td>
</tr>
</tbody>
</table>

**Lubrication**

- Multipurpose spray lube
- Multipurpose grease lube
- Multipurpose oil lube

<table>
<thead>
<tr>
<th><strong>Wheel Bearing Hubs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Seasonally</td>
</tr>
</tbody>
</table>

Inspect bearings for end play Annually. If excessive endplay exists it is recommended to disassemble, clean and repack the wheel bearings.

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

**Tire Warranty Information**

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

- **Manufacturer Web site**
  - Firestone [www.firestoneag.com](http://www.firestoneag.com)
  - Gleason [www.gleasonwheel.com](http://www.gleasonwheel.com)
  - Titan [www.titan-intl.com](http://www.titan-intl.com)
  - Galaxy [www.atgtire.com](http://www.atgtire.com)
  - BKT [www.bkt-tire.com](http://www.bkt-tire.com)

- **Wheel Tire Size Inflation**
  - 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.

- **Transport/Wings**
  - 15.0/55 - 17 14-Ply BKT AW705: 54 psi (372 kPa)
  - 550/45 - 22.5 20 P.R. BKT Floating 648T: 58 psi (400 kPa)

- **Transport/Center**
  - 54 psi (372 kPa)
  - 58 psi (400 kPa)
All Turnbuckles and Threaded Adjustments

Seasonally

Overall Machine Maintenance;

Type of Lubrication: Multipurpose Lubricant
Quantity: Coat thoroughly.

Coulter Bearings

One on rear of each c-flex bearing.
Type of Lubrication: Grease
Quantity: Grease every 50 hours. In heavy conditions grease every 10 hours or daily

Finishing Reel

One on each bearing
Type of Lubrication: Grease
Quantity: Grease every 50 hours. In heavy conditions grease every 10 hours or daily.
## Specifications

<table>
<thead>
<tr>
<th>Model Information</th>
<th>6.0M Turbo Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade Spacing</td>
<td>19cm</td>
</tr>
<tr>
<td>Tillage Width</td>
<td>6 meters</td>
</tr>
<tr>
<td>Tractor Requirements</td>
<td>150+ kW</td>
</tr>
<tr>
<td>Weight (Max)</td>
<td>9650kg</td>
</tr>
<tr>
<td>Hitch Load</td>
<td>1150kg</td>
</tr>
<tr>
<td>Axle Load</td>
<td>8500kg</td>
</tr>
<tr>
<td>Number of Coulters</td>
<td>65</td>
</tr>
<tr>
<td>Gang Angle</td>
<td>Hyd Adjustable 0° to 6°</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td></td>
</tr>
<tr>
<td>Transport Height</td>
<td>3m</td>
</tr>
<tr>
<td>Transport Width</td>
<td>3m</td>
</tr>
<tr>
<td>Transport Length (with attachment)</td>
<td>8.7m</td>
</tr>
<tr>
<td>Center Section Width</td>
<td>3m</td>
</tr>
<tr>
<td>Wing Width</td>
<td>1.5m</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Tire Size (Center)</td>
<td>550/4.5-22.5 20 PR</td>
</tr>
<tr>
<td>Tire Size (Wing)</td>
<td>15.0/55-17 14 PR</td>
</tr>
</tbody>
</table>
## Specifications

<table>
<thead>
<tr>
<th>Model Information</th>
<th>8.0M Turbo Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blade Spacing</strong></td>
<td>19cm</td>
</tr>
<tr>
<td><strong>Tillage Width</strong></td>
<td>8 meters</td>
</tr>
<tr>
<td><strong>Tractor Requirements</strong></td>
<td>205+ kW</td>
</tr>
<tr>
<td><strong>Weight (Max)</strong></td>
<td>10950kg</td>
</tr>
<tr>
<td><strong>Hitch Load</strong></td>
<td>1150kg</td>
</tr>
<tr>
<td><strong>Axle Load</strong></td>
<td>9800kg</td>
</tr>
<tr>
<td><strong>Number of Coulters</strong></td>
<td>85</td>
</tr>
<tr>
<td><strong>Gang Angle</strong></td>
<td>Hyd Adjustable 0° to 6°</td>
</tr>
</tbody>
</table>

### Dimensions

| **Transport Height**    | 4m                            |
| **Transport Width**     | 3m                            |
| **Transport Length (with attachment)** | 8.7m                      |
| **Center Section Width**| 3m                            |
| **Wing Width**          | 1.5m                          |

### Transport

| **Tire Size (Center)**  | 550/4.5-22.5 20 PR           |
| **Tire Size (Wing)**    | 15.0/55-17 14 PR             |
Hydraulic Connectors and Torque

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

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

(2) **JIC** - Joint Industry Conference (SAE J514)
   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.

(3) **ORB** - O-Ring Boss (SAE J514)
   Note straight threads (5) and elastomer O-Ring (7). Prior to installation, to prevent abrasion during tightening, lubricate O-Ring with clean hydraulic fluid. 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.

**Fittings Torque Values**

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

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>in-tpi</td>
<td>Grade 2</td>
</tr>
<tr>
<td>5/4-20</td>
<td>7.4</td>
</tr>
<tr>
<td>1/2-28</td>
<td>8.5</td>
</tr>
<tr>
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<td>1 1/2-12</td>
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<table>
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<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
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<tr>
<td>M 6 x 1</td>
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<td>M 12 X 1</td>
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<td>M 14 X 2</td>
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<td>1730</td>
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<tr>
<td>M 36 X 2</td>
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</tbody>
</table>

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.

---

**Torque Values Chart**

<table>
<thead>
<tr>
<th>Gang Bolt Torque 1 3/4&quot;-5</th>
<th>850 Foot-pounds (165 lbs on 5' cheater).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolling Harrow Spike Bolt 1 1/2&quot;-6</td>
<td>650-750 Foot-pounds (175 lbs on 4' cheater).</td>
</tr>
<tr>
<td>Wheel Bolt Torque Values</td>
<td>5/8&quot;-18 (170ft-lbs) 3/4&quot;-16 (295ft-lbs)</td>
</tr>
</tbody>
</table>
ORIGINAL EC DECLARATION OF CONFORMITY

Corresponding to the directive 2006/42/EC

We, the manufacturer,

Great Plains Manufacturing
1525 E. North Street
Salina, KS 67401
United States

and

Authorized representative in

European Community
Arable Systems Division
c/o Kverneland Group Gottmadingen N.V.
Industriepark 312
D-78244 Gottmadingen

declare under our sole responsibility that the product,

Designation of machine: Tillage Tool
Machine type: Turbo Max 6.0M
Turbo Max 8.0M
Turbo Max 3.0M

Valid from serial no. GP-D 1001Q

Corresponds to the above mentioned directive.

The following harmonized standards are applied.

EN ISO 4254-1:2015

Salina, KS, 25 - 05 -2018

__________________________
Rye DeGarmo
Vice President of Engineering

Gottmadingen, 25- 05 -2018

__________________________
Michael Enders*
Product Safety &
Homologation Harvesting Division
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