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

**Dealer Contact Information**

Name: ________________________________
Street: ______________________________
City/State: __________________________
Telephone: __________________________
Email: ______________________________
Dealer's Customer No.: ________________

⚠️ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov
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*Printed in the United States of America*
Important Safety Information

Look for Safety Symbol

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

Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.

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

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

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

Prepare for Emergencies

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

Be Familiar with Safety Decals

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

▲ Wear protective clothing and equipment.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.
▲ Because operating equipment safely requires your full attention, avoid wearing entertainment headphones while operating machinery.

Handle Chemicals Properly

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.
▲ Read and follow chemical manufacturer’s instructions.
▲ Wear protective clothing.
▲ Handle all chemicals with care.
▲ Avoid inhaling smoke from any type of chemical fire.
▲ Store or dispose of unused chemicals as specified by chemical manufacturer.

Avoid High Pressure Fluids

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

Use Safety Lights and Devices

Slow-moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
▲ Use flashing warning lights and turn signals whenever driving on public roads.

Use lights and devices provided with implement

Keep Riders Off Machinery

Riders obstruct the operator’s view. Riders could be struck by foreign objects or thrown from the machine.
▲ Never allow children to operate equipment.
▲ Keep all bystanders away from machine during operation.
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 exceed 20 mph. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.
▲ Comply with state and local laws.
▲ Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of towing vehicle.
▲ Carry reflectors or flags to mark Field Cultivator in case of breakdown on the road.
▲ Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under “FC Specifications and Capacities” on page 22.
▲ Do not fold or unfold the Field Cultivator while the tractor is moving.

Shutdown and Storage

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

Tire Safety

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

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

▲ Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.
▲ Work in a clean, dry area.
▲ Lower the machine, put tractor in park, turn off engine, and remove key before performing maintenance.
▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on machine.
▲ 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 machine 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 machine functions.
▲ Operate machinery from the driver’s seat only.
▲ Do not leave Field Cultivator unattended with tractor engine running.
▲ Do not stand between the tractor and machine 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 machine. Make sure all persons are clear of working area.
Safety Decals

Safety Reflectors and Decals

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

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

818-055C
Slow Moving Vehicle Reflector
On the back of the center wing stop.; 1 total

838-615C
Amber Reflectors
Two on light bracket and two on center brace bar. Two on center frame. Two on rear of finishing attachment (not shown), visible from side while folded for transport; 8 total

▲ When ordering new parts or components, also request corresponding safety decals.

To install new decals:
1. Clean the area on which the decal is to be placed.
2. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.
838-614C
Red Reflectors
On rear of light brackets, Rear of reflector brackets (top): 4 total

838-603C
Orange Reflectors
On rear of light brackets, Rear of reflector brackets (bottom): 4 total

838-598C
Caution: Read Operator's Manual
On front of hitch: 1 total
838-599C
Danger: Electrocution Hazard
Front side of center wing brace (left side); 1 total

838-600C
Danger: Crushing Hazard
On front (middle) of hitch; 1 total

838-602C
Warning: Overhead Wing Hazard
On outside center of center and wing frames (both sides); 4 total 8323, 8328, 8332 & 8336
6 total 5539, 8544, 8548, 8551, 8556 & 8560
838-094C
Warning: High Pressure Fluid
Front side of center wing brace (middle); 1 total

838-611C
Warning: Hand Crushing
Front side of center wing brace (left & right side); 2 total

838-613C
Notice: Transport Lock
On front middle of center frame; 1 total
**Warning: Wings Could Fall Suddenly**

On front of wing stop (both sides); 2 total.
Introduction

Great Plains welcomes you to our growing family of new product owners. The Field Cultivator 8323-8560FCF 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

- 8323FCF  23-Foot  3-section
- 8328FCF  28-Foot  3-section
- 8332FCF  32-Foot  3-section
- 8336FCF  36-Foot  3-section
- 8339FCF  39-Foot  5-section
- 8344FCF  44-Foot  5-section
- 8348FCF  48-Foot  5-section
- 8351FCF  51-Foot  5-section
- 8356FCF  56-Foot  5-section
- 8360FCF  60-Foot  5-section

Description of Unit

The Field Cultivator 8323-8560FCF is a three or five-section seedbed preparation tillage tool. Working width ranges from 23 to 60 feet. The implement is designed for secondary field operations to smooth, level, eliminate weeds and incorporate chemicals. Various finishing attachments are available to further smooth, redistribute residue, firm soil and break clods.

Document Family

- 560-484Q-ENG  Assembly Manual
- 560-484Q  Pre-Delivery Manual
- 560-484M  Operator Manual (this document)
- 560-484P  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 8323-8560FCF Field Cultivator 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 Field Cultivator. 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.
Preparation and Setup

This section helps you prepare your tractor and 8323-8560FCF Field Cultivator for use, and covers tasks that need to be done seasonally, or when the tractor/Field Cultivator configuration changes.

Before using the Field Cultivator in the field, you must hitch it to a suitable tractor, inspect systems and level the Field Cultivator. Before using the Field Cultivator 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.
- 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 Field Cultivator 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 20. 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 22.

- 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 Tractor to Field Cultivator

**DANGER**

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

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.

1. Raise tractor three-point arms (if equipped) clear up to clear Field Cultivator.
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. Hitch the tractor to the Field Cultivator using the block or yoke clevis determined by the tractor drawbar. Use the correct size pin for clevis or block.

**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 “Transporting” on page 17, for safe transporting

Refer to Figure 3

4. Use jack 1 to raise and lower Field Cultivator tongue.

Refer to Figure 4

5. After hitching tractor to Field Cultivator, store jack on storage tube 2 on side of Field Cultivator tongue.
6. Secure Field Cultivator safety chain to an anchor on the tractor capable of pulling the unit.
**Preparation and Setup**

---

**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>
</tbody>
</table>

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**Refer to Figure 5**

**Hose Handles**

To distinguish hoses on the same hydraulic circuit, refer to, "**Hydraulic Hose Hookup**" on page 14. The hose under an extended symbol feeds a cylinder base end. The hose under a retracted-cylinder symbol feeds a cylinder rod end.

Clean all hydraulic couplings and hook hoses to tractor.

---

**First Time Field Adjustments**

**Pre-Leveling of Machine**

**Front to Rear Leveling**

**Refer to Figure 6**

1. Pre-leveling of machine can be done on a concrete slab or level surface. Lower machine so sweeps are 1-2” off of ground on the center frame. Loosen jam nut and adjust turnbuckle at the front of machine to level it from front to back. (Shorten to bring front down, extend to bring front up). Level machine with the front row shanks just slightly deeper or lower than the back.

2. Re-tighten jam nut.

3. Repeat same procedure for other side of center frame and 5-Section machines, adjust inner wing gauge wheels the same.
Wing Adjustment (3 or 5-Section Wings)

Refer to Figure 7

4. Set the 3-section wings and 5-section inner wings to match the depth of the center. This is done by adjusting the wing pull bar assembly 1 on each wing. Start by loosening the jam nut 2, then adjust the adjustment rod 3. Lengthen the adjustment rod 3 (turn counter-clockwise), to run shallower, shorten the bolt (turn clock-wise) to run deeper.

5. Tighten jam nut 2, back against clevis.

In some conditions the wings will need to be set slightly lower than the center, as the center may tend to run deeper behind the tractor tires.

Outer Wing Adjustment (5-Section)

Refer to Figure 8

6. Set the outer wings to match the depth of the center. This is done by adjusting the adjustment bolt assembly 1 on each wing. Start by loosening the jam nut 2, then adjust the adjustment rod 3. Lengthen the adjustment rod 3 (turn counter-clockwise), to run shallower, shorten the bolt (turn clock-wise) to run deeper.

7. Tighten jam nut 2, back against clevis.

In some conditions the wings will need to be set slightly lower than the center, as the center may tend to run deeper behind the tractor tires.
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 8323-8560 FCF Field Cultivator to the field.

- Carefully read “Important Safety Information” on page 1.
- Lubricate Field Cultivator as indicated under “Lubrication” on page 20.
- Check all tires for proper inflation.
- Check all bolts, pins, and fasteners. Torque as shown in “Torque Values Chart” on page 24.
- Check Field Cultivator 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.

---

**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.
Transporting
See “Hitching Tractor to Field Cultivator” on page 13 before transporting the Field Cultivator.

Check Tractor Capacity and Configuration
• Consult your tractor manual for 3-point limitations.
• Add weights to tractor as required.
When determining the weight of your Field Cultivator, be sure to include the weight of any options.

Transport Checklist
☐ Plan the route. Avoid steep hills. Keep Clearances in mind.
☐ Make all electrical and hydraulic connections. See “Hitching Tractor to Field Cultivator” on page 13.
☐ Raise Field Cultivator.
☐ Be sure all transport locks are installed.
☐ Always have lights on for highway operation.
☐ Comply with all federal, state and local safety laws when traveling on public roads.

Travel with caution. Allow safe clearance. Remember that the Field Cultivator is wider than the tractor.

General Operation and In-Field Adjustments

8. Remove the transport pins and unfold machine. Make sure the fold cylinders are fully extended to allow the wings to fully flex in the field.

9. 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 gauge wheels. Never run the machine with the back lower (deeper) than the front. To adjust the machine from side to side, use the eye-bolt on each wing. See “First Time Field Adjustments” on page 14.

10. The ideal working speed for the Field Cultivator is 6 to 7 mph. Working too slow may cause plugging, poor incorporation or mixing of crop residue and reduced weed kill. Running too fast may cause streaks in chemical incorporation and ridging.

11. The Field Cultivator is designed as a secondary tillage tool and is designed to leave a finished seedbed following some form of fall or spring tillage. For best results, if at all possible, run the machine at a slight angle of the rows. This will improve trash flow and help spread the residue more evenly throughout the field.

12. When you have the machine set to the desired working depth, set the depth stop assembly on the depth control bar. This is located at the front of the machine on the brace bar.

☐ Screw the depth stop in to run shallower. Screw the depth stop out to run deeper. 1 turn = 1/4” working depth. This will maintain a constant depth each time after raising and lowering the machine.

13. If after setting the depth stop, the detent on the tractor kicks out before the stop contacts the button on the depth stop, slow the hydraulic flow speed down. If the problem persists, contact the factory service representative for the possible adjustments. Do not adjust the rebound valve without first contacting the factory service rep.

14. Adjust the drag to leave the desired results while maintaining the trash flow through the drag.
Gauge Wheel Adjustment (5-Section Outer Wings)

Refer to Figure 9

15. Once the machine has been adjusted and set to the desired working depth, you may now adjust the gauge wheels.

* The gauge wheels (if equipped) should be set in field position to be 1\(\frac{1}{2}\)" to 1\(\frac{1}{2}\)" off the ground.

16. Start by loosening set screws \(\circ\) on each gauge wheel. Turn jack handle \(\odot\), to adjust spindle receiver \(\bigcirc\). To lengthen the spindle receiver \(\bigcirc\) (turn counter-clockwise), to run wheel closer to ground, to shorten the spindle receiver (turn clock-wise) to run further away from ground.

17. After adjusting gauge wheel to position needed, re-tighten the set screws \(\circ\).

Rear Attachment Settings

Spike Drag Settings

Refer to Figure 10

a. 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 of the hang chains. If so, shorten pull chains.
Coil Tine Settings

Refer to Figure 11

b. On coil tine drags start with the top eyebolt (1) centered. Then level drag mainframe (2) by changing position of leveling bolts (3). There are two holes in the arm and four in the mainframe. One of these will get you where you need to be to be level. To lay teeth back, remove the clip pin (4) on each end and move strap adjustment by pushing the handle (5) forward. The strap has 5 holes arm will let you lay the teeth back several degrees. If it is desired to set one row, usually the first, different than the rest as far as the angle is concerned, it can be adjusted individually by loosening the u-bolt and set-screw on each end of the drag bar. Down pressure on the drag is achieved by lengthening the eyebolt (1) on the top bracket. Depending on the amount of down pressure, you may need to re-level the mainframe.

Heavy Reel Adjustment

Refer to Figure 12

18. The reel (1) down pressure may be adjusted by loosening the jam nut (2) and then either increasing or decreasing the spring pressure (3). When the desired amount of spring pressure is set, re-tighten the jam nut (4). Note: It is recommended to run little or no down pressure in wet or sticky field conditions.

Refer to Figure 13

19. The bars on the reels are angled forward (4) 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 (5). 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 (4) as shown. Mounting in reverse (5) can damage reel in rocky soil.*
Maintenance and Lubrication

Maintenance

1. Always use the transport lock when working on or doing maintenance to the Field Cultivator. 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, sweeps, shanks, 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. Real Bearings are maintenance free & do not require greasing.

6. Check drag bolts for loosness 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 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:

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.

Lubrication

<table>
<thead>
<tr>
<th>Multipurpose spray lube</th>
<th>Multipurpose grease lube</th>
<th>Multipurpose oil lube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervals (service hours) at which lubrication is required</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

Wheel Bearing Hub

<table>
<thead>
<tr>
<th>50</th>
</tr>
</thead>
</table>

1 zerk on each hub; 4 total

Type of Lubrication: Grease

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

Repack wheel bearings annually or every 2500 acres.
Walking Beam Pivot Bearings

One on each walking beam
Type of Lubrication: Grease
Quantity: Sparingly and check for endplay
If there is a lot of end play take apart, check bearings and re-pack

Outside Wing Hinge

One on each outside wing (5-Section)
Type of Lubrication: Grease
Quantity: Sparingly or 2 pumps
## FC Specifications and Capacities

<table>
<thead>
<tr>
<th>Model No.</th>
<th>8323FCF</th>
<th>8328FCF</th>
<th>8332FCF</th>
<th>8336FCF</th>
<th>8539FCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweep Width</td>
<td>23' (7.01 m)</td>
<td>27' 9&quot; (8.4582 m)</td>
<td>32' 6&quot; (9.90 m)</td>
<td>36' (10.97 m)</td>
<td>39' 6&quot; (12.04 m)</td>
</tr>
<tr>
<td>Number of Sweeps</td>
<td>39</td>
<td>47</td>
<td>55</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>Center Section</td>
<td>10' (3.05 m)</td>
<td>10' (3.05 m)</td>
<td>10' (3.05 m)</td>
<td>12' (3.66 m)</td>
<td>10' (3.05 m)</td>
</tr>
<tr>
<td>1st Wing</td>
<td>6' 6&quot; (1.98 m)</td>
<td>9' (2.74 m)</td>
<td>11' 3&quot; (3.43 m)</td>
<td>11' 3&quot; (3.43 m)</td>
<td>8' (2.44 m)</td>
</tr>
<tr>
<td>2nd Wing</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>6' 6&quot; (1.98 m)</td>
</tr>
<tr>
<td>Transport Width</td>
<td>14' (4.27 m)</td>
<td>14' (4.27 m)</td>
<td>14' (4.27 m)</td>
<td>16' 1&quot; (4.90 m)</td>
<td>15' (4.57 m)</td>
</tr>
<tr>
<td>Transport Height</td>
<td>10' (3.05 m)</td>
<td>12&quot; 6&quot; (3.81 m)</td>
<td>14' 9&quot; (4.50 m)</td>
<td>14' 9&quot; (4.50 m)</td>
<td>11' 9&quot; (3.58 m)</td>
</tr>
<tr>
<td>Tire Size Center</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>11L-15 12 PLY</td>
<td>11L-15 12 PLY</td>
<td>11LX15 LOAD F</td>
</tr>
<tr>
<td>Tire Size Wing</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
</tr>
<tr>
<td>Horsepower (PTO)</td>
<td>120-175</td>
<td>150-200</td>
<td>175-225</td>
<td>200-250</td>
<td>200-275</td>
</tr>
<tr>
<td>Kilowatt</td>
<td>89-130</td>
<td>111-149</td>
<td>130-168</td>
<td>149-186</td>
<td>149-205</td>
</tr>
<tr>
<td>Weight (base machine)</td>
<td>7935 lbs. (3599 kg)</td>
<td>9380 lbs. (4255 kg)</td>
<td>10400 lbs. (4717 kg)</td>
<td>12780 lbs. (5797 kg)</td>
<td>13650 lbs. (6192 kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model No.</th>
<th>8544FCF</th>
<th>8548FCF</th>
<th>8551FCF</th>
<th>8556FCF</th>
<th>8560FCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweep Width</td>
<td>44' (13.41 m)</td>
<td>48' 9&quot; (14.86 m)</td>
<td>51' (15.54 m)</td>
<td>55' 9&quot; (16.99 m)</td>
<td>60' 6&quot; (18.44 m)</td>
</tr>
<tr>
<td>Number of Sweeps</td>
<td>75</td>
<td>83</td>
<td>87</td>
<td>95</td>
<td>103</td>
</tr>
<tr>
<td>Center Section</td>
<td>10' (3.05 m)</td>
<td>10' (3.05 m)</td>
<td>12' (3.66 m)</td>
<td>12' (3.66 m)</td>
<td>12' (3.66 m)</td>
</tr>
<tr>
<td>1st Wing</td>
<td>10' 6&quot; (3.20 m)</td>
<td>10' 6&quot; (3.20 m)</td>
<td>10' 6&quot; (3.20 m)</td>
<td>12' 9&quot; (3.89 m)</td>
<td>12' 9&quot; (3.89 m)</td>
</tr>
<tr>
<td>2nd Wing</td>
<td>6' 6&quot; (1.98 m)</td>
<td>9' (2.74 m)</td>
<td>9' (2.74 m)</td>
<td>9' (2.74 m)</td>
<td>11' (3.35 m)</td>
</tr>
<tr>
<td>Transport Width</td>
<td>15' (4.57 m)</td>
<td>15' (4.57 m)</td>
<td>16' 10&quot; (5.14 m)</td>
<td>16' 10&quot; (5.14 m)</td>
<td>16' 10&quot; (5.14 m)</td>
</tr>
<tr>
<td>Transport Height</td>
<td>14' (4.27 m)</td>
<td>14' (4.27 m)</td>
<td>14' (4.27 m)</td>
<td>16' 4&quot; (4.99 m)</td>
<td>16' 4&quot; (4.99 m)</td>
</tr>
<tr>
<td>Tire Size Center</td>
<td>11LX15 LOAD F</td>
<td>11LX15 LOAD F</td>
<td>11LX15 LOAD F</td>
<td>11LX15 LOAD F</td>
<td>11LX15 LOAD F</td>
</tr>
<tr>
<td>Tire Size Wings</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
<td>9.5 LX15 8 PLY</td>
</tr>
<tr>
<td>Horsepower (PTO)</td>
<td>225-300</td>
<td>250-325</td>
<td>275-350</td>
<td>300-375</td>
<td>325-400</td>
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<tr>
<td>Kilowatt</td>
<td>168-224</td>
<td>186-242</td>
<td>205-261</td>
<td>224-280</td>
<td>242-298</td>
</tr>
<tr>
<td>Weight (base machine)</td>
<td>15180 lbs. (6886 kg)</td>
<td>16320 lbs. (7403 kg)</td>
<td>17340 lbs. (7865 kg)</td>
<td>17710 lbs. (8033 kg)</td>
<td>18420 lbs. (8355 kg)</td>
</tr>
</tbody>
</table>

## Tire Inflation Chart

<table>
<thead>
<tr>
<th>Wheel</th>
<th>Tire Size</th>
<th>Inflation</th>
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<tbody>
<tr>
<td>Gauge Wheel</td>
<td>9.5Lx15” 8-Ply</td>
<td>44 psi 303 kPa</td>
</tr>
<tr>
<td>Transport/ Center/Wing</td>
<td>9.5Lx15” 8-Ply</td>
<td>44 psi 303 kPa</td>
</tr>
<tr>
<td>Transport/ Center</td>
<td>11Lx15” 12-Ply</td>
<td>52 psi 359 kPa</td>
</tr>
<tr>
<td>Transport/ Center</td>
<td>11Lx15” Load F</td>
<td>90 psi 621 kPa</td>
</tr>
<tr>
<td>Transport/ Center</td>
<td>12.5L x 15” F-Ply</td>
<td>90 psi (621 kPa)</td>
</tr>
</tbody>
</table>

## 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 websites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.

ManufacturerWeb 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.agtire.com](http://www.agtire.com)
BKT [www.bkt-tire.com](http://www.bkt-tire.com)
Tires Chart

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>Tire Size</th>
<th>Qty</th>
<th>Tire Size</th>
<th>Qty</th>
<th>Tire Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>8323 - 8328</td>
<td>9.5L–15 8 ply</td>
<td>4</td>
<td>9.5L–15 8 ply</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8332 - 8336</td>
<td>11L-15 12 ply</td>
<td>4</td>
<td>9.5L–15 8 ply</td>
<td>4</td>
<td>9.5L–15 8 ply</td>
<td>4</td>
</tr>
<tr>
<td>8539 - 8560</td>
<td>11L-15 F ply</td>
<td>4</td>
<td>9.5L–15 8 ply</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hydraulic Connectors and Torque

Refer to Figure 14 (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.
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)
Note straight threads and the 37° cone 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 and elastomer O-Ring. 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 and jam nut (“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.

<table>
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<tr>
<th>Fittings Torque Values</th>
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<tbody>
<tr>
<td>Dash Size</td>
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# Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 2</td>
<td>Grade 5</td>
</tr>
<tr>
<td>in-tpi(^a)</td>
<td>N-m(^b) ft-lb(^d)</td>
<td>N-m ft-lb</td>
</tr>
<tr>
<td>1/4-20</td>
<td>7.4 5.6</td>
<td>11 8</td>
</tr>
<tr>
<td>1/4-28</td>
<td>8.5 6</td>
<td>13 10</td>
</tr>
<tr>
<td>5/16-18</td>
<td>15 11</td>
<td>24 17</td>
</tr>
<tr>
<td>5/16-24</td>
<td>17 13</td>
<td>26 19</td>
</tr>
<tr>
<td>3/8-16</td>
<td>27 20</td>
<td>42 31</td>
</tr>
<tr>
<td>3/8-24</td>
<td>31 22</td>
<td>47 35</td>
</tr>
<tr>
<td>7/16-14</td>
<td>43 32</td>
<td>67 49</td>
</tr>
<tr>
<td>7/16-20</td>
<td>49 36</td>
<td>75 55</td>
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<tr>
<td>7/32-13</td>
<td>66 49</td>
<td>105 76</td>
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<td>75 55</td>
<td>115 85</td>
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<td>5/32-12</td>
<td>95 70</td>
<td>150 110</td>
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<td>105 79</td>
<td>165 120</td>
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<td>5/32-11</td>
<td>130 97</td>
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<td>150 110</td>
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<td>3/32-10</td>
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<tr>
<td>3/32-16</td>
<td>260 190</td>
<td>405 295</td>
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<tr>
<td>9/64-9</td>
<td>225 165</td>
<td>585 430</td>
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<td>7/64-14</td>
<td>250 185</td>
<td>640 475</td>
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<td>5/32-12</td>
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<td>340 250</td>
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<td>1-12</td>
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<td>370 275</td>
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<td>11/64-7</td>
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<td>480 355</td>
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<td>1/8-12</td>
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<td>540 395</td>
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<td>11/32-6</td>
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<td>680 500</td>
</tr>
<tr>
<td>1/8-12</td>
<td></td>
<td>750 555</td>
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<td></td>
<td>890 655</td>
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<td>1/8-12</td>
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<td>1010 745</td>
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<tr>
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<td>1180 870</td>
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<td>1/2-12</td>
<td></td>
<td>1330 980</td>
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</table>

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm x pitch(^c)</td>
<td>Class 5.8</td>
</tr>
<tr>
<td>N-m ft-lb</td>
<td>N-m ft-lb</td>
</tr>
<tr>
<td>M 5 X 0.8</td>
<td>4</td>
</tr>
<tr>
<td>M 6 X 1</td>
<td>7</td>
</tr>
<tr>
<td>M 8 X 1.25</td>
<td>17</td>
</tr>
<tr>
<td>M 8 X 1</td>
<td>18</td>
</tr>
<tr>
<td>M10 X 1.5</td>
<td>33</td>
</tr>
<tr>
<td>M10 X 0.75</td>
<td>39</td>
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<tr>
<td>M12 X 1.75</td>
<td>58</td>
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</tr>
<tr>
<td>M12 X 1</td>
<td>90</td>
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<tr>
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<td>960</td>
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<td>M30 X 2</td>
<td>1060</td>
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<tr>
<td>M36 X 3.5</td>
<td>1730</td>
</tr>
<tr>
<td>M36 X 2</td>
<td>1880</td>
</tr>
</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.
Warranty

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

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

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

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

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

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