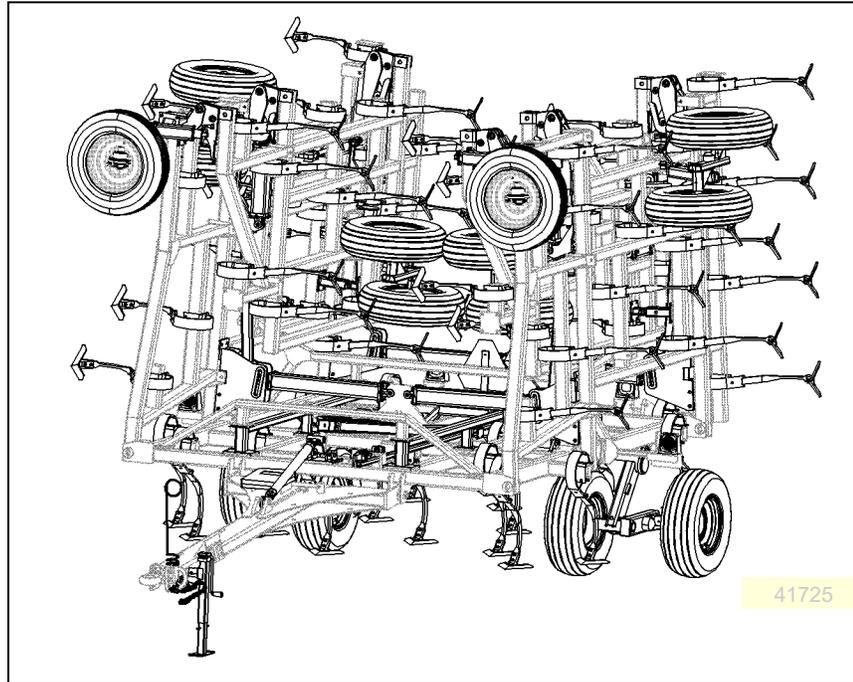


Operator Manual

8323, 8328, 8332, 8336,
8539, 8544, 8548, 8551, 8556 & 8560
Field Cultivator, Constant Level



Read the operator's manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!



Illustrations may show optional equipment not supplied with standard unit.

ORIGINAL INSTRUCTIONS



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Printed 2022-06-15

560-483M

Machine Identification

Record your machine details in the log below. If you replace this manual, be sure to transfer this information to the new manual.

If you or the dealer have added options not originally ordered with the machine, or removed options that were originally ordered, the weights and measurements are no longer accurate for your machine. Update the record by adding the machine weight and measurements with the option(s) weight and measurements.

Model Number	
Serial Number	
Machine Height	
Machine Length	
Machine Width	
Machine Weight	
Year of Construction	
Delivery Date	
First Operation	
Accessories	<hr/> <hr/> <hr/>

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.

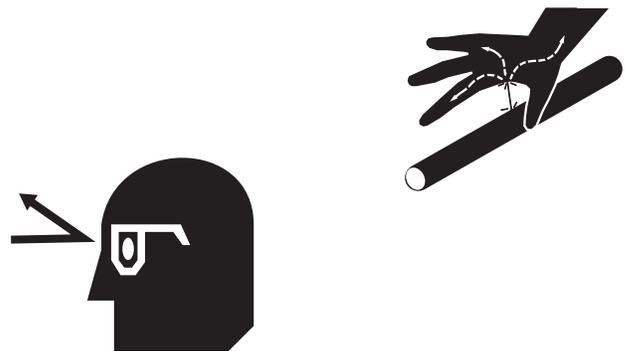
- ▲ *Read and follow chemical manufacturer's instructions.*
- ▲ *Wear protective clothing.*
- ▲ *Handle all chemicals with care.*
- ▲ *Avoid inhaling smoke from any type of chemical fire.*
- ▲ *Store or dispose of unused chemicals as specified by chemical manufacturer.*



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.

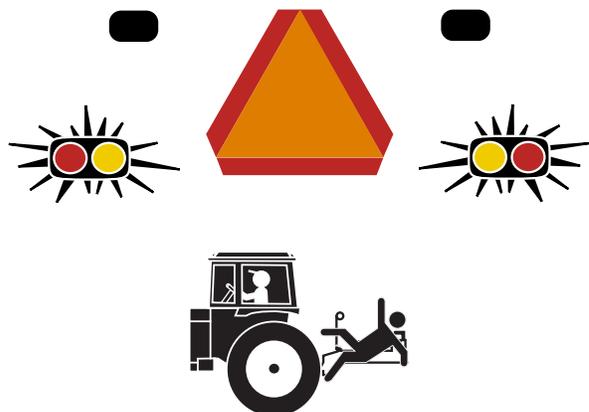
- ▲ *Use flashing warning lights and turn signals whenever driving on public roads.*

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.

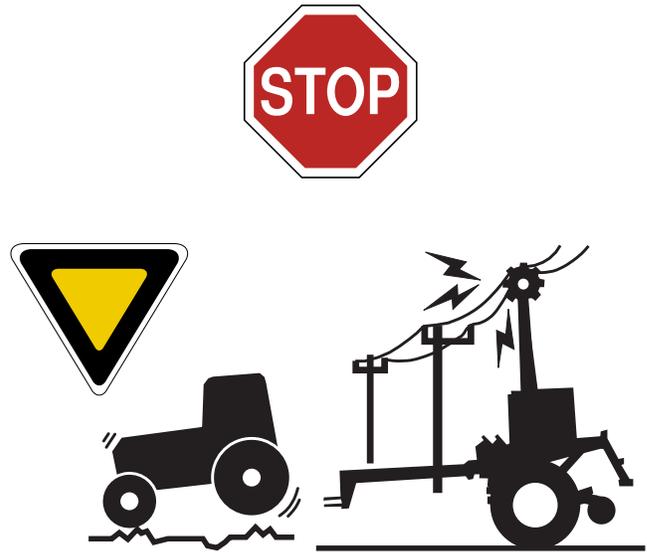
- ▲ *Never allow children to operate equipment.*
- ▲ *Keep all bystanders away from machine during operation.*



Transport Machinery Safely

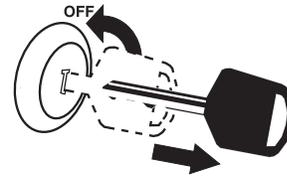
Maximum transport speed for implement is 20 mph (32 kph), 13 mph (22 kph) in turns. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

- ▲ *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 23.*
- ▲ *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

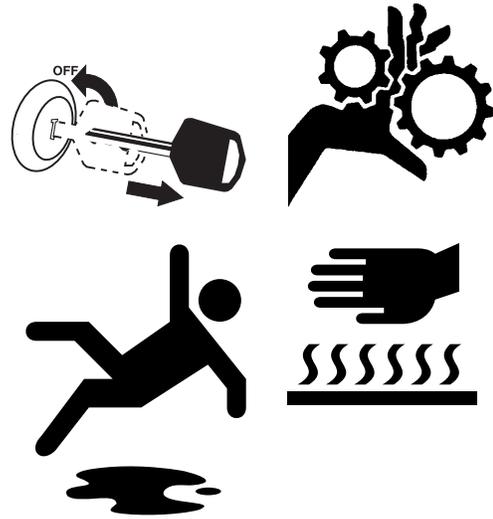
Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.

- ▲ *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

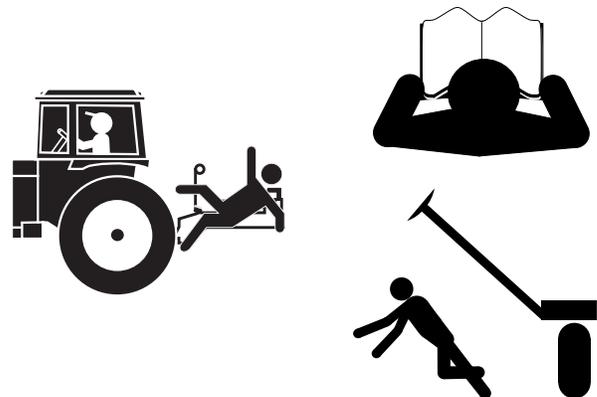
- ▲ *Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.*
- ▲ *Work in a clean, dry area.*
- ▲ *Lower the machine, put tractor in park, turn off engine, and remove key before performing maintenance.*
- ▲ *Disconnect battery ground cable (-) 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.*

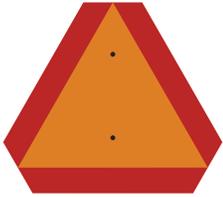


Safety Decals

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

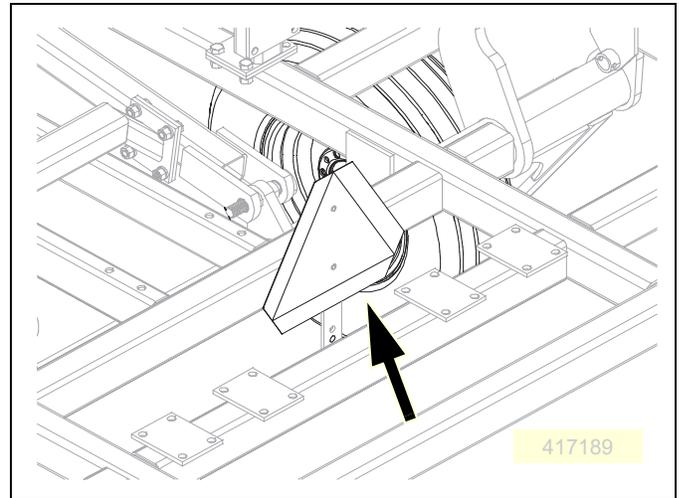


818-055C Slow Moving Vehicle Reflector

On the back of the center wing stop.;
1 total

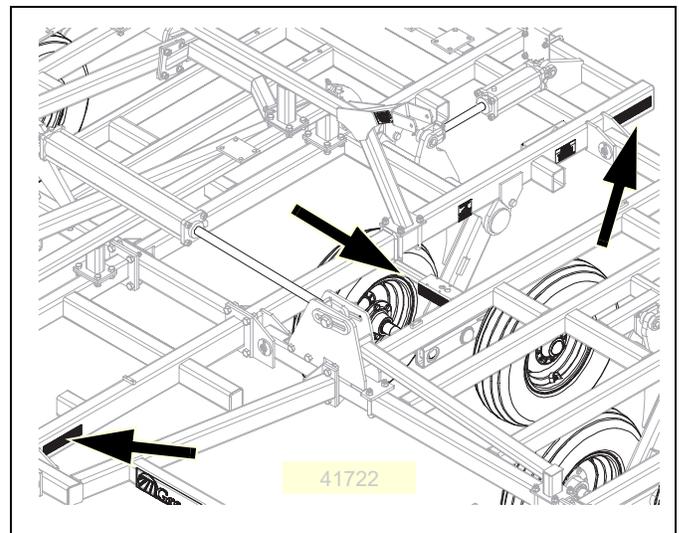
To install new decals:

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



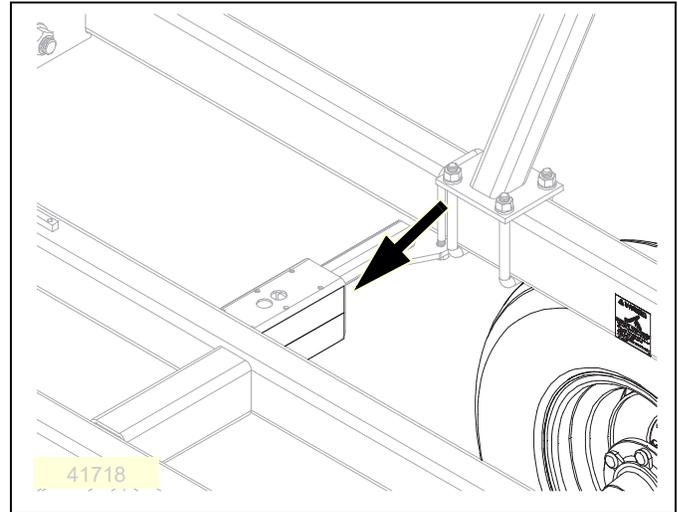
838-615C Amber Reflectors

Two on 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



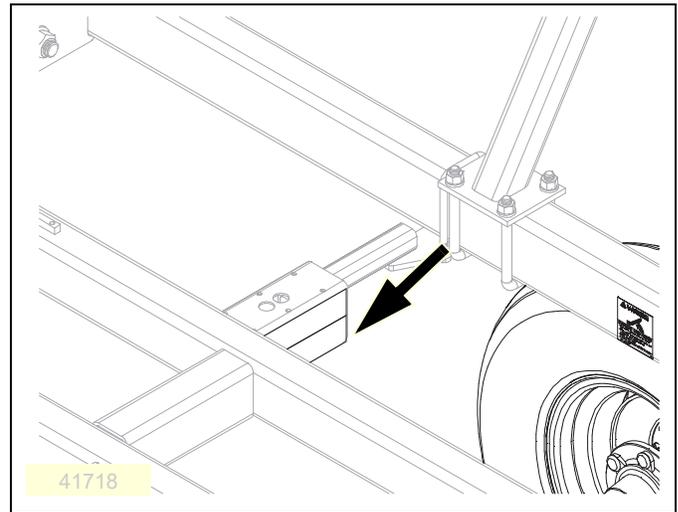
838-614C Red Reflectors

On rear of light brackets (top) Back of reflector bracket,
rear of machine (top).;
4 total



838-603C Orange Reflectors

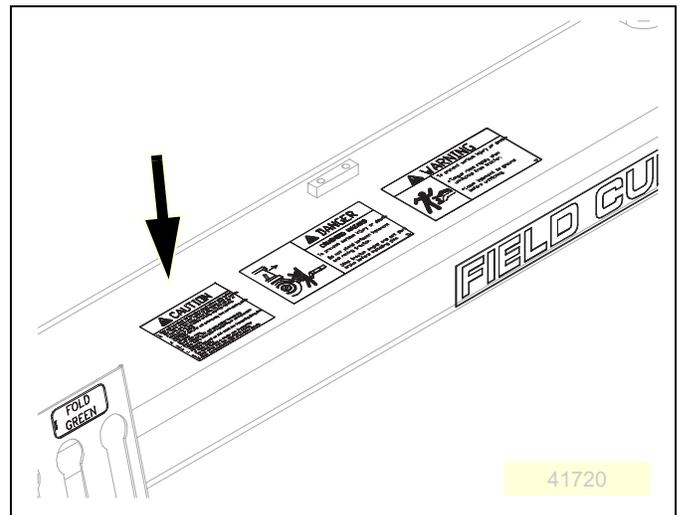
On rear of light brackets (bottom) Back of reflector
bracket, rear of machine (bottom).;
4 total

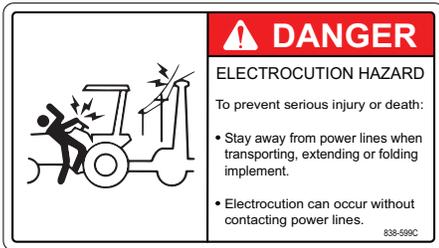


CAUTION	
<ol style="list-style-type: none"> 1. Read and Understand the Operator's Manual before using machine. 2. Stop tractor engine, lower machine to the ground, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing, unplugging or fitting. 3. Keep hands, feet, hair and clothing away from earth-working points and blades. 4. Do not allow riders. 5. Clean reflectors, SMV and lights before transporting. 6. Install safety locks before transporting or working beneath components. 7. Add extra lights and use pilot vehicle when transporting during times of limited visibility. 8. Use hazard flashers in tractor when transporting. 9. Install safety chain when attaching to tractor. 10. Review safety instructions with all operators annually. 	838-598C

838-598C Caution: Read Operator's Manual

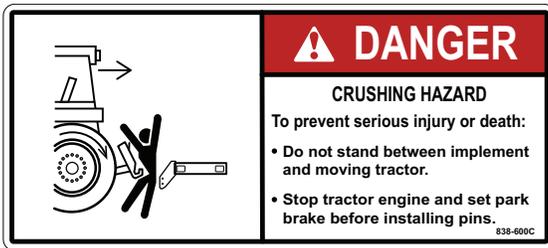
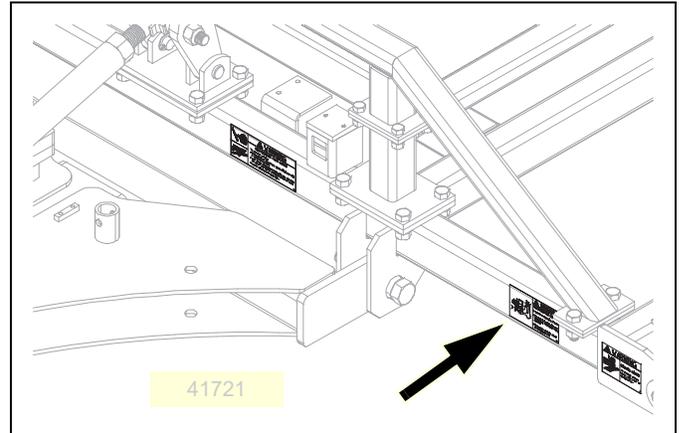
On front of hitch;
1 total





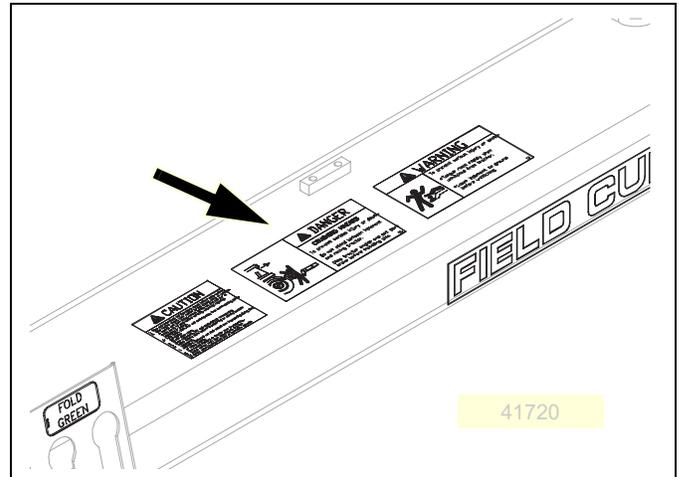
838-599C
Danger: Electrocution Hazard

Front side of center wing brace (left side);
 1 total



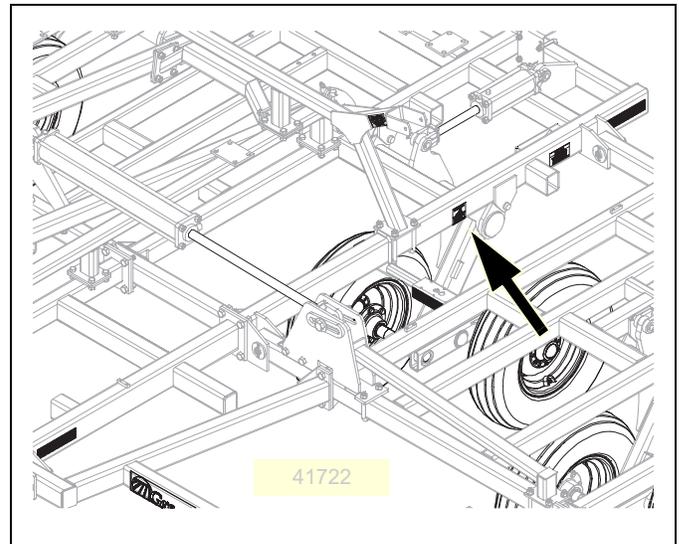
838-600C
Danger: Crushing Hazard

On front (middle) of hitch;
 1 total



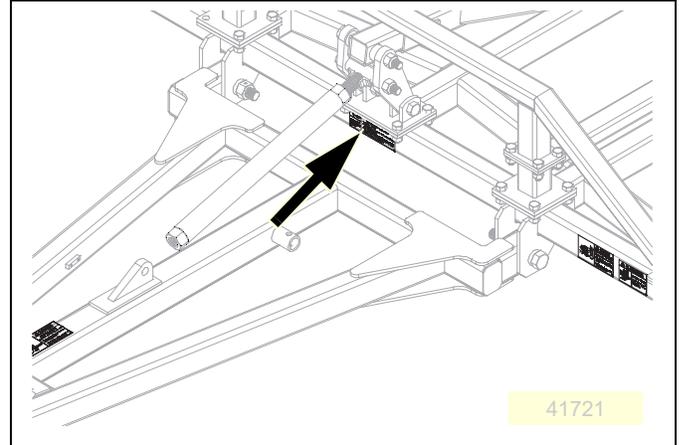
838-602C
Warning: Overhead Wing Hazard

On outside center of center and wing frames (both sides);
 4 total 8323, 8328, 8332 & 8336
 6 total 5539, 8544, 8548, 8551, 8556 & 8560

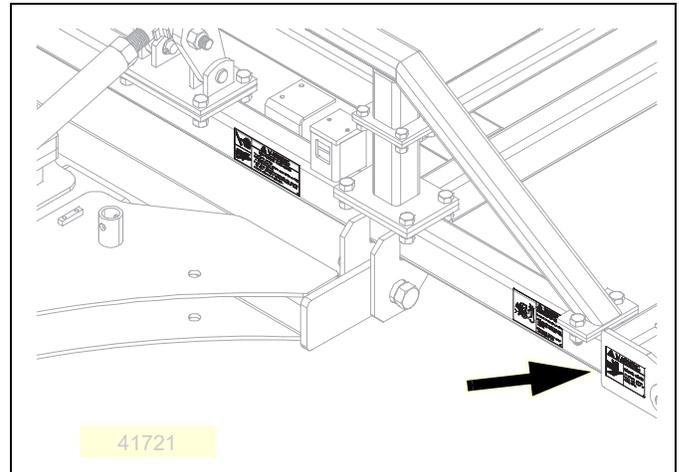


**838-094C****Warning: High Pressure Fluid**

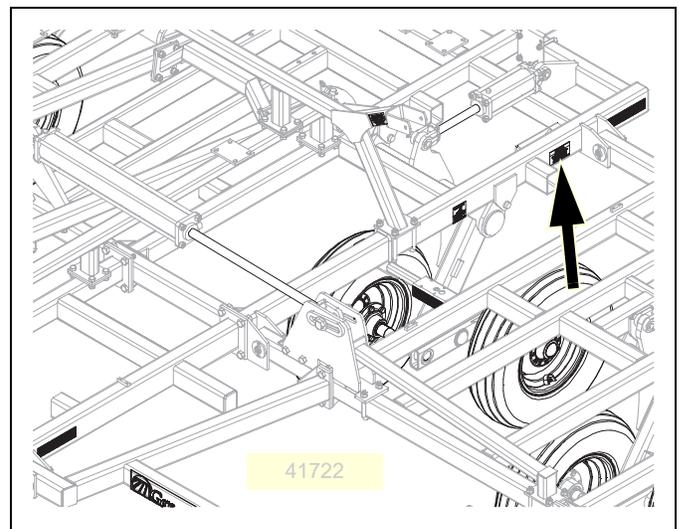
Front side of center wing brace (middle);
 1 total

**838-611C****Warning: Hand Crushing**

Front side of center wing brace (left & right side);
 2 total

**838-613C****Notice: Transport Lock**

On outside center of center frame (both sides);
 2 total

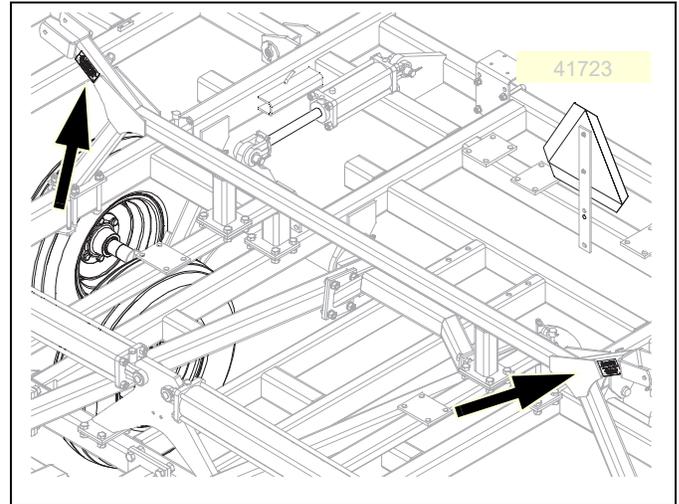




838-612C

Warning: Wings Could Fall Suddenly

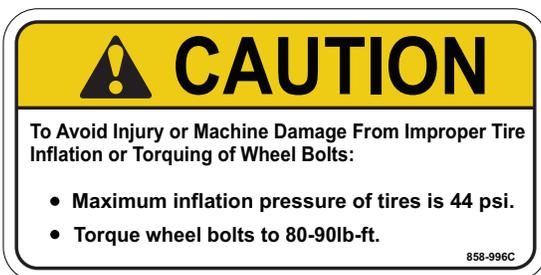
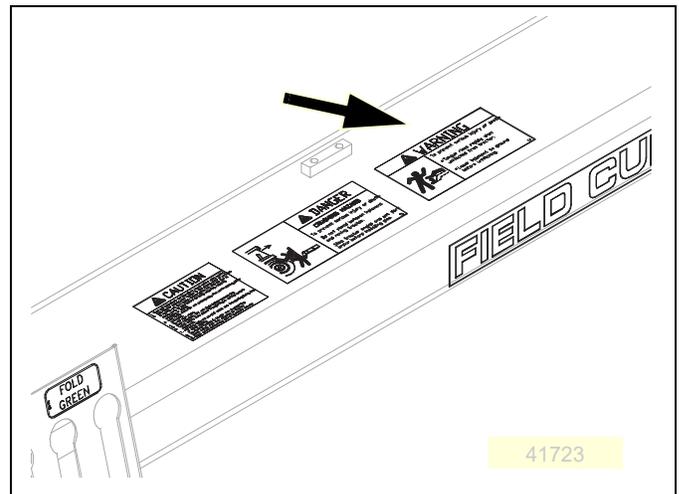
On front of wing stop (both sides);
 2 total



838-606C

Warning: Tongue Rising

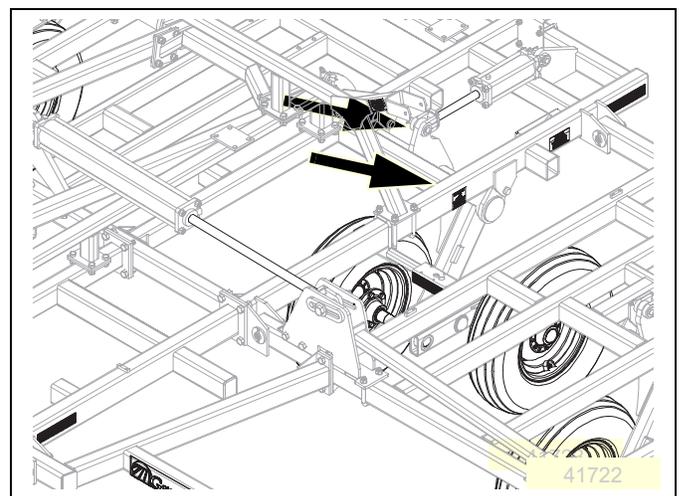
On front of hitch;
 1 total

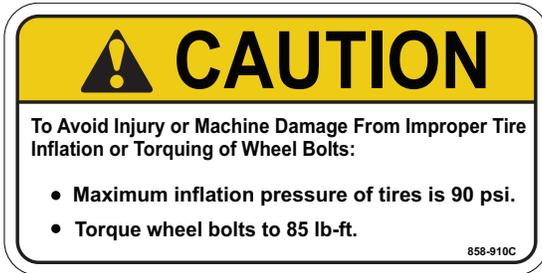


858-996C

Tire Pressure

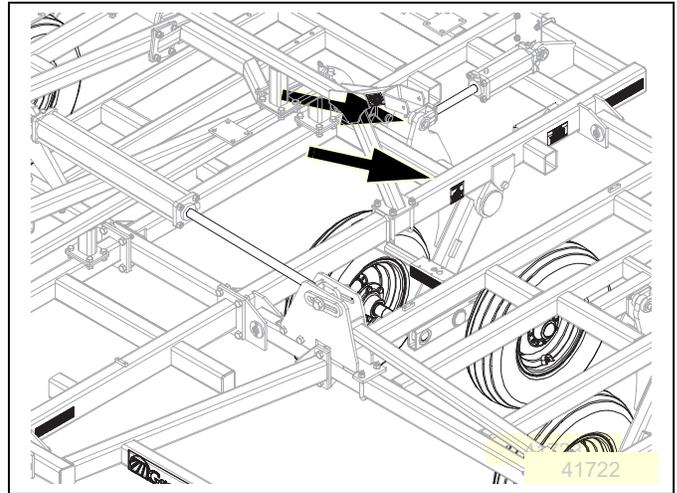
On outside of center frame above tire Models 8323-8328
 On outside of wing frame above tire-All Models;
 Total depends on Model





858-910C Tire Pressure

Models 8551-8560
On outside of center frame above tire
2 total





Introduction

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

8323FCC	23-Foot	3-section
8328FCC	28-Foot	3-section
8332FCC	32-Foot	3-section
8336FCC	36-Foot	3-section
8539FCC	39-Foot	5-section
8544FCC	44-Foot	5-section
8548FCC	48-Foot	5-section
8551FCC	51-Foot	5-section
8556FCC	56-Foot	5-section
8560FCC	60-Foot	5-section

Description of Unit

The 8323-8560FCC Field Cultivator 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

560-483Q-ENG	Assembly Manual
560-483Q	Pre-Delivery Manual
560-483M	Operator Manual (this document)
560-483P	Parts Manual

Using This Manual

This manual will familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and

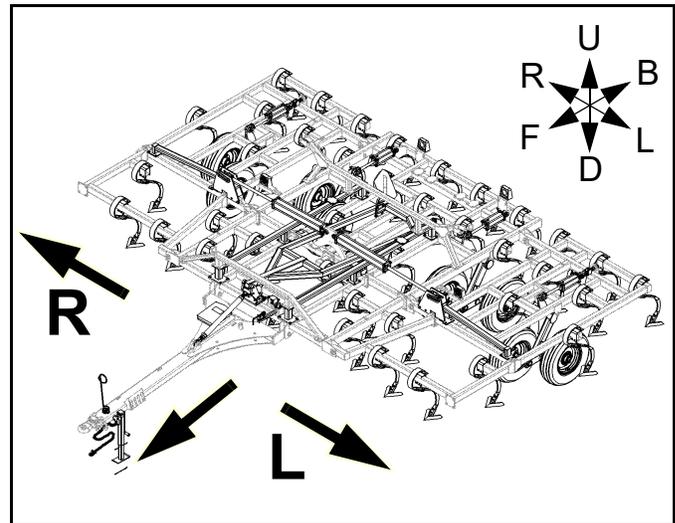
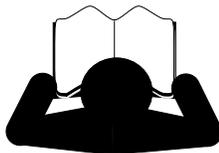


Figure 1
8323FCC Turbo Max

41726

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

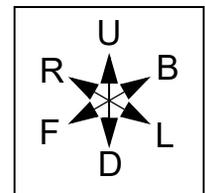
The following terms are used throughout this manual.

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 8323-8560FCC 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.

3. Discuss the matter with your dealership service manager. Make sure they are aware of any problems so they can assist you.
4. 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 8323-8560FCC. If for any reason you do not understand any part of this manual or are otherwise dissatisfied with the product please contact:

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

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

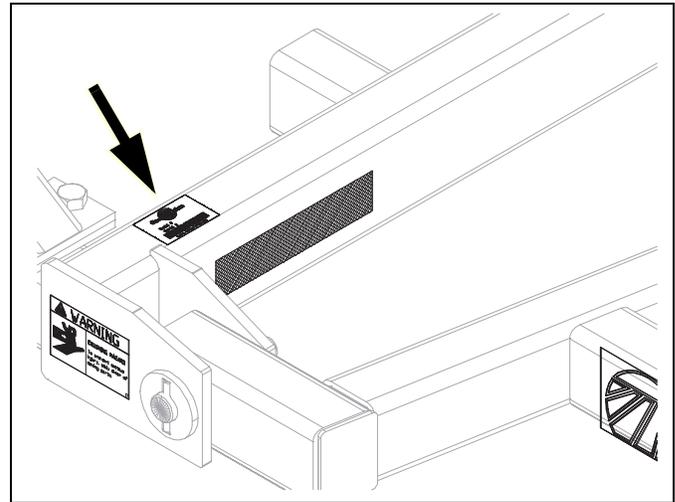


Figure 2
Serial Number Plate

41724



Preparation and Setup

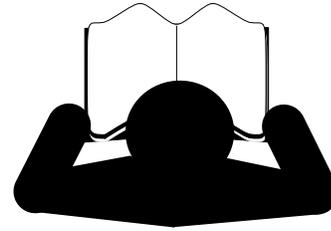
This section helps you prepare your tractor and 8323-8560FCC Field Cultivator for use, and covers tasks that need to be done seasonally, or when the tractor/Field Cultivator configuration changes.

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 13 and 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 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. See “**Lubrication**” on page 21. 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 23.
- 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.

5. Raise tractor three-point arms (if equipped) clear up to clear Field Cultivator.
6. 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.
7. 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

8. Use jack (1) to raise and lower Field Cultivator tongue.

Refer to Figure 4

9. After hitching tractor to Field Cultivator, store jack on storage tube (2) on side of Field Cultivator tongue.
10. Secure Field Cultivator safety chain to an anchor on the tractor capable of pulling the unit.

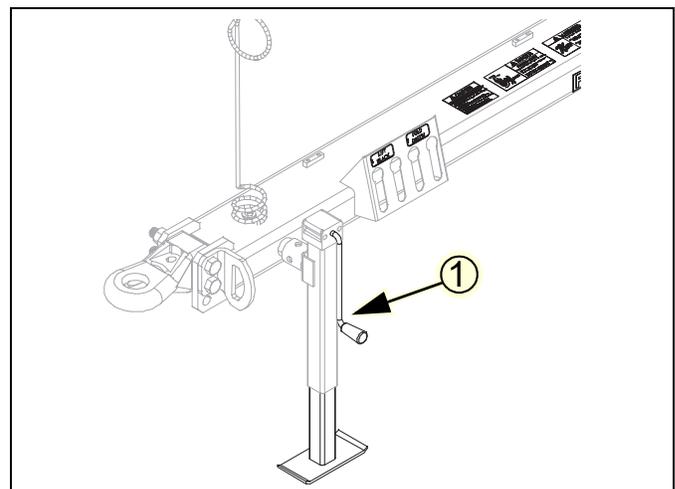


Figure 3
Tongue on Jack

41727

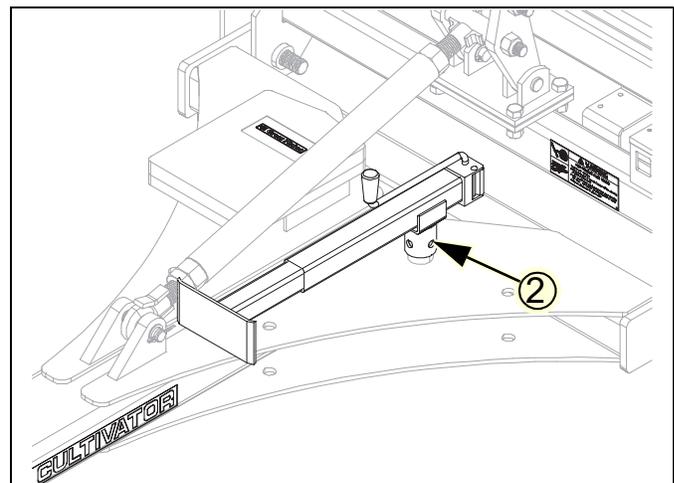


Figure 4
Jack in Storage

41728

Hydraulic Hose Hookup

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

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

WARNING

High Pressure Fluid Hazard:

Relieve pressure before disconnecting hydraulic lines. Use 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. Only trained personnel should work on system hydraulics.



Refer to Figure 5

Hose Handles

To distinguish hoses on the same hydraulic circuit, refer to, “**Hydraulic Hose Hookup**” on page 15. 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.

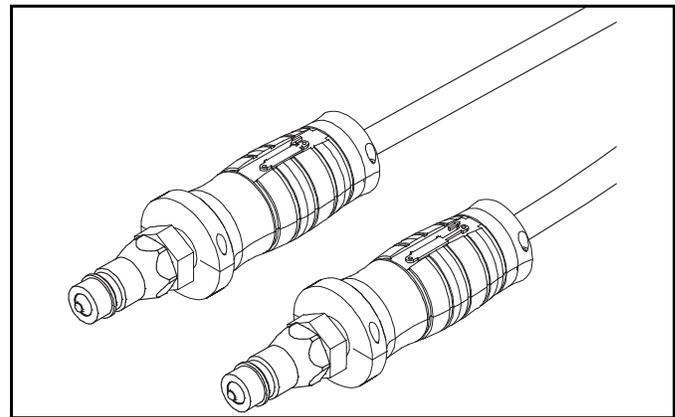


Figure 5
Hose Handles

41552

First Time Field Adjustments

Pre-Leveling of Machine

Front to Rear Leveling

Refer to Figure 6

- 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. 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.

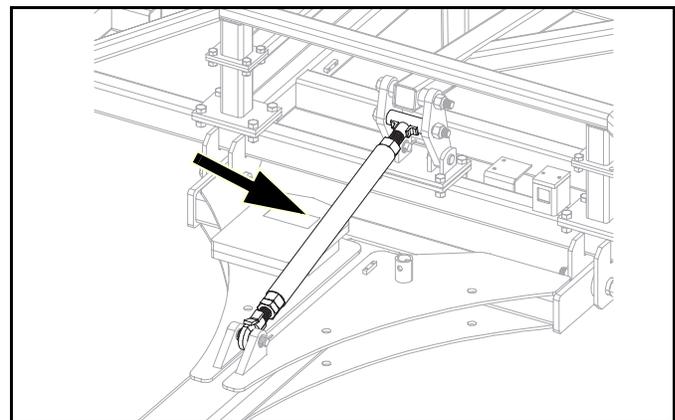


Figure 6
Hitch Turnbuckle Adjustment

41753

Side to Side Leveling

Refer to Figure 7

12. Set the 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) (turn counter-clockwise), to run shallower, shorten the bolt (turn clock-wise) to run deeper.
 13. 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.

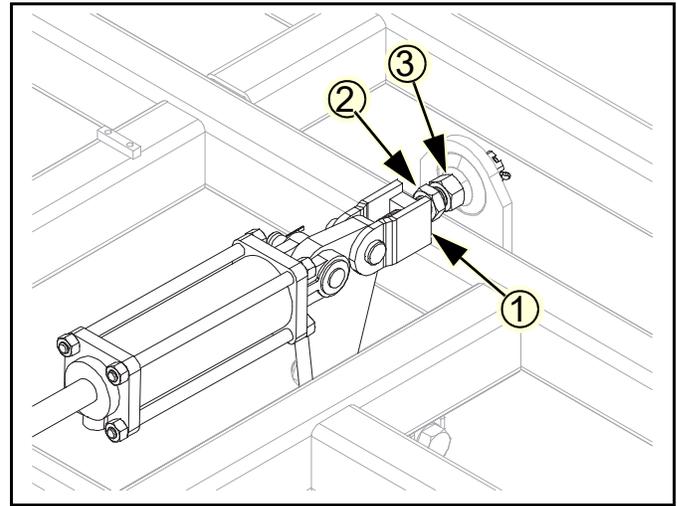


Figure 7
Wing Depth Adjustment

4729



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 8323-8560FCC Field Cultivator to the field.

- Carefully read “**Important Safety Information**” on page 1.
- Lubricate Field Cultivator as indicated under “**Lubrication**” on page 21.
- Check all tires for proper inflation.
- Check all bolts, pins, and fasteners. Torque as shown in “**Tire Inflation Chart**” on page 23.
- 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.

Transporting

See “**Hitching Tractor to Field Cultivator**” on page 14 before transporting the Field Cultivator.

Check Tractor Capacity and Configuration

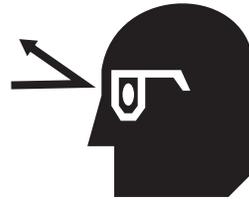
- Consult your tractor manual for 3-point limitations.
- Add weights to tractor as required.

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 14.
- 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.

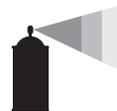
Travel with caution. Allow safe clearance. Remember that the Field Cultivator is wider than the tractor.



WARNING

High Pressure Fluid Hazard:

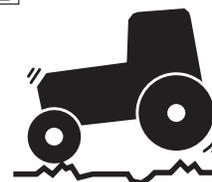
Relieve pressure and shut down tractor before connecting, disconnecting or checking hydraulic lines. Use a piece of paper or cardboard, **NOT BODY PARTS**, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.



WARNING

Loss of Control Hazard:

Use a tractor rated for the load. Add tractor ballast as needed. Do not exceed 20 mph. Towing the Field Cultivator with a vehicle that is not adequate, or at high speeds, could lead to loss of vehicle control. Loss of vehicle control can result in a serious road accident, severe injury or death. Check that your tractor has enough to handle the weight of the Field Cultivator. Refer to your tractor’s operator manual for capacities and ballast requirements.



General Operation and In-Field Adjustments

14. 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.
 15. If possible have someone observe the machine during first time operation for levelness, front to rear and wings to center frame. Adjust each as needed. For front to rear, either extend or shorten the length of the turnbuckle on the self-leveler. 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 15.
 16. 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.
 17. 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.
18. When you have the machine set to the desired working depth, set the depth stop slide on the depth control bar. This is located at the front of the machine on the brace bar. This will maintain a constant depth each time after raising and lowering the machine.
 19. 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.
 20. Adjust the drag to leave the desired results while maintaining the trash flow through the drag.

Gauge Wheel Adjustment

Refer to *Figure 8*

21. 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 $\frac{1}{2}$ " to $1\frac{1}{2}$ " off the ground.
22. Start by loosening set screws (1) on each gauge wheel. Turn jack handle (2), to adjust spindle receiver (3). To lengthen the spindle receiver (3) (turn counter-clockwise), to run wheel closer to ground, to shorten the spindle receiver (turn clockwise) to run further away from ground.
23. After adjusting gauge wheel to position needed, re-tighten the set screws (1).

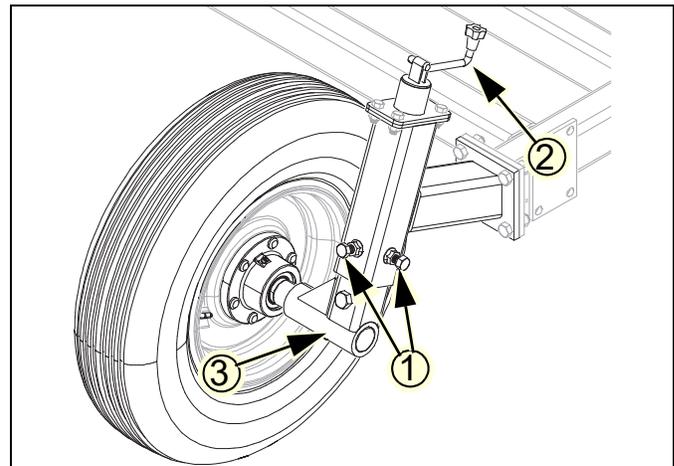


Figure 8
Gauge Wheel Adjustment

41774

Rear Attachment Settings

Spike Drag Settings

Refer to Figure 9

24. 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 10

25. 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.

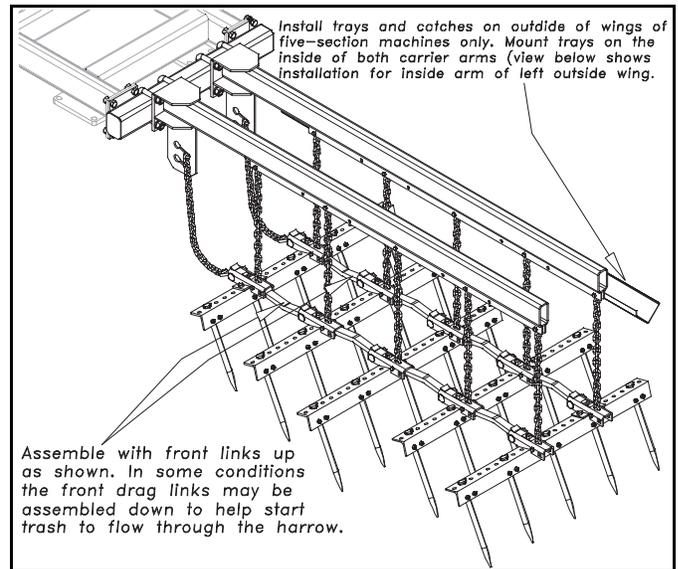


Figure 9
Spike Drag Settings

41235

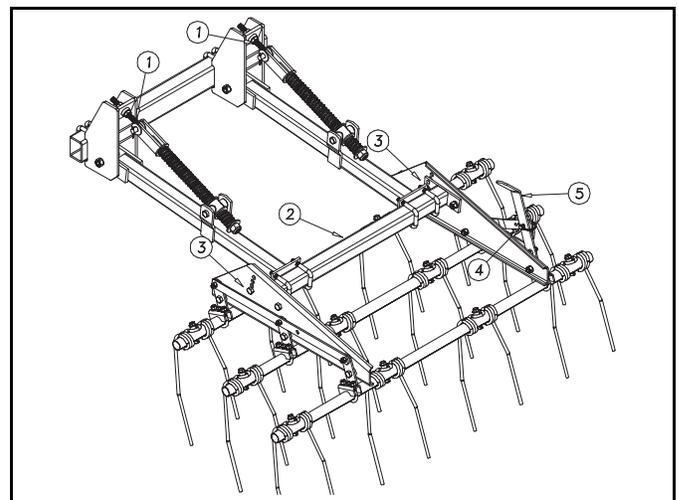


Figure 10
Coil Tine Settings

41373

Heavy Reel Adjustment

Refer to Figure 11

26. 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 (2). Note: It is recommended to run little or no down pressure in wet or sticky field conditions.

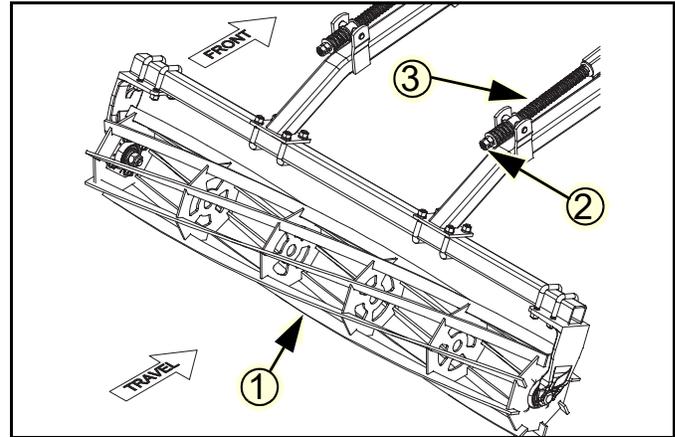


Figure 11
Heavy Reel Adjustment

42979

Refer to Figure 12

27. 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.

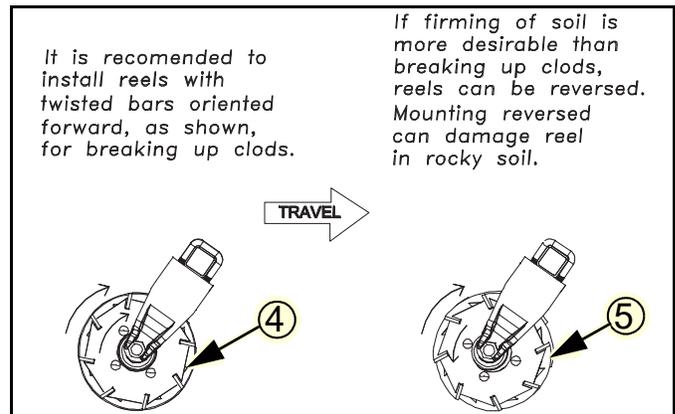


Figure 12
Reel Direction

42284

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. Reel Bearings are maintenance free & do not require greasing.

6. Check drag bolts for looseness or excessive wear. Replace broken or bent teeth. Your drag is an important part of the tillage operation.
7. If machine is stored outdoors over the winter months, it is a good idea to fold the machine then set 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

 Multipurpose spray lube	 Multipurpose grease lube	 Multipurpose oil lube	 Intervals (service hours) at which lubrication is required
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Wheel Bearing Hub

	
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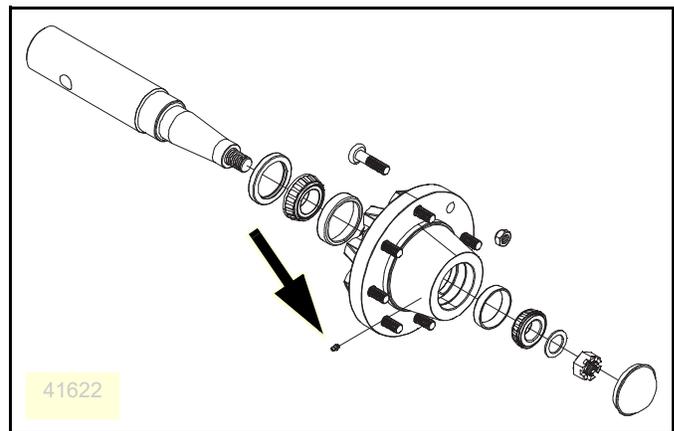
1 zerk on each hub;
4 total

Type of Lubrication: Grease

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

Newer units will not have these grease zerks.

Repack wheel bearings annually or every 2500 acres.





FC Specifications and Capacities

Model No.	8323FCC	8328FCC	8332FCC	8336FCC	8539FCC
Sweep Width	23' (7.01 m)	27', 9" (8.4582 m)	32' 6" (9.90 m)	36' (10.97 m)	39' 6" (12.04 m)
Number of Sweeps	39	47	55	61	67
Center Section	10' (3.05 m)	10' (3.05 m)	10' (3.05 m)	12' (3.66 m)	10' (3.05 m)
1st Wing	6' 6" (1.98 m)	9' (2.74 m)	11' 3" (3.43 m)	11' 3" (3.43 m)	8' (2.44 m)
2nd Wing	N/A	N/A	N/A	N/A	6' 6" (1.98 m)
Transport Width	14' (4.27 m)	14' (4.27 m)	14' (4.27 m)	16' 1" (4.90 m)	15' (4.57 m)
Transport Height	10' (3.05 m)	12' 6" (3.81 m)	14' 9" (4.50 m)	14' 9" (4.50 m)	11' 9" (3.58 m)
Tire Size Center	9.5 LX15 8 PLY	9.5 LX15 8 PLY	11L-15 12 PLY	11L-15 12 PLY	11LX15 LOAD F
Tire Size Wing	9.5 LX15 8 PLY				
Horsepower (PTO)	120-175	150-200	175-225	200-250	200-275
Kilowatt	89-130	111-149	130-168	149-186	149-205
Weight (base machine)	7590 lbs. (3443 kg)	8960 lbs. (4064 kg)	9800 lbs. (4445 kg)	11700 lbs. (5307 kg)	12550 lbs. (5693 kg)
Model No.	8544FCC	8548FCC	8551FCC	8556FCC	8560FCC
Sweep Width	44' (13.41 m)	48' 9" (14.86 m)	51' (15.54 m)	55' 9" (16.99 m)	60' 6" (18.44 m)
Number of Sweeps	75	83	87	95	103
Center Section	10' (3.05 m)	10' (3.05 m)	12' (3.66 m)	12' (3.66 m)	12' (3.66 m)
1st Wing	10' 6" (3.20 m)	10' 6" (3.20 m)	10' 6" (3.20 m)	12' 9" (3.89 m)	12' 9" (3.89 m)
2nd Wing	6' 6" (1.98 m)	9' (2.74 m)	9' (2.74 m)	9' (2.74 m)	11' (3.35 m)
Transport Width	15' (4.57 m)	15' (4.57 m)	16' 10" (5.14 m)	16' 10" (5.14 m)	16' 10" (5.14 m)
Transport Height	14' (4.27 m)	14' (4.27 m)	14' (4.27 m)	16' 4" (4.99 m)	16' 4" (4.99 m)
Tire Size Center	11LX15 LOAD F	11LX15 LOAD F	12.5LX15 LOAD F	12.5LX15 LOAD F	12.5LX15 LOAD F
Tire Size Wings	9.5 LX15 8 PLY				
Horsepower (PTO)	225-300	250-325	275-350	300-375	325-400
Kilowatt	168-224	186-242	205-261	224-280	242-298
Weight (base machine)	13860 lbs. (6287 kg)	14940 lbs. (6777 kg)	15560 lbs. (7058 kg)	16280 lbs. (7384 kg)	16500 lbs. (7484 kg)

Tire Inflation Chart

Tire Inflation Chart		
Wheel	Tire Size	Inflation
Gauge Wheel	9.5Lx15" 8-Ply	44 psi 303 kPa
Transport/ Center/Wing	9.5Lx15" 8-Ply	44 psi 303 kPa
Transport/ Center	11Lx15" 12-Ply	52 psi 359 kPa
Transport/ Center	11Lx15" Load F	90 psi 621 kPa
Transport/ Center	12.5L x 15" F-Ply	90 psi (621 kPa)

Tire Warranty Information

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

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

Tires Chart

Tires for Main Frame						
Model Numbers	Center Frame		1 st Wing		2 nd Wing	
	Tire Size	Qty	Tire Size	Qty	Tire Size	Qty
8323 - 8328	9.5L-15 8 ply	4	9.5L-15 8 ply	4		
8332 - 8336	11L-15 12 ply	4	9.5L-15 8 ply	4		
8539 - 8548	11L-15 F ply	4	9.5L-15 8 ply	4	9.5L-15 8 ply	4
8551 - 8560	12.5L-15 F ply	4	9.5L-15 8 ply	4	9.5L-15 8 ply	4

Models showing 4 tires per section have walking tandems on those sections.

Hydraulic Connectors and Torque

Refer to Figure 13 (a hypothetical fitting)

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

NPT - National Pipe Thread

Note tapered threads, no cone/flare, and no O-ring.

- 1 Apply liquid pipe sealant for hydraulic applications. Do not use tape sealant, which can clog a filter and/or plug an orifice.

JIC - Joint Industry Conference (SAE J514)

- 2 Note straight threads (4) and the 37° cone (5) on "M" fittings (or 37° flare on "F" fittings). Use no sealants (tape or liquid) on JIC fittings.

ORB - O-Ring Boss (SAE J514)

Note straight threads (5) and elastomer O-Ring (6). Prior to installation, to prevent abrasion during tightening, lubricate O-Ring with clean hydraulic fluid.

- 3 Use no sealants (tape or liquid) on ORB fittings. ORB fittings that need orientation, such as the ell depicted, also have a washer (7) and jam nut (8) ("adjustable thread port stud"). Back jam nut away from washer. Thread fitting into receptacle until O-Ring contacts seat. Unscrew fitting to desired orientation. Tighten jam nut to torque specification.

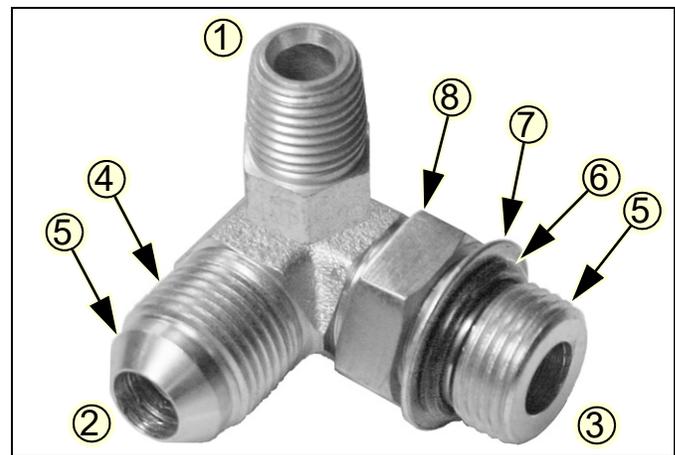


Figure 13
Hydraulic Connector ID

31282

Fittings Torque Values

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

Torque Values Chart

Bolt Size	Bolt Head Identification						Bolt Size	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8			 Class 5.8		 Class 8.8		 Class 10.9	
in-tpi ^a	N-m ^b	ft-lb ^d	N-m	ft-lb	N-m	ft-lb	mm x pitch ^c	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
1/4-20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4-28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16-18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16-24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8-16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8-24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16-14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16-20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2-13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2-20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16-12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16-18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8-11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8-18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4-10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4-16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8-9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8-14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1-8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1-12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1 1/8-7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8-12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4-7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 1/4-12	750	555	1680	1240	2730	2010							
1 3/8-6	890	655	1990	1470	3230	2380							
1 3/8-12	1010	745	2270	1670	3680	2710							
1 1/2-6	1180	870	2640	1950	4290	3160							
1 1/2-12	1330	980	2970	2190	4820	3560							

- a. in-tpi = nominal thread diameter in inches-threads per inch
- b. N·m = newton-meters
- c. mm x pitch = nominal thread diameter in mm x thread pitch
- d. ft-lb = foot pounds

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

25199

Torque Values Chart	
Wheel Bolt Torque Values	1/2"-20 (75-85ft-lbs)
Wheel Bolt Torque Values	5/16"-18 (80-90ft-lbs)
Wheel Bolt Torque Values	5/8"-18 (85-95ft-lbs)



WARRANTY

Great Plains (a division of Great Plains Manufacturing, Inc.) warrants to the original purchaser that this Great Plains machine will be free from defects in material and workmanship for a period of one year (Parts & Labor) from the first use date when used as intended for personal use; ninety days for custom/commercial or rental use.

Second year limited warranty covers Parts ONLY (personal usage only, excluding labor and wear items). This warranty is limited to the replacement of any defective part by Great Plains. Great Plains reserves the right to inspect any equipment or part which are claimed to have been defective in material or workmanship.

The following items and/or conditions are **NOT COVERED UNDER WARRANTY**: Failures resulting from the abuse or misuse of the equipment, failures occurring as a result of accidental damage or Force Majeure, failures resulting from alterations or modifications, failures caused by lack of normal maintenance as outlined in the operator's manual, repairs made by non-authorized personnel, items replaced or repaired due to normal wear (such as wear items and ground-engaging components including, but not limited to, disc blades, chisel points, tires, bushings, and scrapers), repeat repair due to improper diagnosis or improper repair by the dealer, temporary repairs, service calls and/or mileage to and from customer location, overtime premium, or unit hauling expenses. The warranty may be voided if the unit is towed at speeds in excess of 20 miles per hour (32 kilometers per hour), or failures occurring from soils with rocks, stumps, or other obstructions.

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

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

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

Effective July 15, 2020

©Great Plains Manufacturing Inc., 2204-GPSV



A			
address, Great Plains	11	20	
amber reflectors	5		
B			
bearings	20		
bolts	20		
C			
Caution			
Read Operator's Manual	6		
CAUTION, defined	1		
chain	13		
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