Read the operator 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 alternate spacings and/or 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.

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## 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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Introduction

Description of Unit

The CF500 and CF600 are non-turf type, cross-folding sprayer booms. The booms hydraulically unfold to an operating width of 50 or 60 feet. The booms can be mounted on an Great Plains trailer sprayer, three-point sprayer or three-point mount.

Options

The CF500 and CF600 can optionally be equipped with an electric-hydraulic controller. The controller is used to operate boom folding and elevator lift on the same hydraulic circuit. The controller mounts in your tractor cab for convenient switching between hydraulic functions.

The control is available as joystick controller for tractors with hydraulic levers. The joystick controller is also available as a switch-box controller for tractors with hydraulic switches.

Intended Usage

Use these booms as part of a pressurized sprayer system to apply liquid pesticides, herbicides or fertilizers to production-agriculture crops only. Mount booms on Great Plains trailer sprayers, three-point sprayers or three-point hitches only. Do not modify the boom or use the boom with any tillage attachments.

Models Covered

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See “Specifications and Capacities” on page 31 for precise swath information.

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

Owner Assistance

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

Your machine’s parts were specially designed and should only be replaced with Great Plains parts. Always use the model and serial number when ordering parts from your Great Plains dealer. The serial-number plate is located on the rear of left-hand boom.

Further Assistance

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

1. Discuss the matter with your dealership service manager. Make sure 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.

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

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

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

Look for Safety Symbol

The SAFETY ALERT SYMBOL 1 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. The signal words are:

DANGER

DANGER Indicates an imminent hazard 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

WARNING Indicates a potential hazard 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

CAUTION Indicates a potential hazard which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Be Familiar with Safety Decals

1. Thoroughly read and understand “Safety Decals” on page 5
2. Read all instructions noted on the decals.

Wear Protective Equipment

1. Wear protective clothing and equipment appropriate for the job, such as safety shoes, safety glasses, hard hat, and ear plugs.
2. Clothing must fit snug without fringes and pull strings to avoid entanglement with moving parts.
3. Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
4. Operating equipment safely requires your full attention. Avoid wearing entertainment headphones while operating machinery.

Avoid High Pressure Fluids

NOTE

Escaping fluid under pressure can penetrate the skin, causing serious injury.

1. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
2. Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing any work on the system.
3. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
4. Escaping fluid under pressure can penetrate the skin causing serious injury.
5. Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
6. DO NOT DELAY. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene can result.

Use Safety Lights and Devices

NOTE

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

1. If the slow moving vehicle sign obscures the lighting on the tractor, install the optional lighting kit on the implement.
2. If equipped, use flashing warning lights and turn signals whenever driving on public roads.
3. Use safety devices provided with implement.

Keep Riders Off Machinery

NOTE

Riders obstruct the operator’s view. Riders could be struck by foreign objects or thrown from the machine.

Symbols and color of decals are based on ANSI standard Z535.
1. Never carry rides or use machinery as a personal lift.
2. Riders obstruct the operator's view.
3. Riders can be struck by foreign objects or thrown from the machine.
4. Never allow children to operate equipment.
5. Keep all bystanders away from the machine during operation.

Transport Machinery Safely

**NOTE**
Maximum transport speed for the implement is 30 kph (20 mph). Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

1. Comply with state and local laws.
2. Carry reflectors or flags to mark machinery in case of breakdown on the road.
3. Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under "Specifications and Capacities" on page 31.
4. Do not fold or unfold the implement while the tractor is moving.
5. Do not road an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.
6. Turning the tractor too tight can cause the implement to tip over.
7. When towing on a trailer, secure the implement with tie downs and chains.
8. When towing a trailer, sudden braking can cause the trailer to swerve and upset. Reduce speed if the trailer is not equipped with brakes.

Shutdown and Storage

1. Park the tractor and implement on a solid, level surface where children normally do not play.
2. Raise the booms, put the tractor in park, or set park brake. Turn off the engine and remove switch key to prevent unauthorized starting.
3. Wait for all components to come to a complete stop before leaving the operator's seat.
4. Detach the tractor. Secure the implement using blocks and supports.

Practice Safe Maintenance

1. Understand procedure before doing work. Use proper tools and equipment. Refer to this manual.
2. Work in a clean, dry area.
3. Lower or raise the booms for the work to be performed. Put the tractor in Park, turn off the engine. To prevent unauthorized starting, remove key before performing maintenance or service work.
4. Make sure all moving parts have stopped and all system pressure is relieved.
5. Disconnect lighting harness from the tractor before servicing or adjusting electrical systems.
7. Inspect all parts. Make sure parts are in good condition and installed properly. Replace parts on this machine with genuine Great Plains parts only.
8. Do not alter this machine in a way which will adversely affect its performance.
9. Remove buildup of grease, oil, or debris.
10. Remove all tools and unused parts from the implement before operation.

Safety At All Times

**NOTE**
Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

**NOTE**
Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and has not been properly trained in the safe operation of the equipment.

1. The operator must not use drugs or alcohol as they can change the alertness or coordination of that person while operating equipment. If over-the-counter drugs are used, seek medical advice on whether you can safely operate equipment.
2. Operator must be familiar with all functions of the tractor and attachments, and be able to handle emergencies quickly.
3. Make sure the guards and shields are in place and secured before operating the implement.
4. Keep all bystanders away from equipment and work area.
5. Operator must start the tractor and operate controls from the driver's seat only, never from the ground.
6. Dismounting from a moving tractor can cause serious injury or death.
7. Be familiar with all functions of the implement.
8. Do not leave the implement unattended with the tractor engine running.
9. Do not stand between the tractor and the implement during hitching.
10. Watch out for wires, trees, etc., when folding and raising the implement.
11. Turning tractor too tight can cause the tractor and implement to tip. This can result in injury or equipment damage.

**Handle Chemicals Properly**

1. Read and follow chemical manufacturer’s instructions.
2. Wear protective clothing.
3. Handle all chemicals with care.
4. Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.
5. Inhaling smoke from any type of chemical fire is a serious health hazard.
6. Store or dispose of unused chemicals as specified by the chemical manufacturer.
7. Before adding chemical to the tank, make sure tank is at least half full. Do not pour concentrate into an empty tank.
8. Never leave fill hose attached to the sprayer after filling tank. Chemicals in tank can siphon out of tank and contaminate freshwater source.
9. Always keep hand-wash tank filled with clean water and have soap available in case of an emergency. Immediately and thoroughly flush any area of the body that is contaminated by chemicals.
10. Do not touch sprayer components with mouth or lips.
11. If chemical is swallowed, carefully follow the chemical manufacturer’s recommendations and consult with a doctor.
12. If persons are exposed to a chemical in a way that could affect their health, consult a doctor immediately with the chemical label or container in hand. Any delay could cause serious illness or death.
13. Dispose of empty chemical containers properly. By law rinsing of the used chemical container must be repeated three times. Puncture the container to prevent future use. An alternative is to jet-rinse or pressure rinse the container.
14. Wash hands and face before eating after working with chemicals. Shower as soon as spraying is completed for the day.
15. Spray only with acceptable wind conditions. Wind speed must be below 5 mph. Make sure wind drift of chemicals will not affect any surrounding land, people or animals.
16. Never wash out the sprayer tank within 100 feet of any freshwater source or in a car wash.
17. Rinse out the tank. Spray rinse water on last field sprayed.
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.

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.

Slow Moving Vehicle Label
818-055C

On left-hand side of boom frame;
1 total

Red Reflectors
(S/N 4300-)
838-266C

Rear of nozzle tube, both ends;
2 total
Red Reflectors
(S/N 4301+ and II1000 to II11664)
818-335C
Rear of nozzle tube, both ends;
2 total

Red Reflectors
(S/N II1665+)
838-266C
One each on decal brackets, outboard of amber reflectors;
4 total

Amber Reflectors
(S/N II1664-)
838-265C
Front of nozzle tube, both ends;
2 total

Amber Reflectors
(S/N II1665+)
838-265C
One each on decal brackets, inboard of red reflectors;
4 total
Daytime Reflectors  
(S/N II1665+)
838-267C

One each on decal brackets at ends of light bars;  
2 total

Danger: Power Line Hazard  
(S/N 4300-)
818-367C

On 3-point elevator and slide assembly;  
1 total

Danger: Power Line Hazard  
(S/N 4300-)
818-367C

Front and rear of 3-point carrier;  
2 total

Danger: Power Line Hazard  
(S/N 4300-)
818-367C

On front face of 3-point elevator and slide assembly;  
1 total
Danger: Power Line Hazard
(S/N 4301+)
818-367C

On front face of 3-point carrier assembly;
1 total

Danger: Power Line Hazard
818-367C

On front face 3-point carrier,
On rear face of right-hand spring housing;
1 total

Danger: Chemical Hazard
818-323C

On center plate of boom mount;
1 total
Danger: Crushing Hazard  
(S/N 4301+)  
818-864C

On rear face of boom frame, bottom member;  
1 total

Danger: Crushing Hazard  
(S/N 4301+)  
818-864C

On rear face of 3-point elevator and slide assembly,  
bottom member;  
1 total

Warning: Pinch Point  
818-798C

At wing hinge points, front and back of boom;  
8 total
Warning: Overhead Boom
818-467C

Front and rear two places;
4 total

Warning: Unfold Boom
818-647C

Front of boom mount on top member;
1 total

Warning: High Pressure SML
818-339C

On center plate of boom mount;
1 total
Warning: Boom Parking Pin

818-648C

One decal on each parking stand (Stands sold with 3P300 and three-point mounts only.);
3 total

Caution: Hitching Sprayer

818-466C

On left-hand side of center plate of boom mount;
1 total

Caution: Read Operator’s Manual

818-587C

left face, right of center;
1 total
Important: Spring Length
818-385C

**IMPORTANT**

THE SUSPENSION SPRING FOR BOTH BOOMS MUST BE COMPRESSED TO A LENGTH OF 10 INCHES IN ORDER TO SUPPORT THE BOOM WINGS PROPERLY. FAILURE TO DO SO CAN CAUSE DAMAGE TO THE BOOM.

On rear of left-hand spring housing; 1 total

Important: Level-Float Pin
(S/N 4300-)
818-382C

**IMPORTANT**

LEVEL-FLOAT PIN MUST BE REMOVED FROM THE LOCK POSITION AND PLACED IN THE STORAGE POSITION FOR FIELD USE. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE BOOM.

On left-hand side of center plate of boom mount; 1 total

Important: Pump Fluid
(S/N II1665+)
818-307C

**NOTICE**

Do not run pump without fluid flowing through it. Mechanical seal damage will occur. When pump is operating, allow the fluid to circulate through agitation.

On right-hand side of center plate of boom mount; 1 total
Preparation and Setup

This section will help you prepare your boom for use with your tractor and sprayer. Before using the boom in the field, you must hitch your tractor to your sprayer or three-point mount and check that the boom is level.

Read and understand the operator’s manual for the sprayer you will be using with the boom.

Prestart Checklist

Perform these checks before setting up your cross-fold boom.

1. Read and understand “Safety Information” on page 2.
2. Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
3. Check that all grease fittings are in place and lubricated. Refer to “Lubrication,” page 29.
4. Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. Refer to “Safety Decals” on page 5.

Hitching Tractor to Boom

**DANGER**

Electrocution hazard. To prevent serious injury or death from electric shock, keep clear of overhead power lines when transporting, folding or unfolding boom. Boom is not grounded. Electrocution can occur without direct contact. Refer to transport dimensions under “Specifications and Capacities” on page 31. Do not fold or unfold boom while tractor is moving.

**WARNING**

You could be seriously injured or killed by being crushed between the tractor and boom. Do not stand or place any body part between the tractor and boom while the tractor is in motion. Stop and shut off tractor before inserting hitch pins.

**WARNING**

Hitch the CF500 or CF600 to an Great Plains trailer, single-axle or three-point sprayer or a three-point mount only. Hitching the boom to any other sprayer can result in negative tongue weight which can lead to serious injury or death.

If your cross-fold boom is mounted on an Great Plains sprayer, refer to your sprayer operator's manual for hitching instructions.

Refer to Figure 2
If your cross-fold boom is mounted on a three-point mount, attach three-point mount to tractor with correct pin mountings determined from figure 2.

**NOTICE**
Adjust top three-point link so boom frame is level. If frame is not level boom may hit tractor cab when folded.

NOTE: The category IV narrow hitch (CAT IV-N) spacers are not standard boom equipment.

---

**Leveling Boom**

**WARNING**
Pinch point hazard. Your fingers, hands or arms could be severely injured or severed if caught in the folding boom sections. Shut off tractor and remove key before adjusting shims.

The boom sections must be level across the span for even spraying.

*Refer to Figure 3*

To adjust an inner arm, fold boom and loosen bolts (A) holding shims (B). Add or remove shims as necessary.
Refer to Figure 4
To expose shims for outer arm, fold wings and band together arms, then disconnect cable from spring arm and unfold wings while arms are still banded together. Add or remove shims (A) by loosening bolt (B).

NOTE: Boom arms are disassembled in figures for illustration purposes only.
Operating Instructions

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

Prestart Checklist
1. Read and follow “Safety Information” on page 2.
2. Read and follow the chemical manufacturer’s instructions. Consider how you will store and dispose of the chemical.
3. When working with agricultural chemicals, always wear protective, waterproof clothing that covers the body.
4. Have soap and water available to wash any exposed areas. Check that hand-wash tank is full of clean water.
5. Lubricate boom as indicated under “Lubrication” on page 29.
6. Check boom for loose bolts, pins and hose clamps. Check hoses, pumps, valves and fittings for leaks. Tighten all bolts as specified under “Torque Values Chart” on page 32.

Field Operation

Electrocution hazard. To prevent serious injury or death from electric shock, keep clear of overhead power lines when transporting, folding or unfolding boom. Boom is not grounded. Electrocution can occur without direct contact. Refer to transport dimensions under “Specifications and Capacities” on page 31. Do not fold or unfold boom while tractor is moving.

Crushing and pinching hazard. During folding, the boom has many pinch points. Bystanders could be injured by the moving sections. Hydraulic failure could cause the boom to fall on bystanders. To eliminate the hazard, keep all bystanders away during boom folding. Fold the boom only when the tractor is parked. Do not allow riders on the boom.
**WARNING**

Escaping fluid under pressure can penetrate the skin causing serious injury. Check all hydraulic lines and fittings before applying pressure. Use paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.

**CAUTION**

Operate boom only when boom is unfolded completely. Spraying chemicals with the boom partially folded increases the risk of sprayer and chemical-exposure accidents.

1. Remove parking stands before folding, transporting or operating boom.
2. Fill sprayer tank half full with water.
3. Unfold boom in field where you will spray.
4. Check nozzles for streaks and non-uniformity. Clean or replace nozzles as necessary.
5. Calibrate sprayer. Refer to calibration procedures in the Application Guide.
6. Adjust boom to proper height. For proper nozzle height, refer to nozzle tables in the Application Guide.
7. Add chemicals to sprayer and finish filling with water. Never open chemical containers with bare hands.
8. Rinse chemical container three times. Puncture containers to prevent future use. Dispose of containers as recommended by the chemical manufacturer.
9. Start sprayer pressurizing system to work up to desired pressure.
10. When applying chemicals in the field, your goals are accuracy, efficiency and safety. To reduce expenses and risks to human health:
    - Apply spray when wind is 5 mph or less.
    - Take note of adjoining crops, houses or persons.
    - Minimize drift by using nozzle tips with the largest practical opening and by operating boom at the lowest practical height.
    - Work crosswise to the wind. Start from the down-wind side of the field to avoid heading directly into chemical fumes.
    - When turning at the end of field, make sure boom will not overlap previously sprayed crop.
    - While spraying, monitor pressure closely. Maintain a constant tank pressure for even and accurate spraying.
• Periodically check hoses, connections and nozzles. Release pressure before working on sprayer or boom. Always wear rubber gloves when making repairs or adjustments.

11. When finished spraying, empty tank and flush sprayer with water, including the pump, nozzles and valve-bypass line. Store or dispose unused chemicals as recommended by the chemical manufacturer.

**Electric-Hydraulic Control**

*Refer to Figure 5*

The optional electric-hydraulic valve allows you to control boom folding and elevator lift on the same hydraulic circuit. To select a hydraulic function, depress its colored button on the joystick controller or flip its switch on the control box. Hydraulic functions are coded as follows.

- Yellow Button or Light: Elevator
- Green Button or Light: Left Wing
- Red Button or Light: Right Wing

Transporting

**DANGER**

Electrocution hazard. To prevent serious injury or death from electric shock, keep clear of overhead power lines when transporting, folding or unfolding boom. Boom is not grounded. Electrocution can occur without direct contact. Refer to transport dimensions under “Specifications and Capacities” on page 31.

**WARNING**

Crushing and pinching hazards. During folding, the boom has many pinch points. Bystanders could be injured by the moving sections. Hydraulic failure could cause the boom to fall on bystanders. To eliminate the hazard, keep all bystanders away during boom folding. Fold the boom only when the tractor is parked.

Before transporting boom, check and practice these items:

- **No chemicals.** Do not transport sprayer with chemicals in tank.
- **Remove parking stands.** Remove parking stands from boom before transporting.
- **Maximum Speed.** Do not exceed 20 mph when transporting.
- **Bystanders.** Check that no one is in the way before moving tractor. Do not allow anyone to ride on boom or sprayer.
- **Clearance.** Know dimensions of folded boom. Refer to “Specifications and Capacities” on page 31. Follow a route that provides adequate clearance from all obstructions. Be especially observant of low overhead power lines.
- **Road Rules.** Comply with all federal, state and local laws when transporting on public roads.

Parking

**WARNING**

Crushing hazard. The parked boom could fall and cause serious injury or death. Always park boom in unfolded position. Always secure parking stands under three-point mount and boom when parking boom.

If parking a boom that is mounted on an Great Plains sprayer, refer to your sprayer manual for parking instructions. For information on long-term storage, refer to “Storage,” page 28.
Refer to Figure 6

To park a three-point boom, follow these steps:

1. Flush sprayer with water in last field sprayed. Flush pump, nozzles and bypass line from valves. Store or dispose unused chemicals as recommended by the chemical manufacturer.

2. Park boom on a level, flat area that is protected from wind gusts and direct sunlight. Park boom in an area where children do not play. If possible, store boom inside for longer machine life.

3. Unfold boom.

4. Position parking stands under three-point mount and center section of boom frame. Make sure parking stands are positioned over level, firm ground so boom will be stable from front to rear. If the ground is soft, place boards under parking stands to increase ground-contact area.

5. Lower tractor hitch so mount and boom rest on parking stands. Secure stands to mount and boom with wire pins.

6. Unhook PTO pump or unplug hydraulic lines from hydraulic pump.

7. Unhook cam-lock connectors and hydraulic hoses from boom and position on frame.

8. Remove three-point pins from tractor. Pull away from boom.
Adjustments

**WARNING**
Crushing hazard. The boom could fall and cause serious injury or death. Before performing any maintenance, secure boom to parking stands if provided.

**Hydraulic Elevator**

Refer to Figure 7

Periodically check the slide pads (A) for wear. As the pads wear, tighten 1/2-inch bolts (B) on both sides of elevator frame (C) until pads just touch frame.

**Boom Height**

After calibrating sprayer for your nozzles, desired pressure and tractor speed, the main field adjustment is boom height. Set boom height to achieve correct overlap for your nozzle. If the crop canopy is taller in some fields than others, adjust boom height accordingly.

Refer to nozzle tables in the Application Guide to determine correct boom height.

**Leveling Boom**

For even application, the sprayer boom must be level across the span. The boom is initially leveled during assembly. After a period of normal use, you may need to level the boom.

If necessary, refer to “Leveling Boom,” page 14.
Locking System

Refer to Figure 8

The CF500 and CF600 have a locking system for automatic boom locking during folding and transport. For proper folding, the boom-lock cable must be tight enough that the lock arms (A) just clear their stops when unfolded (B) and rest secure against the stop when folded (C).

Refer to Figure 9

To adjust the tension on the boom-lock cable, loosen jam nut and turn clevis.
Break Away Spring

*Refer to Figure 10*

Periodically check that break-away springs are compressed to 6 inches. Adjust spring by turning mounting nut under spring.

---

Spring Arm Tension

*Refer to Figure 11*

Periodically check that spring is compressed to a length of 10 inches. Check spring compression with boom unfolded. To compress spring, tighten spring nut (A). Lock with second nut (B).
**Wing Folding**

*Refer to Figure 12*

Normal boom use may cause wing misalignment. If the inner- and outer-arm sections are out of alignment, the outer arm (A) will miss the fold bracket (B) on the inner arm when boom is folded.

To realign wing sections, loosen 1/2-inch bolts at arm joint. Swing outer-arm section until it is aligned with inner-arm section. Tighten bolts.

Normal boom use may also shift the folding brackets along the inner-arm section. When properly adjusted, the outer arm will meet the fold bracket at the stop (C). Loosen u-bolts and reposition brackets as necessary.

![Figure 11 Aligning Wing Sections](Image)
# Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive cable wear</td>
<td>Check cable and roller for obstruction or wear. Remove obstructions. Check that roller is turning properly. Replace roller or roller bushing if necessary. If necessary, replace worn cable.</td>
</tr>
<tr>
<td>Pressure increases</td>
<td>Check for clogging in boom hoses. Remove obstruction. Check if boom hoses are pinched. Use cable ties to keep hoses from kinking.</td>
</tr>
<tr>
<td>Optional electric-hydraulic control not working</td>
<td>If valve does not work and indicator lights are not lit, check for a blown fuse, damaged wiring or a bad switch. If valve does not work but indicator lights are lit, check that system is properly grounded. Ground valve by running a wire from the tractor frame to the coil nut on top of the valve.</td>
</tr>
<tr>
<td>Restricted oil flow to optional electric-hydraulic control</td>
<td>Do not mix and match styles of tips and couplers. Check that hydraulic hoses are not blocked, damaged or kinked.</td>
</tr>
<tr>
<td>No oil flow and no clicking sound from valve on optional electric-hydraulic control</td>
<td>Check valve cartridge for internal contamination. Before removing cartridge, relieve all hydraulic pressure and remove all hydraulic hoses from ports. Contact your Great Plains dealer for cartridge-cleaning instructions.</td>
</tr>
</tbody>
</table>
Maintenance and Lubrication

Maintenance

**WARNING**

Some chemicals will cause serious burns, lung damage and death. Avoid contact with skin or eyes. Wear proper protective equipment as required by chemical manufacturer. Avoid prolonged breathing of chemical fumes. Wear respirator as required by chemical manufacturer. Seek medical assistance immediately if accident occurs. Know what to do in case of an accident.

**WARNING**

Crushing hazard. The boom could fall and cause serious injury or death. Before performing any maintenance, secure boom to parking stands if provided.

**WARNING**

Crushing and pinching hazards. During boom folding, the boom has many pinch points. Bystanders could be injured by moving sections. Hydraulic failure could cause boom to fall on bystanders. To eliminate the hazards, keep all bystanders away during boom folding. Fold boom only when the tractor is parked.

**WARNING**

Escaping fluid under pressure can penetrate the skin causing serious injury. Check all hydraulic lines and fittings before applying pressure. Use paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.

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

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

1. Release system pressure by flipping boom-section switches on and off without pump running.
2. Clean nozzles with an air hose with less than 30 psi. Periodically replace nozzles.
3. Check hoses, pumps, valves and fittings for leaks. Always wear rubber gloves when making repairs or adjustments.
4. Check sprayer for loose bolts, pins and hose clamps.
Cables and Rollers

Refer to Figure 13

Inspect cables and rollers for proper rolling. If a roller does not turn, inspect roller for dirt or other imperfections on bearing surface.

Rollers have a self-lubricating bearing. Do not lubricate bearings with oil. Lubricating bearing with oil may cause dirt accumulation that jams roller.

Keep cables tight and spring compressed to 10 inches. See “Spring Arm Tension,” page 24.

Optional Hydraulic Elevator

Keep slide pads properly adjusted as explained under “Hydraulic Elevator,” page 21. Do not grease slide pads. Lubricating slide pads with grease may cause dirt accumulation that jams elevator. If necessary, use silicone spray on slide pads.

Optional Electric-Hydraulic Control

Periodically inspect electrical connections for corrosion, wear or damage. Replace terminals as necessary.

Inspect control harness for damage. Make sure the harness has not shifted into a position where it could be damaged by boom or elevator operation.

Inspect hydraulic hoses and fittings for leaks. Replace any hoses that show signs of failure. Tighten any leaking fittings.
Storage

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

1. Empty solution from sprayer tank and store or dispose chemicals as recommended by the chemical manufacturer.
2. Change filters in tractor cab.
3. Wash boom exterior thoroughly using a safe solvent or soap and water.
4. Flush out boom with antifreeze to prevent freeze damage.
5. Inspect all parts for wear and rust.
6. Repair and paint parts as necessary.
7. Park boom in a dry area away from direct sunlight.
8. Follow instructions for parking boom as listed under “Parking” on page 19.

Make sure all personal safety equipment is stored in an easily accessible place and protected from potential contamination from dust or chemicals.
Lubrication

Center Section Pivots

Both ends of center section – four zerks total.

Type of Lubrication: Grease
Quantity = Until resistance is felt

Wing Joint Pivots

One zerk on each wing – two zerks total

Type of Lubrication: Grease
Quantity = Until resistance is felt

Swing Plates

Zerks on each end of plates – four zerks total

Type of Lubrication: Grease
Quantity = Until resistance is felt
Options

Electric-Hydraulic Control

With the optional electric-hydraulic control, you can operate boom folding and elevator lift on the same hydraulic circuit. The controller mounts in your tractor cab for convenient switching between hydraulic functions.

The control is available with a joystick controller for tractors with hydraulic levers or a switch-box controller for tractors with hydraulic switches.

To order the electric-hydraulic control, contact your Great Plains dealer.

<table>
<thead>
<tr>
<th>Electric-Hydraulic Control</th>
<th>Part Number</th>
</tr>
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<tr>
<td>with Joystick Controller</td>
<td>506-584A</td>
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<tr>
<td>with Switch-Box Controller</td>
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</table>

Figure 13
Cable and Roller 17608
# Specifications and Capacities

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<thead>
<tr>
<th></th>
<th>CF500</th>
<th>CF600</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nozzle Spacing</strong></td>
<td>20 inches</td>
<td>20 inches</td>
</tr>
<tr>
<td></td>
<td>30 inches</td>
<td>30 inches</td>
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<tr>
<td><strong>Nozzles Per Boom</strong></td>
<td>30</td>
<td>36</td>
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<tr>
<td></td>
<td>21</td>
<td>25</td>
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<tr>
<td><strong>Weight</strong></td>
<td>895 pounds</td>
<td>935 pounds</td>
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<tr>
<td><strong>Working Width</strong></td>
<td>50 feet</td>
<td>60 feet</td>
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<tr>
<td><strong>Transport Width (Folded)</strong></td>
<td>12 feet 9 inches</td>
<td>12 feet 9 inches</td>
</tr>
<tr>
<td><strong>Transport Height (Folded)</strong></td>
<td>12 feet 2 inches</td>
<td>12 feet 2 inches</td>
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<tr>
<td><strong>Tractor Requirements</strong></td>
<td>Two remote valves; Category II, III or IV-N for three-point-mounted booms</td>
<td></td>
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</tbody>
</table>
# Appendix

## Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
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<tbody>
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<td>5.8</td>
</tr>
<tr>
<td></td>
<td>Grade 5</td>
<td>Class 8.8</td>
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<td></td>
<td>Grade 8</td>
<td>Class 10.9</td>
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<tr>
<td>in-tpi</td>
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<td>N·m ft-lb</td>
<td>N·m ft-lb</td>
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<td>8.5 6</td>
<td>7 5</td>
<td>11 8</td>
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<td>15 11</td>
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<td>4820 3560</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 (a division of Great Plains Manufacturing, Inc.) warrants to the original purchaser that this Great Plains unit will be free from defects in material and workmanship for a period of one year from the first use date when used as intended and under normal service and conditions for personal use; ninety days for custom/commercial or rental use. This Warranty is limited to the replacement of any defective part by Great Plains 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.

The following items and/or conditions are not covered under warranty: failures resulting from abuse or misuse of the equipment, failures occurring as a result of accidental damage or acts of God, 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), repeat repair due to improper diagnosis or 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 is used in 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 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 the unit is registered with Great Plains within 10 days from the date of the original purchase.