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!
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4/16/2003
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.
Be Familiar with Safety Decals
▲ Read and understand “Safety Decals,” page 8, thoroughly.
▲ Read all instructions noted on the decals.

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.

Shutdown and Storage
▲ Fold the Hydraulic Cross-Fold Boom, put tractor in park, turn off engine, and remove the key.
▲ Secure Hydraulic Cross-Fold Boom using blocks and supports provided.
▲ Detach and store Hydraulic Cross-Fold Boom in an area where children normally do not play.

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.

Use A Safety Chain
▲ Use a safety chain to help control drawn machinery should it separate from tractor drawbar.
▲ Use a chain with a strength rating equal to or greater than the gross weight of towed machinery.
▲ Attach chain to tractor drawbar support or other specified anchor location. Allow only enough slack in chain to permit turning.
▲ Replace chain if any links or end fittings are broken, stretched or damaged.
▲ Do not use safety chain for towing.
Transport Machinery Safely
Maximum transport speed for implement is 20 mph. 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 Hydraulic Cross-Fold Boom in case of breakdown on the road.
▲ Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under “Specifications and Capacities,” page 23.
▲ Do not fold or unfold the Hydraulic Cross-Fold Boom while the tractor is moving.

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, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.
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.

▲ Fold the Hydraulic Cross-Fold Boom, put tractor in park, turn off engine, and remove key before performing maintenance.

▲ Make sure all moving parts have stopped and all system pressure is relieved.

▲ Allow Hydraulic Cross-Fold Boom to cool completely.

▲ Disconnect battery ground cable (−) before servicing or adjusting electrical systems or before welding on Hydraulic Cross-Fold Boom.

▲ 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 Hydraulic Cross-Fold Boom before operation.

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.

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.
Wear Protective Equipment

Great Plains advises all users of chemical pesticides or herbicides to use the following personal safety equipment.

▲ Waterproof, wide-brimmed hat
▲ Waterproof apron.
▲ Face shield, goggles or full face respirator.
▲ Goggles with side shields or a full face respirator is required if handling or applying dusts, wettable powders, or granules or if being exposed to spray mist.
▲ Cartridge-type respirator approved for pesticide vapors unless label specifies another type of respirator.
▲ Waterproof, unlined gloves. Neoprene gloves are recommended.
▲ Cloth coveralls/outer clothing changed daily; waterproof items if there is a chance of becoming wet with spray
▲ Waterproof boots or foot coverings
▲ Do not wear contaminated clothing. Wash protective clothing and equipment with soap and water after each use. Personal clothing must be laundered separately from household articles.
▲ Clothing contaminated with certain pesticides must be destroyed according to state and local regulations. Read chemical label for specific instructions.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Prolonged exposure to loud noise can cause hearing impairment or loss. Wear suitable hearing protection such as earmuffs or earplugs.
▲ Avoid wearing radio headphones while operating machinery. Operating equipment safely requires the full attention of the operator.
Handle Chemicals Properly

▲ Read and follow chemical manufacturer’s instructions.

▲ Wear protective clothing.

▲ Handle all chemicals with care.

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

▲ Inhaling smoke from any type of chemical fire is a serious health hazard.

▲ Store or dispose of unused chemicals as specified by the chemical manufacturer.

▲ Before adding chemical to the tank, make sure tank is at least half full. Do not pour concentrate into an empty tank.

▲ Never leave fill hose attached to the sprayer after filling tank. Chemicals in tank can siphon out of tank and contaminate freshwater source.

▲ 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.

▲ Do not touch sprayer components with mouth or lips.

▲ If chemical is swallowed, carefully follow the chemical manufacturer’s recommendations and consult with a doctor.

▲ 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.

▲ 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.

▲ Wash hands and face before eating after working with chemicals. Shower as soon as spraying is completed for the day.

▲ 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.

▲ Never wash out the sprayer tank within 100 feet of any freshwater source or in a car wash.

▲ Rinse out the tank. Spray rinse water on last field sprayed.
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 Hydraulic Cross-Fold Boom functions.
▲ Operate machinery from the driver’s seat only.
▲ Do not leave Hydraulic Cross-Fold Boom unattended with tractor engine running.
▲ Do not dismount a moving tractor. Dismounting a moving tractor could cause serious injury or death.
▲ Do not stand between the tractor and Hydraulic Cross-Fold Boom 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 Hydraulic Cross-Fold Boom. Make sure all persons are clear of working area.
▲ Do not turn tractor too tightly, causing Hydraulic Cross-Fold Boom to ride up on wheels. This could cause personal injury or equipment damage.
▲ Use only water without pesticides added to calibrate the sprayer. Do not exceed the calibrated sprayer speed and pressure when operating.
▲ When using a PTO pump, be sure that PTO shield is in place on the tractor, PTO coupler bolts are torqued to the correct specification, and torque bar is properly chained to tractor drawbar.
▲ Spray with the boom in the unfolded position only.
▲ The boom has many pinch points during field operation and folding. Keep all bystanders away.
Safety Labels
Your implement comes equipped with all safety labels in place. They were designed to help you safely operate your implement.

1. Read and follow label directions.
2. Keep all safety labels clean and legible.
3. Replace all damaged or missing labels.
4. Some new equipment installed during repair require safety labels to be affixed to the replaced component as specified by the manufacturer. When ordering new components make sure the correct safety labels are included in the request. To order new labels go to your Great Plains dealer.
5. Refer to this section for proper label placement.
To install new labels:
   a. Clean the area the label is to be placed.
   b. Peel backing from label. Press firmly on surface being careful not to cause air bubbles under label.
**Important Safety Information**

**Danger Power Line Hazard**

**Caution Hitching Sprayer**

**Warning Overhead Boom**

**Warning Unfold Boom**
818-648C
Warning Boom Parking Pin

FALLING BOOM HAZARD
- Install pins in parking stand after mounting on boom or sprayer.
- Failure to install pins can cause boom to tip and fall causing damage to boom, serious injury or death.

815-648C
Introduction

Great Plains welcomes you to its growing family of new product owners. This Hydraulic Cross-Fold Boom has 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.

Description of Unit
The CF50 and CF60 sprayer booms are capable of spraying at either 50’ or 60’ depending on your model.

Intended Usage
Use these booms as part of a pressurized sprayer system to apply liquid pesticides, herbicides or fertilizers to production-agriculture crops only. Do not modify sprayer for use with attachments other than those approved by Great Plains.

Models Covered
CF50 and CF60

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

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

Definitions
The following terms are used throughout this manual.

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.

IMPORTANT: A crucial point of information related to the preceding topic. For safe and correct operation, read and follow the directions provided before continuing.

NOTE: Useful information related to the preceding topic.
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 Hydraulic Cross-Fold Boom products.

Refer to Figure 1

Your machine's parts were specially designed and should only be replaced with Hydraulic Cross-Fold Boom parts. Always use the serial and model number when ordering parts from your Great Plains dealer.

Record your sprayer model and serial number here for quick reference:

Model Number: ________________________
Serial Number: ________________________

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

1. Discuss the matter with your dealership service manager. Make sure they are aware of any problems so they can assist you.

2. If you are still unsatisfied, seek out the owner or general manager of the dealership.

3. For further assistance write to:

   Product Support
   Great Plains Mfg. Inc., Service Department
   PO Box 5060
   Salina, KS 67402-5060
Preparation and Setup

This section will help you prepare your boom for use with your tractor and sprayer. Before using the sprayer 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

1. Read and understand “Important Safety Information” beginning on page 1.

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, “Maintenance and Lubrication,” page 21.

4. Check that all safety labels and reflectors are correctly located and legible. Replace if damaged. Refer to Safety Labels,” Important Safety Information,” page 8.

Hitching Tractor to Boom

**WARNING**

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

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

Refer to Figure 2

If your cross-fold boom is assembled to a three-point hitch, mount three-point attachment to tractor with correct pin mountings determined from Figure 2.

**NOTICE:** If your cross-fold boom is assembled to a three-point hitch, mount three-point attachment to tractor with correct pin mountings determined from Figure 2.

**NOTICE:** The category 4 narrow hitch (CAT IV-N) spacers are not standard parts supplied with the three-point boom.

---

**Figure 2**
Three-Point Pin and Spacer Configuration

---
Leveling the Boom

**CAUTION**

Be careful not to pinch fingers in hinge. Make sure boom is securely supported before adjusting shims.

**Refer to Figure 3**

1. Level inside boom arm with center section (1) by positioning the shims (2) on hinge rest until correct thickness of shims is attained to level the boom. The bottom tube of inside boom section should be parallel to the frame of center section (1). Tighten shim bolts when finished.

**Refer to Figure 4**

2. Level outer boom wing by adding or removing a washer (1) on the adjustment bolt (2) so outer boom section is level with inner boom arm. Tighten jam nuts when finished.
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 Important Safety Information, starting on page 1.
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, water-proof 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 the boom as indicated under Lubrication, Maintenance and Lubrication, page 21.

Field Operation

DANGER
Electrocution hazard. To prevent serious injury or death from electric shock, keep clear of overhead power lines when transporting, folding or unfolding boom. The boom is not grounded. Electrocution can occur without direct contact. Refer to transport dimensions under Specifications and Capacities, page 23. Do not fold or unfold the boom while the tractor is moving.

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. Remove parking stands before folding, transporting or operating the boom.

Refer to Figure 5

7. Unfold the boom in the field where you will spray. Remove the transport lock pin.
8. Fill the sprayer tank half full with water.
9. Check nozzles for streaks and non-uniformity. Clean or replace nozzles as necessary.
10. Calibrate the sprayer. Refer to calibration procedures in the Application Guide.
11. Adjust boom to proper height. Refer to the elevator option and the nozzle tables in the Application Guide.
12. Add chemicals to sprayer and finish filling with water. Never open chemical containers with bare hands.
13. Rinse chemical container three times. Puncture containers to prevent future use. Dispose of containers as recommended by the chemical manufacturer.
14. Start sprayer pressurizing system to work up to the desired pressure. Refer to your sprayer operator’s manual for specific instructions.
CAUTION
Operate boom only when boom is completely unfolded. Spraying chemicals with the boom partially folded increases the risk of sprayer and chemical-exposure accidents.

15. When applying chemicals in the field, your goal is to apply accurately, efficiently and safely. 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 the 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 a field, make sure the boom will not overlap previously sprayed crop.
- While spraying, monitor pressure closely. Maintain a constant tank pressure for even and accurate spraying.
- Periodically check the condition of hoses, connections and nozzles. Release pressure before working on the sprayer. Always wear rubber gloves when making repairs or adjustments.

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

Transporting
Before transporting the boom check and practice the following items.

DANGER
Electrocution hazard. To prevent serious injury or death from electric shock, keep clear of overhead power lines when transporting, folding or unfolding the boom. The boom is not grounded. Electrocution can occur without direct contact. Refer to transport dimensions under Specifications and Capacities, page 23.

WARNING
Crushing and pinching hazard. The boom has many pinch points during folding. Bystanders could be injured by the moving sections. Hydraulic failure could cause the boom to fall on bystanders. Keep all bystanders away during boom folding. Fold the boom only when the tractor is parked.

Refer to Figure 6
Transport Lock. Fold the boom and install the transport lock pin.

No chemicals. Do not transport the sprayer with chemicals in the tank.

Remove parking stands. Remove parking stands from boom and carrier before transporting.

Maximum Speed. Do not exceed 20 mph.

Bystanders. Check that no one is in the way before moving. Do not allow anyone to ride on the boom or sprayer.

Clearance. Know the dimensions of the folded boom. Refer to Specification and Capacities, page 23. 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. Always secure parking stands under parked boom.

WARNING
Crushing hazard. You could be seriously injured or killed by being crushed between the tractor and implement. Do not stand or place any body part between the tractor and implement while the tractor is moving. Stop and shut off the tractor before removing hitch or pivot pins.
If parking a boom that is mounted on a Great Plains sprayer, refer to your sprayer manual for parking instructions. For information on long-term storage, refer to Storage, Maintenance and Lubrication, page 20.

Parking Boom and Three-Point Mount
To park a three-point-mounted boom, follow these instructions.

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

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

3. Unfold the boom.

Refer to Figure 7

4. Position parking stands (1) under the center frame and carrier. Make sure the parking stands are positioned over level, firm ground so the 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 the tractor hitch so the boom rests on the parking stands. Secure stands to boom with wire pins (2).

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

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

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

Boom Height
After calibrating sprayer for the specific nozzle to be used at a desired pressure, and tractor speed, the main field adjustment is boom height. Refer to Elevator Option in the sprayer owner’s manual. Depending on which type of nozzle used, set boom height to achieve correct overlap for that specific 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 the height of the boom needed.

EXAMPLE: A 2.5 Metercone nozzle at 20 inch spacing is being used. From the nozzle chart, a height of 19 to 21 inches above the top of the crop is required. If the crop is 6 inches off the ground, the boom height should be set to 25 to 27 inches off the ground.

Nozzle Pressure
Another area that will need some field adjustments is nozzle pressure. As tank level decreases, adjust the boom pressure to keep the pressure at the same magnitude for what the sprayer was calibrated for. Watch the pressure gauge and be aware of changes in pressure.

Leveling the Boom
For even application, the sprayer boom must be level across the span. The boom is initially leveled during assembly. You may need to make additional adjustments to level the boom. To level the boom, refer to Leveling the Boom, Preparation and Setup, page 14.

Boom Fold
If boom is not folding squarely into the fold rest as it should due to damage on boom or some other reason, the boom fold will need to be adjusted. Fold boom wing to a position just above the stop rest. Slightly loosen the four adjustment plate nuts until boom wing can move. Position boom wing to stop square in the rest stop and retighten adjustment plate nuts to 150 foot pounds. Make sure the adjustment plate is adjusted so there are no gaps between the ball joints of hinge and hinge tubing on boom wing. Unfold boom wing and re-torque adjustment plate nuts again.

Break-Away Spring
The break-away spring is located near the hinge for the outside boom arm. On early models the break-away spring should be compressed to a length of 5 3/8 inches. On later models tighten the nuts that compress the spring until all threads are bottomed out.

Fold Bracket
The fold brackets hold outside boom arm up when boom is in the folded position. These brackets are initially positioned at the factory at an optimum position so when boom is unfolded, the fold brackets will not interfere with spray pattern. The brackets need to be positioned so both portions of the bracket are located the same distance from the adjacent nozzle. The bracket also needs to be positioned so when boom is folded, the outer boom wing rests on the fold rest, not on break-away nuts located near the hinge point of outer boom wing. If the outer boom wing is resting on the nuts, they will damage tubing on boom.

Spring Arm Tension
Refer to Figure 8

Tighten the spring nut until spring is compressed to a length of 10 inches. Lock with second nut.

Figure 8
Spring Arm Adjustment
## Troubleshooting

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<th>Problem Area</th>
<th>Specific Checks</th>
<th>Corrections</th>
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<td>Cable &amp; roller</td>
<td>Cable Wearing</td>
<td>Check cable &amp; roller for obstructions or wear points. Remove obstruction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roller not turning properly</td>
<td>Replace roller or roller bushing.</td>
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<tr>
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<td>Excessive cable wear</td>
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<tr>
<td><strong>Pressure increasing</strong></td>
<td>Between gauge &amp; nozzle</td>
<td>Boom hoses becoming clogged</td>
<td>Remove obstruction from clogged area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Boom hoses pinched</td>
<td>Use cable ties to position hose so it will not kink.</td>
</tr>
</tbody>
</table>
Maintenance and Lubrication

Maintenance
Proper servicing 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.

⚠️ DANGER
Some chemicals can cause serious burns, lung damage, and even 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.

⚠️ WARNING
Crushing hazard. Hydraulic failure or boom instability could cause the boom to fall and result in serious injury or death. Secure boom to parking stands before performing any maintenance.

⚠️ WARNING
Crushing and pinching hazard. The boom has many pinch points during folding. Bystanders could be injured by the moving sections. Hydraulic failure could cause the boom to fall on bystanders. Keep all bystanders away during boom folding. Fold the 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.

⚠️ CAUTION
Before servicing or adjusting the sprayer or boom, always disengage power, shut off tractor engine, make sure all moving parts have stopped, and relieve all system pressure.

1. Clean nozzles with a low pressure (less than 30 psi) air hose and replace periodically.
2. Release the system pressure by flipping the boom section switches on and off without the pump running.
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
Inspect cables and rollers for proper rolling.

If a roller does not turn, inspect the roller for dirt or other imperfections on the bearing surface.

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

Keep cables tight with the spring compressed to 10 inches. See Spring Arm Tension, “Adjustments,” page 18.

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

1. Empty solution from sprayer tank and store or dispose of chemical as recommended in the chemical manufacturer’s instructions.
2. Change filters in the tractor cab.
3. Wash boom exterior thoroughly using a safe solvent or soap and water.
4. Flush boom out 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 to park the boom. Refer to Parking, Operating Instructions, page 16.
9. Make sure all personal safety equipment is stored in an easily accessible place and protected from potential contamination from dust or chemicals.
Maintenance and Lubrication

Swing Arm Pivot Joints
Two grease zerks are located in each swing arm pivot. Grease until grease starts to come out.

Type of Lubrication: NLGI grade 2 or 3 grease lubricant

Break-Away Pivot Plate
A zerk is located on the round pivot bar on the outside wing of both sides of the sprayer boom. Grease until grease starts to come out.

Type of Lubrication: NGLI grade 2 or 3 grease lubricant

Break-Away Tube Pivot
The grease zerk is located on top pivot tube of both the outside booms arm break away pivots. Grease until grease starts to come out.

Type of Lubrication: NGLI grade 2 or 3 grease lubricant

Outside Boom Wing Fold Hinge
There is a grease zerk on both outer fold arm hinges on the lower side of the hinge tube. Grease until grease starts to come out.

Type of Lubrication: NGLI grade 2 or 3 grease lubricant
Boom Hinge Pin
The grease zerks are located in the swing arm pivots on both ends. Grease until grease starts to come out.

Type of Lubrication: NLGI grade 2 or 3 grease lubricant

Spring Holder Pivot Hinge
A grease zerk is located on both spring holder pivot hinges. Grease until grease starts to come out.

Type of Lubrication: NGLI grade 2 or 3 grease lubricant
### Specifications and Capacities

<table>
<thead>
<tr>
<th>Specifications and Capacities</th>
<th>50’</th>
<th>60’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boom Width</strong></td>
<td>50’</td>
<td>60’</td>
</tr>
<tr>
<td><strong>Transport Width</strong></td>
<td>153”</td>
<td>153”</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1,096 lbs.</td>
<td>1,141 lbs.</td>
</tr>
<tr>
<td><strong>Transport Height, Single Axle</strong></td>
<td>154”</td>
<td>154”</td>
</tr>
<tr>
<td><strong>Transport Height, 3-Point, and 3-Point Sprayer</strong></td>
<td>145”</td>
<td>145”</td>
</tr>
<tr>
<td><strong>Boom Nozzle Height Range on Single Axle</strong></td>
<td>20” - 50”</td>
<td>20” - 50”</td>
</tr>
<tr>
<td><strong>Hydraulic Requirements</strong></td>
<td>Two control valves (four outlets)</td>
<td></td>
</tr>
<tr>
<td><strong>Three-Point Hitch Requirements</strong></td>
<td>Category II, III, or IV-N Three-Point (for three-point booms)</td>
<td></td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>1 1/2” Square Tubing &amp; 1 1/4” x 2” Rectangular Tubing</td>
<td></td>
</tr>
</tbody>
</table>
## Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size (Inches)</th>
<th>Bolt Head Identification</th>
<th>Bolt Size (Metric)</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 2</td>
<td>Grade 5</td>
<td>Grade 8</td>
</tr>
<tr>
<td>in-tpi&lt;sup&gt;1&lt;/sup&gt;</td>
<td>N·m&lt;sup&gt;2&lt;/sup&gt;</td>
<td>ft-lb&lt;sup&gt;3&lt;/sup&gt;</td>
<td>N·m</td>
</tr>
<tr>
<td>1/4&quot; - 20</td>
<td>7.4</td>
<td>5.6</td>
<td>11</td>
</tr>
<tr>
<td>1/4&quot; - 28</td>
<td>8.5</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>5/16&quot; - 18</td>
<td>15</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>5/16&quot; - 24</td>
<td>17</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>3/8&quot; - 16</td>
<td>27</td>
<td>20</td>
<td>42</td>
</tr>
<tr>
<td>3/8&quot; - 24</td>
<td>31</td>
<td>22</td>
<td>47</td>
</tr>
<tr>
<td>7/16&quot; - 14</td>
<td>43</td>
<td>32</td>
<td>67</td>
</tr>
<tr>
<td>7/16&quot; - 20</td>
<td>49</td>
<td>36</td>
<td>75</td>
</tr>
<tr>
<td>1/2&quot; - 13</td>
<td>66</td>
<td>49</td>
<td>105</td>
</tr>
<tr>
<td>1/2&quot; - 20</td>
<td>75</td>
<td>55</td>
<td>115</td>
</tr>
<tr>
<td>9/16&quot; - 12</td>
<td>95</td>
<td>70</td>
<td>150</td>
</tr>
<tr>
<td>9/16&quot; - 18</td>
<td>105</td>
<td>79</td>
<td>165</td>
</tr>
<tr>
<td>5/8&quot; - 11</td>
<td>130</td>
<td>97</td>
<td>205</td>
</tr>
<tr>
<td>5/8&quot; - 18</td>
<td>150</td>
<td>110</td>
<td>230</td>
</tr>
<tr>
<td>3/4&quot; - 10</td>
<td>235</td>
<td>170</td>
<td>360</td>
</tr>
<tr>
<td>3/4&quot; - 16</td>
<td>260</td>
<td>190</td>
<td>405</td>
</tr>
<tr>
<td>7/8&quot; - 9</td>
<td>225</td>
<td>165</td>
<td>585</td>
</tr>
<tr>
<td>7/8&quot; - 14</td>
<td>250</td>
<td>185</td>
<td>640</td>
</tr>
<tr>
<td>1&quot; - 8</td>
<td>340</td>
<td>250</td>
<td>875</td>
</tr>
<tr>
<td>1&quot; - 12</td>
<td>370</td>
<td>275</td>
<td>955</td>
</tr>
<tr>
<td>1-1/8&quot; - 7</td>
<td>480</td>
<td>355</td>
<td>1080</td>
</tr>
<tr>
<td>1 1/8&quot; - 12</td>
<td>540</td>
<td>395</td>
<td>1210</td>
</tr>
<tr>
<td>1 1/4&quot; - 7</td>
<td>680</td>
<td>500</td>
<td>1520</td>
</tr>
<tr>
<td>1 1/4&quot; - 12</td>
<td>750</td>
<td>555</td>
<td>1680</td>
</tr>
<tr>
<td>1 3/8&quot; - 6</td>
<td>890</td>
<td>655</td>
<td>1990</td>
</tr>
<tr>
<td>1 3/8&quot; - 12</td>
<td>1010</td>
<td>745</td>
<td>2270</td>
</tr>
<tr>
<td>1 1/2&quot; - 6</td>
<td>1180</td>
<td>870</td>
<td>2640</td>
</tr>
<tr>
<td>1 1/2&quot; - 12</td>
<td>1330</td>
<td>980</td>
<td>2970</td>
</tr>
</tbody>
</table>

1. in-tpi = nominal thread diameter in inches - threads per inch
2. N·m = newton-meters
3. ft-lb = foot pounds
4. mm x pitch = nominal thread diameter in millimeters x thread pitch

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

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

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

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

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

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

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