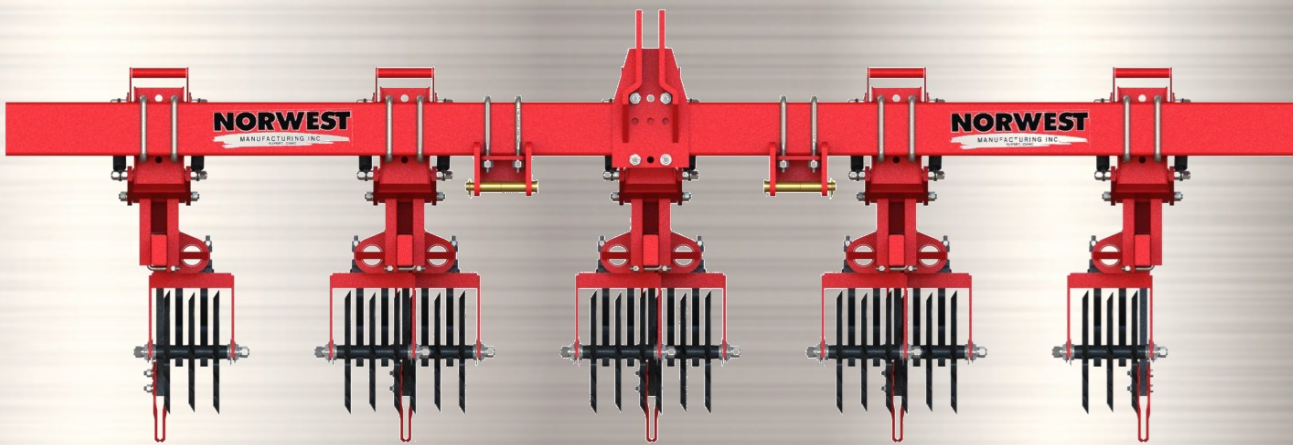


# Owner's Manual



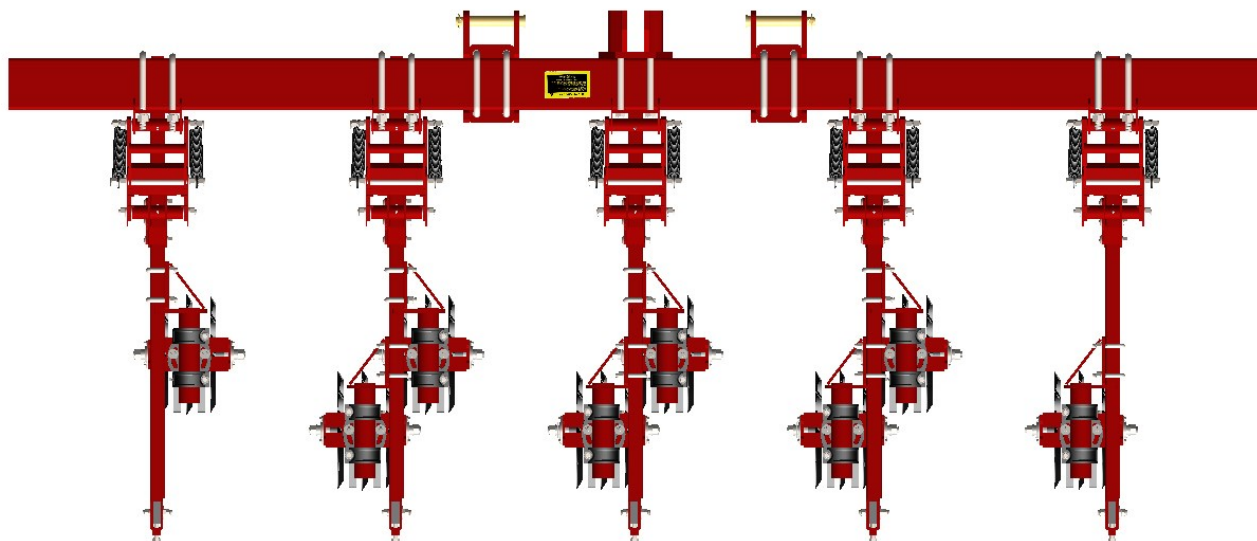
**NORWEST**

**M A N U F A C T U R I N G**

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# Norwest Spider Cultivator

## OWNER'S MANUAL



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## INTRODUCTION

Thank you for purchasing the Norwest Spider Cultivator. We hope you will get many years of productive use from it. This implement is designed to be pulled by a ROPS (Roll Over Protective System) protected tractor of proper size. All product users must read and understand this manual prior to equipment operation. This manual is considered part of your machine and should remain with the machine at all times. Do not allow anyone to operate or maintain this equipment who has not fully read and comprehended this manual. Failure to follow the recommended procedures may result in personal injury or death or equipment damage.

## WARRANTY

Norwest Manufacturing has manufactured farm implements for over 18 years and has an excellent reputation for quality and workmanship. Please contact the manufacturer if you feel a component has not lasted to your expectation. These concerns will be handled on a case-by-case basis. Contact Norwest Manufacturing or your dealer for replacement parts.



## SAFETY

Read and understand this manual and all safety signs before operating and maintaining. Review the safety instructions and precautions annually.

## THIS SYMBOL MEANS



- **ATTENTION!**
- **BECOME ALERT!**
- **YOUR SAFETY IS INVOLVED!**



## SAFETY SIGNAL WORDS

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each has been selected using the following guidelines:



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



**WARNING:** Indicates a potentially hazardous situation that, 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 that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



## GENERAL SAFETY GUIDELINES

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

Replace any **CAUTION, WARNING, DANGER** or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this booklet.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

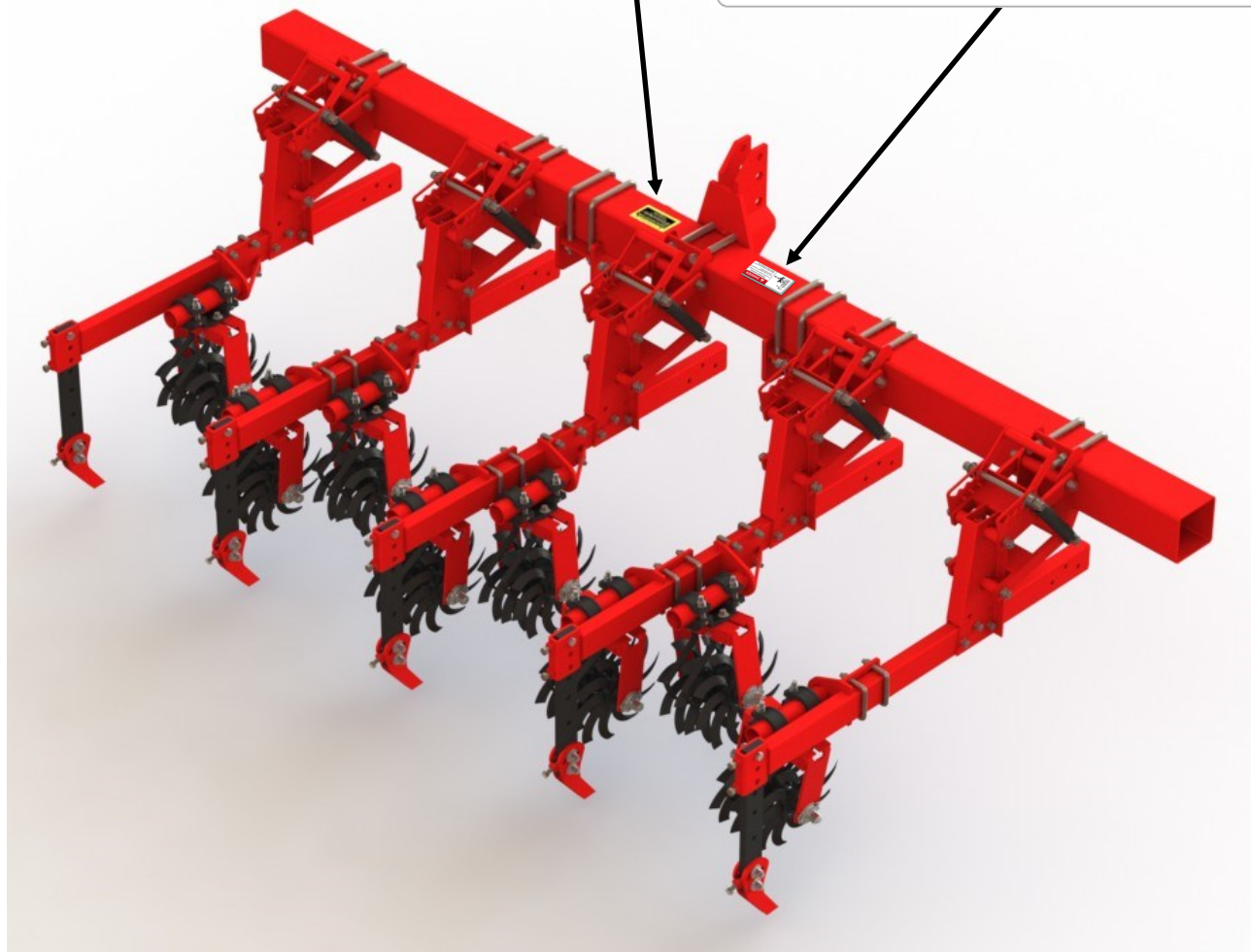
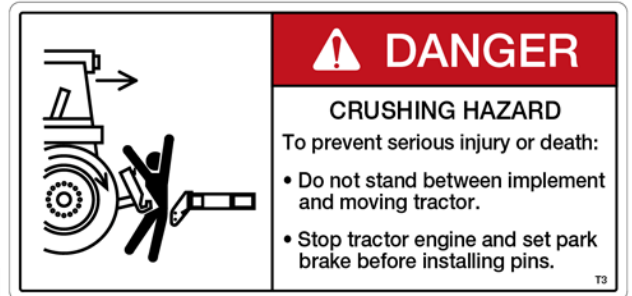
This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**





## SAFETY SIGN LOCATIONS

Safety Sign location(s) is/are shown below.





## SAFETY DECAL CARE

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety signs are available from your distributor or dealer parts department or the factory.

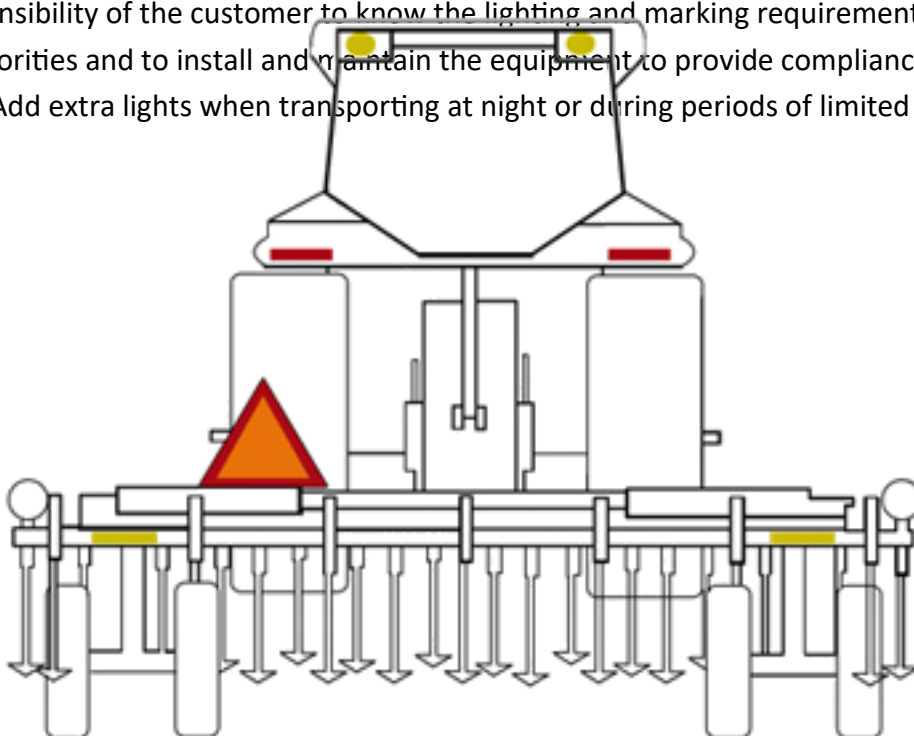
### How to Install Safety Signs:

- Be sure that the installation area is clean and dry. Remove the smallest portion of backing paper
- Align the decal over the specified area and carefully press the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the decal backing paper.



## LIGHTING AND MARKING

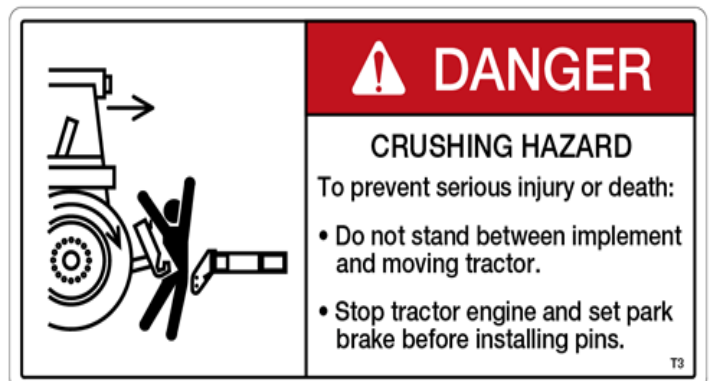
- It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.





## BEFORE OPERATION

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Keep wheel lug nuts or bolts tightened to specified torque.
- Assure that agricultural implement tires are inflated evenly.
- Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the unit until you are sure that the area is clear, especially of children and animals.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Use a tractor equipped with a Roll Over Protective System (ROPS) and fasten your seat belt prior to starting the engine.
- The manufacturer does not recommend usage of tractor with ROPS removed.
- Move tractor wheels to the widest recommended settings to increase stability.
- A Norwest Category II & III hitch should be used to ensure proper lifting capacity.
- Securely attach to towing unit. Use a high strength, appropriately-sized hitch pin with a mechanical retainer and attach safety chain.
- ***Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.***







## DURING OPERATION

- Children should not be allowed on the product.
- Clear the area of small children and bystanders before moving the cultivator.
- Shift towing unit to a lower gear before going down steep downgrades, thus using the engine as a retarding force. Keep towing vehicle in gear at all times. Slow down for corners and rough terrain.
- Make sure you are in compliance with all local and state regulations regarding transporting equipment on public roads and highways. Lights and slow moving signs must be clean and visible by overtaking or oncoming traffic when cultivator is transported.
- SAFETY CHAIN - If equipment is going to be transported on a public highway, a safety chain should be obtained and installed. Always follow state and local regulations regarding a safety chain and auxiliary lighting when towing farm equipment on a public highway. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (not an elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machines in the event of separation of the primary attaching system.
- Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- **NO PASSENGERS ALLOWED** - Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate or adjust your equipment while it is moving.
- When halting operation, even periodically, set the tractor or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key**.
- Be especially observant of the operating area and terrain - watch for holes, rocks or other hidden hazards. Always inspect the area prior to operation.
  - **DO NOT** operate near the edge of drop-offs or banks.
  - **DO NOT** operate on steep slopes as overturn may result.
  - Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.



## HIGHWAY AND TRANSPORT OPERATIONS

- Adopt safe driving practices:
  - Keep the brake pedals latched together at all times. **NEVER USE INDEPENDENT BRAKING WITH MACHINE IN TOW AS LOSS OF CONTROL AND/OR UPSET OF UNIT CAN RESULT.**
  - Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
  - Reduce speed prior to turns to avoid the risk of overturning.
  - Avoid sudden uphill turns on steep slopes.
  - Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
  - Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- When driving the tractor and equipment on the road or highway under 40 kph (20 mph) at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.



## HIGHWAY AND TRANSPORT OPERATIONS (cont.)

Be extra careful when working on inclines.

- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose fill, rocks and holes; they can be dangerous for equipment operation or movement.
- Allow for unit length when making turns.
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.



## FOLLOWING OPERATION

- Following operation, or when unhitching, stop the tractor or towing vehicle, set the brakes, disengage the PTO and all power drives, shut off the engine and **remove the ignition keys**.
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored unit.
- Make sure all parked machines are on a level, level surface and engage all safety devices.
- Wheel chocks may be necessary to prevent from rolling.





## PERFORMING MAINTENANCE

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on the cultivator, stop the towing vehicle, set the brakes, disengage the PTO and all power drives, shut off the engine and **remove the ignition keys**.
- Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.
- **Always** use a safety support and block the wheels. Never use a jack to support the cultivator.
- Always use the proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Never replace hex bolts with less than grade five bolts unless otherwise specified.
- After servicing, be sure all tools, parts and service equipment are removed.
- ***Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.***
- ***If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.***
- OSHA's requirements for lockout/tagout are covered in Section 1910.147 of the OSHA standards. OSHA outlines a six-step procedure for controlling hazardous energy:
  - **Step 1: Prepare for shutdown.** It must be determined what type of power system is going to be deactivated including electrical, hydraulic, pneumatic (air) or other energy sources. Knowledge of shut down methods is necessary.
  - **Step 2: Shutdown the equipment.** This should be completed consistent with the manufacturer's instructions for the shutdown procedure and could be as simple as placing a switch in the "off" position or pressing a button.
  - **Step 3: Isolate the equipment.** This step involves closing of valves, throwing the main disconnects or circuit breakers and disconnecting or capping any auxiliary power sources or secondary electrical systems.
  - **Step 4: Apply the lockout/tagout device.** This is done to prevent restoration of the flow of energy and is done at all disconnect switches, valves or other energy isolating devices. Locks are the preferred method of controlling energy and should be supplemented with tags. Various lockout devices are available including group lockout hasps. Locks should be individually assigned and have only one key.

- **Step 5: Control the stored energy.** This step includes the release, disconnect or restraint of any residual hazardous energy which may be present and a check that all moving parts have stopped moving. It may also include the installation of “pancakes” or blanking of pipe flanges, the installation of ground wires to discharge electrical capacitors and the blocking or supporting of elevated equipment.
- **Step 6: Verify isolation of equipment.** Double-check the steps and verify that the equipment indeed has been shut down and that the lock and tag do control the stored energy. Employees should be warned and the system tested, including pressing of all start buttons to assure that the equipment will not start.

**Note:** Each individual required to lockout **ANY** equipment, must be trained in Lockout/Tagout Procedures and the OSHA Standard. Training must take place **PRIOR** to performing set-up or maintenance procedures.



**Preventive  
Maintenance**

**Before it Breaks...**

MAINTENANCE CHART	
ITEM	INTERVAL
Check tire pressure (if applicable)	Before transporting
Grease wheel bearings (if applicable)	Two times per year
Grease gang bearings	As needed
Review safety instructions	Annually
Clean and paint	As needed
Replace Warning Decals	As needed





# Troubleshooting Guide

<b>TROUBLESHOOTING</b>		
<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Spiders digging too deep	Too much spring tension	<ul style="list-style-type: none"><li>• Gauge wheels need to be adjusted</li></ul> or <ul style="list-style-type: none"><li>• Remove one or both springs</li></ul>
Cultivator pulling to one side or the other	Gangs set at incorrect angle	<ol style="list-style-type: none"><li>1. Set machine on level slab</li><li>2. Make sure tilt height is the same on all gangs</li><li>3. Make sure pitch forward or backward is equal on all gangs</li><li>4. Use of guide coulters may be needed</li></ol>
Quick hitch will not attach to hitch	<ul style="list-style-type: none"><li>• Row spacing is causing conflict with hitch</li></ul> or <ul style="list-style-type: none"><li>• Lift links are not attached to bottom of head bar</li></ul>	<ul style="list-style-type: none"><li>• May need to use auxiliary bar</li></ul> or <ul style="list-style-type: none"><li>• Make sure lift brackets are attached to bottom</li></ul>

**NOTES:**



## USE AND CARE TIPS FROM THE FACTORY

1. Keeping the spider cultivator cleaned and painted will help to prolong the usefulness of this product.
2. Failure to clean the cultivator routinely may cause a buildup of dirt and debris, which may cause the implement to hold moisture and cause rust.
3. When not attached to the tractor, support the front of the implement with appropriate safety supports. Park this cultivator in a level area if possible.
4. Grease all gang and wheel bearings as needed.

## ASSISTANCE

If you have questions not answered in this manual, or require additional copies, or the manual is damaged, please contact your dealer or:



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